



# **TYPICAL**

# **TW1-243/273**

**Single Needle Compound Feed / Top and Bottom  
Feed Extra Heavy-duty Lockstitch Sewing Machine**

**OPERATION INSTRUCTION / PARTS MANUAL**

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# **Operation instruction**

## 1. Brief introduction

This series machines are widely used in the industry of bags, tents, mat, etc.

These machines adopt linking lever to take up thread, single needle and special oscillating shuttle to form lockstitch seam. TW1-273 is top and bottom feed and TW1-243 is compound feed, they have strong feeding power and can easy stitch several plies, slippery, extra thick or extra long materials. The stitch seam is neat and beautiful.

These products are suitable for sewing leather belt, tents, sails, construction barrier, industrial bags, etc.

## 2. Main specifications

Applications	Heavy and Extra-heavy weight materials
Max. sewing speed	800s.p.m
Max. stitch length	11mm
Needle bar stroke	56mm
Presser foot lift height	13mm by hand 20mm by knee
Hook	KSP-204N
Needle	DY×17 26 <sup>#</sup>
Cylinder diameter	81mm
Lubrication	Oiled by hand
Motor power	550W

## 3. Machine installation

### 1. Clearing the machine

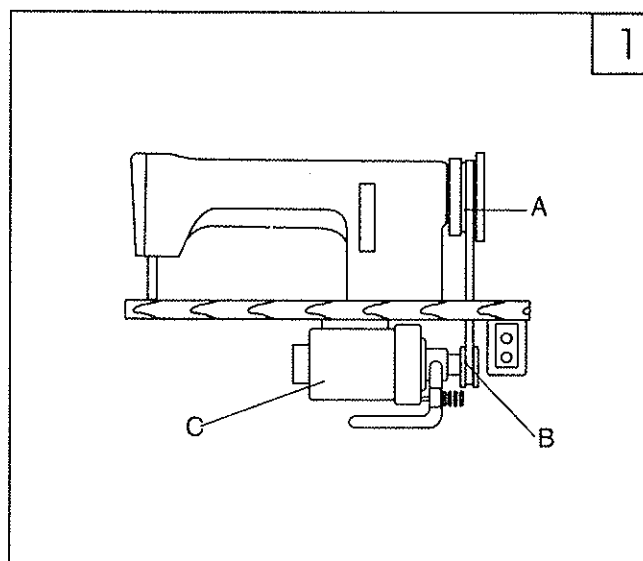
Before the head is packed, all of the parts of the machine are coated with anti-rust grease, meanwhile the grease can harden the dust can cover the machine surface during long time storage and shipment, so, the dust and grease must be cleared by clean cloth with gasoline.

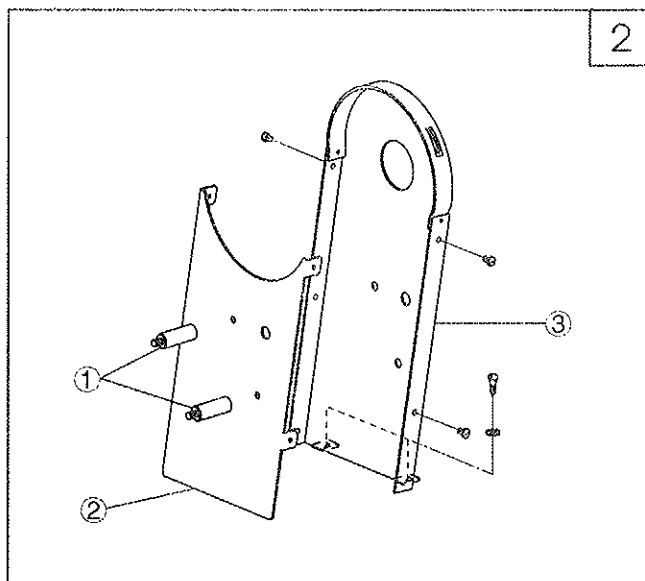
### 2. Examination

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 of these exist, adjustment must be made accordingly before running.

## 4. Installing the motor(Fig.1)

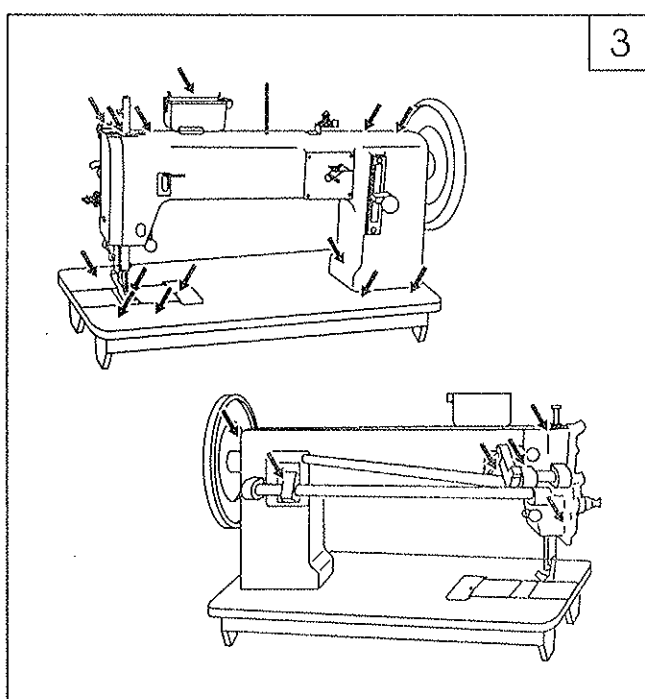
Move the motor C leftward or rightward to make the hand wheel run belt groove A and motor puller belt groove B run in line. Be sure that the belt isn't tough with the table.





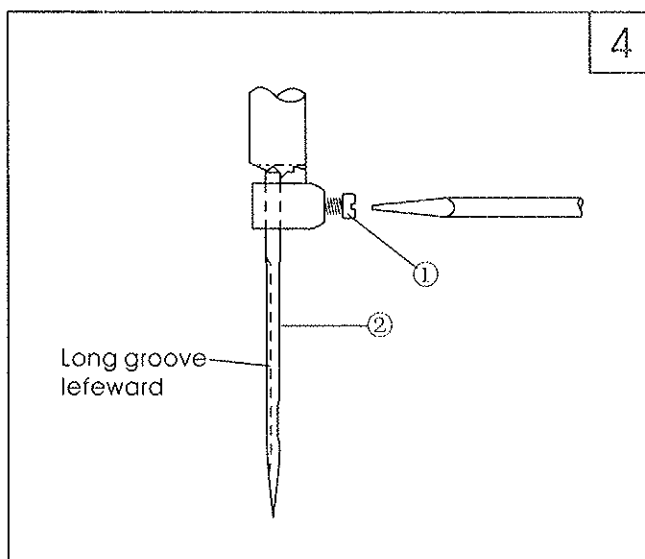
## 5. Installing the belt guard(Fig.2)

- Please install the belt guard for the safety purpose
- Install the pin supporter① into the screw hofe on the machine casting;
  - Install the guard② on the casting;
  - Put the V-belt on the hand wheel;
  - Install the guard③ on the guard②;
  - Fix the guard on the table with wooden screw.



## 6.Lubrication(Fig.3)

Please add the oil at the places shown by arrows.

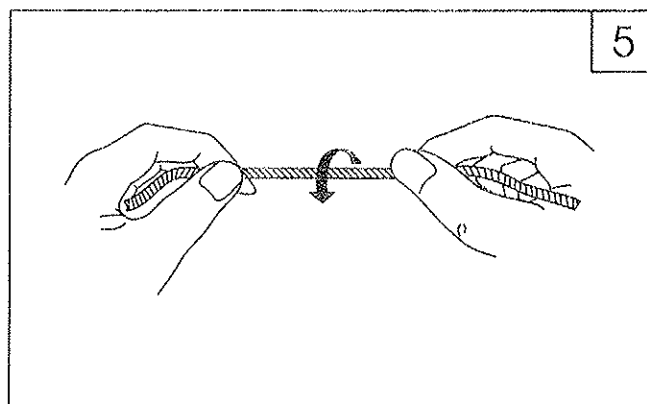


## 7.Installing the needle(Fig.4)

- Turn the hand wheel to lift the needle bar at its highest position;
- Loosen the screw ① and keep the long groove A of needle ② rightward;
- Fully insert the needle shank up to the bottom of needle bar;
- Tighten the screw ①.

## 8.Choosing thread(Fig.5)

The needle thread should be left-twist; the bobbin thread may be left-twist or right-twist. The way judging the thread twist: hold the thread by left hand, twist it by right hand as the direction shown in the Fig.5, if the thread changes tightly, it's left-twist, on the contrary, it's right-twist.



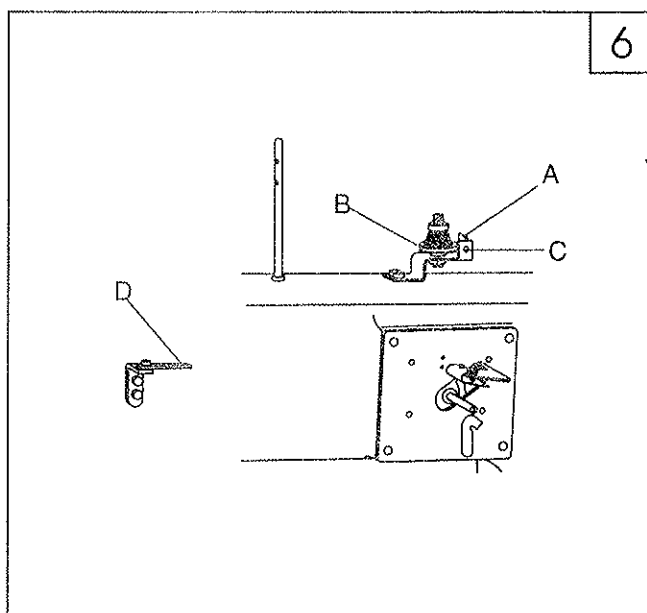
## 9.Winding the bobbin thread(Fig.6)

a. Threading the thread from thread spool and pass through A, B, C, D, then wind thread several circles around bobbin;

b. Put the winding lever onto bobbin, the winding pulley will press the friction pulley in the arm;

c. Thread amount can be adjusted by screw ②, the optimum capacity of bobbin thread is fill about 80% of bobbin outside diameter, turn the screw clockwise to increase the amount, on the contrary, decrease the amount.

d. After finish, loosen the winding lever and thread winder will stop automatically.



