

# TYPICAL

**Overseaming Machine For Insole**



**GP5-IV**



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# Operation Instruction

## 1. Brief introduction

GP5-IV overseaming machine for insole are mainly used in sewing various insole and shoe surface of sports shoes, leisure shoes, etc. This machine adopts box body, needle bar to take up thread, crochet hook to catch thread, disc feed mechanism and auto-lubrication system. It inherits the advantages of GP series machines and is a good quality and high efficiency sewing equipment.

## 2. Main technical specification

Model	GP5-IV
Max. Sewing speed	2000s.p.m
Sewing thickness	1.5~7.6mm
Stitch length	1.5~4.5mm
Needle	GB×1 12#~18#
Thread	18~5.9tex / 2~3

## 3. Installation and preparation

### (1) Installation (Fig 1)

#### ① Location

Please install machine on smooth and nut area in order to make the machine work well.

#### ② Installing the machine head

Put the machine head to the table after finish installing the stand and table. Then tighten the screw.

#### ③ Installing the motor

Align machine balance wheel belt groove with motor belt groove by moving the motor leftward or rightward. Be sure the belt is not touched with the table.

#### ④ Installing spool stand

Put the spool stand on the table and be sure the stand is not touched with the machine head.

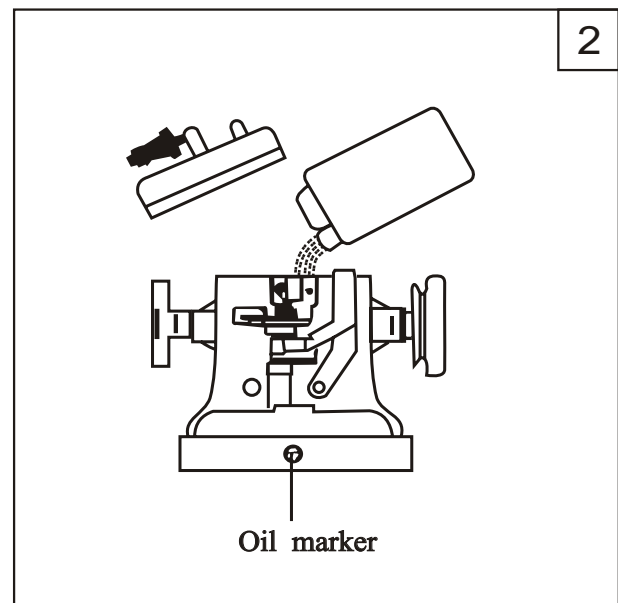
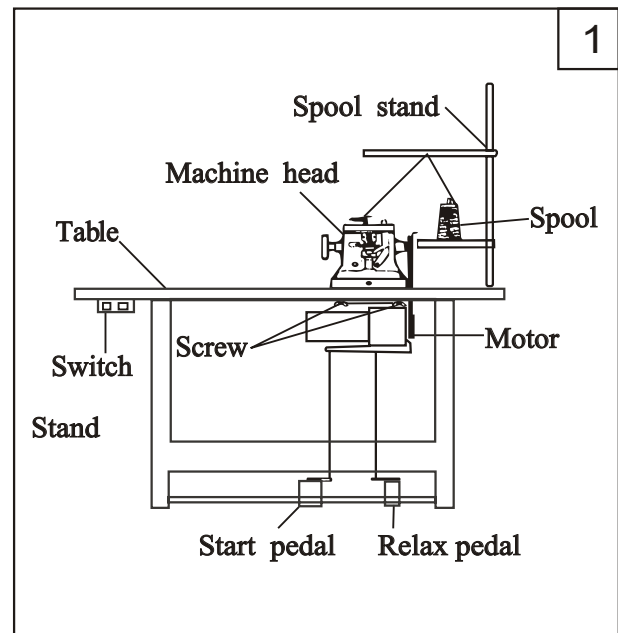
### (2) Lubrication

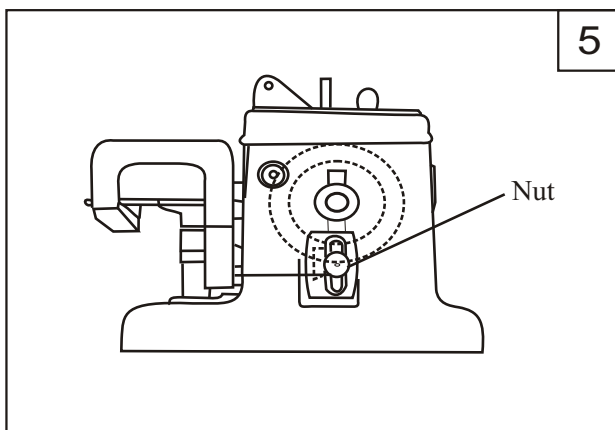
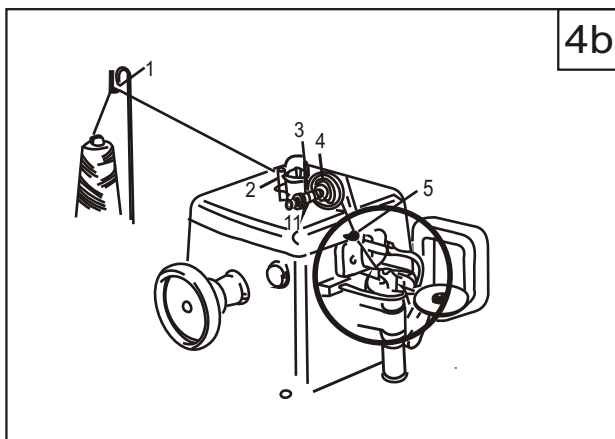
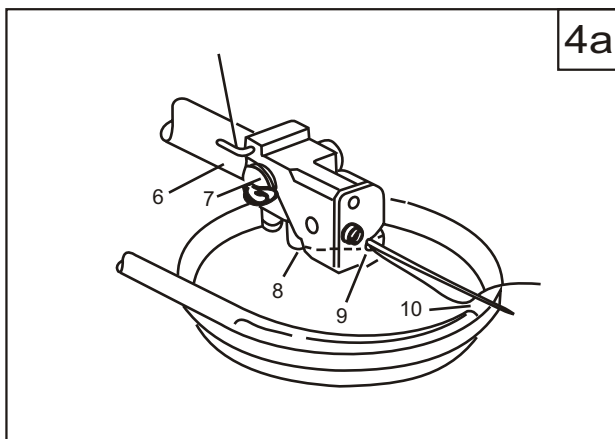
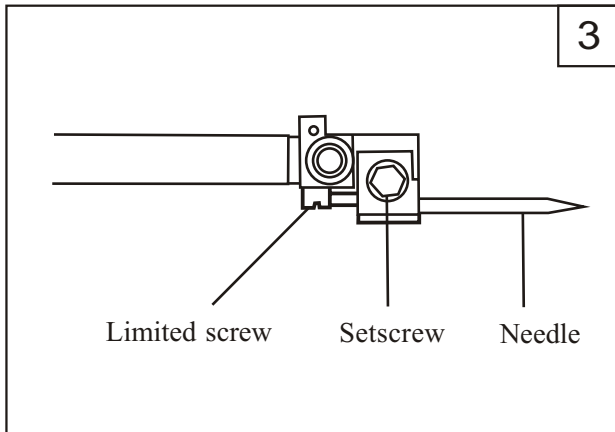
#### ① Lubrication

Clean off the grease and dust on the surface of the machine before use. Then check if the oil is full or fresh in the drip pan. If it needs to change oil, turn off the screw at first, then clean up the drip pan and add the fresh oil into it.

#### ② Trial run

Turn round the hand wheel slowly by hand counter-clockwise opposite the wheel and check if it runs freely. After doing this, shut on the motor.





## 4. Operation and adjustment

### (1) Installing the needle (Fig 3)

Turn round the hand wheel to extend the needle bar forward to its limited position, loosen needle set screw. Make the long groove downward and insert the needle until it reaches to the limited screw, then tighten the set screw.

