GLOBAL

LP 2881 series

Postbed machine with stepper motor

Instruction manual & Parts book

Always switch off the electricity when working on the machine.

1. Safety

1.01 Safety symbols

Danger!
Points to be observed

Danger of injury for operating and specialist personnel!

Caution

Do not operate without finger guard and safety devices.
Before threading,changing bobbin and needle, cleaning etcs witch off main switch.

1.02 Important points for the user

- This Instruction Manual is a component of the machine and must be available to the operating personnel at all times.
- The Instruction Manual must be read before operating the machine for the first time.
- The operating and specialist personnel must to be instructed in the safeguards of the machine and safe work methods.
- It is the duty of the user to operate the machine in perfect running order.
- It is the obligation of the user to ensure that none of the safety mechanisms are removed or deactivated.
- It is the obligation of the user to ensure that only authorized persons operate and work on the machine.

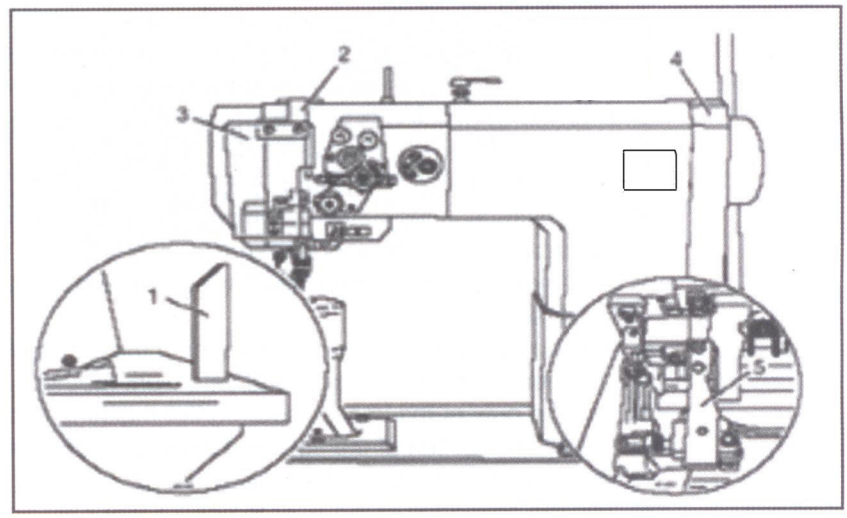
1.03 Danger

A working area of 1 meter is to be kept free both in front of and behind the machine in operation so that the machine is always easily accessible.

Never reach into the sewing area while sewing! Danger of injury by the needle!

Never leave objects on the table while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!

Do not operate the machine without support 1! Danger due to top-heavy sewing head! Machine can tip over backwords when tilted!



Switch the machine off before tilting it backwards!
Danger of injury if the machine is started accidentally!

Do not operate the machine wihout its take-up-lever guard **2**!
Danger of injury due to the motion of the take-up lever!

On machines with thread lubricator, only operate the machine with the eye guard 3 lowered! The eye guard **3** protects the eyes from oil particles from the thread lubrication!

Do not operate the machine without belt guard **4**!
Danger of injury by rotating drive belt!

Do not operate the machine without tilt lock **5**!
Danger of crushing between sewing head and table top!

2 Specifications

Stitch type.....301(lockstitch)
Stitch length
Singl needle.....1.3-7mm
Double needle.....1.3-4.8mm
Clearance under roller presser.....7mm
Clearance width.....245mm
Clearance height.....115mm
Post heighe.....180mm

Sewing head dimensions
length.....approx.615mm
Width.....approx.240mm
Height(above table).....approx.500mm
Bedplate dimensions.....518x177mm

Max.speed
Singl needle.....2500spm
Double needle.....2000spm

Connection data
Operating voltage.....230V±10%, 50/60Hz
Max.power consumption.....1.2KVA

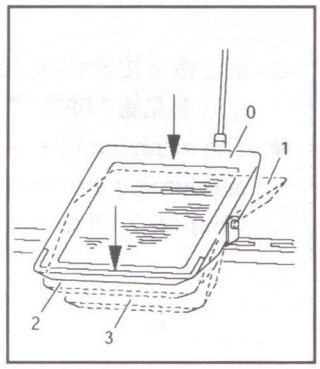
Net weight of sewing head.....approx.61kg
Gross weight of sewing head.....approx.71kg

Subject to alteration

Model
LP 8971
LP 8974

3 Controls

3.01 Pedal



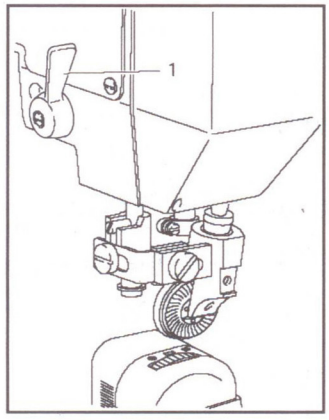
0= Neutral position

1= Sewing

2= Raiser roller presser

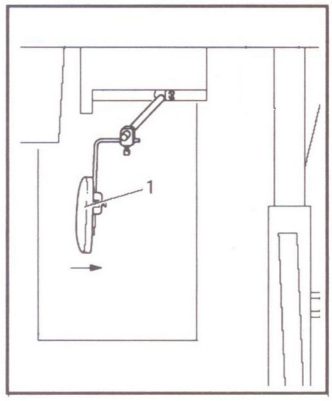
3= Trim sewing threads (on machines with-D..)

3.02 Lever for lifting roller presser



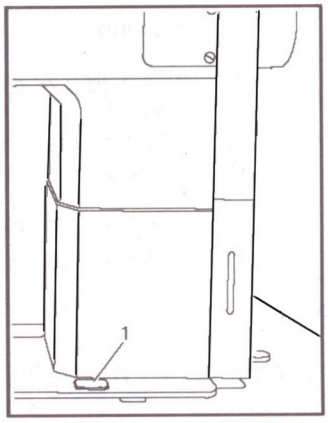
- The roller presser can be raised by turning lever **1**.

3.03 Knee lever



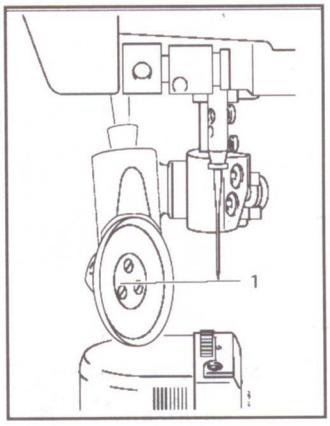
- The roller presser can be raised by pressing the knee lever **1** in the direction of the arrow.

3.04 Key for setting stitch length



- The stitch length is set by pressing key **1** and turning the balance wheel.

3.05 Swing out roller presser



- When the roller presser is raised, it can be swung out by pulling it lightly downwards.

4 Installation and comminssioning

The machine must only be installed and commissioned by qualified personnel!
All relevant safety regulations must be strictly adhered to!

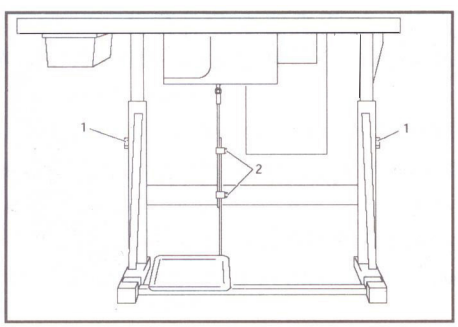
If the machine is delivered without a table, be sure to use a stand and table top that can hold the weight of the machine with its motor.
It is very important to ensure that the stand of the machine is firm and steady, also during sewing.

4.01 Installation

The site where the machine is installed must be provided with suitable connections for electric current.
It must be ensured that the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided for.

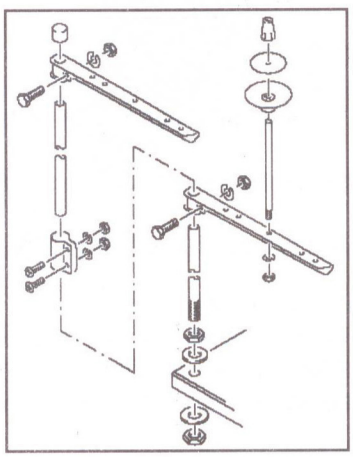
For packing and transportation reasons the table top is in the lowered position. The table height is adjusted as described below.

Adusting the table height



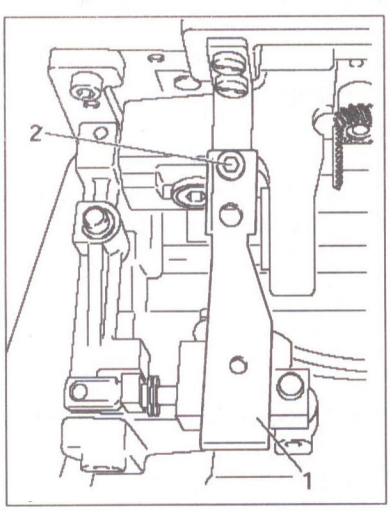
- Loosen screws **1** and **2** and set the table height as required.
- Firmly tighten screw **1**.
- Set the required pedal position and tighten screw **2**.

4.02 Fitting the reel stand



- Fit the reel stand as shown in Fig.
- Afterwards insert the stand in the hole of the table top and secure it with the nuts provided.

4.02.01 Fitting the tilt lock



Maschine ausschalten!
Verletzungsgefahr durch unbeasichtigtes Anlaufen der Maschine!

- Die im zubehor befindliche kippsicherung1 mit schraube 2 anschrauben.

Maschine nicht ohne kippsicherung 1 betreiben! Sicherung 1 betreilben!
Quetschgefahr zwischen oberteil und tischplatte!

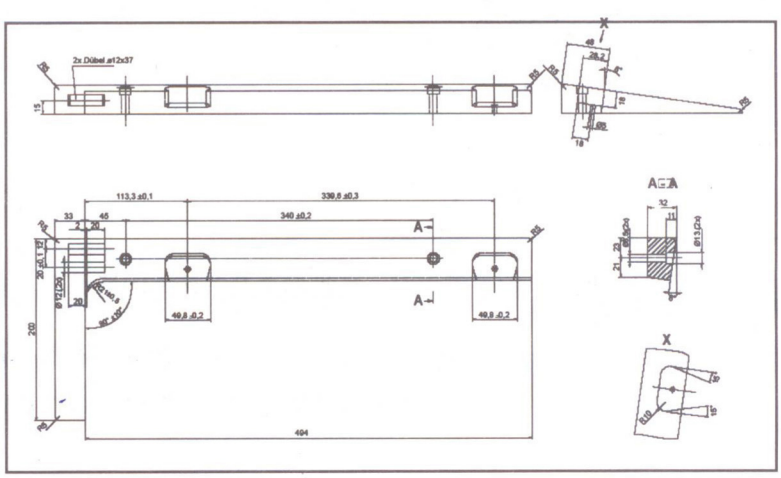
4.03 Commissioning

- Check the machine, particularly the electrical wiring for any damage.
- Clean the machine thoroughly and then oil it or fill oil in .
- Have a mechanic check whether the motor of the machine can be operated with the available power supply, and that the motor is correctly connected in the junction box. If there are any discrepancies. the machine **must not be operated under any circumstances**.

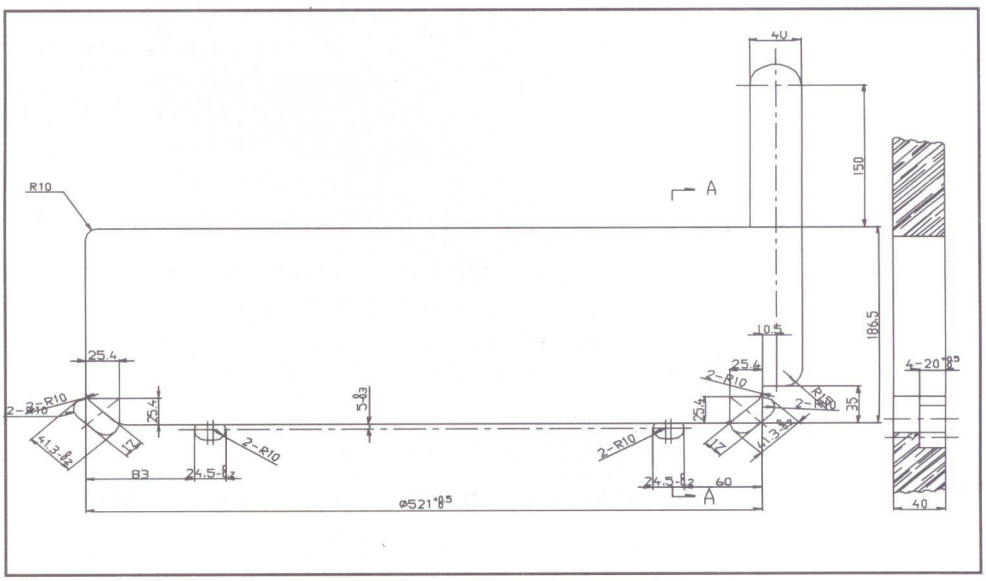
The machine only be connected to an earthed socket!

- When the machine is running, the balance wheel must turn towards the operator. If it does not, the motor connection must be changed by a mechanic.
- Machines with pneumatic equipment must be connected to the compressed air supply. The pressure gauge should indicate a pressure of 6 bar. If necessary, adjust to the correct setting (see **Chapter** 6. 01 **Checking adjusting the air pressure**).

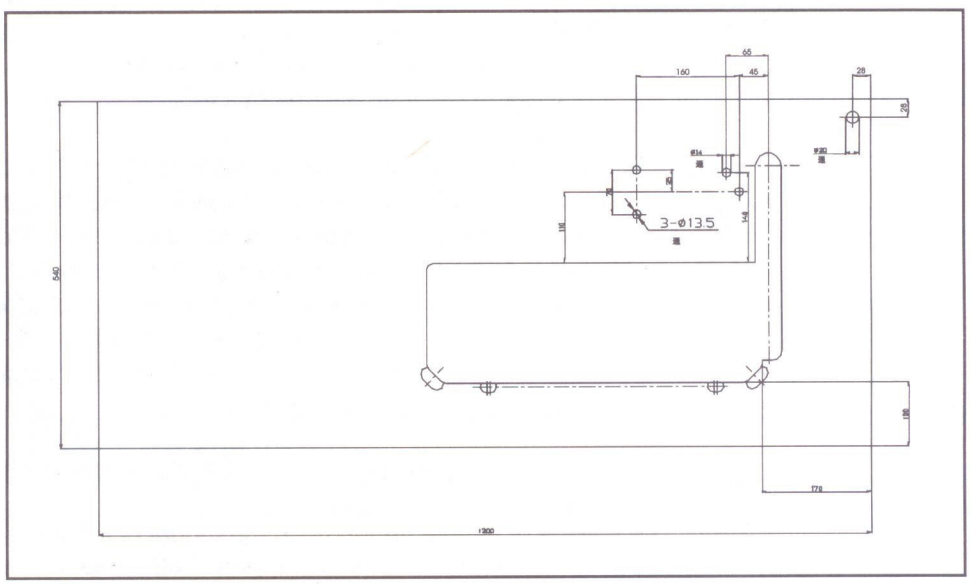
4.04 Tilted work base



4.05 Tilted work base



4.06 Mounting the table top



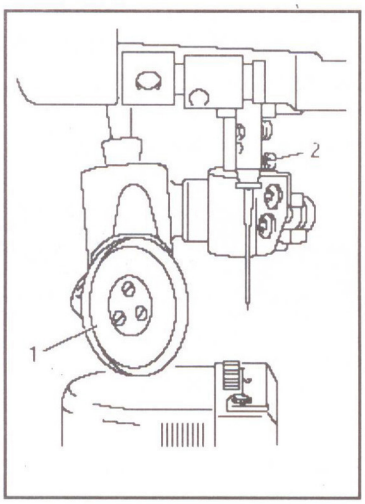
5 Preparation

All instructions and regulations in this Instrution Manual must be observed .
Special attention must be paid to all safety regulations!

All setting-up work must only be carried out by personnel with the approp-riate training. For all setting-up work the machine must be disconnected from its power supply by turning off the on/off switch, or removing the plug from the electric power socket.

5. 01 Inserting needle on model

Switch the machine off! Danger of injury if the machine is started accidentally!



Only use needles of system **134**

- Raise the roller presser **1** and swing it out
- Loosen screw **2** and insert the needles . as far as possible. The long groove must face to the left on model LP 8971
- Tighten screw **2** and swing roller presser **1** back to position.

The Choice of needle depends on the model of the machine and the thread and material used 。

5.02 Winding the bobbin thread; adjusting the primary thread tension

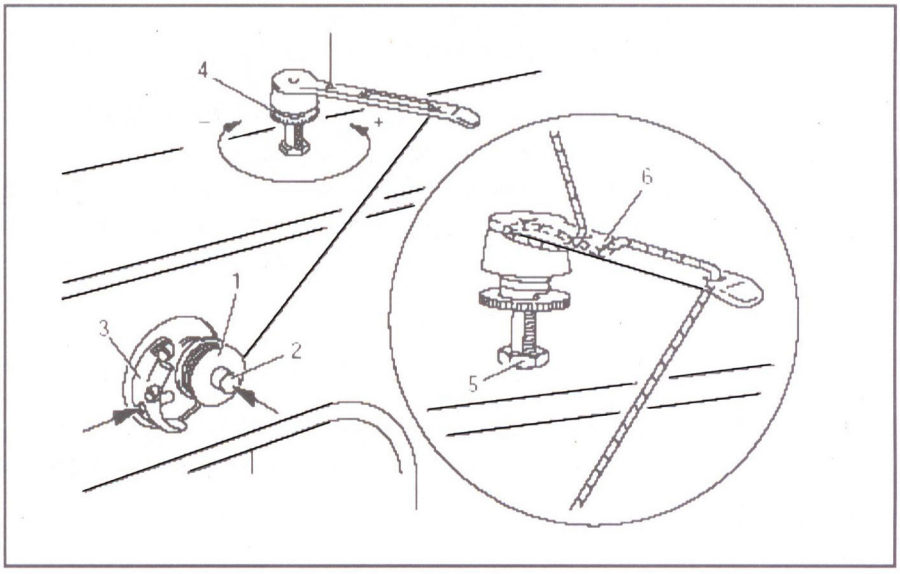
- Place an empty bobbin **1** into bobbin winder spindle **2**.
- Thread the bobbin as shown in **Fig.** And wind it clockwise around bobbin **1** a few times
- Switch on the bobbin winder while pressing bobbin winder spindle **2** and lever **3**.

The bobbin is filled up during sewing.

- The thread tension of bobbin **1** can be adjusted by knurled screw **4**.
- The bobbin winder stops automatically when bobbin **1** is full.

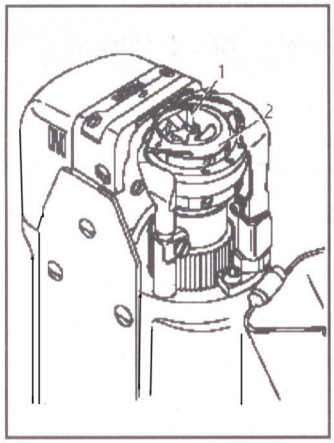
If the thread is wound unevenly:

- Loosen nut **5.**
- Turn thread guide **6** accordingly.
- Tighten nut **5.**



5.03 Removing/Inserting the bobbin case

Switch the machine off! Danger of injury if the machine is started accidentally!



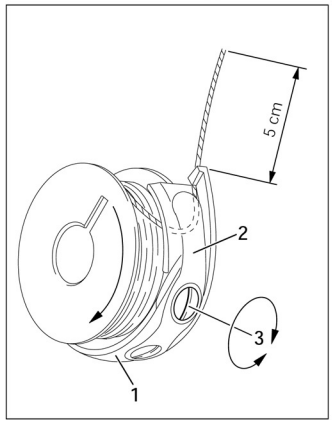
Removing the bobbin case:

- Open the post cap.
- Raise latch **1** and remove bobbin case **2**.

Inserting bobbin case:

- Insert bobbin case **2**.
- Close the latch and close the post

5.04 Threading the bobbin case/Adjusting the bobbin thread tension



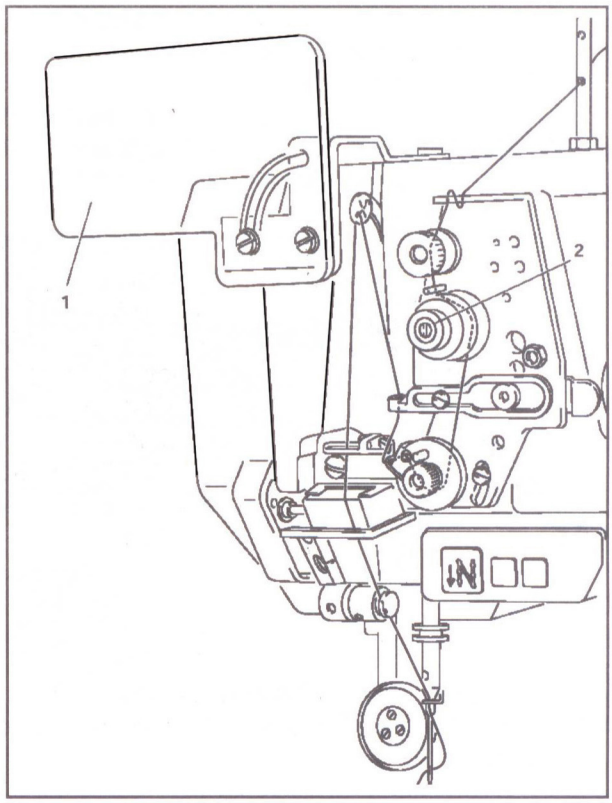
- Insert the bobbin into the bobbin case **1**.
- Pass the thread through the slot under spring **2**.
- Pass the thread through the notch.
- Adjust the thread tension by turning screw **3**.

When the thread is pulled, the bobbin must rotate in the direction of the arrow.

5.05 Threading the needle thread and regulating its tension on model LP 8971

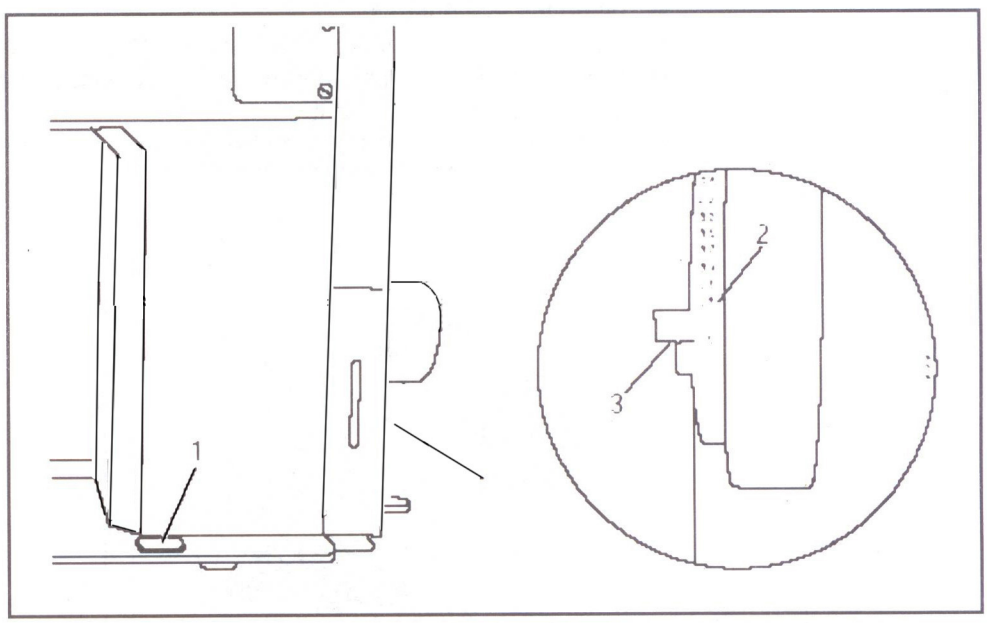
Switch the machine off!
Danger of injury if the machine is started accidentally!

- Tilt up the eye guard **1**.
- Thread the needle thread as shown in **Fig.**
- Adjust the needle thread tension by turning milled screw **2**.



5.06 Setting the stitch length

- Press key **1** and at the same time turn the balance wheel until the stitch setter clicks into position.
- Hold down key **1** and turn the balance wheel to and fro until the stitch lengthrequired is shown on the scale **2** opposite the bottom edge **3** of the belt guard recess.

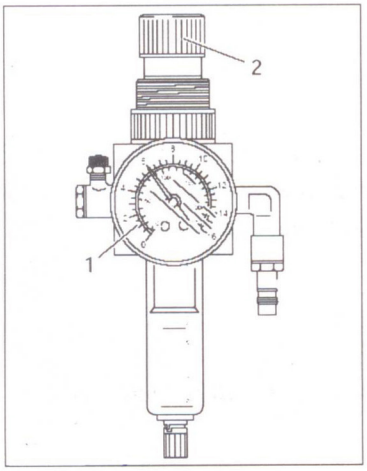


6 Care and Maintenance

Clean	daily, more frequently if in continuous operation
Oil level (thread lubrication/hook lubrication)	daily, before use
Oil the hook	daily, before use
Lubricate the bevel gears	once a year
Check/adjust air pressure	daily, before use
Clean air filter of air filter/lubricator	when required

These maintenance intervals are caculated for the average running time of a single shift operation. If the machine is operated more than this, shorter intervals are recommended.

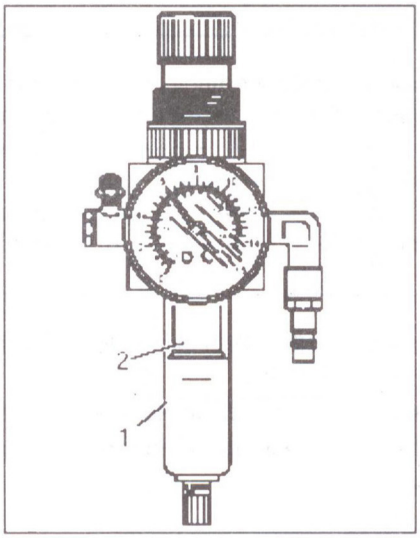
6.01 Checking ladjnsting the air pressure (on the pneumatic machine)



- Before operating the machine, always check the air presure on gauge **1**.
- Gauge **1** must show a pressure of **6 bar**.
- If necessary adjust to this reading.
- To do so, pull knob **2** upwards and turn it so that the gauge shows a pressure of **6 bar**.

6.02 Clean the air filter of the air-filter/lubricator
(on the pneumatic machine)

Switch the machine off!
Disconnect the air hose at the air-filter/lubricator.



Draining water bowl **1:**

- Water bowl **1** drains itself automatically when the compressed-air hose is disconnected from the air-filter/lubricator.

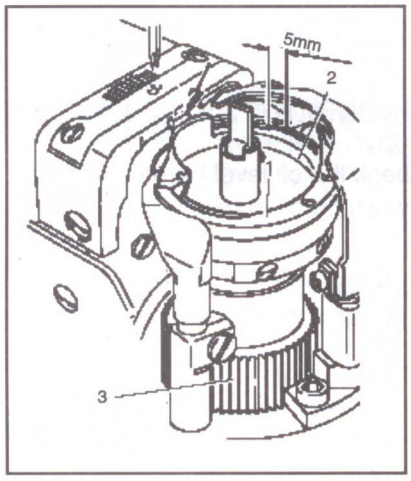
Cleaning filter **2**:

- Unscrew water bowl **1**.
- Take out filter **2**.
- Clean filter **2** with compressed air or isopropyl alcohol.
- Screw in filter **2** and screw on water bowl **1**.

6.03 Cleaning

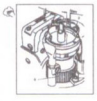
Clean the hook, hook compartment and toothed wheel **3** every day, several times if in continuous use

Switch the machine off!
Danger of injury if the machine is started accidentally!

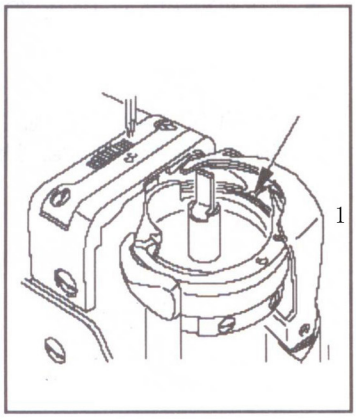


- Bring the needle bar to its highest position.
- Open the post cap and remove the bobbin case cap and the bobbin.
- Unscrew hook gib **1**.
- Turn the hand wheel until the point of bobbin case **2** penetrates into the groove of the hook race approx. **5mm**.
- Remove bobbin case **2**.
- Clean th hook race with paraffin.
- When inserting the bobbin case **2**, ensure that the horn of the bobbin case **2** engages in the groove of the needle plate.
- Screw hook gib **1** back on and close the post cap.

6.04 Oiling the hook

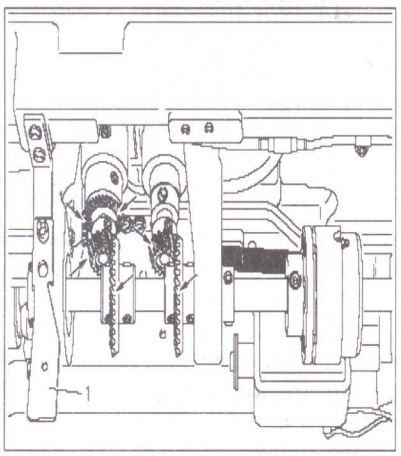


Switch the machine off!
Danger of injury if the machine is started accidentally!



- Pour **1-2 drops** of oil into hole **1** of the hook gib daily.
- Before commissioning the machine, and after long periods out of operation, pour a few drops of oil into the hook race (see arrow).

6.05 Oil bowl for hook lubrication



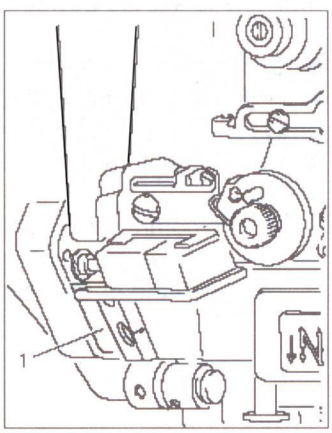
⚠ Check the oil level before each use. There must always be oil in reservoir **1**.

If required refill oil through hole.

⚠ Use only oil with a mean viscosity of 22.0mm²/s at 40℃ and a density of 0.865g/cm3 at 15℃.

6.06 Filling the oil reservoir of the thread lubrication unit

⚠ Control the oil level before each use.
There must always be oil in the reservoir **1.**



- If necessary, fill oil up to mark through hole

We recommend thread lubricatiing oil .

6.07 Lubricating the bevel gears

Switch the machine off!
Danger of injury if the machine is started accidentally!

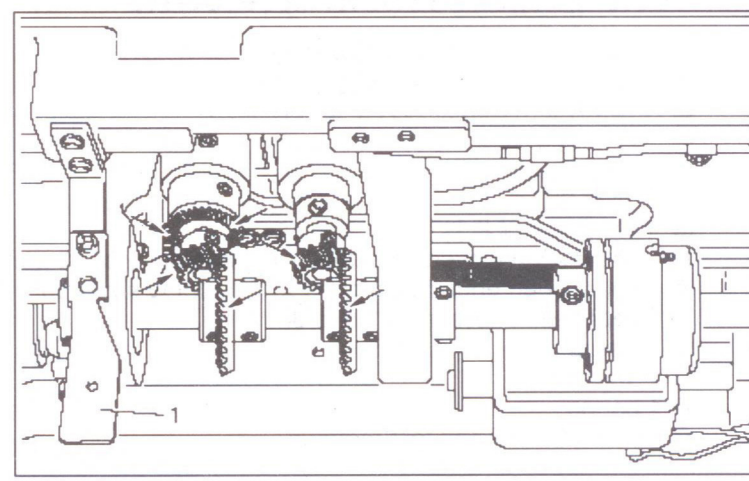
- All bevel gears must be supplied with new grease once a year.
- Tilt the sewing head back onto the support.

Fig. shows the bevel gears of the

- Apply grease to all the tooth flanks and the rack (see arrows).
- To set the sewing head upright, press tilt lock **1** backwards and set the sewing head upright using both hands.

Use both hands to set the sewing head upright!
Danger of crushing between the sewing head and the table top!

We recommend sodium grease with a dripping point of approx.150C.



7 Adjustment

Unless stated otherwise, during all adjustment work the machine must be disconnected from electric and pneumatic power supply!
Danger of injury if the machine is started accidentally!

7.01 Notes on adjustment

- All following adjustment are based on a fully assembled machine and may only be carried out by expert staff trainned for this purpose.
- Machine covers, which have to be removed and replaced to carry out checks and adjustments, are not mentioned in the text.
- The order of the following chapters corresponds to the most logical work sequence for machines which have to be completely adjusted. If only specific individual work steps are carried out, both the preceding and following chapters must be observed.
- Screws, nuts indicated in brackets ( ) are fastenings for machine parts, which must be loosened before adjustment and tightened again afterwards.

7.02 Tools, guages and other accessories

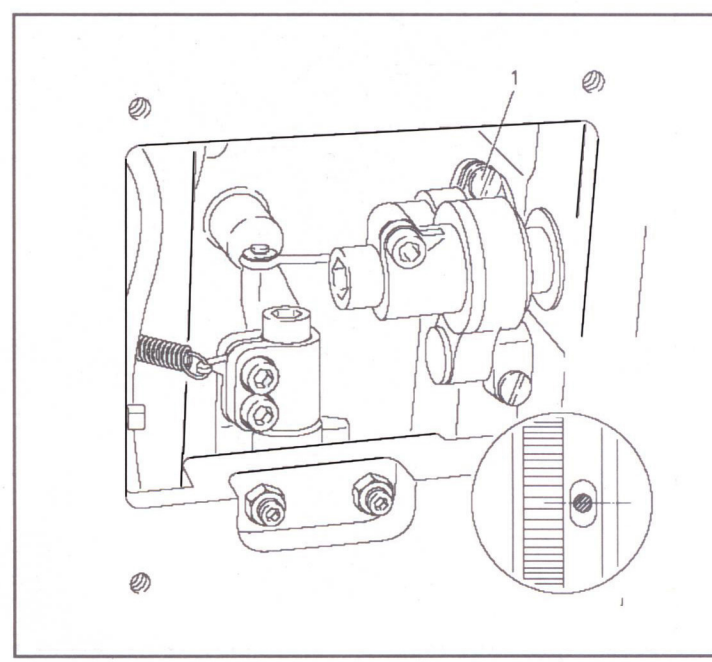
- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of open ended wrenches with opening sizes from 7 to 13 mm
- 1 set of allen keys from 1.5 to 6mm
- 1 clamp
- 1 metal ruler
- 1 gauge
- Sewing thread and test material

7.03 Adjusting the basic machine

7.03.01 Needle position in sewing direction on the LP 8971

Requirement
With the stitch length set at its minimum, the needle should be positioned in the centre of the needle hole, as seen in the direction of sewing.

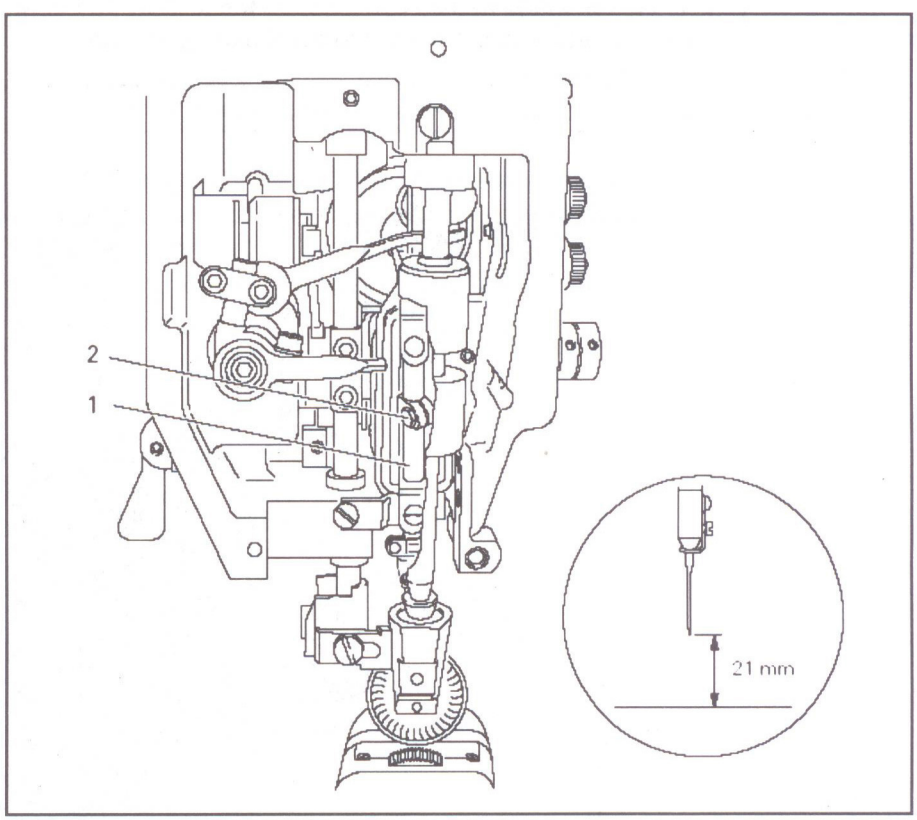
- Set the minimum stitch length.
- Adjust needle bar (screw **1**) according to the **Requirement**.



