

máquina de Braco 1 e 2 agulhas.



TYPICAL

TW3-18BL/28BL

**Cylinder Bed Single/Twin Needle
Compound Feed Lockstitch Sewing Machine**

OPERATION INSTRUCTION / PARTS MANUAL

TYPICAL SEWING MACHINE WANPING MACHINERY CO., LTD.

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Operation Instruction

1. Brief instruction

This series adopt slide take-up lever, vertical rotating hook which forms two lines of lockstitch seam. Upper shaft and lower shaft are driven by teeth-type synchronic belt, and adjusted by lever-type stitch length adjusting mechanism. This series are equipped with safety clutch mechanism to avoid the damage to machine when overloading occurs. The feed mechanism is designed with compound feed of timing feed between upper feed with alternating presser foot and lower feed with needle and feed dog.

This series are widely used in producing heavy weight materials such as bag, luggage, cushion, etc. They are suitable for sewing arc and cylinder type products.

3. Installing the machine

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.

2. Oil reservoir installation (Fig.1)

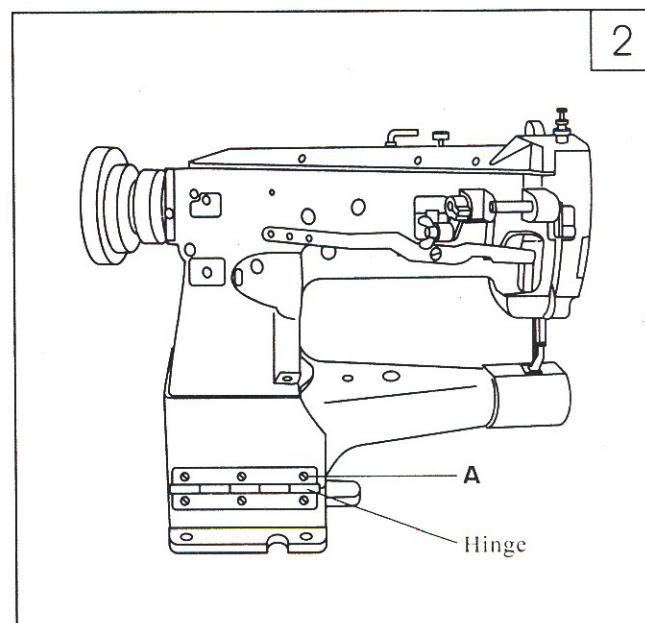
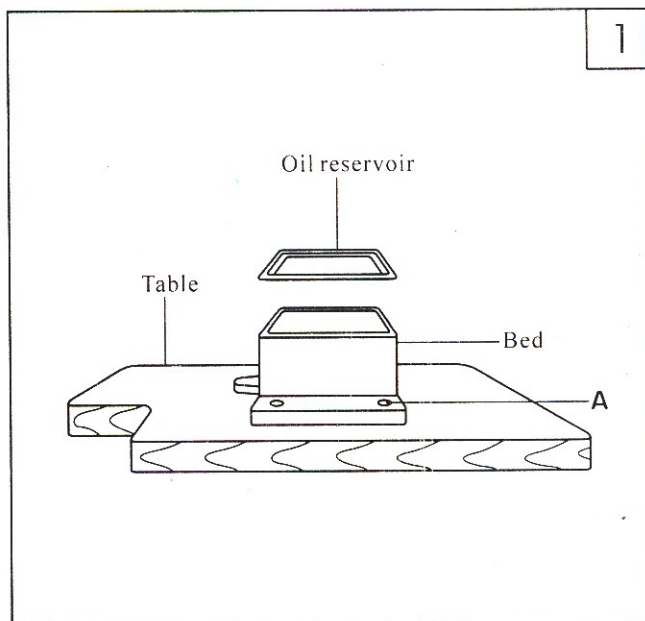
Put the oil reservoir into the table cutout, and place the four cushions on the four corners of the cutout, then place oil felt into the oil reservoir.

3. Installing the machine head (Fig.2)

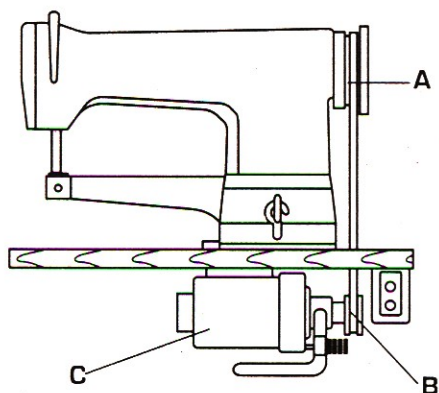
Install the hinge into the base of the machine, then move the machine head freely till it is seated on the frame of the table cutout, then tighten the screws A.

2. Main specification

TYPE	TW3-28BL	TW3-18BL
Application	Medium and heavy duty	
Max. sewing speed	2000spm	
Stitch length	0-6mm	
Needle bar stroke	33.2mm	
Clearance under presser foot lift	8.5mm by hand, 14mm by pedal	
Rotating hook	Vertical	
Needle	DP×17 18#-23#	
Lubrication	Semi-automatic	
Power	370W	
Needle gauge (TW3-28BL)	1/8" , 1/4" , 5/16" , 3/8" , 1/2"	



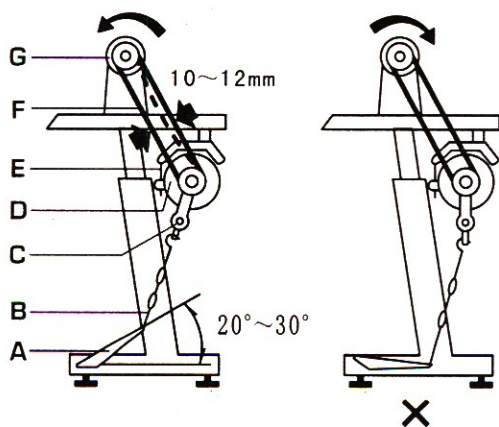
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4. Installing the motor (Fig.3)

Move the motor C leftward and rightward until the balance wheel groove A is aligned with the belt groove B. Make sure that the belt does not touch the table.

4



5. Connecting the clutch to the pedal (Fig.4)

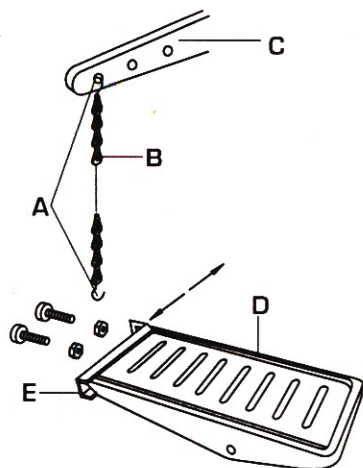
1. The optimum tilt angle of pedal with floor is approx 20-30 degree.

2. Adjust the clutch E of the motor so that clutch lever C and draw bar B run in line.

3. The machine balance wheel should rotate counter clockwise for normal sewing when view from opposite side of the balance wheel. The motor should rotate in the same direction. The rotation can be reversed by reversing (turn over 180 deg) the plug of the motor.

4. Adjust the tension of V-belt by moving the motor vertically. The proper tension of V-belt is a slack of 10-12mm when the belt is depressed (at the belt pan) by finger.

5

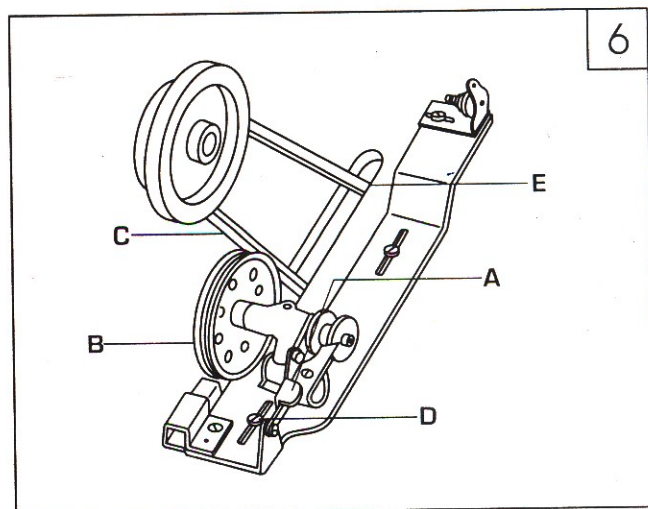


6. Installing the presser foot lift control plate (Fig.5)

Connect the draw bar hook A to the presser foot lift lever V, and install the pedal assembly D on the spring of the machine stand, then move the control plate E leftward and rightward until the chains run in line. Tighten the connector by bolt and nut. Finally connect the control plate with the chain hook.

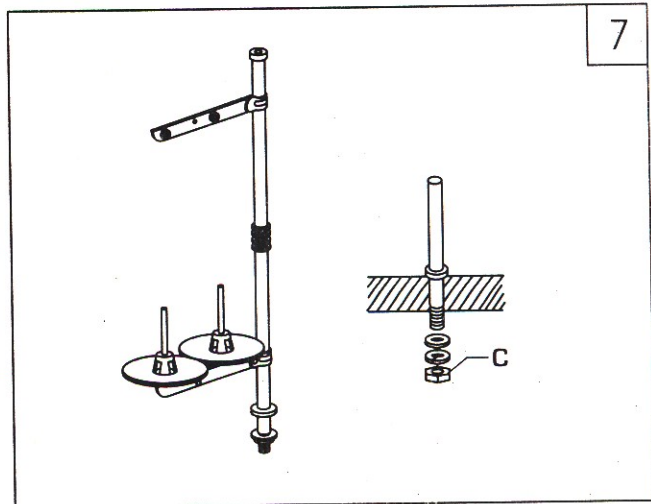
7. Installing the bobbin winder (Fig.6)

Align the pulley B with the outside of belt C, and there should be a certain clearance between them, so that pulley B could be in touch with belt after the stop latch thumb lever A is depressed, thereby belt drives the pulley B while machine is running. Make sure that the bobbin winder is in parallel with the belt slit E of table, then tighten it by two wood screws D.



8. Installing the thread spool stand (Fig.7)

Locate the thread spool stand at the right front of the table. Make sure that the spool stand may not obstruct when the machine head is turned backward, then tighten the nut C.