### (2) Threading and adjusting thread tension

#### ① Method of threading (Fig 4a)

Lead the thread from the spool and pass it through thread guide 1 on spool stand. Pass through thread screw 2 and thread guide 3. Next pass up through tension disk 4. Pass through retainer 5 and 6. Then wind through the pass screw 7. Pass down from thread groove 8. Wind through the thread retainer 9. Last pass the thread from down to up through the eye of needle 10. Draw out the thread approx. 25-50mm from the needle eye.

#### ② Adjust thread tension (Fig 4b)

Thread tension can affect sewing quality directly. Adjusting principle is based on the thread tension. It can increase or reduce the thread tension by turning thread tension nut. Reduce tension for sewing heavy material, otherwise increase.

#### (3) Adjust the stitch length (Fig 5)

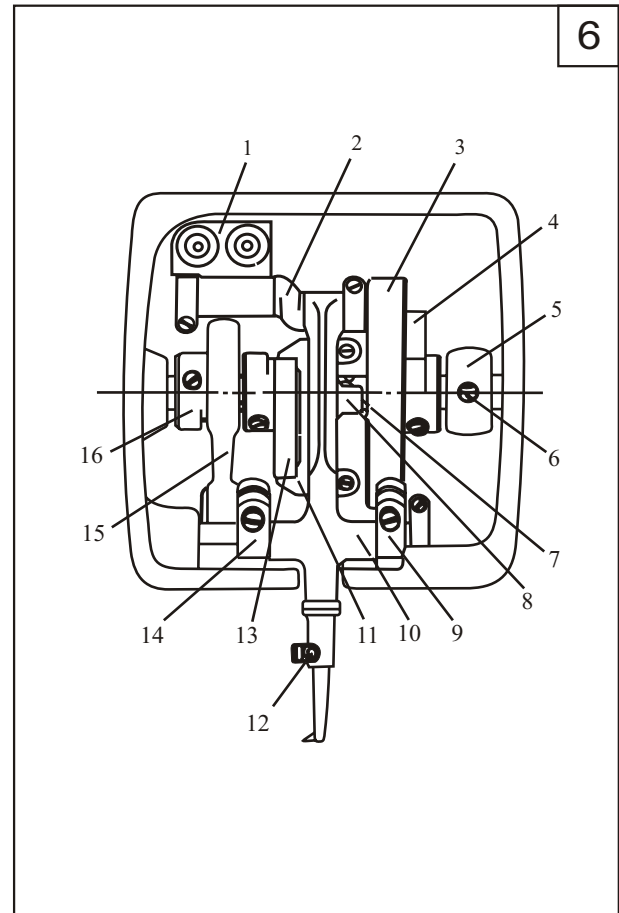
When adjust stitch length, first loosen the adjustment nut, then move the adjustment bar up and down to reach the required stitch length ( increase upward, reduce downward). Last tighten the nut.

## 5. Adjusting machine

### (1) Sketchy setting of eccentric cam (Fig 6)

Open the cover on the top of machine head; make the needle bar to the front maximum position by turn round the hand wheel. Then adjust the cam and eccentric cam sketchily. The optimum relative angles of the cams are taken notice by adjusting.

- |                           |                                |
|---------------------------|--------------------------------|
| 1. Rear crank bracket     | 9. Crank tong                  |
| 2. Rear crank             | 10. Crochet hook bracket       |
| 3. Cam                    | 11. Needle bar support         |
| 4. Balance block          | 12. Screw                      |
| 5. Feed eccentric bushing | 13. Needle bar eccentric cam   |
| 6. Feed eccentric cam     | 14. Crank tong                 |
| 7. Crank shaft            | 15. Eccentric link             |
| 8. Ball crank             | 16. Crochet hook eccentric cam |

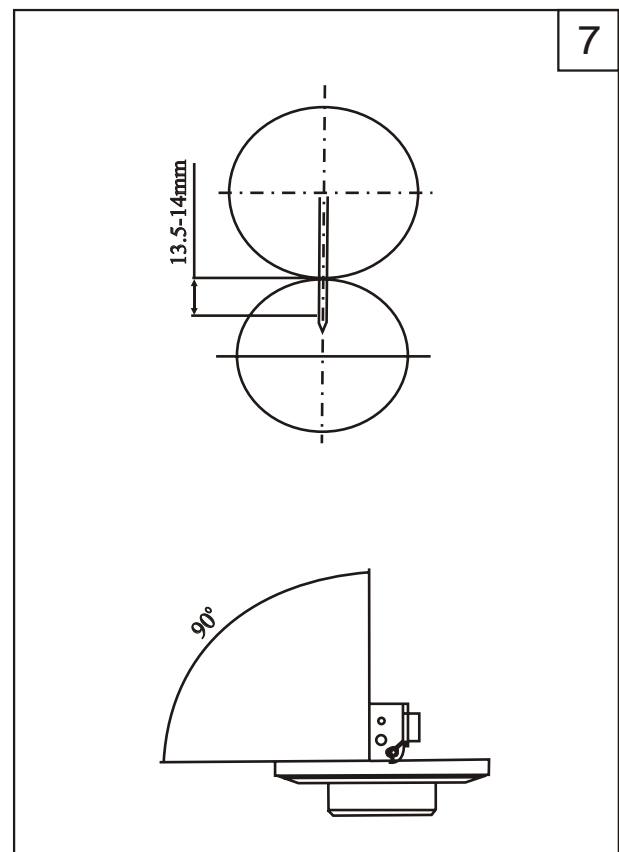


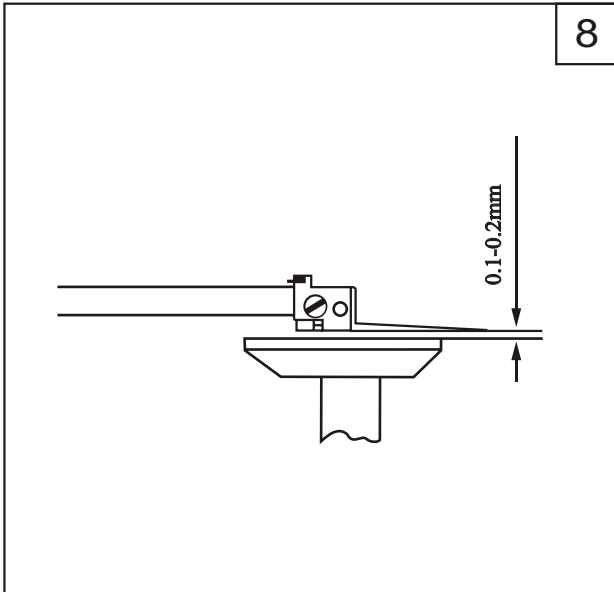
### (2) Accurate setting

#### ① Requirement of needle bar orientation and installation

The length between the center of needle eye and the edge of feed plate should be 13.5~14mm when the needle is at the forth limited position. It may loosen two screws of needle bar shelf during adjustment.

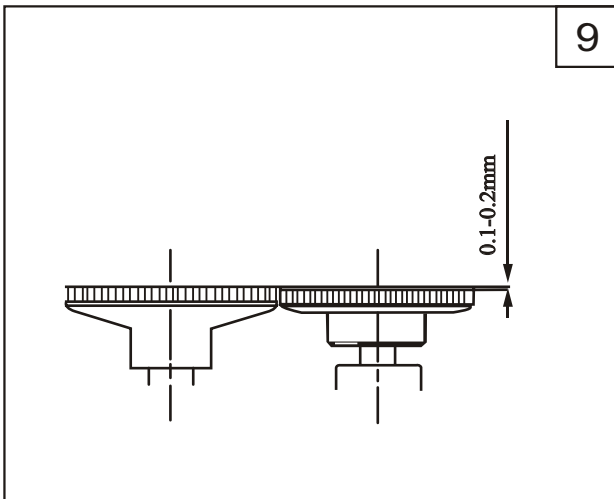
Note: Keep verticality between press plane and feed plate plane.





