

**GLOBAL**

**BT 1900**

**CSTMP**

spare parts &  
instruction manual

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# IMPORTANT SAFETY INSTRUCTIONS

Putting sewing systems into operation is prohibited until it has been ascertained that the sewing systems in which these sewing machines will be built into, have conformed with the safety regulations in your country. Technical service for those sewing systems is also prohibited.

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
2. Read all the instructions, including, but not limited to this Instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
5. This machine shall be operated by appropriately-trained operators.
6. For your personal protection, we recommend that you wear safety glasses.
7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
  - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
  - 7-2 For replacing part(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
  - 7-3 For repair work.
  - 7-4 When leaving the working place or when the working place is unattended.
  - 7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
8. If you should allow oil, grease, etc. used with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.

9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by ZOJE can be used for repairs.
11. General maintenance and inspection works have to be done by appropriately trained personnel.
12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel.  
Whenever you find a failure of any of electrical components, immediately stop the machine.
13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
14. Periodically clean the machine throughout the period of use.

15. Grounding the machine is always necessary for the normal operation of the machine.  
The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
16. An appropriate power plug has to be attached to the machine by electric technicians.  
Power plug has to be connected to a grounded receptacle.

17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. ZOJE assumes no responsibility for damage caused by remodeling or modification of the machine.

19. Warning hints are marked with the two shown symbols.





Danger of injury to operator or service staff





Items requiring special attention

## FOR SAFE OPERATION OF ZJ1900

	<ol style="list-style-type: none"> <li>1. To avoid electrical shock hazards, neither open the cover of the electrical box for the motor nor touch the components mounted inside the electrical box.</li> <li>2. After changing the pattern, make sure the needle entry point. If the pattern is protruded from the work clamp feet, the needle will interfere with the work clamp feet during sewing, and it is dangerous due to the needle breakage or the like.</li> <li>3. Do not turn OFF the power in a state that the needle is lowered. Wiper may break the needle.</li> </ol>
	<ol style="list-style-type: none"> <li>1. So as to prevent possible accidents caused by abrupt start of the sewing machine, depress the start switch after ascertaining that there is no interfering thing under the needle when winding the bobbin thread.</li> <li>2. When turning OFF the power switch, turning ON the ready switch or turning ON the work clamp foot switch, the work clamp feet automatically come down. So, never place your fingers under the work clamp feet to prevent possible accidents caused by abrupt start of the sewing machine. During operation, be careful not to allow your fingers to come close to the work clamp feet.</li> <li>3. So as to prevent possible accidents caused by the touch of the fingers with the needle, install a finger guard suitable for each work clamp foot when replacing the work clamp foot.</li> </ol>

### 为了安全地使用ZJ1900缝纫机的注意事项

 <b>危险</b>	<ol style="list-style-type: none"> <li>1. 为了防止触电事故，请不要在接通电源的状态下打开马达电气箱的盖子或触摸电气箱内的零件。</li> <li>2. 变更图案后，请确认落针位置。万一图案突出压脚，缝制中机针会碰到压脚，发生危险的断针事故。</li> <li>3. 机针落下的状态请不要关闭电源。有可能挑线杆弄断机针。</li> </ol>
 <b>注意</b>	<ol style="list-style-type: none"> <li>1. 为了防止被卷入的人身事故的发生，绕线时请确认了机针下没有障碍物之后再踩起动开关。</li> <li>2. 打开电源、打开准备键、打开压脚开关时，压脚会自动地下降，为了防止人身事故的发生，请绝对不要把手指放到压脚下面。缝纫机运转中，请不要把手指靠近压脚。</li> <li>3. 为了防止手指碰到机针的事故，更换压脚时，请安装适合压脚的手指保护器。</li> </ol>

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## [1] SPECIFICATIONS

- |  |  |
|--|--|
| 1) Sewing area:                                | X(lateral) direction 40mm Y (longitudinal) direction 20mm  |
| 2) Max.sewing speed:                           | *2,700 rpm (When sewing pitches are less than 4.5 mm in X-direction and 3.5 mm in Y-direction)                                       |
| 3) Stitch length:                              | 0.1 to 10.0 mm (adjustable in 0.1 mm step)   |
| 4) Feed motion of work clamp foot:             | Intermittent feed (2-shaft drive by stepping motor)  |
| 5) Needle bar stroke:                          | 41.2 mm  |
| 6) Needle:                                     | DP x 5, DPx17 (H type only)  |
| 7) Lift of work clamp foot :                   | 13 mm (standard) Max. 17 mm  |
| 8) Shuttle:                                    | Standard semi-rotary hook(oil wick lubrication)  |
| 9) Lubricating oil:                            | New Defrix Oil No.2 (supplied by oiler)  |
| 10) Data recording:                            | EP-ROM (32kbyte)   |
| 11) Enlarging/Reducing facility:               | Allows a pattern to be enlarged or reduced on the X axis and Y axis independently when sewing a pattern                              |
| Scale:   | 20% to 200% (1% step)  |
| 12) Enlarging/Reducing method:                 | Pattern enlargement/reduction can be done by increasing /decreasing the stitch length  |
| 13) Max.sewing speed limitation:               | The max. sewing speed can be set limited to any value within a range of 400 to 2,700 rpm using the up/down key.(100 rpm steps)       |
| 14) Pattern selection:                         | 1 to 99 patterns can be selected by specifying the desired pattern Nos.  |
| 15) Bobbin thread counter:                     | Tells the time to replace the bobbin by the bobbin thread counter. (Max.9.999 pcs.)  |
| 16) Memory back-up:                            | In case of a power interruption, the pattern being used will automatically be stored in memory.                                      |
| 17) Sewing machine motor:                      | 400W servo motor   |
| 18) Dimensions:                                | W: 1,200 mm L: 660 mm H:1,100 mm<br>(Use the standard table and stand.)  |
| 19) Weight:                                    | Machine head 42 kg, Control box 16.5 kg  |
| 20) Power consumption:                         | 500W   |
| 21) Operating temperature range:               | 5 °c to 35°c   |
| 22) Operating humidity range:                  | 35% to 85% (No dew condensation)   |
| 23) Line voltage:                              | Rated voltage ± 10% 50/60 HZ   |
| 24) Air pressure used:                         | 0.5 to 0.55 MPa  |
| 25) Air consumption:                           | 1.3 ℓ/min  |
| 26) Needle bar reverse rotation stop function: | After the completion of sewing, the needle can be stopped in its upper position by rotating the needle bar in the reverse direction. |

\* Reduce the max. sewing speed in accordance with the sewing conditions.

## 1. 规格

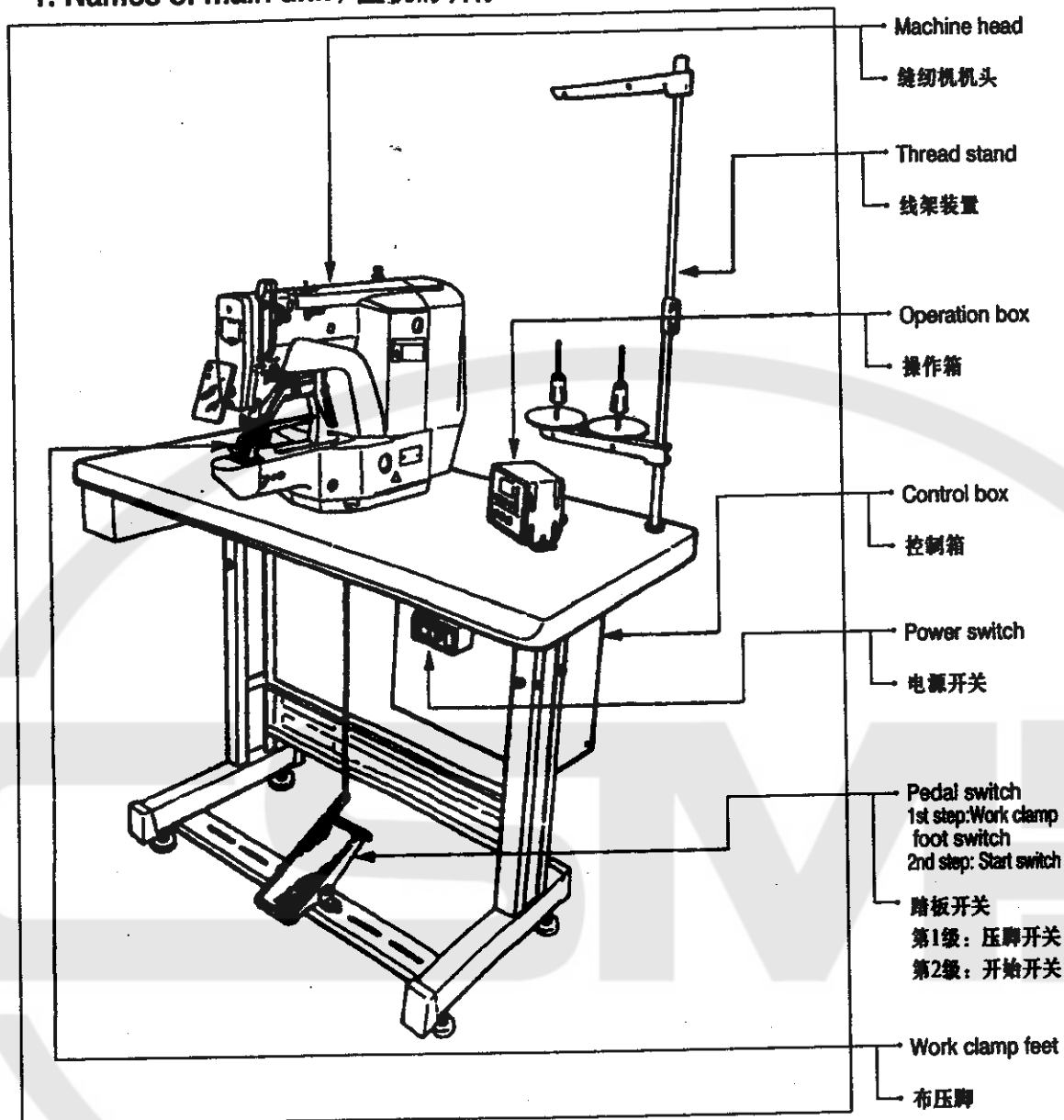
1) 缝制范围	X(左右)方向40 mm Y(前后)方向20 mm
2) 缝纫速度	* 2,700 rpm (针迹 4.5mm, Y 3.5 mm以下时)
3) 缝迹长度	0.1~10.0 mm (0.1 mm跳起)
4) 压脚送布	间断送布 (脉冲马达双轴驱动方式)
5) 针杆行程	41.2mm
6) 使用机针	DP×5、DP×17 (H规格时)
7) 外压脚上升量	标准13mm 最大17mm
8) 旋梭	定螺丝倍螺梭 (油芯加油)
9) 使用机油	No.2 新机油 (加油方式)
10) 数据的记录	EEP-ROM (32k byte)
11) 向右、缩小功能	缝制图案时, 可以独立地放大、缩小X、Y轴。 20%~200% (1% 单位)
12) 放大、缩小方式	增减缝迹长度方式
13) 缝纫速度限制	用升降缝纫速度按键可以在400~2,700rpm中任意地限制。 (100 rpm 单位)
14) 所图案选择功能	选择图案号码可以指定1~99图案。
15) 底线计数器	装备有底线计数器指示更换梭芯。(MAX 9,999张)
16) 存储器后备	电源断电时自动记忆使用的图案。
17) 缝纫机马达	400W 伺服马达
18) 外形尺寸	W:1,200mm L:660mm H:1,100mm (使用标准机架)
19) 质量	机头42Kg/电气箱16.5Kg
20) 消费电力	500W
21) 使用温度范围	5℃~35℃
21) 使用湿度范围	35%~85% (无结露)
23) 电源电压	额定电压±10% 50/60 Hz
24) 使用空气压力	0.5~0.55MPa
25) 空气消费量	1.3 L/分
26) 针杆倒转停止功能	缝制后, 让针杆倒转, 可以提针停止

\* 最高缝制速度, 请根据缝制条件降低速度使用。

## [2] CONFIGURATION

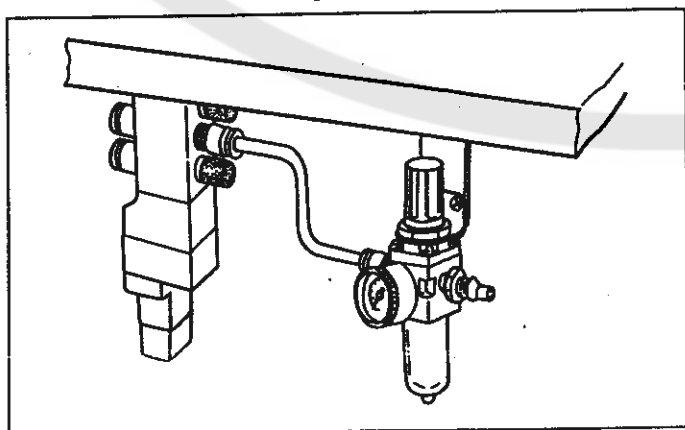
各部的名称

### 1. Names of main unit / 主机的名称

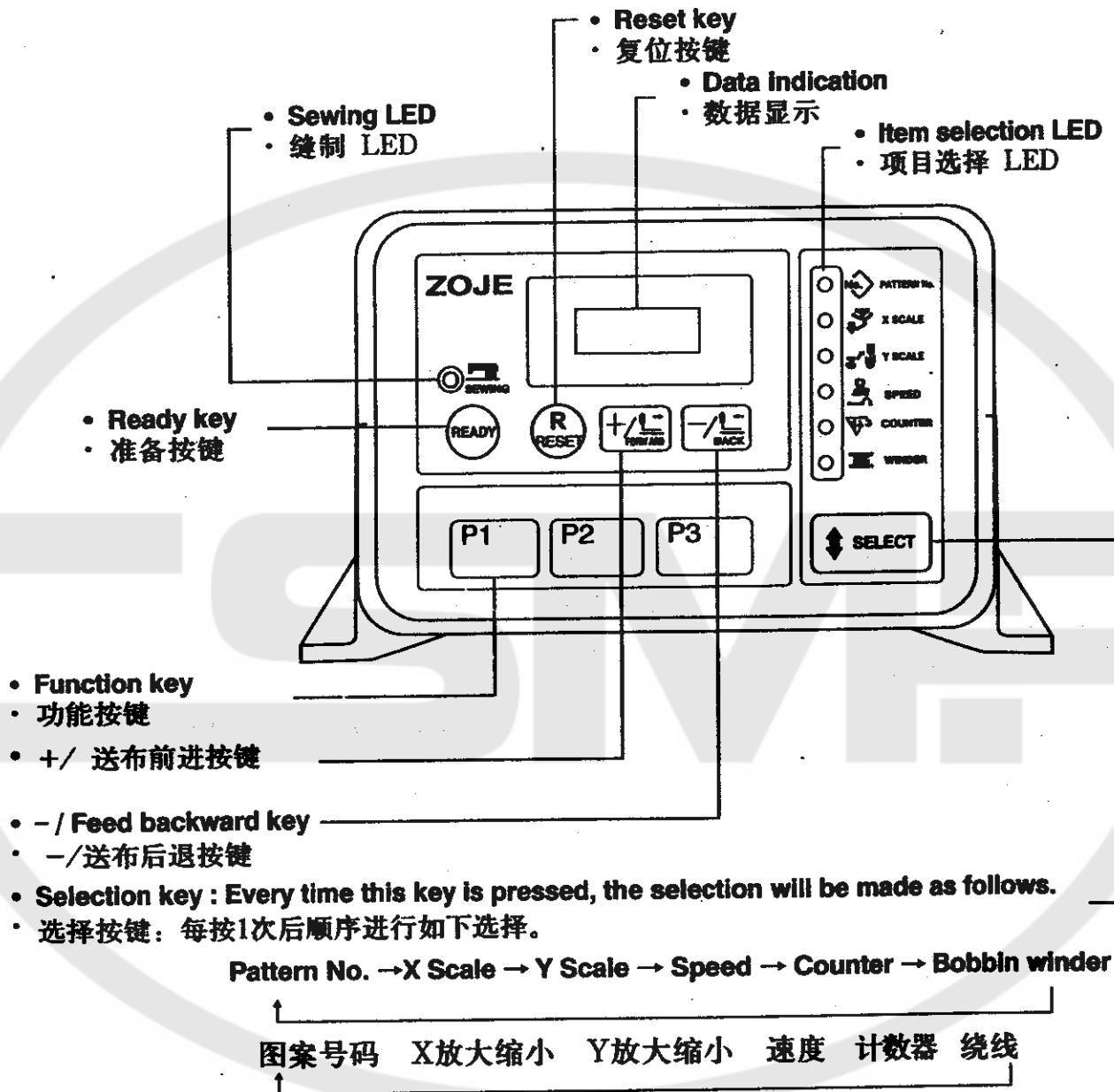


Air regulator (for pneumatic type only)

空气控制装置 (气动式机种)



## 2. Names of switches on the control box 操作箱开关的名称



### [3] INSTALLATION

安装



**WARNING:**

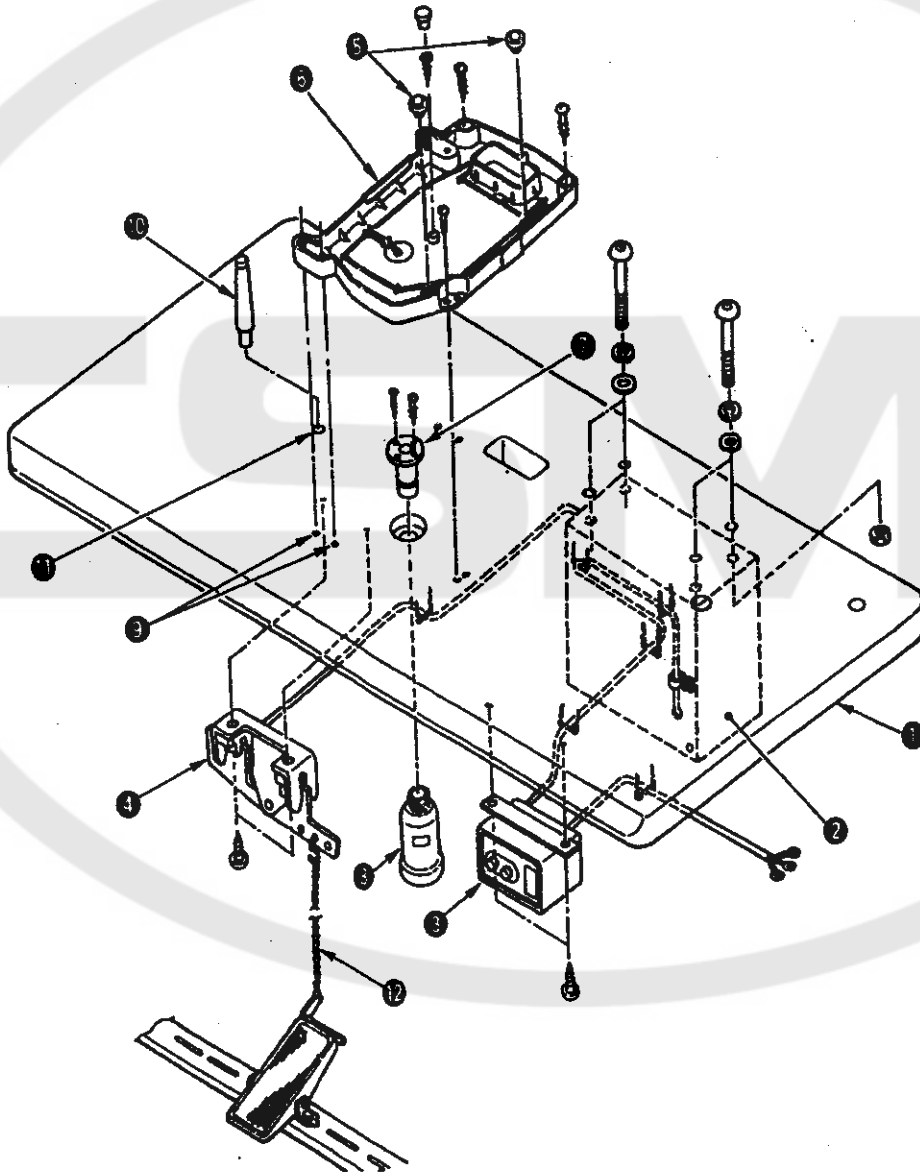
To prevent possible accidents caused by the fall of the sewing machine, perform the work by two persons or more when the machine is moved.



**危险**

在搬运缝纫机时，一定要2人以上进行。

#### (1) Set-up of the table / 机台安装

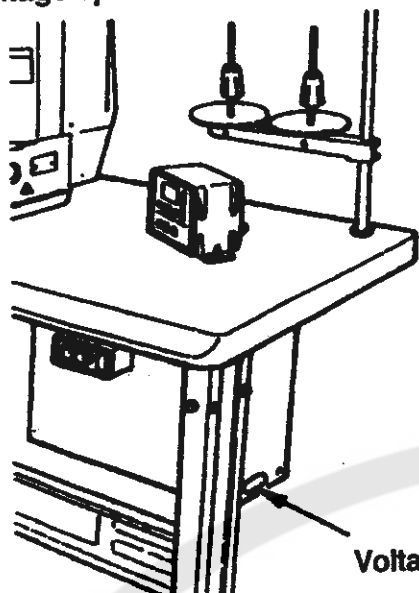


- 1) Securely install control box ②, power switch ③ and pedal switch ④ on table ①.
- 2) Connect the pedal with ⑤ the pedal switch using the chain ⑥.
- 3) Securely fix the respective power cables with the staples.
- 4) Securely fix oil drain ⑦ on the table ①, and screw oil receiver ⑧.
- 5) Set cushion rubber ⑨ on oil pan ⑩, and fit oil pan ⑩ to the holes of the table hinges (4 places) ⑪.  
Then fix oil pan ⑩ with the wood screws (4 places).
- 6) Cover the central part of oil pan ⑩ with the rubber plug after setting the screws.
- 7) Strike head support bar ⑫ in the hole of table ①.

- 1) 把控制箱 ②、电源开关 ③、踏板开关 ④ 固定到机台 ① 上。
- 2) 用附属的链子 ⑥ 把踏板和踏板开关 ④ 连接起来。
- 3) 用线夹把各电线固定住。
- 4) 把排油栓 ⑦ 固定到机台 ①, 并拧上油槽 ⑧。
- 5) 把橡胶垫 ⑨ 安装到油罐上 ⑩, 把油罐 ⑩ 对准机台安装孔 (4处) ⑪, 用木螺丝固定好4处。
- 6) 油罐 ⑩ 的中央部在螺丝固定后, 用橡胶栓塞住。
- 7) 把机头支杆 ⑫ 打进机台孔 ① 里。

## (2) Connecting the power source cord

### • Voltage specifications

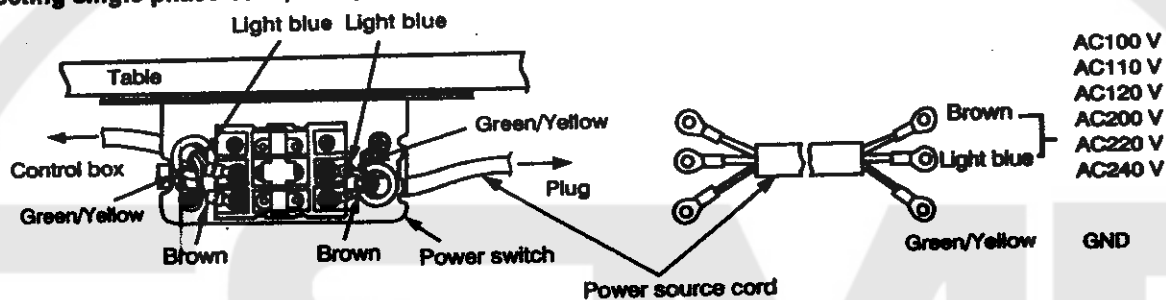


Power source specifications are indicated on the voltage indication seal.

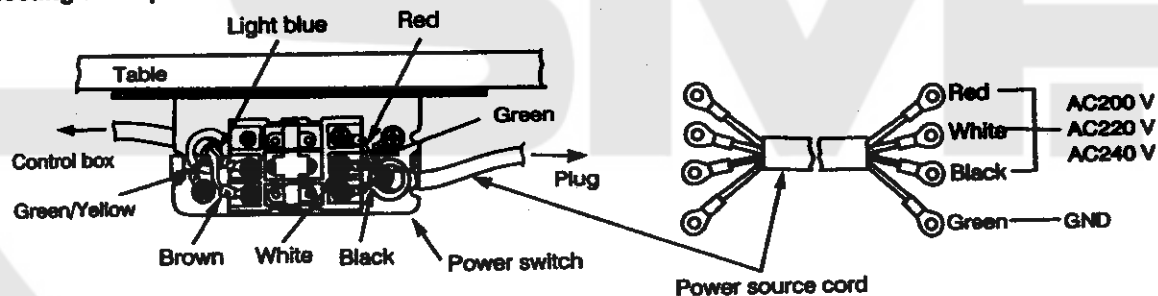
Connect the cord in accordance with the specifications.

Specification	Voltage indication seal
Single phase 100V	1ø 100V
Single phase 110V	1ø 110V
Single phase 120V	1ø 120V
Single phase 200V	1ø 200V
Single phase 220V	1ø 220V
Single phase 240V	1ø 240V

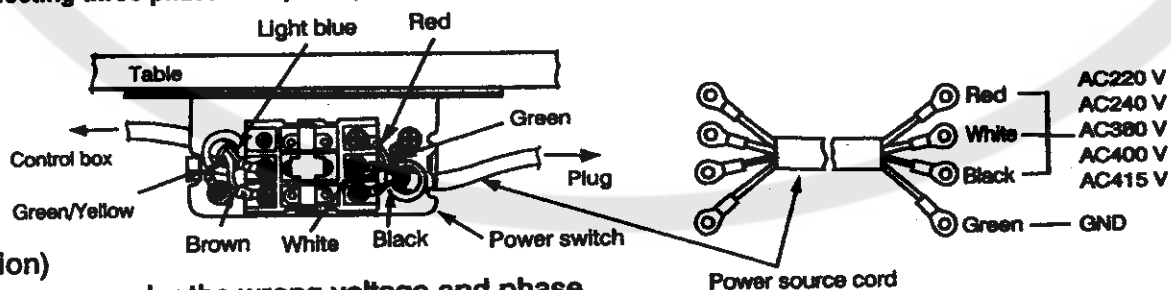
### • Connecting single phase 100V, 110V, 120V, 200V and 240V



### • Connecting three phase 200V, 220V and 240V



### • Connecting three phase 220V, 240V, 380V, 400V and 415V



### (Caution)

1. Never use under the wrong voltage and phase.

2. When changing the voltage to be used:

Refer to the item "Changing the voltage between 100 and 240V" for the following specifications.

1ø 100V, 1ø 110V, 1ø 120V, 1ø 200V, 1ø 220V, 1ø 240V,

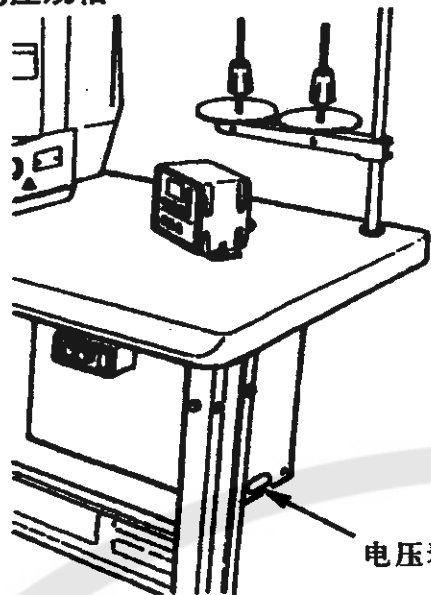
3ø 200V, 3ø 220V, and 3ø 240V,

Refer to the item "Changing the voltage between 220 and 415V" for the following specifications.

3ø 220V, 3ø 240V, 3ø 380V, 3ø 400V, 3ø 415V.

## (2) 电源线的连接

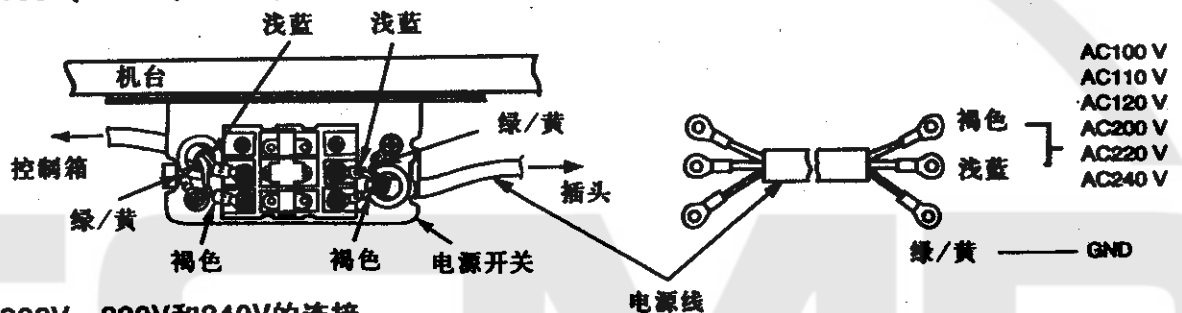
### · 电压规格



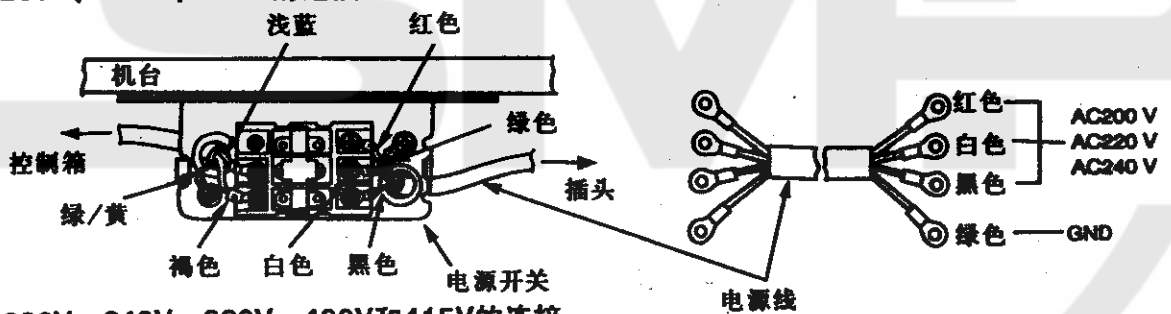
在电压表示标签上写有电源规格。  
请根据规格选接电源。

规格	电压表示标签
单相100V	1φ 100V
单相110V	1φ 110V
单相120V	1φ 120V
单相200V	1φ 200V
单相220V	1φ 220V
单相240V	1φ 240V

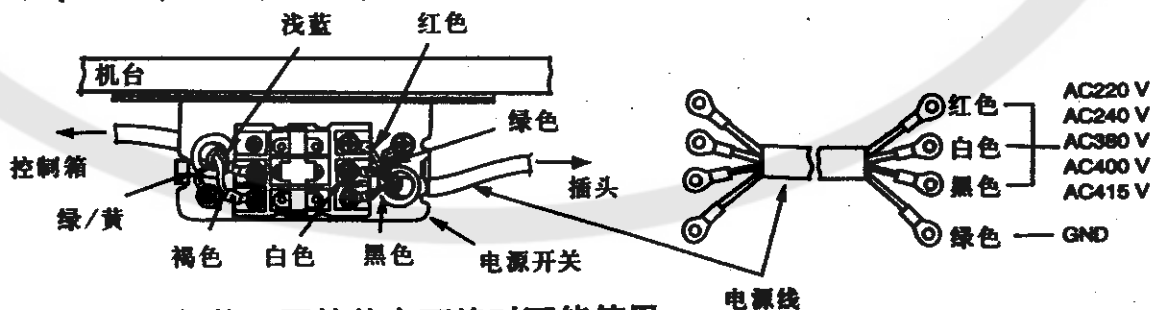
### · 单相100V、110V、120V、200V、240V的连接



### · 三相200V、220V和240V的连接



### · 三相220V、240V、380V、400V和415V的连接



- (注意) 1. 在电压规格不同的状态下绝对不能使用。  
2. 变更单相100V、单相110V、单相120V、单相200V、单相220V、单相240V、三相200V、三相220V、三相240V时请参照「100—240V规格电压变换方法」之项。变更三相220V、三相240V、三相380V、三相415V时请参照「220—415V规格电压变换方法」之项。



### (3) Changing the voltage/电源电压的变换方法

Changing the voltage between 100 and 240V

100~240V规格的电压变换方法

When the voltage of 100V or 200V is supplied, following voltages can be used by changing the terminal board.

100V、200V规格时按如下变换端子台接线即可使用。

Line color ( White) 线色 (白)	Line color ( Blue) 线色 (蓝)	Input voltage 输入电压	Remarks 备考
Terminal board No. 端子台番号			
1	2	100	With J32 connector J32需要
1	3	110	
1	4	120	
1	5	200	Without J32 connector J32不要
1	6	220	
1	7	240	

(Note 1) Voltage change:100V $\leftrightarrow$ 200V

(注1)100V规格 $\leftrightarrow$ 220V规格的电压变换

When voltage of 100V,110V or 120V is used, it is necessary to connect the voltage change cord (Part No. M90215800A0) to J32 connector mounted on the POWER circuit board.

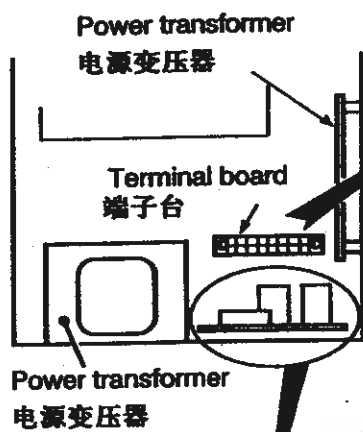
When voltage of 200V, 220V or 240V is used, remove J32 connector.

If the setting of J32 connector is mistaken, the control box is likely to be broken.

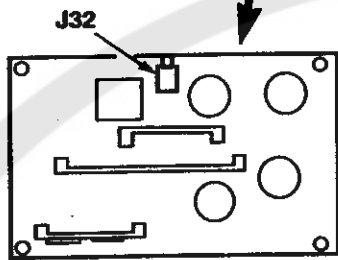
用电源电压100、110、120V使用缝纫机时，需要把电压变换电缆（货号 M90215800A0）插到 POWER 电路板的J32上。

用电源电压200、220、240V时，请卸下J32。

错误地设定了J32的话，会损坏电气设备。

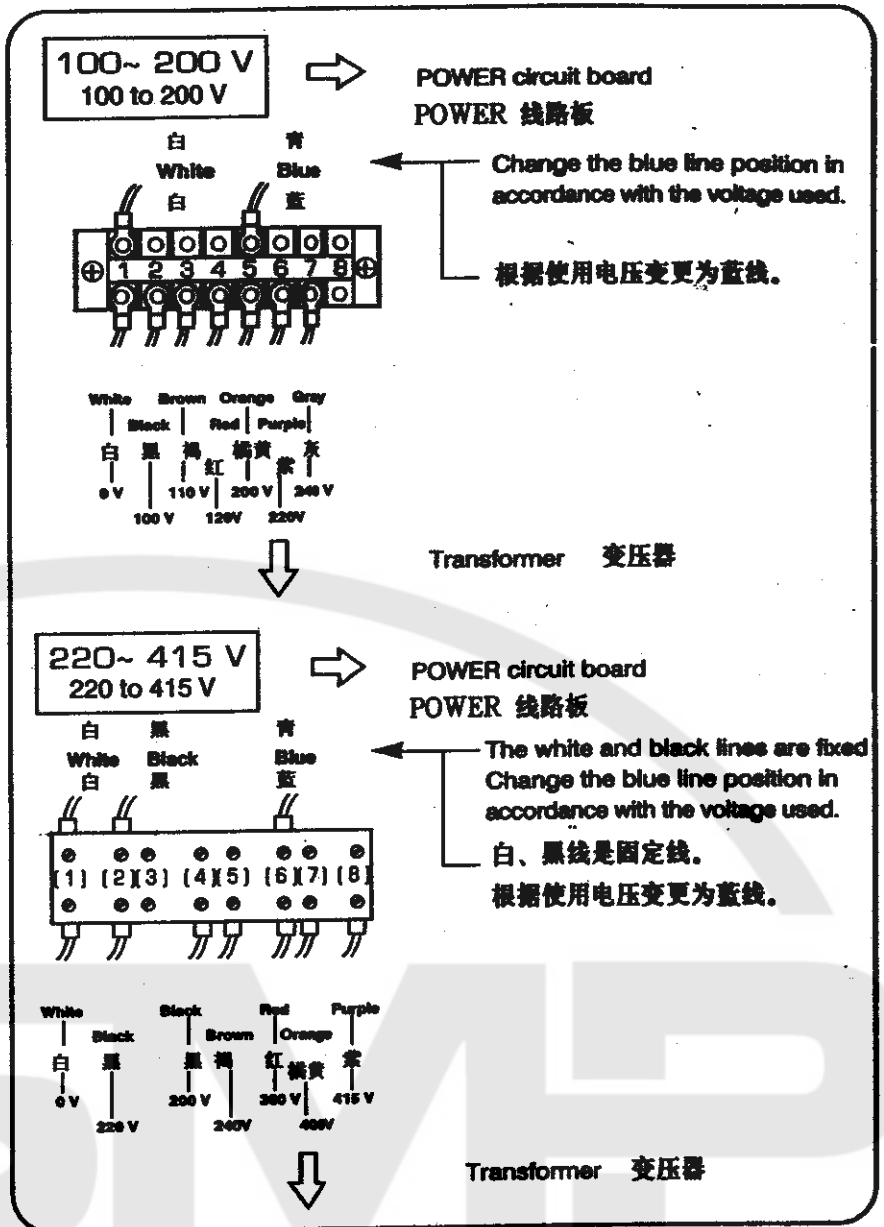


Power transformer  
电源变压器



This side  
前面

POWER circuit board  
POWER 电路板



## Changing the voltage between 220V and 415V

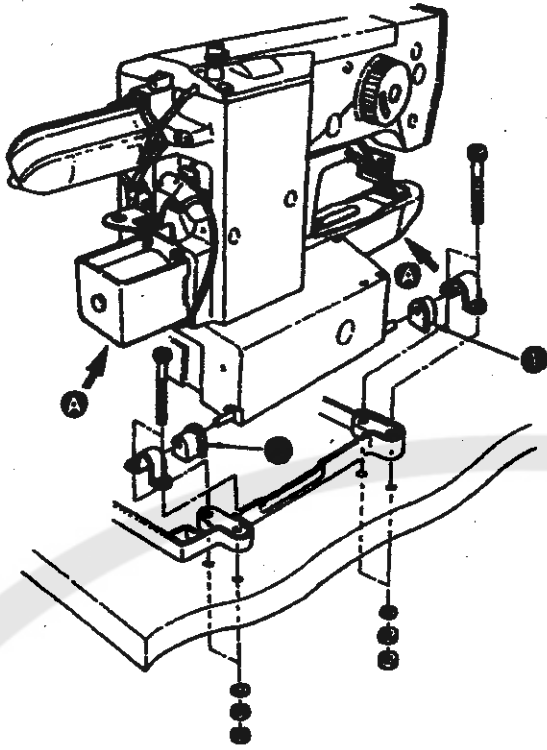
220~415V规格的电电压变换

When the voltage from 200V to 415V is supplied, following voltages can be used by changing the terminal board.

220V~415V规格时按如下变换端子台接线即可使用。

Line color (White) 线色 (白)	Line color (Black) 线色 (黑)	Line color (Blue) 线色 (蓝)	Input voltage 输入电压
Terminal board No. 端子台番号			
1	2	4	220
1	2	5	240
1	2	6	380
1	2	7	400
1	2	8	415

#### (4) Fixing the sewing machine main unit/缝纫机主体的固定



#### WARNING:

To prevent possible accidents caused by the full of the sewing machine, perform the work by two persons or more when the machine is moved.



#### 注意

在搬运缝纫机时，  
请一定2人以上进行。

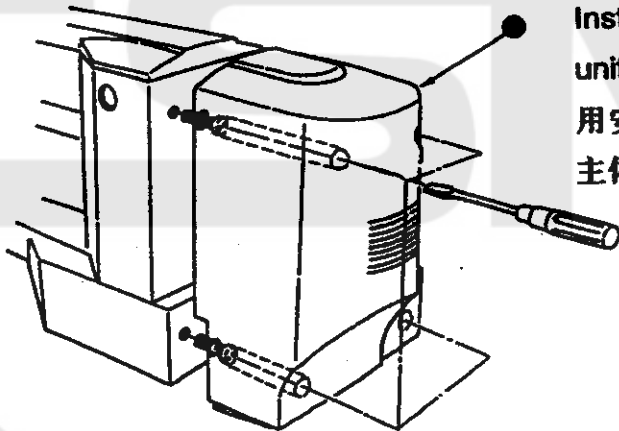
Fit hinge rubber ● to the hinge shaft, and fix the sewing machine main unit.

(Caution) Hold section ● when moving the sewing machine.

把胶垫●插到机轴上，固定缝纫机主体。

(注意) 搬运缝纫机时，请手拿A部。

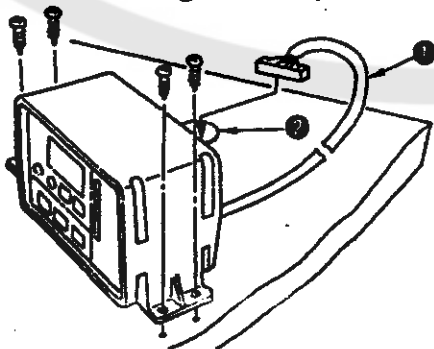
#### (5) Installing the motor cover/马达外罩的安装



Install motor cover ● to the sewing machine main unit using the screws set in the cover.

用安装到马达外罩●上的螺丝把外罩安装到缝纫主体上。

#### (6) Installing the operation box/操作箱的安装



Pass operation box cable ● into table hole ●, and fix the operation box.

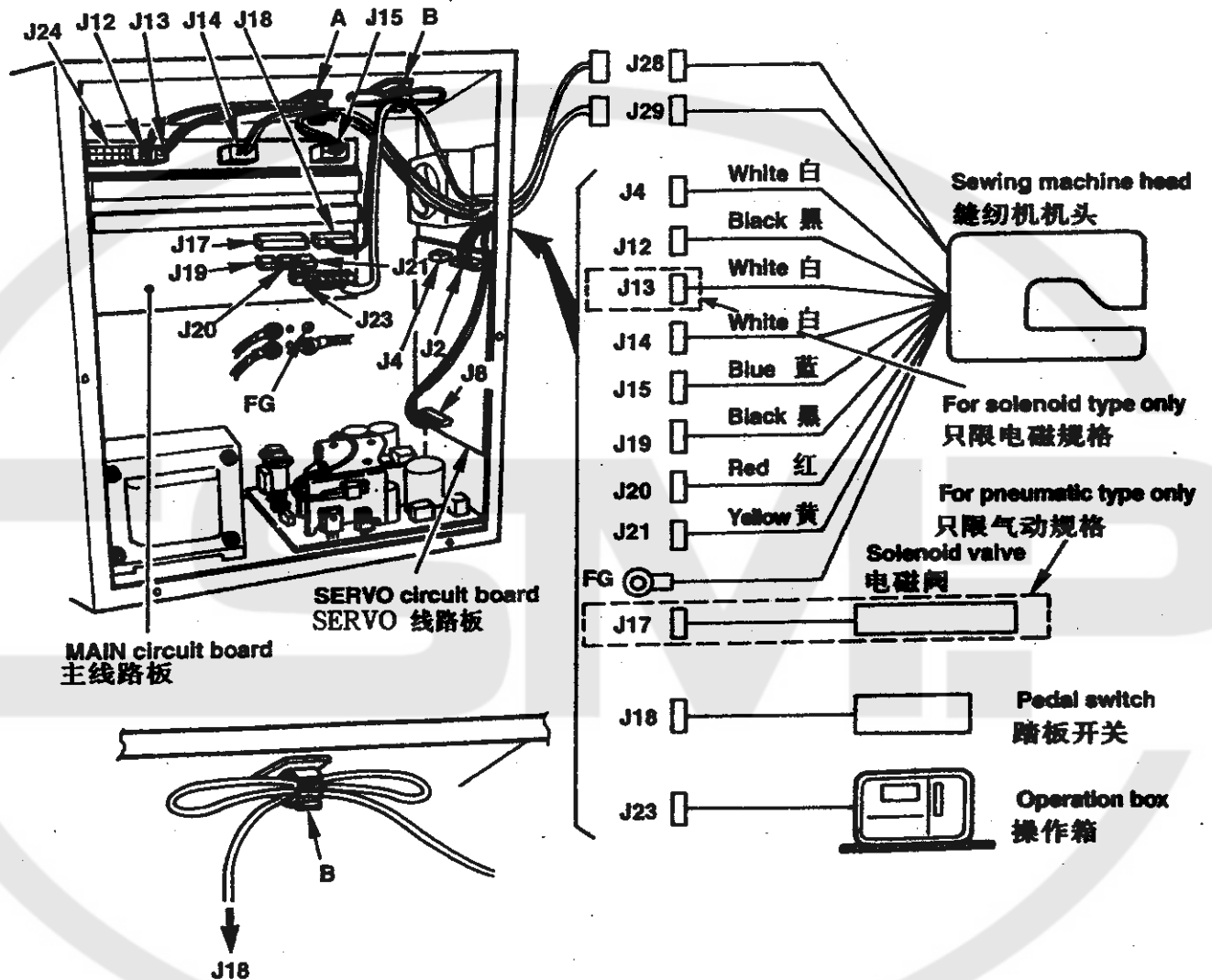
操作箱电缆●穿过机台孔●，固定好操作箱。

## (7) Connecting the cords/电线连接

Perform the connection of the cords as shown in the figure below.

如下图所示连接电线。

Pass the cords of J12, 13, 14 and 15 through the cord clamp A and the cords of J18 and J23 through the cord clamp B located on the upper side of the inside of the control box, and clamp them.  
控制箱内上部的电线夹A,请穿过J12、13、14、15的电线,把J18、J23的电线穿过电线夹B。



(Note) When the J18 cord is too long, bend and clamp it as shown in the above figure.