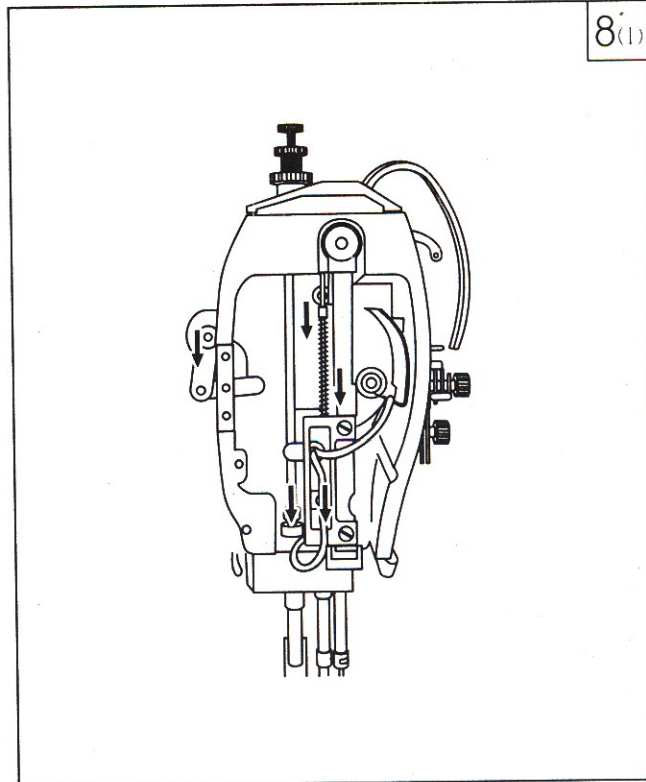
9. Operation preparation

1. Cleaning the machine

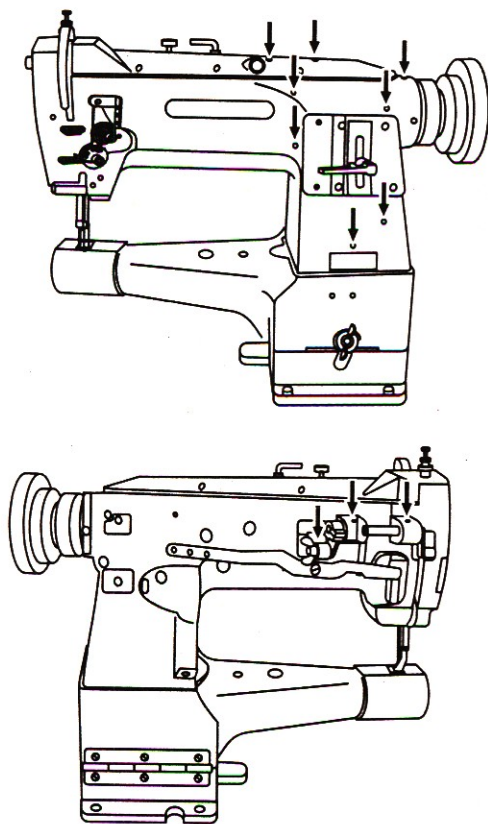
Before delivery, the machine parts are coated with rust preventive grease, which may be hardened and contaminated by dust during storage and shipment. The grease must be removed by clean cloth with gasoline.

2. Examination

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



8(2)



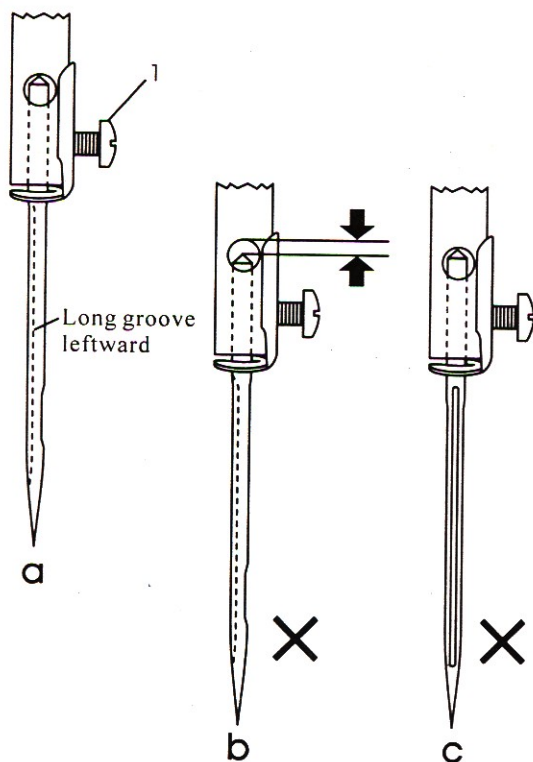
10. Lubrication (Fig.8)

Before delivery, amount oil must be filled into the position as arrows show in the Fig. If the machine is in constant use, the machine should be oiled not less twice for one running.

11. Trial run

When the machine starts for the initial time or reuse after a long period of time, lift the presser foot and run the machine at the speed of 1000-1500spm for about 30 minutes, then raise the speed gradually.

9



12. Installing the needle (Fig.9)

Turn the balance wheel to lift the needle bar to its highest position. Loosen the needle set screw 1, make the long groove of the needle toward the left side of the operator, then fully insert the needle shank to the bottom of the needle socket. Then tighten the screw 1 to set the needle as Fig a.

Note: Fig.b : Insufficient insertion

Fig.c : Wrong insertion

13. Coordination among needle, thread and materials

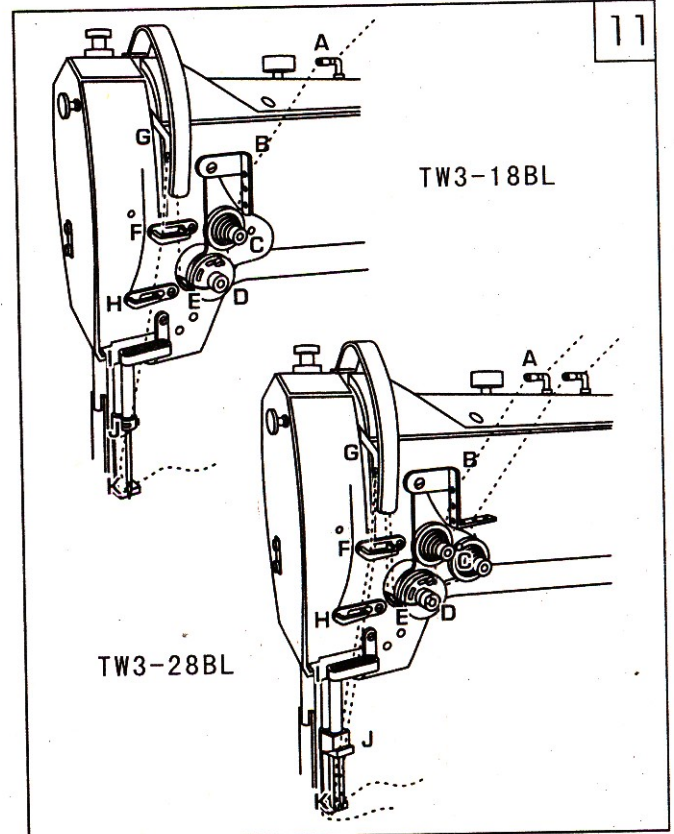
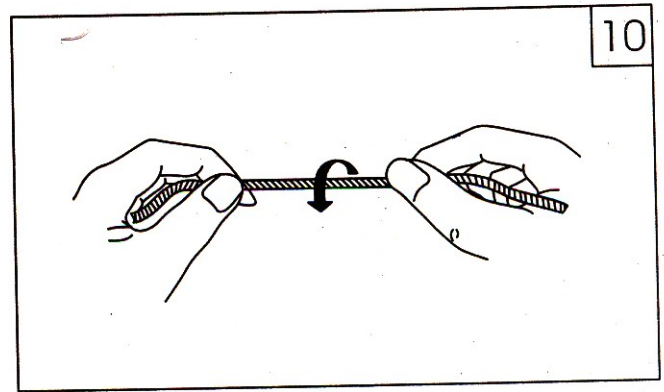
The needle thread should be left-twisted. Hold the thread by left hand, twist it by right hand in the direction shown as Fig. If the thread becomes tight, it is left-twisted; on the contrary, it is right-twisted.

The coarseness of needle should be in accordance with the nature of materials. If stitch on heavy duty material with a slim needle, the needle will be easily bent, skipped or broken. On the contrary, if stitch on tight woven materials with a very coarse needle, the material will be destroyed with over-big needle hole. Therefore, the needle and thread should be properly selected.

14. Threading the needle thread (Fig.11)

When threading the needle thread, the needle bar should be lifted to its highest position, lead the thread from the spool and pass it in the order instructed.

Threading order as shown in Fig: thread guide A-three-eye thread guide B-tension disc C-thread control plate D-thread take-up spring E-upper thread guide F-thread take-up lever G-upper thread guide H-needle bar thread guide I-needle bar thread guide J-needle K



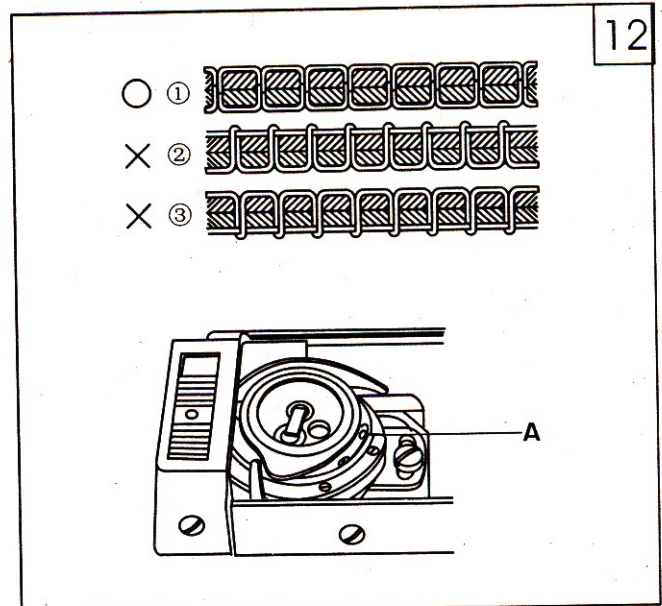
15. Adjusting the tension of bobbin thread and needle thread (Fig.12)

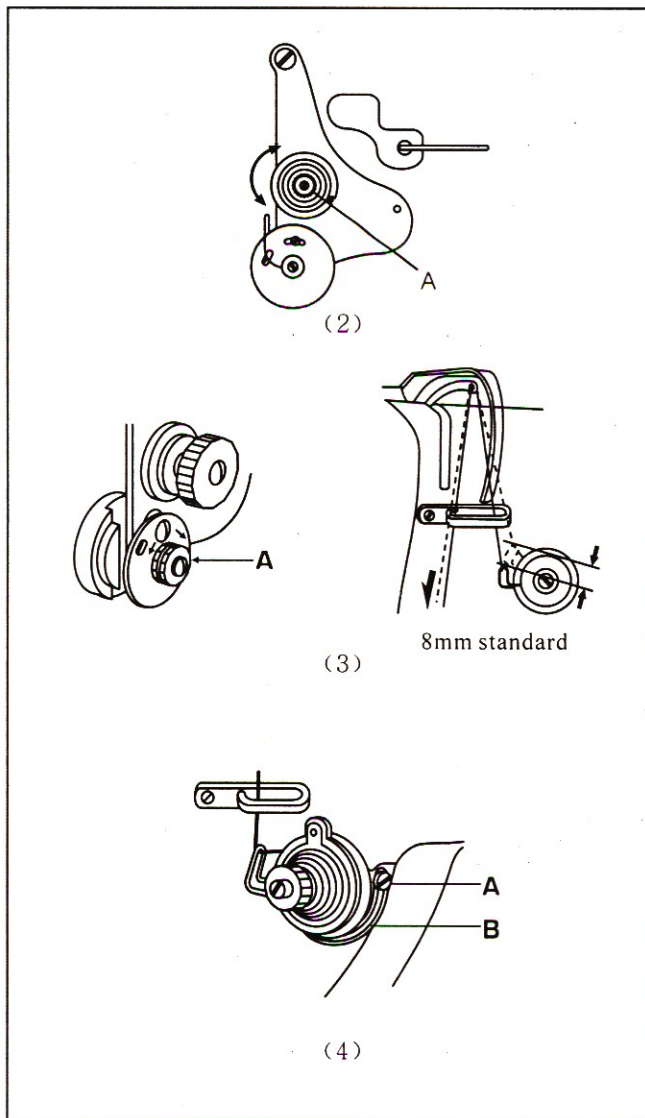
The tension of needle thread and bobbin thread should be properly adjusted. Normal stitch form should be as shown in Fig.12.1. If the tension disc is too tight or too loose, the abnormal stitch form occurs as shown in Fig.12.b,c.

