User Manual (maintenance)

GARUDAN®

GF-107 Series

anita

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BEFORE OPERATION

Caution: To avoid malfunction and damage of the machine, confirm the following.

➤ Remove air-vent cap (red color) attached to the sewing machine bed.

➤ Be sure to pour in the oil before using.

➤ Before you put the machine into operation for the first time after the set-up , clean it thoroughly.

➤ Remove all dust gathering during transportation and oil it well.

➤ Confirm that the voltage has been correctly set.

➤ Confirm that the power plug has been properly connected to the power supply.

➤ Never use the machine in the state where the voltage type is different from the designated one.

➤ Confirm that the direction of rotation of the motor pulley is correct.

➤ Do not tilt the sewing machine head toward this side since oil leakage or parts breakage occurs.

A safety switch is installed so that the sewing machine cannot be operated with the head tilted. When operation the sewing machine, turn On the power switch after properly setting the head on the table.

1. Specifications

Needle bar stroke	32.7mm
Sewing speed	3500prm
Stitch length	4.5mm
Needle	DB×1 $9^{\#}\sim18^{\#}$
Presser foot lift	By hand lifter 5.2mm By knee lifter 15.6mm
Oil	White Oil No.10
Rated power	500W

2. Installation
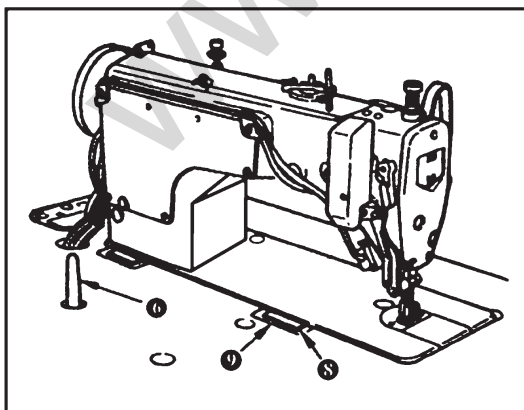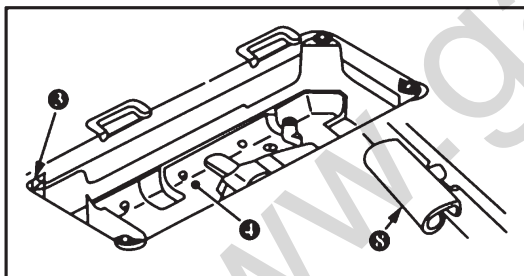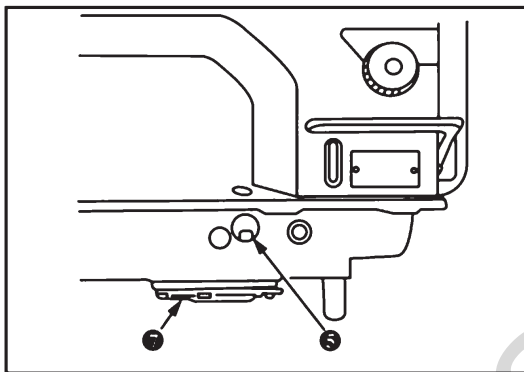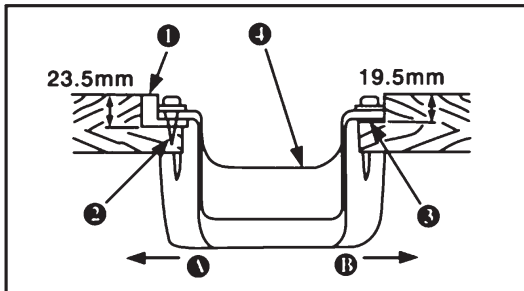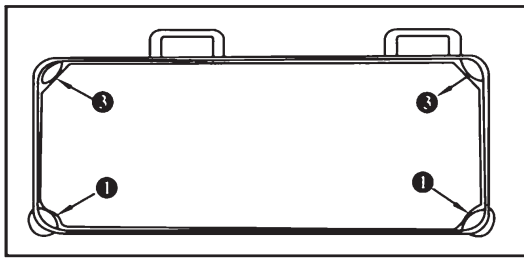
1. Installing the oil pan:

1) The oil pan should rest on the four corners of the machine table groove;

2) Two rubber seats ① for supporting the head portion on the operator side Ⓐ are fixed on the extended portion of the table by hitting the nails ②, and the other two rubber cushion seats③ on the hinged side Ⓑ are fixed by using a rubber-based adhesive. Then, oil pan ④ is placed;

3) Remove air vent cap ⑤ attached to the machine bed. (Be sure to attach cap when transporting the machine head in the state that the machine head is removed from the machine table.)

4) Fit hinge ⑧ into the opening in the machine bed, and fit the machine head to table rubber hinge ⑨before placing the machine head on cushions ③ on the four corners.

Caution: If the sewing machine is operated without removing air vent cap ⑤, oil leakage from gearbox portion ⑦ may occur.

3. Adjusting the height of the knee lifter

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
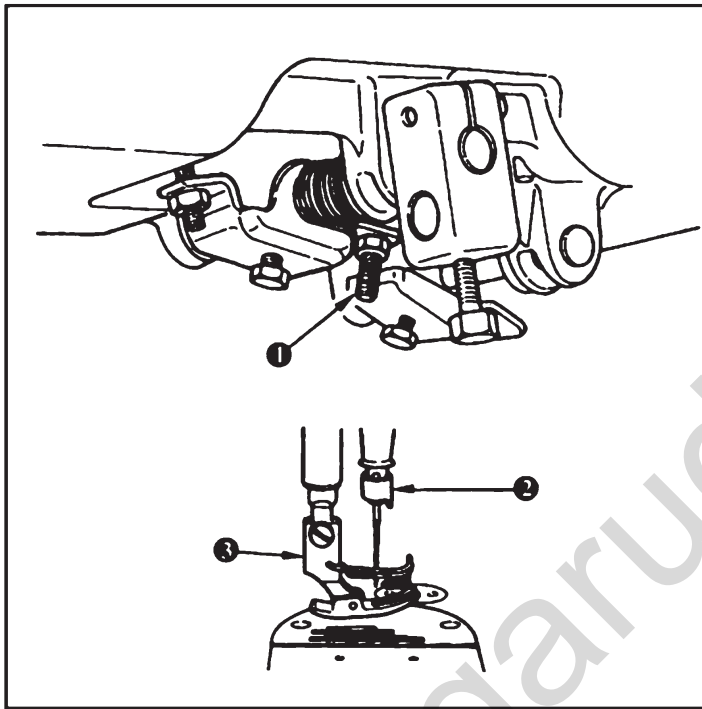
1. The standard height of the presser foot lifted using the knee lifter is 10mm.
2. You can adjust the presser foot lift up to 15mm using knee lifter adjust screw ①.

Caution: Do not operate the sewing machine state that the presser foot ③is lifter 10mm or more since the needle bar ② in contact with the presser foot ③.

4.   Installing the thread stand
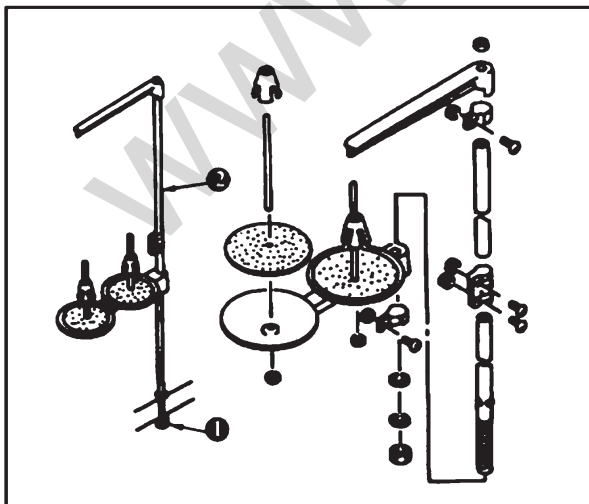
1. Assemble the thread stand unit, and insert it in the hole in the machine table.
2. Tighten locknut ① to fix the thread stand.
3. For ceiling wiring, pass the power cord through spool rest rod ②.

5. Lubrication

⚠️

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

Upper engraved marker line

Lower engraved marker line

Engraved marker line
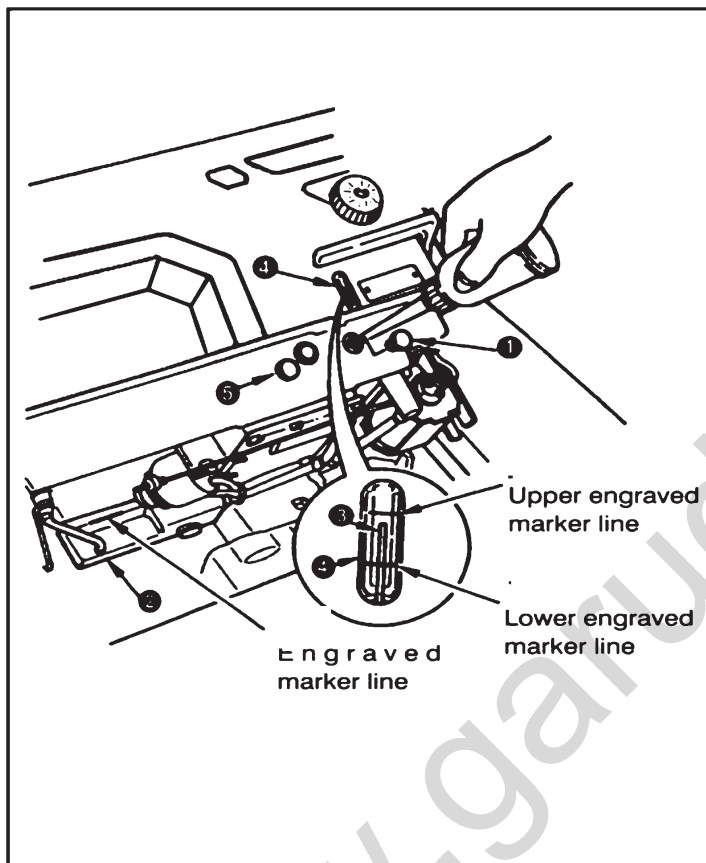
2.

Fill the oil tank with oil for hook lubrication before the sewing machine.

1) Tilt the machine head until it comes in contact with the head support rod.

2) Remove oil hole cap ① and fill the oil tank with ZJ No.1 using the oiler supplied with the machine.

3) The amount of oil should reach up to the engraved marker line of oil tank②.
   If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. So , be careful.

4) When you operate the sewing machine, refill oil if the top end of oil amount indicating rod③comes down to the lower engraved marker line of oil amount indicating rod comes down to the lower engraved marker line of oil amount indicating window④.

(Caution) 1.when you use a new sewing machine or a sewing machine after an extended
           period of disuse, run your machine at 3,000to 3,500rpm for the purpose of
           break-in

2. Do not remove rubber plug⑤

6. Adjusting the amount of oil in the hook

⚠️

⚠️ Warning: Turn OFF the power before starting the work so as to prevent accidents
   caused by abrupt start of the sewing machine.
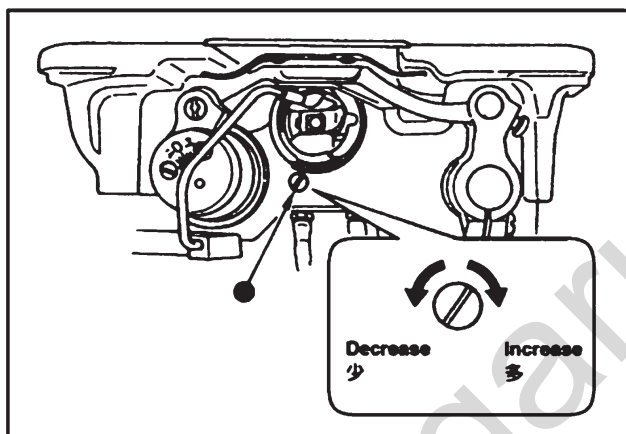
Adjustment of the amount of oil in the hook is performed with oil amount adjustment
screw ①

1．Adjustment procedure

Tighten (turn clockwise) oil amount adjustment screw ① to increase the amount of oil
in the hook, or loosen (turn counterclockwise) to decrease it.

(Caution) 1. When using RP hook (hook for dry head) for the SS type, be sure to loosen the
            oil amount adjustment screw up to the minimum so as to reduce the oil amount
            in the hook.

         2. Never drain the oil in the oil tank even when RP hook (hook for dry head) is
            used.

7. Adjusting the amount of oil (oil splashes) in the hook

⚠️

Warning: Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at a high speed.

① Amount of oil(oil splashes) confirmation paper

Approx.25 mm
25mm

Approx.70 mm
70mm

* Use any paper available regardless of the material.

② Position to confirm the amount of oil(oil aplashes)

Hook

Hook driving shaft front

Bed

3 ～ 10 mm
3 to 10 mm

Oil splashes confirmation paper

closely fit the paper against the wall surface of the bed.

* Place the amount of oil (oil splashes) co paper under the hook.

1. How to confirm the amount of oil (oil splashes)

When carrying out the procedure described below in 2, remove the slide plate and take extreme caution not to allow your fingers to come in contact with the hook.

1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)

2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.

3) Confirm that oil exists in the oil tank.
4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

Splashes of oil from the hook

thin and medium material:0.5 to 1mm
heavy weitht material: 1 to 3mm

Approprtato amount of oil(small)

Splashes of oil from the hook

thin and medium material:1 to 1.5mm
heavy weitht material: 2 to 4mm

Approprtato amount of oil(large)
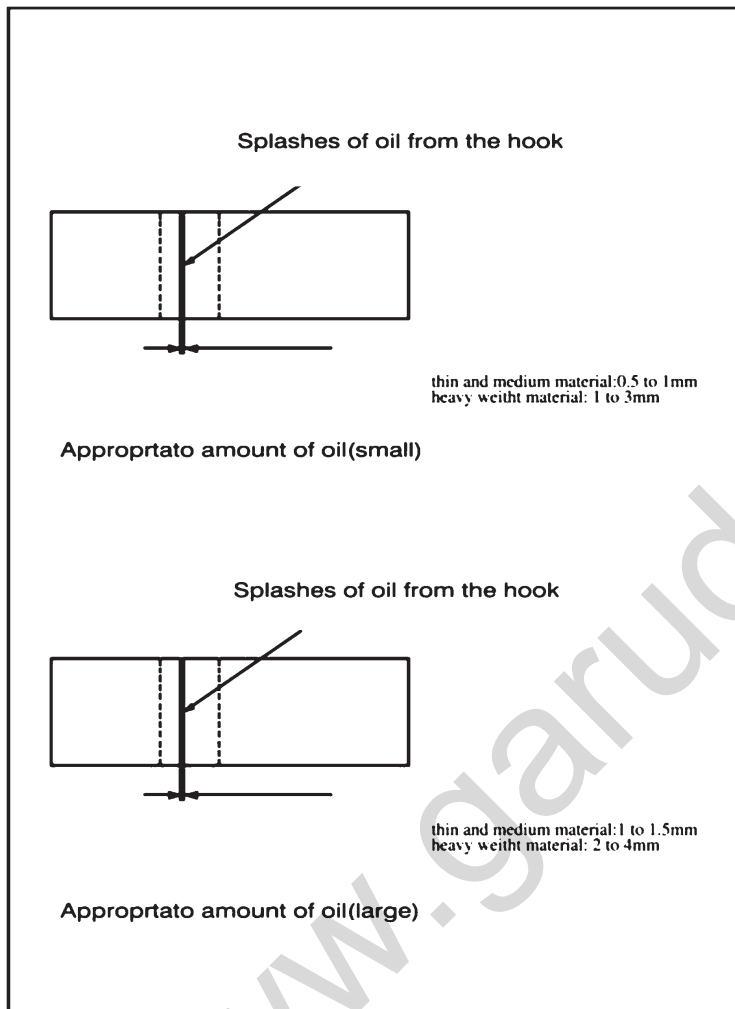
2. Sample showing the appropriate amount of oil
1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/ decrease the amount of oil in the hook.(if the amount of oil is too small, the hook will be seized (the hook will be hot). If the amount of oil is too much, the sewing product may be stained with oil.)
2) Adjust the amount of oil in the hook so that the oil amount (oil splashes) should not change while checking the oil amount three times (on the three sheets of paper).

8. Attaching the needle

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
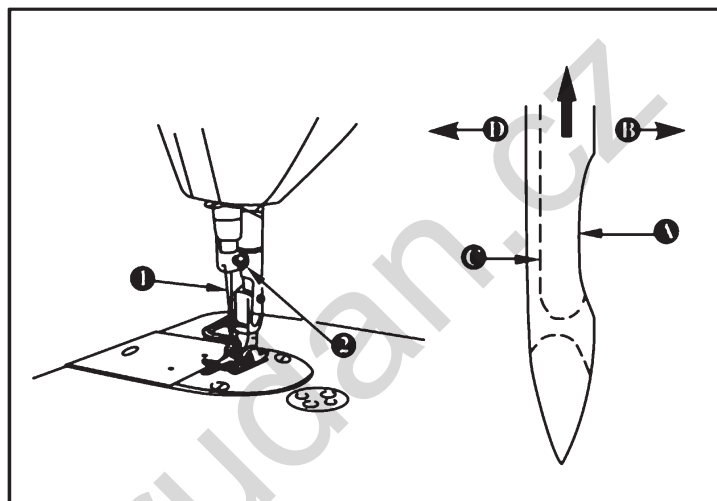
A needle of DBx1 or DPx5 should be used. Select a proper needle size according to the count of thread and the type of material used.

1. Turn the hand-wheel until the needle bar reaches the highest point of its stroke.

2. Loosen screw ②, and hold needle ① with its indented part Ⓐ facing exactly to the right in direction Ⓑ.

3. Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.

4. Securely tighten screw ②.

5. Check that long groove Ⓒ of the needle is facing exactly to the left in direction Ⓓ.

Caution: When filament thread is used, if the indented part of the needle is tilted toward operator's side, the loop of thread becomes unstable, As a result, hangnail of thread or thread breakage may occur. For the thread that such phenomenon is likely to occur, it is effective to attach the needle with its indented part slightly slanting on the rear side.

9.　　　　Setting the bobbin into the bobbin case
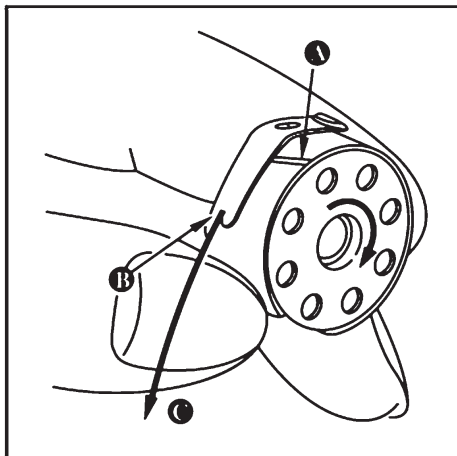
1. Install the bobbin in the bobbin case so that the thread wound direction is clockwise.
2. Pass the thread through thread slit Ⓐ, and pull the thread in direction Ⓑ. By so doing, the thread will pass under the tension spring and come out from notch Ⓑ.
3. Check that the bobbin rotates in the direction of the arrow when thread Ⓒ is pulled.

10.　　　　Adjusting the stitch length
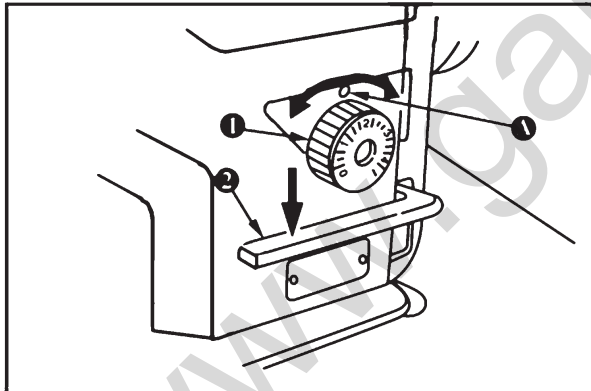
1. Turn stitch length dial ① in the direction of the arrow, and align the desired number to marker dot Ⓐ on the machine arm.
2. The dial calibration is in millimeters.
3. When you want to decrease the stitch length, turn stitch length dial ① while pressing feed lever ② in the direction of the arrow.

11.　　　　Presser foot pressure

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
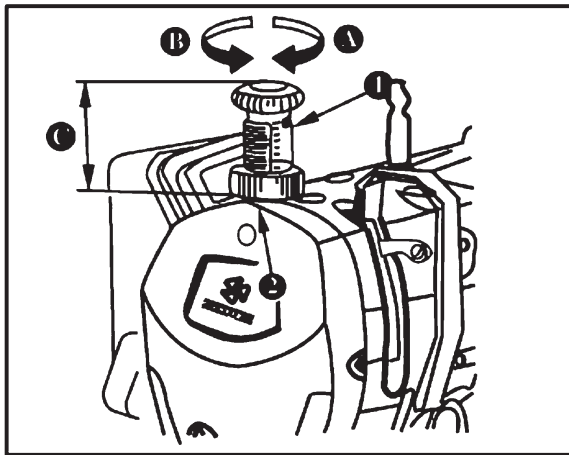
1. Loosen nut ②. As you turn presser spring regulator ① clockwise(in direction A), the presser foot pressure will be increased.

2. As you turn the presser spring regulator counterclockwise(in direction B), the pressure will be decreased.

3. After adjustment, tighten nut ②.

4. For general fabrics, the standard height of the presser spring regulator is 32 to 34mm(4.5kg).

12.   Threading the machine head

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

(Note) Do not pass this thread through section ⓐ.
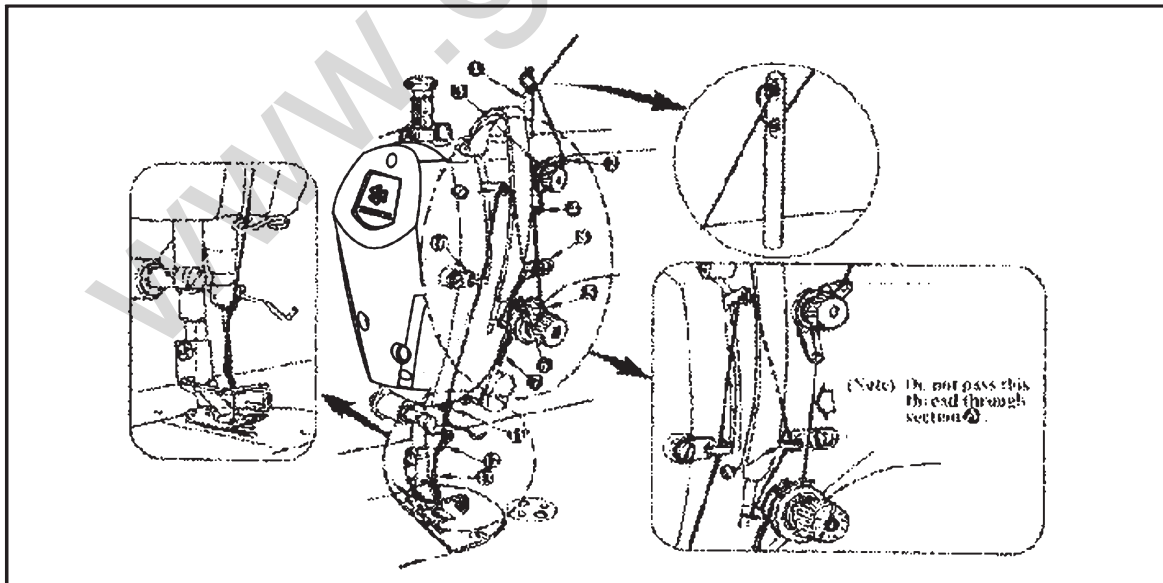
13.   Winding the bobbin thread
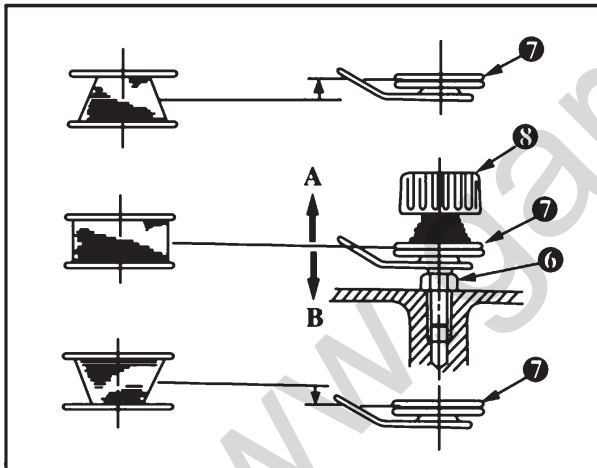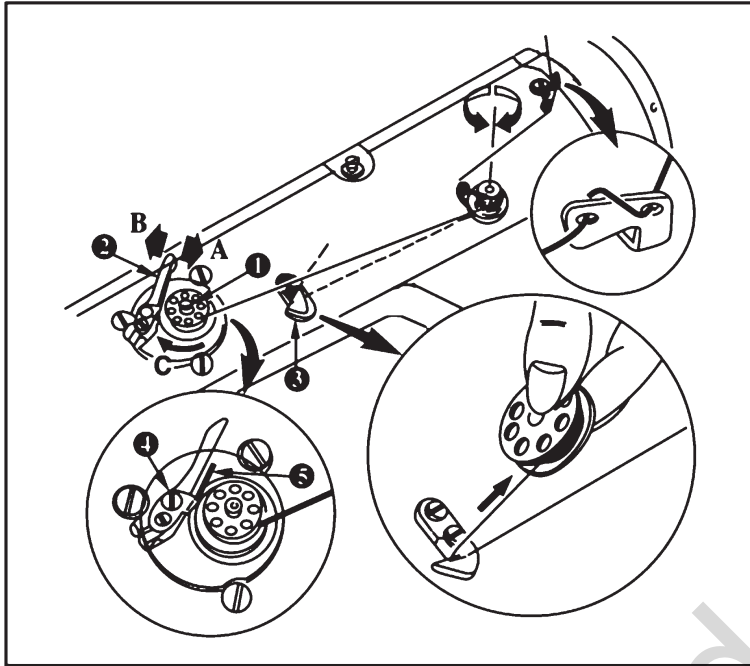
1) Insert the bobbin deep into the bobbin winder spindle ① until it will go no further.

2) Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order as shown in the figure on the left. Then, wind clockwise the end of the bobbin thread on the bobbin several times. (In case of the aluminum bobbin, after winding clockwise the end of the bobbin thread, wind counterclockwise the thread coming from the bobbin thread tension several times to wind the bobbin thread with ease.)

3) Press the bobbin winder trip latch ② in the direction of Ⓐ and start the sewing machine. The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle ① automatically as soon as the winding is finished.

4) Remove the bobbin and cut the bobbin thread with the thread cut retainer ③.

5) To adjust the winding amount of the bobbin thread, loosen the setscrew ④ and move the bobbin winder adjusting plate ⑤ to the direction of Ⓐ or Ⓑ. Then, tighten the setscrew ④. To the direction of Ⓐ: Decrease; to the direction of Ⓑ: Increase.

6) In case that the bobbin thread is not wound evenly on the bobbin, loosen the nut ⑥ and turn the bobbin thread tension to adjust the height of the thread tension disk ⑦.

➤ It is the standard that the center of the bobbin is as high as the center of the thread tension disk.

➤ Move the position of the thread tension disk ⑦ to the direction of Ⓐ as shown in the figure on the left when the winding amount of the bobbin thread on the lower part of the bobbin is excessive and to the direction of Ⓑ as shown in the figure on the left when the winding amount of the bobbin thread on the upper part of the bobbin is excessive. After the adjustment, tighten the nut ⑥.

7) To adjust the tension of the bobbin winder, turn the thread tension nut ⑧.

Caution:

1. when winding the bobbin thread, start the winding in the state that the thread between the bobbin and thread tension disk ⑦ is tense.

2. When winding the bobbin thread in the state that wing is not performed, remove the needle thread from the thread path of thread take-up and remove the bobbin from the hook.

14.   Thread tension
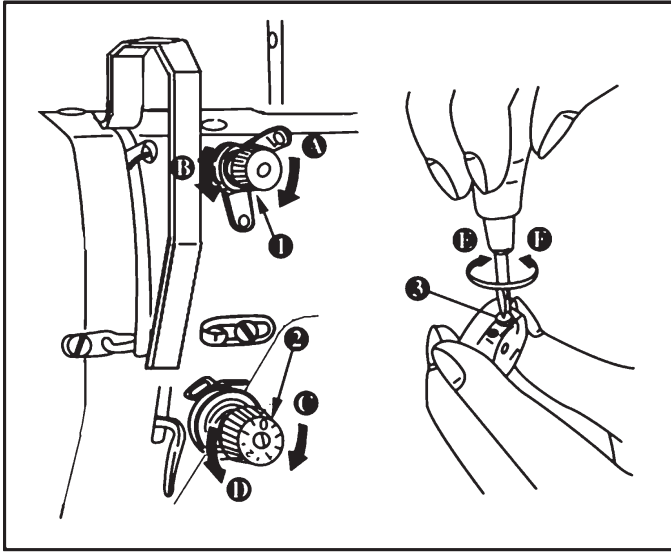
1. Adjusting the needle thread tension

1) As you turn thread tension nut ① clockwise (in direction Ⓐ), the thread remaining on the needle after thread trimming will be shorter.

