

RETA LANMAX

LM- 1988 - MDZ

**High-speed Lockstitch
Sewing Machine**

**Operation Manual
Parts Book**

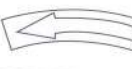
安全事项

缝纫机、自动机、附带装置（以下简称机械）在机械操作出差错情况下，常常存在手触碰可动零件。为操作者安全使用，合理维护机械，请熟记并理解以下安全注意事项。关于安全注意事项说明书的内容，客户购入的商品及说明书内的项目里有记载。

(I) 危险度说明

 危险	机械操作时，当事人或第3人不正确使用维护、保养方法会造成死亡、重伤的危险。
 警告	机械操作时，当事人或第3人不正确使用维护、保养方法会潜在死亡、重伤的危险。
 注意	机械操作时，当事人或第3人不正确使用维护、保养方法会给操作者带来中、轻伤。

(II) 关于警告图示的说明及表示

警告图表示		接触运动部位会受伤。	指示标记		卷入标记内会受伤。
		接触高压电部位会触电。			指示正确的回转方向。
		接触高温部位会烫伤。			有接地线指示。

安全注意事项

关于事故及人身安全财产损害

危险

为防止触电，在打开电箱时，必须切断电源，过五分钟后打开。

注意

基本注意事项:

1. 使用前请参照说明书，附属箱内的所有说明书类全部阅读；另外看好说明书后请妥善保管，以备下次查阅。
2. 此说明书的内容没有含购入机械说明方法在内的记录。
3. 为防止断针等故障，请使用安全防护眼镜。

安全装置、警告标志:

1. 为防止安全装置出问题，在机械操作时，安全位置所定的定位一定要确认后安装。关于安全装置，请参照第VI页。
2. 为防止事故发生，在没有安全装置情况下，务必按原来的位置安装，确认正常机能。
3. 为防止事故发生，把机械警告标志贴在醒目地方。被损坏剥落的情况下，请另换张新的贴上。

用途、改造:

1. 为防止事故, 请按机械原来用途及使用说明书的规定使用, 请不要使用说明书以外的方法。对于不参照使用说明书的, 本公司概不负责。
2. 为防止事故, 请不要在机械上进行改造, 改造后发生事故的, 本公司概不负责。

教育培训:

1. 为防止不熟悉操作而发生的事故, 有必要对员工进行机械操作说明及安全教育。对使用机械的员工适当教育机械知识及操作技能, 操作前有必要写教育培训计划并实施。

必须切断电源事项

电源切断: 关掉电源开关, 拔掉万能插口, 以下一样。

1. 为防止事故, 在确认检查故障异常时, 停电时请直接切断电源。
2. 为防止机械异常起动, 以下事项必须切断电源。
例如: (1) 针、挑线杆等过线零件过线或交换梭心时。
(2) 构成机械全部的零件交换时或调整时。
(3) 点检、修理、清扫、拆机械时。
3. 为防止触电、漏电、火灾事故, 拔万能插头电源时, 手拿插座将插头拔下。
4. 为防止意外起动, 使用连轴马达切断电源后, 确认完全停止进行以上2的操作。

各阶段使用时注意事项

搬运

1. 为防止事故, 搬运起码2人以上, 移动时请使用推车。
2. 为防止事故, 在搬运进程中往上抬, 移动时不要倒置, 采取安全对策。
3. 为防患于未然, 两次捆绑时, 按原来捆绑方法再试一次, 遇有机油, 拭干净后再打包。

开箱

1. 为防止事故发生, 开箱按顺序进行, 用木头打包装箱的, 要特别注意钉子, 另外将钉子拔出。
2. 为防止事故发生, 慎重确认机械的重心位置, 再进行安装。

安装

(I) 桌脚

1. 为防止事故发生, 桌脚使用纯正零件。在没办法情况下使用非纯正零件, 注意机械的重量、运转时桌子对反作用力的耐久性。
2. 为防止事故发生, 用直径为 $5.1 \times 32\text{mm}$ 的螺丝固定桌脚, 另外下孔用气钻开孔, 下孔螺丝必须吃进去深一点以确保其牢固能力。
3. 为防止事故发生, 脚上安装小脚轮以增强其牢固能力, 在使用时须确认脚轮锁上。

(II) 电缆、配线

1. 为防止触电、漏电、火灾等事故, 请注意不要乱使用电缆。V型皮带的运转在配线时, 安装30mm以上的间隔配线。
2. 为防止触电、漏电、火灾等事故, 配线不要插得太多。
3. 为防止触电、漏电、火灾等事故, 请确认固定插头。另外, 拔插头时拿着插座拔线。

(III) 接地

1. 为防止触电, 用耐压绝缘接地。电源插头要请懂得电气专业知识的人来安装, 另外, 电源插头必须接地后再接万能插头。
2. 为防止触电事故, 接地线必须接地。

(iv) 马达

1. 为防止烧伤事故发生, 马达使用指定马达(纯正品)。
2. 使用市场上销售的马达时, 为防止V型皮带卷入其内, 选定马达时须选用装有卷入滑轮外罩的马达。

操作前

1. 为防止事故发生, 电源打开前须确认插头、电缆没有操作、脱落、松弛等现象。
2. 为防止事故发生, 手禁止放入转动部位, 确认滑轮回转时与标记保持一致。
3. 使用安装有小轮脚的桌脚时, 为防止意外起动, 确认小脚轮是否上锁。并装上调节器, 固定好脚轮。

操作中

1. 为防止被卷入机器的人身事故, 机械在操作时, 手、头发、衣服等不要靠近皮带轮、V型皮带、马达。
2. 为防止事故发生, 插入电源操作机械时, 手指不要放入机针附近及挑线杆护罩内。
3. 机械操作高速回转时, 为防止手损伤, 操作中手坚决不要放到凸轮附近, 另外交换梭心时切断电源。
4. 为防止事故发生, 倒立机器或返回原来位置时, 注意手不要被夹住。
5. 为防止意外起动, 倒立机器, 取下皮带轮罩及上皮带轮时请切断电源。
6. 使用伺服马达时, 机械停止马达无声音。为防止意外起动事故, 别忘了切断电源。

供油

1. 自动供油机械, 请使用专用缝纫机油。
2. 为防止炎症、中毒。眼睛或身体沾上油时请及时洗净。
3. 为防止利疾、呕吐。误饮时尽快送医院。

维护、保养

1. 为防止使用不当发生的事故, 修理、调整时应让熟悉机械的专业人员按说明书指示操作。另外, 零件调换时, 请使用本公司的正品。对于不适当的修理、调整及使用非正品所发生的事故, 本公司概不负责。
2. 为防止使用不当发生触电事故, 电气方面的修理、保养(包含配线)应由有专业电气知识的人来操作。也可求助于本公司、销售处的技术人员。
3. 为防止意外起动事故的发生, 修理、保养有关空气、气缸等压缩空气的零件时, 应切断空气压缩机供气源后再进行。如有残留压缩空气时, 应放掉压缩空气。
4. 为防止事故的发生, 修理、调整零件等作业后, 确认螺丝及螺母是否松。
5. 机械使用中请定期的进行清扫, 为防止意外起动, 请切断电源。
6. 为防止事故的发生, 修理调整后, 仍不能正常操作的情况下, 中止修理操作与公司或经销商联系请技术人员修理。
7. 为防止事故的发生, 保险丝烧坏后, 必须切断电源。保险丝原因引起的, 须调换同一容量的保险丝。