1. Adjusting the tension of bobbin thread

The tension of bobbin thread could be adjusted according to the nature of material:

- 1) Turn the balance wheel by hand to lift the thread take-up lever to its highest position;
- 2) Remove the slide plate, then the adjusting screw A could be found in Fig;
- 3) Turn the screw A clockwise to increase the tension of bobbin thread;
- 4) If turn it counter clockwise, the tension of bobbin thread will be decreased.





2. Adjusting the tension of needle thread

1) Adjusting the pressure of tension disc: as shown in Fig (2) Generally, the tension of needle thread is adjusted by adjusting the pressure of adjusting tension disc. Turn the nut A clockwise to increase the pressure of the tension disc, on the contrary, to decrease the pressure of tension disc.

2) Adjusting the tension of take-up spring:

Light duty material 20g

Common material 25g

Heavy duty material 30g

Adjusting method: as shown in Fig(3):

Loosen the nut A, turn the thread take-up spring shaft counter clockwise to increase the tension, on the contrary, to decrease the tension. Insert the screw driver into the slit of the thread take-up spring shaft, turn it until the required tension is obtained.

3) The vibrating range of the thread take-up spring:

Thread take-up spring must be able to vibrate. When the thread take-up lever is lifted to its highest position, the vibrating range of it should be as follows:

Light duty material over 8mm

Common material around 8mm

Heavy duty material less than 8mm

Adjusting method: as shown in Fig.(4)

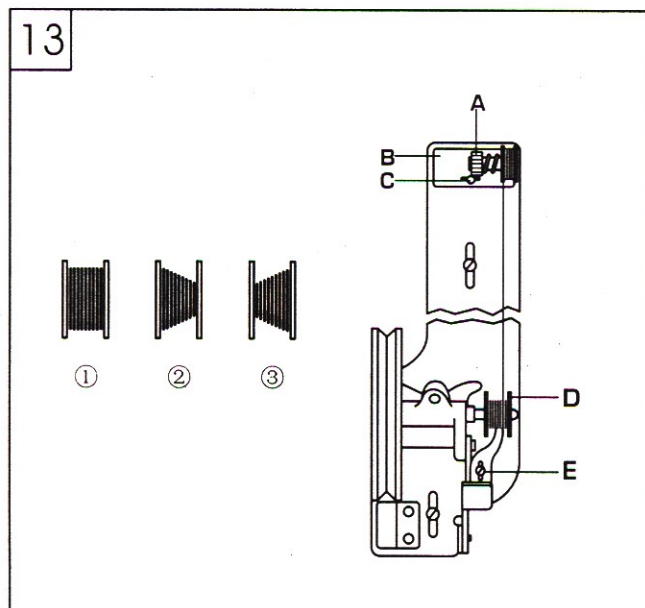
a. Loosen the presser foot lever;

b. Loosen the position screw A;

c. Turn the position plate B counter clockwise to increase the vibrating range, on the contrary, to decrease the vibrating range;

d. Tighten the position screw A.

13



16. Winding adjustment(Fig.13)

The wound bobbin thread should be neat and tight. If not, adjust the thread tension by turning the tension stud thumb nut of the bobbin winder tension bracket A. If the wound bobbin is not neat, adjust it by moving the thread guide bracket B. When adjusting, loosen the screw C first, then move the bracket rightward if the thread is wound to one side as shown in Fig.13. (2); move the bracket leftward if the thread is wound to one side as shown in Fig.13.(3).

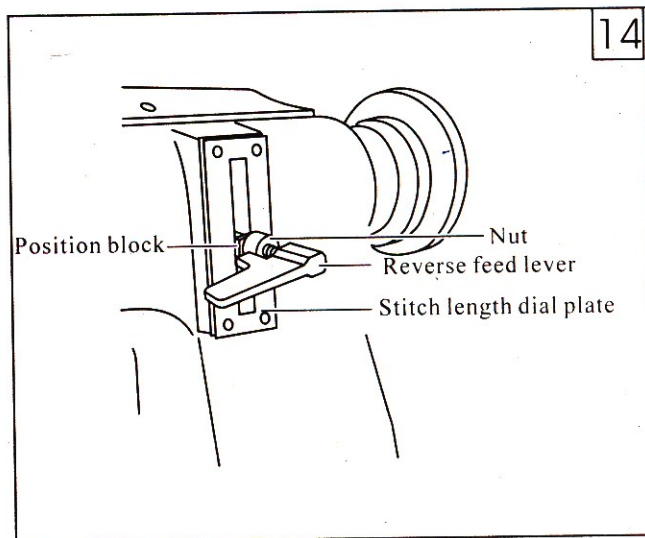
(2); move the bracket leftward if the thread is wound to one side as shown in Fig.13.(3).

Note: Nylon or polyester thread should be wound with light tension. Otherwise the bobbin D might be deformed or broken.

The optimum capacity of thread will fill about 80% of the outside diameter of bobbin, and this can be adjusted by adjusting screw E.

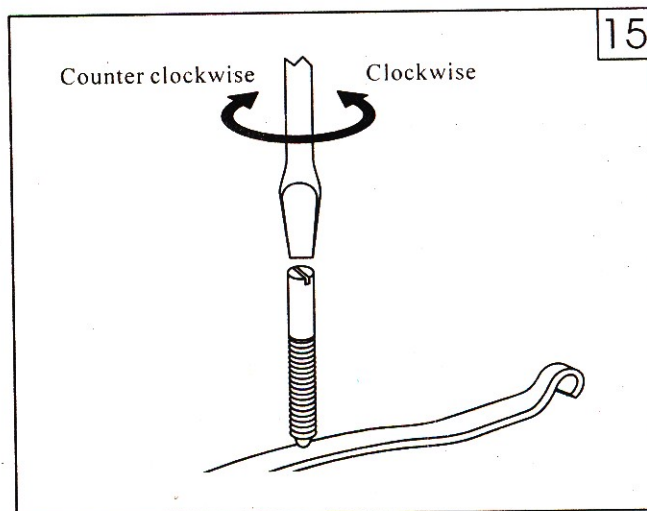
17. Setting the stitch length and reverse sewing (Fig.14)

Stitch length could be adjusted by turning the stitch length regulating nut. When the scale on the stitch length adjusting position block is aligned with some figure on the stitch length dial plate, then the figure indicates the stitch length. Reverse sewing can be obtained when reverse feed lever is depressed and forward sewing can be restored automatically when reverse feed lever is released.



18. Adjusting the pressure of presser foot (Fig.15)

Pressure on presser foot is to be adjusted in accordance with materials to be sewn. If heavy materials to be sewn, turn the pressure regulating screw clockwise as shown in Fig. 15 to increase the pressure. While light materials to be sewn, turn the pressure regulating screw counter clockwise to decrease the pressure.

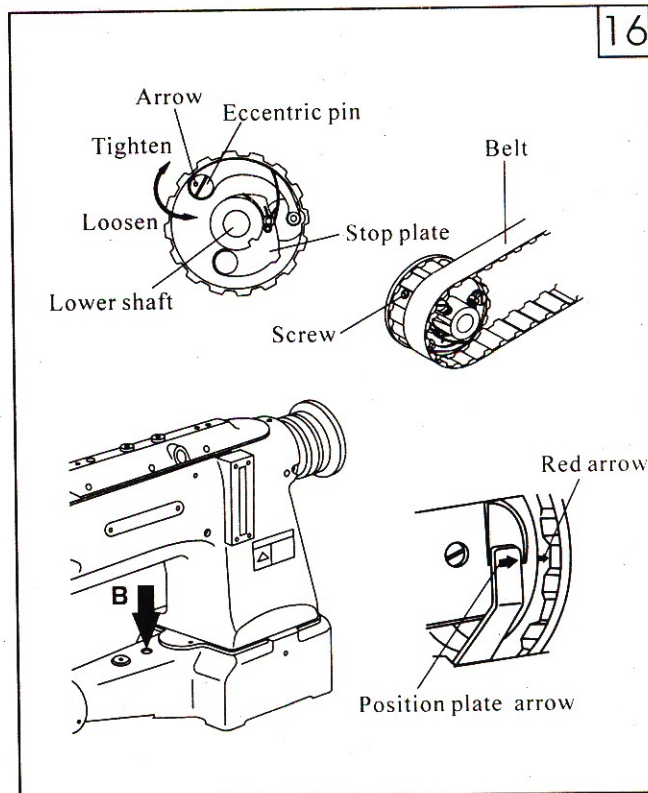


19. Function of the safety clutch (Fig.16)

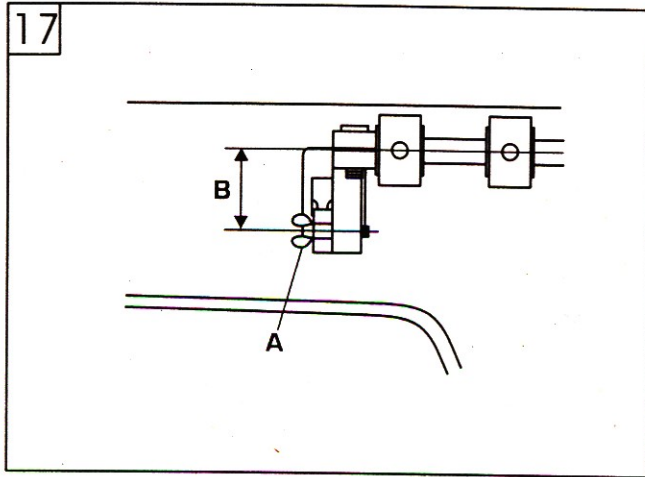
When the thread is twisted into the rotating hook because of abnormal operation, the spring plate on the clutch will automatically get off the bushing of belt wheel shaft. Turn the eccentric pin to adjust the load on the clutch.

When the arrow of the eccentric pin is aligned with the center of the lower shaft, it indicates the weakest power on the clutch; when the arrow is toward the outside, the power is stronger. When the safety clutch switches off, turn the balance wheel clockwise by right hand, when the stop plate stops the wheel, turn the balance wheel to make it switch on again, then loosen the button.

When the clutch switches off, the synchronic belt should be re-installed. First, turn the balance wheel counter clockwise to lift the thread take-up lever to its highest position, meanwhile, the red arrow on the synchronic belt wheel should be aligned with the arrow on the position plate. Then install the synchronic belt.



17

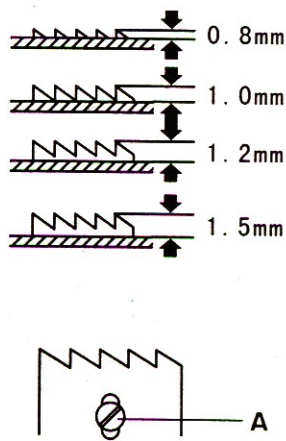


20. Adjusting the lift amount of presser foot with walking presser foot (Fig.17)

The lift amount of walking presser foot together with presser foot can be adjusted as follows:

Loosen the wing nut A and adjust its center distance B between wing nut A and the presser foot lift shaft. Shorten the center distance B to increase the lift amount; widen the center distance B to decrease the lift amount. After adjustment, tighten the screw, turn the balance wheel slowly to check if there is parts collision.

