



TYPICAL

GC202D/GC202DCX

Direct-drive Auto-lubrication Lockstitch Sewing Machine

**OPERATION INSTRUCTION/PARTS MANUAL
SYSTEM SERVICE MANUAL**

TYPICAL SEWING MACHINE WANPING MACHINERY CO., LTD.

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Operation Instruction

1. Brief introduction

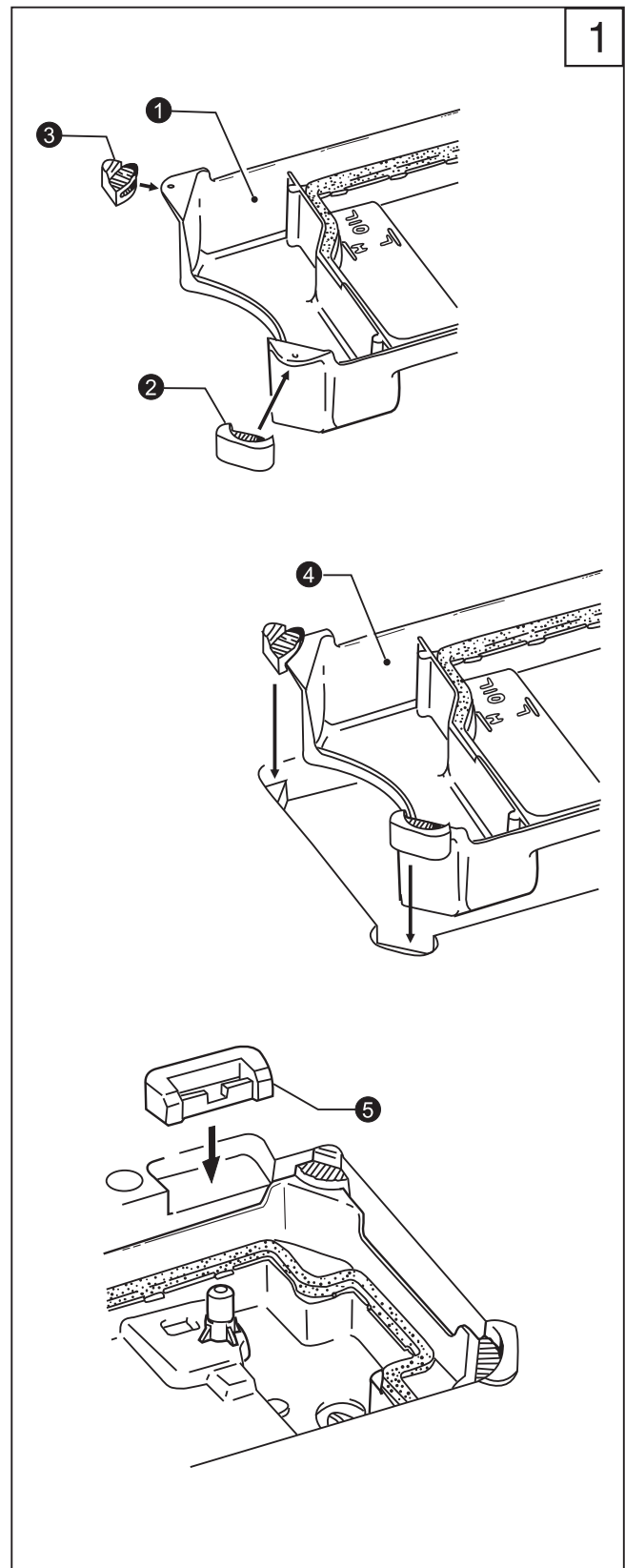
This machine is designed with link lever thread take-up mechanism and full lubrication by pump. It's suitable for sewing leather, canvas and other heavy weight materials, such as suitcase, bag, leather goods, etc.

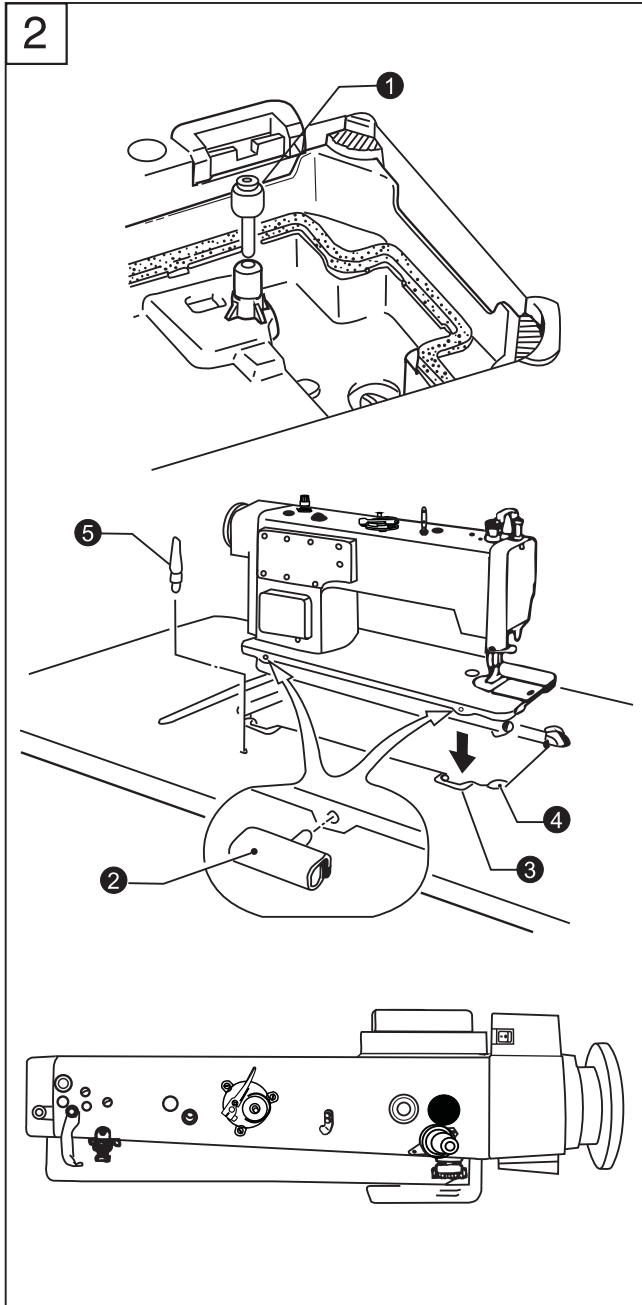
2. Main specifications

Model	GC202D	GC202DCX
Applications	Medium & heavy weight materials	
Max sewing speed	2800 s.p.m	
Max stitch length	8mm	
Needle bar stroke	37mm	
Needle	DP × 17 21#	DP × 17 25#
Presser foot	By hand	6.5mm
lifting height	By knee	13mm
Hook	Large lubrication hook	
Lubrication	Automatic lubrication	

3. Installing the oil pan (Fig.1)

1. Insert the two head cushion ② into the front corners of the oil pan ①;
2. Insert the two head cushion ③ into the back corners of the oil pan ①;
3. Place the oil pan ④ into the cutouts of table;
4. Insert the two rubber cushion ⑤ into the notches of table





4. Installing the machine head (Fig.2)

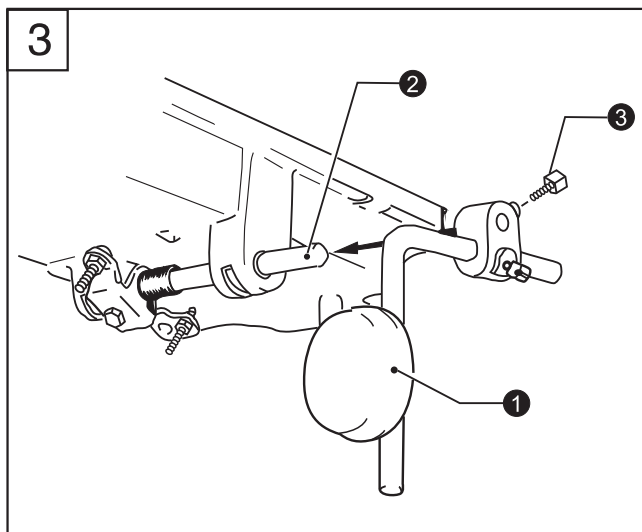
1.Insert the knee lifter lifting bar ①.

2.Insert the two hinges ② into the holes in the machine bed.

3.Clamp the two hinges onto the rubber cushions ③ in the work table, and the place the machine head onto the head cushions ④ which are on the top of the oil pan corners.

4.Tap the rest bar ⑤ into the table hole.

NOTE: Tap the rest bar securely into the table hole, if not, the machine head will not be safe when it is tilted back.

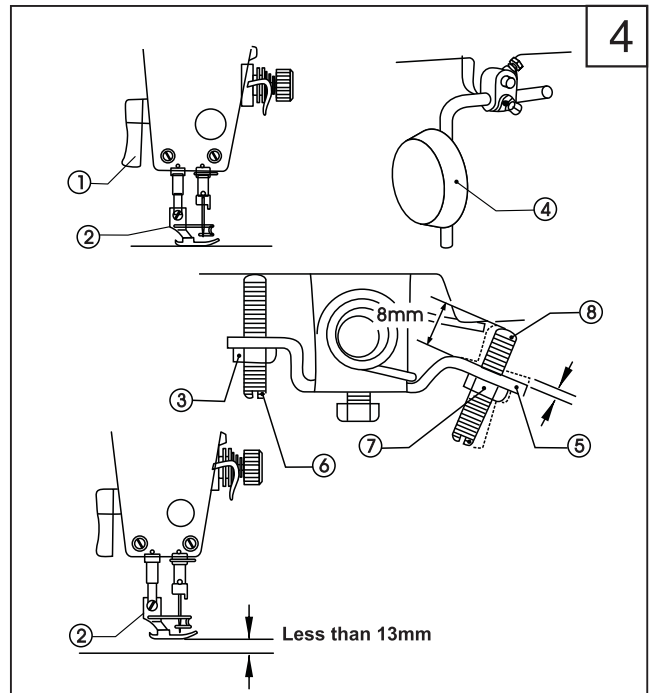


5. Installing the knee lifter assy. (Fig.3)

Insert the knee lifter assy. ① into the shaft ② under the oil pan, and slightly tight the screw ③.

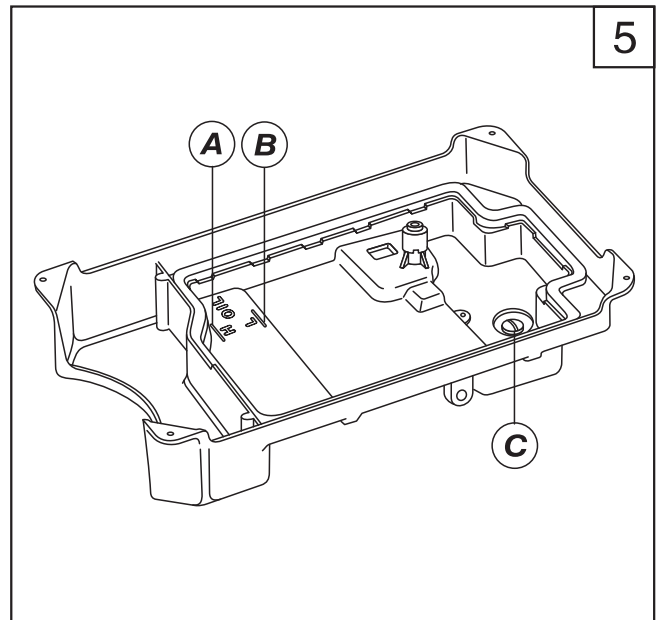
6. Adjusting knee lifter(Fig.4)

- 1.Lower the presser foot ② by turning the presser foot bar lifter ①.
- 2.Loosen the nut ③.
- 3.Turn the screw ⑥ to adjust the bracket ⑤ to 2mm play.
- 4.Securely tighten the nut ③.
- 5.Loosen the nut ⑦.
- 6.Turn the screw ⑧ until the distance between the end of the screw and bracket is approximately 8mm.
- 7.Turn the adjusting screw ⑧ to adjust, so that the presser foot is at the desired position within a distance of 13mm above the needle plate when the knee lifter plate ④ is fully pressed.
- 8.After adjustment, tighten the nut ⑦.



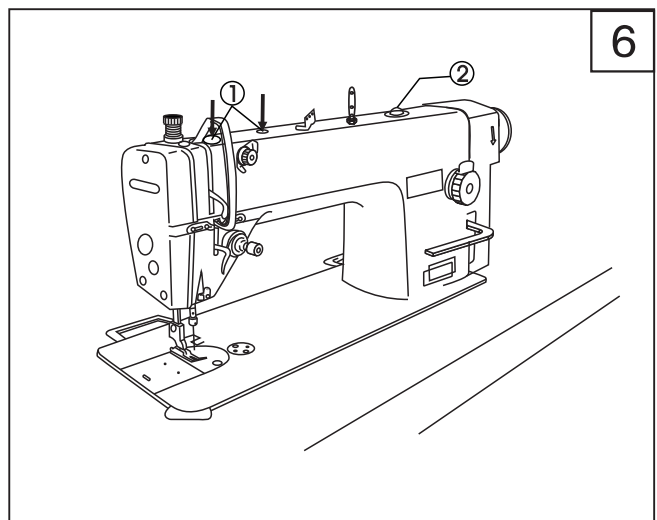
7. Lubrication(Fig.5)

- 1.Oil amount
Please fill the oil according to the mark indicated on the oil pan. Mark (A) means the highest position. Mark (B) means the lowest position. If the oil amount is lower than the Mark (B), oil will not be pumped and machine will be jammed.
- 2.Fill the oil
Please fill the 18# sewing oil into the oil pan until to the Mark (A)
- 3.Change the oil
1.Uninstall the screw (C), and drain out the used oil
2.Clean the oil pan, and tighten the screw (C), fill the fresh oil again according the requirement.



