

星锐牌工业用缝纫机

SHING RAY BRAND INDUSTRIAL SEWING MACHINE

使用说明 & 维修手册

Instruction & Maintenance Book

FW-750



星锐缝纫机股份有限公司



SHING RAY SEWING MACHINE CO., LTD

一、安全上的注意事项

- 1-1 作业环境的安全
- 1-2 安装的安全
- 1-3 操作中的安全
- 1-4 保养维修的安全
- 1-5 危险标志, 请注意标示

二、使用说明

- A 安装
- B 润滑
- C 润滑油之更换
- D 滤油器之更换
- E 针之更换
- F 穿线方式
- G 押脚的调整

三、调整说明

- A 针棒高度之调整
- B 针与勾针之时位关系
- C 勾针与针之间的位置关系
- D 勾针与针之间隙关系
- E 针与护针调整
- F 拨线勾针的调整
- H 送布齿高度与平行的调整
- I 针脚长度调整
- J 后拉料装置调整说明
- K 机针、送料牙与拖料轮的位置关系
- L 缝纫状态的调整

四、简易故障排除

- A 清洁保养
- B 故障(用户)自主检查
- C 结论

SAFETY PRECAUTION

- 1-1 WORK ENVIRONMENT 1
- 1-2 SAFETY IN INSTALLATION 2
- 1-3 SAFETY IN OPERATING 3
- 1-4 SAFETY IN MAINTENANCE AND REPAIRS 3
- 1-5 DANGER AND CAUTION SIGNS 4

OPERATION GUIDE

- A INSTALLATION 5
- B LUBRICATION OIL 6
- C OIL CHANGE 7
- D REPLACING OIL FILTER 7
- E HOW TO REPLACE THE NEEDLES 8
- F THREADING 8
- G ADJUSTING THE PRESSER FOOT 11

ADJUSTMENT GUIDE

- A THE HEIGHT OF NEEDLE BAR 12
- B TIMING OF NEEDLE AND LOOPER 13
- C THE POSITION OF NEEDLE AND LOOPER 14
- D THE RELATIONSHIP BETWEEN LOOPER AND NEEDLE 14
- E ADJUSTING NEEDLE AND NEEDLE GUARD 15
- F ADJUSTING NEEDLE AND RETAINER LOOPER 16
- H ADJUSTMENT OF THE HEIGHT OF FEED DOG IN PARALLEL 17
- I LENGTH ADJUSTMENT OF STITCHES 18
- J PULLER MECHANISM ADJUSTMENT GUIDE 19
- K THE POSITION RELATION OF NEEDLE、FEED DOG AND FEED ROLLER 21
- L SEWING-LIKE ADDITIONS 22

REGULAR MAINTENANCE

- A THE CLEAR AND MAINTENANCE 24
- B ERROR MESSAGES (THE USER INSPECTS THE MACHINE BY THEMSELVES) 25
- C CONCLUSION 27



SHING RAY®

安全上的注意事项

使用本机前请详细阅读本说明书及所搭配之马达说明书，配合正确使用，并须由受过正确训练之人员来安装或操作。微型伺服马达为本机专用，在安装和操作时，必须做好以下预防措施。

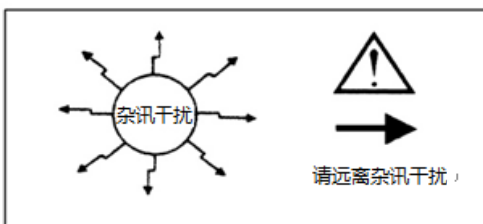
1-1 作业环境的安全：

(1) 电源电压：

电源电压请遵照马达与控制箱牌所标示之规格 $\pm 10\%$ 范围内操作。

(2) 电磁波干扰：

请远离高周磁波器或电波发射器等，以免产生的电磁波干扰本驱装置，因而发生错误操作。



(3) 温湿度：

1. 请不要在室温 45°C 以上或 5°C 以下的场所操作。
2. 请不要在日光直射的场所或室外运作。
3. 请不要在暖气(电热器)旁运作。
4. 请不要在相对湿度 30%以下或 95%以上或有露水的场所运作。

SAFETY PRECAUTION

Please read this manual carefully, also with related manual for the machine head before use. For perfect operation and safety, installing and operating this product by trained personal is required. When install and operate HVP-70 MINI-SERVO MOTOR, precaution must be taken as the following. This product is designed for specify sewing machine and must not be used for other purposes.

1.1 Work Environment:

(a) Power voltage:

Only use Power Voltage indicated on the name plate of the HVP-70 in $\pm 10\%$ ranges

(b) Electromagnetic pulse interference:

To avoid the false operate, please keep the product away from the high electro-magnetic machinery or electro generator.

(c) Temperature:

- a. Please don't operate in room temperature is above 45°C or under 5°C
- b. Avoid operating in direct sun light or outdoors area.
- c. Avoid operating near the heater.
- d. Avoid operating in the area which humidity is 30% or less and 95% or more, also stay away from dew area.



SHING RAY®

(4) 环境:

1. 请不要在尘土飞扬的区域操作，并远离腐蚀性物质。
2. 请不要在有易蒸发或者有可燃气体的区域操作。

1-2 安装的安全:

(1) 机器、马达、控制箱, 请遵照说明书正确装好。

(2) 电源线:

1. 请注意不要被重物压或过度扭曲电源线。
2. 装钉电源线时请不要靠近会转的手轮、皮带轮及三角皮带，最少要离开 3~5 公分以上。
3. 接线前须检查插座电源电压，确保其与 HVP-70 电脑箱所标示 $\pm 10\%$ 的电压相匹配。

(3) 接地:

1. 为防止噪声干扰或漏电事故，请做好接地工程。
2. 电源线的接地线须以适当大小的导线和接头连接到生产工厂的系统地线，此连接必须被永久固定。

(d) Atmosphere:

- a. Avoid operating in dusty area, and stay away from corrosive material.
- b. Avoid operating in evaporate or combustible gas area.

1.2 Safety In Installation:

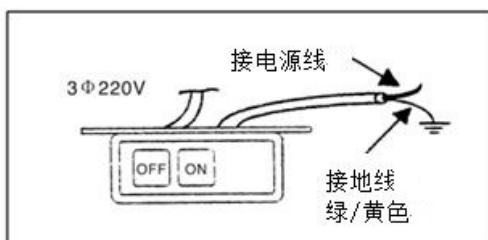
(a) Machine, motor and control box, follow the instruction in this manual for correct installation.

(b) Power cord:

- a. Avoid power cord being applied by heavy objects of excessive force, or over bend
- b. Power cord must not set to be near the handwheel, keep 3cm spare or above.
- c. Check the outlets voltage before plugging the cord, make sure it match the voltage shown on the name plate of the HVP-70 in $\pm 10\%$ ranges.

(c) Grounding:

- a. To avoid the static interference and current leakage, all grounding must done.
- b. Use the correct connector and extension wire when connecting ground wire to Earth and secure it tightly.



接地线(绿/黄色)请务必做好接地工程。
如果没有接地，漏电流，将对人体造成
不适或伤害



SHING RAY®

1-3 操作中的安全:

- (1) 在第一次开电后, 请先以低速操作缝纫机, 并检查转动方向是否正确。
- (2) 缝纫机运转时请不要去触摸手轮、皮带轮、三角皮带、天秤、针等会动作的部位。
- (3) 请不要在拆下皮带护盖及其它安全装置的情形下操作。
- (4) 操作缝纫机时, 针棒前方之透明护目板, 必须移到针镙前方之正常位置。

1-4 保养维修的安全:

在以下操作前, 请先关闭电源:

- (1) 要拆卸马达或控制箱时, 或在控制箱上插或拔任何连接插头时。
- (2) 控制箱里面有危险高压电, 所以关闭电源后要等 10 分钟以上, 方可打开控制箱外盖。



- (3) 翻抬车头时, 与更换机针或穿线时(上图所示)。
- (4) 机械上的修理及调整时。
- (5) 机械休息不用时。

1.3 Safety In Operating:

- (a) When turn on the machine in the first time, use low speed to operate and check the correct rotation direction.
- (b) During machine operation, don't touch any moving parts.
- (c) Please don't operate the machine under to take out the Belt Cover and another safety advice.
- (d) When you operate the sewing machine, the "Eye Guide" must be moved to the correctly position which in the front of needle holder.

1.4 Safety in Maintenance and Repairs:




Power must be turned off first, when:

- (a) Uninstall the motor to the control box., or plug and unplug any connector.
- (b) Turn off the power and wait 10 minutes before opening box cover.
- (c) Raising the machine arms or changing needle, or threading needle. (show as above).
- (d) Repairing or doing any mechanical adjustment.
- (e) Machines rest.



SHING RAY®

1-5 危险标志，请注意标示：

- (1)   这两个标志符号表示机器安装时，如有错误会伤害到人体或机器会受到损坏，所以机器方面有危险的地方会有此标示。
- (2)  这个标志符号表示有高压电等电气方面有危险的地方会有此标示。

1.5 Danger and Caution Signs:

- (a) Risks that may cause personal injury or risk to the machine are Marked with this symbol in the instruction manual.
- (b) This symbol indicate electrical risks and warnings.



SHING RAY®

使用说明

A 安装:

1. 请依本机配件盒内零件图所附之正确桌板尺寸图裁制桌板。
2. 桌板厚度约 45mm。
3. 直驱微型小马达之机头与桌板之安装固定方式, 请参照(图 1)之安装注意事项 1、2 点。
4. 直驱微型小马达机器之桌板、脚架、电脑控制箱及其他相关配件之安装位置示意图, 请参考(图 2)。

温馨提示:

出于安全考虑, 所有用户请务必安装好接地线以防静电。

OPERATION GUIDE

A. INSTALLATION:

- a. Before installing machine, please refer to Table Drawing. To cut the table out in correctly.
- b. The table thickness is 45mm.
- c. Please refer to (Fig. 1) and the Remark 1 & 2 for installing the “Directly Driving Type Mini-Servo Motor” machine head and table.
- d. Please refer to the Installation Schematic Drawing (Fig. 2) for installing the “Directly Driving Type Mini-Servo Motor” machine head, foot stand, control box and accessories.

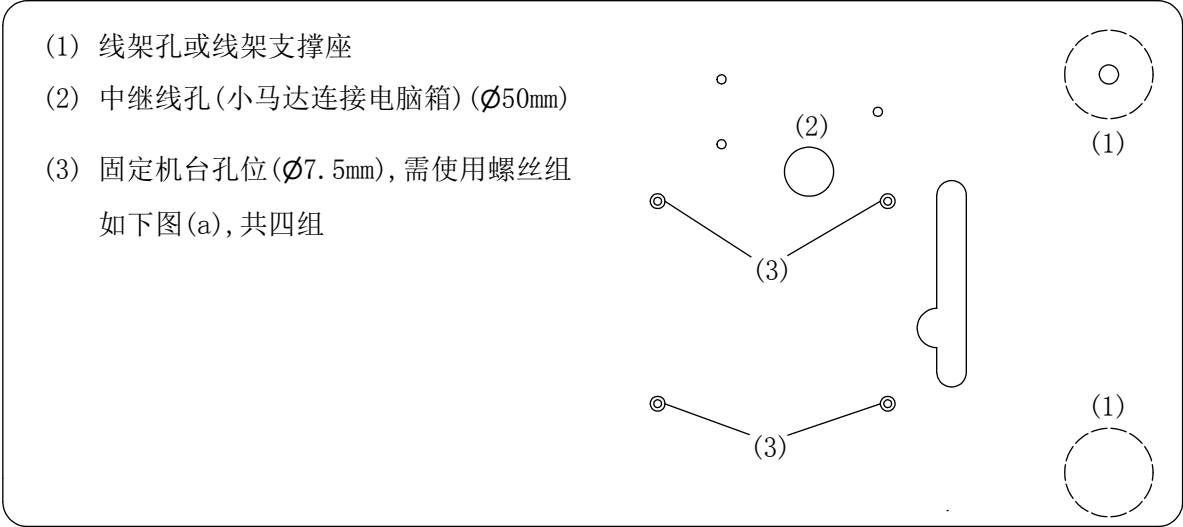
Remark:

For security reason, We are warning all of users that please always install the grounding wire to avoid the Static Electricity.