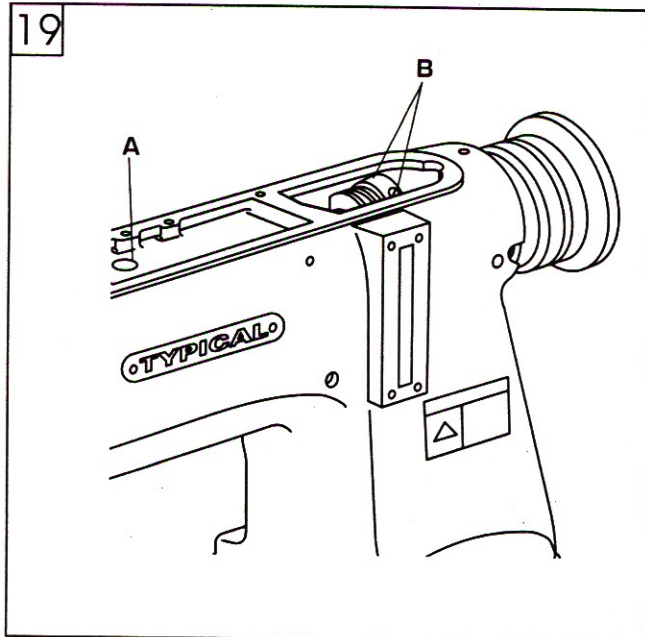
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21. Adjusting the position of the feed dog (Fig.18)

When the feed dog is raised to its highest position, the height from the teeth point to the surface of needle plate should be in accordance with the materials. When sewing heavy duty materials such as leather, the height should be about 1.2mm. when sewing light duty materials, the height should be about 0.8mm. when sewing common materials, the height should be about 1mm, when sewing extra heavy duty materials, the height should be about 1.5mm. when adjusting the position of feed dog, first loosen the feed dog screw A, and move it vertically to reach its required height, then tighten the screw.

19



22. Timing feed adjustment (Fig.19)

1. Standard position

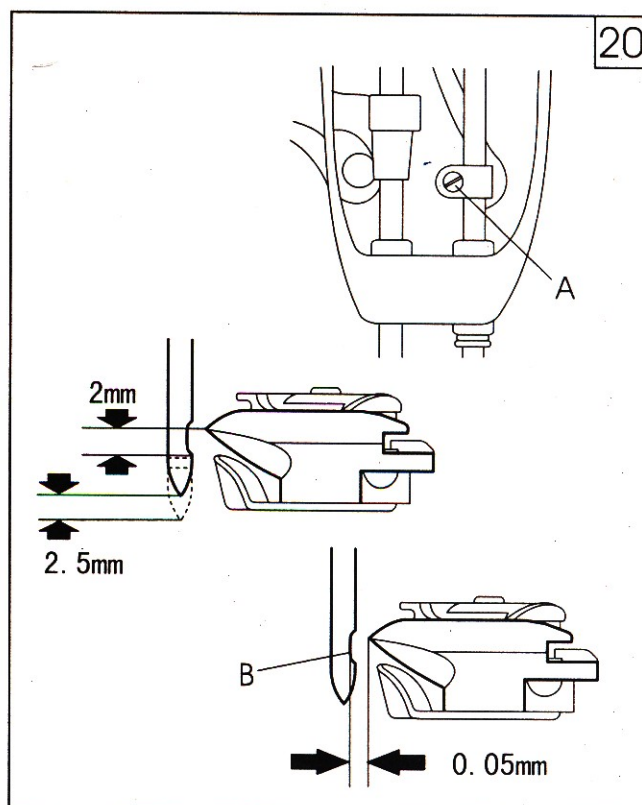
When the feed dog is just above the surface of needle plate and begin feeding, the needle should move downward, close to the surface of needle plate and is aligned with the needle hole on the feed dog body. Adjustment can be adjusted by adjusting the position of feed dog cam and vibrating shaft crank.

2. Installing the feed dog

First, adjust the stitch length to 0, open the upper cover, turn the balance wheel counter clockwise by right hand, the front oil A hole on upper shaft is the basic point, when the A is vertically upward, feed dog two screws B are symmetrical.

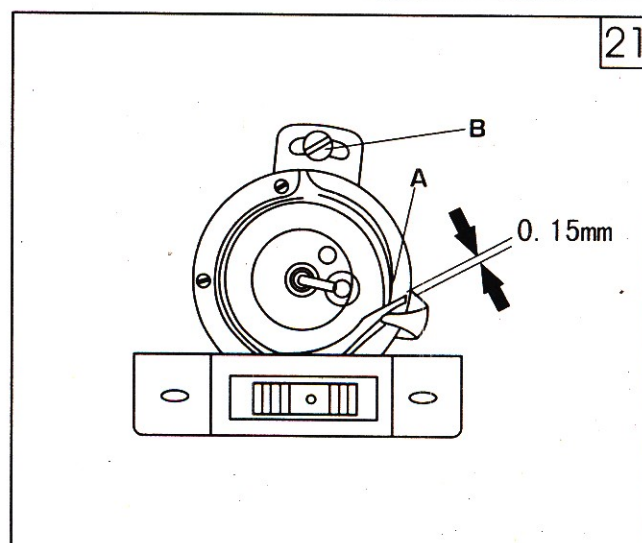
23. Adjusting the timing between needle and rotating hook (Fig.20)

Turn the balance wheel to lower the needle bar to its lowest position. Then when the needle is lifted 2.5mm from its lowest position, hook point should be coincided with the center line of the needle. The clearance between hook point and upper end of needle hole is approx 2mm. If it is not, loosen the screw A, move the needle bar vertically to its required position, then tighten the screw A. when adjusting, note that the side clearance between hook point and needle should be 0-0.05mm.



24. Relationship between the rotating hook and hook separator (Fig.20)

- 1.Remove the slide plate;
- 2.Turn the balance wheel and stop when the biggest distance between the hook separator and rotating hook A is obtained;
- 3.Loosen the adjusting screw B so that the clearance between separator and rotating hook is 0.15mm. (Adjust in accordance with the thickness of materials);
- 4.After adjustment, tighten the adjusting screw B.



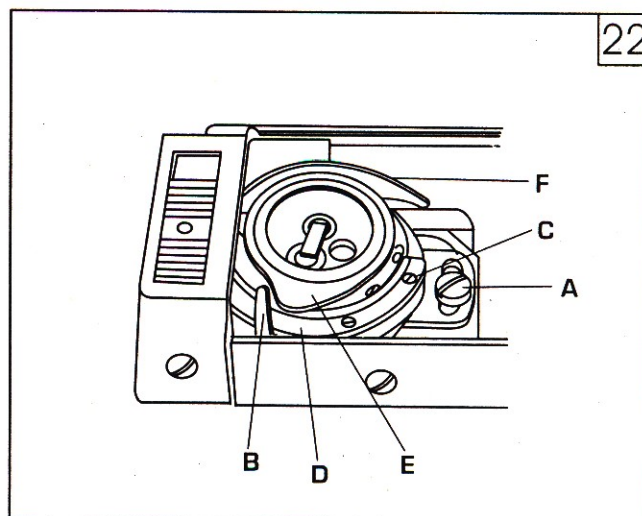
25. Removing and installing the rotating hook (Fig.22)

If the rotating hook is damaged during sewing, replace it as follows:

- 1.Lift the needle bar to its highest position and remove the needle;
- 2.Remove the slide plate, needle plate, front and rear presser plate and bobbin;
- 3.Release the adjusting screw A, remove the separator B;
- 4.Release the screw C and remove the presser plate D;
- 5.Turn the hook base E slightly and take it out;
- 6.Release the screw and take out the hook body F.

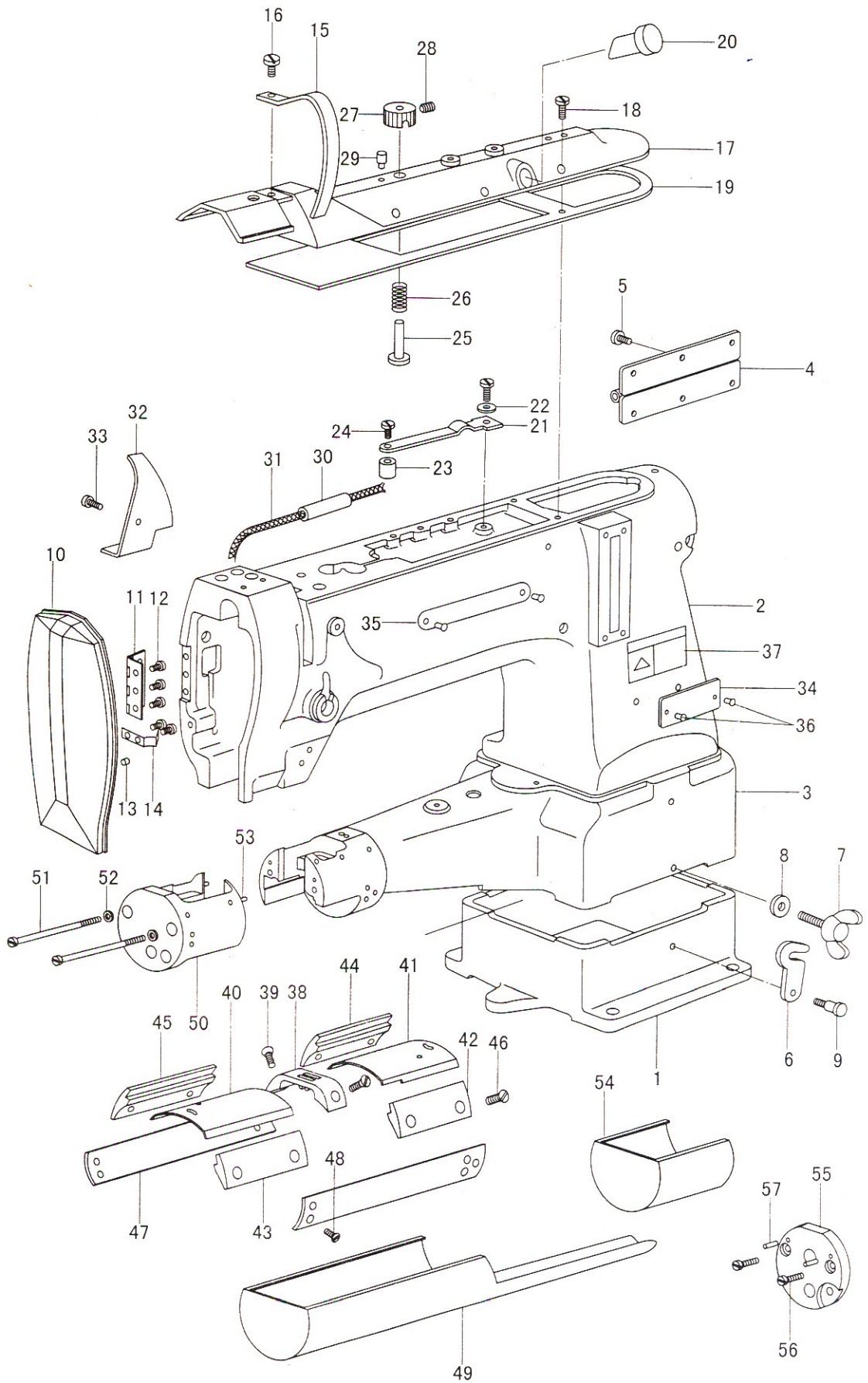
Installing the rotating hook:

- 1.Install the rotating hook in the reverse process above;
- 2.Note that installing direction is the same with removing direction.