2) As you turn nut ① counterclockwise (in direction Ⓑ), the thread length will be longer.

3) As you turn thread tension nut ② clockwise (in direction Ⓒ), the needle thread tension will be increased.

4) As you turn nut ② counterclockwise (in direction Ⓓ), the needle thread tension will be decreased.

2. Adjusting the bobbin thread tension

1) AS you turn tension adjust screw ③ clockwise (in direction Ⓔ), the bobbin thread tension will be increased.

2) As you turn screw ③ counterclockwise (in direction Ⓕ), the bobbin thread tension will be decreased.

15.   Thread take-up spring

- When the thread take-up spring moves up to midway, thread is fed out from ❶ since the tension of the thread take-up spring is high.

- The thread take-up spring works up to the last.
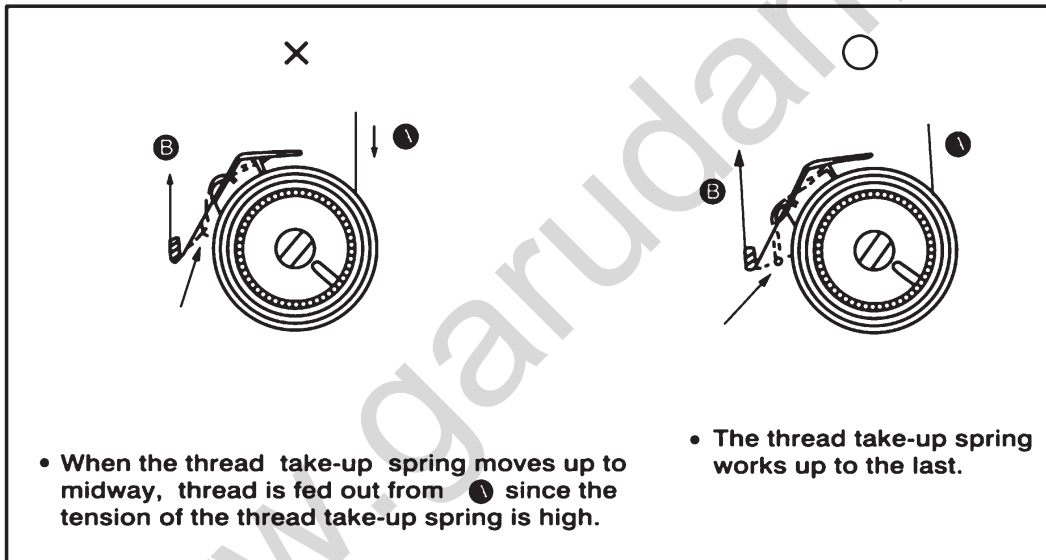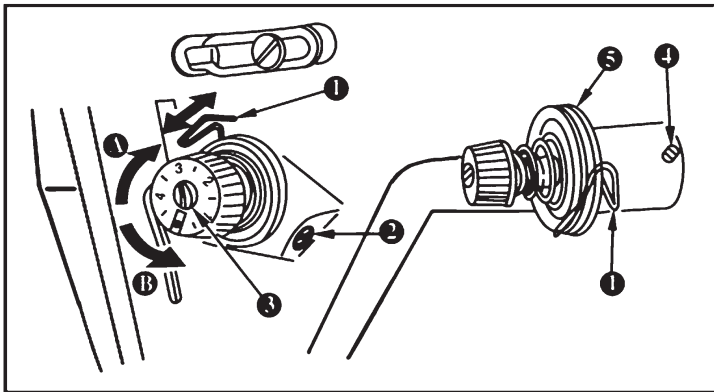
1. Changing the stroke of thread take-up spring

1) Loosen setscrew ②.

2) As you turn tension post ③ clockwise(in direction Ⓐ), the stroke of the thread take-up spring will be increased.

3) As you turn tension post ③ counterclockwise(in direction Ⓑ), the stroke will be decreased.]

2. Changing the pressure of thread take-up spring ①

1) Loosen setscrew ②, and remove thread tension ⑤.

2) Loosen setscrew ④.

3) As you turn tension post ③ clockwise(in direction Ⓐ), the pressure will be increased.

4) As you turn tension post ③ counterclockwise(in direction ⑧), the pressure will be decreased.

Usually, upon the machine coming out, all the take-up spring has been adjusted well, only while sew special material thread, it need to be adjusted again.

To judge the work of the thread take-up spring, confirm whether or not the thread take-up spring works up to the last before needle thread is pulled out from ⓐ when pulling out needle thread in the direction of ⑧after the pressure of the thread take-up spring has been performed. When it does not work up to the last, decrease the pressure of the thread take-up spring. In addition, the stroke of the thread take-up spring is excessively small, the spring does not work properly. For the general fabrics, a stroke of 10 to 13 mm is proper.

16.   Adjusting the thread take-up stroke

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
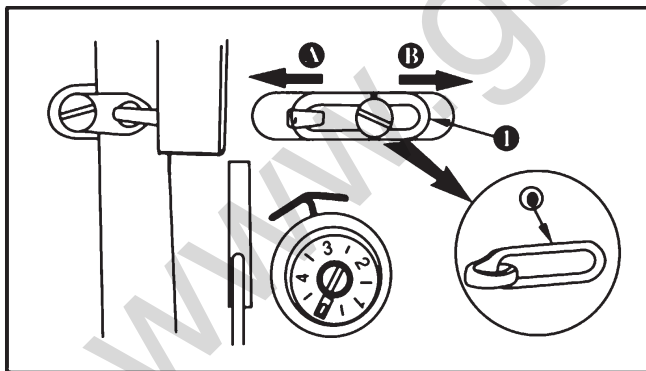
1. When sewing heavy- weight materials, move thread guide ① to the left （in direction ⓐ） to increase the length of thread pulled out by the thread take-up.

2. When sewing light-weight materials, move thread guide ① to the right （in direction ⑧） to decrease the length of thread pulled out by the thread take-up.

3. Normally, thread guide ① is positioned in a way that marker line ⓒ is aligned with the center of the screw.

⚠️

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
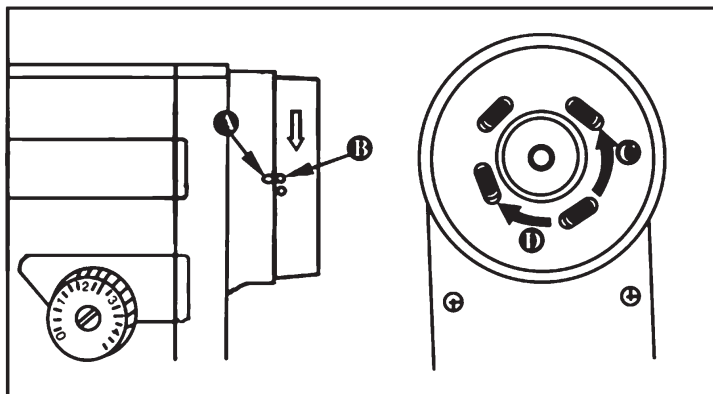
1. Stop position after thread trimming

1) The standard needle stop position is obtained by aligning marker dot Ⓐ on the pulley cover with white marker dot Ⓑ on the hand-wheel.

2) Stop the needle in its highest position, loosen screw ① to perform adjustment within the slot of the screw.

➢ The needle stop timing is advanced if you move the screw in direction Ⓒ.

➢ The needle stop timing is delayed if you move the screw in direction Ⓓ.
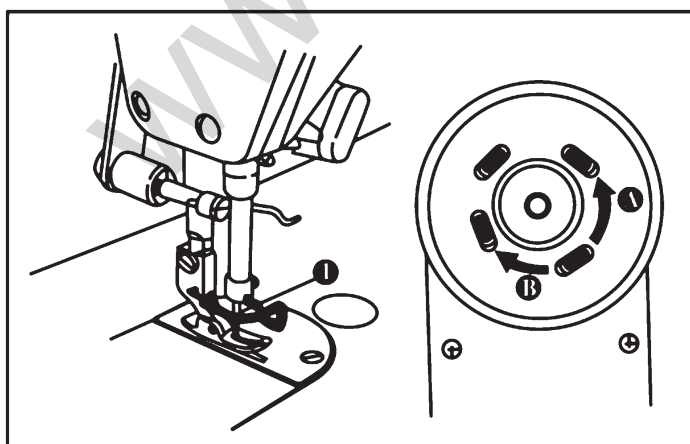
2. Lower stop position

1) The lower needle stop position when the pedal is returned to the neutral position after the front part of the pedal is depressed can be adjusted as follows:

Stop needle ① in its lowest position. Loosen screw ②, and make adjustment within the slot of the screw. Moving the screw in direction Ⓐ advances the needle stop timing. Moving the screw in direction Ⓑ delays the timing.

18. Adjustment of the pedal

⚠️

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
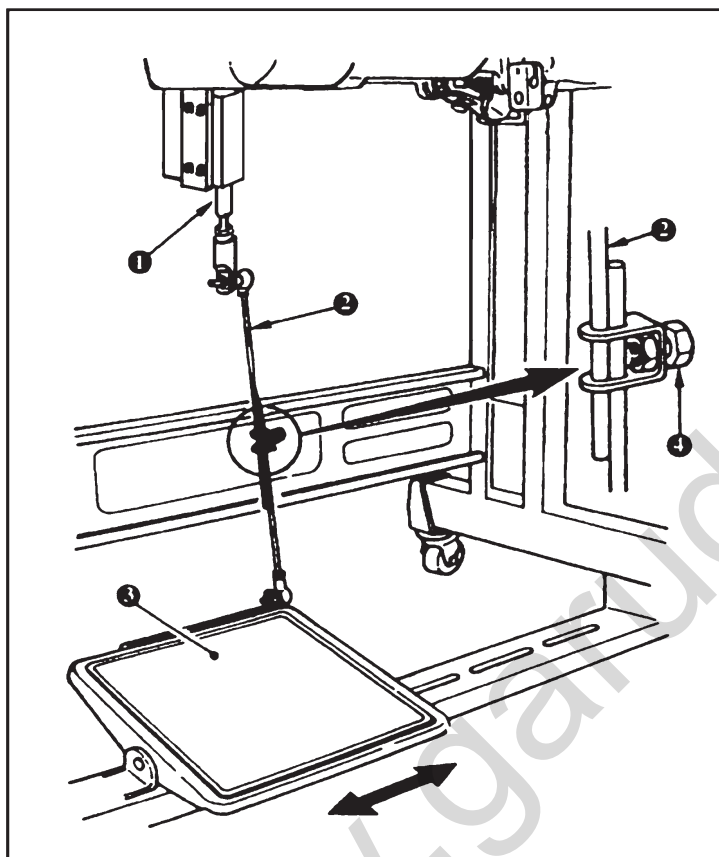
1. Installing the connecting rod

1) Move pedal ③ to the right or left as illustrated by the arrows so that motor control lever ① and connecting rod ② are straightened.

2. Adjusting the pedal angle

1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.

2) Loosen adjust screw ④, and adjust the length of connecting rod ②.

19. Pedal operation
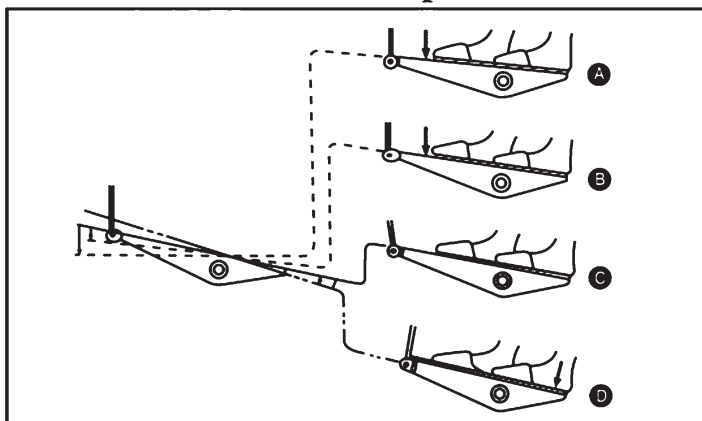
1. The pedal is operated in the following four steps:

1) The machine runs at low sewing speed when you lightly depress the front part of the pedal Ⓑ.

2) The machine runs at high sewing speed when you further depress the front part of the pedal Ⓐ. (If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching.)

3) The machine trims threads when you fully depress the back part of the pedal Ⓓ.

※ If you machine is provided with the Auto-lifter, an addition step is given between the machine stop and thread-trimming step. The presser foot goes up when you lightly depress the back part of the pedal Ⓒ, and if you further depress the back part, the thread trimmer is actuated.

➤ If you reset the pedal to its neutral position during the automatic reverse feed stitching at seam start, the machine stops after it completes the reverse feed stitching;

➤ The machine will perform normal thread trimming even if you depress the back part of the pedal immediately following high or low speed sewing.

➤ The machine will completely perform thread trimming even if you reset the pedal to its neutral position immediately after the machine started thread trimming action.

➤ When the machine stops with its needle down, and if you want to bring the needle up, depress the back part of the pedal once.

20.　Wiper

⚠

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
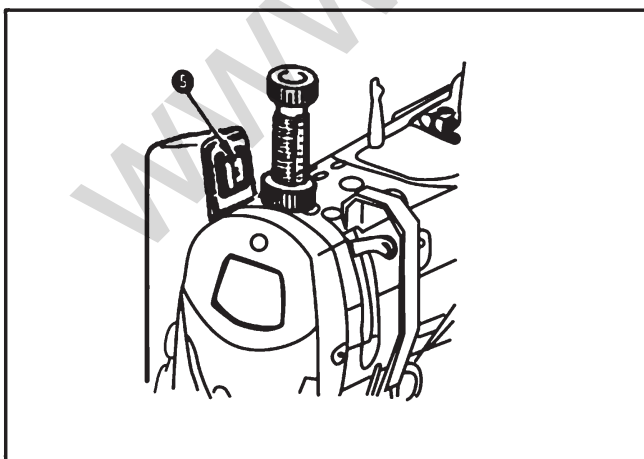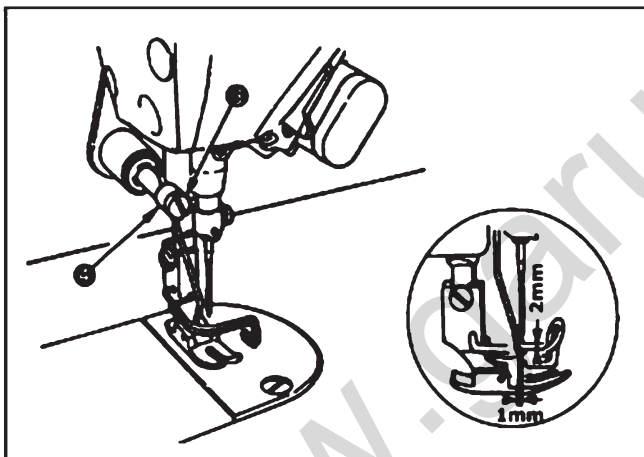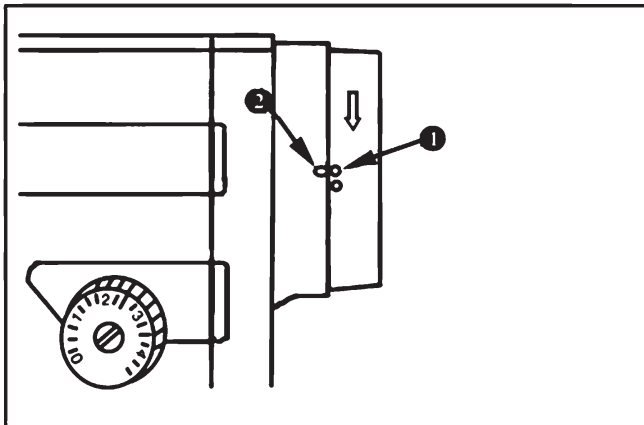
## 1. Positioning the wiper

Adjust the position of the wiper according to the thickness of the material sewn. The adjustment procedure is as follows:

1) Turn the hand-wheel in the normal direction of rotation to align white marker dot ① on the hand-wheel with marker dot ② on the machine arm.

2) Adjust the distance between the flat part of the wiper and the center of the needle to 1mm. Tighten wiper adjust screw ③ so that the wiper is pressed and fixed by wiper collar ④.

3) When the wiper is unnecessary, turn wiper switch ⑤ OFF.

21. One-touch type reverse feed stitching mechanism
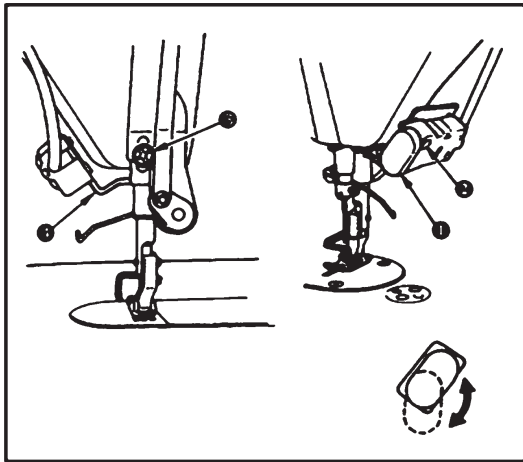
1. How to operate

1) The moment switch lever ① is pressed, the machine performs reverse feed stitching.

2) The machine performs reverse feed stitching as long as the switch lever is held depressed.

3) The machine resumes normal feed stitching the moment the switch lever is released.

2.　　　　Height of the switch

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

1) Switch ① can be used in two positions by turning it.

2) In addition, when you desire to lower the position of switch ①, loosen setscrew ③ located in the back of the machine head and lower switch base ④.

22.   Needle-to-hook relationship

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
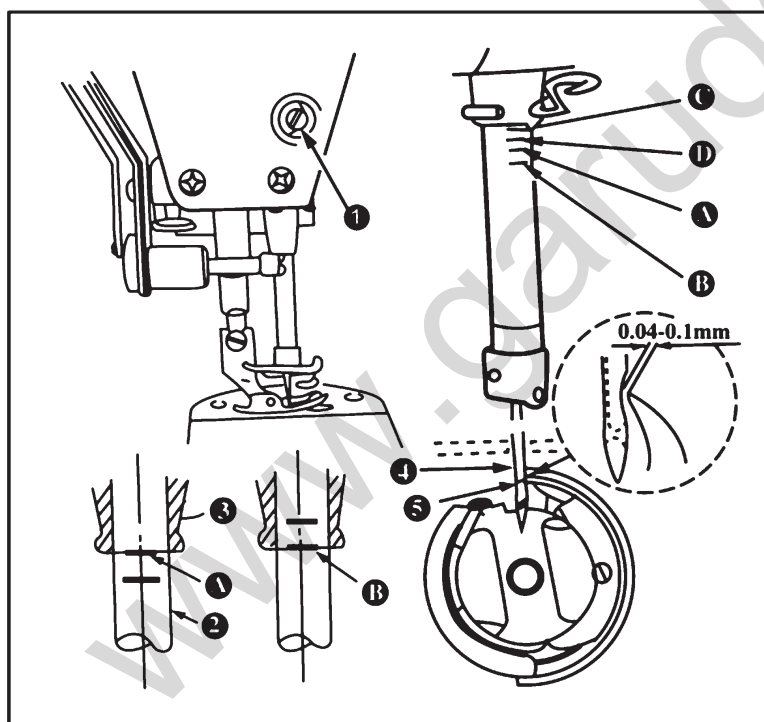
1. Turn the hand-wheel to bright the needle bar down to the lowest point of its stroke, and loosen setscrew ①.

2. Adjusting the needle bar height:

1) While using DB needle, align marker line Ⓐ with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

2) While using DA needle, align marker line © with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

3. Locate the hook position:

1) While using DB needle, loosen the three hook set screw, turn the hand-wheel, and align marker line Ⓑ on ascending needle bar 2 with the bottom end of needle bar lower bushing ③.

2) While using DA needle, loosen the three hook set screw, turn the hand-wheel, and align marker line Ⓓ on ascending needle bar 2 with the bottom end of needle bar lower bushing ③.

4. After making the adjustments mentioned in the above steps, align hook blade point ⑤ with the center of needle ④. Provide a clearance of 0.04mm to 0.10mm(reference value) between the needle and the hook, then securely tighten setscrews in the hook.

Caution:

1. If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skip-ping will result.

2. Use a hook of the same part No. when replacing your hook with a new one.

23. Change of counter knife (Parallel knife)

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

ⓐ Moving knife   ⓑ Center of needle
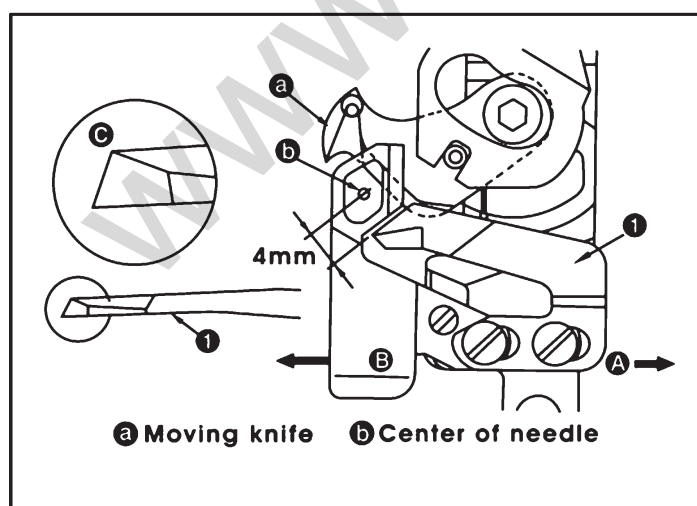
When the knife sharpness has deteriorated, re-sharpen counter knife ① as illustrated in ⓒ, and properly reinstall it.

1) If the mounting position of the counter knife is moved in direction Ⓐ from the standard mounting position, the thread length after thread trimming will be increased accordingly.

2) If the mounting position is moved in direction Ⓑ, the thread length will be decreased accordingly.

Caution: When re-sharpening the knife blade, extra special care must be taken on the handling of the knife.

24. Change of counter knife and moving knife (Rotation knife)

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

24. 1
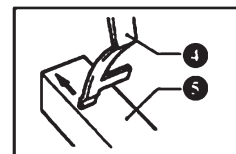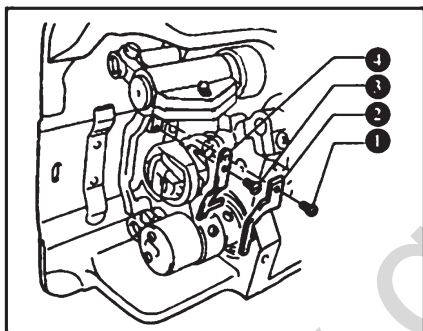
24. 2

25. Adjustment of trimming system (Rotation knife)
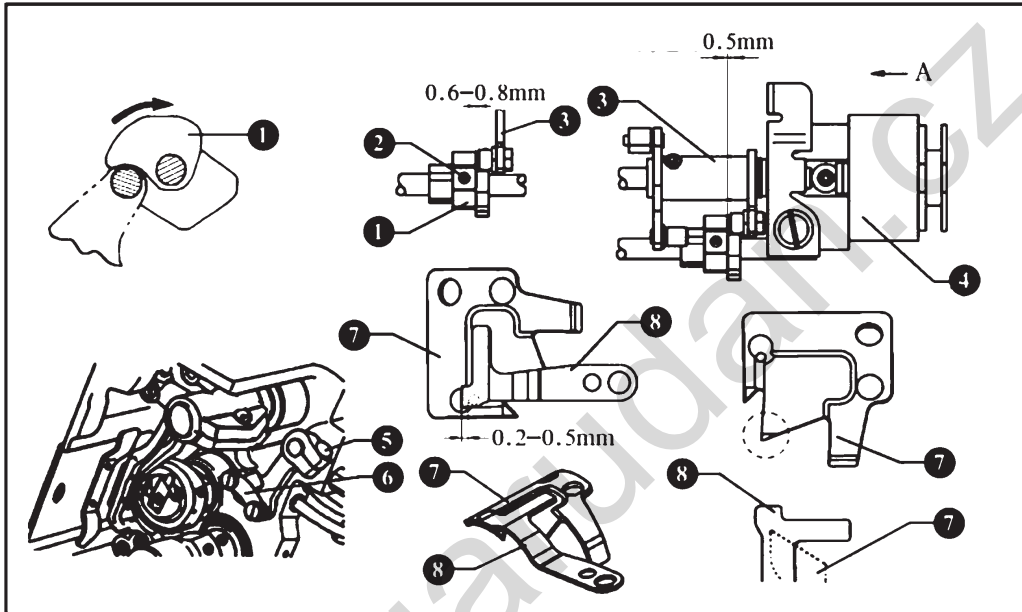
⚠ **Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**
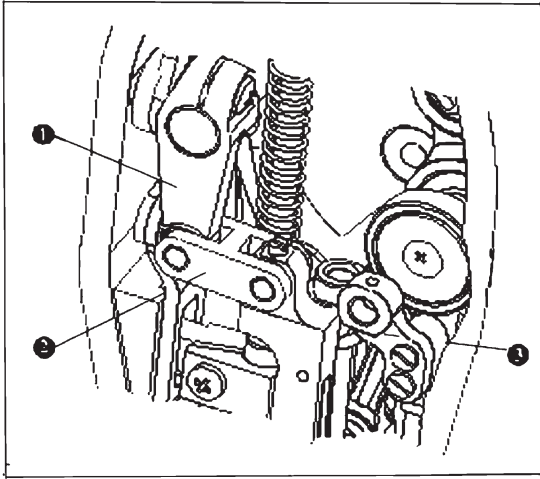
Warning : turn DFF the power
befor starting the work soas
to prevent accidents caused
by abrupt start of the sewing
machine.
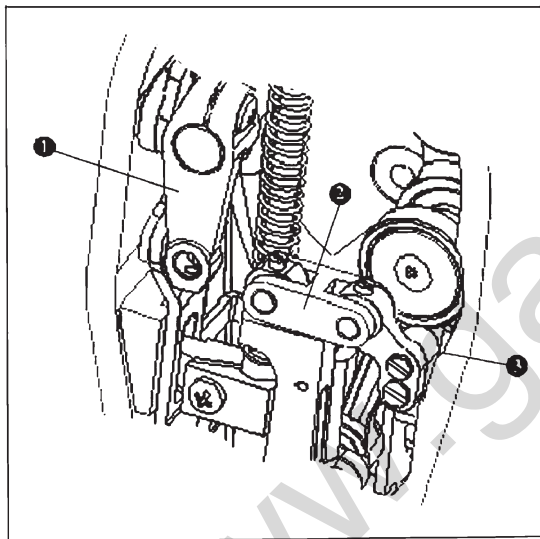
1) The needle bar with a small rod
   placed before the crank shaft
   with screw connection, The sending
   machine needle to send cloth cloth
   manner.

2) A small rod to the needle bar and
   needle bar bracket mounts with scr
   -ew connection, The sending machine
   to send cloth cloth under way.

Height and tilt of the feed dog

⚠️

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
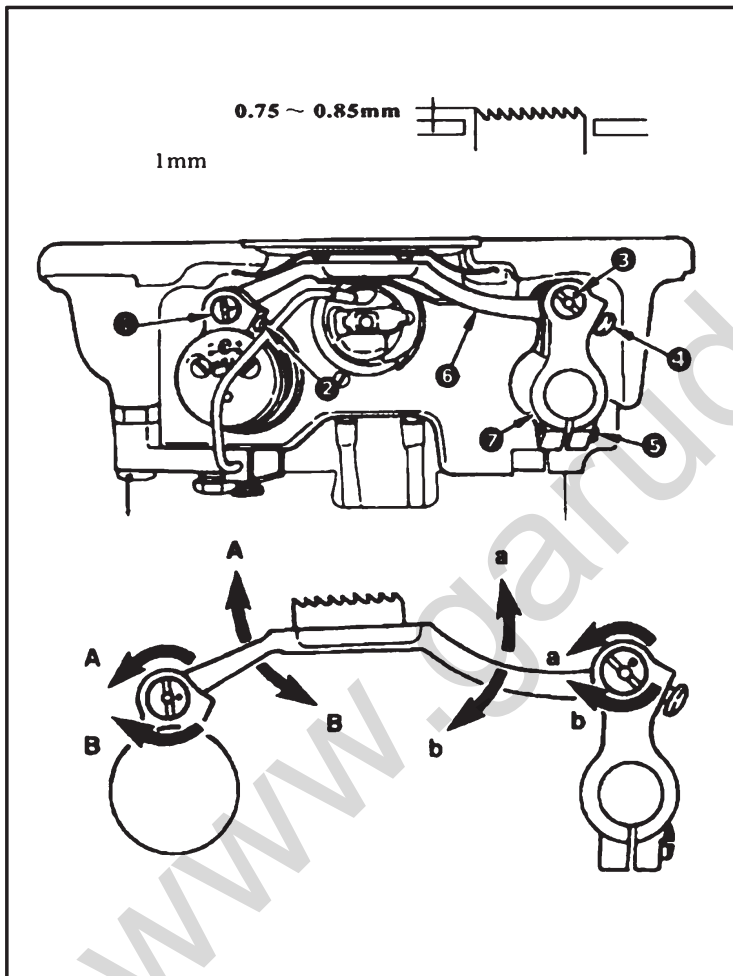
Height of the feed dog is adjusted so that the feed dog protrudes from the throat plate surface by 0.75 to 0.85 mm (1 mm for Heavy type). Adjust the height in accordance with the material to be used.