② Orientation of feed plate (Fig 8)

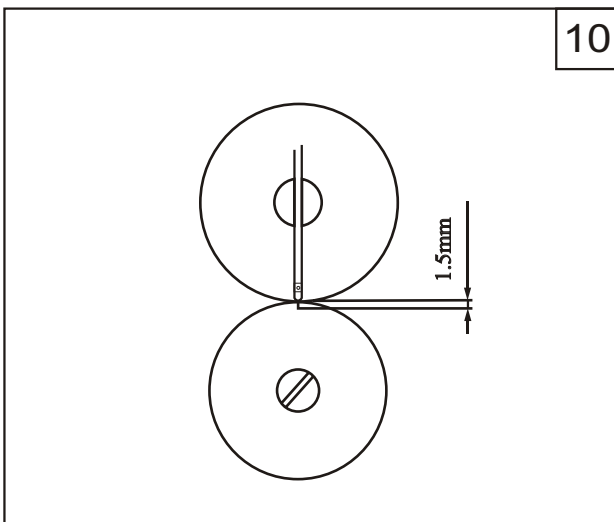
The clearance between feed plate and the lowest position of needle should be 0.1~0.2mm. Loosen the screw, move feed plate upward or downward to adjust.



③ Orientation of press plate (Fig 9)

The press plate should be 0.1-0.2mm lower than feed plate. Loosen the screw and move the press plate upward or downward to adjust.

Note : keep parallel between feed plate and press plate.



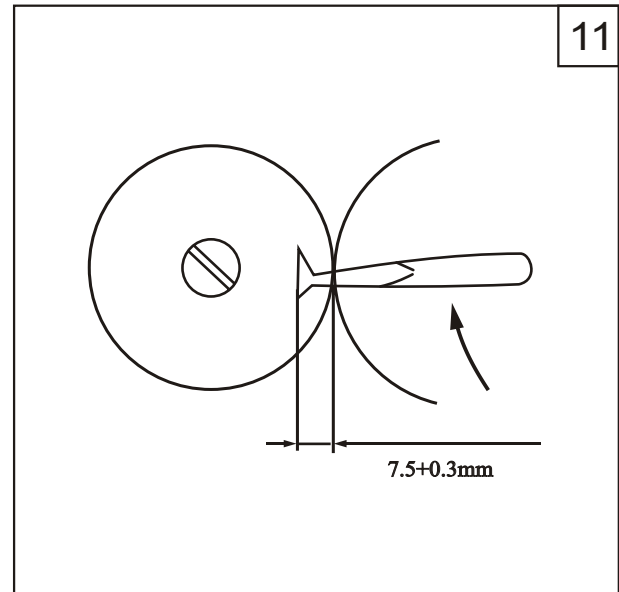
④ Start orientation of feed plate (Fig 10)

Feed plate will start when the length between needle bar and the edge of feed plate is 1.5mm. Loosen the screw to adjust.



⑤ Forward limit orientation of crochet hook

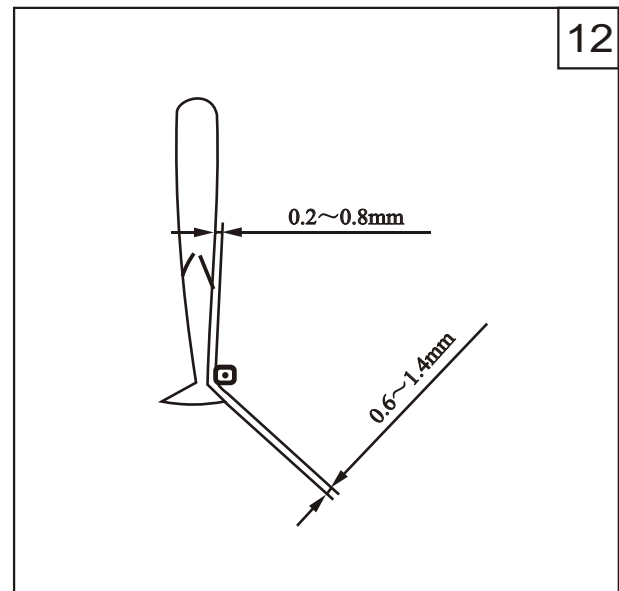
The distance between the pinpoint and the edge of feed plate should be  $7.5+0.3\text{mm}$  when the crochet hook is at the forward limit position. Loosen the screw to adjust. ( Fig 11)



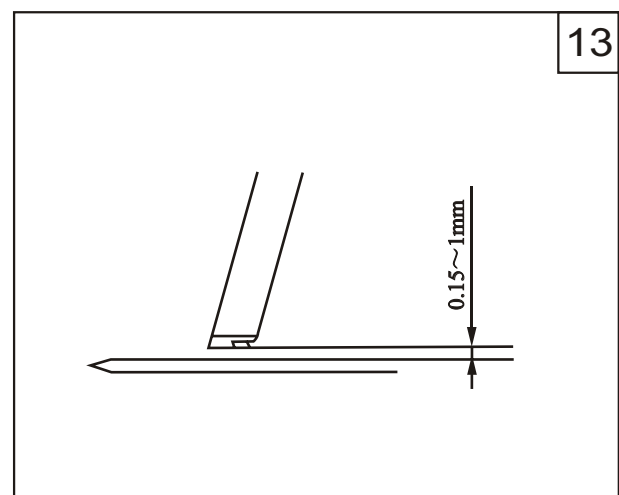
⑥ Coordinate orientation between crochet hook and needle

(a) The coordinate clearance between needle and crochet hook may be adjusted according to the requirement of Fig 12 when the crochet hook is at the rear limited position. You can loosen the screw, turn round the crochet hook to adjust.

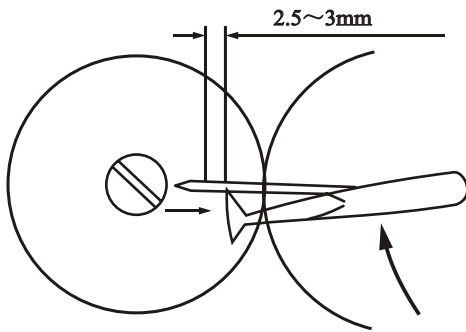
Note: assure the orientation requirement of ⑤.



(b) The coordinate clearance between needle and crochet bottom should be  $0.15 \sim 1\text{mm}$  when the crochet hook enters into the center of needle. Loosen the screw and move the crank bracket forward or backward to adjust. If it cannot fulfil the requirement, you can change the washer of crank bracket. (Fig 13)



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(c) The length between pinpoint of crochet hook and the center of needle eye should be 2.5~3mm when pinpoint enters into the center of needle. (Fig 14) Loosen the screw to adjust.

