

# MAQI

## 使 用 说 明 书

### 美 机 缝 纫 机

MAQI SEWING MACHINE

OPERATION MANUAL

---

## INSTRUCTIONS

---

Thank you very much for purchasing 31016 Series machine.

This instruction manual describes daily routine maintenance and safety precautions to keep the machine in the best possible conditions.

Please study this manual very carefully before operating the machine.

---

## 使用说明书

---

为您购买31016系列缝纫机，我们表示衷心的感谢！

在使用缝纫机之前，请认真阅读此说明书。愿您自始至终爱护并使用敝公司的产品。

另外，为使您的缝纫机高效率的使用，此说明书登载了有关日常中检查与安全的注意事项。

在平时，除了对缝纫机进行检查之外，也请您多加注意自身。

# CONTENTS

|   |       |
|---|-------|
| Copyright .....                                       | 1     |
| Directive .....                                       | 1     |
| 1.Introduction .....                                  | 2     |
| 2.Indications of dangers,warnings & cautions .....    | 2~3   |
| 3.Safety precautions .....                            | 3~4   |
| 4.Notes for each procedure .....                      | 4~6   |
| 5.Location of warning labels and safety devices ..... | 7     |
| 6.Protectors for safety .....                         | 8     |
| Schematic diagram of the machine table .....          | 9     |
| Assembling the machine rest board .....               | 10    |
| Sewing machine installation .....                     | 10    |
| Installing the belt cover .....                       | 10    |
| Operating direction of the machine pulley .....       | 10    |
| Lubrication .....                                     | 11    |
| Silicone oil for H.R. device .....                    | 12    |
| Threading .....                                       | 13~14 |
| Adjusting presser foot pressure .....                 | 15    |
| Adjusting the differential feed ratio .....           | 15    |
| Adjusting stitch length .....                         | 15    |
| Adjusting the thread tension .....                    | 16    |
| Cleaning the machine .....                            | 16    |
| Oil replacement .....                                 | 17    |
| To drain the oil .....                                | 17    |
| Checking and cleaning the oil filter .....            | 18    |
| Adjustment dimensions                                 |       |
| Comparison table of equivalent sizes                  |       |
| Standard needle .....                                 | 19    |
| Subclass specifications .....                         | 20    |

# 目录

|                          |       |
|--------------------------|-------|
| 注记 .....                 | 21    |
| 指令 .....                 | 21    |
| 1.前言 .....               | 22    |
| 2.告警标记 .....             | 22~23 |
| 3.安全措施 .....             | 23~24 |
| 4.各操作过程的注意事项 .....       | 24~26 |
| 5.警告标签粘贴的位置与安全保护装置 ..... | 27    |
| 6.安全保护装置 .....           | 28    |
| 台板加工图 .....              | 29    |
| 安装台的组装 .....             | 30    |
| 缝纫机的安装 .....             | 30    |
| 皮带轮护盖的安装 .....           | 30    |
| 缝纫机的旋转方向 .....           | 30    |
| 关于供油 .....               | 31    |
| 给HR装置供油 .....            | 32    |
| 穿线的方法 .....              | 33~34 |
| 压脚压力的调节 .....            | 35    |
| 差动比的调节 .....             | 35    |
| 针脚长度的调节 .....            | 35    |
| 线状态的调节 .....             | 36    |
| 缝纫机的清扫 .....             | 36    |
| 机针的更换 .....              | 37    |
| 机油的更换 .....              | 37    |
| 排油的方法 .....              | 37    |
| 机油过滤器的检查与清扫 .....        | 38    |
| 调整基准数值                   |       |
| 针号对照表                    |       |
| 标准用针 .....               | 39    |
| 子型号规格表 .....             | 40    |



Be sure to study very carefully **for safety.**

---

## Copyright

---

### ● Disclaimer

The contents described in this instruction manual are intended for giving information and subject to change without notice. We assume no responsibility for these informaton, and any errors and/or incorrect descriptions that may appear in this instruction manual.

- This model has a policy that we always modify the performance and/or specifications of this product introducing the state-of-the-art technology. Accordingly we reserve the right to change the specifications and/or design without notice.

- This instruction manual is valid for all the models and subclasses listed in the chapter "Specifications."

---

## Directives

---

This machine is constructed in accordance with the European regulations contained in the conformity and manufacturer's declarations. In addition to this instruction manual, strictly observe all the generally accepted, statutory regulations, legal requirements and all the environmental protection regulations. Also rigidly adhere to the regionally valid regulations of the social insurance society for occupational accidents or other supervisory organizations.

## 1.Introduction

- This is the instruction manual that describes how to use this product safely.
- Read this instruction manual and learn very carefully how to operate, adjust and service this sewing machine before beginning any of the procedures.
- You should realize first that there is always the risk of contacting moving parts, such as needles because you have to work at point-blank range to them when you are operating industrial sewing machines. For safety it is essential that we supply safe products and you use them correctly and safely. There may be some safety measures that you yourself must take. Therefore, you should read and understand very carefully this instruction manual together with that of the driving equipment and take necessary safety measures in order to use this machine efficiently and effectively.

## **2.Indications of dangers,warnings and cautions**

To prevent accidents and ensure safety, warning indications which show the degree of danger are used on our products and in this manual.




Study the contents of these indications carefully and follow all warnings and instructions.

Indication labels should be found easily.

Attach new labels when they are stained or removed.









Contact our sales office when new labels are needed.

**Symbols, signs and/or signal words which attract users' attention**

|  |  |
|--|--|
|  <b>DANGER</b>  | <p>Indicates an immediate hazard to life or limb.</p>                      |
|  <b>WARNING</b> | <p>Indicates a potential hazard to life or limb.</p>                       |
|  <b>CAUTION</b> | <p>Indicates a possible mistake that could result in injury or damage.</p> |

Be sure to study very carefully **for safety.**

Symbols, and messages

|   |   |
|---|---|
|    | Be sure to follow the instructions when you operate the machine and/or labor saving device.   |
|    | If you use the machine and/or labor saving device incorrectly, you may get an electrical shock.   |
|    | If you use the machine and/or labor saving device incorrectly, your hands and/or fingers may be injured.  |
|    | Indicates a danger of burn injury due to high temperature.  |
|    | Never do this.  |
|    | Unplug the machine or shut off the power when checking, adjusting and/or repairing the machine and/or labor saving device or when lightning may strike. |
|   | Be sure to ground the machine and labor saving device securely.   |
|  | Denotes the normal rotating direction of the machine pulley.  |

3. Safety precautions

① Applications, purpose

Our industrial sewing machines have been developed in order to increase quality and/or production in the sewing industry. Accordingly never use our products for other than intended use described above.

② Circumstances



The environment in which our industrial sewing machines are used may seriously affect their lives, functions, performance and/or safety.

For safety, do not use the machine under the circumstances below.

- 1. Do not use the machine near objects which make noise such as a high-frequency welder, etc.
- 2. Do not use or store the machine in the air which has vapor from chemicals, or do not expose the device to chemicals.
- 3. Do not leave the machine outside, in high temperatures or the direct sun.
- 4. Do not use the machine in the places of high ambient temperature and humidity that seriously affects sewing machines.

- 5. Do not use the machine on the condition that the voltage fluctuation range is more than  $\pm 10\%$  of the rated voltage.
- 6. Do not use the machine in the place where the supply voltage specified for the control motor cannot be properly obtained.

③ Safety measures

-  (1) Safety precautions when you perform maintenance on the machine.
  - Always turn off the power, unplug the machine and then make sure that the machine does not run by pressing the treadle before performing any maintenance, such as checking, repairing, cleaning, etc. However, if you need to perform these procedures with the power on, to prevent accidents due to the unexpected start of the machine and users' misoperation, establish your own procedures for safety and follow them.
-  ● Always turn off the power and unplug the machine before performing the procedures shown below.
  - Lubrication
  - Threading
  - Cleaning
  - Replacing the needle
  - Checking/replacing the oil element
  - Replacing the oil

- Always turn off the power before performing the procedures shown below.

- Adjusting the stitch length
- Adjusting the differential feed ratio

- Only well-trained people should perform routine daily maintenance and/or repair the machine.



- Do not modify the machine yourself.

※ Consult your local Pegasus's sales office or representative for modification.

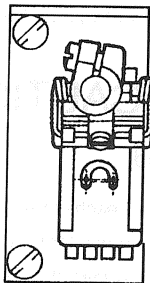


#### (2) Before operating the machine

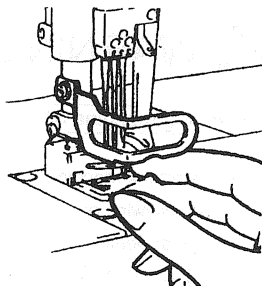
- Check the machine head and unit for any damage and/or faulty function at the start of each day.  
If there should be something wrong with the machine, immediately perform repairs and/or other necessary procedures.

- Check by hand to see if the needle holder is secured.  
※ Be careful of the needle point.

- Before starting the machine, make sure that the presser foot is positioned correctly (turn the machine pulley slowly by hand to see if the needle point is centered in the needle drop hole on the presser foot).



- Check to see if the presser foot is secured (raise the presser foot by the foot lifter and press it by hand front to back and left to right).



#### (3) Training

- To prevent accidents, operators and service/maintenance personnel should have proper knowledge and skills for safe operation.

To ensure so, managers must design and conduct training for these people.

## 4. Notes for each procedure

### ! CAUTION

#### ② Unpacking

1. The machine is packaged in a cardboard box before shipping.  
Unpack your machine in orderly sequence while checking them right-side up by referring to the indications, such as logo, etc. printed on the boxes.
2. Never hold the area near the needle and/or thread guide related parts when taking out the machine from the cushion.  
Otherwise it may cause injury and/or damage to the machine.
3. Take out the machine very carefully while checking the position of the center of the gravity.
4. Keep the cardboard box and packing carefully in case secondary transport is needed in the future.

#### Disposal of the packaging

- The packaging material of the machine consists of wood, paper, cardboard and VCE fiber. The proper disposal of the packaging is the responsibility of the customer.

#### Disposal of machine waste

1. The proper disposal of machine waste is the responsibility of the customer.
  2. The materials used on the machines are steel, aluminum, brass and various plastics.
  3. The machine waste is to be disposed of in accordance with the locally valid environmental protection regulations. A specialist should be commissioned if necessary.
- ※ The parts contaminated with lubricants should be disposed off separately according to the locally valid environmental protection regulations.

#### Transport within the customer's premises

- The manufacturer assumes no liability for transport within the customer's premises. Care should be taken to transport the machine in an upright position avoiding it from dropping or falling down to the ground when it is moved.

////////// Be sure to study very carefully **for safety.** //////////

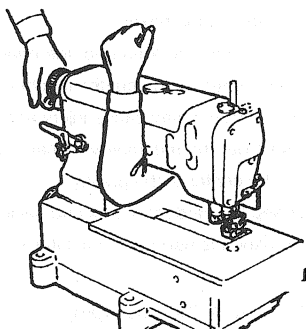
## **WARNING**

### **② Transportation**

1. The machine should be carried by at least more than two people when it is mounted on the table and/or a hand truck.

Be sure to use a hand truck for other transportation.

2. To carry the machine, hold the machine pulley tightly with your right hand and the machine arm with your left upper arm.



If the machine and/or your hands are stained with oil, the machine may be easy to slip out of your hands and fall to the floor.

Therefore, wipe off the oil carefully.

3. Care should be taken to avoid excessive shock and shake when the machine is mounted on the table and/or transferred using a hand truck. Otherwise the machine may fall down.
4. Wipe off the oil from the machine before packaging it again for secondary transport. Otherwise the machine may easily slip out of your hands or the bottom of the box may come off while in transit.

## **CAUTION**



### **③ Installation, preparation**

#### **Machine table**

1. Use the machine table (table board, metal legs) that completely carries the machine and is fully resistant to warping while the machine is running.
2. Arrange the working environment for easy operation by considering where to place the machine and the brightness around the working area. If the illumination is insufficient, control or change lighting as required.
3. Attach a non-slip pad to the treadle (foot switch).  
Otherwise the operator may slip off the treadle while running the machine, causing trouble.
4. Adjust the height of the table according to a working posture of the operator.

## **WARNING**

### **Cables**

1. When connecting the cables between the machine and the motor, be sure to turn off the power and connect each cable connectors securely.
2. Do not strain the cables in use.
3.  Do not bend the cables excessively.
4. When connecting the cables that are close to the moving parts, such as pulley or V belt, keep a distance of 25mm at least between them.
5. Protect each cable using a cover or adjusting its position if necessary.
6.  Never use staples to fasten the cables.  
Otherwise it causes a short circuit and/or a fire.


## **CAUTION**

### **Motor**

1. Install the machine motor correctly by referring to the instruction manual supplied by the manufacturer.
2. Select the machine motor equipped with the pulley cover so that any part of your body etc. is not caught in the belt.

## **CAUTION**


### **Ground**

1. Connect each of the ground wires in the sewing machine system to the ground terminal. Do not connect to another devices'.
2.  Connect the ground wires securely to the indicated ground points on the machine head.

## **WARNING**

### **④ Handling machine oil**

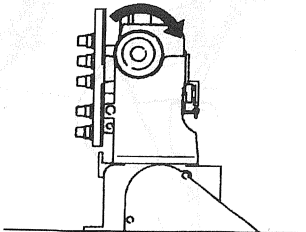
1. Never start the machine with no oil in the reservoir.  
Use the following oil.  
Pegasus designated oil: HIGH SPEED SEWING MACHINE OIL  
or Equivalents: ESSOTEX SM22 manufactured by Exxon Mobil.
2. If machine oil gets in your eyes, it may cause eye irritation.  
To prevent the machine oil from getting in your eyes, wear a pair of protective glasses.  
※ Should machine oil gets in your eyes, wash them with fresh water for 15 minutes and then go to see a doctor.

3. Avoid skin contact. Immediately wash contacted areas completely with water and soap.
4.  Never swallow machine oil.
5. Keep machine oil out of the reach of children.  
If swallowed, do not induce vomiting.  
Immediately go to see a doctor.
6. Dispose of the waste oil and/or containers properly as demanded by law. If you have further questions on its disposal, consult the store or shop at which you purchased it.
7. After opening the oil container, be sure to seal it to prevent dust and water from getting into the oil and keep it in the dark to avoid direct sunlight.

## WARNING



### ⑤ Before starting the machine




#### Machine table

1. Before turning the power on, visually check the cables and connectors for defective conditions, such as damage, disconnection and/or loosening.
  2. Never bring your hands close to the needle and/or pulley when turning on the power.
  3. When the machine is used for the first time, turn on the power and then check the rotating direction of the machine pulley.  
The machine pulley should turn clockwise as seen from the machine pulley.
- 
4. Well trained operators should use the machine after studying these precautions and the instruction manual carefully.
  5. Regarding symbols that indicate a danger or a warning, read and study "2. Warning indications" carefully and give training on safety to the operators as required.
  6. Run the machine at the speed less than 3/4 of its maximum for the first one month.

## WARNING



### ⑥ Precautions while you are running the machine

1.  Do not run the machine with the safety devices removed, such as eye guard, finger guard, pulley cover, etc.
2.  Never bring your hands under the needle while running the machine.