1. Adjusting the height and tilt of the feed dog

1) Loosen setscrew ② in feed bar driving shaft ① and setscrew ④ in feed bar rocker shaft ③

2) Height and tilt of the feed dog will change by turning both shafts ① and ③ with a screwdriver.

3) For the relation between the rotating direction of each shaft and tilt of feed bar ⑥, refer to the figure on the left.

4) After the adjustment, securely tighten the setscrews. (Tighten setscrews ② and ④ in the state that shafts ① and ③ are pushed against the hand-wheel side.)

Caution:

1. If the tilt of the feed dog is adjusted with one shaft only, the height of the feed dog changes. Be sure to adjust it with both shafts.

2. Movement position of the feed dog may be shifted depending on the adjusting position of the shaft. At this time, loosen setscrew ⑤ in feed rocker shaft arm ⑦ and adjust the movement position.

28.   Adjusting the feed timing

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

The feed timing can be changed by changing the stop position of feed eccentric cam ①.

How to adjust the feed timing

1. Tilt the sewing machine head and loosen two setscrews ② in feed eccentric cam ①.

2. Turn feed eccentric cam ① to change the feed timing.

Align graduation ③ on the feed bar driving arm with engraved marker line ④ on the feed driving shaft.

➢ Turn feed eccentric cam ① in the direction of (+)→Increases the feed timing.

➢ Turn feed eccentric cam ① in the direction of (−) →Decreases the feed timing.
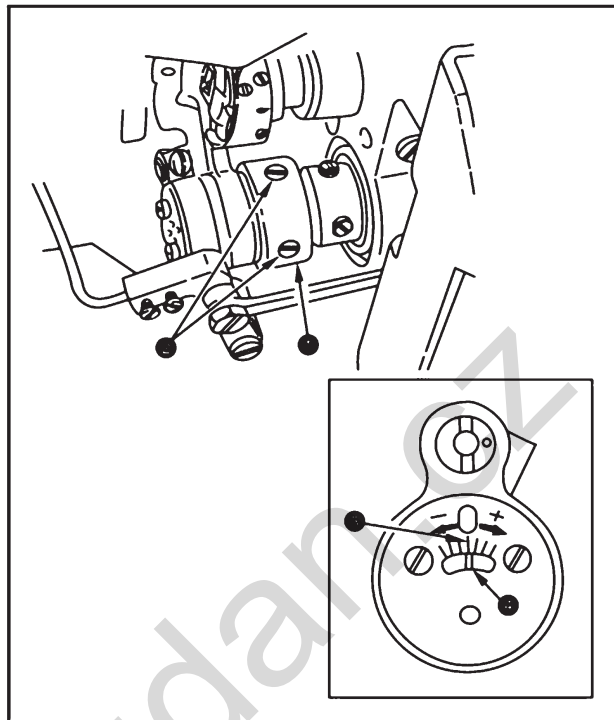
Caution: For general use, use the machine in the state that center of graduation ③ is aligned with the engraved marker line.

29. Thread tension release releasing mechanism

Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
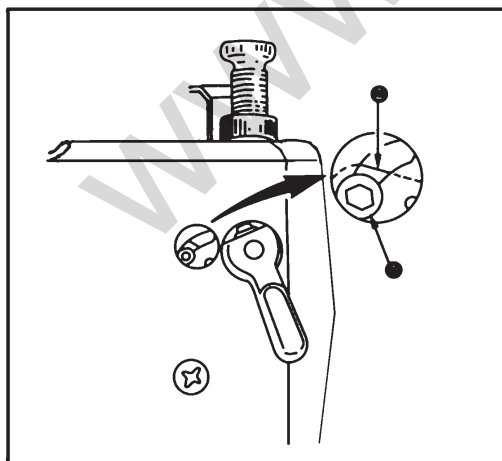
By means of the thread tension release releasing mechanism, sewing can be performed without slackening the needle thread tension even when the presser foot is lifted during sewing. (Even when the presser foot is slightly lifted at the thick overlapped section by the knee lifter, this mechanism can prevent the thread tension from being changed.)

1. How to release

1) Remove the cap in the machine head and loosen thread tension release changeover screw ① using a hexagon wrench.

2) Fix screw ① on the top of thread tension release changeover plate ②. The thread tension disk does not rise even when the presser foot is lifted, and the needle thread tension is not loosened. (The thread tension disk rises only when thread trimming is performed.)

Caution: Do not use screw ① at any position other than the top or bottom position f the thread tension release changeover plate. The screw has been factory-set to the bottom position at the time of delivery.

30. Micro-lifting mechanism of the presser foot

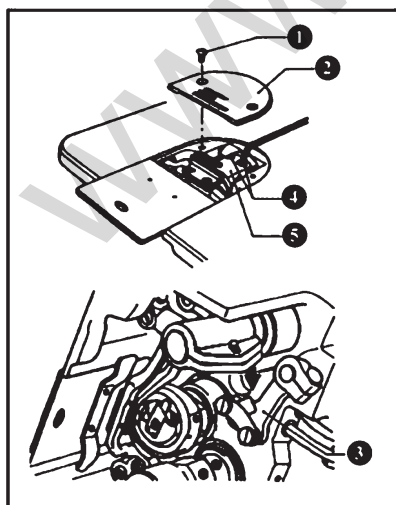**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**

Approx. 11 mm
11mm
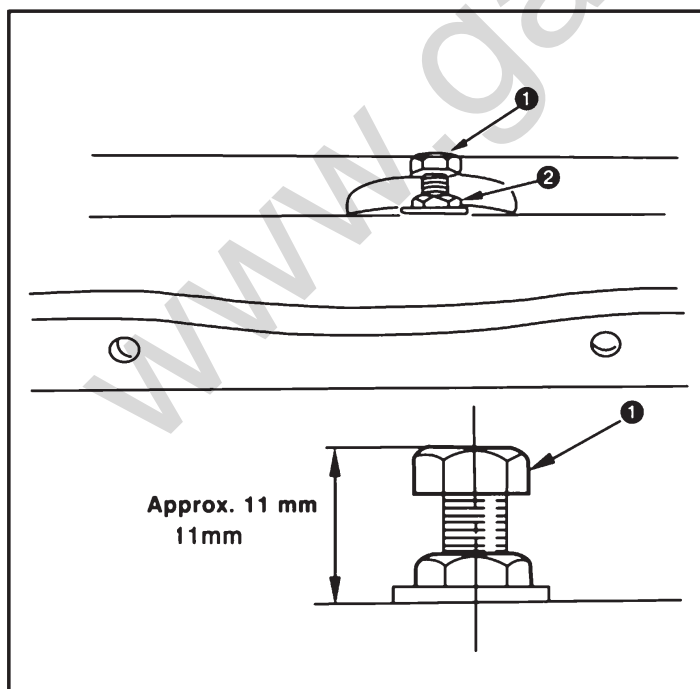
When sewing velvet or the like which is fluffy, slippage of material or damage of material is reduced by using screw ① for presser foot micro-lifting.

Gradually tighten screw ① for presser foot micro-lifting in the state that nut ② is loosened, adjust the presser foot to the position where it is finely lifted until it matches the material, and fix it with nut ②.

Caution: when the presser foot micro-lifting mechanism is not used, adjust the height of screw ① so that it is higher by approximately 11 mm than the sewing machine. If the sewing machine is operated in the state that the micro-lifting mechanism is working, sufficient feed force cannot be obtained.

Caution when carrying or placing the sewing machine
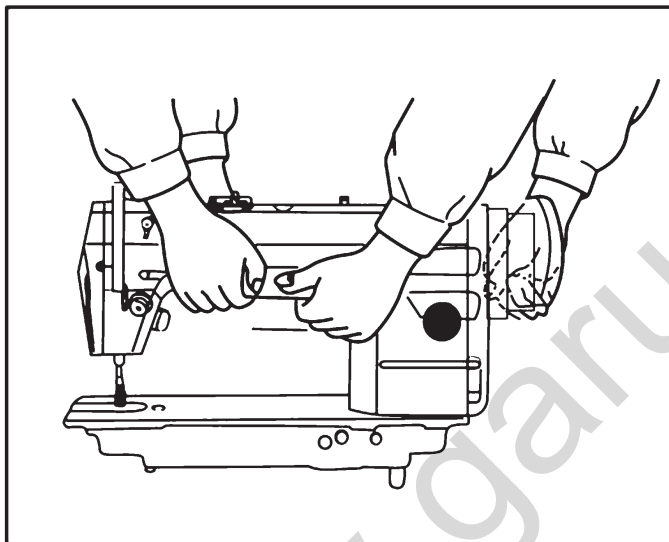
3. How to carry the sewing machine

Carry the sewing machine with two persons as shown in the figure.
Caution: Do not hold the hand-wheel.

4. Caution when placing the sewing machine

Do not place any protruding thing such as screwdriver or the like on the place where the sewing machines is set.
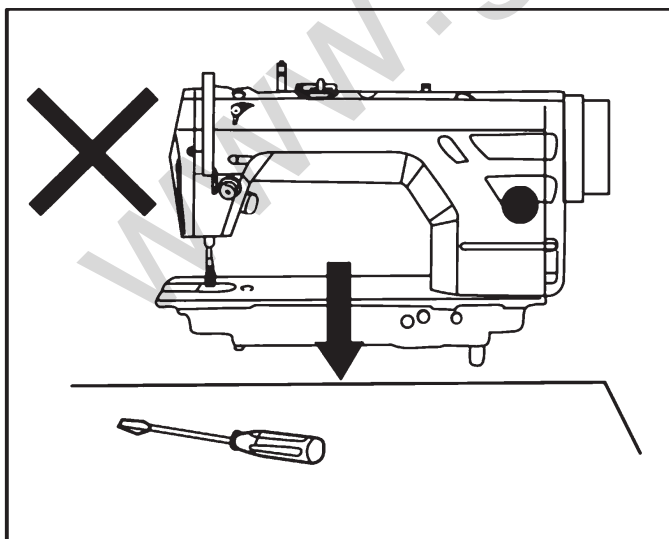
Spare Parts List

GF-107 Serie

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e-mail: info@anita.cz

1、

MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS

1、
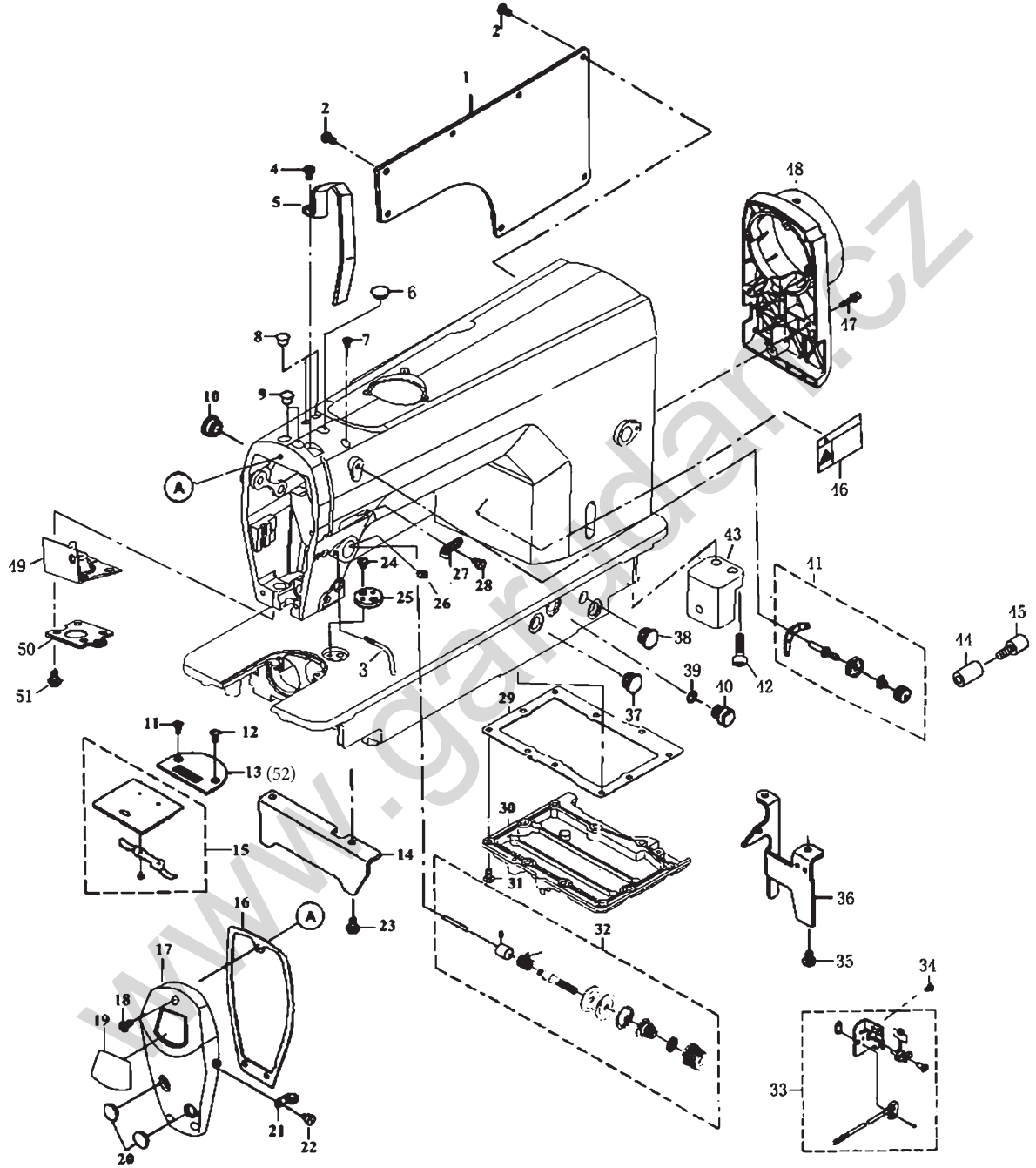
MACHINE FRAME&MISCELLANEOUS COVER COMPNENTS

No.	Part No.		Name of the part		Qty.
1	20003404	后盖板	SIDE PLATE		1
2	10012146	螺钉	SCREW		7
3	10022343	缓线钩	ARM THREAD GUIDE		1
4	10008972	螺钉	SCREW		1
5	20003407	挑线杆防护罩	THREAD TAKE-UP LEVER COVER		1
6	10012147	橡胶塞	RUBBER PLUG		1
7	10013541	螺钉	SCREW		1
8	10008943	橡胶塞	RUBBER PLUG		2
9	10012460	橡胶塞	RUBBER PLUG		2
10	10012128	橡胶塞	RUBBER PLUG		1
11	10009005	螺钉	SCREW		1
12	10012463	螺钉	SCREW		1
13	10022847	针板	THROAT PLATE version MH		1
14	10012135	前支撑板	BED STUD A		1
15	10013706	推板部件	SLIDE PLATE ASM		1
16	10022846	面板垫	FACE PLATE PACKING		1
17	20006907	面板	PACE PLATE		1
18	10008972	螺钉	SCREW		3
19	10005468	面板装饰牌	PLATE		1
20	10008977	橡胶塞	RUBBER PLUG		2
21	10008937	左线钩	ARM THREAD GUIDE B		1
22	10008973	螺钉	SCREW		1
23	10012142	螺钉	SCREW		2
24	10004374	螺钉	SCREW		2
25	10004373	限位挡片	RULER STOP SEAT		1
26	10010593	螺钉	SCREW		1
27	10008940	右线钩	ARM THREAD GUIDE A		1
28	10008973	螺钉	SCREW		1
29	10012143	箱盖密封垫	GEAR BOX PACKING		1
30	10012145	齿轮箱盖	GEAR BOX COVER		1
31	10012146	螺钉	SCREW		10
32	10013000	夹线器组件	THREAD TENSION ASM		1
33	10012662	保险开关组件	SAFETY SWITCH ASM		1
34	10013608	螺钉	SCREW		1
35	10012142	螺钉	SCREW		2
36	10012148	后支撑板	BED STUD B		1
37	10012128	橡胶塞	RUBBER PLUG		1
38	10012136	橡胶塞	RUBBER PLUG		1
39	10012139	O型圈	RUBBER RING		1
40	10012141	排气阀	AIR-DISCHARGING		1

1、
MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS
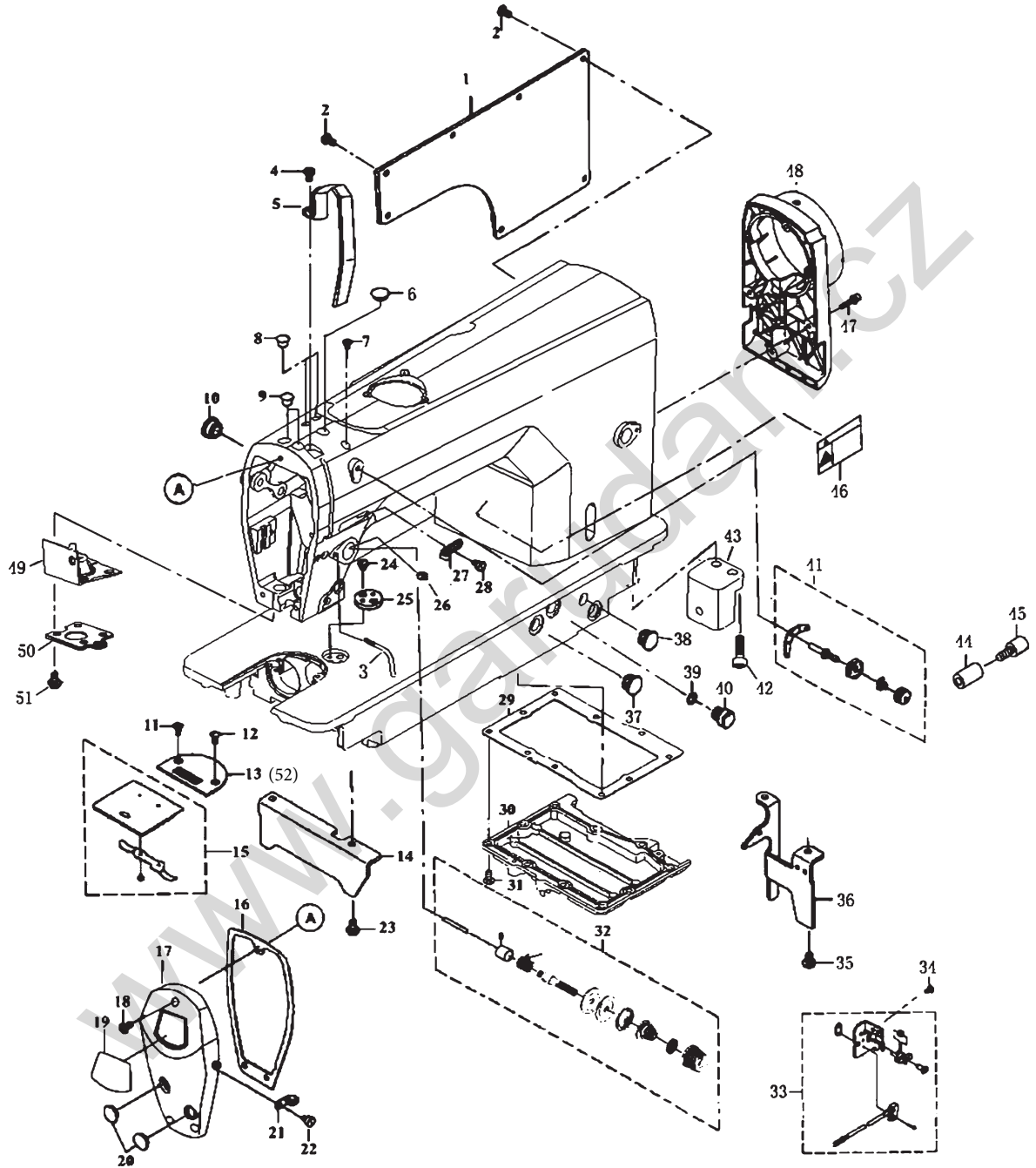
1、

MACHINE FRAME&MISCELLANEOUS COVER COMPNENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
41	10012867	上夹线器部件	THREAD TENSION GUIDE	1
42	10011313	螺钉	SCREW	2
43	10022344	倒缝电磁铁支座	REVERSE FEED SOLENOID BASE	1
44	10013621	限位柱套	REVERSE FEED LEVER STOPPER	1
45	10012149	限位柱	SCREW	1
46	10008936	标牌	SAFETY LABEL	1
47	10006157	螺钉	SCREW	4
48	10006174	后盖	PULLEY COVER	1
49	10022342	机头下防油板橡胶垫	RUBBER PACKING	1
50	10022848	机头下防油板	PLATE	1
51	10011115	螺钉	SCREW	4
52	B1109-415-B00		THROAT PLATE version L	1

2、

MAIN SHAFT & NEDDLE BAR COMPONENTS
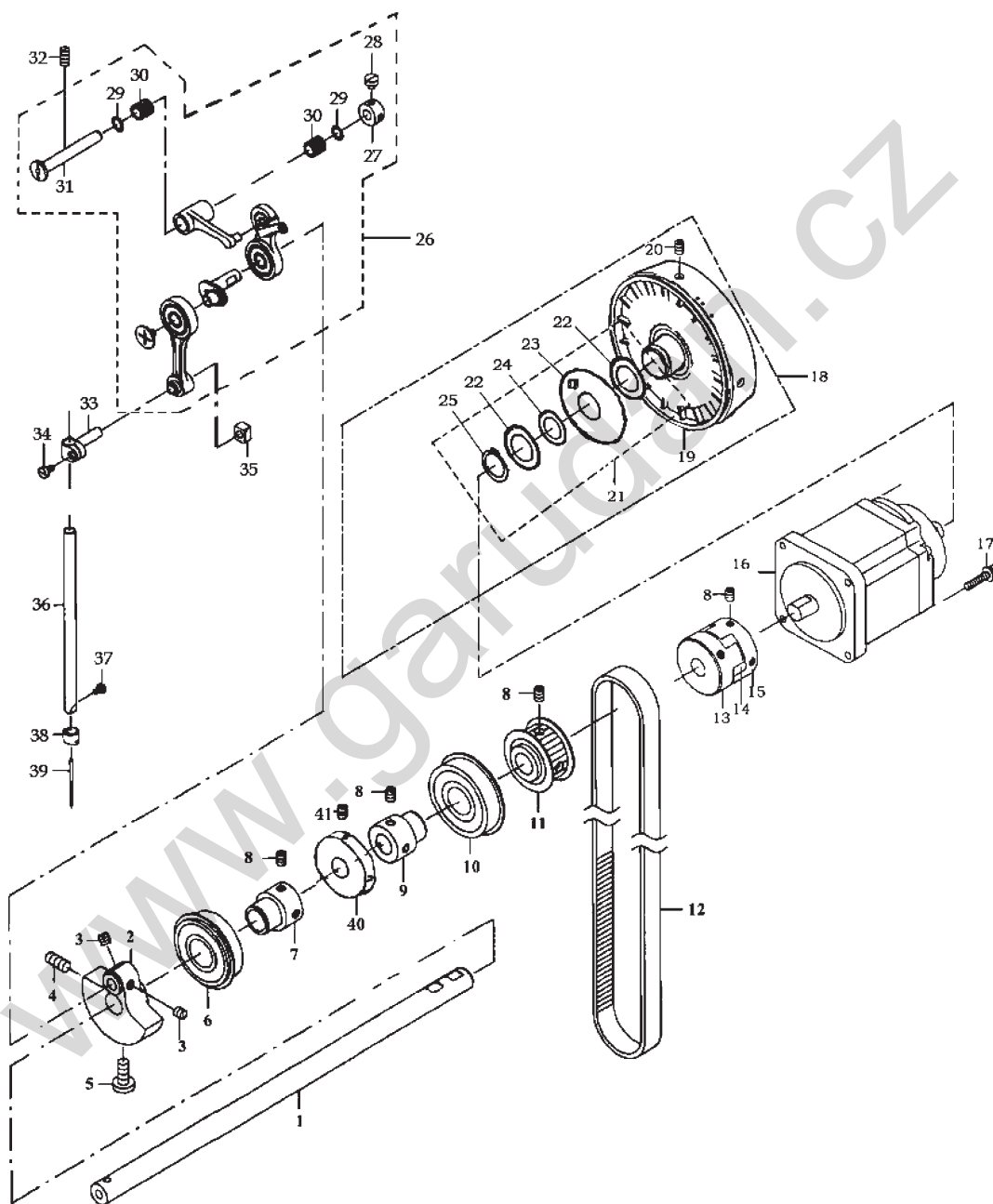
2、 MAIN SHAFT & NEDDLE BAR COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10012663	上轴	Main Shaft	1
2	10012607	针杆曲柄	Needle Bar Crank	1
3	10005020	螺钉	Screw 1/4-40 L=6	2
4	10010082	螺钉	Screw 9/32-28 L=16	1
5	10010545	螺钉	Screw 9/32-28 L=16	1
6	10009781	6204ZZNRC3轴承	Bearing	1
7	10012668	轴承套	Bearing Support	1
8	10009187	M6×8螺钉	Screw M6 L=8	6
9	10012611	轴承套	Bearing Support	1
10	10009791	6304ZZNRC3轴承	Bearing	1
11	10006241	上轴同步齿形带轮组件	Sprocket, Upper	1
12	10014095	齿形带	Timing Belt	1
13	10012613	联轴器	Coupling Joint	1
14	10011227	传动连接橡胶块	Connecting Rubber Block	1
15	10012615	联轴器	Coupling Joint	1
16	10006316	小型伺服马达	Motor	1
17	10006157	螺钉组件	Bolt	4
18	20002766	上轮组件	Head Wheel Asm	1
19	20003408	上轮	Head Wheel	1
20	10002436	M5×8螺钉	Screw M6 L=8	2
21	10023937	停针装置	Parcel Asm	1
22	10003845	垫圈	Washer	2
23	10006898	停针磁铁组件	Separate Parcel	1
24	10003364	波形垫圈	Spring Washer	1
25	10003365	挡圈	E-Ring	1
26	10022346	挑线杆组件	Thread Take-Up Asm	1
27	10005745	挡圈	Thrust Collar	1
28	10013590	螺钉	Screw 11/64-40 L=4	2
29	10005786	7×10×1.2挡圈	Bearing Support	2
30	10005747	K7×10×9.7轴承	Bearing	2
31	10005794	挑线连杆铰链轴	Thread Take-Up Crank Shaft	1
32	10010083	螺钉	Screw 15/64-28	1
33	10010590	针杆连接柱	Needle Rod Holder	1
34	10010643	螺钉	Screw 9/64-40	1
35	10010586	针杆连接柱滑块	Slide Block	1
36	10022347	针杆	Needle Bar	1
37	10013182	螺钉	Screw	1
38	10013181	针杆过线环	Needle Bar Thread Guide	1
39	10004898	DB×114#风琴机针	Needle	1
40	10013112	绕线驱动轮	Bobble Winder Driving Wheel	1
41	10011062	螺钉	Screw 11/64-40	2

3.