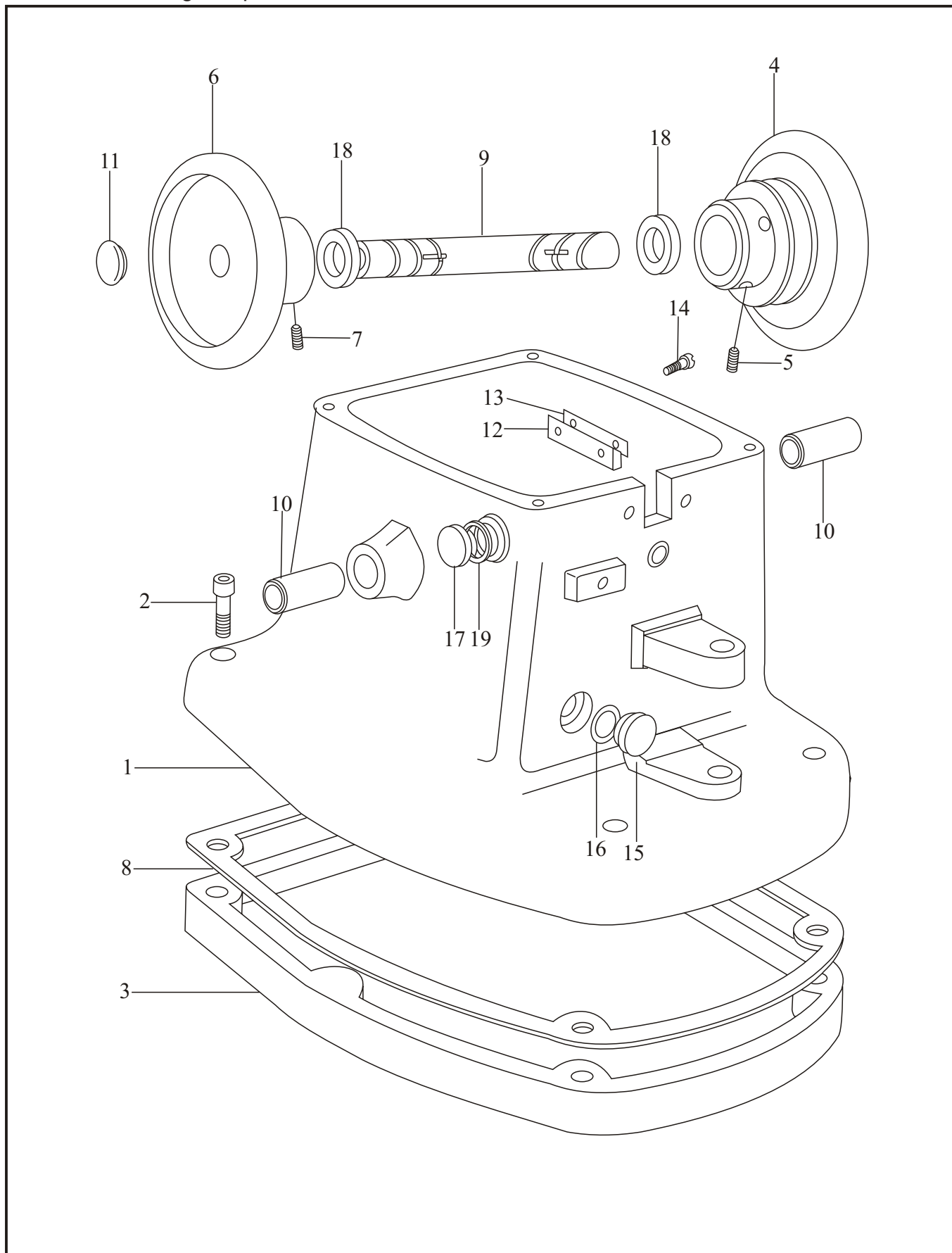
Note: you should check the above steps again after finishing this step.

## 6. Trouble-shooting

Trouble	Possible causes	Remedy
Thread breaking	Wrong threading	Thread again according to threading steps
	Thread is blocked	Get rid of obstacle
	There is burr in the eye needle or nearby	Change the needle or get rid of burr
	There is burr on the crochet hook, feed plate or press plate	Polish if by emery cloth
	Poor thread	Change the thread
	Bad running coordinate of crochet hook and needle	Adjust again
Needle breaking	Bad needle	Change a new one
	Crochet hook collide with needle	Adjust the crochet hook and needle
	Wrong height of feed plate	Adjust the height
	Wrong position and height of press plate	Adjust the position and height
	Not synchronism coordinate of feed sports	Adjust according to the correct method
Skip stitch	Wrong set of needle	Install the needle correctly
	Wrong coordinate time and position of crochet and needle	Adjust the coordinate position
	Unsuitable thread	Change the thread
	The needle is too thin or the thread is too thick	Change the suitable needle and thread
Dull feed	Gear of feed plate has been worn	Repair or change a new one
	Pressure of press plate is too small	Adjust the pressure
	Stop block of clutch has been worn	Change a new one
	Spring of clutch has been worn	Change a new one
	Press plate is not free	Change off the dust and add some grease
Unfree	Let out for a long time or the first use	Change off the greasy and add some grease, then trial run for several minutes
	Belt is too tight	Relax the belt properly
	The is much dust on the feed plate	Clean off the dust, then add some fresh grease
Big noise	Shelf and eccentric cam of needle bar are worn	Change the parts
	Eccentric cam of crochet hook is worn	Change the part
Unnormal lubrication	Oil amount is not enough	Add some oil
	Filter or lubrication system are blocked	Clean off the dust

# Parts Catalogue

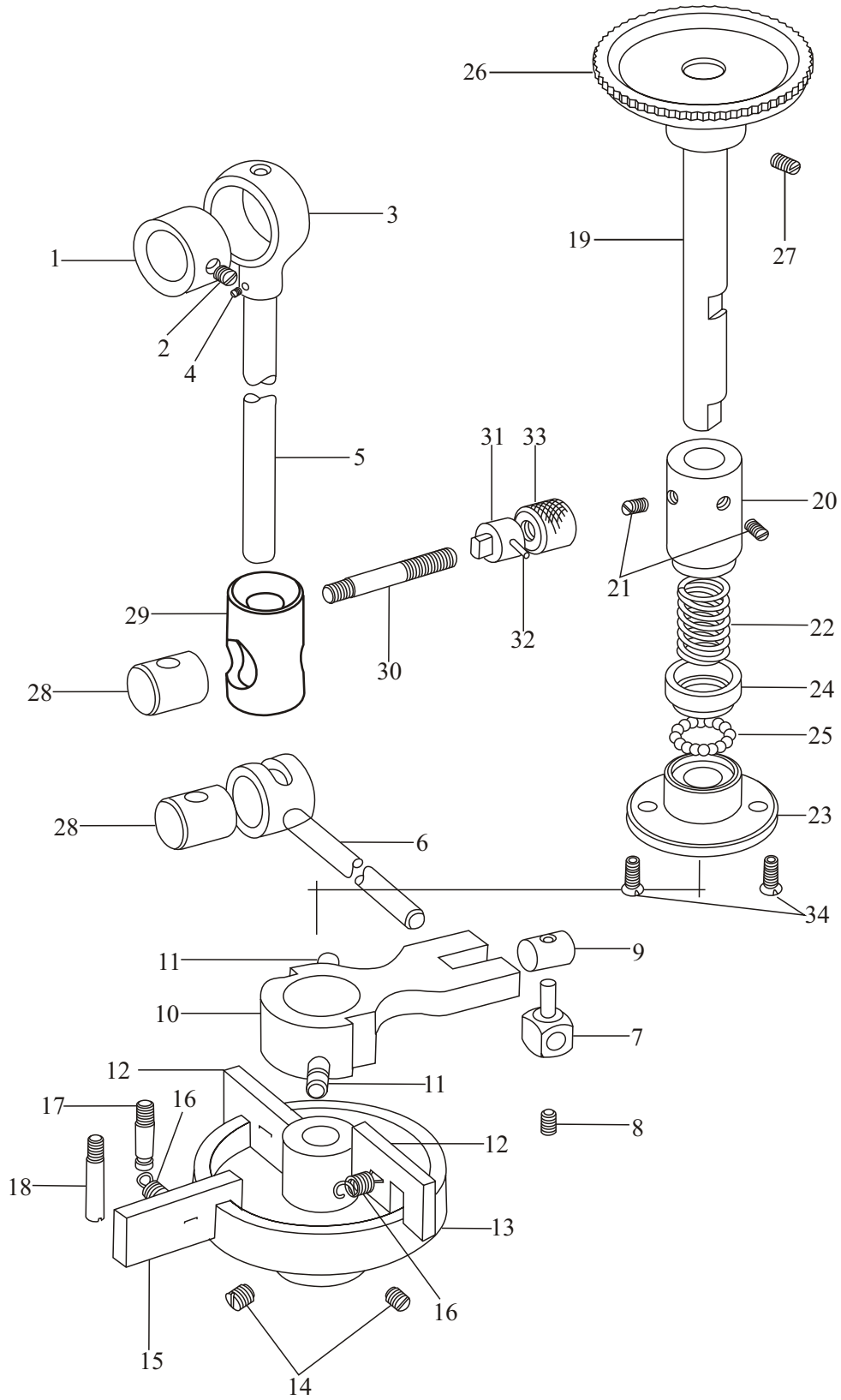
# 1. Machine casting components



## 1. Machine casting components

No.	Parts No.	Name	Qty	Remarks
1	30WF1-001	Arm	1	
2		Screw	4	M6×45 GB70-85
3	30WF1-002	Bed	1	
4	30WF1-003	Belt wheel	1	
5		Screw	2	M6×8 GB70-85
6	18WF1-004	Hand wheel	1	
7		Screw	2	M6×8 GB70-85
8	30WF1-005	Washer	1	
9	18WF1-006	Main shaft	1	
10	18WF1-007	Main shaft bushing	1	
11	18WF1-008	Plug	2	
12	18WF1-011	Oil stop plate	1	
13	18WF1-012	Washer	1	
14		Screw	2	M3×12 GB65-85
15	18WF1-014	Plug	2	
16		Oil seal	2	FB 10 22 8
17		‘O’ type seal	2	16×1.9 GB1235-76
18	30WF5-002	Plug	1	
19		‘O’ type seal	1	Φ20×2.5