Parts Manual

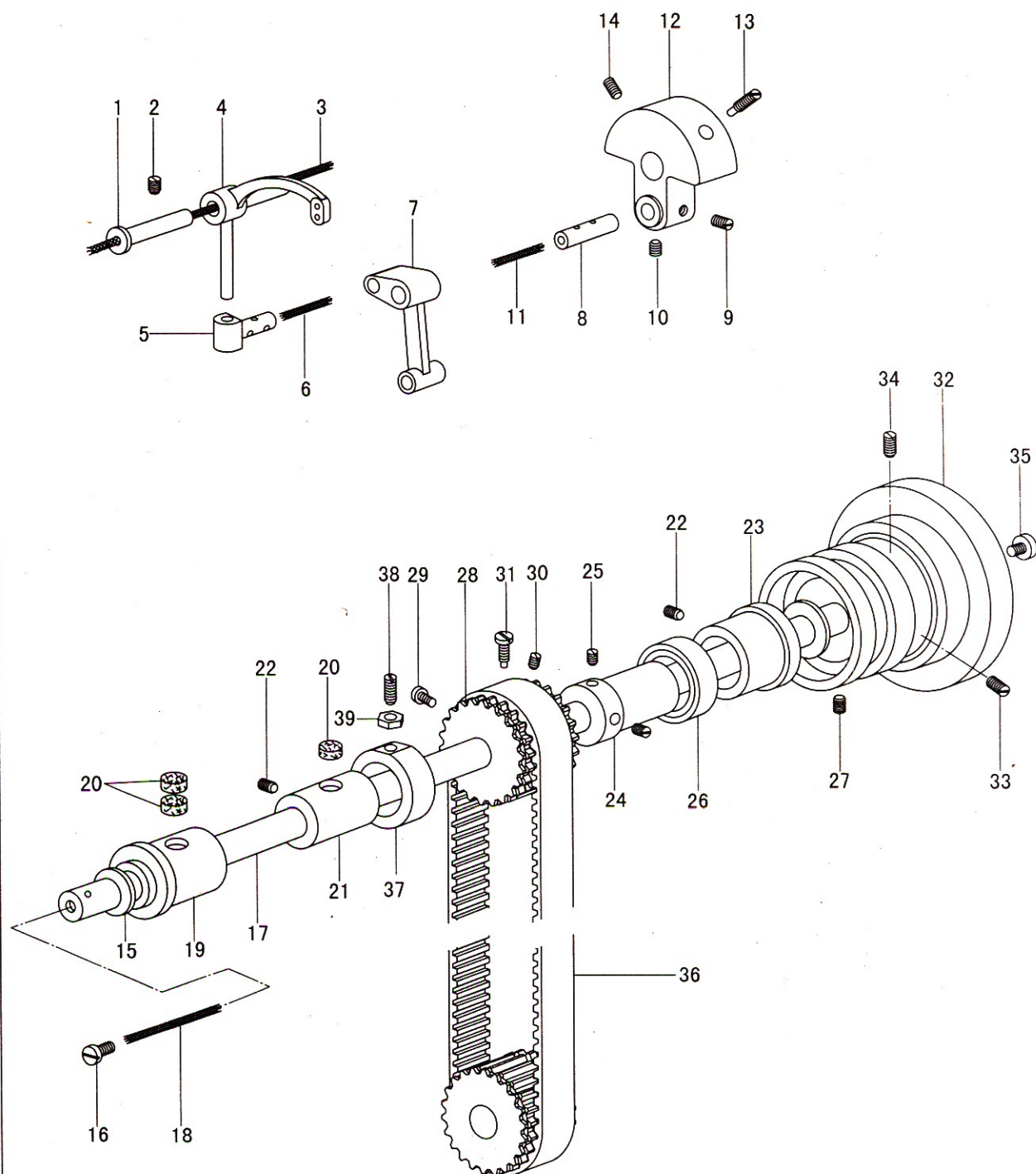
1. Arm and bed



1. Arm and bed

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	91WF2-001	Cylinder bed	1	1	
2	91WF2-002	Arm	1	1	
3	22WF2-003	Base	1	1	
4	37T4-407	Hinge	1	1	
5	22WF2-004	Screw	6	6	
6	37T4-409	Connecting hook	1	1	
7	22WF2-006	Connecting hook screw assembly	1	1	
8	37T4-411	Washer	1	1	
9	22WF2-020	Screw	1	1	
10	91WF2-003	Face plate	1	1	
11	89WF2-006	Face plate hinge assembly	1	1	
12	89WF2-005	Hinge screw	8	8	
13	49WF1-006	Rubber plug	1	1	
14	89WF2-004	Spring plate	1	1	
15	91WF2-004	Safety guard	1	1	
16	49WF2-009	Screw	2	2	
17	91WF2-005	Upper cover	1	1	
18	49WF2-012	Screw	8	8	
19	49WF2-013	Seal gasket	1	1	
20	49WF2-014	Oil window	1	1	
21	49WF2-015	Spring	1	1	
22	7KT2-020	Washer	1	1	
23	49WF2-016	Column	1	1	
24	13WF6-008	Screw	1	1	
25	49WF2-017	Pin	1	1	
26	49WF2-018	Spring	1	1	
27	49WF2-019	Column	1	1	
28	17T5-016	Screw	1	1	
29	49WF2-020	Pin	1	1	
30	49WF2-021	Oil tube	1	1	
31		Oil wick	1	1	
32	16WF2-038	Oil retainer	1	1	
33	16WF2-059	Screw	1	1	
34	90WF2-005	Trade mark	1		
	91WF2-006	Trade mark		1	
35	16WF2-053	Trade mark	1	1	
36		Rivet	4	4	
37	1KT1-005	Trade mark	1	1	
38	90WF2-001	Needle plate	1		
	91WF2-007	Needle plate		1	
39	91WF2-008	Screw	2	2	11/64"×32
40	91WF2-009	Slide plate assembly(L)		1	
41	91WF2-010	Slide plate assembly□	1	1	
42	91WF2-011	Right presser plate (long)	1	1	
43	91WF2-012	Left presser plate (short)		1	
44	91WF2-013	Right presser foot (long)	1	1	
45	91WF2-014	Left presser foot (short)		1	
46	22WF2-007	Screw	8	8	9/64"×40
47	91WF2-015	Connecting presser plate		2	
48	16WF2-035	Screw		10	11/64"×40
49	91WF2-016	Safety ring		1	
50	91WF2-017	Connecting holder		1	
51	91WF2-018	Screw		2	
52		Washer		2	
53	22WF2-018	Connecting pin		2	
54	90WF2-003	Safety ring	1		
55	90WF2-002	Connecting plate	1		
56	90WF2-004	Screw	2		
57	22WF2-018	Connecting pin	2		

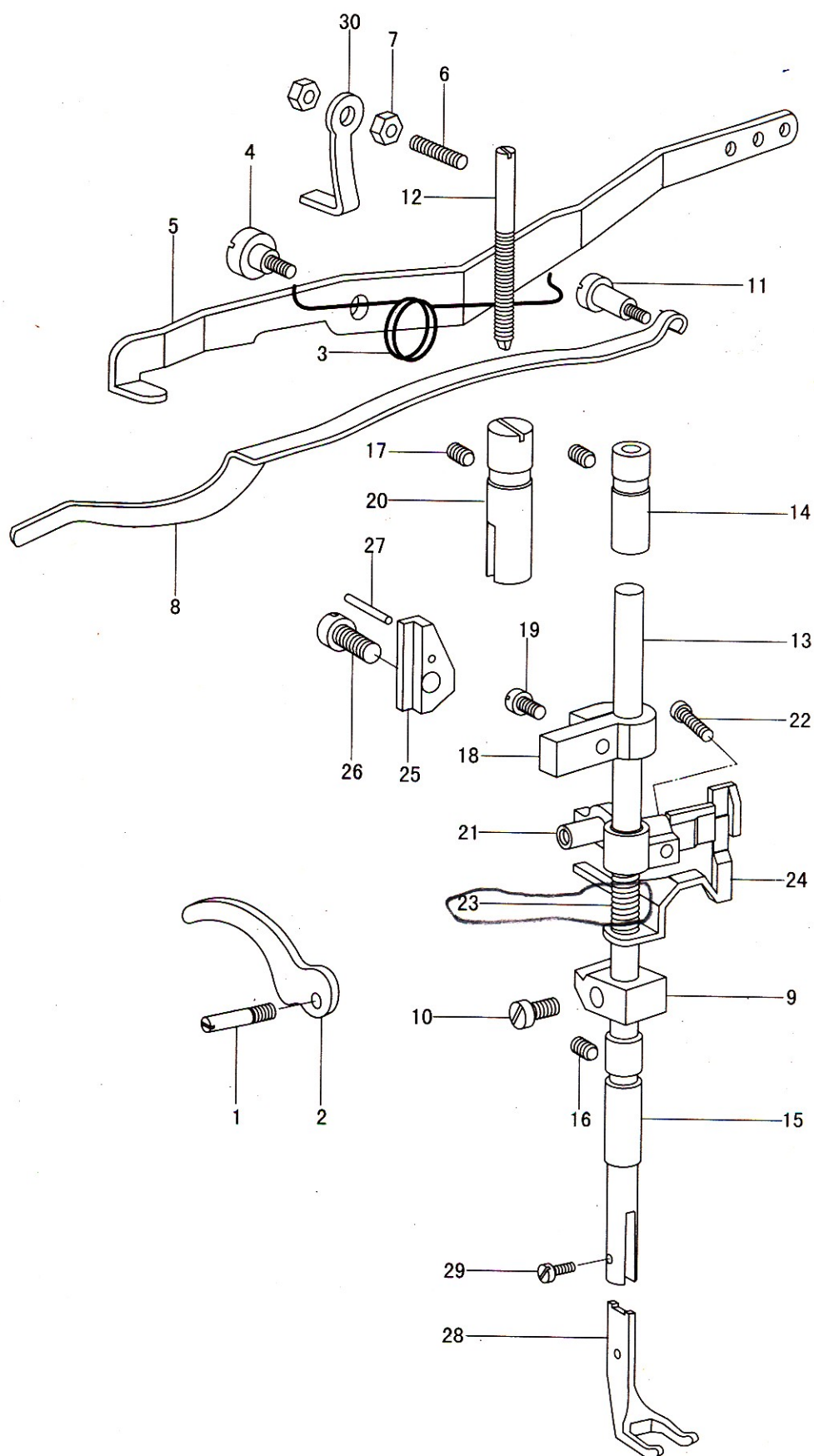
2. Upper shaft and thread take-up parts



2. Upper shaft and thread take-up parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	49WF1-003	Thread take-up lever pin shaft	1	1	
2	49WF1-004	Screw	1	1	
3		Oil wick	1	1	
4	91WF1-002	Thread take-up lever	1	1	
5	215029	Slide blcok	1	1	
6		Oil wick	1	1	
7	16WF1-014	Needle bar link	1	1	
8	16WF1-015	Needle bar crank pin	1	1	
9	16WF1-016	Position screw	1	1	
10	16WF1-017	Screw	1	1	
11		Oil wick	1	1	
12	16WF1-018	Needle bar crank	1	1	
13	16WF1-019	Position screw	1	1	
14	16WF1-020	Screw	1	1	
15	16WF1-021	Spacer	1	1	
16	16WF1-022	Screw	1	1	
17	22WF1-005	Upper shaft	1	1	
18		Oil wick	1	1	
19	103565	Front bushing	1	1	
20	16WF1-025	Oil felt	3	3	
21	22WF1-006	Middle bushing	1	1	
22	16WF1-004	Screw	2	2	
23	16WF1-026	Rear bushing	1	1	
24	22WF1-047	Rear bushing gasket	1	1	
25	22WF1-048	Screw	2	2	
26		Rear bushing bearing	1	1	
27	16WF1-029	Retaining ring	1	1	
28	22WF1-043	Synchronic belt wheel	1	1	
29	22WF1-044	Screw	1	1	
30	22WF1-045	Screw (short)	1	1	
31	22WF1-046	Screw (long)	1	1	
32	037473	Balance wheel	1	1	
33	13WF1-077	Screw	1	1	
34	13WF1-078	Screw	1	1	
35	16WF1-040	Screw	1	1	
36	91WF1-017	Synchronic belt	1	1	
37	22WF1-041	Middle bushing gasket	1	1	
38	16WF1-019	Screw	1	1	
39	22WF1-042	Nut	1	1	

