

**SIRUBA®**

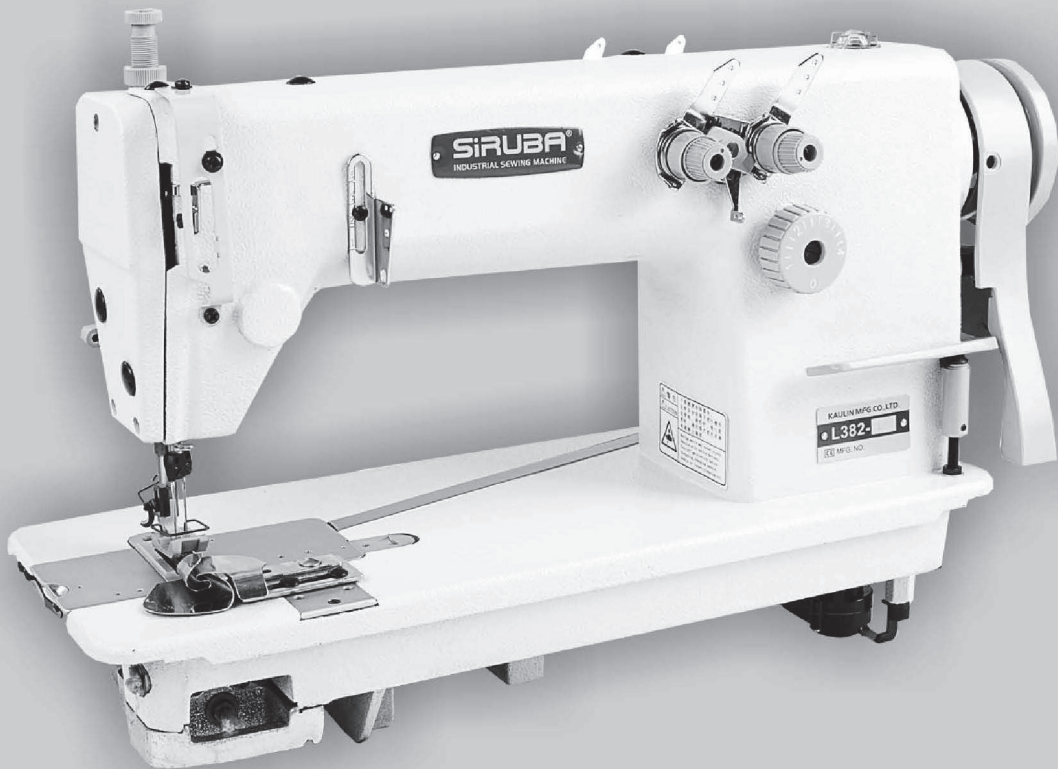
銀箭牌工業用縫紉機

INDUSTRIAL SEWING MACHINE

**L381/L382/L383**

使用說明書/零件圖

INSTRUCTION BOOK/PARTS LIST



CE



高林股份有限公司  
KAULIN MFG. CO., LTD.

# 重要安全指示说明

为使您正确使用本机，须对本机的各种功能充分了解，以便安全操作。

使用前请仔细阅读使用说明书。我们希望您能长期愉快地使用本机，请保存好说明书，以备查阅。

- 1、无论您何时使用本机，须了解基本的安全事项，包括但不限于下列事项。
- 2、通读所有说明，并保存好使用说明书。如果需要，请随时翻阅。
- 3、使用本机前，必须弄清与本机有关安全规定，标准在您的国家是否适用。
- 4、使用本机前或使用本机时，所有安全装置必须配备齐全。机器运转时，无安全装置属违章操作，决不允许。
- 5、操作人员必须经过适当的培训。
- 6、为了您的人身安全，我们建议您戴上防护眼镜。
- 7、下列情况下，请关闭电源开关或拔下电源插头。
  - 7.1 机针穿线
  - 7.2 更换机针、压脚、针板、送料牙等
  - 7.3 进行维修时。
  - 7.4 操作区域无人时。
- 8、在机器加油润滑时，若不小心让油碰到眼睛、皮肤或咽下机油或润滑油，请立即冲洗被沾染部位或去医院检查。
- 9、无论机器运转与否，严禁乱动机器零部件和配套装置。
- 10、机器的维修、改造和调整等工作必须由专业技术人员进行。
- 11、应由专业受训人员进行一般的维修和检验工作。
- 12、必须在专业电器人员或专业技术人员的指导下进行有关电器部件的维修，任何电器部件一经发现受损，立即停止机器运转。
- 13、使用期间要定期全面彻底清洗机器。

- 14、正常操作本机时，必须进行试运转，工作环境远离强噪音源，如高频电焊机等。
- 15、由电器人员选择合适的插头和有地线的插座。

- 16、若需要改造或改进本机，请采用有效可行的安全措施。本公司对由此而产生的伤害不承担责任。
- 17、本机只适用于专业缝纫。

- 18、两种警告提示符



操作人员或维修人员请注意



特别注意事项

# IMPORTANT SAFETY INSTRUCTIONS

To get the most out of the many functions of this machine and operate it in safety, it is necessary to use this machine correctly.

Please read this Instruction Manual carefully before use. We hope you will enjoy the use of your machine for a long time.

Please remember to keep this manual in a safe place.

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 of disconnect the power plug of the machine from the receptacle.
  - 7.1 For threading needle (s) and replacing bobbin.
  - 7.2 For replacing part (s) of needle, presser foot, throat plate, feed dog, cloth guide etc.
  - 7.3 For repair work.
  - 7.4 When leaving the working place or when the working place is unattended.
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.
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. Periodically clean the machine throughout the period of use.

14. 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.
15. An appropriate power plug has to be attached to the machine by electric technicians, Power plug has to be connected to a grounded receptacle.

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

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



Danger of injury to operator or service staff



Items requiring special attention



# 安全操作事项



1、为避免触电，请不要打开电机的电箱盖，也不要触摸电箱内部组件。



- 1、为避免人身伤害，移动皮带罩，护手挡或安全装置时，请不要开动机器。
- 2、为尽可能避免机器运转造成的人身伤害，手指、头部和衣服应远离上轮、皮带和电机。除此之外，上轮、皮带和电机周围不要放置任何物品。
- 3、为避免人身伤害，当您打开电源开关或操作机器时，切勿将手放在机针下方。
- 4、为避免人身伤害，机器运转时，切勿将手放入挑线罩内。
- 5、弯针高速运转时，勿将手指放在弯针附近。另外，换弯针时，请关掉机器电源开关。
- 6、为尽可能避免人身伤害，当翘起或抬升机头时，勿将手指放入机器内部。
- 7、为尽可能避免机器的突然启动所造成的事故，抬起机头或移动皮带罩和皮带时，请关掉机器的电源。
- 8、如果你的机器配用伺服电机，机器未运转时，电机无噪音。为避免机器的突然启动所造成的事故，请关掉机器的电源开关。
- 9、为避免触电，移动电源地线时，请勿让机器运转。
- 10、为尽可能避免触电或电器组件受损，在插上或拔下插头之前，请关掉电源开关。

# FOR SAFE OPERATION



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.



1. To avoid personal injury, never operate the machine with any of the belt cover, finger guard or safety devices removed.
2. To prevent possible personal injuries caused by being caught in the machine, keep your fingers, head and clothes away from the handwheel, V belt and the motor while the machine is operation. In addition, place nothing around them.
3. To avoid personal injury, never put your hand under the needle when you turn "ON" the power switch or operate the machine.
4. To avoid personal injury, never put your fingers into the thread take-up cover while the machine is in operation.
5. The looper rotates at a high speed while the machine is in operation, To prevent possible injury to hands, be sure to keep your hands away from the vicinity of the looper during operation. In addition, be sure to turn OFF the power to the machine when replacing the looper.
6. To avoid possible personal injuries, be careful not to allow your fingers in the machine when tilting/raising the machine head.
7. To avoid possible accidents because of abrupt start of the machine, turn OFF the power to the machine when tilting the machine head or removing the belt cover and the V belt.
8. If your machine is equipped with a servo-motor, the motor does not produce noise while the machine is at rest. To avoid possible accidents due to abrupt start of the machine, be sure to turn OFF the power to the machine.
9. To avoid electrical shock hazards, never operate the sewing machine with the ground wire for the power supply removed.
10. To prevent possible accidents because of electric shock or damaged electrical component(s), turn OFF the power switch in prior to the connection/disconnection of the power plug.