## 2. Feeding and stitch length adjustment components

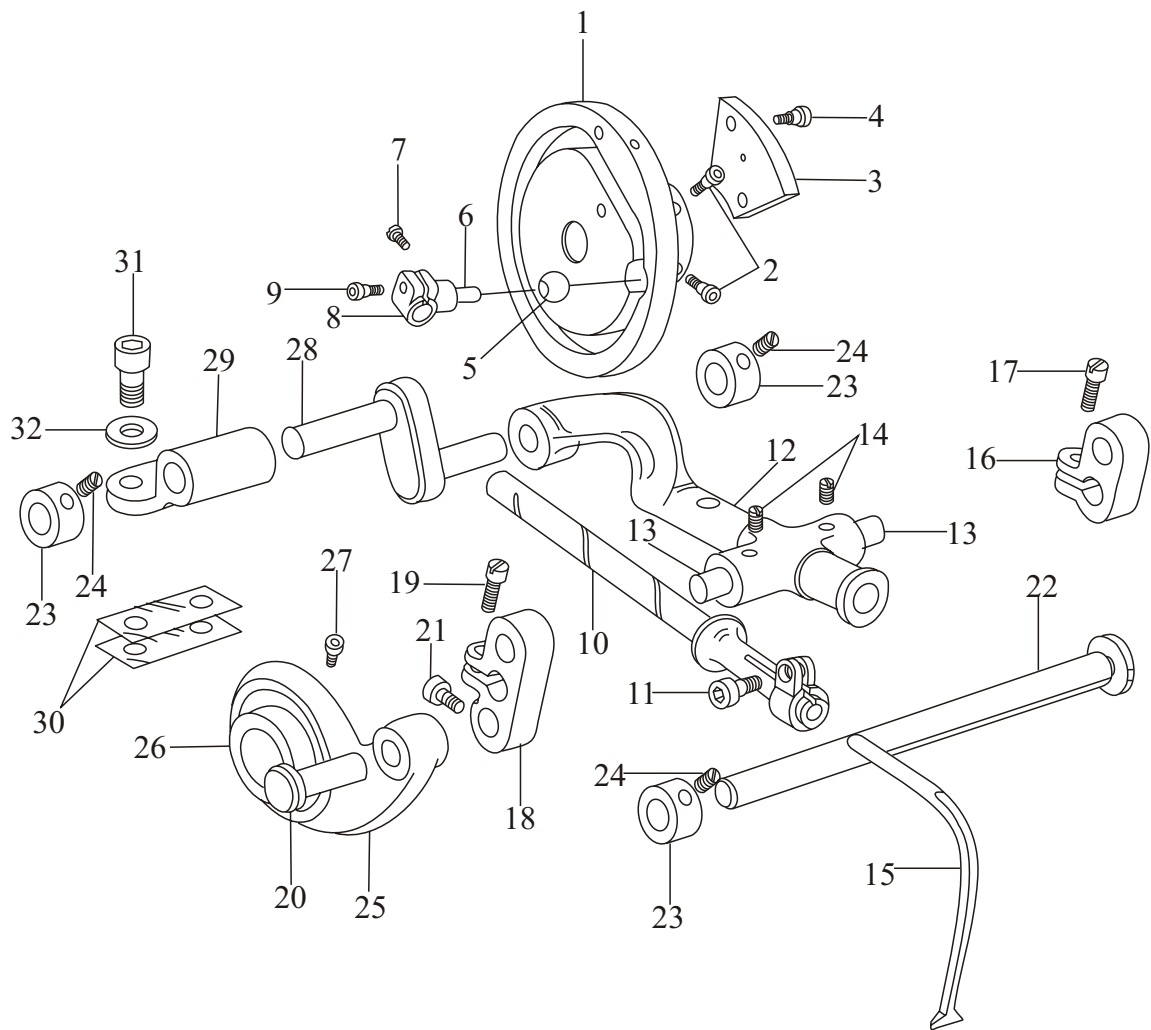


## 2. Feeding and stitch length adjustment components

No.	Parts No.	Name	Qty	Remarks
1	30WF2-001	Feed eccentric cam	1	For GP5- I
2		Screw	2	M5×8 GB70-85
3	30WF2-002	Feed eccentric bushing	1	
4		Screw	1	M4×4 GB74-85
5	18WF2-003	Feed link	1	
6	18WF2-004	Feed bar	1	
7	18WF2-005	Feed ratchet shaft	1	
8		Screw	1	M5×6 GB77-85
9	18WF2-006	Ratchet shaft roller	1	
10	18WF2-007	Ratchet bar	1	
11	18WF2-008	Hanging screw	2	
12	18WF2-009	Transmission block	2	
13	18WF2-010	Ratchet plate	1	
14	22T1-013	Screw	2	SM15/64"×28×8
15	18WF2-011	Stop lump	1	
16	18WF2-012	Ratchet spring	3	
17	18WF2-013	Pin	1	
18	18WF2-014	Spring bracket	1	
19	51WF2-001	Feed shaft	1	
20	18WF2-016	Tension spring bracket	1	
21		Screw	2	M5×6 GB77-85
22	18WF2-017	Tension spring	1	
23	18WF2-018	Spring cap	1	
24	18WF2-019	Washer	1	
25		Steel ball	16	
26	51WF2-002	Feed plate	1	
27		Screw	2	M5×6 GB77-85
28	18WF7-001	Swing shaft	2	
29	30WF7-001	Swing bushing	1	
30	18WF7-003	Screw bar	1	
31	30WF7-002	Block	1	
32	18WF7-005	Pin	1	
33	18WF7-006	Nut	1	
34		Screw	2	GB68-85 M4