3. A clutch motor keeps on running for a while after the power is turned off. Therefore, be careful even after the power is turned off as the machine could start running by pressing the machine treadle.
4.  To prevent accidents, never bring any part of your fingers, hair and clothes near the machine pulley, V belt, motor pulley, thread take-up and needle bar. Also never leave scissors, tweezers, tools, etc. around these areas.
5.  If you use the machine with the FT device, do not bring any part of your hands and fingers too close to the FT during sewing. Otherwise it may cause accidents and physical injury.
6. Always turn off the power while the machine is not used or before leaving the machine table.
7. In the event of a power failure, be sure to turn off the power.
8. While operating the machine, wear clothes that cannot be caught in the machine.
9.  Do not put any tools or other unnecessary objects on the machine table while running the machine.

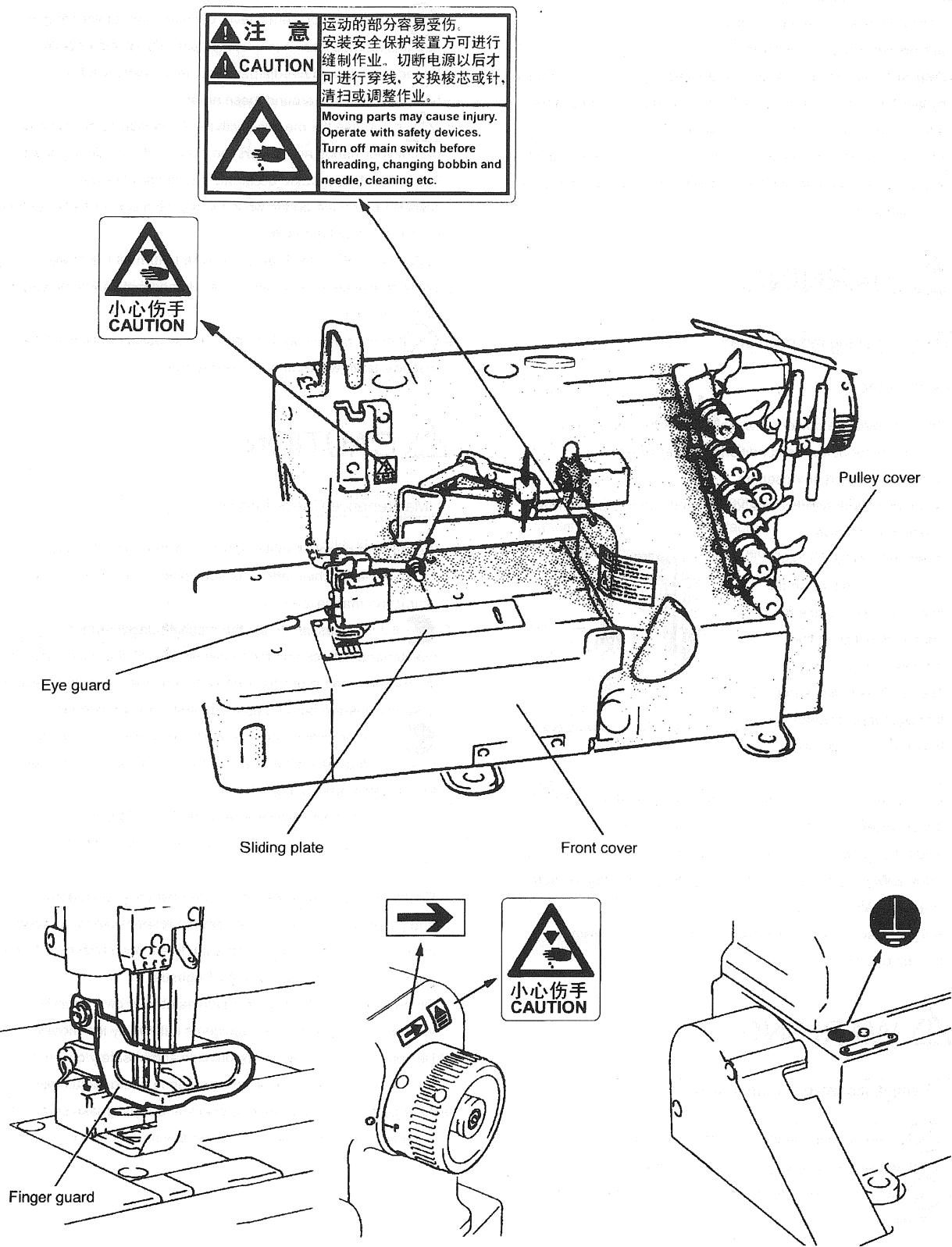
## CAUTION

### ⑦ Maintenance, Check, Repair

1. Well trained people should perform maintenance, check and repair of the machine after studying these precautions and the instruction manual carefully.
2.  If it is necessary to lay the machine backward for maintenance, check and repair, always turn off the power, unplug the machine and press the treadle to make sure that the machine does not operate before beginning any of the procedures.
3.  Before installing/removing the V belt, always turn off the power, unplug the machine and press the treadle to make sure the machine does not operate.
4. Carry out daily maintenance work and periodical inspections properly by following these precautions and the instruction manual.
5. Employ Pegasus' genuine parts when repairing the machine and/or replacing the parts. We are not responsible for accidents caused by any improper repair/adjustment and substituting other parts for those manufactured by Pegasus.
6. Do not attempt to modify the machine at your own discretion. We are not responsible for accidents caused by the modification.
7. Be sure to replace the safety devices and/or safety covers that are temporarily removed for maintenance and/or adjustment.
8. After performing maintenance, check and repair, make sure that turning on the power does not pose any danger to you.

////////// Be sure to study very carefully **for safety.** //////////

**5.Location of warning labels and safety devices**



---

## 6.Protectors for safety


---

This chapter describes each protector for safety. Therefore, read and study the following carefully.

### CAUTION


#### Protectors for safety

##### (1)Eye guard

 Never leave the eye guard open.


For the safety of eyes, do not operate the machine with the eye guard open. The eye guard will prevent any pieces of the broken needle from getting into your eyes if the needle should break during sewing.

##### (2)Finger guard

 Never insert any of your fingers.

To prevent the needle that moves up and down from contacting any of your body, the finger guard is installed close to the needle. However, there is clearance above the finger guard for easy threading. Be careful that the needle may penetrate any of your fingers if you insert it into this clearance.

##### (3)Pulley cover


 Never remove.

The machine pulley and V belt are covered with the pulley cover. The machine pulley and the V belt rotate at high speed during sewing. To prevent accidents, operate the machine with the pulley cover installed in place.

##### (4)Pulley

Check the direction in which the machine pulley rotates. It should rotate clockwise as seen from the pulley.


##### (5)Presser foot

 Never insert any of your fingers.

There is a clearance of more than 5mm between the top surface of the needle plate and the presser foot.


Be careful that none of your fingers are caught in this clearance. Never insert any of your fingers under the presser foot when raising the presser foot with the knee switch or automatically raising it with the treadle.

##### (6)Front cover

 Never leave the front cover open.

The looper travels left to right while drawing an arc as seen from the front of the machine. To prevent the looper from contacting any part of your body, be sure to operate the machine with the front cover closed securely.

##### (7)Sliding plate

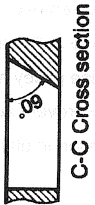
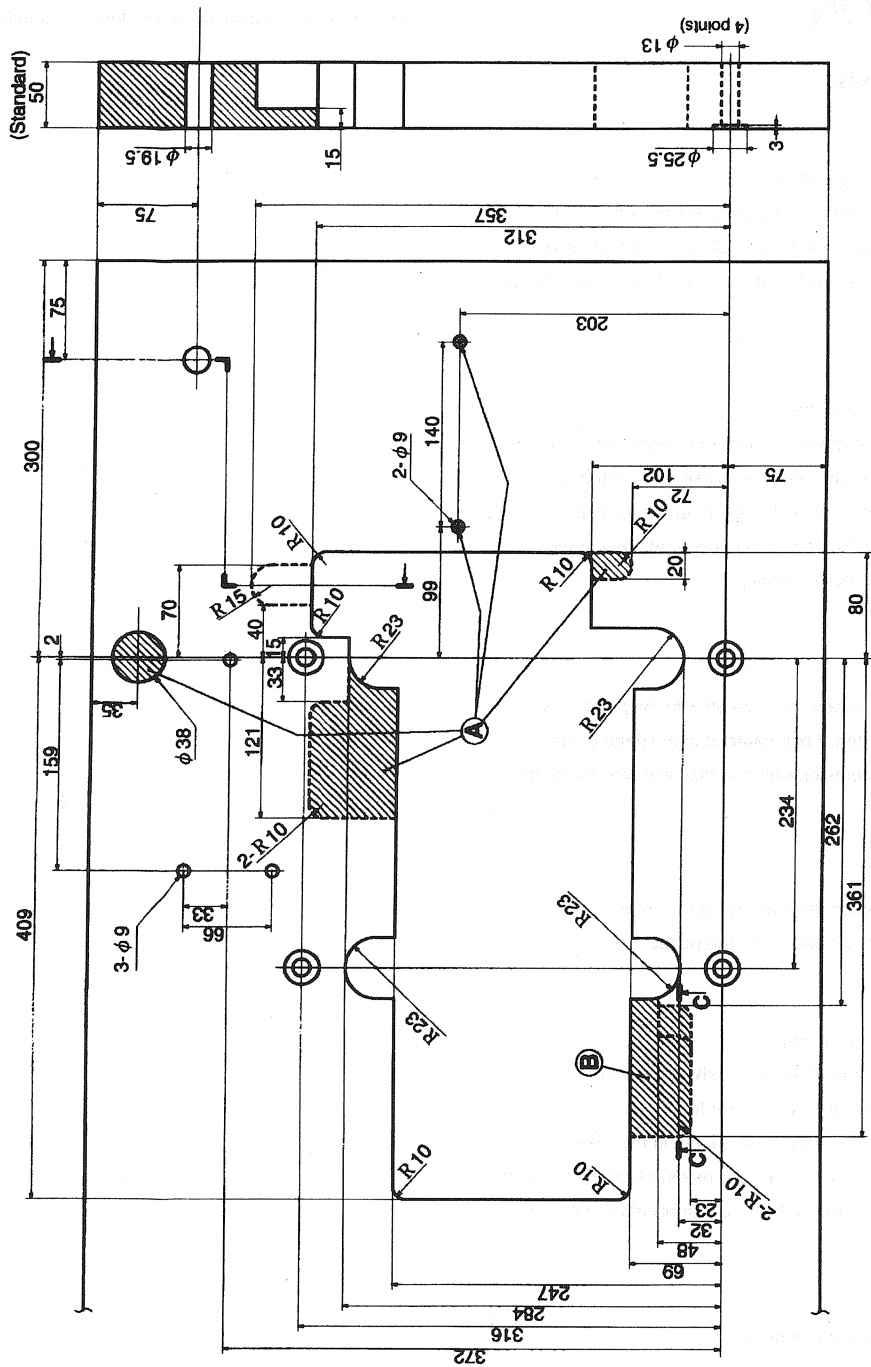
 Never leave the sliding plate open.

The looper thread take-up rotates in order to supply the required amount of looper thread during sewing. To prevent the looper thread take-up from contacting any of your body, be sure to operate the machine with the sliding plate closed securely.



# Schematic diagram of the machine table

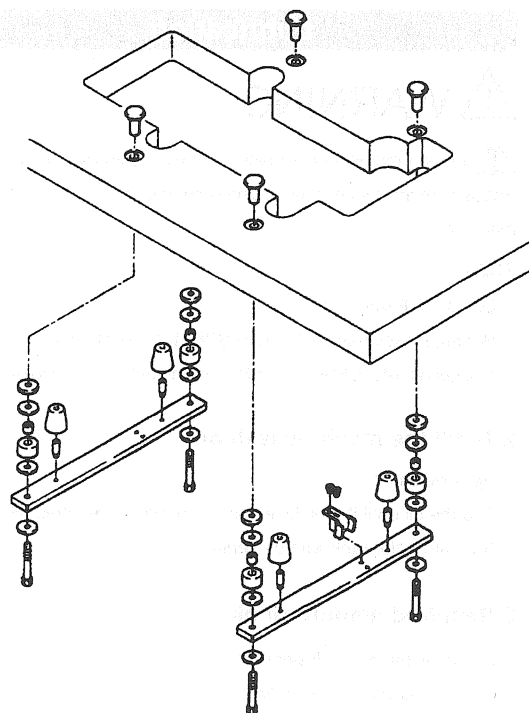
Cut the table referring to the diagram.



- Note 1) If you use UT device, cut area (A).
- Note 2) If the machine is equipped with FT device, cut area (B).
- Note 3) The dimension is used for positioning the hole (3-φ9) for Panels, Mitsubishi or Hitachi motor installation.

## Assembling the machine rest board

Assemble the components comprising the machine rest board by referring to the illustration below. Be sure to secure all rods, nuts and bolts firmly with no shade.



## Sewing machine installation

### CAUTION

Always turn off the power, unplug the machine and then well-qualified technicians should install the machine.

Mount the machine on the machine rest board first. Put the V belt in place. Position the machine motor so that an approx. 2cm deflection can be obtained by pressing the center of the belt (see the illustration).

## Installing the belt cover

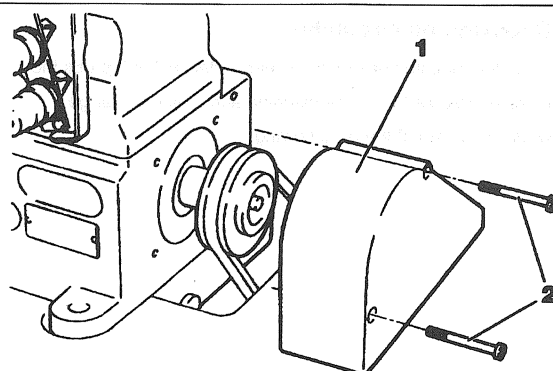
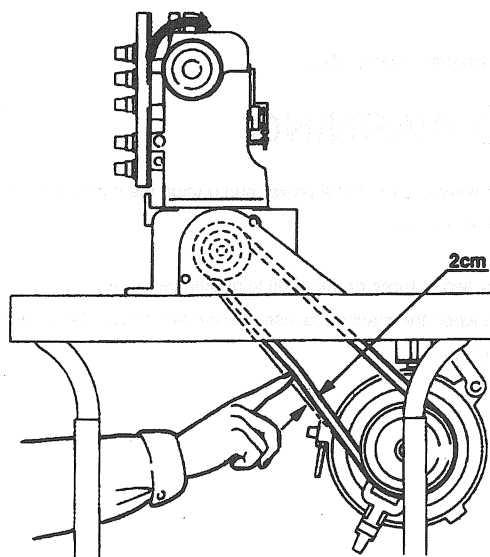
### CAUTION

Always turn off the power, unplug the machine and then well-qualified technicians should install the belt cover.

Install belt cover 1 on the machine with screws 2.


## Operating direction of the machine pulley

The machine pulley rotates clockwise as seen from the end of the machine pulley.



## Lubrication

### WARNING

 When lubricating the machine and/or replacing the oil, use Pegasus recommended oil. Using other oils may damage the machine.

#### 1.Oil

Use the following oil.

Pegasus designated oil: HIGH SPEED SEWING MACHINE OIL  
or Equivalents: ESSOTEX SM22 manufactured by Exxon Mobil.