# 目 录

操作前注意事项 .....	1
一、开车前注意事项 .....	1
二、使用注意事项 .....	1
三、机器规格 .....	2
四、机器的安装 .....	2
五、加油 .....	2
六、面部油量调节 .....	3
七、面线的穿法 .....	3
八、底线的穿法 .....	4
九、夹线器 .....	5
十、压脚 .....	5
十一、针距的调节 .....	6
十二、机针的安装 .....	6
十三、压脚高度的调节 .....	7
十四、送料牙的调节 .....	7
十五、送料牙与针的同步 .....	7
十六、针杆高度的调节 .....	8
十七、机针和弯针的调节 .....	8
十八、弯针相对机针的同步 .....	9
十九、弯针的勾取量 .....	9
二十、弯针和机针间的间隙 .....	9
二十一、保针架的同步 .....	10
二十二、保针架的位置 .....	10
二十三、底线打线凸轮 .....	10
二十四、挑线杆线量调节板的位置 .....	11
二十五、中间导线钩 .....	11
二十六、针板的调换 .....	11
二十七、缝纫机的保养 .....	12
二十八、故障和措施 .....	12
零件手册 .....	17

# Contents

Before operation .....	1
1.Pre-start checks .....	1
2.Operating instructions .....	1
3.Specification .....	2
4. Installation of the machine .....	2
5. Oiling .....	2
6. How to regulate oil amount by means of manipulating elements on the face plate .....	3
7. The threading of needle thread .....	3
8. The threading of bobbin thread .....	4
9. Thread tension asm .....	5
10. Presser foot .....	5
11. To adjust stitch length .....	6
12. Setting-up of the needle .....	6
13. Adjustment of the height of the presser bar .....	7
14. Adjustment of the height of the feed dog .....	7
15. The timing of feed dog and needle .....	7
16. Adjustment of the height of needle bar .....	8
17. Adjustment of the needle and looper .....	8
18. The timing of looper in reference to needle .....	9
19. Thread-guiding amount of the looper .....	9
20. The clearance of looper and needle .....	9
21. The timing of needle guard .....	10
22. Position of needle guard .....	10
23. Loper thread take-up cam .....	10
24. The position of thread-amount adjusting plate of the thread take-up lever .....	11
25. Frame thread eyelet .....	11
26. Replacement of throat plate .....	11
27. Maintenance of the machine .....	12
28. Common breakdowns and measures of trouble shooting .....	12
PARTS BOOK .....	17



## 操作前注意事项 / Before operation

### 注意:

为避免机器受损或发生事故, 切记如下:

- 在您初次使用本机前, 请彻底清洗, 除掉运输过程中的全部灰尘, 并充分加油润滑。
- 确认电压是否正常, 插头与电源连接是否正确。
- 若您的国家的电压与本机器设计电压不一致, 请勿使用本机。
- 确认电机转动方向是否正确。
- 使用本机的第一个月, 机器应在正常或低于正常转速下运转。

### CAUTION:

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

- Before you put the machine into operation for the first time after the set-up, clean it thoroughly. Remove all dust gathering during transportation and oil it well.
- Confirm that the voltage has been correctly set. Confirm that the power plug has been properly connected to the power supply.
- Never use the machine in the state where the voltage type is irrelative from the designated one.
- Confirm that the direction of rotation of the motor pulley is correct.
- Operate your machine at the normal sewing speed or less for the first month after the set-up.

## 一、开车前的注意事项 / Pre-start Checks

- 1、油盘内未加油绝不能开车。
- 2、机器运转时, 从上轮外侧看转向应为逆时针方向, 注意, 不能倒转。
- 3、在最初使用的第一个月中, 应把缝速降低为每分钟4000针进行缝纫作业。
- 4、按照电动机标牌上的标注, 检查电源, 电压及单相、三相是否正确。
  1. The machine shall not be started running until the completion of oiling.
  2. The rotating direction of the balance wheel, when the machine is started running, shall be in counter-clockwise one. (View from the right side of the balance wheel.) A warning shall be given in advance against making the machine run while balance wheel turning clockwise.
  3. The machine shall be under operation at less than 4,000 S.P.M. for the first month.
  4. Check power source, voltage, and phase number to see whether they are in accordance with the ratings on the name plate of the motor to be used.

## 二、使用注意事项 / Operating instructions

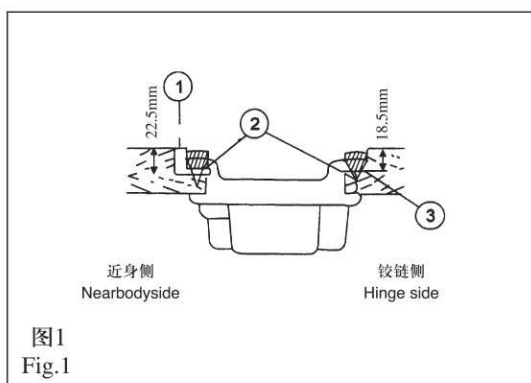
- 1、机器运转时, 请勿将手放到针的下部。
- 2、机器运转时, 请勿将手指伸入挑线杆护罩内。
- 3、机器确定停止后, 才能盘动上轮。
- 4、关掉电动机开关后, 由于惯性上的缘故, 电动机还会继续旋转一段时间, 所以要注意, 未停止转动不能将机器倾到。
- 5、机器运转时, 请勿将手指、头发或其它东西靠近或接触上轮、“V”形皮带、电动机, 也不要东西放置在它们附近。
- 6、装拆皮带罩及护指器时, 请勿开动机器。
  1. Do not put your hands under the lower part of the needle when the machine is running.
  2. Do not put your fingers into the thread take-up lever cover when the machine is running.
  3. Only when the machine stops can you turn the balance wheel by hand.
  4. After the motor switch being turned off, due to inertia, the motor will continue to rotate for a while. Be careful not to have the machine tilted unless it stops.
  5. Keep away from the balance wheel, V-belt, winder and the motor.
  6. Do not start running the machine during mounting or replacing the belt cover, finger guard, etc.



### 三、机器规格 / Specification

线迹形式	并列双针双线链式缝	Stitch type	Two-needle double-row chain stitch
速度	最高每分钟4500转	Speed	Max.4,500 s.p.m.
针迹长度	1.4~4mm	Stitch length	1.4~4mm
针杆行程	30mm	Stroke of needle bar	30mm
双线间距范围	1/8" 5/32" 3/16" 7/32" 1/4" 5/16" 3/8" 1/2"	Gauges of double-row	1/8" 5/32" 3/16" 7/32" 1/4" 5/16" 3/8" 1/2"
挑线形式	针针挑线	Thread take-up type	Needle bar thread take up type
弯针	独立调节式样1/8"~1/2"通用	Looper	Separately adjustable type, for the range of 1/8" to 1/2"
保针架	摇动式、固定式并用	Needle guard	Oscillating type and rigid type
膝提压脚	上升量 8~10mm	Light clearance of knee lifter	8~10mm
供油	叶片泵	Oil supply	Impeller-type pump
润滑油	2号白油	Lubricating oil	#2 while oil

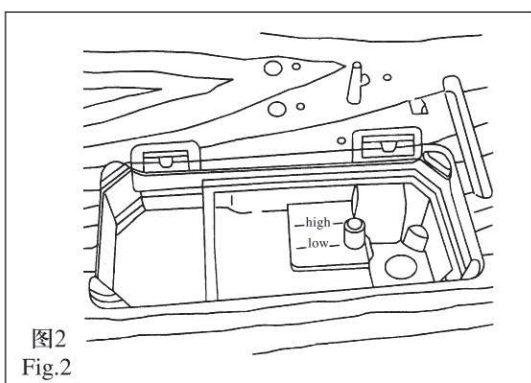
### 四、机器的安装(图1) / Installation of the machine (Fig.1)



- 1、油盘的安装：将油盘支座①和油盘座③装在台板矩孔的四角，用油盘座钉②将其固定，再装上油盘。（图1）
- 2、将机头连接钩放入底板孔内，与台板的机头连接钩座相嵌合，再将机头放到四只角的缓冲垫上。

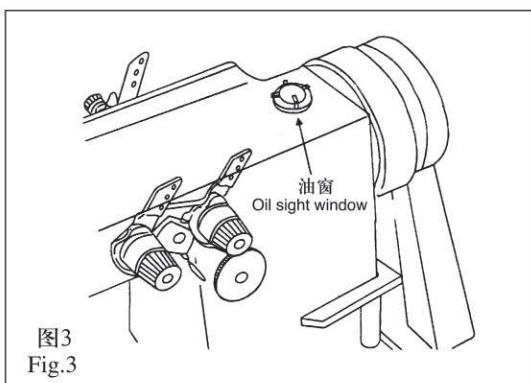
1. To install the oil reservoir.  
Put the oil reservoir rubber cushion ① and oil reservoir felt cushion ③ on four corners of the opening of the table, fix them with the wood screws ②, then install the oil reservoir (Fig.1)
2. Put the machine connecting hooks into the holes to engage respectively two hinges seated in the table, then place the machine on the four cushions.