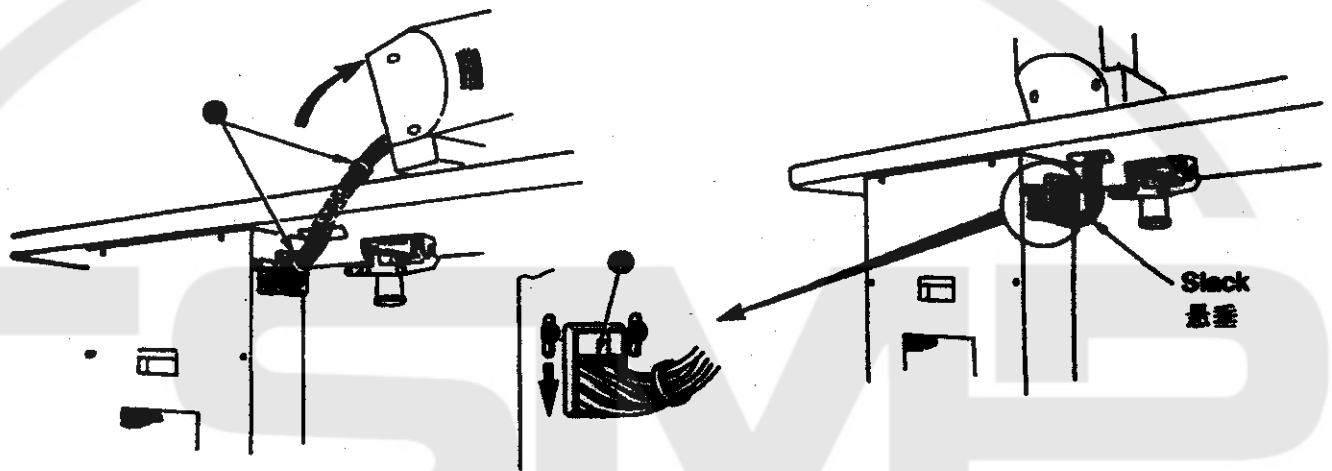
(注意) J18电线过长时,请如上图所示那样折弯夹紧。

## (8) Managing the cord/电线的处理

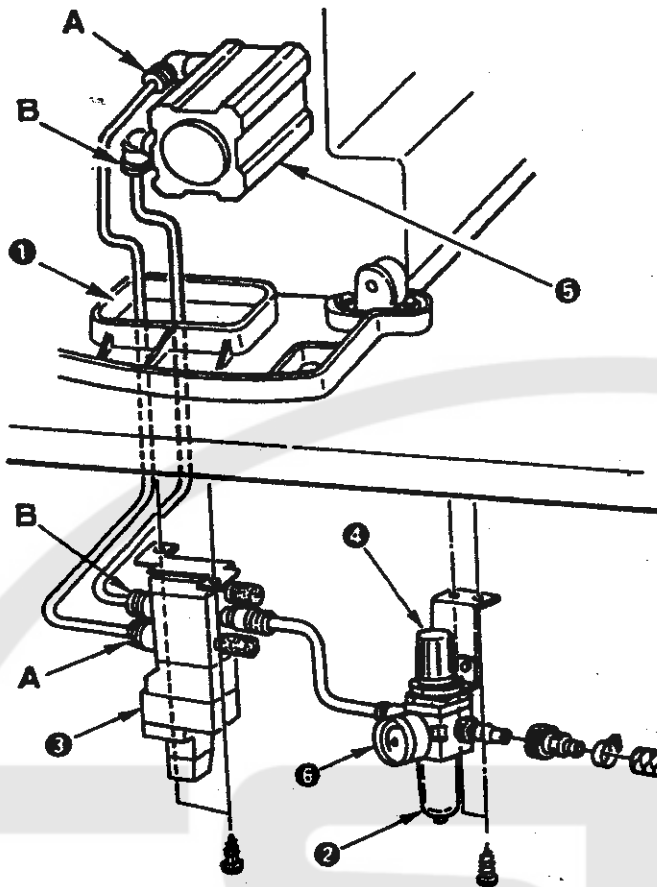
- 1) In the state that the sewing machine is tilted, connect the cords, and bundle them with clip band ● as shown in the figure.
- 2) Fix the cords with cords setting plate ● in the state that the cords slacken as shown in the figure.

**(Caution) When you tilt the sewing machine, make sure that the sewing machine head support bar is placed on the table.**

- 1) 在放倒缝纫机的状态，连接电线，如图所示用线束夹●捆紧。
  - 2) 如图所示，让电线稍稍弯垂，用电线固定板●固定电线。
- (注意) 放倒缝纫机时，请确认机头支杆安装在机台上。



## (9) Connecting the air hose/配管



For the pneumatic type, connect the air hose.

- 1) Fitting air hose pull-out hole ●, fix solenoid valve asm. ● and air regulator asm. ● under the table.
- 2) Cut the air hose in an appropriate length, and connect air cylinder ● with solenoid valve ●, and solenoid valve ● with air regulator ●.
- 3) Adjust the air pressure to 0.5 to 0.55 MPa by pulling up and turning knob ● of the air regulator while observing air pressure gauge ●.

空气规格的机种，请进行配管。

- 1) 请根据空气配管穿孔●把电磁阀组●和空气调节器组●固定倒机台下面。
- 2) 把空气软管留出适当的长度，把空气气缸●和电磁阀●、电磁阀●和空气调节器●连接起来。
- 3) 空气压力调整旋钮●向上拉后转动，把压力计●调节到0.5~0.55MPa。

## (10) Installing the eye protection cover/眼睛保护罩的安装



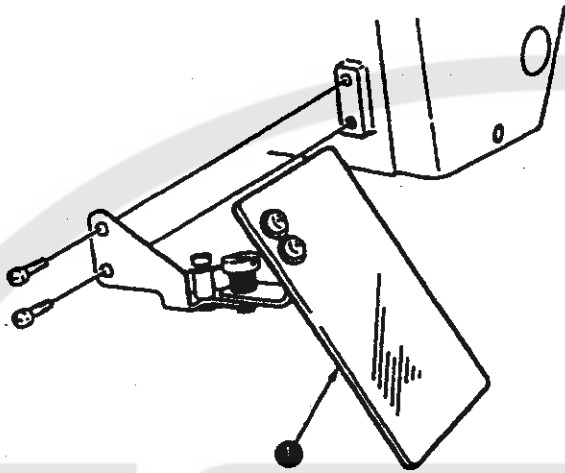
### WARNING:

Be sure to attach this cover to protect the eyes from the disperse of needle breakage.

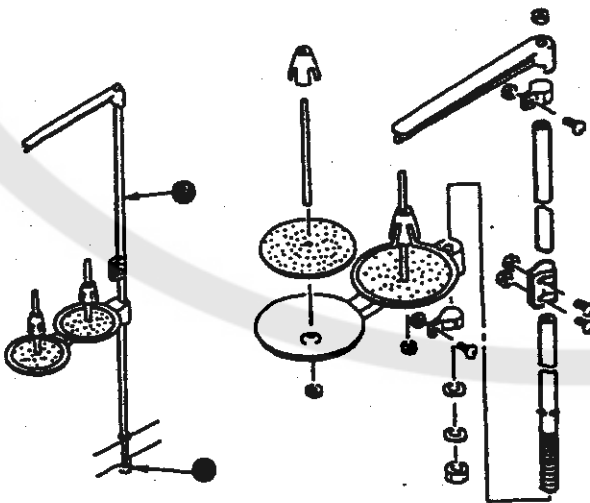


为了保护断针飞起弄伤眼睛，请一定安装起来。

Be sure to install and use eye protection cover ●.  
请一定安装眼睛保护罩●后使用缝纫机。



## (11) Installing the thread stand/线架装置的安装



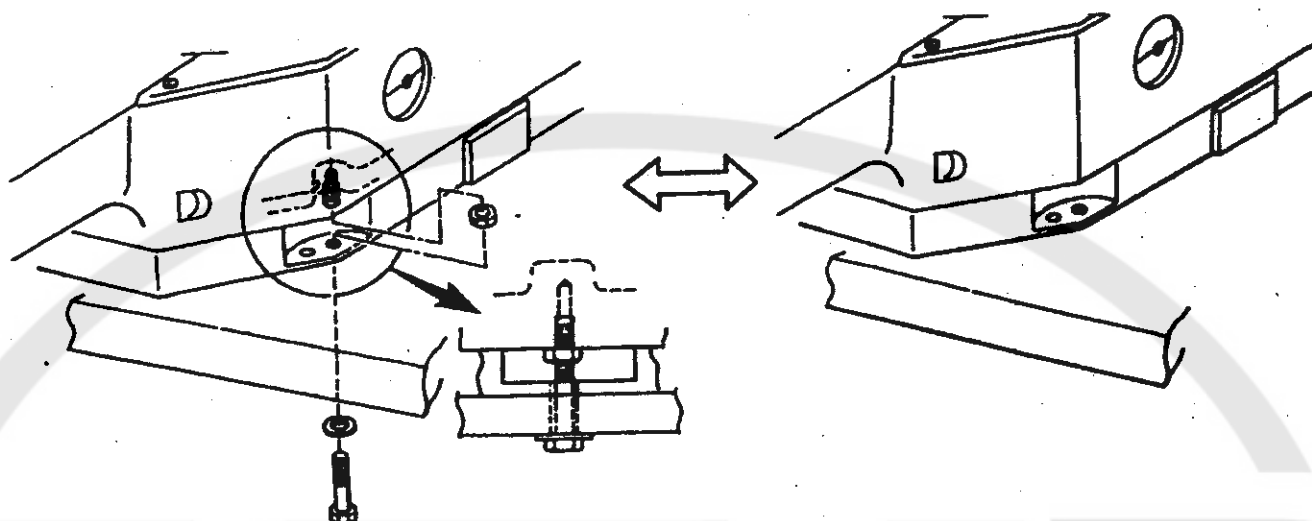
- 1) Assemble the thread stand, and set it in the hole in the top right corner of the machine table.
- 2) Tighten locknut ● to fix the thread stand.
- 3) When ceiling wiring is possible, pass the power cord through spool rest rod ●.

- 1) 安装线架装置，把它安装到机台右上的孔里。
- 2) 拧紧固定螺母●，不让线架装置松动。
- 3) 可以配置顶线时，请把电线从线架杆●中间穿过。

## (12) Attaching and removing the bolt for transportation 搬运螺栓的安装和除去

(When transporting the sewing machine)  
(搬运时)

(When using the sewing machine)  
(使用时)



When transporting the sewing machine, fix the sewing machine main unit and table with the bolt for transportation. When operating the sewing machine, remove the bolt. If the machine is operated with the bolt fixed, vibration of the machine head is transmitted to the table. As a result, feed movement may be badly affected or the element inside the control box may be damaged.

在搬运缝纫机时，请用搬运螺栓固定好机台和缝纫机机体。

运转缝纫机时，请卸下螺栓。如果在固定了搬运螺栓的状态运转缝纫机的话，缝纫机头的振动就会传导到机台，严重影响送布动作，损伤电气箱内的零件。



### (13) Tilting the sewing machine head / 缝纫机的放倒方法

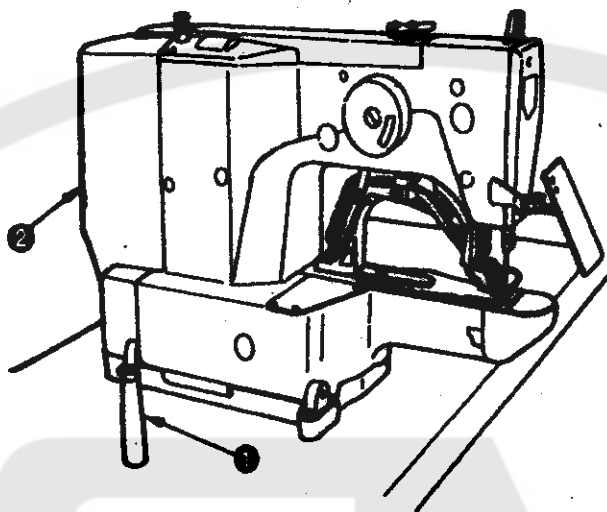


**WARNING:**  
Tilt/raise the sewing machine head with both hands taking care not to allow your fingers to be caught in the head.  
Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



**注意**

放倒缝纫机和抬起缝纫机时，请注意不要让缝纫机夹住手指。同时，为了防止突然的起动发生意外事故，请把电源关掉之后再进行操作。



放倒缝纫机时，请轻轻地把缝纫机头放倒在机头支杆●上。 When tilting the sewing machine head, tilt the head gently until it comes in contact with head support rod●.

(注意) 1. 放倒缝纫机前，请先确认机台上是否安

装有机头支杆●。

2. 抬起缝纫机时，请不要搬马达外罩来抬起缝纫机，以免防止马达外罩损坏。

3. 为了防止翻倒机器，请一定在平坦的地方放倒缝纫机。

(Caution) 1. Before tilting the sewing machine head, make sure that head support rod●is attached to the machine table.

2. When raising the sewing machine head, do not raise it while holding motor cover●. it will be the cause of breakage of motor cover●.

3. Be sure to tilt the sewing machine head on a flat place to prevent it from falling.

## [4] OPERATION OF THE SEWING MACHINE

### 准备和运转

#### 1. Lubrication / 加油方法

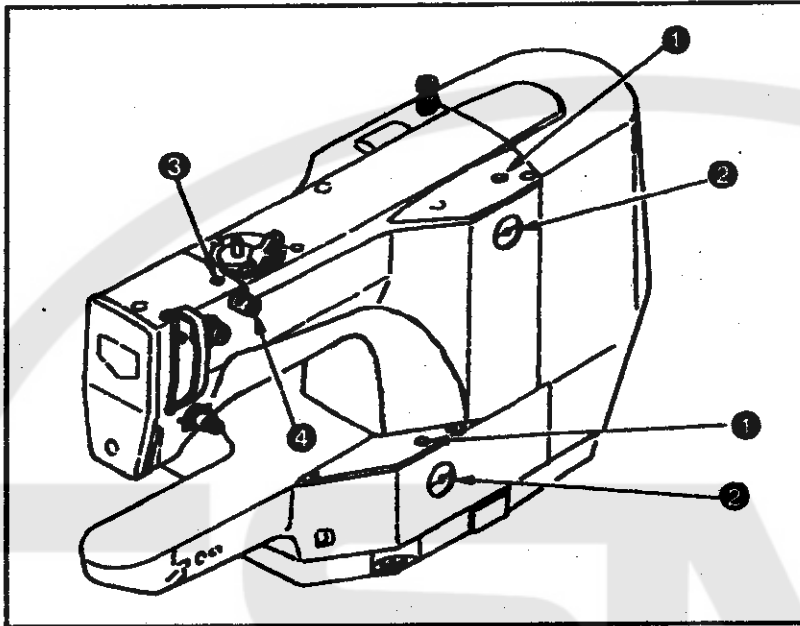


**WARNING:**

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



为了防止突然启动造成人身事故，请关掉电源后再进行。



1) Once a day, fill oil from oil hole ● on the machine head up to the red mark in the center of oil gauge ●.

★ When the thread guide for silicon is used. (Optional).

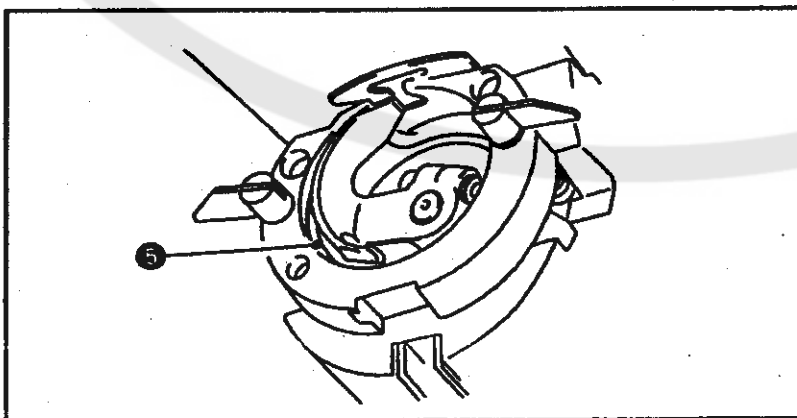
When thread guide for silicon ● is used, fill silicon oil from oil hole ● for silicon oil.

At this time, make sure that the silicon oil is applied to the thread which has passed through thread guide for silicon ●.

1) 从机头加油孔 ● 把油加到油尺 ● 中央的红印处，每日加油1次左右。

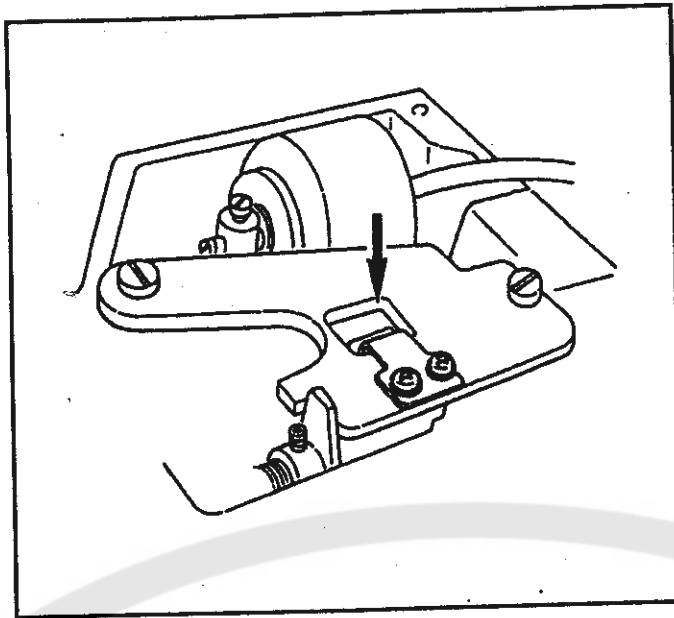
★ 使用润油导线器时（选购品）

使用润滑导线器 ● 时，请从加油孔 ● 加入润滑剂。此时，请确认穿过润滑导线器 ● 的线上是否沾有润滑剂。



2) Apply one drop of oil to hook race ● part to spread on it.

2) 请往旋梭轴面 ● 上滴一滴机油。



3) Remove the top cover, and apply oil to the crank rod oil shield.

3) 卸下上面外罩, 往曲柄杆加油板上加油。  
(Caution)

Be sure to perform the above 2) and 3) steps when the machine is first installed, or when it is run after a long period of disuse.

(注意) 2)、3) 项在缝纫机初次使用时或长时间没有使用时一定进行加油。

## 2. Attaching the needle / 机针的安装方法



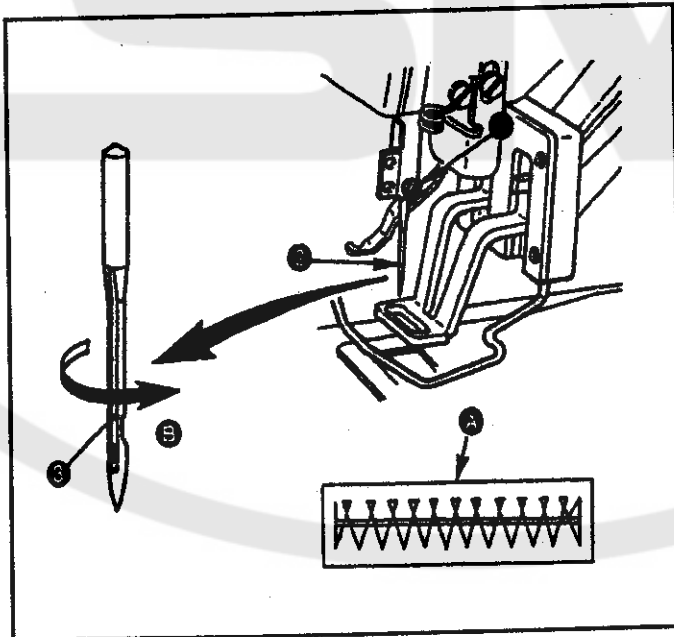
### WARNING:

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



## 注意

为了防止突然启动造成人身事故, 请关掉电源后再进行。



Loosen setscrew ● and hold needle ● with the long groove facing toward you. Then fully insert it into the hole in the needle bar, and tighten setscrew ●.

(Caution)

If the stitches are made as shown in ●, attach the needle facing to the direction ● to a small extent.

安装机针时, 请拧松固定螺丝 ●, 把机针 ● 的长沟 ● 朝向面前, 插进针杆的深处, 然后拧紧固定螺丝 ●。

(注意) 缝迹如 A 时, 请把迹针向 B 方向稍稍移动然后安装起来。

### 3. Threading the machine head / 上线的穿线方法



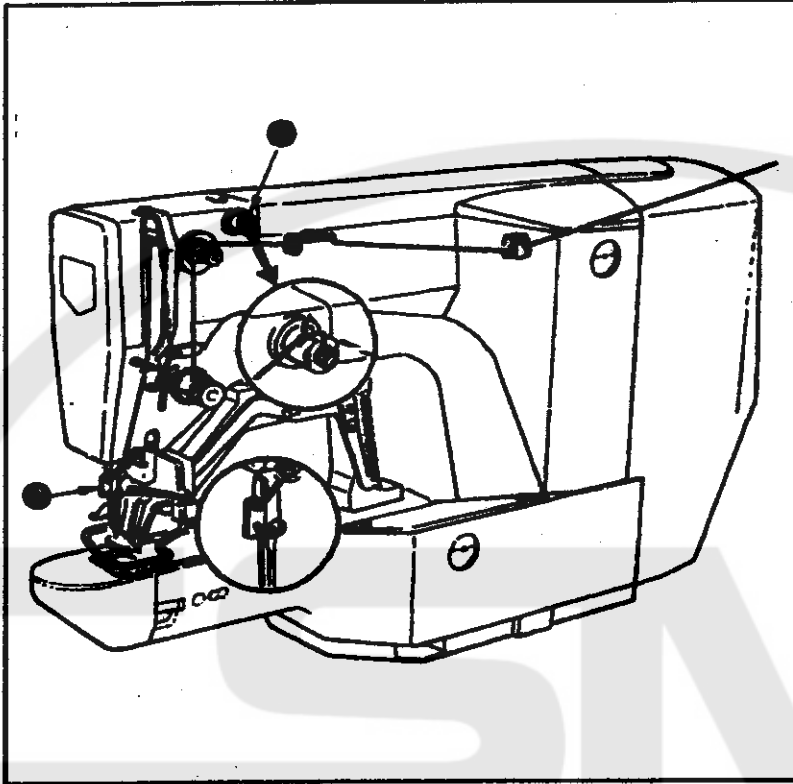
**WARNING:**

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



**注意**

为了防止突然启动造成人身事故，请关掉电源，确认马达确实停止转动后再进行。



Pull out the thread by approximately 4 cm from the needle after threading through the needle.

(Caution)

1. When the silicon oil is used, thread through thread guide for silicon ● (Optional)
2. For thick thread, pass the thread through one hole only of needle bar thread guide ●.

※ After the completion of sewing, turn OFF the power in a state that the thread tension disk is opened.

穿过机针的线应留出4cm左右。

(注意) 1. 使用硅油时，请把线穿过润滑导线器●。(选购零件)。

2. 粗线时，请把机线只穿过针杆导线器●1个孔。

※ 缝制结束后，在线张力盘打开的状态关掉电源。

#### 4. Installing and removing the bobbin case / 梭壳的取下插入

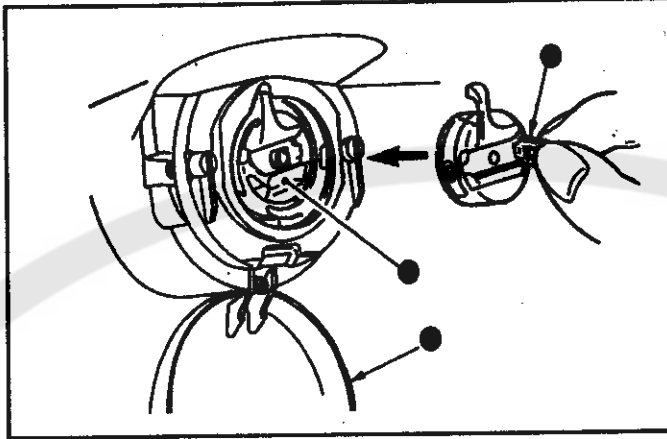


**WARNING:**

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



为了防止突然启动造成人身事故，请关掉电源，确认马达确实停止转动后再进行。



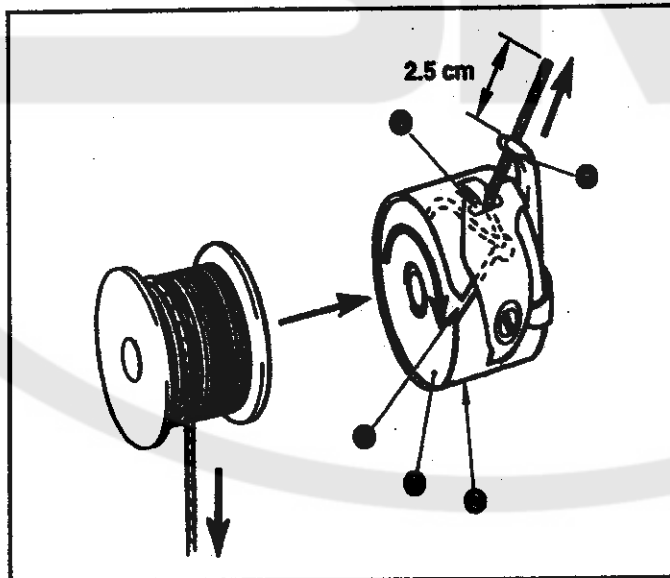
- 1) Open hook cover ●.
- 2) Raise latch ● of bobbin case ●, and remove the bobbin case.
- 3) When installing the bobbin case, fully insert it into the shuttle shaft, and close the latch.

(Caution)

1. If it is not fully inserted, bobbin case ● may slip off during sewing.

- 1) 打开旋梭外罩 ●。
  - 2) 拨起旋梭壳 ● 的抓脚 ●，取出梭壳。
  - 3) 插入时，请把梭壳深深插入旋梭轴，并关闭抓脚。
- (注意) 如果没有插到底，缝制途中梭壳 ● 就有可能脱落。

#### 5. Installing the bobbin / 旋梭的插入方法

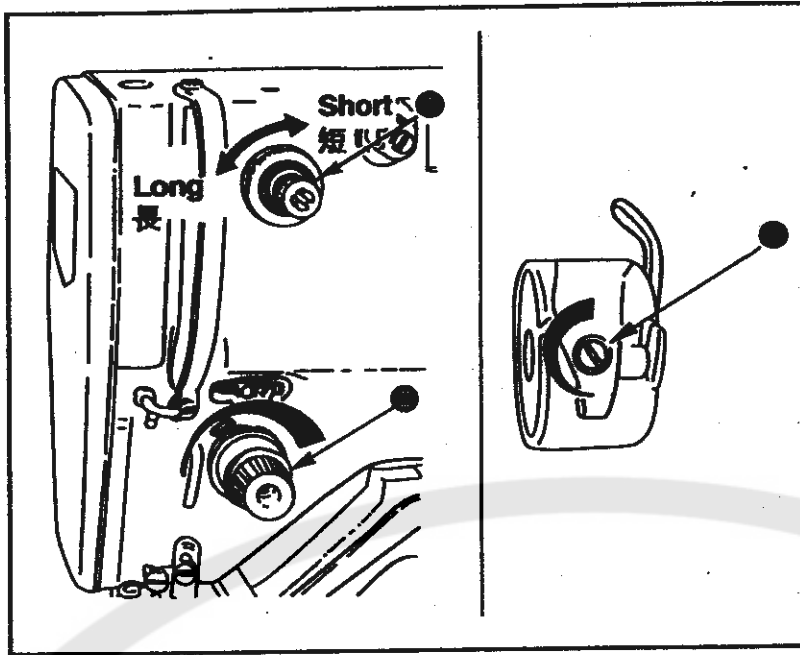


- 1) Set the bobbin ● into bobbin case ● in the direction shown in the figure.
- 2) Pass the thread through thread slit ● of bobbin case ●, and pull the thread as it is. By so doing, the thread will pass under the tension spring and be pulled out from thread hole ●.
- 3) Pass the thread through thread hole ● of the horn section, and pull out the thread by 2.5 cm from the thread hole.

(Caution) If the bobbin is installed in the bobbin case orienting the reverse direction, the bobbin thread pulling out will result in an inconsistent state.

- 1) 把旋梭 ● 按图示的方向插入梭壳 ●。
  - 2) 把线穿过梭壳 ● 的穿线口 ●，然后拉线，把线从张力弹簧下面的穿线口 ● 拉出来。
  - 3) 把线从角部的线孔 ● 穿出，从线孔约拉出 2.5cm。
- (注意) 旋梭的旋转方向相反的话，底线的拉出就不稳定。

## 6. Adjusting the thread tension / 线张力的调整方法

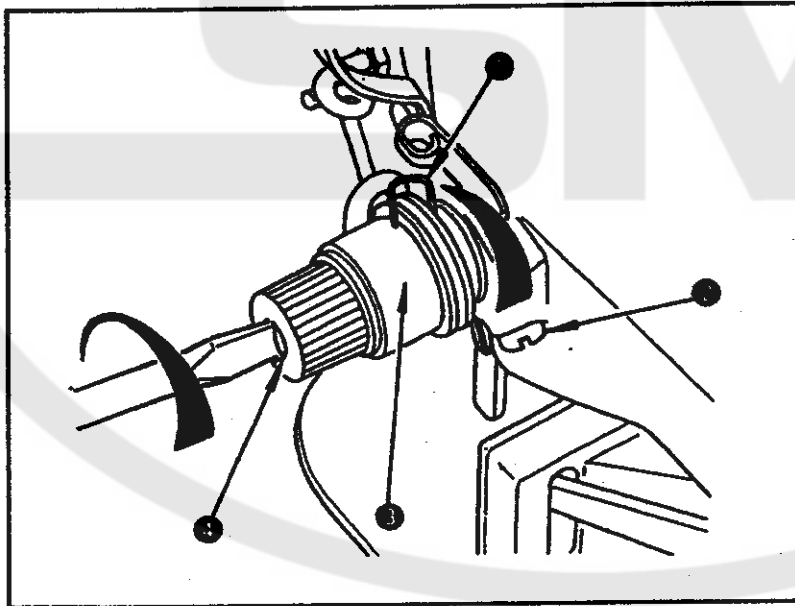


If thread tension controller No. 1 ● is turned clockwise, the length of remaining thread on the needle after thread trimming will be shorter. If it is turned counterclockwise, the length will be longer. Shorten the length to an extent that the thread is not slipped off.

Adjust the needle thread tension with ●, and bobbin thread tension with ●. 把第一线张力旋钮●向右转动, 切线后针尖上的残线长度变短, 向左转动后变长。

请尽量在不脱线的情况下开短残线。上线张力用●来调整, 底线张力用●来调整。

## 7. Adjusting the thread take-up spring / 挑线弹簧的调节



The standard stroke of thread take-up spring ● is 6 to 8 mm, and the pressure at the start is 0.3 to 0.5N

### 1) Adjusting the stroke

Loosen setscrew ●, and turn thread tension asm. ●.

### 2) Adjusting the pressure

Insert a screwdriver into the slit of thread tension rod ●, and turn it.

挑线弹簧●的标准移动量为 6~8 mm, 开始挑线时的强度为 0.3~0.5N.

### 1) 移动量的调节

拧紧固定螺丝●, 转动线张力结合体●.

### 2) 强度的调节

把螺丝刀插进线张力杆●的槽中转动调节。

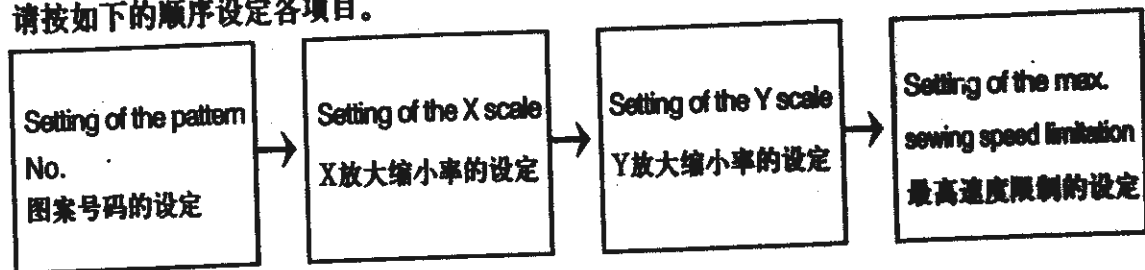
# [5] OPERATION OF THE SEWING MACHINE (BASIC)

## 缝纫机的操作 (基础篇)

### 1. Item data setting / 项目数据的设定

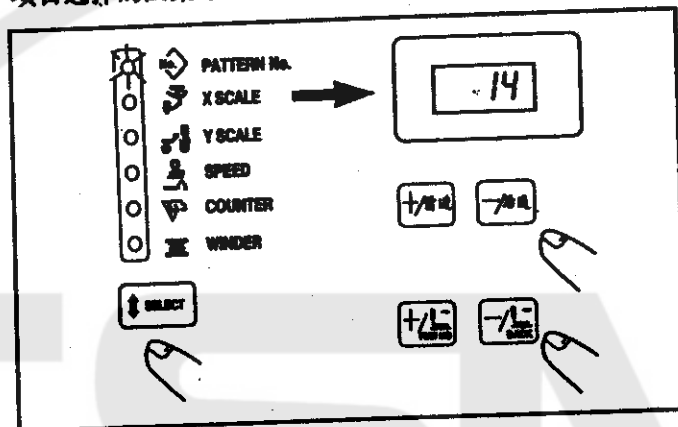
Set each item following the procedure described below.

请按如下的顺序设定各项目。



#### (1) Turn ON the power switch / 打开电源开关。

Pattern No. of the item selection lights up, and the pattern No. is indicated on the data display.  
项目选择的图案号码亮灯, 数据显示部显示出图案号码。



- 1) 按 键, 设定为图案号码的项目显示。
  - 2) 按 、 键, 画面上显示出 "14"。  
(设定为No.14图案)
- (注意)图案号码, 请参照附录一览表。

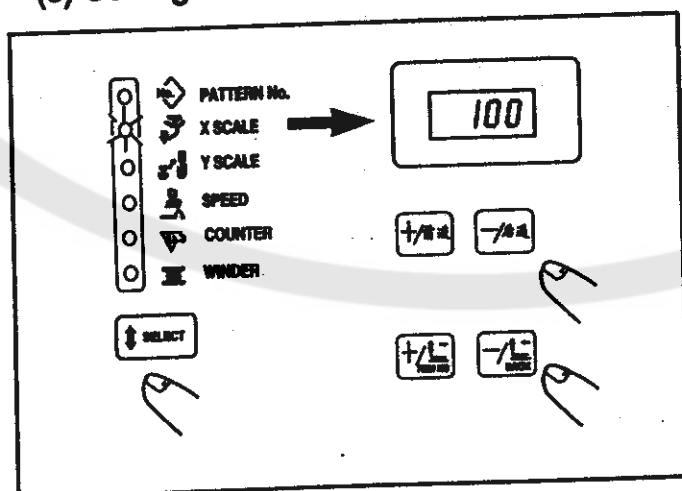
#### (1) Setting of the pattern No. / 图案号码的设定。

- 1) Press the key to indicate the item "Pattern No".
- 2) Press the or key to indicate "14" on the display.

(Pattern No. is set to 14.)

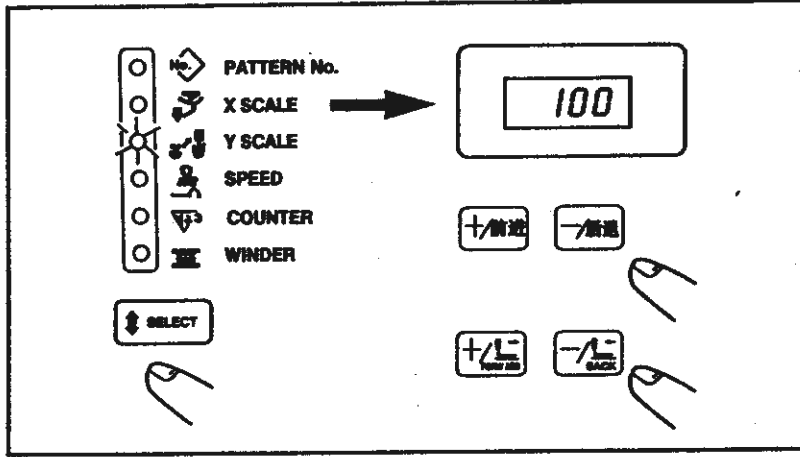
(Caution) Refer the pattern No. to the separate table.

#### (3) Setting of the X scale / X放大缩小率的设定



- 1) Press the key to indicate the item "X Scale".
  - 2) Press the or key to set the scale in the range of 20% to 200%.
- 1) 按 键, 设定为 [X放大缩小率] 的项目显示。
  - 2) 按 、 键, 在20%~200%的范围内进行设定。

#### (4) Setting of the Y scale / Y放大缩小率的设定



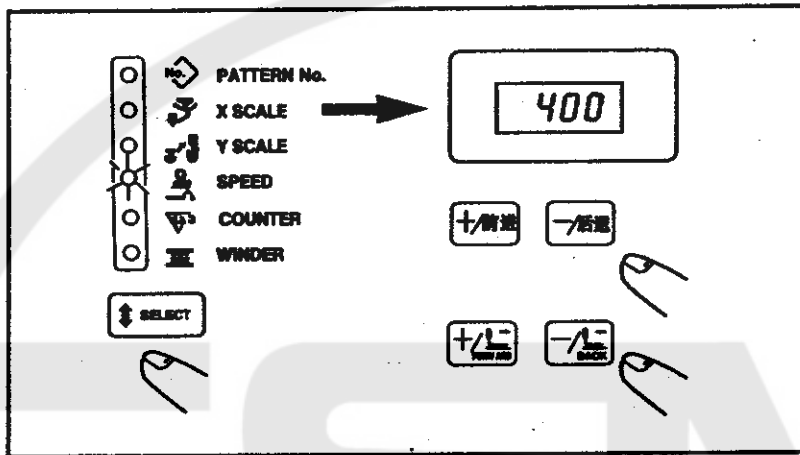
1) Press the key to indicate the item "Y Scale".

2) Press the or key to set the scale in the range of 20% to 200%.

1) 按 键，设定为Y放大缩小率的项目的显示。

2) 按 键，在20%~200%的范围内进行设定。

#### (5) Setting of the max, sewing speed limitation / 最高转速限制的设定



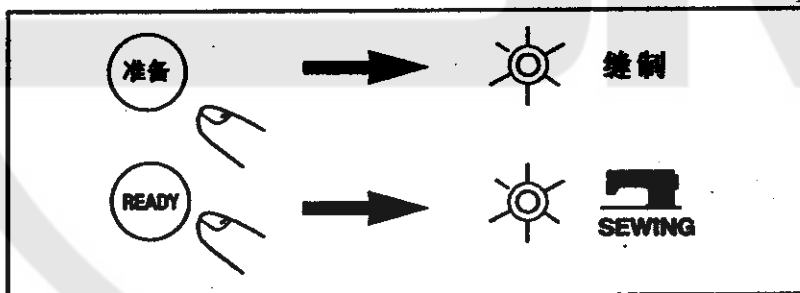
1) Press the key to indicate the item "Speed".

2) Press the or key to indicate "400" on the display. (Setting of 400 rpm)

1) 按 键，设定为转速的项目显示。

2) 按 键，画面上显示出"400"。(设定为400rpm)

#### (6) Finish of setting / 设定结束



1) 按 键。

2) 压脚移动→上升后，缝制LED亮灯，成为可以缝制的状态。

※按 键后，请重新确认各项目设定值。

1) Press the key

2) After the work clamp feet have moved and gone up, the sewing LED lights up, and the sewing is ready.

※If the key is pressed, you can make sure the set value of the respective items again.

(Caution) Use after checking the pattern No.

Press the sewing ready key while the pattern No.0 is indicated on the display (state at the time of delivery), and the error No. E-1 will be shown.

At this time, set again the desired pattern No.

(注意) 确认了图案号码之后，再始用。在显示图案No.0 (出货状态) 时，如果按了缝制准备开关后，则显示出错显示E-1。此时，请重新设定图案号码。



## 2. Checking the contour of a sewing pattern / 图案形状的确认

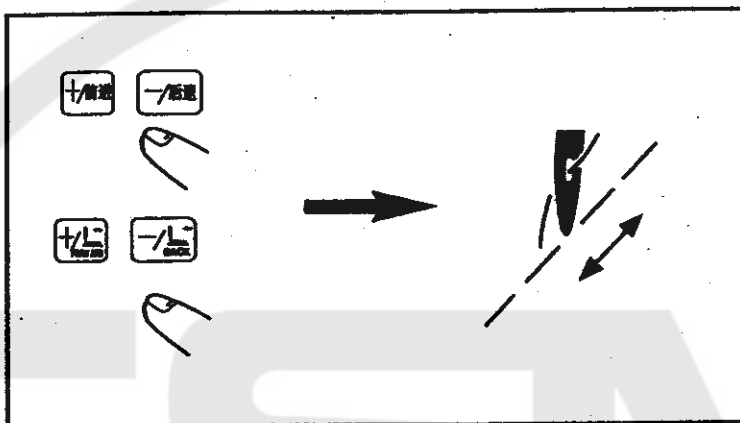





### WARNING:




- Make sure without fail of the contour of the sewing pattern after selection of the sewing pattern.  
If the sewing pattern extends outside the work clamp feet, the needle will interfere with the work clamp feet during sewing, causing dangerous troubles including needle breakage.
- Do not depress the pedal switch up to the second step when checking the sewing pattern. If the pedal switch is depressed to the second step, the sewing machine starts sewing. So, be careful.



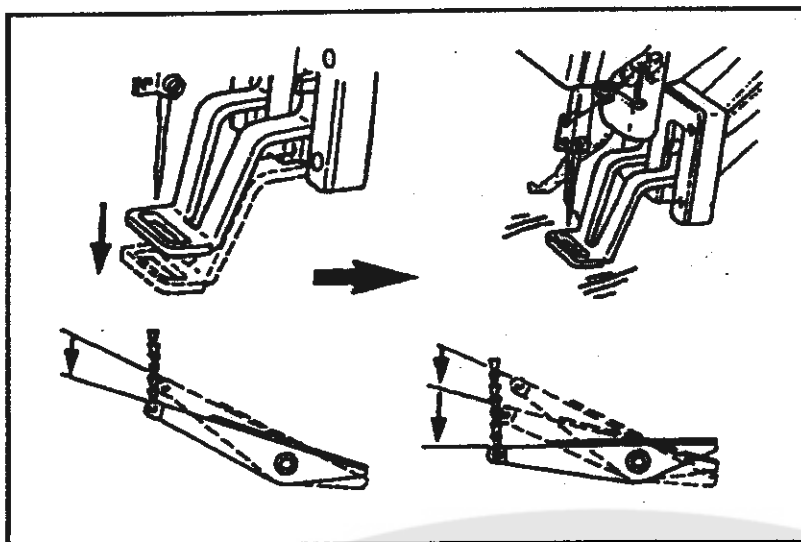
- 选择图案后，请一定确认图案的形状。  
万一图案远离压脚，缝制途中机针会碰到压脚，弄断机针。
- 确认图案形状时，请不要把踏板踩到第二级。踩到第二级，缝纫机会开始缝制，务请注意。



- 1) Depress the pedal switch to the first step to descend the work clamp feet.
  - 2) Every press on the  or  key, the work clamp feet will move by one stitch. Keeping the key held pressed, the work clamp feet will move continuously.
  - 3) If the  key is pressed, the needle point will return to the starting position, and the work clamp feet will go up.
- (Caution) If the feed is fed by one stitch, detach your foot from the pedal.

- 1) 把踏板开关踩到第一段，降下压脚。
  - 2) 按   键，压脚一针一针地移动。持续按压脚，会连续移动。
  - 3) 按  键后，机针返回最初的位置，压脚上升。
- (注意)送一针后，请把脚离开踏板。

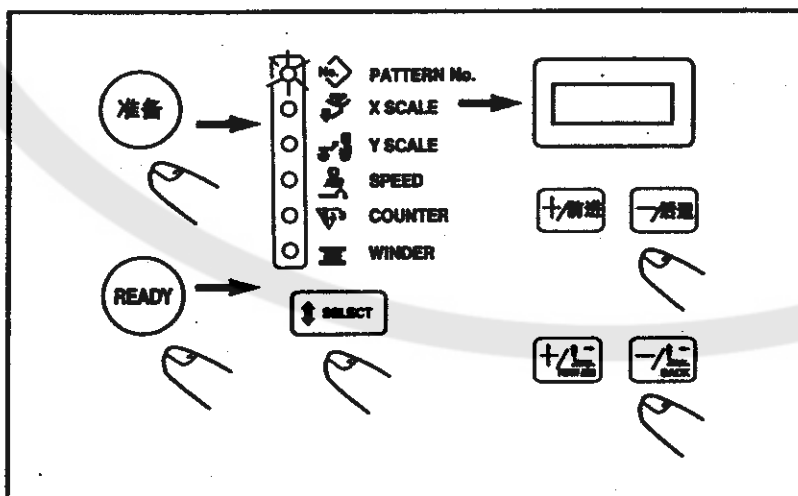
### 3. Sewing / 缝制



- 1) Set a workpiece on the work clamp foot section.
- 2) Depress the pedal switch to the first step, and the work clamp feet will come down. If you detach your foot from the pedal switch, the work clamp feet will go up.
- 3) Depress the pedal switch to the second step after descending the work clamp feet, and the sewing machine will start sewing.
- 4) After the sewing machine completes sewing, the work clamp feet will go up, and return to the sewing start position.

- 1) 把缝制品放到压脚部。
- 2) 把踏板开关踩到第一级，压脚下降，脚离开踏板后，压脚上升。
- 3) 放下压脚后，把踏板踩到第二级，便开始缝制。
- 4) 缝制结束后，压脚上升返回到起始的位置。

### 4. Change to the other sewing pattern / 变更为其他图案

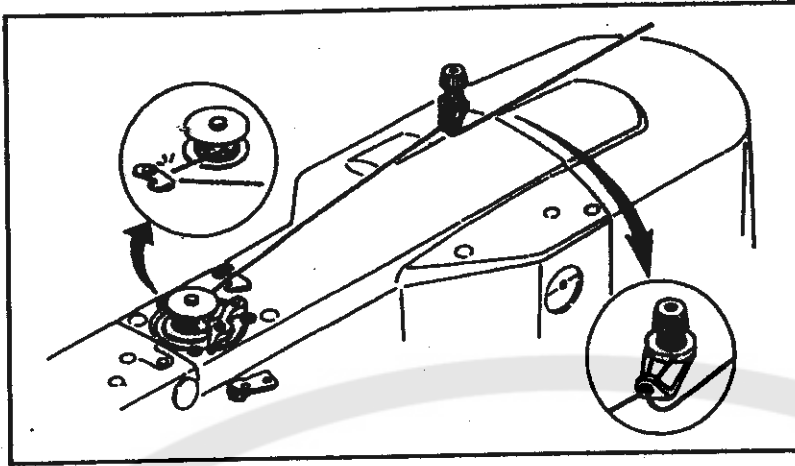


- 1) Press the key. (The sewing LED will go off.)
- 2) Press the key to indicate the item "Pattern No."
- 3) Set the items of 1-(2) to (6). For further steps, return to the steps of "2. Checking the contour of a sewing pattern".

- 1) 按 键。(缝制LED灭灯)
- 2) 按 键，显示出「图案号码」的项目。
- 3) 设定1- (2)~(6)项，然后返回到「2. 图案形状的确认为」的步骤。

## 5. Winding a bobbin / 卷绕底线

### 5-1. To wind a bobbin while the sewing machine is performing sewing 边缝制边卷绕底线时



Thread the bobbin winder and wind the bobbin thread onto the bobbin as illustrated in the figure.