HORIZONTAL FEED & VERTICAL FEED AND HOOK DRIVING SHAFT COMPONENTS
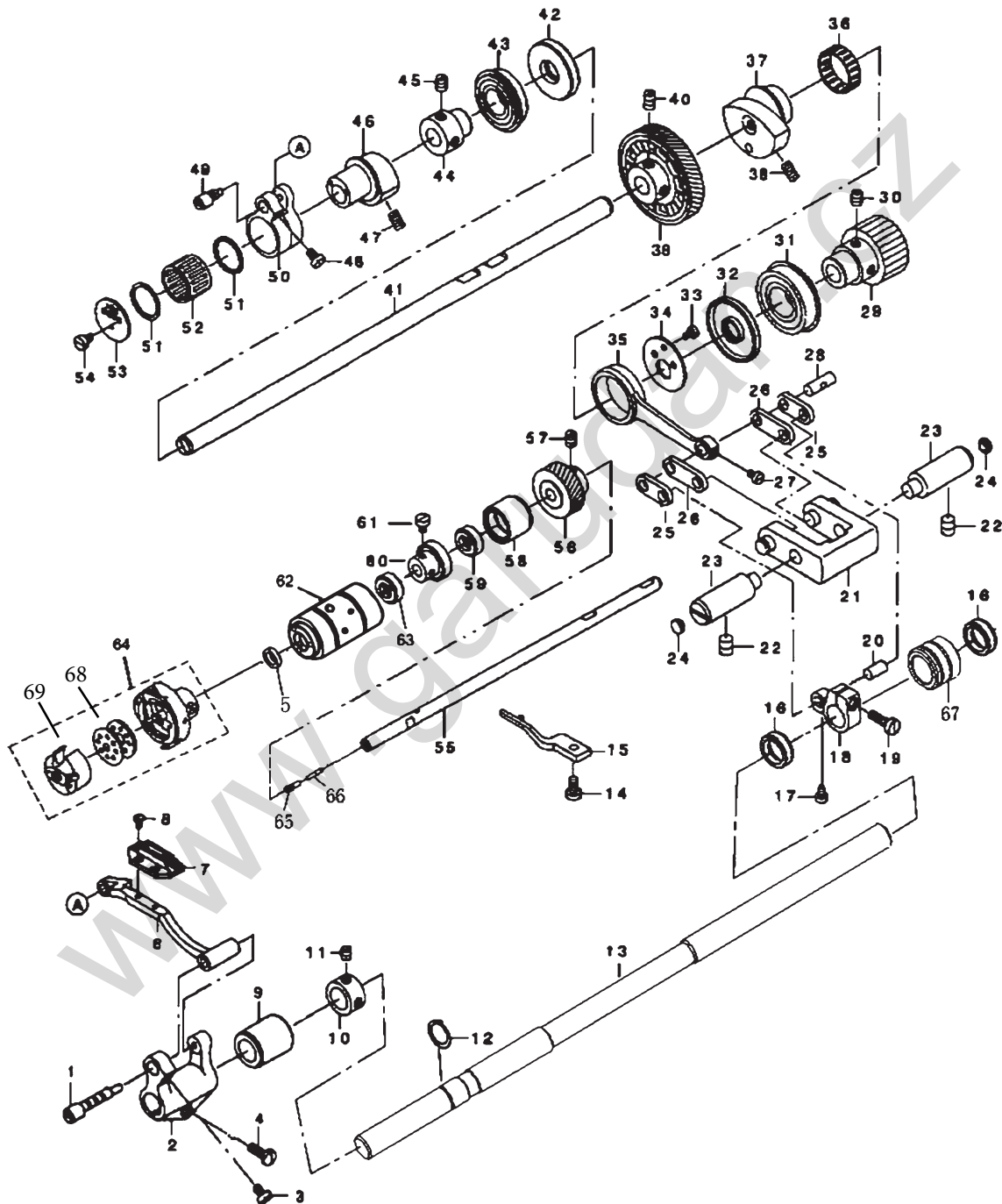
3.1
HORIZONTAL FEED & VERTICAL COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
1	10012048	送料牙架偏心销	FEED ROCKER BASE SHAFT	1
2	10012540	牙架座	FEED ROCKER BASE ARM	1
3	10010074	牙架座偏心销紧定螺钉	SCREW	1
4	10025329	牙架座固定螺钉	SCREW	1
6	10005749	牙架	FEED BASE	1
7	10022849	送料牙	FEED DOG	1
8	10010099	送料牙螺钉	SCREW	2
9	10012494	送料轴轴套	FEED ROCKE SHAFT METAL	1
10	10010542	送料轴挡圈	MAIN SHAFT THRUST COKKAR	1
11	10005020	送料轴挡圈螺钉	SCREW	2
12	10010542	送料轴卡圈	BETAINING RING	1
13	10022348	送料轴	FEED ROCKER SHAFT METAL	1
14	10010066	旋梭定位钩	SCREW	1
15	10012530	旋梭定位钩螺钉	BOBBIN CASE HOLDER	1
16	10012536	送料轴油封	OIL SEAL	1
17	10010071	送料后曲柄销紧定螺钉	SCREW	1
18	10012492	送料后曲柄	FEED POCKER ARM	1
19	10010095	送料后曲柄固定螺钉	SCREW	1
20	10010096	送料后曲柄销	WALKING FOOT PIN B	1
21	10012500	送料摆动板座组件	ADJUSTING LINK ASM	1
22	10010593	螺钉	SCREW	2
23	10012532	送料摆动座销	ADJUSTING LINK ASM FULCRUM	2
24	10012495	送料摆动座销孔橡皮塞	RUBBER PLUG	2
25	10010075	送料摆动座短连接板	LINK B	2
26	10012537	送料摆动座长连接板	LINK A	2
27	10010071	送料连接销螺钉	SCREW	1
28	10010069	送料连杆销	WALKING FOOT PIN C	1
29	10012535	抬牙轴同步齿形带轮	LOWER SPROCKET	1
30	10009187	抬牙轴同步齿形带轮螺钉	SCREW	2
31	10003542	抬牙轴后轴承	BEARING	1
32	10005742	送料偏心轮挡片	FEED ROCKER CAM PLATE	2
33	10010643	送料偏心轮挡片螺钉	SCREW	1
34	10005787	送料摇动连杆	FEED ROCKER ROD	1
35	10012538	抬牙轴后油封	SEAL	1
36	10005792	送布偏心轮滚针轴承	BEARING	1
37	10005740	送布偏心轮	FEED ROCKER CAN PLATE	1
38	10010083	螺钉	SCREW	2
39	10012462	抬牙轴斜齿轮	LARGE	1
40	10008862	抬牙轴斜齿轮螺钉	SCREW	2
41	10012489	抬牙轴	FEED DRIVING SHAFT	1

3、

HORIZONTAL FEED & VERTICAL FEED AND
HOOK DRIVING SHAFT COMPONENTS

3.1
HORIZONTAL FEED & VERTICAL COMPONENTS
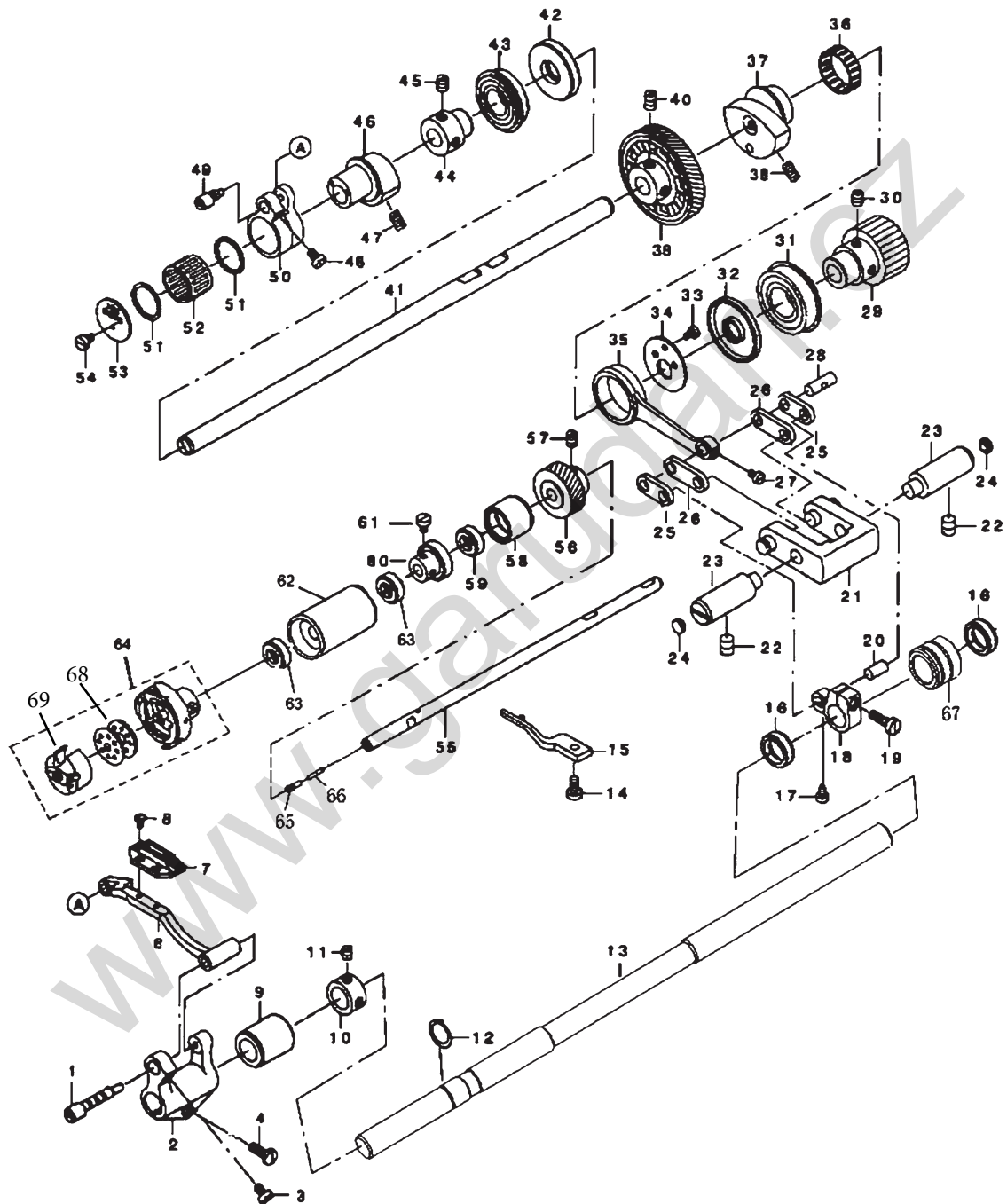
序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
42	10012533	抬牙轴前油封	SEAL	1
43	10009782	抬牙轴轴承	BEARING	1
44	10012501	抬牙轴轴承套	SUPPORT	1
45	10003921	抬牙轴轴承套螺钉	SCREW	2
46	10005750	抬牙凸轮	FEED DRIVING CAM	1
47	10010083	抬牙凸轮紧定螺钉	SCREW	2
48	10010074	抬牙曲柄偏心销紧定螺钉	SCREW	1
49	10012498	抬牙曲柄偏心销	BASE SHAFT	1
50	10005789	抬牙曲柄	BASE ARM	1
51	10005790	抬牙凸轮滚针轴承挡圈	FEED DRIVING CAM THRUST BU	2
52	10005744	抬牙凸轮滚针轴承	BEARING	1
53	10012503	抬牙凸轮挡板	CAM PLATE	1
54	10010643	抬牙凸轮挡板螺钉	SCREW	2
55	10012534	下轴	HOOK SHAFT	1
56	10012554	下轴斜齿轮	GEAR SMALE	1
57	10003921	下轴斜齿轮螺钉	SCREW	2
58	10012678	下轴后轴套	BEARING	1
59	10012423	下轴后轴套油封	SEAL	1
60	20000175	下轴后轴承套组件	BEARING SUPPORT ASM	1
61	10013608	下轴后轴承套螺钉	SCREW	2
62	10012610	下轴前轴套	COMPL	1
63	10014503	下轴前轴套油封	SEAL	2
64	GN137-8	旋梭组件	HOOK ASM	1
65	10010064	下轴限油螺钉	SCREW	1
66	10010063	下轴限油芯	SCREW ASM	1
67	10022341	轴套	COMPL	1
68	GN138-8		BOBBIN	1
69	GN138-8		BOBBIN CASE	1
70	B1609-415-B00		FEED DOG version L	1

3.2

HORIZONTAL FEED & VERTICAL FEED AND
HOOK DRIVING SHAFT COMPONENTS
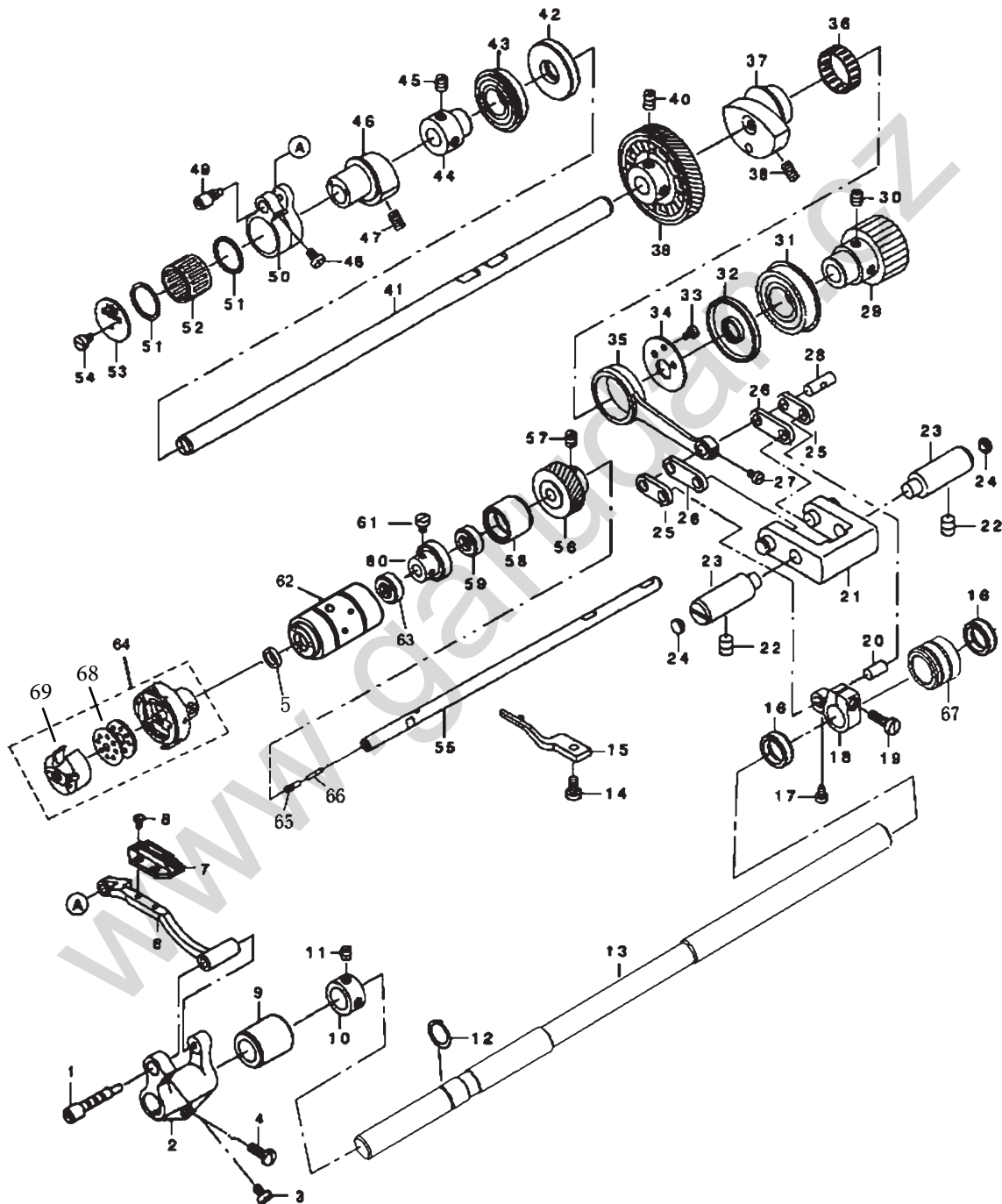
3.2

HORIZONTAL FEED & VERTICAL COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
1	10012048	送料牙架偏心销	FEED ROCKER BASE SHAFT	1
2	10012540	牙架座	FEED ROCKER BASE ARM	1
3	10010074	牙架座偏心销紧定螺钉	SCREW	1
4	10025329	牙架座固定螺钉	SCREW	1
5	10013029	油封	OIL SEAL	1
6	10005749	牙架	FEED DOG	1
7	10022849	送料牙	FEED BASE	1
8	10010099	送料牙螺钉	SCREW	2
9	10012494	送料轴轴套	FEED ROCKE SHAFT METAL	1
10	10010542	送料轴挡圈	MAIN SHAFT THRUST COKKAR	1
11	10005020	送料轴挡圈螺钉	SCREW	2
12	10010542	送料轴卡圈	BETAINING RING	1
13	10032116	送料轴	FEED ROCKER SHAFT METAL	1
14	10010066	旋梭定位钩	SCREW	1
15	10012530	旋梭定位钩螺钉	BOBBIN CASE HOLDER	1
16	10012536	送料轴油封	OIL SEAL	1
17	10010071	送料后曲柄销紧定螺钉	SCREW	1
18	10012492	送料后曲柄	FEED POCKER ARM	1
19	10010095	送料后曲柄固定螺钉	SCREW	1
20	10010096	送料后曲柄销	WALKING FOOT PIN B	1
21	10012500	送料摆动板座组件	ADJUSTING LINK ASM	1
22	10010593	螺钉	SCREW	2
23	10012532	送料摆动座销	ADJUSTING LINK ASM FULCRUM	2
24	10012495	送料摆动座销孔橡皮塞	RUBBER PLUG	2
25	10010075	送料摆动座短连接板	LINK B	2
26	10012537	送料摆动座长连接板	LINK A	2
27	10010071	送料连接销螺钉	SCREW	1
28	10010069	送料连杆销	WALKING FOOT PIN C	1
29	10012535	抬牙轴同步齿形带轮	LOWER SPROCKET	1
30	10009187	抬牙轴同步齿形带轮螺钉	SCREW	2
31	10003542	抬牙轴后轴承	BEARING	1
32	10005742	送料偏心轮挡片	FEED ROCKER CAM PLATE	2
33	10010643	送料偏心轮挡片螺钉	SCREW	1
34	10005787	送料摇动连杆	FEED ROCKER ROD	1
35	10012538	抬牙轴后油封	SEAL	1
36	10005792	送布偏心轮滚针轴承	BEARING	1
37	10005740	送布偏心轮	FEED ROCKER CAN PLATE	1
38	10010083	螺钉	SCREW	2
39	10012462	抬牙轴斜齿轮	LARGE	1
40	10008862	抬牙轴斜齿轮螺钉	SCREW	2

3.2

HORIZONTAL FEED & VERTICAL FEED AND
HOOK DRIVING SHAFT COMPONENTS

3.2
HORIZONTAL FEED & VERTICAL COMPONENTS
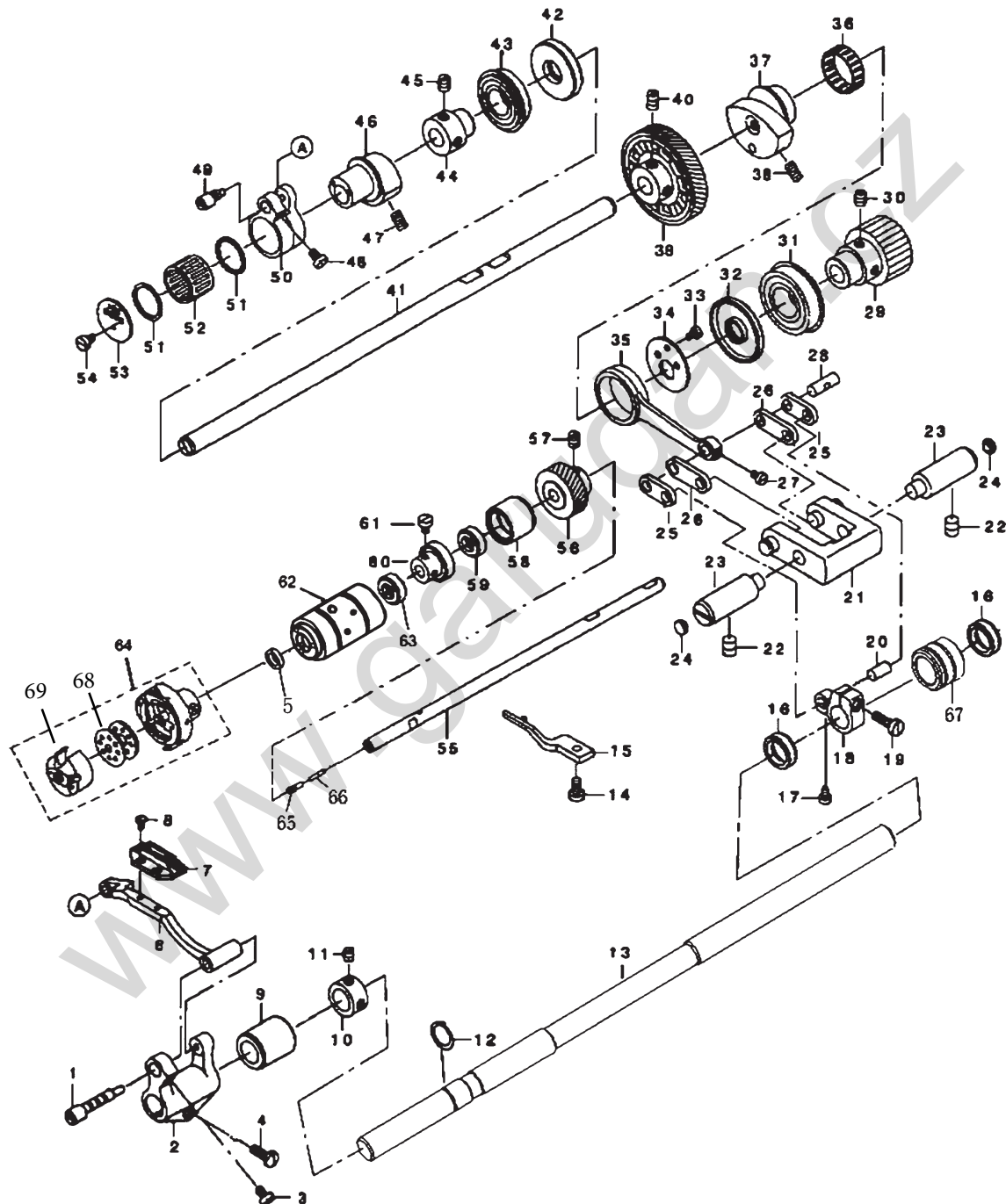
序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
41	10012489	抬牙轴	FEED DRIVING SHAFT	1
42	10012533	抬牙轴前油封	SEAL	1
43	10009782	抬牙轴轴承	BEARING	1
44	10012501	抬牙轴轴承套	SUPPORT	1
45	10003921	抬牙轴轴承套螺钉	SCREW	2
46	10005750	抬牙凸轮	FEED DRIVING CAM	1
47	10010083	抬牙凸轮紧定螺钉	SCREW	2
48	10010074	抬牙曲柄偏心销紧定螺钉	SCREW	1
49	10012498	抬牙曲柄偏心销	BASE SHAFT	1
50	10005789	抬牙曲柄	BASE ARM	1
51	10005790	抬牙凸轮滚针轴承挡圈	FEED DRIVING CAM THRUST BU	2
52	10005744	抬牙凸轮滚针轴承	BEARING	1
53	10012503	抬牙凸轮挡板	CAM PLATE	1
54	10010643	抬牙凸轮挡板螺钉	SCREW	2
55	10012534	下轴	HOOK SHAFT	1
56	10012554	下轴斜齿轮	GEAR SMALE	1
57	10003921	下轴斜齿轮螺钉	SCREW	2
58	10012678	下轴后轴套	BEARING	1
59	10012423	下轴后轴套油封	SEAL	1
60	20000175	下轴后轴承套组件	BEARING SUPPORT ASM	1
61	10013608	下轴后轴承套螺钉	SCREW	2
62	10012610	下轴前轴套	COMPL	1
63	10014503	下轴前轴套油封	SEAL	2
64	GN137-8	旋梭组件	HOOK ASM	1
65	10010064	下轴限油螺钉	SCREW	1
66	10010063	下轴限油芯	SCREW ASM	1
67	10022341	轴套	COMPL	1
68	GN139-8A		BOBBIN	1
69	GN138-8		BOBBIN CASE	1
70	B1609-415-B00		FEED DOG version L	1

4、

HANG LIFTER & TENSION RELEASE COMPONENTS

4、
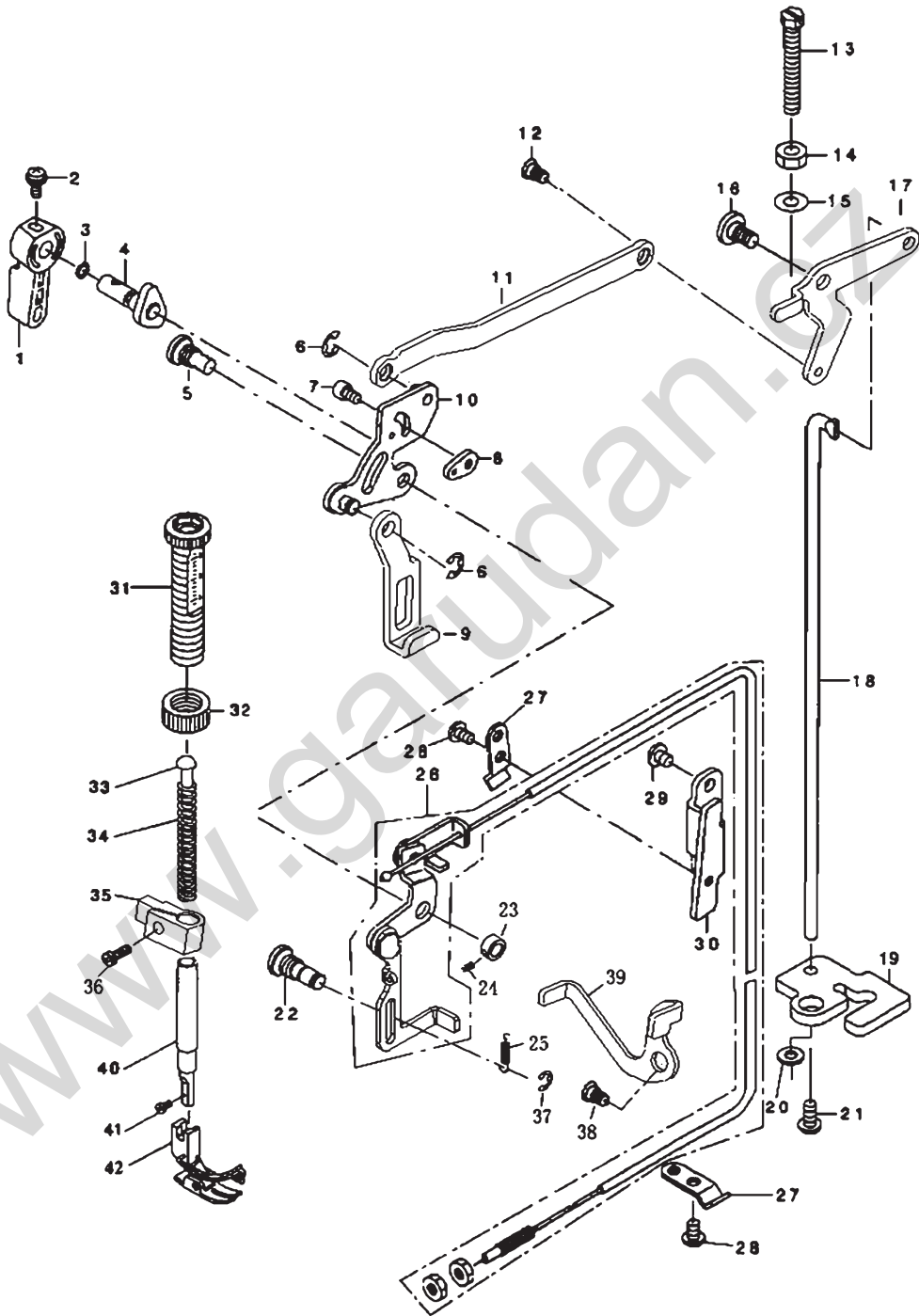
HANG LIFTER & TENSION RELEASE COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
1	10011064	压脚扳手	HAND LIFTER	1
2	10010016	螺钉	SCREW	1
3	10010027	O形圈	RUBBER RING	1
4	10013809	压脚扳手凸轮组件	HAND LIFTER CAM ASM	1
5	10010653	销	SCREW	1
6	10010649	挡圈	COLLAR	2
7	10002976	螺钉	SCREW	1
8	10005833	小连板	PLATE	1
9	10010648	压脚升降板	LIFTING PLATE	1
10	10005685	前杠杆组件	LIFTING LINK COMPL	1
11	10022852	膝控提升拉杆	CONNECTING ROD	1
12	10005882	拉杆螺钉	SCREW	1
13	10012633	六角螺钉	SCREW	1
14	10012625	螺母	NUT	1
16	10010652	后杠杆轴位螺钉	SCREW	1
17	10022853	后杠杆	LIFTING LEVER LINK	1
18	10030397	膝控提升杆	LINFTING LEVER CONNECT ROD	1
19	10012429	提升杆导板	CONNECTING ROD GUIDE	1
21	10012637	提升杆导板螺钉	SCREW	1
22	10022351	销	SCREW	1
23	10023459	挡圈	COLLAR	1
24	10012549	螺钉	SCREW	1
25	10022508	弹簧	SPRING	1
26	10022855	抬压脚松线组件	KNEEL IFTING TENSION RELEASE	1
27	10012425	线夹	WIRE HOLDER	2
28	10008972	线夹螺钉	SCREW	2
29	10012130	拉线固定架螺钉	SCREW	1
30	10005881	抬压脚拉线固定架	WIRE HOLDER	1
31	10013325	螺钉	SCREW	1
32	10011023	螺母	NUT	1
33	10013322	压杆	PRESSER BAR	1
34	10004473	弹簧	SPRING	1
35	10022349	压杆导架	PRESSER BAR GUIDE BRAC	1
36	10013567	螺钉	SCREW	1
37	10003248	挡圈	COLLAR	1
38	10012181	螺钉	SCREW	1
39	10022854	松线顶板	TENSION RELEASE RETURN	1
40	10014141	压杆衬套	BUSHING	1
41	10010650	活压脚螺钉	SCREW	1
42	10022352	压脚组件	PRESSER FOOT ASM	1