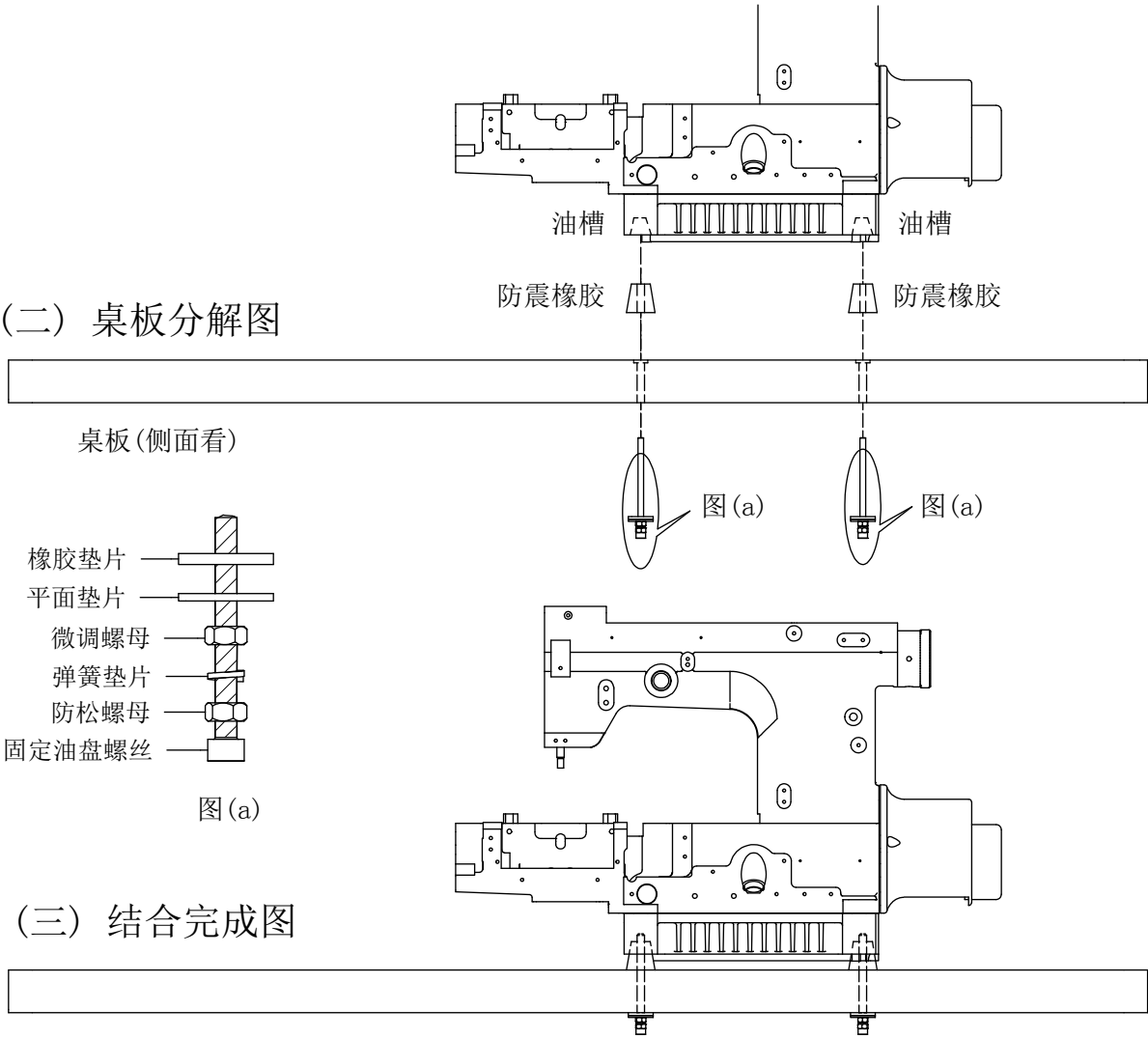
图1

微型小马达之机头与桌板安装方式

(一) 桌板正面图



(二) 桌板分解图



(三) 结合完成图

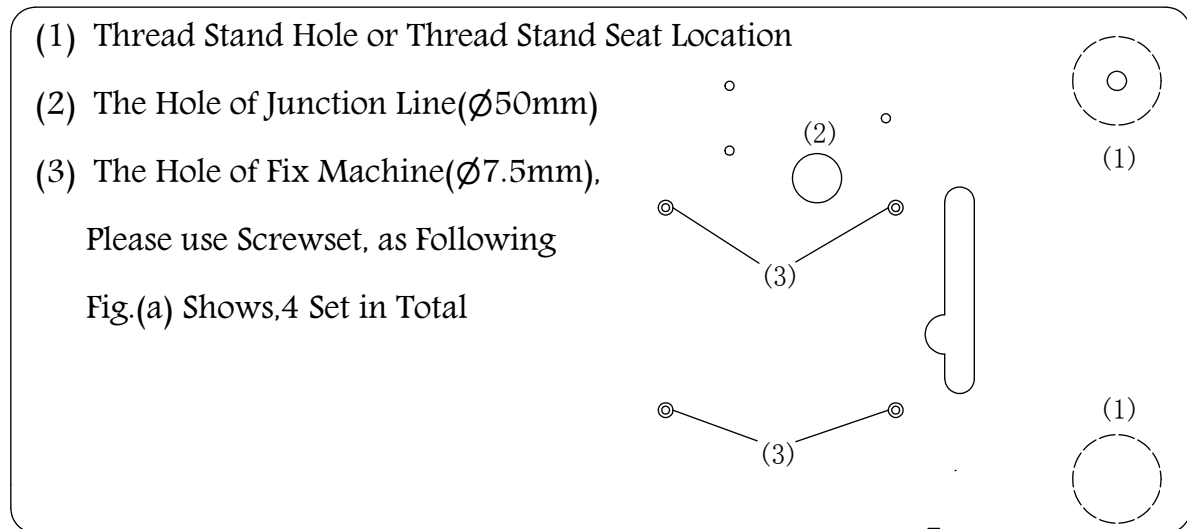
安装注意事项 :1. 先将固定螺丝往上旋转至顶点, 在用微调螺母往上旋转至平面垫片, 接触到橡胶垫片, (此时橡胶垫片处于被轻微夹住, 平面垫片尚可旋转状态)防松螺母在锁紧微调螺母即可。

2. 请注意4颗固定螺丝(或微调螺母), 紧度须平均以防桌板共震产生异音

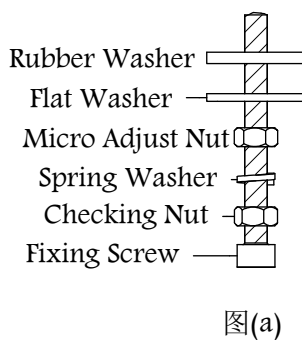
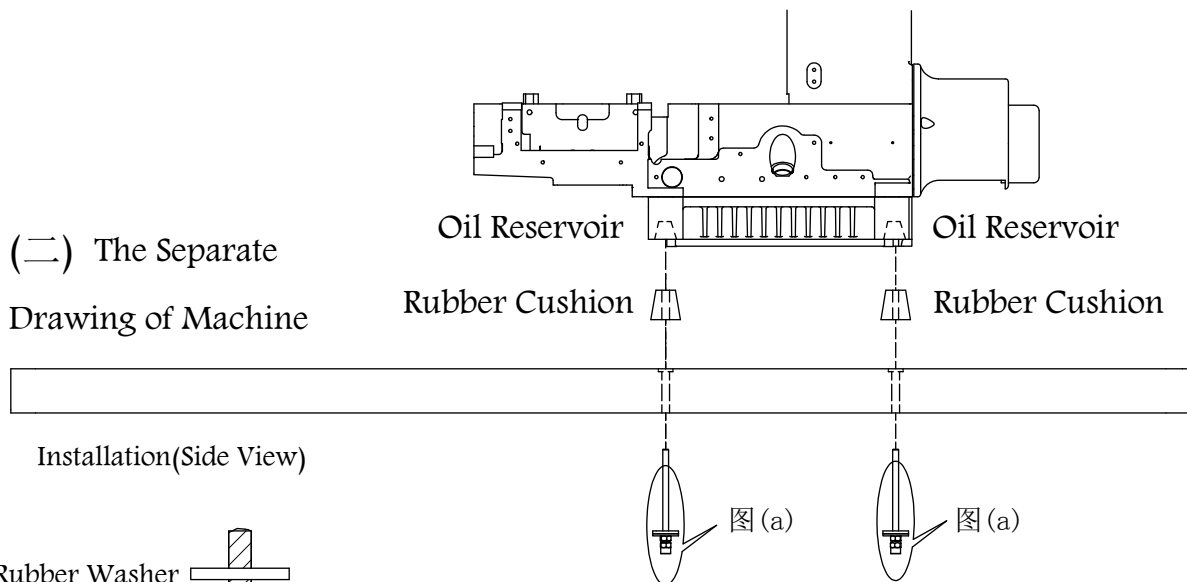
Fig. 1