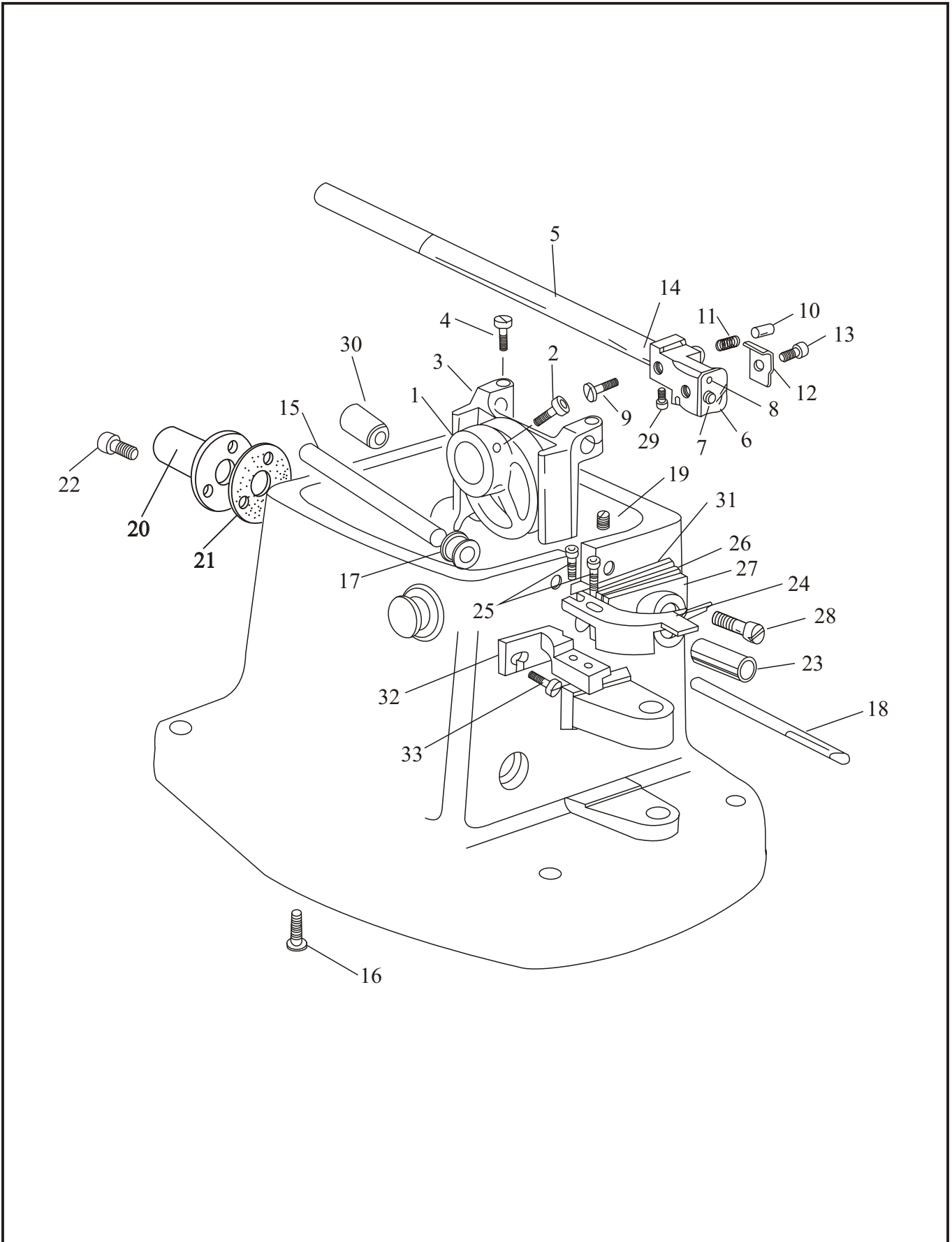
### 3. Crochet hook components



### 3. Crochet hook components

No.	Parts No.	Name	Qty	Remarks
1	30WF3-001	Cam	1	
2		Screw	2	M5×8 GB70-85
3	18WF3-002	Balance block	1	
4		Screw	2	M4×12 GB65-85
5	18WF3-003	Ball	1	
6	18WF3-004	Ball crank shaft	1	
7		Screw	1	M4×4 GB65-85
8	18WF3-005	Crank clamp	1	
9		Screw	1	M4×4 GB65-85
10	18WF3-006	Crochet hook bar	1	
11		Screw	1	M6×8 GB70-85
12	18WF3-007	Bracket	1	
13	18WF3-008	Pin shaft	2	
14	22T2-013	Screw	2	
15	18WF3-009	Crochet	1	
16	30WF3-005	Crank clamp	1	
17		Screw	1	M4×10 GB65-85
18	30WF3-006	Crank clamp	1	
19		Screw	1	M4×10 GB65-85
20	18WF3-012	Link shaft	1	
21		Screw	1	M4×10 GB65-85
22	18WF3-013	Bracket shaft	1	
23	18WF3-014	Stop ring	3	
24	1WF2-006	Screw	3	
25	18WF3-015	Link	1	
26	30WF3-007	Eccentric cam	1	
27		Screw	2	M5×8 GB70-85
28	30WF3-008	Rear crank shaft	1	
29	18WF3-018	Rear crank bracket	1	
30	18WF3-019	Spacer	3	
31		Screw	2	M6×20 GB70-85
32		Washer	2	6 GB87.2-85

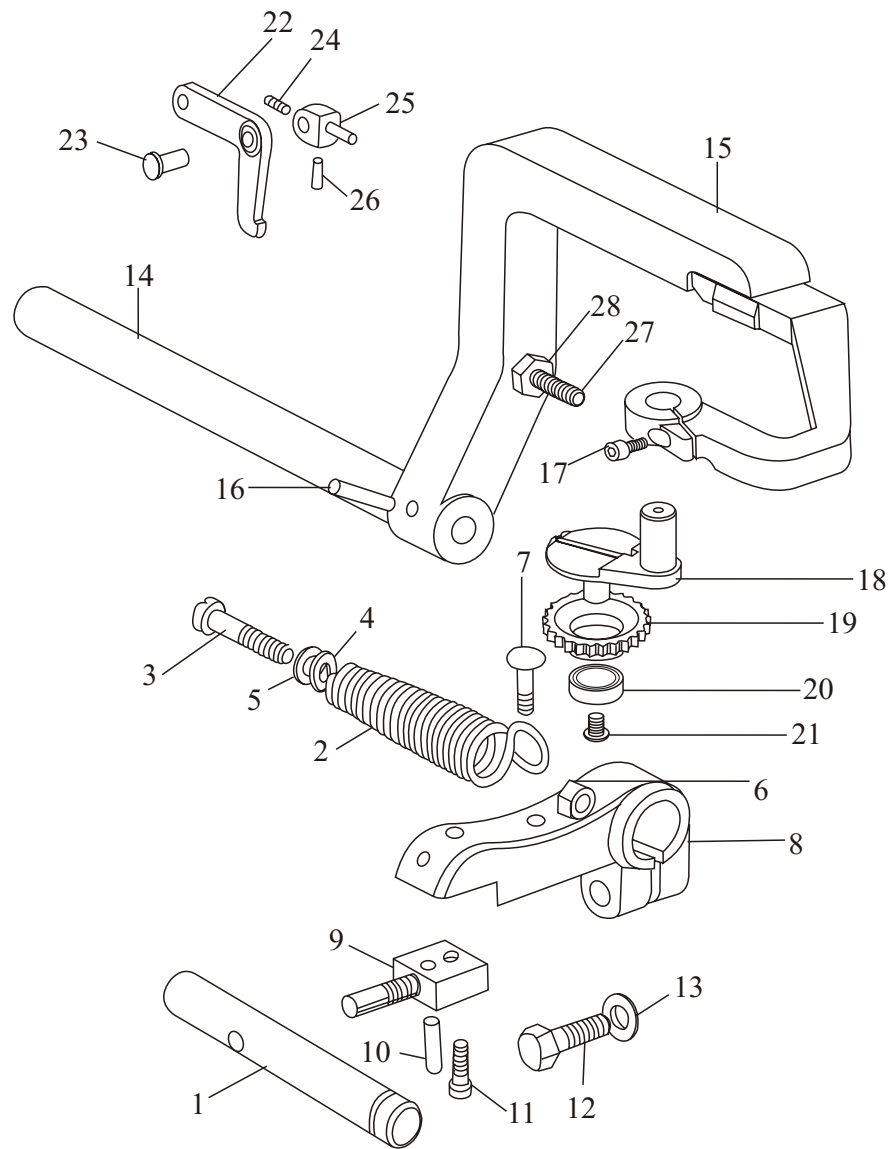
#### 4. Needle bar components



#### 4. Needle bar components

No.	Parts No.	Name	Qty	Remarks
1	30WF4-001	Needle bar eccentric cam	1	
2		Screw	2	M5×8 GB70-85
3	30WF4-002	Needle frame	1	
4	22T6-008D3	Screw	2	
5	51WF4-001	Needle bar complete	1	
6	51WF4-002	Thread retainer	1	
7		Screw	1	M3×4 GB67-85
8	18WF4-005	Pin	1	
9	18WF4-006	Screw	1	
10	18WF4-007	Global plane	1	
11	18WF4-008	Spring	1	
12	18WF4-009	Press plate	1	
13		Screw	1	M4×8 GB70-85
14	18WF4-010	Thread guide	1	
15	18WF4-011	Needle positioning shaft	1	
16	22T6-008D3	Screw	1	
17	18WF4-012	Positioning shaft bushing	1	
18	18WF4-013	Sliding bar	1	
19	22T2-013	Screw	1	
20	18WF4-014	Oil seal	1	
21	18WF4-015	Washer	1	
22		Screw	3	M4×12 GB70-85
23	18WF4-016	Needle bar bushing	1	
24	51WF4-004	Stop bar	1	
25	22T7-001A2	Screw	1	
26	30WF4-006	Oil stop cover	1	
27	30WF4-007	Oil stop plate	1	
28		Screw	2	M4×10 GB67-85
29	30WF4-008	Screw	1	
30	18WF4-021	Rear bushing	1	
31	30WF4-009	Spacer	1	
32	30WF4-003	Bracket	1	
33	30WF4-005	Screw	1	