### 五、加油(图2、图3) / Oiling (Fig.2, Fig.3)

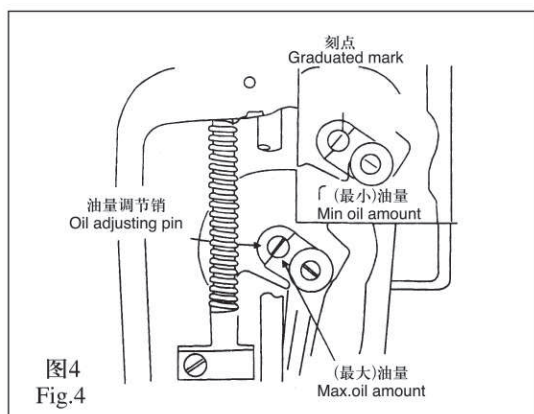


- 1、向油盘内加缝纫机油(2号白油)至HIGH记号部位(图2)。
- 2、如果油面低于LOW记号，应再加油。
- 3、加油后开动机器，润滑正常时，应看到油液喷到油窗上(图3)。至于喷到油窗上的油量多少与总油量的多少无关，所以不必担心。
- 4、如需换新油，只要拆下油盘的排油螺钉，油污就能排出。
- 5、使用新机器或长期未使用的缝纫机时，需抬起压脚以每分钟3500~4000针的速度空转约10分钟。

1. Oiling shall be made in oil reservoir and the oil surface also be made to level the mark "High" before the machine is started running (Fig.2)
2. Oiling shall be kept on until the oil surface has been brought above the mark "Low" (Fig.3)
3. The normal condition of lubrication is that the oil shall spray onto the oil sight. The amount of oil spraying onto the oil sight is not at all proportional to the total amount of oil in the oil reservoir. There is nothing to worry about.
4. Only when the drain cover screw is loosened and taken off can old oil be drained out and new oil is supplied again.
5. When a new model or those standing idle for long time is to be operated, presser foot shall be lifted and run idle for about ten minutes.



## 六、面部油量调节(图4) / How to regulate oil amount by means of manipulating elements on the face plate (Fig.4)



转动油量调节销，可以调节针杆连杆销的供油量调节销的刻点，靠近针杆连杆销时，油量最小，反之，则油量最大(图4)  
注意：调节油量时要十分注意，供油量并不是随调节立刻变化的。

To turn oil-amount adjusting pin to regulate oil amount of the thread take-up crank, min. oil amount will be supplied when the mark of adjusting pin moves to the thread take-up crank as near as you desire. Otherwise, max. oil amount will be supplied.

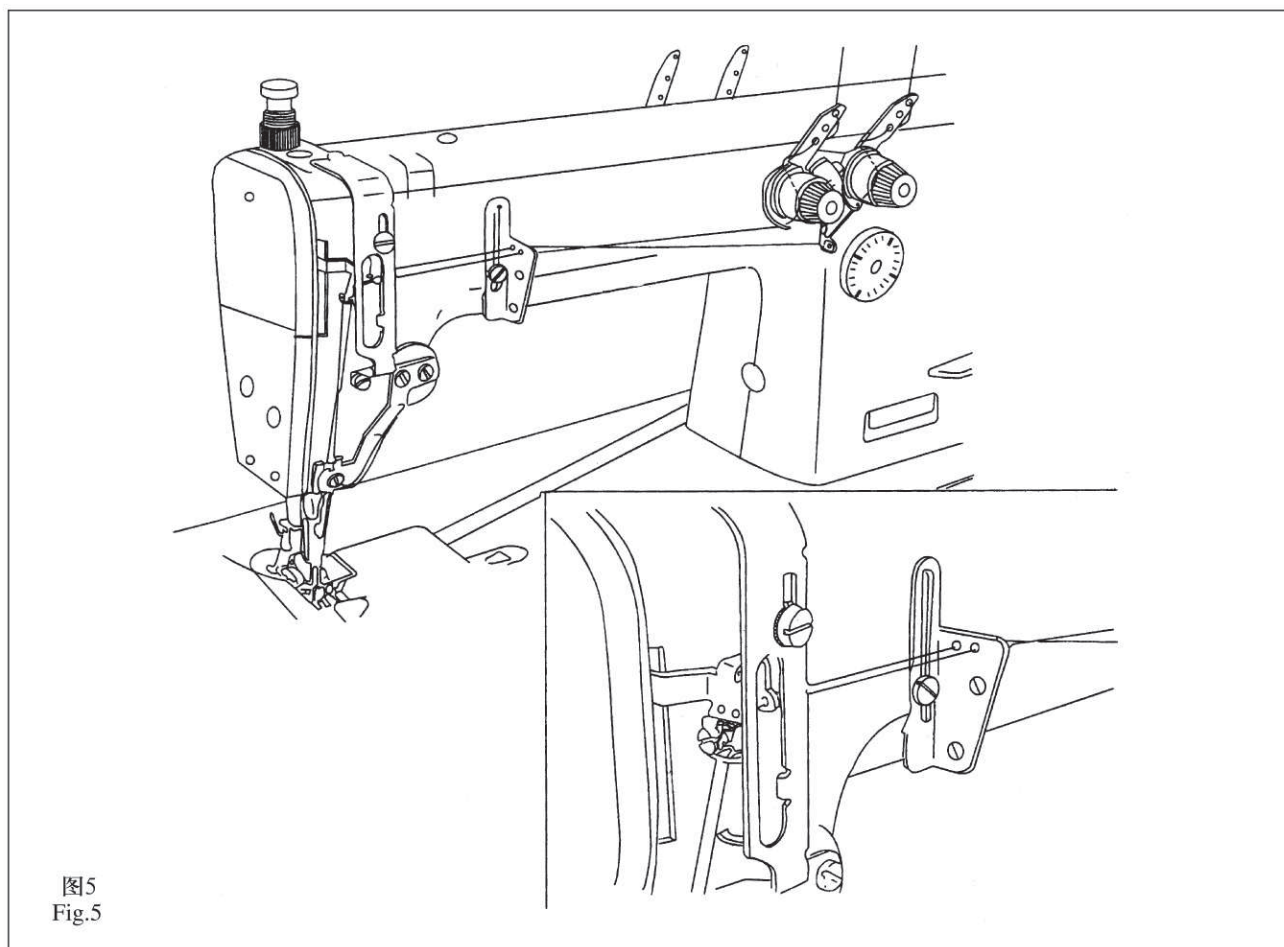
## 七、面线的穿法(图5) / The threading of needle thread. (Fig.5)

在针杆上升到最高位置时，按图5所示顺序依次穿过各线孔。

1. 线从操作者一侧向外穿过机针。
2. 面线穿过机针后必须再拉出100mm长线头。

To thread the eyes of the needles in the order as shown in Fig.5:

- 1) To make thread go through the eye of the needle outwards. (View from the operator's side)
- 2) To pull out 100mm of the remaining thread after needle thread going through the eyes of the needles.