The Installation of Mini-Servo Motor Machine Head and Table

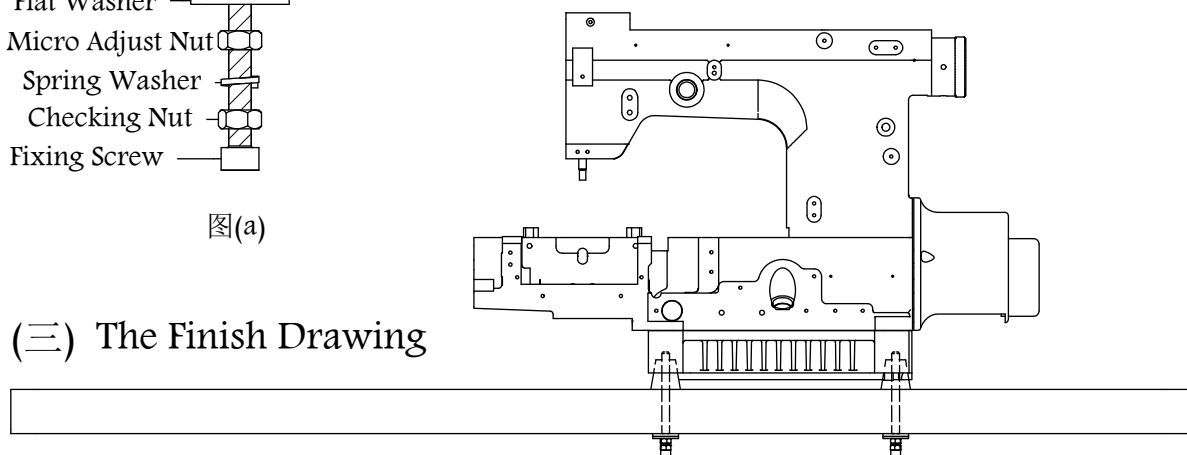
(一) The Table Front View



(二) The Separate Drawing of Machine



(三) The Finish Drawing

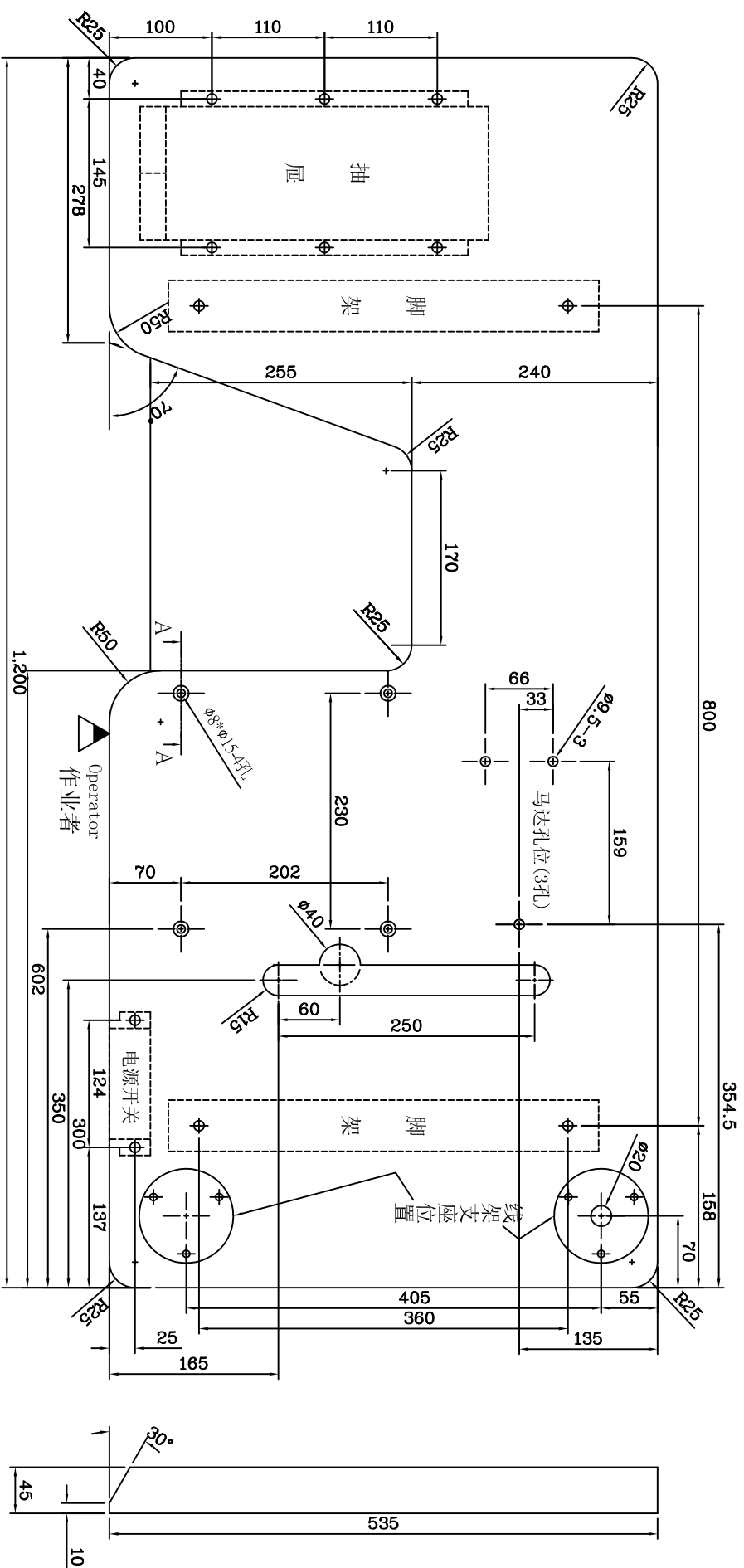


Remark :1. Plesae turn the Fixing Screw to the top, Then, the Micro Adjust Nut turn to the Flat Washer ang touch the Rubber Washer, (During the time,The Rubber Washer has been clipped in lightly. The Flat Washer still could move)Finally, The Checking Nut lock to The Micro Adjust Nut.

2. The 4 Fixing Screws (or, Micro Adjust Nut)must be fixed the machine head in even which to avoid the noise of Table Resonance.

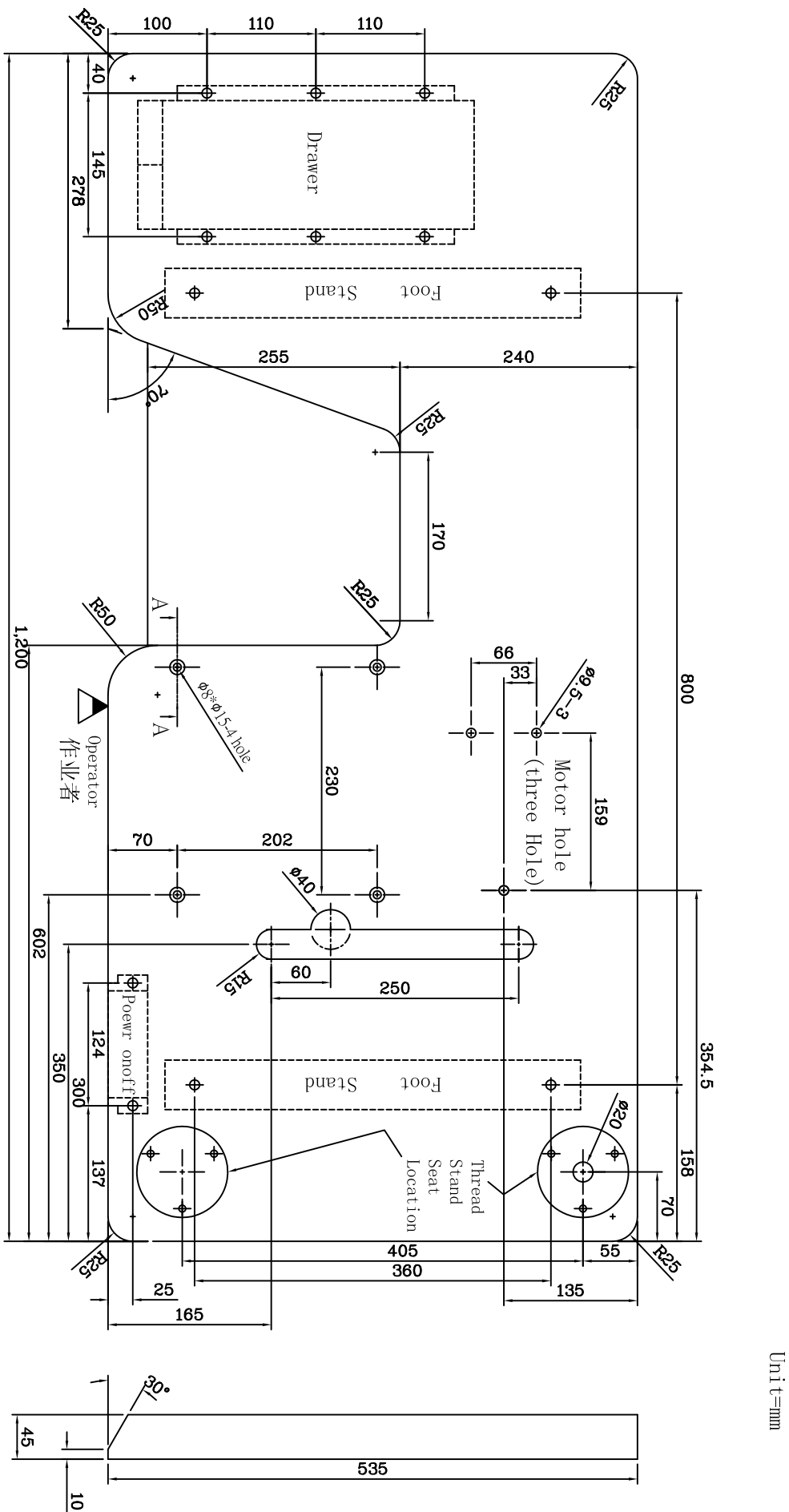
＜星锐牌FW-750系列之桌板、车架及相关配件安装位置示意图＞

图2



单位=mm

<The Installation Schematic Drawing of Shing Ray Brand FW-750 Series Table, Foot Stand and Accessories>





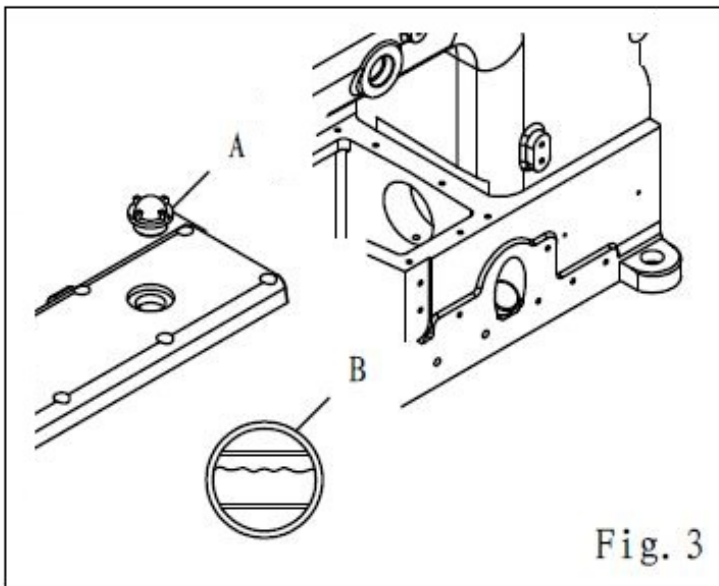
SHING RAY®

B 润滑:

1. 请选用与 PMOBIL#10 同级之润滑油。
2. 在新机使用前请先注入润滑油。旋开顶盖上的喷油检视盖(A)，将油缓缓注入机器中，待油量满至油标指示窗(B)上下线之间即可(图 3)。
3. 于每天开机操作时，请先检查喷油状态是否正常，且注意油量是否低于指示窗之下限，若低于下限请随时补充新油。

B. LUBRICATION OIL:

- a. Please use MOBIL #10 or it's equivalent.
- b. Before operating the new machine, to remove Oil Sight Window (A) and fill the oil slowly until the oil level reaches between lines H and L of Oil Sight Gauge (B). (Fig. 3)
- c. When you begin operating the machine in everyday, please check whether all the lubricating systems at normal condition. If oil level is lower than L of Oil Sight Gauge, please refill oil.





SHING RAY®

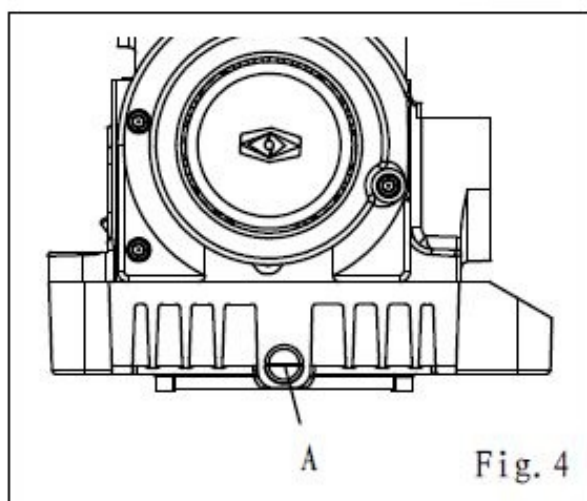
C 润滑油之更换:

1. 将放油螺丝 (A) 松开, 使油槽内的旧油完全排出后, 再将放油螺丝锁紧 (图 4) 在依 B-2 的步骤注入新油。

2. 为延长本机的使用寿命, 请于开始使用的一个月内更换第一次新油, 往后约每 6 个月更换一次。

D 滤油器之更换:

本机装有滤油器, 新机使用一个月后必须更换新品. 此后仅需每 6 个月更换一次. (图 5)



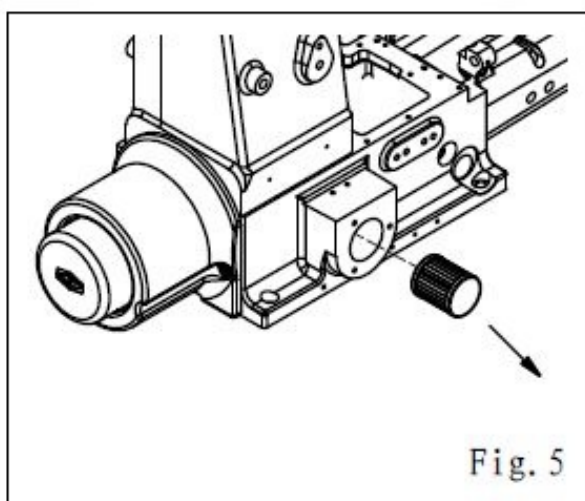
C. OIL CHANGE:

a. Remove screw (A) and drain all the oil from the tank. After draining, tighten screw (a) without fail. Please refer to B-2 for replenishing new oil. (Fig. 4)

b. For the long life of machine, please change lubrication oil completely after one month of initial operation. After first time, to change lubrication oil every six months per time.