#### 2.To fill the machine with oil

Remove cap 1.

Add the oil until the oil level (see oil gauge 2) reaches (H).

After filling the tank with oil, replace cap 1.

#### 3.Required amount of oil


(H) on oil gauge 2: Upper limit

(L) on oil gauge 2: Lower limit

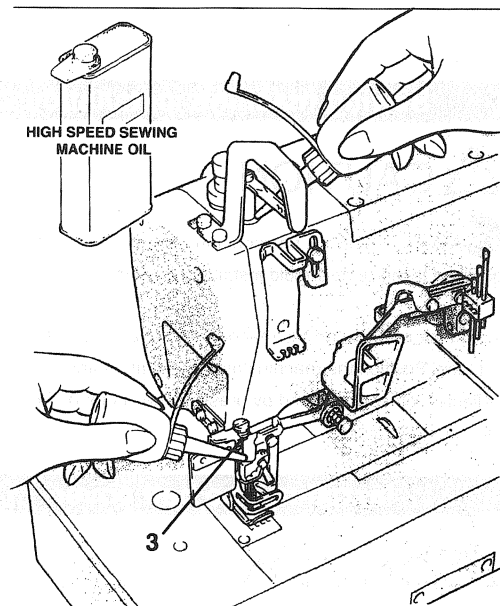
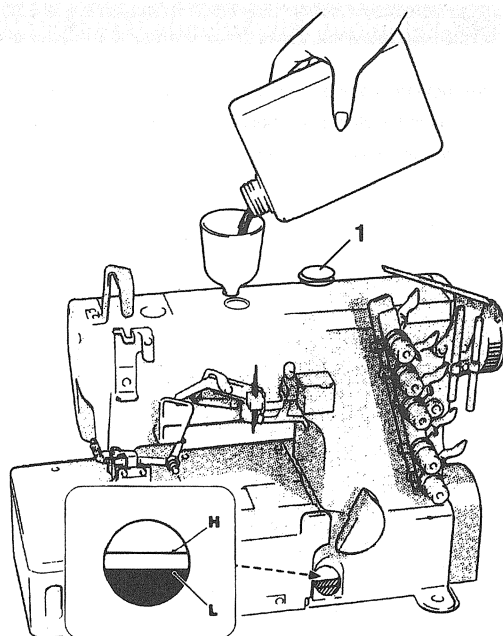
The oil level should always lie between (H) and (L).

#### 4.Manual lubrication

### WARNING

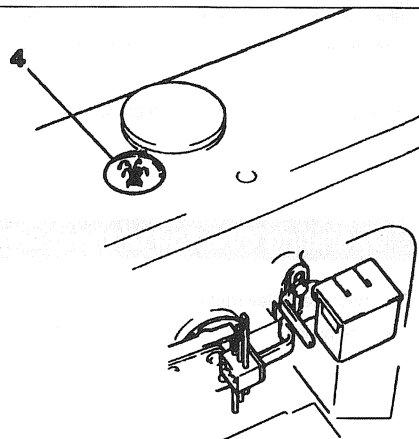
 Always turn off the power and unplug the machine when you apply oil by hand.

Apply two or three drops of oil to needle bar 3 by hand when the machine is used for the first time or left unused for some time.




#### 5.Checking oil circulation

Once the machine has been properly filled with oil, press the machine treadle to run the machine and check oil gauge window 4 to see if the oil is flowing.



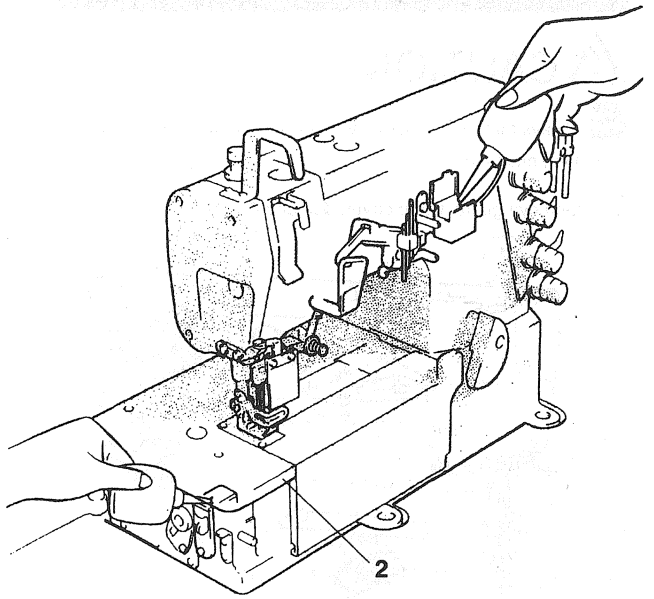
## Silicone oil for H.R. device

### CAUTION

 Always turn off the power and unplug the machine when you fill the HR device with silicone oil.

Fill silicone oil tanks 1,2 with silicone oil.

To prevent thread breakage or fabric damage, add the silicone oil before it is too low.

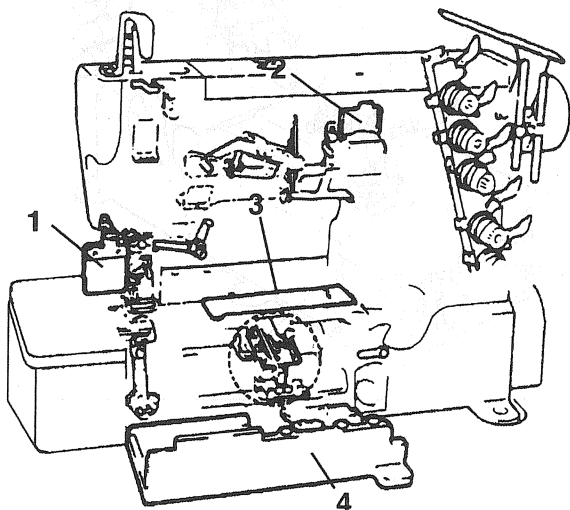


## Threading

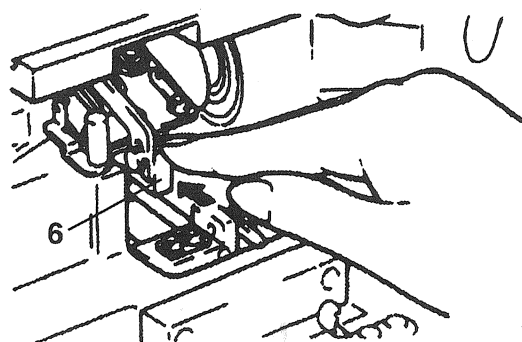
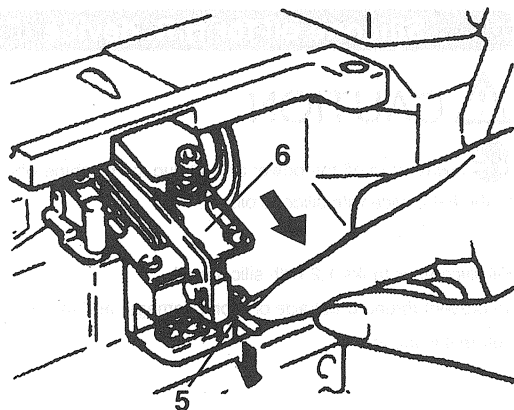
### ⚠ CAUTION

Always turn off the power and unplug the machine when you thread the machine.

1. Open eye guard 1 and covers 2, 3 and 4.



2. Press lever 5 and bracket 6 comes out toward you. After threading, press bracket 6 into place.



### 3. In case the machine is threaded previously

Be sure to thread the machine correctly by referring to the threading diagram. (See page 34).

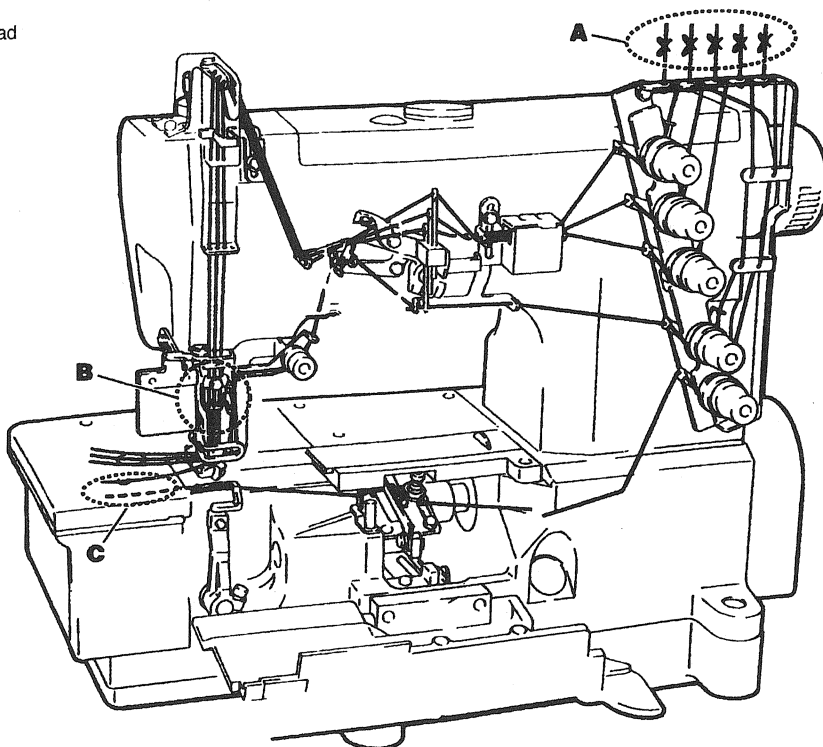
**A:** Knot the preset thread and the thread being used together to thread the machine.

#### **B: Needle thread**

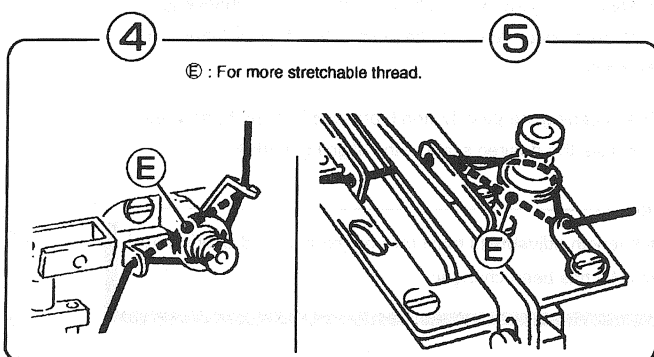
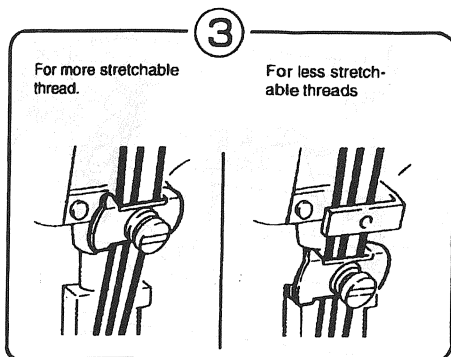
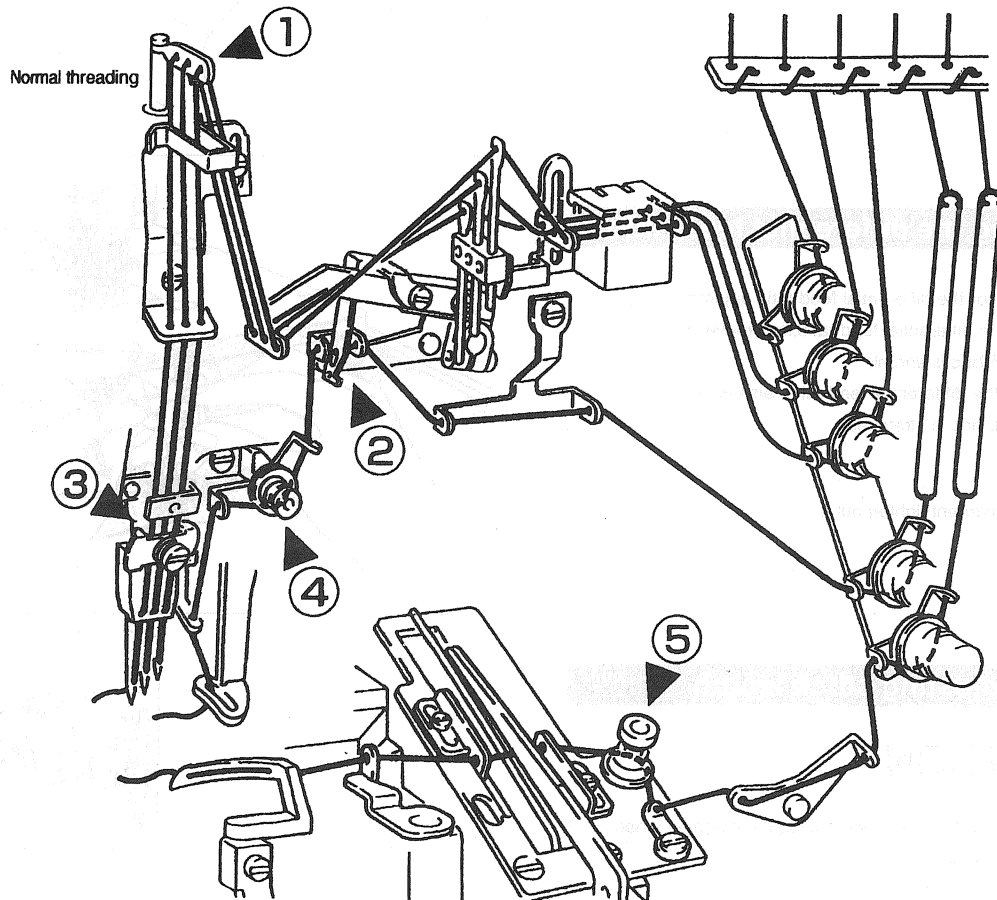
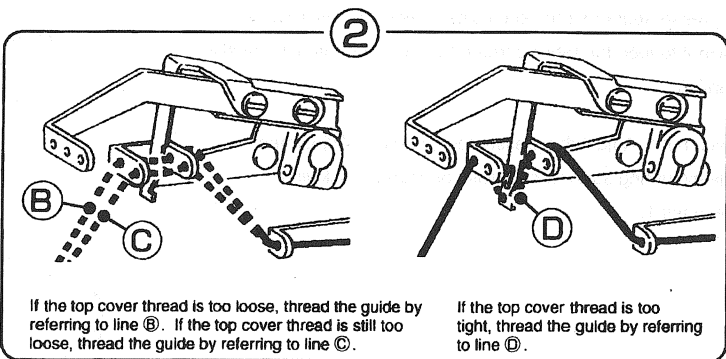
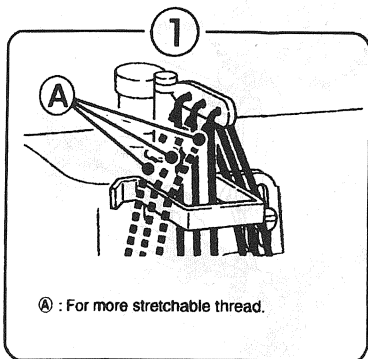
Trim the knots off neatly before passing through the eye of the needle to thread.

#### **c: Looper thread, Top cover thread**

Trim the knots off neatly after passing through the eye of the looper.