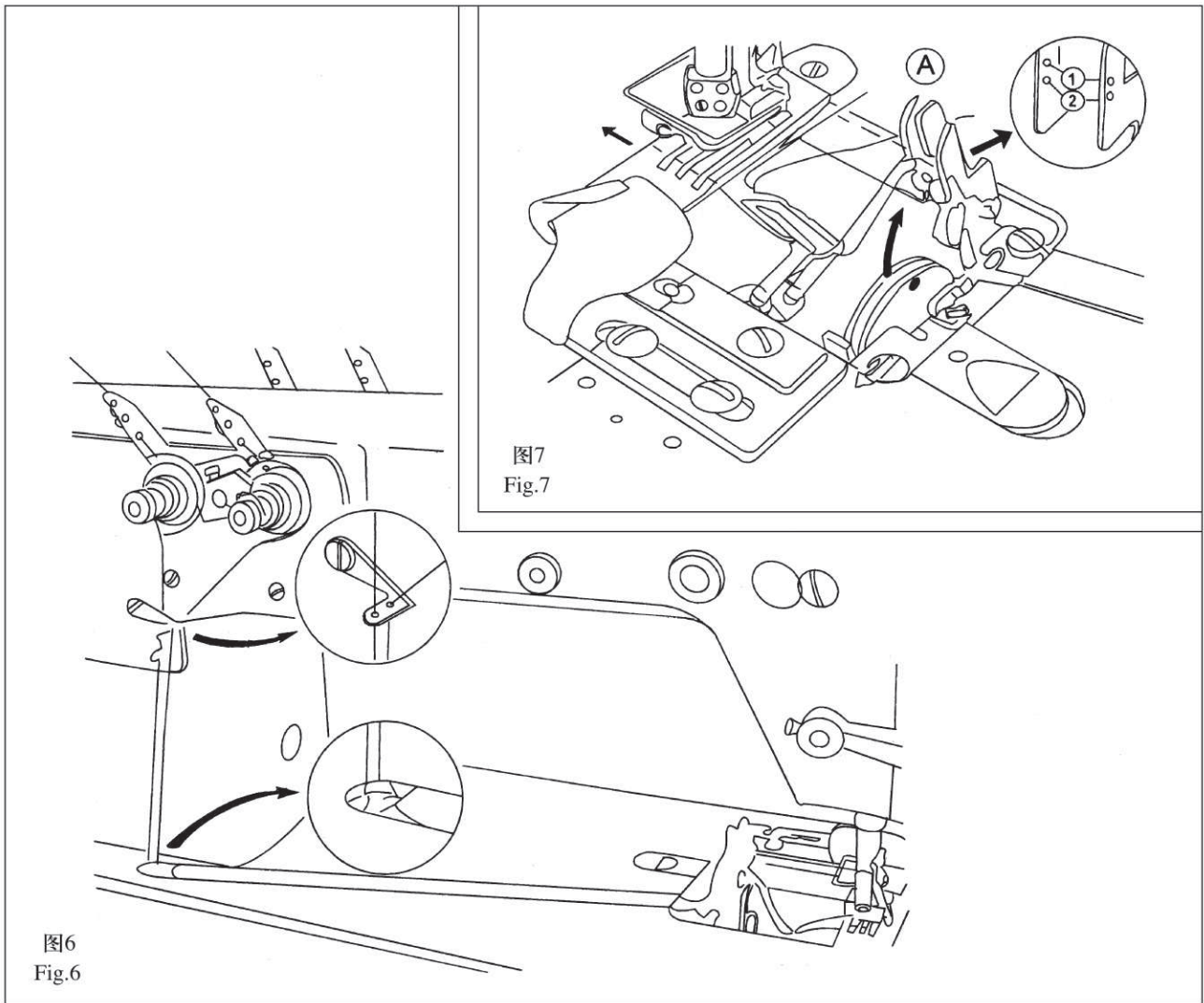
## 八、底线的穿法(图6、图7) / The threading of bobbin thread (Fig.6, Fig.7)

底线按图示顺序依次穿过各线孔。

- 1、按(图6)所示穿过夹线器单面导线板,如用捻度大的线或缝纫时需送料距大的时候应穿二个孔。
- 2、把(图7)中的扳簧朝操作人员侧拉,A就向上抬起。
- 3、穿弯针线时,用附件中的镊子按图所示将线穿过,在弯针的前端来出50mm长线头。

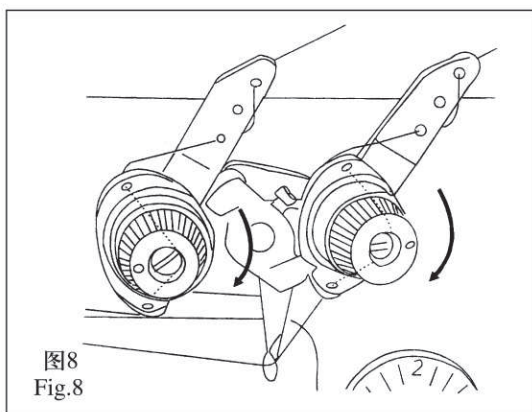
To make bobbin thread going through the eye of the needle in the order as shown in (Fig6 and Fig7)

- 1) Make the bobbin thread go through the tension gauge plate; go through the two holes when thread of harder twist fibre is used and feed gauge is wider than Usual.
- 2) Pull the spring toward the operator, as shown in Fig.7 and part A will rise upwards.
- 3) When threading the looper, the thread shall be made go through the eye of the needle with a tweezer as shown in Fig.7 and 50mm of remaining thread be pulled out.





## 九、夹线器(图8、图9、图10) / Thread tension asm. (Fig.8, Fig.9, Fig.10)



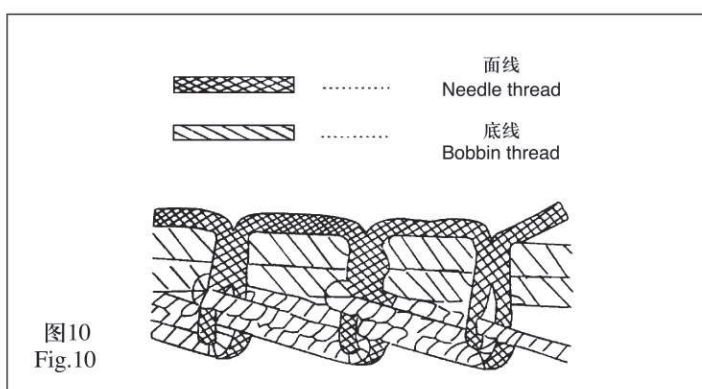
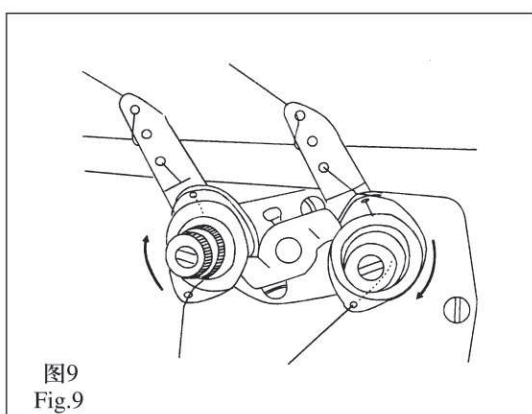
面线张力的调节(图8所示):向右转动夹线螺母张力变大。  
底线张力的调节(图9所示):向右转动夹线螺母张力变大。  
底面线的关系(图10所示)为链式线迹的形成。

To adjust needle thread tension is accordance what sewing working condition,we can adjust needle thread tension by tension spring.Turn the tension nut clocwise to increase to increase the tension; turn counter-clockwise to decrease the tension.

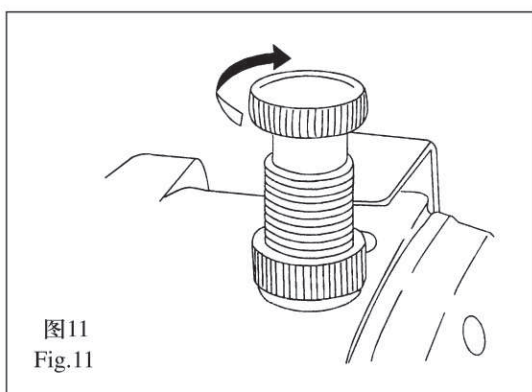
To adjust bobbin thread tension:

Turn tension screw clockwise to increase the tension;turn tension screw counterc lockwise to Tension; turn tension screw counterclockwise to decrease the tension.

The relation between the needle thread and the bobbin thread as shown in (Fig.10) depicts the forming of chain stitch.



## 十、压脚(图11、图12) / Presser foot (Fig.11, Fig.12)



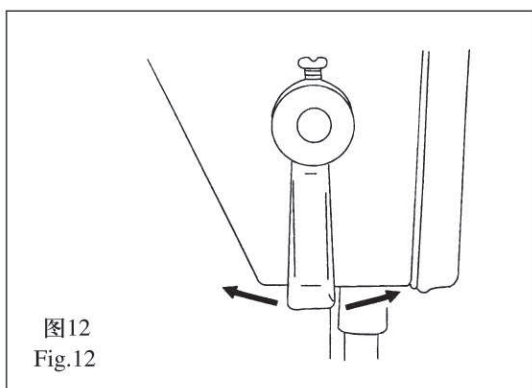
压脚压力的调节(图11):顺向转动压脚调压螺钉,压力增强,反之则压力减弱。对一般布料而言,压脚调压螺钉的标准高度为27~30mm(5公斤)左右。

要使压脚保持在抬起位置,只要把压脚扳手向左或向右转动即可(图12)。

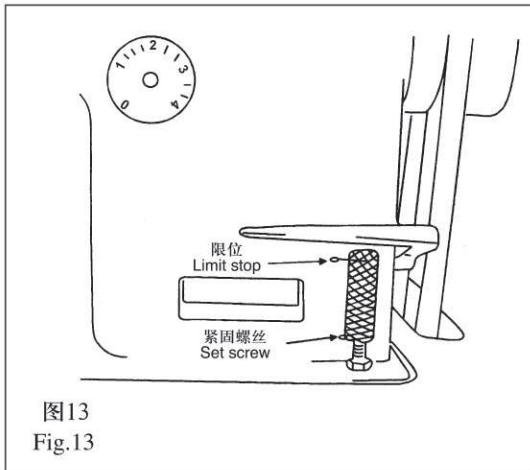
Adjustment of pressure on presser foot (Fig.11)

Turn pressure regulating thumb screw clockwise to increase the pressure; turn pressure-regulating thumb screw counter-clockwise to decrease the pressure.For general fabric the standard height of pressure regulating thumb screw is about 27-30mm (5kg)

The presser bar lifter shall be turned either leftward or rightward in order to keep the presser foot under the condition of lifting position.