D. REPLACING OIL FILTER:

This machine is equipped with an Oil Filter, to change the Oil Filter after one month of initial operation. After that please change Oil Filter every six months. (Fig. 5)





SHING RAY®

E 针之更换:

1. 请选用 UY128GAS, 14 番的针或其他相同规格之针。
2. 旋开锁针螺丝 (A), 并取下旧针, 将新针插至针座之最顶端, 且将凹面部分向左。(图 6)
3. 重新将锁针螺丝锁紧 (A)。

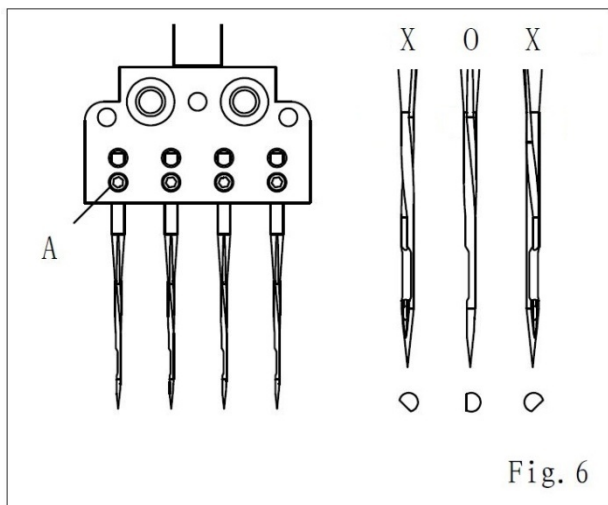


Fig. 6

F 穿线方式:

1. 参照 (图 7.8), 正确穿线。如果穿线出现错误, 会造成跳线、断线、针脚不匀等现象。
2. 穿底线时, 利用弯针拉出位置, 将勾针座放倒后再穿线。穿勾针线时, 应该在左边方向将线穿进勾针孔, 不得从右边方向穿进去, 如从右边方向穿进的话, 线会跑到左边来, 影响性能。(图 9)

E. HOW TO REPLACETHE NEEDLES:

- a. Please use UY128GAS #14 of Organ's needle or it's equivalent.
- b. Loosen screw (A), then, pull out the used needles. Insert the new needles into the holder holes as far as they can go, and let the concave face is divided to the left. (Fig. 6)
- c. Fasten screw (A).

F. THREADING:

- a. Threading should be made correctly. Refer to the illustration. (Fig. 7.8) The wrong threading may cause thread breaking、skipping stitch or puckering.
- b. When threading the bottom line ,pull out the position with the tooper and threading after put the looper Holder down. The thread should be put into the looper hole in the left direction rather then the right direction when threading ,if threading from the right direction .The thread will run to the left which will affect the performance. (Fig. 9)



SHING RAY®

3. 勾针座的放倒方法:

- (1)将针杆上升到上死点。
- (2)用手指松驰上线 A(从线轴一侧将线拉出)。
- (3)一边旋转一边拉出牵引杆的旋钮 B, 然后向左边一拉, 弯针座就放倒了。
- (4)穿线结束之后, 将弯针座 C 再推上去, 让其复位(此时要以听到咔嚓一声为准)。(图 9)

注:

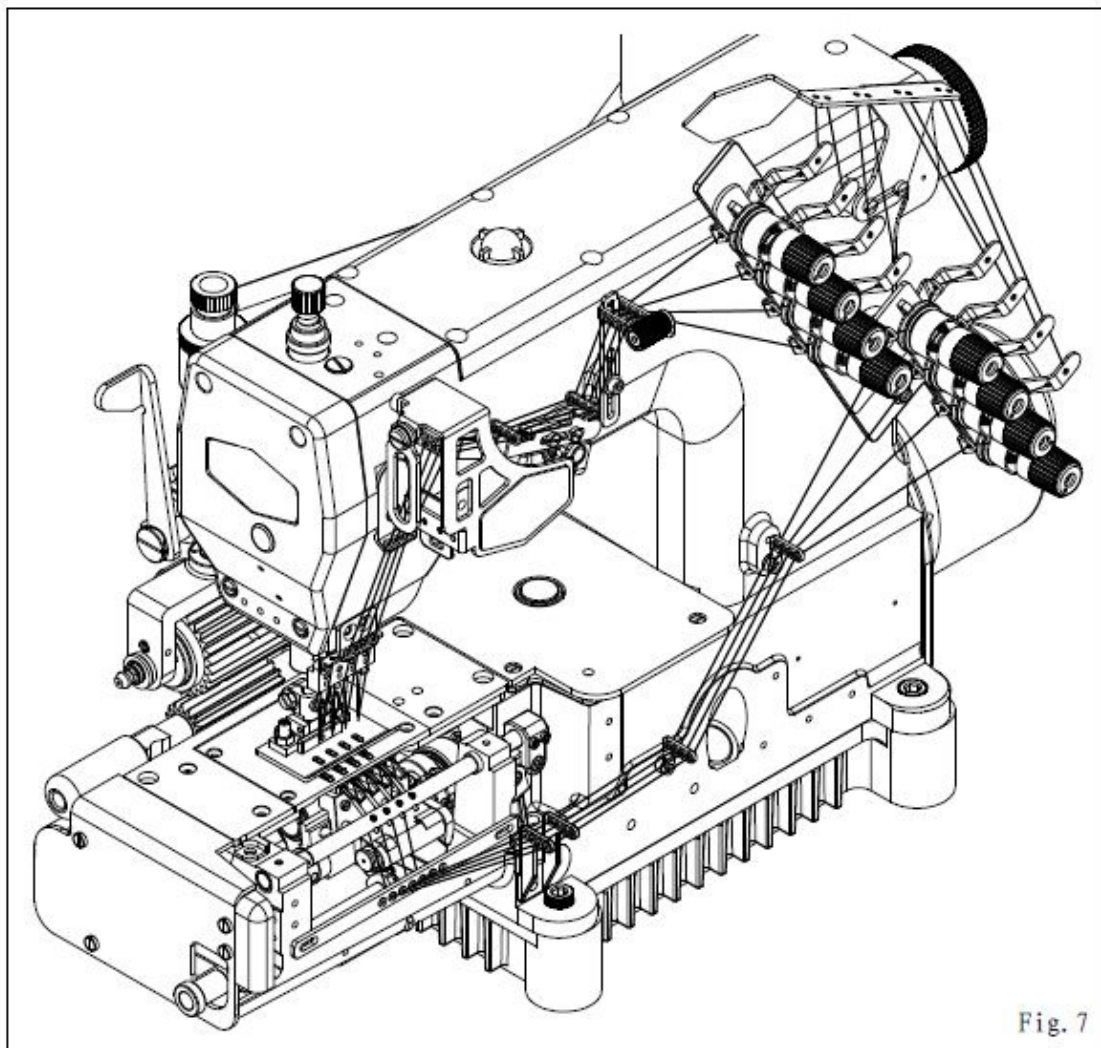
拉旋钮 B 时, 有时弯针尖端会弹出, 因此手指不要挨近弯针附近。

c. The method of putting down the looper Holder:

- (a)Put needle bar to the upper point.
- (b)Relax the line A with your finger(pull the line put from one side of the spool).
- (c)pull out the knob B of the traction rod while rotating, then pull to the left and the looper Holder falls down.
- (d)After the thread is finished push the looper C up again and let it reset(whichever click you hear is the best time) (Fig.9)

Remark:

When pulling knob B, sometimes the tip of the looper pops up ,so finger should not be near the looper.