如图所示穿线卷绕底线。

### 5-2. To wind a bobbin independently / 光卷绕底线时



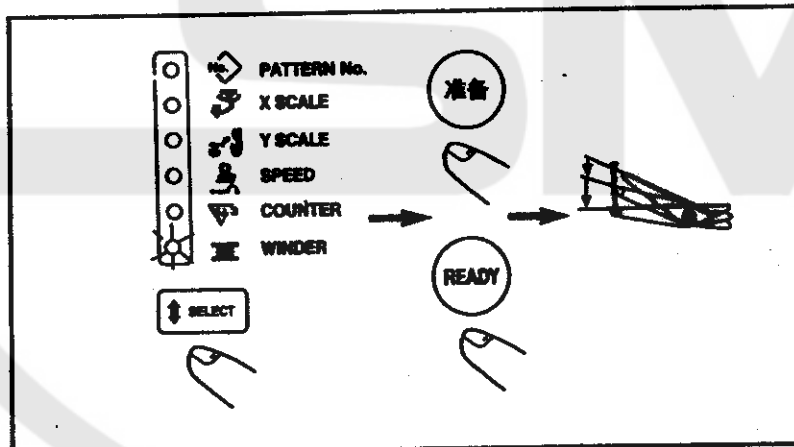
**WARNING:**

While the bobbin winder winds a bobbin, the feed does not move but the needle bar moves. So, do not place your fingers or any obstacles under the needle.



**注意**

不送布，针杆移动，所以不要把手或其他东西放到机针下面。



1) 按 **SELECT** 键，选择「绕线」的项目。

(注意) · 缝制LED没有亮灯时不能选择。

· 打开电源后，绕线动作不能进行。必须读取一次图案之后再进行选择。

2) 按 **READY** 键。

· 压脚上升→压脚下降

3) 把踏板开关踩到第二级，开始卷绕底线。

4) 把踏板开关再次踩到第二级，或按操作箱的任一开关后，停止绕线。

5) 按 **READY** 键，解除。

1) Press the **SELECT** key to select the item "Bobbin winder".

(Caution)

· If the "Sewing LED" is lit up, the selection cannot be made.

· The bobbin winder cannot be operated immediately after the power has been turned ON. Read the pattern once and select it.

2) Press the **READY** key.

· The work clamp feet are raised.

→The work clamp feet come down.

3) Depress the pedal switch to the second step, and the bobbin winder will start to wind the bobbin.

4) Depress again the pedal switch to the second step, or press any one of the switch keys on the operation box, and the bobbin winder will stop.

5) Press the **READY** key to release it.

## [6] OPERATION OF THE SEWING MACHINE (ADVANCED)

### 缝纫机的操作 (应用篇)

#### 1. Performing sewing using the function keys ( **P1** , **P2** and **P3** keys )

If the patterns (No.1 to 99) which have been already registered are registered in P1 to P7, the pattern calling can be made by one-touch without performing the selection by the pattern No. scrolling.

※ When selecting P4, P5, P6, or P7, the selection can be made by the combination of **P1** to **P3** keys.

P1: Press the **P1** key.

P2: Press the **P2** key.

P3: Press the **P3** key.

P4: Simultaneously press the **P1** and **P2** keys.

P5: Simultaneously press the **P1** and **P3** keys.

P6: Simultaneously press the **P2** and **P3** keys.

P7: Simultaneously press the **P1** , **P2** and **P3** keys.

#### 1. 使用功能键 ( **P1** **P2** **P3** 键 ) 的缝制

把已经登记的图案(No.1~99)登记到P1~P7之后,不用选择图案号码就可以按下开关立即叫出图案。

※ 选择P4,P5,P6,P7时,用 **P1** ~ **P3** 键组合进行。

按 **P1** 键

同时按 **P1** **P2** 键

按 **P2** 键

同时按 **P1** **P3** 键

按 **P3** 键

同时按 **P2** **P3** 键

同时按 **P1** **P2** **P3** 键

#### (1) Registration to the function key

Setting example: Register following setting to the P1.

Pattern No. 3

X Scale rate: 50%

Y Scale rate: 80%

Max. sewing speed limitation: 2,000 rpm.

1) Pressing the **SELECT** key, turn ON the power switch.

2) Press the **P1** key.

3) Press the **SELECT** key to indicate the pattern No.

Set the pattern No. to Pattern No. "3" using the **+/** or **-/** key.

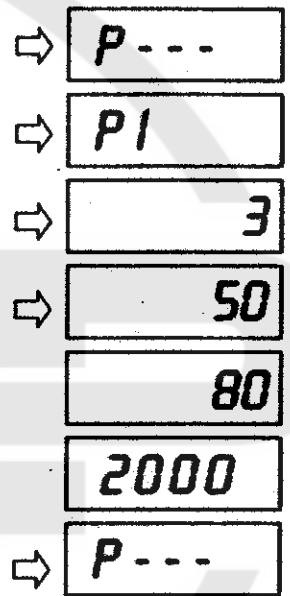
4) Press the **SELECT** key, and set X Scale rate to "50%",

Y Scale rate to "80%" and Max. sewing speed limitation to 2,000 rpm using **+/** or **-/** key.

5) Press the **STOP** key to finalize the registration.

※ If you desire to register in P2 to P7, press the **P2** to **P7** keys at the step 2), and perform the steps 3) to 5).

6) When the registration has been completed, turn OFF the power switch, and again turn ON the power switch. Then, the sewing machine can be used as usual.



#### (1) 登记到功能键

设定例: 把图案NO.3、X放大缩小率50%、Y放大缩小率80%、最高速度限制2,000rpm的设定登记到P1。

1) 边按 **SELECT** 键边打开电源。

2) 按 **P1** 键。

3) 按 **SELECT** 键, 显示出图案号码。

用 **+/** **-/** 键设定为图案号 "3"。

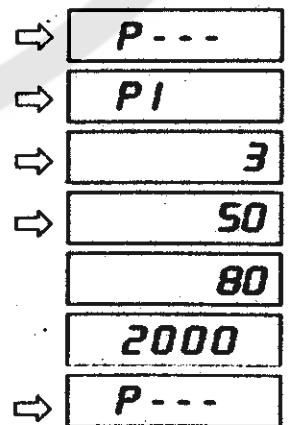
4) 按 **SELECT** 键, 用 **+/** **-/** 键以定为X放大缩小率「50」%、

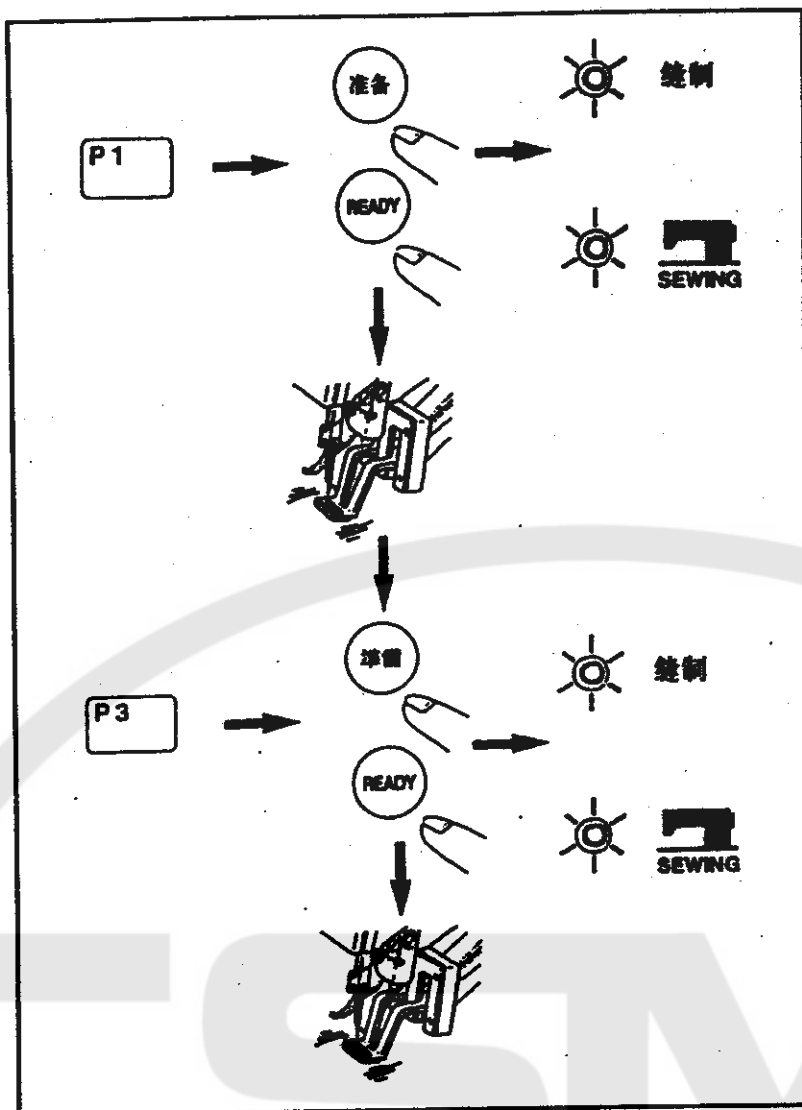
Y放大缩小率「80」%、最高速度限制「2000」rpm。

5) 按 **STOP** 键, 结束登记。

※ 想登记到P2~P7时, 在2)的工序按 **P2** ~ **P7** 键, 然后进行3)~5)的工序。

6) 登记结束后, 关掉电源, 然后重新打开电源即可以使用。





## (2) Sewing operation

Operation example: After performing sewing with the contents of the registered P1, perform sewing with the contents of P3.

- 1) Turn ON the power switch.
  - 2) Press the key.
  - 3) Press the key, and when the sewing LED lights up, the work clamp foot goes up after it has moved.
  - 4) Check the contour of the sewing pattern. (Refer to the Item "Checking the contour of a sewing pattern".)
  - 5) If the contour of the sewing pattern is acceptable, the sewing can be made.
  - 6) After the completion of sewing press the key. Then the work clamp foot will move to the sewing start point after the origin retrieval. (The P keys can operate the pattern change by one-touch even when the sewing LED is lighting up.)
  - 7) Perform the above items 4) and 5).
- ※ The P1 to P7 can be indicated on

the display when selecting the pattern by pressing the or key.

0 to 99 P1 to P7

P1 to P7 which have not been registered are not indicated.

## (2) 缝制操作

操作例：以登记的P1内容进行缝制，然后缝制P3的内容。

- 1) 打开电源。
- 2) 按 键。
- 3) 按 键，缝制LED亮灯后，压脚移动上升。
- 4) 确认图案形状。（请参照「图案形状的确认为」之项。）
- 5) 如果图案形状正确，则可以缝制。
- 6) 缝制结束后，按 键，压脚检索原点，移动到缝纫始点。（P 键在缝制LED亮灯时，也可以按键变换图案。）
- 7) 进行 4)、5) 项操作。

※ 用 键显示。

0 ~ 99 P1 to P7

没有登记的P1~P7不显示。

## 2. Performing sewing using the combination function

By arranging in the order of use of the function keys (P1 to P7) which have been already registered and registering in the C1, C2 and C3, the sewing pattern will change in the order every time the sewing machine finishes the sewing.

※The maximum 15 pattern combination of P1 to P7 can be registered in the C1, C2 or C3.

### 2. 使用组合功能的缝制

把已经登记的功能键 (P1~P7) 按顺序登记到C1、C2、C3上, 每次缝制时缝制图案按顺序变换。

※C1、C2、C3各可登记最多15种图案的P1~P7的组合。

#### (1) Registration of the combination

Setting example: Combine in the order of P1, P2, P3, and register them in the C1.

1) Pressing the **P1** and **SELECT** keys, turn ON the power switch.

⇒ [ 1 - - ]

2) Pressing the **SELECT** key. Then press the **P1** key.

⇒ [ 1 - P1 ]

3) Press the **SELECT** key. Then press the **P2** key.

⇒ [ 2 - P2 ]

4) Press the **SELECT** key. Then press the **P3** key.

⇒ [ 3 - P3 ]

5) Press the **READY** key to finalize the registration.

⇒ [ 1 - - ]

6) Turn OFF the power switch, and again turn ON the power switch. The sewing machine can be used as usual.

※ 1. At the operation of the step 1), if the power switch is ON, pressing the **P2** or **P3** key and the **SELECT** key, in case of the **P2** key, the registration can be made in the C2. In case of the **P3** key, the registration can be made in the C3.

※ 2. Simultaneously press the **P1** to **P3** keys to set the P4 to P7.

※ 3. 10 to 15 showing the order will be indicated A to F.

(Caution) The sewing patterns which have not been registered in the function keys (P1 to P7) can not be combined.

#### (1) 组合的登记

设定例: 按P1、P2、P3的顺序组合登记到C1。

1) 边按 **P1** 键和 **SELECT** 键, 边打开电源。

⇒ [ 1 - - ]

2) 按 **SELECT** 键, 然后按 **P1** 键。

⇒ [ 1 - P1 ]

3) 按 **SELECT** 键, 然后按 **P2** 键。

⇒ [ 2 - P2 ]

4) 按 **SELECT** 键, 然后按 **P3** 键。

⇒ [ 3 - P3 ]

5) 按 **READY** 键结束登记。

⇒ [ 1 - - ]

6) 关闭电源, 重新打开电源后, 即可使用。

※ 1. 1) 的操作时, 边按 **P2** 键或边按 **P3** 键和 **SELECT** 键边打开电源, **P2** 键时可登记到C2, **P3** 键时可登记到C3。

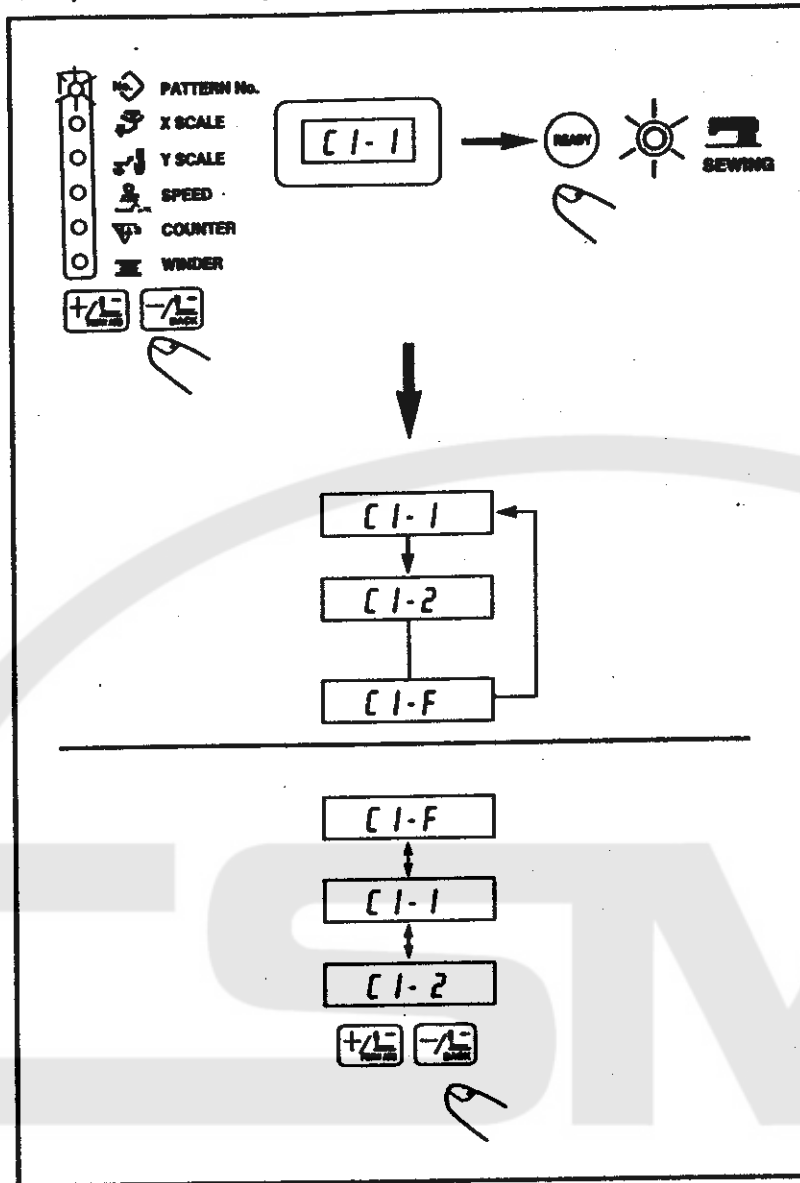
※ 2. P4~P7同时按 **P1** ~ **P3** 键可以设定。

※ 3. 顺序显示的10~15以A~F来显示。

(注意) 没有登记到功能键 (P1~P7) 的图案不能进行图案组合。

## (2) Sewing operation

Operation example: Perform sewing with the contents of the registered C1.



- 1) Turn ON the power switch.
- 2) Set the pattern No. to "C1-1" using the or key.

Scroll as follows:

0 to 99 ↔ P1 to P7 ↔ C1 to C3

- ※P1 to P7 and C1 to C3 which have not been registered are not indicated.
- 3) Press the key. When the sewing LED lights up, the work clamp feet will go up after having moved.
- 4) If the contour of the pattern is acceptable, the sewing can be made.
- 5) Every time the sewing is finished, the step is made according to the combination. After completing one cycle of sewing, the step returns to the first step. The sewing can be made repeatedly.

※1. When you desire to return the pattern to the previous one or step to the next one during sewing, press the or key in a state that the sewing LED lights up. The indication of the pattern No. will change, and the work clamp feet will move to the sewing start point.

※2. If the contents of P1 to P7 are changed after registration of C1 to C3, the contents of P1 to P7 used in C1 to C3 will change. So, be careful.

※3. Make sure of the contour of the pattern for each of the patterns. (Refer to the item "Checking the contour of the sewing pattern".)

## (2) 缝制操作

操作例：以登记的C1内容进行缝制。

- 1) 打开电源。
- 2) 用 键把图案号码设定为"C1-1"。

如 0~99 ↔ P1~P7 ↔ C1~C3

那样循环。

※没有登记的P1~P7和C1~C3不显示。

- 3) 按 键，缝制LED亮灯，然后压脚移动，上升。
- 4) 如果图案形状良好，则可以缝制。
- 5) 每次缝制，按组合的步骤进行，1循环结束后，返回最初的步骤，可以反复缝制。

※1. 缝制中，如果想返回到前图案或进入下一图案步骤时，在缝制LED亮灯状态，按 键。

※2. 登记C1~C3后，改变P1~P7的内容的话，登记在C1~C3中的P1~P7的内容也改变，请注意。

※3. 每种图案均应确认图案形状。（请参照「图案形状的确认」之项。）

### 3. Performing sewing using the "bobbin thread counter "

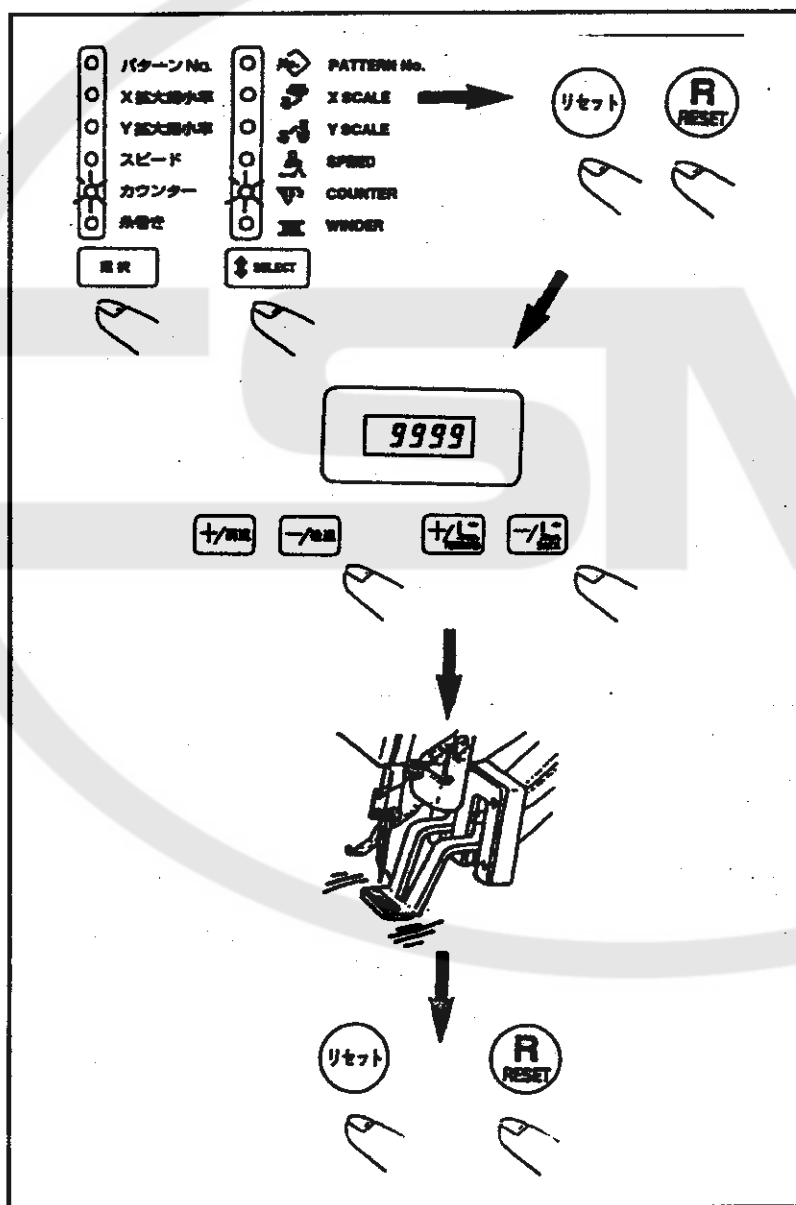
#### 使用「底线计数器」的缝制

The production counter can be used as the bobbin thread counter. In case a same sewing pattern is sewn in repetition, the sewing machine will stop sewing when the number of times ( the specified number ) that can be sewn with a bobbin is reached. The bobbin thread counter is of the subtracting method.

(Caution) The counter at the time of delivery is set to the production counter ( adding method ). If it is used as the bobbin thread counter, it is necessary to change the memory switch.  
(Refer to the item " How to use the memory switches ".)

可以把生产量计数器作为底线计数器使用。反复缝制相同的图案，用一个旋梭可以缝制的次数(设定数)缝制结束后，缝纫机停止。底线计数器为减数方式。

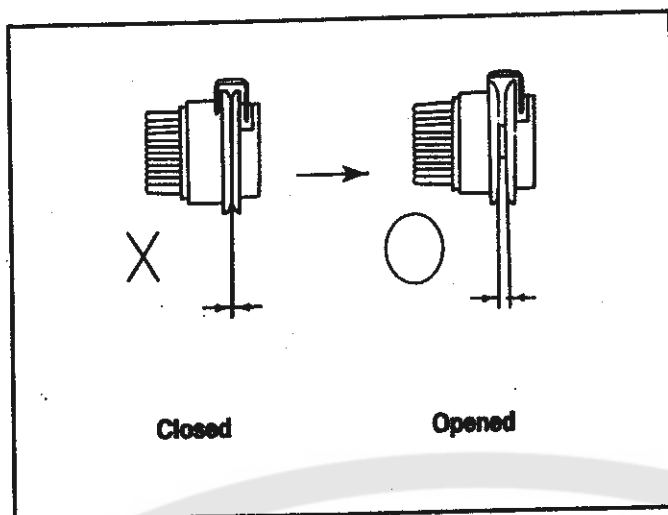
(注意) 计数器的设定，出货时为生产量计数器(加数方式)作为底线计数器使用时，需要变换存储器开关。(请参照「存储器开关的使用方法」之项。)



- 1) While the sewing LED goes off, press the **[MEMORY]** key to indicate the " Counter ".
  - 2) Then press the **[R]** key.
  - 3) Then press the **[+/-]** or **[+]** key, and set the specified number of times that can be sewn with a bobbin.
  - 4) Every time the sewing machine finishes a sewing cycle, counting-down is made by one.
  - 5) When the sewing machine finishes the specified number of times, the sewing machine does not start even if depressing the pedal.
  - 6) Replace the bobbin with a new one, and press the **[R]** key.
  - 7) Repeat the steps of procedure from the steps 4) to 6).
- 1) 缝制LED灭灯时，按 **[MEMORY]** 键，设定为「计数器」的显示。
  - 2) 然后按 **[R]** 键。
  - 3) 然后，按 **[+/-]** **[+]** 键，设定为一个旋梭可以缝制的次数。
  - 4) 缝制后，每缝一次计数器减一。
  - 5) 缝制完设定数后，脚踏板缝纫机也不开始缝制。
  - 6) 更换底线 **[R]** 键。
  - 7) 反复4)~6)的步骤。




#### 4. Cautions in operation / 使用时的注意



(1) When threading and the sewing machine is switched ON, in case the thread tension disk is closed, sew the desired sewing pattern. After thread trimming, the thread tension disk will open.


(2) When the error indicator lamp lights up, be sure to check the cause of trouble and take a proper corrective measure.

(3) Do not draw, by hand, the material being sewn during sewing. Doing so will cause the needle shift from the correct position. If the needle moves from the correct position, press the  key two times. This will return the needle to the normal origin.

(4) Do not turn OFF the power in a state that the needle is lowered.

(1) 穿线以及缝纫机启动时，如果线张力盘关闭，就可以缝制任意的图案。切线动作后，线张力盘开放。

(2) 错误显示亮灯后，请一定查清原因，进行处理。

(3) 缝制中请不要拉缝制物，有可能使针位置偏斜。万一针位置偏斜了，请按2次  键，返回正常的原点位置。

(4) 在机针降下的状态，请不要关闭电源。

#### Reference for the sewing speed to be applied / 使用转速的大约速度

		Sewing speed/缝制速度 (rpm)
Denim 8 pcs.	/ 牛仔布 8件	2,200~2,700 (2,200 to 2,700)
Denim 12 pcs.	/ 牛仔布 12件	2,200~2,500 (2,200 to 2,500)
Clothes	/ 衣服	2,200~2,700 (2,200 to 2,700)
Clothes( Synthetic thread used)	/ 衣服 (使用化纤线)	2,000~2,300 (2,000 to 2,300)
Knit	/ 针织料	1,800~2,000 (1,800 to 2,000)
Foundation	/ 内衣	1,800~2,000 (1,800 to 2,000)

※ To prevent the thread breakage due to the needle heat, set the sewing speed referring to the above table in accordance with the sewing conditions.

※ For sewing the foundation or the like, lower the height of the needle bar to prevent the stitch skipping. (Refer to the height of the needle bar ( P40).)

※ 为了防止针热造成的断线，请根据上述的缝制条件设定缝制速度。

※ 为了防止缝制内衣等时发生跳针，请降下针杆后使用。(参照针杆高度 (P.40) )

## [7] MAINTENANCE

### 维修

#### 1. Adjusting the height of the needle bar / 针杆高度

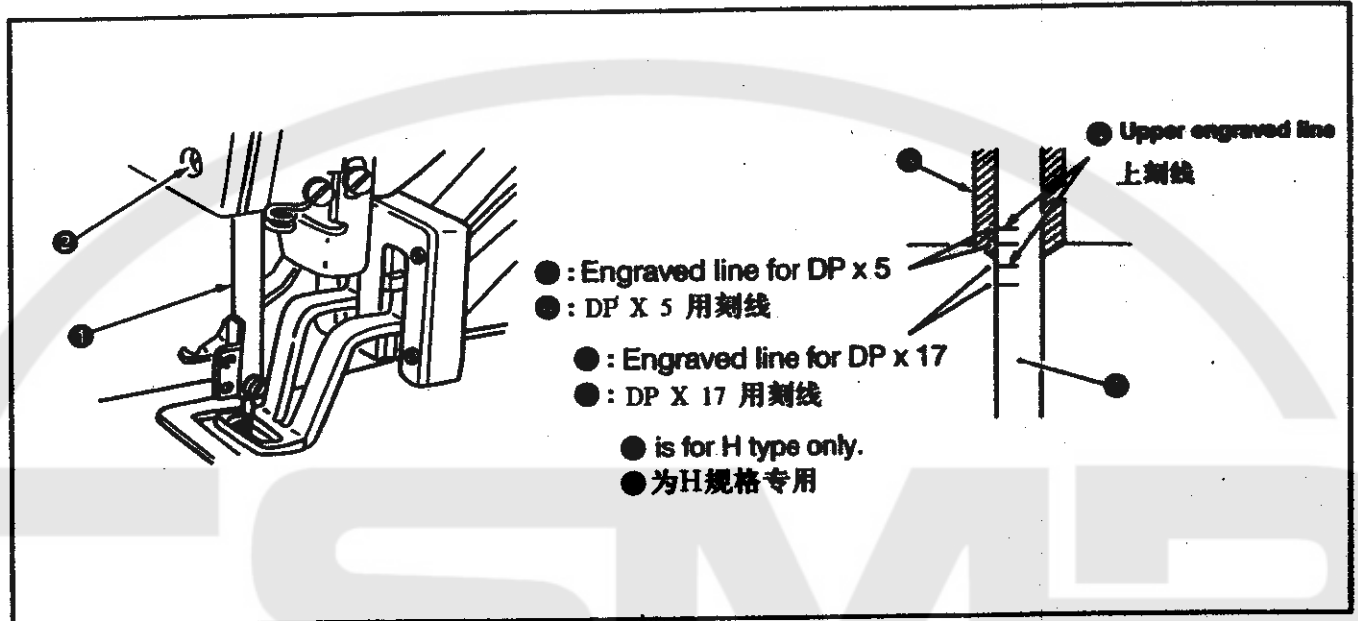


#### WARNING:

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



为了防止意外的起动造成人身事故，请关掉电源后再进行操作。



1) Bring needle bar ● to the lowest position of its stroke. Loosen needle bar connection screw ● and adjust so that upper marker line ● engraved on the needle bar aligns with the bottom end of needle bar bushing, lower ●.

(Caution) After the adjustment, make sure that there is no uneven torque.

※ When stitch skipping occurs in accordance with the sewing conditions, adjust the height of the needle bar so as to lower it by 0.5 to 1 mm from the needle bar engraved line ●.

把针杆●设到最下点，拧松针杆紧固螺丝●，把针杆上刻线●和针杆下挡块●的下端调节成一致。  
(注意) 调节后请一定确认不要有松动。

※ 有的缝制条件发生跳针时，请从针杆上刻线●往下调节0.5mm~1mm。

## 2. Adjusting the needle-to-shuttle relation / 机针与旋梭



### WARNING:

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



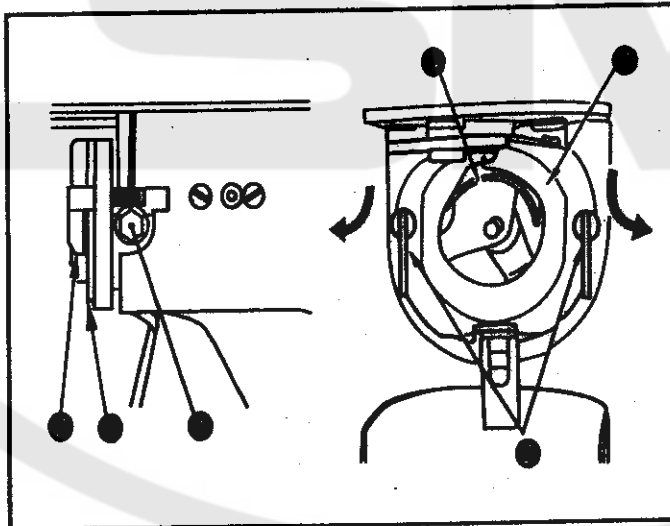
为了防止意外的启动造成人身事故，请关掉电源后再进行操作。

Relation between needle and engraved lines  
机针和刻线的关系



1) Turn the handwheel by hand. When needle bar ● has gone up, adjust so that lower marker line ● engraved on the needle bar aligns with the bottom end of the needle bar bushing, lower.

1) 用手转动皮带轮，针杆●上升时，把下刻线●对准针杆下挡块顶端一致。



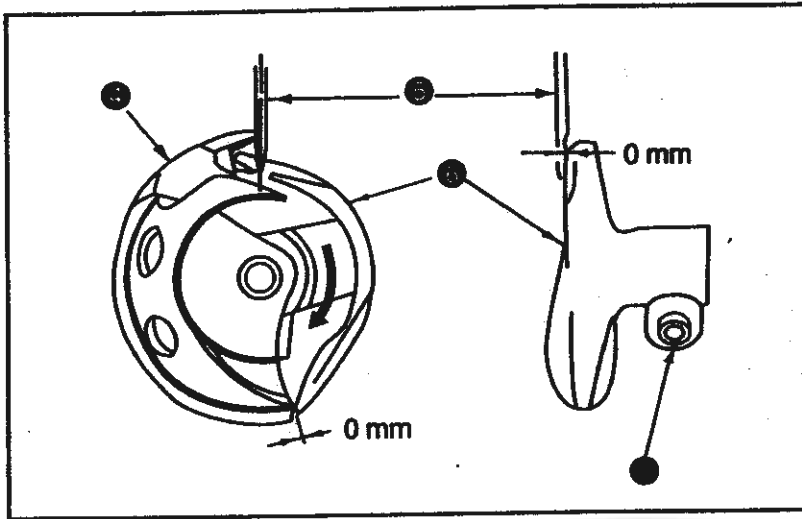
2) Loosen setscrew ● in the driver. Open inner hook pressers ● to the right and left, and remove inner hook presser ●.

(Caution)

At this time, be careful not to let inner hook ● come off and fall.

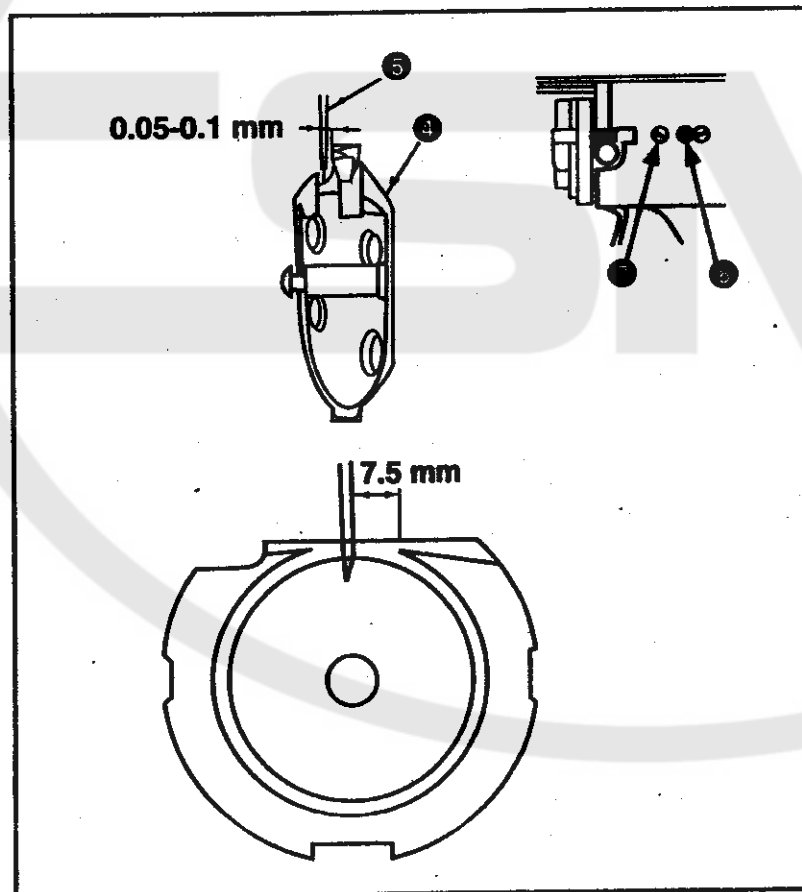
2) 拧松驱动器固定螺丝●，左右打开中旋梭压片●，卸下中旋梭压脚●。

(注意)此时请注意不要脱落中旋梭●。



3) Adjust so that the blade point of inner hook ● aligns with the center of needle ●, and that a clearance of 0 mm is provided between the front end of the driver and the needle as the front end face of driver ● receives the needle to prevent the needle from being bent. Then tighten setscrew ● of the driver.

3) 为了让中旋梭●的梭尖与针●的中心一致，同时防止驱动器●在前端面与机针相碰，弄弯机针，请把驱动器前端面与机针的间隙调整为0 mm，然后把驱动器固定螺丝●拧紧。



4) Loosen setscrew ● of the shuttle, and adjust the longitudinal position of the shuttle. To do this adjustment, turn shuttle race adjusting shaft ● clockwise or counterclockwise to provide a 0.05 to 0.1 mm clearance between needle ● and the blade point of inner hook ●.

5) After adjusting the longitudinal position of the shuttle, further adjust to provide a 7.5 mm clearance between the needle and the shuttle by adjusting the rotating direction. Then tighten setscrew ● of the shuttle.

4) 拧松大旋梭固定螺丝●，左右转动大旋梭调节轴●，调节大旋梭的前后位置，把机针●和中旋梭●的梭尖的间隙调整为0.05~0.1mm。

5) 调节完大旋梭的前后位置后，机针和大旋梭的间隙应为7.5mm，然后拧紧大旋梭固定螺丝●。

### 3.Adjusting the lift of the work clamp foot / 压脚的高度

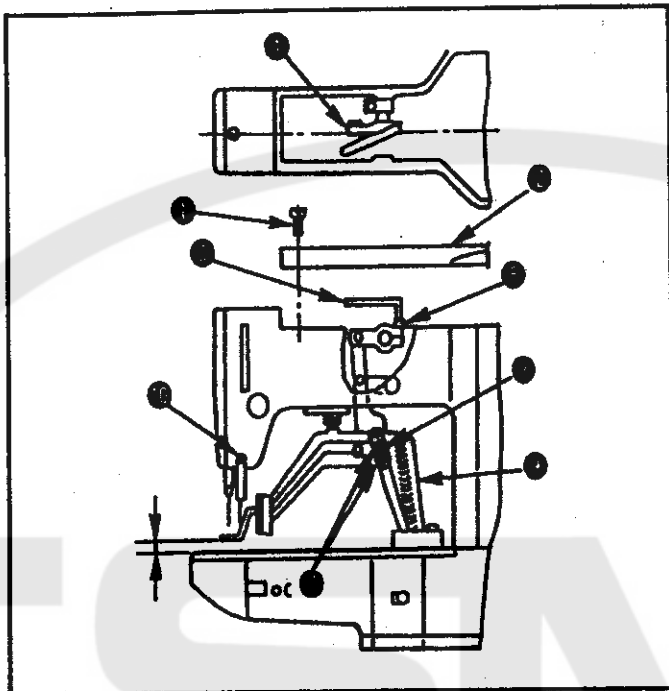


**WARNING:**

As the work is performed while the power is ON, never touch the switches other than the necessary one so as to prevent accidents caused by the malfunction of switches.



为了防止意外的启动造成人身事故，请关掉电源后再进行操作。



- 1) 在停止状态，卸下6根机架外罩固定螺丝 ●，然后卸下机架外罩 ●。
- 2) 把L形扳手插入中央的紧固筒的六角孔螺栓 ●，把它拧松。
- 3) 把L形扳手 ● 向下压布压脚升高，向上抬布压脚降低。
- 4) 调节后，把六角孔螺栓 ● 确实拧紧。
- 5) 左右压脚不一致时，拧松固定螺丝 ●，调节布压脚拨杆挡板 ● 调整高度。

(注意) 此时，请不要让布压脚拨杆挡板 ● 与送布台 ● 相碰。

如果和挑线杆相碰，请用挑线杆安装台固定螺丝10 调节挑线杆高度。

- 1) With the machine in stop mode, remove six setscrews ● of the top cover, and take off top cover ●.
- 2) Apply L-shaped wrench ● to socket bolt ● of clamp ●, and loosen the socket bolt.
- 3) Push down L-shaped wrench ● to increase the lift of the work clamp foot, or pull it up to decrease the lift.
- 4) After the adjustment, securely tighten socket bolt ●.
- 5) If the right and left work clamp feet are not levelled, loosen fixing screw ● and adjust the position of the work clamp foot lever support plate ● to level them.

**(Caution)**

At this time, be careful not to cause work clamp foot lever support plate ● to interfere with feed bracket ●.

If the work clamp foot lever support plate interferes with the wiper, readjust the height of the wiper using setscrew ● in the wiper installing base.

## 4. Adjusting the rising amount of the thread tension disk

### 线张力盘浮起量的调节

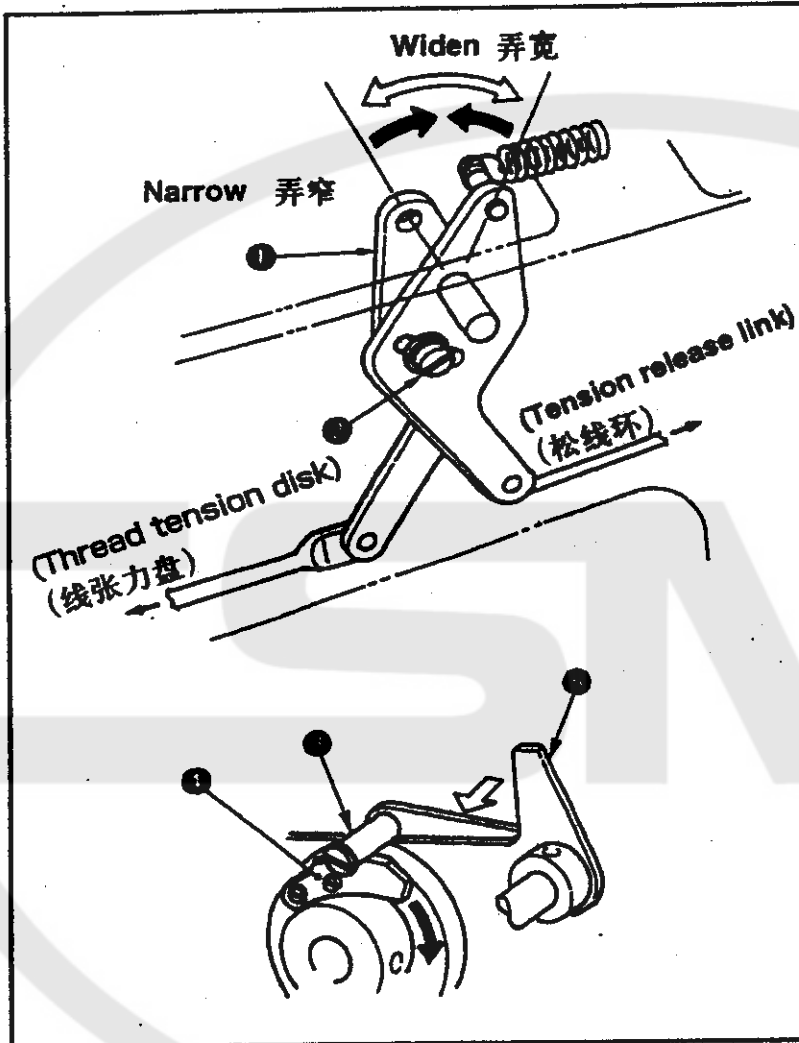


**WARNING:**

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



为了防止意外的起动造成人身事故，请关掉电源后再进行操作。



- 1) Remove the top cover. Make sure that tension release pin ● rides on tension release notch ●.
- 2) If the pin does not ride on the notch, push cam follower ● by hand to the ⇨ direction, and rotate the main shaft in the correct direction to make a state as illustrated in the figure.
- 3) Under the state as illustrated in the figure, loosen setscrew ● in the tension release adjusting arm. By moving tension release adjusting arm ● to the left or right the rising amount of the thread tension disk will change.

S type: 0.6 to 0.8 mm

H type: 0.8 to 1.0 mm

- 1) 卸下机架外罩，确认松线销●是否在松线卡头●上。
- 2) 如果没有在上面时，用手把凸轮从动子●向⇨方向压，如图所示让上轴正向旋转。
- 3) 如图所示，拧松松线调节曲柄固定螺丝●，左右移动松线调节曲柄●，就可以改变张力盘浮起量。  
S规格：0.6~0.8mm  
H规格：0.8~1.0mm  
(注意) 浮起量过小，切线后残线长度就不一致。浮起量过大后，张力盘浮起解除后盘的闭合会不良。

**(Caution)**

If the rising amount is insufficient, the length of the remaining thread after thread trimming will be not stable. If the rising amount is excessive, after releasing the rising of the thread tension disk, the disk closing will be defective.

## 5.The moving knife and counter knife / 动刀和固定刀

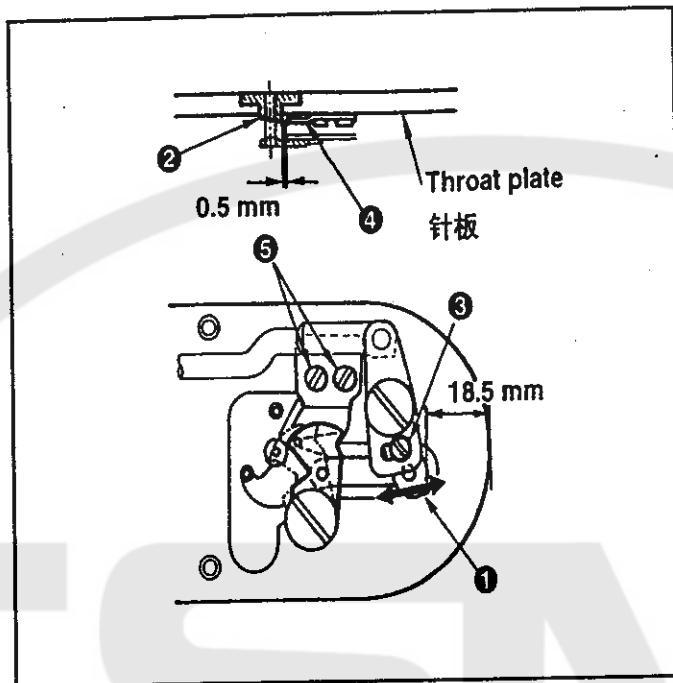


### WARNING:

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



为了防止意外的启动造成人身事故，请关掉电源后再进行操作。



- 1) Loosen adjusting screw ③ so that a clearance of 18.5 mm is provided between the front end of the throat plate and the top end of thread trimmer lever, small ①. To adjust, move the moving knife in the direction of arrow.
- 2) Loosen setscrew ⑤ so that a clearance of 0.5 mm is provided between needle hole guide ② and counter knife ④. To adjust, move the counter knife.