使用环境

1. 为防止操作动作有误, 在不受高频率及杂音(电磁波)影响的情况下使用。
2. 为防止事故发生, 超过规定电压 $\pm 10\%$ 不要使用。
3. 为防止操作动作有误, 在使用空压装置时, 请确认指定的压力。
4. 为安全使用, 请在以下环境使用。
操作时相对温度 $5^{\circ}\text{C}-35^{\circ}\text{C}$
操作时相对湿度 $35\%-85\%$
5. 为防止操作有误而损坏通电零件, 在由冷快速变热等环境中, 有结雾时, 一定要等水珠没有后才能通电。
6. 为防止操作有误而发生电装零件损坏事故, 打雷时请拔掉插座电源。

重要安全事项

此缝纫机在有的国家（设置场所）由于该国的安全规定而被禁止使用。同时，技术服务也同样被禁止。

1. 使用此缝纫机时，心须遵守包括如下项目的基本安全措施。
2. 使用此缝纫机之前，请阅读本使用说明书在内的所有指示文件。同时应将此使用说明书妥善保管，以便能够随时查阅。
3. 此缝纫机应与贵国的有关安全规定一起使用。
4. 使用此缝纫机和缝纫机动作中，所有的安全装置应安装到规定的位置。没有安装规定的安全装置的缝纫机禁止使用。
5. 此缝纫机应由接受过培训的操作人员来操作。
6. 使用缝纫机时，建议戴安全防护眼镜。
7. 发生下列情况时，应立即关掉电源开关，或拔下电源线插头。
 - 7-1 机针、弯针、分离器等穿线和更换旋梭时。
 - 7-2 更换机针、压脚、针板、弯针、分离器、送布牙、护针器、支架、布导向器等时。
 - 7-3 修理时。
 - 7-4 工作场所无人了或离开工作场所时。
 - 7-5 使用离合马达时，请等待马达完全停止之后再行。
8. 缝纫机以及附属装置使用的机油、润滑脂等液体流入眼睛或沾到皮肤上时，或被误饮时，应立即清洗有关部位并去医院治疗。

9. 禁止用手触摸打开了缝纫机开关通电的零件或装置。
10. 有关缝纫机的修理、改造、调整应由受过专门训练的技术人员或专家来进行。
11. 一般的维修保养应由受过训练的人员来进行。
12. 有关缝纫机的电气方面的修理、维修应由有资格的电气技术人员或专家的监督和指导下进行。
13. 修理、保养有关空气、汽缸等压缩空气的零件时，应切断空气压缩机借气源后再进行。

如有残留压缩空气时，应放掉压缩空气。

但，受过相当训练的技术人员或专家进行有关调整或确认动作时除外。
14. 缝纫机的使用期间应定期进行清扫。

15. 为了正常安全运转，应安装地线。同时应在不受高频焊接机等强噪音源影响的环境下使用。
16. 电源插头应用具有电气专门知识的人来安装。电源插头必须连接到接地插座上。

17. 缝纫机指定用途以外不能使用。
18. 对缝纫机的改造、变更应符合安全规格，并采取有效的安全措施。另外，对于有关改造和变更，本公司概不负责。

19. 本使用说明书上采用以下2个警告符号。



有损伤操作人员、维修人员的危险。



安全上需要特别加以注意的事项。

IMPORTANT SAFETY INSTRUCTIONS

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

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
 2. Read all the instructions, including, but not limited to this instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
 3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
 4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
 5. This machine shall be operated by appropriately-trained operators.
 6. For your personal protection, we recommend that you wear safety glasses.
 7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
 - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
 - 7-2 For replacing part(s) of needle, presser foot, throat plate, leeper, spreader, feed dog, needle guard, folder, cloth guide etc.
 - 7-3 For repair work,
 - 7-4 When leaving the working place of when the working place is unattended.
 - 7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
 8. If you should allow oil, grease, etc. used with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.
9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
 10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by can be used for repairs.
 11. General maintenance and inspection works have to be done by appropriately trained personnel
 12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel. Whenever you find a failure of any of electrical components, immediately stop the machine.
 13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
 14. Periodically clean the machine throughout the period of use.
15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
 16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.
17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
 18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. assumes no responsibility for damage caused by remodeling or modification of the machine.
19. Warning hints are marked with the two shown symbols.