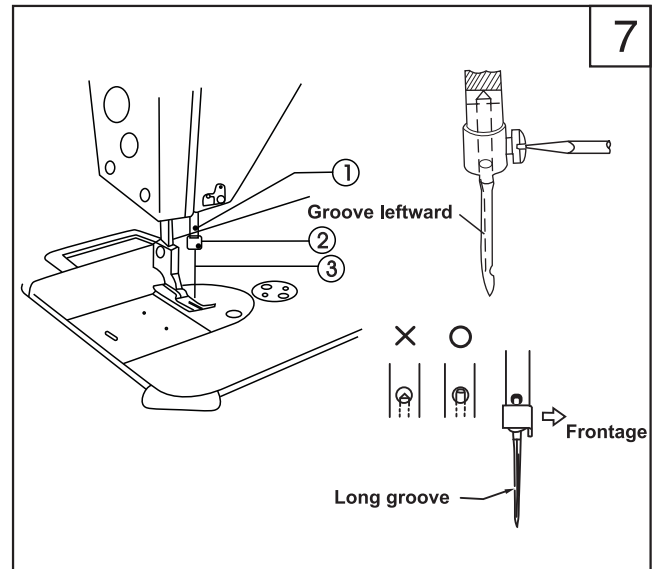
8. Test operation(Fig.6)

- Carry out the test operation when start up a new sewing machine for the first time, or restart after a long period of non-use. Remove the rubber cap (A) on the top of the arm and face plate, fully lubricate the parts showed by the arrows. Install the face plate again, lift the presser foot and operate the machine at a lower speed of 1000-1500spm, and observe the oil running through the oil gauge window. After one month, then the speed can be increased according to the different sewing operati



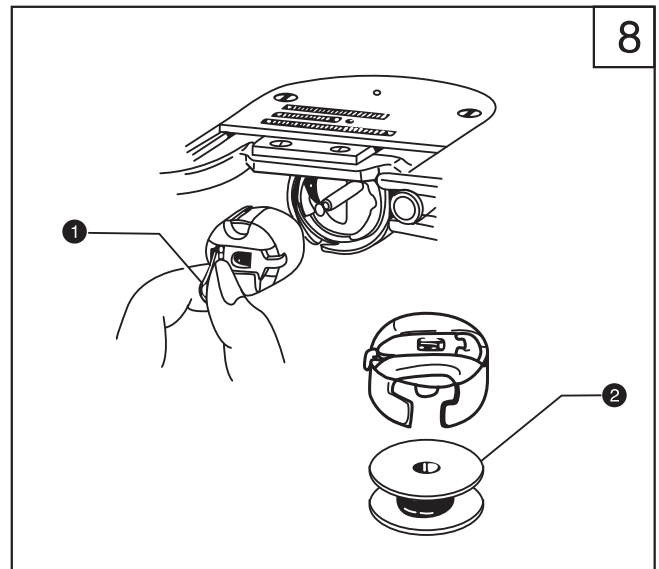
9. Installing the needle (Fig.7)

1. Turn the machine pulley to move the needle bar ① to its highest position;
2. Loosen the screw ②
3. Insert the needle ③ in a straight line as far as it will go, making sure that the long groove on the needle is at the left, and then securely tighten the screw ②



10. Removing the bobbin case (Fig.8)

1. Turn the machine pulley to lift the needle bar to its highest position. Pull the latch ① of the bobbin case upward and then put the bobbin into the bobbin case, finally insert the complete bobbin case with bobbin into the hook shaft.
2. To remove the bobbin case, pull the latch and draw the bobbin case out of the hook.

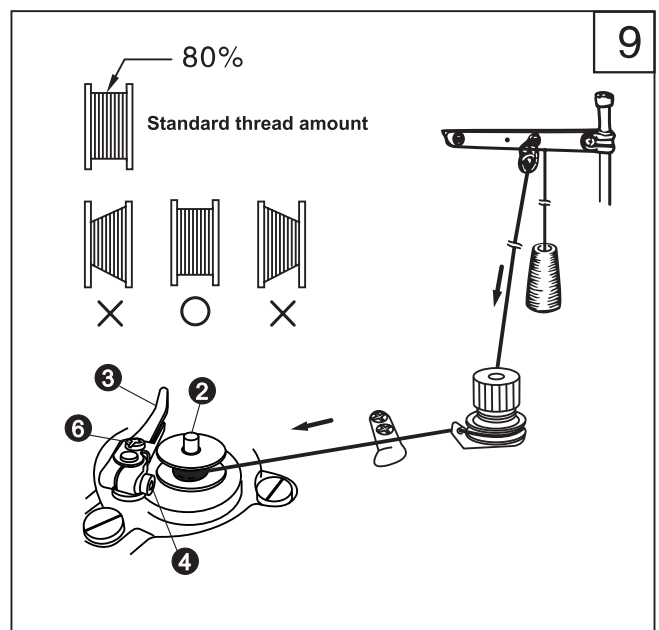


11. Winding the bobbin thread (Fig.9)

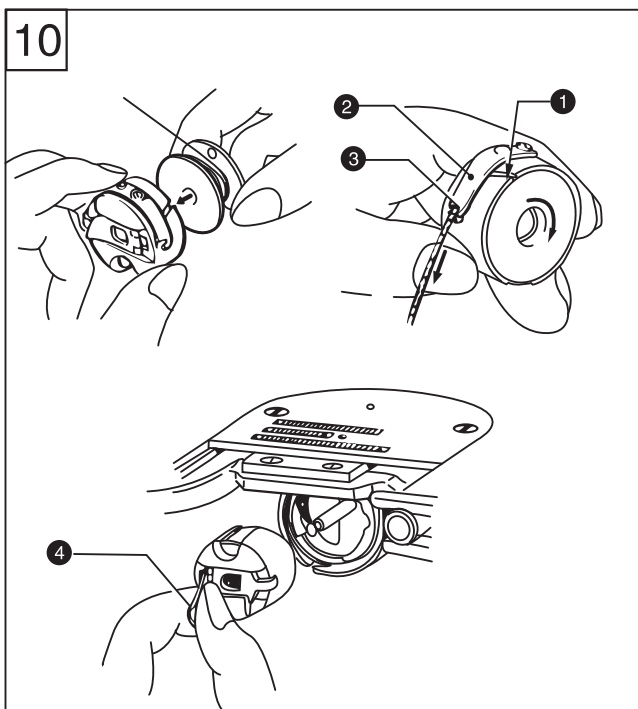
1. Turn the power on;
 2. Place the bobbin ① onto the bobbin winder shaft ②;
 3. Wind the thread several circles around the bobbin in the direction indicated by arrow;
 4. Push down the bobbin presser arm ③;
 5. Lift the presser foot;
 6. Depress the treadle, the winding operation will start;
 7. Once finished, the bobbin presser arm ③ will recover automatically.
- * If the thread winding is not neat and even, loosen the screw ④ to adjust the position of bobbin winder base.
- * Turn the screw ⑥ to adjust the bobbin winding amount

Note:

The proper winding amount should be around 80% of the bobbin capacity.



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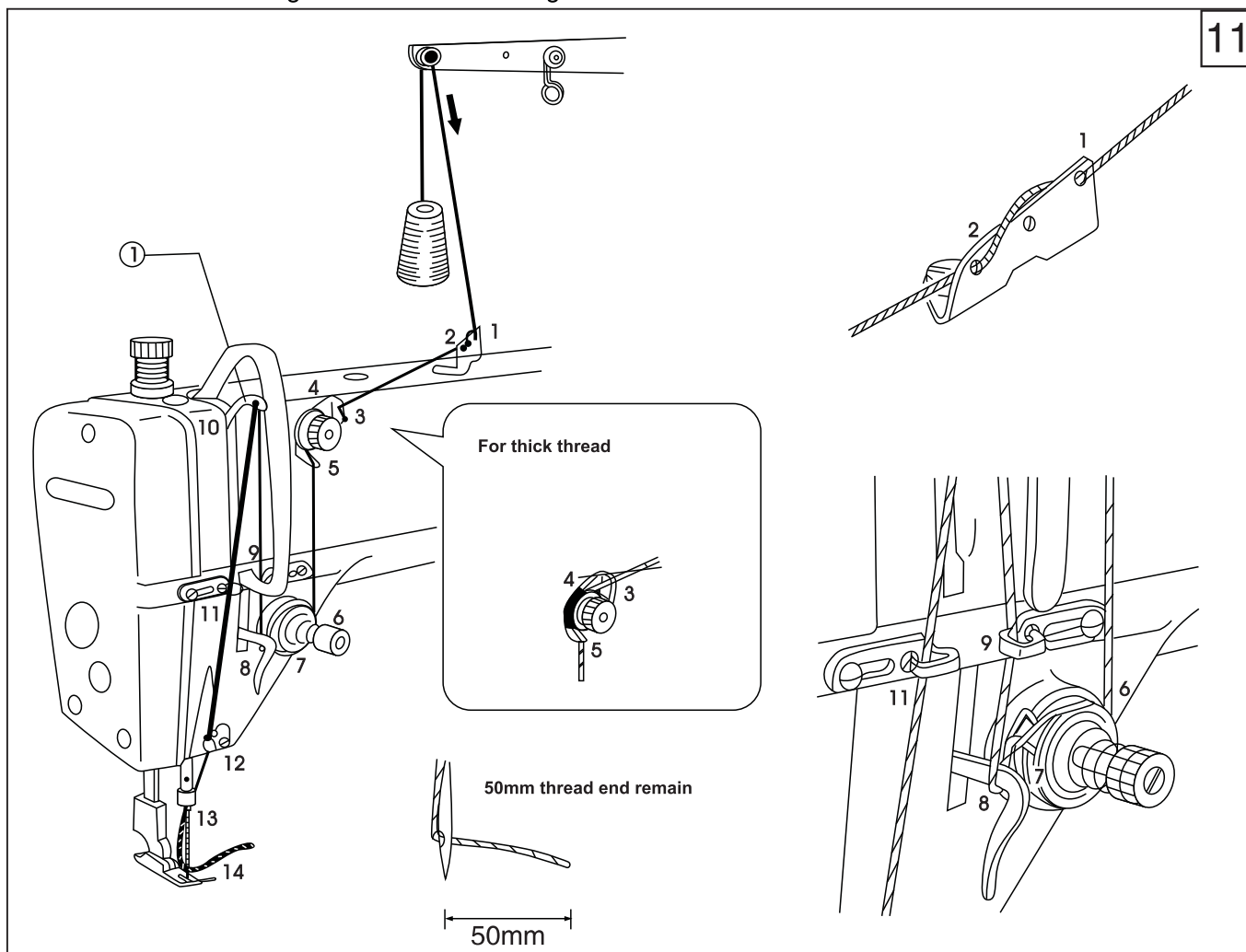
12. Threading the bobbin thread (Fig.10)

1. Turn the machine pulley to lift the needle to its highest position;
2. The bobbin thread should be right twist, place the bobbin into the bobbin case;
3. Pass the thread through the slot ① and spring plate ②, and finally pull it out of the notch ③;
4. Check that the bobbin should turn clockwise if the thread is pulled;
5. Hold the latch ④, and place the bobbin case in the hook.

13. Threading the needle thread (Fig.11)

Raise the thread take-up lever to its highest position. This will make threading easier and will prevent the thread from coming out when the sewing starts.

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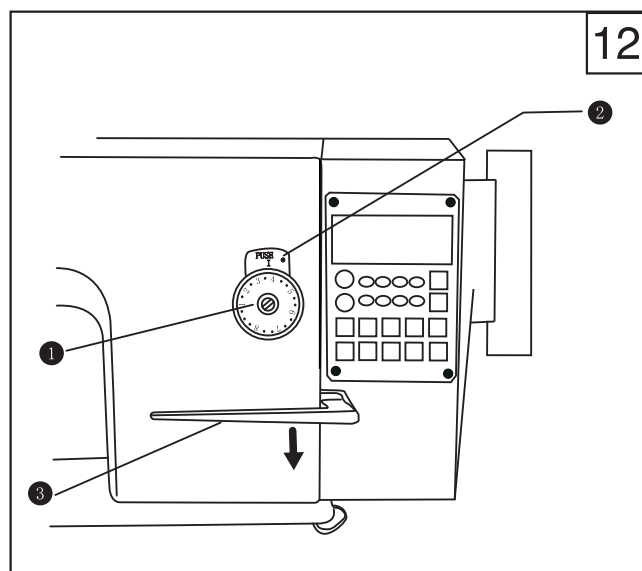


14. Adjusting the stitch length (Fig.12)

While press the stopper ②, turn the stitch length dial ① to make the number on the dial align with the mark on the stopper ②. The number is the stitch length in mm.

*The larger the number, the longer the stitch length will be.

*When turn the dial from a larger setting to a smaller setting, it will be easy to turn if the reverse lever ③ is pressed down.

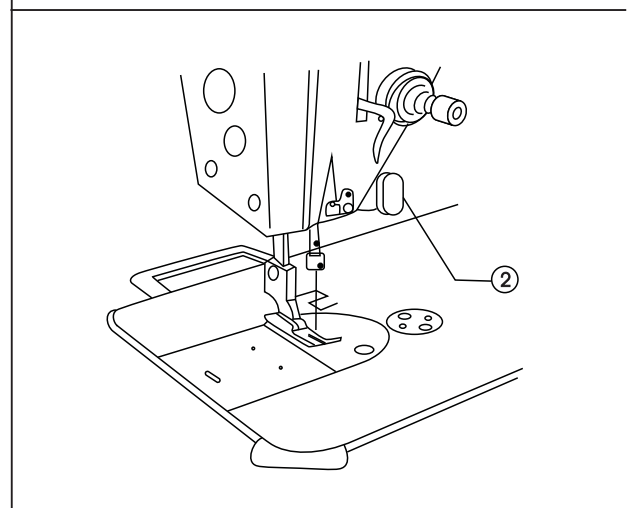
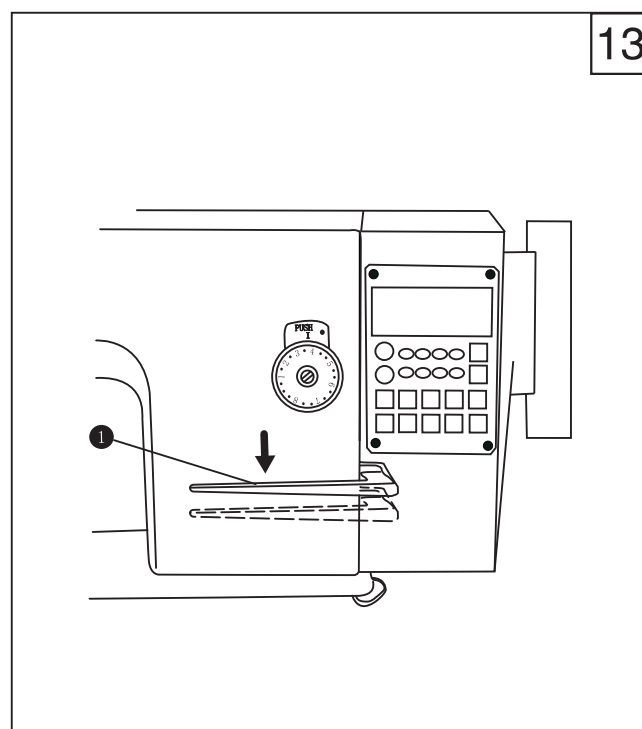


15. Sewing and backtacking (Fig.13)

1. Turn the power on;

2. Depress the treadle to start sewing.

When the reverse lever ① is pressed or the backtacking button is on during sewing, the feed will be reversed. After release, the feed will recover to normal.