- 1) 拧松调节螺丝③，向箭头方向移动动刀，把从针板前端到切线小拨杆①前端的距离调整为18.5mm。
- 2) 拧松固定螺丝⑤，移动固定刀，把针孔导线器②和固定刀④之间的间隙调整为0.5mm。

## 6.Cleaning the filter / 滤清器的清扫

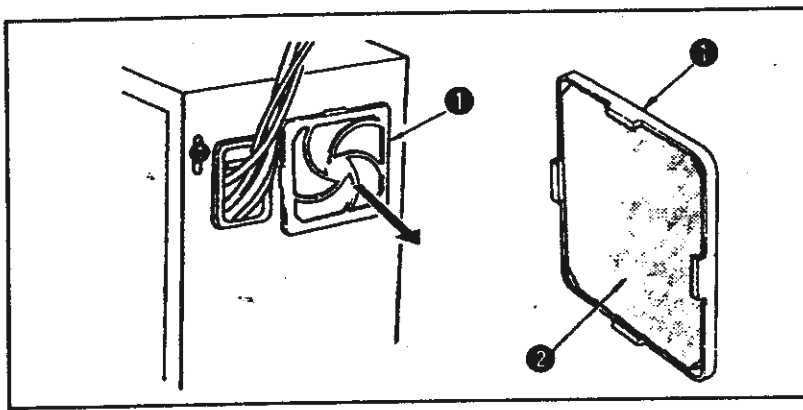


### WARNING:

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



为了防止意外的启动造成人身事故，请关掉电源后再进行操作。



请每周清扫控制箱风扇的滤清器②。

(注意) 如果在过滤器堵塞的状态继续缝制的话，就会发生过热，为了保护缝纫机停止缝纫机的运转。

- 1) 沿箭头方向拉过滤网①，把它卸下来。
- 2) 用水冲洗滤清器。
- 3) 把滤清器②、过滤网①安装到原来的位置。

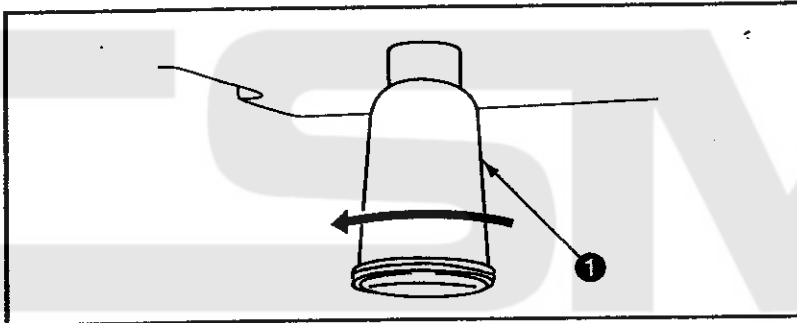
Clean filter ① of the control box fan once every week.

(Caution)

The sewing machine may stop to protect it from overheating when the sewing is continued in the state that the filter clogs with dust.

- 1) Pull screen kit ① in the direction of arrow to remove it.
- 2) Wash filter ② under running water.
- 3) Reinstall filter ① and screen kit ②.

## 7. Draining waste oil / 废油的处理



## 8. Replacing the fuse / 保险丝的更换



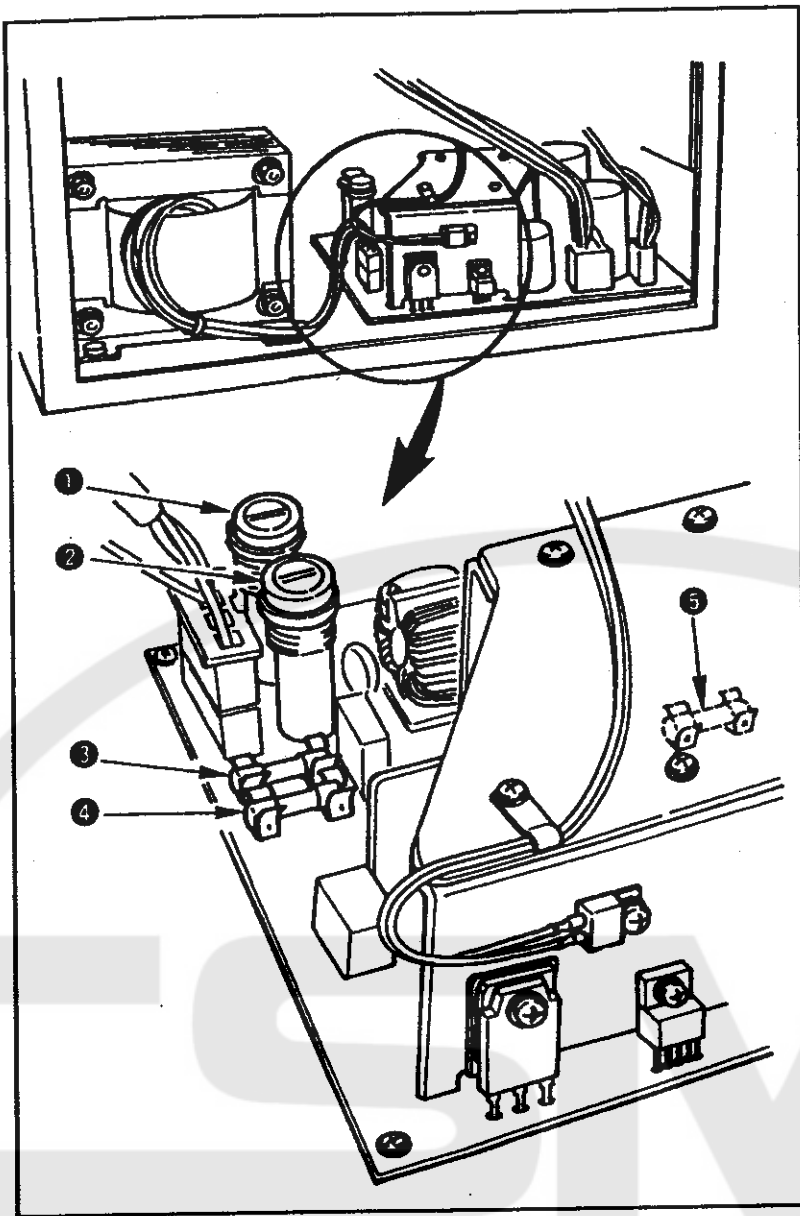
### WARNING:

1. To avoid electrical shock hazards, turn OFF the power and open the control box cover after about five minutes have passed.
2. Open the control box cover after turning OFF the power without fail. Then, replace with a new fuse with the specified capacity.

**危险**

1. 为了防止触电事故，关掉电源5分钟之后再打开外罩。
2. 请一定关掉电源开关之后再打开控制箱的盖子，更换规定容量的保险丝。





The machine uses the following five fuses:

- ①, ② For servo motor power supply protection 10A each (standard melting fuse)
- ③ For solenoid power supply and control power supply protection 10AT (time-lag fuse)
- ④ For stepping motor ( X and Y ) protection 8A (Standard melting fuse)
- ⑤ For 5V protection 3A (standard melting fuse)

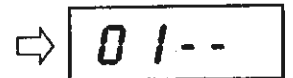
本机使用5根保险丝。

- ①, ② 保护伺服马达电源用 各10A (普通熔断式保险丝)
- ③ 保护继电器和控制电源用 10AT (延时保险丝)
- ④ 保护脉冲马达(X、Y通用) 8A (普通熔断式保险丝)
- ⑤ 5V保护用 3A (普通熔断式保险丝)

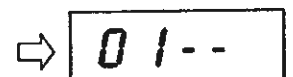
## [8] HOW TO USE THE MEMORY SWITCH / 存储器开关的使用方法

### 1. Starting the memory switch / 存储器开关的起动

Pressing **READY** key and **R (RESET)** key, turn ON the power switch. The display gives the indication of the memory switch and the sewing machine operation can be changed.











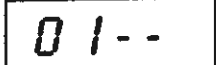
边按 **READY** 键和 **R (RESET)** 键，边打开电源后，在为存储器开关的显示，可以变更缝纫机的动作。



## 2. Example of the memory switch setting / 存储器开关设定例

### (1) Setting of max. sewing speed limitation

Example of setting: Setting the max. sewing speed limitation to 1,800 rpm.

- 1) After the memory switch has started, press the  or  key to indicate "01--" on the display. ⇒ 
- 2) Press the  key to light up the sewing LED. ⇒ 
- 3) Indicate "1800" using the  key. ⇒ 
- 4) After setting, register using the  key. ⇒ 

### (1) 缝纫速度的上限设定

设定例：把缝纫速度的上限设定为1,800 rpm.

- 1) 存储器开关起动后，按   键，在画面上显示出“01--”。 ⇒ 
- 2) 按  键，缝制亮灯。 ⇒ 
- 3) 用  键显示出“1800”。 ⇒ 
- 4) 设定后，用  键登记。 ⇒ 

### (2) Setting the soft start speed at the sewing start

The speed of the first stitch to the fifth stitch at the sewing start can be changed in a unit of 100 rpm.



Unit [ rpm ]

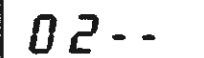
	State when delivered	Setting range
1st stitch	400	400 to 900
2nd stitch	900	400 to 2,700
3rd stitch	2,700	400 to 2,700
4th stitch	2,700	400 to 2,700
5th stitch	2,700	400 to 2,700


(Caution) For the max. sewing speed, the memory switch NO. 01 (Setting the sewing speed limitation) has priority.


Example of setting: The speed is changed as follows:


1st stitch 400→900rpm, 2nd stitch 900→1,200rpm

1) After the memory switch has started, press the  or  key to indicate "02--" on the display.


⇒ 


2) Press the  key to light up the sewing LED.  
(The 1st stitch, 400 rpm, will be indicated.)


⇒ 


3) Press the  key to indicate "1-09".  
(900 rpm is set.)

⇒ 


4) Press the  key.  
(The 2nd stitch, 900 rpm will be indicated.)

⇒ 

5) Press the  key to indicate "2-12".  
(1,200 rpm is set.)

⇒ 

6) After setting, register using the  key.

⇒ 

## (2) 始缝软起动速度的设定

用100rpm为单位可以变更始缝的第1针~第5针的速度。

单位: [ rpm ]


	出货状态	设定范围
第1针	400	400 ~ 900
第2针	900	400 ~ 2,700
第3针	2,700	400 ~ 2,700
第4针	2,700	400 ~ 2,700
第5针	2,700	400 ~ 2,700


(注意)最高转速, 存储器开关 No.01 (缝制速度的上限设定) 优先。


设定例: 把第1针400→900 rpm、第2针900→1,200 rpm。


1) 存储器开关启动后, 按   键, 画面上显示出 "02--"


⇒ 

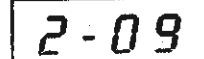
2) 按  键, 缝制亮灯。  
(显示出第1针400rpm。)


⇒ 


3) 按  键, 显示出"1-09".  
(设定为900rpm。)

⇒ 


4) 按  键。  
(显示出第2针900rpm。)

⇒ 

5) 按  键, 显示出"2-12".  
(设定为1,200rpm。)

⇒ 

6) 设定后, 用  键登记。

⇒ 

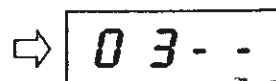
### (3) Setting whether the calling of the pattern data is operative or not

By making inoperative the calling of the unnecessary pattern, this setting prevents the different pattern from calling by mistake.

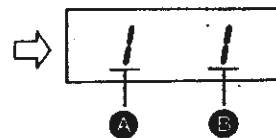
Also, it is possible to call and use the necessary pattern.

Example of setting: Make the calling of the pattern Nos. 1 and 2 inoperative.

1) After the memory switch has started, press the or key to indicate "0 3 - -" on the display.



2) Press the key to light up the sewing LED.



Indication on **A** section: Pattern No.

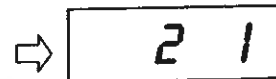
Indication on **B** section: 0: Calling is inoperative.

1: Calling is operative.

3) Press the key to make the indication on **B** "1" → "0".



4) Press the key to make the indication on **A** "1" → "2".



5) Press the key to make the indication on **B** "1" → "0".



6) After setting, register using the key.



(Caution) After operating the step 2), if the key is pressed, the setting will return to the state when the machine was delivered.

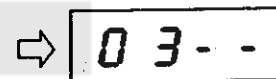
### (3) 可否呼出图案数据的设定

把不需要的图案呼出设为不能，可以防止呼出错误的图案。

同时也可以用于呼出需要的图案。

设定例：把图案No.1、2设为不能呼出。

1) 起动存储器开关后，按 键，画面上显示出 "0 3 - -"。

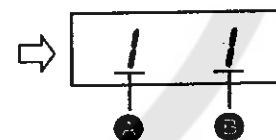


2) 按 键，缝制 LED 亮灯。

显示 **A** 部：图案No.

显示 **B** 部：0：不能呼出

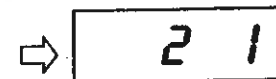
1：可以呼出



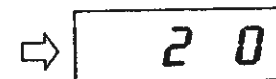
3) 按 键，显示 **B** "1" → "0"。



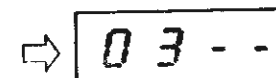
4) 按 键，显示 **A** "1" → "2"。



5) 按 键，显示 **B** "1" → "0"。





6) 设定后，用 键登记。

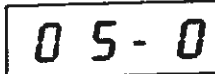


(注意) 2) 的操作后，按 键，返回出货状态的设定。


#### (4) Setting the counter operation

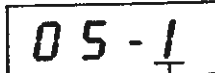
Example of setting: The production counter (adding method) can be changed to the bobbin thread counter (subtracting counter).

1) After the memory switch has started, press the  or  key to indicate "05-0" on the display.

⇒ 

2) Press the  key to light up the sewing LED.

3) Press the  key to indicate "05-1".

⇒ 

Indication on  section 0: Production counter

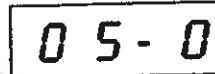
1: Bobbin thread counter


4) After setting, register using the  key.

#### (4) 计数器动作的设定

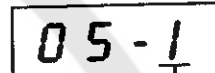
设定例：把生产计数器（加数方式）变更为底线计数器（减数方式）。


1) 存储器开关启动后，按   键，画面上显示出“05-0”。

⇒ 

2) 按  键，缝制亮灯。

3) 按  键，显示出“05-1”。

⇒ 



显示部：0：生产计数器

1：底线计数器

4) 设定后，用  键登记。

#### (5) Setting the pedal specifications

The specification can be changed when the optional 2-step pedal or 1 pedal for standing work (PK-57) is used. Example of setting: The standard 1- pedal specification is changed to the 1- pedal for standing work (PK-57) specification.

1) After the memory switch has started, press the  or  key to indicate "10-0" on the display.

⇒ 

2) Press the  key to light up the sewing LED.

3) Press the  key to indicate "10-2".

⇒ 

Indication on  section 0: Standard 1- pedal

1: Optional 2- step pedal

2: Optional PK-57

4) After setting, register using the  key.

※ After setting the memory switch, turn OFF the power switch once, and turn ON again. Then, the sewing machine starts running in accordance with the setting made by the memory switches.


## (5) 踏板规格的规定

变更为使用选购品2联踏板、站立作业用单踏板 (PK-57)。

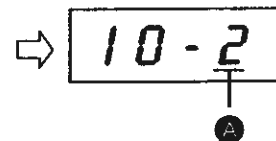
设定例：把标准单踏板规格变更为站立作业用单踏板 (PK-57) 规格。

1) 存储器开关起动后，按   键，画面上显示出“10-0”。



2) 按  键，缝制亮灯。

3) 按  键，显示出“10-2”。



显示部： 0：标准单踏板

1：选购品2联踏板

3：选购品PK-57

4) 设定后，用  键登记。

※存储器开关设定后，暂时关掉电源，然后重新打开电源缝纫机即可以按存储器开关的设定起动。



### 3. Table of functions of the memory switch

Various operations of the sewing machine can be set in programs by operating the memory switches

Note) The contents of the memory switches may be varied according to the revision of the system ROM.  
(The following contents are in case of "001Q".)

Display	Function	Setting range	State when delivered	Remarks
01--	Setting of the max. sewing speed limitation (The limitation can be set in a unit of 100 rpm.)	400 to 2,700 rpm	2,700 rpm	The speed limitation depends on the model used.
02--	Starting speed of 1st to 5th stitch at the sewing start is set in a unit of 100 rpm.	1 st stitch : 400 to 900 2 nd stitch : 400 to 2,700 3 rd stitch : 400 to 2,700 4 th stitch : 400 to 2,700 5 st stitch : 400 to 2,700	400 rpm 900 rpm 2,700 rpm 2,700 rpm 2,700 rpm	
03--	This function sets whether or not the readout of the service pattern data is acceptable.	Bartacking standard pattern Nos. 1 to 30 can be set individually. 0: Readout is not permitted. 1: Readout is permitted.	By setting the model, the pattern adapted to each specification can be automatically read out	Data stored in System ROM are the objects. (Data of button sewing cannot be set to "Readout is not permitted.")
04-0	This function sets whether or not display or change of the pattern No., X/Y scale rate, and the max. speed limitation is acceptable. (Prevention of maloperation)	0: Operative 1: Inoperative (key lock)	0	
05-0	Setting of the counter operation	0: Adding 1: Subtracting	0	Production counter Adding Bobbin thread counter Subtracting
06-0	This function sets the needle bar stop position. Under the needle-up stop mode, the machine rotates in the reverse direction after the upper stop position and stops. (The position of the needle tip is higher at the time of stop.)	0: Normal upper stop position 53° 1: Needle-up stop 0° or 22°	0	*1° of needle-up stop: When SW1-7 on SERVO circuit board is: ON: 22° OFF: 0°
07-0	Setting of the base point of pattern enlargement/reduction	0: Origin 1: 2nd origin (Sewing start point)	0	
08-0	This function sets whether or not the execution of origin retrieval after the completion of the sewing is acceptable. (When the sewing is made by the normal pattern No., or P1 to P7.)	0: Ineffective 1: Effective	0	
09-0	This function sets whether or not the execution of origin retrieval after the completion of the sewing is acceptable. (When the sewing is made by the combination pattern C1 to C3.)	0: Ineffective 1: Effective	0	
10-0	This function selects the pedal specification.	0: Standard 1 pedal 1: 2-step pedal 2: 1 pedal (PK-57)	0 (2) 1903/BR 25 ACF-164	
11-1	This function selects whether or not the wiper solenoid output is provided.	0: Not provided 1: Provided	0 (1) LK-1903*	
12-0	This function selects the operation of the material closing solenoid when LK-1901 model is selected.	0: Non operation 1: Operation synchronizing with lowering of work foot 2: Operation synchronizing with starting	2	Only when initializing LK-1901* model
18-2	This function selects the feed timing. setting to 1 or 0 will be more effective when the thread is not well-tightened.	1: 161° 2: 149° 3: 137° 4: 125°	2	Start of feed is calculated from the angle of main shaft. (The angles described do not correspond to the start of feed.)
Note 1				
21-0	Set to "0" when performing bartacking using the work clamp foot of LK-1900 at the time of initializing LK-1904 model.	0: Ineffective 1: Effective (Longitudinal direction-5 mm shift)	0 (1) ZJ1904F	Only when initializing ZJ-1904 model.
22-0	This function selects whether or not the stitching of small pitch (less than 2 mm) for tie stitching at the sewing start of the pattern for button sewing is operative. (Decrease of stitch skipping at the sewing start)	0: Operative 1: Inoperative	0	Only when initializing ZJ-1903 button sewing model in the case where stitch skipping at the sewing start does not occur, set to "1" and cycle time can be reduced.

Note) When material is excessively thick, there is a danger of needle breakage if the timing is slow. So, be careful.

### 3. 存储器开关功能一览表

用存储器开关可以设定缝纫机的各种动作程序。

注) 不同的系统ROM的形式, 其存储器开关的内容也不同。(以下的内容是“001Q”时的内容)

显示	功能	设定范围	出货状态	备考
01--	设定缝制速度的上限。 (可以100 rpm 为单位进行设定)	400~2,700 rpm	2,700 rpm	机种不同内容也不相同
02--	用100 rpm 单位设定开始缝制的第1针~第5针的起动速度。	第1针: 400~900 第2针: 400~2,700 第3针: 400~2,700 第4针: 400~2,700 第5针: 400~2,700	400 rpm 900 rpm 2,700 rpm 2,700 rpm 2,700 rpm	
03--	设定是否可以读出服务图案数据。	可以个别设定加固缝标准图案No.1~30。 0: 不能读出 1: 可以读出	可以根据设定的机种自动地读出各规格组合的图案。	以记忆到系统ROM的数据为对象。 (不能设定不读出打扣的数据)
04-0	显示图案No. X/Y 放大缩小率、最高速度限制以及设定是否可以变更。(防止错误操作)	0: 可以操作 1: 不能操作(键锁定)	0	
05-0	设定计数器动作。	0: 加算 1: 减算	0	生产计数器: 加算 底线计数器: 减算
06-0	设定机针停止位置。 在停止机针提升模式时, 上停止后, 反转再停止。(停止时, 针尖位置高)	0: 模式的上位置停止53° 1: 机针提升 停止0°或22°	0	“1”提升机针停止用SERVO 电路板上的SW1-7 ON: 22° OFF: 0°
07-0	设定图案放大缩小的基准点。	0: 原点 1: 第2版点(开始缝制点)	0	
08-0	选择缝制结束后, 是否实行原点检索。 (用通常的图案No.或P1~P7进行缝制时)	0: 无 1: 有	0	
09-0	选择缝制结束后, 是否实行原点检索。 (用组合图案C1~C3进行缝制时)	0: 无 1: 有	0	
10-0	选择踏板规格。	0: 标准单踏板 1: 双联踏板 2: 单踏板(PK-57)	0 (2) 1903/B 25 ACF-164	
11-1	选择有无挑线杆继电器输出。	0: 无 1: 有	0 (1) LK-1903*	
12-0	LK-1901机种时, 选择靠布电磁阀的动作。	0: 无 1: 与压脚下降同步 2: 与起动同步	2	ZJ1901* 只限机种初始化时
18-2 注1归	选择送布动作同步时间。 紧线不好时, 设定为1或0, 可以改进效果。	1: 161° 2: 149° 3: 137° 4: 125°	2	从上轴的角度计算开始送布。 (内容表示的角度与开始送布不一致)
21-0	LK-1904机种初始化时, 使用LK-1900的压脚进行加固缝制时, 请设定为“0”。	0: 不设定 1: 设定(纵方向-5mm提升)	0 (1) ZJ1904F	ZJ1904* 只限机种初始化时
22-0	选择是否进行打扣缝制用图案的开始缝制固定缝用的小针距(2mm以下)运针。 (减少开始缝制时的跳针现象)	0: 进行 1: 不进行	0	ZJ1903* 只限带打扣的机种初始化时。 开始缝制不发生跳针时, 设定为“1”之后, 可以缩短循环周期时间。

注1) 布料非常厚时, 请注意时间过慢的话有断针的危险。



## [9] OTHERS

### 1. Table of the standard pattern specifications

No.	Lengthwise	Crosswise	Number of stitches	Pattern	LK1900	
					S,F,H	M
1	2.0	16	42	Large size bartacking	*	
2	2.0	10	42	Large size bartacking	*	
3	2.5	16	42	Large size bartacking	*	
4	3.0	24	42	Large size bartacking		
5	2.0	10	28	Large size bartacking	*	
6	2.5	16	28	Large size bartacking	*	
7	2.0	10	36	Large size bartacking	*	
8	2.5	16	36	Large size bartacking	*	
9	3.0	24	56	Large size bartacking		
10	3.0	24	64	Large size bartacking		
11	2.5	6	21	Small size bartacking (eyelet)	*	
12	2.5	6	28	Small size bartacking (eyelet)	*	
13	2.5	6	36	Small size bartacking (eyelet)	*	
14	2.0	8	14	Knit goods bartacking	*	*
15	2.0	8	21	Knit goods bartacking	*	*
16	2.0	8	28	Knit goods bartacking	*	*
17	0	10	21	Straight line bartacking	*	
18	0	10	28	Straight line bartacking	*	
19	0	25	28	Straight line bartacking		
20	0	25	36	Straight line bartacking		
21	0	25	41	Straight line bartacking		
22	0	35	44	Straight line bartacking		
23	20	4.0	28	Lengthwise bartacking		
24	20	4.0	36	Lengthwise bartacking		
25	20	4.0	42	Lengthwise bartacking		
26	20	4.0	56	Lengthwise bartacking		
27	20	0	18	Lengthwise straight line bartacking		
28	10	0	21	Lengthwise straight line bartacking		
29	20	0	21	Lengthwise straight line bartacking		
30	20	0	28	Lengthwise straight line bartacking		

In the condition of delivery from the factory, the pattern sewing with \* marks can be made. When using the standard patterns other than the patterns with \* marks, refer to "Setting whether the calling of the pattern data is operative or not" described in the item of the how to use the memory switch.

[9] 其他

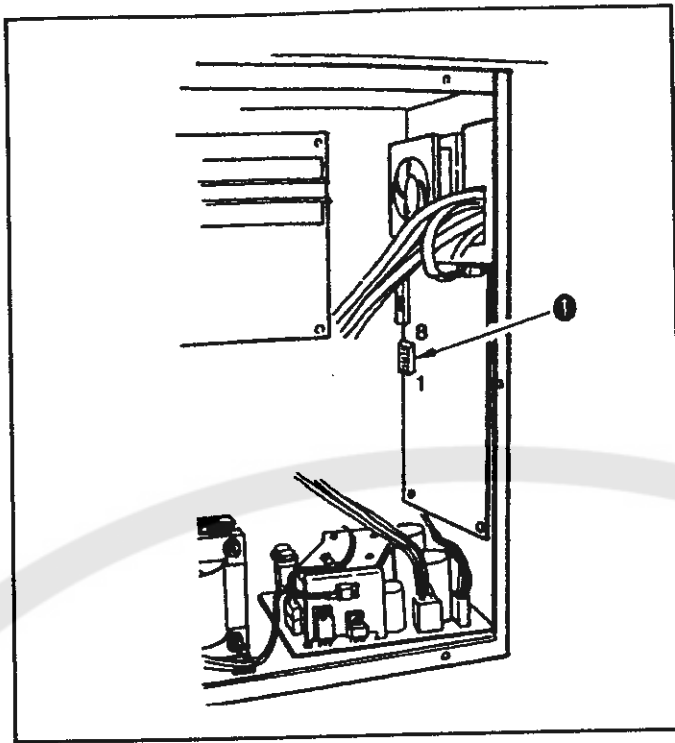
1. 标准图案规格对应表

No	纵	横	针数	缝制种类	LK1900	
					S,F,H	M
1	2.0	16	42	大加固	*	
2	2.0	10	42	大加固	*	
3	2.5	16	42	大加固	*	
4	3.0	24	42	大加固		
5	2.0	10	28	大加固	*	
6	2.5	16	28	大加固	*	
7	2.0	10	36	大加固	*	
8	2.5	16	36	大加固	*	
9	3.0	24	56	大加固		
10	3.0	24	64	大加固		
11	2.5	6	21	小加固 (孔眼)	*	
12	2.5	6	28	小加固 (孔眼)	*	
13	2.5	6	36	小加固 (孔眼)	*	
14	2.0	8	14	针织加固	*	*
15	2.0	8	21	针织加固	*	*
16	2.0	8	28	针织加固	*	*
17	0	10	21	线加固	*	
18	0	10	28	线加固	*	
19	0	25	28	线加固		
20	0	25	36	线加固		
21	0	25	41	线加固		
22	0	35	44	线加固		
23	20	4.0	28	纵加固		
24	20	4.0	36	纵加固		
25	20	4.0	42	纵加固		
26	20	4.0	56	纵加固		
27	20	0	18	纵线加固		
28	10	0	21	纵线加固		
29	20	0	21	纵线加固		
30	20	0	28	纵线加固		

出货状态可以缝制\*标记的图案。

使用此外的标准图案时，请参照存储器开关的使用方法「图案数据的呼出可否的设定」。

## (2) Setting the DIP switch / 设定开关的设定



By changing DIP switch SW-1<sup>①</sup> mounted on the control box, the setting can be changed as described in the following table.

- (Caution) • Perform the change of the DIP switch after turning OFF the power switch.  
 • Do not turn ON the "not used" switches. Malfunction will be caused.

控制箱内的设定SW1<sup>①</sup>的变换可以按下表变更设定。

- (注意) • 请不要把未使用的开关设定为ON,以免发生错误动作。  
 • 请不要把未使用的开关设定为ON,以免发生错误动作。

NO	Section	Description		At the time of delivery	Remarks
SW1-1	Not used.	ON/OFF	-/-	OFF	
SW1-2	Thread trimming speed	ON/OFF	250 rpm constant/400 to 250 rpm	OFF	
SW1-3	Not used.	ON/OFF	-/-	OFF	
SW1-4	Not used.	ON/OFF	-/-	OFF	
SW1-5	Not used.	ON/OFF	-/-	OFF	
SW1-6	Not used.	ON/OFF	-/-	OFF	
SW1-7	Needle-up stop angle	ON/OFF	22° /0°	OFF	
SW1-8	Max. speed limitation	ON/OFF	2,700 rpm/2,500 rpm	ON	

NO	类别	内容		出货时	备考
SW1-1	未使用	ON/OFF	-/-	OFF	
SW1-2	切线速度	ON/OFF	250 rpm/400 ~ 250 rpm	OFF	
SW1-3	未使用	ON/OFF	-/-	OFF	
SW1-4	未使用	ON/OFF	-/-	OFF	
SW1-5	未使用	ON/OFF	-/-	OFF	
SW1-6	未使用	ON/OFF	-/-	OFF	
SW1-7	机针提升停止角度	ON/OFF	22° /0°	OFF	
SW1-8	限制最高缝切速度	ON/OFF	2700 rpm/2500 rpm	ON	

### 3. Table of the standard patterns

	No.	Stitch diagram	Number of stitches	Sewing size (mm)		(Note 2) No. of work clamp foot
				Length-wise	Cross-wise	
Large size bartacking	1		42	2.0	16	1 ✓
	2					2
	3*			2.5	16	1 ✓
	4*					4
	5		28	2.0	10	6 ✓
	6*					7
	7		36	2.0	10	1 ✓
	8*					2
	9*					1 ✓
	10*		56	3.0	24	4
Small size bartacking	11		21	2.5	6	6 ✓
	12		28	2.5	6	7
	13		36	2.5	6	6 ✓
Knit goods bartacking	14		14	2.0	8	7
	15		21	2.0	8	6 ✓
	16		28	2.0	8	7
Straight line bartacking	17		28	0	10	1 ✓
	18					2
	19					6 ✓
	20					7
	21					6 ✓
	22					7
Lengthwise bartacking	23		28	20	4.0	9 ✓
	24		36	20	4.0	
	25		42	20	4.0	
	26		56	20	4.0	
	27		18	20	0	
	28		21	10	0	
29		20				
30		28				

- (Note) 1. Sewing size shows the dimensions when the scale rate is 100%.  
 2. Refer the No. of work clamp foot to the separate table of work clamp foot.  
 3. For No. 22, process the work clamp foot blank for use.  
 4. Use the patterns with \* marks for sewing denim.

### 3. 标准图案-一览表

No.	落针图	针数	缝制尺寸 (mm)		(注 2) 压脚号码	No.	落针图	针数	缝制尺寸 (mm)		(注 2) 压脚号码						
			宽	长					宽	长							
大 固 定	1	42	2.0	16	1	线 固 定	17	21	0	10	1						
	2				2		2										
	3*	2.5	16	1	18		28	0	10	1							
	4*			3.0	24					4	19	0	25	6			
	5	2.0	10				6	20	36	0	25			7			
				7	21		41					0	25	6			
	6*	2.5	16	1	22			44	0	35	7						
	7			2.0	10		4				纵 固 定	23	28	20	4.0	9	
	8*	2.5	16				1	24	36	20		4.0					
	9*			56	3.0		24	4					25	42	20		4.0
6		26	56			20		4.0									
10*	64	3.0		24	7		27		18	20		0	11				
小 固 定			11		21	2.5		6						8	28	21	10
	12	36	2.5	6			29		20	0							
	13											14					
14	21	2.0	8	5	28	20	0										
15								28	2.0	8			5	28	20	0	
16											28	2.0					8

(注意)

1. 缝制尺寸为放大率100%的尺寸。
2. 压脚号码请参照附件压脚一览表。
3. 22 为加工半成品时使用。
4. \*标记图案为缝制牛仔布料用。

#### 4. Table of the work clamp foot / 压脚一览表

	1	2	3	4	5
Work clamp foot 布压脚	501GM103 501GM104			501GM105 501GM106	501GM107 501GM108
Feed plate 布压脚下板	501GM117	501GM118 (Without knurl) (无齿牙)	501GM119 (Without knurl) (无齿牙)	501GM120	501GM121
Sewing specification 缝制规格	S	F	F	H	M
Finger guard 手指保护器	501GM175				
Remarks 备考	Standard accessory for S(standard) type machine head. S(标准)规格机头上标准装备。	Supplied with F (foundation) type machine head. (Depends on the destination) F(内衣)规格机头上装备。 (根据出口地区)		Standard accessory for H(heavy material) type machine head. H(厚料)规格机头上标准装备。	Standard accessory for M(knit goods) type machine head. M(针织)规格机头上标准装备。

※ Install a finger guard suitable for each work clamp foot when replacing the work clamp foot.  
 ※ 更换压脚时，请安装适合各压脚的手指保护器。

	6	7	8	9	10	11
Work clamp foot 布压脚	501GM109 501GM110		501GM111 501GM112	501GM113 501GM114		501GM115 501GM116
Feed plate 布压脚下板	501GM122	501GM123	501GM124	501GM125 (Without knurl) (无齿牙)	501GM126 (Without knurl) (无齿牙)	501GM127 (Without knurl) (无齿牙)
Sewing specification 缝制规格	S	H	S	F	F	F
Finger guard 手指保护器	501GB210		501GM175	501GB211		
Remarks 备考	Optional 选购品	Optional 选购品	Optional 选购品	Optional 选购品	Optional 选购品	Optional 选购品

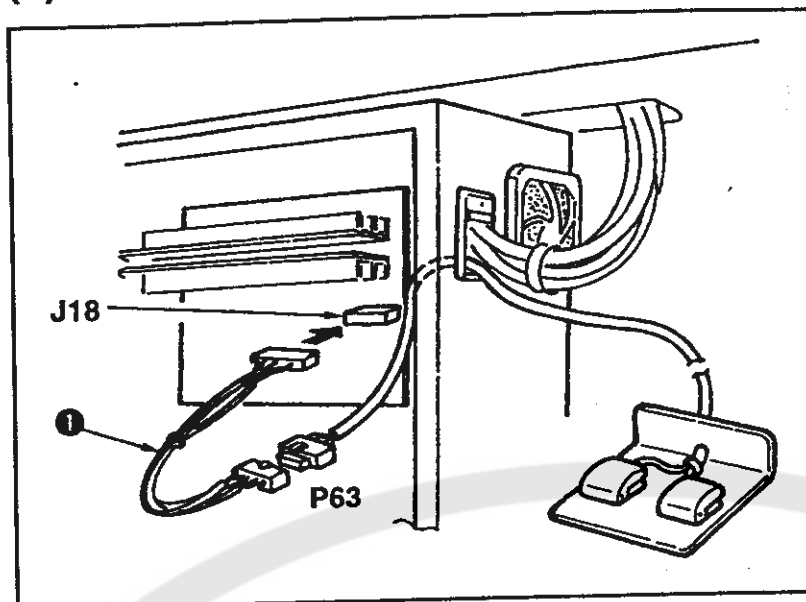
※ Install a finger guard suitable for each work clamp foot when replacing the work clamp foot.  
 ※ 更换压脚时，请安装适合各压脚的手指保护器。

### 5. Connection of the optional pedal / 选购品踏板的连接方法

※ When using the optional pedal, refer to "Setting the pedal specifications" described in the item of how to use the memory switch.

※ 使用选购品踏板时，请参照存储器开关的使用方法「踏板规格的设置」。

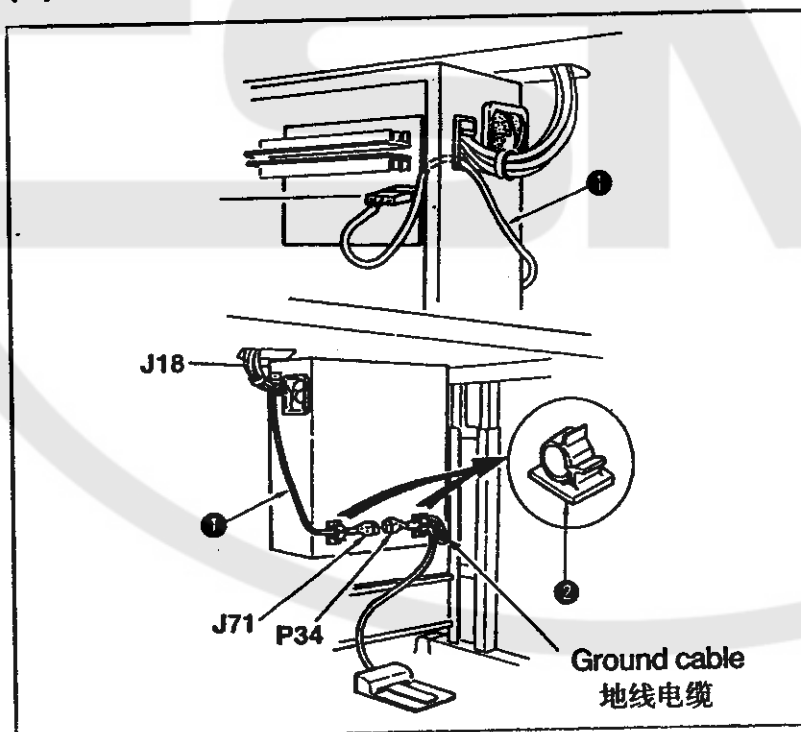
## (1) Connection of the 2- step pedal / 2联踏板的连接



- 1) 从主电路板的J18上卸下标准踏板电线，连接踏板开关变换电缆①。
- 2) 把2连踏板的电线插到控制箱内，连接上踏板开关2)变换电缆①的P63。  
2连踏板  
踏板开关变换电缆

- 1) Remove the standard pedal cord from J18 connector on the MAIN circuit board, and connect pedal switch change cable ①.
- 2) Enter the 2- step pedal cord into the control box and connect it with P63 of pedal switch change cable ①.  
2- step pedal :Part No. M85205800A0  
Pedal switch change cable: Part No. M90125900A0

## (2) Connection of PK-57 / PK-57的连接



- 1) 从主电路板的J18上卸下标准踏板电线，连接PK-57变换电缆①。
- 2) 在控制箱里面，连接PK-57的电线和PK-57变换电缆①的J71，并用黏贴夹固定。  
地线电缆

- 1) Remove the standard pedal cord from J18 connector on the MAIN circuit board, and connect PK-57 change cable ①.
- 2) Connect the cord of PK-57 with J71 of PK-57 change cable ① at the rear face of the control box. Then, clamp two places with adhesive clamp ②.  
Also, tighten with a screw the PK-57 ground cable as illustrated in the figure  
PK-57: Part No. GPK570010B0  
PK-57 change cable:  
Part No. M90135900A0  
Adhesive clamp :  
Patr No. E9607603000(2 pcs.)

PK-57的地线电缆如图所示固定好。  
货号: GPK570010B0  
电缆: 货号M90135900A0  
:货号: E9607603000(2个)



## ERROR INDICATION

Error indication	Name of error	Description	Corrective measure	Remarks
E 1	Pattern No.error	<ul style="list-style-type: none"> <li>The specified pattern No.has not been registered in the data ROM.</li> <li>Or,readout is not permitted.</li> </ul>	<ul style="list-style-type: none"> <li>Check the pattern No.</li> <li>Check the memory switch No.3</li> </ul>	The bartacking pattern is registered in the system ROM and the button sewing pattern in the data ROM respectively.
E 2	Enlargement error Pattern reading error	<ul style="list-style-type: none"> <li>The sewing pitch is beyond 10 mm.</li> <li>The pattern No.cannot be read out from the data ROM.</li> </ul>	<ul style="list-style-type: none"> <li>Check the scale rate and the sewing pitch.</li> <li>Check the data ROM.</li> </ul>	
E 3	Needle bar upper position error	The needle bar is shifted from the needle-up position.	Turn the hand pulley,and return the needle bar to the upper position.	
E 4	Sewing area over	The sewing area is beyond the limit.	Press the reset switch,and check the pattern and scale rate.	
E 5	Temporary stop	Temporary stop by operating the reset switch while the sewing machine is running. (Only when the memory switch No.16 is set to"1".)	<ul style="list-style-type: none"> <li>Re-sewing by recession of the feed→start</li> <li>Thread trimming operation by the reset switch</li> <li>Return-to-origin operation by the reset switch after thread trimming operation</li> </ul>	When "E5" does not disappear and cannot be released,check that the memory switch No.16 is not set to "2".
E 7	Machine lock error Abnormal voltage error	The main shaft of the sewing machine does not rotate due to some troubles.	<ul style="list-style-type: none"> <li>Turn OFF the power switch,and remove the cause of troubles.</li> <li>Check the power source voltage.</li> </ul>	
E 8	Pattern data error	The pattern data cannot be read out from the data ROM.	<ul style="list-style-type: none"> <li>Turn OFF the power switch.</li> <li>Check the mounting of EP-ROM(contact failure,or direction of mounting).</li> </ul>	
E 9	Needle thread breakage detection error	Needle thread has broken during sewing.	<ul style="list-style-type: none"> <li>Recession of the feed after threading and re-sewing</li> <li>Return-to-origin operation by reset</li> </ul>	The needle thread breakage detection function is not provided with the standard sewing machine.
E A	Work clamp foot operation error	<ul style="list-style-type: none"> <li>The work clamp foot fails to come down or to go up.</li> <li>The work clamp foot sensor is defective.</li> <li>The air pressure is dropped.</li> </ul>	<ul style="list-style-type: none"> <li>Turn OFF the power switch,and remove the cause of troubles.</li> <li>Turn OFF the power switch,and check the work clamp foot sensor.</li> <li>Check the air pressure.</li> </ul>	
E EE	Memory write-in error	The data writing to the memory for the back-up cannot be performed.	<ul style="list-style-type: none"> <li>Turn OFF the power switch.</li> <li>Defective memory(Replace the MAIN circuit board.)</li> </ul>	
E E	Time-out error	MAIN circuit board is uncontrollable due to some troubles.	<ul style="list-style-type: none"> <li>Turn OFF the power switch.</li> <li>Defective MAIN circuit board(Replace the MAIN circuit board.)</li> </ul>	
E H	Overheat error	The temperature in the control box is rising.	<ul style="list-style-type: none"> <li>Turn OFF the power switch,and check whether the fan filter is clogged with dust and the power source voltage.Turn ON the power after the temperature has dropped properly.</li> </ul>	

# 异常错误显示

异常错误显示	异常错误名称	异常错误内容	解除方法	备考
E□□1	图案 No. 错误	<ul style="list-style-type: none"> <li>被指定的图案No. 没有登记到数据ROM里。</li> <li>或为不能读出的状态。</li> </ul>	<ul style="list-style-type: none"> <li>请确认图案No.。</li> <li>请确认存储器开关应为No.3。</li> </ul>	加固缝图案登记在系统里， 钉扣图案登记在数据里。
E□□2	放大错误 图案读入错误	<ul style="list-style-type: none"> <li>缝制间距超过10mm。</li> <li>不能从数据ROM中读出。</li> </ul>	<ul style="list-style-type: none"> <li>请确认放大率及缝制间距。</li> <li>请确认数据ROM。</li> </ul>	
E□□3	针杆上位置错误	针杆不在上位置。	转动手飞轮，把针杆返回到上位置。	
E□□4	超过缝制区域	超过缝制区域。	按复位开关，确认图案及X、Y放大率。	
E□□5	中途停止	经缝纫机驱动中操作复位键让缝纫机中途停止。 (只限於存储器开关No.16设定为“1”时。)	<ul style="list-style-type: none"> <li>用后退送布一开始的操作进行重新缝制。</li> <li>用复位开关进行切线动作。</li> <li>切线动作后，用复位开关进行复归原点动作。</li> </ul>	不消失，不能解除时，请确认存储器开关No.16是否被设定。
E□□7	机器锁定错误 电源电压异常错误	因出现若干故障，缝纫机的主轴不转动。	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关，排除故障。</li> <li>请确认电源电压。</li> </ul>	
E□□8	图案数据错误	不能从数据ROM里读出数据。	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关。</li> <li>请确认EP-ROM的安装情况(接触不良、安装方向)。</li> </ul>	
E□□9	上线断线检测错误	缝制中上线断线了。	<ul style="list-style-type: none"> <li>穿线后，倒退送布，重新缝制。</li> <li>按复位键进行复归原点动作。</li> </ul>	上线断线检测功能 标准品里没有。
E□□R	压脚动作错误	<ul style="list-style-type: none"> <li>压脚不下降、上升。</li> <li>压脚传感器异常。</li> <li>空气压力过低。</li> </ul>	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关，排除故障。</li> <li>请关闭(OFF)电源开关，确认压脚传感器。</li> <li>请确认空气压力。</li> </ul>	
E□□E	存储器写入错误	不能把数据写入后备存储器里。	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关。</li> <li>存储器不良(更换MAIN电路板)。</li> </ul>	
□□□E	超时错误	因出现若干故障，不能控制电路板。	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关。</li> <li>MAIN电路板不良。(更换MAIN电路板)。</li> </ul>	
E□□H	过热错误	电气箱内温度上升。	<ul style="list-style-type: none"> <li>请关闭(OFF)电源开关，确认风扇过滤器是否堵塞和电源电压，待温度完全下降之后再打开(ON)电源。</li> </ul>	

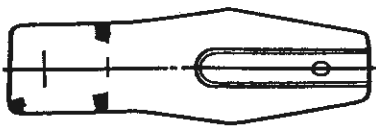
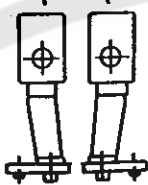

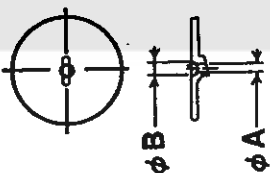
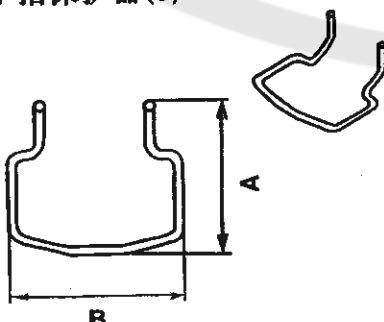
## 6.TROUBLES AND CORRECTIVE MEASURES(SEWING CONDITIONS)