Danger of injury to operator or service staff



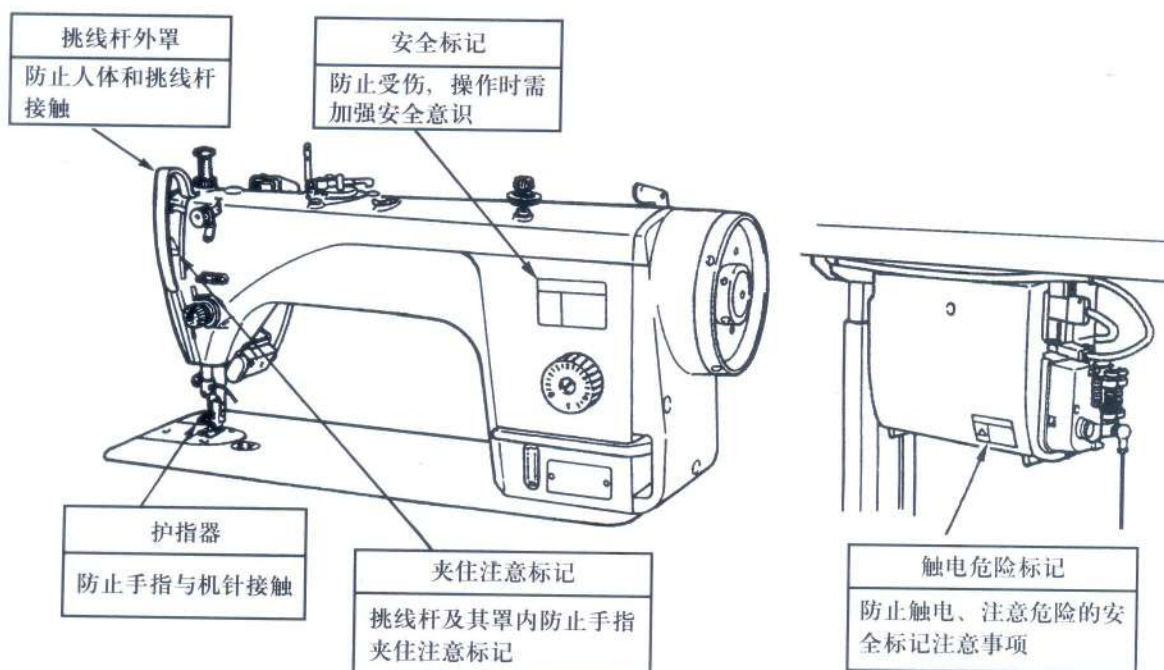
Items requiring special attention

运转缝纫机前的注意事项

 危险	1. 为了防止发生触电事故, 请不要在打开电源的状态下, 打开电气箱盖以及触摸电气箱内的零件。
 注意	1. 为了防止人身事故的发生, 请不要在卸下手指防护器等安全装置的状态转动缝纫机。 2. 为了防止卷入机器的人身事故, 缝纫机运转中, 请不要把手指、头发、衣服靠近飞轮, 也不要物品放到缝纫机上。 3. 为了防止人身事故的发生, 打开电源时以及缝纫机运转中, 请不要把手指放到机针的附近。 4. 为了防止人身事故的发生, 缝纫机运转中请不要把手指放到挑线杆外罩内。 5. 缝纫机操作中, 旋梭高速旋转。为了防止手受到伤害, 运转中请绝对不要把手靠近旋梭。 6. 为了防止人身事故的发生, 放倒缝纫机或返回原来位置时, 要注意不要夹住手。 7. 为了防止突然的起动造成的事故, 放倒缝纫机时或更换零件、调整等时请关掉电源。 8. 缝纫机停止时马达没有声音。为了突然的起动造成的事故, 请注意不要忘记关掉电源。 9. 为了防止触电事故, 卸下电源地线的状态, 请不要运转缝纫机。 10. 为了防止触电和损坏电气零件, 拔电源的插头时, 请先切断电源。

关于安全装置

这里记载关于机械安全装置, 作为中国国内制造机种及安全打包装置方法, 根据送发地、方法不同的也有。



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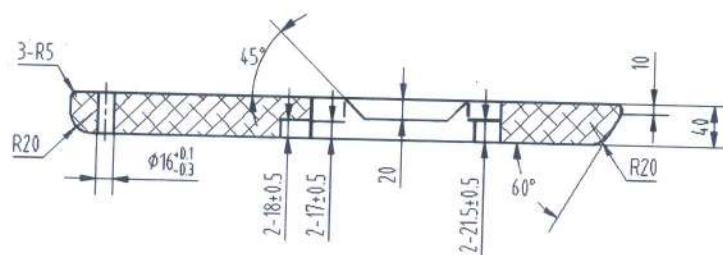
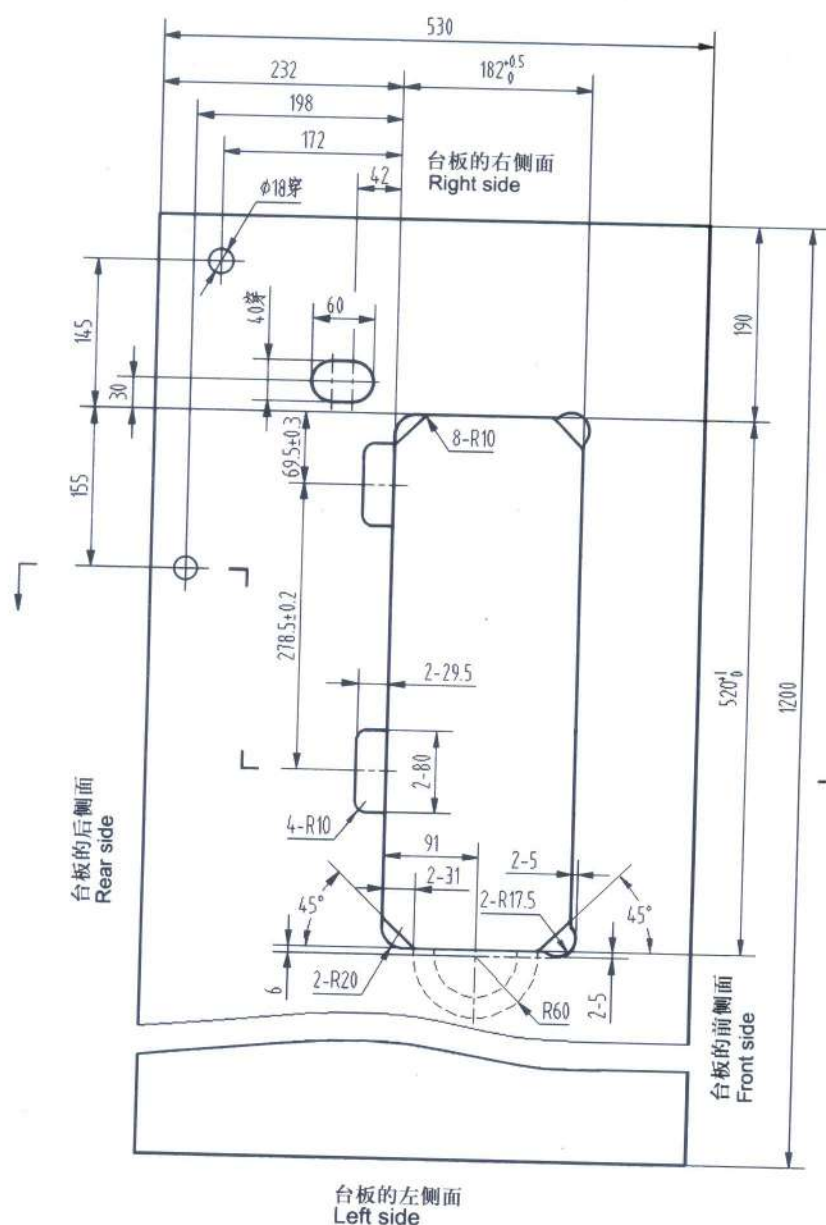
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台板加工图

SCHEMATIC DIAGRAM OF THE MACHIEN TABLE

请参照下图进行台板的加工。

Cut the table referring to the diagram.



运转缝纫机前的注意事项



注意

为了防止机械的错误动作或损伤，请确认如下项目。

- 请卸下缝纫机机台上安装的放气盖(红色)。
 - SS规格时，使用之前请一定往油槽中加油。
 - 最初使用缝纫机之前，请把机器打扫干净。
 - 清除运送途中积存的灰尘，并加油。
 - 请确认电压设定是否正确。
 - 请确认电源插头是否正确连接。
 - 电压规格不同时，请绝对不要使用。
 - 请确认马达皮带轮的旋转方向是否正确。
 - 请不要把缝纫机向前倒，免发生漏油或损坏零件。
 - 本缝纫机安装有机头放倒后不让缝纫机转动的开关。
- 因此运转缝纫机时，请正确地设置缝纫机台后再打开电源开关。

FOR SAFE OPERATION



CAUTION:

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

- Remove air-vent cap (red color) attached to the sewing machine bed.
- For SS types, be sure to pour in the oil before using.
- Before you put the machine into operation for the first time after the set-up, clean it thoroughly.
- Remove all dust gathering during transportation and oil it well.
- Confirm that the voltage has been correctly set.
- Confirm that the power plug has been properly connected to the power supply.
- Never use the machine in the state where the voltage type is different from the designated one.
- Confirm that the direction of rotation of the motor pulley is correct.
- Do not tilt the sewing machine head toward this side since oil leakage or parts breakage occurs.
- A safety switch is installed so that the sewing machine cannot be operated with the head tilted. When operating the sewing machine, turn ON the power switch after properly setting the head on the table.