## 10.Installing and uninstalling the bobbin(Fig.7)

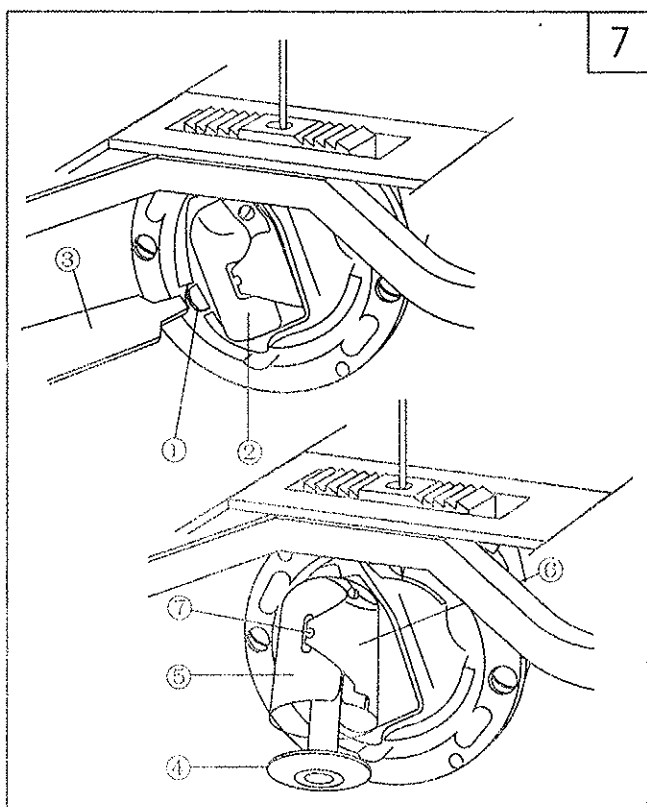
### 1. Uninstalling the bobbin

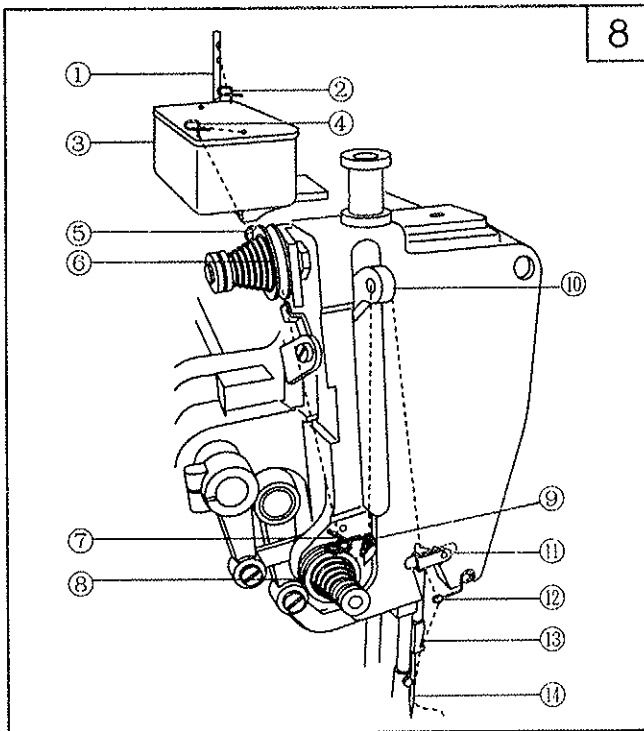
Open the shuttle cover and lower the needle bar at its lowest position, insert the opener ③ between spring ① and bobbin case ②, press the spring ① down and draw the bobbin case ② out, the bobbin will be pulled out from bobbin case.

### 2. Installing the bobbin

When install the bobbin, draw the thread tip out and put the bobbin ④ into bobbin case ⑤. thread the bobbin thread from slit ⑦, then pass it through the hole under the tension spring ⑥

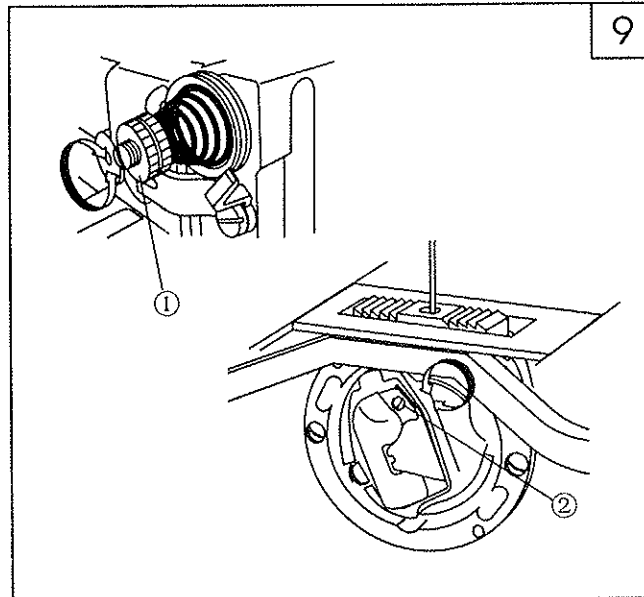
The bobbin case will be locked by spring ① after being put into shuttle.





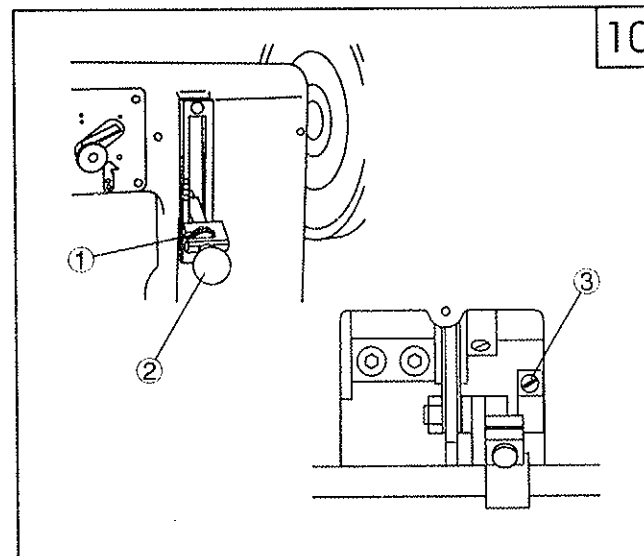
### 11. Threading needle thread (Fig.8)

The sequence of threading is shown in the Fig 8 from ① ~ (14)



### 12. Adjusting thread tension(Fig.9)

1. Adjusting needle thread tension  
Turn the nut ① clockwise to increase the needle thread tension, turn the nut counter-clockwise to decrease the needle thread tension.
2. Adjusting bobbin thread tension  
Turn the screw ② clockwise to increase the bobbin thread tension; turn the screw counter-clockwise to decrease the tension.



### 13. Adjusting stitch length(Fig.10)

Turn the stitch length adjusting nut ① clockwise or counter-clockwise, the numbers on graduation board show the sizes of the stitch length, if the stitch length confirmed, please tighten the nut ②.

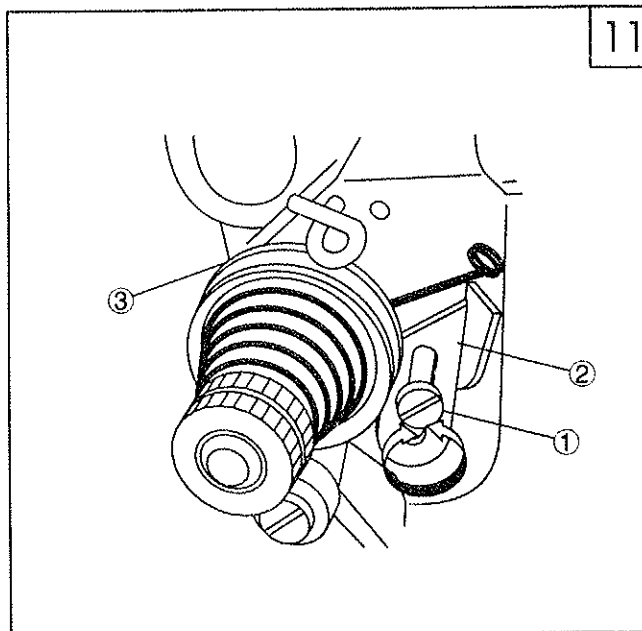
For reverse feed, lower the stitch length adjusting screw bar to perform reverse sewing, release the screw bar, the forward sewing is resumed.

Note: if the screw bar becomes loose because of moving upward or downward for a long time, please turn the screw ③ to maintain the proper tension.

#### 14.Adjusting thread take-up spring(Fig.11)

1. Changing the stroke of thread take-up spring  
a. Loosen the screw ① and move the stop plate ② upward or downward;  
b. Move the stop plate downward to increase the stroke of thread take-up spring; move the plate upward to decrease the stroke of thread take-up spring.

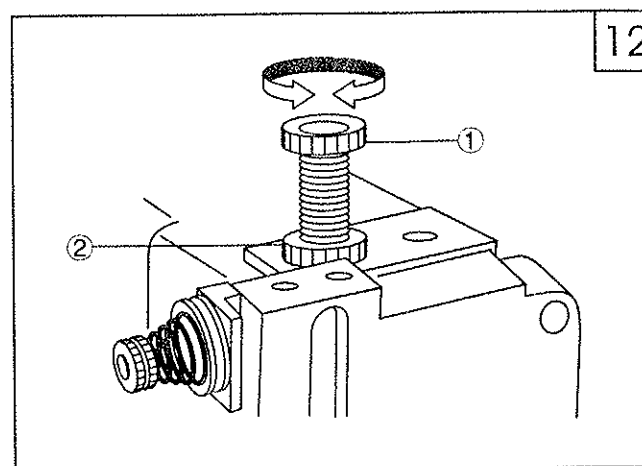
2. Adjusting the tension of thread take-up spring  
loosen the nut ③, turn the spring shaft counter-clockwise to increase the tension of thread take-up spring turn the shaft clockwise to decrease the tension. Please use a screw driver to insert the split on the spring shaft and turn the spring shaft to get the required tension.



#### 15.Adjusting the pressure of presser foot(Fig.12)

The proper pressure of presser foot should be adjusted according to the materials to be sewn.

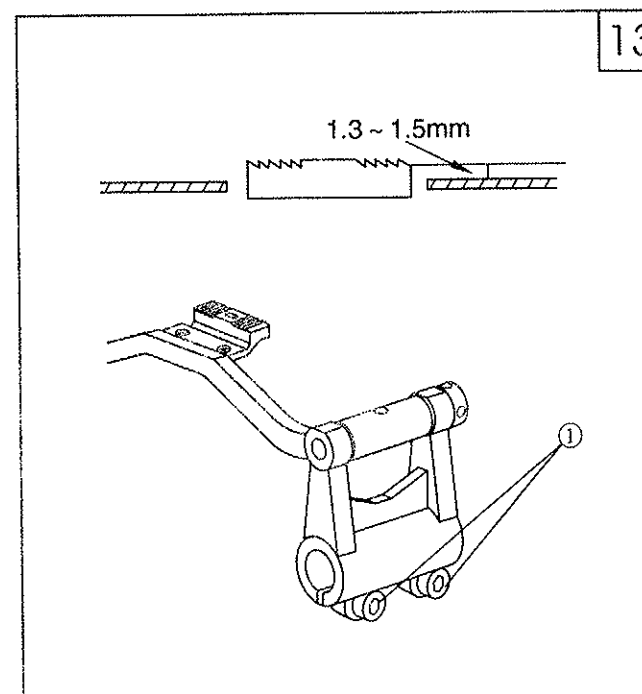
a. Turn the screw ① clockwise to increase the pressure, on the contrary, decrease the pressure.  
b. After finish, tighten the nut ②.