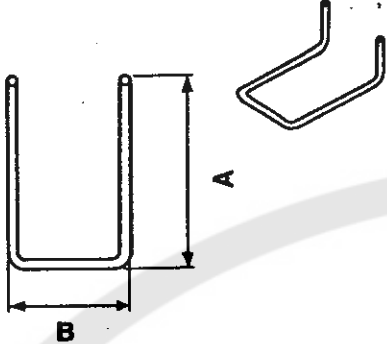
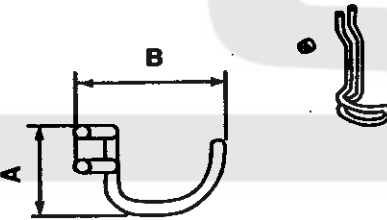
Trouble	Cause	Corrective measures	Page
1.The needle thread slips off at the start of bar-tacking.	① Stitches are slipped at the start.	○ Adjust the clearance between the needle and the shuttle to 0.05 to 0.1 mm.	42
	② The needle thread remaining on the needle after thread trimming is too short.	○ Set soft-start sewing at the start of bartacking.	49
	③ The bobbin thread is too short.	○ Correct the thread tension release timing of the thread tension controller No.2. ○ Increase the tension of the thread take-up spring,or decrease the tension of the thread tension controller No.1. ○ Decrease the tension of the bobbin thread. ○ Increase the clearasce between the needle hole guide and the counter knife.	44 24 24 45
2.Thread often breaks or synthetic fiber thread splits finely.	① The shuttle or the driver has scratches.	○ Take it out and remove the scratches using a fine whetstone or buff.	43
	② The needle hole guide has scratches.	○ Buff or replace it.	
	③ The needle strikes the work clamp foot.	○ Correct the position of the work clamp foot.	
	④ Fibrous dust is in the groove of the shuttle race.	○Take out the shuttle and remove the fibrous dust from the shuttle race.	
	⑤ The needle thread tension is too high.	○ Reduce the needle thread tension.	
	⑥ The tension of the thread take-up spring is too high.	○ Reduce the tension.	
	⑦ The synthetic fiber thread melts due to heat generated on the needle.	○ Use silicone oil.	
3.The needle often breaks.	① The needle is bent.	○ Replace the bent needle.	21
	② The needle hits the work clamp foot.	○ Correct the position of the work clamp foot.	43
	③ The needle is too thin for the material.	○ Replace it with a thicker needle according to the material.	42
	④ The driver excessively bends the needle.	○ Correctly position the needle and the shuttle.	
4.Treads are not trimmed.	① The counter knife is dull.	○ Replace the counter knife.	45
	② The difference in level between the needle hole guide and the counter knife is not enough.	○ Increase the bend of the counter knife.	
	③ The moving knife has been improperly positioned.	○ Correct the position of the moving knife.	42
	④ The last stitch is skipped.	○ Correct the timing between the needle and the shuttle.	
5.Stitch skipping often occurs.	① The motions of the needle and shuttle are not properly synchronized.	○ Correctly the positions of the needle and shuttle.	42
	② The clearance between the needle and shuttle is too large.	○ Correctly the positions of the needle and shuttle.	42
	③ The needle is bent.	○ Replace the bent needle.	21
	④ The driver excessively bends the needle.	○ Correctly position the driver.	42
6.The needle thread comes out on the wrong side of the material.	① The needle thread tension is not high enough.	○ Increase the needle thread tension.	24
	② The tension release mechanism fails to work properly.	○ Check whether or not the tension disc No.2 is released during bar-tacking.	44.
	③ The needle thread after thread trimming is too long.	○ Increase the tension of the thread tension controller No.1.	24
7.Threads break at time of thread trimming.	① The moving knife has been improperly position.	○ Correctly the position of the moving knife.	45

## 6. 缝制时的现象、原因和对策

现象	原因	对策	页	
1. 始缝时脱线。	① 始缝时跳针。	·机针和旋梭的间隙调整为0.05-0.1mm。 ·设定始缝时软起动。	42 49	
	② 切线后上线长度短。	·调节第2线张力器的浮线量。 ·把挑线弹簧弄强或把第一线张力盘的张力减弱。	44 24	
	③ 底线过短。	·减弱底线张力。 ·弄大针孔导向器和固定刀的间隙。	24 45	
2. 老断线。 化织线拉断。	① 旋梭、驱动器上有伤。	·卸下用细磨时或锉刀磨平。	43	
	② 针孔导向器上有伤。	·用锉刀磨，或换新。		
	③ 机针碰布压脚。	·调节布压脚的位置。		
	④ 线头进入到大旋梭的沟里。	·卸下中旋梭，清除线头。		
	⑤ 上线张力过强。	·减弱上线张力。		24
	⑥ 挑线弹簧过强。	·减弱挑线弹簧。		24
	⑦ 化织线摩擦而断。	·使用硅油。		22
3. 常断针。	① 针弯了。	·更换机针。	21	
	② 针碰布压脚。	·调节布压脚。	43	
	③ 针过细。	·根据缝制物选用适当的机针。	42	
	④ 驱动器把针弄得过弯。	·调整针和旋梭位置。		
4. 线切不断。	① 固定刀不快。	·更换固定刀。	45 42	
	② 针孔导向器和固定刀高低差小。	·把固定刀再弄弯一些。		
	③ 动刀位置不好。	·调整动刀位置。		
	④ 最终针跳线。	·调整针和旋梭的同步。		
5. 常跳线。	① 针和旋梭调整不好。	·调整针和旋梭的位置。	42	
	② 针和中旋梭的间隙过大。	·调整针和旋梭的位置。	42	
	③ 针弯了。	·更换机针。	21	
	④ 驱动器把针弄得过弯。	·调整驱动器的位置。	42	
6. 上线从布的里侧露出来。	① 上线紧线不好。	·加强上线张力。	24	
	② 线张力盘浮起机构不动作。	·确认缝制中第2线张力盘是否浮起。	44	
	③ 切线后的上线过长。	·加强第1线张力。	24	
7. 切线时断线。	① 动力位置不好。	·调节动刀位置。	45	

7. TABLE OF THE OPTIONAL PARTS / 选构品零件一览表

Name of Parts 零件名称	Type 种类	Part No. 货号	Remarks 备考
Feed plate blank 布压脚下板夹   t = 1.2	Without knurl/processed 无齿牙/有表面处理	501GM128	
	With knurl/processed 有齿牙/有表面处理	501GM129	
	Without knurl/stainless steel 无齿牙/不锈钢	501GM130	t=0.8
Work clamp foot face plate(asm.) 压脚滑板(组件)  		501GM131  501GM132	Face plate for presser blank 布压脚夹用滑板
Presser blank 布压脚夹   t = 3.2	With knurl/Processed(right) 有齿牙/有表面处理(右)	501GM133	
	With knurl/Processed(Left) 有齿牙/有表面处理(左)	501GM134	
Needle hole guide 针孔导向器  	A=1.6 B=2.5 With relief slit A=1.6 B=2.5 有槽	501GM02	Standard type S规格
	A=1.6 B=2.0 Without relief slit A=1.6 B=2.0 无槽	501GM134	F and M types F.M 规格
	A=2.3 B=4.0 Without relief slit A=2.3 B=4.0 无槽	501GM135	For heavy-weight material H规格
	A=2.7 B=3.7 Without relief slit A=2.7 B=3.7 无槽	501GM136	For extra heavy-weight material 极厚料规格
Finger guard(1) 手指保护器(1)  	A=57 B=65	501GB175	
	A=59 B=74	501GB210	For large size bartacking 大摆动用

Name of Parts 零件名称	Type 种类	Part No. 货号	Remarks 备考
Finger guard(2) 手指保护器(2)  	A=66.5 B=43	501GB211	For lengthwise bartacking 纵加固用
Finger guard(3) 手指保护器(3)  	A=21.5 B=35.5	501GB212	For specially ordered work clamp 特殊订制布压脚用

## II. EXPLANATION OF THE ZJ1901, COMPUTER-CONTROLLED HIGH-SPEED EYELET BUTTONHOLE BARTACKING MACHINE

### ZJ1901 高速电子锁眼加固缝纫机的说明



#### 1. SPECIFICATIONS / 规格

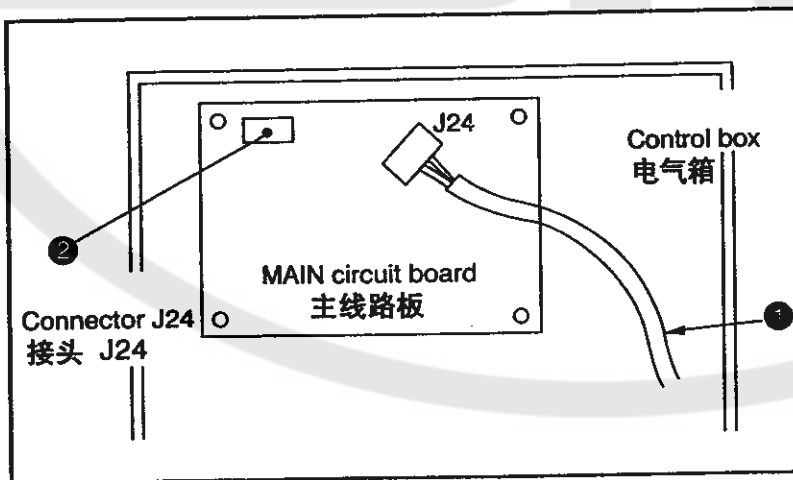
Different specifications from those of the ZJ1900 only are described.

这里只记述与ZJ1900不同部位的说明内容。

1) Sewing speed	Max.2,700 rpm
2) Needle	
3) Lifting method of the work clamp foot	Electromagnetic solenoid type/Air Cylinder type
4) Lift of the work clamp foot	MAX. 17 mm
5) Number of standard patterns	3 patterns
6) Wiper method	Actuates with presser lifter
1) 转速	最高2,700rpm
2) 始用机针	DP×5 #14, #16
3) 压脚提升方示	电磁继电器式/气缸式
4) 压脚上升量	最大17mm
5) 记忆数据数量	3种
6) 拨线方式	压脚提升连动

#### 2. Installation of the sewing machine and preparation of the operation 安装和运转准备

	<b>WARNING:</b> Be sure to perform the work with two persons or more when moving the sewing machine.
	<b>危险</b> 搬运缝纫机时，一定要2人以上来搬运。



除抓起装置以外均与ZJ1900相同。有关内容请参照ZJ1900使用说明书。

抓起装置电磁继电器连接电缆的接头J24 (1) 连接到电气箱内的主线路板的接头J24 (2) 上。

1) Except for the connection of the work clamp foot bracket unit solenoid, installation of ZJ1901 and preparation of the operation are the same as those of the ZJ1900.

Refer to the instruction manual for the ZJ1900.

2) Connect connector J24 (1) of the relay cable of the work clamp foot bracket unit with connector J24 (2) mounted on the MAIN circuit board inside the control box.

## 5. Adjustment of the material closing amount

### 靠布量的调节



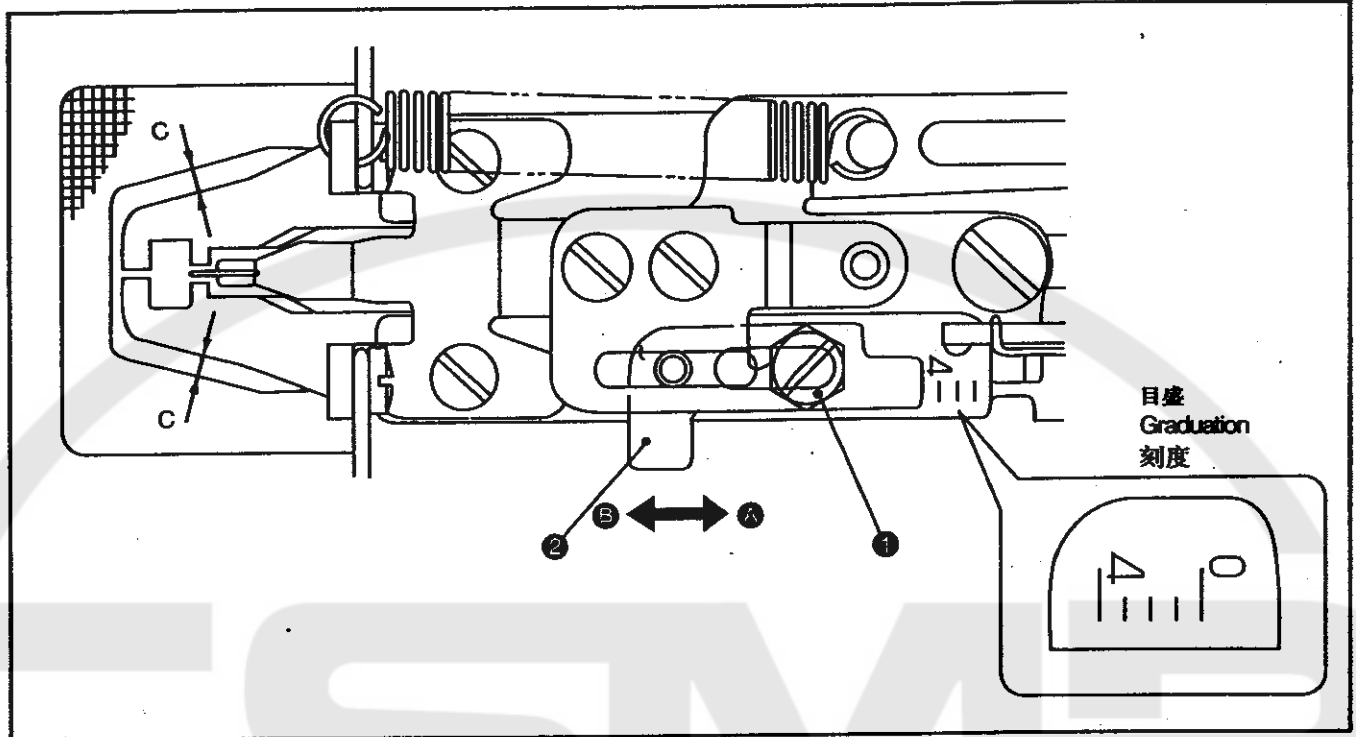
#### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



# 危险

为了防止意外的启动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



1) The maximum material closing amount is 4 mm. However, the amount is set to 2 mm at the time of delivery because of the relation of the feed plate window and the work clamp foot (dimension C). (Graduation position:2)

2) Loosen bolt ① and move work clamp foot regulator ② in the direction of arrow to adjust the material closing amount. The material closing amount will be decreased when work clamp foot regulator ② is moved in the direction of ④, and be increased when it is moved in the direction of ③.

(Note) To increase the material closing amount more than 3 mm, widen the feed plate window by additional work (increase the dimension C.) so that the feed plate window does not interfere with the work clamp foot.

(1) 靠布量最大为4mm，因布压脚底板窗和布压脚的关系（C尺寸），出厂时调整为2mm，（刻度位置2）

(2) 靠布量，请拧松螺栓①，沿箭头方向移动抓起量调节板②进行调整。

把抓起量调节板②向④方向移动后，靠布量变窄，向③方向移动后，靠布量变宽。

(注) 靠布量3mm以上时，可以换大布压脚底板窗（把C尺寸放大的），使之不与布压脚相碰。



#### 4. Adjustment of the lift of the work clamp foot / 压脚提升量的调节

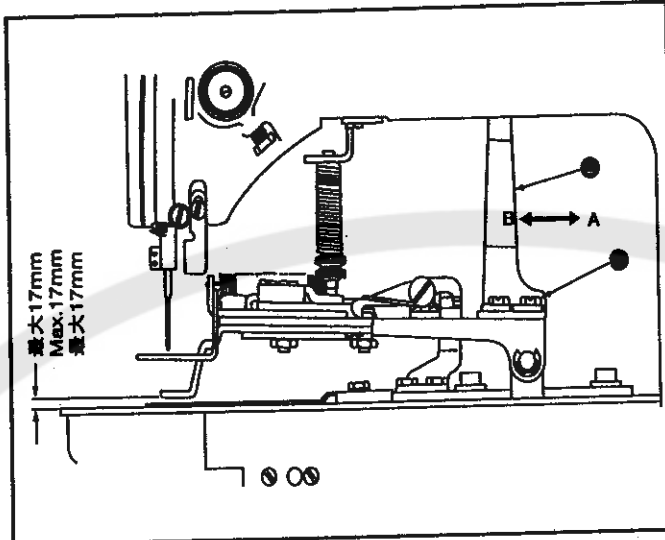


**WARNING:**

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



1) Loosen two setscrews ① and adjust by moving work clamp foot lifting plate ② back and forth in the direction of arrow. The amount of the lift of the work clamp foot will be decreased when work clamp lifting plate ② is moved in the direction of A, and be increased when it is moved in the direction of B. After the adjustment, securely tighten setscrews ①.

(1) 把压脚提升动作板 ② 向A方向移动后，压脚提升量变低，向B方向移动后，则变高。调整后把固定螺丝 ① 确实拧紧。

#### 5. Adjustment of the pressure of the work clamp unit / 压脚压力的调节

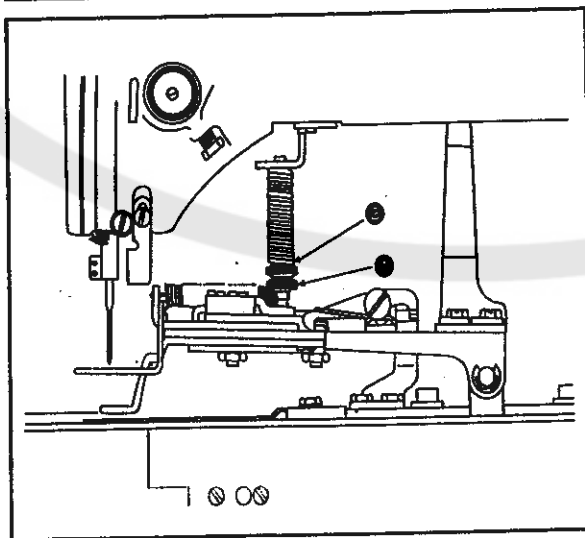


**WARNING:**

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



1) The pressure of the work clamp unit should be minimized as long as the material does not warp during sewing. Loosen adjusting screw ① and turn adjusting screw ② to obtain the aforementioned pressure.

(1) 拧松调节螺丝 ①，转动调节螺丝 ②，让布料在运转中尽可能不要偏斜。

## 6. Setting of the material closing operation / 靠布动作的设定

(1) The material closing operation is performed by the electromagnetic solenoid, and change-over of the operation setting (effective/ ineffective) is available. The material closing has been set to work simultaneously with sewing at the time of delivery.

(2) If the material closing is not performed, the change-over is made by the memory switch.

For the way of operation, refer to the item " How to use the memory switch " described in the instruction manual for the ZJ1900.

(1) 靠布动作是由电磁继电器来进行的，可以设定变换动作（有、无）。出厂时，本设计为出货时靠布动作与缝制同时动作。

(2) 不靠布时，通过存储器开关进行变换。

操作方法请参照ZJ1900使用说明书中的存储器开关的使用方法。

### ◎ List of memory switch functions / 存储器开关功能表

NO./号码	Function/功能	Setting range/设定范围	State at time of delivery/出货状态
12	Setting of material closing operation 靠布动作的设定	0: 无 0:Ineffective 0:无 1: 有 1:Effective 1:有 2: 有 2:Effective 2:有	2

\* Setting range "1" : The material closing simultaneously works when the work clamp foot comes down.

Setting range "2" : The material closing simultaneously works with the sewing after the work clamp foot has come down.

\* As for the contents of memory switch function Nos. 01 through 11, refer to the list of the memory switch functions described in the instruction manual for the ZJ1900.



※设定范围1为压脚下降的同时向右靠布。

设定范围2为压脚下降后缝制动作的同时向右靠布。

※存储器开关功能号码01~11的内容请参照ZJ1900使用说明书中的存储器开关一览表。

## 7. Selection and confirmation of the sewing patterns

### 缝制图案的选定和确认

	<p><b>WARNING:</b> In case of using an exclusive work clamp foot, make sure of the shape of the sewing pattern. If the sewing pattern extends outside the work clamp foot, the needle interferes with the work clamp foot during sewing, resulting in the danger of the needle breakage or the like.</p>
 <p><b>注意</b></p>	<p>使用专用压脚时，请确认缝制图案的形状。 万一，压脚突出缝制图案，缝制途中机针就有碰到压脚，发生断针的危险</p>

(1) The patterns for eyelet buttonhole bartacking are from No. 11 to No.13.

(1) 锁眼加固用的图案为No.11~No.13。

Pattern No. 图案号码	Sewing size(mm) 缝制尺寸(mm)		Number of stitches 针数
	Lengthwise 纵	Crosswise 横	
11	2.5	6	21
12	2.5	6	28
13	2.5	6	36

Sewing size is the dimension when the enlargement rate is 100%.

缝制尺寸为放大率100%的尺寸。

(2) 靠布动作时的最大缝纫尺寸为3×7mm, 请利用扩大、缩小功能设定为最适合的尺寸。

缝制花样的设定、确认、变更的操作方法请参照ZJ1900使用说明书的缝纫机的操作(基础篇)内容。

(注意) 设定后, 请一定确认机针是否与压脚相碰, 落针位置是否正确。

(2) When the material closing operation is performed, the maximum sewing size is 3×7 mm. Set the most appropriate size using the enlargement / reduction function.

As for the way of operation for setting, checking or changing the sewing pattern, refer to the item "Operation of the sewing machine(basic)" described in the instruction manual for the ZJ1900.

(Note) After setting, check the needle entry point whether or not the needle interferes with the work clamp foot.

### III. EXPLANATION OF THE ZJ1902, COMPUTER-CONTROLLED HIGH-SPEED BELT-LOOP ATTACHING MACHINE ZJ1902 高速电子钉皮带环缝纫机的说明

#### 1. SPECIFICATIONS / 规格



Different specifications from those of the ZJ1900 only are described.

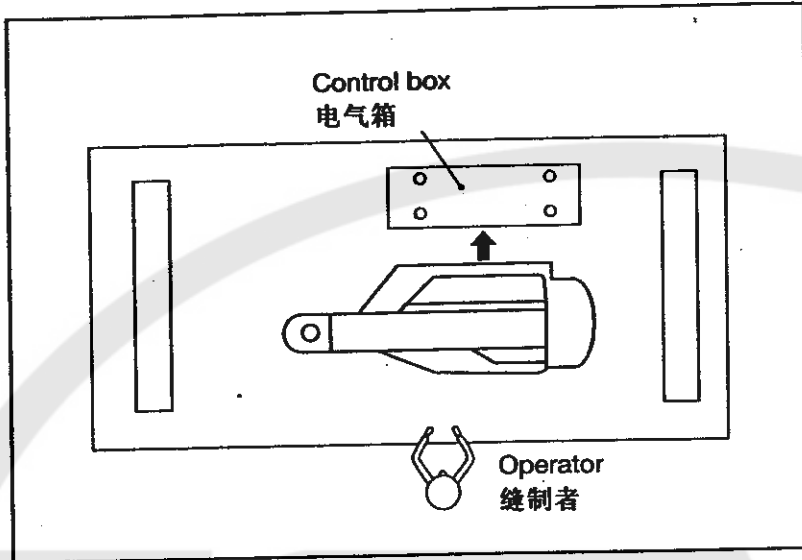
这里只记述与ZJ1900不同部位的说明内容。

- |  |   |
|--|---|
| 1) Sewing speed                          | Max.2,700 rpm                                   |
| 2) Needle                                | DP×5 #14, #16                                   |
| 3) Lifting method of the work clamp foot | Electromagnetic solenoid type/Air Cylinder type |
| 4) Lift of the work clamp foot           | MAX. 17 mm                                      |
| 5) Number of standard patterns           | 6 patterns                                      |
| 6) Wiper method                          | Actuates with presser lifter                    |



- |           |               |
|-----------|---------------|
| 1) 转速     | 最高2,700rpm    |
| 2) 始用机针   | DP×5 #14, #16 |
| 3) 压脚提升方示 | 电磁继电器式/气缸式    |
| 4) 压脚上升量  | 最大17mm        |
| 5) 记忆数据数量 | 6种            |
| 6) 拨线方式   | 压脚提升连动        |

## 2. Installation of the sewing machine and preparation of the operation 安装和运转准备

	<p><b>WARNING:</b> Be sure to perform the work with two persons or more when moving the sewing machine.</p>
 <p><b>危险</b></p>	<p>搬运缝纫机时，一定要2人以上来搬运。</p>



- (1) The standard installing position of the belt-loop attaching machine should be lateral on the table.
  - (2) Install the control box so that the cover is placed on the side of arrow mark.
- (1) 钉皮带环缝纫机的标准安装为横置。  
(2) 请把电气箱盖安装到箭头侧。

	<p><b>WARNING:</b> Tilt slowly the sewing machine head until it hits against the machine head support bar when tilting the sewing machine head.</p>
 <p><b>注意</b></p>	<p>放倒缝纫机头时，请把机头部慢慢地放到机头支杆上。</p>

### 3. Threading the machine / 上线的穿线方法



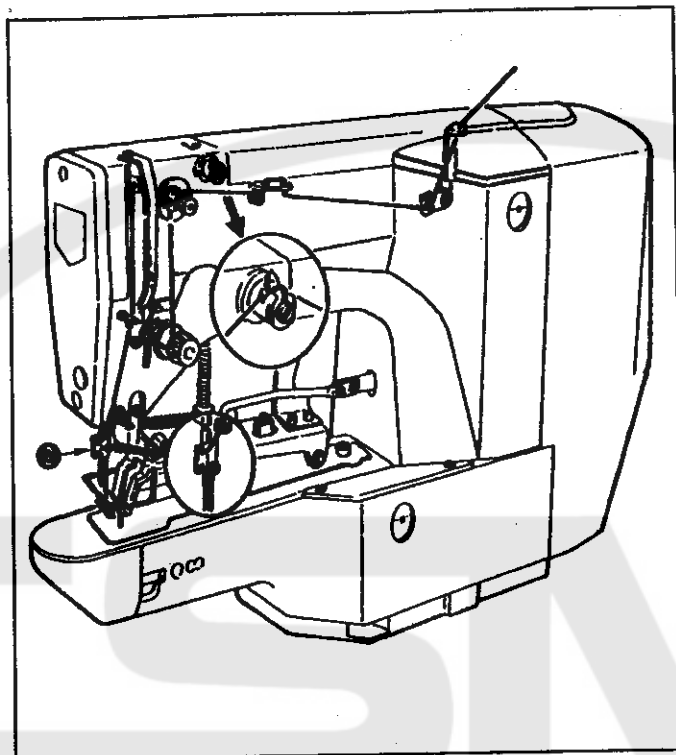
**WARNING:**

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



**注意**

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



Thread the machine in the order as illustrated in the left figure. Leave thread of approximately 4 cm after passing through the needle.



(Caution) For a thick thread, pass the thread through only one of the two holes in needle bar thread guide ②.

请按上图所示穿上线。穿过针之后线头约4mm。

(注意) 粗线时，机线只穿针杆导线器 ② 上的1个孔。

## 4. Selection and confirmation of the sewing patterns

### 缝制图案的选定和确认

	<p><b>WARNING:</b> In case of using an exclusive work clamp foot, make sure of the shape of the sewing pattern. If the sewing pattern extends outside the work clamp foot, the needle interferes with the work clamp foot during sewing, resulting in the danger of the needle breakage or the like.</p>
	<p><b>注意</b> 使用专用压脚时，请确认缝制图案的形状。 万一，压脚突出缝制图案，缝制途中机针就有碰到压脚，发生断针的危险。</p>

(1) The patterns for the belt-loop attaching are from No. 17 to No. 22.

As for the way of operation for setting, checking or changing the sewing pattern, refer to the item "Operation of the sewing machine (basic)" described in the instruction manual for the ZJ1900.

(1) 钉皮带环用的缝制图案为No. 17~No. 22。

缝制花样的设定、确认、变更的操作方法请参照ZJ1900使用说明书的缝纫机的操作(基础篇)内容。

Pattern No. 图案号码	Sewing size(mm) 缝制尺寸(mm)		Number of stitches 针数
	Lengthwise 纵	Crosswise 横	
17	0	10	21
18	0	10	28
※19	0	25	28
※20	0	25	36
※21	0	25	42
※22	0	35	42

Sewing size is the dimension when the enlargement rate is 100%.

缝制尺寸为放大率100%的尺寸。

\* The calling has been set to ineffective at the time of delivery since the needle interferes with the standard work clamp foot which has been provided with the machine. When using this function, use "Setting the pattern data calling effective or ineffective" of the memory switch function to make the calling effective.

As for the way of operation for setting, refer to the item "How to use the memory switch" described in the instruction manual for the ZJ1900.

※因为怕运输时碰坏标准配备的压脚，出货时设定为不能呼出。使用时请把存储器开关功能的「可以呼出花样数据的设定功能设定为可以呼出。操作方法请参照ZJ1900使用说明书存储器开关的使用方法。

## 5. Combination of the work clamp foot and the feed plate

### 布压脚、送布底板的组装



**WARNING:**

In case of using an exclusive work clamp foot, make sure of the shape of the sewing pattern. If the sewing pattern extends outside the work clamp foot, the needle interferes with the work clamp foot during sewing, resulting in the danger of the needle breakage or the like.



使用专用压脚时，请确认缝制图案的形状。

万一，压脚突出缝制图案，缝制途中机针就有碰到压脚，发生断针的危险。

Make use of the appropriate combination of the work clamp foot and the feed plate in accordance with the sewing conditions. The combination for the standard delivery and the special order is shown in the following table.

压脚、送布底板请根据缝制条件适当地进行组合。标准出货和特别订货的组合如下表所示。

Spec/规格	Work clamp foot/布压脚	Feed plate/布压脚底板
ZJ1902 Standard 标准		
	501GM135	501GM139
For large size (Special order part) 大尺寸用 (特别订制零件)		
	501GM136	501GM140
For large size (Special order part) 大尺寸用 (特别订制零件)		
	501GM137	501GM141
For extra large size (Special order part) 特大尺寸用 (特别订制零件)		
	501GM138	501GM142

## IV. EXPLANATION OF THE ZJ1903, COMPUTER-CONTROLLED HIGH-SPEED LOCKSTITCH BUTTON SEWING MACHINE

### ZJ1903 高速电子平缝钉扣缝纫机的说明

#### 1. SPECIFICATIONS / 规格

Different specifications from those of the ZJ1900 only are described.

这里只记述与ZJ1900不同部位的说明内容。

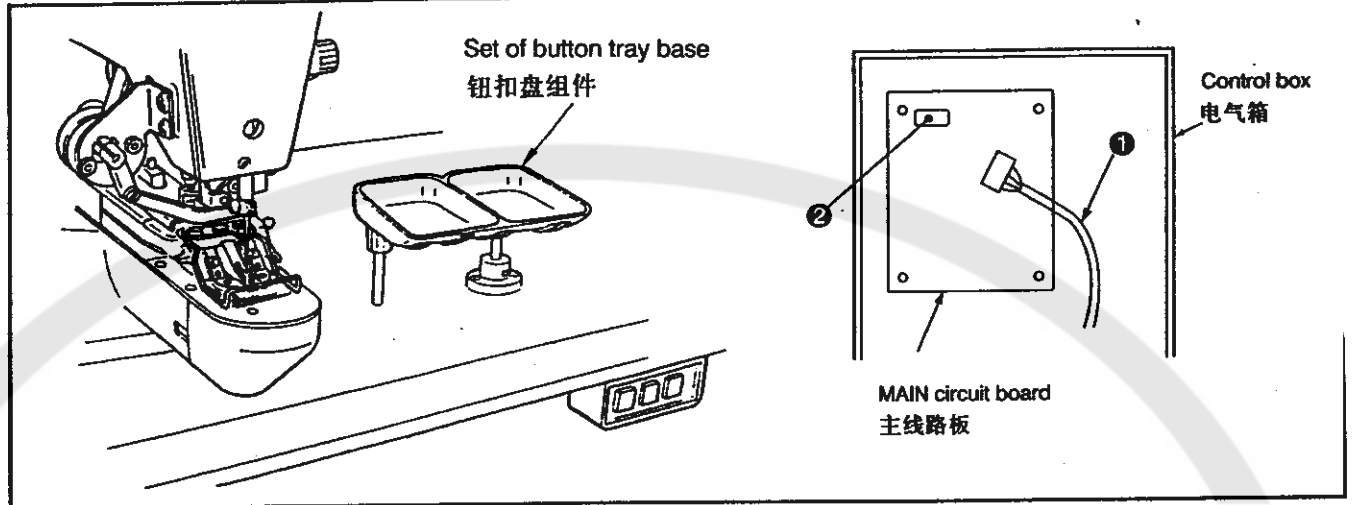
1) Sewing speed	Max.2,500 rpm
2) Needle	DP×17 #14
3) Lifting method of the work clamp foot	Electromagnetic solenoid type/Air Cylinder type
4) Lift of the work clamp foot	MAX. 13 mm
5) Number of standard patterns	33 patterns
6) Wiper method	Driven by solenoid

1) 转速	最高2,500rpm
2) 始用机针	DP×17 #14
3) 压脚提升方示	电磁继电器式/气缸式
4) 压脚上升量	最大13mm
5) 记忆数据数量	33种
6) 拨线方式	继电器驱动



## 2. Installation of the sewing machine and preparation of the operation 安装和运转准备

	<b>WARNING:</b> Be sure to perform the work with two persons or more when moving the sewing machine.
	<b>危险</b> 搬运缝纫机时，一定要2人以上来搬运。



- (1) Installation of the sewing machine head and the control box is the same as that of the ZJ1900. Refer to the instruction manual for the ZJ1900.
  - (2) Install a set of the button tray base to a convenient place for the work as the set is included in the accessories.
  - (3) Connect connector J24 (1) of the relay cable of the wiper solenoid with connector J24 (2) mounted on the MAIN circuit board inside the control box.
  - (4) The way of operation is the same as that of the ZJ1900.
- (Caution) Make sure before operation that the needle does not strike against the button hole.

- (1) 机头、电气箱的安装与ZJ1900相同，请参考ZJ1900使用说明书。
  - (2) 附属品安装在钮扣盘架上，请安装到容易作业的位置。
  - (3) 请把挑线杆电磁继电器中断电缆的插头J24 (1) 连接到电气箱内的主线路板的插头J24 (2) 上。
  - (4) 操作方法与ZJ1900相同。
- (注意) 运转前请转动手轮确认机针是否与钮扣相碰。

### 3. Needle and thread / 机针与机线

Needle 机针	Needle thread 上线	Bobbin thread 底线
DP×17#14	#60	#80
	#50	#60
	#40	#60
	#60	#60

Needle and thread will vary in accordance with the sewing conditions. When using the needle and the thread, select them referring to the left table. Cotton thread and spun thread are recommended.  
机针和机线，缝制条件不同来决定，使用时请参考下表。机线最好使用棉线、缝纫机线。

#### 4. Attaching the needle / 机针的安装方法



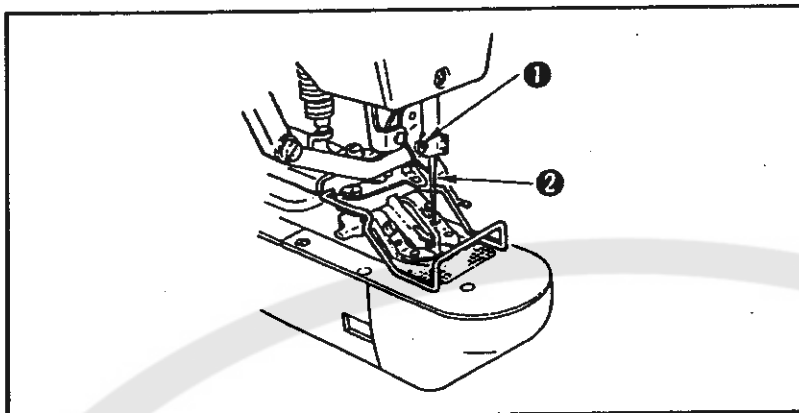
**WARNING:**

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



**注意**

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



To attach the needle, loosen setscrew ①, insert needle ② fully into the needle bar hole with the long groove facing toward you, then tighten setscrew ①.  
安装机针时，请拧松固定螺丝 ①，把机针 ② 的长沟转到跟前，插入到针杆孔的最里面，然后拧紧固定螺丝 ①。

#### 5. Threading the machine / 上线的穿线方法



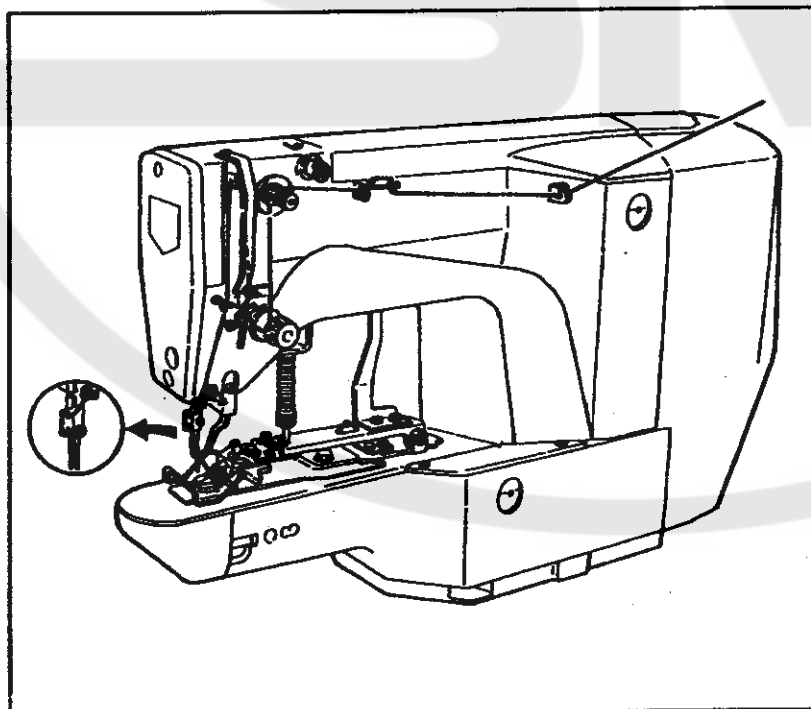
**WARNING:**

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**注意**

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



★ Thread the machine in the order as shown in the figure.

Leave thread of approximate 4 cm after passing through the needle.

★ 上线的穿线方法如图所示。

机线穿过机针后，约留4cm。

## 6. Various sewing modes / 有关各种缝制模式

(1) List of sewing patterns of ROM No.052C/ROM No.052C 缝制图案一览表

Number of threads and standard sewing size of X and Y are as shown in the following list.

缝线数、标准缝制长度X、Y如下表所示。

<Sewing program list / 缝制程序表>

Pattern No. 图案号	Stitch shape 缝制图案	Number of threads (thread) 缝线(根)	Standard sewing size X(mm) 标准缝制长度 X(mm)	Standard sewing size Y(mm) 标准缝制长度 Y(mm)	Pattern No. 图案号	Stitch shape 缝制图案	Number of threads (thread) 缝线(根)	Standard sewing size X(mm) 标准缝制长度 X(mm)	Standard sewing size Y(mm) 标准缝制长度 Y(mm)
1-34		6-6	3.4	3.4	18-44		6	3.4	0
2-35		8-8			19-45		8		
3		10-10			20		10		
4		12-12			21		12		
5-36		6-6			22		16		
6-37		8-8			23-46		6		
7		10-10			24		10		
8		12-12			25		12		
9-38		6-6			26-47		6-6		
10-39		8-8			27		10-10		
11		10-10			28-48		6-6		
12-40		6-6			29		10-10		
13-41		8-8			30-49		5-5-5		
14		10-10			31		8-8-8		
15-42		6-6			32-50		5-5-5		
16-43		8-8			33		8-8-8		
17		10-10							

\*The standard sewing sizes of X and Y are when the enlargement/reduction rate is 100%.

Use the pattern No. 34 to No.50 when the button hole is small( $\Phi$ 1.5 mm or less).

※标准缝制长度X、Y扩大缩小率100%时。图案号No.34-No.50时钮扣眼小时( $\Phi$ 1.5mm以下)使用。

## (2) Selection of the sewing pattern and the sewing width 关于缝制图案的选定和缝制宽度

- ★ Selection of the sewing pattern is the same as that of the ZJ1900.
- ★ When the distance between holes of the button used does not fit the standard sewing width of the sewing pattern No., adjust the sewing width by enlarging/reducing the sewing width.  
The way of enlarging/reducing is the same as that of the ZJ1900. Refer to the table given below for the scale for enlargement/reduction in terms of the sewing width.
- ★ After changing the sewing pattern No. and the sewing width, make sure of the needle entry point. As for the way of confirmation, refer to the confirmation of the shape of sewing pattern in the instruction manual for the ZJ1900.

★缝制图案的选定方法与ZJ1900相同。



★缝制图案号的标准缝纫宽度与使用钮扣的钮孔不合时，请利用扩大、缩小功能进行调整。  
扩大、缩小方法与ZJ1900相同。

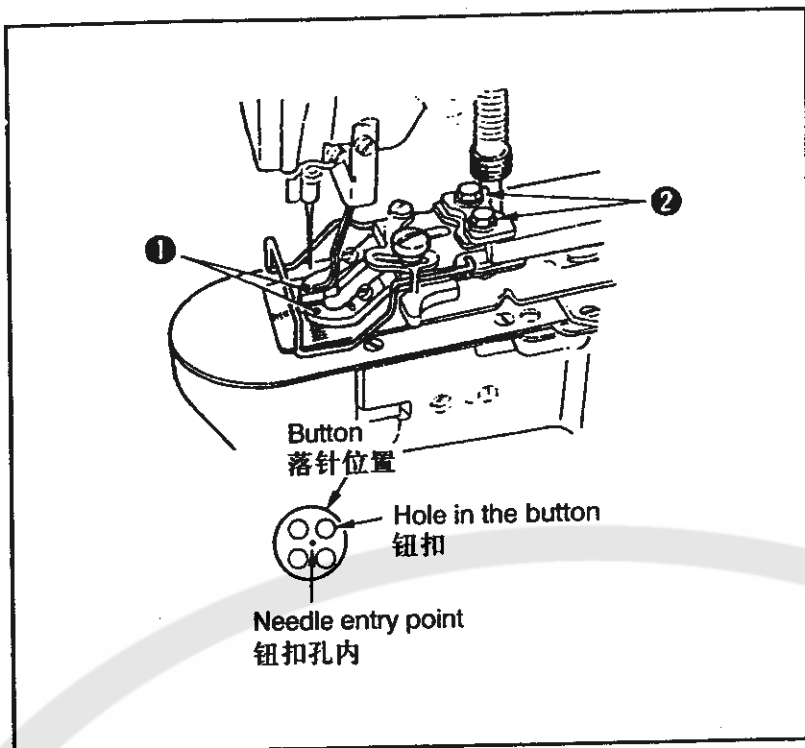
★变更了缝制图案号和缝纫宽度之后，请一定要确认落针位置。  
确认方法请参考ZJ1900使用说明书图案形状の確認。

### ◎Table of XY scales in terms of the sewing width 根据缝制宽度调整X、Y扩大、缩小率一览表

X·Y (mm)	2.4	2.6	2.8	3.0	3.2	3.4	3.6	4.0	4.3	4.5	4.7	5.2	5.6	6.0	6.2	6.4
%	71	76	82	88	94	100	106	118	126	132	138	153	165	176	182	188

## 7. Position of the button clamp jaw lever / 钮扣爪脚的位置

	<p><b>WARNING:</b> When change of the shape of button, change of the sewing pattern or enlargement/reduction of the sewing width is performed, make sure of the needle entry point. If the needle extends outside the button hole or the sewing pattern extends outside the button clamp unit, the needle interferes with the button hole or the button clamp unit, resulting in the danger of the needle breakage or the like.</p>
	<p><b>注意</b> 变更了钮扣形状、图案，或利用扩大缩小功能变更了缝制宽度之后，请一定要确认落针位置。如果机针落到钮扣外，图案超出抓起装置，机针在缝制中会发生断针的危险。</p>



- (1) 选择操作盘的No.99。
- (2) 按准备按钮。爪脚装置上升，移动到原点位置。
- (3) 把钮扣放入钮扣爪脚●。
- (4) 把踏板踩到1级位置。爪脚装置下降之后，转动手飞轮直到显示出数字E3。
- (5) 松开脚踏板。
- (6) 转动手飞轮，确认机针中心是否在钮扣中心。确认原点位置。
- (7) 如果机针没有在钮扣中心时，请拧松钮扣爪脚安装台固定螺丝②，进行调整。
- (8) 调节后，请确认图案形状。确认机针是否正好落到钮扣孔内。

- (1) Select the pattern No.99 using the operation panel.
- (2) Press the[Ready]key on the operation panel.
- (3) Place a button in button clamp jaw levers●.
- (4) Depress the pedal to the first step. When the button clamp unit has come down, turn the hand pulley until the digital indication on the operation panel shows "E3".
- (5) Detach the foot from the pedal.
- (6) Turn the hand pulley and check that the center of the needle enters the center of the button.
- (7) If the center of the needle is not located in the center of the button, loosen screws②in the button clamp jaw lever base to adjust so that the center of the needle enters the center of the button.
- (8) After the adjustment, make sure of the shape of the sewing pattern. Also, make sure that the needle securely enters the holes in the button.



**WARNING:**

If the pedal switch is depressed to the second step, the button clamp unit will go up. The button clamp unit will go up if the hand pulley is kept turning, or turned in the reverse direction until the digital indication " E3 " goes off.



**注意**

把踏板开关踩到第二档，爪脚装置上升。转动手飞轮。反向转动的话，数字显示的E3灭了之后爪脚装置上升。

## 8. Adjusting the feed plate / 布压脚底板的调整



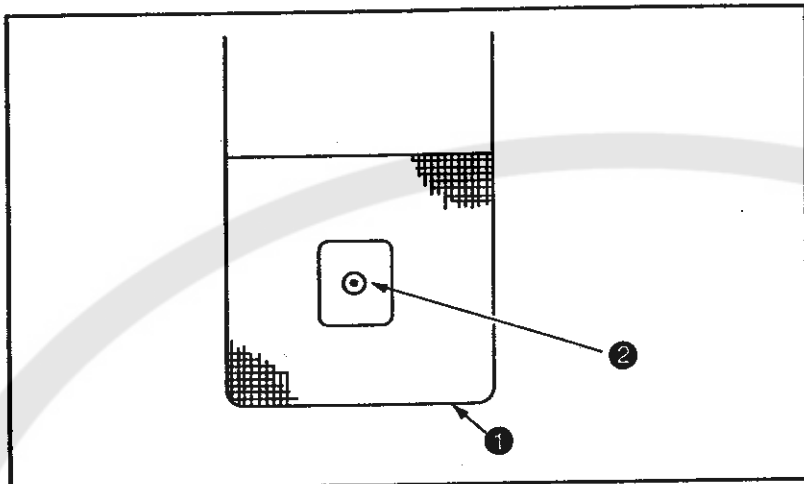
### WARNING:

When change of the shape of the button, change of the sewing pattern or enlargement/reduction of the sewing width is performed, make sure of the shape of the sewing pattern. If the feed plate interferes with the needle hole guide, it will result in the danger of the needle breakage or the like. Also, if the pedal is depressed during the adjustment, the button clamp unit will go up or come down. So, be careful.



## 注意

变更了钮扣形状、图案，或利用扩大缩小功能变更了缝纫宽度之后，请一定要确认落针位置。如果布压脚与针孔导板相碰，会发生断针的危险。另外，调整中如果踩了踏板，爪脚装置会上下移动，请注意危险。



(1) Select the pattern No.99 using the operation panel.

(2) Press the[Ready] key on the operation panel.

Then the button clamp unit will go up and come to the position of the origin.

(3) Adjust feed plate (1) so that needle hole guide (2) comes to the center of the recessed part of feed plate (1).