SHING RAY®

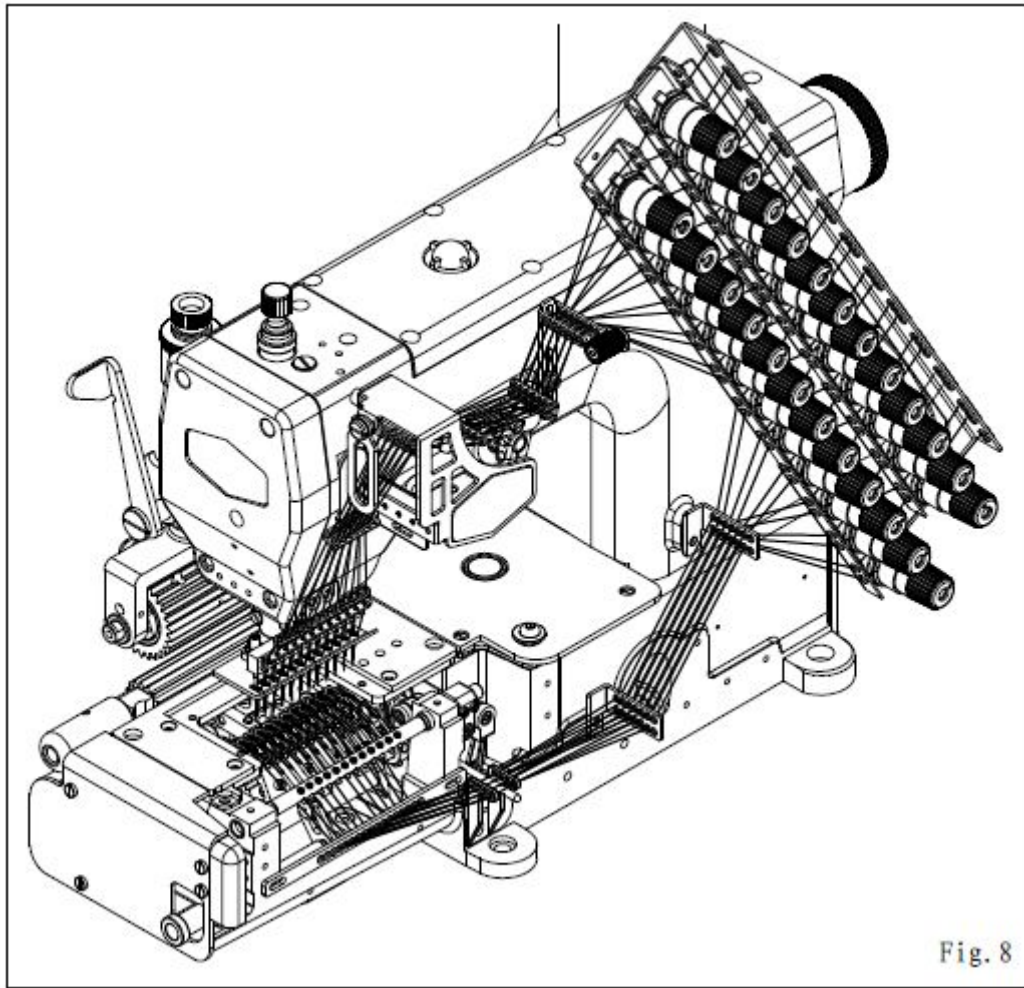


Fig. 8

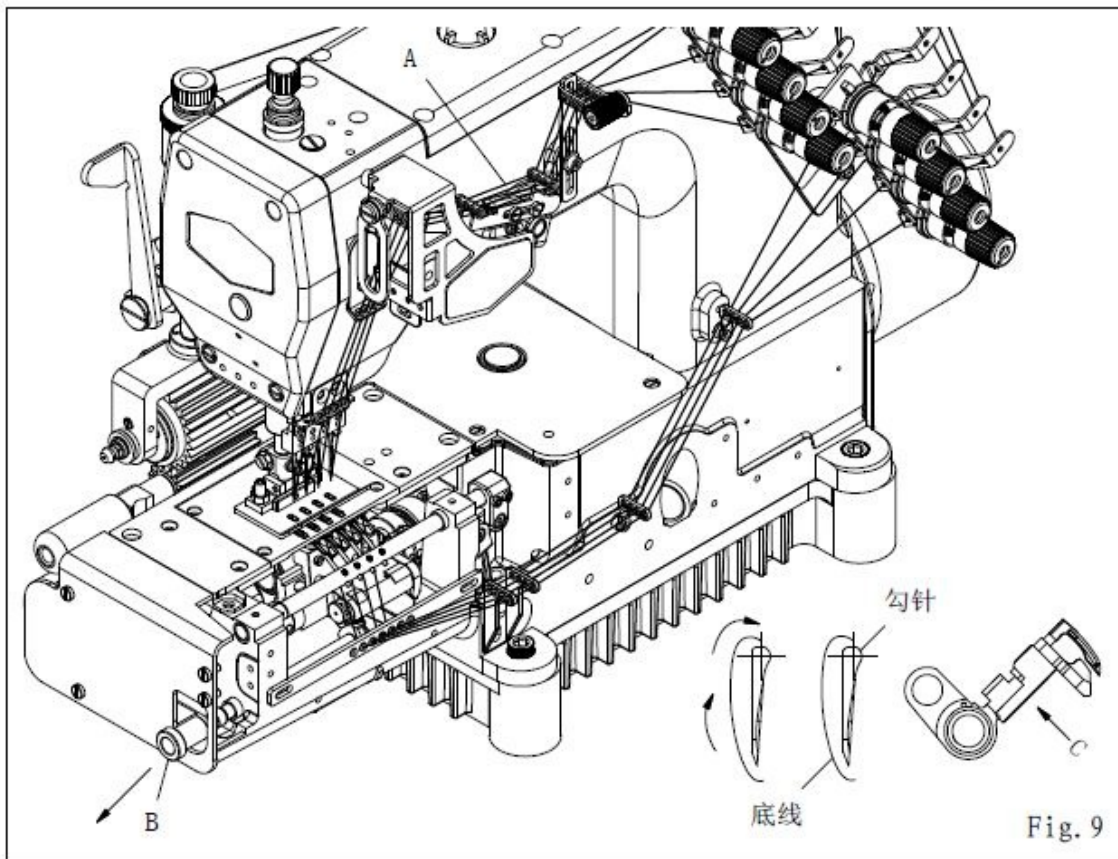


Fig. 9



SHING RAY®

G 压脚的调整:

1. 压脚压力的调节

- (1) 若要求布料推送顺畅且缝合完美，压脚压力应尽量轻些。
- (2) 松开螺母(A)，转动螺丝(B)，调整其适当压力后再锁紧螺母(A)。(图 10)

2. 压脚的位置与提升量

- (1) 将压脚正确地设定在压脚杆上，松开螺丝A，确认针是否落进落针孔的中心处。(图 11)
- (2) 压脚的左右活动间隙一般设定在 0.5mm 以内，松开螺母 B 进行调节。(图 11)
- (3) 压脚提升量的调节在限位器 C 的位置决定后用螺丝 D 调节。通常在上升约 10mm 的位置与限位器相遇。(图 12)

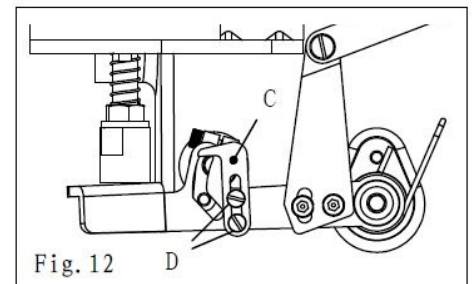
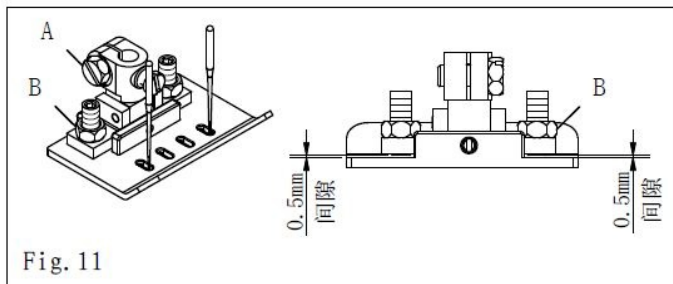
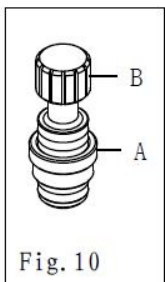
G. ADJUSTING THE PRESSER FOOT:

a. Adjusting the presser of presser foot

- (a) Pressure of Presser Foot should be as weak as possible, so that cloth can be sewed and fed smoothly.
- (b) To increase the pressure of Presser Foot, to turn Adjusting Screw (B) clockwise after loosening Lock Nut (A) and to decrease the pressure turn Screw (B) counterclockwise. (Fig. 10)

b. Position and lifting capacity of Presser Foot

- (a) Set the Presser Foot on the Presser Bar correctly, release screw A and confirm whether the needle falls into the center of the Presser Foot. (Fig. 11)
- (b) The left and right movable clearance of the Presser Foot is generally set at within 0.5mm, loosen nut B to adjust. (Fig. 11)
- (c) After position of limiter C by Adjusting the lifting volume of the presser Foot decision, Adjust with screw D usually. The position of 10mm meets the limiter. (Fig. 12)





SHING RAY®

调整说明

A 针棒高度之调整:

1. 针杆定位高度当针杆上升到最高点时，针尖离开针板平面不少于 13.5mm。针杆行程为 35mm。在可能的条件下可以提高到 14.5mm(图 13)
2. 若需要调整时，请先打开机头前盖之止油胶盖(A)，放松针棒连杆上的螺丝(B)，上下调整针棒的高度后再固定之。(图 14)

注意:

- (1) 针必须完全装入针镙孔最顶端。
- (2) 经过针棒高度调整后，必须确定每一根针皆通过针板的针孔正中央，不可以偏斜，且每根针需呈平行。(图 15)

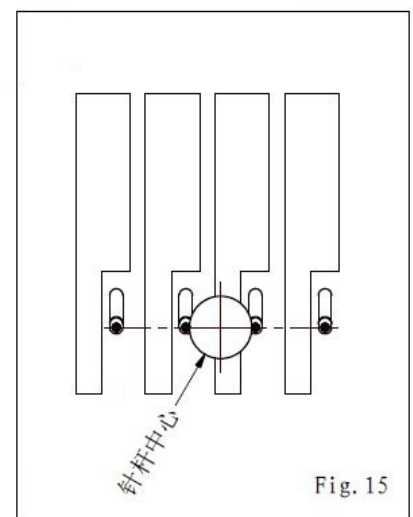
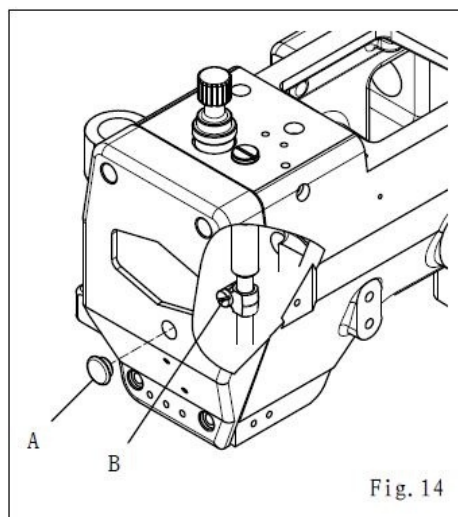
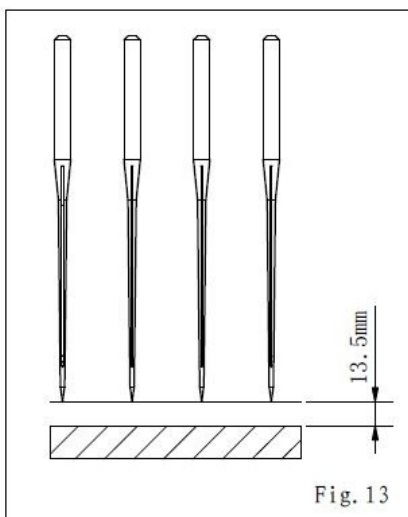
ADJUSTMENT GUIDE

A. THE HEIGHT OF NEEDLE BAR:

- a. Needle Bar positioning height when the needle Bar rises to the highest point, the needle tip is not less than 13.5mm away from the needle plate plane. The needle stroke is 35mm, under possible conditions .It can advance to 14.5mm. (Fig.13)
- b. If you would like to adjust the height of Needle Bar, please remove the rubber plug of front cover and loose the screw (B) on Needle Bar Rod (A). Adjust the Needle Bar up or down to require height and fix the screw. (Fig.14)

Remarks:

- (a) Be sure insert the needle into the Needle Holder as far as it can go.
- (b) After the Needle Bar adjustment, please make sure that every needle are passed though the center of the needle hole on the Needle Plate. Beside, every needle must be in parallel and the gap must be even. (Fig.15)

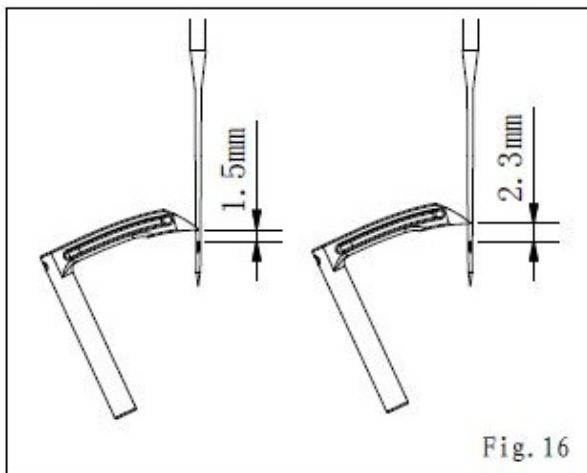




SHING RAY®

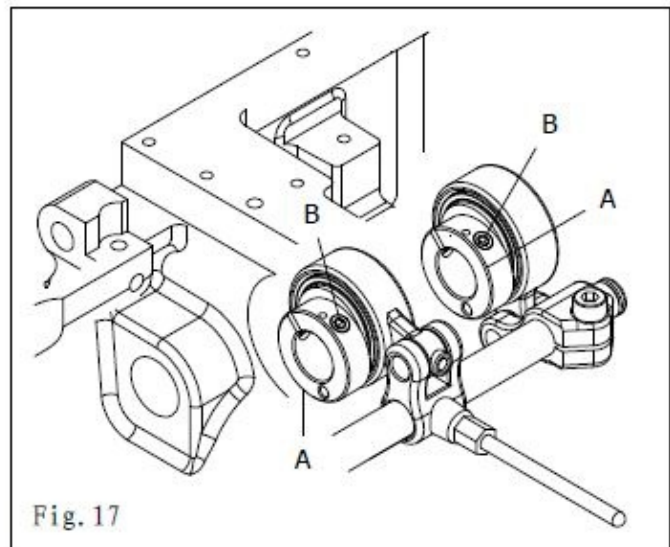
B 针与勾针之时位关系:

1. 勾针相对于针的同步应该是当勾针抄针时，应在离针孔上 1.5mm 处通过，返回时在离针孔上 2.3mm 处通过。(图 16)
2. 若需调整时，先摘下盖板，松开偏心定位螺丝 B，活动偏心 A 进行调整勾针的正确位置，再固定。(图 17)



B. TIMING OF NEEDLE AND LOOPER:

- a. The synchronization of the looper with the needle ,when the looper move to forward from behind dead point to the left side of needle. The distance between the tip of looper and needle hole is 1.5mm, and 2.3mm from the needle hole when it returns. (Fig.16)
- b. If adjustment is needed .First remove the cover plate loosen the eccentric positioning screw B, and adjust the correct position of the looper by moving eccentric A, then fix it. (Fig.17)