1. 规格

	8990SS	8991SS	8990DS	8991DS
用途	一般布料、薄料、中厚料		一般布料、薄料	
缝纫速度	最高每分5000针		最高每分4000针	
最大针迹长度	*5mm			
使用机针	DB x 1 #9-#18			
压脚高度(膝动提升)	10mm(标准)15mm(最大)			
针杆行程	30.7mm			
使用旋梭	自动加油旋梭		无供油旋梭	
工作台宽度	300mm			
机床尺寸	517mm x 178mm			
使用机油	New Defrix Oil No.1 机油		——	

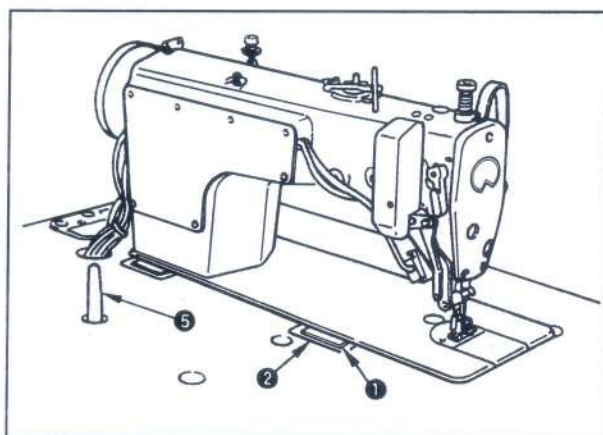
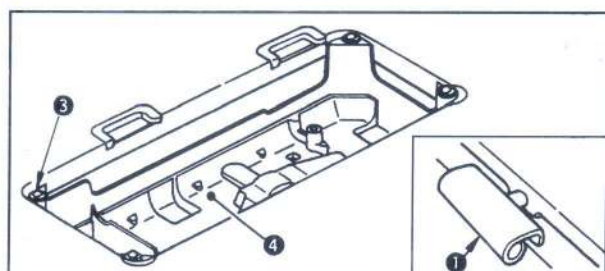
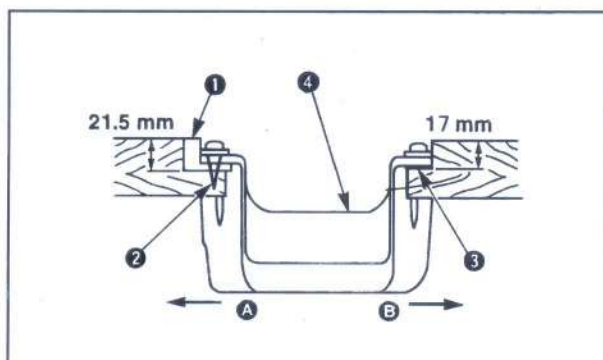
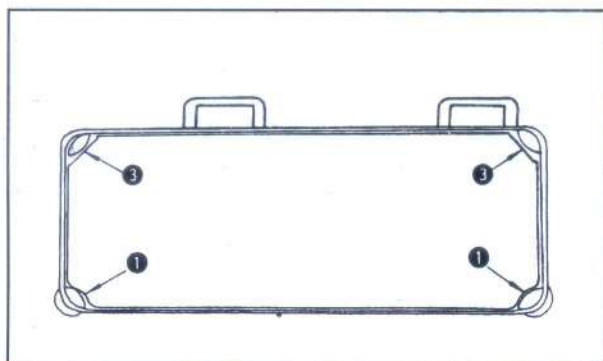
*超过4mm时的最高缝纫速度为每分钟4000针。

1. SPECIFICATIONS

	8990SS	8991SS	8990DS	8991DS
Application	General fabries,light-weight and medium-weight materials		General fabries,light-weight materials	
Sewing speed	Max.5000rpm		Max.4000rpm	
Stitch length	*Max.5mm			
Needle	DB x 1 #9-#18			
Presser foot life (by knee litter)	10mm(standard)15mm(max)			
Needle bar stoke	30.7mm			
Rotary hook	Lubricated rotary hook		Lubricated-feer rotary hook	
Arm pocket size	300mm			
Arm bed size	517mm x 178mm			
Lubricating oil	New Defrix Oil No.1		_____	

*The maximum sewing speed is 4000rpm when the stitch length is not less than 4 mm.

2. 缝纫机的安装 / INSTALLATION



(1) 底槽的安装

- 1) 把底槽支到机台沟的四角上。
- 2) 用螺钉②把前侧④的2个头部橡胶支座①钉到机台的伸出部，用粘接剂固定好铰链侧⑥的2个头部胶垫座③，然后把底槽④放上去。
- 3) 把铰链①放到机台的孔上，对准台板橡胶支座②，把头部放到四角的机头胶垫③上。
- 4) 没有安装AK装置时，请把机头支撑杆⑤安装到机台上。

(1) Installing the under cover

- 1) The under cover should rest on the four corners of the machine table groove.
- 2) Fix two rubber seats ① on side ④ (operator's side) using nails ② as illustrated above. Fix two cushioning seats ③ on side ⑥ (hinged side) using a rubber-based adhesive. Then place under cover ④ on the fixed seats.
- 3) Fit hinge ① into the opening in the machine bed, and fit the machine head to table rubber hinge ② before placing the machine head on cushions ③ on the four corners.
- 4) In case the AK-device is not provided, attach head support rod ⑤ to the machine table.

3. 膝动提升高度的调整 / ADJUSTING THE HEIGHT OF THE KNEE LIFTER



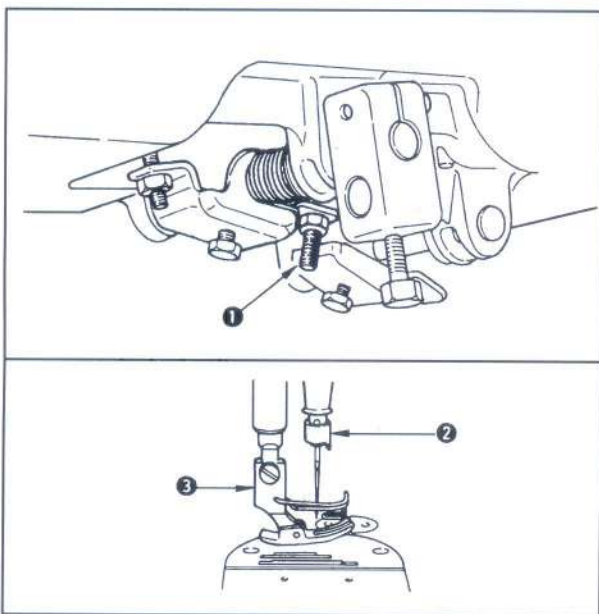
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