7.03.02 Prelininary adjustment of the needle height

Requirement
When the needle bar is at top dead centre, there must be a clearance of approx. 21mm between the needle point and the needle plate.

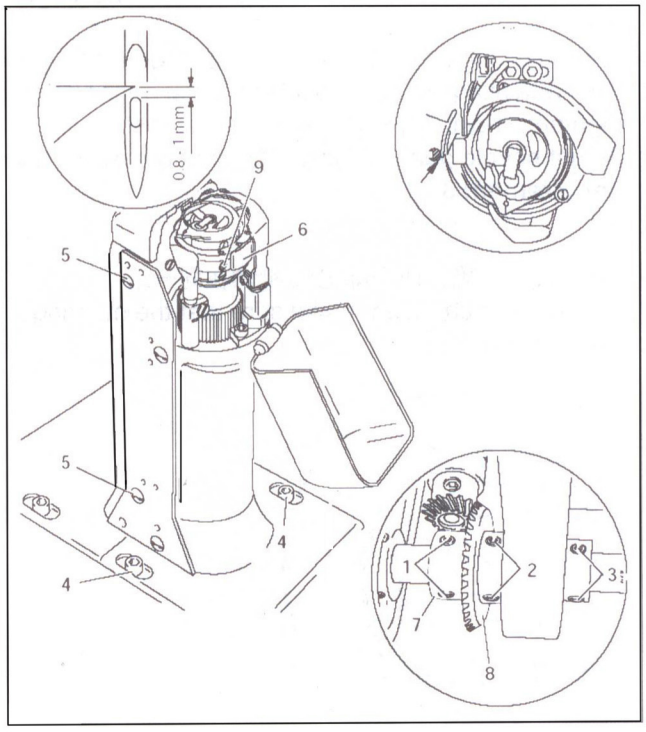
- Adjust needle bar **1** (screw **2**). Without turning it, according to the **Requirement**.



7.03.03 Needle rise, hook clearance, needle height and needle guard on the LP 8971

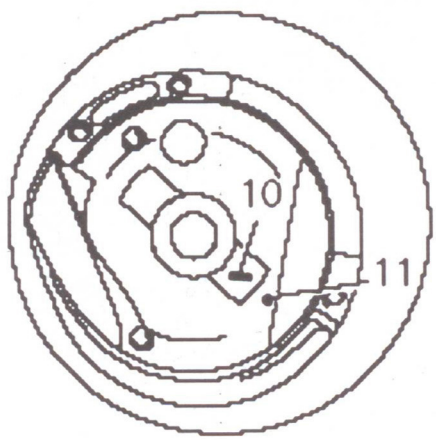
Requirement
With the needle bar positioned **2.0mm** after bottom dead centre and the stitch length set at **"0.8"** :

1. the hook point must be at needle centre with a hook-to-needle clearance of **0.05** to **0.1mm**.
2. the top of the needle eye must be **0.8** to **1.0 mm** below the hook point.
3. The needle guard **6** must touch the needle lightly.



- Loosen screw **1**, **2**, **3**, **4** and **5**.
- Bring needle bar to **2.0 mm** past bottom dead centre.
- Set hook point at needle centre, making sure that the needle is not deflected by needle guard **6**.
- Adjust needle height according to **Requirement 2**.
- Adjust hook post according to **Requirement 1** and tighten screw **4**.
- Making sure that there is some play in the bevel gear, tighten screws **2**.
- With retaining collar **7** tourching bevel gear **8** tighten screws **1**.
- Adjust needle guard **6** (screw **9**) according to **Requirement 3**.

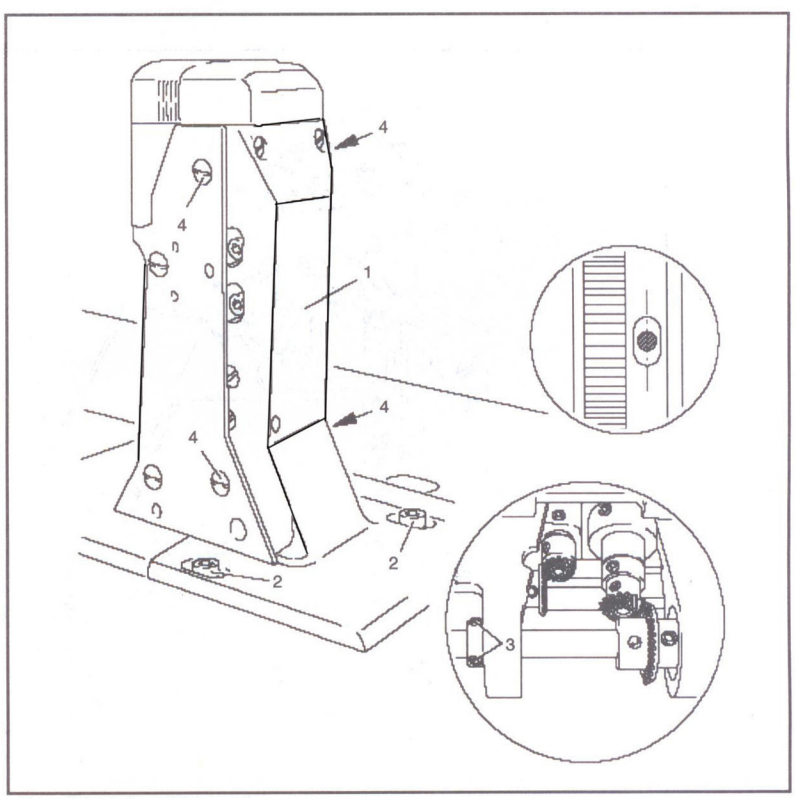
When the hook is changed, make sure that the markings **10** and **11** are both on one side.



7.03.04 Needle position crosswise to sewing direnction on the LP 8971

Requirement
As seen crosswise to the sewing direction, the needle must penetrate in the centre of the needle hole.

- Adjust feed wheel post **1** (screws **2, 3** and **4**) according to the **Requirement.**

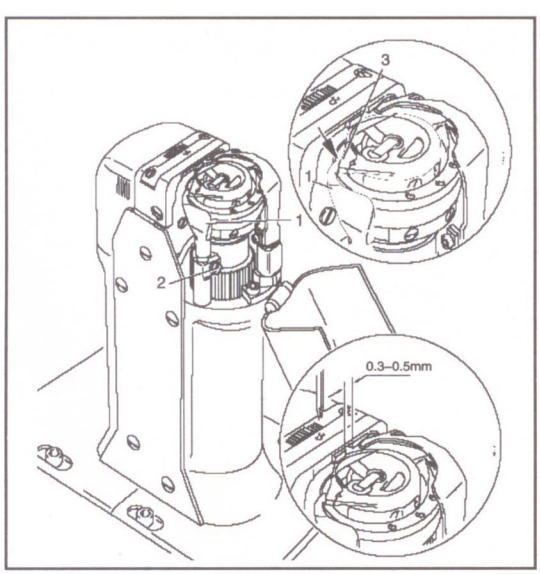


7.03.05 Height and stroke of the bobbin case opener

Requirement

1. The top edges of the bobbin case opener **1** and bobbin case **3** should be on one level.
2. when the bobbin case opener **1** has deflected the bobbin case to its furthest point, the catch of the bobbin case should be from **0.3** to **0.5** mm from the back edge of the needle plate recess.

- Adjust bobbin case opener **1** (screw **2**) in accordance with **Requirement 1**.
- Turn the balance wheel until the bobbin case opener has deflected the bobbin case to its furthest point.
- Adjust bobbin case opener **1** (screw **2**) in accordance with **Requirement 2**.



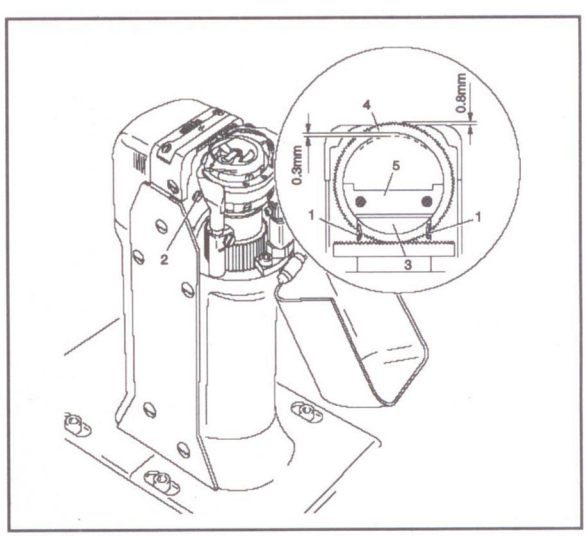
On the LP 8974 these adjustments must be repeated on the right post.
Depending on the thread size, a variation of the setting in Requirement **2** is permitted.

7.03.06 Height of the feed wheel on the LP 8974

Requirement

1. when pressure is applied to the feed wheel **4**, it should protrude from the needle plate by tooth height (approx. **0.8 mm**).
2. when no pressure is applied to the feed wheel **4**, it should have a vertical play of approx. **0.3 mm**.

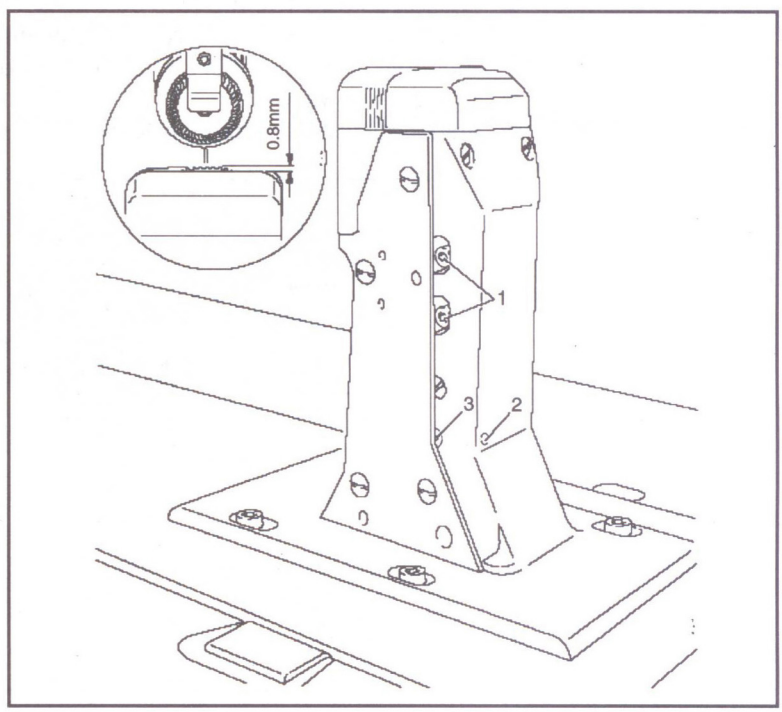
- Swing out the roller presser
- Loosen screws **1** and **2** (two screws each).
- Adjust drive wheel **3** according to **Requirement 1**, taking care to see that the teeth of drive wheel **3** and feed wheel **4** lock into each other properly.
- Tighten screws **1**.
- Adjust guide **5** according to **Requirement 2** and tighten screws **2**.



7.03.07 Height of the feed wheel on the

Requirement
Feed wheel should protrude from the needle plate by tooth height (appro. **0.8 mm**).

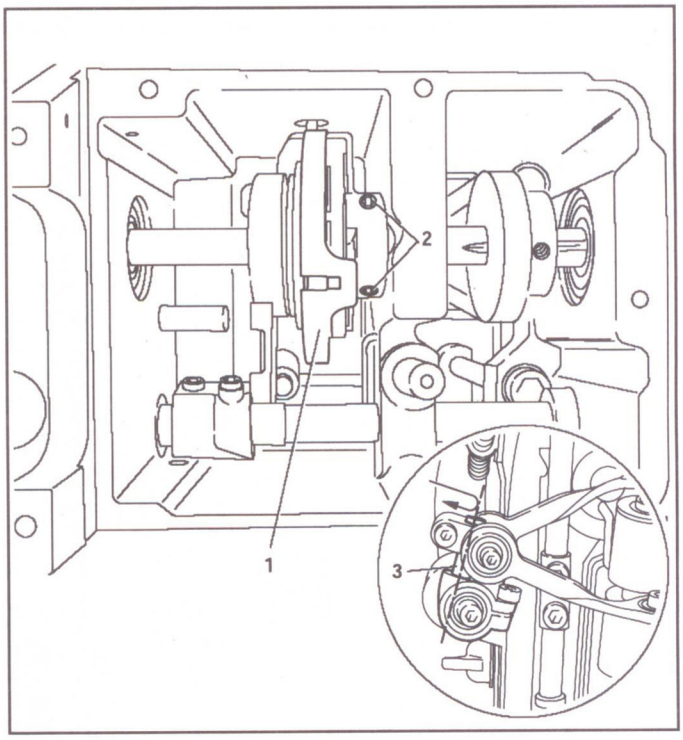
- Swing out the roller presser
- Loosen screws 1.
- Adjust eccentric 3 (fastening screw accessible through hole 2)according.
- Tighten screws 1.



7.03.08 Stitch length control eccentric

Requirement
When the needle (with maximum stitch length set), coming from top dead centre, is **3 mm** above the needle plate, the crank **3** must have reached its front point of reversal.

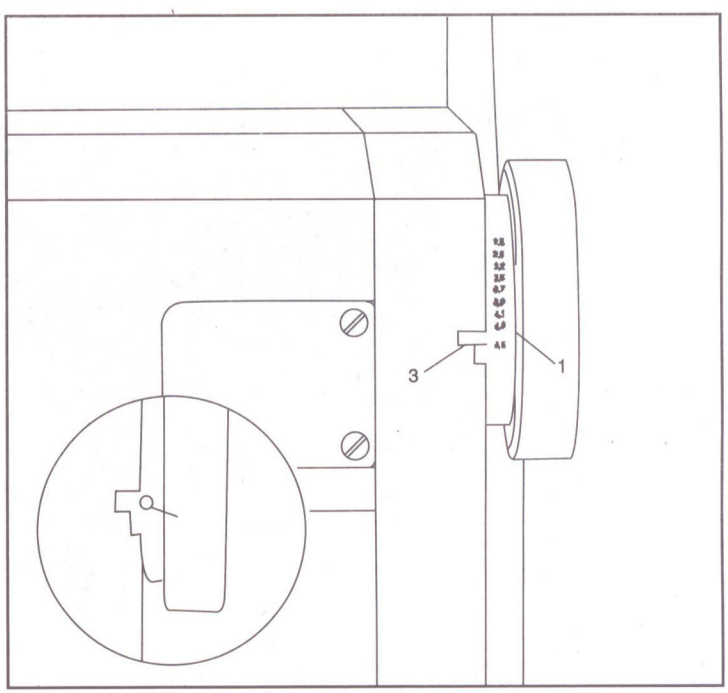
- Set the maximum stitch length.
- Turn stitch length control device **1** (screws **2**) according to **Requirement**.



7.03.09 Stitch length scale disk

Requirement
When the stitch length control device is locked in position, and the maximum stitch length is set, the marking line of the highest number on the scale disk **1** must be opposite the lower edge **3** of the belt guard recess.

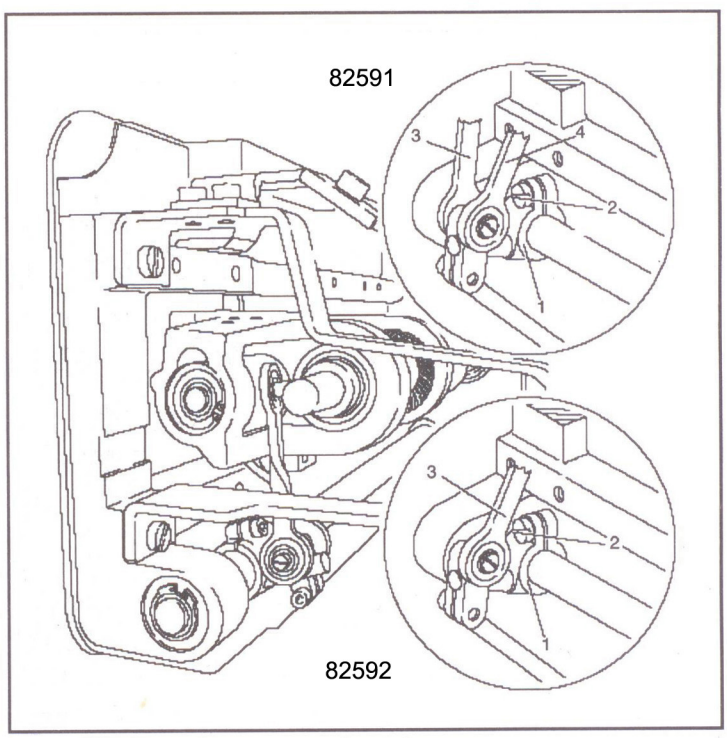
- Set the maximum stitch length.
- Turn the scale disk **1** according to the **Requirement**.



7.03.10 Shaft crank to feed wheel drive

Requirement
When the maximum length is set, the linkage rod **3**, or lingkage rods **3** and **4** on the model LP 8971 must be able to move freely when the balance wheel is turned.

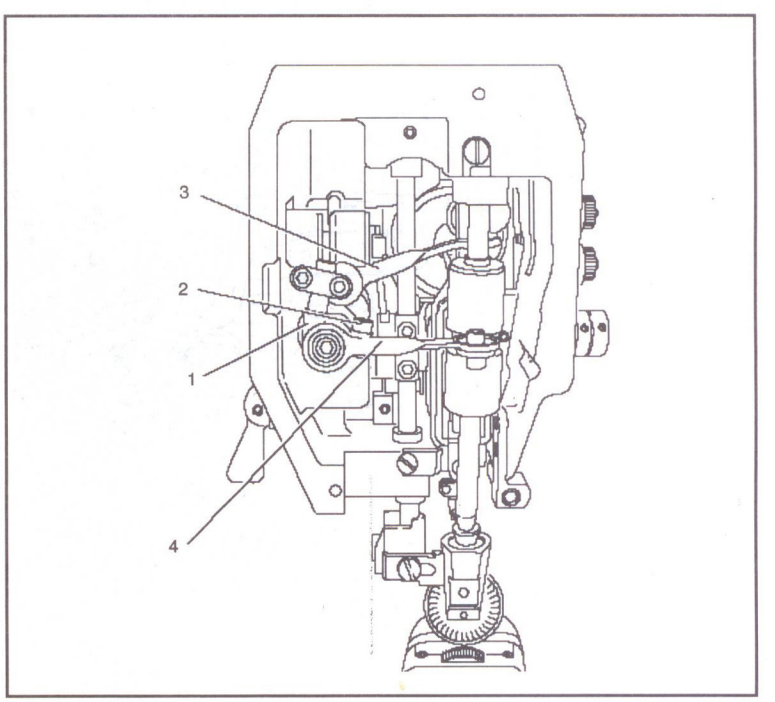
- Set the maximum stitch length.
- Twist or shift the shaft crank **1** (screw **2**) according to the **Requirement**.



7.03.11 Shaft crank to roller presser drive

Requirement
When the maximum stitch length is set, the linkage rods **3** and **4** must be able to move freely at their left and right point of reversal when the balance wheel is turned.

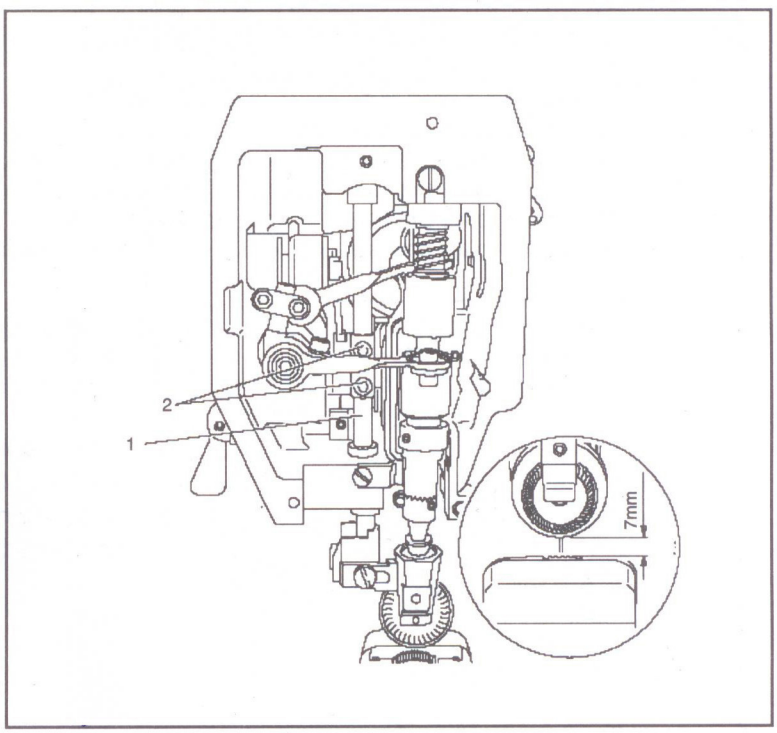
- Set the maximum stitch length
- Twist or shift the shaft crank **1** (screw **2**) according to the **Requirement**.



7.03.12 Clearance between roller presser and feed wheel

Requirement
When the presser bar lifter is raised, the clearance between the roller presser and the feed wheel must be **7 mm**.

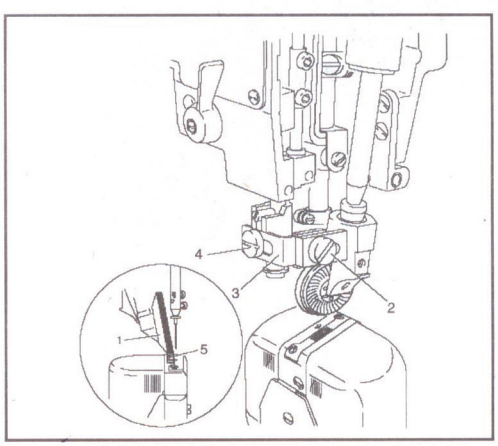
- Raise the presser bar lifter.
- Adjust the presser bar **1** (screws **2**) according to the **Requirement**. Make sure that the roller presser is parallel to the feed wheel.



7.03.13 Roller presser

Requirement
When the roller presser **1** is touching the feed wheel **5** it must:
1. be parallel to feed wheel **5**, as seen in the direction of sewing.
2. be in the centre of the needle (on model 8974 the left needle), as seen in the direnction of sewing.
3. be as near as possible to the needle (on model 8974 the left needle), as seen crosswise to the direction of sewing.

- Raise the roller presser.
- Always observe **Requirement 1** for subsequent adjustments.
- Adjust roller presser **1** (screw **2**) according to **Requirement 2**.
- Lower roller presser **1** to rest on feed wheel **5**.
- Adjust roller presser bracket **3** (screw **4**) according to **Requirement 3**.



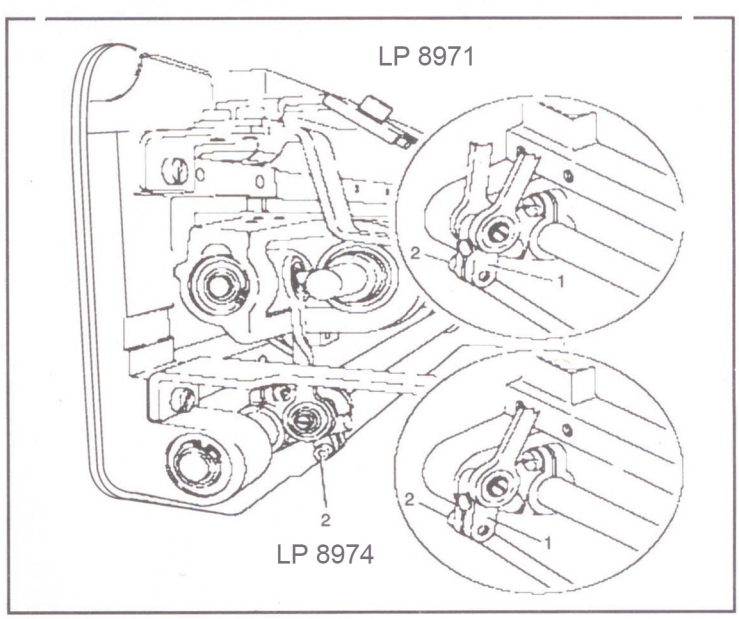
When sewing very tight curves, the roller presser 1 must be moved a little towards the operator.

7.03.14 Stitch length on stitch length scale

Requirement
When the stitch length is set at "3", and after the needle has entered a strip of leather **11 times**, the total length from the first to last needle penetration must be **30 mm**.

- Set stitch length "3".
- By turning the balance wheel, let the needle enter **11 times** and measure the total length.
- Adjust clamp **1** (screw **2**) according to the **Requirement**.

Clamp **1** must not be positioned diagonally to the rock shaft!

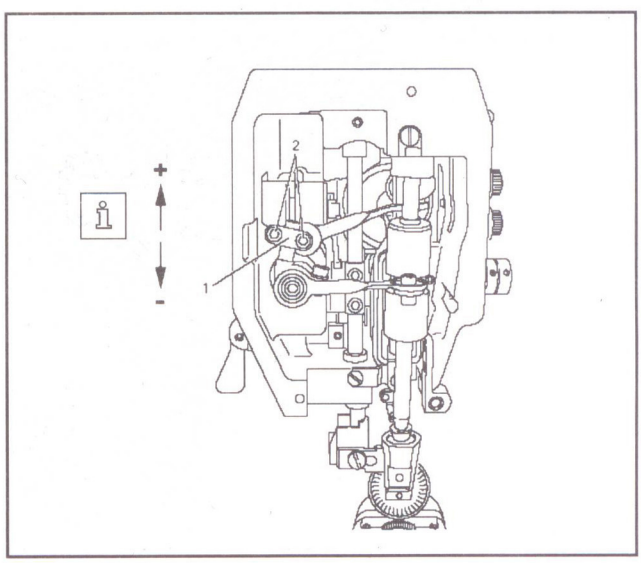


7.03.15 Synchronization of roller presser and feed wheel

Requirement
After **30 needle penetrations** in a strip of leather the total length from the first the the last penetration should be the same, both in the lower and the upper leather layer.

- Set stitch length "3".
- By turning the balance wheel, let the needle enter **30 times**.
- Compare the total sewn length of the lower and upper leather layer.
- Adjust clamp **1** (screw **2**) according to the **Requirement**.

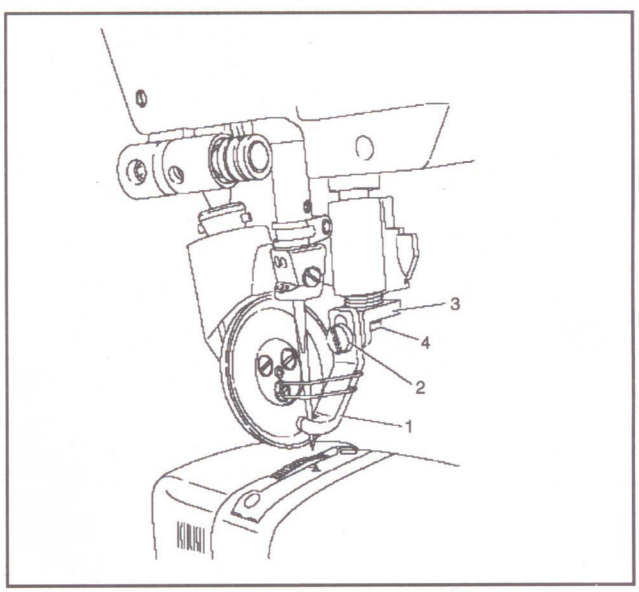
Clamp **1** must not be positioned diagonally to the rock shaft.



7.03.16 Retainer(only on 8974)

Requiement
The retainer **1** must:
1. be as close as possible to the needle, as seen in the direction of sewing .
2. be in the centre of the needle, as seen crosswise to the direction of sewing.
3. when the roller presser is lowered, the distance between the retainer 1 and the workpiece must be **0.2-0.3 mm**.

- Adjust retainer **1** (screw **2**) according to **Requirement 3**.
- Adjust bracket **3** (screw **4**) according to **Requirenment 1 and 2.**

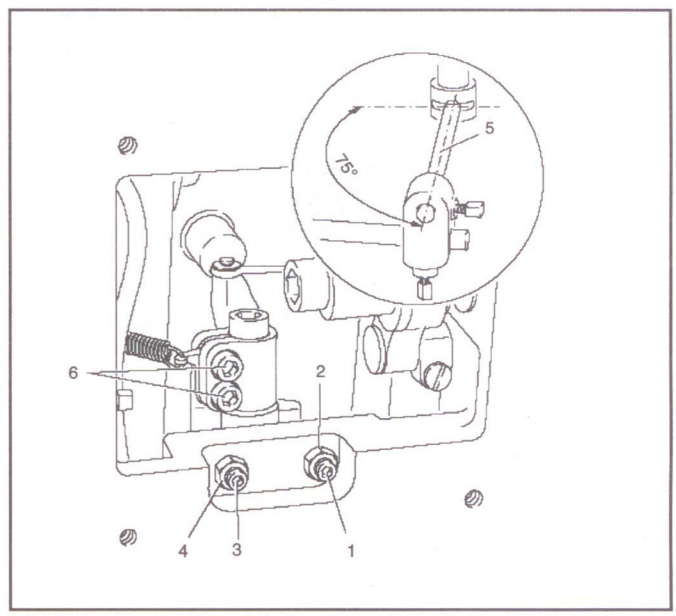


7.03.17 Knee lever

Requirement

1. before the roller presser rises, the knee lever must still have a slight play.
2. when the knee lever is raised as far as possible, the lever for the roller presser must drop automatically.
3. knee lever bar **5** must be at an angle of approx. **75°** to the bedplate.

- Adjust screw **1** (nut **2**) according to **Requirement 3**.
- Adjust screw **3** (nut **4**) according to **Requirement 2**.
- Set bar **5** (screws **6**) according to **Requirement 3**.

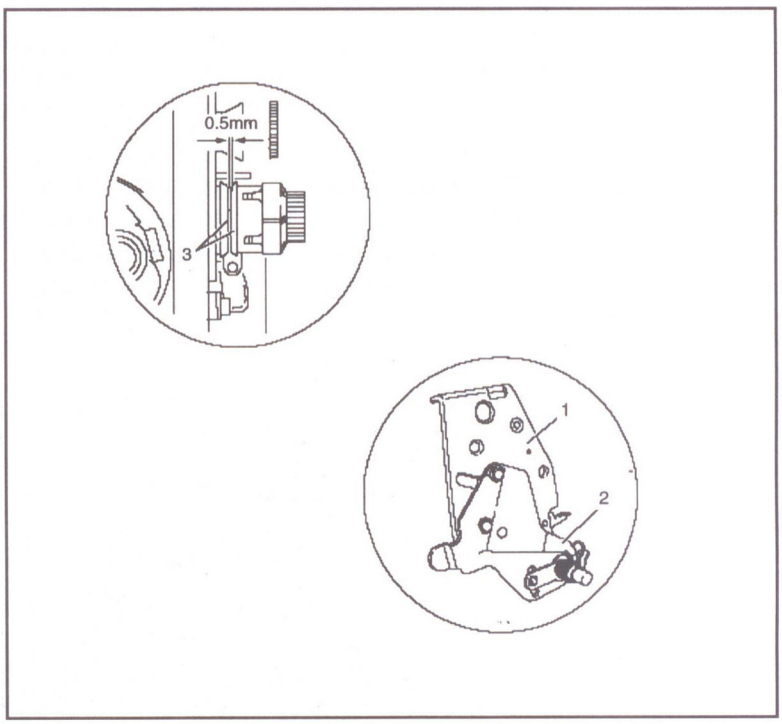


7.03.18 Needle thread tension release

Requirement

1. when the presser bar lifter is raised, the tension discs **3** should be pressed at least **0.5 mm** apart.
2. When the roller presser is lowered, the tension must be fully effective.

- Align tension mounting plate **1** and pressure plate **2** according to **Reqirement**.



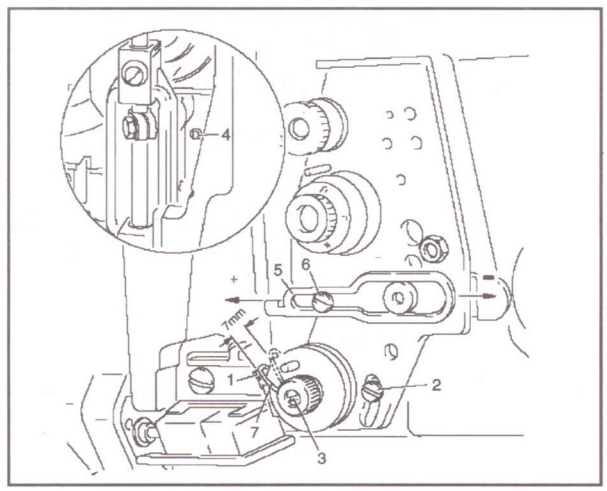
7.03.19 Thread check spring

Requirement

1. the movement of thread check spring **7** should be completed when the needle point penetrate the fabric (spring stroke approx. **7 mm**).
2. when the largest thread loop is formed while the thread is passed around the hook, the thread check spring **7** should rise slightly from its support.

- Adjust support **1** (screw **2**) according to **Requirement 1**.
- Adjust the spring tension by turning screw **3** (screw **4**).
- Adjust the thread regulator **5** (screw **6**) accord ing to **Requirement 2**.

For technical reasons it may be necessary to deviate from the specified spring stroke or spring tension.Move the thread regulator **5** (screw **6**) towards "+" (= more thread) or "–" (= less thread).

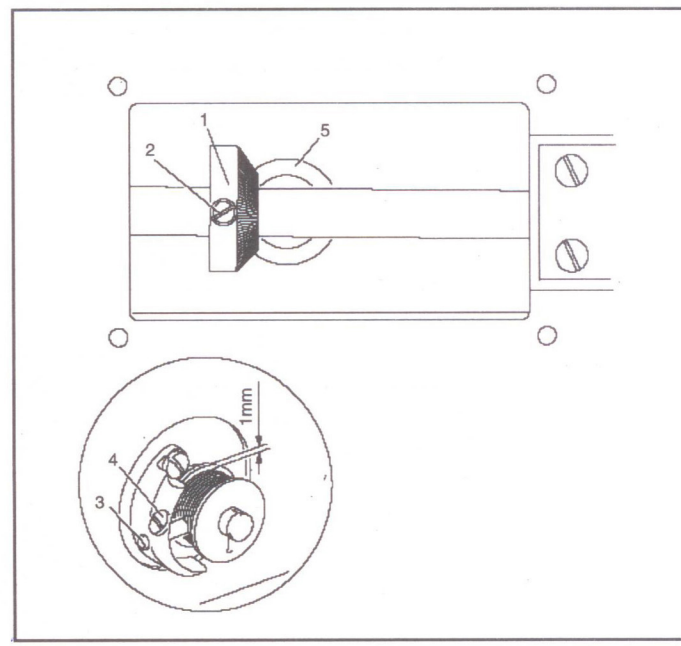


7.03.20 Bobbin winder

Requirement

1. when the bobbin winder is engaged, the winding spindle must be driven relilably. When the bobbin winder is disengaged, the friction wheel **5** must not be moved by drive wheel **1**.
2. the bobbin winder must switch itself off, when the filled thread is about **1 mm** from the edge of the bobbin.

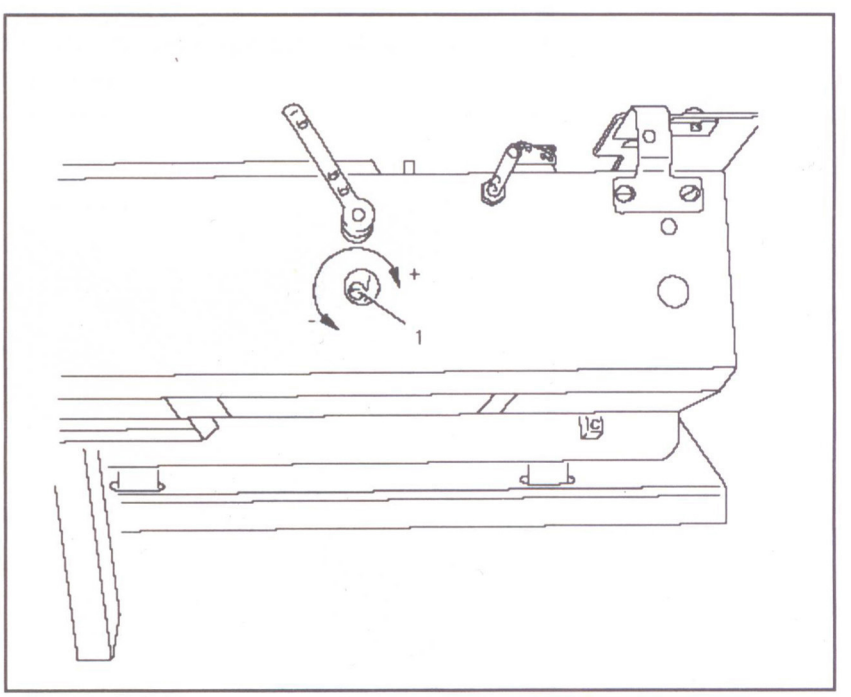
- Position drive wheel **1** (screws **2**) according to **Requirement 1**.
- Position bolt **3** (screw **4**) according to **Requirement 2**.