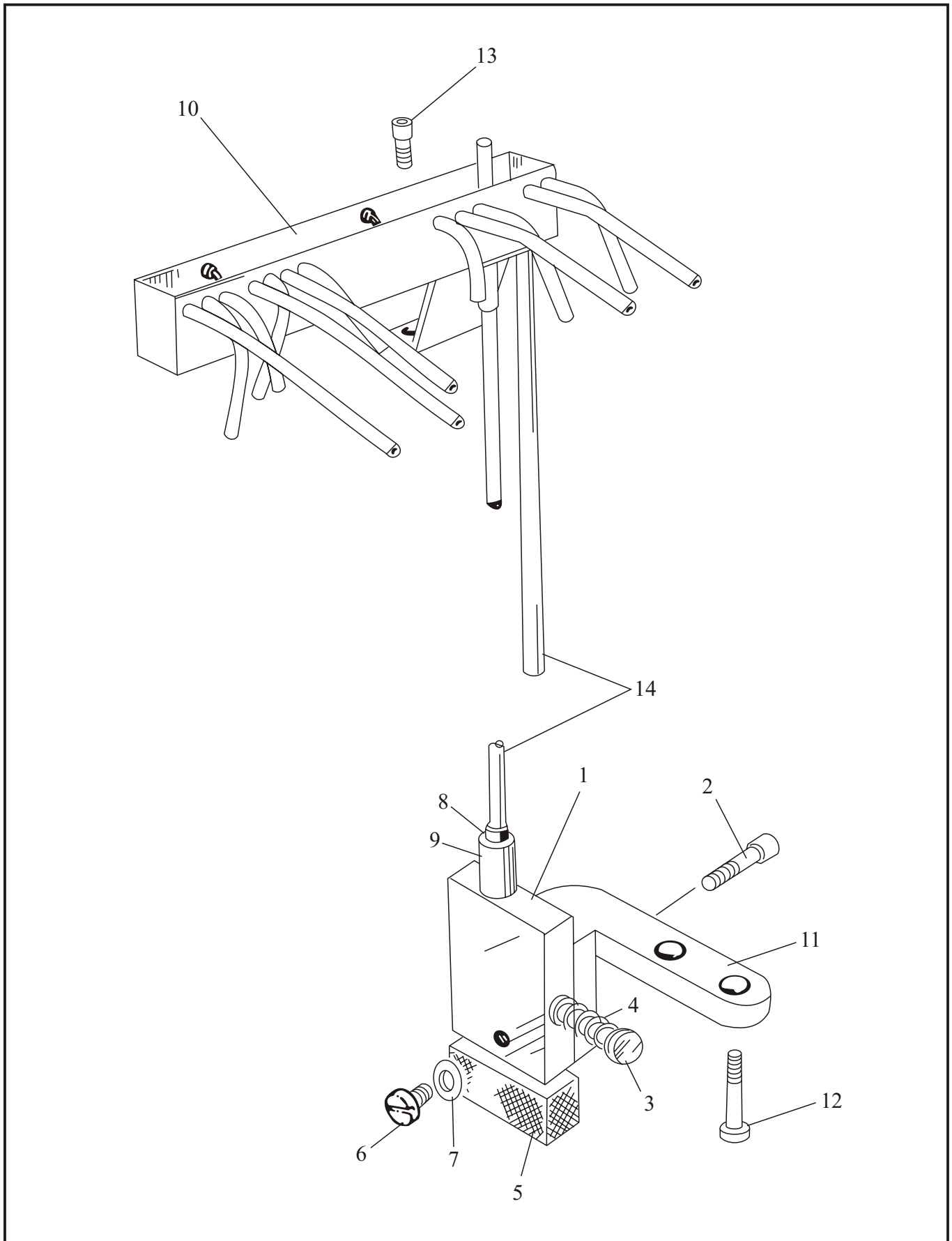
## 5. Pressing components



## 5. Pressing components

No.	Parts No.	Name	Qty	Remarks
1	30WF5-001	Moving shaft	1	
2	18WF5-002	Pulling spring	1	
3		Adjustment screw	1	M6×50 GB65-85
4		Washer	1	6 GB97.2-85
5		O-type seal	1	9×1.9 GB1235-76
6		Adjustment nut	1	GB6170-85-M6
7	18WF5-003	Hanging screw	1	
8	18WF5-004	Connected support	1	
9	18WF5-005	Connected block	1	
10		Pin	1	3×22 GB117-86
11		Screw	1	M5×20 GB70-85
12		Screw	1	M6×20 GB70-85
13		Washer	1	6 GB97.2-85
14	30WF5-003	Press bar	1	
15	351WF5-001a1	Press wheel support	1	
16		Pin	1	4×20 GB117-86
17	18WF2-020	Screw	1	
18	51WF5-003	Pressing disc base	1	
19	51WF5-004	Pressing disc	2	
20		Pressing disc bearing	1	2000088
21	51WF5-005	Screw	1	
22	18WF5-012	Releasing lever	1	
23	18WF5-013	Connecting pin	1	
24		Screw	1	M6×8 GB74-85
25	18WF5-014	Releasing lever bracket	1	
26		Pin	1	4×20 GB119-86
27	51WF5-002	Screw bar	1	
28		Nut	1	