1) 膝动提升压脚的标准高度为10mm。

2) 调节膝动提升调节螺丝①可以把压脚最高提升15mm。

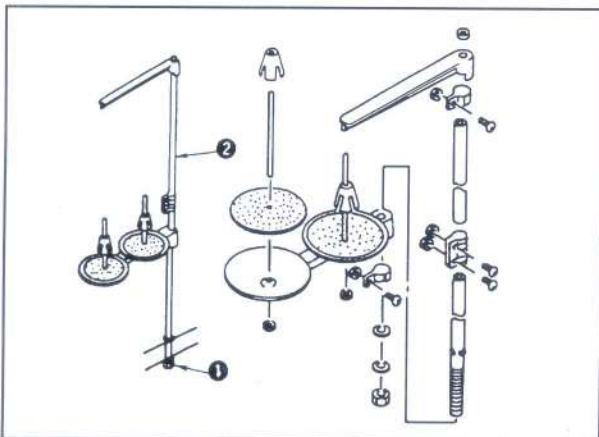
(注意) 在把压脚③提升10mm以上的状态，因为针杆②与压脚③相碰，所以请不要运转缝纫机。

1) The standard height of the presser foot lifted using the knee lifter is 10mm.

2) You can adjust the presser foot lift up to 15mm using knee lifter adjust screw ①.

(Caution) Do not operate the sewing machine in the state that the presser foot ③ is lifted by 10mm or more since the needle bar ② comes in contact with the presser foot ③.

4. 线架的安装 / INSTALLING THE THREAD STAND



1) 如图所示那样把线架安装到台孔上。

2) 用固定螺母①固定线架。

3) 顶线配线时，请把电源线从线架杆②中穿过。

1) Assemble the thread stand unit, and insert it in the hole in the machine table.

2) Tighten locknut ① to fix the thread stand.

3) For ceiling wiring, pass the power cord through spool rest rod ②.

5. 加油 (8990SS, 8991SS) / LUBRICATION(8990SS, 8991SS)



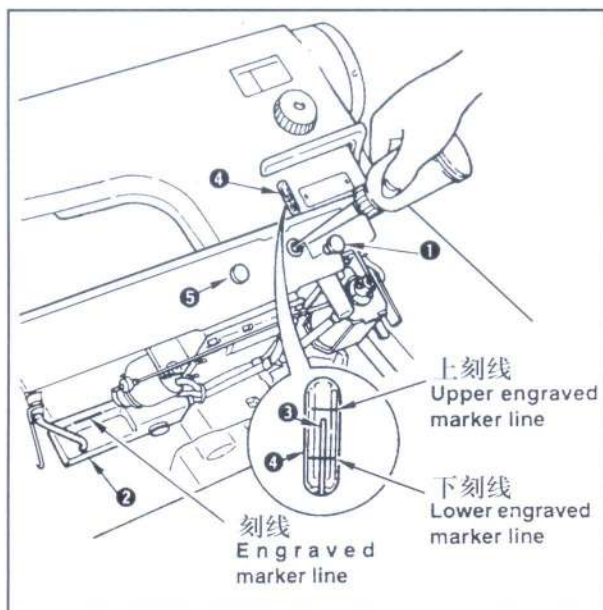
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



运转缝纫机之前，请一定往旋梭油槽中加油

- 1) 把缝纫机放倒，并支到机头支撑杆上。
- 2) 卸下加油口盖①，使用附属的加油壶加入New Deflex No.1机油。
- 3) 请把油加满到油槽②的刻线位置。请注意加油过多的话，机油会从油槽空气孔渗出来，也会发生不能正常加油的现象。
- 4) 使用缝纫机时，如果油量指示杆③指到油量指示窗④的下刻线以下，请进行加油。

(注意) 1.使用新缝纫机或较长时间没有使用的缝纫机时，请先进行3000-3500rpm的磨合运转之后再使用。

2.请不要把⑤的橡胶栓拔掉。

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

- 1) Tilt the machine head until it comes in contact with the head support rod.
- 2) Remove oil hole cap① and fill the oil tank with New Defrix Oil No.1 using the oiler supplied with the machine.
- 3) The amount of oil should reach up to the engraved marker line of oil tank②. If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. So, be careful.
- 4) When you operate the sewing machine, refill oil if the top end of oil amount indicating rod③ comes down to the lower engraved marker line of oil amount indicating window④.

(Caution) 1. When you use a new sewing machine or a sewing machine after an extended period of disuse, run your machine at 3000-3500 rpm for the purpose of break-in.

2. Do not remove rubber plug⑤.

6. 旋梭油量的调整(8990SS, 8991SS) / ADJUSTING THE AMOUNT OF OIL IN THE HOOK(8990SS, 8991SS)



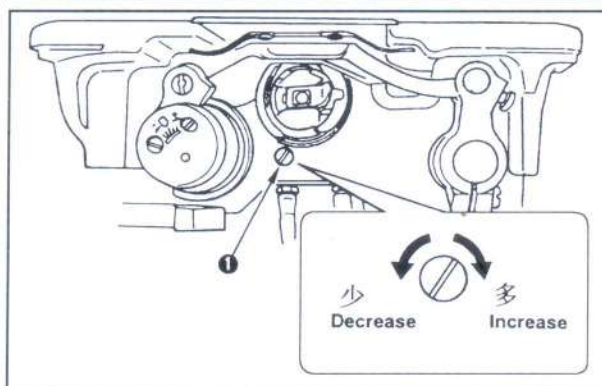
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



旋梭油量用旋梭油量调节螺丝①来调节。

1) 调节方法

拧紧(向右转动)旋梭油量调节螺丝①，旋梭量变多，拧松(向左转动)旋梭油量变少。

(注意)

1. SS型缝纫机使用RP旋梭(干式旋梭)时，请一定把油量调到最小，不让机油流出。

2. 使用RP旋梭(干式旋梭)时，也一定不能把机油槽的油放掉。

Adjustment of the amount of oil in the hook is performed with oil amount adjustment screw①.