(1) 选择操作盘的No.99。

(2) 按准备按钮。爪脚装置上升，移动到原点位置。

(3) 调整布压脚底板 (1)，使针孔导板 (2) 正好在布压脚底板 (1) 的H部的中心。

## 9. Adjusting the button clamp jaw lever / 爪脚张开拨杆的调整



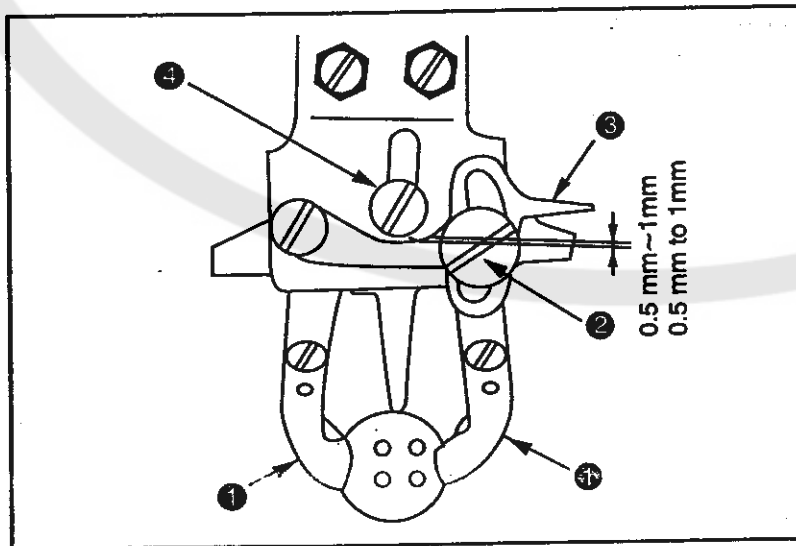
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



## 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



Bring the machine to its stop-motion state. Then lift button clamp (1). Loosen screw (2) in the button clamp jaw lever and adjust so that a clearance of 0.5 to 1 mm is provided between button clamp jaw lever (3) and hinge screw (4) when placing a button in between button clamps (1). Then tighten screw (2) in the button clamp jaw lever.

在让停止位置的爪脚 (1) 上升的状态，拧松打开爪脚拨杆固定螺丝 (2)，让钮扣设定到爪脚 (2)，把爪脚打开拨杆 (3) 和塔形螺丝 (4) 之间的间隙为0.5~1mm，然后拧紧打开爪脚拨杆固定螺丝 (2)。

## 10. Adjusting the lifting amount of the button clamp / 钮扣爪脚上升量的调整



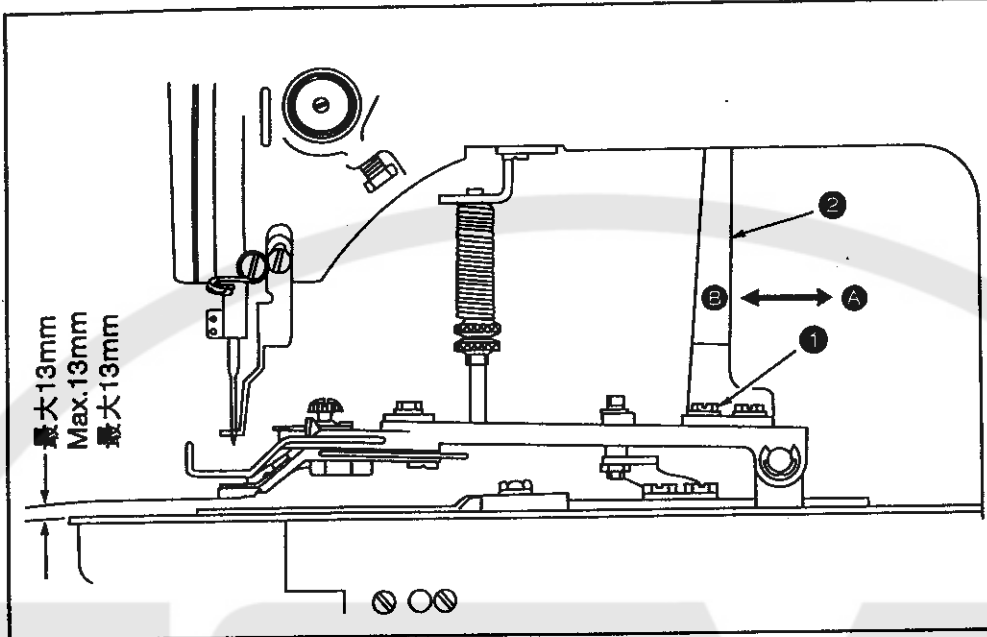
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



## 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



Loosen two setscrews ①, and move moving plate ② back and forth in the direction of arrow to adjust.

The lifting amount of the button clamp will be decreased when moving plate ② is moved in the direction of ④, and be increased when it is moved in the direction of ③.

After the adjustment, securely tighten setscrews ①.

把压脚提升动作板 ② 向 ④ 方向移动后，提升量变低，向 ③ 方向移动后，则变高。调正后把固定螺丝确实拧紧固定。

请拧松2个固定螺丝 ①，前后调整压脚提升动作板 ② 进行调整。

## 11. Adjustment of the pressure of the work clamp unit / 压脚压力的调整



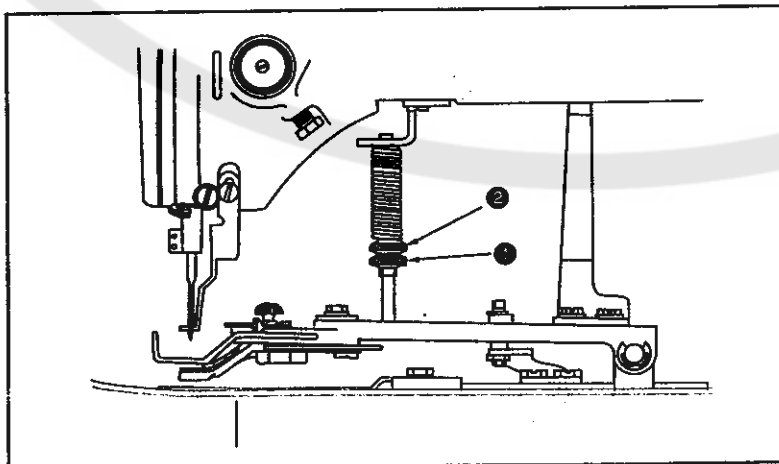
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



## 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



The pressure of the work clamp unit should be minimized as long as the material does not warp during sewing. Loosen adjusting screw ① and turn adjusting screw ② to obtain the aforementioned pressure.

拧松调整螺丝 ①，转动调节螺丝 ②，使布料运转中尽量不要偏斜。

## 12. Adjustment of the wiper / 挑线杆的调整



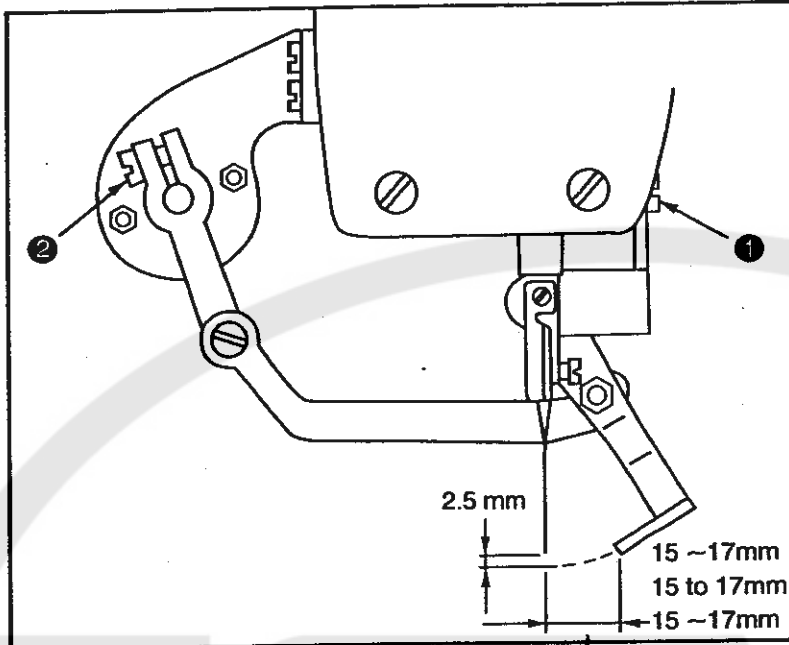
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



## 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



- (1) Loosen screw ① to adjust so that a clearance of 2.5mm or more is provided between the wiper and the needle.
- (2) Loosen screw ② to adjust so that a distance of 15 to 17 mm is provided between the end face of the wiper and the center of the needle. After the adjustment, securely tighten the screw.

★ The position of the needle is when the sewing machine has stopped after the sewing finished.

- (1) 拧松螺丝①把挑线杆和机针的间隙调整为2.5mm以上。
- (2) 拧松螺丝②挑线杆端面和针心之间的距离调整为15-17mm。调整后，把螺丝确实地拧紧。

★ 机针为缝制结束停止的位置。

## 13. Adjustment of the wiper spring / 挑线杆弹簧的调整



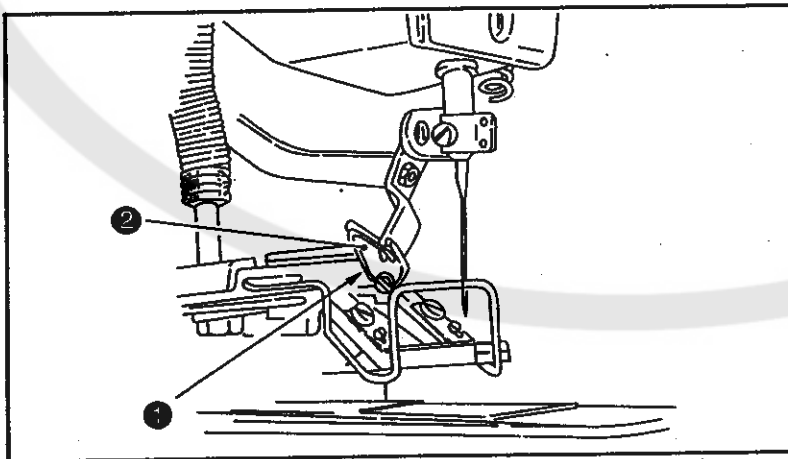
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



## 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



Wiper spring ① retains the needle thread after thread trimmig in between wiper ② and the wiper spring. Correct properly the tension of wiper spring ① so that the tension at that time becomes 20 to 30 g (a little higher tension than that of the bobbin thread coming out of the bobbin case.)

(Caution) If the retaining of the needle thread is excessive, the thread may protrude from the upper side of the button.

调整挑线杆弹簧①，使挑线杆弹簧①把切线后的上线保持到挑线杆②之间，这时的强度为20~30g（比从梭壳出来的底线稍强）。  
（注意）保持过强的话，旋梭上的线就会脱落。



## 14. Setting the wiper operation / 拨线杆动作的设定

(1) Wiper operation is performed by the electromagnetic solenoid, and change-over of the operation setting(ON/OFF) is available.

At the time of delivery, the function has been set to the state that the wiper is operative.

(2) To make the wiper inoperative, the change-over is performed by the memory switch.

As for the way of operation, refer to the item " How to use the memory switch " described in the instruction manual for the ZJ1900.

(1) 拨线杆动作是用继电器来控制的，可以设定动作(ON/OFF)的转变。

出货时拨线杆设定为动作。

(2) 不让拨线杆动作时，请用存储器开关进行设定。

操作方法请参照ZJ1900使用说明书存储器开关的使用方法内容。

### ◎List of memory switch functions / 存储器开关功能表

No./号码	Function/功能	Setting range/设定范围	State at time of delivery/出货状态
11	Setting of wiper operation 拨线杆动作的设定	0: 无 0:Ineffective 0:无 1: 有 1:Effective 1:有	1

※ As for the contents of memory switch function Nos.01 through 10, refer to the list of memory switch functions described in the instruction manual for the ZJ1900.

※存储器开关功能号码01~10的内容请参照ZJ1900使用说明书存储器开关功能一览表。

## 15. Installing the save button bar(accessory part) / 钮扣挑起杆的安装(选购品)



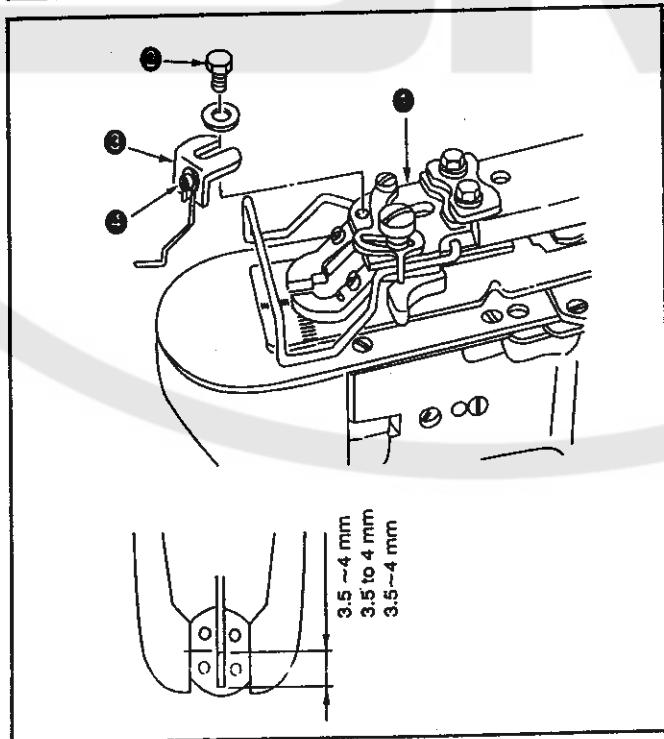
### WARNING:

To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



### 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。



(1) Install save button bar ③ on button clamp base ① with hexagon screw ②.

(2) Adjust so that a clearance of 3.5 to 4 mm is provided between the center of the button and the top end of the save button bar.

(3) To adjust the raising amount of the save button bar, loosen screw ④, and move the save button bar up or down.

(1) 用六角螺丝 ② 把钮扣挑起杆 ③ 安装到爪脚安装台 ① 上。

(2) 把挑起杆移动到钮扣中心位置，让钮扣中心到挑起杆前端的距离为 3.5~4mm。

(3) 请拧松螺丝 ④，上下移动挑起杆，调节挑起量。

## 16. Model classification according to the button size 按钮扣尺寸分类的机种

Model/机种名称		ZJ1903-301	ZJ1903-302	ZJ1903-303	ZJ1903-304						
Button size classification 钮扣尺寸分类		For small-sized buttons 小钮扣用	For medium-sized buttons 中钮扣用	For large-sized buttons 大钮扣用	For extra small-sized buttons 极小钮扣用						
Outside diameter of applicable buttons(mm) 可以缝制的钮扣外径(mm)		ø10~ø20 ø10 to ø20	ø10~ø20 ø10 to ø20	ø15~ø32 ø15 to ø32	ø8~ø9 ø8 to ø9	ø9~ø10 ø9 to ø10	ø10~ø15 ø10 to ø15				
Sewing size (mm) 缝制尺寸(mm)	Length 纵	0~3.5 0 to 3.5	0~4.5 0 to 4.5	0~6.5 0 to 6.5	0~2.5 0 to 2.5	0~3 0 to 3	0~3.5 0 to 3.5				
	Width 横	0~3.5 0 to 3.5	0~4.5 0 to 4.5	0~6.5 0 to 6.5	2.5以下 2.5 or less	3以下 3 or less	3.5以下 3.5 or less				
Button clamp jaw lever 钮扣爪脚		Thickness(mm) 厚度(mm)		2.2 (2.7)	2.7 (2.2)	2.7 (3.2)	2.2 (1.7)				
				※	※	※	※				
		Part No. 货号	Right 右	MAZ155070B0	B	MAZ156070B0	C	MAZ157070BB	D	MAZ158070BA	F
			Left 左	(MAZ156070B0)	C	(MAZ155070B0)	B	(MAZ157070BA)	E	(MAZ158070BB)	G
Needle hole guide 针孔导板		MAZ15501000		MAZ15601000		MAZ15701000		MAZ15801000			
Feed plate 布压脚底板		MAZ15502000		MAZ15602000		MAZ15702000		MAZ15802000			

※刻印 / Engraved marker / 刻印

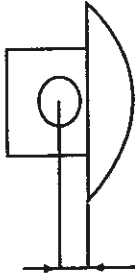
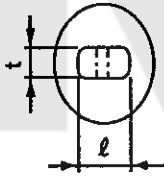
The parts in parentheses are those to be specially ordered.

( ) 为特别订制品。

# ■ZJ1903-305(shank button sewing machine)

ZJ1903-305 (钉柄和规格)

## 1. Specifications / 规格

Model / 型号	ZJ1903-305														
Needle / 使用机针	TQ×3#14														
Shape of button 钮扣形状	Outside diameter 外径	Max. $\phi 20$ 最大 $\phi 20$													
	Diameter of hole 孔径	Min. $\phi 1.5$ 最小 $\phi 1.5$													
	Position of hole 孔位置	 1.5 mm or more 1.5 mm 以上													
	Shape of shank section 柄扣形状	 <table border="1" data-bbox="982 1079 1445 1389"> <thead> <tr> <th rowspan="2">t(mm)</th> <th colspan="2">l mm</th> </tr> <tr> <th>Minimum 最小</th> <th>Maximum 最大</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4</td> <td>9</td> </tr> <tr> <td>3</td> <td>3</td> <td>8</td> </tr> <tr> <td>5</td> <td>-</td> <td>7</td> </tr> </tbody> </table> <p>As for the dimensions of the shape of shank section, refer to the above table for reference. 柄部形状大致尺寸请参考上表。</p>	t(mm)	l mm		Minimum 最小	Maximum 最大	1	4	9	3	3	8	5	-
t(mm)	l mm														
	Minimum 最小	Maximum 最大													
1	4	9													
3	3	8													
5	-	7													
Sewing speed 缝制速度	1,500rpm														
Stitch shape 缝制形状	Sewing pattern program No.18 to No. 22 (Refer to the sewing program list on page 74.) 缝制图案程序No.18~No.22 (参照缝制程序表)														

## 2. Adjustment / 调整



### WARNING:

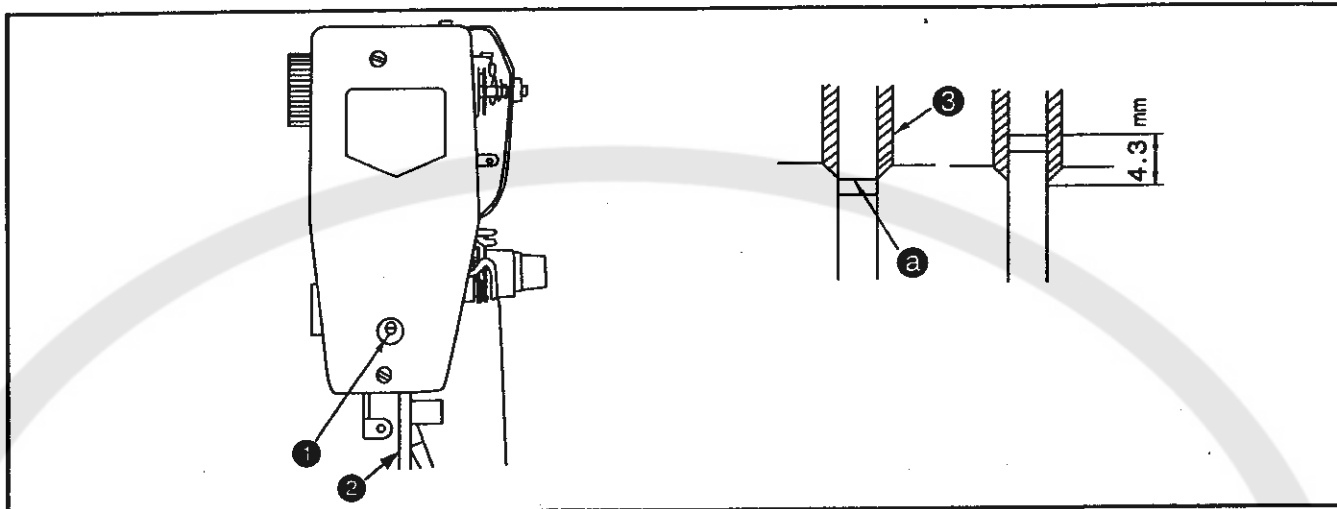
To avoid personal injuries caused by abrupt start of the sewing machine, start the work after turning OFF the power and ascertaining that the motor has stopped rotating.



### 注意

为了防止意外的起动造成人身伤亡事故，请关掉电源，确认马达确实停止转动之后再进行调整。

### (1) Adjusting the height of the needle bar / 针杆的调整



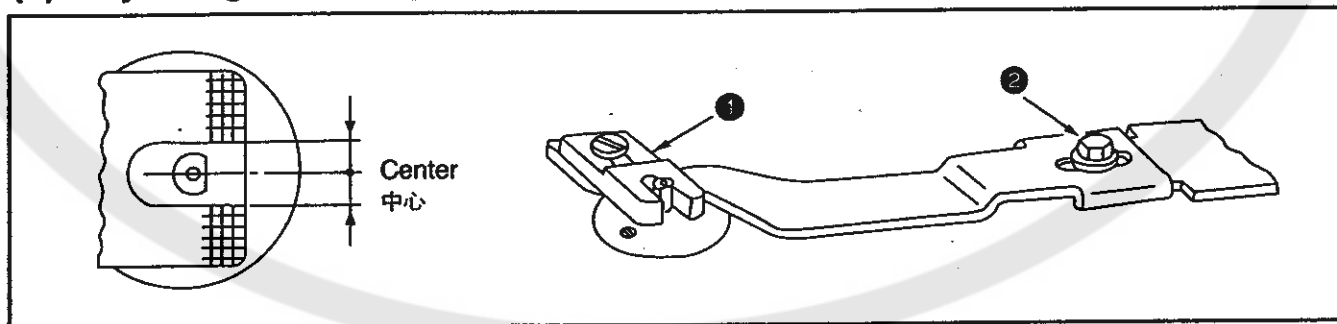
(1) Loosen needle bar connection screw ① and move the needle bar ② up or down so that second engraved marker line ③ as counted from the bottom is aligned with the bottom end of needle bar bushing ③ when turning the hand pulley to bring the needle bar to its lowest position. Then further raise only the needle bar by 4.3 mm, and tighten needle bar connection screw ①.

(2) Attach the needle (TQ×3#14).

(1) 转动皮带轮把针杆下降到最下点位置，拧松针杆固定螺丝 ①，上下移动针杆，让针杆下数第 2 条刻线 a 对准针杆挡块 ③，然后把针杆从此位置提升 4.3mm，拧紧固定螺丝 ①。

(2) 安装机针 (TQ×3#14)。

### (2) Adjusting the feed plate base / 布压脚底板的调整



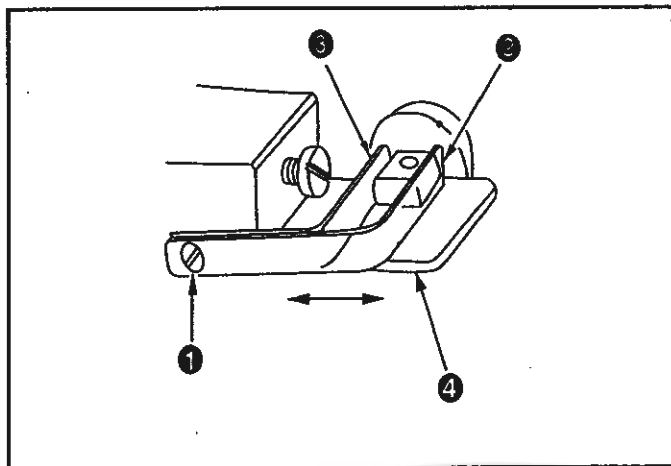
Adjust so that the slot of feed plate ① becomes the center of the boss section of the needle hole guide, and tighten setscrew ②.

(Caution) When the sewing state between the button and the material is loose, replace feed plate ① with the feed plate B to obtain a stronger sewing state. At this time, however, the outside diameter of the button is limited to max.  $\phi 19$ . So, be careful.

把布压脚底板 ① 的沟对准针孔导板凸起部的中心，然后拧紧固定螺丝 ②。

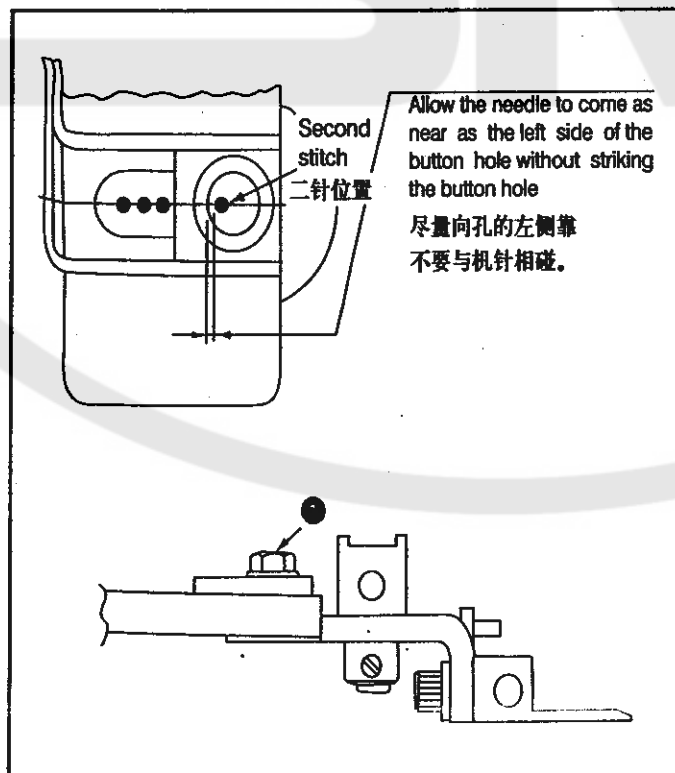
(注意) 钮扣和布的缝纫过松时，请更换布压底板 ① 为布压脚底板 B，就可以变紧。但是，请注意钮扣外径最大为  $\phi 19$ 。

### (3) Adjusting the button clamp support / 钮扣爪的调整



Loosen setscrew ①, and place the button to be used in between the button clamps. Then determine the longitudinal position of the button hole and the slot of button clamp base ④ by moving button clamp support, front ② and rear ③ back and forth. Then securely tighten the setscrew. At this time, if the clearance between button clamp support, front ② and rear ③ is a little smaller (approx. 0.5mm) than the outside diameter of the button to be placed, the button is securely clamped. 拧松固定螺丝 ①, 装上使用的钮扣, 把爪脚的前 ②、后 ③ 前后移动, 决定钮扣孔和钮扣爪脚安装台 ④ 的槽的位置, 然后固定。钮扣爪脚前 ②、后 ③ 之间的间隙调小 (0.5mm 左右), 钮扣就稳定。

### (4) Checking the needle entry point / 落针的确认

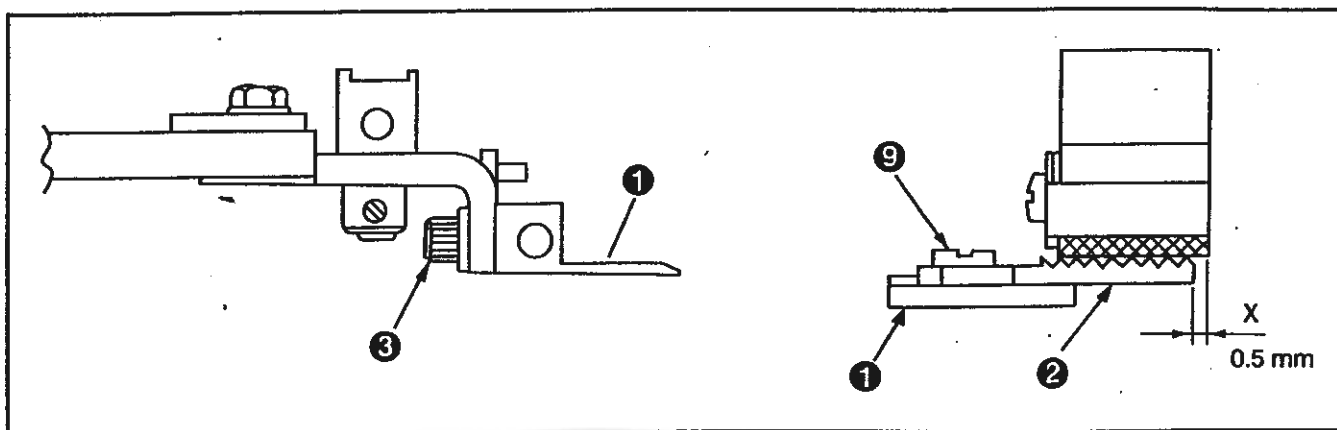


When checking the shape of the sewing pattern, fit the second stitch of the needle entry to the button hole, and tighten screw ①.

(Refer to the item of checking the shape of the sewing pattern in the instruction manual for the ZJ1900.)

确认图案形状, 把钮扣孔对准落针的第二针位置, 然后拧紧螺丝 ①。  
(确认图案形状的方法请参照 ZJ1900 使用说明书。)

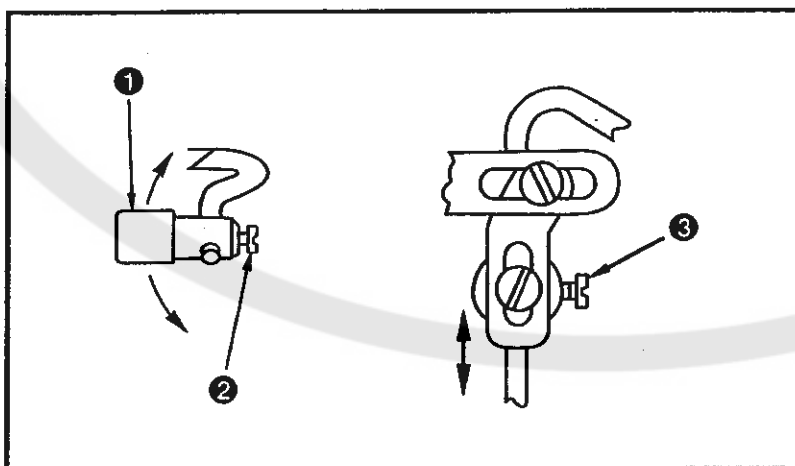
## (5) Adjusting the button clamp base and the feed plate 钮扣爪安装台和布压脚底板的调整



- (1) As for the attaching height of button clamp base ① adjust the vertical position so that the bottom face of the button clamp base and the top face (knurl face) of feed plate A ② can equally press the material. Then tighten setscrew ③.
- (2) Adjust the position X (Protrusion of the material), position of feed plate A ② against button clamp base ①, according to the thickness of the material using setscrew ④.  
The standard adjustment value is 0.5 mm.

- 1) 调整钮扣抓起装置安装台底面与布压脚底板A②上面均匀地压布料的上下位置，调整钮扣抓起装置安装台③的高度，然后拧紧固定螺丝③。
- 2) 根据布料厚度用固定螺丝④调整布压脚底板A②的钮扣抓起装置安装台①的X位置(布料跑动)。

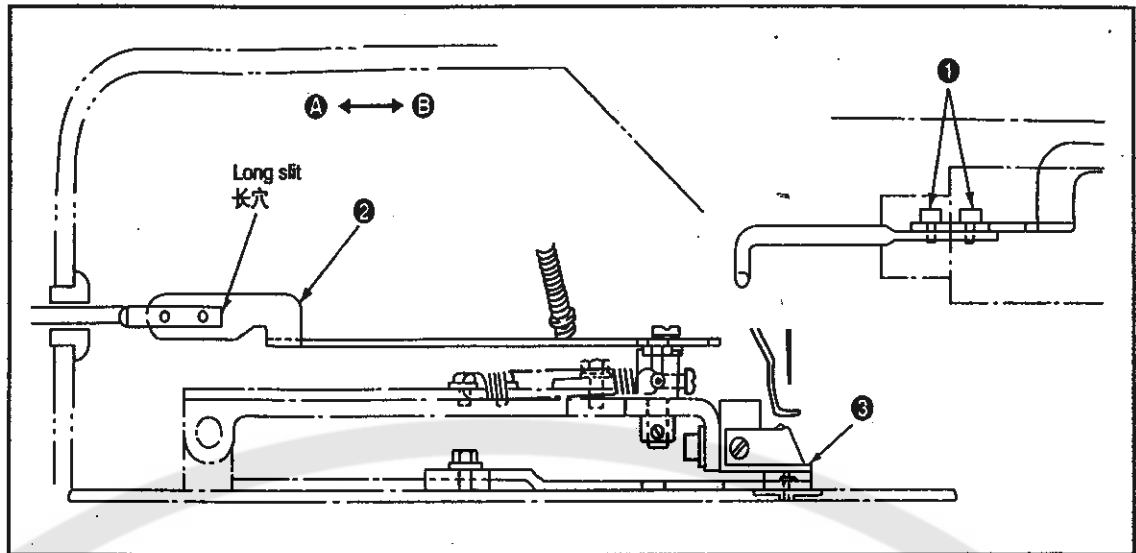
## (6) Adjusting the button support rubber 钮扣压脚橡胶的调节



To adjust the position of button support rubber asm. ①, loosen setscrews ② and ③, and adjust so that the pressing section of the button support rubber can press the center of the button at right angles to the button. Then tighten the setscrews.

拧松固定螺丝②、③，调整钮扣压脚橡胶组件①的位置，让压脚呈直角地压到钮扣中心，然后固定。

**(7) Adjusting the button support link**  
**钮扣压脚张开环的调节**



Loosen screw ④, and move button support link ② in the direction ② to make early the opening of the button support rubber when button clamp attaching base ③ goes up. Move it in the direction ③ to retard the opening of the button support rubber. The standard adjustment is to adjust so that the button support rubber starts opening when button clamp attaching base ③ has gone up by 1 mm.  
拧松螺丝④，向②方向移动钮扣抓起环②，钮扣压脚安装台③上升时，钮扣压脚橡胶提前开始打开。往③方向移动，便推迟打开。标准是钮扣压脚安装台③上升1mm时，钮扣压脚橡胶开始打开。

## V. EXPLANATION OF THE ZJ1904F, COMPUTER-CONTROLLED HIGH SPEED LOCKSTITCH BAR TACKING MACHINE

### ZJ1904F 高速电子加固缝纫机的说明

#### 1. SPECIFICATIONS/规格

Different specifications from those of the ZJ1900 only are described.

这里只记述与ZJ1900不同部位的说明内容。

1) Sewing area: X( lateral) direction 30 mm Y( longitudinal) direction 30 mm

2) Max. sewing speed: \*2,700 rpm

Sewing speed at the time of delivery from the factory is set to 2,000 rpm since ZJ1904 is of F(foundation garment) specifications.

Sewing speed can be set up to 2,700 rpm in accordance with the sewing conditions.

1) 缝制范围 X(左右) 方向30mm Y(前后) 方向30mm

2) 最高缝制速度 ※ 2,700 rpm

※ ZJ-1904是F(内衣)规格,所以出厂时设定为2,000 rpm。

可以根据缝制条件,把缝制速度的上限设定2,700rpm。(参照 P.42)

#### 2. Adjusting the needle-to-shuttle relation

##### 针梭的调整



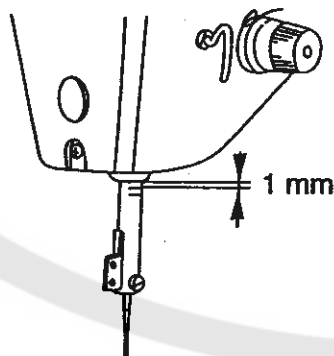
##### WARNING:

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

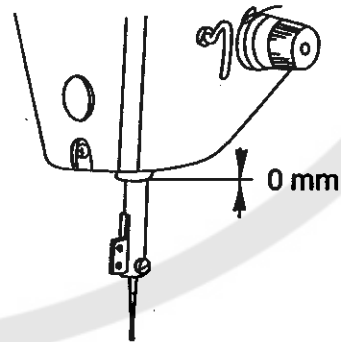


### 注意

为了防止突然启动造成人身事故,请关掉电源,确认马达确实停止转动后再进行。



When needle bar is in its lower dead point  
针杆下死点时



When needle aligns with shuttle.  
针杆一致时

Height of the needle bar of ZJ1904F is adjusted to be lower than that of ZJ1900 by 1 mm from the upper engraved line of the needle bar so as to prevent stitch skipping.

ZJ1904F为了防止跳线,把ZJ1900调整为从针杆上刻线下降1 mm的位置。



### 3. Table of the standard patterns / 标准图案一览表

No.	41	42	43	44	45	46
Stitch diagram 落针图						
Number of stitches 针数	29	39	45	58	75	42
Sewing size(mm) 缝制尺寸(mm)	20×2.5	25×2.5	25×2.5	30×2.5	30×2.5	30×2.5

(Caution) 1. Sewing size shows the dimensions when the scale rate is 100%.

2. When X or Y is enlarged, error will be indicated if the size exceeds 30 mm respectively.

(注意) 1. 缝制尺寸是扩大率100%的尺寸。

2. 扩大了X、Y时，如果各超过30mm后为错误。

### 4. Table of the work clamp foot / 压脚一览表



	Type A / 型式A	Type B / 型式B
	501GM143 501GM144	501GM145 501GM146
	Work clamp foot A / 布压脚A	Work clamp foot B / 布压脚B
Work clamp foot 布压脚		
	501GM147	501GM148
	Work clamp foot A / 布压脚底板A	Work clamp foot B / 布压脚底板B
Feed plate 布压脚底板		
Remarks 备考	Provided with ZJ1904F as standard ZJ1904F标准装备	Option 选购品

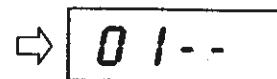
## 5. How to use the work clamp foot of ZJ1900

### ZJ1900压脚的使用方法

When using the work clamp foot of ZJ1900, set the operation following the undermentioned procedure.

#### (1) Start the memory switch.

Pressing  key and  key, turn ON the power switch. The display gives the indication of the memory switch and the sewing machine operation can be changed.



#### (2) Shift the origin by 5 mm.

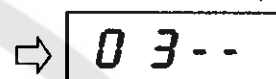
1) Change No. 21 of the memory switch from "1" to "0".

2) After setting, register using the  key.

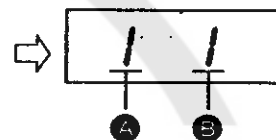
"21-1" → "21-0"

#### (3) Make the calling of the pattern data operative. (Release the mask of the necessary patterns.)

1) After the memory switch has started, press the  or  key to indicate "03--" on the display.



2) Press the  key to indicate the pattern No. desired to call at section  on the display, and "1" at section  on the display.



3) After setting, register using the  key.



\*As for setting whether calling of the pattern data is operative or not, refer to [8]-2-(3) (P.50).

4) Re-turn ON the power switch to call the pattern.

(Caution) Pattern exceeding 30 mm in the X (lateral) direction will be an error, and the sewing cannot be completed.

使用压脚时，请按如下的顺序进行设定。

#### (1) 起动存储器开关。

按下  键和  键的同时，打开电源，存储器开关显示出来，可以变更缝纫机的动作。



#### (2) 把原点提升5mm。

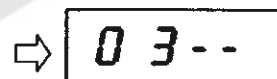
1) 把No.21 存储器开关的1变更为0。




"21-1" → "21-0"

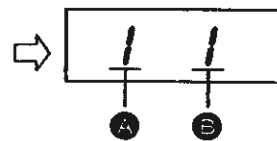
2) 设定后用  键登记。

#### (3) 可以呼出图案数据。（可除需要图案的屏蔽。）

1) 起动存储器开关后，按   键，画面显示出 "03--"。



2) 按  键，在画面的  部显示出呼出的图案号码，在画面  显示出 "1"。



3) 设定后，按  键进行登记。

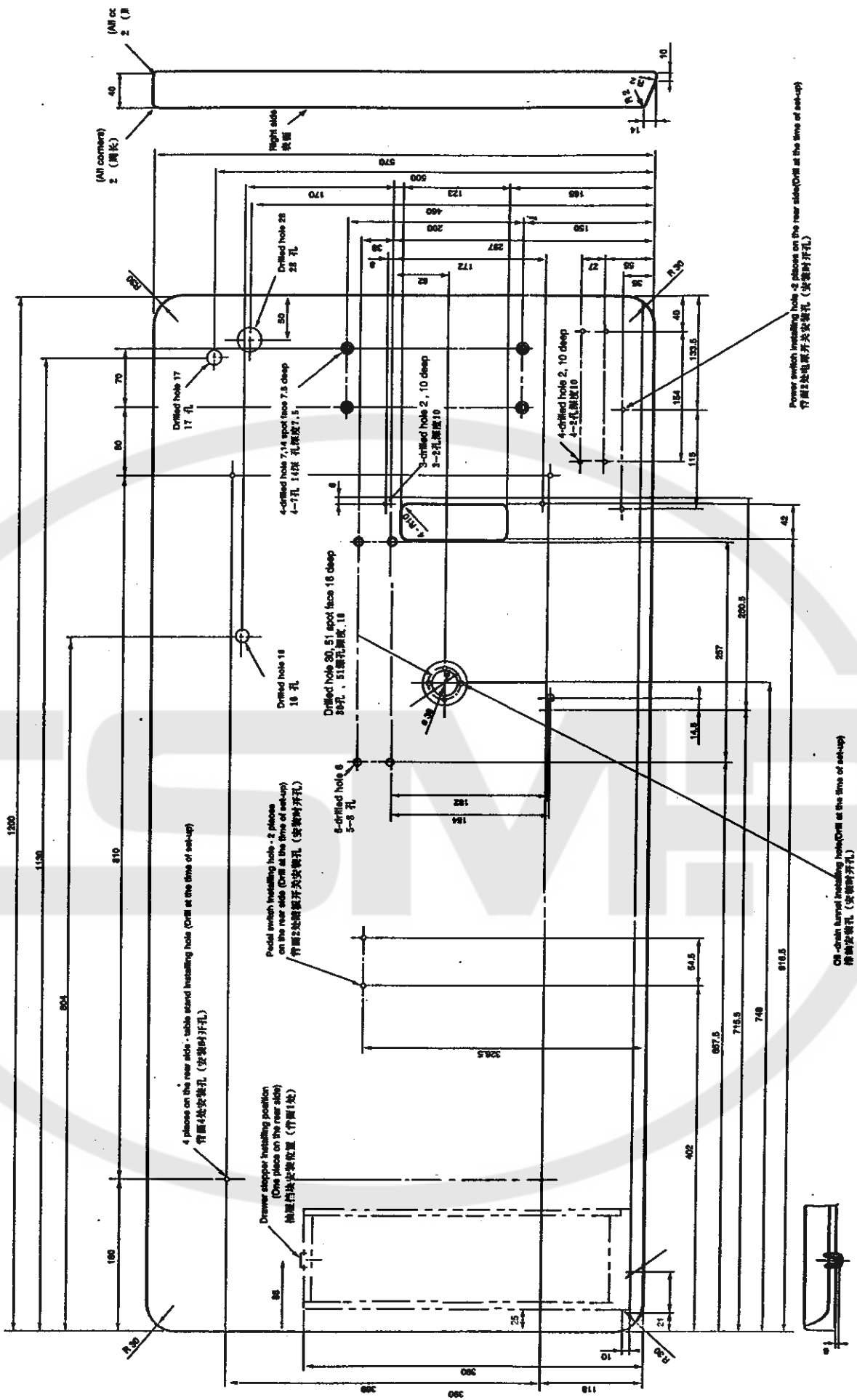
\*有关是否可以呼出图案数据的设定方法，请参考[8]-2-(3) (P.50)。