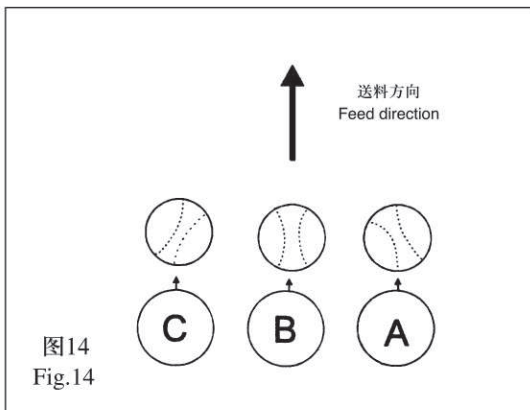
## 十一、针距的调节(图13) / To adjust stitch length (Fig.13)



- 1、针迹长度的调节(图13)只要旋转倒送料扳手上的针距调节旋扭至所需数字即可。旋扭上刻度的数字用mm表示。
- 2、针迹从大到小改变送料刻度时，应一边将倒送料扳手朝下压；一边转动送料距旋扭。
- 3、针迹长度最大是4mm，最小是1.4mm。
- 4、按下倒送料扳手，针迹变为紧密缝(1.4mm)，该功能可用于起始和终止缝或需加强缝纫的部分。
- 5、本机不能进行倒缝。

1. Turn feed regulating adial to the figure desired. The value of graduation is shown in millmetren(mm)
2. If you intend to change the stitch length, press down the reverse feed lever while turning the feed regulating dial.
3. Max.,stitch length is 4mm:Min.stitch length is 1.4mm.
4. When reverse feed lever is pressed down, tight-needle stitch of 1.4mm will be formed;this version of stitch is suitable for beginning and end seaming or partaking.
5. The machine can not make reverse stitching.

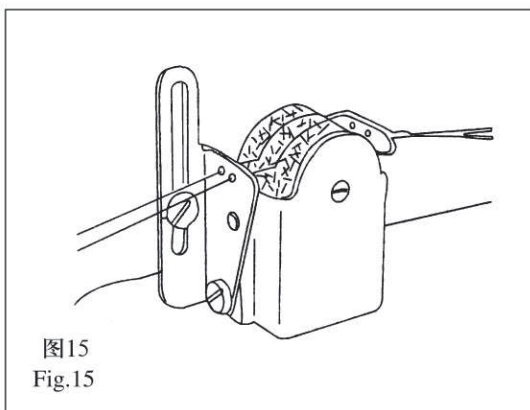
## 十二、机针的安装(图14、图15) / Setting-up of the needle (Fig.14、 Fig.15)



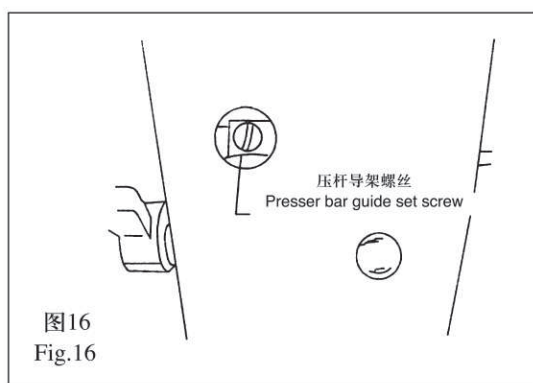
在使用化纤线时，机针针孔的方向不能如(图14)中C的方向安装。

机针请使TVx7的#9~#21型机针。用化纤线缝制时，可按(图15)所示形式放置硅油，油箱应另外定制。

When thread of chemical fibre is used,the direction of the needle eye shall not be in that one, as shown in part C of Fig.14. Needle types to be desired fall within the range of #9 to #21 of TVx7; Oil tank shall be custom-made when thread of chemical fibre is used; silicone oil can be placed like that, as indicated in Fig.15.



### 十三、压脚高度的调节(图16) / Adjustment of the height of the presser bar: (Fig.16)



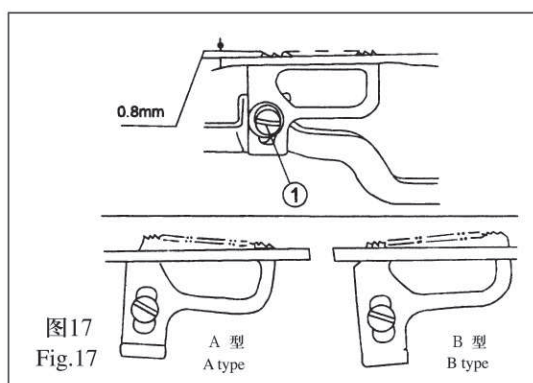
为了调换压脚或改变高度、角度需要:

- 1、拆下面板上的孔塞 (图16)
- 2、旋松压杆导架的紧固螺钉进行调节。
- 3、调节后旋紧紧固螺钉。

For the requirements of either replacing the presser foot or changing the height and angle of presser foot, the following shall be observed.

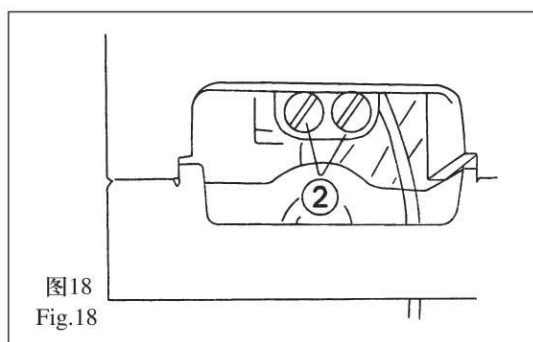
1. Take off the rubber plug in the hole from the face plate, as shown in Fig.16.
2. Loosen the presser bar guide bracket set screw.
3. After adjusting, retighten the screw.

### 十四、送料牙的调节(图17、图18) / Adjustment of the height of the feed dog (Fig.17、 Fig.18)

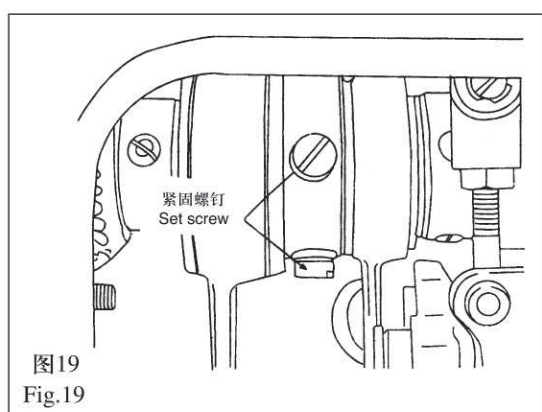


旋松(图18)所示螺钉②, 送料牙的倾角即可调节成标准型、A型、B型, 送料牙最大突出量是0.8mm,用(图17)中螺钉①调节。

Loosen the set screw ②, as shown in Fig.18, the angle of the feed dog can be adjusted to the specified one of standard version, A version, and B version. The Max. height of 0.8mm of the projection from dog is adjustable by the adjusting of screw ① as shown in Fig.17



### 十五、送料牙与针的同步(图19) / The timing of feed dog and needle (Fig.19)

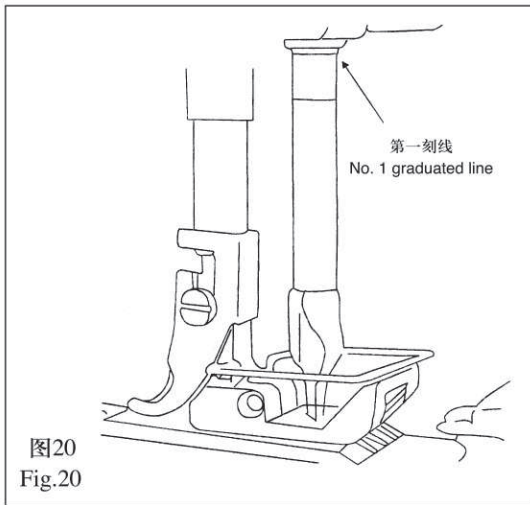


针尖下降至针板上平面3mm时, 送料牙刚好全部下降至针板上平面以下, 此时, 正好同步。可调节(图19)中的螺钉。

When the point of needle lowering down to the location of 3mm from the upper surface of the throat plate, the feed dog is right at the position below the upper surface of the throat plate, viz. The running of feed dog being well regulated in relation to the motion of needle.