1) Adjustment procedure

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

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

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

7. 旋梭油量(油迹)的调整方法(8990SS, 8991SS) / ADJUSTING THE AMOUNT OF OIL (OIL SPLASHES) IN THE HOOK(8990SS, 8991SS)



注意

旋梭是以高速运转。为了防止人身事故，调整油量时，请加以充分的注意。



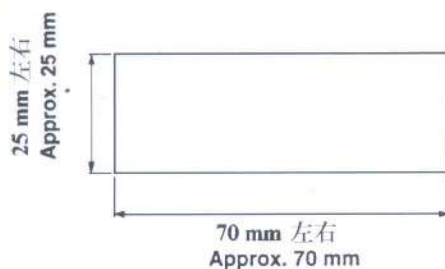
WARNING:

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

(1) 油量(油迹)确认方法 / How to confirm the amount of oil (oil splashes)

① 油量(油迹)确认专用纸

① Amount of oil (oil splashes) confirmation paper

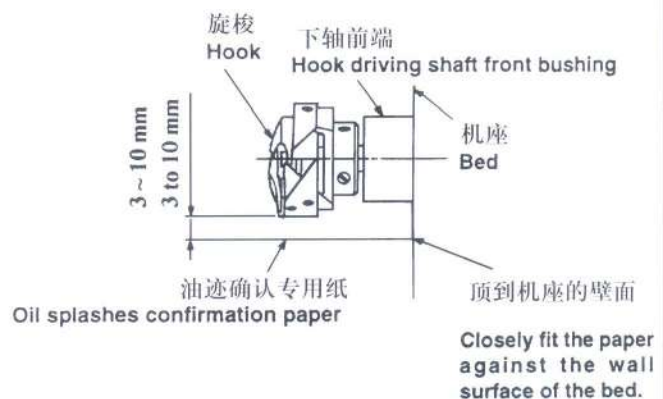


* 不用考虑纸的质量。

* Use any paper available regardless of the material.

② 油量(油迹)确认位置

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



* 把油量(油迹)确认专用纸插到旋梭下面。

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

* 进行下列2)的作业时，请卸下滑板，同时要充分注意手指不要碰到旋梭子。

1) 机头冷却时，请进行3分钟左右的空转运转。(适当的间歇运转)

2) 请在缝纫机转动将油量(油迹)确认专用纸插入。

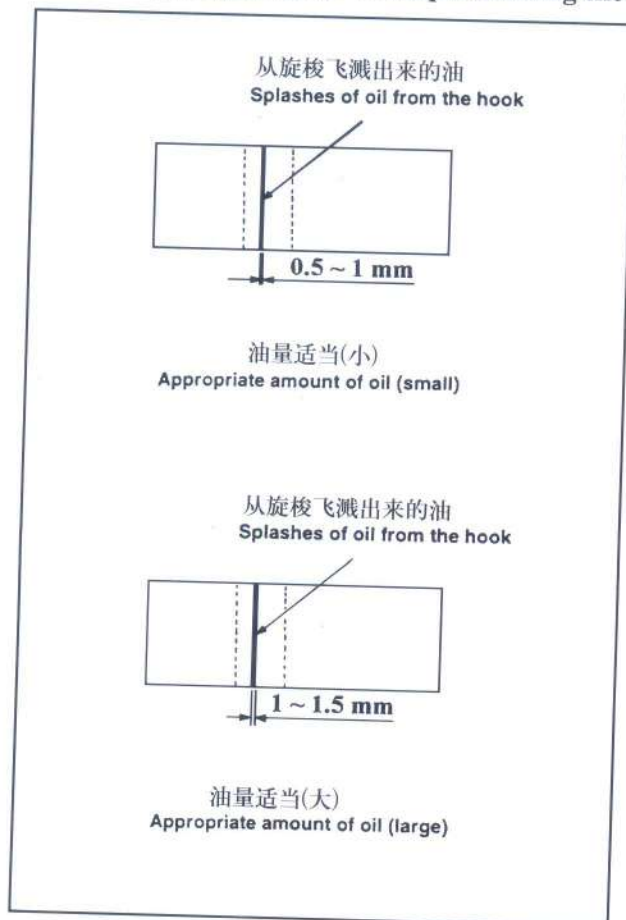
3) 确认油槽中是否有油。

4) 油量(油迹)确认时间为5秒钟。(用表来测定)

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

- 1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)
- 2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.
- 3) Confirm that oil exists in the oil tank.
- 4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

(2) 油量(油迹)适合标准 / Sample showing the appropriate amount of oil



- 1) 左图标样根据缝制供需需要微调增减, 但注意不要过大增加或减少。
(油量过少时, 会烧坏旋梭(发热)。油量过多时, 会污染缝制品。)
- 2) 油量(油迹)应确认3次(3张)均无变化。
- 1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/decrease the amount of oil in the hook. (If the amount of oil is too small, the hook will be seized (the hook will be hot). If the amount of oil is too much, the sewing product maybe stained with oil.)
- 2) Adjust the amount of oil in the hook so that the oil amount (oil splashes) should not change while checking the oil amount three times (on the three sheets of paper)

8. 机针的安装方法 / ATTACHING THE NEEDLE



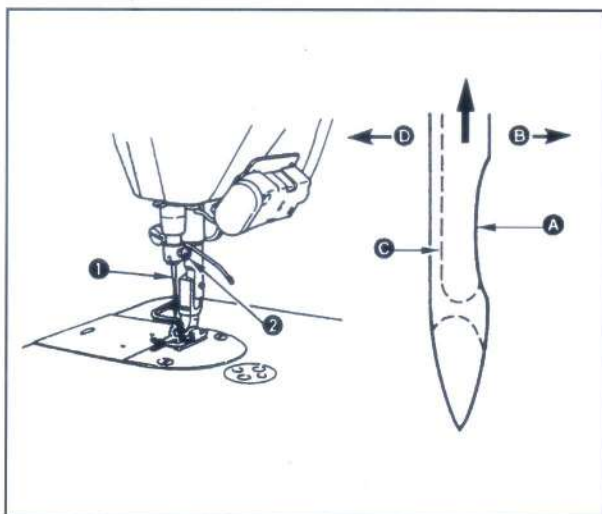
注意

为了防止缝纫机的意外启动, 请关掉电源之后再进行操作。



WARNING:

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



请使用DBx1或DPx5的机针。请根据线的粗细, 布料的种类选择适当的机针。

- 1) 转动飞轮, 把针杆升到最高处。
- 2) 拧松机针固定螺丝②, 手拿机针把机针①凹部①A横向转到①B的方向。
- 3) 把机针插到针孔的深处。
- 4) 拧紧机针固定螺丝②。
- 5) 确认针的长孔①C在左横向①D的方向。

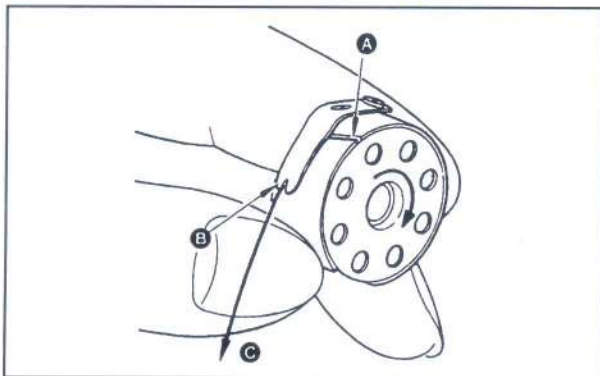
(注意) 使用长丝机线时, 如果机针凹部朝向前方, 容易发生线环不稳或断线的现象。使用这类机线时, 请把机针稍稍向后倾斜安装, 就可以有效地防止这类现象。

A needle of DBx1 or DPx5 should be used. Select a proper needle size according to the count of thread and the type of material used.