16. Adjusting the thread tension (Fig.14)

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正常线迹



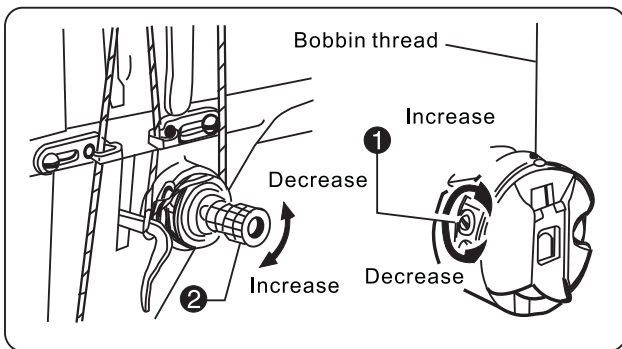
- Stitch seam when needle thread tension is too weak

- Increase the needle thread tension
- decrease the bobbin thread tension



- Stitch seam when needle thread tension is too strong

- decrease the needle thread tension
- increase the bobbin thread tension



<Bobbin thread tension>

Adjust by turning the screw ② until the bobbin case drops gently by its own weight while the thread end coming out of the bobbin case is held.

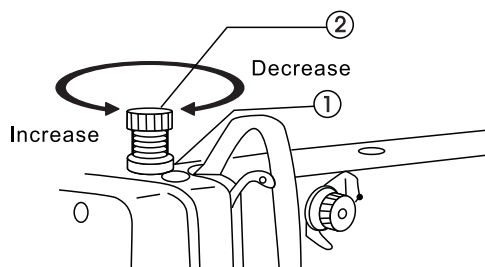
<Needle thread tension>

After adjust the bobbin thread tension, adjust the needle thread tension so that a good, even stitch seam is obtained.

- 1.Lower the presser foot;
- 2.Adjust by turning the thread tension nut ②.

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17.调节压脚压力(图15)



<Adjusting the presser foot pressure>

- 1.Loosen the lock nut ①;
- 2.Turn the adjusting screw ② to adjust the pressure of presser foot, if it's not enough, please turn the screw ⑤ to increase the pressure.

* The pressure should be as weak as possible, but strong enough so that the material doesn't slip.

3. Tighten the nut ①.

<Adjusting the walking foot presser>

4. Loosen the nut ③;
5. Turn the screw ④ clockwise to increase the pressure, on the contrary, turn the screw ④ counterclockwise to decrease the pressure;
6. Tighten the nut ③.

18. Adjusting the thread tension spring (Fig. 16)

*The standard position of the thread tension spring ① is 5–8mm above the upper surface of the thread guide ③ when the presser foot ② is lowered.

1. Lower the presser foot ②;
2. Loosen the screw ④;
3. Turn the thread tension bracket ⑤ to adjust the spring position;
4. Tighten the screw ④.

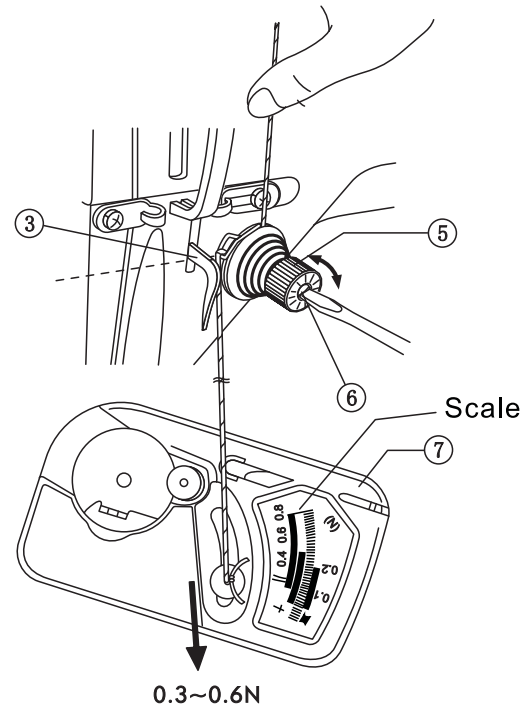
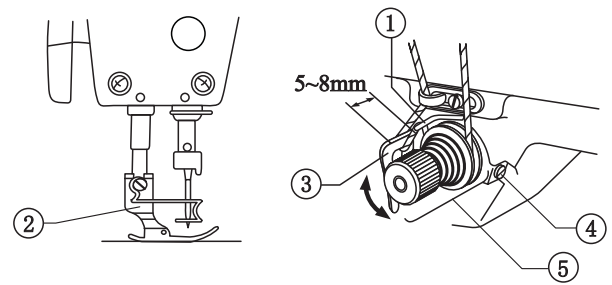
*The standard tension of the spring is 0.3–0.6N.
5. Push the needle thread with your finger until it is slightly higher than the thread tension bracket ⑤ and so that the upper thread is not pulled out;
6. Pull the needle thread down until the spring ① is at the same height with the upper surface of thread guide ③, and then measure the tension of the spring.

7. Insert a screwdriver into the slot of the thread tension stud ⑥, and turn the stud to adjust the tension of the spring ①.

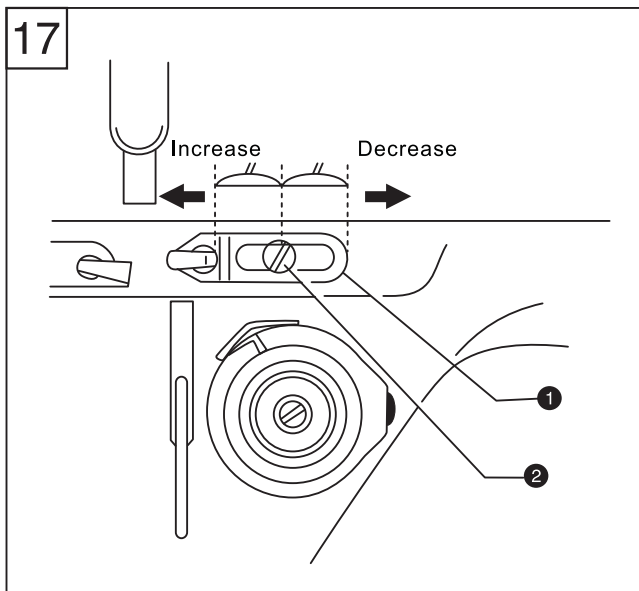
Note:

If using a tension gauge ⑦ to measure the tension, take the reading from the scale on the side of the red line.

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19. Adjusting the upper thread guide(Fig. 17)

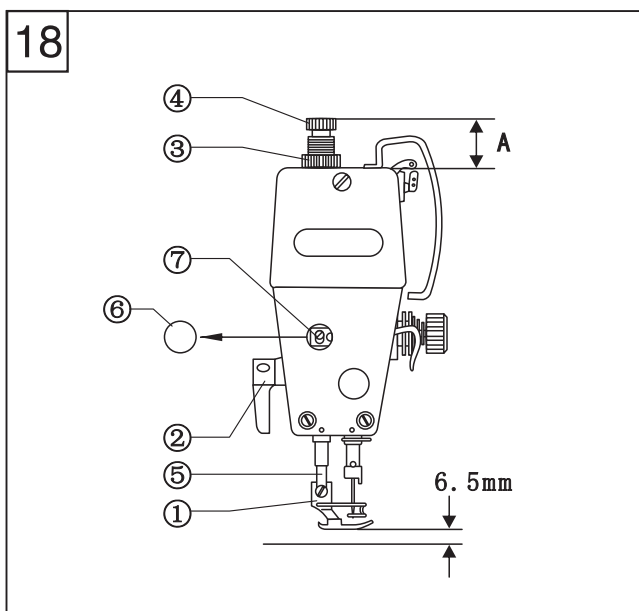
The standard position of upper thread guide ① is where the screw ② is in the center of the adjustable range of upper thread guide.

To adjust the position, loosen the screw ② and move the thread guide.

If stitch the heavy materials, move the thread guide leftward. (To increase the thread take-up tension)

If stitch the light materials, move the thread guide rightward. (To decrease the thread take-up tension)

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20. Adjusting the presser foot height(Fig. 18)

The standard height of presser foot ① is 6.5mm when it is lifted by hand.

1. Loosen the nut ③ and the screw ④,

2. Lift the bar ② to lift the foot ①

3. Pull out the rubber plug ⑥.

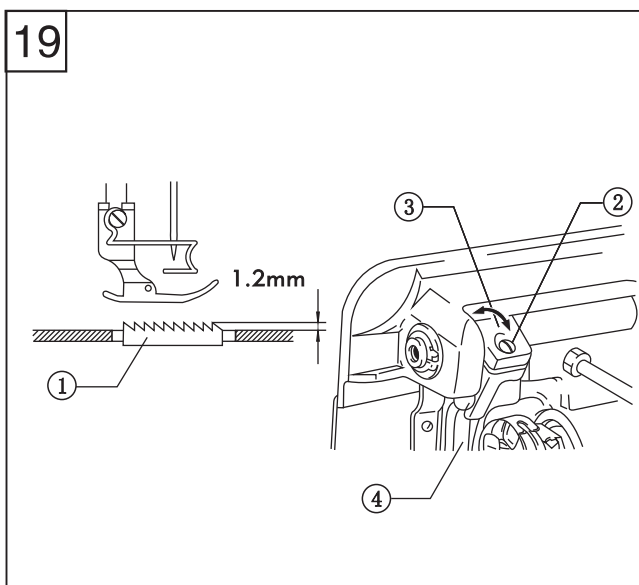
4. Loosen the screw ⑦ and adjust the height of presser bar ⑤ to 6.5mm

5. Tighten the screw ⑦.

6. Insert the plug again

7. Adjust the pressure of screw ④, then tighten the nut ③

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21. Adjusting the feed dog height (Fig. 19)

1. Set the stitch length maximum, when the feed dog ① is at its highest position above the needle plate, the standard height is 0.8-1.2mm (light material 0.8mm, heavy material 1.2mm)

2. Loosen the screw ②

3. Turn the feed lifting arm ③ to adjust the height of feed dog carrier ④

4. Tighten the screw ②.

22. Adjusting the feed dog angle (Fig. 20)

The standard angle of the feed dog is: when the feed dog is at its highest position above the needle plate, the Mark on the feed bracket shaft is on the horizontal position.

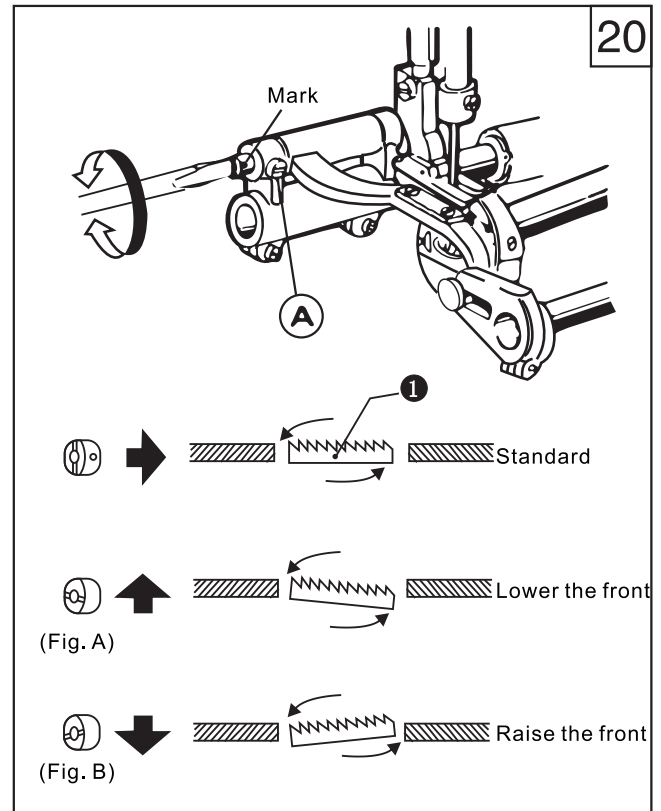
1. Turn the machine pulley to lift the feed dog to its highest position;
2. Loosen the screw ⑦;
3. Turn the feed bracket shaft in the direction of the arrow within a range of 90° with respect to the standard angle position.

*In order to prevent puckering, lower the front of the feed dog (Fig. A)

*In order to keep the materials straight, raise the front of the feed dog (Fig. B)

4. Securely tighten the set screw ⑦.

It's necessary to adjust the feed dog height again after this adjustment.



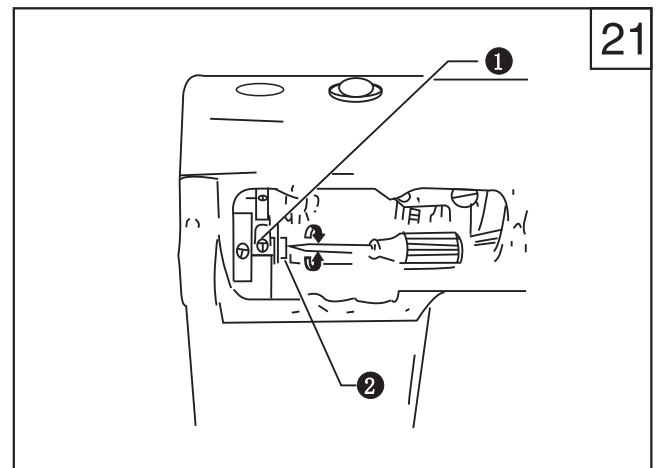
23. Adjusting the difference of stitch length between the forward and backtacking (Fig. 21)

1. Remove the back cover;
2. Loosen the screw ① and turn the connecting stud ②

*Turn the stud ② clockwise, the forward stitch length will be longer and the backtacking stitch length will be shorter;

*Turn the stud ② counterclockwise, the forward stitch length will be shorter and the backtacking stitch length will be longer;

3. Tighten the screw ①.



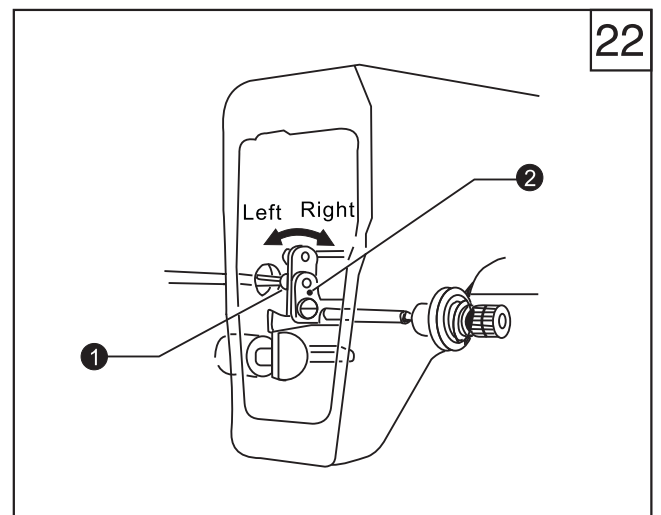
24. Adjusting the tension release (Fig. 22)

The opening time of the thread tension discs can be adjusted.