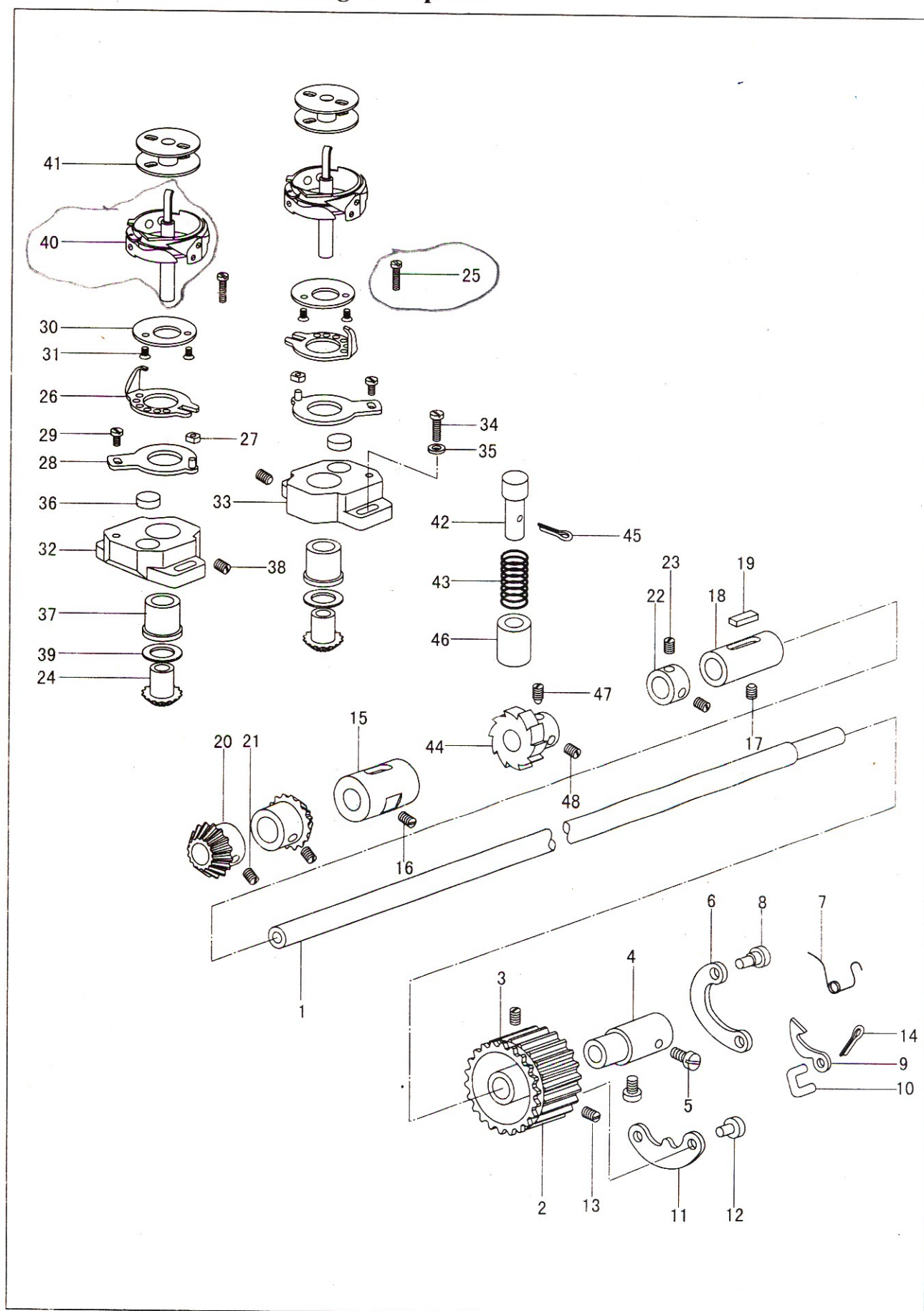
3. Presser bar and draw bar parts



3. Presser bar and draw bar parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	16WF4-001	Presser foot lift lever shaft	1	1	
2	16WF4-002	Presser foot lift lever	1	1	
3	22WF3-001	Spring	1	1	
4	16WF3-059	Screw	1	1	
5	22WF3-002	Presser foot lift bar	1	1	
6	22WF3-003	Screw	1	1	
7	22WF3-004	Nut	2	2	
8	16WF4-009	Spring	1	1	
9	16WF4-023	Spring bracket	1	1	
10	16WF1-009	Screw	1	1	
11	16WF4-008	Screw	1	1	
12	037522	Screw	1	1	
13	22WF3-005	Presser bar	1	1	
14	16WF4-027	Presser bar upper bushing	1	1	
15	22WF3-006	Presser bar lower bushing	1	1	
16	16WF3-025	Screw	2	2	
17	16WF3-025	Screw	1	1	
18	16WF4-021	Guide bracket	1	1	
19	16WF4-022	Screw	1	1	
20	16WF4-020	Guide shaft	1	1	
21	22WF3-007	Guide bracket	1	1	
22	16WF2-033	Screw	1	1	
23	22WF3-008	Spring	1	1	
24	22WF3-009	Presser foot lift releasing plate	1	1	
25	22WF3-010	Presser plate	1	1	
26	22WF3-011	Screw	1	1	
27	22WF3-012	Presser plate pin	1	1	
28	91WF3-001	Preser foot	1		
	22WF3-013	Preser foot		1	
29	22WF3-014	Screw	1	1	
30	22WF3-015	Position plate	1	1	

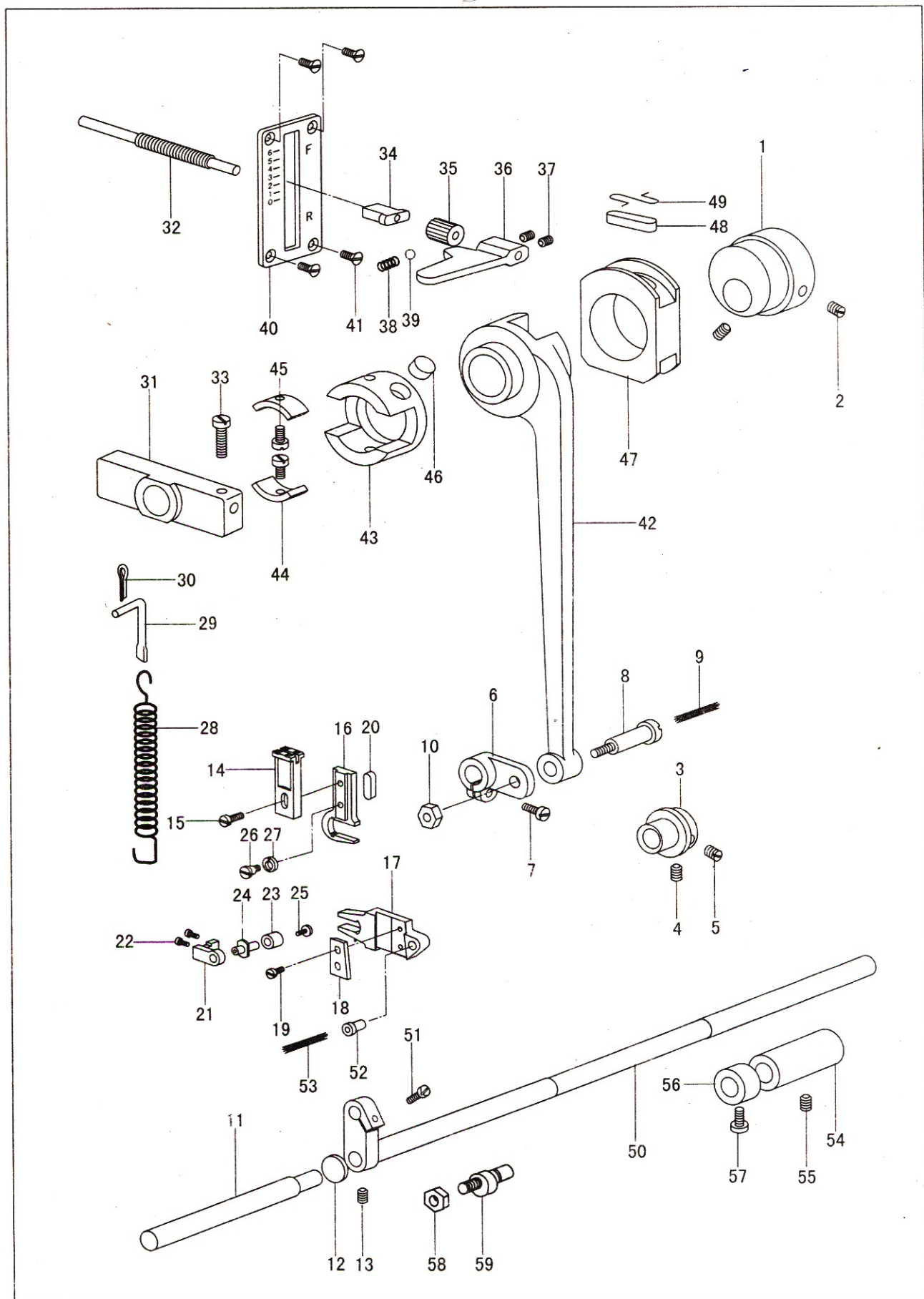
4. Lower shaft and rotating hook parts



4. Lower shaft and rotating hook parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	90WF1-002	Lower shaft	1		
	91WF1-003	Lower shaft		1	
2	22WF1-010	Synchronic belt wheel	1	1	
3	16WF1-043	Retainer	3	3	
4	22WF1-011	Bushing	1	1	
5	22WF1-012	Screw	2	2	
6	22WF1-013	Spring plate	1	1	
7	22WF1-014	Spring	1	1	
8	22WF1-015	Eccentric shaft pin	1	1	
9	22WF1-016	Stop plate	1	1	
10	22WF1-017	Connecting piece	1	1	
11	22WF1-018	Stop plate	1	1	
12	22WF1-019	Pin	1	1	
13	22WF1-020	Screw	2	2	
14		Split pin	1	1	
15	91WF1-004	Front bushing	1	1	
16	22WF1-022	Screw	1	1	
17	380637	Screw	1	1	1/4×32
18	22WF4-046	Rear bushing	1	1	
19		Oil felt	1	1	
20	91WF1-005	Lower shaft gear	1	2	
21	21WF1-043	Screw	2		
22	91WF1-006	Collar		4	
23	22WF4-005	Screw	1	1	
24	91WF1-007	Gear	2	2	
		Gear	1		
25	50WF1-046	Screw		2	
		Screw	1		
26	91WF1-008	Rotating hook separator		2	
		Rotating hook separator	1		
27	91WF1-009	Slide block		2	
		Slide block	1		
28	91WF1-010	Set plate assembly		2	
		Set plate assembly	1		
29	16WF1-059	Adjusting screw		2	
		Adjusting screw	1		
30	91WF1-011	Eccentric plate		2	
		Eccentric plate	1		
31	91WF1-012	Screw		2	
		Screw	2		
32	91WF1-013	Rotating hook bracket (left)		4	
33	91WF1-018	Rotating hook bracket (right)		1	
34	22WF1-050	Screw	1	1	
		Screw	2		
35	22WF1-036	Washer		4	
		Washer	2		
36	22WF1-037	Oil felt		4	
		Oil felt	1		
37	91WF1-014	Rotating hook bracket bushing		2	
		Rotating hook bracket bushing	1		
38	91WF1-020	Screw		2	
		Screw	1		
39	91WF1-015	Washer		2	
		Washer	1		
40	91WF1-016	Rotating hook	1	2	KRT8-BL
		Rotating hook			
41	88WF2-012	Bobbin	1	2	
		Bobbin			
42	91WF1-019	Button	1	2	
43	16WF3-046	Spring	1	1	
44	22WF1-039	Stop wheel	1	1	
45		Split pin	1	1	
46	22WF1-040	Button bushing	1	1	
47	16WF1-054	Screw	1	1	
48	16WF1-053	Screw	1	1	