- 1) Turn the handwheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw ②, and hold needle ① with its indented part A facing exactly to the right in direction B.
- 3) Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.
- 4) Securely tighten screw ②.
- 5) Check that long groove C of the needle is facing exactly to the left in direction D.

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

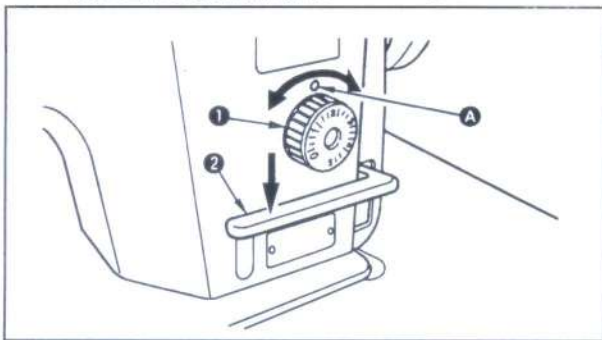
9. 梭心安装方法 / SETTING THE BOBBIN INTO THE BOBBIN CASE



- 1) 手拿梭心, 让线往左绕的方向, 把它放入梭壳。
- 2) 把线穿过梭壳的穿孔机线口A, 后把线往B方向拉, 从线张力弹簧下面的穿线口B拉出来。
- 3) 当线C拉出时, 确认梭心是否按箭头方向转动。

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

10. 缝迹长度的调节 / ADJUSTING THE STITCH LENGTH



- 1) 沿箭头方向转动送料调节刻度盘①，并把所需的数字对准机臂的刻点④。
- 2) 刻度盘的数字为mm。
- 4) 从大往小变更送布刻度时，请向箭头方向按下送布拨杆②的同时转动调节刻度①进行调节。

- 1) Turn stitch length dial①in the direction of the arrow , and align the desired number to marker dot ④on the machine arm.
- 2) The dial calibration is in millimeters.
- 3) When you want to decrease the stitch length, turn stitch length dial ①while pressing feed lever ②in the direction of the arrow.

11. 压脚压力的调节 / PRESSER FOOT PRESSURE



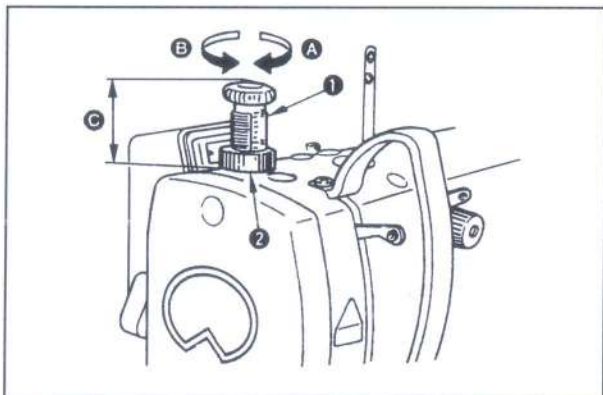
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



- 1) 拧松螺母②，把压脚调节弹簧①向右④方向转，压力变强。
- 2) 绕左⑥方向转，压力变弱。
- 3) 调节后，拧紧螺母②。
- 4) 一般布料时，压脚调节螺丝的标准高度④为 "2" (约5kg)
(薄料: "1" 2.5kg ; 厚料: "3" 7.5kg)

- 1) Loosen nut ②. As you turn presser spring regulator①clockwise (in direction ④), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counter-clockwise (in direction ⑥), the pressure will be decreased.
- 3) After adjustment, tightn nut ②.
- 4) For general fabrics, the standard height ④of the presser spring regulator is "2"(about 5kg)
(light-weight: "1" 2.5kg ; heavy-weight: "3" 7.5kg)

12. 上线穿线方法 / THREADING THE MACHINE HEAD



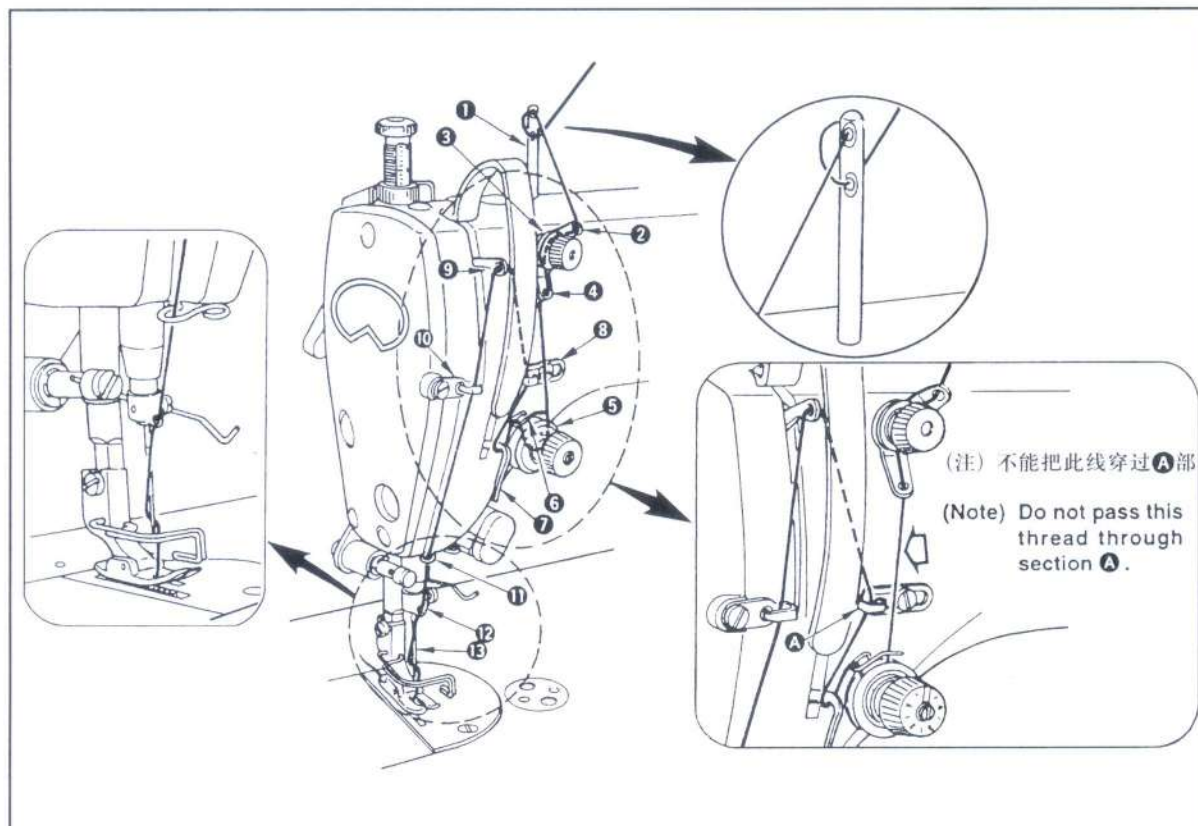
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。