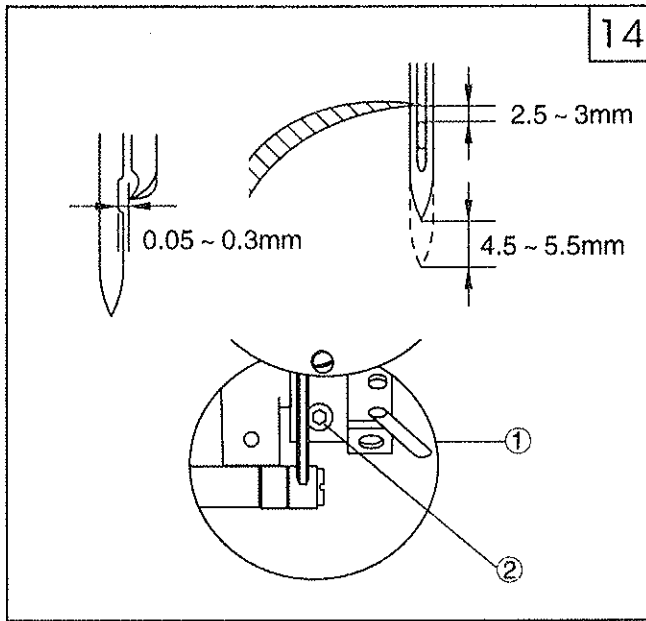
#### 16.Adjusting the height of feed dog(Fig.13)

The adjustment position of feed dog is higher 1.3~1.5 mm than needle plate, please adjust it as following sequence according to sewing requirements or after changing a new one:

a. Confirm the highest position of feed dog, then tighten the feed dog screw ①;  
b. Temporarily adjust the height of feed dog higher or lower compare with the standard height according to special compare with sewing situation.

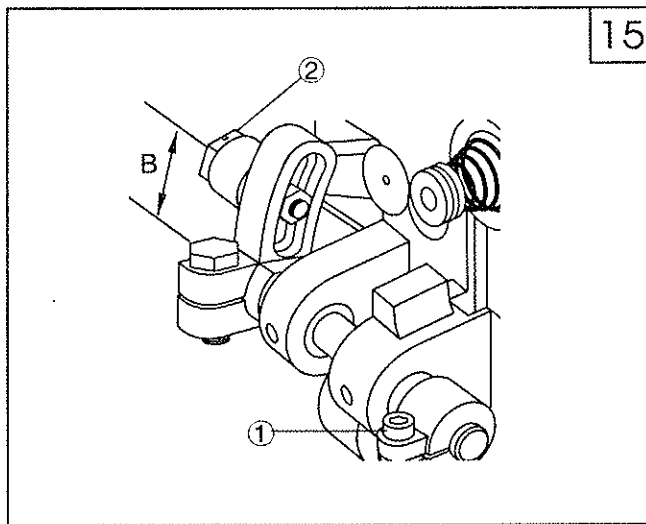






### 17.The relationship between needle and shuttle(Fig.14)

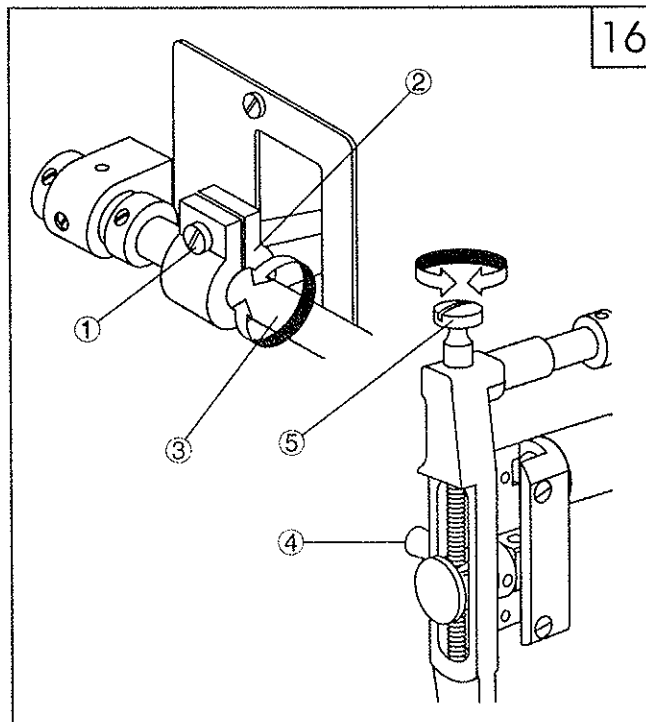
- Confirm the height of needle bar  
When the needle bar is lifted 4.5~5.5mm from its lowest position, the tip of shuttle should locate at the center of needle bar and the clearance between the top of needle bar hole and the tip of shuttle is 2.5~3mm.
- Confirm the position of shuttle  
Loosen the crank screw ② in the bed hole ①, move the crank forward or backward, after adjust the position of the tip of shuttle, tighten the screw ②.
- The flank clearance between the tip of shuttle and needle bar should be 0.05~0.3 mm, loosen the rear crank screw and collar screw of lower shaft, move the lower shaft leftward or rightward, after adjustment, tighten the screws.



### 18.Adjusting the lifting amount of alternating foot(Fig.15)

The lifting amount of alternating foot can be adjusted within a certain range, for normal sewing, the lifting amount of outer presser foot is 6mm, the lifting amount of inner presser foot is 4.5mm, if the other mechanism is fixed, the lifting amount of two feet is constant.

Adjusting method: loosen the crank screw ①, turn the crank upward shown in the Fig 15 to increase the lifting amount of outer presser foot, on the contrary, decrease the amount, after finish, tighten the screw. Adjusting method of lifting amount amount of two feet: loosen the screw ②, adjust the central distance B between the screw and upper feed shaft, shorten the distance B will increase the lifting amount, on the contrary, decrease the amount. Please note the range of adjustment is limited, please don't be overlarge.

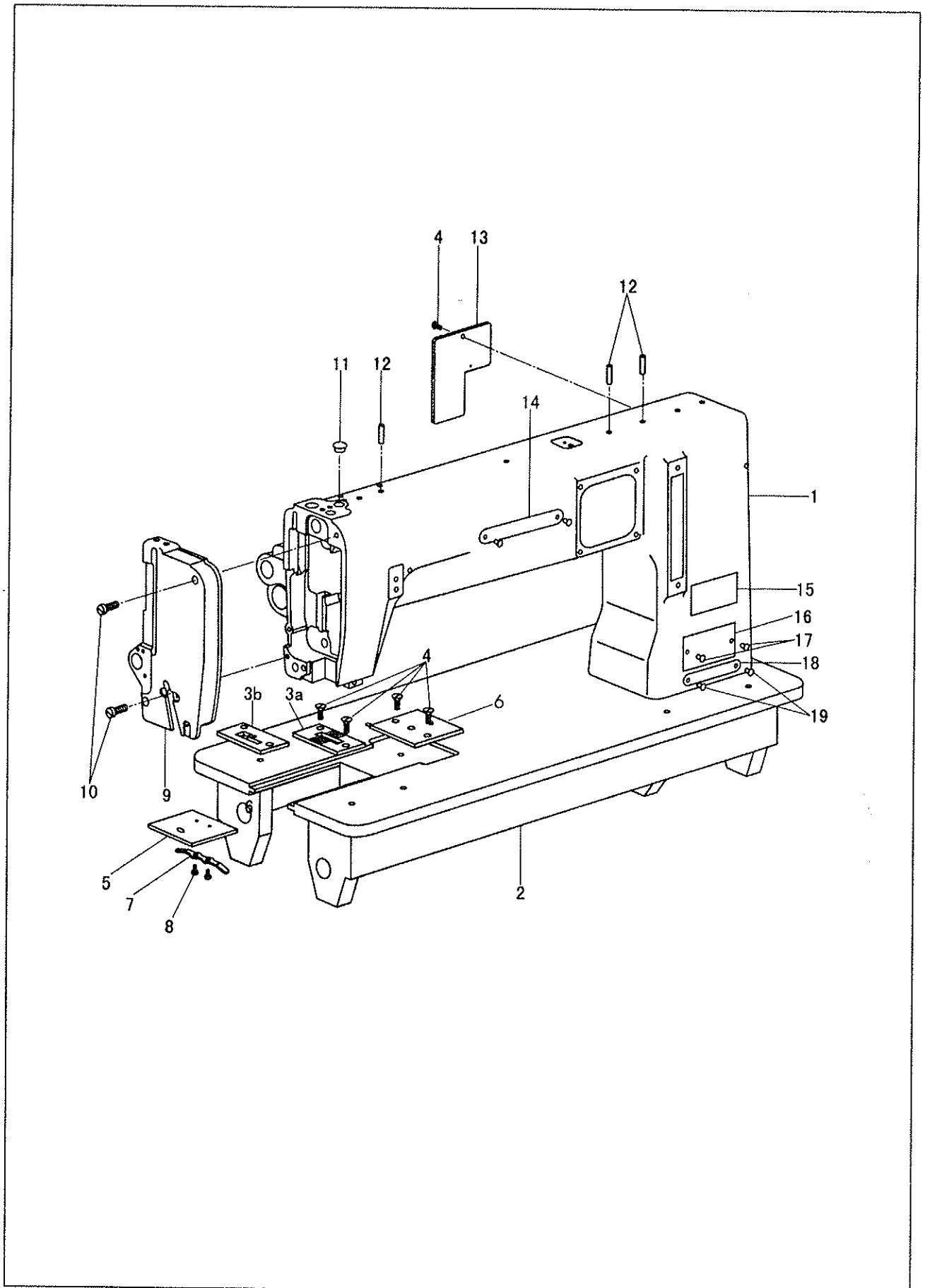


### 19.Adjusting the timing of upper feed(Fig.16)

- Ignoring lower feed, lower the presser foot lifting bar and the coarse stitch of upper feed is realized.
- For TW1-243, loosen the screw ①, adjust the relative position between ② and ③, after finish, tighten the screw ①.
- For TW1-273, loosen the screw ④, turn the worm ⑤ as the direction shown in the Fig.16, after finish, tighten the screw ④.