4. In case the machine is threaded previously

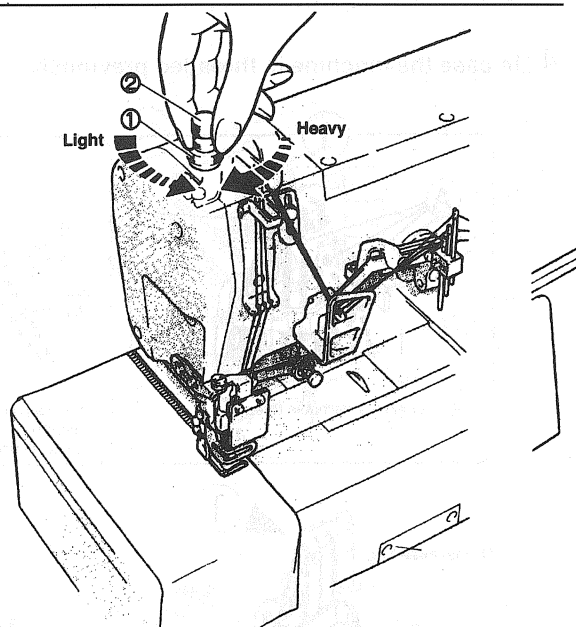


## Adjusting presser foot pressure

The presser foot pressure should be as light as possible, yet sufficient to feed the fabric correctly and provide the uniform stitch formation.

Loosen nut 1. Adjust the presser foot pressure. Adjustment is made by turning screw 2 clockwise or counterclockwise.

Tighten nut 1.



## Adjusting the differential feed ratio

1. Loosen nut 3 for the differential feed ratio adjustment.

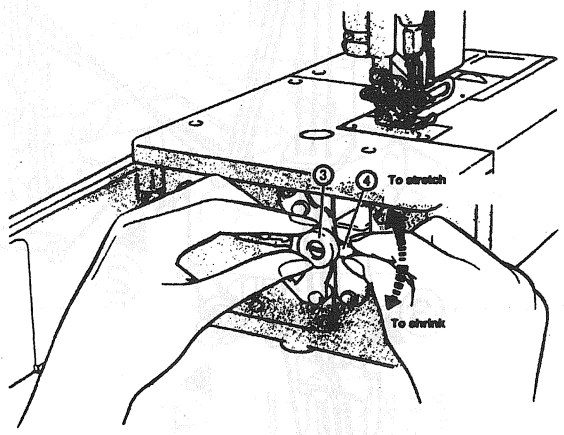
To increase the differential feed ratio, lower lever 4.

The finished fabric is shrunk.

To decrease the differential feed ratio, raise lever 4.

The finished fabric is stretched.

2. After this adjustment tighten nut 3.



## Adjusting stitch length

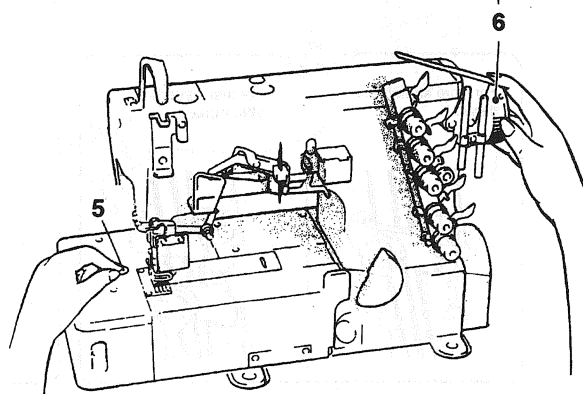
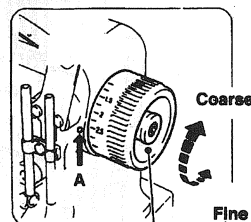
### CAUTION

Always turn off the power and unplug the machine when adjusting the stitch length.

1. While pressing the push button 5, turn the handwheel 6 to seek the position at which the push button 5 goes further into the depth.
2. Then, keeping the push button 5 pressed, turn the handwheel 6 and set the desired scale to the aligning mark A.

#### Note

Stitch length adjustment must only be made after the differential feed ratio has been changed.



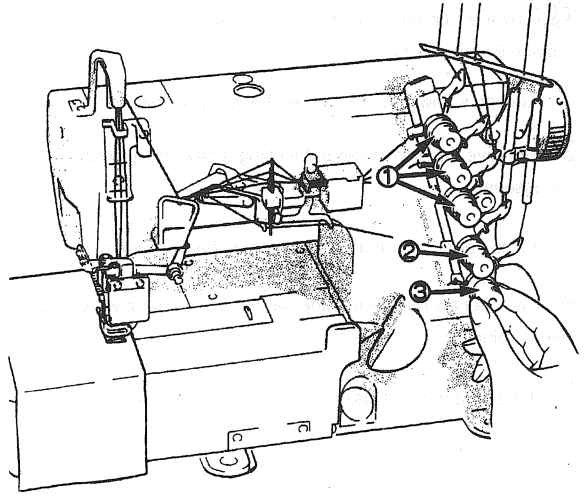
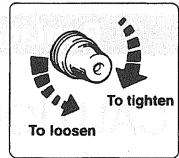
## Adjusting the thread tension

To obtain the proper thread tension, adjust needle thread tension knobs **1**, top cover thread tension knobs **2** and looper thread tension knob **3**.

To tighten the thread, turn each knob clockwise.


To loosen the thread, turn each knob counterclockwise.

Each thread tension should be as light as possible, yet be sufficient to produce balanced and beautiful stitches.

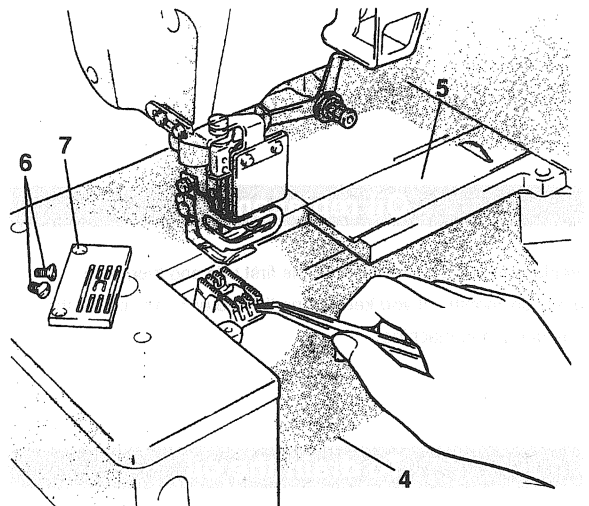


## Cleaning the machine

### CAUTION

 Always turn off the power and unplug the machine when you clean the machine.


1. Open front cover **4** and slide plate **5**. Loosen screws **6** and remove needle plate **7**.
2. Clean the grooves of the needle plate and the area around the feed dogs.
3. Replace needle plate **7** with screws **6**. Then close front cover **4** and slide plate **5**.



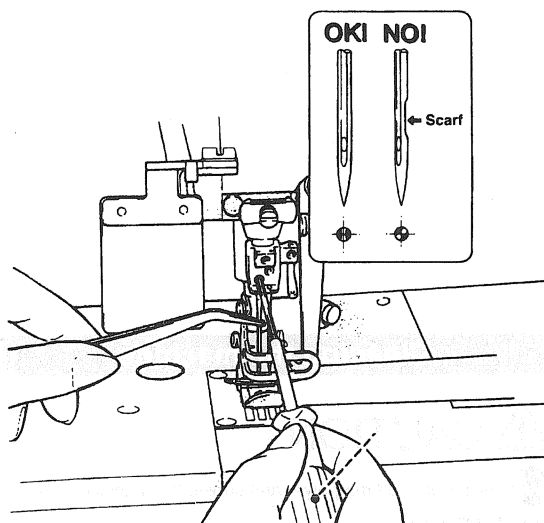
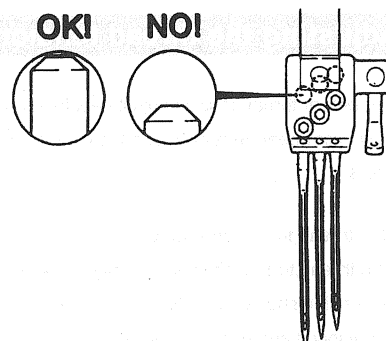


## Replacing the needle

### CAUTION

 Always turn off the power and unplug the machine when you replace the needle(s).

1. Loosen screw(s) 1 using a red-handled key wrench (1.5mm).
2. Remove the old needle(s) by using a pincette (provided as accessories).
3. Fix the needle so that its scarf faces the rear side of machine.
4. Insert a new needle into the needle hole as far it will go by using a pincette.
5. Tighten screw(s) 1 using a red-handled key wrench (1.5mm).

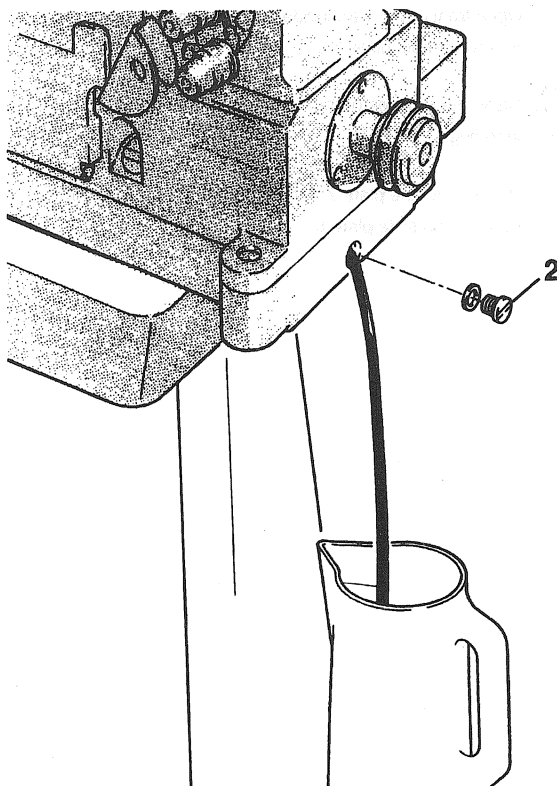


## Oil replacement

Replace the oil one month after the first use and thereafter every six months. If you keep using the old oil, it may cause the damage to the machine.


### To drain the oil

1. Drain the by removing screw 2 on the left side of the oil pan.
2. Tighten screw 2 after draining.



## Checking and cleaning the oil filter

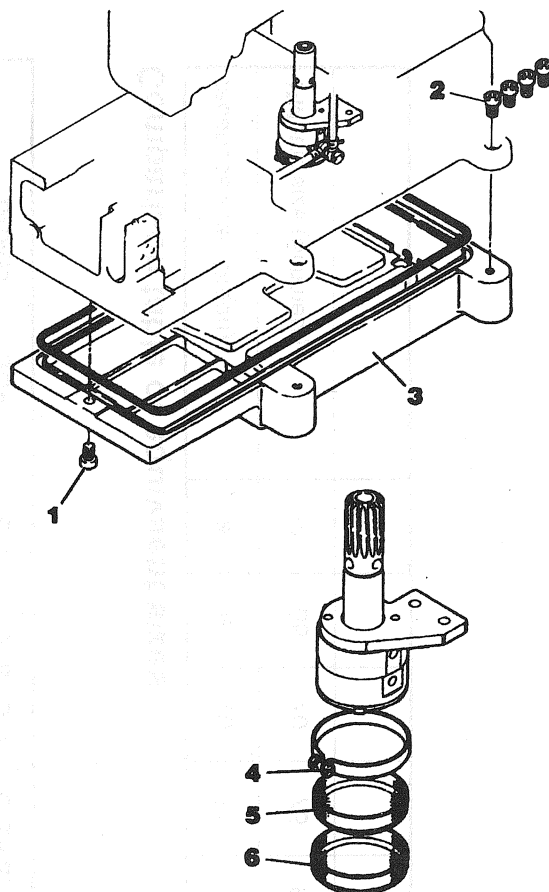
### CAUTION

 Always turn off the power, unplug the machine and then well-qualified technicians should check and clean the oil filter.

Check and clean the oil filter every six months.







To check and clean the oil filter

1. Remove screws 1 and 2. Remove oil reservoir 3.
2. Loosen screw 4. Remove inner and outer filters 5 and 6.  
Then check and/or clean these filters.
3. Reinstall oil reservoir 3, filters 5 (inner) and 6 (outer).



Adjustment dimentions

(mm)

|            | ×□□□ |  |  |  |  |  |  |  |  |
|------------|------|---|---|--|---|---|---|--|--|
|            |      |   |   |  |   |   |   |  |  |
| 31016-01CB | 224  | 10.2  | 4.5~5.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
|            | 232  | 9.8   | 4.4~4.7   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 02BB       | 248  | 8.9   | 3.6~3.9   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 03EB       | 256  | 8.5   | 3.2~3.5   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 04DB       | 264  | 8.1   | 2.8~3.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 05MD       | 348  | 9.4   | 3.6~3.9   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 06HD       | 356  | 8.5   | 3.2~3.5   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 07FD       | 364  | 8.1   | 2.8~3.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |  |  |
| 08AB       |      |   |   |  |   |   |   |  |  |

Comparison table of equivaent sizes

| Japanese size (Organ)  | #  | 9  | 10 | 11 | 14 | 16  | 18  | 21  |
|------------------------|----|----|----|----|----|-----|-----|-----|
| †Metric size (Schmetz) | Nm | 65 | 70 | 75 | 90 | 100 | 110 | 130 |
|                        |    |    |    |    |    |     |     |     |

Standard needle

| 31016-01CB |      | Organ    |  |
|------------|------|----------|--|
| 02BB       | ×□□□ | UY128GAS |  |
| 02EB       | 224  | 9S       |  |
| 04DB       | 232  | 9S       |  |
| 05MD       | 248  | 9S       |  |
| 06HD       | 256  | 9S       |  |
| 07FD       | 348  | 10S      |  |
| 08AB       | 356  | 10S      |  |
|            | 364  | 10S      |  |