7.03.21 Pressure of roller presser

Requirement
The material must be fed smoothly. No pressure marks should be visible on the material.

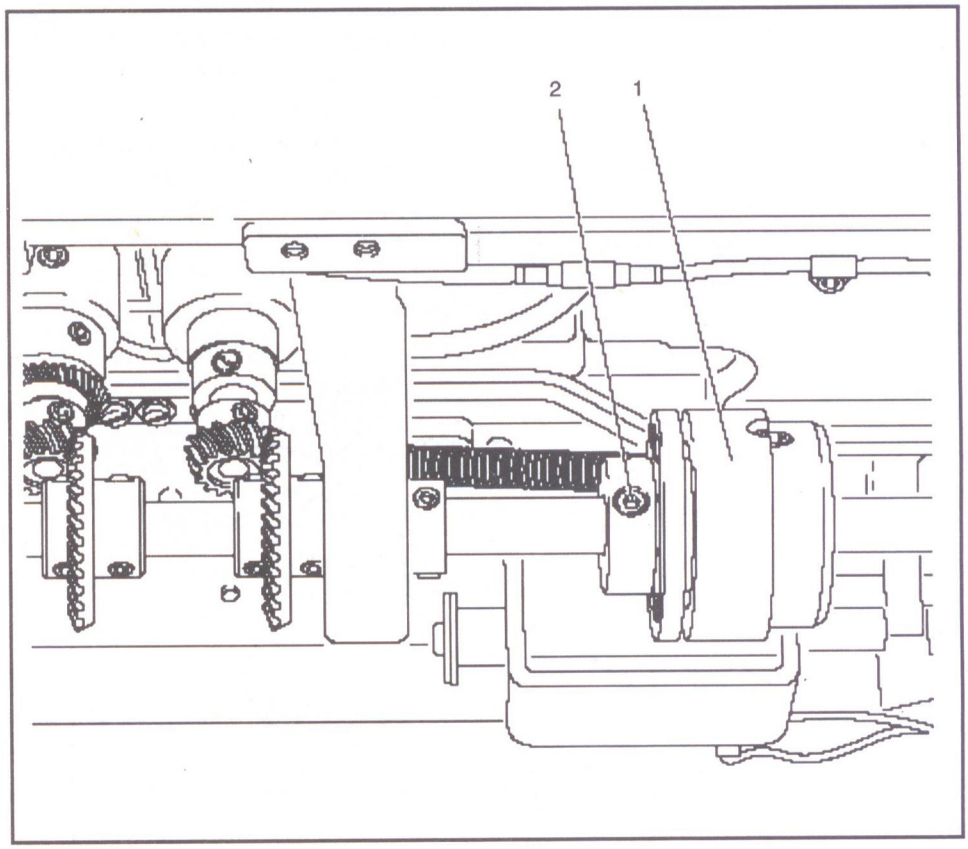
- Adjust roller pressure with screw **1** according to the **Requirement**.



7.03.22 Re-engage safety coupling

The coupling **1** is set by the manufacturer. When the thread jams, the coupling **1** disengages in order to avoid damage to the hooks.
A description of how to engage the coupling follows.

- Remove jammed thread.
- Hold coupling **1** with screw **2** and turn the balance wheel, until you feel coupling **1** snap back into place again.



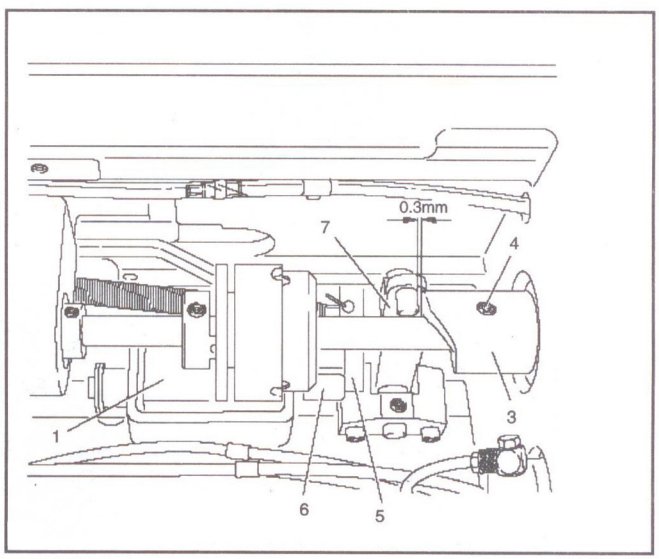
7.04 Adjusting the thread trimmer

7.04.01 Resting position of the roller lever/ radial position of the control cam

Requirement

1. when the thread trimmer is in resting positon, lever **5** should be touching piston **6** and the roller of roller lever **7** should be **0.3 mm** away from control cam **3**.
2. when the take-up lever is at top dead centre, control cam **3** should just have placed roller lever **7** in its resting position.

- Having made sure that piston **6** is positioned against the left stop, adjust magnet **1** (**2** screws) in accordance with **Requirement 1**.
- Adjust control cam **3** (screw **4**) in accordance with **Requirement 2**.

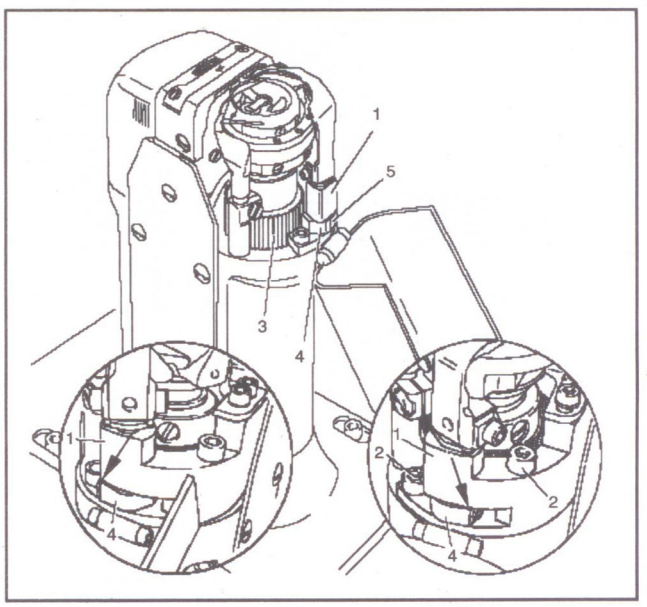


7.04.02 Position of the thread catcher holder

Requirement
1. there should be a minimum amount of play between toothed wheel **3** and toothed segment **4**.
2. both in the neutral position and the foremost position of the catcher, the distance between the toothed segment **4** and the outer edge of the thread catcher holder **1** should be the same (see arrow).

- Adjust the thread catcher holder **1** (screws **2**) according to **Requirements**.

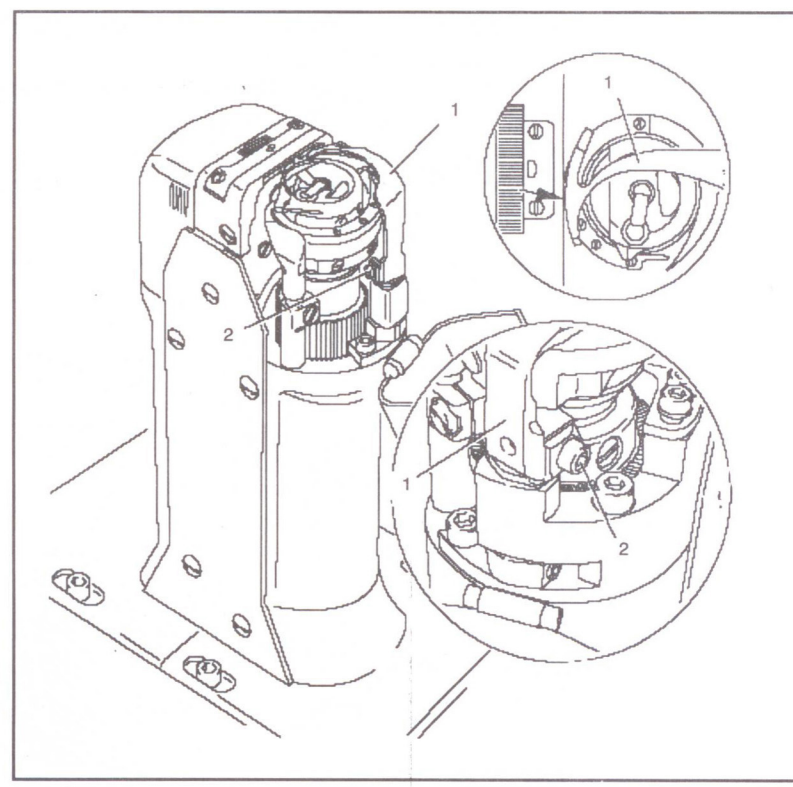
If **Requirement 2** cannot be fulfilled, loosen screw **2** and move the toothed segment **4** by one tooth.



7.04.03 Distance between thread catcher and needle plate

Requirement
During its swivel movement thread catcher **1** should not pass the edge of the needle plate (see arrow).

- Move thread catcher **1** (screws **2**, two screws) parallel to the thread catcher holder in accordance with the **Requirement**.



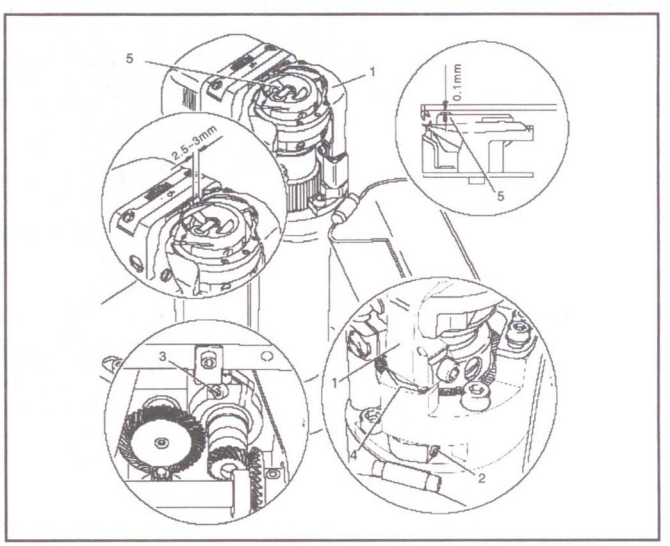
7.04.04 Position of the thread catcher

Requirement

1. the bottom edge of the thread catcher **1** should be at a distance of **0.1 mm** from the positioning finger of the bobbin case **5**.
2. when the thread trimmer is in its neautral position, the rear edge of thread cather should be positioned approx. **2.5 3 mm** behind the edge of the knife.

- Move thread catcher **1** (screw **2**, two screws) in accordance with **Requirement 1**.
- Turn thread cather **1** (screw **3**) in accordance with **Requirement 2.**

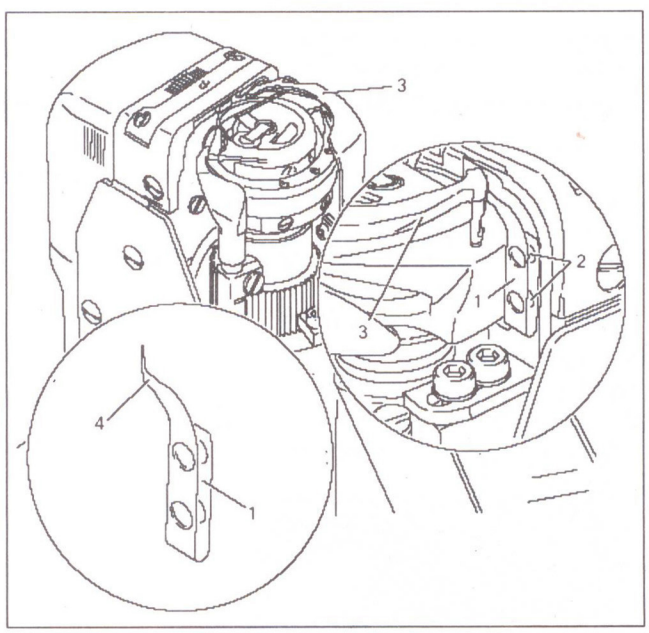
Thread catcher **1** must be parallel to the surface of the thread catcher holder **4**.



7.04.05 Bobbin thread retaining spring

Requiement

1. the bobbin thread clamp spring should be guided reliably in the thread groove of the thread catcher **3**.
2. the tension of the bobbin thread spring clamp should be as low as possible, but the bobbin thread should be reliably after the cutting operation.



- Adjust bobbin thread clamp spring **1** (screw **2**) in accordance with **Requirement 1**.
- Adjust the tension in accordance with **Requirement 2** by bending side **4** of the bobbin thread clamp spring **1**.

Control requirement 1

- Switch off the machine and bring the take-up lever to its bottom dead centre.
- Engage and disengage the thread cather **3** by hand and check **Requirement 1**. Adjust if necessary.

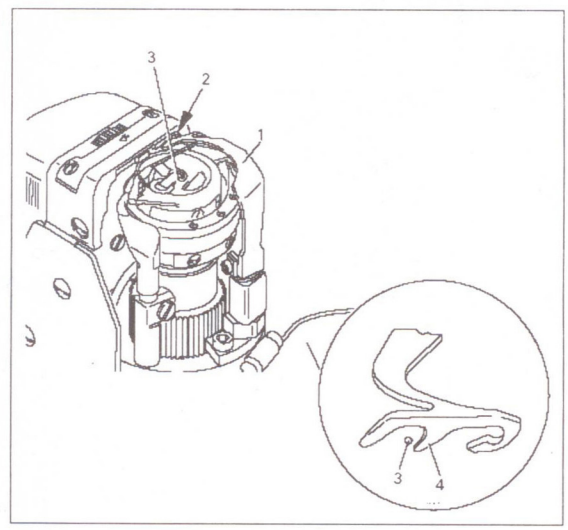
Control requirement 2

- After the thread has been cut, sew a few stitches by turning the balance wheel, checking whether the bobbin thread is drawn out of the bobbin thread clamp spring between the **1st** and **3rd** stitched, if necessary, correct the tension.

7.04.06 Manual cutting test

Requirement

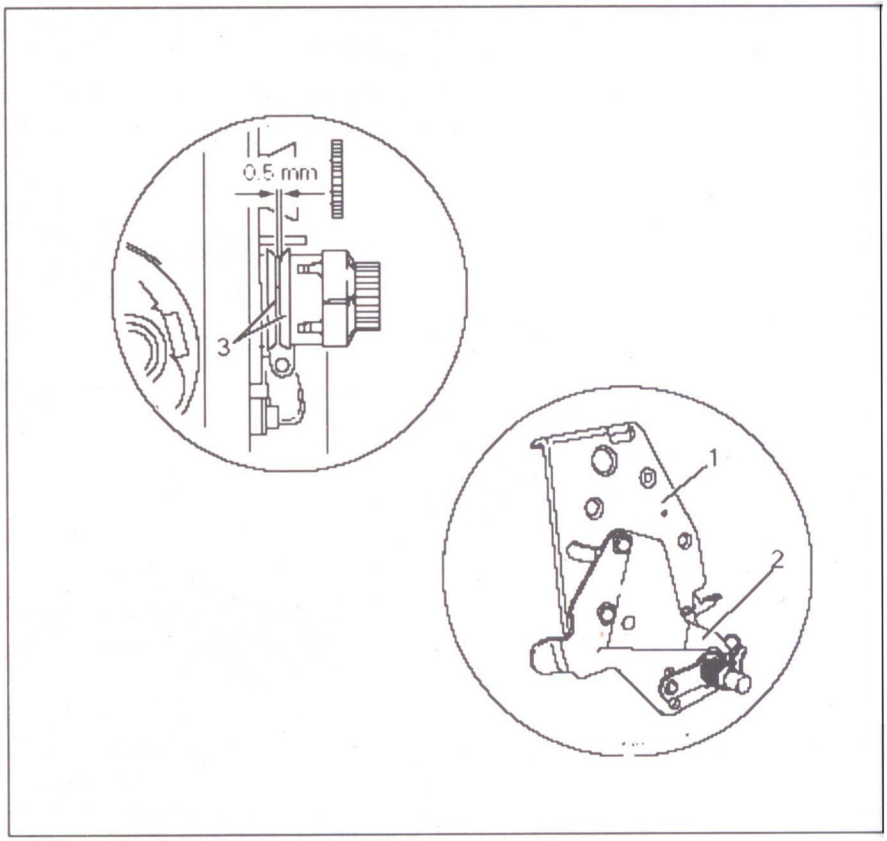
1. when thread catcher **1** is on its forward stroke, it must not carry bobbin thread **3** forward too.
2. when thread catcher **1** is in its front position, bobbin thread **3** must be held reliably by hook **4**.
3. After the trimming action, both the needle thread and the bobbin thread must be perfectly cut and bobbin thread **3** retained.



- Sew a few stitiches.
- Turn off the on/off switch.
- Carry out the cutting operation manually.
- Check **Requirement 1** and **2**, and if necessary readjust thread cather **1** in accordance with **Chapter** 7.04.04 **Position of the thread catcher**.
- Check **Requirement 3**, and if necessary readjust the bobbin thread retaining spring **2** in accordance with **Chapter** 7.04.05 **Bobbin thread retaining spring**.

7.04.07 Releasing the tension

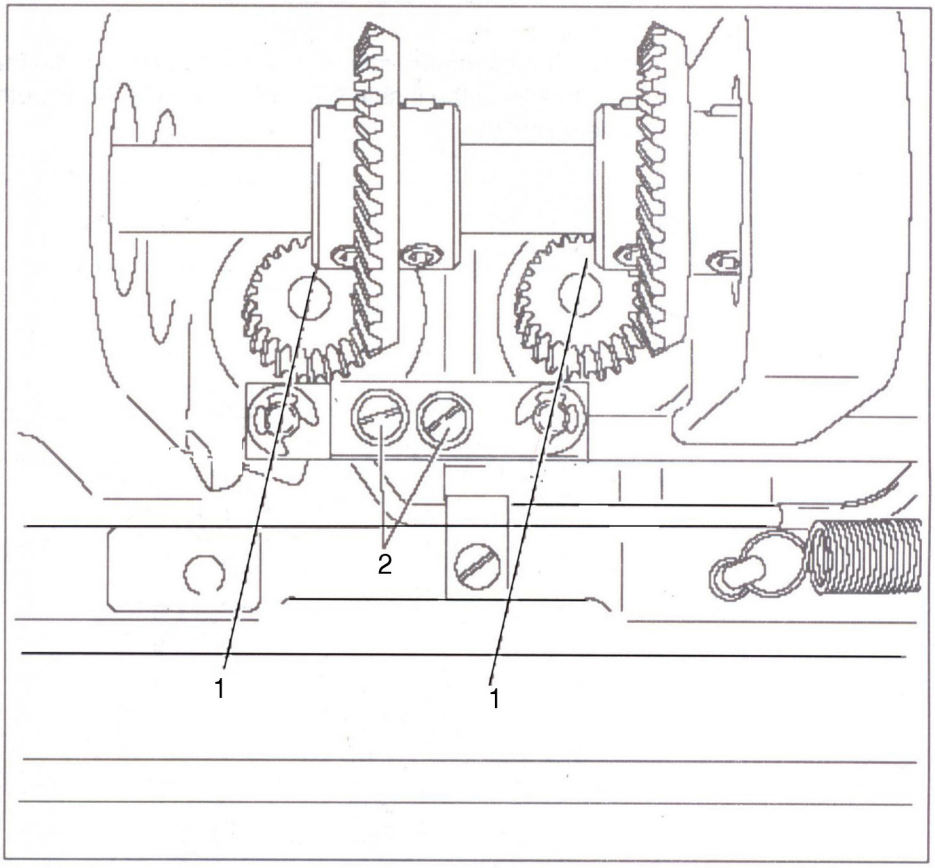
Requirement
When the magnet is activated, tension discs **3** must be at least **0.5 mm** apart.



- Activate the magnet.
- Detach the tension bearing plate **1** and adjust pressure plate **2**.

7.04.08 **Linkage rod** (only for the 8972)

Requirement
When the thread trimmer is in its resting position, the drive levers **1** must be parallel.

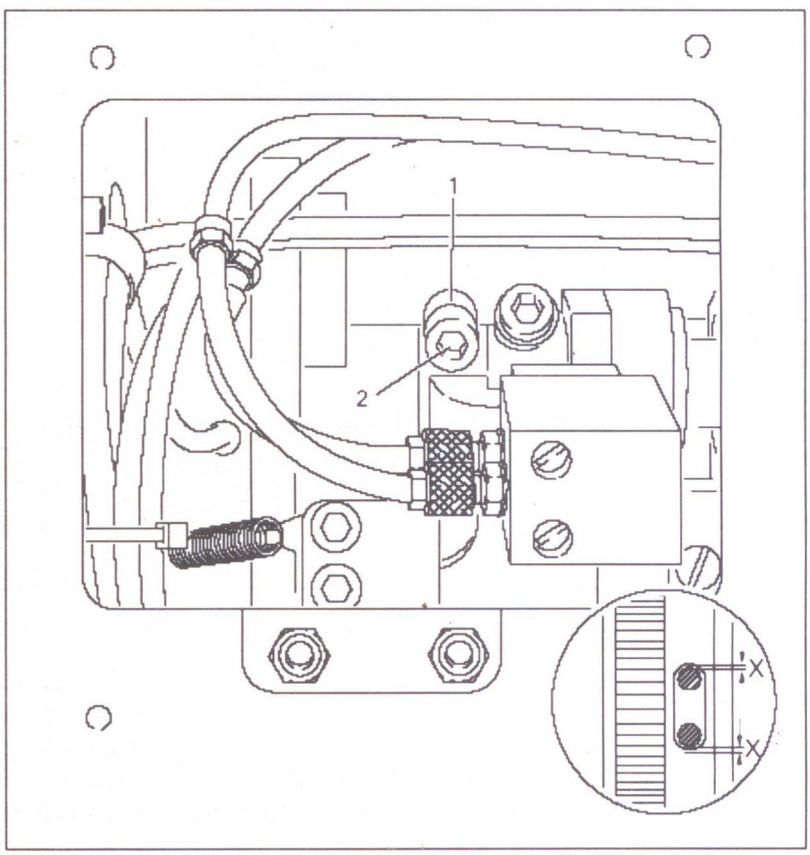


● Adjust drive levers **1** (screw **2**) in accordance with the **Requirement**.

7.05 Adjusting backtacking mechanism

7.05.01 Needle in needle hole (only for pneumatic machine)

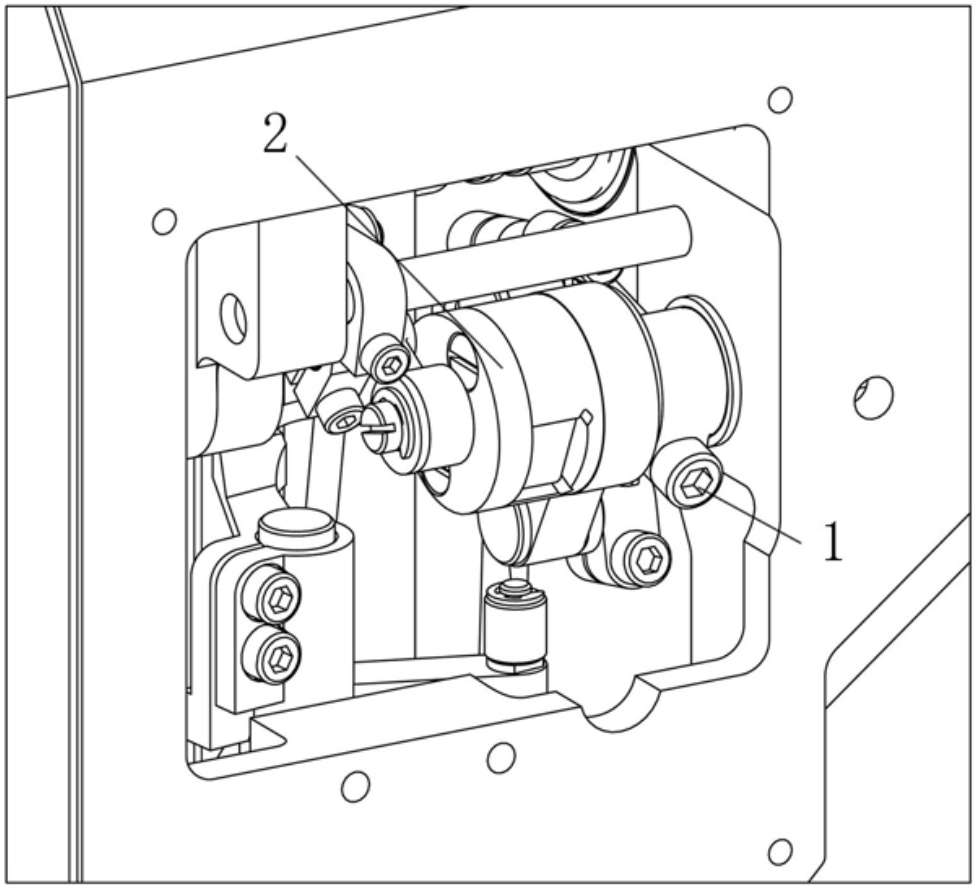
Requirement
When the maximum stitch length is set, the needle must be the same distance from the inside edge of the needle hole, both for forward and reverse stitch.



● Turn crank **1** (screw **2**) according to the **Requirement**,

7.05.02 Needle in needle hole (only for LP 98971)

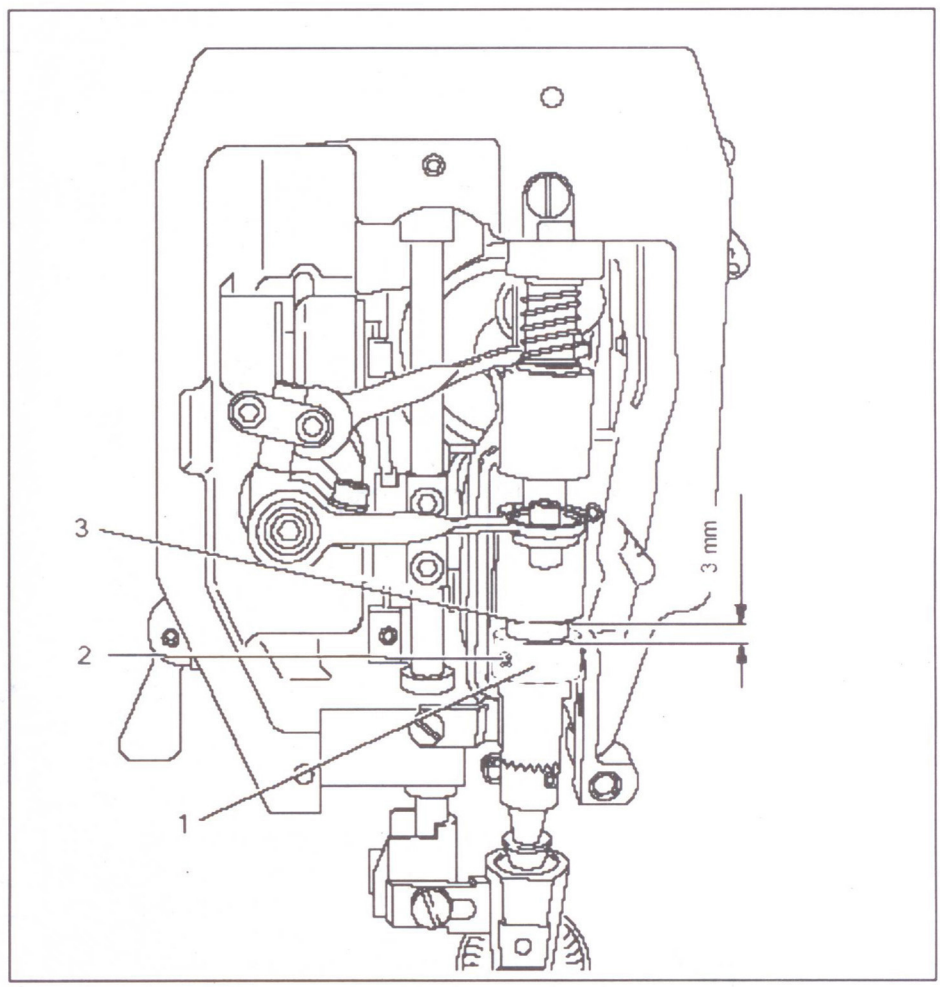
Requirement:
When the maximum stitch length is set, needle bar should at lowest position.
Press back tacking spanner, needle bar should keep quiescent condition.



- Turn adjustment crank 2 (screw 1) according to requirement.

7.05.03 Coupling for roller presser drive

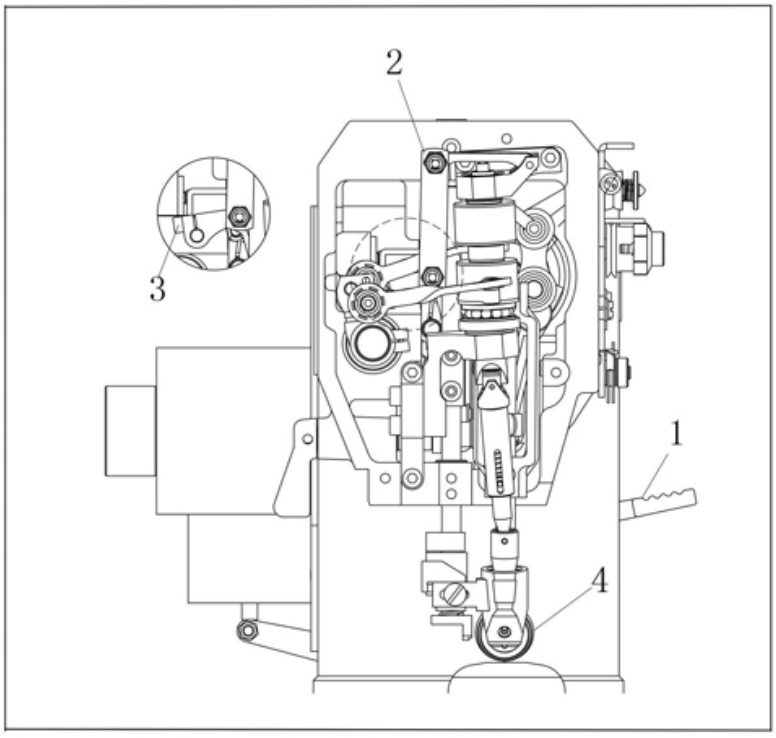
Requirement
There must be a distance of **3 mm** between coupling half **1** and locking disc **3** of the drive mechanism.



- Adjust coupling half **1** (screw **2**) according to the **Requirement**.

7.05.04 Adjustment for roller presser clutch device (only for LP 8971)

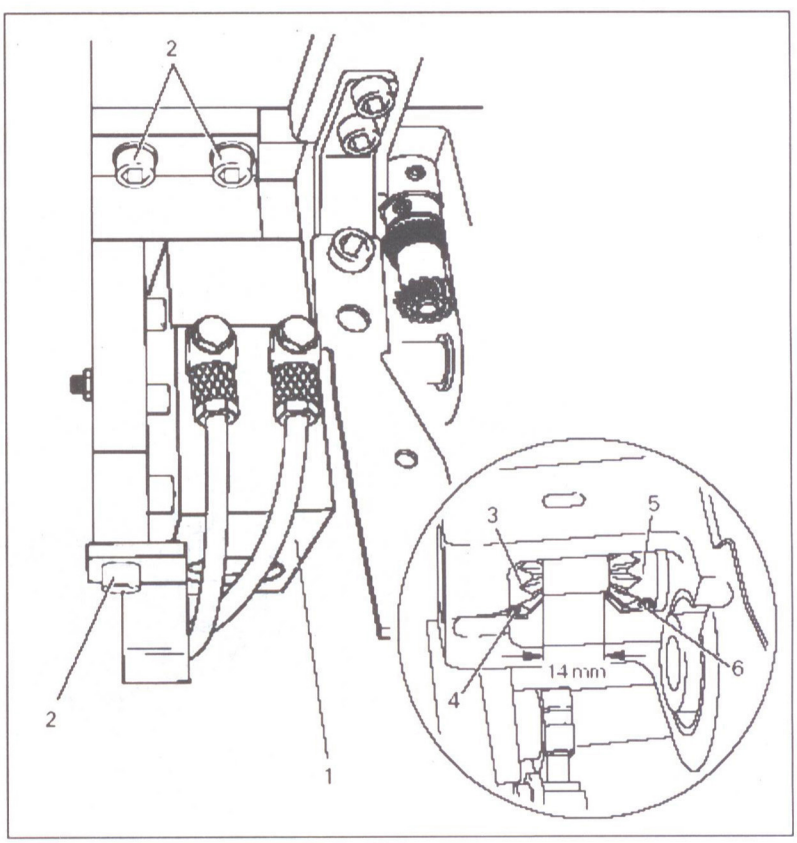
Requirement
1. When sewing forwarders, turn up-feeding wheel by hand, up-feeding wheel by hand 4 just can be rotated in counterclockwise.
2. When sewing forwarders, turn up-feeding wheel by hand, up-feeding wheel by hand 4 can be rotated in counterclockwise and clockwise.



- Press back-tacking spanner 1.
- Adjust connecting pate 2 (screw 3) according to requirement.

7.05.05 Bevel gears for feed wheel drive (only for pneumatic machine)

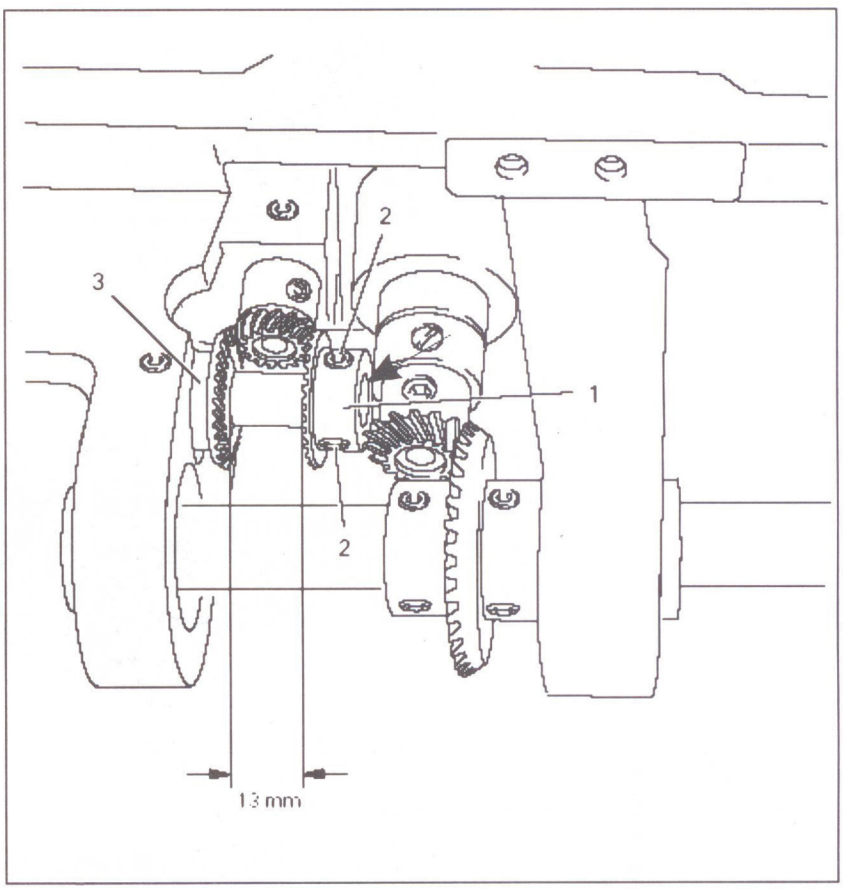
Requirement
1. bevel gear **3** must fit well on the left side.
2. there must be a distance of **14 mm** between bevel gear **3** and bever gear **5**.



- Remove control unit **1** (screws **2**).
- Adjust bevel gear **3** (screw **4**) according to **Requirement 1**.
- Adjust beve gear **5** (screw **6**) according to **Requirement 2**.

7.05.06 Bevel gears for feed wheel drive (on the LP 8971)

Requirement
1. the right side of bevel gear **1** must be flush with its drive shaft (see arrow).
2. there must be a distance of **13 mm** between bevel gear **3** and bevel gear **1**.