5、

THE NEEDLE BAR SWING COPONENTS

5、

THE NEEDLE BAR SWING COPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10022509	针杆支架组件	ROCKING BASE COMPL	1
2	10022340	轴套	BUSHING	1
3	10023449	针杆滑块导轨	SLIDE BLOCK GUIDE	1
4	10003549	轴承	BEARING	1
5	10014395	螺钉	SCREW	1
6	10023454	针杆摆动小连杆	DRIVING LINK	1
7	10022856	销	LINK PIN	2
8	10022363	小连杆销堵塞	PLUG	4
9	10022354	螺钉	SCREW	2
10	10022355	摆动轴前曲柄	DRIVING CRANK FRONT	1
11	10004611	螺钉	SCREW	1
12	10022338	轴套	BUSHING	1
13	10022356	针杆支架摆动轴	NEEDLE FEED SHAFT	1
14	10011284	挡圈	COLLAR	2
15	10022339	轴套	BUSHING	1
16	10012014	螺钉	SCREW	2
17	10010030	螺钉	SCREW	2
18	10012855	螺母	NUT	2
19	10022357	摆动轴后曲柄	DRIVING CRANK REAR	1
20	10022359	垫圈	WASHER	2
21	10022353	大连杆分组件	NEEDLE FEED ROD CPMPL	1
22	10014106	轴承	BEARING	2
23	10022358	螺钉	SCREW	1
24	10022858	螺钉	SCREW	1
25	10022857	连接螺钉	SCREW	1
26	10010030	针杆支架摆动调节曲柄	NEEDLE FEED ARM	1
27	10022362	针杆支架固定基座	GUIDE	1
28	10022361	针杆支架固定座	GUIDE	1
29	10011794	螺钉	SCREW	2
30	10012507	螺钉	SCREW	2
31	10008105	油线	WICK	1

6、

FEED ADJUST MECHANISM COMPONENTS

6、
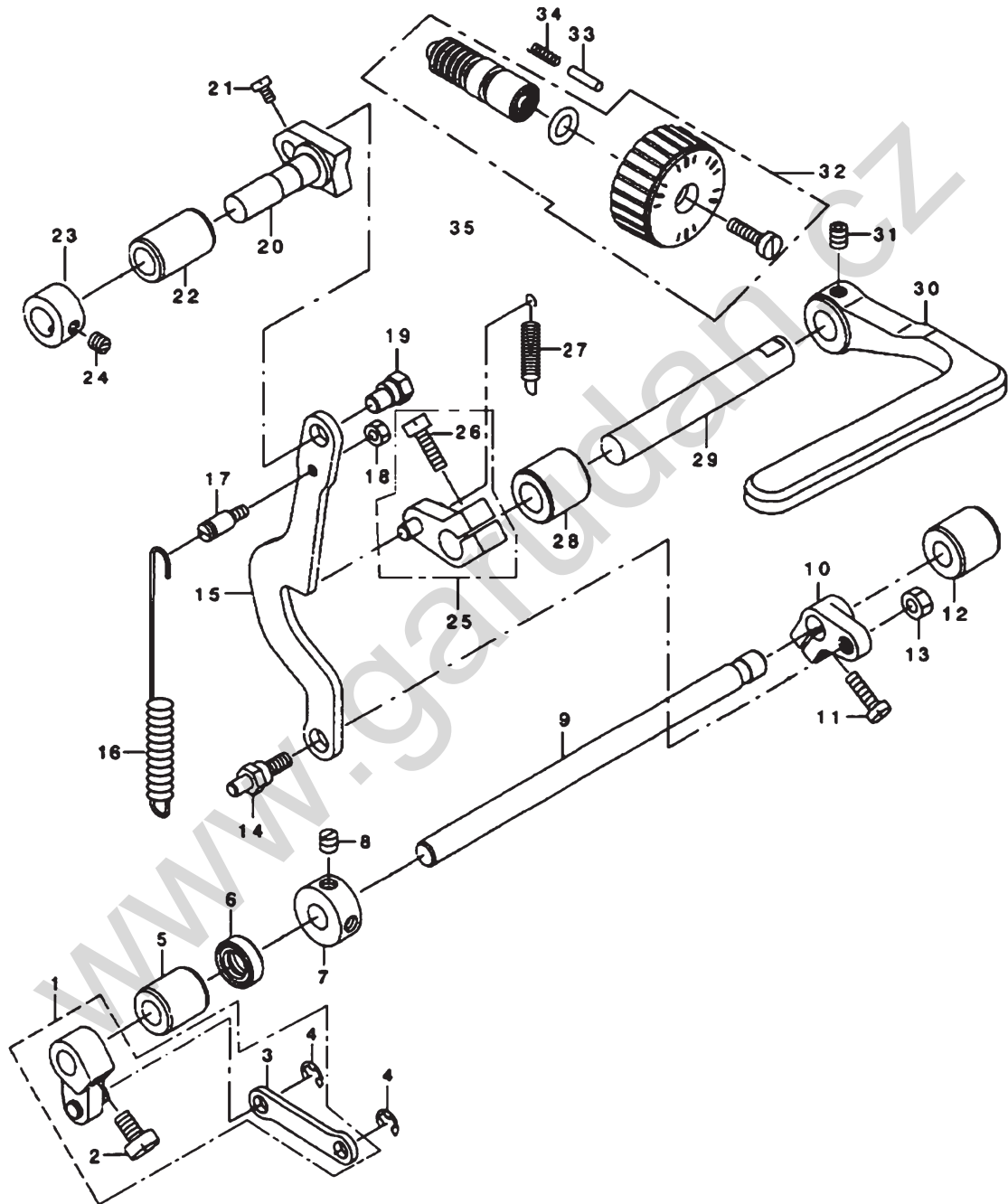
FEED ADJUST MECHANISM COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	20000148	送料摆动座前曲柄销组件	FEED CHANGING SHAFT ARM. A	1
2	10010092	送料摆动座前曲柄螺钉	SCREW	1
3	10012634	送料摆动座摆动连板	LINK	1
4	10010649	送料摆动座前曲柄销卡簧	RING	1
5	10012629	针距调节轴前套	METAL, A	1
6	10012622	针距调节轴油封	FEED CHANGING SHAFT OIL SEAL	1
7	10012627	针距调节轴挡圈	COLLAR	1
8	10003921	螺钉	SCREW	2
9	10013867	针距调节轴	SHAFT	1
10	10012424	送料摆动座后曲柄	FEED CHANGING SHAFT ARM, B	1
11	10010095	螺钉	SCREW	1
12	10012586	针距调节轴后套	METAL, B	1
13	10012620	摆动座后曲柄连接销螺母	NUT	1
14	10012418	送料摆动座后曲柄连接销	SCREW	1
15	10012680	针距调节连接板	FEED ADJUSTING ROD	1
16	10013868	倒送料调节簧	SPRIMG	1
17	10012635	弹簧挂销	SPRING SUSPENSING	1
18	10010106	弹簧挂销螺母	NUT	1
19	10013866	针距调节偏心销	FEED ADJUSTING PIN	1
20	10012583	针距调节座	FEED ADJUSTING BASE	1
21	10010643	螺钉	SCREW	2
22	10012626	针距座轴套	METAL	1
23	10012428	针距调节座挡圈	COLLAR	1
24	10005020	针距调节座挡圈螺钉	SCREW	2
25	20000150	倒缝扳手曲柄组件	FEED LEVER ARM ASM	1
26	10010095	螺钉	SCREW	1
27	10012676	倒送料曲柄簧	SPRIMG	1
28	10012578	倒送料扳手轴轴套	METAL	1
29	10012419	倒送料轴	SHAFT	1
30	20003414	倒送料扳手	FEED LEVER ARM ASM	1
31	10009187	螺钉	SCREW	2
32	20007039	针距标盘组件	FEED DIAL ASM	1
33	10013870	针距旋钮锁销	PIN	1
34	10013869	针距旋钮锁簧	SPRING	1

7、

UNDER COVER COMPONENTS

7、
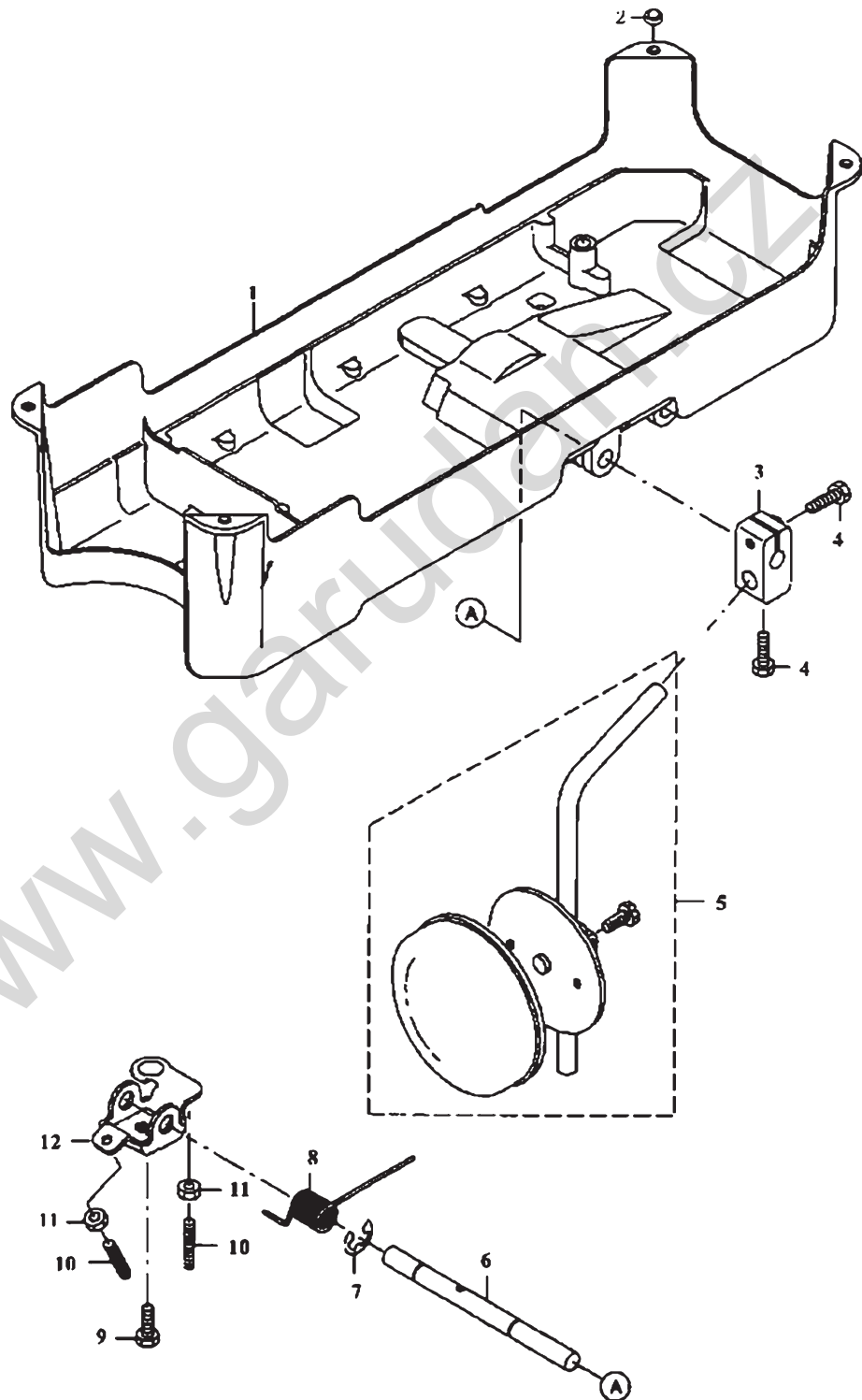
UNDER COVER COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10012632	油盘	Under Cover	1
2	10013102	机头座垫	Head Gasket	4
3	10003896	抬压脚操纵接头	Bracket	1
4	10002613	GB/T5781-2000M8×20螺栓	Screw	2
5	10009985	操纵杆部件	Knee Pad Plate Asm	1
6	10008450	抬压脚轴Ⅰ	Knee Press Rod Ⅰ	1
7	10002559	9.8×20×1挡圈	E-Ring	1
8	10012677	弹簧	Spring	1
9	10003898	螺钉	Screw	2
10	10003895	M6×30螺钉	Screw M6 L=30	2
11	10003890	M6×3.2螺母	Nut M6	4
12	10008463	膝控限位架Ⅰ	Bracket	1
13	10008465	螺钉	Screw	2
14	10008464	连接板	Connecting Rod	1
15	10008466	抬压脚轴Ⅱ	Knee Press Rod Ⅱ	1
16	10008383	膝控限位架Ⅱ	Connecting Rot	1

8、

BOBBIN WINDER COMPONENTS

8、
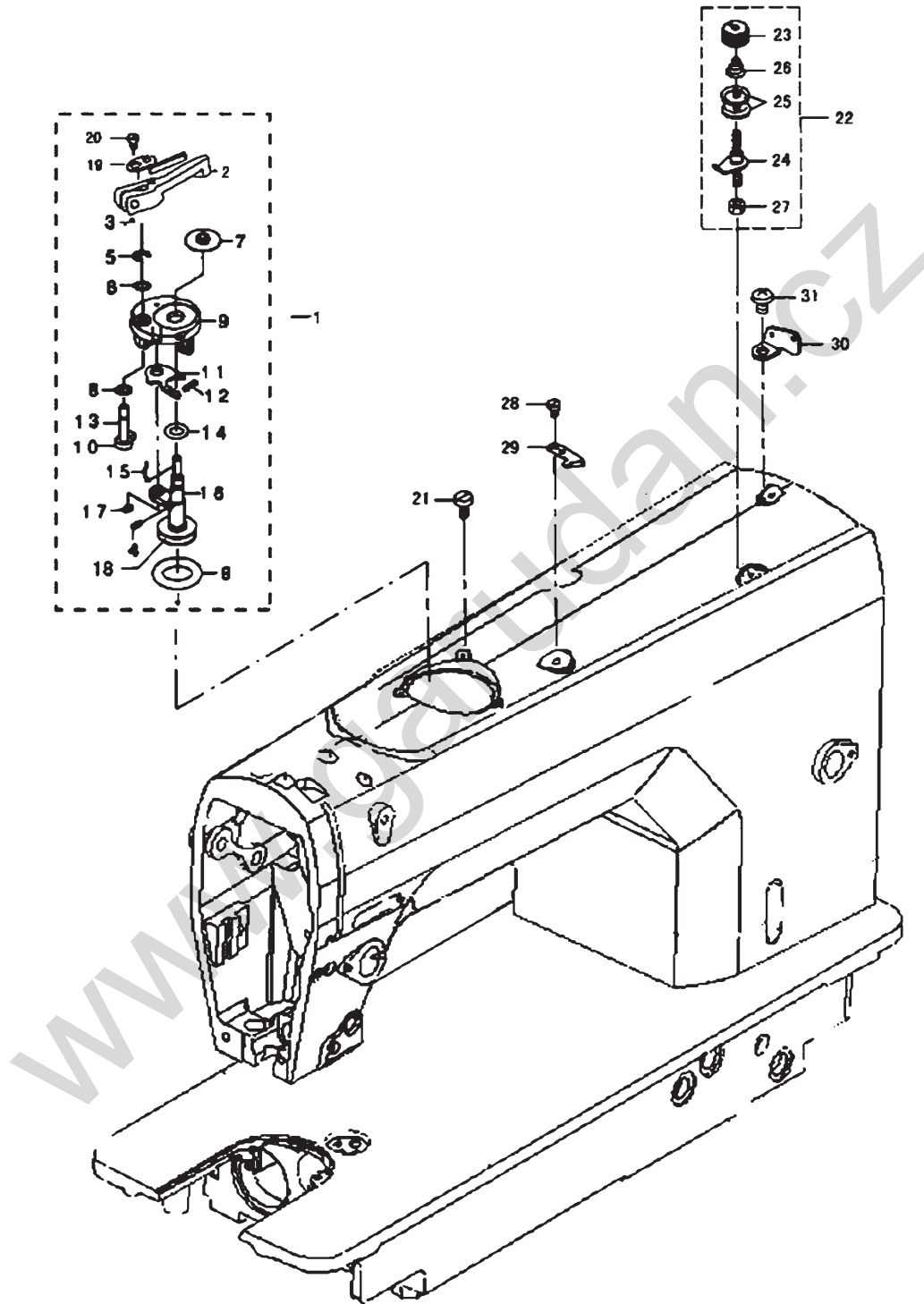
BOBBIN WINDER COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10013875	绕线器	BOBBIN DEVICE ASM	1
2	10000736	卷绕手柄	BOBBIN LEVER	1
3	10000735	卷绕手柄螺钉	SCREW	1
4	10004494	复位短弹簧	SPRING	1
5	10013038	绕线器绕线凸轮轴挡圈	E-RING	1
6	10008773	橡胶轮	RING	1
7	10004498	卷线轴垫	CUSHION	1
8	10004486	薄垫片	WASHER	1
9	10006240	梭心卷绕体组件	BOBBIN FITTING BASIS COMPL	1
10	10006151	绕线定位块	BOBBIN CAM SHAFT COMPL	1
11	10004497	控制板	ADJUSTING PLATE	1
12	10004501	复位长弹簧	SPRING	1
13	10006152	绕线凸轮轴	BOBBIN CAM SHAFT COMPL	1
14	10004485	O形圈	RUBBER RING	1
15	10009937	锁芯弹簧	SPRING	1
16	10006158	梭芯卷绕轴	BOBBIN WINDER SHAFT COMPL	1
17	10006142	绕线器摆动板轴挡圈	COLLAR	1
18	10013019	绕线轮螺钉	SCREW	1
19	10005682	线量调节板	PLATE	1
20	10000759	线量调节板螺钉	SCREW	1
21	10009868	绕线器螺钉	SCREW	3
22	10013064	绕线夹线器组件	BOBBIN THREAD TENSION ASM	1
23	10004390	塑料夹线螺母	NUT	1
24	10004391	弹簧	SPRING	1
25	10004393	夹线板	BOBBIN WINDER TENSION DISC	2
26	10004504	中过线板组件	BOBBIN THREAD TENSION ROD ASM	1
27	10004507	螺母	NUT	1
28	10011143	切刀螺钉	SCREW	2
29	10011149	绕线切刀	THREAD CUTTER	1
30	10011200	上过线板	THREAD GUIDE PLATE	1
31	10011158	螺钉	SCREW	1

9、

AUTOMATIC REVERSE FEED COMPONENTS

9、
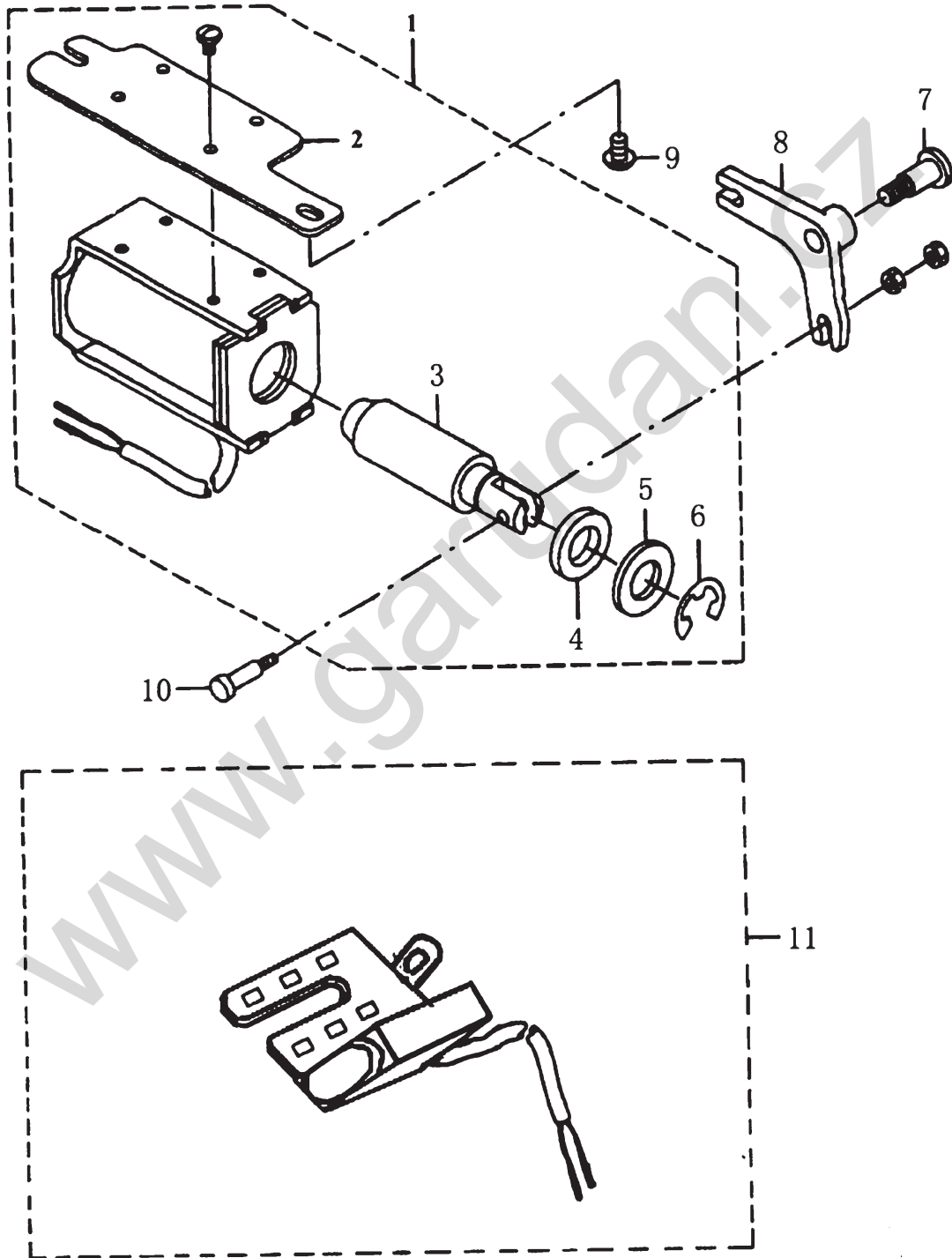
AUTOMATIC REVERSE FEED COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
1	10012528	自动倒缝电磁铁组件	REVERSE FEED SOLENOIN BASE ASM	1
2	10005820	电磁铁支架	REVERSE FEED SOLENOIN BASE ASM	1
3	10003492	倒缝电磁铁铁芯组件	REVERSE FEED SOLENOIN PLUNGER	1
4	10006663	倒缝电磁铁橡胶垫	RUBBER PLUNGER	1
5	10006629	倒缝电磁铁垫圈	WASHER	1
6	10009669	倒缝电磁铁开口挡圈	COLLAR	1
7	10012628	倒缝摆臂螺钉	SCREW	2
8	10012587	倒缝摆臂	REVERSE FEED ARM	1
9	10012142	倒缝电磁铁螺钉	SCREW	2
10	10005773	倒缝电磁铁连接销	PLUNGER ARM PIN	1
11	10023457	点动送料开关组件	OPTION SWITCH ASM	1

10、

THREAD STAND COMPONENTS
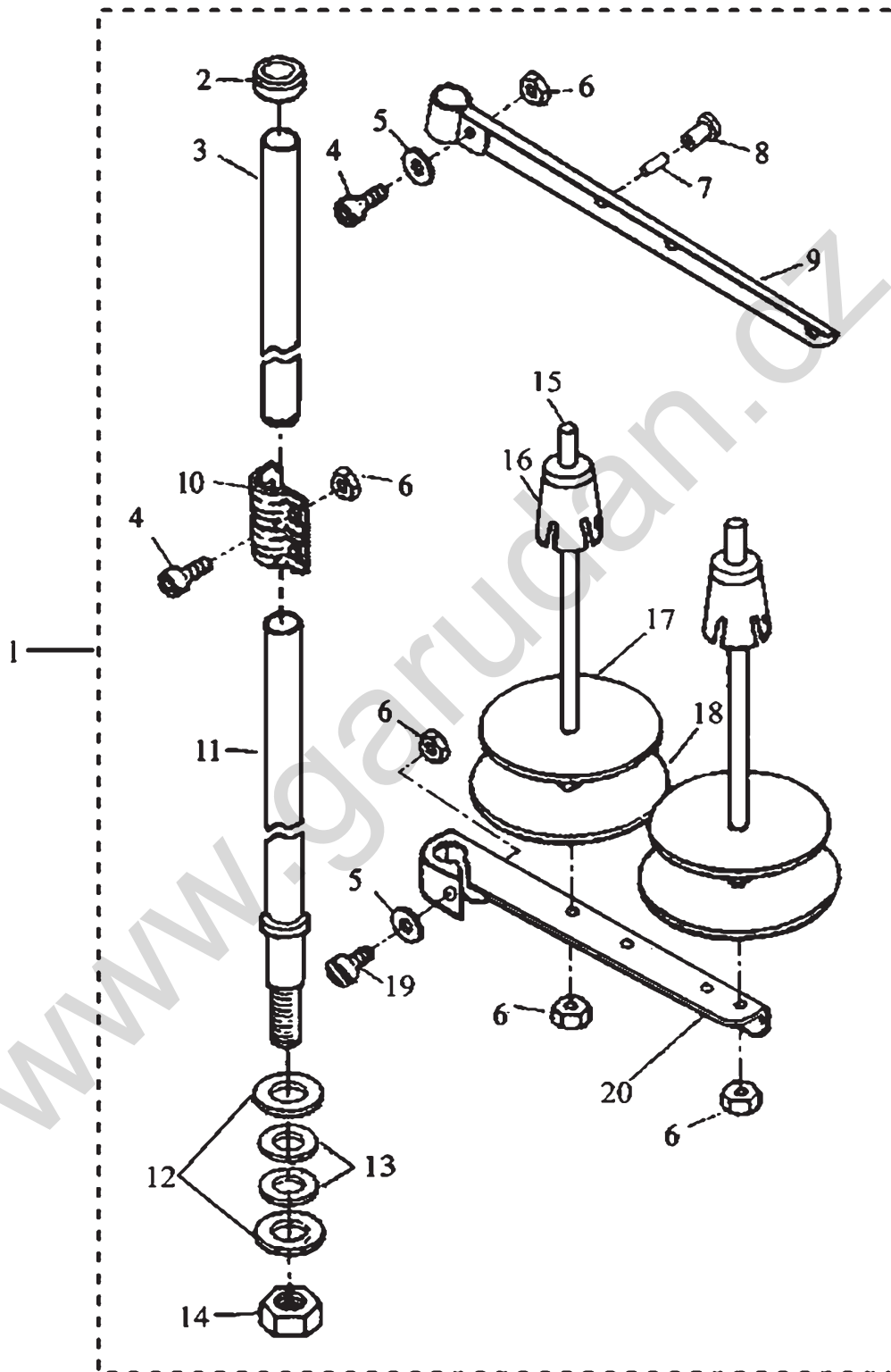
10、
THREAD STAND COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10007130	二线架组件	THREAD STAND ASM	
2	10004282	撑管套	COLUMN CAP	1
3	10004293	线架上撑管	COLUMN PIPE	1
4	10003301	上过线架螺钉	SCREW	2
5	10003022	上过线架垫圈	WASHER	2
6	10002953	上过线架螺母	NUT	5
7	10004298	过线管	THREAD GUIDE PIPE	1
8	10004285	过线管套	THREAD GUIDE BUSHING	1
9	10004286	上过线架	THREAD HANGER	1
10	10004291	撑管夹	COLUMN PIPE CONNECTOR	1
11	10004290	线架下撑管	COLUMN PIPE	1
12	10004295	线架下撑管垫圈	WASHER	2
13	10002953	垫圈	WASHER	2
14	10004288	下过线架螺母	NUT	1
15	10004287	线轴	SPOOL PIN	2
16	10004281	线盘塑料压块	SPOOL CUSHION	2
17	10004281	线盘软垫	SOFT CUSHION OF THREAD PLARE	2
18	10004299	线盘	THREAD PLATE	2
19	10003312	下过线架螺钉	SCREW	1
20	10004292	下过线架	THREAD HANGER	1

11.