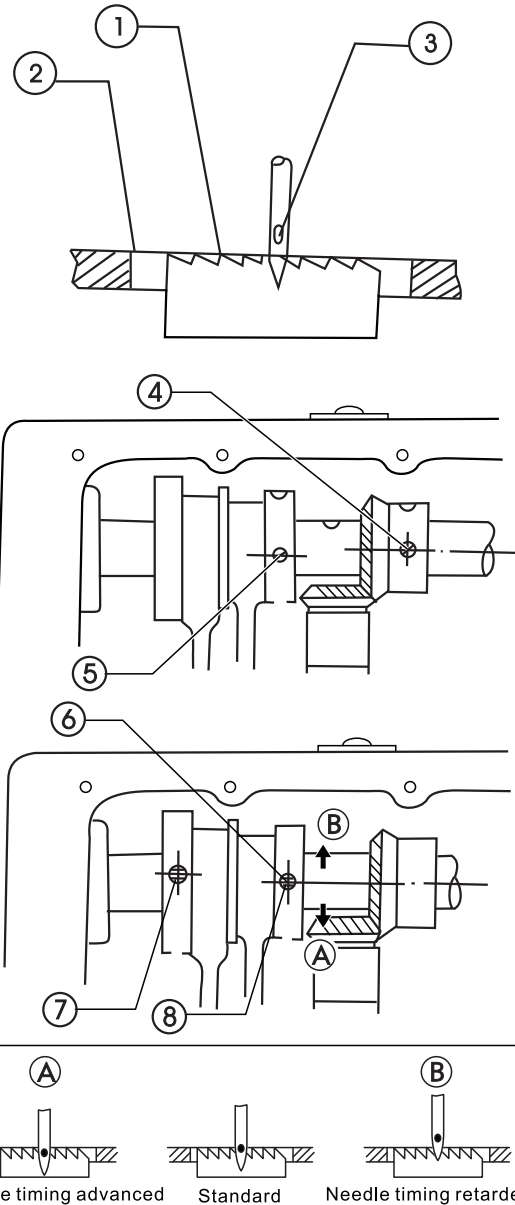
Remove the rubber cap on the rear of arm, and turn the screw ①, then the thread release cam ② can be moved left or right.

Move the cam rightward, the release time will be slow

Move the cam leftward, the release time will be quick.



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25. Adjusting the timing of needle and feed mechanism (Fig. 23)

The standard timing is when the feed dog is lowered from its highest position until it is flush with the top of the needle plate ②, and the needle eye ③ is also aligned horizontally with the surface.

Adjust by changing the phases of feed cam and eccentric wheel UD

1.Remove the rear cover

2.Remove the oil stopper

3.Turn the machine pulley in reverse direction, set the second screw ④ on the gear of upper shaft as reference mark, make the third screw ⑤ of eccentric wheel UD slightly lower than the reference mark screw ④;

4.Continue to turn the machine pulley, set the second screw ⑥ of eccentric wheel UD as reference mark, make the third screw ⑦ of feed cam slightly higher than the reference mark screw ⑥.

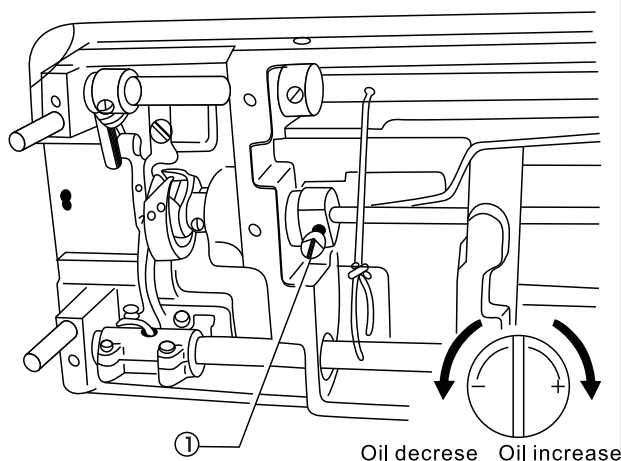
5.If need a non-timing position, loosen the three screws of eccentric wheel UD, adjust the eccentric cam ⑧ in the direction of arrow (A) or (B)

To increase the tension of thread, turn the eccentric cam ⑧ to direction (A)

To avoid the needle bent, turn the eccentric cam ⑧ to direction (B)

6.After adjustment, tighten all of the screws.

24



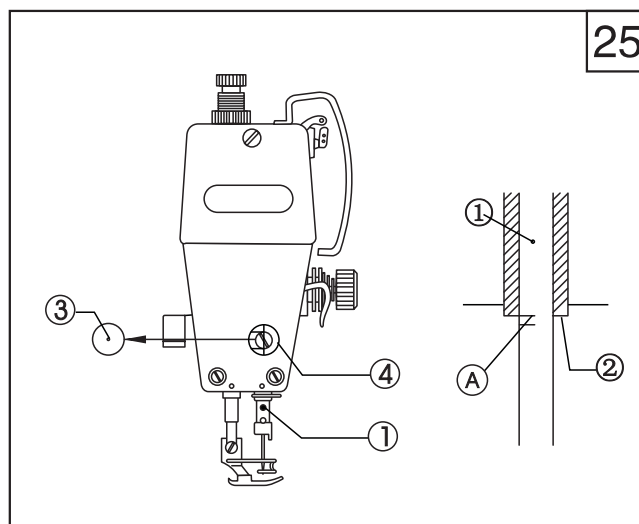
26. Adjusting the rotary hook lubrication amount (Fig. 24)

Tilt back the machine head, and turn the oil adjustment screw ① to adjust the hook oiling amount.

27. Adjusting the height of needle bar and the timing with hook (Fig. 25)

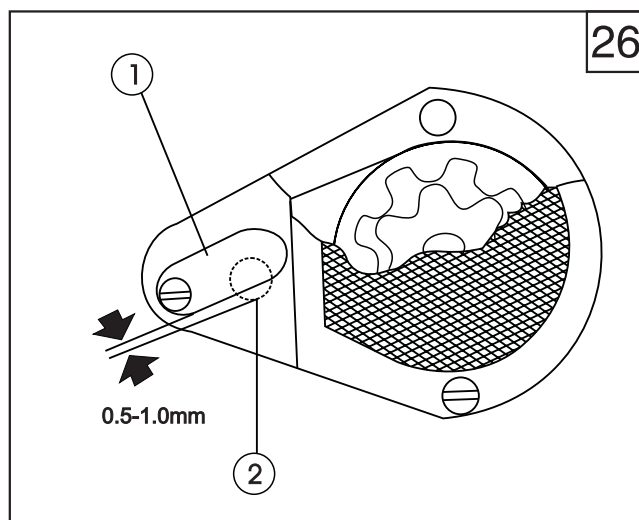
When the needle bar ① is at its lowest position, the top reference line (A) on the needle bar should be aligned with the bottom edge of the needle bar bush ②.

1. Turn the machine pulley to lower the needle bar to its lowest position;
2. Take out the rubber cap ③;
3. Loosen the screw ④, and move the needle bar ① to proper position;
4. Tighten the screw ④;
5. Close the rubber cap ③.



28. Adjusting the oil pump (Fig. 26)

If the oil is not circled observed from the oil gauge window at a lower sewing speed, turn the oil adjustment plate ① to cover the oil hole.



29.Clean (Fig. 27)

- 1.Raise the presser foot;
- 2.Remove the two screws ① and needle plate ②;
- 3.Clean the feed dog with a soft brush;
- 4.Install the needle plate ② by two screws ①.

5.Turn the machine pulley slowly and check if the needle drops into the hole center of needle plate
* If not

- Check if the needle is bent
- Loosen the screw ①, and reinstall the needle plate ②

6.Turn the machine pulley and lift the needle above the needle plate, check if the needle tip is blunt, if yes, change a new one.

7.Tilt back the machine head

8.Remove the bobbin case ④

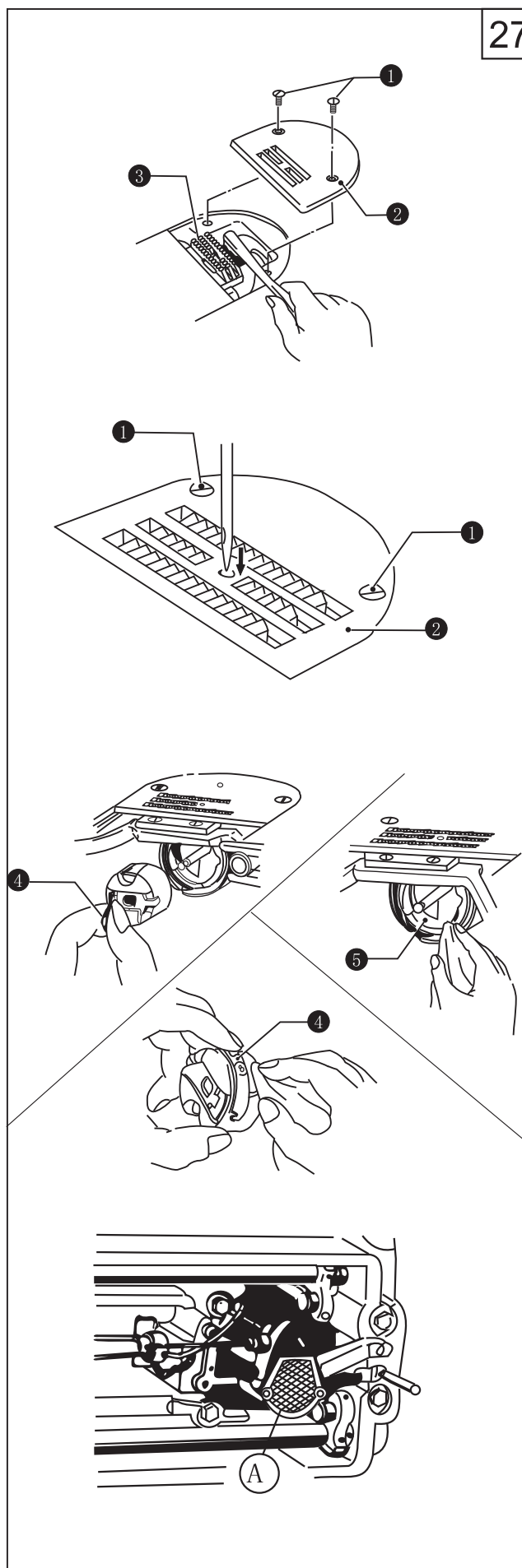
9.Clean the hook with a soft cloth and check if the hook is worn out

10.Take out the bobbin from the bobbin case, and clean the bobbin case with a soft cloth

11.Insert the bobbin into the bobbin case and place the bobbin case back into the machine

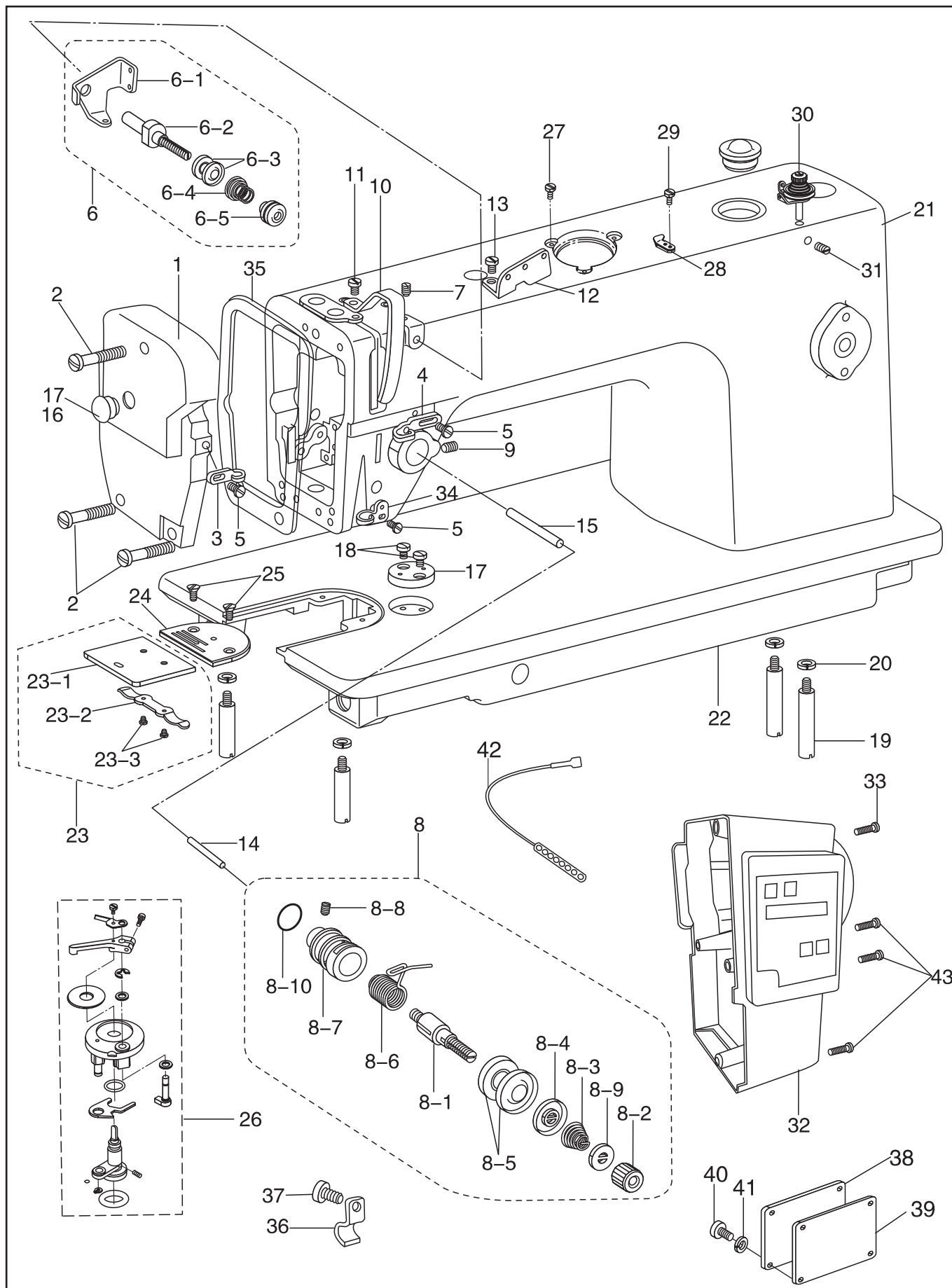
12.Clean the dust on the filter (A) of oil pump.