31016 Series subclass specifications  
31016 Series



| Application               | Subciass   | Number<br>of<br>needles | Number<br>of<br>needles | Needle space(mm)                | Max.<br>Stitch<br>lengrh<br>(mm) | Diff. Feed<br>tatio | Presser<br>foot<br>lift(mm) | Max. spee<br>d(rpm) | Equipments<br>with special<br>functions | Remarks |
|---------------------------|------------|-------------------------|-------------------------|---------------------------------|----------------------------------|---------------------|-----------------------------|---------------------|---|---------|
| Basic model               | 31016-01CB | 2                       | 4                       | 2.4 • 3.2 • 4 • 4.8 • 5.6 • 6.4 | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | D/TD/UT/RP                              |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| Sewing rolled-<br>edge    | -02BB      | 2                       | 4                       | 2.4 • 3.2 • 4 • 4.8 • 5.6 • 6.4 | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | D/TD/TK/RP                              |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| Cover seaming             | -03DB      | 2                       | 4                       | 4 • 4.8 • 5.6 • 6.4             | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | UT/RP                                   |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
|                           | -03EB      | 2                       | 4                       | 4 • 4.8 • 5.6 • 6.4             | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | UT/RP                                   |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| Elasticlance<br>cdrd.     | -05CB      | 2                       | 4                       | 2.4 • 3.2 • 4 • 4.4 • 5.6 • 6.4 | 4.4                              | 0.65~1.3            | 6.3                         | 5000                | TK                                      |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
|                           | -07BB      | 2                       | 4                       | 3.2 • 4 • 4.8 • 5.6 • 6.4       | 4.4                              | 0.65~1.3            | 6.3                         | 5000                | TK                                      |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| Lace sewing               | -06BB      | 2                       | 4                       | 3.2 • 4 • 4.4 • 5.6 • 6.4       | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | TK                                      |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| Bottom folding<br>seam    | -08AB      | 2                       | 4                       | 4 • 4.8                         | 4.4                              | 0.65~1.3            | 6.3                         | 6000                | UT/RP                                   |         |
|                           |            | 3                       | 5                       | 5.6 • 6.4                       |                                  |                     | 5                           |                     |   |         |
| Having three<br>functions | -FQ        | 2                       | 4                       | 3.2 • 4 • 4.4 • 5.6 • 6.4       | 4.4                              | 0.65~1.3            | 6.3                         | 6000                |   |         |
|                           |            | 3                       | 5                       | 4.8 • 5.6 • 6.4                 |                                  |                     | 5                           |                     |   |         |
| For hesvy<br>materials    | -21BB      | 2                       | 4                       | 5.6 • 6.4                       | 4.4                              | 0.65~1.3            | 6.3                         | 5000                | UT                                      |         |
|                           |            | 3                       | 5                       | 5.6 • 6.4                       |                                  |                     |                             |                     |   |         |

When it is equipped with direct drive motor(D) and some equipments with special functions (D/TD/TU/RTF/TK/RP),the highest speed is 4500 rmp

# 安全须知

请先仔细阅读

## 注 记

- 此使用说明书所记载的内容只是以提供信息为目的，有未通告而变更的可能。  
对于这些信息本公司不负任何责任。同时，在此使用说明书中如果有错误或不正确的记述，本公司也不负任何责任、不承担任何债务。
- 本机型时常引入最先进的技术，坚持不断的改革该产品性能、规格的方针。因此，保留未预告而变更规格、设计的权利。这对于本书的[规格]一章中记载的所有型号及子型号的产品有效。

## 指 令

本小册以及省力装置，为了使用的安全按各危险的程度分开使用告警标志。请理解其内容，应严守告警指示。

此缝纫机包含欧洲安全规格的标准和生产厂家的通告，是依据欧洲安全规格而组装的。请严格遵守包括此使用说明书在内，遵循以一般被承认的制定法做成、符合所有规格和法律的必要条件，以及所有环境保护的规则。也请严格遵守适用于工作中事故的社会保险的各种规则、以及各地区管理部门及机关制定的规则。

1.前言




- 该书是为了安全使用本产品的使用说明书。
- 在使用该产品之前，务必阅读此书，在充分理解掌握缝纫机的操作、检查、调整、维修等方法之后，现进行使用。
- 工业用缝纫机是在缝纫作业中，操作者距机针等运动着的缝纫机部件近距离进行操作的。  
所以时常有接触缝纫机运动部件的危险性，这点应充分认识。  
因此，为了确保安全，需要本公司提供安全的产品，使用者正确安全的操作。对于顾客也有一些必要的安全对策和要求。缝纫机使用的有关人员务必熟读本书与驱动装置的使用说明书，在实施必要的安全对策之后，再充分使用缝纫机。

2.告警标记

在本公司的产品及本书中，为了安全使用产品，根据危险程度将警告表示分别使用。请充分理解其内容，务必严守书中的提示。

告警标签应贴在时常清楚地明显看得出来的地方。  
如那些标签剥落或污损时，应及时更换，贴上新的标签为盼。  
如需更换用新的标签，请随时向本公司营业所联系。









提醒注意的标记以及报警用语

|   |                                 |
|---|---------------------------------|
|  危 险 | 表示危险性极大。弄错操作等时会有可能至于死亡或受重伤的危险。  |
|  警 告 | 操作有错误时，会至于受重伤，甚至发生死亡事故的危险。      |
|  注 意 | 操作有错误时，有可能受轻伤或中等伤害，或会发生损伤物质的危险。 |

安全须知

请先仔细阅读

说明图表记号

|   |   |
|---|---|
|    | 必须严守指示，应按其内容准确操作为要。                               |
|    | 万一弄错操作，会有触电的危险。                                   |
|    | 弄错操作，会招致手指受伤。                                     |
|    | 有接触高温烫手受伤的危险。                                     |
|    | 绝对不可碰手。   |
|    | 需要进行修理、调整等维修工作时，或有可能落雷的危险时，应预先把电源插头由供电的插座拔掉，以免意外。 |
|   | 必需连接地线，以保护为要。                                     |
|  | 表示缝纫机传动轮旋转方向。                                     |


3.安全措施

①用途.目的

本公司的工业用缝纫机，是以提高服装业的质量和生产率为目的而研究开发的商品。因此除以上用途以外，请绝对不要使用。


②使用环境

本公司的工业用缝纫机，根据使用的环境，有可能给缝纫机的寿命、性能及安全性带来不良影响。


 为了安全保护，请勿在下述环境条件之下使用。

1. 在靠近高频焊接机等产生干扰的机器设备旁边。
2. 产生药品蒸气气氛的地方，及受药品飞溅等地方使用或保管。
3. 屋外、高温高湿、直接曝晒阳光的地方。
4. 周围的温度、湿度很大，会给缝纫机带来坏影响的地方。
5. 额定电压常超过±10%以上的电压变动较厉害的地方。
6. 电源容量无法确保控制马达规格上所需要的容量时。

③安全措施

 (1)进行维修保养、检验时的安全保护

- 在对缝纫机进行检查、修理、清扫等维护作业时，请关掉电源开关，将电源插销从插座上拔下，并确认踩缝纫机踏板也不会转动之后，再进行操作。
- 但是，有必要接通电源进行作业时，请制定防止缝纫机以外转动或操作者错误而导致危险的安全操作准则，并遵守一切安全防护规则。

-  ● 在进行以下作业时，务必关掉电源开关，将电源插销从插座上拔下之后进行。
- 加油
- 穿线
- 打扫缝纫机
- 换机针
- 进行供油元件的清扫和更换时
- 更换机油

- 在进行以下作业时，请务必关掉电源开关之后进行。
  - 调节针脚时
  - 调节差动比时
- 实施定期检修、保养时，应限由充分熟省力装置以及缝纫机的维修工作的专门技术人员来才行。
- 请勿接客户的任意判断而加以改造或更改，会招致事故的原因。

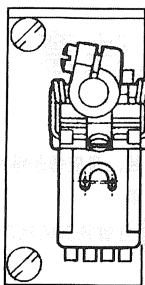


※如有改造或更改的需要，应先联系经销商或本公司营业所询问。

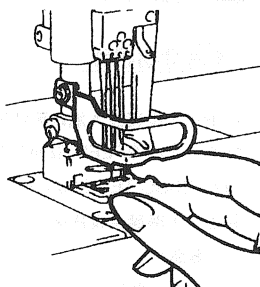


#### (2) 开始运转前的检验事项

- 在开始操作运转缝纫机前，先检查缝纫机皮带及缝纫部分，看是否有损伤、功能不良等问题。  
万一有异常现象时，应马上修理或采取必要的措施。
- 务必用手触摸来确认针箍是否固定好。  
※请注意针尖有危险。
- 在使用缝纫机之前，务必确认压脚是否在正确的位置。(用手轻轻转动手轮，认针尖是否落在压脚的针孔中心)



- 务必检查压脚是否牢固的固定好。(使用抬压脚机构抬起压脚，用手前后左右扳动，检查看压脚是否有松动)



#### (3) 培训.进修

- 为了防止事故，缝纫头或缝纫系统的操作人员及维修保养专员，应先学会所需知识和有关技能，以期工作的安全。  
为此，请由客户的管理单位给他们安排培训计划，而实施充分的训练。

## 4.各操作过程的注意事项

### ⚠ 注意

#### ② 开箱

1. 缝纫机机头在出厂时包装好后装入纸箱运出的。从印刷在纸箱上的标记字样确认上下后，请从上到下按顺序开箱。
2. 把缝纫机机头从缓冲包装材料里拿出时，绝对不要提拿与机针部位或过线器等有关的部件。否则会发生危险或损伤机器。
3. 在取出缝纫机机头时，请注意重心的位置，小心谨慎的取出。
4. 开箱用过的纸箱如果以后还用的话，请好好保存放好。

#### 包装材料的处理

- 包装材料包括木头、纸张、纸箱、VCE纤维。恳请顾客负有责任的将包装材料正确适当的进行处理。

#### 缝纫机废物的处理

1. 缝纫机的废物，请客商负责进行处理。
  2. 制造缝纫机所使用的材料有铁、铝、锌及各种塑料。
  3. 缝纫机的废物应遵照当地环境保护的有关规定进行处理。必要时委托专门的厂家进行处理。
- ※有油污的部件务心遵照当地环境保护的有关规定，分别进行处理。

#### 在顾客领地内移动缝纫机

- 关于在顾客领地内移动缝纫机，本制造厂商没有责任。移动时为了避免缝纫机掉落摔坏，请注意不要倾斜缝纫机。



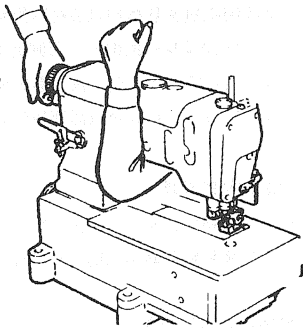
# 安全须知

请先仔细阅读

## 警告

### ② 搬运

1. 缝纫机机头的搬运一定要两个人以上进行。另外，用人直接搬运应只限于搬往缝纫机台板或小台车。其他搬运务必使用小台车进行。
2. 移动缝纫机机头时，用右手抓住传动轮，左手垮在机头里，扎实牢固的搬起。  
缝纫机上沾有油污在搬运时容易滑脱摔坏，搬运前请好好擦净机头上的油污。



3. 在往缝纫机台板上或小台车上搬运时，请注意不要过分冲击或震动，以免缝纫机倒斜造成危险。
4. 如果要第二次运送缝纫机并要包装时，请一定擦干净机头上的油污。否则，搬运时会滑脱摔坏机头或油污使包装材料变质穿底。

## 警告

### ① 安装·准备

#### 缝纫机台板

1. 请使用能充分承受缝纫机机头重量及搬运时产生的反作用力的缝纫机台板(台板、铁架)。
2. 应充分考虑缝纫机装配部件和操作光线的阴亮度，放置在容易作业的环境中。  
如果光线不是十分明亮时，应根据需要安装照明电灯。
3. 在运转缝纫机时，为防止操作者脚踏板时脚滑脱造成事故，一定要在缝纫机踏板上安装防止滑脱的垫子。
4. 在考虑操作者姿势的前提下，决定台板面的高度(工作时的高度)。

## 警告

#### 接线

1. 请牢固的插好缝纫机机头与电机连接线的插头。  
缝纫机机头与电机用连接线进行连接时，务必在将电源开关关闭的状态下进行操作。
2. 在使用中请不要给连接线过多的力。
3. 请不要过度弯曲连接线。
4. 接近运动部件(如民传动轮、V形皮带等)的连接线，应最小距离在25mm处进行安装。
5. 必要时考虑连接位置或加设护罩来保护连接线。
6. 固定连接线时绝对不要使用定书针，以免发生漏电或火灾。

## 注意

#### 电机

1. 缝纫机电机的安装请遵照电机厂家的使用说明书，正确的进行安装。
2. 为了防止被卷入皮带轮的危险，请选用带有防止卷入的缝纫机电机。

## 注意


#### 接地

1. 接地线，是应每条缝纫系统分别装设专用的接地线，不应与其他机器共用。
2. 在缝纫头的规定地点准确地装设接地线为要。

## 警告

### ④ 使用缝纫机油

1. 在油盘内没有注入油以前请绝对不要进行运转。请使用本公司指定的[ HIGH SPEED SEWING MACHINE OIL ]或者使用与此相同的[ ESSO TEX SM22(Exxon Mobil制造)]。
2. 机油进入眼睛会使眼睛发炎，所以在使用时请戴防护眼镜以免机油进入眼睛。  
※万一进入眼睛，请用干净水冲洗15分钟再请医生进行治疗。

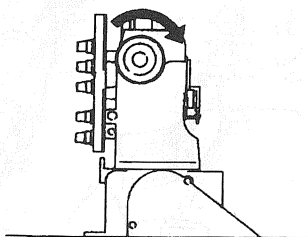
3. 机油接触皮肤后，请马上用水和肥皂洗干净。
4.  绝对不要使机油进入口腔。
5. 机油请保管在孩子摸不到的地方。
- ※万一进入口腔，不要硬性呕吐，马上请医生进行治疗。
6. 废油、废容器的处理方法有必须遵照法令的义务，请根据法令正确处理。如不知道时请与购买部门联系后，正确进行处理。
7. 为了防止灰尘、水分的混入，使用完后保管机油时请盖紧油箱盖，放在没有阳光直射的荫凉处保管。

## 警告

### ⑤ 运转缝纫机前的注意事项

#### 缝纫机台板


1. 打开电源前，请确认接线或接头是否有损伤、脱落、松动等外观上的异常。
2. 在打开电源时，请不要将手放在机针附近或传动轮附近。
3. 最初开始运转缝纫机时，打开电源确认传动轮的运转方向。缝纫机的正运转从传动轮侧来看是向右旋转。







4. 操作缝纫机者应为受过适当训练，充分理解本书及使用说明书的内容之后，再进行操作使用。
5. 关于缝纫机机头上的危险、警告标志应熟读并理解〔2. 警告表示〕，必要时应对使用者进行安全教育。
6. 最初使用的一个月应降低速度。请使用在最高转速的3/4以下的转速。

## 警告



### ⑥ 运转缝纫机中的注意事项

1.  在拆卸下护眼板、护指架、传动轮护罩等安全装置的状态下，请不要运转缝纫机。

2.  缝纫机在运转中是很危险的，绝对不要将手放入机针下。
3. 使用离合器式电机时关掉电源之后电机仍然会继续旋转一会儿。这时踩缝纫机踏板后缝纫机会运动是很危险的，请特别小心。
4.  缝纫机在运转中是很危险的，所以绝对不要将手指、头发、衣服接近手轮、V形皮带、电机传动轮、挑线器、针棒。同时，也不要将剪刀、镊子、工具等放在以上部位。
5.  使用带有F T装置的缝纫机时，请不要将手指太靠近F T部位，特别在缝纫中很容易发生事故，是很危险的。
6. 在不使用缝纫机时或者操作者离开缝纫机时，一定要将电源开关关掉。
7. 停电时务必将电源关掉。
8. 在操作缝纫机时，请穿着不易被机械卷入的服装。
9.  缝纫机在运转中，请不要在缝纫机台板上放置工具及其他与缝纫无关的物品。