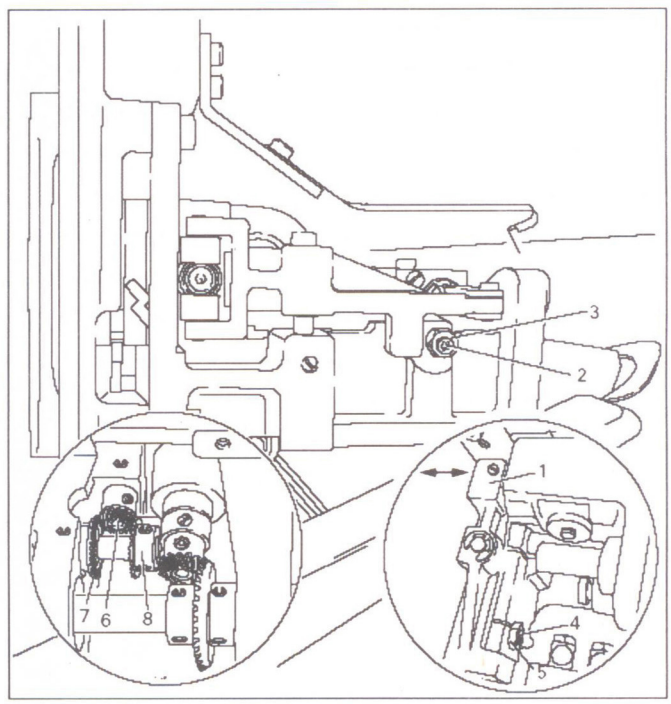


- Adjust bevel gear **1** (screws **2**) according to **Requirement 1**.
- Adjust bevel gear **3** (screws **4**) according to **Requirement 2.**

7.05.07 Bevel gear play (only for pneumatic machine)

Requirement

1. when sewing forwards, there must be a slight play between bevel gear **6** and **7**.
2. When sewing backwards, there must be a slight play between bevel gear **6** and **8**.



- Disconnect air supply of the air filter/lubricator.
- Move unit **1** by hand as far as possible to the right (see arrow).
- Adjust screw **2** (nut **3**) according to **Requirement 1**.
- Move unit **1** by hand as far as possible to the left (see arrow).
- Adjust screw **4** (nut **5**) according to **Requirement 2**.

USER MANUAL FOR STEP ROLLER FEED MACHINE

1：Boot interface

Boot screen icon description:

Sewing confirmation key. Click this key, the spindle motor and the pendulum motor will find the origin point, and the system will enter the sewing mode.

Factoory setting key. Press and hold this key, the system will enter the factory setting mode. (it will state individually).

System information key.

Long press this key will enter to the system information mode. The information mode includes the system software version for the panel and control box, and the software upggrade

function for the panel and control box. Enter to this mode, the system cannot return. If you need to enter other modes, please turn off the power and restart the machine.

2：Sewing interface

The sewing interface is
divided into three categories: free sewing, overlapping sewing, and programmed sewing.

1 Free sewing interface

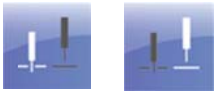
2 Overlapping sewing interface

3 Programmed sewing interface

2.1: Key description

Start back tacking.the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid.

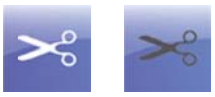
End back-tacking.the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid.



The position of the needle when stop. The previous icon indicates that the needle is under the cloth after stop, and the latter icon indicates that the needle is on the cloth after stop.

The presser foot is lift or not when stop the machine. the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid.

The presser foot is lift or not after trimming stop machine. the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid. When activated, the presser foot position is in the upper position after stop trimming. When not activated, the presser foot position is in the lower position. The default state is not activated.



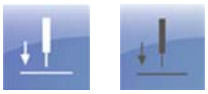
Trimming function. the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid. When activated, the current sewing section can be trimming. If not activated, the current sewing section cannot be trimming.

Rotational speed setting. the white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid. When activated, click the "scroll key" , find the speed setting item. Press corresponding

the "+" and "-" keys, it can adjust speed. Under the free sewing mode, you can change speed of "start back-tacking", "end back-tacking" and the current segment. Under the overlapping sewing and programmed sewing it just can change current segment speed.

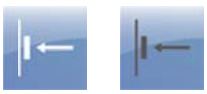
Backtacking setting. the white font icon indicates that

this function is activated and the dark gray font icon indicates that this function is invalid. This key is used for programming sewing and pattern editing. In the programming sewing, it is used for instantly change the current sewing segment direction. In the pattern editing, it used for setting current programming segment sewing direction, the reverse direction is activated, the normal sewing direction is not activated.



Needle position setting.

white font icon indicates that this function is activated and the dark gray font icon indicates that this function is invalid. When it need to use needle position function please setting the spindle parameter P12 “Needle position function” setting value to 1, turn on this function. Then activate the needle position setting key. Needle position angle setting ref to “ needle position setting method”, user manual will describe on subsequent chapter.



Knee-control switch function. Under the overlapping sewing and programmed sewing after turn on this function, use knee-control switch can shift sewing segment in turn in the edited pattern.

Back-tacking temporary cancel function. After setting start back-tacking or end back-tacking in current sewing pattern, if current temporary no need to back-tacking then can active this key, and sewing next backing-tacking can cancel. And end back-tacking also can effective.

The program interrupt key. This key is used in the programmed sewing state. Under the programmed sewing state press this key, the current sewing program interruption it will not counted, after that tread the pedal machine will be free sewing according to the data of the sewing segment at the time of interruption. Cancel activation, the program will continue.

Under the free sewing mode activate this key used for coiling bottom thread, at this time the upper and lower rollers not action.

Under the programming sewing activate this key, it will automatic stop machine after sewing is completed for current

segment. If not activated, then the editing pattern will continuously sewing until the end of program.

Under the programmed sewing mode activated this key, then tread the pedal machine will be automatic sewing complete pattern.

Under the programmed mode activated this key,

and use the “scroll key” find the corresponding setting item, then can change the current sewing stitches for sewing segment.

Turn on the soft start function then can activated this key.

Free sewing

overlapping sewing and programmed sewing shift key. At the end of program or at the end of force trimming state, press this key can shift free sewing ,overlapping sewing and programmed sewing mode.

Scroll key. Under the sewing mode can use this key to shift between different setting item. But the prerequisite is setting item need to be

activated.

Function

Press this key on correspond position, parameter plus

Press this key in correspond position, parameter minus.

Long press this key, it will enter to pattern editing mode. See the following section for detailed operation.

Long press this key, it will enter to parameter setting mode. See the following section for detailed operation.

Lock and unlock key. The previous icon indicates that the touch screen is locked. At this time, other keys on the touch screen are invalid except the unlock key, after clicking the unlock key, other keys on the touch screen resume function. The latter key icon indicates the unlock key, and in this state, the icons displayed on the LCD panel are all available. After manually clicking the unlock key, the touch screen will

be locked. Or the automatic lock time is set in the parameter setting. After the time value is reached, the system will automatically lock.

Reccord stitches number and setting key. After counting stitches function turn on, this icon will display initial value. Setting method see following chapter.

Bottom thread display and setting key. This icon will display the remaining bottom thread when the bottom thread counter function is turned on. Setting method see the following chapter.

Return key.

2.2: Icon description

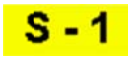
Upper roller icon

Lower roller icon

This icon corresponding number indicates current pattern no.

This icon corresponding number indicates current sewing speed.

This icon corresponding number indicates current sewing stitches.



This icon number indicates current sewing segment.

3： Basic operation

3. 1 Free sewing

3. 1. 1 Adjustment of roller value

As shown in the figure above, click or long press "+" in this interface, and the "-" key will change the current value of up and down rollers. The red box indicates the "up roller" adjustment key. The yellow box indicates the

scroll wheel adjustment key. The interval between the upper and lower roller values shall not exceed 1.0 mm.

3.1.2 Start back-tacking setting

5 Free sewing screen-start back-tacking setting

If you need to set up start back-tacking, activate the back-tacking key first . Then, click the scroll key , shift settings interface, as shown above. Red box set "A" section, yellow box set "B" section, black box, set repeat number "R". R value is 2 and 4, when 2 indicates sewing AB, and as 4, it means sewing ABAB.

6 Free sewing interface- End back-tacking setting

If need to sett end

back-tacking, first to activated back-tacking key . and then click scroll key , shift setting interface. Setting method same as the start back-tacking.

3.1.3 Speed setting

7 Free sewing interface - speed setting

If need to setting speed, first to activated speed setting key . and then click scroll key shift setting interface. Red box can setting start back-tacking speed, yellow box can setting end back-tacking speed, black box can setting speed of free sewing segment.

3.1.4 Needle position setting

8 Free sewing interface - needle position angle setting

If need to use needle position function. First to setting the spindle parameter P12 “needle position function” setting as 1, turn on this function. And then activated

needle position setting key . long press this key to enter needle position angle setting interface. As shown in figure 8. Interface current display spindle shaft position, use the hand-wheel to turn the needle bar to requirement position, press “OK” key to save the current setting value, and then press return key to turn back.

3. 2 Overlapping sewing

9 Overlapping sewing interface - scroll value setting

If you require to modify the data of one section, then click position of corresponding segment stitches number. At this time corresponding position display black background white word that indicates current segment is selected. After selected one section, the relevant keys and data in this page is belong current segment. As shown in the above figure, “A” segment is selected, at this time right side area display the upper and lower scroll value for “A” segment. Through red box “+”, “-” key, it can add or reduce the scroll value. Stitches and speed setting same as the free sewing , all need to

activated the corresponding key then press scroll key to modify.

After

key is activated , the system stops automatically after complete each segment sewing. Return the pedal to a neutral position and tread sewing position then can continue sewing next segment. If no need then set this key as invalid state

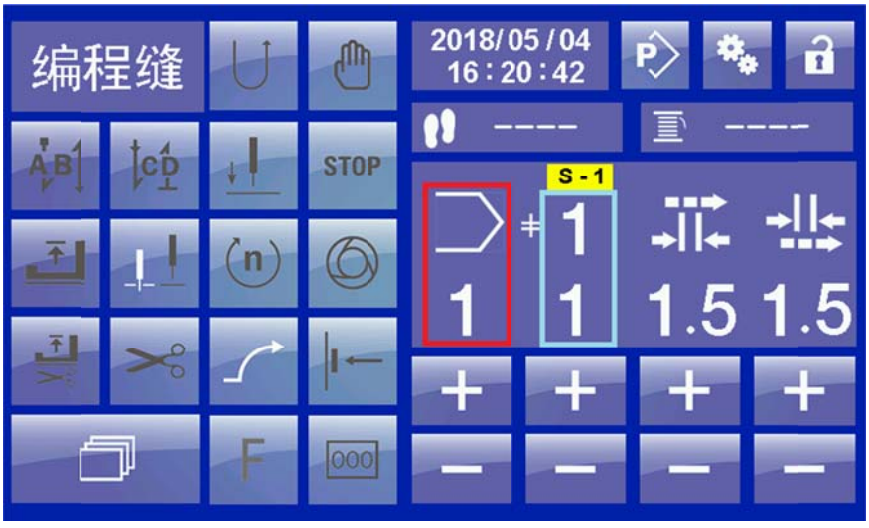
. After
key is activated, tread the pedal, system will automatically sewing all pattern till to finished. If no need the to set this key as invalid state
.

10 Overlapping sewing interface- needle position setting

If need to use needle position function in the overlapping sewing, please activated key. Press scroll key shift to needle postion setting page, use “+”, “-” key modify to require angle value. As require needle postion value can through free sewing needle position angle setting page, by turn over hand-wheel, obverse current spindle shaft position to confirmation.

Noted: each section of the overlapping sewing can be set separately, including speed, stitches count, trimming, needle position, and whether trimming or not. please confirm the pattern of sewing method and setting is same as your requirement or not before programming, otherwise it will make different sewing effects.

3. 2 Programmed sewing

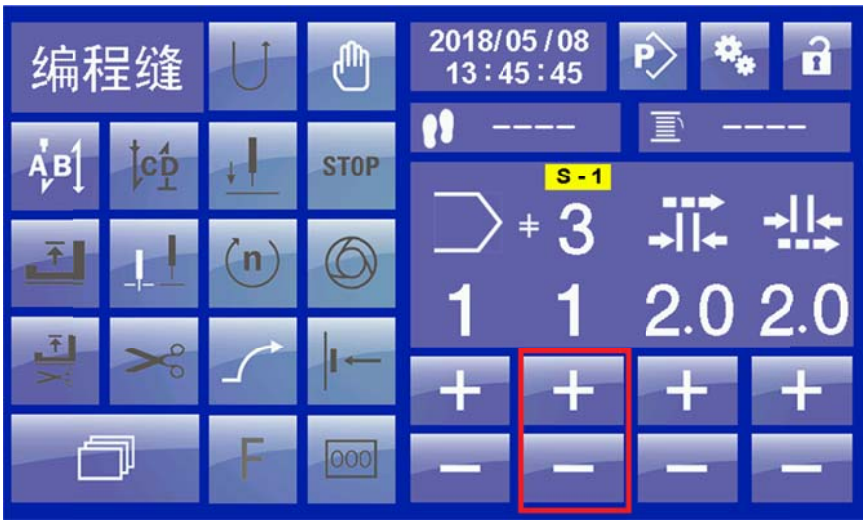


10 Programmed sewing interface - description

As shown in the above figure, in the programmed sewing interface red box indicates the current code of pattern. Right side blue box at the top of number indicates current pattern total segment. The below number indicates segment no. of currently displayed on the LCD. Under the programmed sewing finished, it can use in the red box"+" and "-" keys to select different patterns stored in the system. If the pattern selected has more than one segment, it can be selected by "+" and "-" in the blue box. Under the sewing interface, you can modify all the data except adding section, deleting section and circular sewing function. After modification, the parameters will be available.

It need to noted the front two pattern in the programmed sewing, the pattern 1 and pattern 2 are fixed pattern can't to delete. Each pattern can add 3 segment. Each segment sewing is free sewing mode, after added multi-segment, it can through sewing machine head key, knee-control switch and LCD panel to shift between multi-segment.

Please activated key if you need to use sewing machine head keys or knee-control switch to shift between segment, otherwise the system will not perform shift action. Multi-segment can setting different stitches number. The following description is use LCD panel to shift different segment method. Such as below figure is no.1 pattern has been added as 3 segment.



10 Programmed sewing interface - multi-segment shift

segment, at first need to activated key, then use “+”,”-” key in the red box to select require sewing segment.

11 Programmed sewing interface- multi-segment shift

As shown in above figure is shift to the second segment interface, segment no is display 2nd segment, after S - number and selected segment number is same number 2. only in this case, the segment shift succeed. If not activated break key , after selected segment number, after S - number is different with segment number, at this time haven't shift the pattern data, just shift segment data page, sewing information not transmitted to control box .

12 Programmed sewing interface- setting start back-tacking

On the programmed sewing, start back-tacking, end back-tacking setting method is similar as free sewing. The different is under programmed modem, it can't modify speed and repear times for start back-tacking and end back-tacking. If modified this information need to enter program editing mode select corresponding pattern to edit.

4. Parameter setting

Long press key, enter to parameter setting interface

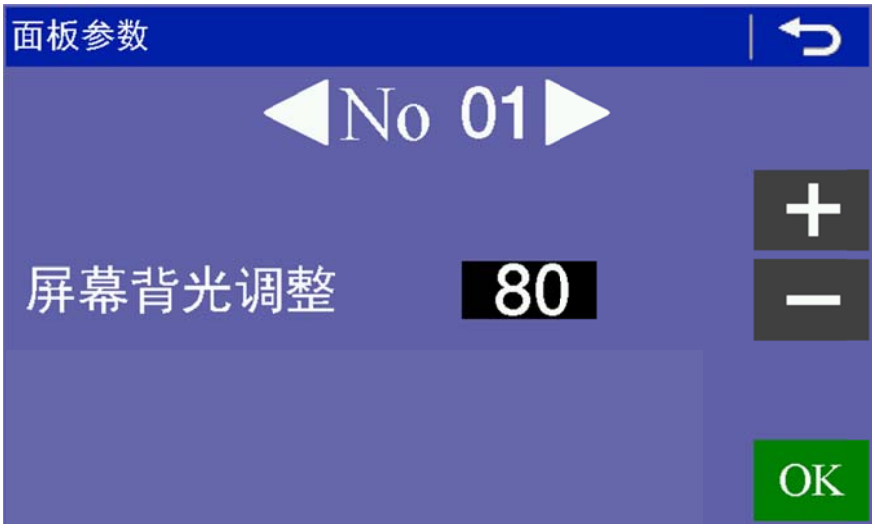
13 Parameter selection interface

Parameter selection

interface bottom right display software version information of operation panel and control box

Take the

1st parameter as an example : after click “panel parameter”, enter to panel parameter setting interface.



14 Parameter setting interface

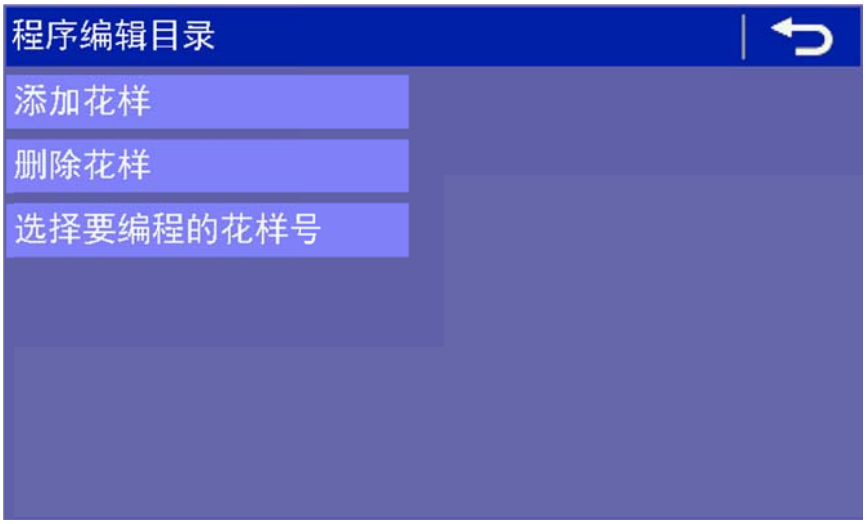
As shown above figure,

click white key for turn left or turn right, interface will turn to previous or latter parameter setting interface, at the same time after No. Number will be change accordingly. After select the parameter item which want to modify, use right side “+” “-” key to modify the parameter value. After modified, click “OK” key to save. If not click “OK” key then to shift parameter item or exit setting, the parameter will not to save. Other parameter setting method same as this.

5. Program editing

After long press

key, it will enter program editing catalogue page.



15 Program editing catalogue

5. 1 **Added pattern**

Click “added pattern” item, it display interface

16 Added patern

As shown above figure, in the

P04 the 04 indicates it will add pattern code, click right side “+” key will added 4th pattern. After complete added, waiting add pattern number will automatic add 1 to became next waiting for add pattern, if no need to continue add then press return key to back.

5. 2 **Delete pattern**

Click “delete pattern” item, display interface

17 Delete pattern

Use right “+”, “-” key to select

waiting delete pattern. Then press key to delete pattern. No.1 and No.2 pattern can’t delete.

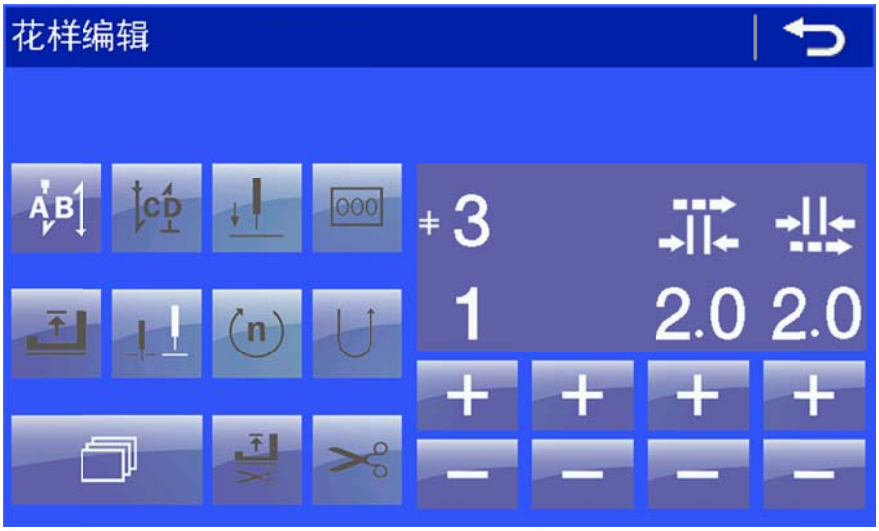
5. 3 **Pattern editing**

Click “select will need to editing pattern no” item, display interface.

18 Select waiting editing pattern

Press key to select need to editing pattern number. After select press key, to enter editing interface.

5. 3. 1 Editing method



19 Pattern editing method

Pattern editing method, it is similar with previous chapter introduction setting method in the sewing inteface. At first it need to consider the pattern require how many segment. If more than 1 segment, then need to add the segment. At this time click key to shift segment added, delete page.

19 Adding delete segment

Press

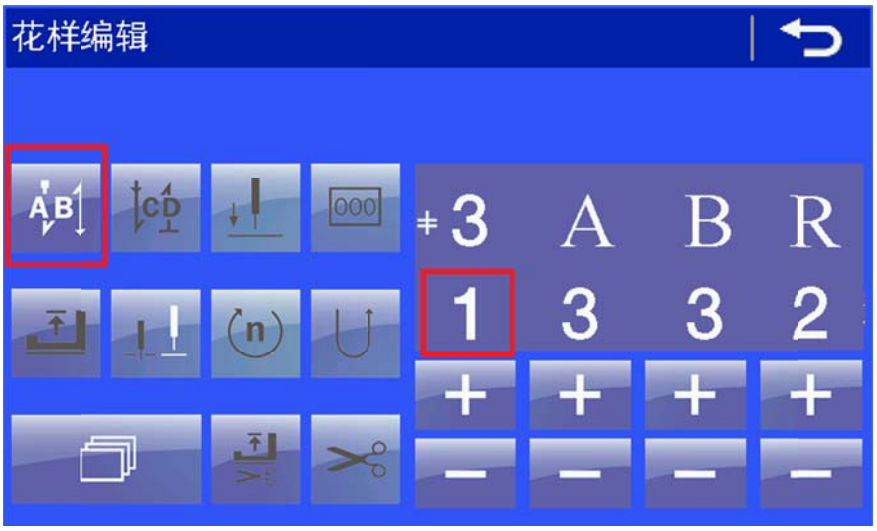
“+”, “-” key white font below of the “add segment” , delete segment. Press “+”, “-” key white font below of the “cycle sewing”, the pattern setting as the cycle sewing mode. **Noted: only after the segment have been set then can setting cycle sewing.**

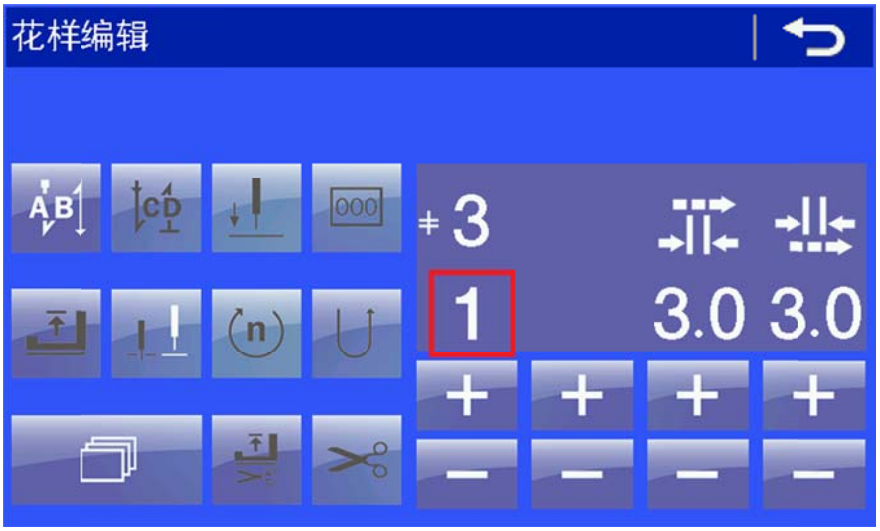
After the

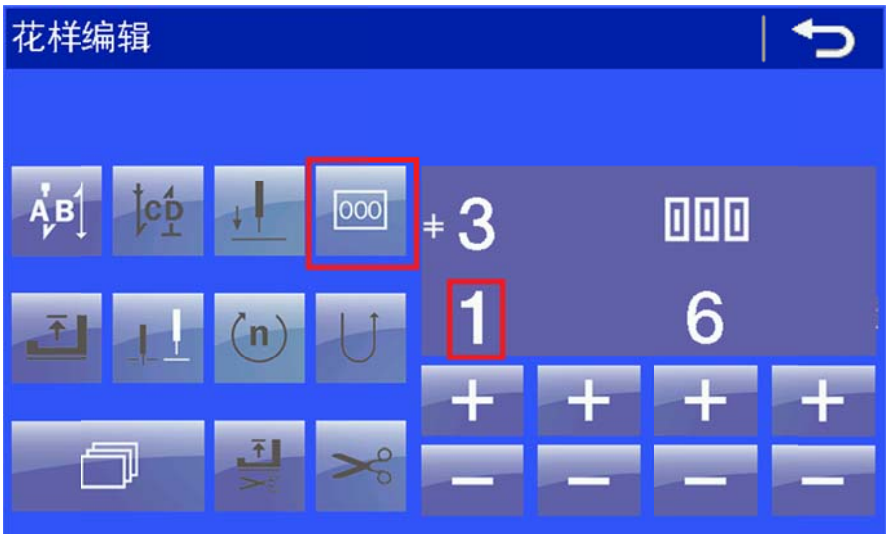
segment have been set, press left “+”， “-”key below of the segment select need to editing segment.

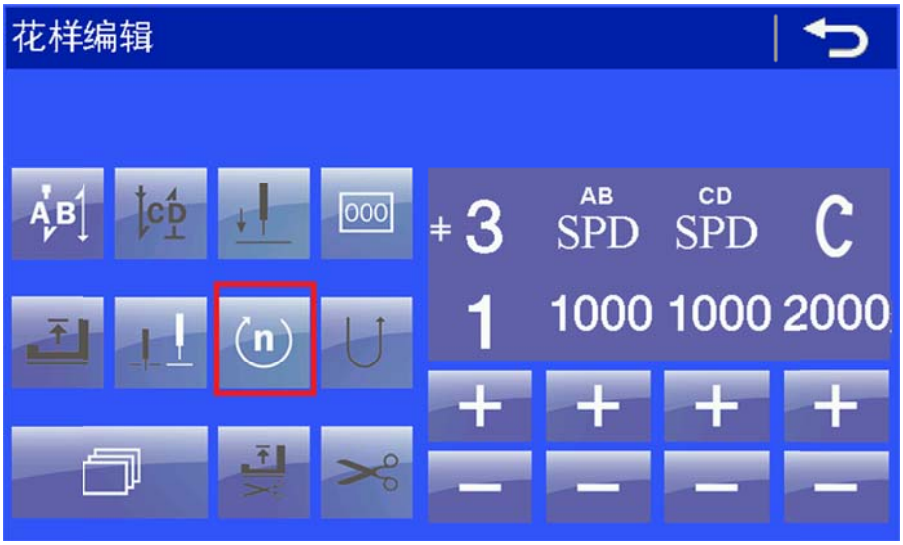
For example: editing for one pattern

of 3 segment, the one fist segment 6 stitches, the stitches length 3mm, start have start back-tacking, segment speed 2000. the second segment 8 stitches, the stitches length 3.5mm, segment speed 2100. the third segment 10 stitches, stitches length 4.0mm, segment speed 2200. trimming and foot presser lift after end back-tacking .


花样编辑
3
A
B
R
1
3
3
2

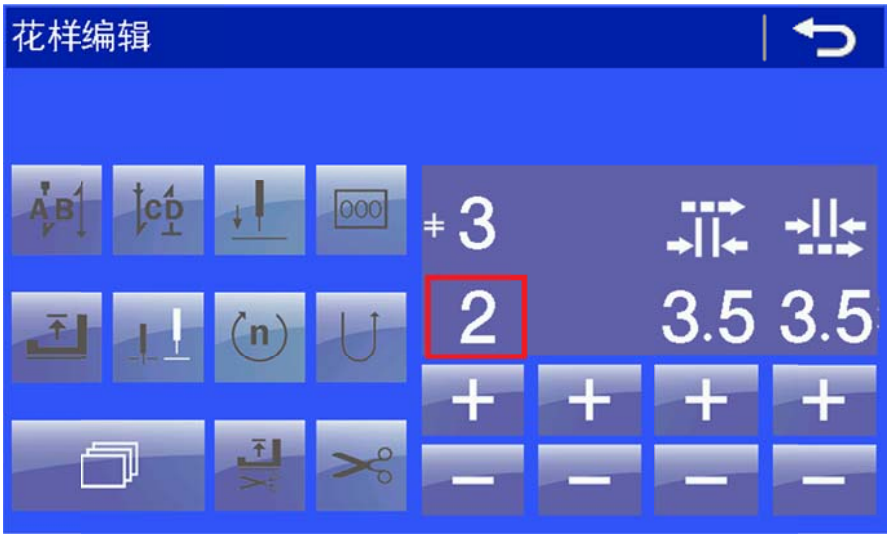

花样编辑
3
1
3.0
3.0


花样编辑
3
1
6



Shift between each

setting use scroll key . the 2nd segment and 3rd segment setting method is same as 1st segment.



It need to save pattern after pattern editing setting.

Error code list

1： Control box error code

3100 Software unauthorized

3101 Parameter out of range

Reinitialize parameter

3110 Pedal setting error / or pedal malfunction

Pedal AD value is not correct

3111 Encoder or datum point sensor malfunction or motor malfunction

Please check the spindle shaft is stuck or not, or encoder malfunction.

3112 Date error

Date process error, reset sewing parameter

3113 Zero-position sensor error

Please check the spindle shaft is stuck or not, or encoder malfunction.

3114 Sewing machine head open

Machine head is turn over, or machine head sensor angle of inclination malfunction

3118 Solenoid malfunction

Please check the solenoid is short-circuit or not.

3119 Spindle shaft abnormal

Spindle shaft stuck or encoder abnormal

3120 Pendulum motor abnormal

Pendulum stuck or other caused can't rotate

3121 Communication malfunction

It not received the panel return data

3122 Communicate data verification error

The data received was wrong

3123 Spindle shaft drive abnormal

Spindle motor over-current

3124 Pendulum drive abnormal

Pendulum motor over-current

3125 Pattern transfer error

Pattern transfer error, communicate problem

3126 Parameter transfer error

Parameter transfer error, communicate problem

3127 Knee-control shift sewing failure

The panel no response when shift sewing segment

3128 Pendulum position abnormal

The pendulum position is out of the normal range

3129 Over-voltage

Supply voltage is too high

3130 Under-voltage

The supply voltage is too low

1： Panel error code

21：The control box can’t find original point

Spindle shaft or pendulum can’t find the original point. At first please check the spindle is running or not then check the pendulum.

Sewing with 2 different stitch lengths and retrieval via knee switch:

» Go to „PSewing“
» Press „Open Folder“
» Press „P“ long
» Press „Program A Dsn“
» Now select the desired program number with the + button
» Confirm with the green tick
» Press „Open Folder“ again
» For „INS“ enter the desired number of seam sections and confirm with „Open Folder“
» For seam section 1, please enter the stitch length for the feed wheel and roller presser
» Now use the left + - buttons to select the 2nd seam section
» For seam section 2, please enter the stitch length for the feed wheel and roller presser
» Activate thread trimming
» Go to the „Return“ button at the top right
» You will be asked to “Save Design?” And confirm with “YES”.
» Go to the „Return“ button at the top right
» Now activate the knee lever with the button

You can now call up between the different stitch lengths with the knee switch or the button on the machine head.