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Parts Manual

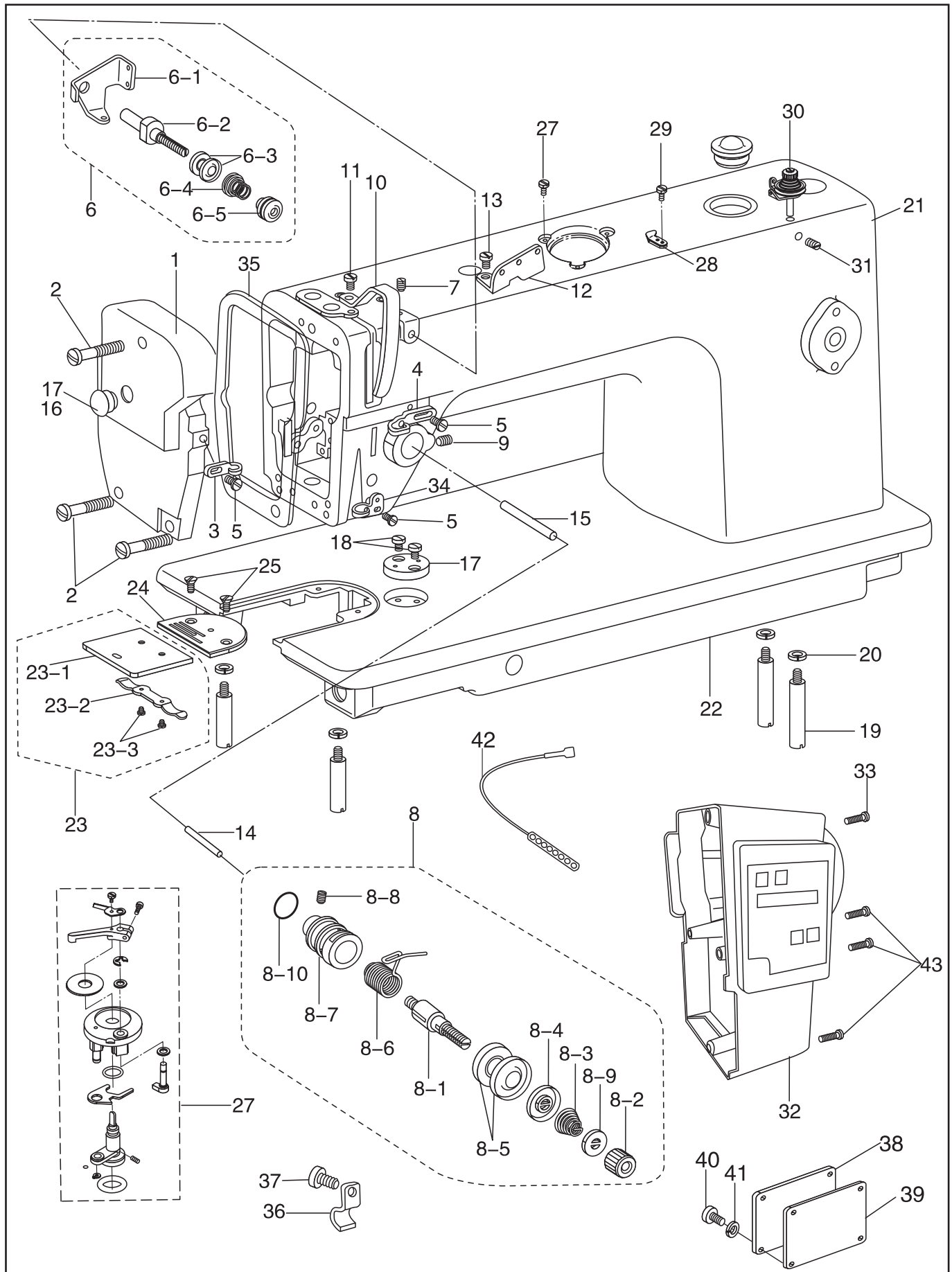
1. Casting mechanism



1. Casting mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	14WF4-003A1	Face plate	1	1	
2	22T1-004	Screw	3	3	
3	22T1-003C5	Thread guide, face plate	1	1	
4	22T1-014	Thread guide	1	1	
5	22T1-003C6	Screw	3	3	
6	447WF1-007	Pre-tension assy.	1	1	
6-1	36T2-006D1	Thread guide	1	1	
6-2	36T2-006D2	Screw shaft	1	1	
6-3	22T1-009E3	Tension disc	2	2	
6-4	36T2-006D3	Tension spring	1	1	
6-5	447WF1-007A	Nut	1	1	
7	20T1-004	Screw	1	1	
8	447WF1-006	Main tension assy.	1	1	
8-1	22T1-012F1	Screw shaft	1	1	
8-2	447WF1-006A	Nut	1	1	
8-3	33T4-008C1	Tension spring	1	1	
8-4	22T1-012F4	Tension release disc	2	2	
8-5	22T1-012F5	Tension disc	1	1	
8-6	22T1-012F6	Thread take up spring	1	1	
8-7	22T1-012F7	Tension adjusting base	1	1	
8-8	22T1-012F8	Screw	1	1	
8-9	447WF1-006B	Stopper	1	1	
8-10	22T1-012F11	O ring	1	1	
9	22T1-013	Screw	1	1	
10	1KT1-003	Cover, take up lever	1	1	
11	22T2-004	Screw	1	1	
12	36T2-004	Thread guide	1	1	
13	36T2-005	Screw	1	1	
14	2KT4-002	Tension release pin	1	1	
15	35T3-305	Tension release bar	1	1	
16	22T1-003C3	Rubber plug	1	1	
17	7WF4-005	Gauge mounting base	1	1	
18	1WF3-025	Screw	2	2	
19	68WF1-015	Screw bar	4	4	
20		Washer	4	4	GB93 6
21	409WF1-001	Machine arm	1	1	
22	7WF4-001	Machine bed	1	1	
23		Slide plate assy.	1	1	
23-1	7WF4-006	Slide plate	1	1	

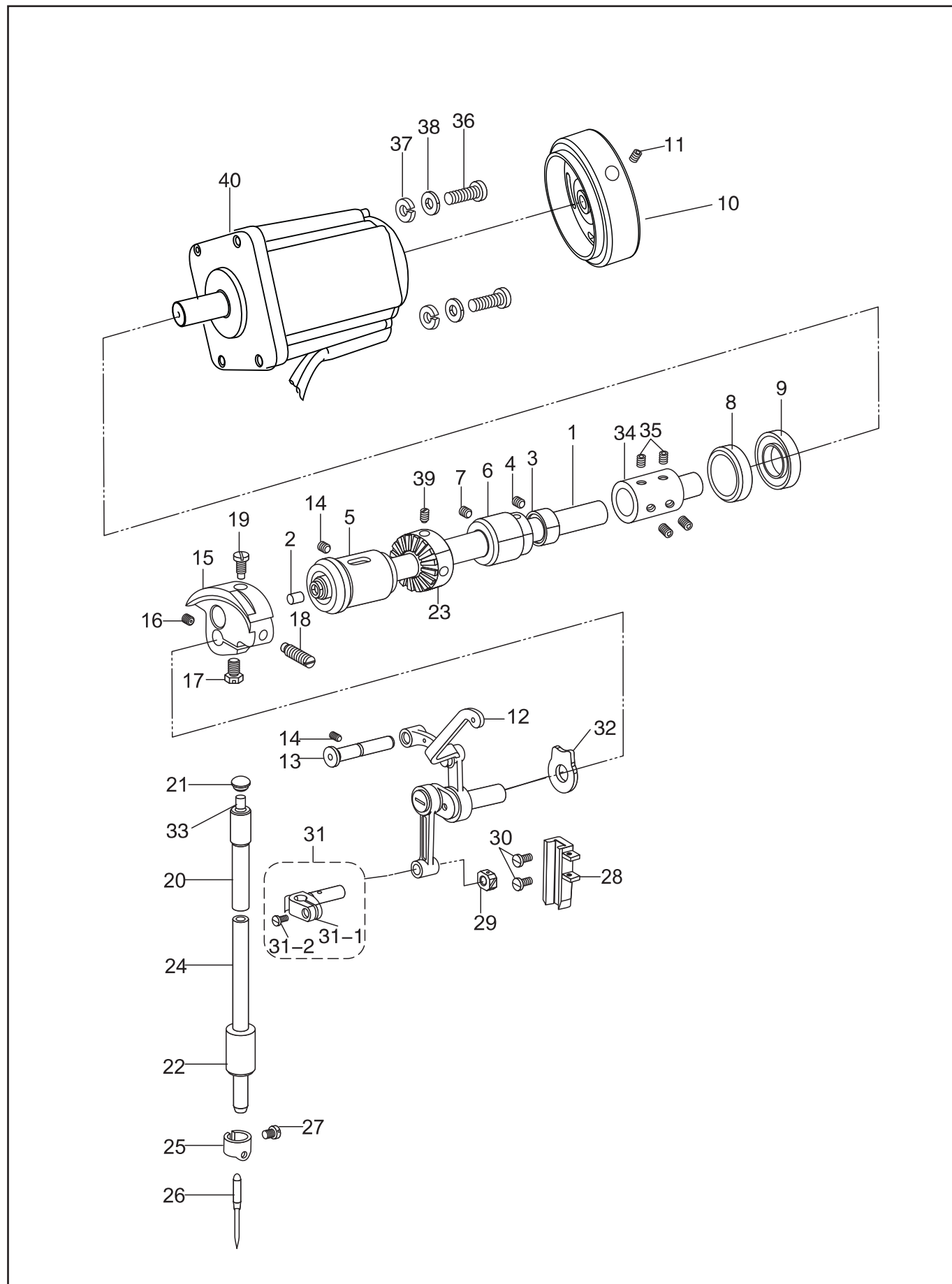
1. Casting mechanism



1. Casting mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
23-2	20T1-013F2	Spring, slide plate	1	1	
23-3	20T1-013F3	Screw	2	2	
24	33T4-012-A	Needle plate	1	-	
	11WF4-004	Needle plate	-	1	
25	22T1-020	Screw	2	2	
26	447WF1-004	Bobbin winder assy.	1	1	
27	92WF2-027	Screw	3	3	
28	92WF2-036	Cutter	1	1	
29	36WF2-031	Screw	2	2	
30	447WF1-005	Thread tension, winder	1	1	
31	1WF5-019	Screw	1	1	
32	283WF1-007	Motor cover	1	1	
33	93WF12-019	Screw	1	1	M5x20
34	7WF4-015	Lower thread guide	1	1	
35	14WF4-004	Seal	1	1	
36	2KT5-040	Thread clamp	3	3	
37	2KT6-017	Screw	2	2	
38	273WF1-005	Back cover	1	1	
39	273WF1-006	Seal	1	1	
40	22T1-006	Screw	4	4	
41	22T1-007	Washer	4	4	
42	283WF1-008	Sewing light	1	1	
43		Screw	3	3	GB/T70.1 M5x40

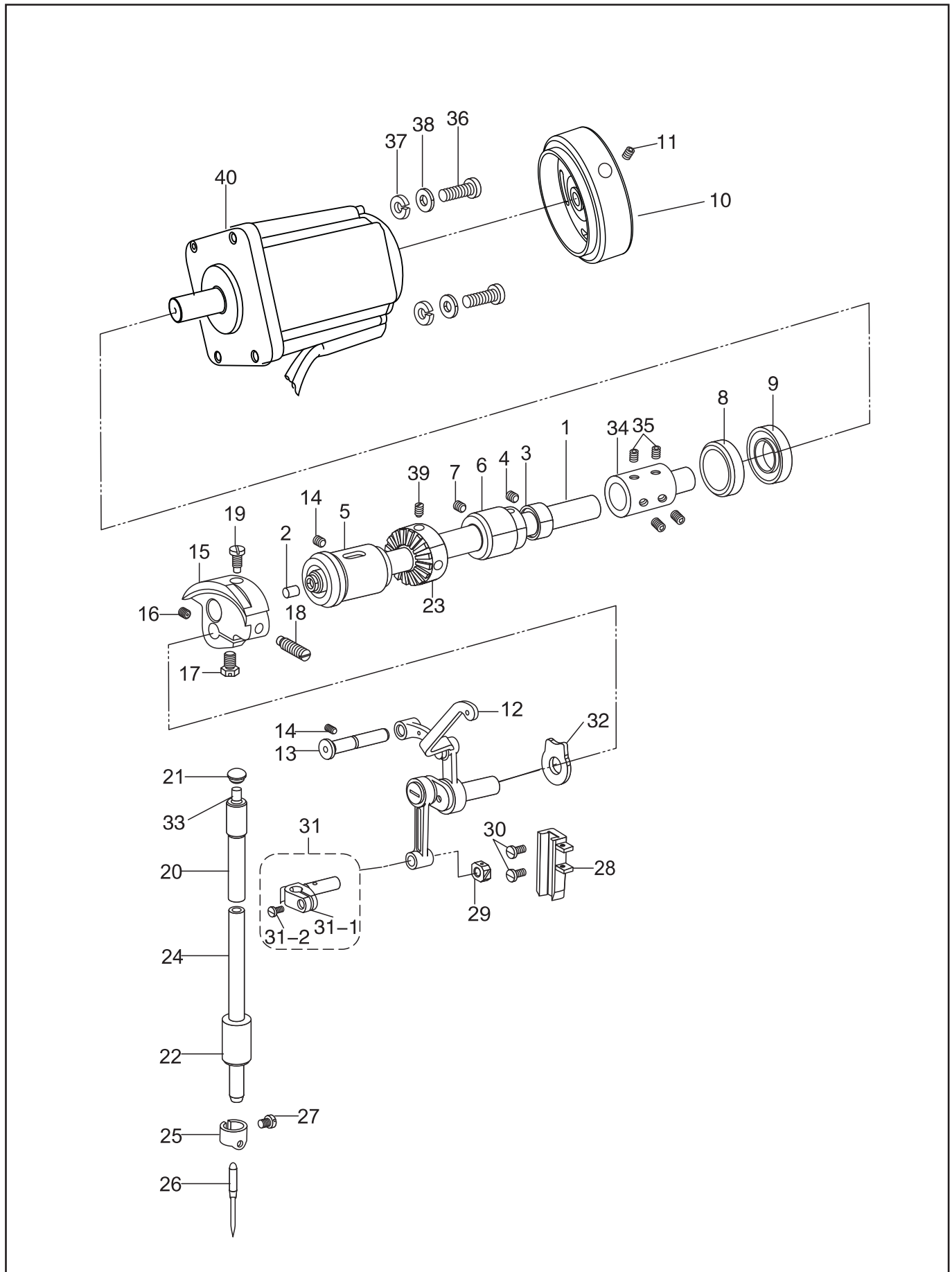
2. Needle bar and thread take-up mechanism