4) 重新打开电源原开关，呼出图案。

[注意] X (左右) 方向超过30mm的图案，为错误，不能进行缝制。

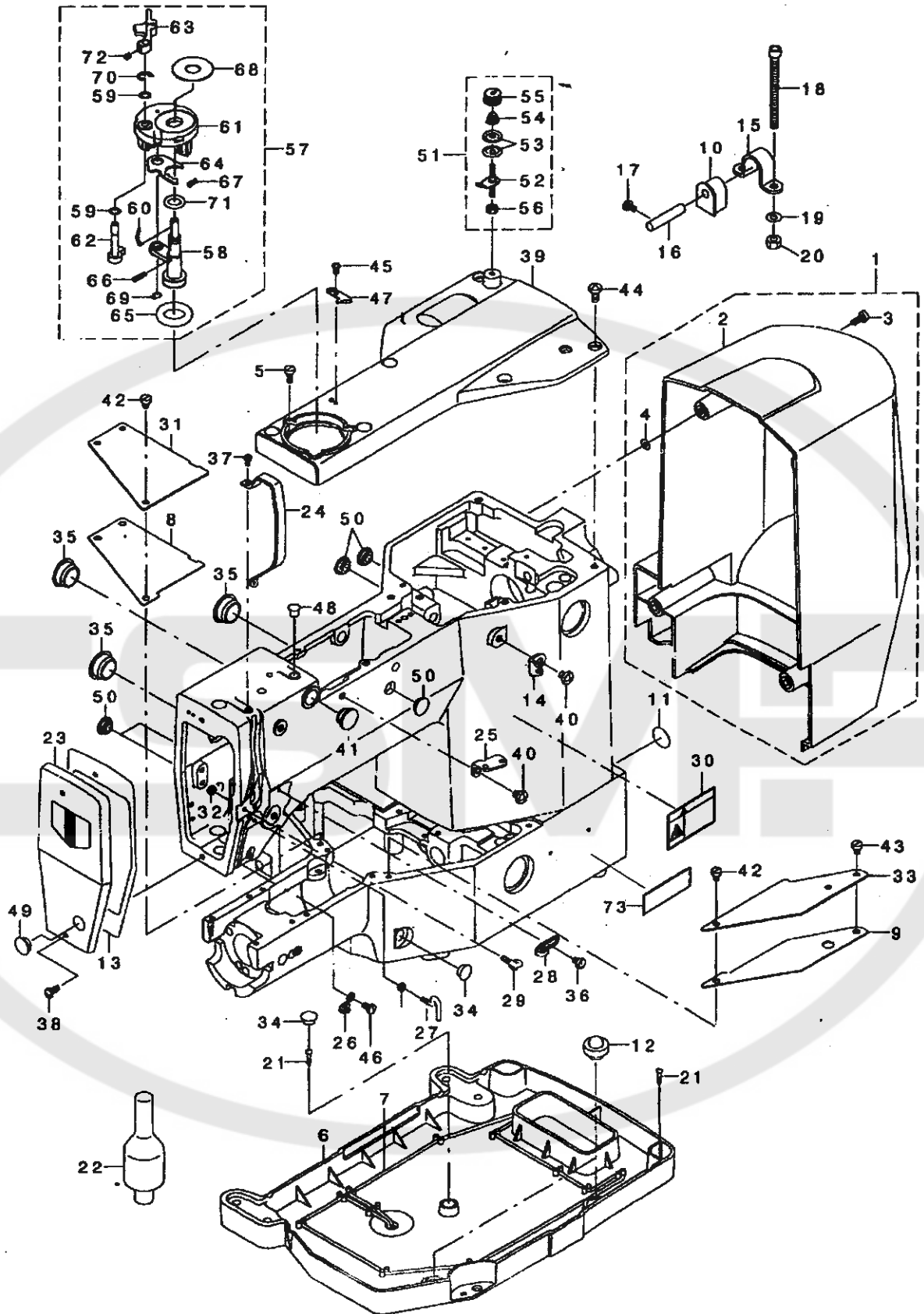


## (2) Lateral installation type table / 卧式机台



# 1. FRAME & MISCELLANEOUS COVER COMPONENTS

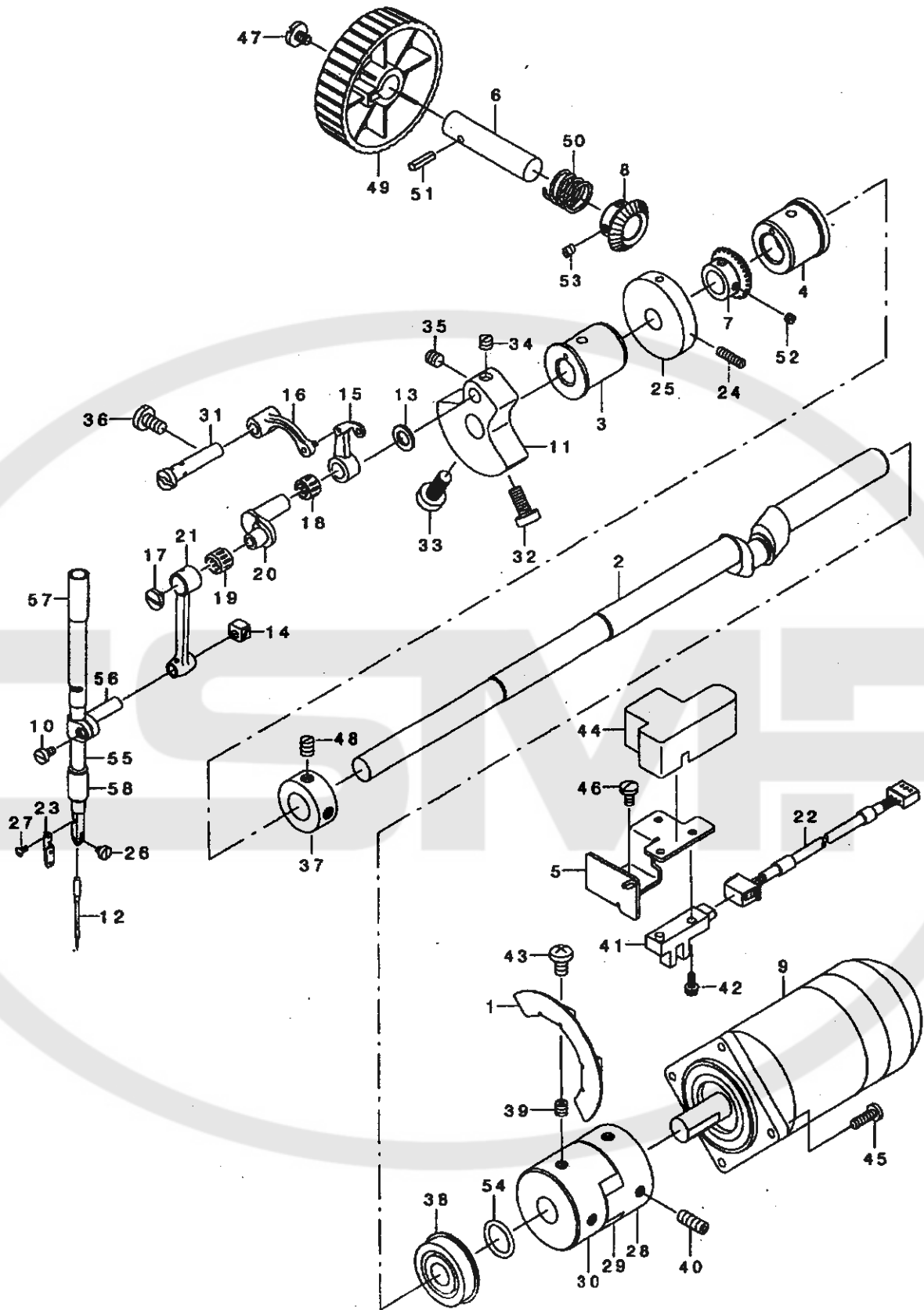
## 机壳部件



序号	件号	名称	DESCRIPTION	数量
1	501BJ105	后罩组件	MOTOR COVER ASM.	1
2	501GR106	后罩	MOTOR COVER	1
3	501GS108	后罩螺钉	SCREW	4
4	501GK106	后罩垫片	STOPPER	4
5	501GS108	绕线器固定螺钉	SCREW	3
6	501GR103	底座	OIL PAN	1
7	501GB101	底盘回油线	OIL WICK	1
8	501GF106	左盖板垫	BED COVER PACKING A	1
9	501GF107	右盖板垫	BED COVER PACKING B	1
10	501GF109	机头胶垫	HINGE RUBBER	2
11	GQ239-8	机头接地指示牌	GROUND MARK	2
12	GR683-8	底板支垫	FRAME SUPPORT RUBBER	2
13	501GF108	面板垫	FACE PACKING	1
14	501GB102	单眼过线板	THREAD GUIDE NO.1	1
15	501GB108	支承固定架	BED HINGE	2
16	501GX101	支承销	HINGE STUD	2
17	501GS104	支承销固定螺钉	SCREW	2
18	501GS107	支承固定架螺钉	HEXAGONAL-HOLE BOLT	4
19	501GK101	垫片	WASHER	4
20	501GL102	螺母	NUT	8
21	501GS105	底座木螺钉	SCREW	4
22	501GA106	机头支承杆	HEAD SUPPORT BAR	1
23	501GR107	面板垫	FACE COVER ASM.	1
24	501GR102	挑线杆防护罩	BALANCE COVER	1
25	501GB103	上过线板	THREAD GUIDE PLATE	1
26	501GB104	下线钩	ARM THREAD GUIDE B	1
27	501GB105	拦线钩	L-SHAPED THREAD GUIDE A	1
28	GR603-8	过线钩	ARM THREAD GUIDE A	1
29	501GB106	中线钩	THREAD GRIDE	1
30	GQ196-8	安全指示牌	SAFETY LABEL	1
31	501GR104	底板左盖板	BED COVER A	1
32	501GL101	拦线钩螺母	NUT	2
33	501GR105	底板右盖板	BED COVER B	1
34	501GF105	油塞	RUBBER PLUG	2
35	501GF102	左侧面大油塞	RUBBER PLUG	3
36	GS313	过线钩螺钉	SCREW	1
37	501GS102	防护罩螺钉	SCREW	2
38	501GS104	面板螺钉	SCREW	2
39	501GR101	上盖	TOP COVER	1
40	501GS101	单眼过线钩螺钉	SCREW	2
41	501GF103	硅油过线器大油塞	RUBBER PLUG	1
42	501GS103	左盖板螺钉	SCREW	4
43	501GS178	右盖板螺钉	SCREW	1
44	501GS106	上盖螺钉	SCREW	6
45	501GS102	切刀螺钉	SCREW	1
46	501GS124	下线钩螺钉	SCREW	1
47	501GB107	绕线切刀	THREAD CUTTER	1
48	501GF104	硅油过线器小油塞	RUBBER PLUG	1
49	501GF101	面板油塞	RUBBER PLUG	1
50	501GF101	油塞	RUBBER PLUG	5
51	501BJ103	绕线夹线器	BOBBIN THREAD TENSION ASM.	1
52	501BJ104	中过线板组件	BOBBIN THREAD TENSION ROD ASM.	1
53	501GB114	夹线板	THEAD TENSION DISK	2
54	501GW104	夹线簧	CONNECTING ROD SPRING	1
55	501GL103	塑料夹线螺母	THREAD TENSION NUT	1
56	501GL104	夹线螺母	NUT	1
57	501BJ101	绕线器	BOBBIN WINDER ASM.	1
58	501GB113	摆动板	BOBBIN WINDER SHAFT COMPL.	1
59	501GK104	薄垫片	WASHER	2
60	501GW103	按芯弹簧	LATCH SPRING	1
61	501BJ102	核心卷绕体组件	BOBBIN FITING BASIS COMPL.	1
62	501GB111	绕线定位块	BOBBIN WINDER REGULATOR	1
63	501GB110	卷线手柄	BOBBIN LEVER	1
64	501GB112	控制板	ADJUSTING PLATE	1
65	501GF118	橡胶轮	RUBBER RING	1
66	501GW101	复位长弹簧	SPRING	1
67	501GW102	复位短弹簧	SPRING	1
68	501GK102	卷线轴垫	CUSHING	1
69	501GK103	绕线器摆动板轴挡圈	RETAINING RING	1
70	501GK105	绕线器绕线凸轮轴挡圈	E-RING	1
71	501GF110	卷线轴O形圈	RUBBER RING	1
72	501GS109	螺钉	SCREW	1
73	501GB109	型号牌	MACHINE COVER	1

## 2. MAIN SHAFT & NEEDLE BAR COMPONENTS

### 挑线刺布部件

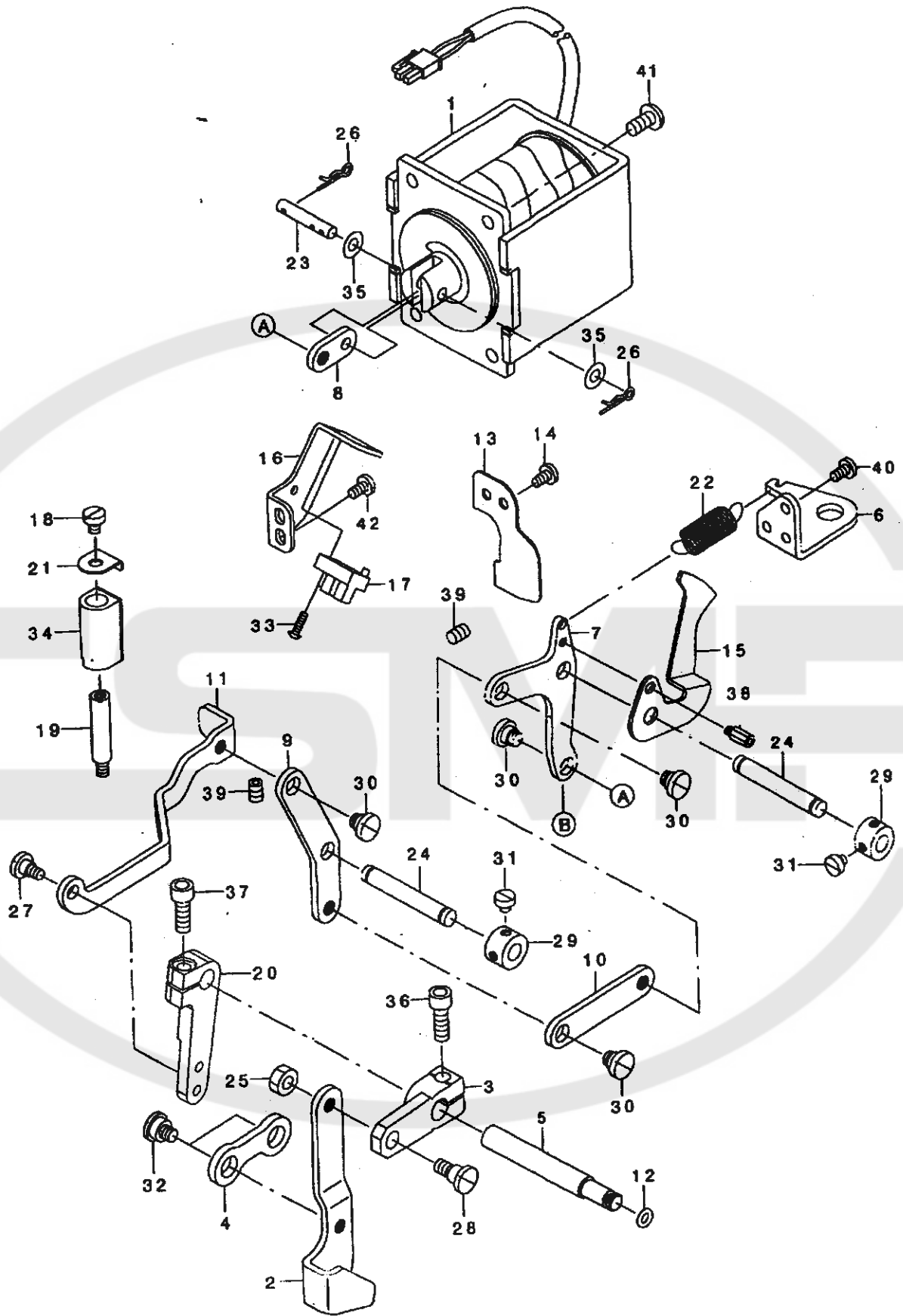


序号	件号	名称	DESCRIPTION	数量
1	501GB119	上轴传感器挡光片	MAIN SHAFT SLIT PLATE	1
2	501GZ105	上轴	MAIN SHAFT	1
3	501GO105	上轴前轴套	MAIN SHAFT BUSHING, FRONT	1
4	501GO106	上轴中轴套	MAIN SHAFT BUSHING, MIDDLE	1
5	501GB120	传感器固定架	SENSOR INSTALLING BASE	1
6	501GZ104	手轮轴	HAND PULLEY SHAFT	1
7	501GC101	上轴零度弧齿圆锥齿轮	HAND PULLEY GEAR A	1
8	501GC102	手轮轴零度弧齿圆锥齿轮	HAND PULLEY GEAR B	1
9	501GD102	上轴电机	MAIN MOTOR	1
10	GS311-8	针杆连接柱螺钉	SCREW	1
11	501GH104	针杆曲柄	COUNTER WEIGHT	1
12	501GV101	机针	NEEDLE DPX5 #16	1
13	501GK107	针杆曲柄垫圈	NEEDLE ROD CRANK WASHER	1
14	501GU101	针杆连接轴滑块	SQUARE BLOCK	1
15	501BJ107	挑线杆组件	THREAD TAKE-UP LEVER	1
16	501GH101	挑线连杆	THEAD TAKE-UP CRANK	1
17	GS309-8	挑线连杆左旋螺钉	LEFT SCREW	1
18	501GU103	挑线杆滚针轴承	NEEDLE BUSHING	1
19	501GU102	小连杆滚针轴承	NEEDLE DRIVING LEVER BEARING	1
20	501GH103	挑线曲柄	NEEDLE ROD CRANK	1
21	501GH102	小连杆	NEEDLE BAR CRANK ROD	1
22	501GD101	上轴传感器接线	UPPER SHAFT SENSOR CABLE ASM.	1
23	501GB117	针杆过线板	NEEDLE BAR THREAD GUIDE	1
24	501GS119	主动轮螺钉	SCREW	2
25	501GP102	绕线主动轮	BOBBIN WINDER DRIVING WHEEL	1
26	501GS113	机针螺钉	SCREW	1
27	501GS112	针杆过线板螺钉	SCREW	1
28	501GU106	传动连接后块	COUPLING, BACK	1
29	501GB118	传动连接橡胶块	RELAX	1
30	501GU107	传动连接前块	COUPLING, FRONT	1
31	501GX103	挑线连杆销	BALANCE CRANK PIN	1
32	501GS116	针杆曲柄紧定螺钉	SCREW	1
33	501GS115	针杆曲柄定位螺钉	SCREW	1
34	501GS117	挑线曲柄短螺钉	SCREW	1
35	501GS118	挑线曲柄长螺钉	SCREW	1
36	501GS114	挑线连杆销螺钉	SCREW	1
37	501GK108	凸轮挡圈	THRUST COLLAR ASM.	1
38	501GU104	上轴轴承	UPPER SHAFT REAR BEARING	1
39	501GS122	传动连接前块螺钉	SCREW	2
40	501GS123	传动连接后块螺钉	SCREW	2
41	501GD110	上轴传感器外壳组件	PHOTO SENSOR	1
42	501BJ111	上轴传感器外壳螺钉组件	SCREW	1
43	501BJ110	上轴挡光片螺钉组件	SCREW	2
44	501GR108	传感器防护盖	MAIN SHAFT SENSOR COVER	1
45	501GS125	上轴电机螺钉	SCREW	4
46	501GS124	传感器固定架螺钉	SCREW	1
47	501GS120	手轮轴螺钉	SCREW	1
48	501GS118	螺钉	SCREW	2
49	501GP103	手轮	PULLEY	1
50	501GW105	手轮弹簧	SPRING	1
51	501GX104	手轮轴弹簧销	SPRING PIN	1
52	501GS121	弧齿锥齿轮螺钉	SCREW	2
53	501GS121	弧齿锥齿轮螺钉	SCREW	2
54	501GF112	上轴O形圈	RUBBER RING	1
55	501GO102	针杆	NEEDLE BAR	1
56	GR598-8	针杆连接柱	NEEDLE BAR	1
57	501GO101	针杆上套筒	NEEDLE ROD METAL	1
58	501GO103	针杆下套筒	NEEDLE LOWER METAL	1



### 3. PRESSER LIFTER COMPONENTS

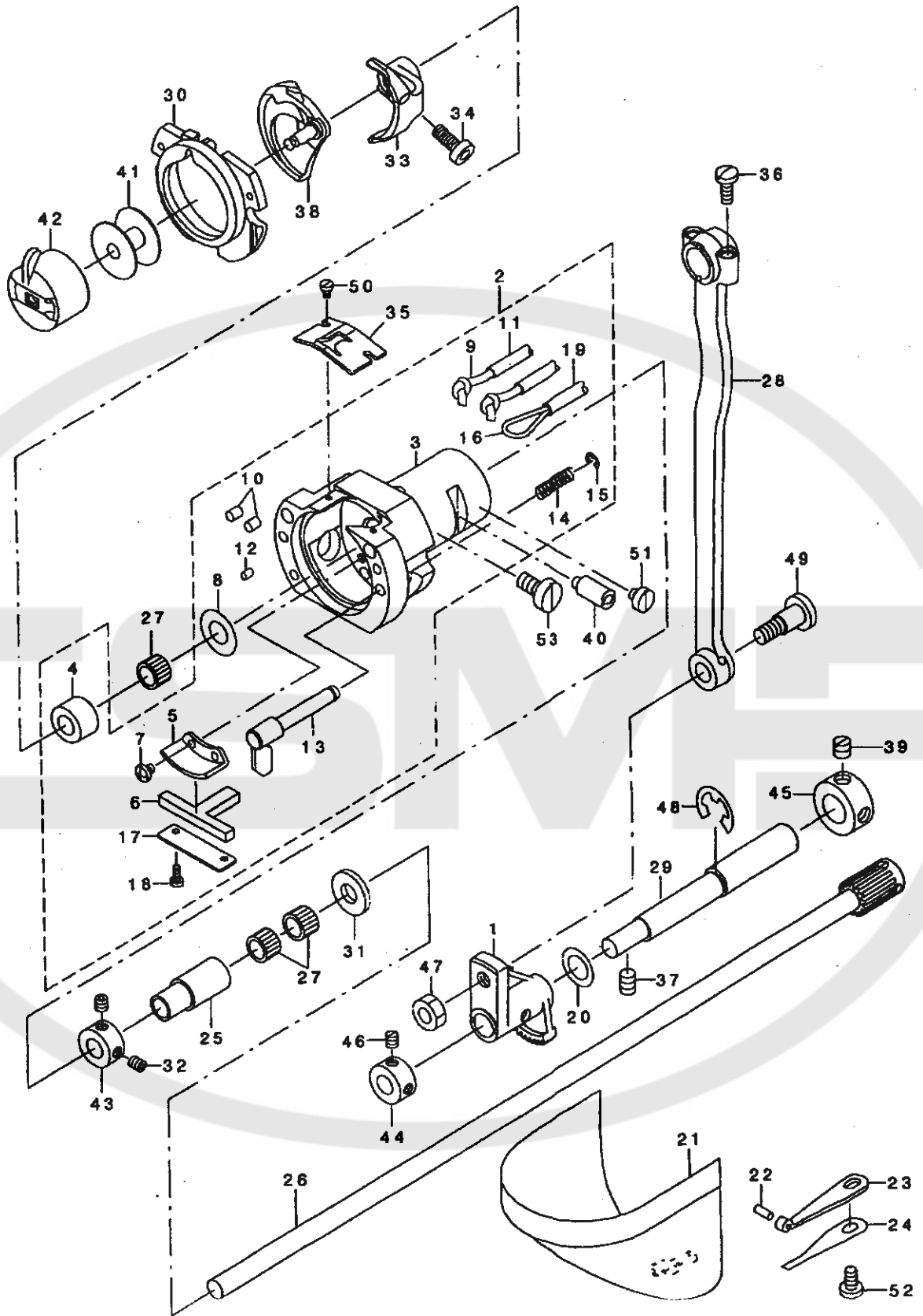
电磁体部件



序号	件号	名称	DESCRIPTION	数量
1	501GD104	电磁铁主体	PRESSER LIFTING SOLENOID ASM.	1
2	501GH110	抬压脚传动杆	LOWERING FOOT	1
3	501GH111	抬压脚夹头	LOWERING ARM	1
4	501GH109	抬压脚定位连杆	CONNECTING LINK	1
5	501GZ108	曲柄轴	CONNECTING SHAFT	1
6	501GB126	调节弹簧钩	RETURN SPRING HOOK	1
7	501GB124	驱动板 I	LINK I	1
8	501GB123	传动板	SOLENOID LINK	1
9	501GH107	驱动板 II	LINK II	1
10	501GH106	连杆	LINK	1
11	501GH108	驱动板 III	LINK III	1
12	501GF113	曲柄轴O形圈	RUBBER RING	1
13	501GB128	挡板	PLATE	1
14	501GS124	挡板螺钉	SCREW	2
15	501GB125	松压板	PRESSER SENSOR SLIT	1
16	501GB129	感应器固定架	SENSOR INSTSLING PLATE	1
17	501GD103	传感器	PHOTO SINSOR	1
18	501GS103	端面板固定螺钉	SCREW	1
19	501GS133	缓冲块紧固钉	OIL PUMP SUPPORT	1
20	501GH112	拨线曲柄	CONNECTING ARM	1
21	501GB127	缓冲块端面板	STOPPER RUBBER SET WASHER	1
22	501GW106	拨线连杆拉簧	SPRING	1
23	501GZ106	传动销轴	MAGNET PIN	1
24	501GZ107	驱动板 I 轴	SHAFT BLOCK SHAFT	2
25	501GL105	传动杆螺钉紧固螺母	NUT	1
26	501GX105	开口销	PIN	2
27	501GS135	拨线曲柄连接螺钉	HINGD SCREW	1
28	501GS136	抬压脚传动连杆螺钉	HINGD SCREW	1
29	501GK114	驱动板 I 轴挡圈	THRUST COLLAR ASM.	2
30	501GS129	驱动板螺钉	HINGD SCREW	4
31	501GS131	驱动板 I 轴挡圈螺钉	SCREW	4
32	501GS134	抬压脚定位连杆螺钉	HINGD SCREW	2
33	501BJ114	传感器螺钉组件	SCREW	1
34	501BJ113	缓冲块组件	PRESSER LIFTING STOPPER RUBBER	1
35	501GK113	传动销轴垫圈	WASHER	2
36	501GS137	挑线曲柄内六角螺钉	SCREW	1
37	501GS137	抬压脚夹头内六角螺钉	SCREW	1
38	501GS132	松压板螺钉	SCREW	1
39	501GS130	驱动板 I 轴紧定螺钉	SCREW	2
40	501GS124	调节弹簧钩螺钉	SCREW	2
41	501GS128	电磁铁固定螺钉	SCREW	4
42	501GS124	传感器固定架螺钉	SCREW	2

# 4. SHUTTLE DRIVER SHAFT COMPONENTS

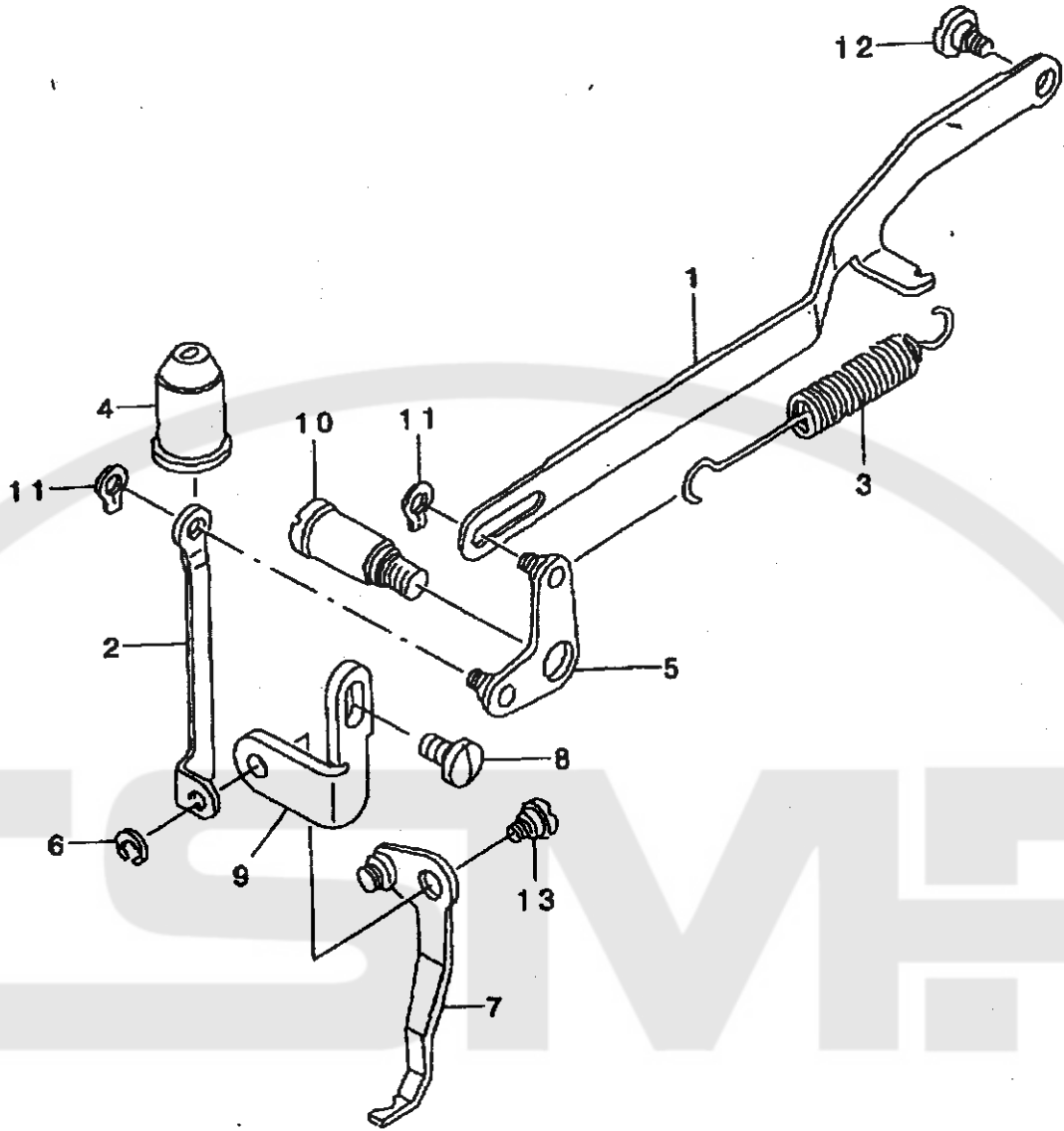
下轴部件



序号	件号	名称	DESCRIPTION	数量
1	501GC103	扇形齿轮	OSCILLATOR	1
2	501BJ115	梭床组件	SHUTTLE ASM.	1
3	501GN105	梭床	SHUTTLE	1
4	501GO108	梭床轴套	SHUTTLE NEEDLE OUTER RING	1
5	501GB133	油线夹板	SHUTTLE LUBRICATING PLATE	1
6	501GB132	油毡	SHUTTLE ONCE THROUGH OIL FELT	1
7	501GS147	油线夹板固定螺钉	SCREW	2
8	501GK128	梭床垫圈	WASHER	1
9	501GB139	梭床轴套供油线	OILWICK	1
10	501GB135	梭床边毛毡	SHUTTLE OIL FELT	2
11	501BJ118	梭床轴套供油管	VINYL PIPE	2
12	501GB134	梭床轴套圈油毡	SHUTTLE OIL FELT	1
13	501BJ116	梭床盖锁紧钩组件	INNER HOOK PRESSER ASM.	2
14	501GW109	锁紧钩弹簧	INNER HOOK PRESSER SPRING	2
15	501GK127	锁紧钩挡圈	E-RING	2
16	501GK137	回油管油线	OILWICK	1
17	501GB131	油毡压板	ONCE THROUGH OIL LFELT PRESSER	1
18	501GS146	油毡压板螺钉	SCREW	2
19	501GB138	回油油管	OIL TUBE	1
20	501GK124	扇形齿轮垫片	WASHER	1
21	501GN107	梭床罩	CYLINDER ARM CAP	1
22	501GX109	梭床罩销	HOOK COVER PRESSER SPRING PIN	1
23	501GW110	梭床罩弹簧A	HOOK COVER PRESSER SPRING	1
24	501GW108	梭床罩弹簧B	HOOK COVER PRESSER SPRING	1
25	501GO107	下轴后轴套	LOWER SHAFT REAR METAL	1
26	501BJ120	下轴组件	LOWER SHAFT GEAR A ASM.	1
27	501GU102	下轴滚针轴承	BEARING	3
28	501GH113	大连杆组件	CRANK ROD	1
29	501GZ110	偏心轴	OSCILLATING ECCENTRIC SHAFT	1
30	501BJ119	梭床盖组件	SHUTTLE RACE RING ASM.	1
31	501GK122	下轴后轴套垫片	LOWER SHAFT THRUST WASHER	1
32	501GS140	下轴后轴套挡圈螺钉	SCREW	2
33	501GN104	摆梭托	SHUTTLE DRIVER	1
34	501GS139	摆梭托螺钉	SCREW	1
35	501GW107	梭床簧	SHUTTLE UPPER SPRING	1
36	501GS141	大连杆组件螺钉	SCREW	2
37	501GS130	偏心轴紧固螺钉	SCREW	2
38	501GN103	摆梭	INNER HOOK	1
39	501GS118	偏心轴后挡圈螺钉	SCREW	2
40	501GX106	梭床调节销	SHUTTLE RACE ADJUSTING SHAFT	1
41	501GN102	梭心	BOBBIN	1
42	501GN101	梭壳	BOBBIN CASE ASM. (TACING PREVE)	1
43	501GK121	下轴后轴套挡圈	THRUST COLLAR	1
44	501GK123	偏心轴前挡圈	THRUST COLLAR	1
45	501GK126	偏心轴后挡圈	THRUST COLLAR	1
46	GS619-8	偏心轴前挡圈螺钉	SCREW	2
47	501GL106	螺母	NUT	1
48	501GK125	开口挡圈	E-RING	1
49	501GS142	扇形齿轮螺钉销	HINGE SCREW	1
50	501GS146	梭床簧螺钉	SCREW	2
51	501GS145	梭床调节销紧固螺钉	SCREW	1
52	501GS143	梭床罩紧固螺钉	SCREW	1
53	501GS144	梭床紧固螺钉	SCREW	1

## 5. WIPER MECHANISM COMPONENTS

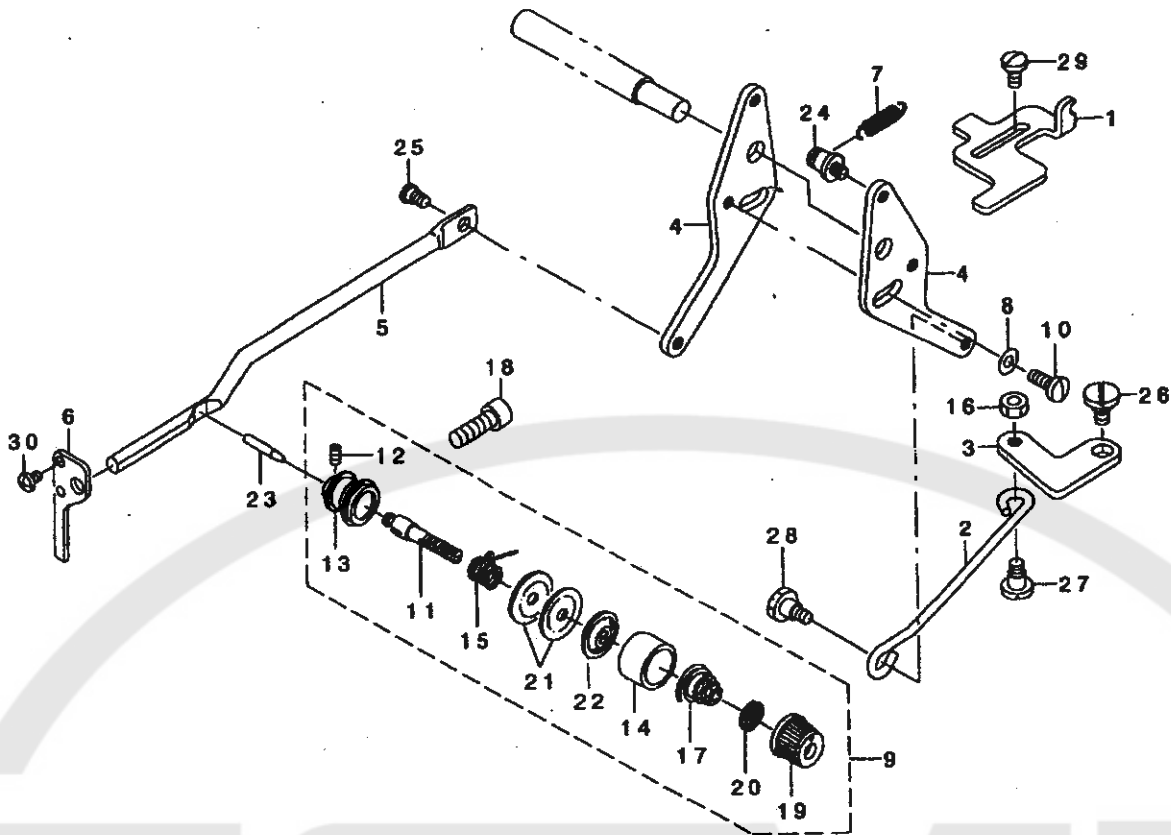
### 扫线部件



序号	件号	名称	DESCRIPTION	数量
1	501GH114	扫线调节杆	WIPER CONNECTING LINK	1
2	501GB142	扫线拉板	WIPER CONNECTING PLATE	1
3	501GW111	扫线连接板拉簧	SPRING	1
4	501GR109	扫线拉板橡胶罩	OIL SHIELD CAP	1
5	501BJ124	扫线连接板组件	WIPER CONNECTING ARM ASM	1
6	501GK129	扫线杆开口挡圈	SNAP RING	1
7	501BJ123	扫线杆组件	WIPER ASM	1
8	501GS124	扫线杆固定架螺钉	SCREW	1
9	501GB143	扫线杆固定架	WIPER BASE PLATE	1
10	501GS150	扫线连接板螺钉销	WIPER CONNECTING SCREW	1
11	501GK130	扫线连接板销挡圈	RETAINING RING	2
12	501GS151	扫线调节杆螺钉	HINGE SCREW	1
13	501GS149	扫线杆螺钉	HINGE SCREW	1

## 6. TENSION RELEASE & THREAD TENSION COMPONENTS

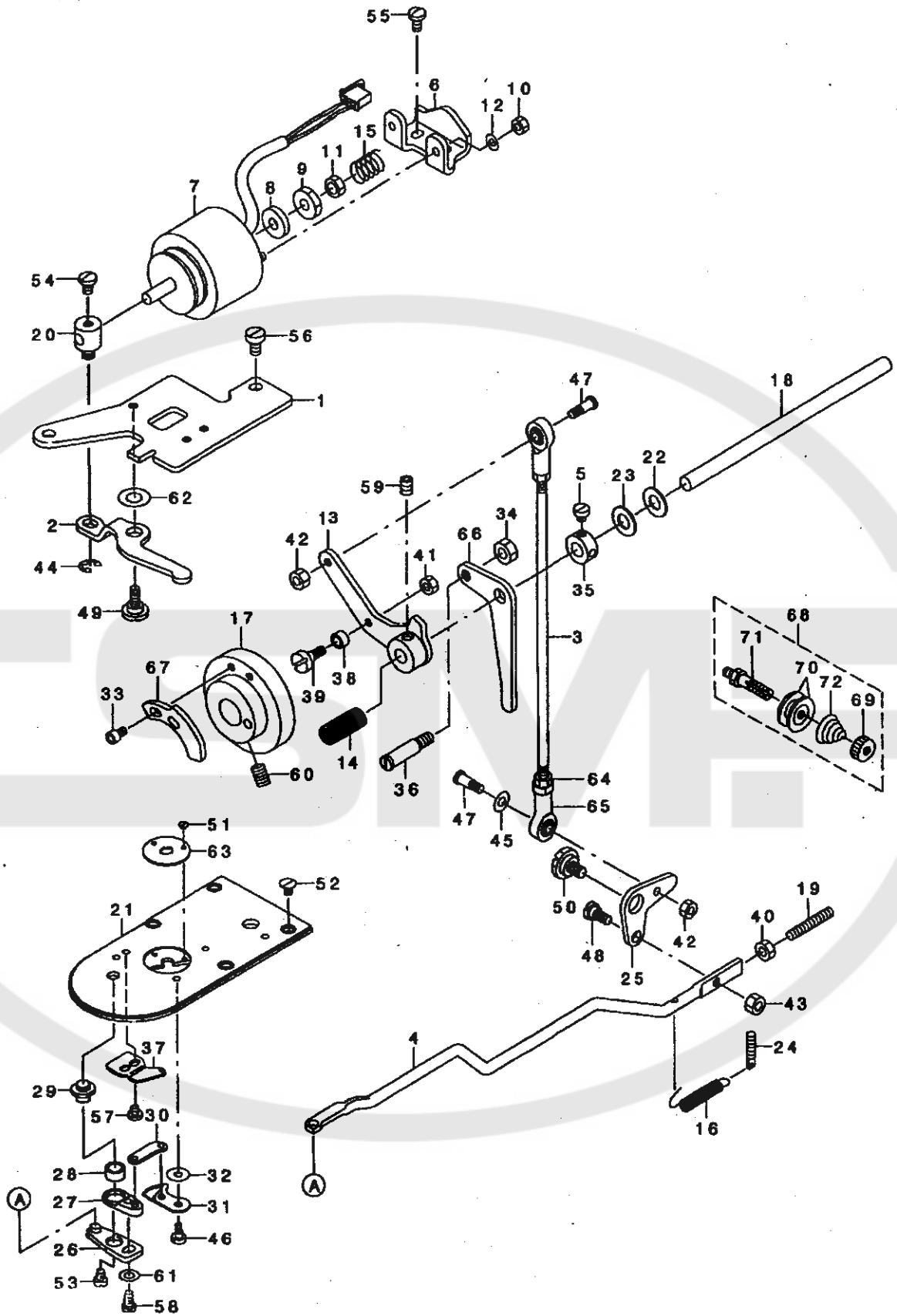
### 松线部件



序号	件号	名称	DESCRIPTION	数量
1	501GB150	复位弹簧拉板	STOPPER	1
2	501GH115	松线传动板连杆	CONNECTING BAR	1
3	501GB149	松线传动板	TENSION RELEASE LINK	1
4	501GB146	松线调节板	TENSION RELEASE ADJUSTING ARM	2
5	501GB147	松线杆	TENSION RELEASE BAR	1
6	501GB148	松线杆支架	THREAD TENSION ARM	1
7	501GW112	松线调节板复位弹簧	PRESSURE SPPING	1
8	501GK131	松线调节板垫片	WASHER	1
9	501BJ125	夹线器组件	SECOND THREAD TENSION ASM	1
10	501GS152	松线调节板夹紧螺钉	SCREW	1
11	501GS159	夹线总螺钉	SECOND THREAD TENSION ROD	1
12	501GS160	夹线螺钉紧定螺钉	SCREW	1
13	501GB151	夹线器座	THREAD TENSION ROD, LARGE	1
14	501GB153	夹线簧座	THREAD TENSION DISK PRESSER	1
15	501GW113	挑线簧	THREAD TAKE-UP SPRING	1
16	501GL107	松线传动板螺母	NUT	1
17	501GW114	夹线簧	THREAD TENSION SPRING	1
18	501GS158	夹线器紧定螺钉	SCREW	1
19	501BJ126	夹线螺母	THREAD TENSION NUT	1
20	501GB154	夹线制动板	ROTATING STOPPER	1
21	501GB114	夹线板	THREAD TENSION DISK	2
22	501GB152	松线板	THREAD TENSION DISK PRESSER	1
23	501GX112	松线钉	TENSION RELEASE PIN	1
24	501GS153	松线调节板螺钉销	SUSPENSION SCREW	1
25	501GS151	松线杆螺钉	HINGE SCREW	1
26	501GS154	松线传动板紧固螺钉	HINGE SCREW	1
27	501GS155	松线传动板连接螺钉	HINGE SCREW	1
28	501GS156	松线传动板连杆螺钉	HINGE SCREW	1
29	501GS157	复位弹簧拉板螺钉	SCREW	2
30	SS-4090540	松线杆支架螺钉	SCREW	2

# 7. TENSION RELEASE & THREAD TRIMMER MECHANISM COMPONENTS

## 剪线部件

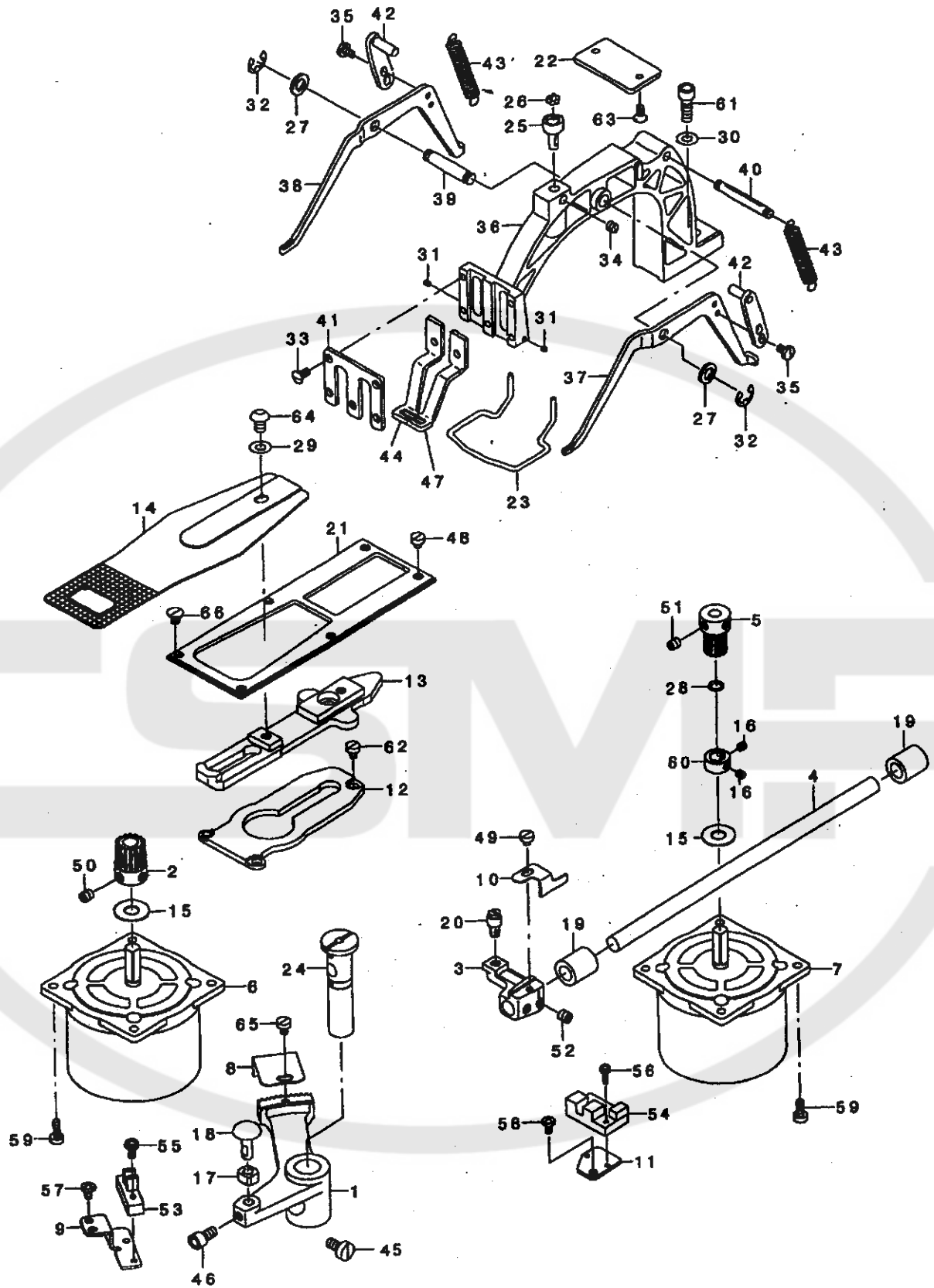


序号	件号	名称	DESCRIPTION	数量
1	501GB156	曲柄杆加油板	CAM FOLLOWER STOPPER	1
2	501GB159	剪线推动板	SOLENOID ARM	1
3	501GH116	剪线连杆	CONNECTING ROD	1
4	501GH118	剪线刀传动杆	CONNECTING BAR	1
5	501GS131	剪线轴轴套螺母	SCREW	2
6	501GB161	内电磁铁固定板	SOLENOID INSTALLING BASE	1
7	501GD105	内电磁铁	SOLENOID FOR THREAD TRIMMING	1
8	501GK141	内电磁铁垫圈A	SOLENOID RUBBER	1
9	501GL112	内电磁铁止动螺母A	NUT	1
10	501GL114	内电磁铁螺母	NUT	2
11	501GL113	内电磁铁止动螺母B	NUT	1
12	501GK141	内电磁铁垫圈	WASHER	2
13	501BJ128	凸轮从动器组件	CAM FOLLOWER ASM	1
14	501GW115	剪线弹簧	TAIPPING LEVER TENSION SPRING	2
15	501GW118	内电磁铁弹簧	SPRING	1
16	501GW116	剪线刀传动杆拉簧	THREAD TRIM LINK SPRING	1
17	501GT101	凸轮	THREAD TRIMMER CAM	1
18	501GZ113	剪线轴	THREAD TRIMMER SHAFT	1
19	501GS169	剪线刀传动杆止动螺母	SCREW	1
20	501GB158	电磁铁传动块	SOLENOID PIN	1
21	501GM101	针板	NEEDLE PLATE	1
22	501GK132	剪线轴垫圈A	NEEDLE ROD CRANK WASHER	1
23	501GK133	剪线轴垫圈B	CLOTH PLATE WASHER	1
24	501GS168	拉簧调节螺钉	TENSION SPRING ADJUSTING SCREW	1
25	501GH117	剪线曲柄	THREAD TRIMMER LINK	1
26	501BJ131	动刀传动杆分组件	THREAD CUTTER LEVER ASM., LARG	1
27	501BJ132	动刀曲柄分组件	THREAD CUTTER LEVER ASM., SMAL	1
28	501GO109	动刀杆衬套	THREAD CUTTING LEVER RING	1
29	501GS173	动刀杆定位螺钉	THREAD CUTTERLEVER SHAFT	1
30	501GH119	动刀连杆	MOVING KNIFE LINK	1
31	501BJ133	动刀分组件	MOVING KNIFE ASM.	1
32	501GK139	动刀调整垫圈	MOVING KNIFE WSHER A	1
33	501GS163	松线卡头固定螺钉	SCREW	2
34	501GL105	松线销螺母	NUT	1
35	501GK134	剪线轴挡圈	THRUST COLLAR ASM.	1
36	501GX113	松线销	TENSION RELEASE ARM PIN	1
37	501GB160	定刀	FIXING KNIFE	1
38	501GU108	剪线凸轮滚柱	ROLLER	1
39	501GS161	滚柱螺钉	ROLLER SHAFT	1
40	501GL110	剪线刀传动杆止动螺母	NUT	1
41	GL216-8	滚柱螺母	NUT	2
42	GL216-8	剪线连杆螺母	NUT	2
43	501GL107	剪线传动杆连接螺母	NUT	1
44	501GK135	电磁铁传动块挡圈	E-RING	1
45	501GK137	剪线连杆垫圈	WASHER	1
46	501GS174	动刀定位螺钉	HINGE SCREW	1
47	501GS165	剪线连杆螺钉	HINGE SCREW	2
48	501GS166	剪线刀传动杆螺钉	HINGE SCREW	1
49	501GS164	剪线推动板螺钉	HINGE SCREW	1
50	501GS193	剪线曲柄螺钉	HINGE SCREW	1
51	501GS175	小针板螺钉	SCREW	2
52	501GS170	针板固定螺钉	SCREW	4
53	501GS172	传动杆螺钉	SCREW	1
54	GS540-8	电磁铁传动块紧固螺钉	SCREW	1
55	501GS177	内电磁铁固定板螺钉	SCREW	2
56	501GS162	曲柄加油板固定螺钉	SCREW	2
57	501GS171	定刀定位螺钉	SCREW	2
58	GS540-8	动刀传动杆固定螺钉	SCREW	1
59	501GS130	偏心轴紧固螺钉	SCREW	1
60	SS-7161040	凸轮螺钉	SCREW	2
61	501GK138	动刀传动杆垫圈	WASHER	1
62	501GK136	剪线推动板垫圈	WASHER	1
63	501GM102	小针板	NEEDLE HOLE GUIDE	1
64	501GL109	剪线连杆螺母	NUT	2
65	501BJ130	万能接头组件	TIE-IN ASM.	1
66	501GB155	剪线曲柄扳手	THREAD RELEASE ARM	1
67	501GB157	松线卡头	TENSION RELEASE NOTCH	1
68	501BJ127	夹线组件	FIRST THREAD TENSION ASM	1
69	501GL111	夹线螺母	TENSION NUT, NO.1	1
70	501GB114	夹线板	THREAD TENSION DISK	2
71	501GS176	夹线器螺钉	THREAD TENSION ROD	1
72	501GW117	夹线器簧	FIRST THREAD TENSION SPRING	1