WIPER COMPONENTS

11、
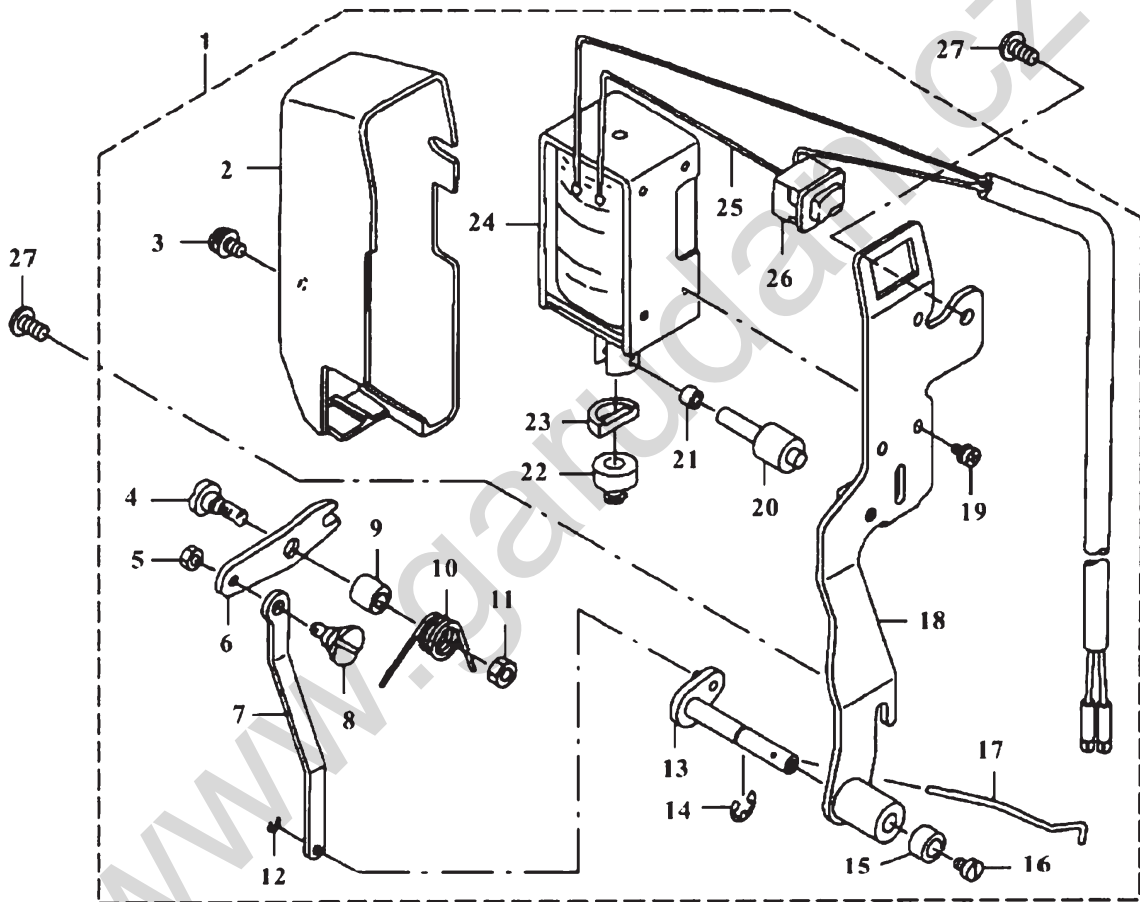
WIPER COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10012526	拨线分组件	WIPER ASM	1
2	10005724	拨线器罩	WIPER COVER	1
3	10003036	拨线器罩螺钉	SCREW	1
4	10005726	传动板轴位螺钉	SCREW	1
5	10005766	拉杆轴位螺钉螺母	NUT	1
6	10005772	拨线传动板	WIPER LINK A	1
7	10005783	拔线拉杆	WIPER LINK B	1
8	10005738	拉杆轴位螺钉	SCREW	1
9	10005767	轴位螺钉定位套	COLLAR	1
10	10005770	传动板复位簧	SPRING	1
11	10005735	轴位螺钉螺母	NUT	1
12	10005737	拨线拉杆轴挡圈	COLLAR	1
13	10005730	拨线驱动轴部件	WIPER SHAFT ASM	1
14	10010649	拨线驱动轴挡圈	COLLAR	1
15	10005725	螺钉套圈	COLLAR	1
16	10005734	拨线杆紧定螺钉	SCREW	1
17	10005765	拨线杆	WIPER	3
18	10005811	拔线电磁铁支架组件	WIPER BASE SAM	1
19	10003082	垫圈	WASHER	1
20	10005719	铁芯传动销	WIPER SOLENOID PIN	1
21	10005769	传动销滚柱	WIPER LINK COLLAR	1
22	10005812	铁芯复位垫	WIPER RUBBER A	1
23	10005739	铁芯橡皮垫	WIPER RUBBER B	2
24	10005736	拨线电磁铁	WIPER SOLENOID PIN	1
25	10006293	拨线器电线	ELECTRIC WIRE	1
26	10006263	拨线器开关	POWER SWITCH	1
27	10008972	拨线分组件固定螺钉	SCREW	2

12. 1
THREAD TRIMMER COMPONENTS

12.1
THREAD TRIMMER COMPONENTS
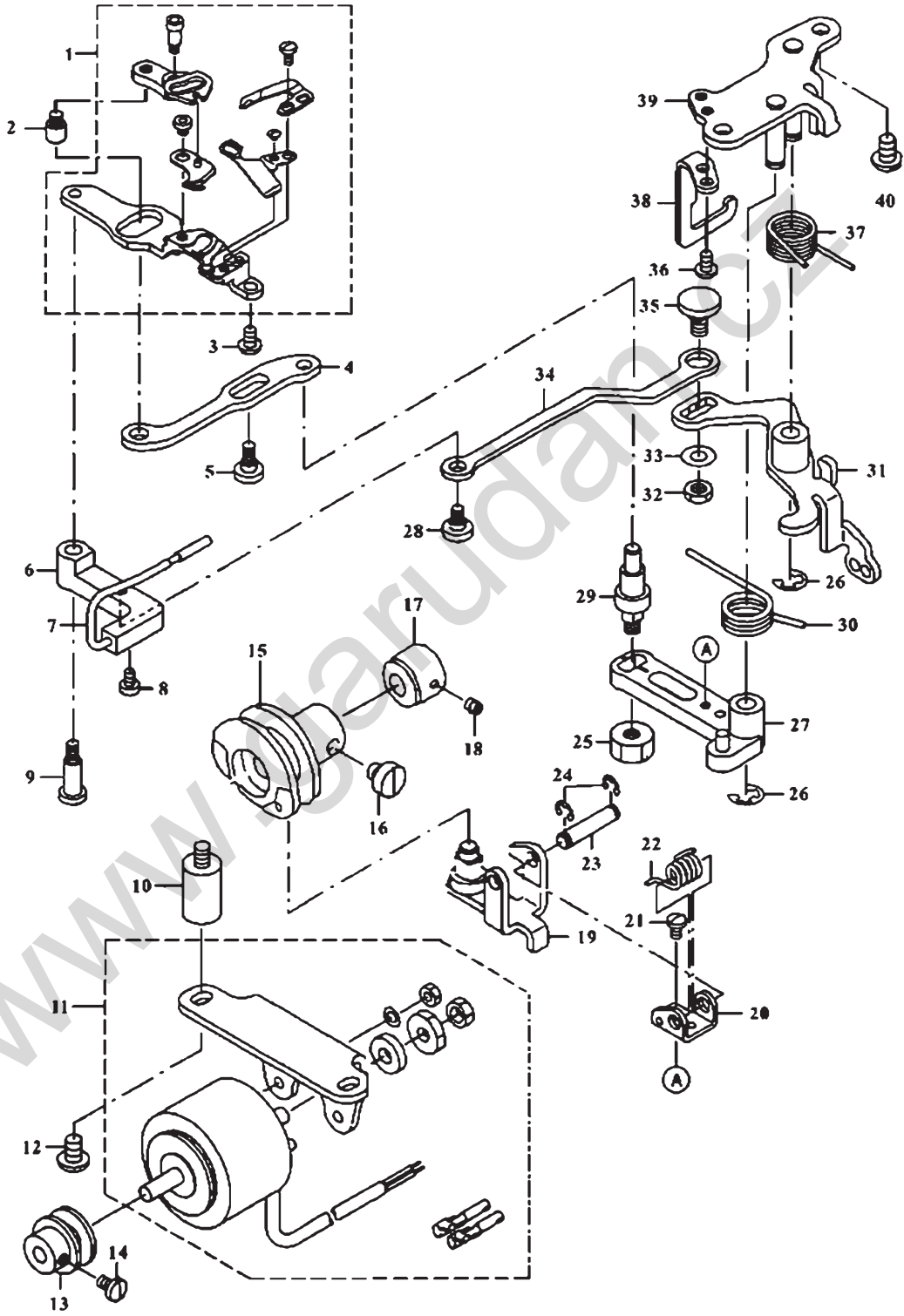
序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10013114	剪线刀部件	KNIFE UNIT	1
2	10005720	刀体销	PIN	1
3	10012600	螺钉	SCREW	1
4	10005683	动刀连杆	HOVING KNIFE LINK	1
5	10012630	动刀连杆轴位螺钉	SCREW	1
6	20000188	挡线体组件	PICKER ARM	1
7	10013062	挡线支杆组件	THREAD TAKE-UP PICKER ASM	1
8	10010071	螺钉	SCREW	1
9	10005659	挡线连杆销	HINGE SCREW	1
10	10012580	支撑钉	BEIT COVER SUPPORT B	2
11	10012527	自动剪线电磁铁部件	SOLENOID	1
12	10012142	螺钉	SCREW	2
13	10012573	剪线驱动轮	DRIVING BLOOK	1
14	10012525	螺钉	SCREW	1
15	10012451	剪线凸轮	THREAD TRIMMER CAM ASM	1
16	10012472	螺钉	SCREW	2
17	10012624	挡圈	COLLAR	1
18	10010059	螺钉	SCREW	2
19	10005635	凸轮滚柱	PICKER LINK	1
20	10005636	托板支承架	ROLLER ARM BRACKET	1
21	10010016	螺钉	SCREW	1
22	10005676	弹簧	SPRING	1
23	10005668	销	SCREW	1
24	10012795	挡圈	COLLAR	2
25	10005808	螺母	NUT	1
26	10005634	离合架挡圈	COLLAR	2
27	10005774	剪线驱动曲柄	KNIEE DRIVING ARM ASM	1
28	10012733	挡线器连接螺钉	SCREW	1
29	10005817	动刀连接销	MOVING KNIFE LINK PIN	1
30	10005846	剪线驱动曲柄复位簧	DNIFE RETURN DPRING B	1
31	10005782	离合架组件	CLUTCH PLATE ASM	1
32	10005809	螺母	NUT	1
33	10005637	垫圈	WASHER	1
34	10005781	挡线器拉杆	PICKER LINK	1
35	10005659	螺钉	SCREW	1
36	10010074	螺钉	SCREW	2
37	10005824	弹簧	SPRING	1
38	10005818	剪线定位保护板	DRIVING ARM STOPPER	1
39	10005816	剪线驱动座组件	BASE PLATE ASM	1
40	10012142	螺钉	SCREW	2

THREAD TRIMMER COMPONENTS (Rotation knife)

12. 2、
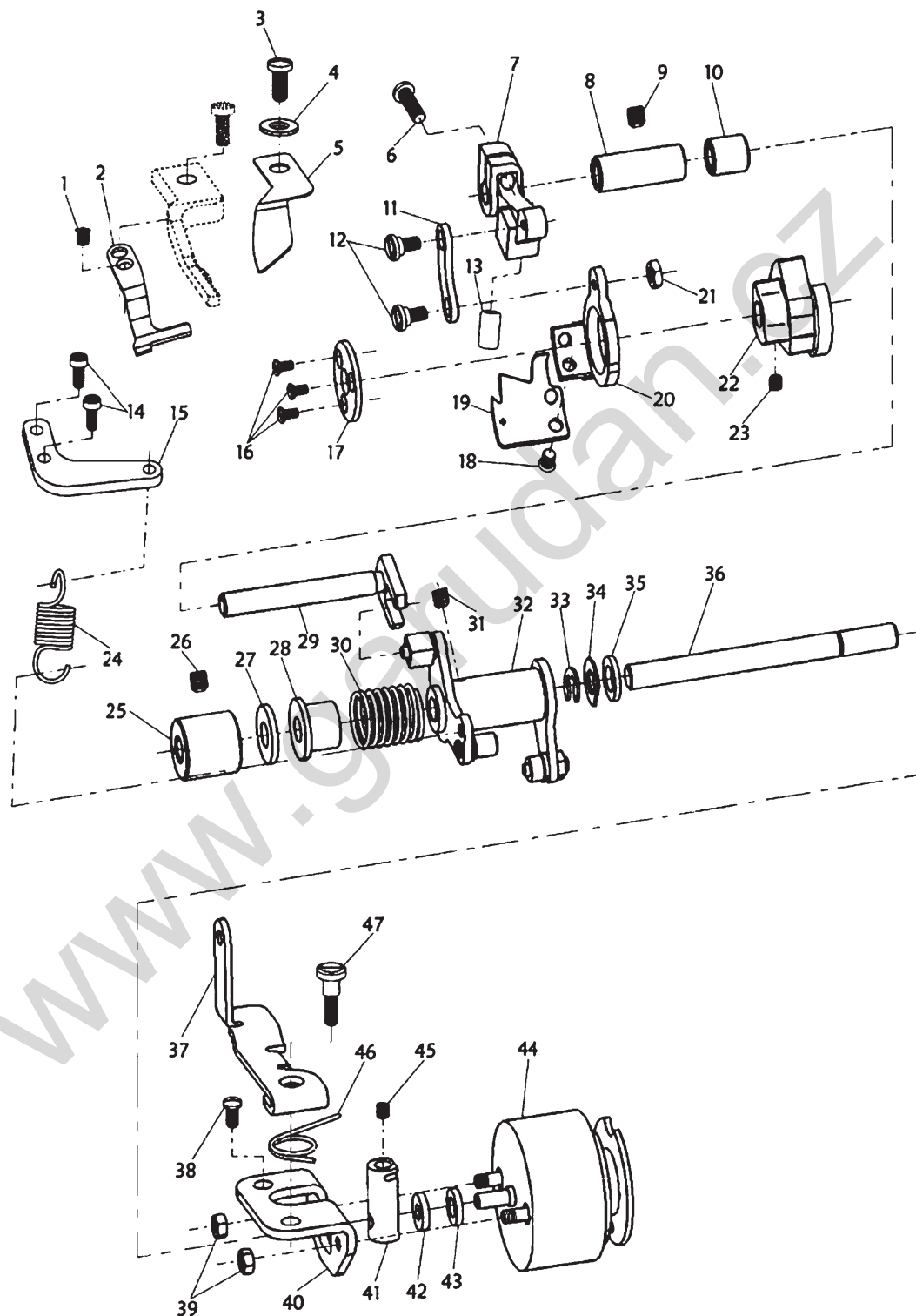
THREAD TRIMMER COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10011422	螺钉	SCREW 9/64-40	1
2	10011421	定刀	FIXED KNIFE	1
3	10011497	螺钉	SCREW 11/64-40	1
4	10013154	垫圈	WASHER 9×4.5×0.8	1
5	10011584	分线器	DISPART THREAD SHUTTLE	1
6	10013333	螺钉	SCREW 3/16-32	1
7	10013013	切线驱动曲柄	TRIMMING CRANK	1
8	10013024	轴套	BUSHING	1
9	10012162	M5×5螺钉	SCREW	1
10	10013027	轴套	SHORT BUSHING	1
11	10013044	刀轴连杆	KNIFE SHAFT CONNECTING BAR	1
12	10011514	螺钉	SCREW 11/64-40	2
13	10013010	切线驱动曲柄止动块	CRANK BLOCK	1
14	10010595	M4×7.5螺钉	SCREW	2
15	10013023	弹簧固定板	FIXED PLATE	1
16	10009626	M3×4.35螺钉	SCREW	3
17	10013026	刀架压板	KNIFE HOLDER	1
18	10011588	螺钉	SCREW 11/64-40	2
19	10011494	动刀	ROUND KNIFE	1
20	10013045	动刀架	ROUND KNIFE BRACKET	1
21	10011578	螺母	NUT 11/64-40	1
22	10010736	剪线凸轮	THREAD TRIMMER CAM	1
23	10013465	螺钉	SCREW 1/4-40	2
24	10013030	弹簧	SPRING	1
25	10014462	轴套	BUSHING	1
26	10012162	M5×5螺钉	SCREW	1
27	10013008	8.2垫圈	WASHER	1
28	10014196	扭簧端盖	SPRING COVER	1
29	10013007	切线驱动曲柄轴	TRIMMING CRANK SHAFT	1
30	10008812	弹簧	SPRING	1
31	10008862	螺钉	SCREW 1/4-40	1
32	10013878	切线凸轮曲柄组件	TRIMMING CAM CRANK ASM	1
33	10013038	5挡圈	WASHER	1
34	10014460	8.2垫圈	WASHER	1
35	10011650	8.2×15×2垫圈	WASHER 8.2×15×2	1
36	10011697	切刀驱动轴	TRIMMING SHAFT	1
37	10013050	松线座	LOOSING THREAD PLATE	1
38	10011605	螺钉	SCREW 1/4-28	1
39	10009471	M4螺母	NUT	2
40	10006131	剪线电磁铁安装座	SOLENOID BASE	1

12. 2
THREAD TRIMMER COMPONENTS (Rotation knife)

12.2、
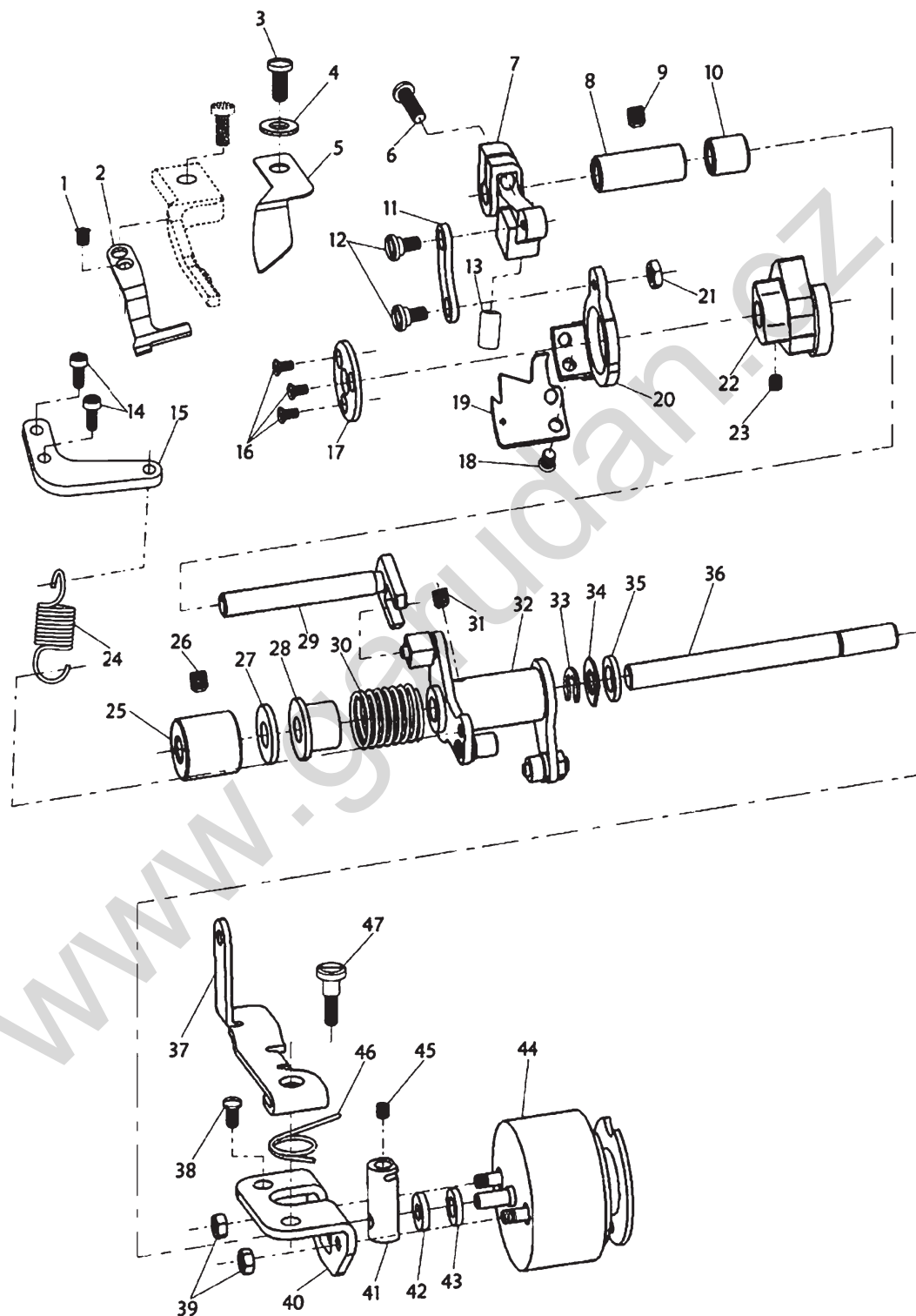
THREAD TRIMMER COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
41	10013046	剪线电磁铁连接体	SOLENOID CONNECTING SHAFT	1
42	10011845	垫圈	WASHER 5.2×12×2.5	1
43	10011606	垫圈	WASHER 6.5×12×2.3	1
44	10006137	剪线电磁铁	THREAD TRIMMER SOLENOID	1
45	10013590	螺钉	SCREW 11/64-40	1
46	10008834	松线复位弹簧	LOOSING THREAD RETURN SPRING	1
47	10012467	螺钉	SCREW 1/4-28	1

13、

OIL LUBLICATION COMPONENTS

13、
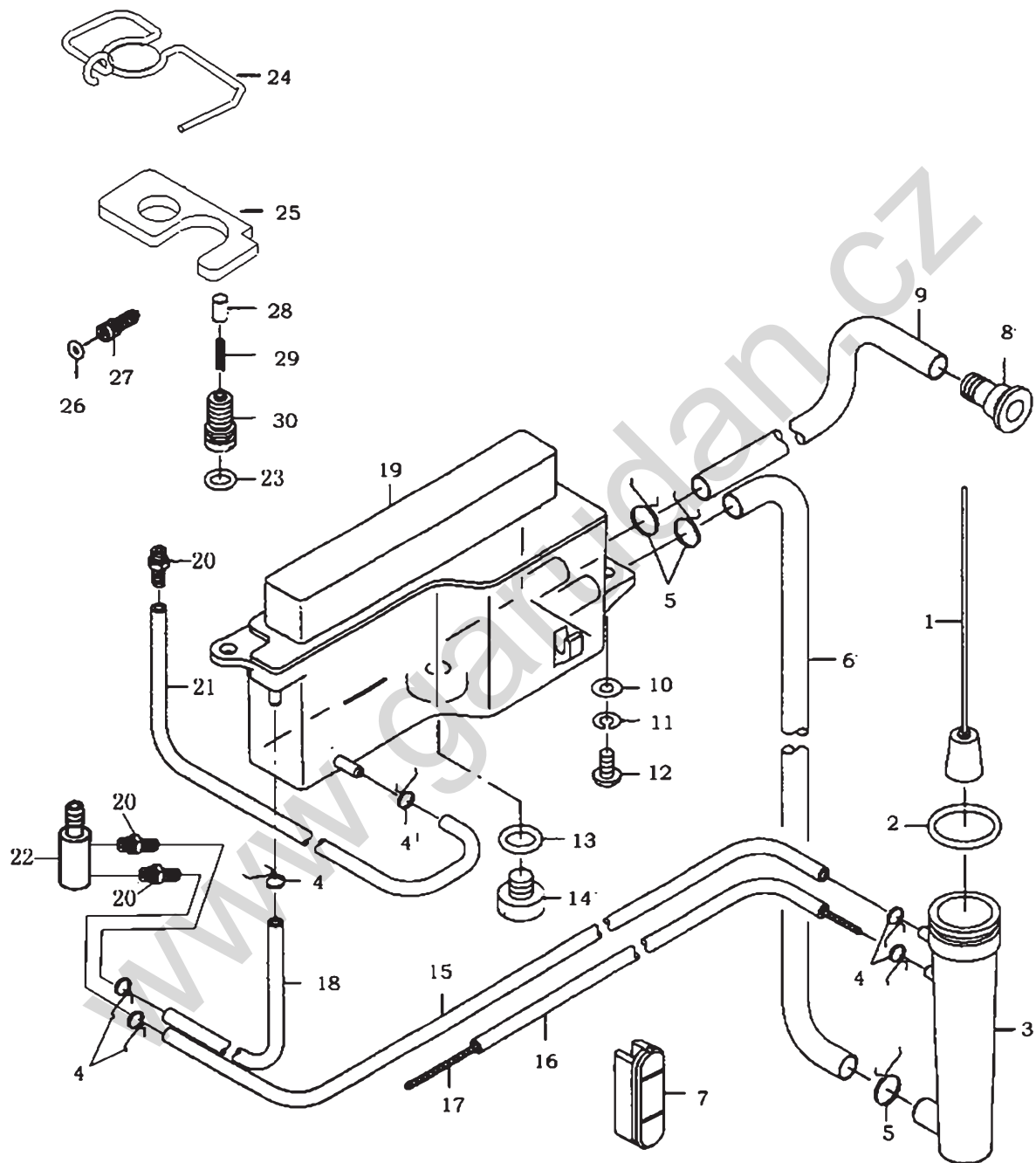
OIL LUBLICATION COMPONENTS

序号　No.	件号　Part No.	名称	Name of the part	数量　Qty.
1	10000569	油标	FLOATER ASM	1
2	10008777	油杯O形圈	RUBBER RING	1
3	10008782	油杯	FLOATER CASE	1
4	10008781	小油管紧固簧	PIPE STOPPER A	4
5	10008785	大油管紧固簧	PIPE STOPPER B	3
6	10007806	油管	TUBE	1
7	10008772	油标窗	OIL SIGHT WINDOW	1
8	10008780	加油杯	OIL INLE	1
9	10007806	油管	TUBE	1
10	10005537	垫圈	WASHER	1
11	10012160	弹簧垫片	SPRING WASHER	2
12	10008972	螺钉	SCREW	2
13	10010240	O形圈	RING	2
14	10008783	油盒短螺钉	SCREW	1
15	10007800	油管	TUBE	1
16	10007800	油管	TUBE	1
17	10008101	油线	WICK	1
18	10007800	油管	TUBE	1
19	10012669	油盒	TANK ASM	1
20	10008779	油管接头	LUBRICATION CONNECTOR	1
21	10007800	油管	TUBE	1
22	10013049	油管三接头	DISTRIBUTOR	1
23	10014461	O形圈	RING	1
24	10022507	毛毡压簧	OIL FELT PRESSER	1
25	10022345	毛毡	OIL RETURN FELT	1
26	10012606	油量调节螺钉O型圈	RING	1
27	10012667	油量调节螺钉	SCREW	1
28	10012609	柱塞	PLUNGER	1
29	10014386	柱塞簧	PLUNGER SPRING	1
30	10013025	螺钉	SCREW	1

14.