2. Needle bar and thread take-up mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	271WF2-001	Upper shaft	1	1	
2	22T3-001A2	Robber cap	1	1	
3	22T3-002B1	Collar	1	1	
4	22T3-002B2	Screw	2	2	
5	241WF2-002	Bush, L	1	1	
6	4WF1-002	Bush, M	1	1	
7	J0.0.40	Set screw	1	1	
8		Bearing, R	1	1	Φ20xΦ42x12
9	258WF2-004	Oil seal	1	1	
10	258WF2-006	Hand wheel	1	1	
11	258WF2-007	Screw	2	2	
12	290WF2-001	Thread take-up lever set	1	-	
	11WF1-001	Thread take-up lever set	-	1	
13	33T1-002	Support shaft	1	1	
14	J0.0.5	Set screw	2	2	
15	290WF2-002	Thread take-up crank	1	-	
	4WF1-007A	Thread take-up crank	-	1	
16	92WF1-014	Screw	1	1	
17	22T2-005B3	Screw	1	1	
18	33T1-006C2	Screw	1	1	
19	20T2-007	Screw	1	1	
20	22T2-008	Bush, needle bar, upper	1	1	
21	22T2-011	Robber cap	1	1	
22	2KT1-002	Bush, needle bar, lower	1	1	
23	258WF2-002	Friction wheel	1	1	
24	2KT1-001	Needle bar	1	1	
25	22T2-015	Thread guide, needle bar	1	1	
26		Needle	1	-	DPx17 21#
		Needle	-	1	DPx17 25#
27	22T2-017	Set screw	1	1	
28	2KT1-003	Guide	1	1	
29	33T1-013	Slide block	1	1	
30	22T2-019	Screw	2	2	
31	33T1-015H	Needle bar clamp assy.	1	1	
31-1	22T2-001A8	Needle bar clamp	1	1	
31-2	22T2-001A9	Screw	1	1	
32	33T1-005	Washer	1	1	
33	22T1-010	Felt	1	1	
34	258WF2-003	Coupling	1	1	

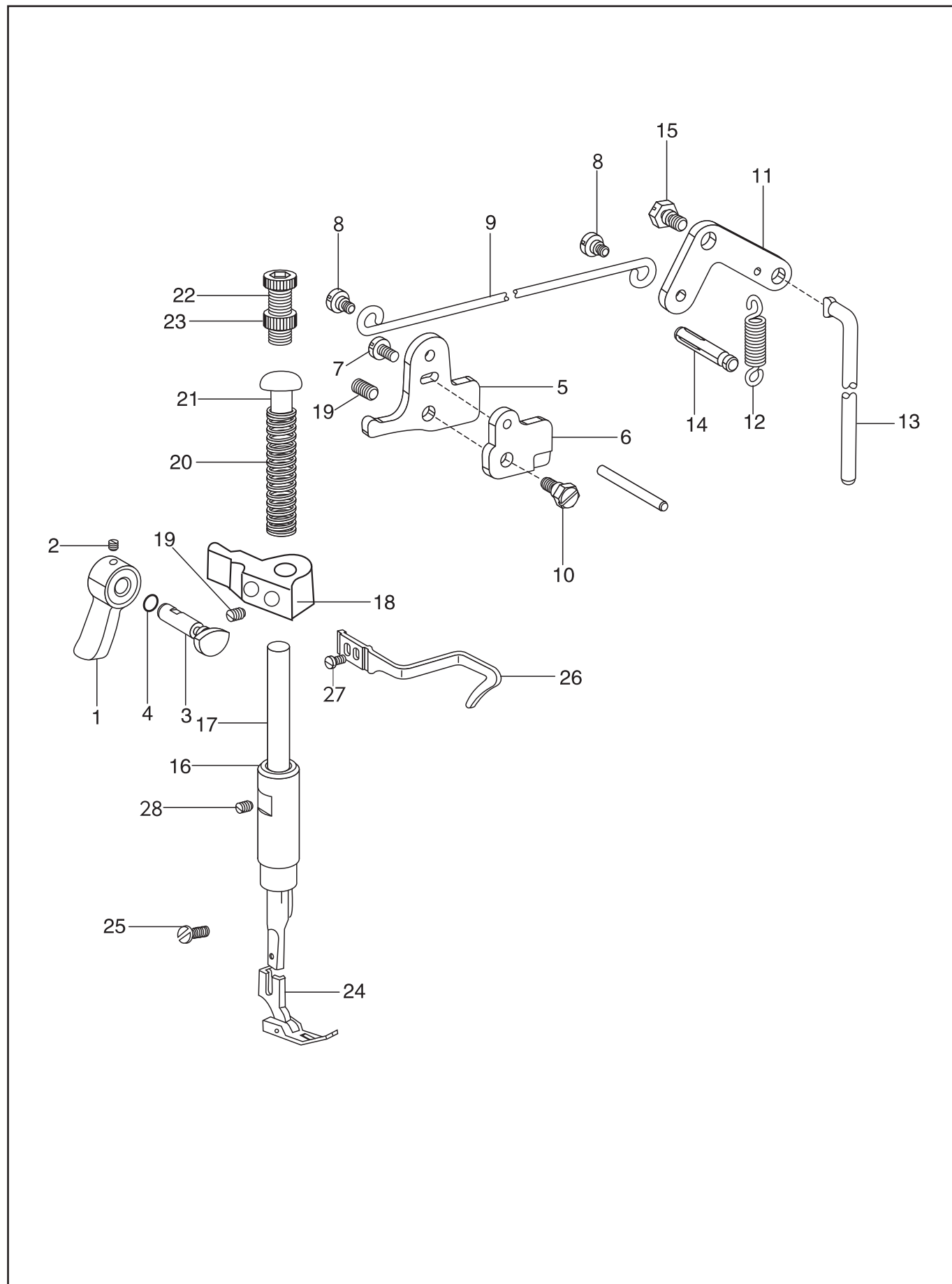
2. Needle bar and thread take-up mechanism



2. Needle bar and thread take-up mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
35	258WF2-010B	Screw	4	4	
	258WF2-010A	Screw	2	2	
36	93WF12-019	Screw	4	4	M5x20
37		Washer	4	4	GB/T859 5
38		Washer	4	4	GB/T95 5
39		6K2-043	Screw	2	2
40	283WF1-007B	Motor	1	1	

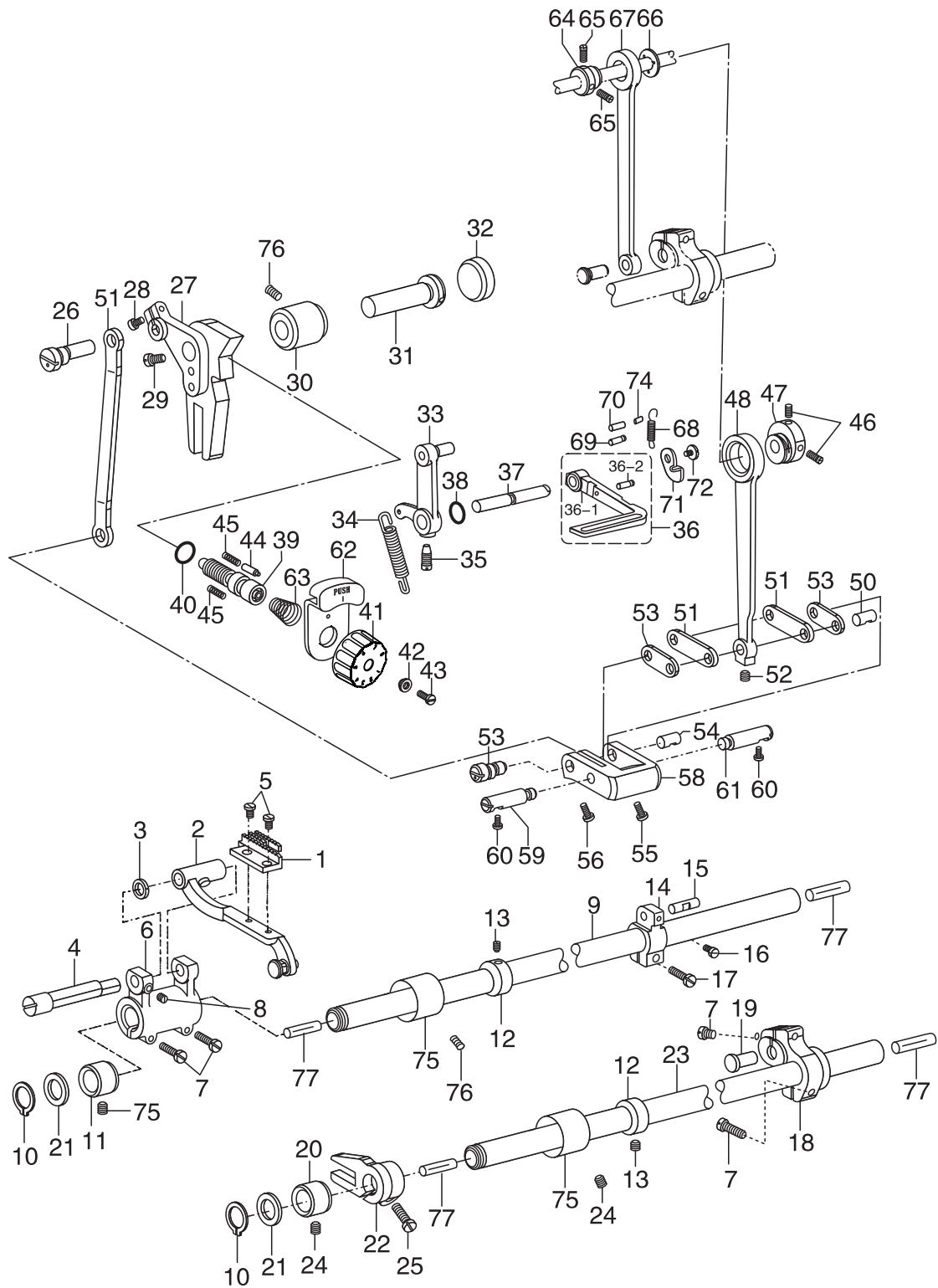
3. Presser foot mechanism



3. Presser foot mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	33T3-003	Presser bar lifter	1	1	4.5x1.8G GB3452.1
2	22T1-011	Screw	1	1	
3	1KT4-005	Lifter crank	1	1	
4		Seal	1	1	
5	22T7-004B1a	Lifter lever, L	1	1	
6	22T7-004B1b	Cam, tension release	1	1	
7	22T7-004B1c	Screw	1	1	
8	2T7-004B2	Screw	2	2	
9	1KT4-004	Collecting rod	1	1	
10	22T7-005A	Screw	1	1	
11	22T7-007c1	Lifter lever, R	1	1	
12	22T7-007c2	Spring, extension	1	1	
13	1KT4-006	Knee lifter bar	1	1	
14	22T7-008	Spring pin	1	1	
15	22T7-005B	Shoulder screw	1	1	
16	33T3-005	Bush	1	1	
17	22T7-010	Presser bar	1	1	
18	22T7-011D1	Guide bracket	1	1	
19	61-04-01/B308	Screw	2	2	
20	33T3-002	Spring, compression	1	1	
21	22T7-012	Guider	1	1	
22	15WF3-001	Adjusting screw, presser	1	1	
23	1KT4-002	Adjusting nut, presser	1	1	
24	22T7-017F	Presser foot	1	1	
25	33T3-007	Screw	1	1	
26	7WF3-002	Thread guide	1	1	
27	33T3-006	Screw	1	1	
28	22T2-013	Screw	1	1	