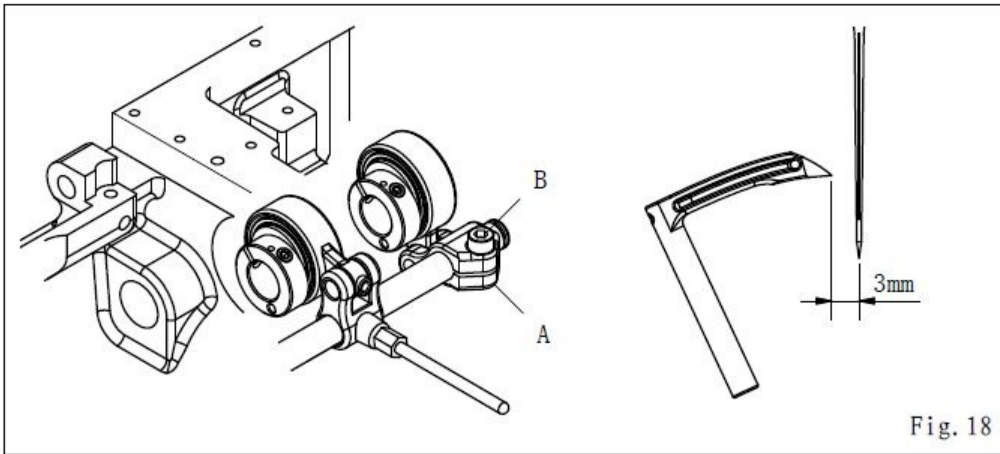
SHING RAY®

C 勾针与针之间的位置关系:

1. 当针棒在下死点时，勾针尖端与机针中心距离的标准值为 3mm。
2. 拆下上盖，松开勾针前后拉杆 A 的定位螺丝 B 可调整勾针与机针之间的距离(图 18)

C. THE POSITION OF NEEDLE AND LOOPER:

- a. The standard value of distance is 3mm, When needle bar is at the lower dead point, the tip of the looper and the center of the needle. (Fig.18)
- b. Remove the upper cover and loosen the positioning screw B of the rod on the looper holder to adjust the distance between the looper and needle. (Fig.18)



D 勾针与针之间隙关系

1. 将勾针安装到勾针座上，一定要确认勾针底部 A 是否已接触到勾针座 B 部，然后用螺丝 C 固定。

D. THE RELATIONSHIP BETWEEN LOOPER AND NEEDLE

- a. When installing the looper on the looper holder ,make sure that the bottom A of the looper has touched the bottom B of the looper holder ,and then use screw C is fixed.



SHING RAY®

2. 勾针座的位置:

将针的尖端对准勾针后面的中心部, 松开螺丝 D, 左右移动勾针承座以调整位置。当针的背部通过勾针尖端时, 这两者距离为 0~0.05mm, 请用螺丝 C 缓慢调节勾针的角度。(图 19)。

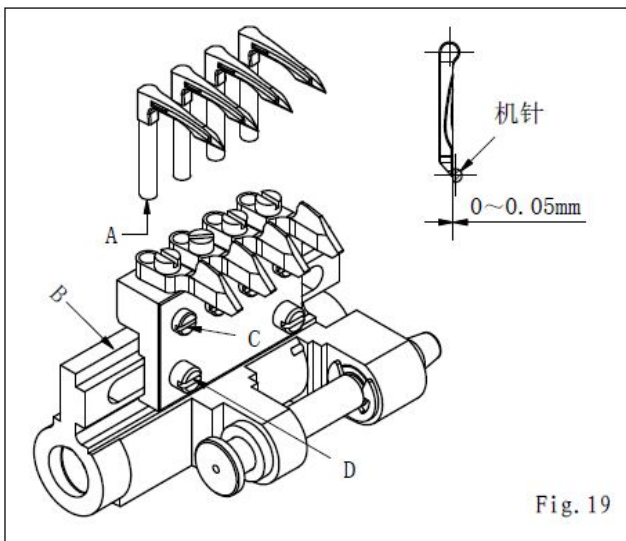


Fig. 19

b. Adjusting the looper holder:

Align the tip of the needle to the center behind the looper, release the screw D, and move the looper holder left and right to adjust the position. When the back of the needle passes through the tip of the looper, the distance between the two is 0 to 0.05mm, please adjust the angle of the looper slowly with screw C. (Fig. 19)

E 针与护针调整:

先确认勾针座的位置, 再松开勾针安装螺丝进行调节, 然后用螺丝 B 固定。护针 A 部位与机针的右侧面最接近的间隙为 0~0.1mm。(图 20)

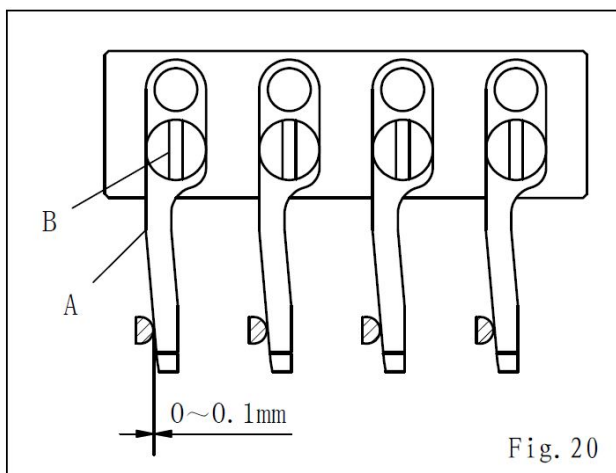


Fig. 20

E. ADJUSTING NEEDLE AND NEEDLE GUARD:

Firstly confirm the position of the looper holder, then loosen the installation screw of the looper to adjust. And then fix it with screw B. The closest gap between the rear needle guard A and the right side of the needle is 0 to 0.1mm. (Fig. 20)



SHING RAY®

F 拨线勾针的调整:

1. 拨线勾针的安装位置:

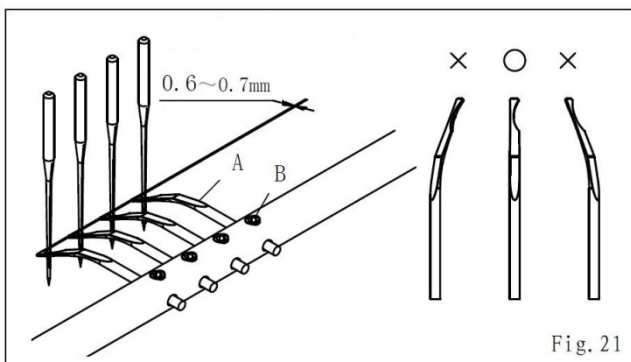
如图 21 所示, 将拨线勾针 A 的平面设定在正上方, 针与拨线勾针尖端的间隙应调节为 0.6~0.7mm, 调整好后, 用定位螺丝 B 固定。

2. 拨线勾针与针的同步调整:

(1)当机针从上死点向下死点进入勾针线的三角形里, 在勾针尖与机针尖的距离约 4.5mm 的位置进行调试。

(2)当拨线勾针在勾针向上死点移动途中靠近勾针眼时拨线勾针右端和勾针右端间的间隙约 0.3mm。

(3)在上死点, 拨线勾针的右端和勾针轴上部的右端应该一致。(图 22)



F. ADJUSTING NEEDLE AND RETAINER LOOPER:

a. Installation position of retainer looper:

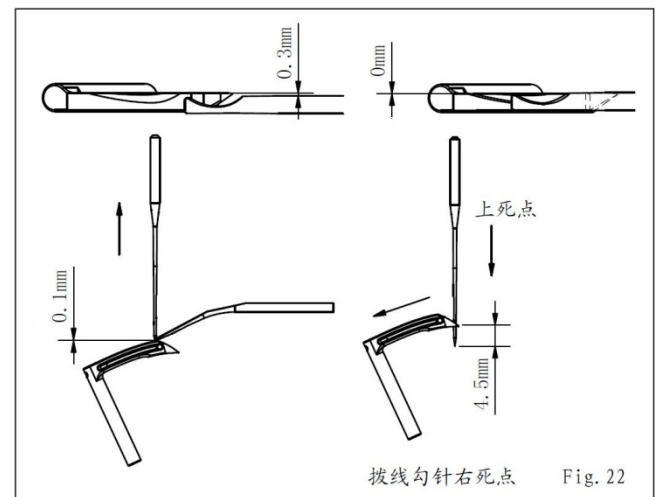
Like the fig.21. set above of the plane of the retainer looper first, and the gap between the needle and the retainer looper should be adjusted 0.6 to 0.7mm, after adjustment ,Fixed the screw B

b. Synchronized adjustment of retainer looper and needle:

(a).When the needle enters the corner of the looper from the top dead point to the bottom dead point ,the position debugging when the distance between the tip of the looper and the tip of the needle is about 4.5mm.

(b).The gap between the right end of retainer looper and the right end of looper is about 0.3mm,when the tip of the needle move from the upper dead point to the hole of looper.

(c).At the upper dead point ,the right end fo the retainer looper should be the same as the right end of the upper part of the looper shaft. (Fig.22)





SHING RAY®

H 送布齿高度与平行的调整:

送布齿在最高位置时，送布齿齿尖面与针板面平行，此时送布齿齿面应高出针板面 1.0~1.2mm，松开定位螺丝 A 进行高度调节。为确保送布牙面与针板面平行，可用螺丝 B 和 C 进行调节。(图 23)

注:

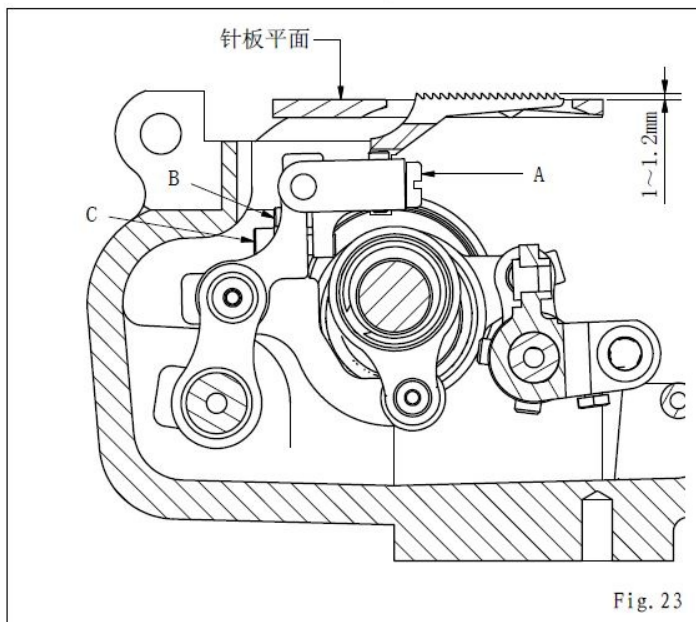
调节送布牙高度时，请先将弯针座放倒。

H. ADJUSTMENT OF THE HEIGHT OF FEED DOG IN PARALLEL

When the Feed Dog rise up to the highest position, the surface of Feed Dog and Needle Plate must be in parallel. At this time, the surface of the feed dog should be higher than that of the needle plate 1 to 1.2mm, loosen the screw A for height adjustment. To ensure that the feed dog surface is parallel to the needle plate surface, screw B and C can be used to adjust. (Fig. 23)

Remark:

When adjusting the height if feed dog , please put down the looper holder first.





SHING RAY®

I 针脚长度调整:

针脚长度可以在 2~5mm 之间任意调节。

针脚长度的变更方法:

左手按住按钮开关 B，转动手轮 A，当其前端接触到内部零件时会发出声音，继续转动手轮 A，调整需要的针脚长度，松开按钮 B 即可。(图 24)

注

变更针脚长度时一定要先关掉马达电源后再调节

I. LENGTH ADJUSTMENT OF STITCHES:

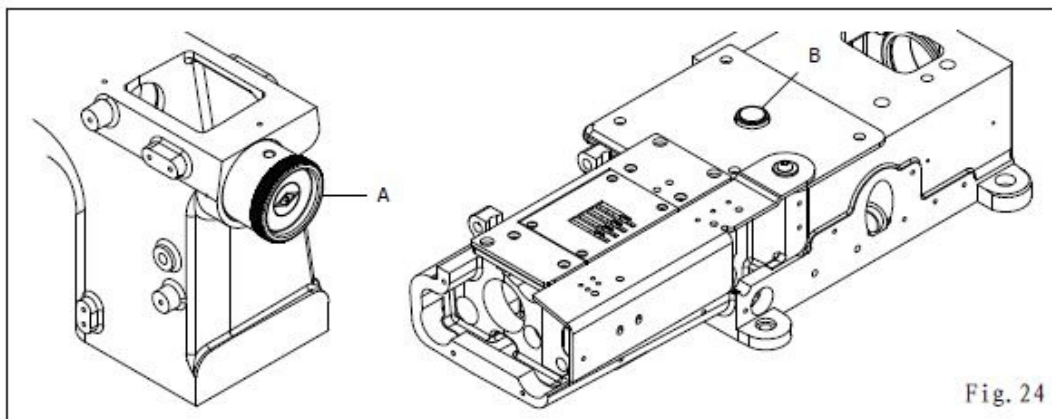
The needle length can be adjusted arbitrarily between 2 to 5mm.