# Parts manual

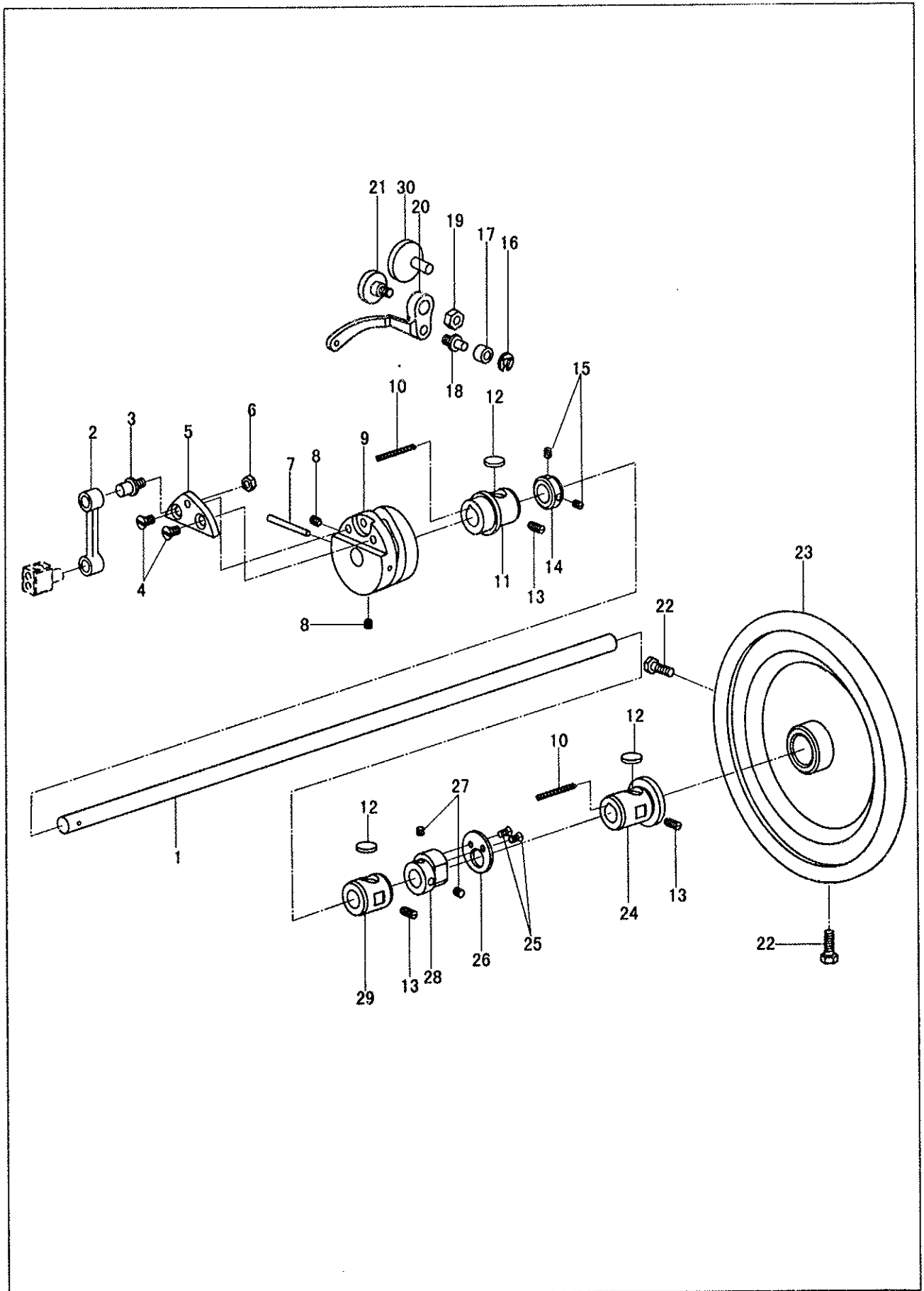
# 1. Machine casting components



1. Machine casting components

No.	Parts No.	Name	Qty.	Remarks
1	60WF2-008	Machine casting	1	For TW1-243
	73WF2-001	Machine casting	1	For TW1-273
2	60WF2-001	Bed	1	
3a	60WF2-002	Needle plate	1	For TW1-243
3b	73WF2-002	Needle plate	1	For TW1-273
4	49WF2-009	Screw	4	
5	60WF2-003	Slide plate(front)	1	
6	60WF2-004	Slide plate(rear)	1	
7	60WF2-005	Slide plate spring	1	
8	61-04-01/B7/Z103	Screw	2	
9	58WF2-002	Face plate	1	For TW1-243
	52WF2-003	Face plate	1	For TW1-273
10	16WF3-061	Screw	2	
11	22T1-003C4	Rubber plug	1	For TW1-243
12	52WF2-009	Oil pipe	3	
13	60WF2-003	Back cover	1	For TW1-243
	52WF2-004	Back cover	1	For TW1-273
14	16WF2-053	Brand label	1	
15	1KT1-005	Warning label	1	
16	60WF2-006	Model label	1	For TW1-243
		Model label	1	For TW1-273
17		Rivet	4	
18	4KT1-005	Series label	1	
19	35WF1-054	Rivet	2	

## 2. Upper shaft components



## 2.Upper shaft components

No .	Parts No .	Name	Qty.	Remarks
1	52WF1-001	Upper shaft	1	
2	52WF1-007	Needle bar link	1	For TW1-273
	58WF1-001	Needle bar link	1	For TW1-243
3	52WF1-010	Needle bar link shaft	1	
4	52WF1-009	Screw	2	
5	52WF1-008	Needle bar link bracket	1	
6	7KT1-007	Nut	1	
7	7KT1-052	Pin	1	
8	21WF1-022	Screw	2	
9	52WF1-005	Thread take-up cam	1	
10		Oil wick	2	
11	52WF1-002	Upper shaft bushing(front)	1	
12		Oil felt	3	
13	JO.0.40	Screw	3	SM15/64" ×28×8
14	52WF1-041	Collar	1	
15	22WF4-002	Screw	2	
16		Retainer	1	GB960-86-5
17	52WF1-013	Rolling ball	1	
18	52WF1-014	Thread take-up shaft	1	
19	7KT1-007	Nut	1	
20	52WF1-011	Thread take-up lever	1	
21	52WF1-012	Screw	1	
22	7KT1-014	Screw	2	
23	52WF1-006	Hand wheel	1	
24	52WF1-004	Upper shaft bushing(rear)	1	
25	7KT4-035	Screw	2	
26	52WF4-028	Feed cam plate	1	
27	21WF3-010	Screw	2	
28	52WF4-027	Feed cam	1	
29	52WF1-003	Upper shaft bushing(middle)	1	
30	52WF1-058	Pin	1	

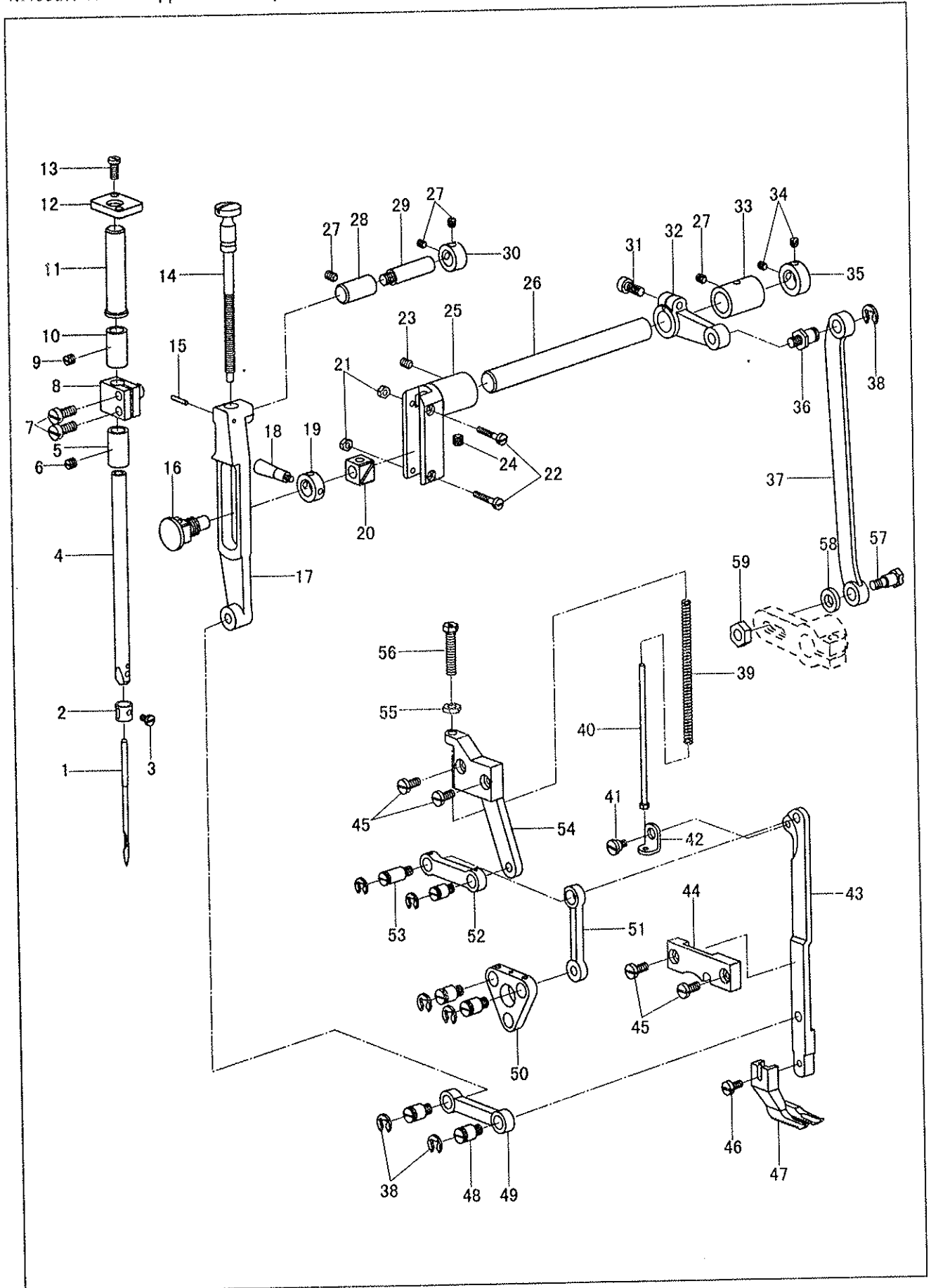


3. Needle bar and upper feed components(TW1-243)

No .	Parts No .	Name	Qty.	Remarks
1	52WF5-009	Screw	1	
2	52WF5-014	Pin	3	
3	58WF5-007	Crank link(front)	1	
4	58WF5-006	Crank	1	
5	61-04-01/B2	Screw	1	
6	22WF4-002	Screw	1	
7	17T5-016	Screw	2	
8	58WF5-003	Upper feed shaft bushing	1	
9	58WF5-001	Upper feed shaft	1	
10	58WF5-009	Screw	1	
11	60WF5-002	Crank	1	
12	22WF4-002	Screw	4	
13	58WF5-002	Collar	2	
14	58WF5-004	Upper feed shaft bushing	1	
15	58WF5-011	Nut	1	
16	58WF5-023	Adjusting pin	1	
17	52WF5-010	Washer	1	
18	60WF5-001	Needle bar rocking link	1	
19	58WF1-002	Needle bar	1	
20	58WF1-004	Needle bar connector	1	
21	21WF3-012	Screw	2	
22	58WF1-003	Needle holder	1	
23	22T2-004	Scrwe	1	
24		Needle	1	DY×3 26"
25	266024(STH)	Screw	1	
26	58WF5-024	Driving rod	1	
27	58WF5-025	Pressing plate	1	
28	22T6-008D3	Screw	1	
29	37T2-210	Screw	1	
30	58WF5-015	Screw	4	
31	58WF5-012	Needle bar rocking frame	1	
32	58WF5-016	Pin rod	1	
33	58WF5-014	Bushing	1	
34	58WF5-013	Rocking frame shaft	1	
35		Oil wick	1	
36	58WF5-022	Guide plate	1	
37	6A3-07	Screw	3	
38	58WF5-021	Rocking plate	1	
39	58WF5-020	Rocking link	1	
40	58WF5-018	Presser bar	1	
41	58WF5-019	Presser bar pin	1	
42	22WF4-014	Screw	1	
43	58WF5-017	Walking foot	1	
44	52WF2-005	Pin	1	
45		Lock spring	4	