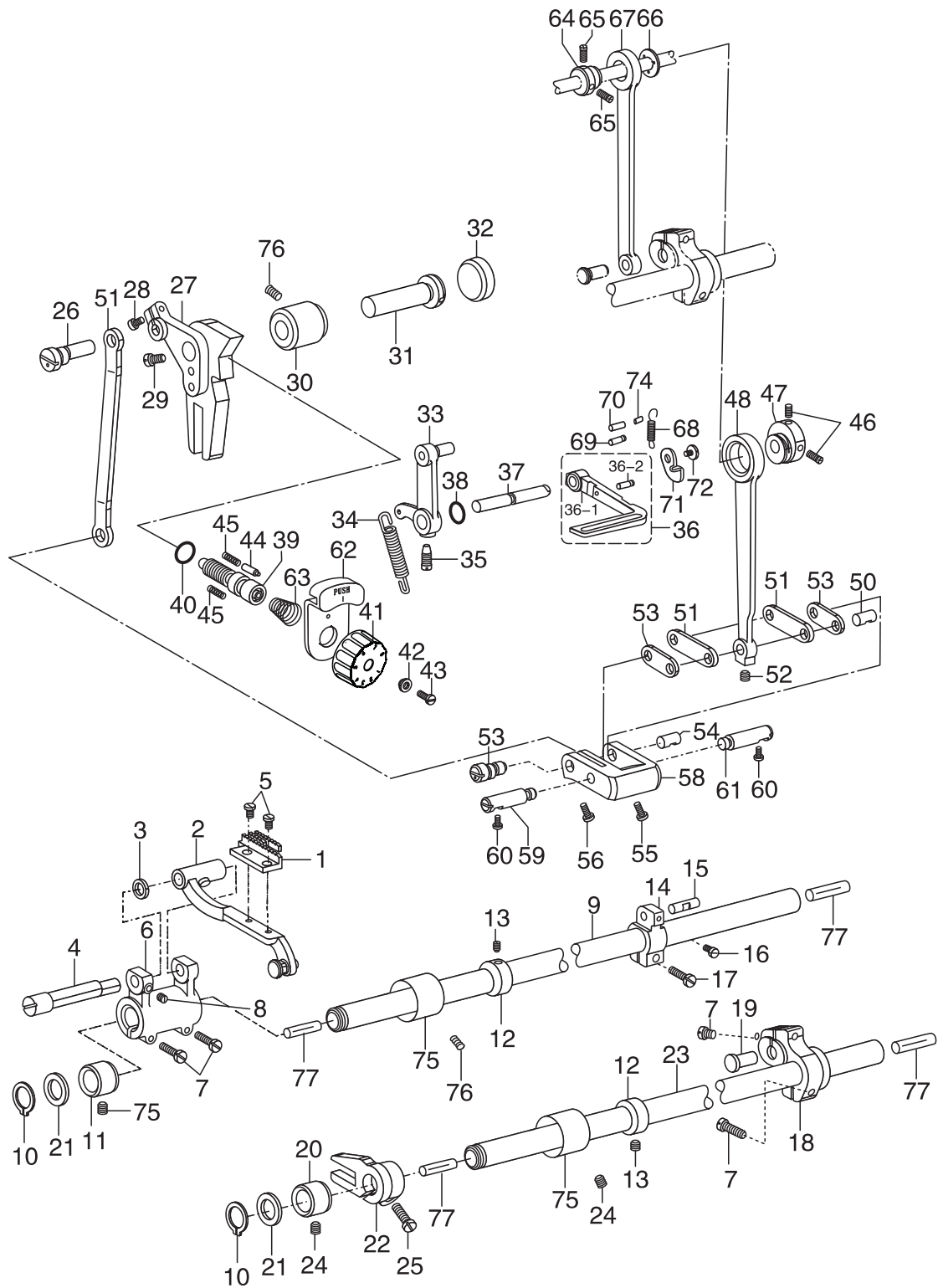
4. Feed mechanism



4. Feed mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	20T3-008	Feed dog	1	-	
	75WF4-001	Feed dog	-	1	
2	36T4-001A1a1	Feed bar	1	1	
3	51T5-001A6	Washer	1	1	
4	36T4-001A2	Shaft	1	1	
5	J0.0.50	Screw	2	2	
6	4WF2-002	Feed rock arm	1	1	
7	61-04-01/B504	Screw	4	4	
8	22T2-019	Screw	1	1	
9	7WF2-004	Feed shaft	1	1	
10		Retaining ring	2	2	GB894.1 15
11	7WF2-002	Bush, L	1	1	
12	22T3-002B1	Collar	2	2	
13	22T3-002B2	Set screw	4	4	
14	4WF2-006	Feed rocker arm, L	1	1	
15	82T2-003C1a10-2	Stud	1	1	
16	36T5-008E5	Set screw	1	1	
17	22T6-008D3	Screw	1	1	
18	68WF3-011	Feed lifting arm	1	1	
19	22T6-007	Pin	1	1	
20	7WF2-002	Bush, M	1	1	
21	51T5-013	Washer	2	2	
22	36T4-018H1D1	Feed lifting arm	1	-	
	75WF4-003	Feed lifting arm	-	1	
23	7WF2-001	Shaft	1	1	
24	J0.0.5	Screw	1	1	
25	22T6-008D3	Screw	1	1	
26	4WF2-012	Connecting stud	1	1	
27	7WF2-012	Feed regulator	1	-	
	75WF4-002	Feed regulator	-	1	
28	20T2-031	Screw, L	1	1	
29	22T5-010D4	Screw, S	1	1	
30	258WF4-002	Bush	1	1	
31	22T5-004	Shaft	1	1	
32	258WF4-003	Rubber cap	1	1	
33	7WF2-009	Pin assy. Lever	1	1	
34	1KT3-002	Spring, extension	1	1	
35	22T5-013	Screw	1	1	
36	2KT3-003	Reverse stitching lever assy.	1	1	

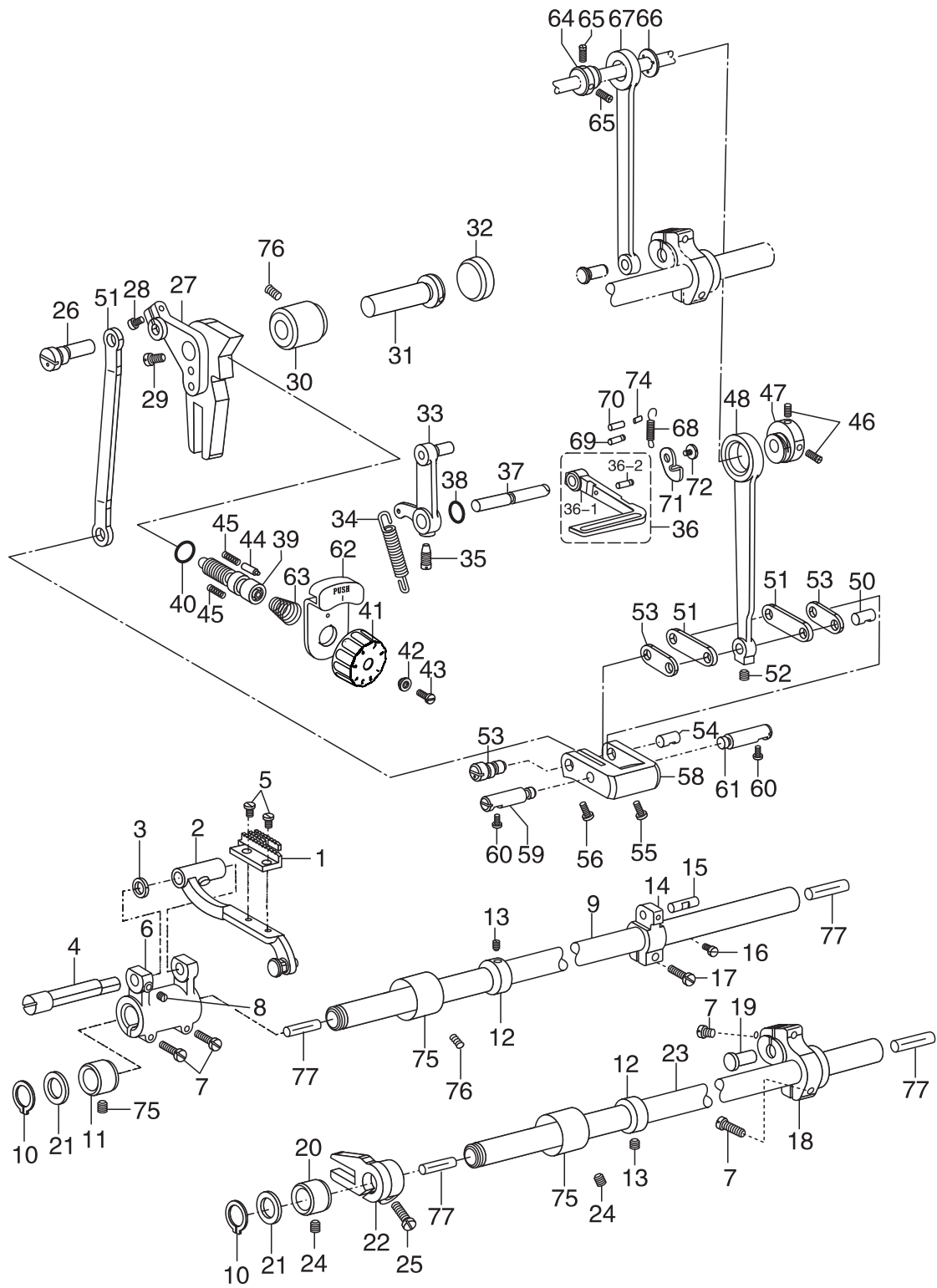
4. Feed mechanism



4. Feed mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
36-1	2KT3-003a	Reverse stitching lever	1	1	
36-2	2KT3-003b	Spring hook pin	1	1	
37	2KT3-002	Shaft	1	1	
38		O ring	1	1	6.3x1.8G GB3452.1-92
39	36T5-007D1	Adjusting screw bar	1	1	
40	33T2-030-A	O ring	1	1	14x2.4
41	447WF3-004	Stitch length dial	1	-	
	474WF4-003	Stitch length dial	-	1	
42	16KT1-036	Washer	1	1	
43	22T5-006C3	Screw	1	1	
44	36T5-012	Positioning pin	1	1	
45	22T5-009	Stopper pin	1	1	
46	36T3-003D2	Set screw	3	3	
47	36T5-008E1	Feed cam	1	1	
48	4WF2-009A	Feed connecting rod	1	1	
49	4WF2-009B	Connecting rod	1	1	
50	82T2-003C1a10-1	Stud	1	1	
51	36T5-008E4H02	Link	2	2	
52	36T5-008E5	Set screw	1	1	
53	36T5-008E4H01	Link	2	2	
54	36T5-008E6	Pin	1	1	
55	36T5-008E7	Screw	1	1	
56	36T5-008E8	Screw	1	1	
57	36T5-008E9	Shaft	1	1	
58	36T5-008E10	Feed regulator crank	1	-	
	75WF4-006	Feed regulator crank	-	1	
59	5WF1-002	Pin shaft, L	1	1	
60	22T6-008D3	Screw	1	1	
61	5WF1-001	Pin shaft, R	1	1	
62	474WF4-005	Stopper	1	1	
63	36T5-011	Spring	1	1	
64	36T3-003D1	Eccentric wheel	1	1	
65	36T3-003D2	Screw	3	3	
66	36T3-004	Holder	1	1	
67	22T3-009D1C	Feed lifting rod	1	1	
68	2KT3-008	Spring	1	-	
	275WF4-001	Spring	-	1	
69	2KT3-009	Spring hook	1	1	
70	2KT3-006	Pin	1	1	

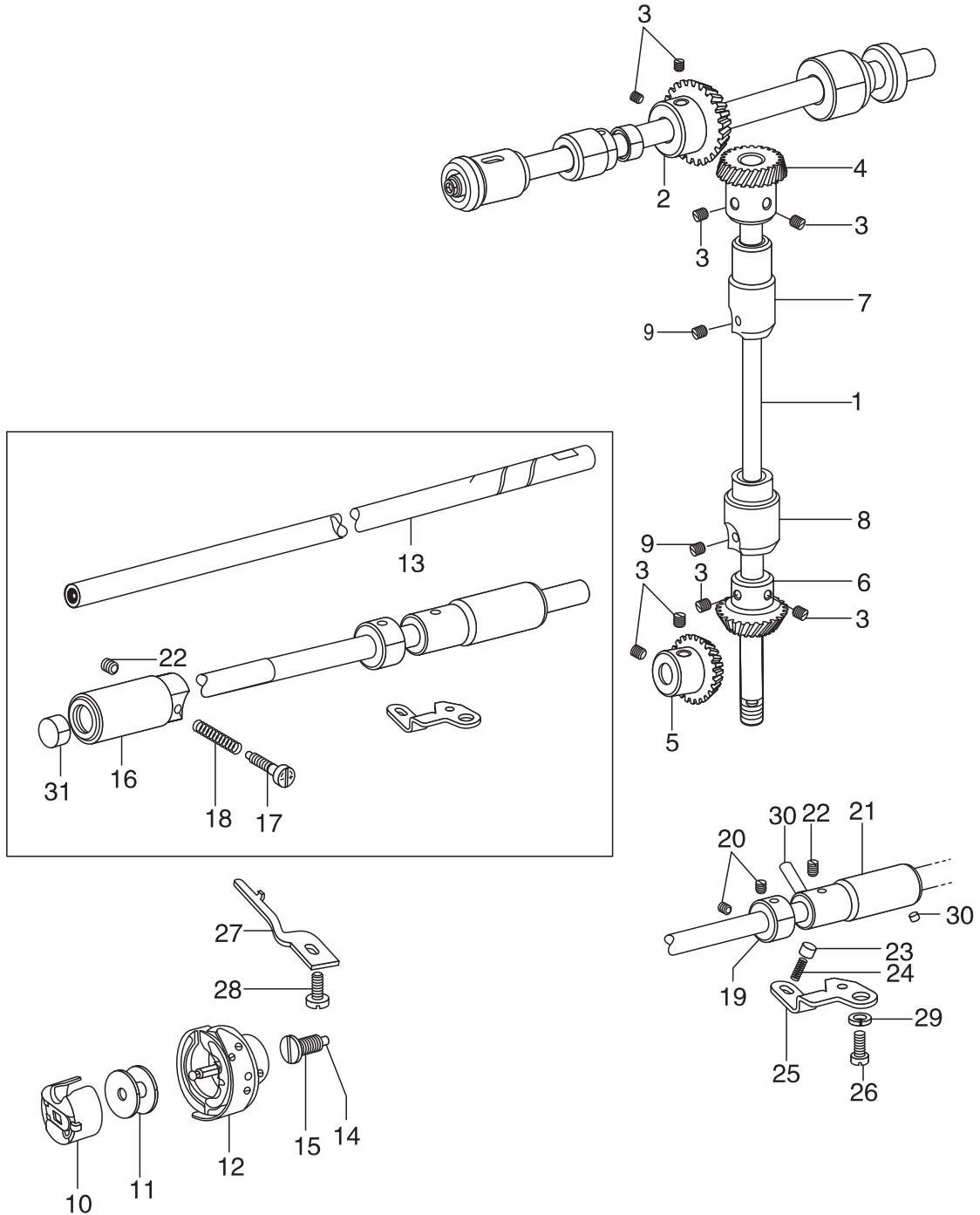
4. Feed mechanism



4. Feed mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
71	2KT3-004	Plate	1	1	
72	2KT3-005	Screw	1	1	
73	J0.0.35	Screw	1	1	
74	2KT3-007	Bush	1	1	
75	7WF2-003	Bush	2	2	
76	J0.0.40	Screw	2	2	
77	7WF2-013	Felt	4	4	