## 6. Oil pump components

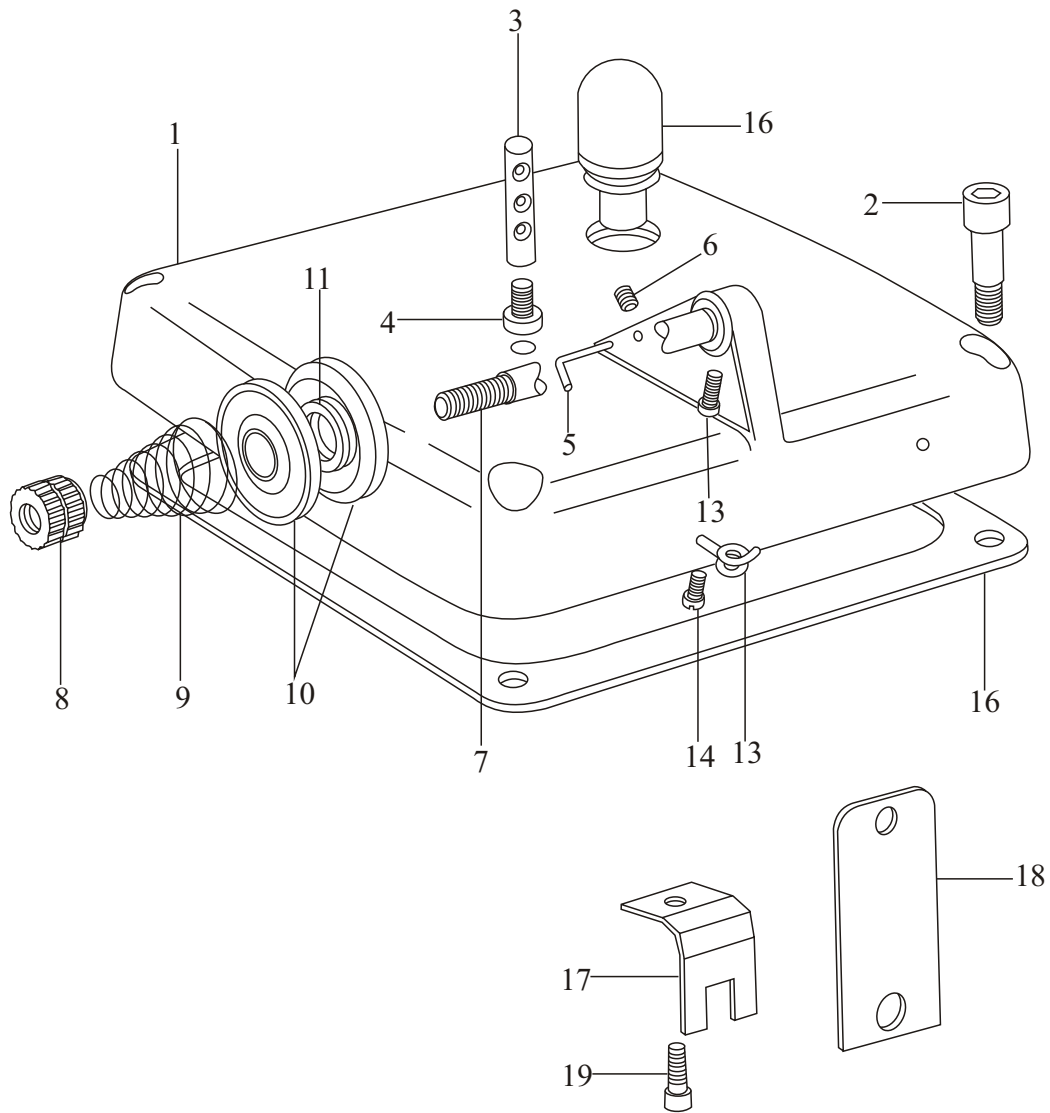


## 6. Oil pump components

No.	Parts No.	Name	Qty	Remarks
1	18WF6-001a2	Oil pump	1	
2		Screw	2	M5×16 GB70-85
3	18WF6-001a3	Piston	1	
4	18WF6-001a4	Spring	1	
5	18WF6-001a5	Filter	1	
6	18WF6-001a6	Screw	1	
7		Washer	1	5 GB97.2-85
8	18WF6-001a7	Spray nozzle	1	
9	18WF6-001a9	Nut	1	
10	18WF6-001a1	Oil separator complete	1	
11	18WF6-003	Oil pump support	1	
12		Screw	2	M6×16 GB70-85
13		Screw	2	M6×8
14	18WF6-004	Oil pipe	1	Plastic 4× 2



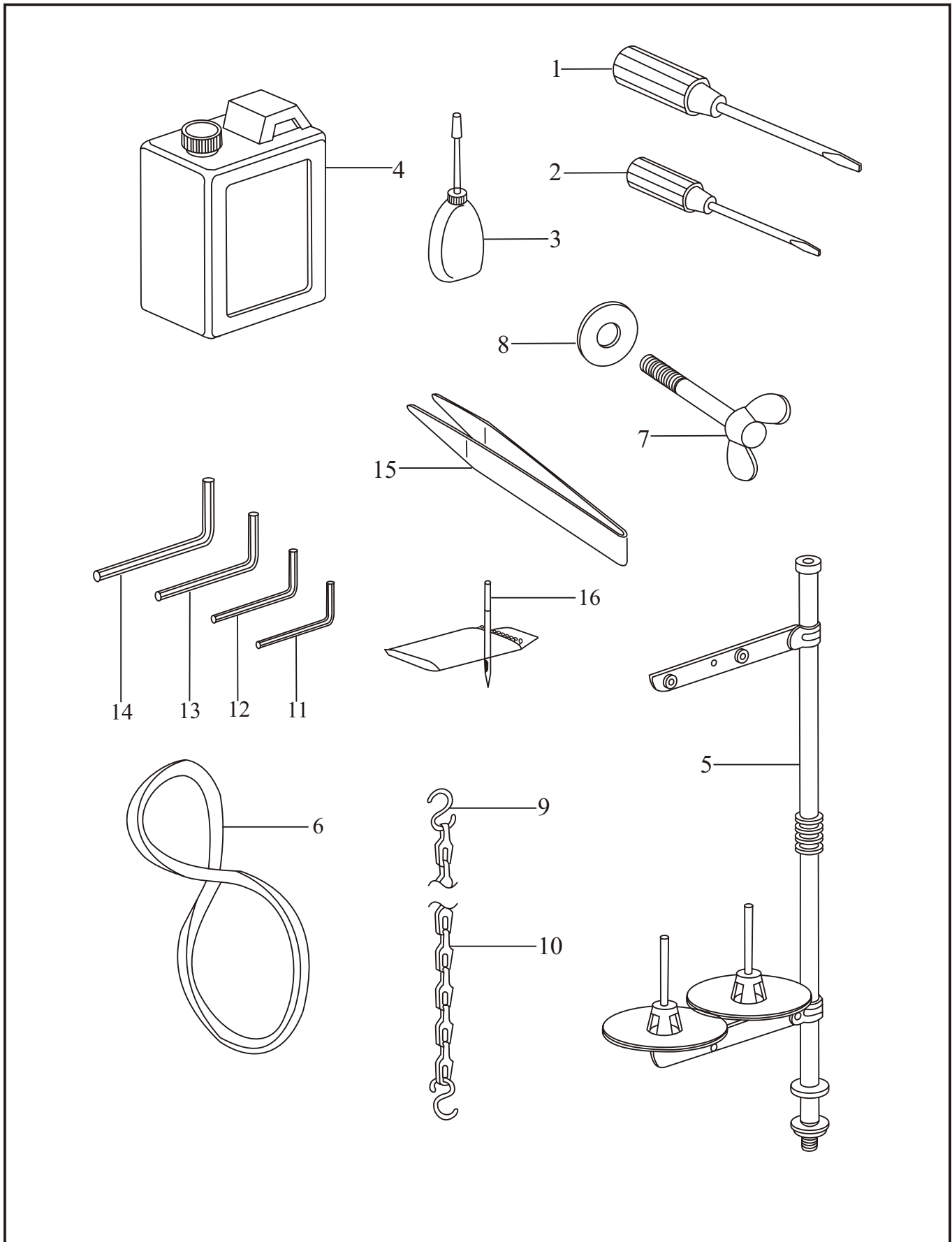
## 7. Upper cover components



## 7. Upper cover components

No.	Parts No.	Name	Qty	Remarks
1	18WF8-001	Arm upper cover	1	
2		Screw	4	M4×25 GB70-85
3	18WF8-002	Thread passing pin	1	
4		Screw	1	M4×10 GB67-85
5	18WF8-003	Thread finger	1	
6	22T7-001	Screw	1	SM11/64" 40
7	18WF8-004	Screw bar	1	
8	18WF8-005	Nut	1	
9	18WF8-006	Spring	1	
10	18WF8-007	Thread tension disc	2	
11	18WF8-008	Thread tension ring	1	
12	16WF2-033	Screw	1	SM11/64" 40
13	18WF8-010	Thread ring	1	
14	22T7-001	Screw	1	SM11/64" 40
15	18WF8-011	Oil screen	1	
16	18WF8-012	Washer	1	
17	18WF8-013	Oil stop plate	1	
18	18WF8-014	Oil stop spacer	1	
19		Screw	1	M6×8 GB70-85

## 8. Accessories



## 8. Accessories

No.	Parts No.	Name	Qty	Remarks
1	33TF-013	Screwdriver (middle)	1	
2	33TF-014	Screwdriver (small)	1	
3	33TF-011	Oil pot	1	
4		250ml oil pot	1	Special for fur machine
5	33TF-019	Thread stand complete	1	
6		V-belt	1	"O" type 1050
7	18WF8-003a1	Wing screw	2	
8		Washer	2	8 GB97.2-85
9	18F-004	"S" hook	1	
10	18F-005a1	Chain	1	
11		Hexagonal wrench	1	S=2.5mm
12	1F-010	Hexagonal wrench	1	S=3mm
13		Hexagonal wrench	1	S=4mm
14		Hexagonal wrench	1	S=5mm
15		5# forceps	1	
16		Needle	1 pack	1567 or DB×1