# 8. FEED MECHANISM COMPONENTS

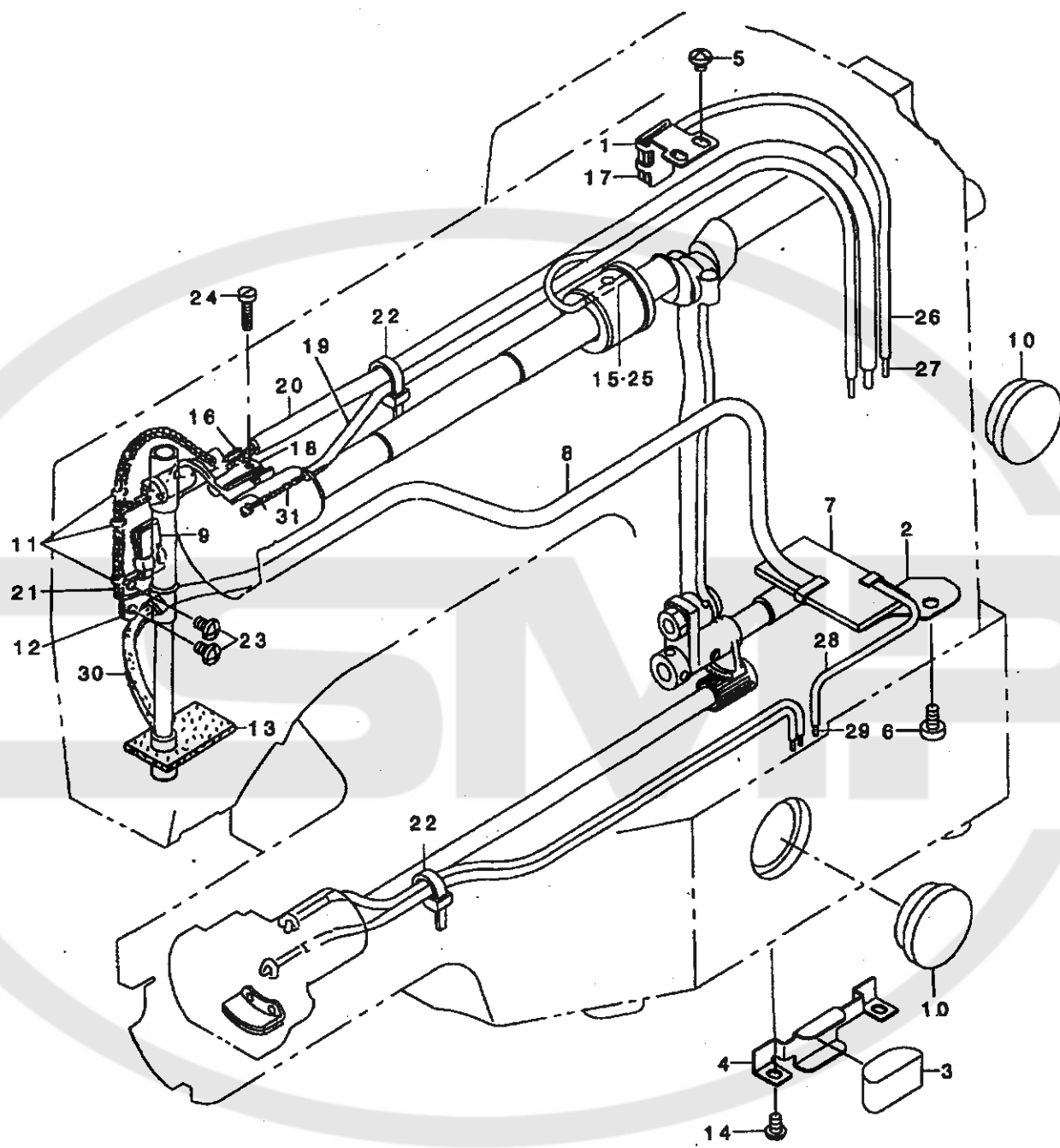
## 送料部件



序号	件号	名称	DESCRIPTION	数量
1	501GC105	X向杠杆齿轮	CROSSFEED ARM	1
2	501GC106	X轴电机齿轮	CROSSFEED GEAR	1
3	501GB170	Y向驱动轴夹头	LENGTHWISE FEED ARM	1
4	501GZ114	Y向驱动轴	LENGTHWISE FEED SHAFT	1
5	501GC107	Y向电机齿轮	LENGTHWISE FEED GEAR	1
6	501GD106	X轴步进电机	X FEED STEPPING MOTOR	1
7	501GD107	Y轴步进电机	Y FEED STEPPING MOTOR	1
8	501GD108	X向传感片	CROSSFEED SENSOR SLIT	1
9	501GB171	X轴传感器固定架	SENSOR INSTALING BASE	1
10	501GD109	Y向传感片	LENGTHWISE FEED SENSOR SLIT	1
11	501GB165	Y向传感器固定架	SENSOR INSTALLING BASE	1
12	501GB168	送料托架支承板	CLOTH FEED SUPPORT PLATE	1
13	501GB169	送料托架	CLOTH FEED PLATE	1
14	501GM117	送料板	FEED PLATE A	1
15	501GF114	电机橡胶垫	RUBBER WASHER	2
16	501GS185	Y电机挡圈螺钉	SCREW	2
17	501GU101	X向滑块	SQUARE BLOCK	1
18	501GZ117	X向滑块轴	SLIDE BLOCK STUD	1
19	501GO111	Y向驱动轴轴套	BUSHING, REAR	2
20	501GS180	Y向轴夹头铰轴	HINGE STUD	1
21	501GR110	盖板	CLOTH FEED PRESSER PLATE	1
22	501GB168	送料架支承板	SUPPORT PLATE	1
23	501GB175	护手圈	FINGER GUARDE	1
24	501GZ115	X向铰轴	FEED DRIVING ARM SHAFT	1
25	501GZ116	钢球座	BALL RETAINER	1
26	501GB166	钢球	WORK CLAMP FOOT MONTING BASE	7
27	501GK144	提升架轴垫圈	WASHER FOR DRIVING ARM	2
28	501GF115	Y电机O形圈	RUBBER RING	1
29	501GK142	送料板紧固螺钉垫圈	WASHER	1
30	501GK142	送料架紧固螺钉垫圈	WASHER	1
31	GS380-8	护手圈螺钉	SCREW	2
32	501GK145	提升轴挡圈	E-RING	2
33	501GS188	面板螺钉	SCREW	5
34	501GS182	钢球座螺钉	SCREW	1
35	GS540-8	压脚提升导板螺钉	SCREW	4
36	501GB172	送料架	FEED BRACKET	1
37	501GB173	右压脚提升架	LIFTING LEVER, RIGHT	1
38	501GB174	左压脚提升架	LIFTING LEVER, LEFT	1
39	501GZ119	提升架轴	LIFTING LEVER SHAFT	1
40	501GZ118	拉簧支轴柱	SPRING SUSPENSION	1
41	501GB176	压脚面板	WORK CLAMP FOOT FACE PLATE	1
42	501BJ135	压脚提升导板组件	LEVER DRIVING PLATE ASM	2
43	501GW119	提升架拉簧	CLOTH PRESSER SPRING	2
44	501GM104	右压脚	WORK CLAMP FOOT, RIGHT	1
45	501GS144	X向铰轴螺钉	SCREW	1
46	501GS181	X向滑块轴螺钉	SCREW	1
47	501GM103	左压脚	WORK CLAMP FOOT, LEFT	1
48	501GS178	盖板螺钉	SCREW	1
49	501GS186	Y向传感片螺钉	SCREW	1
50	501GS122	X向电机齿轮螺钉	SCREW	2
51	501GS122	Y向电机齿轮螺钉	SCREW	2
52	501GS187	Y向驱动轴夹头螺钉	SCREW	2
53	501GD110	X轴传感器	PHOTO SENSOR	1
54	501GD103	Y轴传感器	PHOTO SENSOR	1
55	501BJ111	X轴传感器螺钉组件	SCREW	1
56	501BJ114	Y轴传感器螺钉组件	SCREW	1
57	501GS178	X轴传感器固定架螺钉	SCREW	2
58	501GS178	Y轴传感器固定架螺钉	SCREW	1
59	501GS108	步进电机螺钉	SCREW	8
60	501GK143	Y电机挡圈	THRUST COLLAR	1
61	501GS137	送料架固定螺钉	SCREW	1
62	501GS103	送料托架支承板螺钉	SCREW	3
63	501GS183	送料架支承板螺钉	SCREW	2
64	501GS184	送料板架紧固螺钉	SCREW	1
65	501GS103	X向传感片螺钉	SCREW	1
66	501GS179	盖板螺钉	SCREW	4

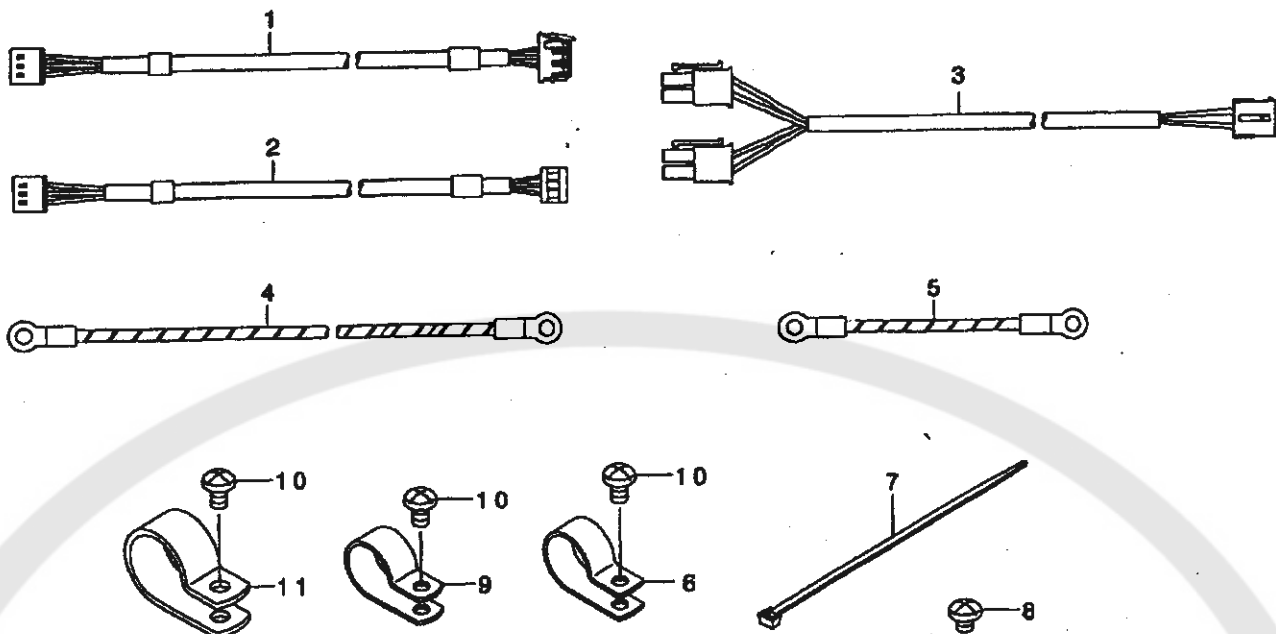
# 9. LUBRICATION COMPONENTS

## 供油部件



序号	件号	名称	DESCRIPTION	数量
1	501GB190	连杆供油安装板	OIL SHIELD	1
2	501GB186	回油油毡固定板	OIL SHIELD	1
3	501GB178	底板防漏油油毡	OIL FELT	1
4	501GB179	底板防漏油油毡安装板	FELT PRESSER	1
5	501GS178	连杆供油安装板螺钉	SCREW	2
6	501GS178	回油油毡固定板螺钉	SCREW	1
7	501GB185	下轴大油毡	OIL FELT	1
8	501GB184	回油大油管	ONCE THROUGH OIL FELT	1
9	501GB196	小连杆供油油毡	OIL SPONGE	1
10	501BJ139	油窗组件	OIL GAUGE	2
11	501GB201	油线夹头	OIL WICK PRESSER	3
12	501GB197	机头供油安装板	OIL WICK PRESSER	1
13	501GB180	针杆轴套油毡	FACE FELT	1
14	501GS178	底板防漏油油毡安装板螺钉	SCREW	2
15	501GB194	中轴套供油油管	OIL WICK	1
16	501GB199	曲柄供油安装板	BALANCE LLUBRICATING PLATE	1
17	501GB189	连杆供油油毡	NEEDLE ROD CRANK LUBRICATIN	1
18	501GB200	曲柄供油油毡	BALANCE LLUBRICATING	1
19	501GB181	前轴套供油油管	VINYL TUBE	1
20	501GB184	回油大油管	VINYL PIPE	1
21	501GB202	机头供油油线	OIL WICK	1
22	501GA109	电线自锁夹	CABLE BAND	2
23	501GS178	机头供油安装板螺钉	SCREW	2
24	501GS189	油毡固定板螺钉	SCREW	1
25	501GB193	中轴套供油油线	OIL WICK	1
26	501GB192	连杆供油油管	VINYL TUBE	1
27	501GB191	连杆供油油线	OIL WICK	1
28	501GB187	下轴轴套供油油管	VINYL TUBE	1
29	501GB188	下轴轴套供油油线	OIL WICK	1
30	501GB185	下轴大油毡	OIL FELT	1
31	501GB182	前轴套供油油线	OIL WICK	1

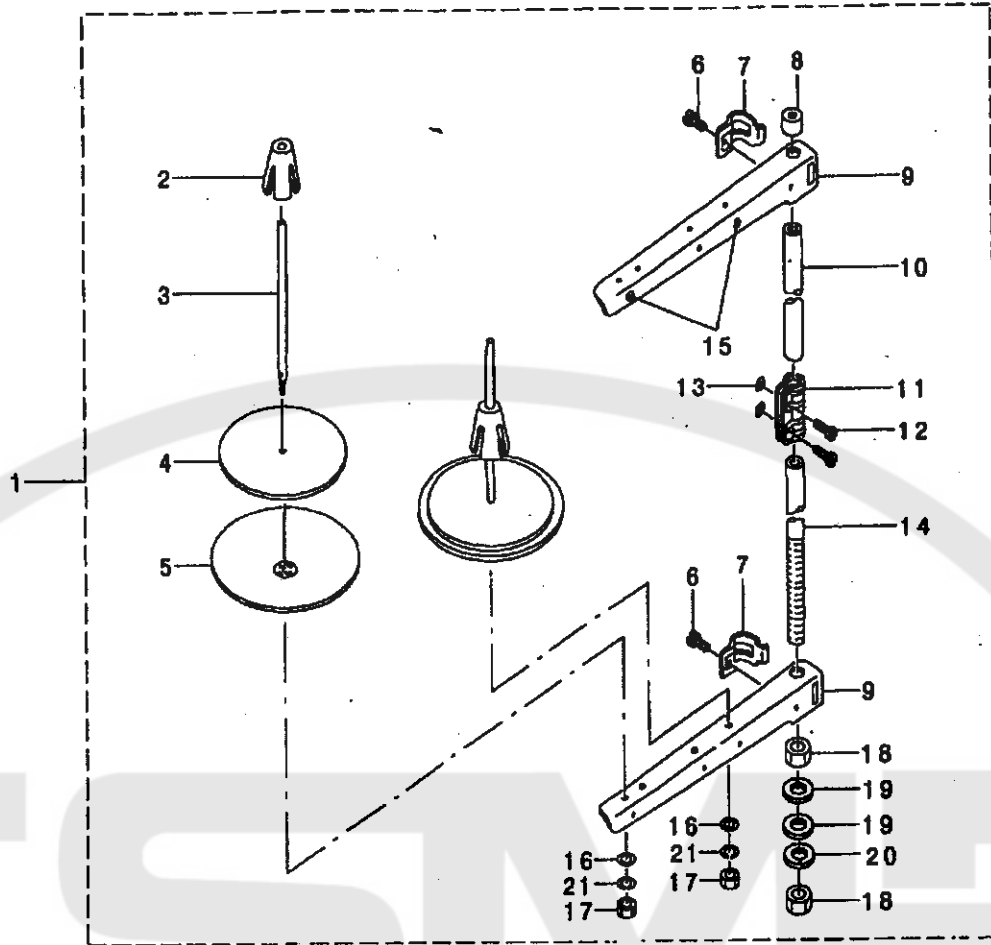
传感器部件



序号	件号	名称	DESCRIPTION	数量
1	501GD101	上轴传感器接线	UPPER SHAFT SENSOR CABLE ASM.	1
2	501GD113	电磁铁传感器接线	OUTER PRESSER SENSOR CABLE ASM.	1
3	501GD111	XY轴传感器接线	XY SENSOR CABLE ASM.	1
4	501GD114	长接地电线	HEAD GROUND CABLE A ASM.	1
5	501GD115	短接地电线	HEAD GROUND CABLE B ASM.	1
6	501GB204	夹头	CABLE CLIP	1
7	501GA109	电线自锁夹	CABLE BAND	1
8	501GS178	接地电线螺钉	SCREW	3
9	501GB204	夹头	CABLE CLIP	1
10	501GS178	夹头螺钉	SCREW	3
11	501GB204	夹头	CABLE CLIP	1

# 11. THREAD STAND COMPONENTS

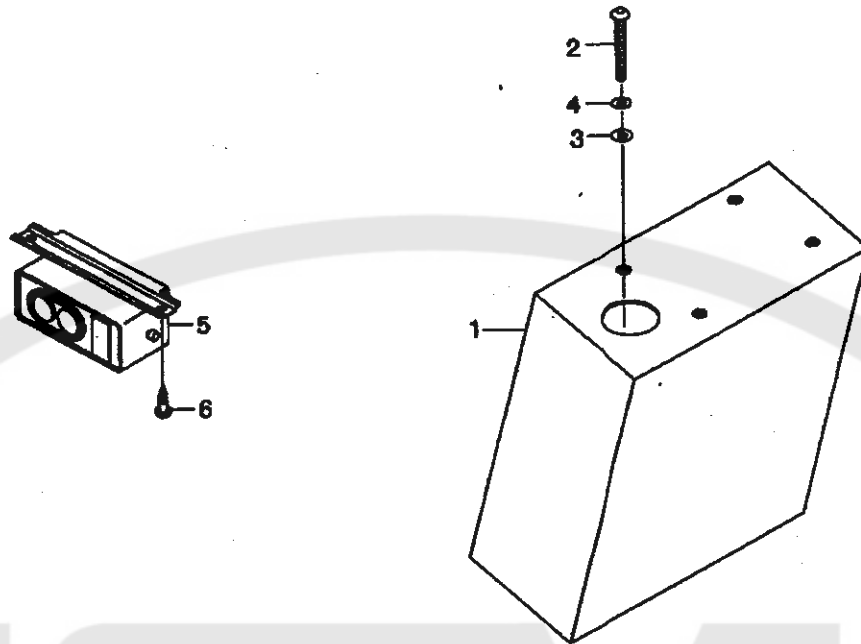
## 线架部件



序号	件号	名称	DESCRIPTION	数量
1	GR760/35-8	过线架部件	THREAD STAND ASM	1
2	GR721-8	线团防松垫	SPOOL RETAINER	2
3	GS370-8	线盘钉	SPOOL PIN	2
4	GR750-8	线盘软垫	SPOOL REST CUSHION	2
5	GR720-8	线盘	SPOOL REST	2
6	GS369-8	线架过线夹螺钉	SCREW	2
7	GR716-8	线架过线夹	THREAD GUIDE ARM JOINT	2
8	GR713-8	线架杆顶防护橡皮	SPOOL REST ROD RUBBER CAP	1
9	GR715-8	线架过线杆	SPOOL REST ARM	2
10	GZ241-8	线架杆上节	SPOOL REST ROD, UPPER	1
11	GR714-8	接架杆接头	SPOOL REST ROD JOINT	1
12	GS401-8	接架杆接头螺钉	SCREW	2
13	GL134-8	接架杆接头螺母	NUT	2
14	GZ240-8	线架杆下节	SPOOL REST ROD, LOWER	1
15	GR717-8	过线圈	THREAD GUIDE	2
16	GR718-8	线盘钉弹簧垫	SPRING WASHER	2
17	GL172-8	线盘钉螺母	NUT	2
18	GL173-8	线架杆紧固螺母	NUT	2
19	GR722-8	线架杆紧固螺母垫圈	WASHER	2
20	GR723-8	紧固螺母弹簧垫圈	SPRING WASHER	1
21	GR719-8	线盘钉垫圈	WASHER	2

## 12. CONTROL BOX COMPONENTS

电控部件

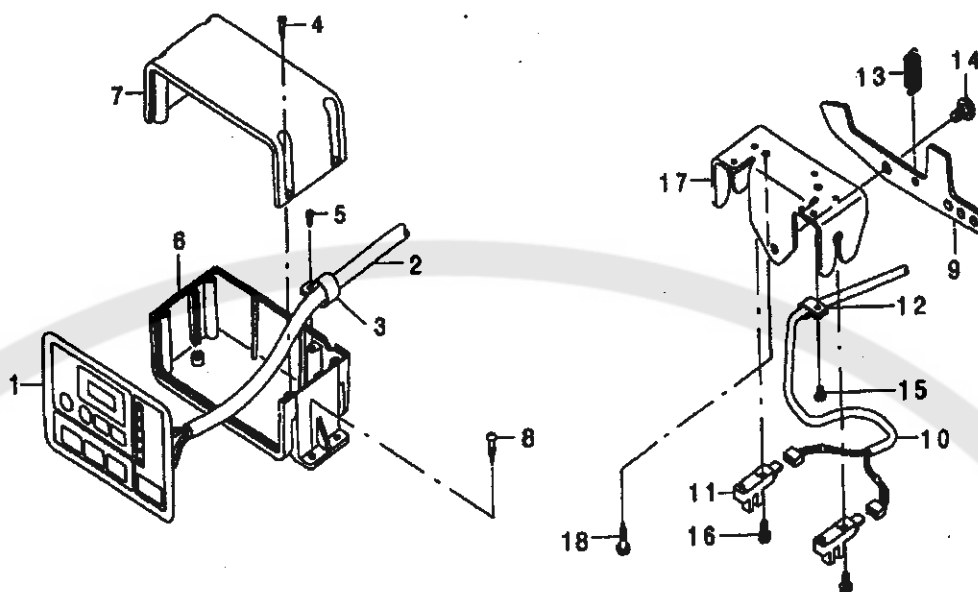


序号	件号	名称	DESCRIPTION	数量
1	501GD121	电控箱	CONTROL BOX	1
2	501GS194	电控箱螺钉	SCREW	4
3	501GK148	电控箱螺钉垫片	WASHER	4
4	501GK149	电控箱螺钉弹簧垫片	SPRING WASHER	4
5	501GD122	开关	SWITCH	1
6	501GS105	开关木螺钉	WOOD SCREW	2

注：电控箱零件目录见附本。

### 13. OPERATION BOX & PEDAL COMPONENTS

#### 操作箱与踏脚部件

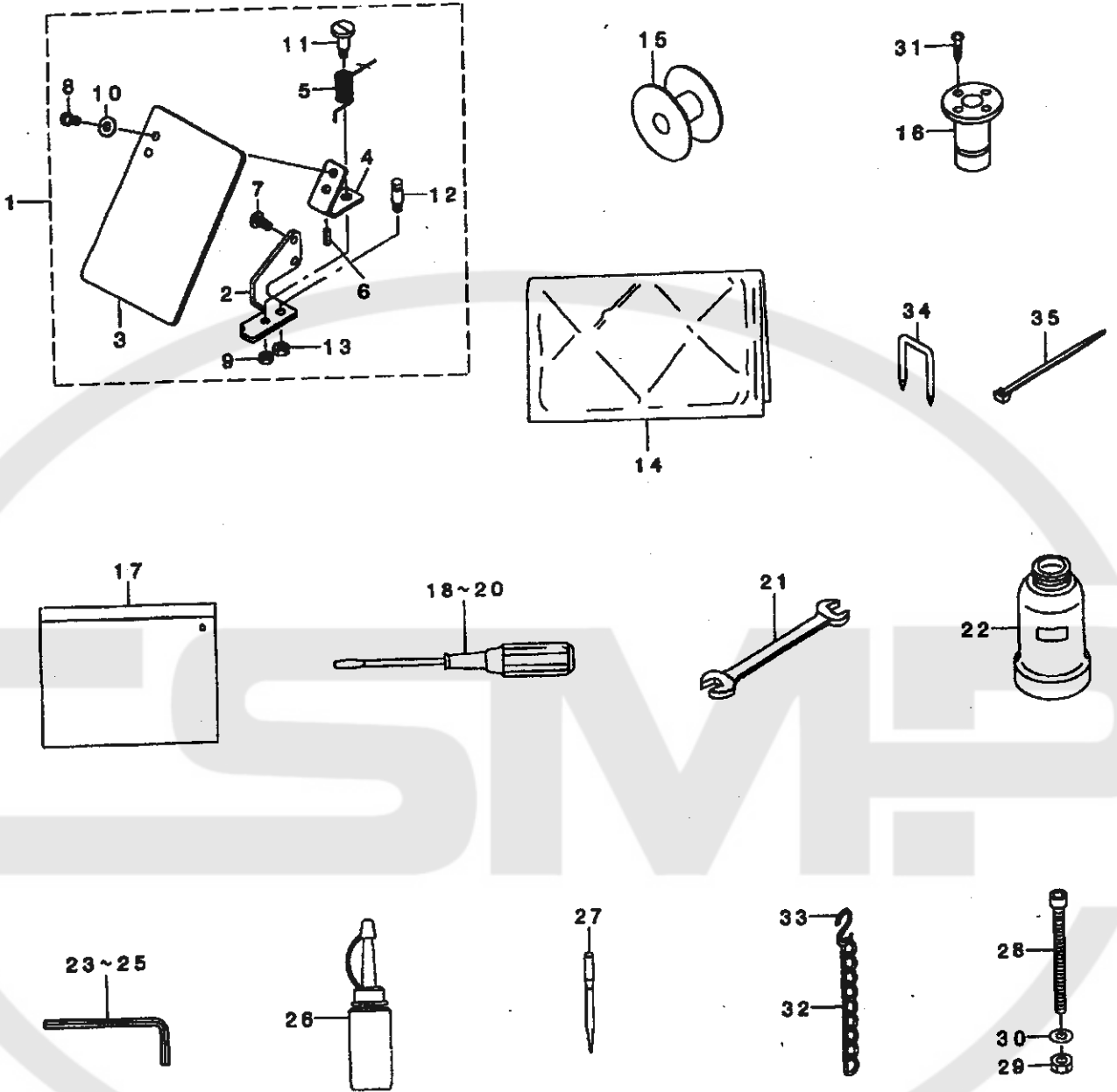


序号	件号	名称	DESCRIPTION	数量
1	501GD119	操作板	OPERATION PANEL PLATE	1
2	501GD120	操作箱电线	OPERATION BOX CABLE ASM.	1
3	501GB204	夹头	CABLE CLIP	1
4	501GS167	操作箱配合螺钉	SCREW	4
5	501GS167	操作箱电线紧固螺钉	SCREW	1
6	501GD118	操作箱下	OPEARTION BOX UP	1
7	501GD117	操作箱上	OPEARTION BOX DOWN	1
8	501GS105	操作箱定位螺钉	SCREW	4
9	501GB205	踏脚开关	PEDAL SWITCH FRAME	1
10	501GD117	踏脚部分传感器接线	PEDAL SWITCH CABLE ASM.	1
11	501GD110	传感器	PHOTO SENSOR	2
12	501GB204	夹头	CABLE CLIP	1
13	501GW120	踏脚开关弹簧	SPRING	1
14	501GS191	踏脚开关螺钉	HINGE SCREW	1
15	501GS178	SL型夹头螺钉	SCREW	1
16	501BJ111	传感器螺钉组件	SCREW ASM.	2
17	501GB206	踏脚开关架	PEDAL SWITCH FRAME	1
18	501GS105	踏脚开关木螺钉	SCREW	2



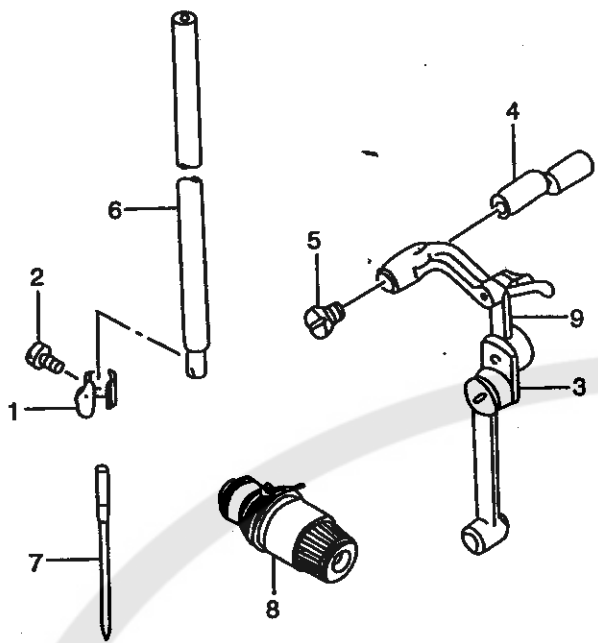
# 14. ACCESSORIE PART COMPONENTS

附件

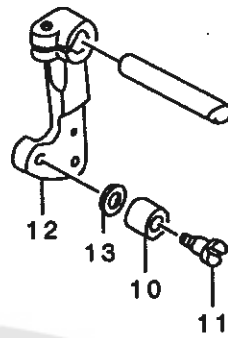


序号	件号	名称	DESCRIPTION	数量
1	501BJ141	眼睛防护罩组件	SAFETY PLATE ASM.	1
2	501GB207	安全座板	SAFETY PLATE INSTALLING BASE	1
3	501GB208	安全板	SAFETY PLATE	1
4	501GB209	安全板架	SAFETY PLATE INSTALLING PLATE	1
5	501GW121	弹簧	SAFETY PLATE RETURN SPRING	1
6	501GX118	弹性圆形销	SPRING PIN	1
7	501GS178	螺钉	SCREW	2
8	501GS178	螺钉	SCREW	2
9	501GL104	螺母	NUT	1
10	501GK147	垫片	WASHER	2
11	501GS192	螺钉轴	HINGE SCREW	1
12	501GX117	弹簧复位销	TENSION SPRING RACK	1
13	501GL115	螺母	NUT	1
14	501GR111	机头罩	VINYL COVER	1
15	501GN102	梭心	BOBBIN	1
16	501GA103	油杯座	OIL MANAGEMENT	1
17	501GA101	机头塑料膜	ACCESSORY BOX	1
18	GR700-8	大螺丝刀	SCREW DRIVER, LARGE	1
19	GR701-8	中螺丝刀	SCREW DRIVER, MIDDLE	1
20	GR702-8	小螺丝刀	SCREW DRIVER, SMALL	1
21	501GA107	呆扳手 (9x10)	WRENCH	1
22	501GA102	油杯	OIL CAN	1
23	501GA108	内六角螺钉 3	HEXAGONAL WRENCH, SMALL	1
24	501GA108	内六角螺钉 4	HEXAGONAL WRENCH, LARGE	1
25	501GA108	内六角螺钉 5	HEXAGONAL SPANNER	1
26	B.10-52	油瓶	OILER	1
27	501GV101	机针	NEEDLE DPX5 (#16)	4
28	501GS107	固定架螺钉	HEXAGONAL-HOLE BOLT	1
29	501GL102	螺母	NUT	1
30	501GK104	垫片	WASHER	1
31	501GS167	油杯座木螺钉	SCREW	4
32	B.10-47	链条	CHAIN	1
33	B.10-48	链钩	S SHAPED HOIOK	1
34	501GX107	电线固定钉	CORD STAPLE	7
35	501GA109	电线自锁夹	CABLE BAND	4

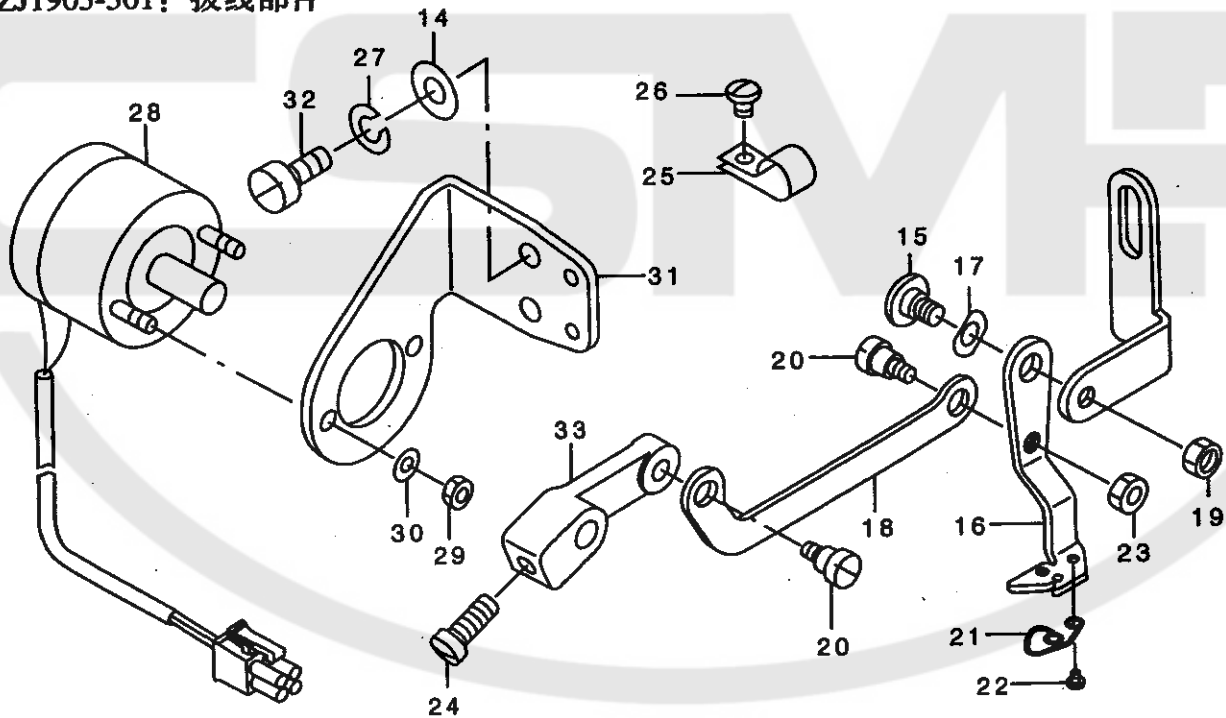
**MAIN SHAFT & NEEDLE BAR COMPONENTS**  
 ZJ1903-301: 挑线刺布部件



**PRESSER LIFTER COMPONENTS**  
 ZJ1903-301: 电磁铁部件

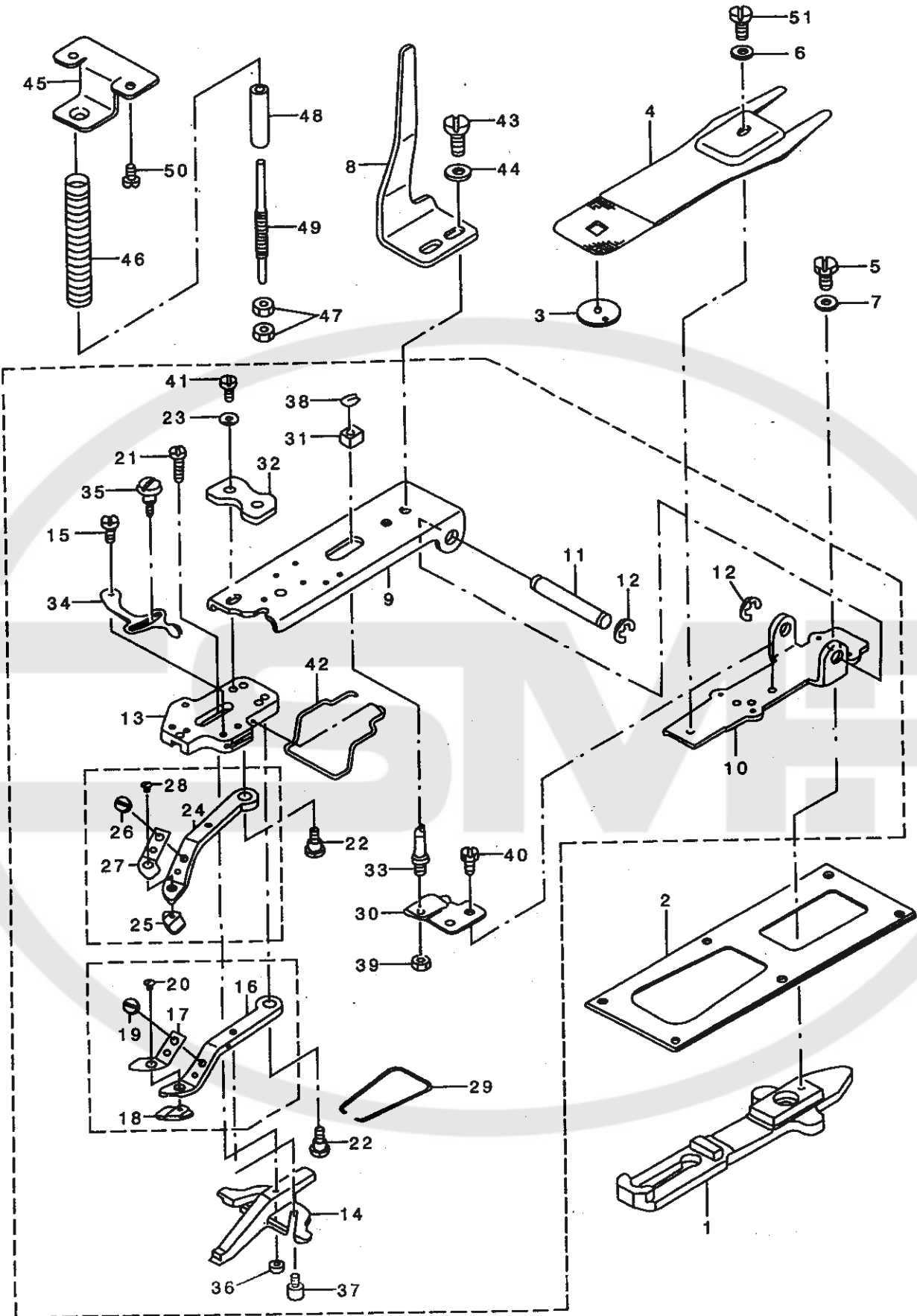


**WIPER MECHANISM COMPONENTS**  
 ZJ1903-301: 拨线部件



序号	件号	名称	DESCRIPTION	数量
1	502GB102	针杆线勾	NEEDLE BAR THREAD GUIDE	1
2	502GS101	机针螺钉	SCREW	1
3	502GH101	挑线曲柄	NEEDLE ROD CRANK	1
4	502GZ101	偏心轴	LINK TAKE-UP LEVER PIN, HEAV	1
5	502GS102	偏心轴螺钉	SET SCREW	1
6	502GO101	针杆	NEEDLE BAR	1
7	502GV101	机针	NEEDLE	1
8	502BJ102	夹线器组件	TENSION CONTROLLER ASM	1
9	502BJ101	挑线杆组件	THREAD TAKE-UP LEVER	1
10	502GK102	拨线曲柄滚子	STOP MOTION TRIPPING LEVER CA	1
11	502GS103	拨线曲柄螺钉	HINGE SCREW	1
12	502GH103	拨线曲柄	CONNECTING ARM	1
13	502GK101	拨线曲柄垫片	HOOK SHARFT WASHER	2
14	501GK147	扫线电磁铁固定板垫片	WASHERR	2
15	502GS106	扫线杆螺钉	HINGE SCREW	1
16	502GB103	扫线杆	WIPER	1
17	502GK111	扫线杆垫圈	WAAVE WASHER	1
18	502GH104	扫线连杆	WIPER LINK	1
19	501GL107	扫线杆螺母	NUT	1
20	502GS105	扫线连杆螺钉	HINGE SCREW	2
21	502GW101	扫线杆弹簧	SPRING	1
22	502GS104	扫线杆弹簧螺钉	SCREW	2
23	502GL104	扫线连杆螺母	NUT	1
24	GS340-8	扫线曲柄螺钉	SCREW	1
25	502GD102	电线夹头	CABLE CLIP	3
26	101GS174	电线夹头螺钉	SCREW	3
27	502GK103	扫线电磁铁固定板开口垫片	SPING WASHER	1
28	502GD101	扫线电磁铁	SOLENOID FOR WIPER ASM.	1
29	502GL101	扫线电磁铁螺母	NUT	2
30	502GK104	扫线电磁铁垫片	SPRING WASHER	2
31	502GB104	扫线电磁铁固定板	SOLENOID FITTING PLATE	1
32	GS328-8	扫线电磁铁固定板螺钉	SCREW	2
33	502GH105	扫线曲柄	WIPER ARM	1
34	502GW102	Y轴驱动轴弹簧	SPRING	1

**FEED MECHANISM COMPONENTS**  
**ZJ1903-301: 送料部件**



序号	件号	名称	DESCRIPTION	数量
1	502GB105	送料托架	CLOTH FEED PLATE	1
2	502GR101	盖板	FEED PLATE PRESSER PLATE	1
3	502GM101	小针板	GUIDE	1
4	502GM102	送料板	PRESSURE PLATE	1
5	502GS108	送料板座螺钉	SCREW	1
6	502GK105	送料牙螺钉垫圈	WASHER	1
7	502GK142	送料板座螺钉垫片	WASHER	1
8	502GB109	抬压挡板	MOVING PLATE	1
9	502GB107	抬压挡板座	PICK-UP FOOT INSTALLING BASE	1
10	502GB106	送料板座	PICK-UP INSTALLING BASE	1
11	502GZ102	压脚导板轴	INSTALLING SHAFT	1
12	502GK106	开口挡圈	E-RING	2
13	502GB111	压脚连接座	PICK-UP FOOT INSTALLING BASE	1
14	502GB118	压脚导向座	BUTTON CLAMP SLIDE	1
15	502GS113	压脚调节扳手定位螺钉	HINGE SCREW	1
16	502GB116	右压脚座	SMALL CLAMP JAW LEVER ASML	1
17	502GB117	纽扣右定位板	SPRING,RIGHT	1
18	502GM104	右压脚	PLATE K,R	1
19	502GS114	纽扣定位板螺钉	SCREW	1
20	502GS115	压脚螺钉	SCREW	1
21	502GS112	压脚导向螺钉	HINGE SCREW	1
22	502GS116	压脚座螺钉	HINGE SCREW	2
23	502GK110	抬压挡板座螺钉垫片	WASHER	2
24	502GB114	左压脚座	SMALL CLAMP JAW LEVER,L	1
25	502GM103	左压脚	PLATE K,L	1
26	502GS114	纽扣定位板螺钉	SCREW	1
27	502GB115	纽扣左定位板	SPRING,LEFT	1
28	502GS115	压脚螺钉	SCREW	1
29	502GW105	压脚座复位簧	BUTTON CLAMP JAW LEVER SPRING	1
30	502GB108	压脚导向块座	SUPPORT PLATE	1
31	502GK108	压脚导向块	SLIDE BLOCK	1
32	502GB110	抬压挡板座压板	PRESSER PLATE	1
33	502GZ103	压脚导向轴	STATIONING BLOCK SHAFT	1
34	502GB112	压脚调节扳手	SNAP FASTENER CLAMP STOP LEVER	1
35	502GS117	压脚调节扳手紧定螺钉	CLAMP SCREW	1
36	502GL103	压脚导向螺钉螺母	NUT	1
37	502GS118	压脚座导向柱	BUTTON CLAMP STOP PIN	2
38	502GK107	压脚导向块挡圈	SNAP RING, FOR CONNECTING ROD	1
39	502GL102	压脚导向块轴螺母	NUT	1
40	502GS109	压脚导向块座螺钉	SCREW	2
41	502GS111	抬压挡板座螺钉	SCREW	2
42	502GB113	手指保护器	FINGER GUARD	1
43	502GS110	抬压挡板螺钉	SCREW	2
44	502GK109	抬压挡板螺钉垫片	WASHER	2
45	502GB119	压脚导杆导板	ACCEPT PLATE,UPPER	1
46	502GW105	压脚导杆弹簧	PREWWURE SPRING	1
47	502GL104	压脚导杆螺母	THREAD TENSION NUT	2
48	502GO102	压脚导杆套	SLEEVE	1
49	502GS119	压脚导杆	ADJUSTING SHAFT	1
50	GS336-8	压脚导杆导板螺钉	SCREW	2
51	502GS107	送料牙螺钉	SCREW	1