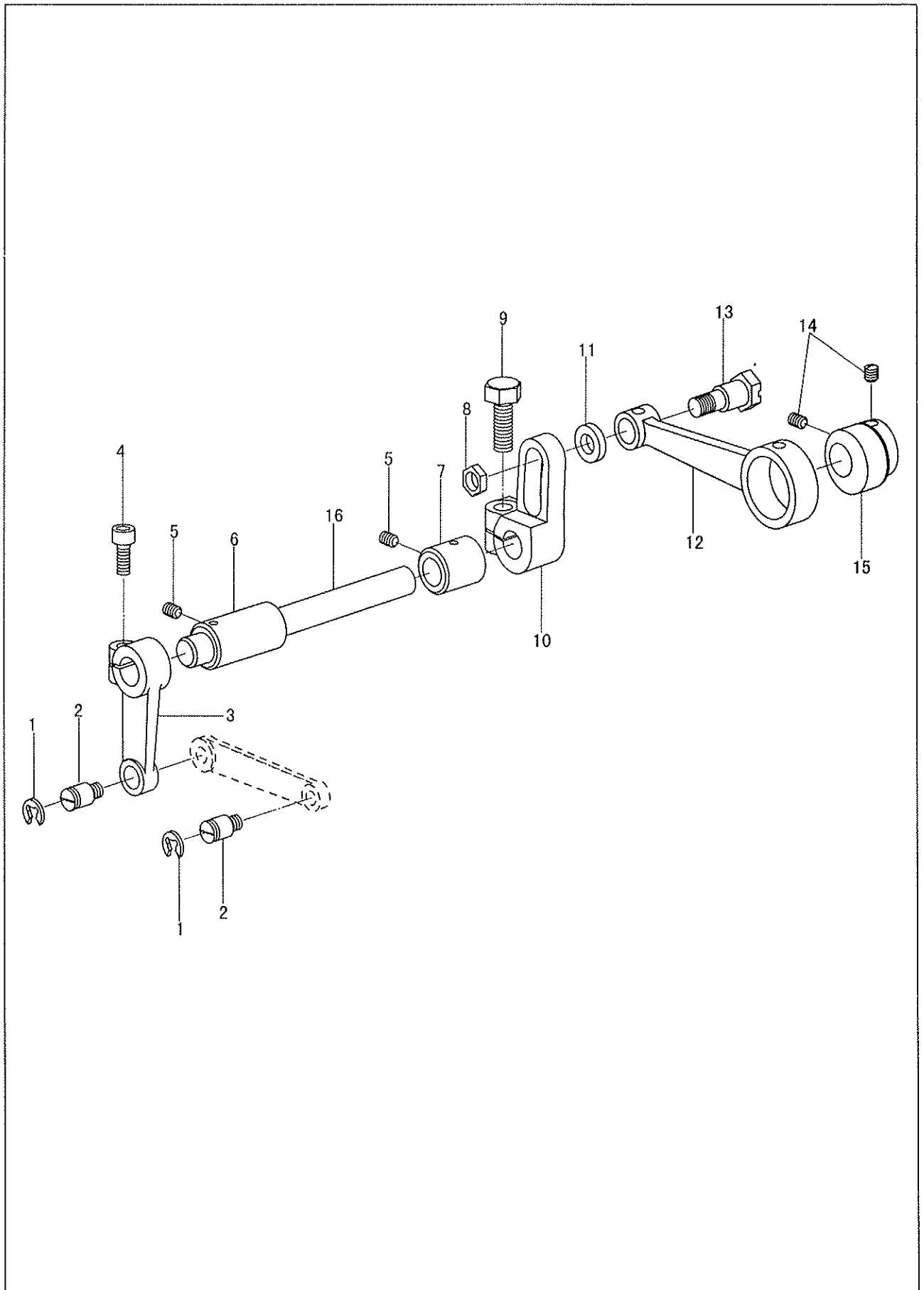
4. Needle bar and upper feed components(TW1-273)



4. Needle bar and upper feed components(TW1-273)

No .	Parts No .	Name	Qty.	Remarks
1		Needle	1	DY×3 26"
2	52WF1-019	Needle bar thread guide	1	
3	16WF2-020	Screw	1	
4	52WF2-015	Needle bar	1	
5	52WF1-017	Needle bar bushing(lower)	1	
6	52WF2-018	Screw	1	
7	22T3-007C2	Screw	2	
8	52WF1-020	Needle bar connector	1	
9	17T1-012	Screw	1	
10	52WF1-016	Needle bar bushing(upper)	1	
11	52WF1-021	Needle bar bushing covre	1	
12	52WF1-022	Fixing plate	1	
13	1WF5-039	Screw	2	
14	52WF5-024	Adjusting bar	1	
15		Adjusting bar retainer	2	GB879-86-2.5×16
16	52WF5-027	Adjusting block	1	
17	52WF5-025	Presser foot adjusting frame	1	
18	52WF5-029	Hand screw	1	
19	52WF5-030	Collar	1	
20	52WF5-021	Slide block	1	
21	52WF5-023	Nut	2	
22	52WF5-022	Screw	2	
23	52WF5-020	Screw	1	
24	21WF1-020	Screw	1	
25	52WF5-019	Prwsser foot rocking lever	1	
26	52WF5-015	Presser foot rocking shaft	1	
27	17T5-016	Screw	3	
28	52WF1-017	Bushing	1	
29	52WF5-026	Adjusting frame shaft	1	
30	52WF5-030	Collar	1	
31	52WF5-003	Screw	1	
32	52WF5-016	Presser foot rocking crank	1	
33	52WF5-017	Bushing	1	
34	52WF4-002	Screw	2	
35	52WF1-041	Collar	1	
36	52WF4-005	Pin	1	
37	60WF5-005	Rocking link	2	
38		Lock spring	7	GB896-86-8
39	52WF5-035	Spring	1	
40	52WF5-036	Pressure adjusting rod	1	
41	52WF5-038	Screw	1	
42	52WF5-037	Bracket	1	
43	52WF5-031	Walking foot plate	1	
44	52WF5-034	Presser plate	1	
45	37T2-210	Screw	4	
46	52WF5-033	Screw	1	
47	52WF5-032	Presser foot	1	
48	52WF5-014	Connecting pin	4	
49	52WF5-041	Presser foot rocking link	1	
50	52WF5-042	Swing plate	1	
51	52WF5-040	Presser foot lifting link(2)	1	
52	52WF5-039	Presser foot lifting link(1)	1	
53	52WF5-043	Pin	1	
54	52WF5-044	Supporter	1	
55	7KT1-007	Nut	1	
56	52WF5-045	Screw	1	
57	52WF5-009	Screw	1	
58	52WF5-010	Washer	1	
59	52WF5-011	Nut	1	

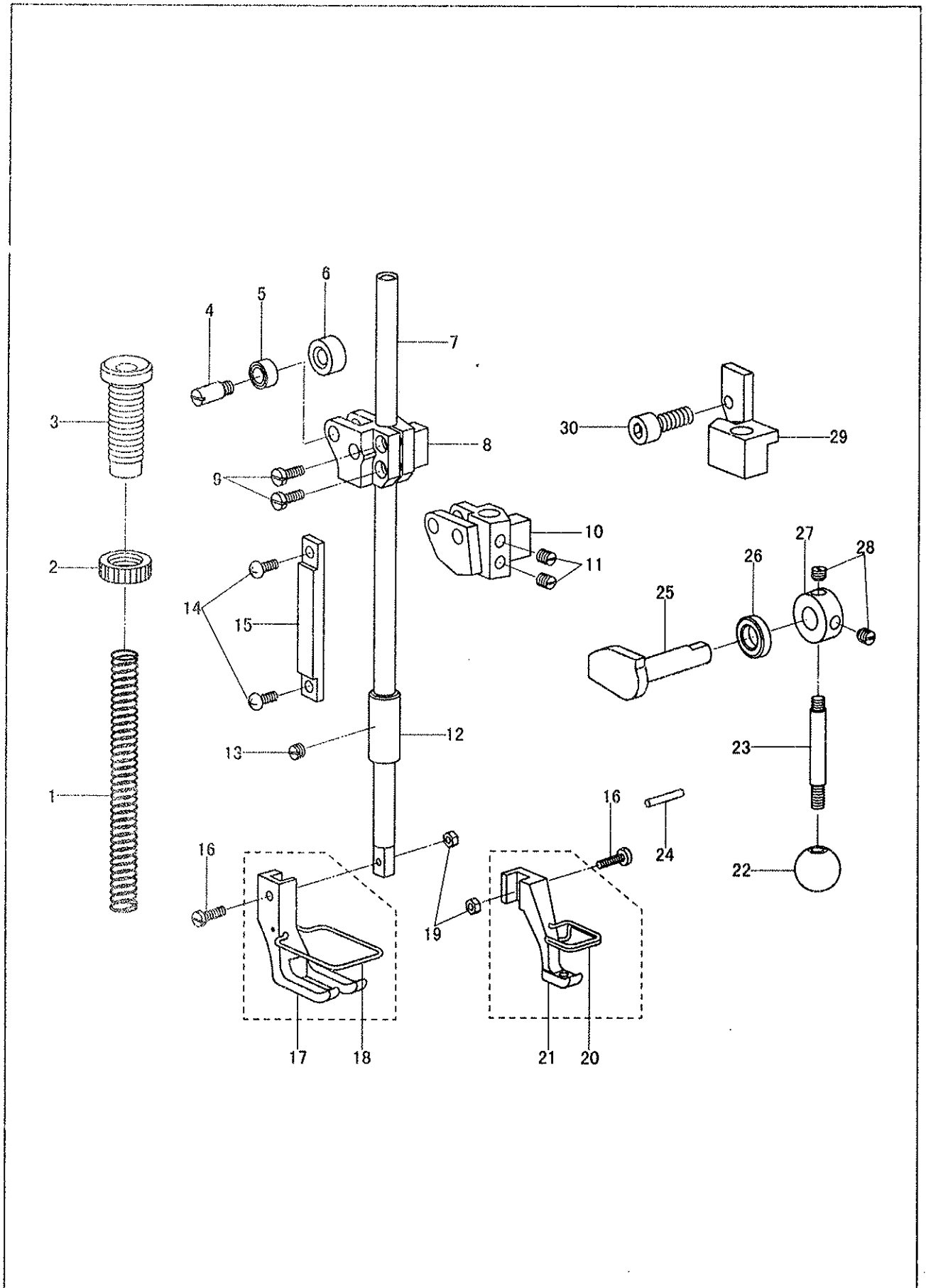
### 5. Presser foot lifting components




5.Presser foot lifting components

No .	Parts No .	Name	Qty.	Remarks
1		Lock spring	2	GB896-86-8
2	52WF5-014	Connecting pin	2	
3	52WF5-002	Lifting crank(front)	1	
4	52WF5-003	Screw	1	
5	17T5-016	Screw	2	
6	52WF5-005	Lifting shaft bushing(front)	1	
7	52WF5-006	Lifting shaft bushing(rear)	1	
8	52WF5-011	Nut	1	
9	52WF5-008	Screw	1	
10	52WF5-007	Lifting sdjuating crank	1	
11	52WF5-010	Washer	1	
12	52WF5-012	Lifting eccentric link	1	
13	52WF5-009	Screw	1	
14	22WF4-002	Screw	2	
15	52WF5-001	Lifting eccentric	1	
16	52WF5-004	Lifting shaft	1	