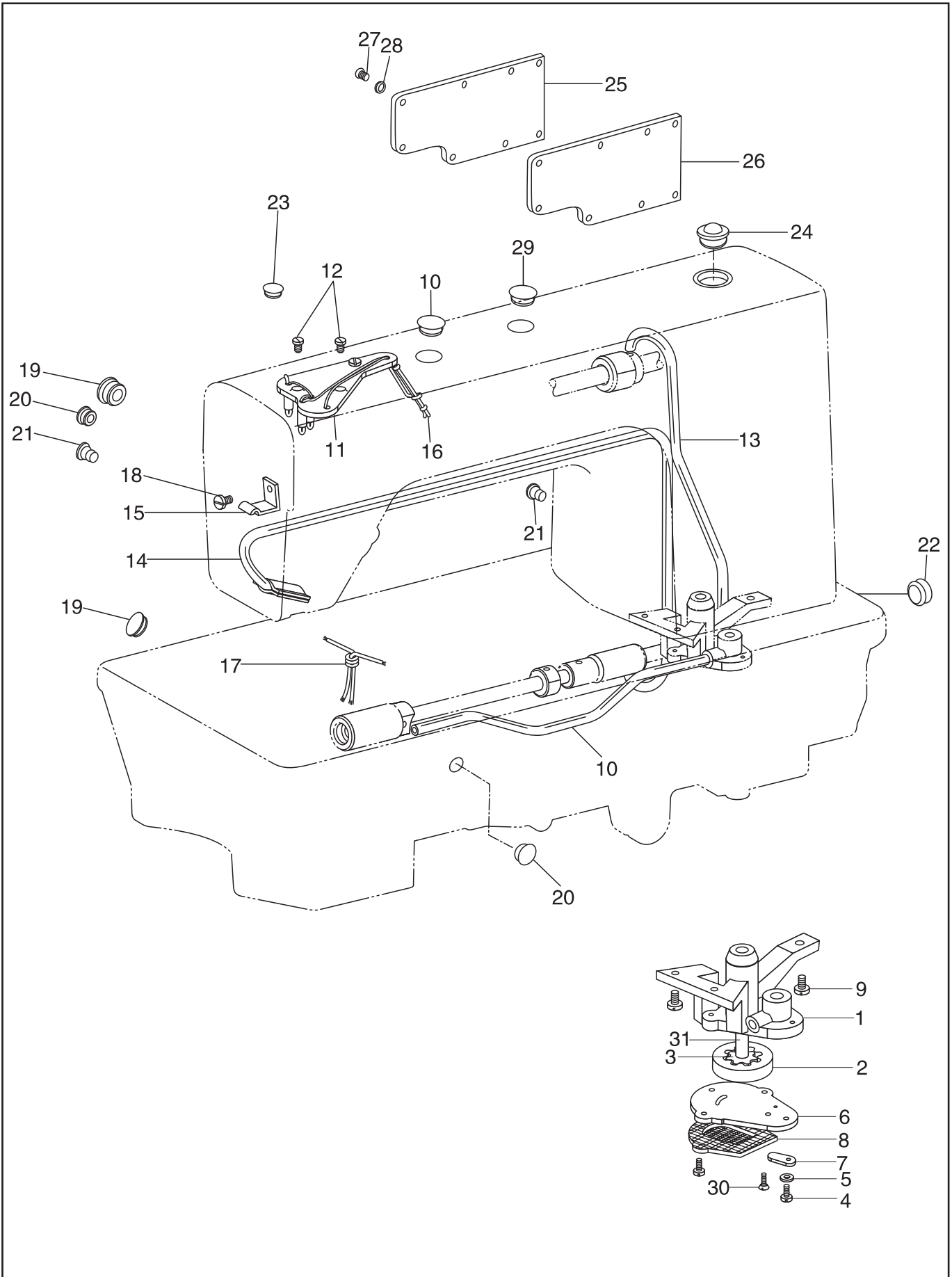
5. Hook mechanism



5. Hook mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	15WF1-001	Vertical shaft	1	1	
2	ZOA140379	Bevel gear, upper shaft	1	1	
3	22T2-005B3	Set screw	8	8	
4	ZOA140380	Bevel gear, vertical shaft, U	1	1	
5	ZOA140383	Bevel gear, lower shaft	1	1	
6	ZOA140382	Bevel gear, vertical shaft, L	1	1	
7	2KT1-015	Bush, vertical shaft, U	1	1	
8	2KT1-008	Bush, vertical shaft, L	1	1	
9	J0.0.40	Screw	2	2	
10	33T1-028R	Bobbin case	1	-	
11	11WF4-007	Bobbin case	-	1	
12	33T1-027	Bobbin	1	1	
	33T1-018J	Hook assy.	1	-	
	11WF4-008	Hook assy.	-	1	
13	36T4-008D1	Lower shaft	1	1	
14	22T4-001A1a2	Filter	1	1	
15	22T4-001A1a1	Screw	1	1	
16	4WF1-005	Bush, lower shaft, L	1	1	
17	22T4-005	Adjusting screw, oil	1	1	
18	22T4-006	Adjusting spring	1	1	
19	22T4-002B1	Collar	1	1	
20	J0.0.35	Screw	2	2	
21	68WF3-002	Bush, lower shaft, R	1	1	
22	J0.0.5	Screw	2	2	
23	36T4-015	Plunger	1	1	
24	36T4-016	Spring	1	1	
25	22T4-010	Holder plate	1	1	
26	22T9-006	Screw	1	1	
27	33T1-029	B/case holder position bracket	1	1	
28	22T4-015	Screw	1	1	
29		Washer	1	1	GB93 6
30	22T4-007C2	Oil tube	1	1	
31	22T4-003	Oil seal	1	1	

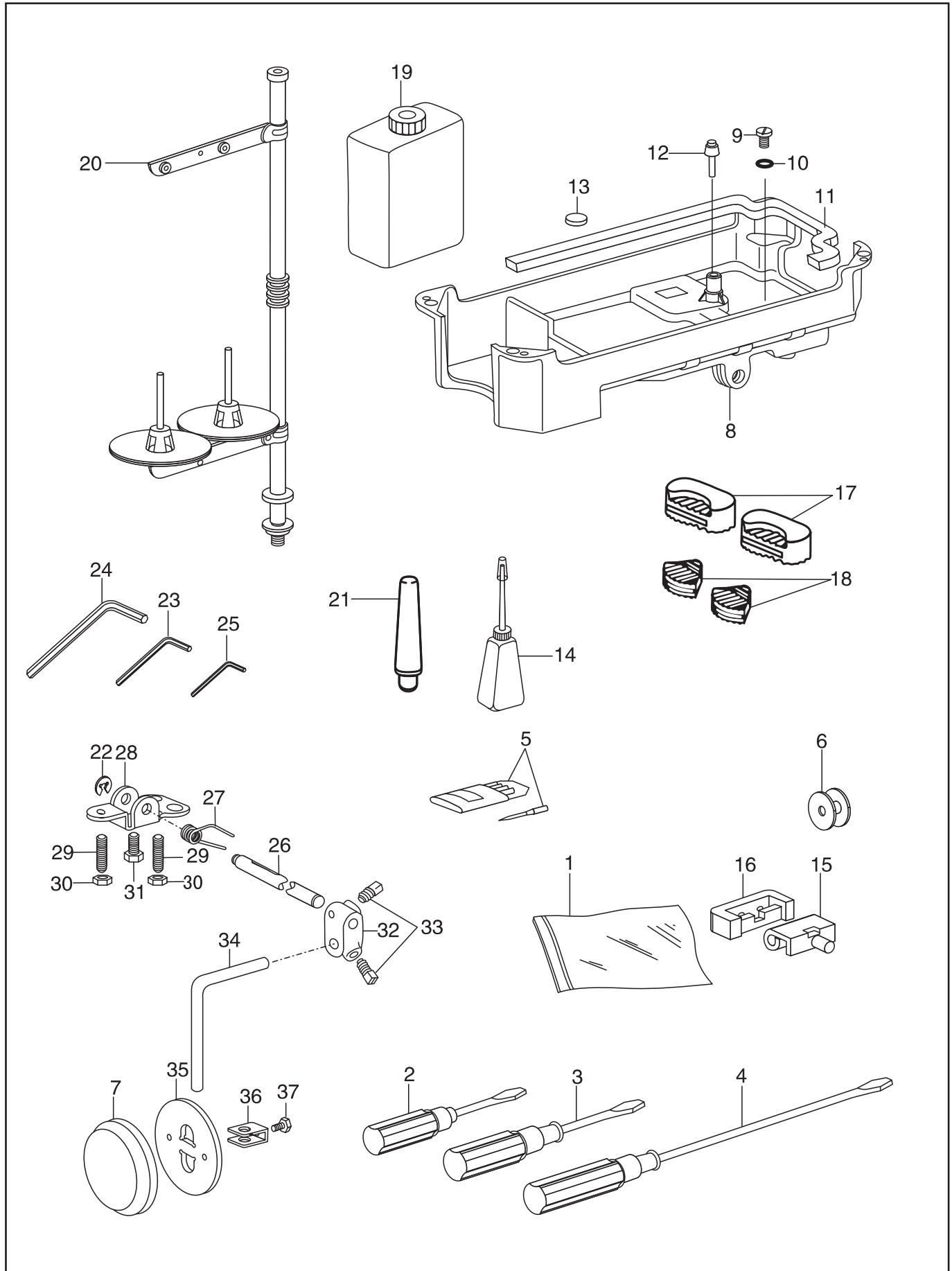
6. Lubrication mechanism



6. Lubrication mechanism

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	15WF4-003	Pump body	1	1	
2	15WF4-006	Big gear, pump	1	1	
3	15WF4-007	Small gear, pump	1	1	
4		Screw	3	3	GB/T67 M3x10
5		Washer	1	1	GB93 4
6	15WF4-004	Cover	1	1	
7	22T8-007	Adjusting plate	1	1	
8	22T8-008A	Filter set	1	1	
9	22T8-009	Screw	3	3	
10	122WF5-001	Oil tube, lower shaft	1	1	
11	33T4-018	Setting plate	1	1	
12	22T8-012	Screw	2	2	
13	22T8-013D	Oil tube, upper shaft	1	1	
14	242WF1-004	Tube assy.	1	1	
15	22T8-016	Tube clamp	1	1	
16		Oil wick	1	1	
17		Oil wick	1	1	
18	20T4-006	Screw	1	1	
19	22T1-003C3	Rubber cap	1	1	Φ19
20	22T1-003C4	Rubber cap	3	3	Φ11.8
21	22T1-015	Rubber cap	2	2	Φ8.8
22	22T1-016	Rubber cap	1	1	Φ27
23	22T1-017	Rubber cap	1	1	Φ5.7
24	22T1-008	Oil gauge window	1	1	
25	241WF1-005	Back cover	1	1	
26	241WF1-006	Packing	1	1	
27	22T1-006	Screw	8	8	
28	22T1-007	Washer	8	8	
29	13WF2-035	Rubber plug	1	1	
30		Screw	2	2	GB/T M3x10
31	15WF4-005	Shaft	1	1	

7. Accessories



7. Accessories

No.	Part number	Name	Qt.		Remark
			D	DCX	
1	33TF-010	Accessory bag	1	1	
2	33TF-014	Screw driver, S	1	1	
3	33TF-013	Screw driver, M	1	1	
4	33TF-012	Screw driver, L	1	1	
5		Needle	4	-	DPx17 21#
		Needle	-	3	DPx17 25#
6	33T1-027	Bobbin	3	3	
7	22T9-003B8	Band	1	1	
8	356WF5-001	Oil pan	1	1	
9	22T9-001A2	Screw	1	1	
10	22T9-001A3	Washer	1	1	
11	2KT9-008	Packing, oil pan	1	1	
12	4WF5-002	Lifter bar, knee	1	1	
13	22T9-012	Magnet	1	1	
14	33TF-011	Oil pot	1	1	
15	22T9-007F1	Head hinge	2	2	
16	22T9-007F2	Cushion, head hinge	2	2	
17	1KT5-004	Head cushion, L	2	2	
18	1KT5-003	Head cushion, S	2	2	
19	1F-012	Oil tank	1	1	
20	14F-00	Thread stand assy.	1	1	
21	1KT5-007	Head rest	1	1	
22		Retainer	1	1	GB896 9
23		Wrench, 2mm	1	1	2 GB/T5356-1998
24		Wrench, 3mm	1	1	3 GB/T5356-1998
25		Wrench, 2.5mm	1	1	2.5 GB/T5356-1998
26	22T9-001A6	Lifter shaft	1	1	
27	22T9-001A7	Spring	1	1	
28	22T9-001A8	Bracket	1	1	
29	22T9-001A9	Adjusting screw	2	2	
30	22T9-001A10	Adjusting nut	2	2	
31	22T9-039	Screw	1	1	
32	22T9-003B3	Bracket	1	1	
33		Screw	1	1	GB/T5781 M8x12 M8x20
34	22T9-003B2	Lifter bar	1	1	
35	22T9-003B5	Knee lifter plate	1	1	
36	22T9-003B6	Stopper	1	1	
37	22T9-003B7	Screw	1	1	

System Service Manual

△Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. The product should be installed and pre-operated by well trained persons.
3. All the instruction marked with sign △ must be observed or executed; otherwise, bodily injuries might occur.
4. For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.
5. When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250 VAC and matches the rated voltage indicated on the motor's name plate.
△ * Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.
7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.
8. Don't operate in area with heavy dust, corrosive substance or volatile gas.
9. Avoid power cord being applied by heavy objects or excessive force, or over bend.
10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
11. All the moving portions must be prevented to be exposed by the parts provided.
12. Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
13. Turn off the power before the following operation :
 - a) Connecting or disconnecting any connectors on the control box or motor.
 - b) Threading needle.
 - c) Raising the machine head.
 - d) Repairing or doing any mechanical adjustment.
 - e) Machines idling.
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
14. All the spare parts for repair must be provided or approved by the manufacturer.
15. Don't use any objects or force to hit or ram the product.

Guarantee Time

Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

Warranty Detail:





Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period:

1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.
2. Damage by fire, Earth quake, lightning, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device.(Such as residual current breaker)

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 Larger 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		N01 Electrically controlled version serial numbers N02 Selected needle cassette version N03 Speed N04 Pedals AD, N05 Positioning angle (0-359), N06 Under the positioning angle N07 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

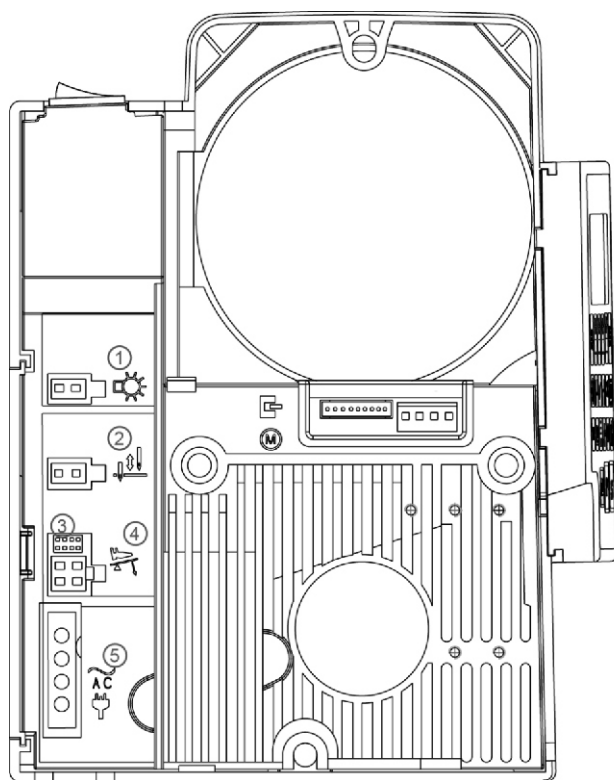
Parameter	Parameter Function	Range	Default	Description
				2: If the motor is positioned on the no longer find location (only with magnet motor)
P58	Up Position Adjustment	0-1439	40	Up Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value 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 stuck If 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 power 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

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

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