Method of changing needle length:

The left hand holds the button switch B and rotates the handwheel A. When the front end of the handwheel touches the internal parts, it will make a sound. Then it rotates the handwheel A, adjusts the needle length and loosens the button B (Fig. 24)

Remark:

When changing the needle length, the motor power must be turned off before adjusting.





SHING RAY®

J 后拉料装置调整说明

1. 手动抬杆与限位器的位置:

手动杆在落下的状态时，上拉料器与下料器之间的间隙为 0.5mm。如需调整，松开定位螺母 C，调整限位器 B，再固定。(图 25)

注意:

在放入布料和缝制后布料下机时，须抬起手动杆。

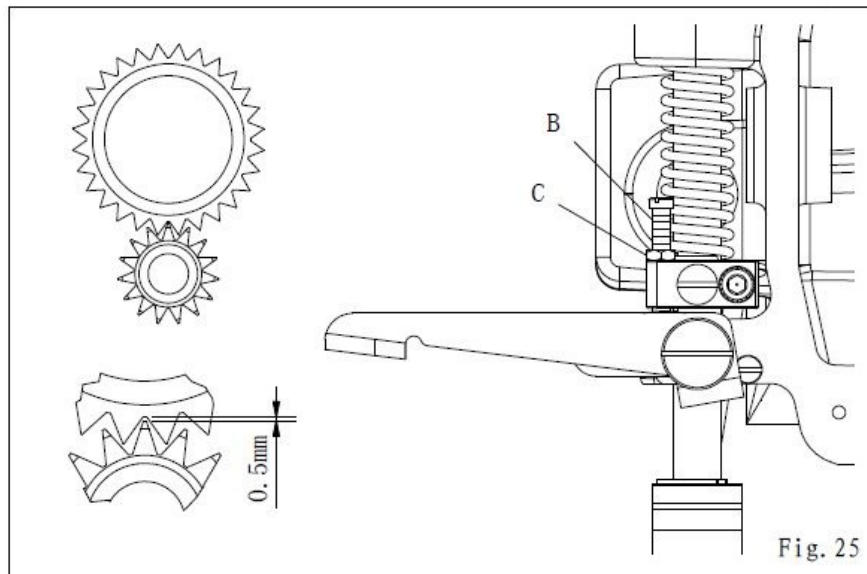
J. PULLER MECHANISM ADJUSTMENT GUIDE

a. Position of manual lifting rod and limiter:

When the upper feed roller hand lifting lever is in the falling state, the gap between the upper puller and the lower one is 0.5mm. if need to adjust ,loosen the nut C ,adjust limiter B, fix again. (Fig. 25)

Remark:

Manual lever must be raised when the cloth is put into the machine and the cloth is discharged after manufacture.





SHING RAY®

2. 拉料器压力的调节:

拉料器的压力, 在能够顺畅地运送布料的范围内, 尽可能调小一点。压力过强时, 可将调节螺丝 D 向顺时针方向转, 压力减弱, 按逆时针转, 压力增大。(图 26)

b. Adjustment the pressure of puller mechanism:

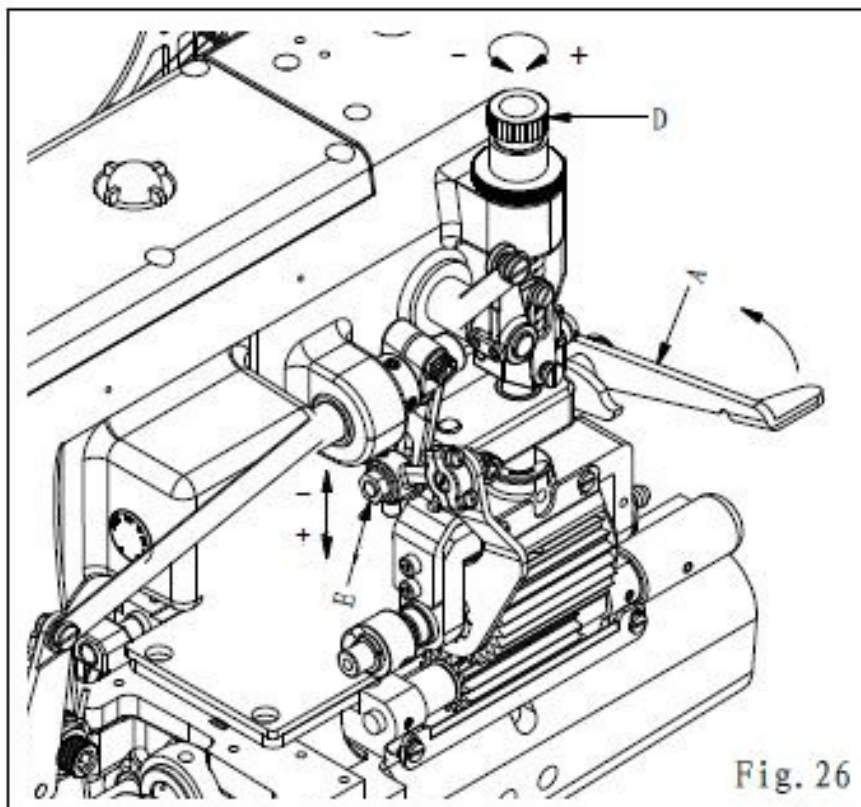
The pressure of the puller mechanism can be reduced as much as possible within the rang of smoothly transporting the fabric. When the pressure is too strong, the adjusting screw D can be turned clockwise, the pressure will be reduced. And the pressure will increase when the pressure is turned counterclockwise. (Fig. 26)

3. 送布量的调节:

拉料器的送布量与送布牙的送布量一致。调节时松开螺母 E, 向下转, 送布量大, 向上转, 送布量小。(图 26)

c. Adjustment of feeding efficiency:

The feeding efficiency of the puller mechanism is the same as that of the feeding dog. When adjusting, loosen nut E, turn downward, send large amount of cloth, turn upward, send small amount of cloth. (Fig. 26)

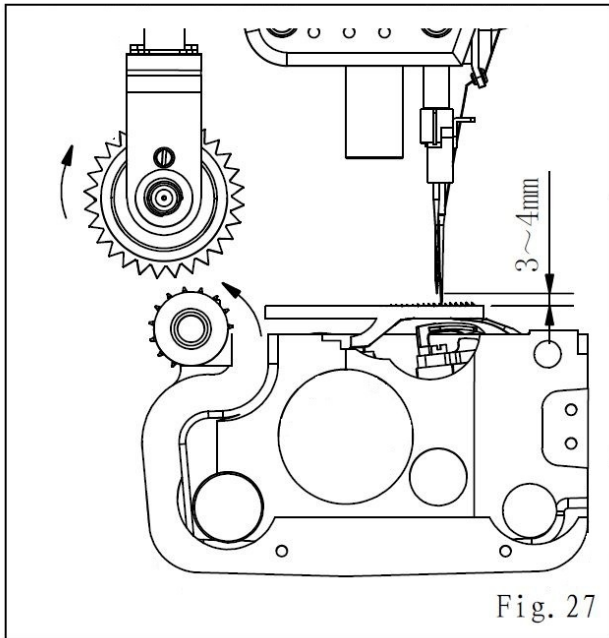




SHING RAY®

K 机针、送料牙与拖料轮的位置关系

拖料轮与送料牙的配合：当机针上升至高出针板平面 3~4mm 时，送料牙开始送料。拖料轮定位应与送料牙同步，拖料轮的拖料距离也应和送料牙保持同步，但是允许比送料牙距离稍大一些，而不能小于送料牙的距离。(图 27)



K. THE POSITION RELATION OF NEEDLE、FEED DOG AND FEED ROLLER

Matching of feed roller and feed dog: The feeding dog begin to feed when the needle rises to a level higher than the needle plate surface is 3 to 4mm. The feed roller positioning should be synchronized with the feeding dog ,and the distance between the feed roller and the feeding dog should be synchronized ,but the distance between the feed roller and the feeding dog should be larger than the distance center of the feeding dog. (Fig. 27)



SHING RAY®

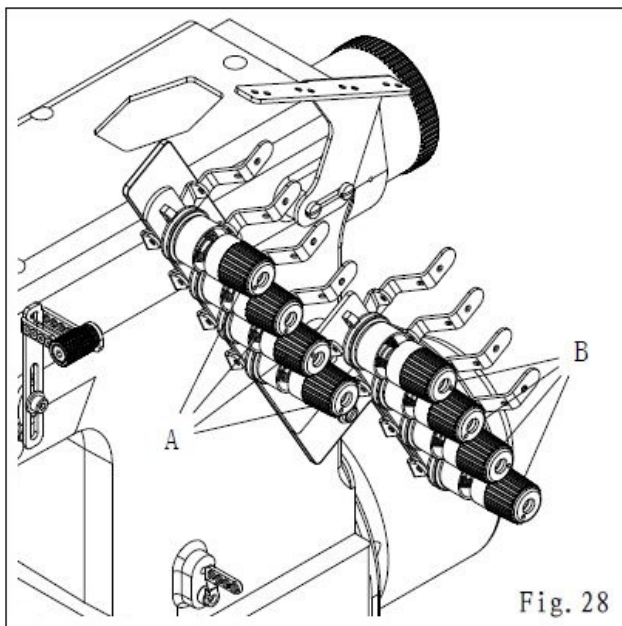
L 缝纫状态的调整

1. 张力的调节:

夹线器张力根据面料及线的种类、针脚长度等使用条件而变化。针线的张力用螺母 A 进行调节，勾针线的张力用螺 B 进行调节，向顺时针方向转，张力加大。(图 28. 29)

注

张力的强度尽可能调弱一些，根据线迹状态来调节。



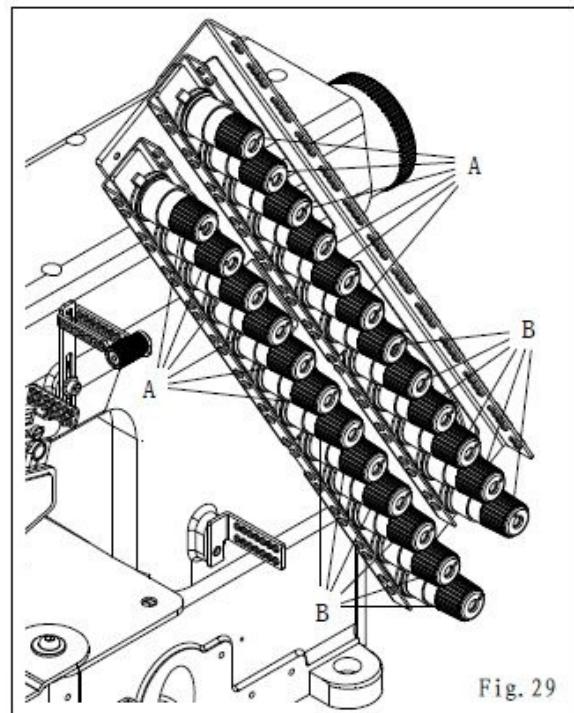
L SEWING-LIKE ADDITIONS

a. Adjustment of tension:

The tension of the clamp varies according to the type of fabric, thread and the needle length. The tension of the needle thread is regulated by nut A, and the tension of the looper thread is regulated by screw B. (Fig. 28. 29)

Remarks:

Strength of tension should be weakened as much as possible and adjusted according to state of the thread.