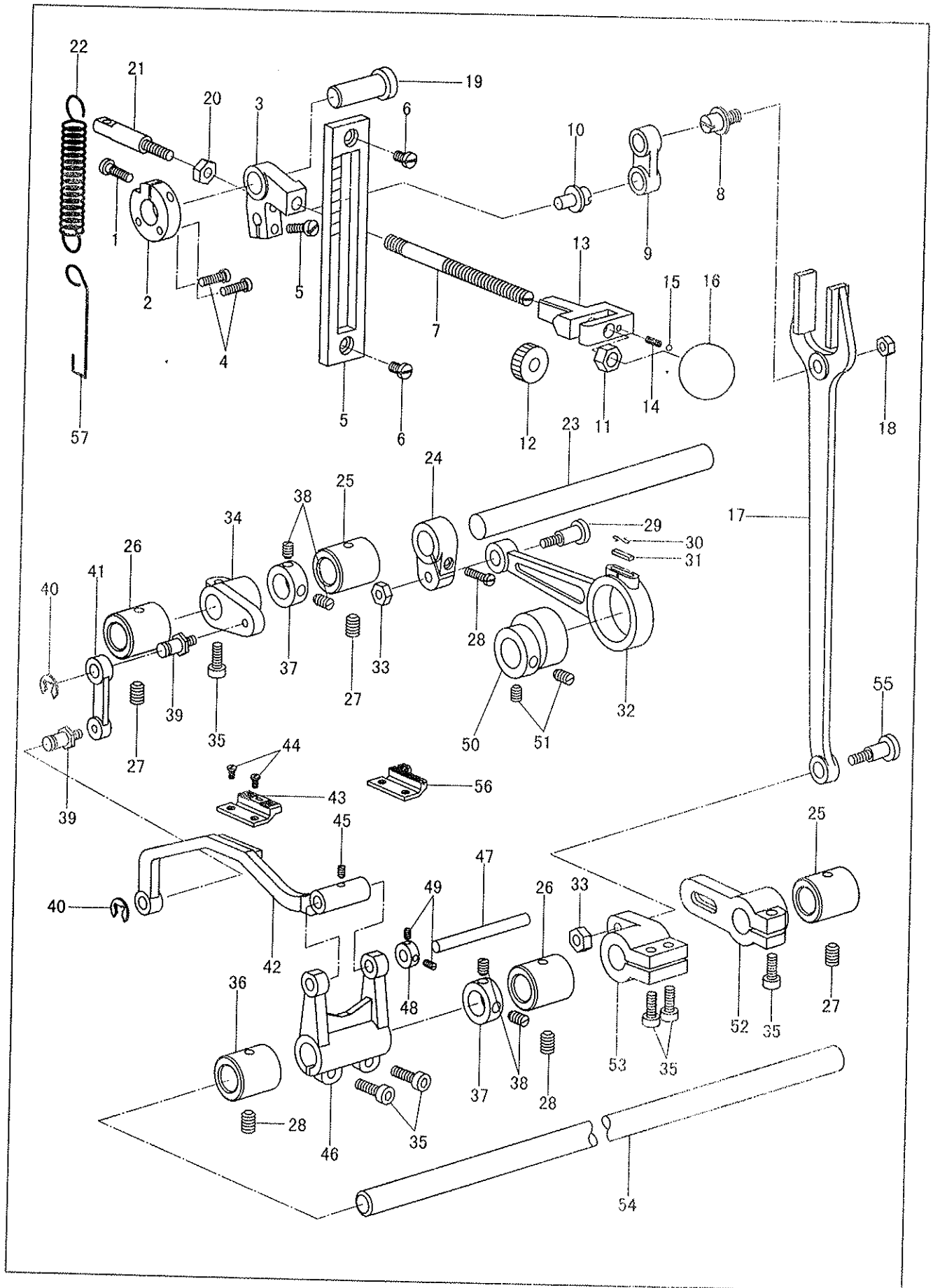
## 6. Presser bar components



6. Presser bar components

No .	Parts No .	Name	Qty.	Remarks
1	52WF3-004	Spring	1	
2	52WF3-006	Nut	1	
3	52WF3-005	Screw	1	
4	52WF3-014	Shaft	1	
5		Needle bearing	1	Φ 10×Φ 7×7.7
6	52WF3-031	Bushing	1	
7	52WF3-001	Presser bar	1	
8	58WF3-003	Presser bar lifting crank	1	For TW1-243
9	1WF4-034	Screw	2	For TW1-243
10	52WF3-013	Presser bar lifting crank	1	For TW1-273
11	6A6-08A	Screw	2	For TW1-273
12	52WF3-002	Presser bar bushing	1	
13	52WF1-018	Screw	1	
14	52WF2-017	Screw	2	
15	52WF3-012	Guide plate	1	
16	52WF3-018	Screw	1	
17	52WF3-004	Presser foot 58WF3-004	1	For TW1-243
18	52WF3-001	Finger guard	1	For TW1-243
19	52WF3-009	Nut 	1	
20	52WF3-003	Finger guard	1	For TW1-273
21	52WF3-017	Walking foot	1	For TW1-273
22	52WF3-011	Presser bar lifting bar	1	
23	52WF3-009	Presser bar lifting shaft	1	
24		Pin	1	GB879-86 3×20
25	52WF3-007	Presser bar lifting cam	1	
26	52WF3-008	Washer	1	
27	52WF3-010	Collar	1	
28	52WF1-043	Screw	2	
29	52WF3-015	Bracket	1	
30	52WF3-016	Screw	1	