ACCESSORIE PART COMPONENTS

14、
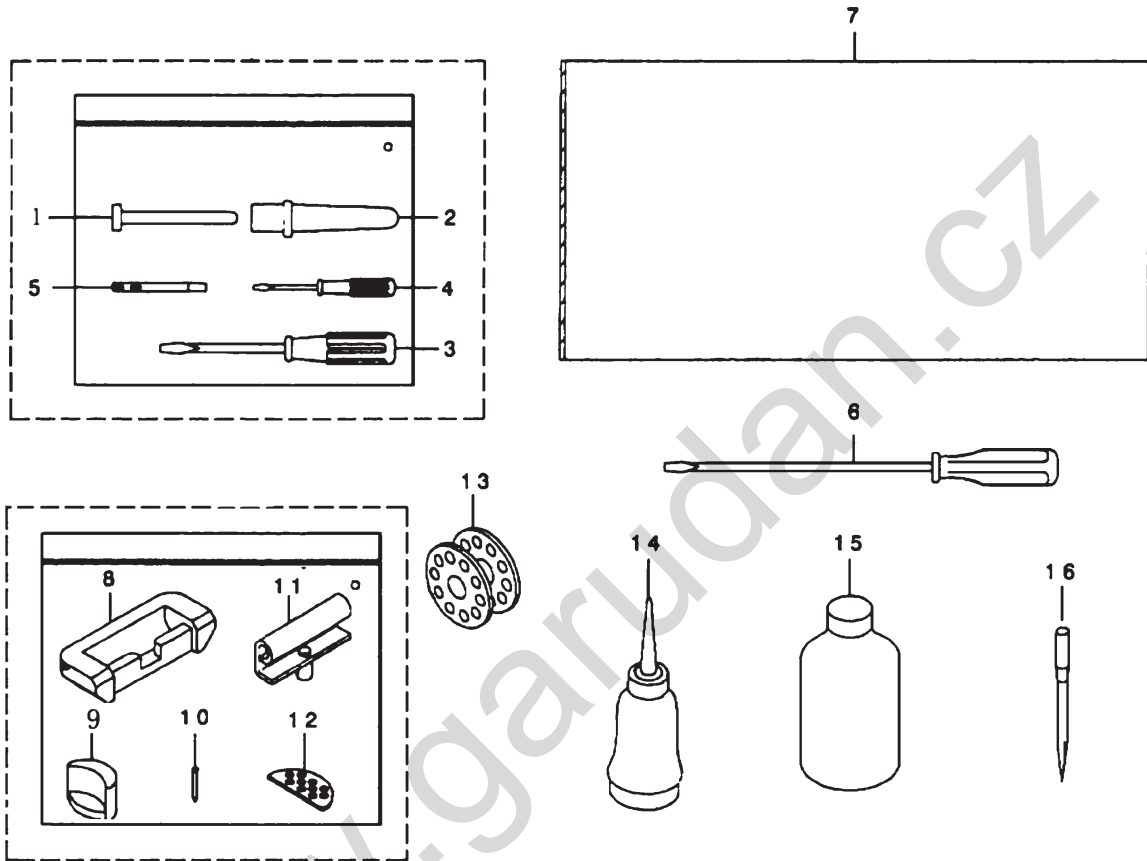
ACCESSORIE PART COMPONENTS

序号 No.	件号 Part No.	名称	Name of the part	数量 Qty.
1	10012631	抬压脚顶杆	KNEE LIFTER PRESSER ROD	1
2	10004514	机头支柱	FRAME SUPPORT BAR	1
3	10010995	中螺丝刀	SCREW DRIVER, MIDDLE	1
4	10013185	小螺丝刀	SCREW DRIVER, SMALE	1
5	10005639	过线杆组件	NEEDLE THREAD GUIDE ASM	1
6	10010994	大螺丝刀	SCREW DRIVER, LARGE	1
7	10005776	机头罩	FRAMEVINYL COVER	1
8	10006286	机头连接钩座	RUBBER CUSHION	2
9	10009986	油盘支座	OIL RESERVIOIR SEAT	2
10	10003889	机头连接钩座钉	NAIL	6
11	10004466	机头连接钩部件	HINGE COMPL	2
12	10012158	油盘座垫	OIL RESERVIOIR CUSHION	2
13	10010060	梭芯	BOBBIN	3
14	10013294	小油壶	OILER ASM	1
15	10004455	油箱	OIL BOTTLE WITH OIL	1
16	10004898	机针	NEEDLE	1

AC SERVO MOTOR

USER MANUAL

Easy Driver
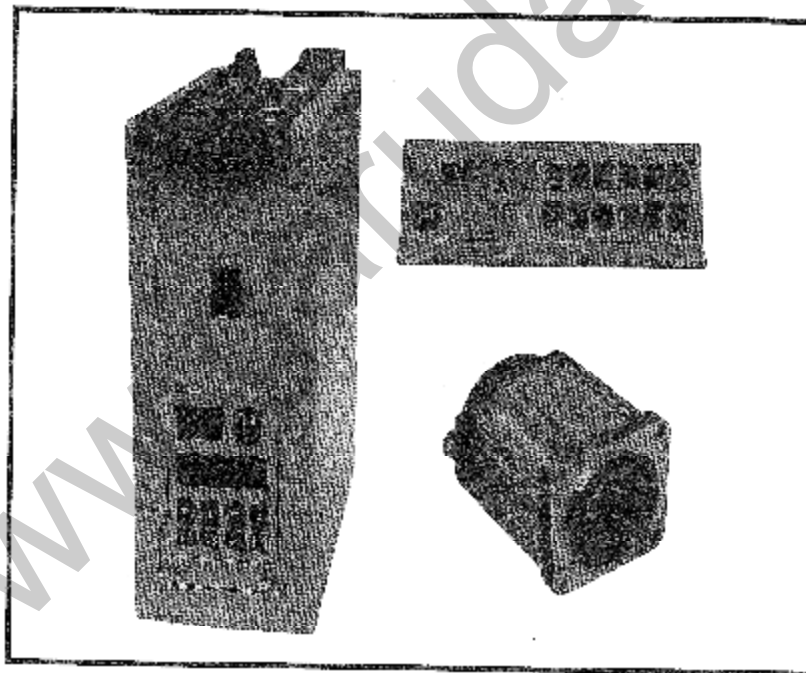
Please read the manual carefully and the manual of sewing machinery accompanied before use. Installation and operation by trained professionals and correct use are required.

2005.9

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1. Notes on safety

Please read carefully User's Guide and the manual of sewing machinery accompanied before use. Installation and operation by trained professionals and correct use are required.,

Read carefully the following instructions for proper use. EasyDriver servomotor series can only be used for designated sewing machinery, with no exception.

1.1 Operating Environment Security

(1) Power Supply:
   Please follow the 200V-240V indicated on the nameplates of motor and control box.
(2) Electromagnetic wave interference:
   Keep away from high frequency electromagnetic wave machines or electric wave emitter so as to avoid interference.
(3) Humidity and temperature:
   a. Working environment: 5℃~ 45℃, room temperature
   b. Keep away from sun light, indoor use only.
   c. Keep away from (electric) heating appliances
   d. Relative humidity: 30%~95%, keep away from dew.
(4) Air:
   a. Keep away from dusty or corrosive environment.
   b. Keep away from volatile substance.

1.2 Installation Security

(1) Motor, control box: follow the steps indicated in the manual
(2) Accessories: power off and unplug power cord before installing any optional accessories.
(3) Power cord:
   a. Avoid pressure or over distortion.
   b. Keep the power cord at least 3 cm away from upper roller.
   c. Make sure that supply voltage is between 200V-240V.
(4) Earthing:
   a. Handle earthing (including sewing machine, motor, control box, locator) correctly to avoid interference or creepage.
   b. The earthing cord of power cord must be connected to user's system earthing cord with proper conducting wire and joint and fixed permanently.

1.3 Operation Security

(1) Operate at low speed to check if rotation direction is correct when the sewing machine is powered on for the first time.
(2) Do not touch the upper roller or needles when the sewing machine is running.
(3) All movable components must be isolated by protection apparatus provided to avoid unnecessary contact and nothing shall be put inside the machine.
(4) No operation is allowed in the absence of belt guard and other security apparatus

1.4 Maintenance

Turn off power before conducting the following operations:

(1) Removing motor or control box, or plugging of unplugging any plugs from the control box.

(2) There is hazardous high voltage inside the control box. Do not open the control box until the power has been off for at least 1 minute.

HAZAR DOUS
VOLTAGE INSIDE
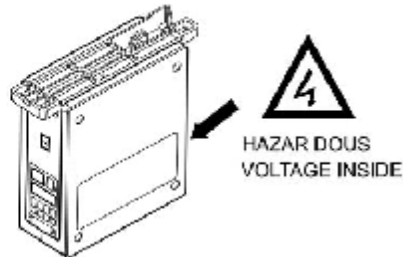
(3) Moving machine head, replacing needles or shuttle or threading.

(4) Repairing or any mechanical adjustment.

(5) The machine is not running.

1.5 Regulations on Maintenance

(1) Repair and maintenance can only be performed by trained technicians.

(2) No irrelevant articles should be put near the motor's air vent. the back vent head, in particular, shall be kept free of dust, waster paper, broken fabric, etc to avoid overheating of the motor.

(3) Do not hammer this machine or motor (motor) spindle.

(4) No spare part shall be used for repair until provided or authorized by our company

1.6 Warning Signs & Notices

Used where potential dangers exist.

Used where high voltage and electric danger exist.

1.7 Regulations on Warranty period

Free repair service up to 18 months since leaving factory on condition that this machine is operated correctly and no human error occurs to it.

2. Installation and Adjustment

(1) Installation of Drive Board

(a) Dimensions of control box
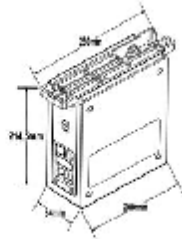
(b) At least 100mm shall be reserved for the right side of the sewing machine table.

100mm
reserved space

(c) After installation

control box
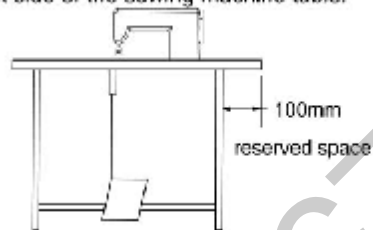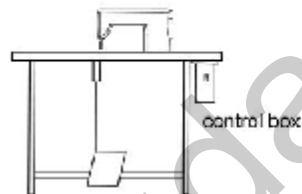
(2) Treadle Installation

(a) Treadle and its rack

fixing bolts
rack

(b) keep the link rod straight; fix the bolts on the bottom of sewing machine table. (Place the treadle to the front as much as possible)

table

treadle

link rod

(c) After installation

straight downward
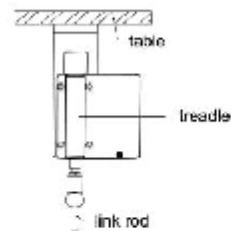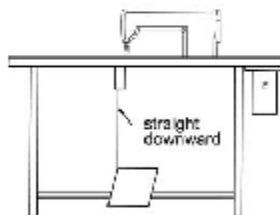
(3) Installation of operation box (human-machine interface)

(a) Operation box and its rack

HMI rack

fixing bolts
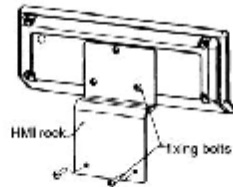
(b) After installation
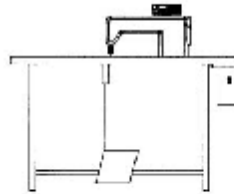
(4) Handwheel Installation and Adjustment

Fasten the bolt when the first hole along the rotation direction of handwheel coincides with the tangent plane of the spindle, as shown in the picture.

The two screw holes on the upper miles

Facing upward
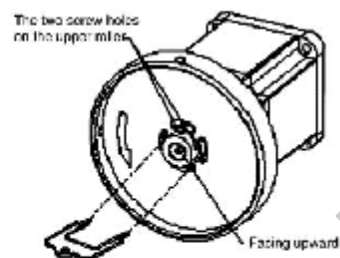
With regard to initial position of needle adjustment, use needle adjustment tools to adjust clockwise or anti-clockwise until satisfied, as shown in the picture.

See if liner and lights the 4 holes

3. Connection & Earthing

Qualified electric engineering professionals must be invited for system earthing.

4. Names of Chassis Components

(1) Front Side

AC power switch

Display

Parameter control
(Function key)

Needle position(setting key)

Thread trimming (selection key)

Start reverse sewing (function key)

Stop reverse sewing (function key)

Needle number
setting/special
function selection

(2) Back Side: connector

Display

Outlet for automatic pressor
foot lifting

Signal outlet for machine
head reversing

Signal outlet for machine
head functions

Operation box outlet

Treadle box outlet

Motor coder outlet
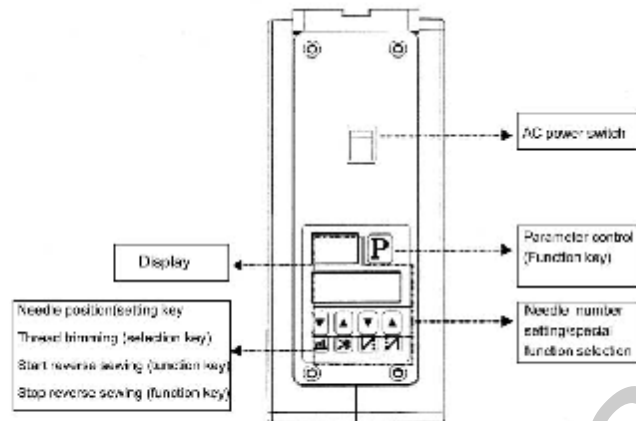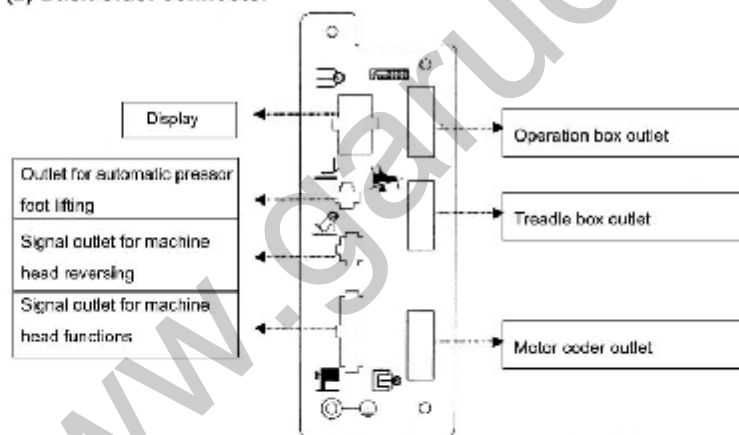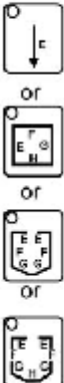
Plug wires in accordance with connector requirements; make sure that all plugs, DB in particular, have been fastened correctly.

5. Instructions for Operation Box

(1) Instructions for Operation Box of WR-501
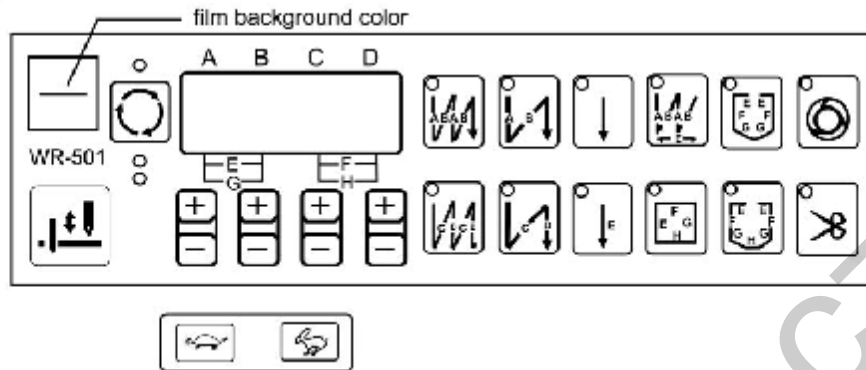
Functions	Keys	Description
Starting reinforcing-sewing		execute starting reinforcing-sewing 2 times, to and fro
		execute starting reinforcing-sewing 1 times, to and fro
ending reinforcing-sewing		execute ending reinforcing-sewing 2 times, to and fro
		execute ending reinforcing-sewing 1 times, to and fro
free-style sewing		Press treadle ahead for normal sewing, stop in the middle, behind for thread-cutting and thread wiping
continuous reinforcing-sewing		4 Press treadle ahead for automatic sewing, to and fro, which is set at E and can reach 99 times. 5 Continuous reinforcing-sewing is in trigger mode by default, treadle doesn't need to be kept being pressed, and corresponding trigger light of preset sewing is solid lit. 6 previous ending reinforcing-sewing setting is invalid if this function is valid

preset sewing		1. Press treadle ahead to execute sewing times set at E or E, F, G, H. 2. Sewing will stop immediately if treadle is lifted; press treadle again, it will go on with the rest. 3. ending reinforcing-sewing (if selected), thread-cutting and thread wiping will be automatically executed after sewing is completed
Setting needle number/check options		1. Press the key to switch between value of upper, middle and lower needle number setting displayed on the screen. upper: Needle number at A, B, C, D sections is indicated by horizontal light; middle: Needle number at E, F sections is indicated by horizontal light; Lower: Needle number at G, H sections is indicated by horizontal light. 2. reflect the Needle number at A, D sections, ranging 0 15, 1−15 for the Needle number at B, C sections. A, b, C, d, E, F stand for 10, 11, 12, 13, 14, 15 needles 3. reflect the Needle number at E, F, G, H sections, ranging 0 99.
needle-lifting/stitch compensation		1 Free-style sewing mode: Half needle, one needle and continuous compensation as required. 2 preset sewing : a. Stop machine when sewing is not completed; press the key for needle-lifting. b. Press the key for one or continuous stitch compensation when sewing at this section is completed

preset sewing trigger		1 For preset sewing. Trigger treadle and the system will automatically conduct sewing at E, F, G, H sections; the treadle doesn't need to be kept being pressed. 2 Solid light for continuous reinforcing-sewing mode means that it is trigger mode by default.
thread-cutting selection		Set or cancel thread-cutting function.
speed key		Speed down. Keeping pressing to lower speed, the display will automatically switch to speed set. Free-style sewing valid.
		Speed up. Keeping pressing to increase speed the display will automatically switch to speed set. Free-style sewing valid.

(2) Notices

A. when the machine is powered on the system will perform self test and all LED lights turn on, "8888" will be displayed on the screen, buzzer sounds, the whole process will last around 500 milliseconds before returning to normal interface.

B. keys on operation box become valid, related lights turn on, indicating that the function is selected, the buzzer sounds for each pressing. A complete sewing function includes: starting reinforcing-sewing once, to and fro, free-style sewing and ending reinforcing-sewing once, to and fro. All needed is to press corresponding icon. Press the icon again to cancel a selected function.

C. set needle numbers at A, D sections to 0 for signal reinforcing-sewing.

D. before thread-cutting, cancellation of previously set ending reinforcing-sewing (if set already) becomes valid immediately.

E. rotating setting/view conditions for "setting of needle number/view options" key:
No switch for free-style sewing;
The rotating switch of preset sewing, one-section sewing, continuous reinforcing-sewing can only be realized at upper and middle LED lights;
The rotating switch of other preset sewing mode can be realized at upper, middle and lower LED light.

F. The selection of continuous reinforcing-sewing makes previous ending reinforcing-sewing invalid.

G. Under free-style sewing mode, keep pressing preset sewing trigger key for at least 3 seconds to return factory-set parameters of the operation box

h. "Erro" will be displayed if parameter-reading by operation box goes wrong, other errors will be notified by operation box of the chassis, seek technical support if that occurs.

6. Instructions for the Operation Panel of the Chassis

Layout of the operation box of chassis, 6 digital tubes (abcdef) and 5 keys (12345)
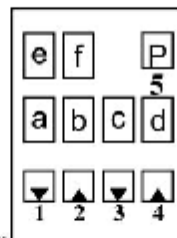
6.1 Setting of Sewing Functions

Press key 1234 and digital tube abcd to set needle position, thread-cutting, starting reinforcing-sewing, ending reinforcing-sewing respectively.

(1) Needle position a: 0 upper needle position; 1 lower needle position

(2) thread-cuttings b: 0 unavailable; 1 available

(3) Starting reinforcing-sewing c: 0 unavailable; 1 AB double reinforcing-sewing; 2 ABAB quadruple reinforcing-sewing

(4) Ending reinforcing-sewing d: 0 unavailable; 1 CD double reinforcing-sewing; 2 CDCD quadruple reinforcing-sewing

The four settings are not necessarily valid for different working mode and sewing mode.

(1) System runs with operation box of the machine head. Only needle position option is valid, others need to be set through the operation box of the machine head.

(2) System runs without operation box of the machine head.

    A. the 4 settings for free-style sewing, preset sewing are all valid.

    B. only thread-cutting setting is valid for continuous reinforcing-sewing.

    C. none of the 4 settings are all valid for plain sewing.

(3) Automatic test mode: all 4 settings are valid.

The system will enter automatic test mode if key P and power button are pressed at the same time, and the settings for operation box of the machine head aren't valid, the settings related to automatic test can only be done through the operation box of chassis. Press key P and 4 to switch automatic running.

Display functions of digital tube ef:

(1) Digital tube e: indicate the status of turn/lift switch

No display for invalid turn/lift switch, animated pictures for valid turn/lift switch, which means that machine head has been lifted and system running is forbidden.

(2) Digital tube f: distinguish different sewing modes

"E" for plain sewing, "A" for automatic test, no display for other modes

6.2 Setting of Parameters

Under setting mode for sewing functions, i.e. default mode of the operation box of chassis, keep pressing key P to enter setting mode for parameters. Digital tube abcd display parameter values which can be modified by pressing key 34; digital tube ef display parameter numbers which can be modified by pressing key 12, and previous parameters will be saved at the same time. Press key P to exit setting mode for parameters, and the current parameter values will be saved.

Press key 1234 short for change each time, long to keep increasing or decreasing rapidly.

Note: the setting mode for parameters can not be entered into when the system is

running; exit to enter setting mode for parameters.

See the parameter list of locksmith sewing machine for details.

6.3 System monitoring status

Under the default mode of the HMI of chassis, press key P and key 1 at the same time to enter system monitoring status. Digital tubes abcd display monitoring values; digital tubes ef display monitoring parameter number, press key 12 for modification.

ef	abcd	unit
1	speed	rpm
2	current	A
3	voltage	V
4	Piecework number	
5	count value of bobbin thread	

6.4 Status of System Error

System will stop when an error is detected and error code will be displayed by the operation panel of chassis. Digital tube abcd display error number. See error code list for details.

7. Parameter list of lockstitch sewing machine

No.	Items	Contents	Settings range	Default
1	highest speed of free-style sewing	set the highest speed for machine head	300~MAX(spm)	3500
2	Soft Start	soft start setting for starting sewing 0: no Soft Start 1~9: needle number of soft start	0/9	1
3	soft start speed	soft start speed for starting sewing	100~3000(spm)	1000
4	highest speed for preset sewing	highest speed for preset sewing	300~4000(spm)	3000
5	sewing mode	sewing mode setting(valid in the absence of operation box of the machine head) 0: free-style sewing 1: continuous reinforcing-sewing 2: preset sewing 3: plain sewing	0~3	0
6	number of starting reinforcing-sewing and obverse-sewing	number of starting reinforcing-sewing and obverse-sewing(valid in the absence of operation box of the machine head)	0~32(needles)	3
7	number of starting reinforcing-sewing and reverse-sewing	number of starting reinforcing-sewing and reverse-sewing(valid in the absence of operation box of the machine head)	1~32(needles)	3
8	number of ending reinforcing-sewing and reverse-sewing	number of ending reinforcing-sewing and reverse-sewing(valid in the absence of operation box of the machine head)	1~32(needles)	3
9	number of ending reinforcing-sewing and obverse-sewing	number of ending reinforcing-sewing and obverse-sewing(valid in the absence of operation box of the machine head)	1~32(needles)	3
10	number of preset sewing sections	setting of the number of preset sewing sections and needle number of each section (valid in the absence of operation box of the machine head)	1~6(sections)	1
11	needles of the 1st section of preset sewing		1~99(needles)	15
12	needles of the 2nd section of preset sewing		1~99(needles)	15
13	needles of the 3rd section of preset sewing		1~99(needles)	15
14	needles of the 4th section of preset sewing		1~99(needles)	15

15	needles of the 5th section of preset sewing		1~99(needles)	15
16	needles of the 6th section of preset sewing		1~99(needles)	15
18	trigger mode of preset sewing	setting of preset sewing trigger (valid in the absence of operation box of the machine head) 0: trigger function unavailable 1: trigger function available	0/1	0
20	switch mode for Reinforcing-sewing	setting of switch mode for Reinforcing-sewing 0: Reinforcing-sewing 1: stitch compensation when machine stopping ,Reinforcing-sewing when machine running	0/1	1
25	control mode for pressor foot lifting	settings of pressor foot lifting mode 0: pressor foot lifting unavailable 1: treadle pressor foot lifting 2: automatic pressor foot lifting after thread-cutting 3: automatic pressor foot lifting after treadle pressor foot lifting and thread-cutting 4: automatic pressor foot lifting after machine stopping and thread-cutting 5: automatic pressor foot lifting after treadle pressor foot lifting, machine stopping and thread-cutting	0~5	0
26	treadle command mode after thread-cutting	treadle command mode setting after thread-cutting 0: thread-cutting command unavailable for pressor foot lifting 1: thread-cutting command available for pressor foot lifting	0/1	1
27	Power on and positioning	Setting of machine head moving to upper needle position when powered on 0: unavailable 1: available	0/1	1
28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close	0/1	0

30	setting of count value of bobbin thread	setting of count value of bobbin thread andcounting units 0: unavailable 5: every 5 by 1 10: every 10 by 1 15: every 15 by 1 20: every 20 by 1 0/5/10/15/20 10	0/5/10/15/20	10
31	Maximum count value of bobbin thread	setting of Maximum count value of bobbin thread	100~4000	1600
35	piecework	Piecework setting 0: unavailable 1: available	0/1	1
36	piecework display	Piecework number	0~9999	0
37	Hold time for thread wiping	Hold time for thread wiping	0~800(ms)	40
41	low speed	lowest speed of treadle	100~1000(spm)	200
42	adjustment of treadle functions	adjustment of the speed adjustment functions of treadle	0~100	60
*44	thread-cutting speed	thread-cutting speed	100~500(spm)	250
46	pressor foot lifting delays sewing	delay with pressor foot lowered	0~800(ms)	200
47	output time of total pressure of pressor foot lifting	output time of total pressure of pressor foot lifting	0~800(ms)	150
48	output duty cycle of pressor foot lifting	output duty cycle of pressor foot lifting	0~100	40
49	hold time of pressor foot lifting	forced shut-down after hold time of pressor foot lifting	1~60(s)	12
50	output time of total pressure of reverse-sewing	output time of total pressure of reverse-sewing	0~800(ms)	150
51	output duty cycle of reverse-sewing	output duty cycle of reverse sewing	0~100	60
52	hold time of reverse-sewing	forced shut-down after hold time of reverse-sewing	1~60(s)	12
53	starting reinforcing-sewing	speed starting reinforcing-sewing speed	100~3000(spm)	1500
54	starting reinforcing-sewing compensation 1	parameter of starting reinforcing-sewing stitch compensation	0~15	12
55	starting reinforcing-sewing compensation 2	parameter of starting reinforcing-sewing stitch compensation	0~15	9

56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100~3000(spm)	1500
57	ending reinforcing-sewing compensation 1	parameter of ending reinforcing-sewing stitch compensation	0~15	12
58	ending reinforcing-sewing compensation 2	parameter of ending reinforcing-sewing stitch compensation	0~15	9
59	continuous reinforcing-sewing speed	continuous reinforcing-sewing speed	100~3000(spm)	1500
60	continuous reinforcing-sewing compensation1	parameter of continuous reinforcing-sewing stitch compensation	0~15	10
61	continuous reinforcing-sewing compensation2	parameter of continuous reinforcing-sewing stitch compensation	0~15	9
69	lower needle position	Adjustment of lower needle position	120~240	177
79	parameter of special functions	parameter of special functions(valid after holding 2s) 5: return to factory-set parameter	0~15	0

* Marked Items are used for repair and maintenance, modification of factory-set value may do damage to the machine or lead to decline of performance. Professionals must be consulted if modification is necessary. However, set values may be modified anytime for improvement of the functions and performance of sewing machine.

8. Instructions for System Configuration

8.1 Adjustment of Sewing Speed (parameter No.1, 4, 41~42, 53, 56, 59, 80)

1) highest speed of free-style sewing (parameter No.1)

Setting of the highest speed of treadle under free-style sewing mode, the max value is subject to parameter No.80.

Press the speed adjustment key on the operation box of the machine head to modify this parameter.

(Note) lifetime of the sewing machine may be reduced by unnecessary high speed

2) setting of reinforcing-sewing speed(parameter No.53, 56, 59)

No.53 setting of starting reinforcing-sewing speed

No.56 setting of ending reinforcing-sewing speed

No.59 setting of continuous reinforcing-sewing speed

(Note) the appearance of reinforcing-sewing stitch may be affected by unnecessary high speed of reinforcing-sewing.

3) Setting of preset sewing speed (parameter No.4)

Parameters of various preset sewing speeds

4) low speed setting (parameter No.41)

Treadle's starting and running speed. It will be easy to conduct needle compensation with treadle

5) adjustment of the speed adjustment performance of treadle(parameter No.42)

User can customize speed adjustment performance of treadle, bigger parameter leads to higher acceleration of treadle, otherwise lower. Too big value may make working uncomfortable; too small may fail the highest speed set.