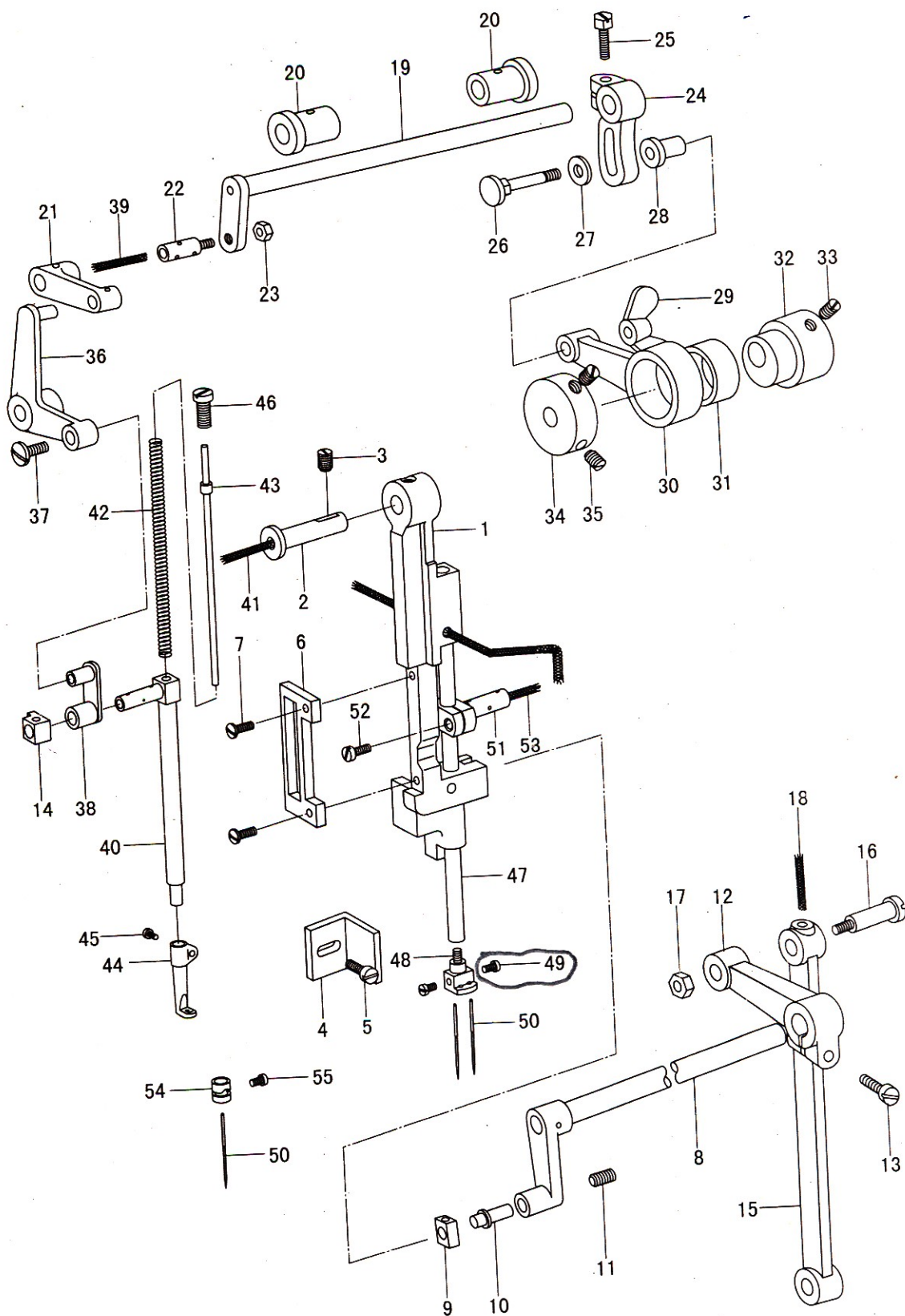
5. Feed shaft parts



5. Feed shaft parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	22WF4-001	Feed eccentric wheel	1	1	
2	22WF4-002	Screw	2	2	
3	91WF4-001	Cam	1	1	
4	22WF4-004	Screw	1	1	
5	22WF4-005	Screw	1	1	
6	22WF4-006	Feed crank	1	1	
7	22WF4-007	Screw	2	2	
8	22WF4-008	Screw	1	1	
9		Oil wick	1	1	
10	22WF4-009	Connecting nut	1	1	
11	91WF4-002	Feed connecting shaft	1	1	
12	22WF4-012	Oil felt		1	
13	16WF2-025	Screw		1	
14	22WF4-013	Feed dog	1		
	91WF4-003	Feed dog		1	
15	16WF2-020	Screw	1	1	
16	91WF4-004A1	Feed dog support	1	1	
17	91WF4-004A2	Feed dog support bracket	1	1	
18	91WF4-004A3	Presser plate	1	1	
19	16WF1-059	Screw	2	2	
20		Oil felt	1	1	
21	91WF4-005	Connecting bracket	1	1	
22	91WF4-006	Screw	2	2	
23	91WF4-007	Column	1	1	
24	91WF4-008	Column pin	1	1	
25	91WF4-009	Screw	1	1	
26	91WF4-010	Screw	1	1	
27	91WF4-011	Washer	1	1	
28	22WF4-021	Spring	1	1	
29	22WF4-022	Spring hook	1	1	
30		Split pin	1	1	
31	22WF4-023	Control block	1	1	
32	91WF4-012	Bolt	1	1	
33	22WF4-025	Screw	1	1	
34	22WF4-026	Position block	1	1	
35	22WF4-027	Nut	1	1	
36	22WF4-028	Reverse feed lever	1	1	
37	13WF4-027	Screw	2	2	
38	22WF4-030	Spring	1	1	
39		Spring ball	1	1	
40	91WF4-013	Stitch length dial	1	1	
41	22WF4-032	Screw	4	4	
42	91WF4-014	Feed link	1	1	
43	22WF4-034	Stitch length adjusting block	1	1	
44	22WF4-035	Oil felt	2	2	
45	22WF4-036	Screw	2	2	
46	22WF4-037	Felt	1	1	
47	22WF4-038	Slide block	1	1	
48	22WF4-039	Oil felt	1	1	
49	22WF4-040	Spring	1	1	
50	91WF4-015	Feed shaft	1	1	
51	22WF4-020	Screw	1	1	
52	22WF4-042	Connecting pin	1	1	
53		Oil wick	1	1	
54	22WF1-023	Feed shaft bushing	1	1	
55	J0. O. 81	Screw	1	1	
56	91WF1-006	Collar	1	1	
57	22WF4-005	Screw	1	1	
58	22WF4-011	Nut	1		
59	22WF4-010	Screw	1		

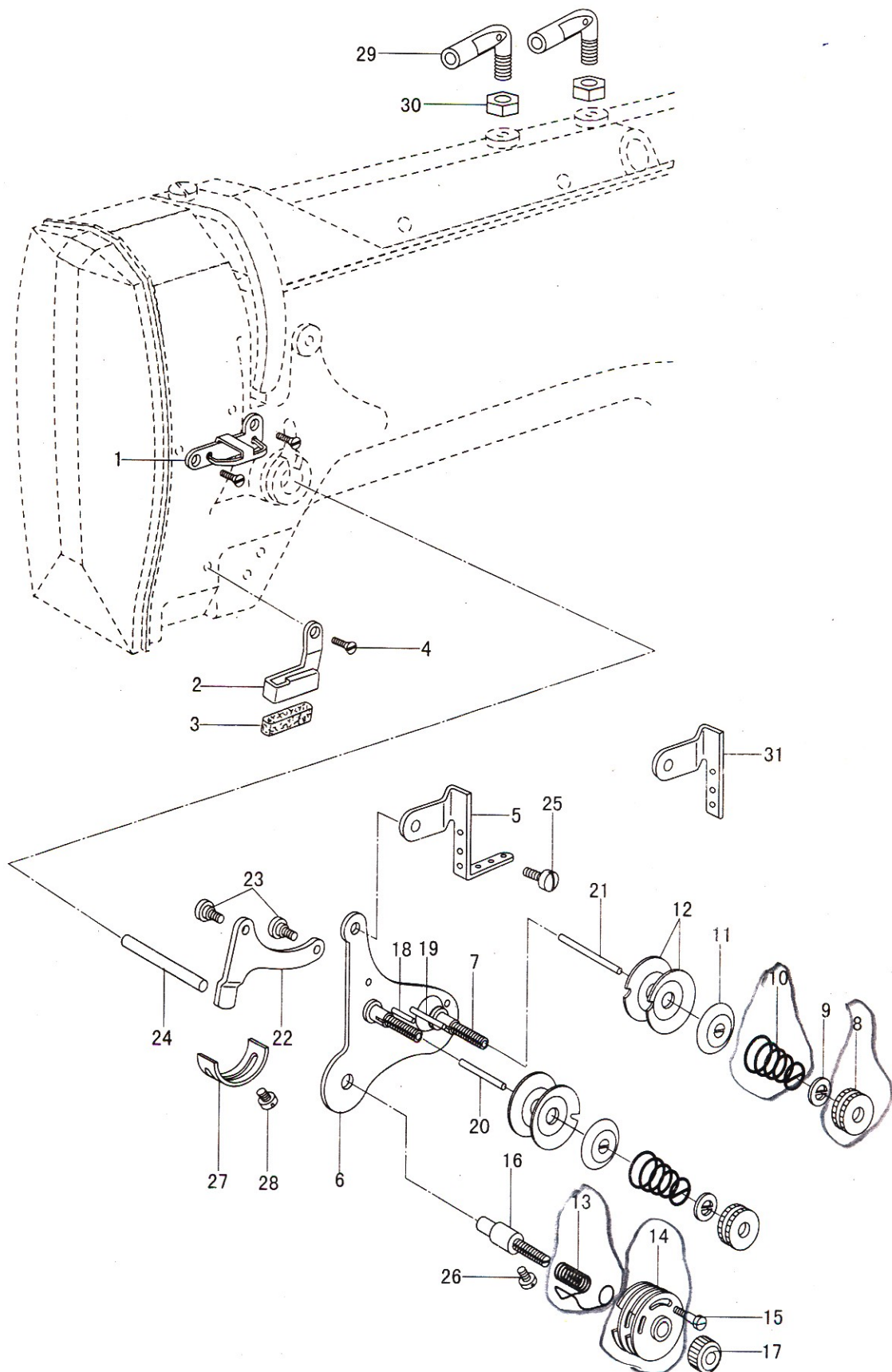
6. Upper feed and presser foot lifter parts