## 注意

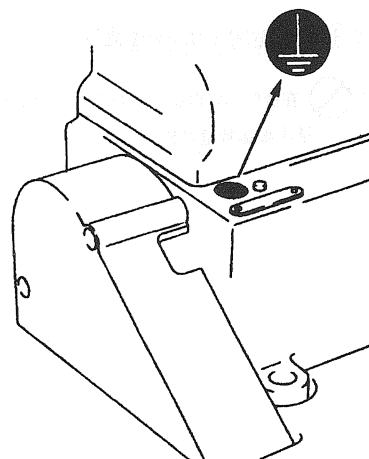
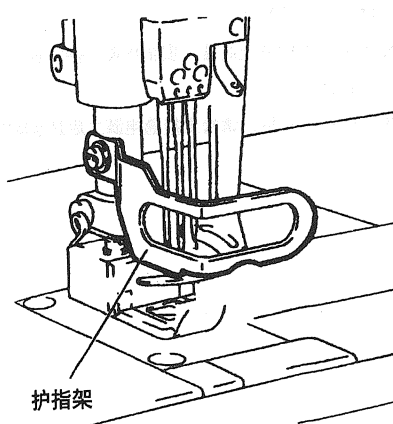
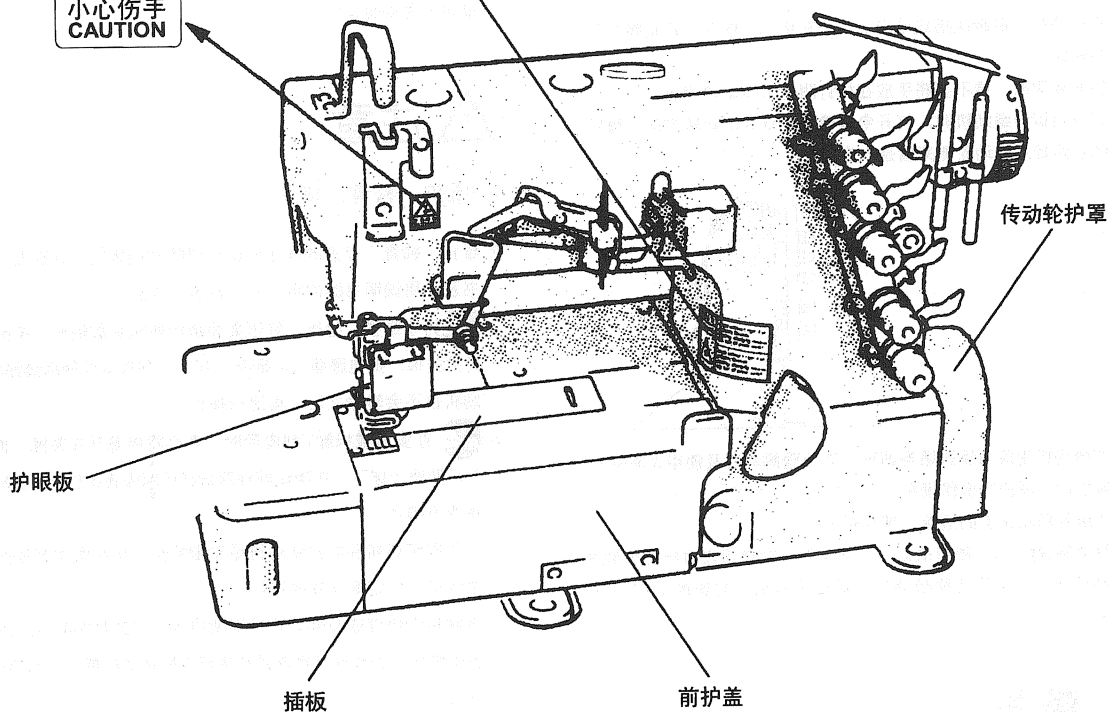
### ⑦ 维护、检查、修理

1. 维护、检查、修理的作业应由受过特别训练的人并在充分理解本书及使用说明书的内容之后，再进行作业。
2.  为了维护、检查、修理要将缝纫机机头放倒时，务必将电源开关关掉，把电源插头从插座上拔下，并确认即使踩缝纫机踏板缝纫机也不会转动之后，再进行操作。
3.  在安装或拆卸V型皮带时，务必将电源开关关掉，把电源插头从插座上拔下，并确认即使踩缝纫机踏板缝纫机也不会转动之后，再进行操作。
4. 对于缝纫机机头的日常检查或定期检查，应按照本书及使用说明书的指示，切实认真的进行。
5. 缝纫机的修理或部件的更换请使用本公司的真实部件。对于不得当的修理、调整或使用假冒伪劣部件所造成的事故，本公司将不负一切责任。
6. 请不要根据顾客自己的判断对缝纫机进行改造。否则因改造而发生的事故，本公司将不负一切责任。
7. 临时因修理、调整而拆卸下的安全装置、安全护罩，待作业完后务必按原来的状态安装好。
8. 维护、检查、修理的作业完成后，请检查接通电源之后是否确实没有危险。

# 安全须知

请先仔细阅读

## 5.警告标签粘贴的位置与安全保护装置



## 6.安全保护装置

这个项目是为了使大家都知道各种安全保护装置，并记载了各部分的注意事项。

### 注意

#### 安全保护装置

##### (1) 护眼板

###### 不要打开

为了眼睛的安全，绝对不要在打开护眼板的状态下操作缝纫机。护眼板是为了在缝纫中针断了时，使断针不会飞入眼睛而安装的护眼罩。

##### (2) 护指架

###### 不要把手指伸入

为了防止上下运动的机针与人接触而产生危险，在机针附近安装了护指架。但是，在护指架上方为了便于穿线而留有间隙，如果将手指从间隙伸入，机针有可能会刺伤手指造成危险。

##### (3) 传动轮护罩

###### 不要拆卸

缝纫机的传动轮和V形皮带轮都被罩在传动轮护罩内，在缝纫中(特别在高速运转中)与人接触是很危险的。为了避免危险，务必长时使用护罩处于安装好的状态。

##### (4) 传动轮

请确认缝纫机传动轮的旋转方向，正确的旋转方向在传动轮侧看是向右转的。

##### (5) 压脚

###### 不要把手指伸入

从针板表面压脚的上升量是5mm以上，这个间隙有夹手指的危险。在用膝盖开关抬升压脚时或用踏板自动抬升压脚时，请不要将手指伸入压脚下方。

##### (6) 前护盖

###### 不要打开

弯针的运动从缝纫机正面看时，是进行左右往复的圆弧运动。为了避免进行圆弧运动的弯针与人接触，务必请在前盖板闭合的状态下操作缝纫机。

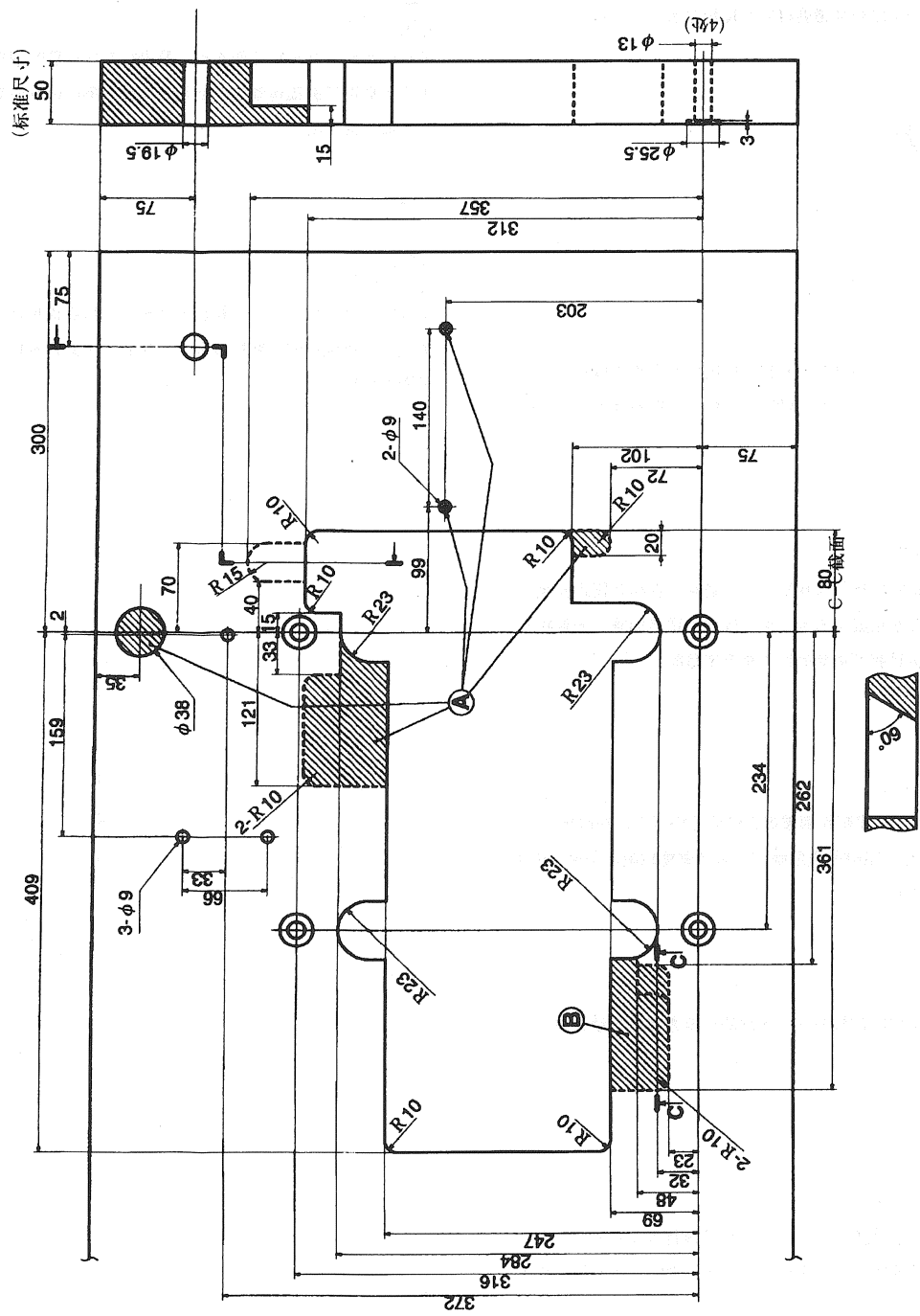
##### (7) 插板

###### 不要打开

下线挑线器在缝纫时为了挑出一定量的下线在做旋转运动，为了避免进行旋转运动的下线挑线器与人接触，务必请在插板闭合的状态下操作缝纫机。

台板加工图

请参照下图进行台板的加工。

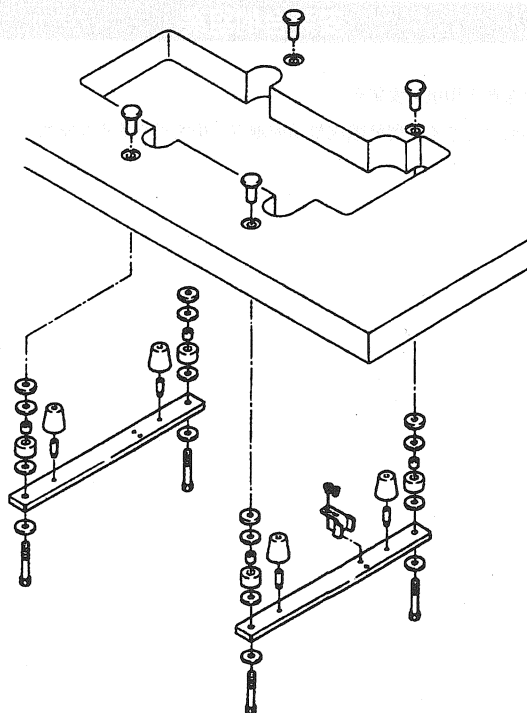


- 注1) 在安装UT装置时, 请剪掉(A)部分
- 注2) 在安装带有FT装置的缝纫机时, 请剪掉(B)部分。
- 注3) 电机安装孔(3-φ9)的位置尺寸, 适用于松下、三菱、日立制缝纫机。