Increase the parameter if treadle is unable to reach the highest speed.

8.2 Soft Start (parameter No.2~3)

Top stitches and bottom stitches of starting sewing may be unable to link if needle distance is too short or needle is too thick, which can be improved by limiting the highest starting sewing speed.

No.2 setting of needle number of soft start

0 Soft Start invalid

1~9 needle number of soft start, i.e. limit speed with certain needle number under starting sewing mode

No.3 setting of soft start speed

(Note) Soft Start is invalid if starting reinforcing-sewing has been set

8.3 Setting of Needle positioning (parameter No.69)

1) selection of upper and lower needle position

By default, the 1st key on the lower left controls stopping needle position, corresponding upper figure display the value set

0 upper needle position

1 lower needle position

2) adjustment of lower needle position(parameter No.69)

Setting of lower needle position, deviation angle relative to upper needle position

8.4 Sewing Mode setting in the Absence of Machine Head Operation Box (parameter No. 5~18)

Special pattern may be realized by setting parameters in the absence of operation box of the machine head.

1) selection of sewing mode(parameter No.5)

   0 Free-style sewing: Able to keep running after treadle has been pressed, no needle number will be counted.

   1 continuous reinforcing-sewing: number of obverse-sewing (parameter No.6), number of reverse-sewing (parameter No.7), total number of obverse-sewing and reverse-sewing (parameter No.11)

   2 Preset sewing: the machine automatically stop when reach certain needle number, stopping times (parameter No.10) and needle number (parameter No.11~17) of stopping can be set.

   3 Plain sewing: stopping needle position is free, no needle number will be counted, reinforcing-sewing mode invalid, manual reverse-sewing and automatic pressor foot lifting is available. This mode will be useful if the synchronizer of machine head is damaged.

2) starting reinforcing-sewing and ending reinforcing-sewing

   a. Function setting: by default, the 2nd key on the lower right controls starting, ending reinforcing-sewing, corresponding upper figure display the mode set.

      0 reinforcing-sewing invalid

      1 reinforcing-sewing 2 times

      2 reinforcing-sewing 4 times

   b. Setting of needle number: number of starting reinforcing-sewing and obverse-sewing (parameter No.6), number of reverse-sewing (parameter No.7); number of ending reinforcing-sewing and reverse-sewing (parameter No.8), number of obverse-sewing (parameter No.9).

3) setting of number of preset sewing sections and needle of each section(parameter No.10~17)

   Section number for preset sewing (parameter No.10): 1~7; needle number for each section (parameter No.11~17): 1~99.

4) trigger function of preset sewing (parameter No.18)

   Decide whether sewing will be completed without stop at each section under preset sewing mode. Machine can be stopped at each section during running if this function is invalid.

5) setting of thread-cutting

   By default, the 2nd key on the lower left control thread-cutting function, corresponding upper figure display the value set.

      0 thread-cutting unavailable

      1 thread-cutting available

(Note) If there is operation box of the machine head available, sewing settings will be determined by the operation box of the machine head, parameter setting is invalid. It is recommended to use operation box of the machine head for pattern sewing even if

parameter settings support pattern sewing.

8.5 Pressor Foot Lifting Mode setting (parameter No.25)

Set the operation mode of the magnet of pressor foot lifting.

0 magnet operation unavailable

1 Only treadle command can conduct pressor foot lifting

2 automatic pressor foot lifting after thread-cutting

3 treadle operation, automatic operation after thread-cutting

4 automatic operation after machine stopping and thread-cutting

5 treadle operation, automatic operation after machine stopping and thread-cutting

(Note) set parameter No.25 to 0 if the magnet of pressor foot lifting is unavailable

8.6 Treadle Setting after Thread-cutting (parameter No.26)

Move treadle to thread-cutting status after thread-cutting is completed to send pressor foot lifting command setting.

If parameter No.25 is set to 1, 3, 5, then pressor foot lifting will be executed.

This function is used to facilitate pressor foot lifting after thread-cutting.

8.7 Automatic Top Positioning When Powered-On (parameter No.27)

When powered on, the machine head will automatically move to upper needle position, which can facilitate sewing.

No action if needle position is around upper needle position.

8.8 Roll-over Protection (parameter No.28)

Lock machine's functions to prevent unexpected accident when machine head is under roller-over status. Parameter No.28 controls types of roller-over signals.

When machine head is under roller-over status, the digital tube on the upper left 1 of the operation panel of chassis will display roller-over picture.

8.9 Sewing Piecework (parameter No.35~36)

Counts will increase when thread-cutting is over to calculate finished sewing working procedures.

If No.35 is set to 1, piecework is available; if set to 0, piecework is unavailable.

No.36 display piecework number, press parameter value to clear piecework number for recounting.

8.10 Sewing with Delayed Pressor Foot (parameter No.46)

When the magnet of pressor foot lifting operates, press treadle. Since it takes time for magnet to release, sewing machine may have begun running before pressor foot press materials firmly, affecting sewing effects. Parameter can be used to compensate the time for pressor foot lifting to release.

8.11 Pressor Foot Lifting Hold Time setting (parameter No.49)

Adjust the hold time of pressor foot, long time operating can reduce the lifetime of magnet. After pressor foot is lifted, magnet will be automatically stopped to lower pressor foot after the time set by No.49.

8.12 Reverse Sewing Hold Time Setting (parameter No.52)

Adjust the hold time of reverse-sewing; long time operating can reduce the lifetime of magnet.

Reverse-sewing magnet operation will be automatically stopped after the time set by

No.52.

8.13 adjustment of reinforcing-sewing compensation (parameter No.54~55, No.57~58, No.60~61)

Under reinforcing-sewing operation, adjust corresponding parameters to improve stitch appearance if obverse- and reverse-sewing stitches are not consistent Before adjustment, please first set the number of obverse-sewing and reverse-sewing to the same, e.g. 3; follow the instructions below to adjust corresponding 2 parameters.

1   compensation of starting reinforcing-sewing(parameter No.54~55)

(1) Connection between obverse- and reverse-sewing

Reduce parameter No.54, if the number of obverse-sewing decreases or the last stitch becomes short.

Increase parameter No.54, if the number of reverse-sewing decreases or the first stitch becomes short.

(2) Connection between reverse- and obverse-sewing

Reduce parameter No.55, if the number of reverse-sewing decreases or the last stitch becomes short.

Increase parameter No.55, if the number of obverse-sewing decreases or the first stitch becomes short.

2   compensation of ending reinforcing-sewing (parameter No.57~58)

(1) Connection between reverse- and obverse-sewing

Reduce parameter No.58, if the number of reverse-sewing decreases or the last stitch becomes short.

Increase parameter No.58, if the number of obverse-sewing decreases or the first stitch becomes short.

(2) Connection between obverse- and reverse-sewing

Reduce parameter No.57, if the number of obverse-sewing decreases or the last stitch becomes short.

Increase parameter No.57, if the number of reverse-sewing decreases or the first stitch becomes short.

3   compensation of continuous reinforcing-sewing(parameter No.60~61)

(1) Connection between obverse- and reverse-sewing

Reduce parameter No.60, if the number of obverse-sewing decreases or the last stitch becomes short.

Increase parameter No.60, if the number of reverse-sewing decreases or the first stitch becomes short.

(2) Connection between reverse- and obverse-sewing

Reduce parameter No.61, if the number of reverse-sewing decreases or the last stitch becomes short.

Increase parameter No.61, if the number of obverse-sewing decreases or the first stitch becomes short.

9. Error Code Table

Error codes	Contents	Checking and treatment
E011	electric engine signal error	If electric engine plug is well contacted
E012		if electric engine signal detecting device has been
E013		broken
E014		if sewing machine handwheel correctly installed
E021	electric engine overload	If electric engine plug is well contacted
E022		if machine head or thread-cutting mechanism has
E023		been blocked completely
E201		if materials are too thick
E111	Voltage too high	If the voltage on the inlet wire is too high
E112		
E113		
E121	Voltage too low	If the voltage on the inlet wire is too low
E122		
E151	magnet error	If machine head magnet suffers short circuit
E152		
E211	Abnormal electric engine operation	If electric engine plug is well contacted
E212		If electric engine signal is matched
E301	Poor operation box communication	if operation box plug is well contacted
		if operation box components are damaged
P.oFF	Power-fail	Wait for power supply to resume
L.oiL	Refill oil	Keep pressing key P to cancel notice after refilling

Note: consult technical support if errors still exist.

Note: Settings of max speed 5 000rpm

The max.speed of this can be 5000rpm, you have to adjust it on the panel **on the control box** as follows,

There're 4 lines on the panel,

1. Turn on the power,

2. press the right button "P" in the first line, digit "1" will be displayed on the left screen in the first line,

3. press the left button upper & down in the third line, until the digit "79" displayed on the left screen in the first line, and the digit "0" will be displayed

   on the screen in the second line,

4. press the right button upper & down in the third line, until the digit "11" displayed on the screen in the second line, then the digit "11" will be automatically

   become to "0"

5. press the left button upper & down in the third line, until the digit "80" displayed on the screen in the first line,

6. press again the right button upper & down in the third line, until the speed digit you request displayed on the screen in the second line.

7. Turn off the power

8. Turn on the power again, now the machine can work with this set speed.

Description of new version of control box

("BUa Yg˙cZ7\ Ugg]g˙7 ca dcbYbhg

1. Front Side
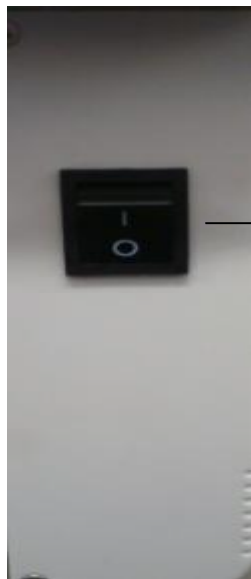
Main Switch

2. Back Side

Electricity outlet

Outlet for functions
of motor

Pedal outlet

Light outlet

Motor coder outlet

Operation box outlet

Signal outlet for machine head reversing

Outlet for automatic presser foot lifting

Signal outlet for machine head functions

5. Instructions of Operation box WR-596

1. Safety instruction

Please read the operation manual and related sewing machinery datasheet carefully before correct use.

1.1 (1) Power voltage and frequence: please refer to motor and control box nameplate.

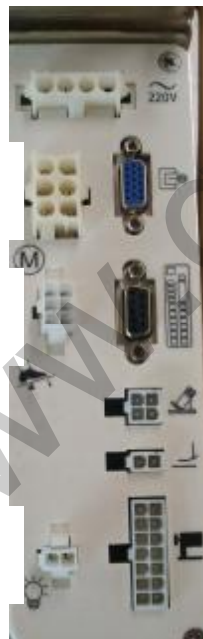(2) Interference from electromagnetic wave: please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.

(3) Grounding: to avoid the noise obstructions or leakage of electricity accident (incluing sewing machine, motor, control box and positioner.

1.2 Please make sure power off at least 1min and then can open control box cover, because there are dangerous high voltage.

1.3 Please turn off the power while repairing or wearing needle in order to protect operater's safty.

1.4 ⚠ Used where potential dangers exist.

⚠ Used where high voltage and electric danger exist.

1.5 Product warranty period of one year on condition that this machine is operated correctly and no man-made damage.

2. System parameter table:

PF7: Direct driving lock-stitch sewing9700   **PF8**: Direct driving lock-stitch sewing9800   **PFH**: Direct drive thick material flat sewing three auto
PFS: Direct drive twin needle flat sewing three auto   **PF9**: Direct drive flat sewing three auto backstitch presser foot linkage   **PF2**: Direct drive plat sewing three auto with thread pressing   **PFH2**: Direct drive thick material flat sewing three auto with thread pressing   **PF82**: Direct drive plat sewing three auto with thread pressing 9800   **PFH8**: Direct drive thick material flat sewing three auto   **PFH9**: Direct drive thick material flat sewing three auto with thread pressing 9800   **PFH1**: Direct drive thick material flat sewing bisynchronous   **PFY1**: JY Single needle double synchronous thick material machine
PFY2: JY Single needle double synchronous thick material machine belt clip wire

No	Project	Content	Applicable models	Setting range	The default value	Level
1	Sewing speed	Set sewing speed	PF7 PF8 PF2 PF9 PF82	200~5000rpm	3500	I
			PFS	200~3000rpm	2300	
			PFH PFH2 PFH8 PFH9	200~3500rpm	3000	
			PFH1 PFY1 PFY2	200~3000rpm	1800	
2	Soft-start function	0: No soft-start function 1~9: Soft start stitches	PF7 PF8 PF2 PFH PFH2 PF2 PF9 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	0~9	0	I
			PFS		4	
3	Ornamental bartacks	0: Invalid 1: Effective	All models	0/1	0	I
4	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	PF7 PF8 PF2 PF9 PF82	200~4000rpm	3000	I
			PFS	200~3000rpm	1400	
			PFH PFH2 PFH8 PFH9	200~3500rpm	2500	
			PFH1 PFY1 PFY2	200~3000rpm	1800	
5	Simple sewing mode Settings	0: invalid 1: effectively	All models	0/1	1	I
8	Needle position setting	Intermediate stop when the needle needle position setting 0: Down needle position 1: Up needle position	All models	0/1	0	I
9	Back stitch speed limitation	can keep needle from breaking while backstitching	All models	500~1500rpm	800	I
19	Solid after before sewing stop	0: unavailable 1: available	All models	0/1	0	I
20	Setting of reverse sewing switch function	Reverse sewing switch mode 0: Only reverse sewing 1: Reverse sewing and fill needle 2: Only reverse sewing, standby without operating	All models	0/1/2	0	I
21	soft start speed 1	speed of the 1st needle of soft start	PF7 PF8 PF2 PFH PFH2 PF2 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	100~3000rpm	600	I
			PFS		400	
22	soft start speed 2	speed of the 2nd needle of soft start	PF7 PF8 PF2 PFH PFH2 PF2 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	100~3000rpm	1000	I
			PFS		800	
23	soft start speed 3	speed of the 3rd~9th needle of soft start	PF7 PF8 PF2 PFH PFH2 PF2 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	100~3000rpm	1500	I
			PFS		1200	
24	Presser foot soft lowering function	0: unavailable 1: available	All models	0/1	0	I
25	Presser foot lift function	0: unavailable 1: available	PF7 PF8 PF2 PFH PFH2 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	0/1	0	I
			PFS PF9		1	
26	Auto lift presser foot function	0: unavailable ; 1: Auto presser foot lift when shut down	All models	0/1	0	I
27	Power on and positioning	0: unavailable 1: available	All models	0/1	1	I
28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close 2:forbid a protection	PF7 PF8 PF2 PFH PFH2 PF2 PF9 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	0/1	0	I
			PFS		1	
29	Presser foot soft lowering time	To set presser foot soft lowering time	All models	50~500ms	300	II
32	Decorative bar-tacking dwell time	To set decorative bar-tacking dwell time	PF7 PF8 PF2 PF9 PF82	5~500ms	50	II
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		100	
34	To select standard bar-tacking pedal speed mode	0: Auto bar-tacking speed ; 1: Pedal	All models	0/1	0	II
35	By-piece rate setting	0: No by-piece function 1~20: Plus 1 to by-piece value for each set thread trimming	All models	0~20	0	II
37	Thread wiping operation time	Thread wiping operation time	PF7 PF8 PFH PFS PFH8 PFH1 PFY1 PFY2	0~800ms	40	II
41	Low speed	The lowest speed of pedal	All models	100~400rpm	200	I
42	Pedal curve selection	0: normal; 1: Slow acceleration 2: Quick acceleration	All models	0/1/2	0	I
43	Dial the line that can set	0: unavailable 1: available	PF7 PF8 PFH PFS PFH8 PFH1 PFY1 PFY2	0/1	1	I
*44	thread-cutting speed	thread-cutting speed	All models	100~400rpm	280	I
45	Reverse sewing speed limit switch	processing can prevent reverse sewing needle breakage 0: infinite speed 1: have the speed limit	All models	0/1	0	I
46	pressor foot lifting delays sewing	delay with pressor foot lowered	All models	0~800ms	200	II
47	Time of presser foot magnet full voltage output	Time of presser foot magnet full voltage output	All models	0~800ms	150	II
48	Presser foot magnet voltage output duty cycle	Presser foot magnet voltage output duty cycle	All models	0~100	30	II
49	output duty cycle of pressor foot lifting	output duty cycle of pressor foot lifting	All models	1~60(s)	12	II
50	output time of total pressure of reverse-sewing	output time of total pressure of reverse-sewing	All models	0~800ms	150	II
51	output duty cycle of reverse-sewing	output duty cycle of reverse-sewing	All models	0~100	40	II
52	hold time of reverse-sewing	forced shut-down after hold time of reverse-sewing	All models	1~60(s)	12	II
53	starting reinforcing-sewing speed	starting reinforcing-sewing speed	PF7 PF8 PF2 PF9 PF82	100~3000rpm	1800	I
			PFH PFH2 PFH8 PFH9 PFH1 PFY1 PFY2		1200	
			PFS		1000	
54	starting reinforcing-sewing compensation 1	parameter of starting reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	30	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		50	
55	starting reinforcing-sewing compensation 2	parameter of starting reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	10	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		15	
56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	PF7 PF8 PF2 PF9 PF82	100~3000rpm	1800	I
			PFH PFH2 PFH8 PFH9 PFH1 PFY1 PFY2		1200	
			PFS		1000	
57	ending reinforcing-sewing compensation 1	parameter of ending reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	30	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		50	
58	ending reinforcing-sewing compensation 2	parameter of ending reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	10	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		15	
59	ending reinforcing-sewing speed	ending reinforcing-sewing speed	PF7 PF8 PF2 PF9 PF82	100~3000rpm	1800	I
			PFH PFH2 PFH8 PFH9 PFH1 PFY1 PFY2		1200	
			PFS		1000	
60	continuous reinforcing-sewing compensation1	parameter of continuous reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	30	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		50	
61	continuous reinforcing-sewing compensation2	parameter of continuous reinforcing-sewing stitch compensation	PF7 PF8 PF2 PF9 PF82	0~100	10	I
			PFH PFH2 PFS PFH8 PFH9 PFH1 PFY1 PFY2		15	
62	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal		10~50 (0.1°)	25	II
63	Pedal travel upon acceleration	Pedal position upon start acceleration Travel relative to medium pedal		10~100 (0.1°)	50	II
64	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal		10~150 (0.1°)	110	II
65	Pedal travel upon presser foot lift	Pedal position upon pedal lift Travel relative to medium pedal		-100~-10 (0.1°)	-30	II
66	Pedal travel upon presser foot lowering	Pedal travel from presser foot lowering position to neutral position Travel relative to medium pedal	All models	5~50 (0.1°)	10	II
67	Pedal travel 1 upon thread trimming	Pedal position upon start trimming without presser foot function Travel relative to medium pedal		-100~-10 (0.1°)	-30	II
68	Pedal travel 2 upon tread trimming	Pedal position upon start thread trimming with presser foot function Travel relative to medium pedal		-100~-10 (0.1°)	-60	II
69	Down needle positioning position	To adjust down needle position	PF7 PF8 PF2 PFH PFH2 PF9 PF82 PFH8 PFH9 PFH1 PFY1 PFY2	120~240	177	I
			PFS	60~180	120	
70	Reverse needle lift function	0: unavailable ; 1: available	All models	0/1	0	I
71	Reversal of needle lift angle	Reversal of needle lift angle	All models	0~45°	20	I
72	Thread clamp strength adjustment	0: Clip line function is invalid 1~9: Three Intensity Adjustment	PF2 PFS PF2 PF9 PF82 PFH9 PFY2	0~9	2	I
73	Thread pressing actuation angle	Thread pressing actuation angle	PF2 PFS PF2 PF9 PF82 PFH9 PFY2	10~150°	107	I
74	Thread pressing release angle	Thread pressing release angle	PF2 PFS PF2 PF9 PF82 PFH9 PFY2	160~300°	270	I
77	Clutch magnet actuation time	Clutch magnet actuation delay time	PF9	0~2000ms	60	I
78	Clutch magnet release time	Clutch magnet release delay time (set as 0 no release)	PF9	0~2000ms	300	I
79	return to factory-set parameter	5: restore the current level factory parameters 8: restore the current level and sewing factory parameter set According to S button, seler yES, then press the S key execution	All models	0~15	0	II
80	highest speed of sewing	highest speed of sewing regulation	PF7 PF8 PF2 PF9 PF82	300~5000spm	4000	II
			PFS	300~3000spm	3000	
			PFH PFH2 PFH8 PFH9	300~3500spm	3000	
			PFH1 PFY1 PFY2	300~3000spm	2000	
83	Aggravating function	0: invalid; 1~15 strength regulation	All models	0~15	6	II
85	Suction angle of shear line	To set suction angle of shear line	All models	150~200	175	II
86	Power angle of shear line	To set power angle of shear line	All models	200~300	260	II
87	Release angle of shear line	To set release angle of shear line	All models	300~360	340	II
92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	All models	10~300ms	80	II
93	The neutral position of the pedal	Trimming the neutral position of the pedal	All models	-15~15(0.1)	0	II

3. Operation box use

Function	Button	Described
Starting reinforcing-sewing	⫰	Execute starting reinforcing-sewing 2 times, to and fro.
	⫱	Execute starting reinforcing-sewing 1 times, to and fro.
ending reinforcing-sewing	⫳	Execute ending reinforcing-sewing 2 times, to and fro.
	⫴	Execute ending reinforcing-sewing 1 times, to and fro.
free-style sewing	⫿	Press treadle ahead for normal sewing, stop in the middle, behind for thread-cutting and thread wiping.
continuous reinforcing-sewing	⧈	1. Press treadle ahead for automatic sewing, to and fro, which is set at D and can reach 15times. (F) 2. Continuous reinforcing-sewing is in trigger mode by default, treadle doesn't need to be kept being pressed, and corresponding trigger light of preset sewing is solid lit. 3. Previous ending reinforcing-sewing setting is invalid if this function is valid.
preset sewing	⊡⊡ ⊡⊡	1. Press treadle ahead to execute sewing times set at E or F, G, H. 2. Sewing will stop immediately if treadle is lifted; press treadle again, it will go on with the rest. 3. Ending reinforcing-sewing (if selected), thread-cutting and thread wiping will automatically executed after sewing is completed.
parameter setting	⟳	1. For preset sewing. Trigger treadle and the system will automatically conduct sewing set at E, F, G, H sections; the treadle doesn't need to be kept being pressed. 2. Solid light for continuous reinforcing-sewing mode means that it is trigger mode by default.
thread-cutting	✄	Set or cancel thread-cutting function.
needle-lifting/stitch	⫘	Free sewing mode, can be based on the according to the length of time is different, complementary half needle, a needle or continuous feeding half needle.
Pinnumberset/check choice	Ⓢ	1. Implementation of this key, circulating switch display 3 pin number to set the display value upper end:A、B、C、D Period of pin number, Light corresponding level; Middleend:E、F Period of pin number, Light corresponding level; lower extreme:G、H Period of pin number, Light corresponding level; 2. Corresponding to A D period of pin number, can set range 0~15 needle, B paragraph C pin number, can set range 1~15 needle, among them, the liquid crystal display A B C D E F on each for 10 11 12 13 14 15 stitches. 3. To take the thread clamp function model, according to the buttons can show long thread clamp strength adjustment (3 bright lights and three, liquid crystal display [7]), again according to the key exit.
parameter setting	Ⓟ	1. Entering different parameter level On the sewing setting interface, the user can press the button P to enter the Parameter Interface, then the Level I parameters in the parameter list will display. On the sewing setting interface, the user can keep pressing the button for a few seconds to enter the Password Entering Interface. After entering the right maintenance password, then the user can press the button P to enter the Parameter Interface, now the Level I and Level II parameters in the parameter list will display. 2. Password setting On the sewing setting interface, the user can keep pressing the button P for a few seconds to enter the Password Entering Interface, and press the button combination of "burst tonton + cutting button" to enter the Password Resetting Interface. The three indicators (respectively are Indicator S1, S2 and S3 from up to down, among which one is on) corresponding to the button S indicates the current status. S1 lights up, old password input, ending the key combination trigger key + tangent key, if the correct password into the password reset interface (mistakes have stayed the S1 state), and at the same time S2 light, prompting the input new password and click confirm S3 S key input again when the light is the new password, according to S key after two input if consistent, then set success, return to parameter interfaceIf the new passwords entered are not the same, the Indicator S1 will be on and the LC screen will be reset, and the user shall enter the old password again. If the user presses the button P, the user will be brought back to the interface parameters and no modification will be saved. You can choose from the numbers of 0 to 9 or the letters of A to F for every single character of the password. Please do keep the new password in mind.
speed key	⬅	Speed down. Keeping pressing to lower speed, the display will automatically switch to speed set. Simple seam, free seam effective. (Application of liquid crystal panel).
	➡	Speed up. Keeping pressing to increase speed, the display will automatically switch to speed set. Simple seam, free seam effective. (Application of liquid crystal panel).

note: After the power is above HMI display "[99]", click S (aircraft code setting interface): the first time when entering the display '-' '+', according to scan the models, S button, enter (confirmation interface), press the '-' '+'key switch to 'yES' or No'; selection yes: press the S key to set the selected type code, after finishing into the free joint interface.

Select No: press the S key to return to [type code set interface], '-' '+'key to continue browsing model.

4. System Info

Operation panel default mode, press the button at the same time in P made sewing needle trigger select key, enter the system monitoring state through the +-key choose need to look at the project, according to the S button to enter/exit the selected projects such as the need to exit monitoring interface, according to P keys can be.

show frame numbers	Item Name	unit	show frame numbers	Item Name	unit
JJ	Plan number	piece	U5	Mechanical Angle with	limit
U1	speed of motor control	rpm	U6	Motor initial Angle	limit
U2	Motor Current	0.01A	U7	Master control program version	/
U3	Motor Voltage	V	U8	Head type	/
U4	Pedal voltage	0.01V	vEr	Operation box version of the program	/

5. Error codes

Error Code	Contents	Possible reasons	Checking and treatment
E011 E012 E013 E014	Motor signal error	Motor position sensor signal failure	If electric engine plug is well contacted; if electric engine signal detecting device has been broken; if sewing machine handwheel correctly installed.
E015	Model type error	Unable identify operating box model type	Check operating box
E021 E022 E023	Motor overload	motor stall motor overload	If electric engine plug is well contacted; if machine head or thread-cutting mechanism has been blocked completely;f materials are too thick; Electrical signal detection signal whether the normal.
E101	Hardware drivers fault	Current detection abnormal Driving hardware error	Current detection loop system is working properly;Whether the damage to the device driver.
E111 E112	Voltage too high	High input voltage Brake circuit fault Voltage detection error	System into line voltage is too high; Braking resistance are working properly; System voltage detection circuit are working properly.
E121 E122	Voltage too low	Actual low voltage Voltage detection is wrong	If the voltage on the inlet wire is too low Whether the system voltage detection circuit the normal work.
E131	Current circuit fault	Current detection abnormal	Current detection loop system is working properly.
E133	Oz circuit fault	Oz circuit fault	Oz circuit system is working properly.
E151	Magnet circuit error	Over current magnet circuit	If machine head magnet suffers short circuit Electromagnet circuit is working properly.
E201	over current	Current detection error	Current detection loop system is working properly Electrical signal is correct.
E211 E212	Abnormal motor operation	Current or voltage detection error	If electric engine plug is well contacted; If electric engine signal is matched.
E301	Communication error	Sci circuit error	if operation box plug is well contacted; if operation box components are damaged.
E302	Operation inner failure	Sci circuit error	To check whether the operating box is damaged.
E402	Pedal ID fault	Pedal verification fault	Pedal connection is loosen.
E403	Pedal zero position fault	The pedal zero position over range	The pedal is damaged or is it not under stop state when correction.
E501	Safety switch fault	Safety switch effective	Put down the head or check turned up switch.
P.oFF	Power off Display	Power off	Wait for power supply to resume.
EvaL	Trial expired	Trial expired	Contact the dealer processing

Note: 1. Sewing abnormal action (speed electromagnet work abnormal) : in the control interface view model is correct;
2. Turn up E501 fault when: sure it is normal to switch detection, temporary use can change the P-28 parameters;
3. If the above according to check the project cannot rule out fault, please seek technical support.

6. Accessories

NO	Product name	Amount	Product specification	Confirm	Remarks
1	Ball section connecting rod	1			
2	Electric control box	1			
3	Operating box	1	EP-014		
4	pedal	1	PL-302		with bracket
5	screw	3	M4×8		The supplied pan-head three combination
6	screw	3	M5×25		Outside hex flange tapping screws
7	screw	3	M5×25		Outside hex flange tapping screws
8	The instructions	1			
9	certificate	1			
10	Electronic ccessories	1			apolegamy
11	Needle magnet assembly	1			apolegamy