### 7. Stitch length regulating components

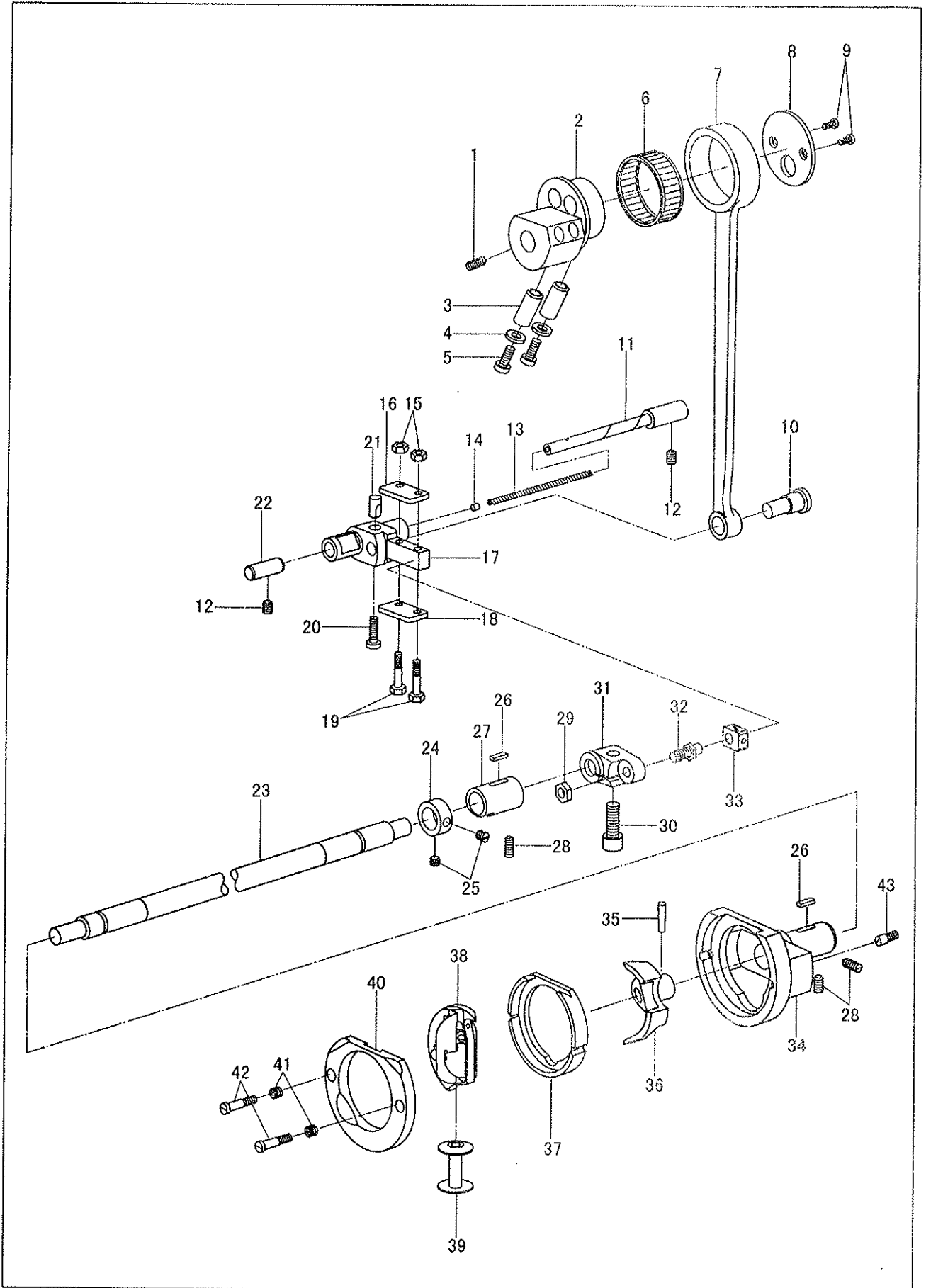


7. Stitch length regulating components

No .	Parts No .	Name	Qty.	Remarks
1	52WF4-020	Screw	1	
2	52WF4-019	Stopper	1	
3	60WF4-021	Feed regulator	1	
4	1WF4-034	Screw	2	
5	60WF4-022	Graduation board	1	
6	7KT4-030	Screw	2	
7	52WF4-023	Screw bar	1	
8	52WF4-021	Fork link shaft	1	
9	52WF4-016	Fork link	1	
10	52WF4-029	Pin	1	
11	52WF4-025	Nut	1	
12	52WF4-024	Nut	1	
13	52WF4-026	Lever	1	
14	22WF4-030	Spring	1	
15		Steel ball	1	φ3.7
16	7KT4-034	Lever grip	1	
17	60WF4-020	Feed fork	1	
18	7KT1-007	Nut	1	
19	7KT4-023	Crank	1	
20	60WF4-025	Nut	1	
21	60WF4-024	Spring bar	1	
22	60WF4-023	Spring	1	
23	60WF4-001	Feed dog driving shaft	1	
24	60WF4-002	Feed dog crank(right)	1	
25	60WF4-011	Driving shaft bushing(rear)	2	
26	60WF4-010	Driving shaft bushing(front)	2	
27	JO.0.40	Screw	5	
28	60WF4-003	Screw	1	
29	60WF4-007	Screw	1	
30	22WF4-040	Lock spring	1	
31	22WF4-039	Oil filt	1	
32	60WF4-066	Feed dog driving link	1	
33	7KT1-007	Nut	2	
34	60WF4-004	Feed dog driving crank(left)	1	
35	60WF4-005	Screw	6	
36	60WF4-013	Feed shaft bushing(front)	1	
37	22T3-002B1	Collar	2	
38	22T3-002B2	Screw	4	
39	60WF4-014	Pin shaft	2	
40		Lock spring	2	
41	60WF4-016	Feed dog supporter link	1	
42	60WF4-018	Feed dog supporter	1	
43	60EF4-014 60WF4-014	Feed dog	1	For TW1-243
44		Screw	2	9/64"×40
45	21WF4-045	Screw	1	
46	60WF4-015	Feed dog supporter crank	1	
47	60WF4-016	Feed dog supporter shaft	1	
48	60WF4-017	Collar	1	
49	20T2-032C3	Screw	2	
50	60WF4-008	Feed driving cam	1	
51	22WF4-002	Screw	1	
52	60WF5-003	Rocking link adjusting crank	1	
53	60WF4-026	Feed crank(middle)	1	
54	60WF4-012	Feed shaft	1	
55	60WF4-027	Screw	1	
56	73WF2-001	Feed dog	1	For TW1-273
57	60WF4-028	Spring hook	1	



## 8. Lower shaft driving components



8.Lower shaft driving components

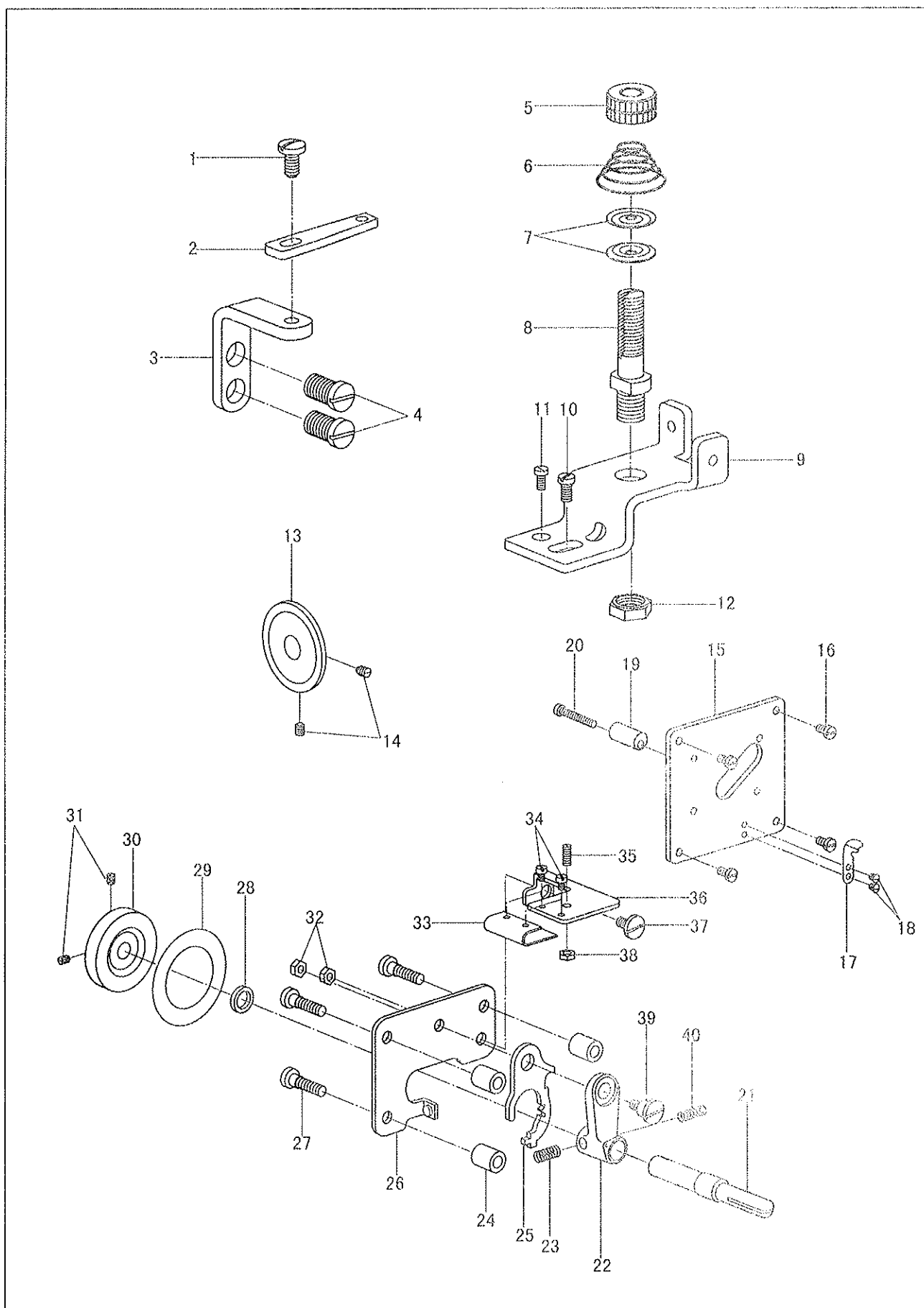
No .	Parts No .	Name	Qty.	Remarks
1	1WF4-010	Screw	1	
2	52WF1-048	Rocking shaft cam	1	
3	52WF1-049	Cam pin	2	
4	52WF1-051	Washer	2	
5	52WF1-050	Screw	2	
6		Needle bearing	1	φ48× φ43×17
7	52WF1-052	Rocking shaft link	1	
8	52WF1-047	Eccentric plate	1	
9	49WF2-009	Screw	2	
10	52WF1-053	Pin	1	
11	52WF1-043	Hinge pin	1	
12	01/B602	Screw	2	
13	22T1-013	Oil sick	1	
14	52WF1-057	Oil seal	1	
15	52WF1-023	Nut	2	
16	52WF1-044	Slide plate(1)	1	
17	52WF1-042	Rocking shaft	1	
18	52WF1-045	Slide plate(2)	1	
19	52WF1-046	Screw	2	
20	52WF1-056	Screw	1	
21	52WF1-055	Pin	1	
22	52WF1-054	Hinge pin bushing	1	
23	60WF1-004	Bottom shaft	1	
24	22T3-002B1	Collar	1	
25	1WF2-052	Screw	2	
26	22T3-007C2	Oil felt	2	
27	52WF1-029	Bottom shaft bushing(rear)	1	
28	JO.O.5	Screw	2	
29	7KT1-007	Nut	1	
30	52WF1-026	Screw	1	
31	52WF1-023	Bottom shaft crank(rear)	1	
32	52WF1-025	Bottom shaft crank pin(rear)	1	
33	52WF1-024	Slide block	1	
34	60WF1-001	Shuttle bed supporter	1	
35	7KT5-055	Pin	1	
36	60WF1-005	Shuttle driver	1	
37	60WF1-003	Shuttle race body	1	
38		Shuttle	1	KSP204-N
39	52WF1-033	Bobbin	1	
40	52WF1-002	Hook cover	1	
41	52WF1-038	Spring	1	
42	52WF1-039	Screw	2	
43	52WF1-006	Pin	1	



9. Threading components

No .	Parts No .	Name	Qty.	Remarks
1	6K4-022	Nut	1	
2	6K4-027	Thread tension spring	1	
3	22T1-012F5	Thread tension disc	2	
4	52WF2-010	Thread tension post	1	
5	1WF2-039	Screw	2	
6	52WF2-011	Thread tension post bracket	1	
7	52WF2-012	Thread tension guide	1	
8	16WF12-059	Screw	3	
9	7KT1-007	Nut	1	
10	52WF2-014	Screw	1	
11	52WF2-013	Thread releasing plate	1	
12	52WF2-052	Thread guide	1	
13	6K2-040	Nut	1	
14	52WF2-016	Spring support plate	1	15/64"×28
15	52WF2-058	Screw	1	
16	16WF2-015	Screw	1	
17	52WF2-024	Arm thread guide spring	1	1/8"×44
18	52WF2-021	Arm thread guide	1	
19	52WF2-025	Arm thread guide plate	1	
20	52WF2-023	Nut	1	
21	52WF2-026	Lower thread guide	1	
22	6K4-015	Spring	1	
23	52WF2-015	Thread take-up spring	1	
24	52WF2-017	Thread tension wheel post	1	
25	52WF2-019	Wheel felt	3	
26	52WF2-018	Thread tension disc	1	
27	52WF2-020	Felt support plate	2	
28	52WF2-053	Nut	1	