## 安装台的组装

请参照下图组装安装台。

组装时注意不要留缝隙或松动的地方，确实可靠的进行安装。

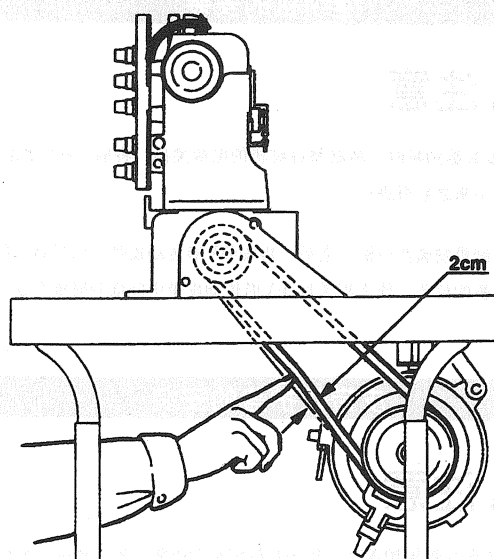


## 缝纫机的安装

### ⚠ 注意

安装缝纫机时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

请将缝纫机安装在台板上之后，再安装V形传动皮带。然后调节缝纫机电机的位置，使之用手按压V形传动皮带中间部分时能有2cm的余量。



## 皮带轮护盖的安装

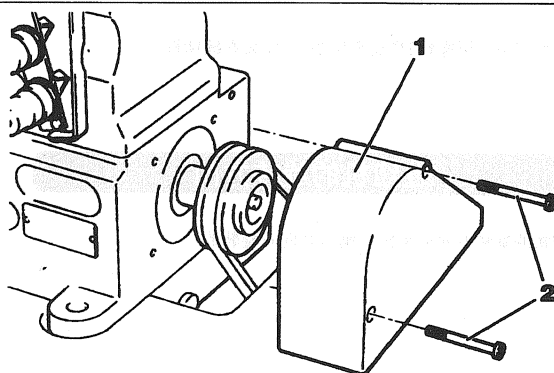
### ⚠ 注意

安装皮带轮护盖时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

请参照右图，用螺丝2将皮带轮护盖1安装在缝纫机上。

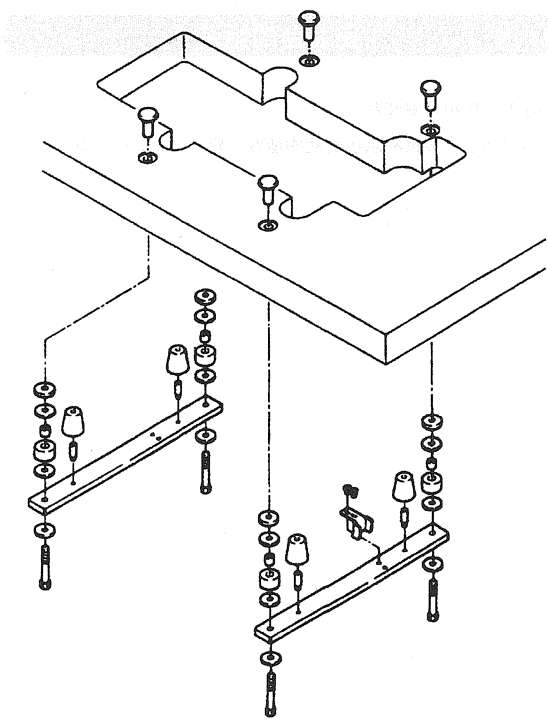
## 缝纫机的旋转方向

缝纫机的旋转方向从手轮一侧看是向右旋转的。



### 安装台的组装

请参照下图组装安装台。  
组装时注意不要留缝隙或松动的地方，确实可靠的进行安装。

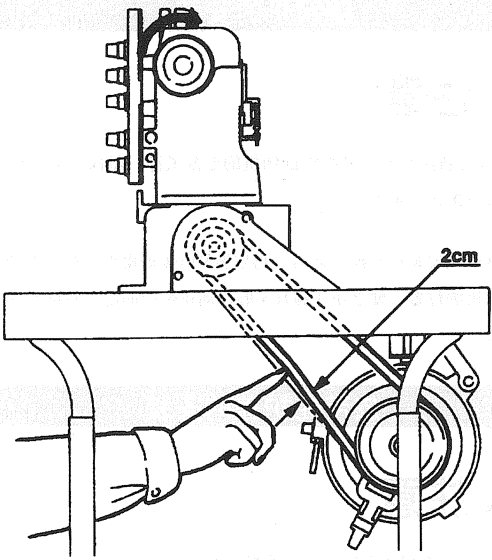


### 缝纫机的安装

#### ⚠ 注意

⚠ 安装缝纫机时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

请将缝纫机安装在台板上之后，再安装V形传动皮带。然后调节缝纫机电机的位置，使之用手按压V形传动皮带中间部分时能有2cm的余量

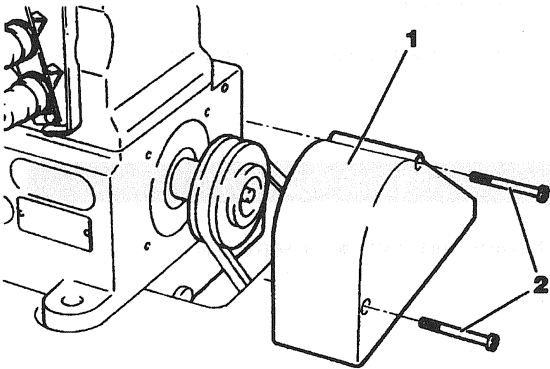


### 皮带轮护盖的安装

#### ⚠ 注意

⚠ 安装皮带轮护盖时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

请参照右图，用螺丝2将皮带轮护盖1安装在缝纫机上。



### 缝纫机的旋转方向

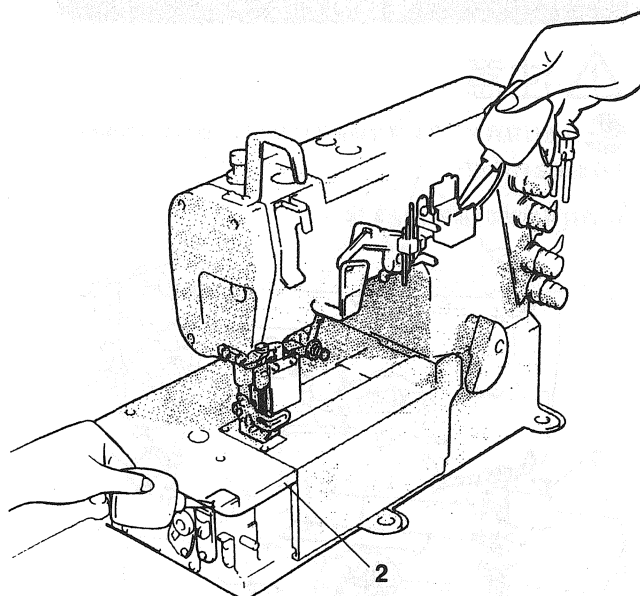
缝纫机的旋转方向从手轮一侧看是向右旋转的。

## 给HR装置供油

### ⚠ 注意

在给HR装置供油时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

在HR装置的硅油盒1、2，为了防止机线断线加有硅油。请经常检查，请尽早补充硅油。



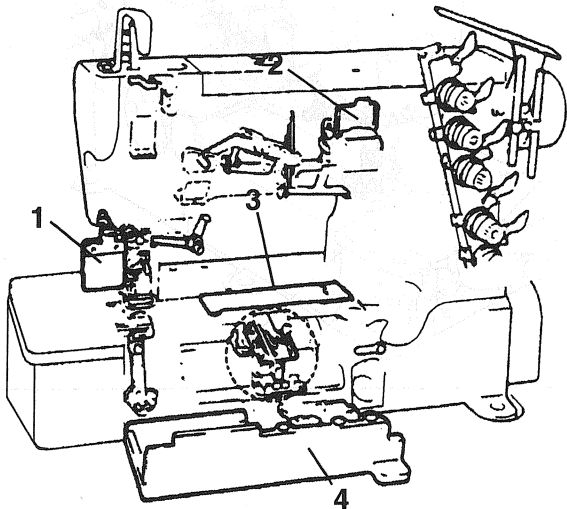


## 穿线的方法

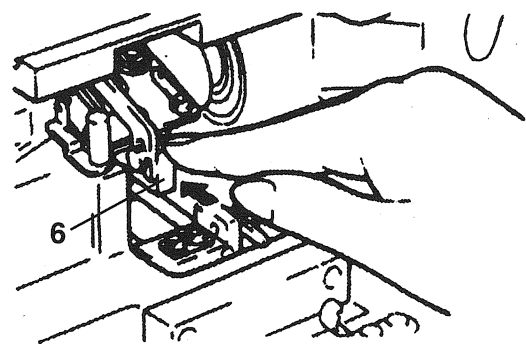
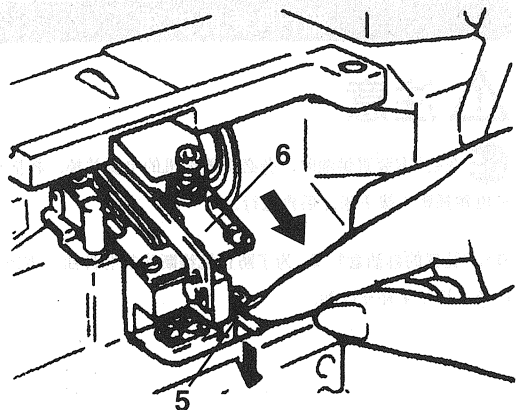
### ⚠ 注意

在进行穿线时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

1. 请打开护眼罩1和护盖2、3、4。



2. 请按扳手5.这时下线挑线器6会挑出来，穿好线后，在返回原来的位置时，请按一下下线挑线器6。



3. (如果已穿好线时)

缝纫机如果没有穿线的话，请参见穿线图穿好线(54页)

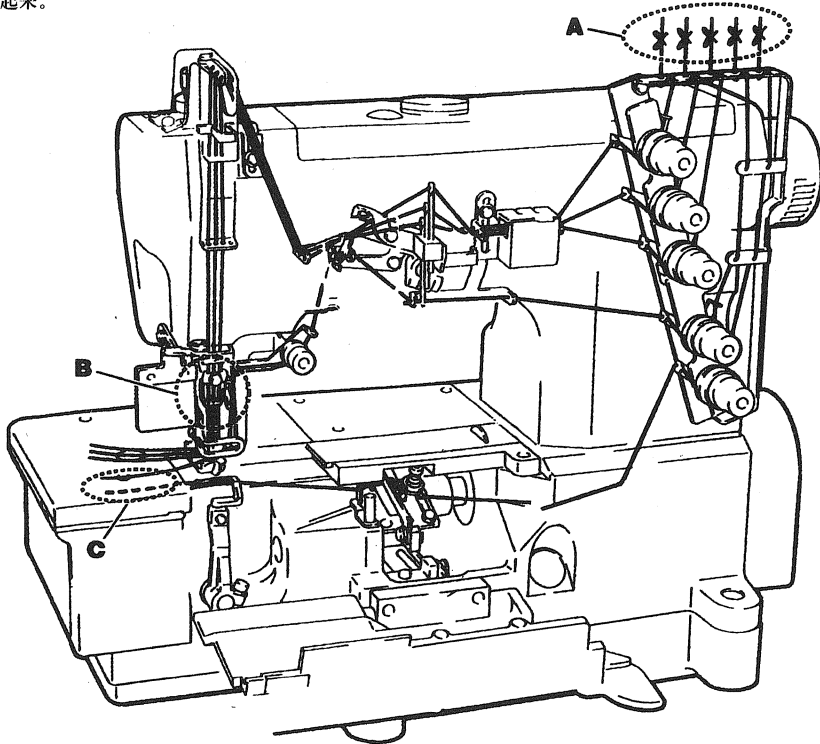
A部：请将已穿好的线与缝纫用线连接起来。

B部：针线

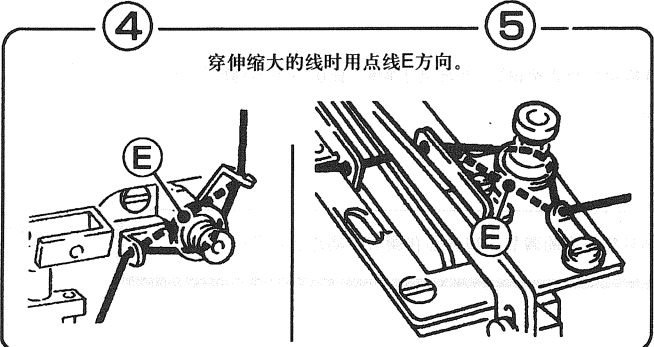
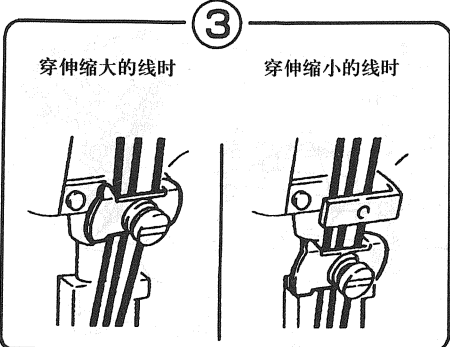
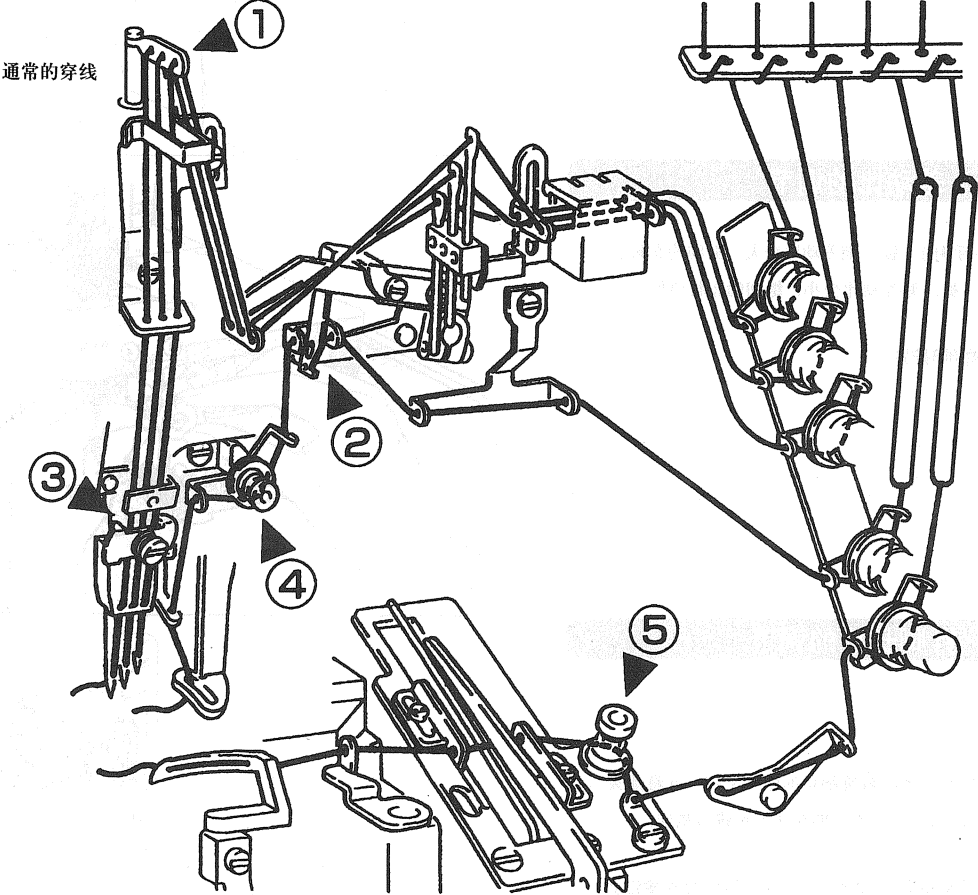
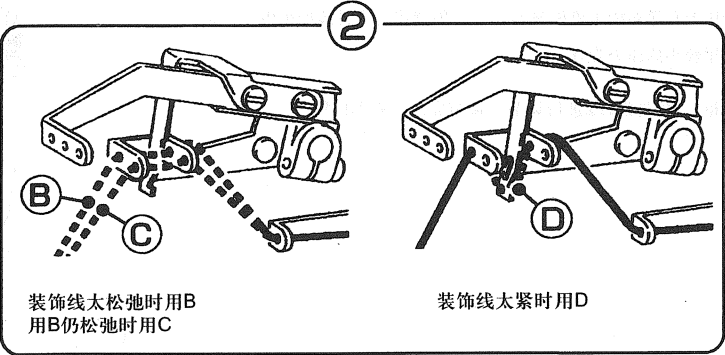
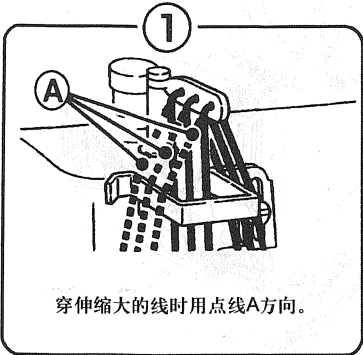
将连接的针线穿到针眼前后，  
剪掉接头，再重新穿针线。

C部：弯针线、上装饰线

可一直将连接的线头穿好后，  
再用剪刀剪掉线头整好。



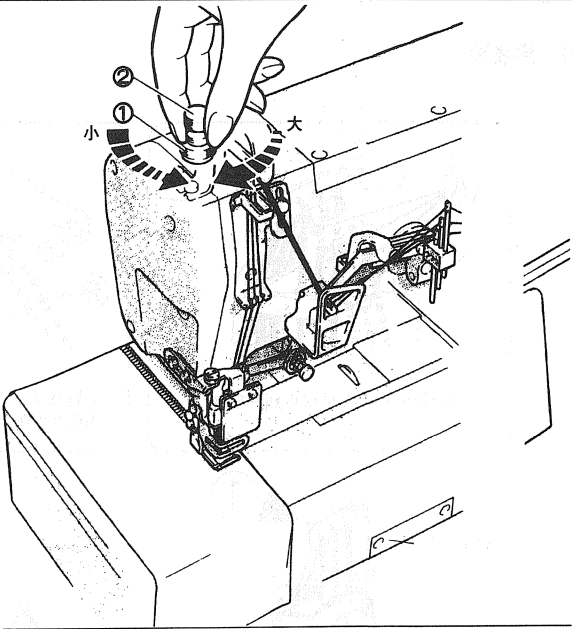
4. 穿线图



压脚压力的调节

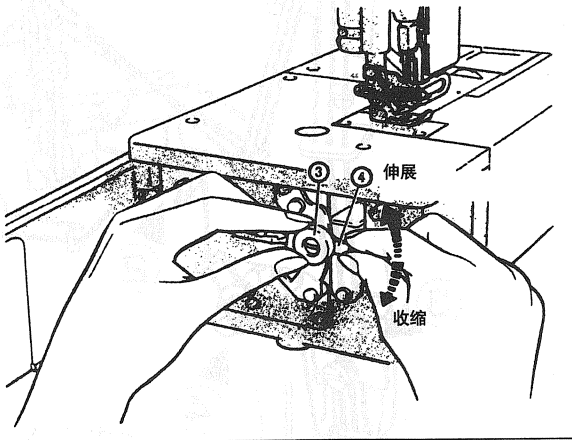
压脚的压力在送布能正确的进行，并且能缝出稳定针脚的范围內，请尽量使用较小的压力为宜。