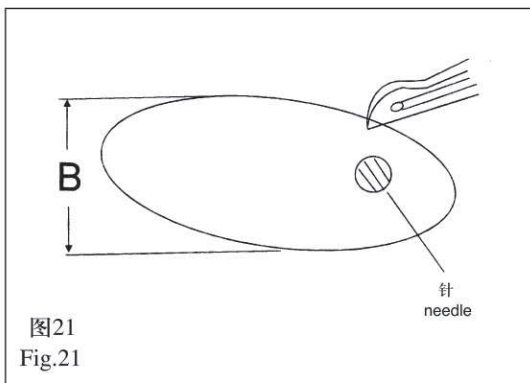
## 十六、针杆高度的调节(图20) / Adjustment of the height of needle bar (Fig.20)



使用TVX7机针时，可用针杆上的刻线，针杆在下死点时，针杆上刻线应对准针杆下衬套的下端面(如图20所示)，这样就决定了针杆的高度。

When the needle of TVX7 is used, if the graduation on the needle bar is at the bottom dead centre, the mark of graduation shall be in line with the lower end of the needle bar bushing, lower, as indicated in Fig20.

## 十七、机针和弯针的调节(图21、图22) / Adjustment of the needle and looper (Fig.21, Fig.22)



弯针前后运动量的调节：

按如下顺序调节可得弯针椭圆运动中(图21)所示的B尺寸，通常B的尺寸在最大时为3.7mm，各种规格的机针都能缝纫。

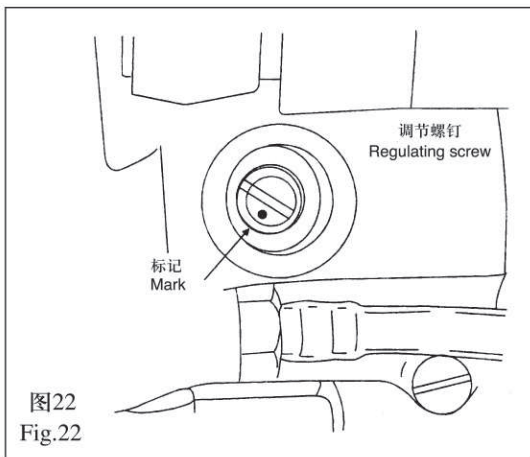
1. 拆下弯针曲柄罩壳上的橡胶塞(图22)
2. 用手转动上轮。
3. 先旋松定位螺钉和紧固螺钉，调节有标号的螺钉。
4. 把调节螺钉上的冲印标记向右旋转，则B的尺寸就会变大，反之变小。
5. 旋紧定位螺钉和紧固螺钉。

Adjustment of forward & backward motion of the looper:

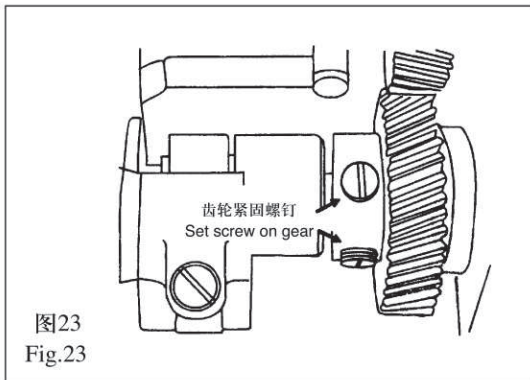
The dimension of part B of the looper in an elliptic motion can be measured, (refer to Fig21). The max. dimension of part B is usually 3.7mm, suitable for sewing operation of needles of all kinds of sizes.

The adjusting procedure is as follows:

- 1) Take off the rubber plug on the crank case of the looper (refer to Fig22)
- 2) Turn the balance wheel by hand.
- 3) First loosen set screw and positioning screw, and then adjust marked screw.
- 4) Turn clockwise the adjustable screw on which punch mark is printed, and the dimension of part B will be increased in value.
- 5) Tighten set screw and positioning screw.



## 十八、弯针相对机针的同步(图23) / The timing of looper in reference to needle (Fig.23)



机针在最低点时，弯针退到最后，旋松图示齿轮的螺钉进行同步调整(如图23)。

The looper shall be moved backward to the lowest position while the needle is at the bottom dead centre; loosen the screw on the gear and make timing adjustment of the looper in relation to the needle (refer to Fig 23.)

## 十九、弯针的勾取量(图24) / Thread-guiding amount of the looper (Fig.24)

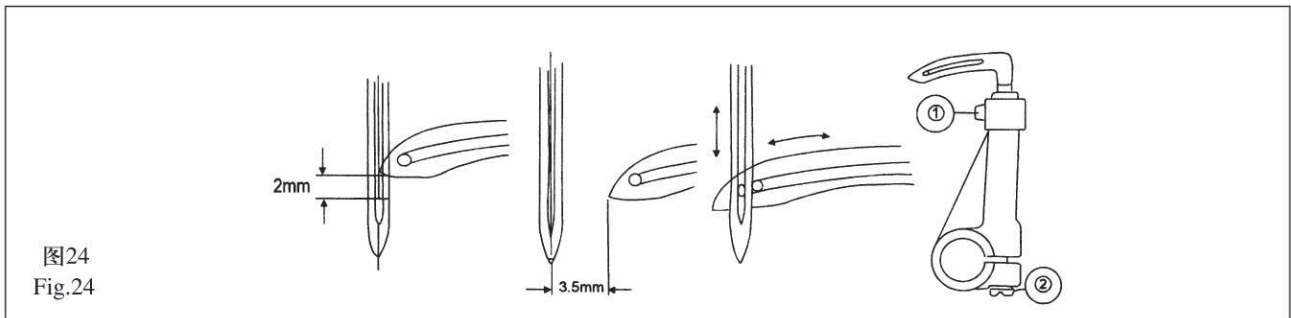
- 1、弯针的针尖到达机针的中心位置时，弯针针尖离机针孔上端的距离标准值是2mm，此时针杆下刻线和针杆下衬套下端面对齐。(如图24)
- 2、弯针的后退量约3.5mm。
- 3、机针孔和弯针孔的相对关系如(图24)所示。(左右弯针可以分别调整)

1) The standard value of the vertical distance of the point of the looper away from the upper end of the eye of the needle is 2mm, then the graduation mark on the lower part of the needle bar shall be in line with the lower end of the needle bar bushing, lower.(refer to Fig.24)

2) The value of the stroke moved backward by the looper is about 3.5mm.

3) The relation between the eye of the needle and the eye of the looper is indicated Fig.24.

(Note that the left looper and the right one can be separately adjusted.)

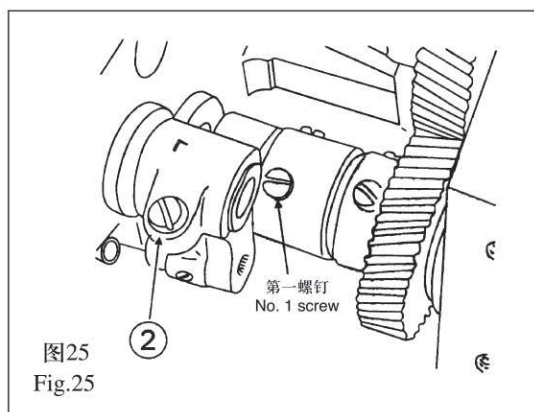


## 二十、弯针和机针间的间隙 / The clearance of looper and needle

保针架调整后，机针和弯针间应留有一定间隙，即用手指轻压机针，机针也不应碰到弯针针尖。如果间隙太小了，机针的侧面与弯针针尖就会因相互碰撞而损伤。

After adjusting the needle guard, the clearance of a given value between the needle and the looper shall be kept unchanged; the needle shall not touch at the point of the looper when it is pressed down softly. If the clearance is narrower than usual, the side of the needle and the point of the looper are apt to incur breakage due to the impact of the needle side against the looper point.

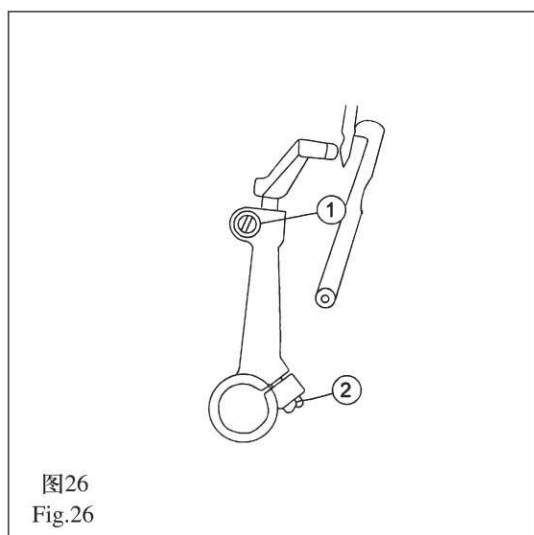
## 二十一、保针架的同步(图25) / The timing of needle guard (Fig.25)



保针架的同步，由（图25）中第一螺钉旋入弯针轴上的平面而决定。

The timing of the needle guard depends on the condition of the plane on the rock shaft of the looper when no.1 screw has been screwed into this rock shaft.