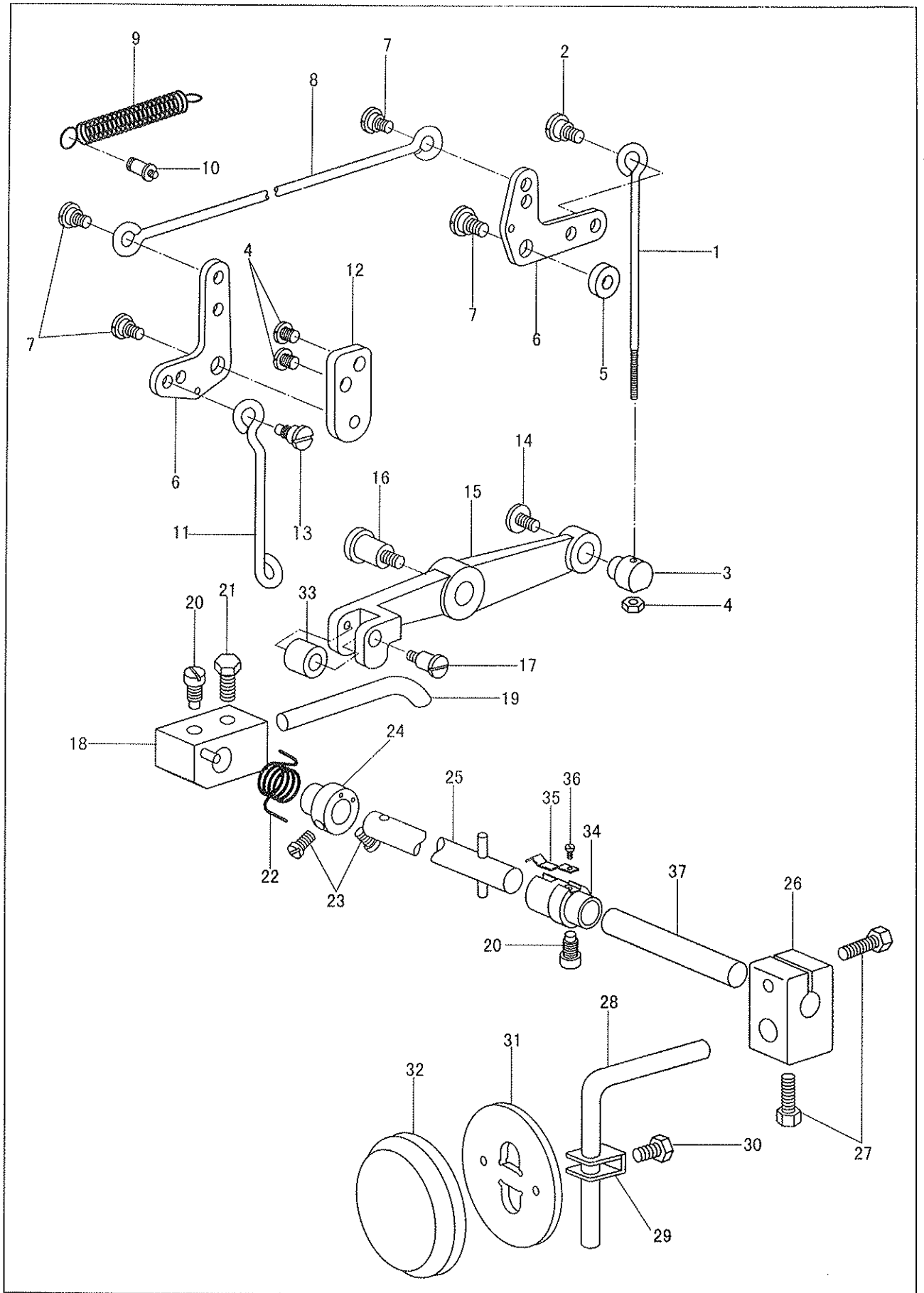
10. Bobbin thread winding components



10. Bobbin thread winding components

No .	Parts No .	Name	Qty.	Remarks
1	13WF6-024	Screw	1	
2	52WF2-048	Thread guide	1	
3	52WF2-049	Thread guide plate	1	
4	52WF3-027	Screw	2	
5	6k4-022	Nut	1	
6	52WF2-047	Bobin thread tension spring	1	
7	22T1-012F5	Thread tension disc	2	
8	52WF2-010	Thread tension post	1	
9	52WF2-046	Thread winder guide base	1	
10	22T2-019	Screw	1	
11	JO.O.50	Screw	1	
12	7KT1-007	Nut	1	
13	52WF2-045	Friction wheel	1	
14	17T5-016	Screw	2	
15	52WF2-027	Thread winder plate	1	
16	21WF3-026	Screw	4	
17	52WF2-043	Thread cutter	1	
18	6A6-28	Screw	2	
19	52WF2-041	Stopper	1	
20	52WF2-042	Screw	1	
21	52WF2-029	Winder shaft	1	
22	52WF2-037	Winder crank	1	
23	52WF2-039	Spring(1)	1	
24	52WF2-031	Washer	3	
25	52WF2-044	Thread winder bracket	1	
26	52WF2-028	Thread winder base	1	
27	52WF2-030	Screw	3	
28	52WF2-036	Washer	1	
29	13WF6-019	Rubber disc	1	
30	52WF2-035	Driving wheel	1	
31		Screw	2	
32	52WF5-023	Nut	2	
33	52WF2-034	Bobbin presser spring	1	
34	21WF2-012	Screw	2	
35	52WF2-033	Screw	1	
36	52WF2-032	Bobbin presser	1	
37	52WF2-057	Screw	1	
38	52WF2-023	Nut	1	
39	52WF5-038	Screw	1	
40	52WF2-040	Spring(2)	1	

# 11. Knee lifter components

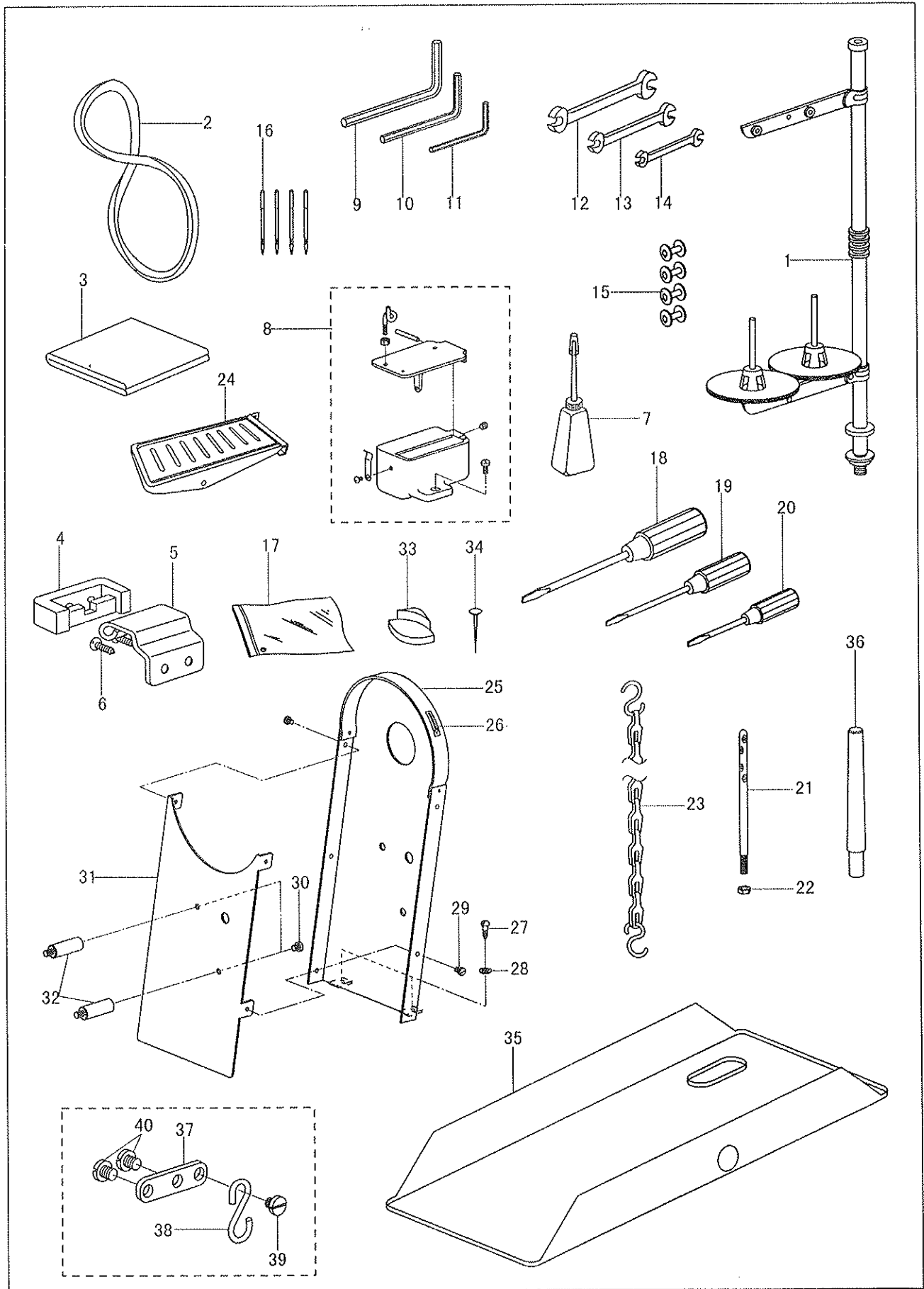


11.Knee lifter components

No .	Parts No .	Name	Qty.	Remarks
1	60WF3-001	Connecting bar	1	
2	60WF3-016	Screw	1	
3	60WF3-003	Connecting pin	1	
4	60WF3-002	Nut	1	
5	52WF3-021	Washer	1	
6	52WF3-020	Presser bar lifting link	2	
7	52WF3-025	Screw	4	
8	52WF3-024	Connecting bar	1	
9	52WF3-022	Spring	1	
10	52WF3-023	Screw	1	
11	52WF3-028	Presser bar lifting bar	1	
12	52WF3-029	Link basé	1	
13	52WF3-032	Screw	1	
14	60WF3-004	Screw	1	
15	60WF3-011	Knee lifter lever	1	
16	60WF3-012	Screw	1	
17	60WF3-014	Screw	1	
18	60WF3-006	Knee lifter bar block	1	
19	60WF3-015	Knee lifter bar	1	
20	60WF3-007	Screw	2	
21	60WF3-005	Screw	1	
22	60WF3-009	Spring	1	
23	22T2-019	Screw	2	
24	60WF3-010	Collar bushing	1	
25	60WF3-008	Knee lifter shaft	1	
26	60WF6-008	Knee press rod mounting arm	1	
27	60WF6-007	Screw	2	
28	22T9-003B4	Knee press rod	1	
29	22T9-003B6	Knee press rod bracket	1	
30	22T9-003B7	Screw	1	
31	22T9-003B5	Knee press plate	1	
32	22T9-003B8	Knee press plate pad	1	
33	60WF3-013	Knee lifter lever roller	1	
34	60WF6-010	Knee press joint	1	
35	60WF6-011	Presser spring	1	
36	19WF4-002	Screw	1	
37	60WF3-009	Shaft	1	



12. Accessories



12. Accessories

No.	Parts No.	Name	Qty.	Remarks
1	4F-007	Thread stand assembly	1	
2		V-belt	1	M58
3	52WF6-001	Machine head cover	1	
4	22T9-007F2	Hinge cushion	2	
5	60WF6-006	Hinge	2	
6	52WF1-009	Screw	4	
7	33TF-010	Oil pot	1	
8		Silicon oil box assembly	1	
9		Hexagon wrench(big)	1	S=5MM
10		Hexagon wrench(middle)	1	S=4MM
11		Hexagon wrench(small)	1	S=3MM
12		Wrench(big)	1	12×14
13		Wrench(middle)	1	11×13
14		Wrench(small)	1	10×9
15	52WF1-033	Bobbin	4	
16		Needle	4	DY×3 26#
17	33TF-010	Parts bag	1	
18	33TF-012	Screwdriver(big)	1	
19	33TF-013	Screwdriver(middle)	1	
20	33TF-014	Screwdriver(small)	1	
21	52WF2-054	Thread guide pin	1	
22	52WF5-023	Nut	1	
23	18WF1-016	Chain	1	
24	18WF8-013	Knee lifter pedal assembly	1	
25	60WF6-012	Belt guard A	1	
26	50WF5-012	Indicator	1	
27	33TF-017	Screw	2	
28	33TF-018	Washer	2	
29	33T3-006	Screw1	5	
30	N3-7-27	Screw2	2	
31	60WF6-013	Belt guardB	1	
32	52WF6-004	Screw	2	
33	3KT2-004	Cushion	4	
34	33TF-004	Bolt	12	
35	60WF6-001	Oil pan	1	
36	3KT2-001	Machine head supporter	1	
37	52WF3-026	Link plate	1	
38	18WF1-016	S-hook	1	
39	53WF3-030	Screw	1	
40	52WF3-027	Screw	2	