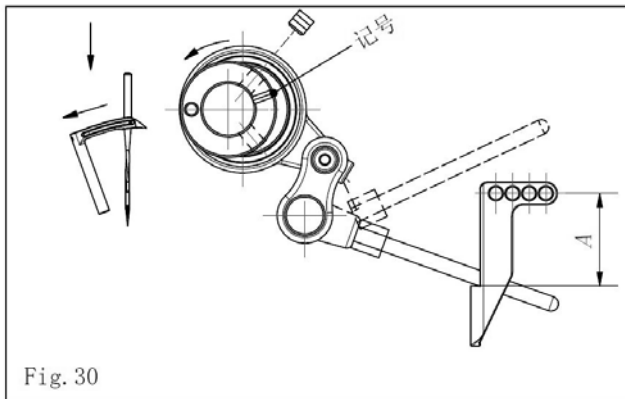




SHING RAY®

2 打线棒的定位与调节:

(1)当机针从上死点向下死点走, 针尖与勾针的擦背面等高时, 打线棒开始上升。如图松开螺丝以此标准进行调节, 以保证缝线在不松也不紧的状态下, 使机针顺利的套进三角针线后放松。



(2)打线棒在下死点时, 过线器的线孔与打线棒的距离可参照下表进行调节。

线的种类	A 尺寸
涤纶	8 mm
弹力线	10 mm
毛型线	15 mm

注:

注意下输线量不能太大, 否则会形成线路不稳

b. Positioning and adjustment of the take-up rod:

(a)When the needle moves from the top dead point to the bottom dead point , the tip of the needle is equal to the back of the looper, the take-up rod begins to rise, As shown in the figure ,the screw is loosened and adjusted according to this standard to ensure that the sewing thread is not loose or tight ,so that the needle can be smoothly inserted into the triangle needle thread and relaxed.

(b)When the take-up rod is at the lower dead point, the distance between the hole of the crosser and the take-up rod can be adjusted by referring to the table below

Types of lines	A size
dacron	8 mm
Elastic line	10 mm
Wool line	15 mm

Remarks:

Attention to transmission capacity should not be too large, otherwise the line will be unstable.



SHING RAY®

简易故障排除

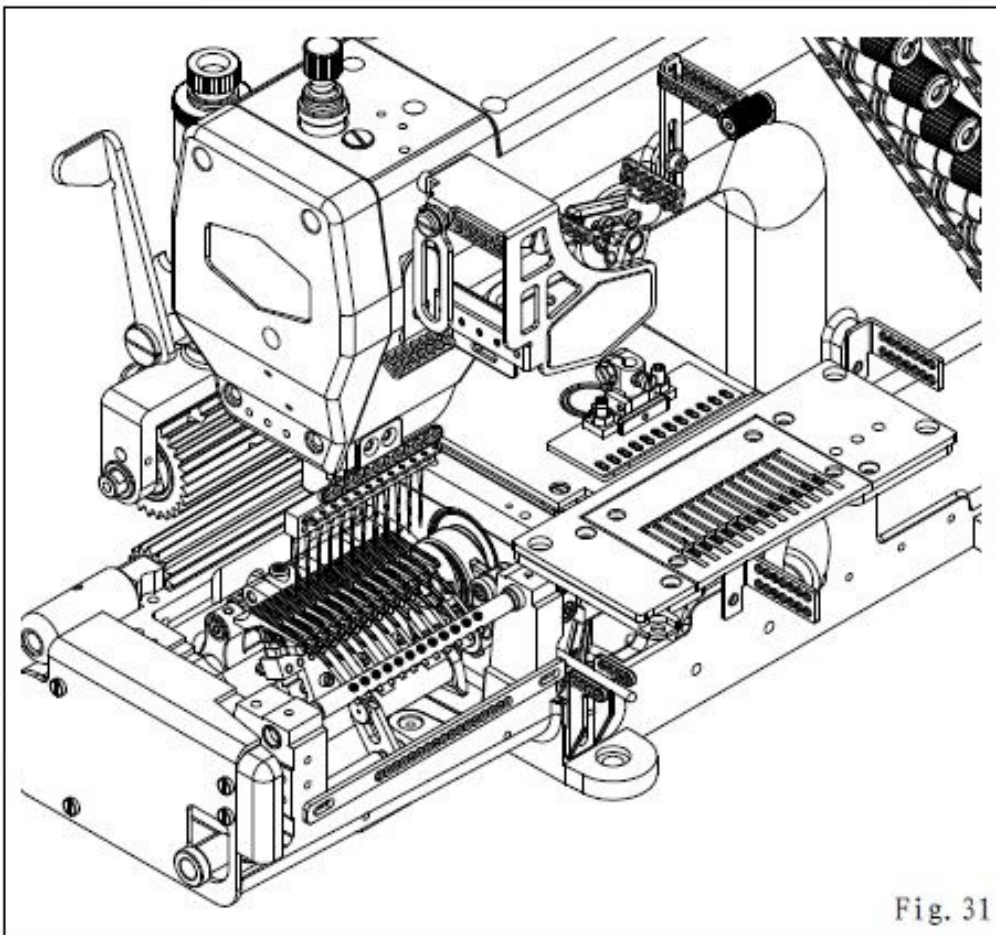
A 清洁保养:

1. 机器外表须经常保持干净避免棉屑阻塞过线孔及夹线片，造成线迹不顺。
2. 针板下方之送布机构缝隙之清洁最为重要，缝制结束后，取下压脚和针板，彻底清扫针板沟槽、送布牙的四周。如有积油而造成渗油情况，就是棉屑累积太多或吸油管阻塞造成，故须定期更换回油管之吸油海绵 A(图 31)

REGULAR MAINTENANCE:

A. THE CLEAR AND MAINTENANCE:

- a. Please always clean the machine appearance to avoid the cotton waste obstructs the threading hole and thread clamp which to cause the stitch unstable
- b. It's very import to always clean the crack of feed dog system which under the needle plate. So after the depression, remove the presser foot and needle plate, thoroughly clean the needle plate groove, and distribute around the feed dog. If the cotton waste accumulate too many in cylinder or block the suck oil tube for which will cause the oil leaking. Please always change the felt of suck oil tube in regularly. (Fig. 31)





SHING RAY®

B 故障(用户)自主检查:

状况 1: 跳针、断线

排除:

1. 是否使用错误型号之机针。
2. 使用机针是否已弯曲, 毛边或未装至定位或未装正。
3. 车缝线是否存放过久或线本身粗细不均, 接头太多或有漏穿线情形。
4. 注意针线及底线(下勾针线)之控线色拉组是否太紧或太松。
5. 底线(下勾针线)之控线凸轮时位关系, 检查是否已走位。(此项须由技术人员检查调整)
6. 检查前后护针片之相关位置是否正确。(此项须由技术人员检查调整)
7. 下勾针尖是否已毛边磨损, 或下勾针与针之时位关系已被调整走位。(此项须由技术人员检查调整)

状况 2: 车缝不顺产生布料波浪或斜纹

排除:

1. 注意押脚压力须适中, 且不能与针板面有间隙。

B. ERROR MESSAGES (THE USER INSPECTS THE MACHINE BY THEMSELVES):

Status1: Skipped Stitch, Broken Thread

Solution:

- (a) Do you use a wrong model needle?
- (b) Does the needle bent? Does the tip of needle cracked? Or, the needle doesn't be installed in correctly position.
- (c) Does the thread keep in stock too long? Does the thread's thickness uneven? Does the thread too many connectors? Or, there is lose threading some threading eyelet.
- (d) Please check the tension of needle & looper thread have been adjusted too loosen or too tight by Thread Tension Adjuster.
- (e) The looper thread take-up is out of timing. (Please ask the machinist to check and adjust it.)
- (f) Please check the relative position of Front & Rear Needle Guard are correctly. (Please ask the machinist to check and adjust it.)
- (g) Please check the tip of looper have cracked or wore. The timing of looper and needle is out of order. (Please ask the machinist to check and adjust it.)

Status2: The Unstable Sewing engender Puckering and the folding parts didn't be seamed in even

Solution:

- (a) The pressure of presser foot must be moderately. Please take care that the needle plate between presser foot didn't have any gap.



SHING RAY®

2. 送布牙须视车缝布料之厚薄、伸缩性质，调整适当高度。

3. 车缝人员控制衣物之手势、力道，须视布料性质不同做配合。

状况 3：机器产生异音情形

排除：

1. 检查机头与桌板之固定螺丝、垫片、防振塑料等之安装方式是否未依安装说明安装，而产生桌板共振之异音。（以直驱式小马达机器为主）
2. 检查机器前盖、面盖螺丝是否有松脱或有因拆装后未密合即再锁紧，而产生的异音。
3. 检查油量是否太少，造成机器润滑不够、发烫产生之异音。

状况 4：不喷油或不吸油情形

排除：

1. 检查喷油管及吸油管是否有破裂或接头未锁紧而有漏气情形。

(b) The height of feed-dog must be refer to the nature of fabric for adjusting a reasonable height.

(c) The operator is according to the nature of fabric for adjusting the holding way of sewing and the tension of fabric be seamed.

Status3：The machine noise in operation

Solution:

- (a) Please always follow the installation to fix the machine head and table. The wrong installation will engender the noise which come from the machine head and table resonance. (Main item : D.D. Type Mini Servo-Motor)
- (b) Please check the front cover and screws. If the noise come from the loosen screw or front cover, please screw and fix them again.
- (c) Please check the lubrication oil is enough or not? If the lubrication oil isn't enough which will to cause the machine noise and heat.

Status4：The lubrication system don't spout out the oil or inhale the oil back

Solution:

- (a) Please check the oil tube have broken or not? Does the connector be locked well? If the oil tube had broken, please change it. If the connector didn't lock well, please lock it well.



SHING RAY®

2. 送布牙架下方之吸油管及针棒内侧之吸油管、如有积油情形时须检查是否因棉屑累积太多未清除造成吸油管阻塞。

3. 检查吸油管与吸油海绵是否正常接触。

状况 5 : 前踩踏板、机器不能运转时

排除:

1. 检查计算机控制箱显示之代号，再对照马达说明书之故障代号说明，排除问题。
2. 检查机头马达与电脑控制箱之中继线、插头是否有松脱或未插紧，而造成接触不良的情形。

C 致 敬爱的用户们:

这本「操作说明书」希望能使您更了解星锐公司的产品，也能助您排除一些异常状况：如有任何无法解决或维修上的问题，非常欢迎您与我们各地区之经销、代理商联络，他们都非常乐意为您服务，谢谢大家的爱护与支持。

(b) If there are a lot of oil in the bottom of cylinder- bed or the bottom of needle bar, please check these two places have accumulated a lot of cotton waste to block the Inhale Oil Tube or not? "Please always clear the cotton waste at least two times per week.

(c) Please check the Inhale Oil Tube have connect with Inhale Felt in correctly place.

Status 5: To step on the pedal in the front which the machine didn't operate

Solution:

- (a) Please check the error code which be showed on the screen of control box. then, to follow instruction manual for solving the problem.
- (b) Please check the plug of junction line which between the servo motor and control box. Have the plug been plugged in well? Or, the plug has plugged too loose which to cause the bad connection.

C. CONCLUSION:

Dear Users:

We hope this "Instruction & Maintenance Book" could offer you more information about our "Shing Ray" products and help you to solve these unusual conditions of our machine.

If you have any further requested and some problems about the maintenance, we are warmly welcome you to contact with our distributor and sloe agency in your country. All of them are willing to service you. Finally, we are sincerely to thanks all of yours continuing supports.

SHING RAY®
INDUSTRIAL SEWING MACHINE
星锐牌工业用缝纫机

版权所有 翻印必究



星锐缝纫机股份有限公司

SHING RAY SEWING MACHINE CO., LTD

※本書所記載的規格式樣或外觀，均加以改良，有時不預先通知以變更，請見諒。

The specifications in this book are subject to change without notifications.

2019.00