松开螺母1，旋转螺丝2进行调节。调节完后拧紧螺母1。



差动比的调节

- 1. 松开螺母3，将扳手4向下扳，则差动比变大，缝纫的布料会缩起来。将扳手4向上扳，则差动比变小，缝纫的布料会伸长。
- 2. 调节完后，请将螺母3拧紧。

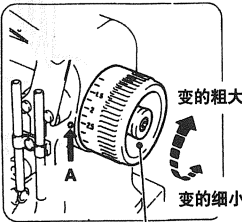


针脚长度的调节

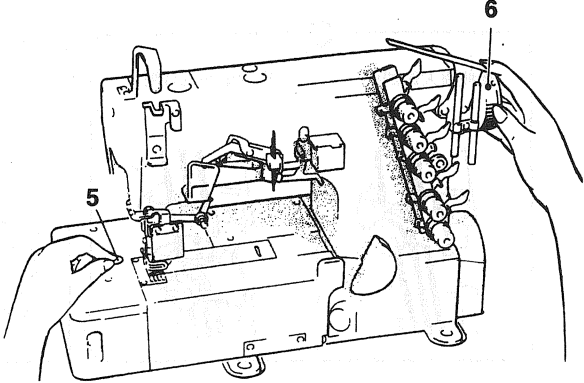
⚠ 注意

在调节针脚长度的，务必将缝纫机的电源关掉，并将插头从电源插销上拔下来之后，再请专门的技术人员进行操作。

- 1. 一边轻轻按着套式按钮5，一边转动手轮6，这时套式按钮会陷下去一些。
- 2. 请继续按着套式按钮5，并转动手轮6，使所希望的刻度与记号A相吻合。



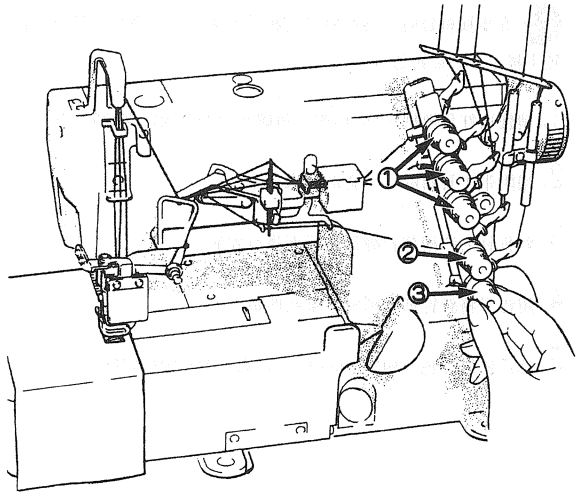
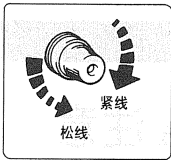
注  
缝纫针脚长度的调节，请务必在调节差动比之后进行。



## 线状态的调节

线状态的调节请用针线调节旋钮1、上装饰线调节旋钮2和下弯针调节旋钮3进行调节。

想将线拉紧一些时，可将各旋钮向右旋转，想松一些时可向左旋转。在能取得均匀且漂亮缝纫效果的情况下，尽量采用较松的夹线状态。

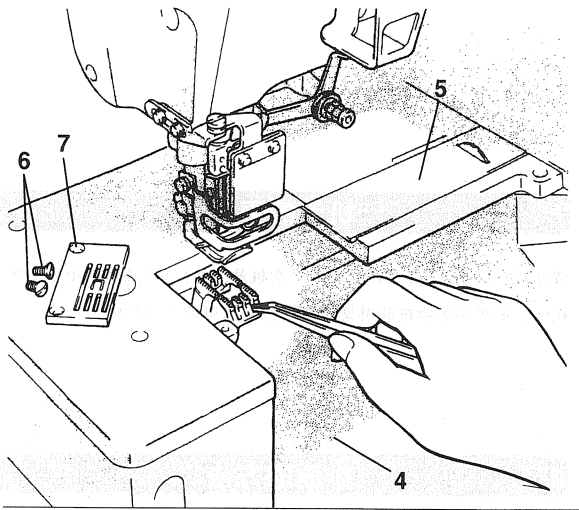


## 缝纫机的清扫

### ⚠ 注意

在清扫缝纫机时，务必将缝纫机的电源关掉，将插头从电源插销上拔下来之后再进行。

1. 打开前护盖4和插板5，请松开螺丝6，卸下针板7。
2. 请打扫针板的空槽和送布牙周围。
3. 请用螺丝6安装针板7，并且关闭前护盖4和插板5。

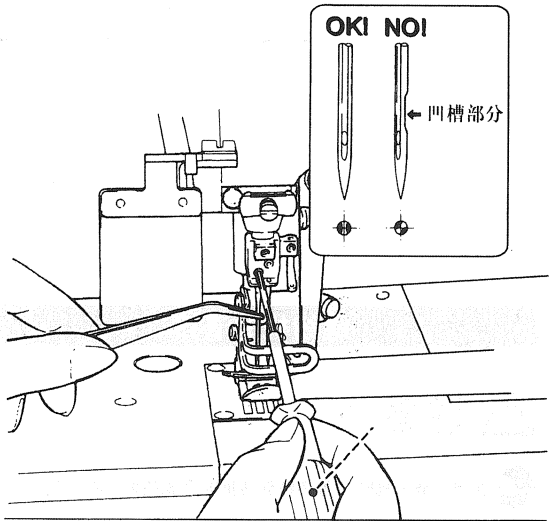
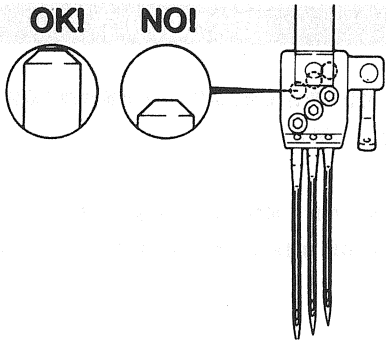


## 机针的更换

### ⚠ 注意

在更换机针时，务必将缝纫机的电源关掉，将插头从电源插座上拔下来之后再进行。

1. 请使用红色把柄(1.5mm)的六角螺丝刀松开固定螺丝1。
2. 用附带工具箱的镊子将旧针取下来。
3. 将机针的凹槽朝着缝纫机后面进行安装。
4. 用镊子将新针插入到针箍架孔的最深处。
5. 然后使用红色把柄(1.5mm)的六角螺丝刀拧紧固定螺丝1。

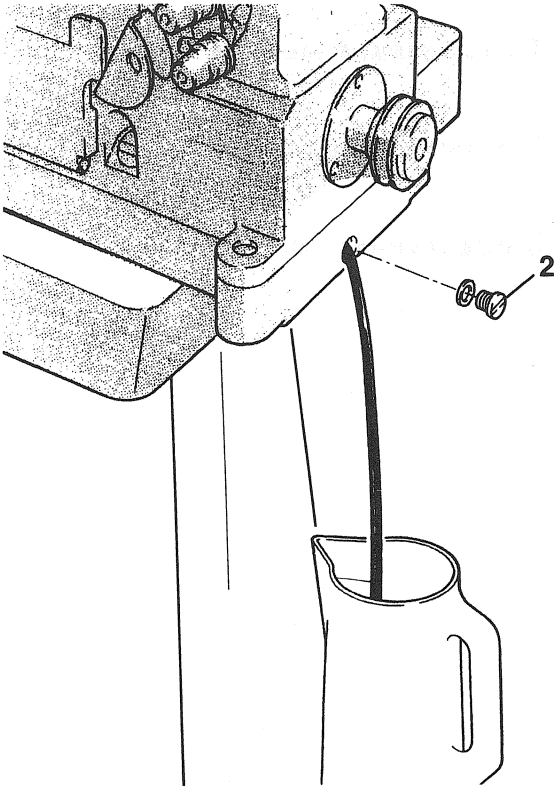


## 机油的更换

缝纫机在开始使用1个月后更换一次机油，然后请每6个月更换一次机油。如果不更换机油继续使用，缝纫机有可能发生故障。

## 排油的方法

1. 请卸开油箱底座排油孔盖螺丝2，排出旧油。
2. 排完油后，将排油孔盖螺丝2拧紧。
3. 加新油时参照供油说明。



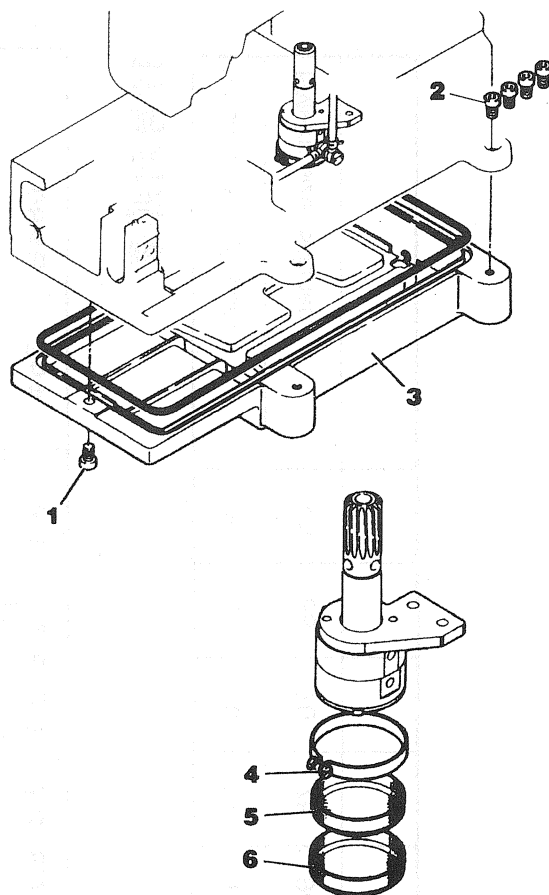
## 机油过滤器的检查与清扫

### ⚠ 注意

在进行过滤器的检查与清扫时，务必将缝纫机的电源开关关掉，将电源插头从插座上拔下之后，请专门的技术人员进行操作。



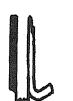



每6个月请将机油过滤器卸下来检查、清扫一次。

1. 卸下螺丝1、2，然后请卸下油盘3。
2. 松开螺丝4，拆卸下过滤网5(内)和过滤网6(外)，然后  
请进行检查和清扫。
3. 请将油盘3、(内)过滤网5和(外)过滤网6按原来的样子  
进行安装。



## 调整基准数值

(mm)

|            | × □ □ □ □ |  |  |  |  |  |  |         |  |
|------------|-----------|---|---|--|---|---|---|---------|--|
| 31016-01CB | 224       | 10.2  | 4.5~5.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |         |  |
|            | 02BB      | 232   | 9.8   | 4.4~4.7  | 8.3~8.7   | 4.5~5.0   | 17.0  | 0.8~1.2 |  |
|            | 03EB      | 248   | 8.9   | 3.6~3.9  | 8.3~8.7   | 4.5~5.0   | 17.0  | 0.8~1.2 |  |
|            | 04DB      | 256   | 8.5   | 3.2~3.5  | 8.3~8.7   | 4.5~5.0   | 17.0  | 0.8~1.2 |  |
| 05MD       | 264       | 8.1   | 2.8~3.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |         |  |
| 06HD       | 348       | 9.4   | 3.6~3.9   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |         |  |
| 07FD       | 356       | 8.5   | 3.2~3.5   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |         |  |
| 08AB       | 364       | 8.1   | 2.8~3.1   | 8.3~8.7  | 4.5~5.0   | 17.0  | 0.8~1.2   |         |  |

## 针号对照表

# 标准用针

[illegible]

| 31016-01CB |      | Organ<br>UY128GAS |
|------------|------|-------------------|
|            | X□□□ |                   |
| 02BB       |      |                   |
| 02EB       | 224  | 9S                |
| 04DB       | 232  | 9S                |
| 05MD       | 248  | 9S                |
|            | 256  | 9S                |
| 06HD       | 264  | 9S                |
| 07FD       | 348  | 10S               |
|            | 356  | 10S               |
| 08AB       | 364  | 10S               |

31016系列子型号规格表  
31016系列



| 用途      | 子型号        | 针数(根) | 针数<br>(根) | 针距 (mm)               | 最大针<br>脚长<br>(mm) | 差动比       | 压脚提升<br>量(mm) | 最高旋转<br>数(rpm) | 特殊功能装置     | 備考 |
|---------|------------|-------|-----------|-----------------------|-------------------|-----------|---------------|----------------|------------|----|
| 基本缝纫用   | 31016-01CB | 2     | 4         | 2.4・3.2・4・4.8・5.6・6.4 | 4.4               | 0.65~1.3  | 6.3           | 6000           | D/TD/UT/RP |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 松紧带滚边用  | -02BB      | 2     | 4         | 2.4・3.2・4・4.8・5.6・6.4 | 4.4               | 0.65~1.3  | 6.3           | 6000           | D/TD/TK/RP |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 绷盖缝用    | -03DB      | 2     | 4         | 4・4.8・5.6・6.4         | 4.4               | 0.65~1.3  | 6.3           | 6000           | UT/RP      |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
|         | -03EB      | 2     | 4         | 4・4.8・5.6・6.4         | 4.4               | 0.65~1.3  | 6.3           | 6000           | UT/RP      |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 缝花边松紧带用 | -05CB      | 2     | 4         | 2.4・3.2・4・4.4・5.6・6.4 | 4.4               | 0.65~1.3' | 6.3           | 5000           | TK         |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
|         | -07BB      | 2     | 4         | 3.2・4・4.8・5.6・6.4     | 4.4               | 0.65~1.3  | 6.3           | 5000           | TK         |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 缝花边用    | -06BB      | 2     | 4         | 3.2・4・4.4・5.6・6.4     | 4.4               | 0.65~1.3  | 6.3           | 6000           | TK         |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 下摆折缝用   | -08AB      | 2     | 4         | 4・4.8                 | 4.4               | 0.65~1.3  | 6.3           | 6000           | UT/RP      |    |
|         |            | 3     | 5         | 5.6・6.4               |                   |           | 5             |                |            |    |
| 三合一     | -FQ        | 2     | 4         | 3.2・4・4.4・5.6・6.4     | 4.4               | 0.65~1.3  | 6.3           | 6000           |            |    |
|         |            | 3     | 5         | 4.8・5.6・6.4           |                   |           | 5             |                |            |    |
| 缝厚料用    | -21BB      | 2     | 4         | 5.6・6.4               | 4.4               | 0.65~1.3  | 6.3           | 5000           | UT         |    |
|         |            | 3     | 5         | 5.6・6.4               |                   |           |               |                |            |    |

注：配直驱电机（D）、特殊功能装置（D/TD/UT/RTF/TK/RP）时最高转速为4500转/分。