## 二十二、保针架的位置(图26) / Position of needle guard (Fig.26)



摆动保针架位置，使弯针勾取面线时让机针的针尖轻轻触及保针架，其高度应调整到不触及固定保针架范围，旋松(图26)中螺钉①②即可进行调节。

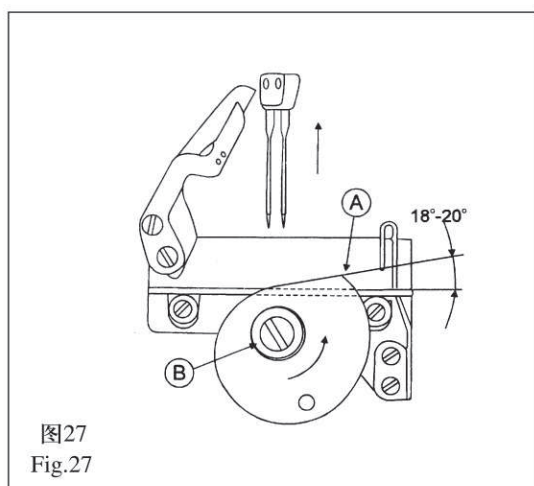
固定保针架和摆动保针架之间的关系(如图26)所示，与机针的间隙为0.1~0.2mm，缝纫机运转时不能强行夹住机针。

Oscillating the needle guard to make the needle tip contact with needle gauge slightly.

It is recommended that the height adjustment shall not fall within the area of the left counter needle guard. The adjustment can be made by loosening screw ① and ②. The relation between left counter needle guard and the counter needle guard is as represented in Fig 26; the clearance from the needle falls within the range of 0.1 to 0.2mm.

Note that the forced clamp of the needle shall be prohibited when the machine is in motion.

## 二十三、底线打线凸轮(图27) / Looper thread take-up cam (Fig.27)



底线打线凸轮的位置如（图27）所示，针杆在最高点时，打线凸轮平面部分和钢丝平行部分的夹角为18°-20°，旋松螺钉B进行调整，位置决定后再旋紧。

调整时请注意下列事项：底线从打线凸轮的突端A脱出时，针尖要完全进入底线弯针的线环中。

Its position can be seen as shown in Fig.27 when the needle bar is at the top dead centre, the planes of the cam and the steel wire are in parallelism; the projecting part of the cam can slightly rise at the angle of 18 to 20 degrees. first loosen screw B, and then make adjustment, finally tighten the screw fitmly. Pay close attrntion to the following; the needle tip shall entirely come into the thread loop of the looper when the bobbin thread rejecting from the projecting part of the cam.



**二十四、挑线杆线量调节板的位置(图28) / The position of the thread-amount adjusting plate of the thread take-up lever (Fig.28)**

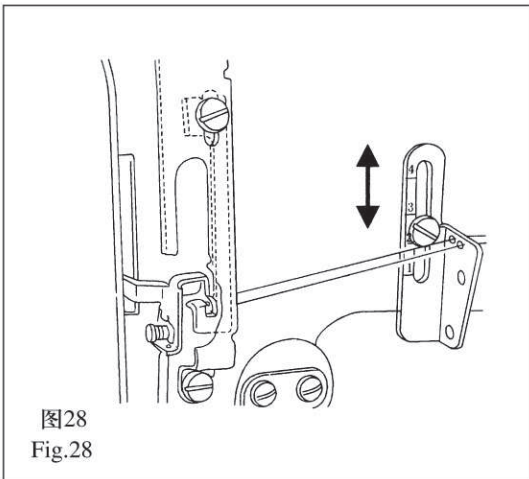


图28  
Fig.28

针杆在最低点时，如(图28)所示，用挑线杆线量调节板挡住面线，这样勾取面线时，面线线环变大。

此外，针杆在最低处时，也有拉紧面线线环的作用，通常在使用较细的缝纫时，应把线量调节板降到最低点。

The thread-amount adjusting plate will retain the bobbin at thread when the needle bar is the bottom dead centre; in such a way the loop of the needle thread is to become bigger when the needle thread is hooked. In addition to the foregoing there is a function of the tight pulling of the needle thread loop. The thread-amount adjusting plate usually reduces to the lowest point when a thread finer than normal is used.

Note that take-up thread tension lever is another name for thread-amount adjusting plate.

**二十五、中间导线钩(图29) / Frame thread eyelet (Fig.29)**

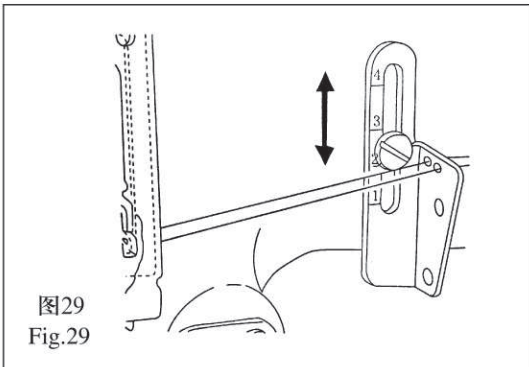


图29  
Fig.29

中间导线钩的位置也关系到跳针现象发生，一般把下列位置作为基准(图29)

棉 线#80~#50	中间导线钩刻度2-3
棉 线#30~#20	中间导线钩刻度3-4
化纤线#80~#50	中间导线钩刻度1-2
化纤线#30~#20	中间导线钩刻度2-3

The improper-positioning of the frame thread eyelet may be the cause of occurrence of skipping stitch. The following locations are generally regarded as criteria (refer to Fig.29)

Cotton thread#80~#50	Graduation marked on the frame thread eyelet 2-3
Cotton thread#80~#50	Graduation marked on the frame thread eyelet 3-4
Thread of chemical fibre #80~#50	Graduation marked on the frame thread eyelet 1-2
Thread of chemical fibre #80~#50	Graduation marked on the frame thread eyelet 2-3

**二十六、针板的调换(图30) / Replacement of throat plate (Fig.30)**

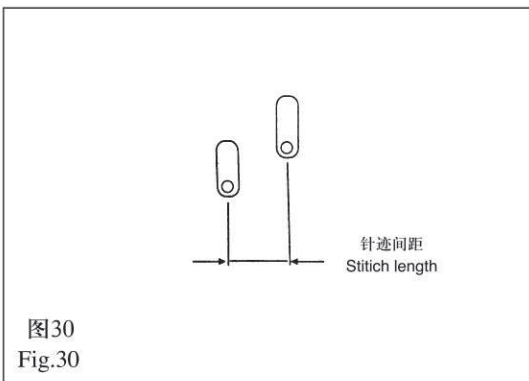


图30  
Fig.30

单针链缝机的针板出厂标准规格为1/4" (6.4mm)。(图30)改变缝线间距通常同时要更换：

1、针夹 2、活压脚 3、针 4、送料牙 5、摆动护针杆 6、卷边器左弯针和右弯针在1/8"~1/2"针板规格之内都通用。针板宽度大时，除上述零件外还要调换推板和凸轮盖。

The standard size of the throat plate in parts book, which is stipulated by the manufactory, is 1/4", equivalent to 6.4mm. (Fig.30)

The replacement of the following components is usually needed at the time when changing the gauge of double-row thread stitch.

- 1.Needle clamp 2.Hinged foot 3.Throat plate 4.Feed dog 5.Rear moving needle guard 6.Curler

The left and right loopers within the range of the sizes of 1/8" to 1/2" are interchangeable.

In addition to the aforesaid, the replacement of slide plate and cam cover shall be made when the width of thread plate is on the increase.

## 二十七、缝纫机的保养 / Maintenance of the machine

为了使缝纫机保持良好的工作状态，要做到以下事项：

(一) 每日必须检查的事项：

- 1、运转时，油窗内的油在飞溅。
- 2、运转时，一听到有异常声音，即应停止缝纫作业，并请修理工来检查。

(二) 每周一次检查部位：

- 1、拆下针板、推板、凸轮盖，用刷子清洗送料牙槽中的灰尘。
- 2、把机头翻转，去除油泵过滤网上的垃圾及油盘内的灰尘。
- 3、发现润滑油黑脏时，只需旋下油盘的排油螺钉排空污油，换入新的润滑油。
- 4、油面必须高于最低线（LOW）
- 5、用布揩去沾在油盘磁铁上的黑粉。

The following shall be abhered in order to keep the machine in good working condition.