POST BED COMPOUND FEED SEWING MACHINE WITH STEP MOTOR

PARTS MANUAL

零件手册

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C. Needle bar holder parts 针棒座部件.....6
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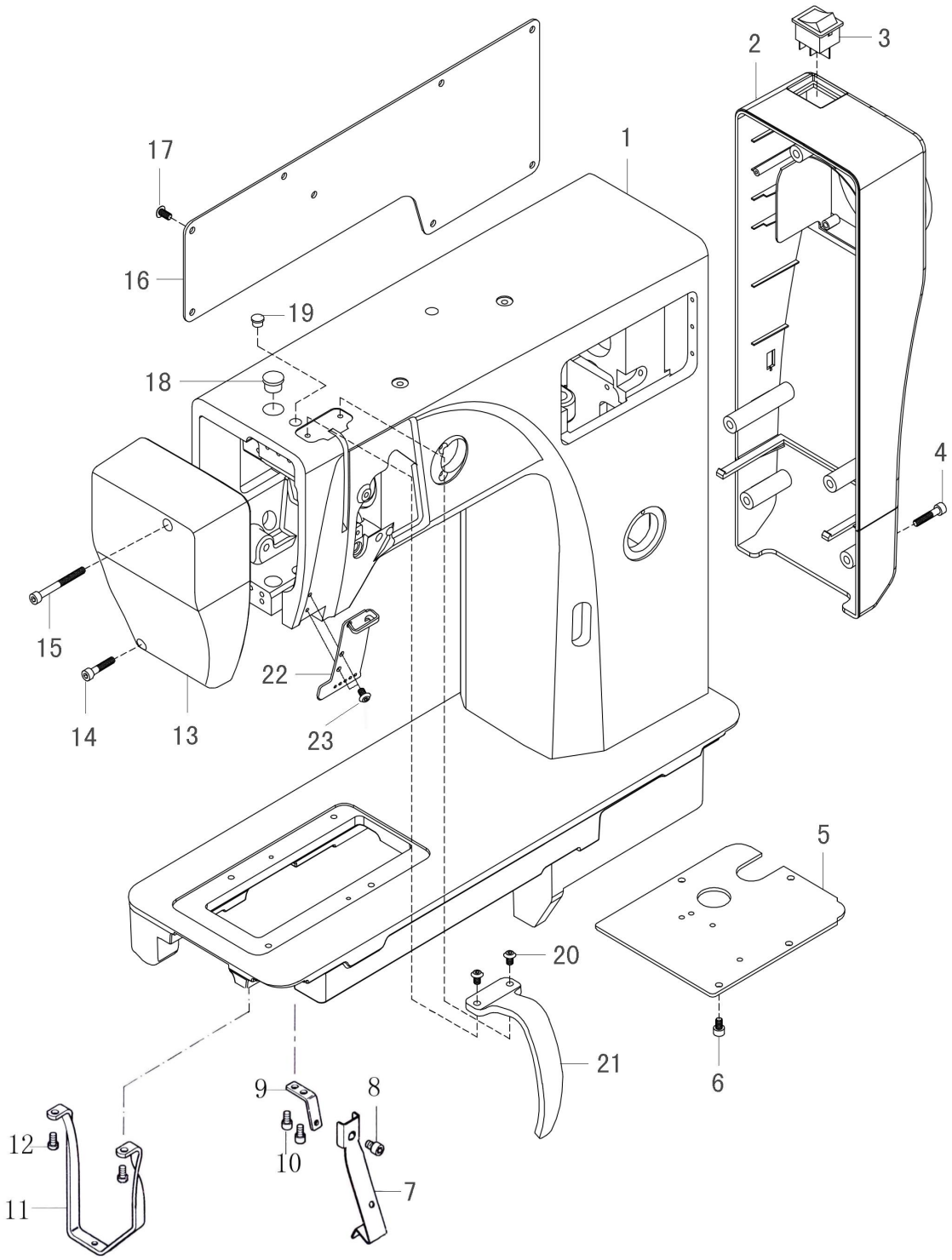
A. Arm bed and its accessories 机壳部件

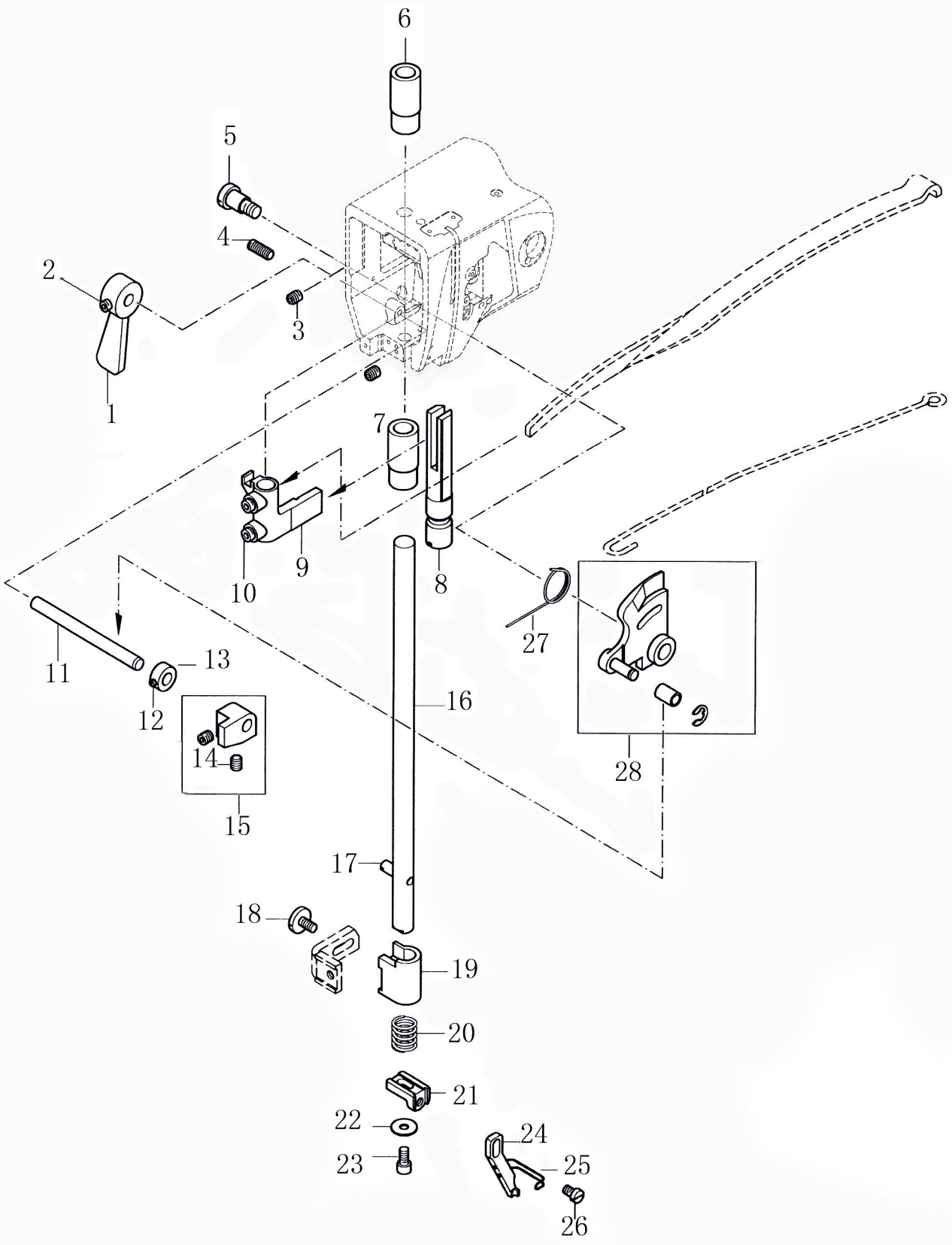
No.	Part No.	Name	名称	1NEEDLE	2 NEEDLE
1	7.02.01.068	Arm bed	机壳	1	1
2	7.02.21.467	Back cover	后罩壳	1	1
3		Power switch	电源开关	1	1
4	7.02.15.096	Back cover screw	后罩壳罗钉 GB/T 65 M5×16	3	3
5	7.02.11.482	Lower plate	下盖板	1	1
6	7.02.15.044	Lower plate screw	下盖板螺钉 GB/T 65 M5×8	3	3
7	7.02.11.483	Safety guard cover	安全防护板	1	1
8	7.02.15.964	Safety guard cover screw	安全防护板螺钉GB/T 70.1 M5×6	1	1
9	7.02.11.484	Fixed plate	固定板	1	1
10	7.02.15.444	Fixed plate screw	固定板螺钉 GB/T 70.1 M6×10	2	2
11	7.02.13.370	Bracket	支架	1	
12	7.02.15.055	Bracket screw	支架螺钉 GB/T 70.1 M6×8	2	2
13		Face plate	面板	1	1
14	7.02.15.731	Face plate screw（Lower）	面板螺钉 下 GB/T 70.1 M5×25	1	1
15	7.02.15.974	Face plate screw（Upper）	面板螺钉 上 GB/T 70.1 M5×55	1	1
16	7.02.11.37101	Back cover plate	后盖板	1	1
17	7.02.15.960	Back cover plate screw	后盖板螺钉 GB/T 70.2 M5×10	7	7
18	7.02.16.408	Oil cap	油盖	1	1
19	7.02.16.407	Oil cap	油盖	1	1
20	7.02.15.960	Thread take-up lever guard cover screw	挑线杆防护罩螺钉	2	2
21		Thread take-up lever guard cover	挑线杆防护罩	1	1
22		Thread guide	过线	1	1
23		Screw	过线螺钉	2	2

A. Arm bed and its accessories 机壳部件



B. Presser bar parts 压杆部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.05.01101	Presser foot lifting lever	压脚提升扳手	1	1
2	7.02.15.056	Screw	螺钉 GB/T 77 M5×5	1	1
3	7.02.15.049	Screw	螺钉M5	2	2
4	7.02.15.057	Set screw	紧定螺钉 GB/T 77 M6×8	2	2
5	7.02.15.025	Screw	螺钉	1	1
6	7.02.08.032	Bushing（Upper）	压棒套管（上）	1	1
7	7.02.08.033	Bushing（Lower）	压棒套管（下）	1	1
8	7.02.03.009	Guide rail bar	轨道棒	1	1
9	7.02.08.007	Presser bar fixed bracket	压棒固定座	1	1
10	7.02.15.050	Screw	螺钉 M6×0.75×8	2	2
11	7.02.03.420	Presser bar lifter shaft	压杆扳手轴	1	1
12	7.02.15.061	Screw	螺钉 M3	2	2
13	7.02.09.117	Collar	紧圈	1	1
14	7.02.15.056	Screw	螺钉 M5	2	2
15	7.02.12.280	Lift block	提升块	1	1
16	7.02.03.421	Presser bar	压紧杆	1	1
17	7.02.10.457	Stopper pin	限位销钉	1	1
18	7.02.15.011	Screw	螺钉 M4×8	1	1
19	7.02.08.470	Roller presser bracket	轮线下座	1	1
20	7.02.17.011	Spring	弹簧	1	1
21	7.02.05.009	Tailstock	顶针座	1	1
22	7.02.18.071	Washer	垫片	1	1
23	7.02.15.066	Screw	螺钉 GB/T 70.1 M4×8	1	1
24	7.02.02.008	Small presser foot	小压脚	1	1
25	7.02.17.009	Safety spring	安全簧	1	1
26	7.02.15.026	Screw	螺钉 M4×6	1	1
27	7.02.17.012	Spring	弹簧	1	1
28	7.02.01.351	Thread tension regulator assy	沙拉心座组	1	1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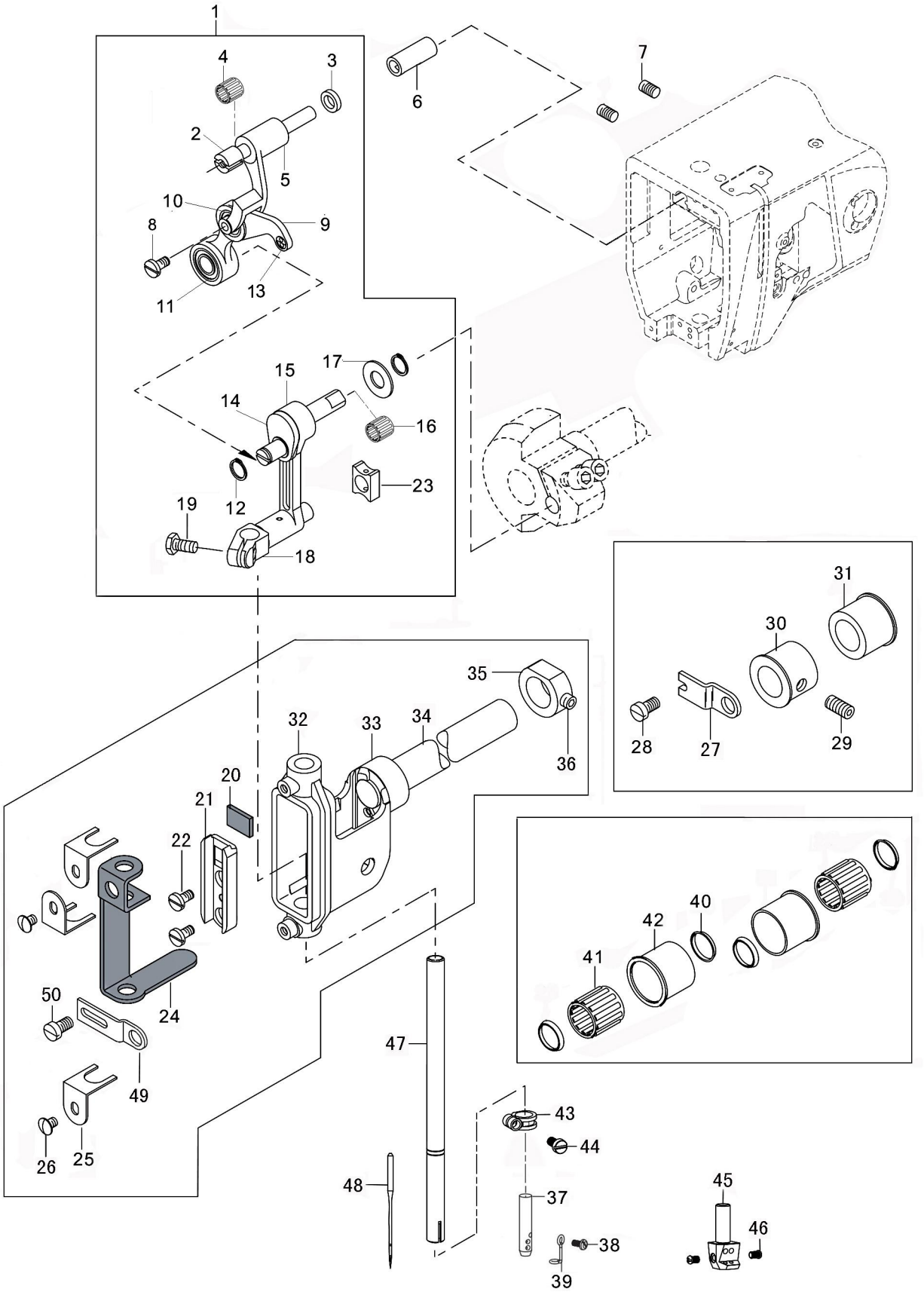
C. Needle bar holder parts 针棒座部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.353	Thread take-up assy.	天秤组件	1	1
2		Thread take-up fixed pin	天秤固定销	1	1
3		Plastic stop ring	塑料挡圈	2	2
4		Needle bearing	滚针轴承	2	2
5		Thread take-up holder	天秤固定架	1	1
6		Thread take-up shaft bushing	天秤轴套管	1	1
7	7.02.15.049	Set screw	紧定螺钉 GB/T 80 M5×8	2	2
8		Screw	螺钉	1	1
9		Thread take-up lever	天秤杆	1	1
10		Bearing	轴承 624-2Z	1	1
11		Bearing	轴承 628/8-2Z	1	1
12	7.02.18.030	Elastic retaining ring	轴用弹性挡圈 GB/T 894.1 8	2	2
13		Thread path	线道	1	1
14	7.02.06.001	Thread take-up crank	天秤曲柄	1	1
15	7.02.05.005	Needle bar connector	针棒连接器	1	1
16	7.02.04.006	Needle bearing	滚针轴承 HK 1010	1	1
17	7.02.18.009	Washer	垫圈	1	1
18	7.02.05.006	Needle bar fixer	针棒固定器	1	1
19	7.02.15.066	Screw	螺钉 M5×10	1	1
20	7.02.16.011	Oil felt	油棉	1	1
21	7.02.12.001	Needle bar connector guide slot	针棒连接器导槽	1	1
22	7.02.15.021	Guide slot screw	导槽螺钉 M4×6	2	2
23	7.02.12.002	Needle bar guide slide block	针棒导引滑块	1	1
24	7.02.16.012	Oil felt	油棉	1	1
25	7.02.17.005	Oil felt holder	油棉压板	3	3
26	7.02.15.022	Oil felt pressing plate screw	油棉压板螺钉 M4×4.5	2	2
27	7.02.17.001	Fixed plate of needle bar holder	针棒座固定板		1
28	7.02.15.022	Fixed plate screw	固定板螺钉 M4		1
29	7.02.15.064	Set screw	紧定螺钉 M6×12		1
30	7.02.08.025	Bushing	套管		1
31	7.02.08.026	Bushing	套管		1
32	7.02.13.001	Needle bar holder	针棒座	1	1
33	7.02.10.012	Pin	锥销	1	1
34	7.02.03.007	Main shaft	针送主轴	1	1
35	7.02.09.001	Collar	定环	1	1
36	7.02.15.054	Set screw	紧定螺钉 M6×0.75×5	1	1
37	7.02.02.399	Needle holder	针镏（单针）	1	
38	7.02.15.862	Needle clamp screw	针夹螺钉	1	
39	7.02.14.112	Needle bar thread stand	针棒线挂	1	
40	7.02.18.002	Disk type washer	盘形垫圈	2	
41	7.02.04.010	Needle bearing	滚针轴承 K 15×19×17	2	
42	7.02.08.004	Bushing	套管	2	
43	7.02.08.024	Needle clamp bushing	针夹套管		1
44	7.02.15.040	Bushing screw	套管螺钉		1
45	7.02.02.007	Needle holder	针榴（双针）		1
46		Needle holder screw	针榴螺钉		2
47	7.02.03.018	Needle bar	针棒		1
48		Needle	机针	1	2
49		Vibrating needle stopper plate	摆针限位板	1	
50		Stopper plate screw	限位板螺钉	1	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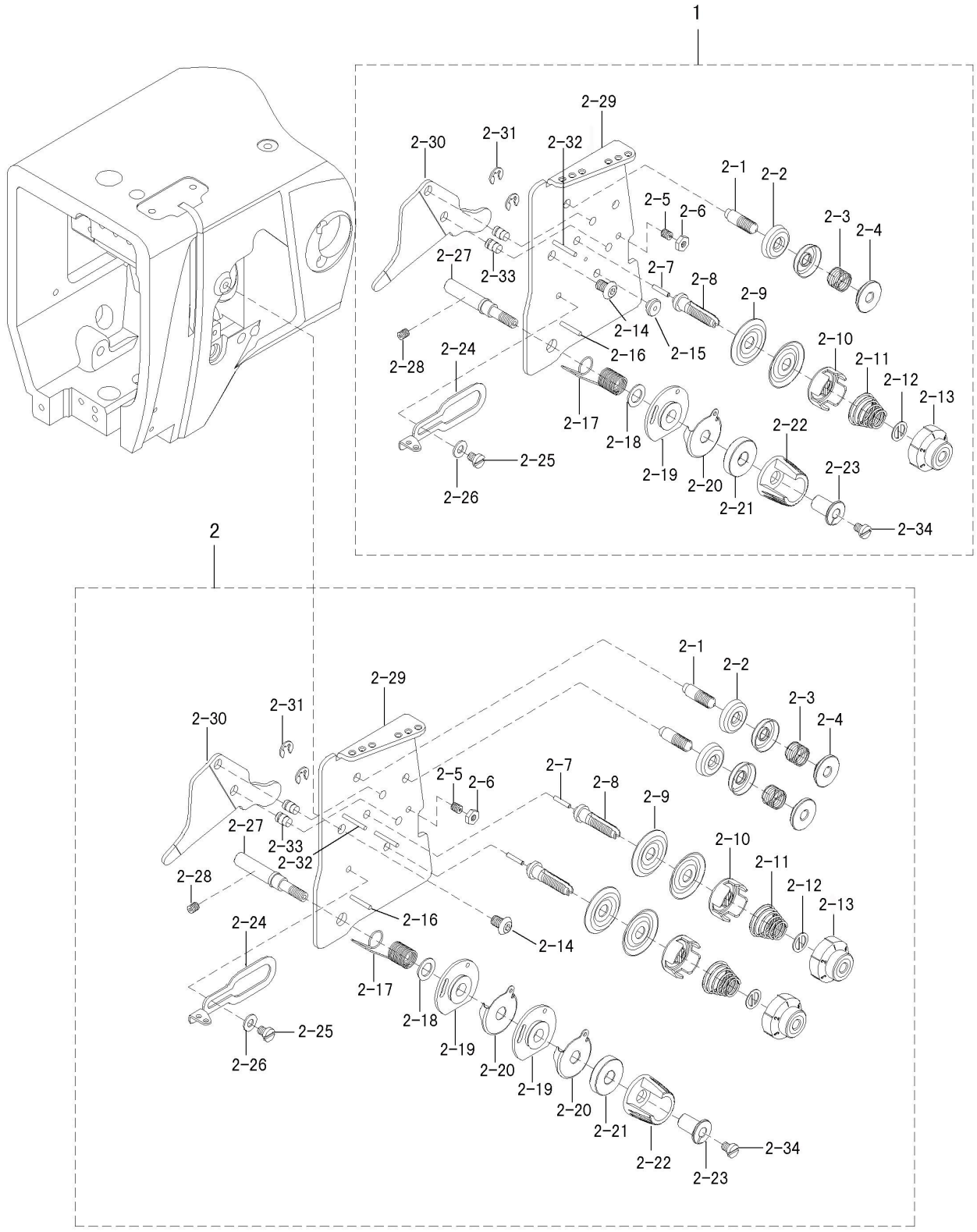
D. Thread tension regulator parts 夹线调节器部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.280	Thread tension regulator assy.	单针沙拉组	1	
2	7.02.01.282	Thread tension regulator assy.	双针沙拉组		1
2-1.		Screw	夹线调压螺钉	1	1
2-2.		Thread tension plate(Small)	小夹线板	1	2
2-3.		Spring	夹线调节弹簧	1	2
2-4.		Nut	夹线调节螺母	1	2
2-5.		Nut	螺母	1	1
2-6.		Screw	螺钉	1	1
2-7.		Thread releasing pin	松线销	1	2
2-8.		Screw	螺丝	1	2
2-9.		Thread tension disk	夹线板	2	4
2-10.		Tension disk	线调整压盘	1	2
2-11.		Adjusting spring	调整弹簧	1	2
2-12.		Spring plate	压簧板	1	2
2-13.		Nut	夹线螺帽	1	2
2-14.	7.02.15.960	Screw	螺钉	1	1
2-15.		Position bolck	过线调节板定位块	1	
2-16.		Thread releasing pin	松线销	1	2
2-17.		Thread take-up spring	挑线簧	1	1
2-18.		Washer	垫片	1	1
2-19.		Fixed plate	固定板	1	2
2-20.		Thread guide disk	过线盘	1	2
2-21.		Washer	垫圈	1	1
2-22.		Sleeve	挑线簧调节套筒	1	1
2-23.		Pipe casing	套环	1	1
2-24.		Thread guide plate	过线板	1	1
2-25.		Screw	螺钉	1	1
2-26.		Washer	垫片	1	1
2-27.		Adjustment shaft	挑线簧调节轴	1	1
2-28.	7.02.15.049	Screw	螺钉	1	1
2-29		Thread tension plate	夹线器板	1	1
2-30		Thread releasing plate	松线板	1	1
2-31		E type ring	E形卡簧	2	2
2-32		Thread releasing pin	松线销	1	1
2-33		Fixed pin	固定销	2	2
2-34		Screw	螺钉	1	1

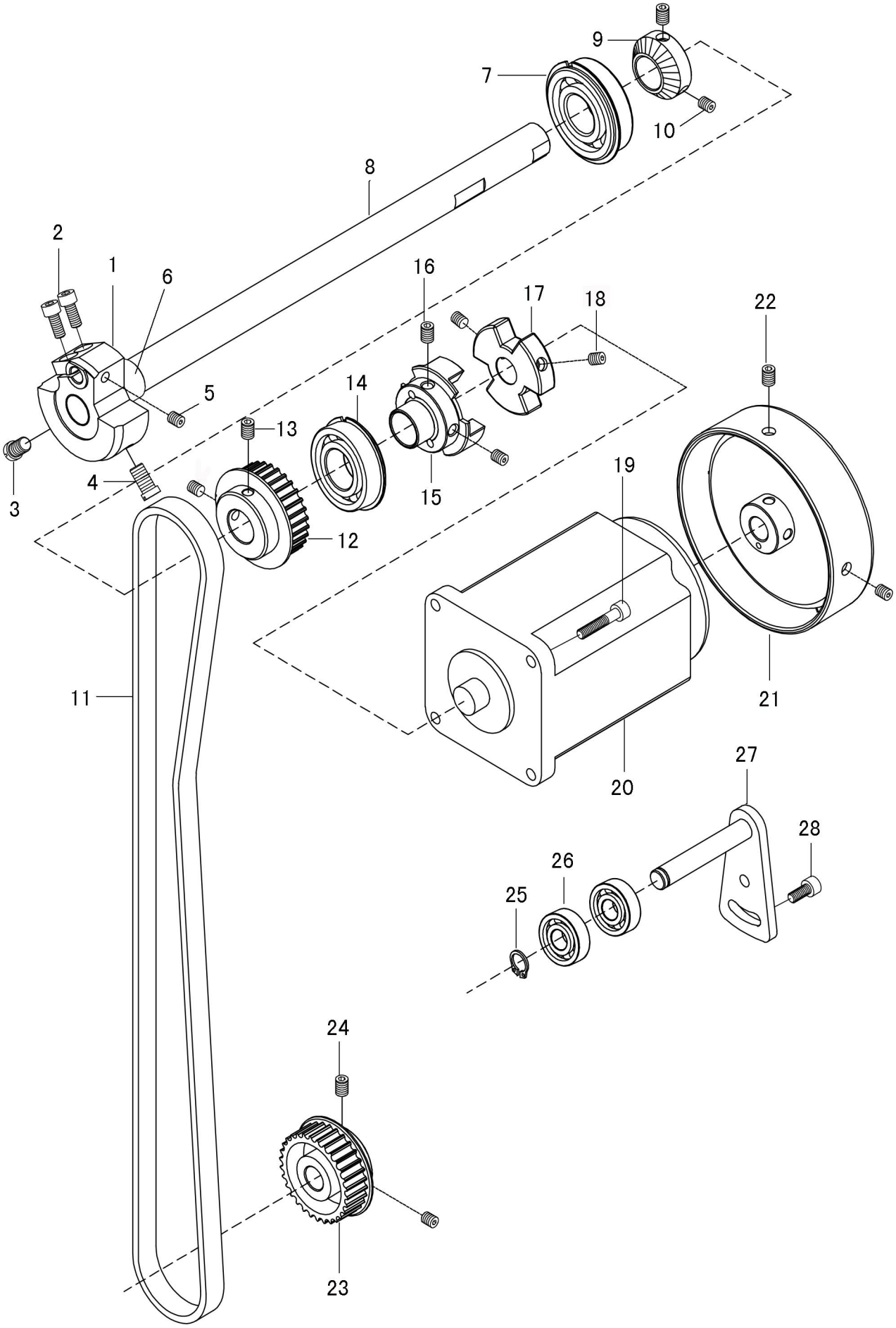
D. Thread tension regulator parts 夹线调节器部件



E. Main shaft driving parts 主动轴传动部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.358	Cam	凸轮	1	1
2	7.02.15.014	Screw	螺钉GB/T 70.1 M5×12	2	2
3	7.02.15.013	Cam position screw	凸轮定位螺钉 M7	1	1
4	7.02.15.053	Cam set screw	凸轮紧定螺钉 M7×13	1	1
5	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	1	1
6	7.02.09.004	Upper shaft bushing	上轴套环	1	1
7	7.02.04.008	Bearing	轴承 6204-2ZNR	1	1
8	7.02.03.330	Upper shaft	上轴	1	1
9	7.02.07.262	Thread winder driven wheel	绕线驱动轮	1	1
10	7.02.15.057	Driven wheel screw	驱动轮螺钉 M6×8	2	2
11		Timing belt	同步带	1	1
12		Timing belt wheel（Upper）	同步带轮（上）	1	1
13	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	2	2
14	7.02.04.152	Bearing	轴承	1	1
15		Coupling	轴联器	1	1
16	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	2	2
17		Elastic component of clutch	联轴器弹性元件	1	1
18	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	2	2
19		Mounting screw	电机螺钉 GB/T 70.1 M6×25	4	4
20		Direct driven motor	直驱电机	1	1
21		Pulley	主动轮	1	1
22		Set screw	紧定螺钉	2	2
23		Timing belt wheel（Lower）	同步带轮（下）	1	1
24	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	2	2
25		Elastic retaining ring	轴用弹性挡圈	1	1
26		Bearing	轴承	2	2
27		Tension wheel bracket	张紧轮支架	1	1
28		Screw	螺钉	1	1

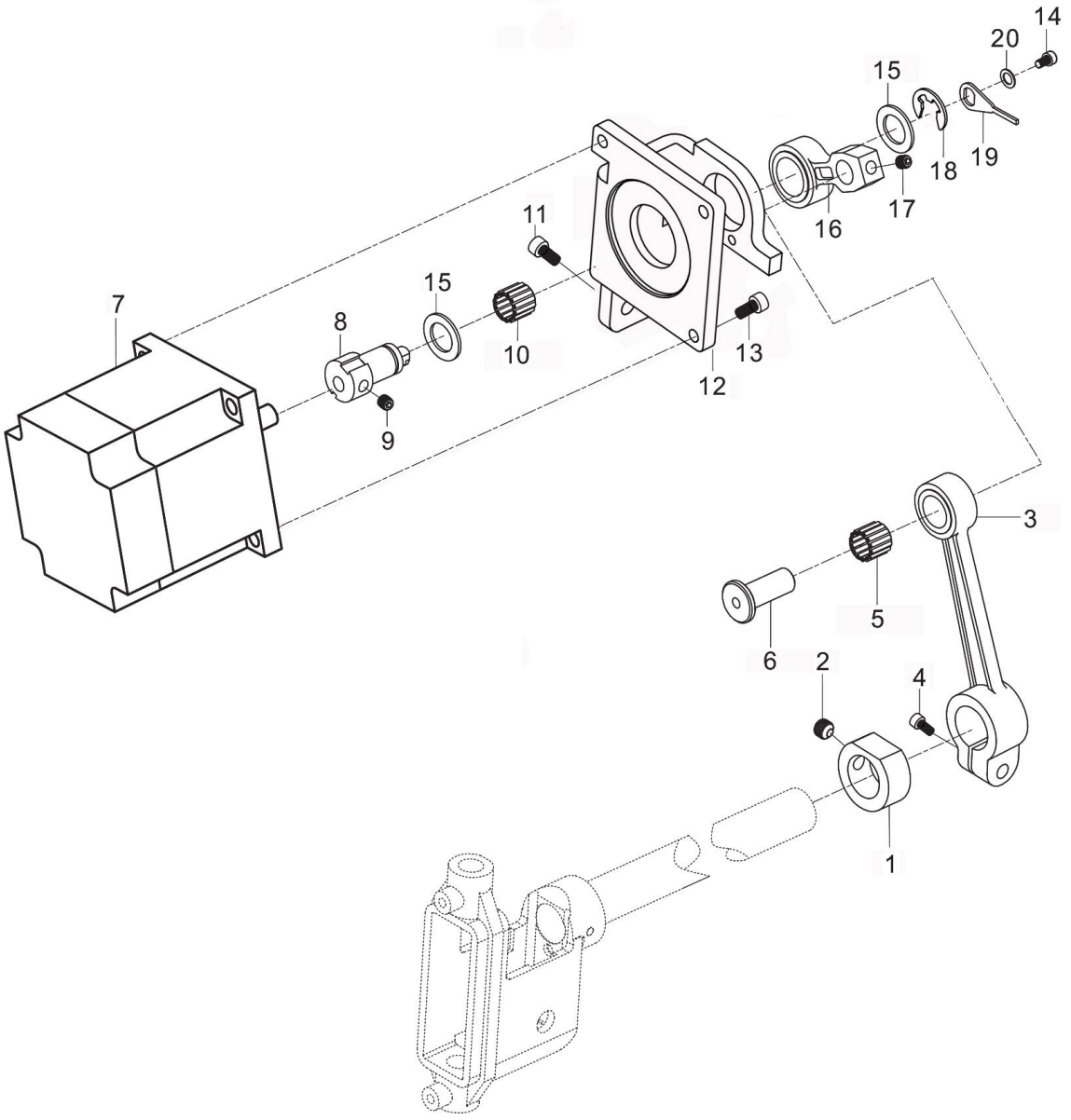
E. Main shaft driving parts 主动轴传动部件



F. Needle feed parts 针送料部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Retaining ring	针杆架轴挡圈	1	1
2		Screw	螺钉	1	1
3		Link	针送连杆	1	1
4		Screw	螺钉	1	1
5		Needle bearing	滚针轴承	1	1
6		Pin	针距调节连杆销	1	1
7		Vibrating needle step motor	摆针步进电机	1	1
8		Eccentric shaft	偏心轴	1	1
9		Screw	螺钉	1	1
10		Needle bearing	滚针轴承	1	1
11		Screw	螺钉	2	2
12		Motor seat	针送电机座	1	1
13		Screw	螺钉	3	3
14		Screw	螺钉	1	1
15		Washer	垫片	1	1
16		Crank link	曲柄连杆	1	1
17		Screw	螺钉	1	1
18		Retaining ring	挡圈	1	1
19		Sensing element	传感片	1	1
20		Washer	垫片	1	1

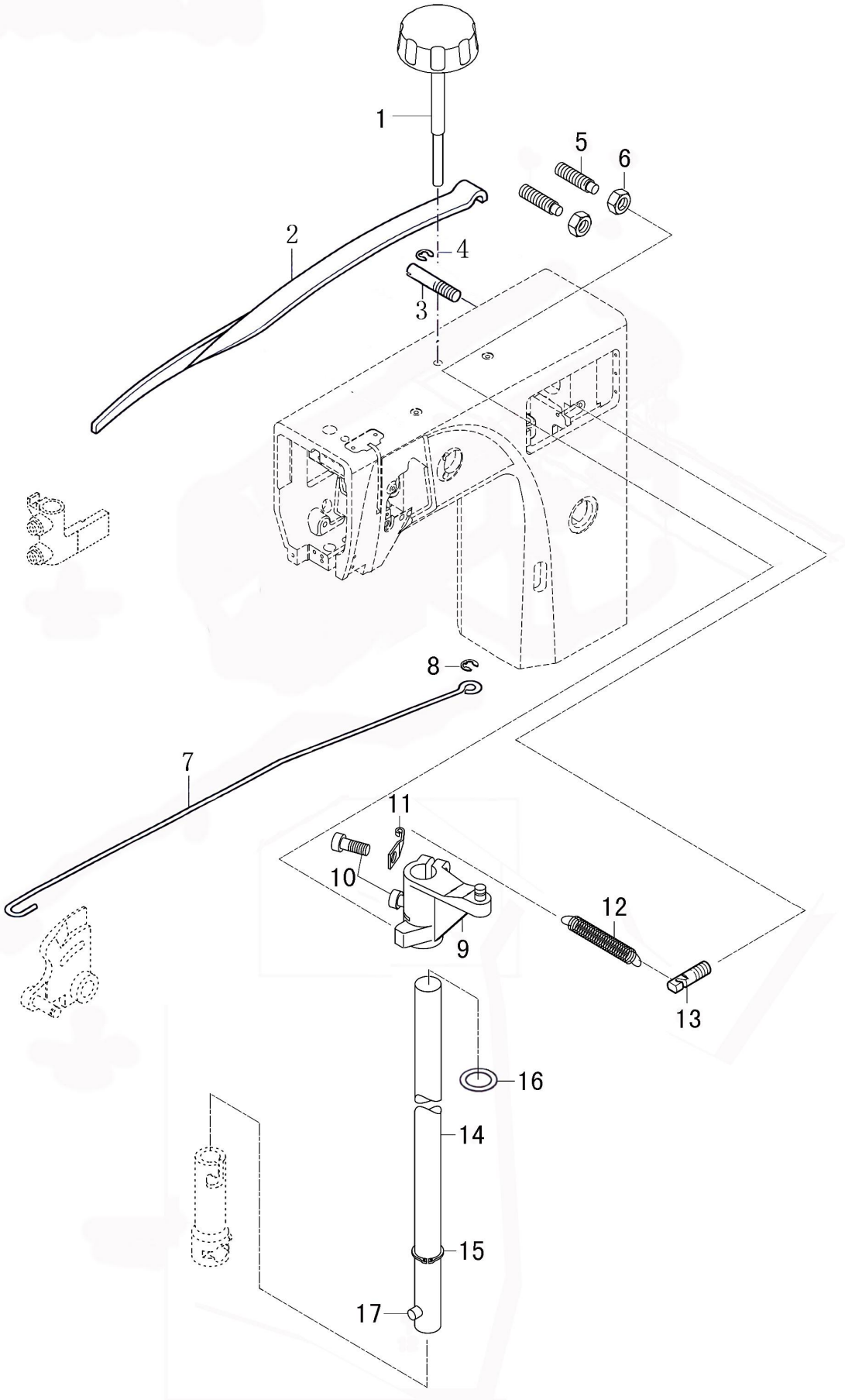
F. Needle feed parts 针送料部件



G. Presser foot lifting parts 压脚提升部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Adjusting presser handle	调压手柄	1	1
2	7.02.17.007	Elastic presser plate	弹片压板	1	1
3	7.02.15.791	Spring presser plate supporting screw	弹簧压板支撑螺钉 M6	1	1
4	7.02.18.039	Split retaining ring	开口挡圈 GB/T 896-5	1	1
5	7.02.15.020	Restrict screw	限位螺钉	2	2
6	7.02.15.067	Nut	螺母	2	2
7	7.02.17.410	Knee lifting lever connecting rod	脚弓连杆拉杆	1	1
8	7.02.18.031	Split retaining ring	开口挡圈	1	1
9	7.02.06.004	Upper and lower transport arm	上下输送支臂	1	1
10	7.02.15.053	Screw	螺钉 GB/T 70.1 M5×12	2	2
11	7.02.17.003	Spring fixed plate	弹簧固定板	1	1
12	7.02.17.010	Stretch spring	拉伸弹簧	1	1
13	7.02.10.368	Spring hanger	拉簧挂钩	1	1
14	7.02.03.005	Shaft	脚押动轴	1	1
15	7.02.18.023	Elastic retaining ring	轴用弹性挡圈	1	1
16	7.02.18.012	Washer	平垫圈	1	1
17	7.02.10.006	Fixed pin	固定销	1	1

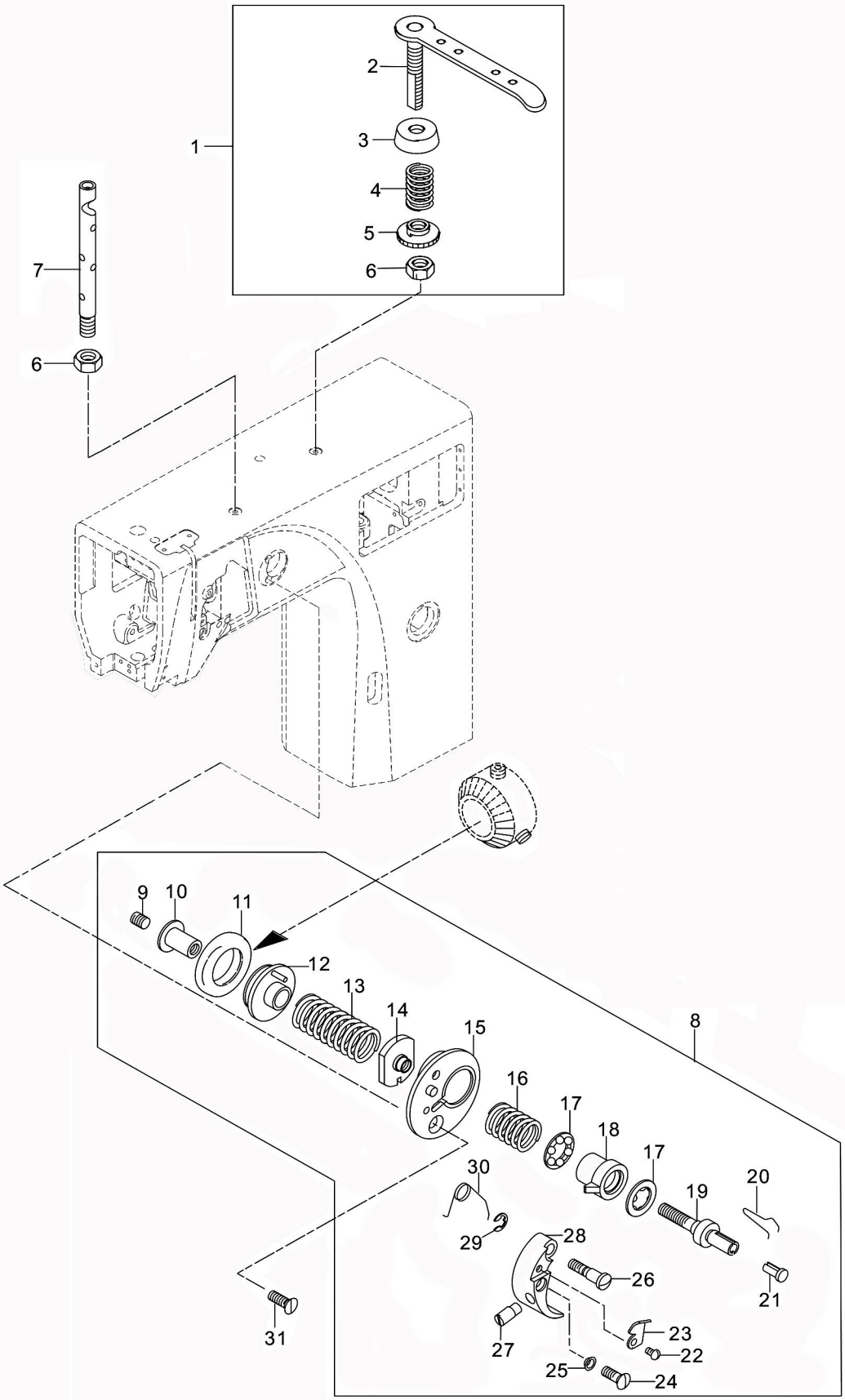
G. Presser foot lifting parts 压脚提升部件



H. Bobbin winder parts 绕线器部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.302	Thread guide	过线器	1	1
2		Thread guide bar	过线杆	1	1
3		Adjusting spring seat	调节弹簧座	1	1
4		Spring	弹簧	1	1
5		Nut	夹线调节螺母	1	1
6		Nut	螺母	1	1
7	7.02.21.029	Thread post	线柱	1	1
8	7.02.01.281	Bobbin winder assy.	绕线器组件	1	1
9		Stopper screw	止动螺钉 GB／T65 M5×8	1	1
10		Stopper block	止动块	1	1
11		Rubber ring	橡胶圈	1	1
12		Driven wheel	驱动轮	1	1
13		Spring	弹簧	1	1
14		Adjusting plate	调整板	1	1
15		Bobbin winder seat	绕线器座	1	1
16		Spring	复位弹簧	1	1
17		Bearing	轴承	2	2
18		Bushing	绕线轴衬套	1	1
19		Shaft	绕线轴	1	1
20		Spring	梭芯夹簧	1	1
21		Plastic plug	塑料塞	1	1
22		Cutter screw	切线刀螺丝	1	1
23		Cutter	切线刀	1	1
24		Screw	螺丝	1	1
25		Washer	垫圈	1	1
26		Screw	螺钉	1	1
27		Adjusting bar	线量调节杆	1	1
28		Adjusting seat	绕线器调节座	1	1
29		Spring	扭簧	1	1
30		E type ring	E型卡簧	1	1
31	7.02.15.032	Screw	螺钉	1	1