6. Upper feed and presser foot lifter parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	91WF5-001	Needle bar vibrating bracket	1	1	
2	22WF5-002	Pin	1	1	
3	16WF1-011	Screw	1	1	
4	1WF5-009	Guide plate	1	1	
5	1WF5-010	Screw	1	1	
6	215120	Guide rail	1	1	
7	16WF1-059	Screw	2	2	
8	22WF5-004	Needle bar vibrating shaft	1	1	
9	22WF5-005	Slide block	1	1	
10	22WF6-006	Slide block shaft	1	1	
11	22WF1-020	Screw	1	1	
12	91WF5-002	Crank	1	1	
13	22WF3-011	Screw	1	1	
14	215121	Slide block	1	1	
15	91WF5-003	Needle bar vibrating link	1	1	
16	22WF5-011	Screw	1	1	
17	22WF1-0042	Nut	1	1	
18		Oil wick	1	1	
19	22WF5-012	Presser foot lift shaft	1	1	
20	22WF5-013	Bushing	2	2	
21	22WF5-014	Link	1	1	
22	22WF5-015	Screw	1	1	
23	22WF5-016	Nut	1	1	
24	22WF5-017	Crank	1	1	
25	16WF3-030	Screw	1	1	
26	22WF5-018	Screw	1	1	
27	16WF2-023	Washer	1	1	
28	22WF5-019	Gasket	1	1	
29	22WF5-020	Wing nut	1	1	
30	22WF5-021	Eccentric link	1	1	
31		Eccentric link bearing	1	1	
32	22WF5-022	Eccentric wheel	1	1	
33	22WF5-023	Screw	2	2	
34	22WF5-024	Collar	1	1	
35	22WF4-002	Screw	2	2	
36	22WF5-026	Presser foot lift vibrating plate	2	2	
37	22WF5-027	Screw	1	1	
38	22WF5-028	Link	1	1	
39		Oil wick	1	1	
40	22WF5-029	Presser bar	1	1	
41		Oil wick	1	1	
42	22WF5-030	Spring	1	1	
43	22WF5-031	Spring bar	1	1	
44	22WF5-033	Walking presser foot	1		
	91WF5-004	Walking presser foot		1	
45	22WF5-033	Screw	1	1	
46	49WF5-009	Screw	1	1	
47	90WF1-001	Needle bar		1	
	88WF2-002	Needle bar		1	
48	88WF2-001	Needle clamp			
49	22WF1-003	Screw	1		
	16WF1-007	Screw		2	
50	1F-009	Needle	1		DP×17 DP×17
				2	
51	91WF1-001	Needle bar connector	1	1	
52	16WF1-009	Screw	1	1	
53		Oil wick	1		
54	22WF1-002	Needle bar thread guide	1		
55	16WF1-006	Screw	1		

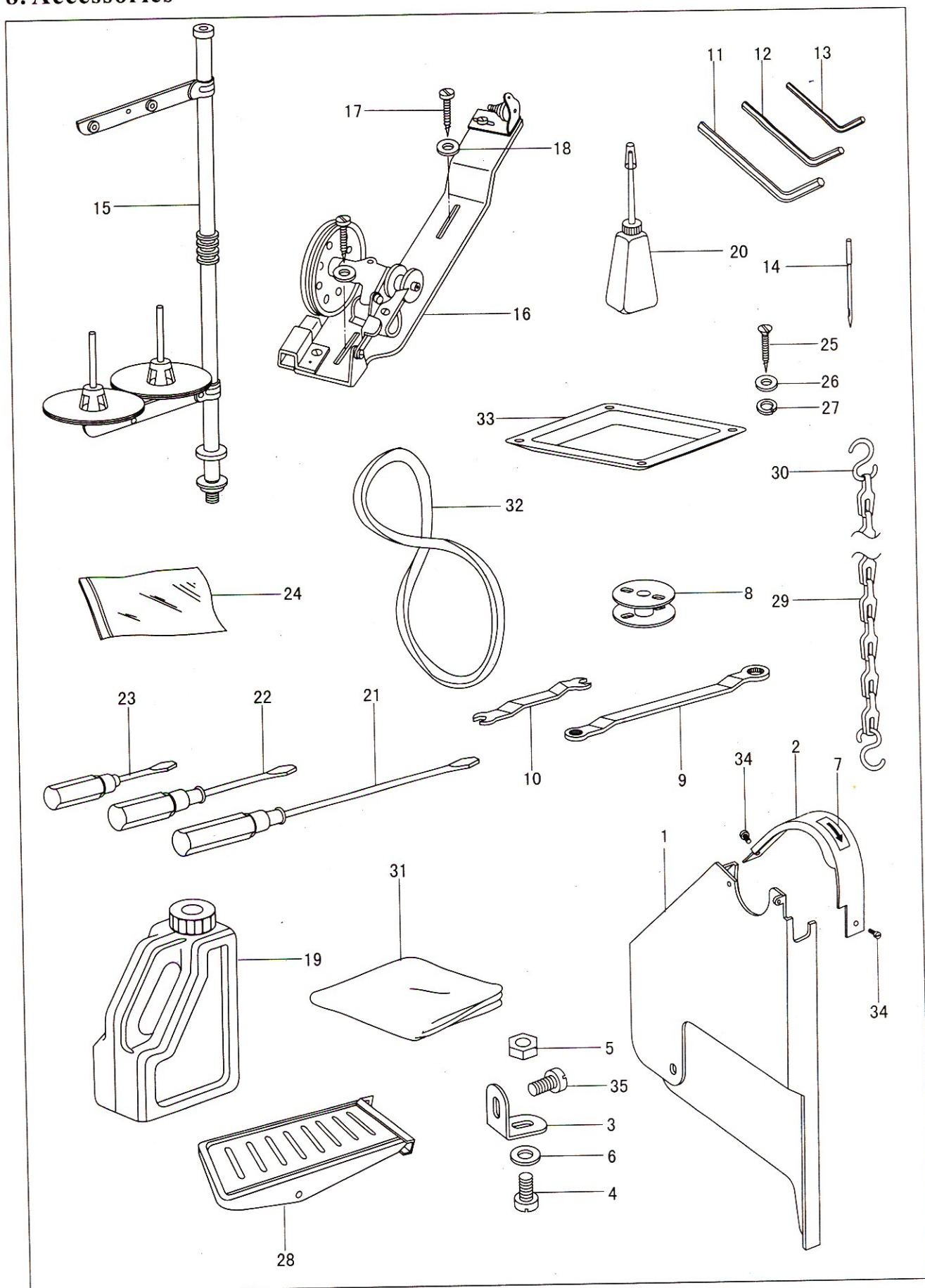
7. Threading parts



7. Threading parts

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	25057	Upper thread guide	1	1	
2	16WF2-013	Lower thread guide	1	1	
3	16WF2-014	Felt	1	1	
4	16WF2-015	Screw	3	3	
5	89WF2-017	Thread guide		1	
6	25WF2-009A1	Set plate	1		
	16WF2-046A1	Set plate		1	
7	16WF2-046A2	Screw	1		
		Screw		2	
8	16WF2-046A3	Nut	1		
		Nut		2	
9	153029	Stop plate	1		
		Stop plate		2	
10	037536	Spring	1		
		Spring		2	
11	16WF2-046A5	Thread releasing plate	1		
		Thread releasing plate		2	
12	16WF2-046A6	Thread tension plate	2		
		Thread tension plate		4	
13	16WF2-046A7	Thread take-up spring	1		
	19WF2-014	Thread take-up spring		1	
14	16WF2-046A8	Thread control assembly	1		
		Thread control assembly		2	
15	16WF2-046A9	Screw	1		
	1WF1-010R1	Screw		1	
16	16WF2-046A10	Thread take-up spring shaft	1		
	25WF2-009A2	Thread take-up spring shaft		1	
17	16WF2-046A11	Nut	1	1	
18	16WF2-046A12	Thread separating pin	1	1	
19	19WF2-011	Pin (long)		1	
20	19WF2-012	Thread releasing pin (short)	1	1	
21	115955	Thread releasing pin (long)	1	1	
22	16WF2-046A14	Thread erecting plate	1	1	
23	16WF2-046A15	Screw	2	2	
24	103723	Thread releasing bar	1	1	
25	16WF2-020	Screw	1	1	
26	13WF2-008	Screw	1	1	
27	16WF2-049	Position plate	1	1	
28	16WF2-050	Screw	1	1	
29	13WF2-066	Thread guide	1		
				2	
30	13WF2-067	Screw	1		
				2	
31	49WF2-022	Three-eye thread finger	1		

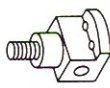
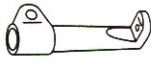
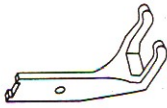
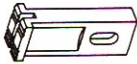
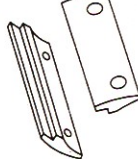
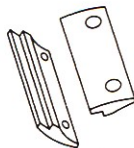
8. Accessories



8. Accessories

No.	Part number	Name	Qt.		Remark
			18BL	28BL	
1	91WF6-001	Safety guard (1)	1	1	
2	91WF6-002	Safety guard (2)	1	1	
3	91WF6-003	Connecting plate	2	2	
4	36WF5-003	Screw	2	2	
5	2KT2-026	Nut	2	2	
6	21WF1-036	Washer	2	2	
7		Arrow mark	1	1	
8	88WF2-012	Bobbin	6		
		Bobbin		12	
9		Box wrench	1	1	10×11
10	91WF6-004	Double ended spanner	1	1	
11		Spanner	1	1	S=3mm
12		Spanner	1	1	S=2.5mm
13		Spanner	1	1	S=1.5mm
14		Needle	6	6	DP×17 22#
15	4F-007	Thread spool stand assembly	1		
	1F-014	Thread spool stand assembly		1	
16	S14420020	Bobbin winder assembly	1	1	
17	33TF-017	Screw	2	2	
18	33TYF-018	Washer	2	2	
19	1F-009	Oil tank	1	1	
20	33TF-011	Oil pot	1	1	
21	33TF-012	Screwdriver (big)	1	1	
22	33TF-013	Screwdriver (medium)	1	1	
23	33TF-014	Screwdriver (small)	1	1	
24		Accessory bag	1	1	
25		Screw	4	4	M8×75GB68-85
26		Washer	4	4	GB96-85-8
27		Spring washer	4	4	GB93-87-8
28		Pedal assembly	1	1	
29		Chain	1	1	
30		Chain hook	2	2	
31		Cover	1	1	
32		V-belt	1	1	
33	22WF2-008	Oil reservoir	1	1	
34	16WF3-005	Screw	1	1	
35	22T2-004	Screw	1	1	

TABLE OF GAUGE PARTS

TABLE OF GAUGE PARTS										
GAUGE SIZE										
	inch	mm								
1 / 8"	3. 2	88WF2-001A	91WF5-004A	91WF3-001A	91WF2-007A	91WF4-003A	91WF2-011A 91WF2-013A	91WF2-012A 91WF2-014A	91WF2-009A	91WF2-010A
1 / 4"	6. 4	88WF2-001	91WF5-004	91WF3-001	91WF2-007	91WF4-003	91WF2-011 91WF2-013	91WF2-012 91WF2-014	91WF2-009	91WF2-010
5 / 16"	7. 9	88WF2-001D	91WF5-004B	91WF3-001B	91WF2-007B	91WF4-003B	91WF2-011B 91WF2-013B	91WF2-012B 91WF2-014B	91WF2-009B	91WF2-010B
3 / 8"	9. 5	88WF2-001E	91WF5-004C	91WF3-001C	91WF2-007C	91WF4-003C	91WF2-011C 91WF2-013C	91WF2-012C 91WF2-014C	91WF2-009C	91WF2-010C
1 / 2"	12. 7	88WF2-001G	91WF5-004D	91WF3-001D	91WF2-007D	91WF4-003D	91WF2-011D 91WF2-013D	91WF2-012D 91WF2-014D	91WF2-009D	91WF2-010D

STANDARD GAUGE SIZE: 1/4"

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

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