(1) Daily checking

- I. The oil shall spray onto the oil sight when the machine is running.
- II. Repairman shall be sent for when abnormal sound is heard during the operation of the machine.

(2) Locations to be checked once a week:

- I. To take off throat plate. slide plate, and cam cover; to clean dust of the slotted feed dog with a brush.
- II. To turn over the head to rid both the oil filter screen on the oil pump and the interior of the oil reservoir of oil stain and dust.
- III. Loosen drain hole screw and take it off; drain all the dirty oil from the oil reservoir and reoil it.
- IV. Oil level must be above the lowest oil-level-indicating line marked "Low"
- V. The black powder, adhering to the magnet in the oil reservoir shall be wiped with sponge cloth.

## 二十八、故障和措施 / Ommon breakdowns and measures of trouble shooting

序号	事故内容	原 因	对 策
1	断 线	1、缝线质量差 2、缝线太粗 3、机针过热熔断缝线 4、缝线张力太强 5、机针、弯针、针板、保针架过线部分损伤 6、线量未调节好	1、使用质量好的缝线 2、调换合适的缝线 3、使用硅油或降低转速 4、旋松夹线螺母 5、用油石磨光再抛光 6、调节线量调节板

2	跳 线	1、面线跳针	<ul style="list-style-type: none"> <li>1、调整弯针勾取量</li> <li>2、调整弯针与机针的间隙</li> <li>3、调整机针同弯针的同步</li> <li>4、根据缝线的情况调整线量调节板</li> <li>5、调整中间导线钩的位置</li> <li>6、检查机针安装是否正确</li> <li>7、检查保针架的位置和同步是否正确</li> <li>8、检查缝线是否穿正确</li> </ul>
		2、底线跳针	<ul style="list-style-type: none"> <li>1、按上述面线跳针1、2检查</li> <li>2、检查底线凸轮的同步</li> <li>3、稍微增强底线的张力</li> <li>4、检查缝线穿得是否正确</li> </ul>
		3、使用化纤线时的跳针	<ul style="list-style-type: none"> <li>1、使用硅油</li> <li>2、降低转速</li> <li>3、使用化纤线用的机针</li> </ul>
		4、使用合成纤维线时的跳针	<ul style="list-style-type: none"> <li>1、降低转速</li> <li>2、使用硅油</li> </ul>
3	线迹不良	<ul style="list-style-type: none"> <li>1、面线张力太弱</li> <li>2、底线张力太弱</li> <li>3、缝线太粗</li> <li>4、中间导线钩的位置不够正确</li> <li>5、挑线杆线量调节板位置不正确</li> <li>6、针板</li> </ul>	<ul style="list-style-type: none"> <li>1、旋紧面线夹线螺母</li> <li>2、旋紧底线夹线螺母</li> <li>3、调换大号机针</li> <li>4、调整中间导线钩的位置</li> <li>5、调整线量调节板的位置</li> <li>6、使用针孔大的针板</li> </ul>
4	断 针	<ul style="list-style-type: none"> <li>1、机针弯</li> <li>2、送料和机针不同步</li> <li>3、压脚的安装有问題</li> <li>4、保针架有问題</li> <li>5、面线张力过强</li> <li>6、机针太粗</li> </ul>	<ul style="list-style-type: none"> <li>1、调换机针</li> <li>2、调整到同步</li> <li>3、压脚孔、针板孔的中心与机针中心要一致</li> <li>4、检查保针架的位置和同步</li> <li>5、放松面线张力</li> <li>6、使用合适的机针</li> </ul>
5	起 绉	<ul style="list-style-type: none"> <li>1、缝线张力过强</li> <li>2、底线打线凸轮不同步</li> <li>3、各过线处光洁度有问題</li> <li>4、压脚压力太强</li> </ul>	<ul style="list-style-type: none"> <li>1、降低缝线张力，特别是底线的张力</li> <li>2、进行调节，使其同步</li> <li>3、研磨各过线部件</li> <li>4、旋松调压螺钉</li> </ul>



No.	Breakown	Cause	Measures to be taken
1	Therad breakage	<ol style="list-style-type: none"> <li>1 Poor thread quality</li> <li>2 Thread being too thick</li> <li>3 Fusing thread due to high temperature of needle caused by machines operation at high speed</li> <li>4 Tension being too higher</li> <li>5 Breakage of needle, looper, throat plate, and needle guard at the location of thread guide</li> <li>6 Failure to adjust thread amount</li> </ol>	<ol style="list-style-type: none"> <li>1. Quality thread to be used.</li> <li>2. Replacement to be made by an appropriate thread</li> <li>3. Silicone oil to be used and speed to be reduced</li> <li>4. The tension nut to be loosened</li> <li>5. First grinding with oil stone and then polishing</li> <li>6. Adjusting the thread amount adjusting plate</li> </ol>
2	Skipping stitch	1. Skipping stitch of needle thread (leaking of two stitches due to the loopers failure to hook the needle thread)	<ol style="list-style-type: none"> <li>1. Adjusting thread-hooking amount of looper.</li> <li>2. Adjusting clearance between looper and needle.</li> <li>3. The timing of needle in reference to looper.</li> <li>4. Adjusting the thread-amount adjusting plate on thread amount changing conditions.</li> <li>5. Adjusting the frame thread eyelet.</li> <li>6. Checking whether the mounting positon of the needle is proper or not.</li> <li>7. To see if the location of needle guard is in an appropriate way and the timing of it is well regulated in relation to another.</li> <li>8. To see if the needle thread threading is in a proper way.</li> </ol>
		2. skipping stitch of bobbin thread (leaking of one stitch, needle failure to enter the looper eyelet)	<ol style="list-style-type: none"> <li>1) Reference to the above cases 1 and 2, as to skipping stitch of the needle of the needle thread.</li> <li>2) To see if the timing of bobbin thread cam has been well reulated.</li> <li>3) Increasing tension of bobbin thread a bit higher.</li> <li>4) To see if the threading of bobbin thread is in a correct way.</li> </ol>
		3. Skipping stitch when thread of chemical fribre being in use	<ol style="list-style-type: none"> <li>1) Using sillicone oil</li> <li>2) Reducing speed</li> <li>3) Using needle for threead of chemical fibre.</li> </ol>
		4. Skipping stitch when thread of polyester fibre being in use	<ol style="list-style-type: none"> <li>1 Reducing speed</li> <li>2 Silicone oil to be used</li> </ol>
3	Twisted stitches	<ol style="list-style-type: none"> <li>1. Needle thread tension being too low.</li> <li>2. Bobbin thread tension being too low</li> <li>3. Sewing thread being too thick</li> <li>4. Improper position of the frame thread eyelt.</li> <li>5. Improper position of thread take-up tension plate</li> <li>6. Throat plate</li> </ol>	<ol style="list-style-type: none"> <li>1. Tightening tension nut of needle thread.</li> <li>2. Tightening tension nut of bobbin thread.</li> <li>3. Needle of large size to be used.</li> <li>4. Readjusting it to a proper position.</li> <li>5. Readjusting its position in an appropriate way.</li> <li>6. the eyelet of throat plate to be used being bigger than normal one.</li> </ol>

4	Breakage of needle	<ol style="list-style-type: none"> <li>1) Needle being bent.</li> <li>2) The operation of feed dog being not well regulated in reference to the motion of needle.</li> <li>3) Setting-up of the presser foot</li> <li>4) The problem of the timing of needle guard remaining unsolved</li> <li>5) Needle thread tension being too high.</li> <li>6) Needle being too thick.</li> </ol>	<ol style="list-style-type: none"> <li>1) Needle to be replaced by another of proper size.</li> <li>2) Readjusting the timing to feed dog in respect to the needle.</li> <li>3) To make both the centre of the hole of the presser foot and the centre of the eyelet of the throat.</li> <li>4) The positioning &amp; the timing of the needle guard to be taken into account.</li> <li>5) Relaxing needle thread</li> <li>6) Appropriate needle to be used.</li> </ol>
5	Puckering	<ol style="list-style-type: none"> <li>1 Thread tension being too high.</li> <li>2 The problem of the timing of the bobbin thread cam for thread guiding failing to be solved.</li> <li>3 The problem of surface finish arising from bobbin thread going through the parts on the thread guide.</li> <li>4 The force on the presser foot being too great.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decreasing thread tension, esp. tension of bobbin thread.</li> <li>2. Readjusting of the very cam said to solve the timing problem.</li> <li>3. Surface finishing all the parts on the thread guide.</li> <li>4. Turning counter-clockwise the pressure-regulating screw.</li> </ol>