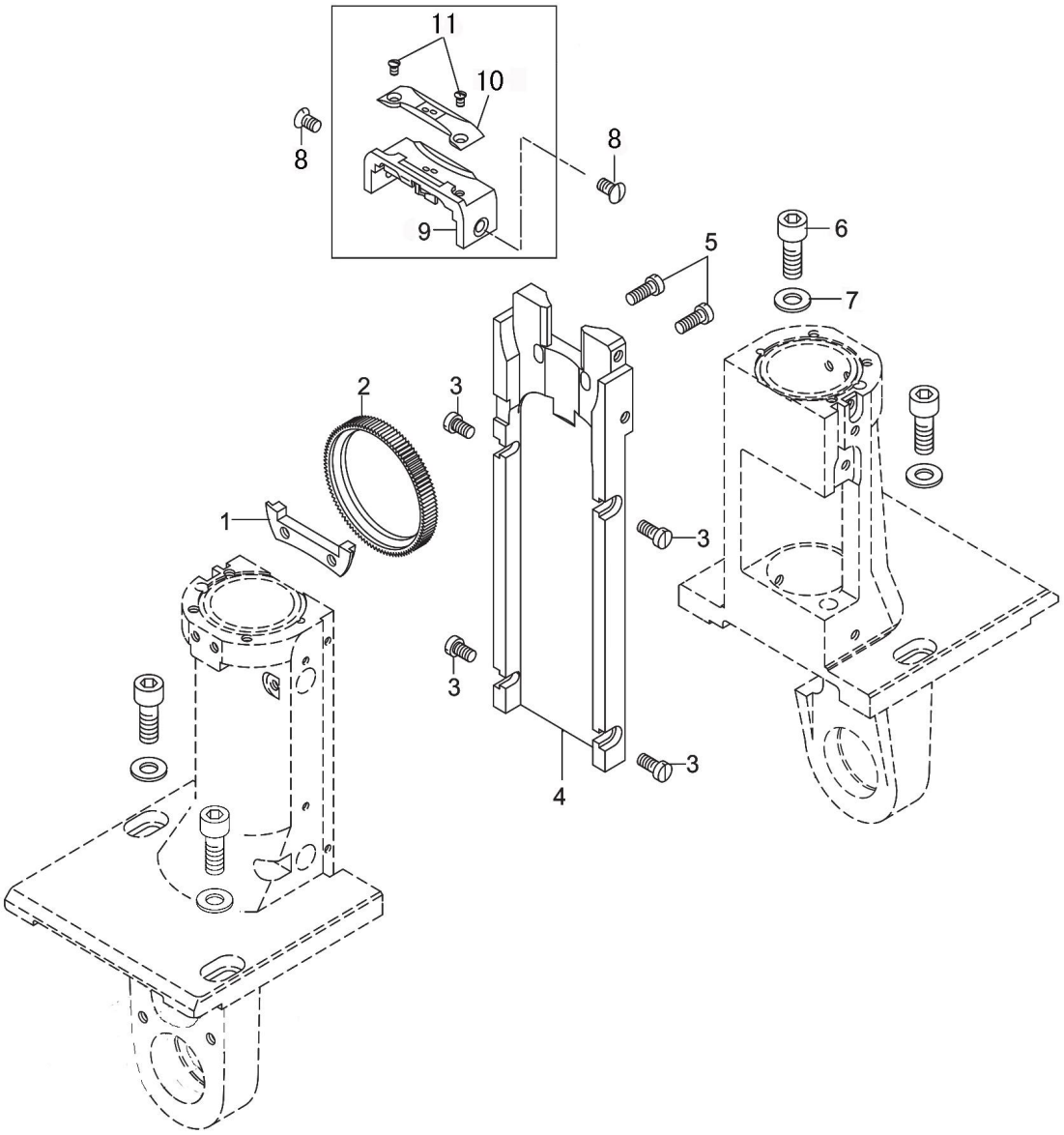
H. Bobbin winder parts 绕线器部件



I. Bed plate feed parts for 2 needle 双针中座部件

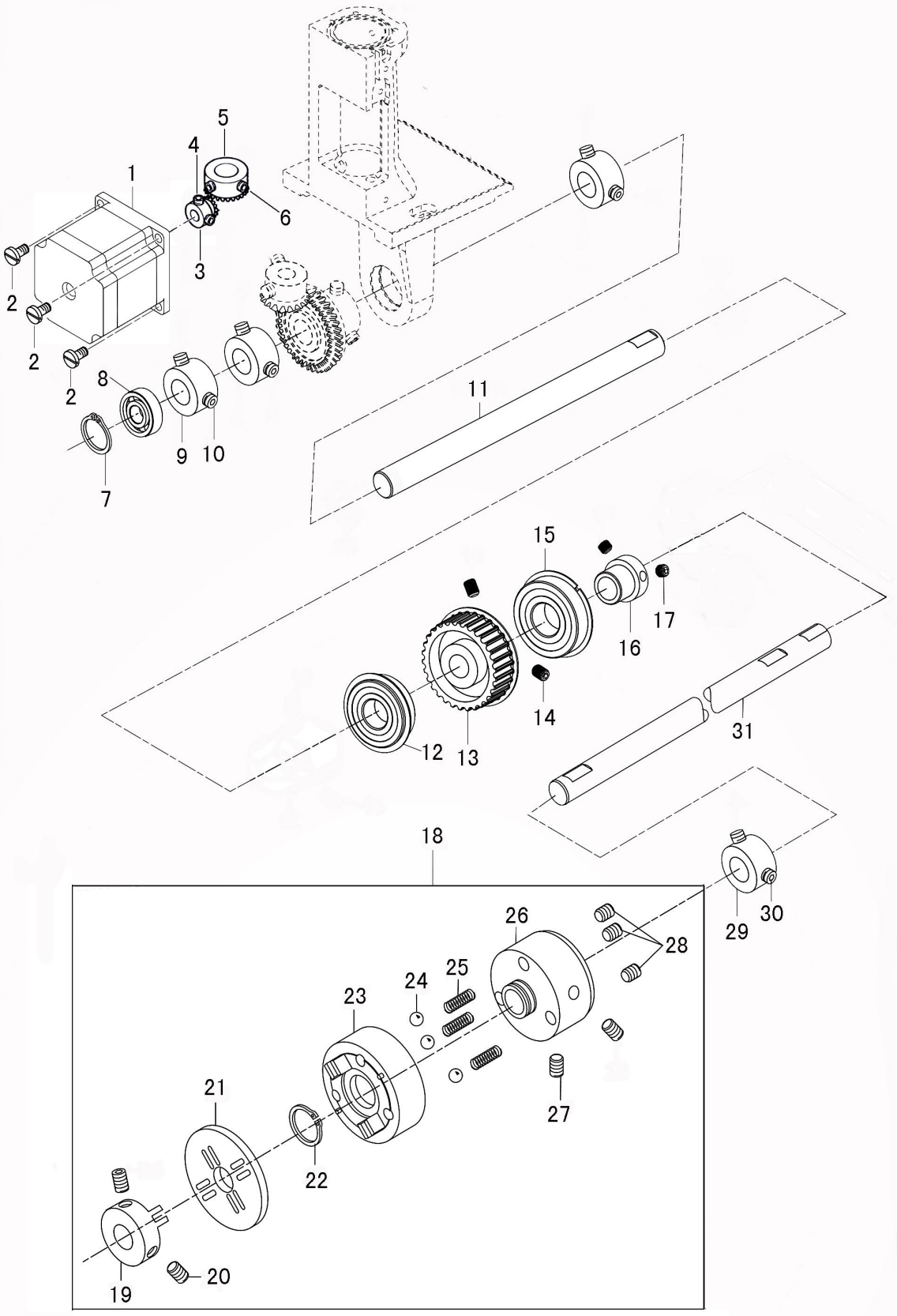
No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.17.002	Feed wheel fixed plate	送料轮固定板		1
2	7.02.07.013	Feed wheel	送料齿		1
3	7.02.15.006	Support plate screw	双针中座螺钉 GB/T 65 M4×8		4
4	7.02.13.29101	Support plate	双针中座		1
5	7.02.15.017	Fixed plate screw	固定板螺钉 GB/T 65 M4×10		2
6	7.02.15.965	Screw	螺钉 GB/T 70.1 M6×16	2	2
7	7.02.18.003	Washer	垫圈	2	2
8	7.02.15.032	Needle plate screw	针板螺钉 M4×8		2
9		Needle plate	双针针板		1
10		Small needle plate	小针板		1
11	7.02.23.112	Small needle plate screw	小针板螺钉		2

I. Bed plate feed parts for 2 needle 双针中座部件



J. Lower feed and clutch set parts 下送料及离合器部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Lower feed step motor	下送料步进电机	1	1
2		Motor mounting screw	电机安装螺钉	4	4
3		Gear (Small)	齿轮（小）	1	1
4		Screw	螺钉	2	2
5		Gear (Large)	齿轮（大）	1	1
6		Screw	螺钉	2	2
7		Retaining ring	轴用挡圈	1	1
8		Bearing	轴承	1	1
9	7.02.09.079	Lower shaft collar	下轴紧圈	3	3
10	7.02.15.056	Screw	螺钉 GB/T 77 M5×5	6	6
11		Lower shaft（Left）	下轴（左）	1	1
12		Bearing（Left）	轴承（左）	1	1
13		Timing belt wheel (Lower)	同步带轮（下）	1	1
14		Screw	螺钉	2	2
15	7.02.15.051	Position screw	定位螺钉 M6×0.75×8.5	1	1
16	7.02.15.050	Set screw	紧定螺钉 M6×0.75×8	1	1
17	7.02.04.013	Bearing (Right)	轴承（右） 6203-2ZNR	1	1
18	7.02.01.354	Safety clutch assy.	安全离合器组件	1	1
19		Coupling（Left）	轴联器（左）	1	1
20		Set screw	紧定螺钉 GB/T 70.1 M5×6	2	2
21		Connecting plate	连接板	1	1
22		Elastic stop ring	轴用弹性卡簧	2	2
23		Coupling（Right）	轴联器（右）	1	1
24		Ball	钢珠	3	3
25		Spring	弹簧	3	3
26		Clutch seat	离合器座	1	1
27		Set screw	紧定螺钉	2	2
28		Adjusting screw	调节螺钉 GB/T 70.2 M5×10	3	3
29		Retaining ring	挡圈	1	1
30		Screw	螺钉	2	2
31		Lower shaft（Right）	下轴（右）	1	1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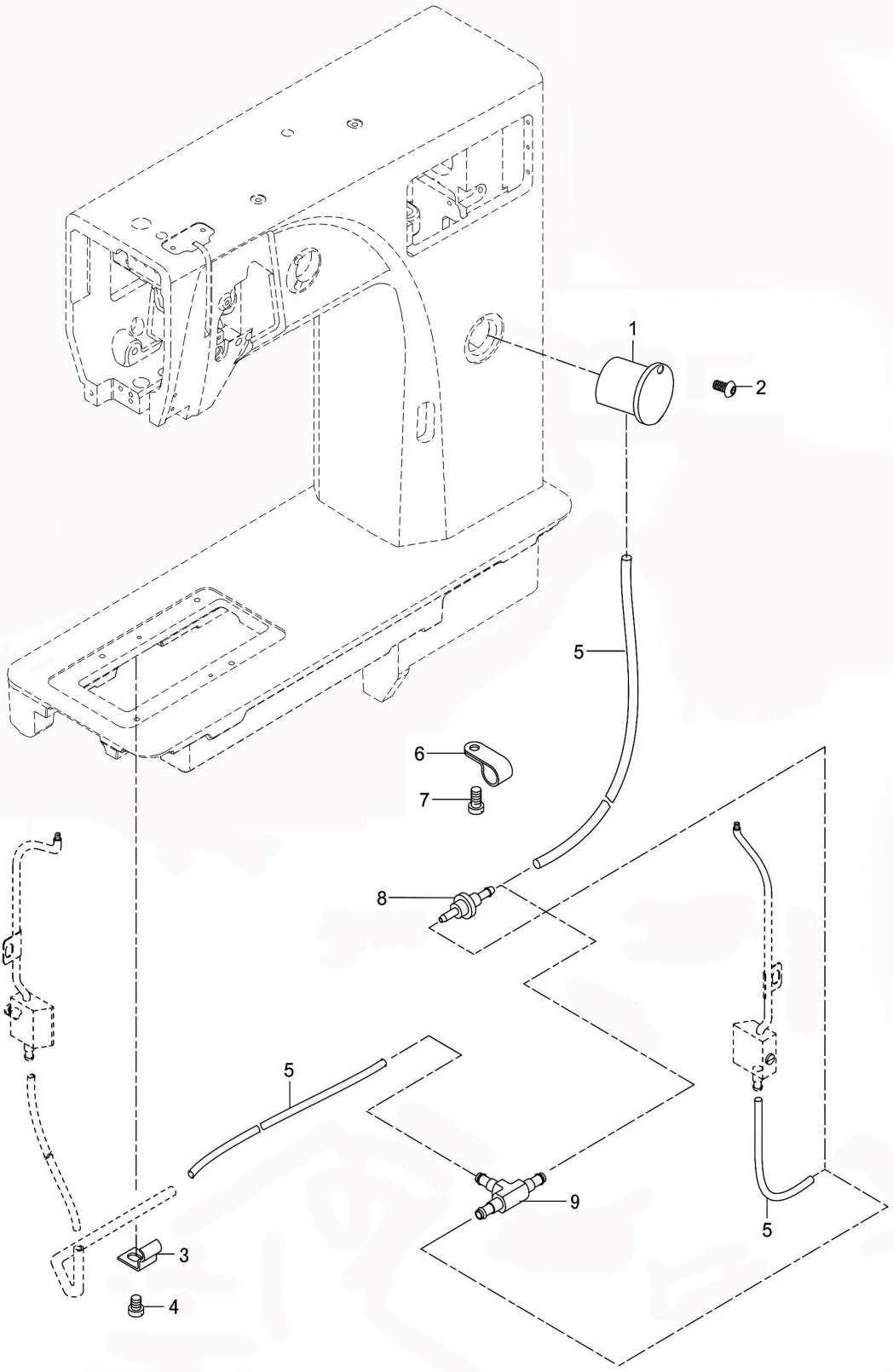
K. Oil lubrication parts 润滑部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Oil box	油盒	1	1
2		Screw	螺钉	1	1
3	7.02.17.412	Oil tube clamp	油管夹	1	1
4	7.02.15.022	Screw	螺钉 M4×4.5	1	1
5	7.02.16.047	Oil tube	油管	1	1
6	7.02.16.166	Oil tube clamp	油管夹	1	1
7	7.02.15.006	Screw	螺钉	1	1
8	7.02.16.307	Oil tube joint	油管接头	1	1
9	7.02.16.250	Three-way oil tube joint	三通油管接头		1

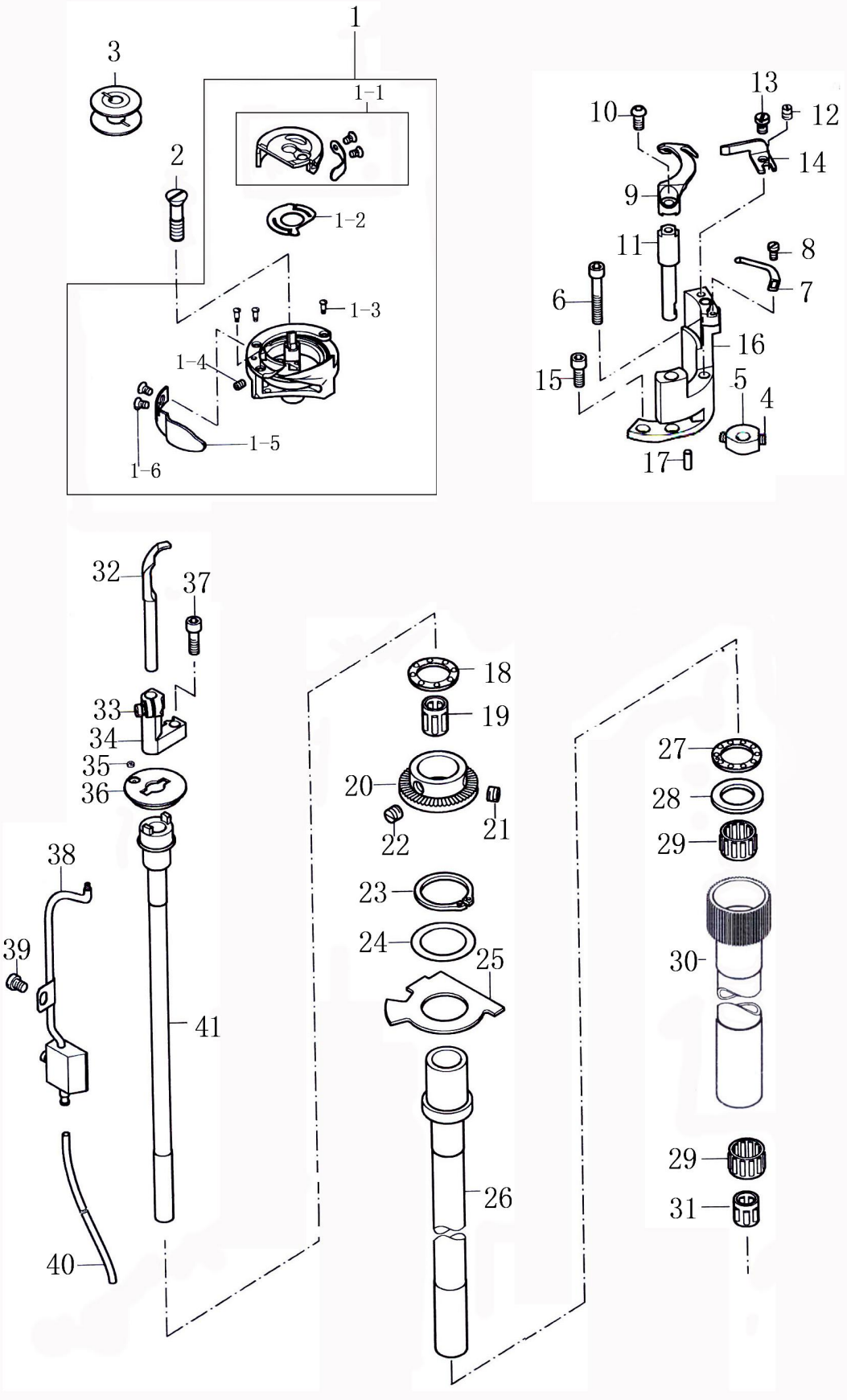
K. Oil lubrication parts 润滑部件



L. Hook parts (Left) 旋梭勾线、剪线部件（左）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.285	Hook assy.	旋梭组件		1
1-1		Bobbin case	旋梭壳组		1
1-2		Elastic gasket	阻尼弹片		1
1-3		Screw	螺钉		3
1-4		Screw	螺钉		1
1-5		Needle guard slice	护针片		1
1-6		Screw	护针片螺钉		2
2	7.02.15.038	Screw	旋梭螺钉 M5×20		1
3	7.02.21.385	Bobbin	锁芯		1
4	7.02.15.047	Screw	螺钉 M4		2
5	7.02.07.205	Driven gear	动刀传动齿轮		1
6	7.02.15.799	Screw（Long）	螺钉（长） GB/T 70.1 M4×25		1
7	7.02.20.051	Thread trimming clamp plate	剪线夹线板		1
8	7.02.15.801	Screw	夹线板螺钉		1
9	7.02.20.052	Movable knife	动刀		1
10	7.02.15.973	Screw	动刀螺钉		1
11	7.02.03.342	Driven shaft	动刀转动轴		1
12	7.02.10.458	Eccentric pin	偏心销		1
13	7.02.15.433	Screw	定刀螺钉 M4×6		1
14	7.02.20.050	Fixed knife	定刀		1
15	7.02.15.063	Screw（Short）	螺钉（短） GB/T 70.1 M4×10		1
16	7.02.01.352	Movable knife bracket	动刀架组件		1
17	7.02.10.370	Position pin	定位销		1
18	7.02.04.019	Bearing	平面轴承		1
19	7.02.04.018	Needle bearing	滚针轴承 K8×11×13		1
20	7.02.07.206	Gear	送料平面齿轮		1
21	7.02.15.054	Screw	齿轮螺钉 M6×0.75×5		1
22	7.02.15.247	Set screw	齿轮紧定螺钉 1/4×40×4		2
23	7.02.18.255	Elastic retaining ring	轴用弹性挡圈		1
24	7.02.18.256	Washer	垫圈		1
25	7.02.11.386	Oil guard plate	防油板		1
26	7.02.08.027	Bushing	釜轴中套管		1
27	7.02.04.113	Bearing	推力轴承 BTM14222.5		1
28	7.02.18.257	Washer	垫圈		1
29	7.02.04.020	Bearing	轴承 K14×17×10		2
30	7.02.01.356	Bushing	釜轴外套管		1
31	7.02.04.009	Needle bearing	滚针轴承 K8×11×10		1
32	7.02.01.288	Thread distributing claw	分线勾		1
33	7.02.15.420	Screw	螺钉 GB/T 65 M4×6		1
34	7.02.01.289	Thread distributing claw bracket	分线勾座		1
35	7.02.16.300	Seal ring	密封圈		1
36	7.02.11.385	Oil supply plate	旋梭供油板		1
37	7.02.15.577	Screw	螺钉 GB/T 70.1 M4×12		1
38	7.02.16.303	Oil supply valve	旋梭供油阀组件		1
39	7.02.15.022	Screw	螺钉 M4×4.5		1
40	7.02.16.047	Oil tube	油管		1
41	7.02.03.340	Shaft	旋梭轴		1

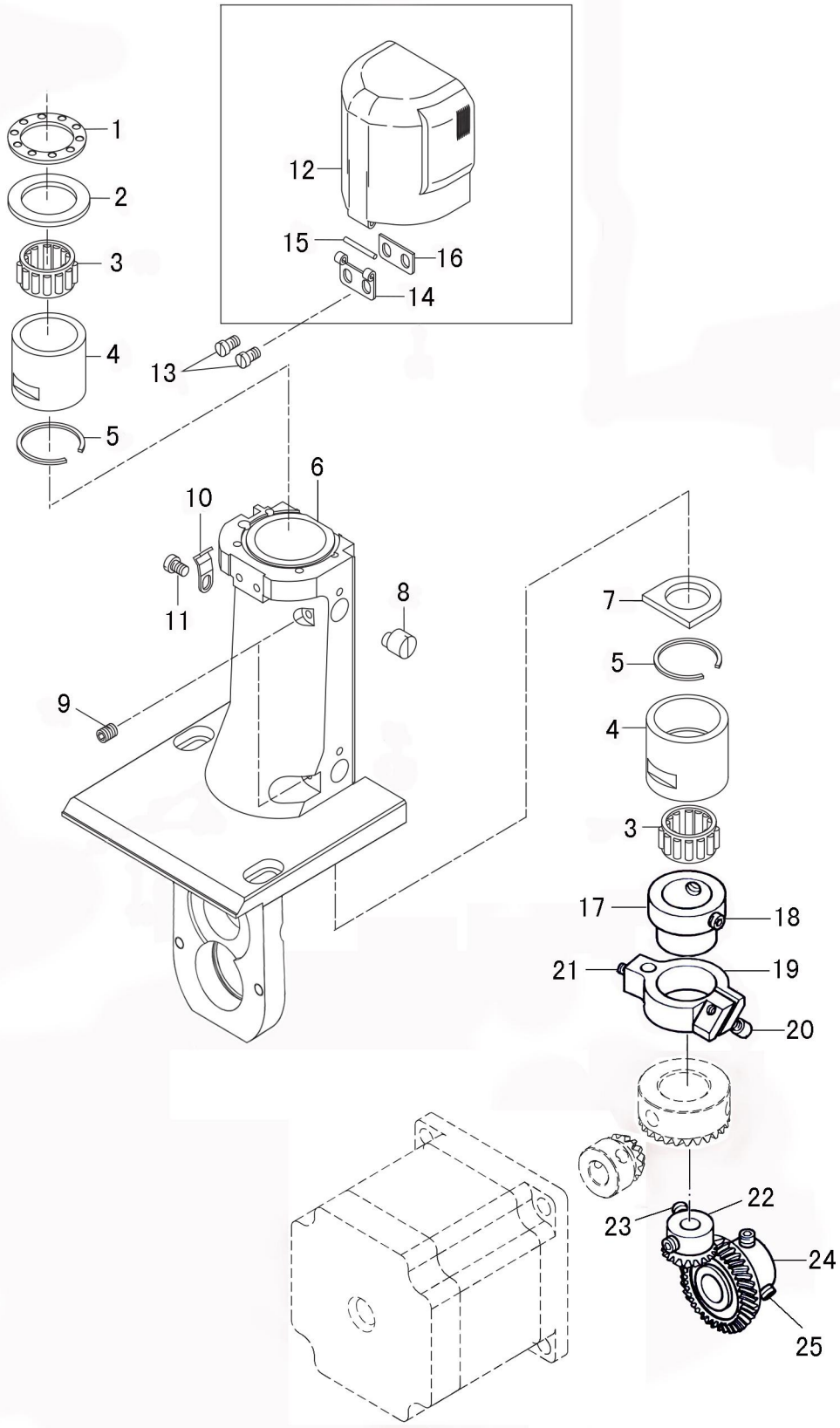
L. Hook parts (Left) 旋梭勾线、剪线部件（左）



M. Side bracket parts (Left) 边座部件（左）

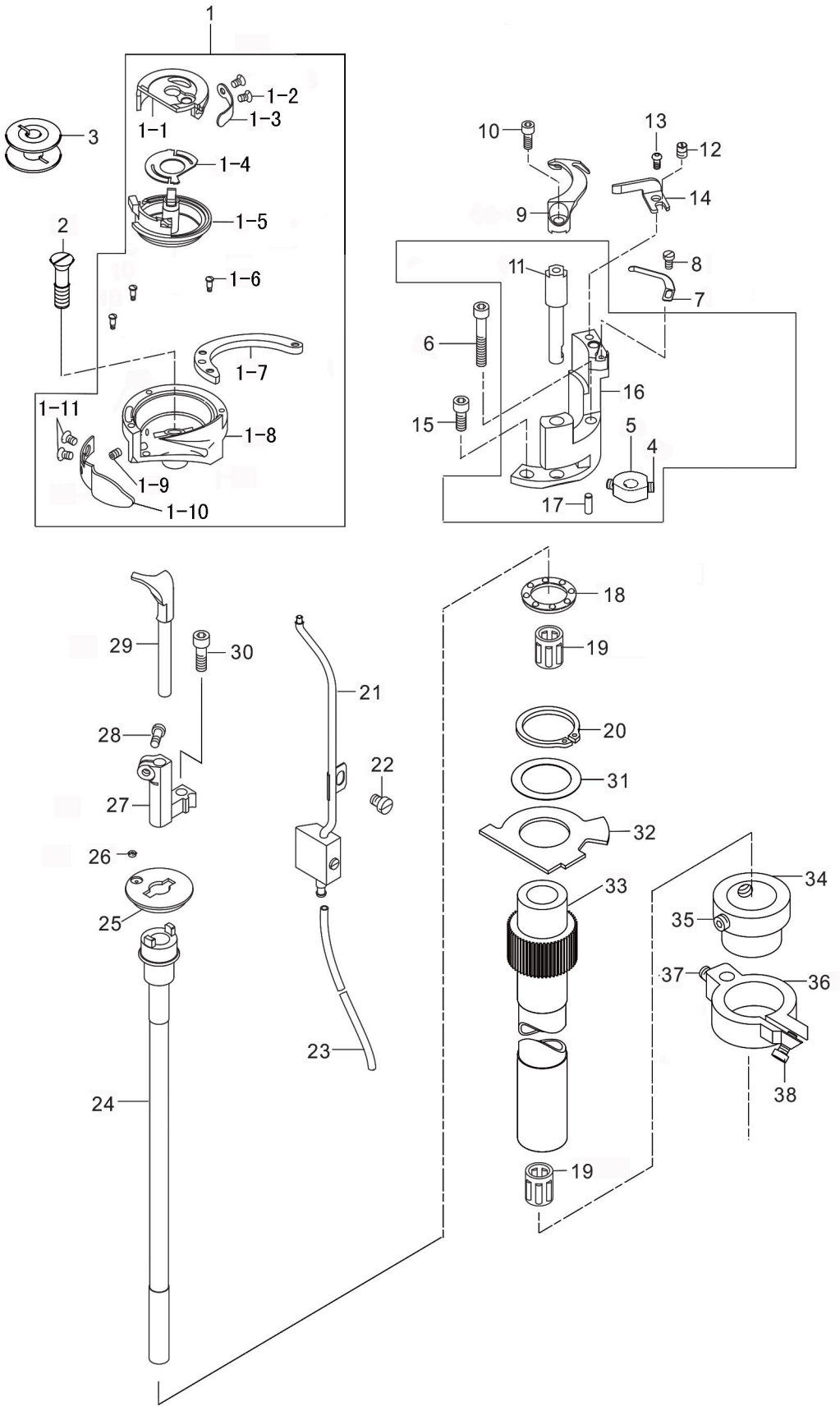
No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.04.111	Bearing	推力轴承 BTM20303.5		1
2	7.02.18.253	Washer	垫圈		1
3	7.02.04.112	Needle bearing	滚针轴承 K20×24×13		2
4	7.02.08.393	Bushing	釜轴轴套		2
5	7.02.18.254	Elastic retaining ring	弹性挡圈		2
6		Left side bracket	左边座		1
7	7.02.16.301	Oil felt	羊毛毡		1
8	7.02.10.011	Adjusting pin	调整销		1
9	7.02.15.035	Set screw	紧定螺钉 GB/T 73 M4×6		1
10	7.02.17.350	Spring plate	弹簧板		1
11	7.02.15.433	Screw	螺钉 M4×6		1
12	7.02.02.391	Post cap assy.	釜盖		1
13	7.02.15.005	Screw	螺钉 GB/T 65 M4×8		2
14		Post cap turning seat	釜盖转动座		1
15		Pin	销		1
16		Washer	垫片		1
17	7.02.09.080	Collar	釜轴套管紧圈		1
18	7.02.15.054	Screw	螺钉 M6×0.75×5		2
19	7.02.06.278	Thread trimming crank	剪线曲柄		1
20	7.02.15.063	Screw	螺钉 GB/T 70.1 M4×10		1
21	7.02.15.056	Set screw	紧定螺钉 GB/T 74 M5×5		1
22	7.02.07.011	Gear（Small）	齿轮（小）		1
23	7.02.15.054	Screw	齿轮螺钉 M6×0.75×5		2
24	7.02.07.012	Gear（Large）	齿轮（大）		1
25	7.02.15.050	Screw	齿轮螺丝 M6×0.75×8		2

M. Side bracket parts (Left) 边座部件（左）



N. Hook parts (Right) 旋梭勾线、剪线部件（右）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.285	Hook assy.	旋梭组件	1	1
1-1		Hook-top	梭头体	1	1
1-2		Screw	板式弹簧螺钉	2	2
1-3		Spring	板式弹簧	1	1
1-4		Elastic gasket	阻尼弹片	1	1
1-5		Bobbin case base	梭宛	1	1
1-6		Screw	螺钉	3	3
1-7		Hook gib	内梭头舌	1	1
1-8		Bobbin case	梭壳	1	1
1-9		Screw	螺钉	1	1
1-10		Needle guard slice	护针片	1	1
1-11		Screw	护针片螺钉	2	2
2	7.02.15.038	Screw	旋梭螺钉 M5×20	1	1
3	7.02.21.385	Bobbin	梭心	1	1
4	7.02.15.047	Screw	螺钉	2	2
5	7.02.07.205	Driven gear	动刀传动齿轮	1	1
6	7.02.15.799	Screw（Long）	螺钉（长）GB/T 70.1 M4×25	1	1
7	7.02.20.051	Thread trimming clamp plate	剪线夹线板	1	1
8	7.02.15.801	Screw	夹线板螺钉	1	1
9	7.02.20.052	Movable knife	动刀	1	1
10	7.02.15.973	Screw	动刀螺钉	1	1
11	7.02.03.342	Driven shaft	动刀传动轴	1	1
12	7.02.10.458	Eccentric pin	偏心销	1	1
13	7.02.15.433	Screw	定刀螺钉 M4×6	1	1
14	7.02.20.050	Fixed knife	定刀	1	1
15	7.02.15.063	Screw（Short）	螺钉（短）GB/T 70.1 M4×10	1	1
16	7.02.01.352	Movable knife bracket	动刀架组件	1	1
17	7.02.10.370	Restrict pin	限位销	1	1
18	7.02.04.019	Bearing	平面轴承	1	1
19	7.02.04.018	Needle bearing	滚针轴承	2	2
20	7.02.18.251	Elastic retaining ring	轴用弹性挡圈 GB/T 894.1 21	1	1
21	7.02.16.303	Oil supply valve	旋梭供油阀组件	1	1
22	7.02.15.022	Fixed screw	供油阀固定螺钉	1	1
23	7.02.16.047	Oil tube	油管	1	1
24	7.02.03.340	Shaft	釜轴	1	1
25	7.02.11.385	Oil supply plate	旋梭供油板	1	1
26	7.02.16.300	Seal ring	密封圈	1	1
27	7.02.01.289	Thread distributing claw bracket	分线勾座	1	1
28	7.02.15.420	Screw	螺钉 GB/T 65 M4×6	1	1
29	7.02.01.288	Thread distributing claw	分线勾	1	1
30	7.02.15.577	Screw	螺钉 GB/T 70.1 M4×12	1	1
31	7.02.18.252	Washer	垫圈	1	1
32	7.02.11.386	Oil guard plate	防油板	1	1
33	7.02.08.392	Bushing	釜轴套管	1	1
34	7.02.09.080	Bushing collar	釜轴套管紧圈	1	1
35	7.02.15.054	Screw	螺钉 M6×0.75×6	2	2
36	7.02.06.279	Thread trimming crank	剪线曲柄	1	1
37	7.02.15.056	Crank screw	曲柄螺钉 GB/T 74 M5×5	1	1
38	7.02.15.063	Set screw	紧定螺钉 GB/T 70.1 M4×10	1	1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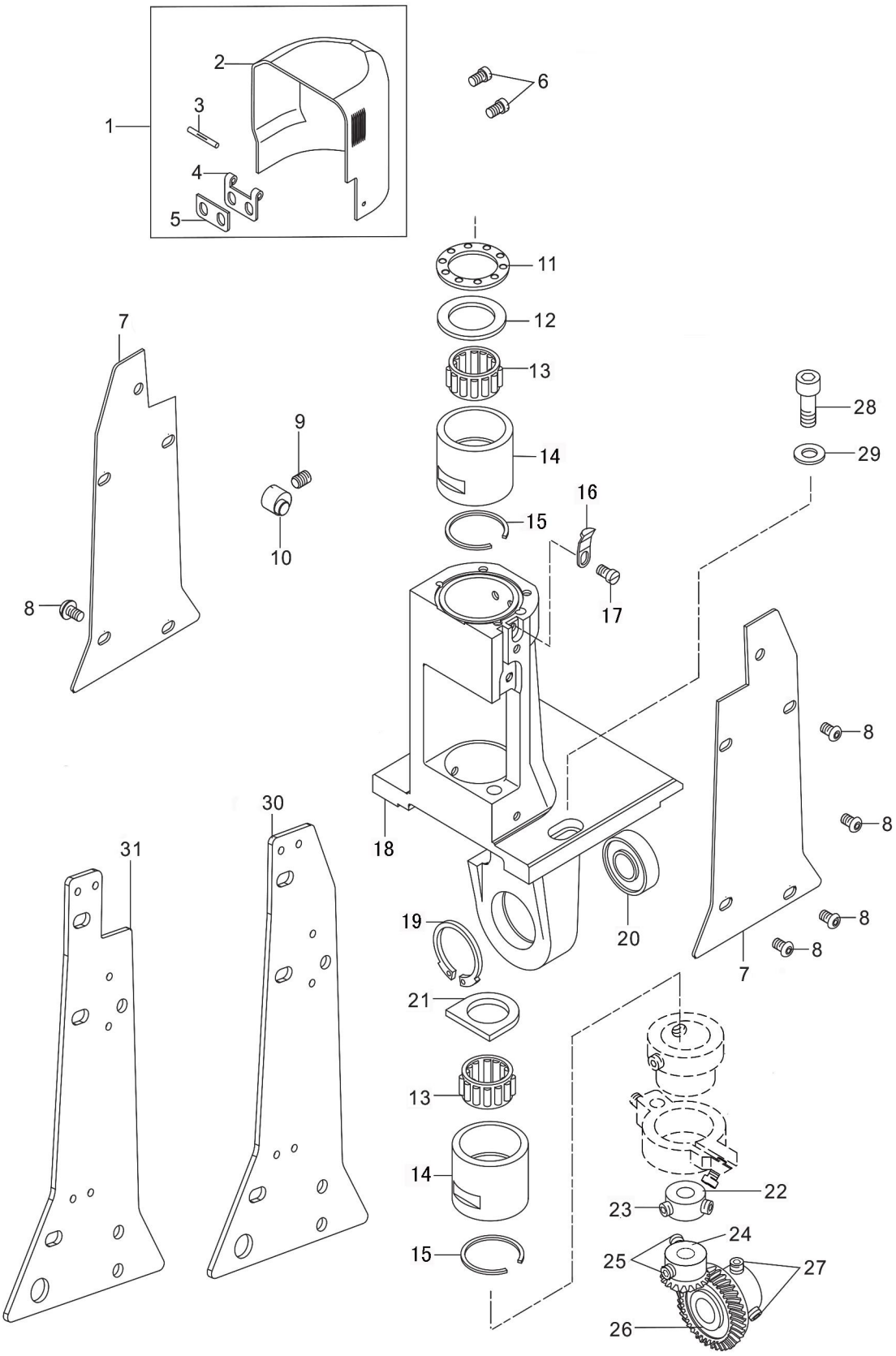
0. Side bracket parts (Right) 边座部件（右）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Post cap assy.	釜盖组件		
2		Post cap	釜盖		
3		Pin	销		
4		Post cap turning seat	釜盖转动座		
5		Washer	垫片		
6	7.02.15.005	Set screw	紧定螺钉 GB/T 65 M4×8	2	4
7	7.02.11.485	Cover plate	边盖板		2
8	7.02.15.973	Cover plate screw	边盖板螺钉	6	10
9	7.02.15.035	Adjusting pin set screw	调整销紧定螺钉 GB/T 73 M4×6	1	1
10	7.02.10.011	Adjusting pin	调整销	1	1
11	7.02.04.111	Bearing	推力轴承 BTM20303.5	1	1
12	7.02.18.253	Washer	垫圈	1	1
13	7.02.04.112	Needle bearing	滚针轴承 K20×24×13	2	2
14	7.02.08.393	Bushing	釜轴轴套	1	1
15	7.02.18.254	Elastic retaining ring	弹性挡圈	1	1
16	7.02.17.350	Spring plate	弹簧板	1	1
17	7.02.15.433	Screw	弹簧板螺钉 M4×6	1	1
18	7.02.13.29001	Side bracket (Right)	右边座	1	1
19	7.02.18.250	Elastic retaining ring	孔用弹性挡圈	1	1
20	7.02.04.110	Ball bearing	滚珠轴承 6001-2Z	1	1
21	7.02.16.301	Oil felt	羊毛毡	1	1
22	7.02.09.115	Retaining ring	挡圈	1	1
23	7.02.15.054	Screw	螺钉 M6×0.75×5	2	2
24	7.02.07.011	Gear (Small)	齿轮（小）	1	1
25	7.02.15.054	Screw	齿轮螺钉 M6×0.75×5	2	2
26	7.02.07.012	Gear (Large)	齿轮（大）	1	1
27	7.02.15.050	Screw	齿轮螺钉 M6×0.75×8	2	2
28	7.02.15.965	Screw	螺钉 GB/T 70.1 M6×16	2	2
29	7.02.18.003	Washer	垫圈	2	2
30		Cover plate	边盖板	1	
31		Cover plate	边盖板	1	

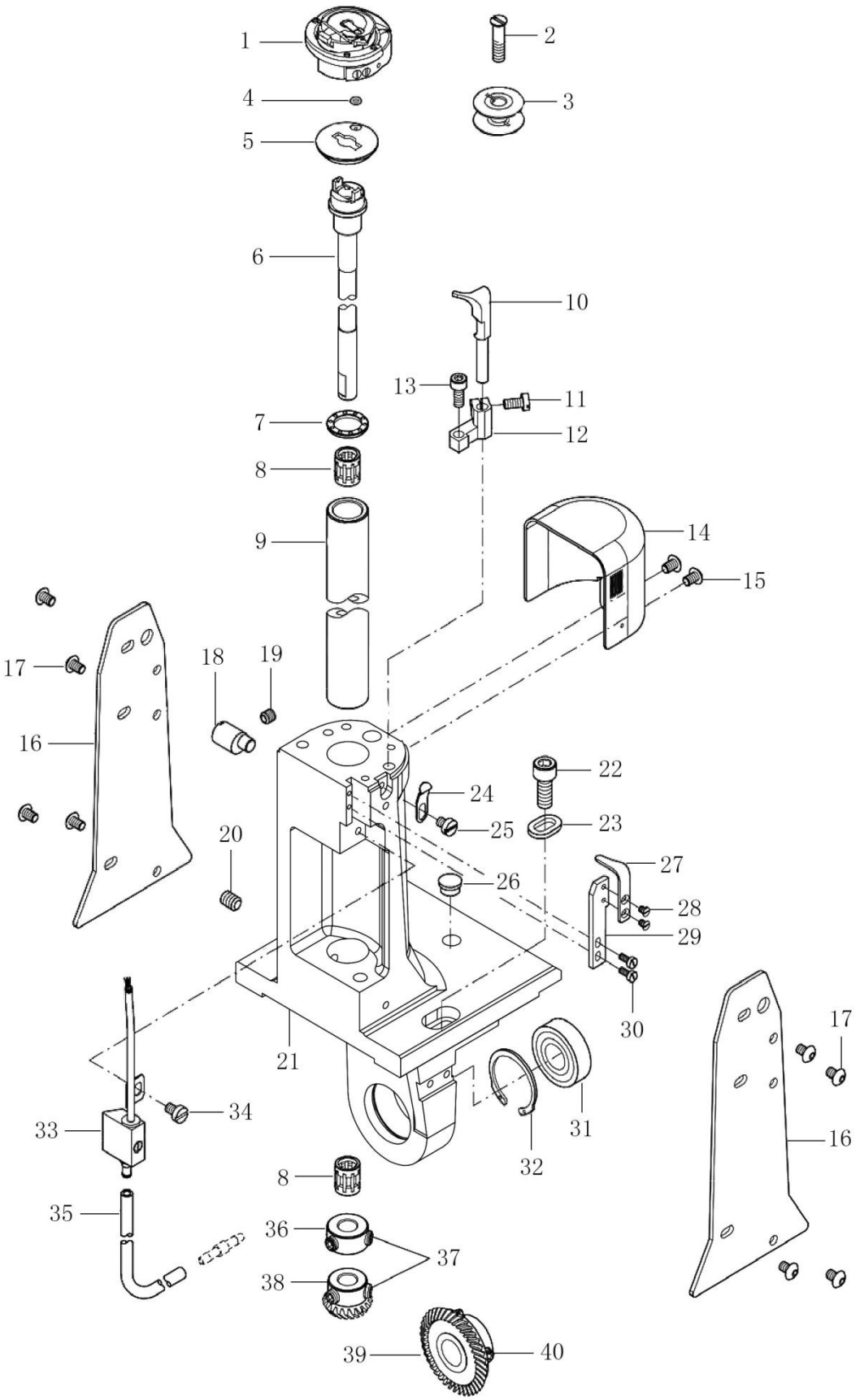
0. Side bracket parts (Right) 边座部件（右）



P. Side bracket parts（Short thread end） 边座部件（短线头）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.02.392	Hook assy.	旋梭组件	1	
2	7.02.15.038	Screw	旋梭螺钉	1	
3	7.02.21.385	Bobbin	梭芯	1	
4	7.02.16.300	Sealing ring	密封圈	1	
5	7.02.11.385	Oil supply plate	旋梭供油板	1	
6	7.02.03.340	Shaft	旋梭轴	1	
7	7.02.04.019	Bearing	推力轴承	1	
8	7.02.04.018	Needle bearing	滚针轴承	2	
9	7.02.08.600	Bushing	釜轴套管	1	
10	7.02.02.662	Thread distributing claw	分线勾	1	
11	7.02.15.420	Screw	螺钉	1	
12	7.02.02.663	Thread distributing claw bracket	分线勾座	1	
13	7.02.15.577	Screw	螺钉	1	
14	7.02.02.661	Post cap	釜盖	1	
15	7.02.15.973	Screw	螺钉	2	
16	7.02.11.650	Cover plate	边盖板	2	
17	7.02.15.973	Screw	螺钉	8	
18	7.02.10.590	Adjusting pin	调整销	1	
19	7.02.15.056	Set screw	紧定螺钉	1	
20	7.02.15.057	Set screw	釜轴套管紧定螺钉	1	
21	7.02.13.501	Side bracket (Right)	右边座	1	
22	7.02.15.965	Screw	螺钉	2	
23	7.02.18.003	Washer	垫片	2	
24	7.02.17.420	Elastic gasket	釜盖弹片	1	
25	7.02.15.433	Screw	螺钉	1	
26	7.02.16.559	Rubber plug	橡胶塞	1	
27	7.02.11.660	Thread guide	拦线板	1	
28	7.02.15.1144	Screw	拦线板螺钉	2	
29	7.02.11.661	Thread guide fixed plate	拦线板固定板	1	
30	7.02.15.674	Screw	螺钉	2	
31	7.02.04.110	Ball bearing	滚珠轴承	1	
32	7.02.18.250	Elastic retaining ring	孔用弹性挡圈	1	
33	7.02.16.560	Oil qty.regulating valve assy.	油量调节阀组件	1	
34	7.02.15.022	Screw	螺钉	1	
35	7.02.16.047	Oil tube	油管	1	
36	7.02.09.115	Collar	紧圈	1	
37	7.02.15.054	Screw	螺钉	4	
38	7.02.07.011	Gear（Small）	齿轮(小)	1	
39	7.02.07.012	Gear（Large）	齿轮(大)	1	
40	7.02.15.050	Screw	螺钉	2	

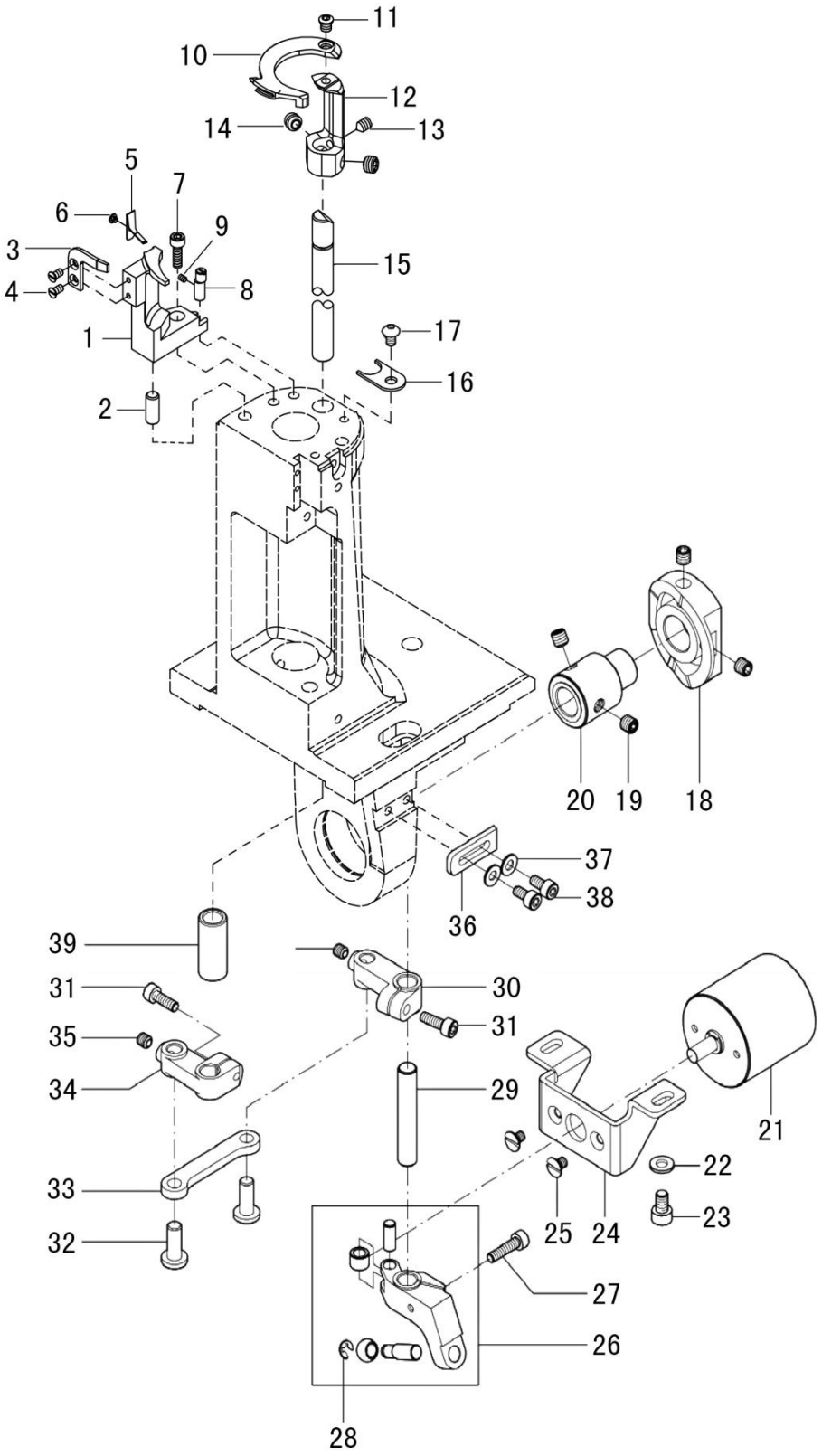
P. Side bracket parts（Short thread end） 边座部件（短线头）



Q. Thread trimming parts (Short thread end) 剪线部件（短线头）

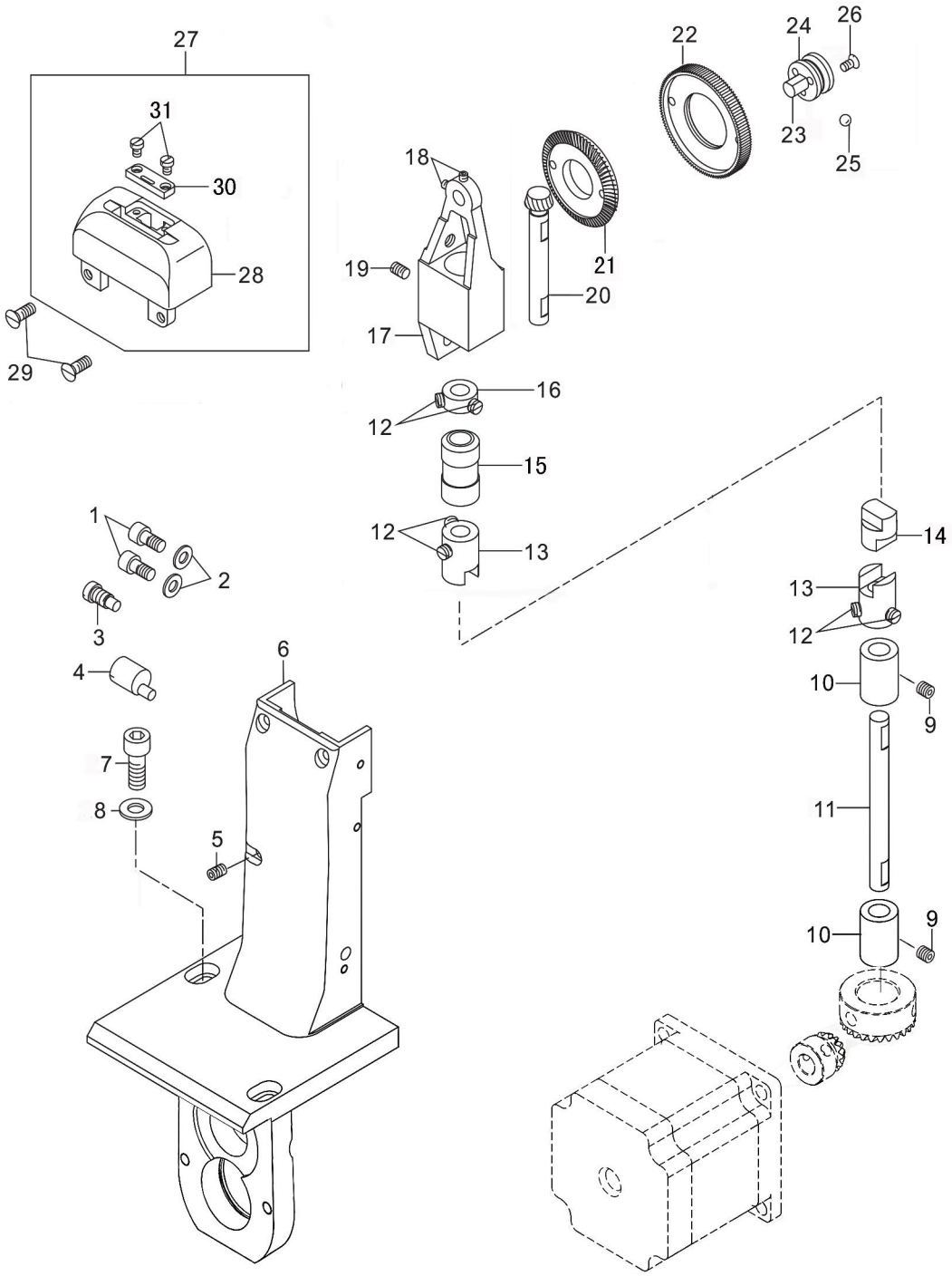
No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Fixed knife seat	定刀座	1	
2		Position pin	定刀座定位销	1	
3	7.02.20.101	Fixed knife	定刀	1	
4		Screw	定刀螺钉	2	
5	7.02.20.102	Thread clamping plate	夹线板	1	
6	7.02.15.1104	Screw	夹线板螺钉	2	
7		Screw	定刀座螺钉	1	
8		Adjusting pin	定刀座调整销	1	
9		Set screw	调整销紧定螺钉	1	
10	7.02.20.100	Movable knife	动刀	1	
11	7.02.15.1095	Screw	动刀螺钉	1	
12	7.02.13.476	Movable knife seat	动刀座	1	
13	7.02.15.1136	Screw	动刀座调整螺钉	1	
14	7.02.15.054	Screw	螺钉	2	
15	7.02.03.540	Movable knife shaft	动刀轴	1	
16	7.02.11.652	Stopper plate	限位板	1	
17	7.02.15.973	Screw	螺钉	1	
18	7.02.05.560	Thread trimming cam	剪线凸轮	1	
19	7.02.15.050	Screw	螺钉	4	
20	7.02.08.576	Thread trimming cam bushing	剪线凸轮衬套	1	
21	7.02.19.420	Thread trimming solenoid	剪线电磁铁	1	
22	7.02.18.016	Washer	垫圈	2	
23	7.02.15.803	Screw	螺钉	2	
24	7.02.12.337	Thread trimming solenoid fixed plate	剪线电磁铁固定板	1	
25	7.02.15.797	Screw	剪线电磁铁螺钉	2	
26	7.02.05.543	Thread trimming vibrating crank assy.	剪线摆动曲柄组件	1	
27	7.02.15.572	Screw	螺钉	1	
28	7.02.18.048	Split retaining ring	开口挡圈	1	
29	7.02.10.566	Thread trimming vibrating shaft	剪线摆杆轴	1	
30	7.02.05.545	Thread trimming crank (right)	剪线曲柄(右)	1	
31	7.02.15.577	Screw	曲柄螺钉	2	
32	7.02.10.567	Link pin	连杆销	2	
33	7.02.05.561	Thread trimming link	剪线连杆	1	
34	7.02.05.562	Thread trimming crank	剪线曲柄	1	
35	7.02.15.056	Set screw	紧定螺钉	2	
36	7.02.12.335	Crank stopper block	曲柄限位块	1	
37	7.02.18.071	Washer	垫圈	2	
38	7.02.15.555	Screw	螺钉	2	
39	7.02.08.601	Movable knife bushing	动刀轴套	1	

Q. Thread trimming parts (Short thread end) 剪线部件（短线头）



R. Bed plate feed parts 单针中座部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.15.053	Screw	螺钉 GB/T 70.1 M5×12	2	
2	7.02.18.016	Washer	平垫圈	2	
3	7.02.15.030	Screw	螺钉	1	
4	7.02.10.010	Adjusting pin	调整销	1	
5	7.02.15.031	Adjusting pin set screw	调整销紧固螺钉GB/T 73 M4×10	1	
6		Support plate	单针中座	1	
		Bed plate	大梭中座		
7	7.02.15.965	Screw	螺钉 GB/T 70.1 M6×16	2	
8	7.02.18.003	Washer	垫圈	2	
9	7.02.15.049	Screw	螺钉 GB/T 77 M5×8	2	
10	7.02.08.035	Bushing	套管	2	
11	7.02.03.019	Shaft	中座轴	1	
12	7.02.15.036	Screw	螺钉 M5×3.5	6	
13	7.02.08.016	Bushing	轴连接器	2	
14	7.02.16.004	Plastic joint	塑料接头	1	
15	7.02.08.015	Bushing	送料齿轮套管	1	
16	7.02.09.002	Collar	定环	1	
17	7.02.13.002	Gear bracket	过线齿轮座	1	
18	7.02.15.061	Screw	螺钉 GB/T 77 M3×4	2	
19	7.02.15.035	Screw	螺钉 GB/T 73 M4×6	1	
20	7.02.07.008	Bevel gear (Lower)	送料齿轮（下）	1	
21	7.02.07.007	Bevel gear (Upper)	送料齿轮（上）	1	
22	7.02.07.006	Feed wheel	送料齿	1	
23	7.02.10.004	Roller bracket (Upper)	送料齿轮轴（上）	1	
24	7.02.10.002	Roller bracket (Lower)	轮线轴套前	1	
25	7.02.04.021	Ball (φ2)	钢珠（φ2）	24	
26	7.02.15.034	Screw	螺钉 M2.5×4.5	3	
27	7.02.01.283	Needle plate	单针针板	1	
	7.02.02.588	Needle plate(Integrated)	单针针板(整体式)		
	7.02.02.589	Needle plate(Large hook)	单针针板（大梭）		
28	7.02.15.032	Needle plate screw	针板螺钉 M4×8	2	
29	7.02.23.113	Small needle plate	小针板	1	
30	7.02.23.114	Small needle plate screw	小针板安装螺钉	2	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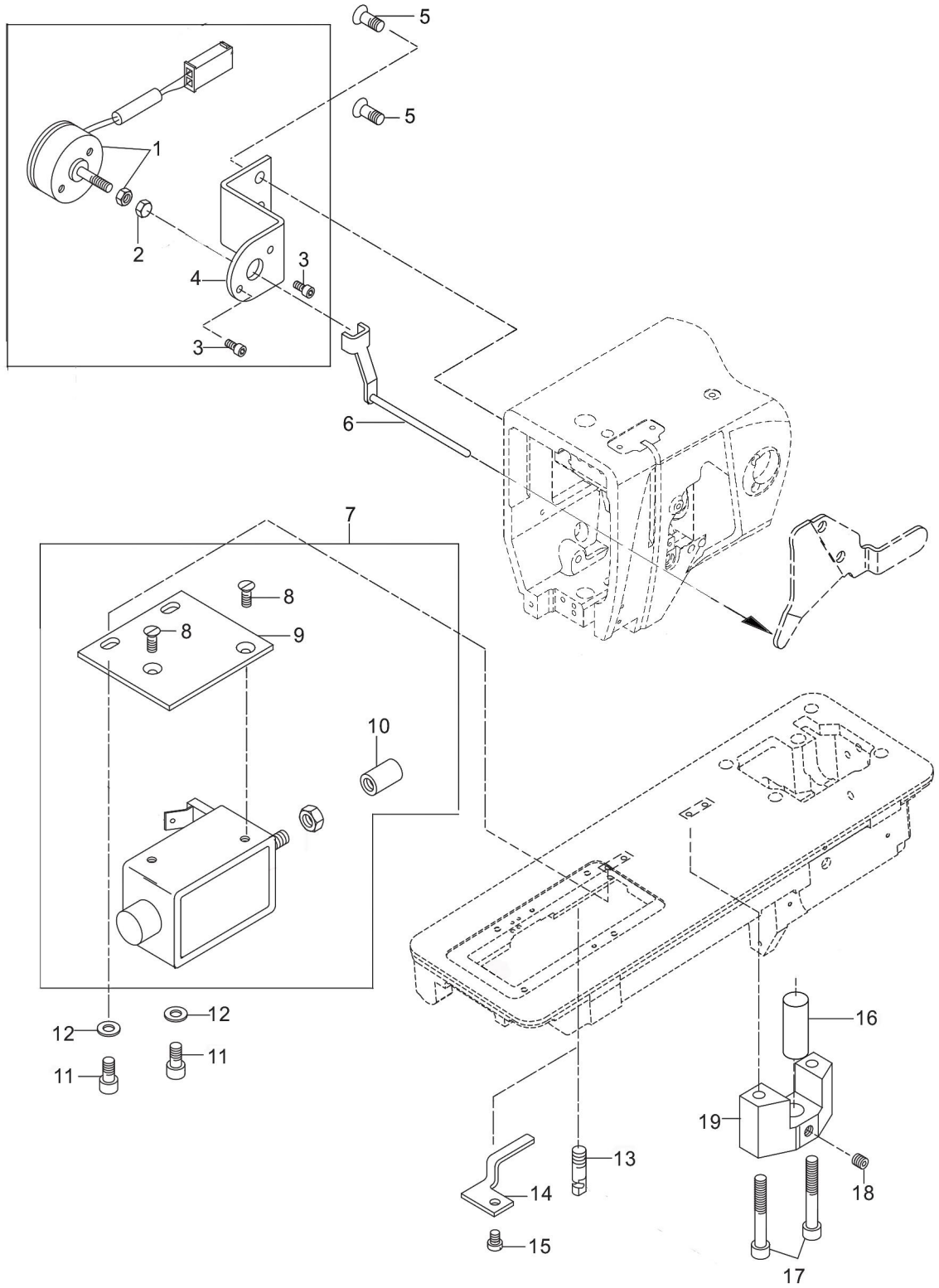
S. Thread trimming solenoid,thread releasing solenoid parts 剪线、松线电磁铁部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.19.345	Thread releasing solenoid	松线电磁铁	1	1
2	7.02.16.410	Solenoid joint	电磁铁接头	1	1
3	7.02.15.976	Screw	螺钉 GB/T 70.1 M3×5	2	2
4	7.02.11.500	Fixed plate	电磁铁固定板	1	1
5	7.02.15.003	Fixed plate screw	固定板螺钉 GB/T 68 M5×8	2	2
6	7.02.10.456	Thread releasing lever	松线杆	1	1
7	7.02.19.211	Thread trimming solenoid	剪线电磁铁	1	1
8	7.02.15.797	Thread trimming solenoid screw	剪线电磁铁螺钉 M4×6	2	2
9	7.02.11.387	Thread trimming solenoid fixed plate	剪线电磁铁固定板	1	1
10	7.02.16.302	Top post	顶柱	1	1
11	7.02.15.803	Fixed plate screw	固定板螺钉 GB/T 70.1 M5×10	2	2
12	7.02.18.016	Washer	垫圈 GB/T 97.1 5	2	2
13	7.02.10.368	Spring hanger	拉簧挂钩	1	1
14	7.02.17.413	Oil tube fixed clamp	油管固定夹	1	1
15	7.02.15.022	Screw	螺钉 M4×4.5	1	1
16		Pin	剪线摆杆座销	1	1
17	7.02.15.798	Screw	螺钉 GB/T 70.1 M5×30	2	2
18	7.02.15.056	Set screw	紧定螺钉 GB/T 74 M5	1	1
19	7.02.13.293	Thread trimming vibrating lever seat	剪线摆杆座	1	1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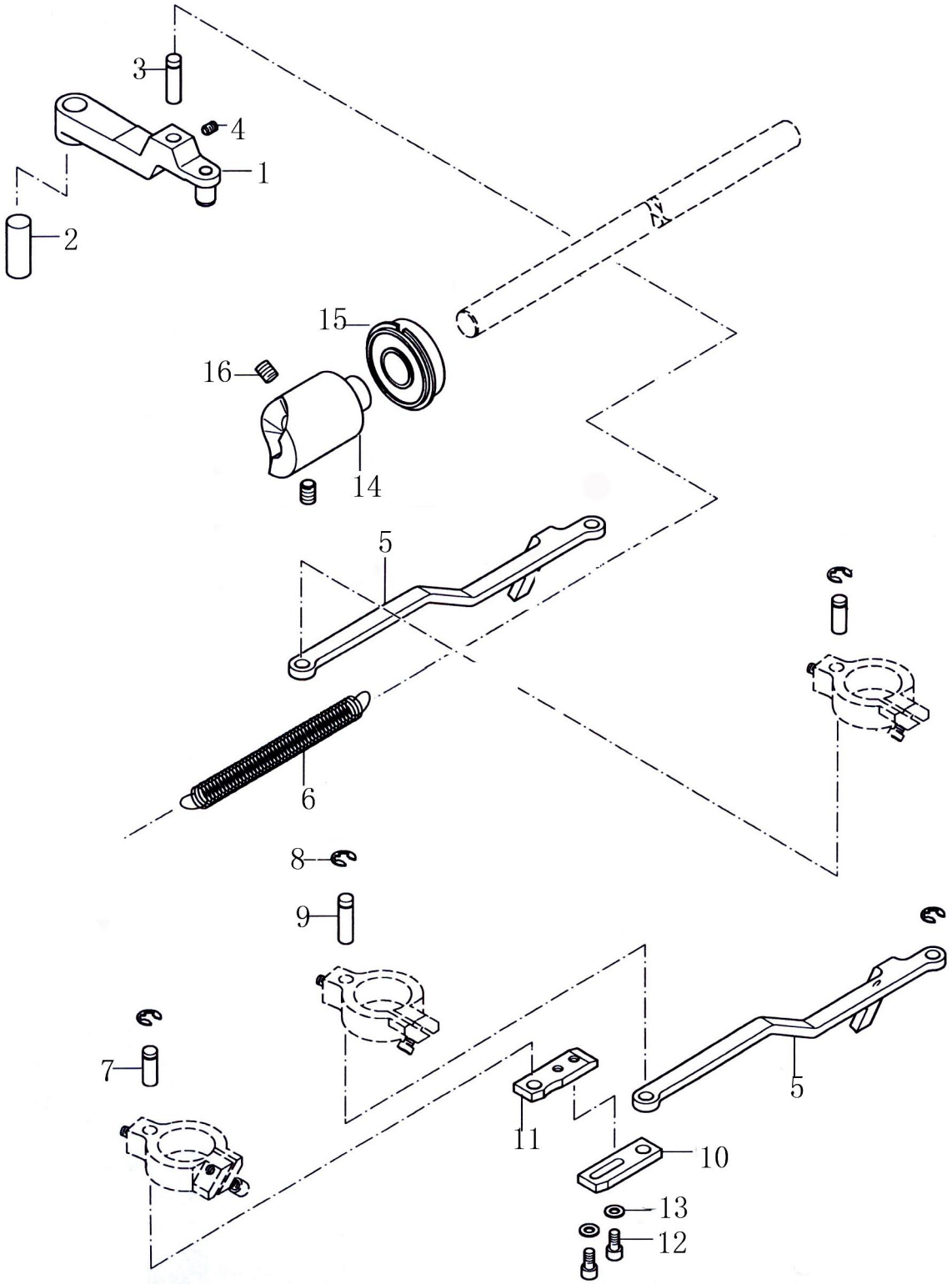
T. Thread trimming driving parts 剪线传动部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.01.286	Thread trimming vibrating lever assy.	剪线摆杆组件	1	1
2	7.02.03.341	Thread trimming vibrating lever shaft	剪线摆杆轴	1	1
3	7.02.10.367	Connecting lever pin (Right)	连杆销（右） φ6χ20	1	1
4	7.02.15.056	Connecting link pin set screw	连杆销紧定螺钉 GB/T 74 M5×5	1	1
5	7.02.05.364	Thread trimming connecting link	剪线连杆	1	1
6	7.02.17.351	Thread trimming connecting link spring	剪线连杆拉簧	3	3
7	7.02.10.369	Connecting link pin (Left)	连杆销（左） φ6χ15.5	1	1
8	7.02.18.039	Split retaining ring	开口挡圈 GB/T 896-5	1	1
9	7.02.10.369	Connecting lever pin Right)	连杆销（右）		1
10	7.02.11.390	Thread trimming crank connecting plate (Right)	剪线曲柄连接板（右）		1
11	7.02.11.391	Thread trimming crank connecting plate (Left)	剪线曲柄连接板（左）		1
12	7.02.15.555	Connecting plate screw	连接板螺钉 GB/T 70.1 M4×8		2
13	7.02.18.071	Washer	垫圈 GB/T 97.1 4		2
14	7.02.06.277	Thread trimming cam	剪线凸轮组	1	1
15	7.02.04.012	Bearing	轴承	1	1
16	7.02.15.050	Screw	螺钉 M6×0.75×8	1	1
17	7.02.15.056	Screw	螺钉 GB/T 77 M5×5	2	2
18	7.02.09.079	Washer	垫圈	1	1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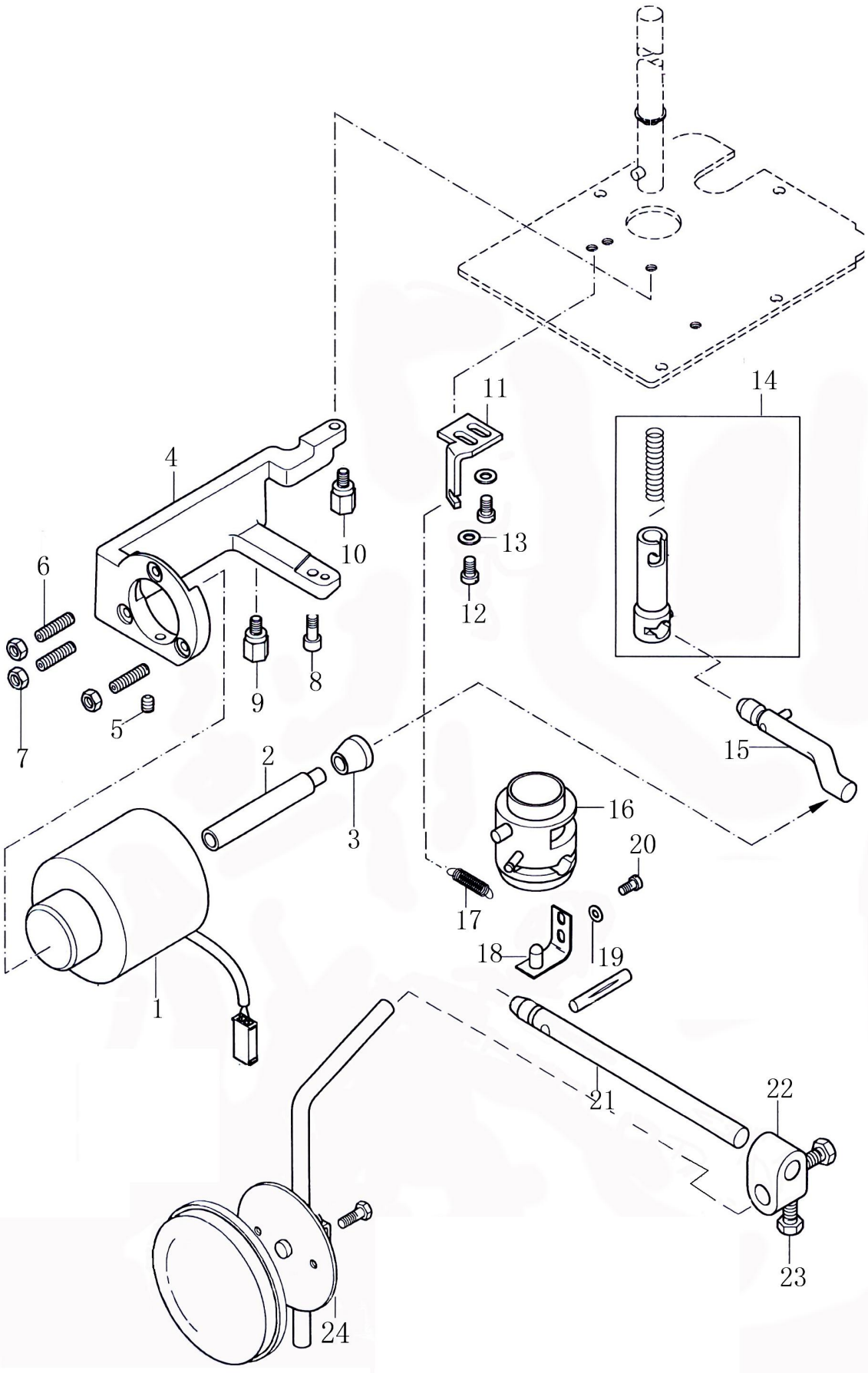
U. Presser foot lifting solenoid parts 压脚提升电磁铁部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.19.346	Presser foot lifting solenoid	压脚提升电磁铁	1	1
2	7.02.03.422	Link	电磁铁连接杆	1	1
3	7.02.16.411	Joint	接头	1	1
4	7.02.13.372	Solenoid fixed seat	电磁铁固定座	1	1
5	7.02.15.057	Locking screw	锁紧螺钉 GB/T 77 M6×8	1	1
6	7.02.15.966	Screw	螺钉 GB/T 77 M6×25	3	3
7	7.02.15.067	Nut	螺母 GB/T 6170 M6	3	3
8	7.02.15.053	Screw	固定座螺钉 GB/T 70.1 M5×12	2	2
9	7.02.10.450	Support screw	支撑螺钉 M5×17	1	1
10	7.02.10.451	Support screw（Short）	支撑螺钉（短）	1	1
11	7.02.13.373	Sping fixed plate	弹簧固定板	1	1
12	7.02.15.044	Screw	螺钉 GB/T 65 M5×8	2	2
13	7.02.18.016	Washer	垫圈 GB/T 97.1 5	2	2
14	7.02.13.374	Knee lever Coupling	膝控连接座	1	1
15	7.02.13.376	Knee lever link	膝控连接杆	1	1
16	7.02.13.375	Knee lever joint assy.	膝控接头组件	1	1
17	7.02.17.414	Spring	拉簧	1	1
18	7.02.17.415	Elastic slice assy.	弹片组	1	1
19	7.02.18.071	Washer	垫圈	2	2
20	7.02.15.432	Screw	螺钉	2	2
21		Knee lever Rod	脚押轴	1	1
22		Connector	连接头	1	1
23		Screw	螺钉	2	2
24	7.02.21.461	Knee lever assy.	脚弓轴组	1	1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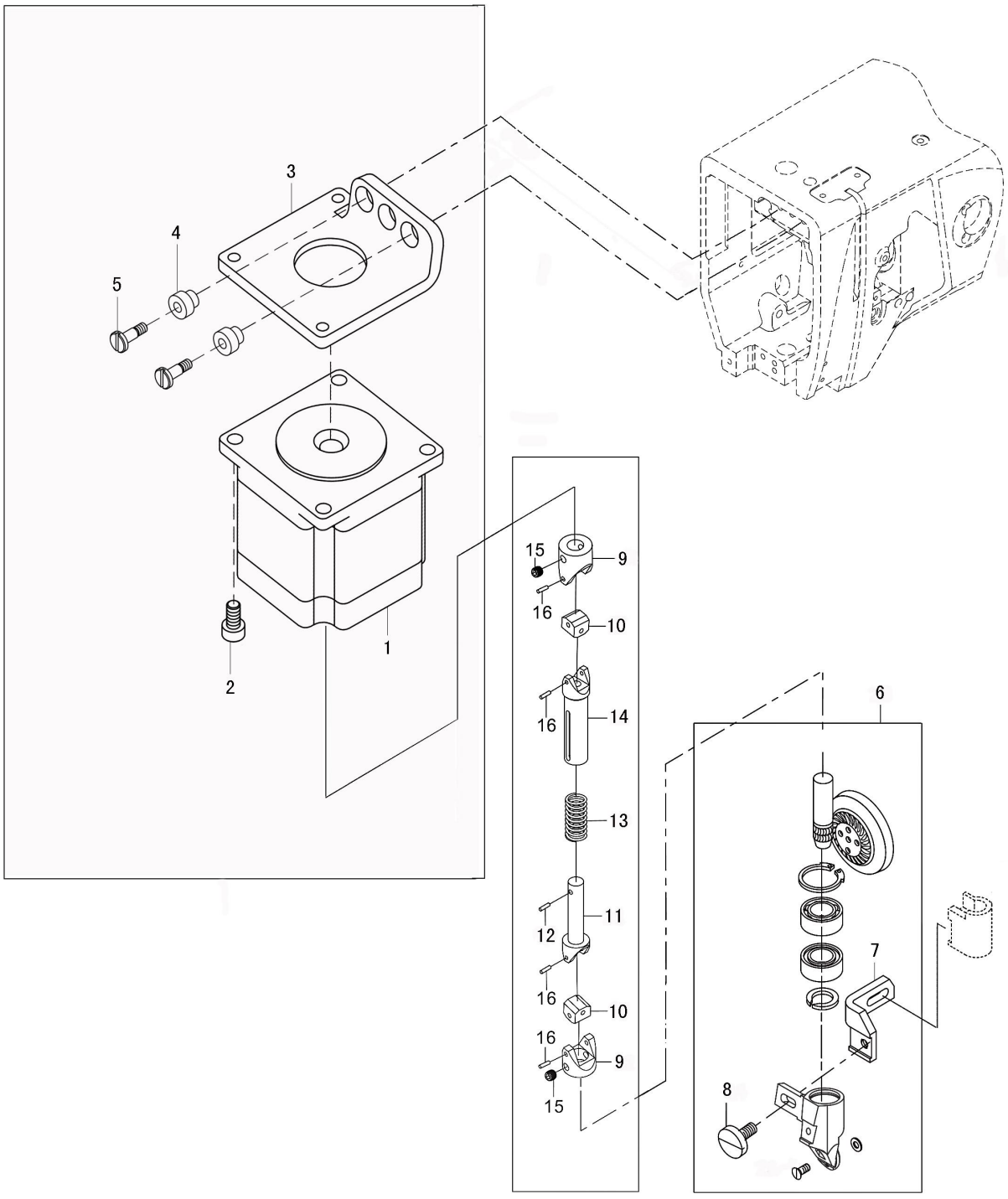
V. Upper feed parts for 1 needle 上送料部件（单针）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Upper feed step motor	上送料步进电机	1	
2		Motor mounting screw	电机安装螺钉	3	
3		Motor fixed plate	电机固定板	1	
4		Rubber washer	橡胶垫圈	2	
5		Screw	固定板安装螺钉	2	
6	7.02.02.390	Roller presser foot	滚轮压脚	1	1
7	7.02.05.002	Connecting holder	轮线连接座	1	1
8	7.02.15.011	Screw	螺钉	1	1
9		Connector	万向连接头	2	
10		Connecting block	万向连接块	2	
11		Connecting shaft	万向连接轴	1	
12		Pin	导向销	1	
13		Spring	弹簧	1	
14		Connecting lever	万向连接杆	1	
15		Screw	螺钉	2	
16		Connecting pin	万向连接销	4	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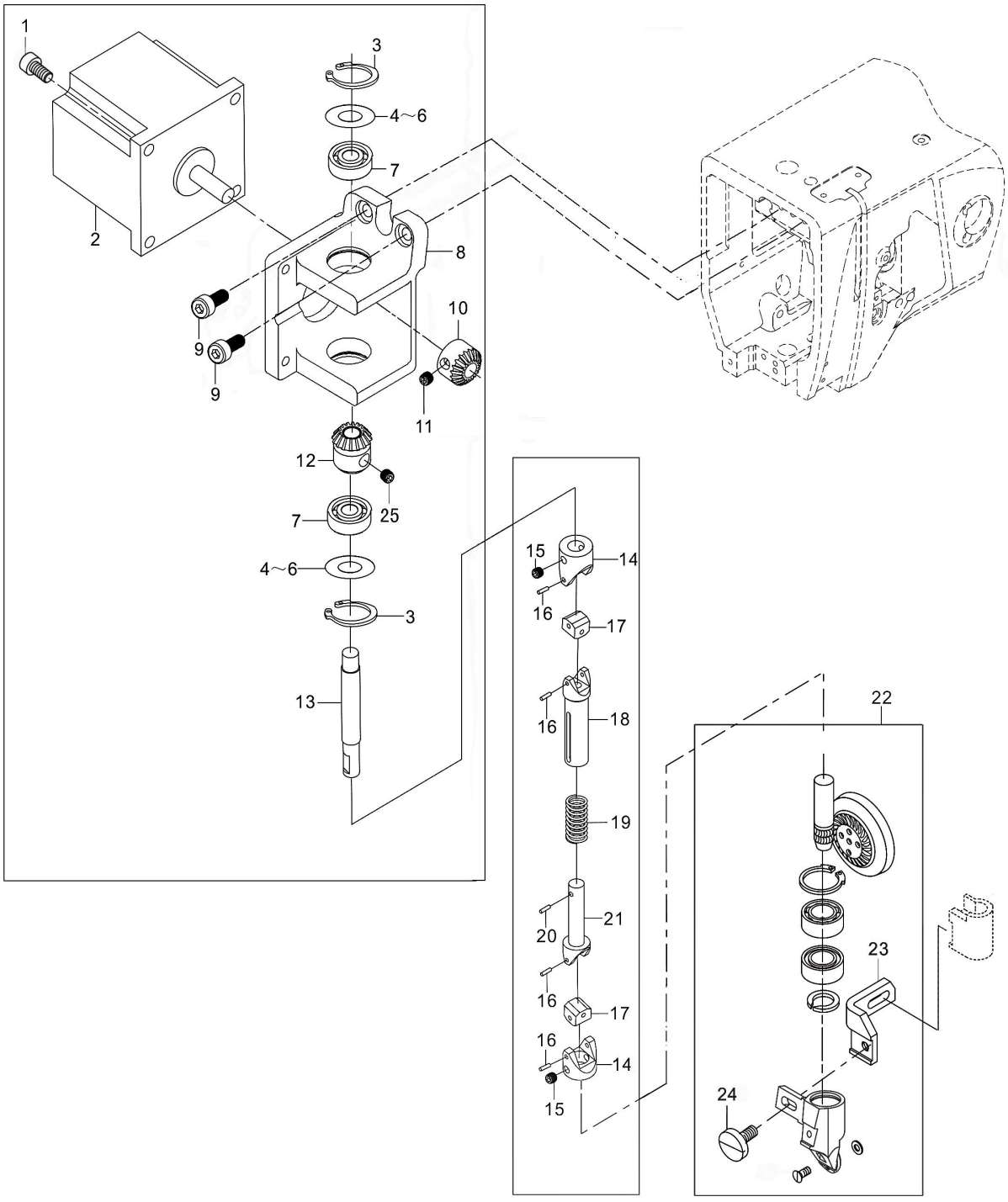
W. Upper feed parts for 2 needle 上送料部件（双针）

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Screw	螺钉		3
2		Upper feed step motor	上送料步进电机		1
3		Retaining ring	挡圈		2
4		Adjusting washer 0.15	调节垫片 0.15		1
5		Adjusting washer 0.30	调节垫片 0.3		1
6		Adjusting washer 0.50	调节垫片 0.5		1
7		Bearing	轴承		2
8		Upper feed support seat	上送料支座		1
9		Screw	螺钉		2
10		Driven gear Ⅱ	传动齿轮Ⅱ		1
11		Screw	螺钉		2
12		Driven gear Ⅰ	传动齿轮Ⅰ		1
13		Turning shaft	转轴		1
14		Connector	万向连接头		2
15		Screw	螺钉		2
16		Connecting pin	万向连接销		4
17		Connecting block	万向连接块		2
18		Connecting lever	万向连接杆		1
19		Spring	弹簧		1
20		Pin	导向销		1
21		Connecting shaft	万向连接轴		1
22		Roller presser foot	滚轮压脚		1
23		Connecting seat	轮线连接座		1
24		Screw	螺钉		1
25		Screw	螺钉		2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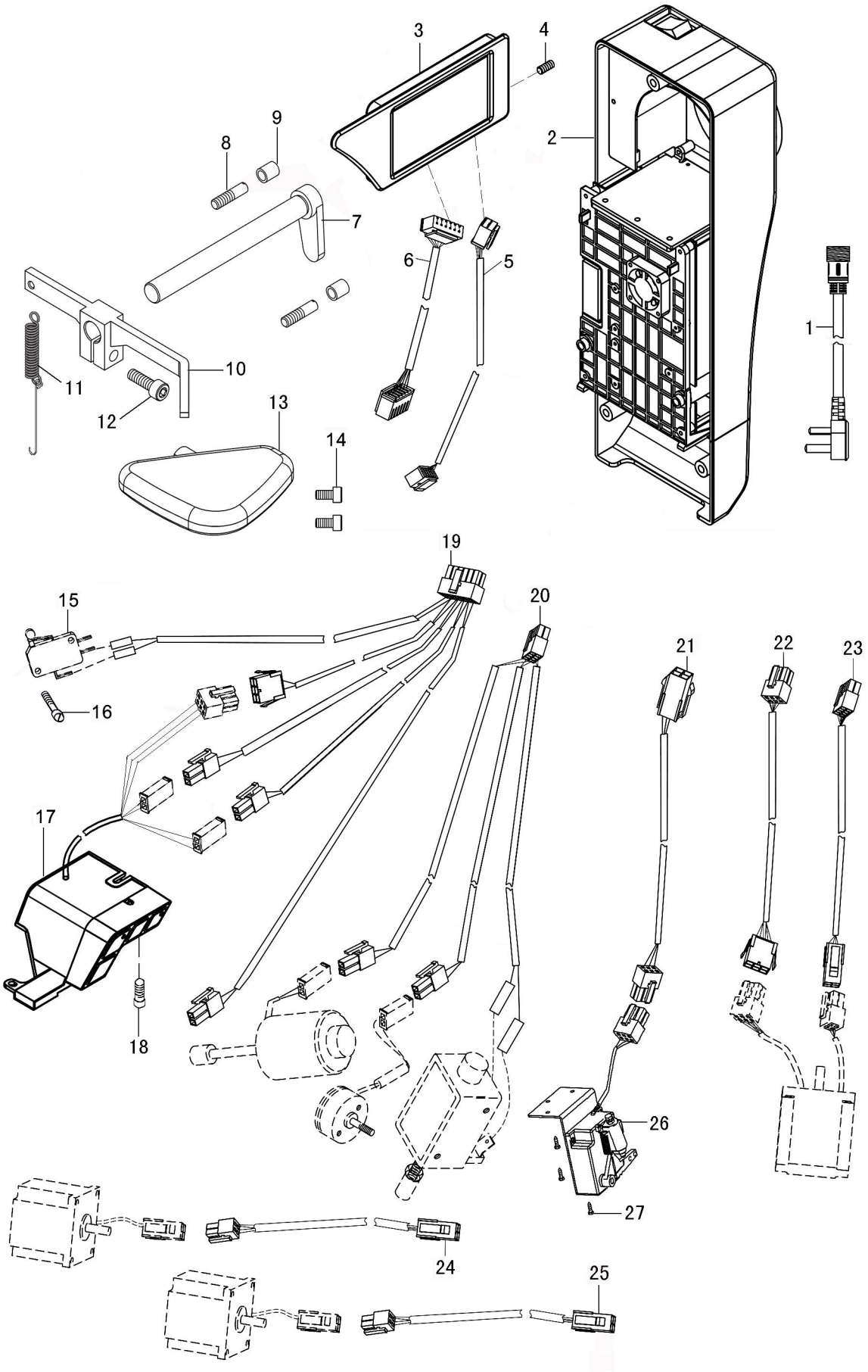
X. Electric control, backstitch lever parts 电控及倒缝扳手部件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1		Power transfer line	电源转接线	1	1
2		Control box	电控箱	1	1
3		Touch screen panel	液晶面板	1	1
4		Screw	面板紧固螺钉	3	3
5		Panel pick-up pin box transfer line	面板选针盒转接线	1	1
6		Panel burning transfer line	面板烧录转接线	1	1
7		Backstitch lever shaft	倒缝扳手轴	1	1
8		Backstitch lever restrict screw	倒缝扳手限位螺钉	2	2
9		Plastic bushing	塑料套	2	2
10		Backstitch lever	倒缝扳手	1	1
11		Replacement spring	复位弹簧	1	1
12		Screw	螺钉	1	1
13		Backstitch lever handle	倒缝扳手手柄	1	1
14		Screw	螺钉	2	2
15		Backstitch switch	倒缝开关	1	1
16		Screw	螺钉 M3x13	2	2
17		Head light assy.	机头灯组件	1	1
18		Screw	螺钉	2	2
19		Head light transfer line	机头灯转接线	1	1
20		Solenoid transfer line	电磁铁转接线	1	1
21		Pedal transfer line	踏板转接线	1	1
22		Vibrating needle step encoder line	摆针步进编码器线	1	1
23		Vibrating needle step transfer line	摆针步进转接线	1	1
24		Upper feed step transfer line	上送料步进转接线	1	1
25		Lower feed step transfer line	下送料步进转接线	1	1
26		Pedal	踏板	1	1
27		Pedal mounting screw	踏板安装螺钉	3	3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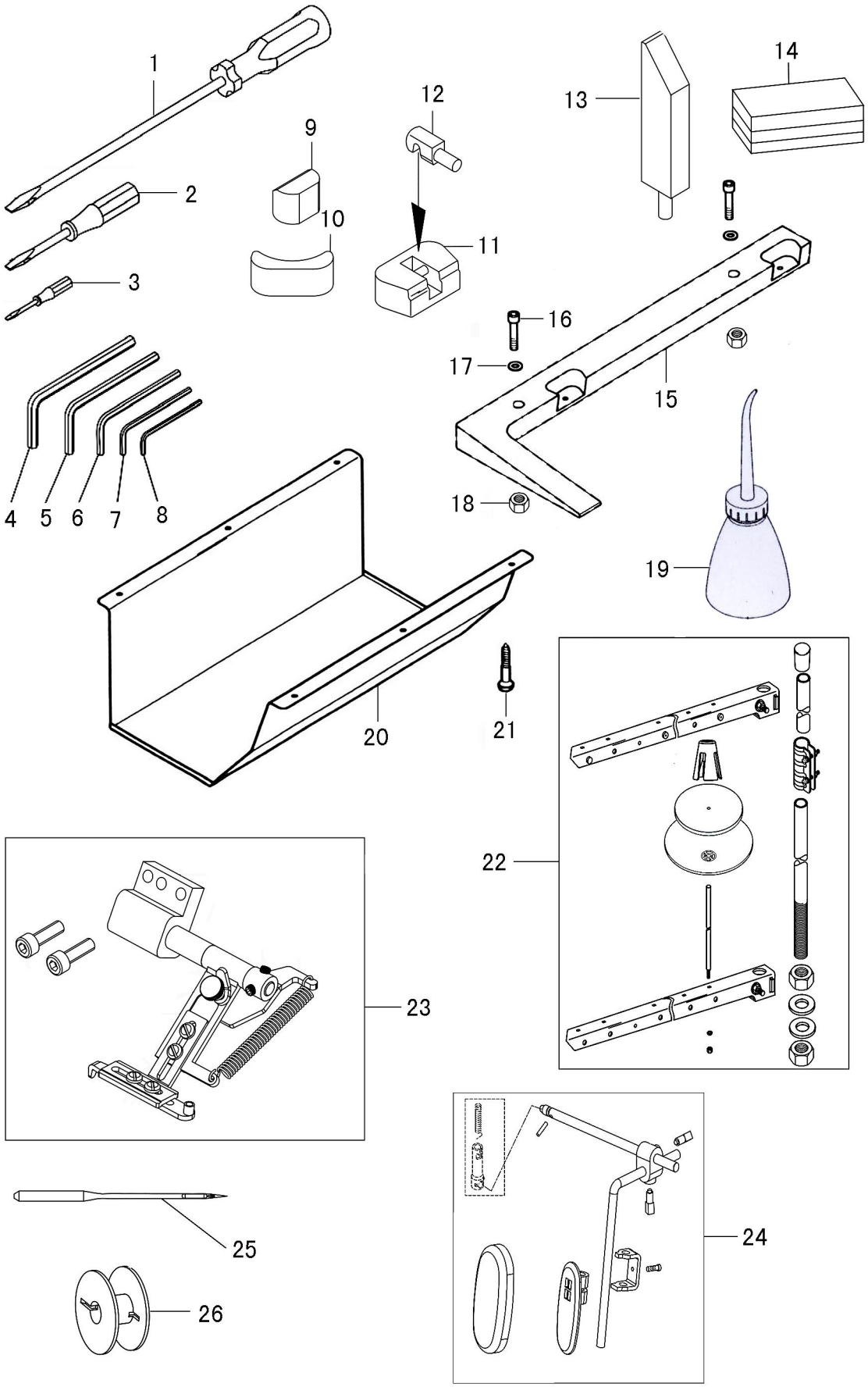
Y. Accessories 附件

No.	Part No.	Name	名称	1NEEDLE	2NEEDLE
1	7.02.21.003	Screw driver (Large)	螺钉起子（大）	1	1
2	7.02.21.002	Screw driver (Middle)	螺钉起子（中）	1	1
3	7.02.21.001	Screw driver (Small)	螺钉起子（小）	1	1
4		Inner hexagon spanner 4MM	内六角扳手 4MM	1	1
5		Inner hexagon spanner 3MM	内六角扳手 3MM	1	1
6		Inner hexagon spanner 2.5MM	内六角扳手 2.5MM	1	1
7		Inner hexagon spanner 2MM	内六角扳手 2MM	1	1
8		Inner hexagon spanner 1.5MM	内六角扳手 1.5MM	1	1
9	7.02.21.463	Padding block	台板垫块	2	2
10	7.02.21.464	Rubber cushion	橡胶垫	2	2
11	7.02.21.005	Hinge connection seat	后钮座	2	2
12	7.02.21.004	Hinge pin	后钮钩	2	2
13	7.02.21.022	Head rest wood	枕木	1	1
14	7.02.21.020	Packing bag	整机包装袋	1	1
15	7.02.21.224	Wooden support	斜木	1	1
16		Screw	螺钉	2	2
17	7.02.18.040	Washer	垫圈	4	4
18	7.02.15.067	Nut	螺母	2	2
19	7.02.21.028	Oil can (Middle)	油壶（中）	1	1
20	7.02.21.46501	Oil reservior	油盘	1	1
21	7.0221.033	Screw	自攻螺钉	6	6
22		Thread stand	线架组件	1	1
23		Swing on guide assy.	靠边组件	1	1
24		Knee lever assy.	膝控组件	1	1
25	7.02.21.016	Needle	机针	5	5
26	7.02.21.385	Bobbin	梭心	4	4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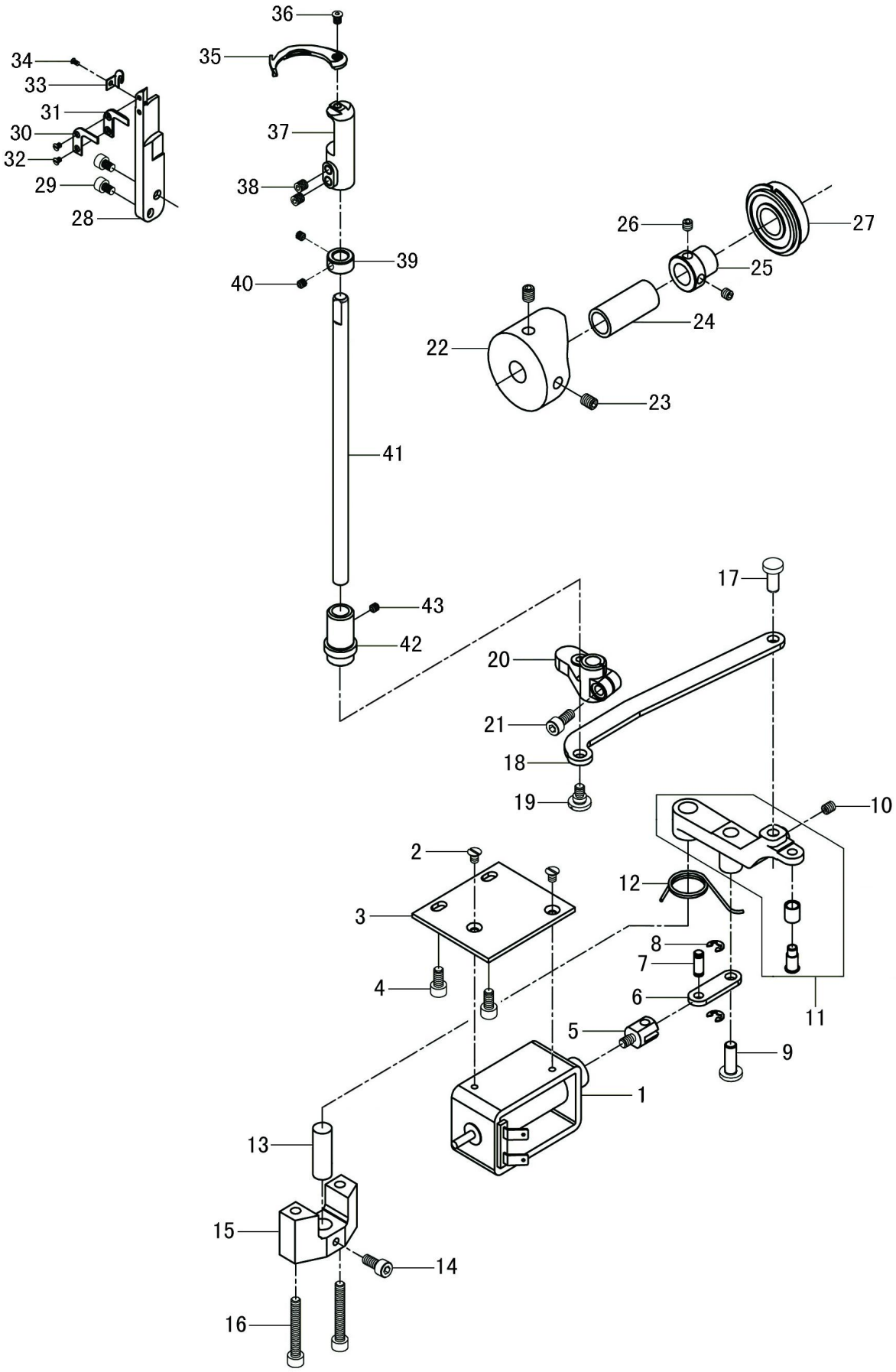
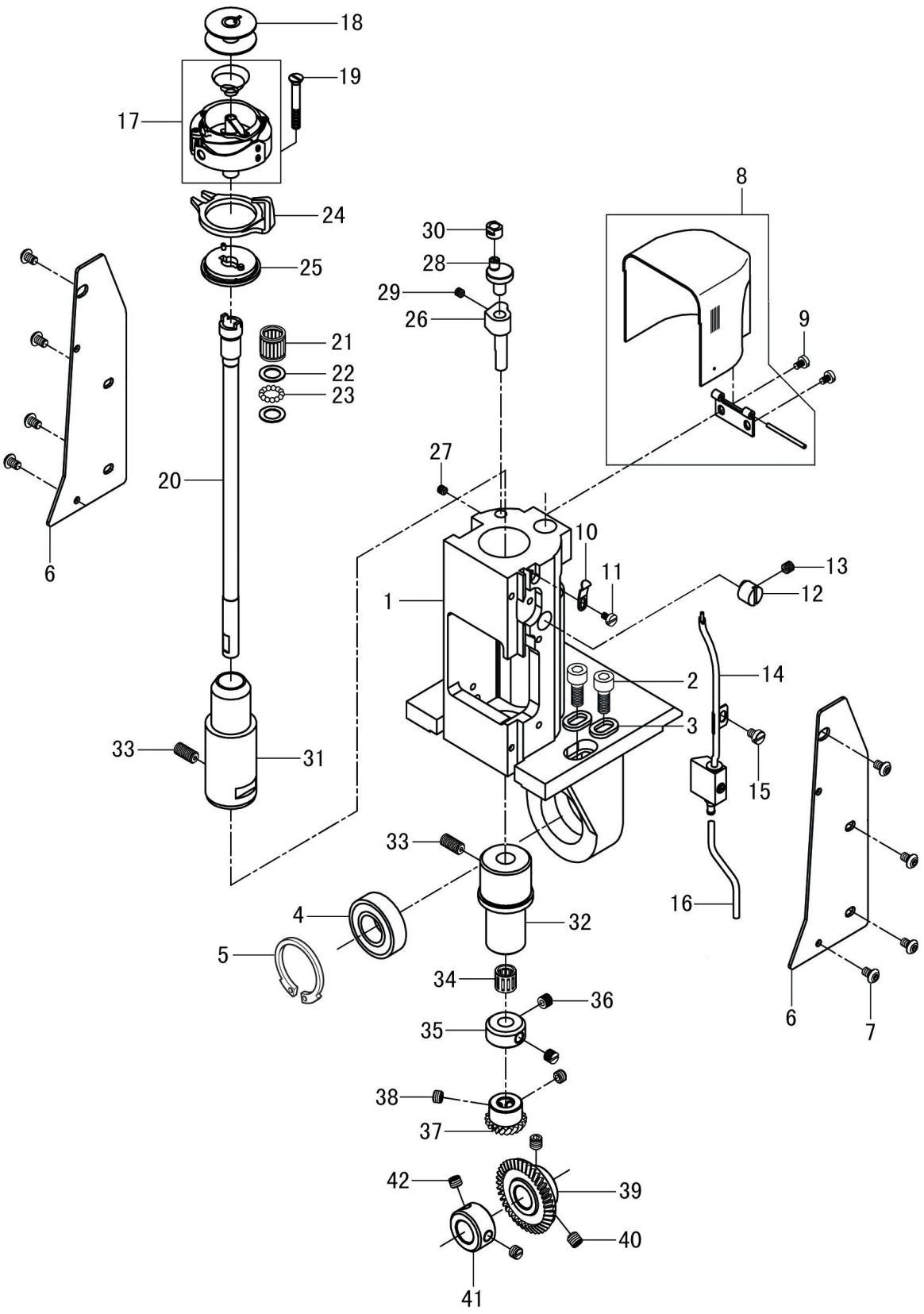
Z1.THREAD TRIMMING MECHANISM(Large hook)

No.	Part No.	Fig. No.	Name	Qty	Remark
1	7.02.19.391	AG2810-01	Thread trimming solenoid	1	
2	7.02.15.797	AG2110-02	Screw	2	M4×6
3	7.02.11.387	AG2110-03	Fixed plate	1	
4	7.02.15.803	AG2110-04	Fixed plate screw	2	GB/T70.1 M5×10
5	7.02.05.528	AG2810-16	Thread trimming solenoid joint	1	
6	7.02.11.601	AG2810-15	Solenoid connecting plate	1	
7	7.02.10.546	AG2810-17	Solenoid connecting pin	1	
8	7.02.18.031	RE000040	Split retaining ring	2	GB/T896 4
9	7.02.10.367	AG2110-14	Connecting lever pin	1	ø6×21
10	7.02.15.056	ZMH05002	Screw	2	M5×5
11	7.02.05.525	AG2810-08	Thread trimming vibrating lever assy.	1	
12	7.02.17.490	AG2810-18	Spring	1	
13	7.02.03.341	AG2110-09	Thread trimming vibrating lever shaft	1	
14	7.02.15.908	GL04-14-1	Screw	1	
15	7.02.13.293	AG2110-11	Thread trimming vibrating lever seat	1	
16	7.02.15.798	AG2110-12	Screw	2	M5×30
17	7.02.10.369	AG2110-19	Connecting lever pin	1	ø6×15.5
18	7.02.05.526	AG2810-13	Thread trimming connecting lever	1	
19	7.02.15.1091	AG2810-19	Screw	1	
20	7.02.06.471	AG2810-20	Thread trimming crank	1	
21	7.02.15.053	ZMJ05002	Screw	1	GB/T70.1 M5×12
22	7.02.06.470	AG2810-06	Thread trimming cam	1	
23	7.02.15.050	ZMH06002	Screw	2	M6×0.75×8
24	7.02.09.165	AG2810-07	Cam gap ring	1	
25	7.02.08.010	J4321-0A	Bearing bushing (left)	1	
26	7.02.15.056	ZMH05002	Screw	2	M5×5
27	7.02.04.012	BB6202ZZ	Bearing	1	6202-2ZNR
28	7.02.13.451	AG2810-22	Fixed knife seat	1	
29	7.02.15.1092	AG2810-23	Screw	2	GB/T70.1 M4×6
30	7.02.20.083	AG2810-25	Thread guard plate	1	
31	7.02.20.080	AG2810-26	Fixed knife	1	
32	7.02.15.1093	AG2810-27	Screw	2	
33	7.02.20.081	AG2810-29	Thread tension plate	1	
34	7.02.15.1094	AG2810-30	Screw	1	
35	7.02.20.082	AG2810-31	Movable knife	1	
36	7.02.15.1095	AG2810-32	Screw	1	
37	7.02.13.452	AG2810-33	Movable knife seat	1	
38	7.02.15.056	ZMH05002	Screw	2	M5×5
39	7.02.09.166	AG2810-38	Collar	1	
40	7.02.15.1096	AG2810-39	Screw	2	M4×3
41	7.02.03.506	AG2810-35	Movable knife shaft	1	
42	7.02.08.544	AG2810-36	Movable knife shaft bushing	1	
43	7.02.15.047	ZMH04001	Screw	1	M4×4

Z1.THREAD TRIMMING MECHANISM(Large hook)



Z2.RIGHT SIDE BRACKET MECHANISM(Large hook)

No.	Part No.	Fig. No.	Name	Qty	Remark
1	7.02.13.45001	AG2808-16	Single needle side bracket	1	
2	7.02.15.965		Screw	2	
3	7.02.18.003		Washer	2	
4	7.02.04.110	AG2108-11	Ball bearing	2	6001-2Z
5	7.02.18.250	AG2108-15	Elastic retaining ring	2	28
6	7.02.11.60001	AG2808-19	Side cover	2	
7	7.02.15.973		Screw	8	
8	7.02.02.590	AG2808-21	Post cap assy.	1	
9	7.02.15.973		Screw	2	
10	7.02.17.350	AG2108-23	Spring plate	1	
11	7.02.15.433		Screw	1	
12	7.02.10.011		Adjusting pin	1	
13	7.02.15.056		Screw	1	
14	7.02.16.514	AG2809-51	Hook oil supply valve assy.	1	
15	7.02.15.022		Screw	1	M4×4.5
16	7.02.16.047		Oil tube	1	
17	7.02.02.591	AG2809-01	Hook assy.	1	
18	7.02.21.567	AG2809-02	Bobbin	1	
19	7.02.15.1090	AG2809-03	Screw	1	
20	7.02.03.505	AG2809-04	Hook shaft	1	
21	7.02.04.200	AG2809-05	Needle bearing	1	K10×13×13
22	7.02.18.410	AG2809-06	Washer	2	
23	7.02.04.100		Ball	13	2.5
24	7.02.02.592	AG2809-11	Rotating hook opener	1	
25	7.02.08.540	AG2809-12	Rotating hook opener eccentric bracket	1	
26	7.02.08.541	AG2809-13	Rotating hook opener bracket	1	
27	7.02.15.047	ZMH04001	Screw	1	M4×4
28	7.02.10.545	AG2809-15	Adjusting pin	1	
29	7.02.15.047	ZMH04001	Screw	1	M4×4
30	7.02.12.320	AG2809-17	Slide block	1	
31	7.02.08.542	AG2809-18	Bushing (Upper)	1	
32	7.02.08.543	AG2809-19	Bushing (Lower)	1	
33	7.02.15.064	ZMH06005	Screw	2	GB/T70.1 M6×12
34	7.02.04.009	BN081110	Needle bearing	1	K 8×11×10
35	7.02.09.115	91-175 328-92	Retaining ring	1	
36	7.02.15.054	ZMH06007	Screw	2	M6×0.75×5
37	7.02.07.011	J4025-0A	Gear (Small)	1	
38	7.02.15.054	ZMH06007	Screw	2	M6×0.75×5
39	7.02.07.012	J4026-0A	Gear (Large)	1	
40	7.02.15.050	ZMH06002	Screw	2	M6×0.75×8
41	7.02.09.007	J4014-0A	Collar	1	
42	7.02.15.054	ZMH06007	Screw	2	M6×0.75×5

Z2.RIGHT SIDE BRACKET MECHANISM(Large hook)