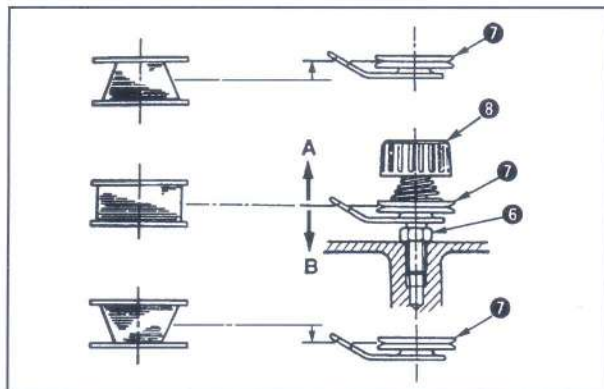
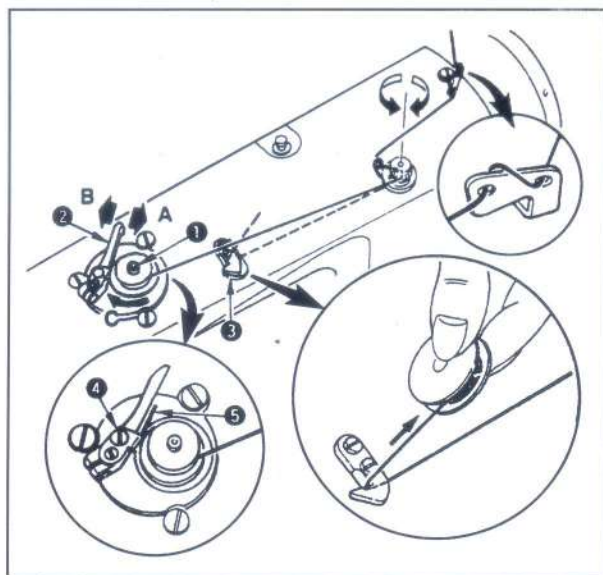


WARNING:

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



13. 底线卷绕方法 / WINDING THE BOBBIN THREAD



- 1) 把梭心推到卷线轴①的最里面。
- 2) 把线架右侧的卷线如图穿线，并把线端向
右绕数圈。(铝旋梭时，把线端向右缠绕后，再
把张力盘过来的线向左缠绕数圈后，就容易绕
线了。)
- 3) 把卷线拔杆②推到A方向，转动缝纫机。梭心
向C方向转动，线卷绕到梭心上。卷线结束后卷
线轴①自动停止。
- 4) 取下梭心，用切线保持板③切断机线。
- 5) 调整底线卷线量时，请拧松固定螺丝④，把调
节板⑤移动到A方向或B方向，然后再固定螺
丝④。
A方向:变少
B方向:变多
- 6) 如果线不能平绕梭心时，请拧松螺母⑥，转动
卷线张力器，调整线张力盘⑦的高度。
旋梭中心和张力盘中心高度一样时为标准位置。
下部卷得多时，如图的A方向，上部卷得多时，如
图的B方向，移动线张力盘⑦的位置。调整后，把固
定螺丝拧紧。
- 7) 调整底线卷绕张力时，请转动线张力螺母⑧进
行调节器。

(注意) 1. 卷绕底线时，请在梭芯和线张力盘⑦之间拉线的状态开始绕线。

2. 不进行缝制的状态，卷线底线时，请把上线从挑线杆线道上卸下来，从旋梭里
把梭芯卸下来。

- 1) Insert the bobbin deep into the bobbin winder spindle ① until it will go no further.
- 2) Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order as shown in the figure on the left. Then, wind clockwise the end of the bobbin thread on the bobbin several times. (In case of the aluminum bobbin, after winding clockwise the end of the bobbin thread, wind counterclockwise the thread coming from the bobbin thread tension several times to wind the bobbin thread with ease.)
- 3) Press the bobbin winder triop latch ② in the direction of A and start the sewing machine. The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle ① automatically as soon as the winding is finished
- 4) Remove the bobbin and cut the bobbin thread with the thread cut retainer ③.
- 5) To adjust the winding amount of the bobbin thread, loosen the setscrew ④ and move the bobbin winder adjusting plate ⑤ to the direction of A or B Then, tighten the setscrew ④.

To the direction of A Decrease

To the direction of B increase

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

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

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

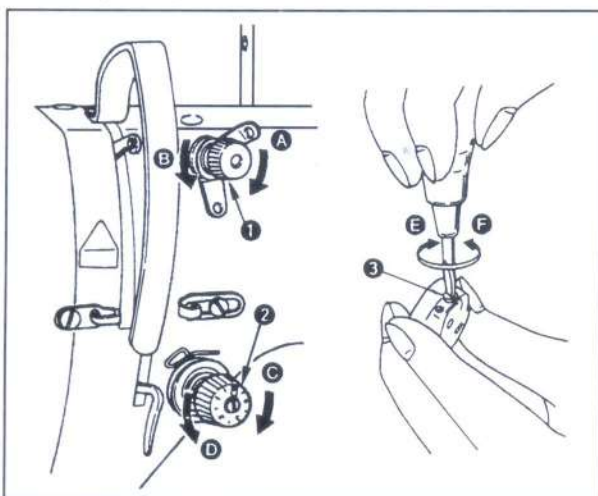
After the adjustment, tighten the nut ⑥.

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

(CAUTION) 1. When winding the bobbin thread, start the winding in the state that the thread between the bobbin and thread tension disk ⑦ is tense.

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

14. 线张力 / THREAD TENSION



(1) 上线张力的调整

- 1) 把第一线张力螺母①顺时针方向(A方向)转动, 上线张力变强。
- 2) 把第一线张力螺母①逆时针方向(B方向)转动, 上线张力变弱。
- 3) 把线张力螺母②向右(C方向)转动, 上线张力变强。
- 4) 向左(D)的方向转动则变弱。

(2) 底线张力的调整

- 1) 把线张力螺丝③向右(E)的方向转动, 底线张力变强。
- 2) 向左(F)的方向转动则变弱。

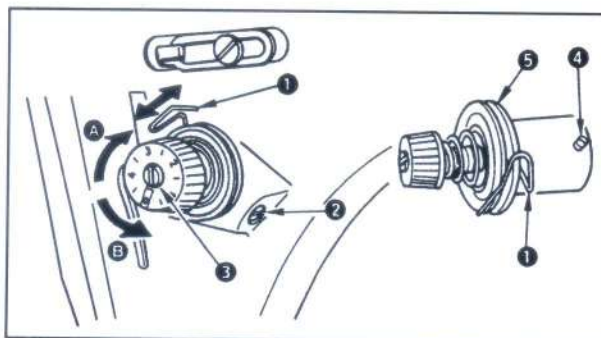
(1) Adjusting the needle thread tension

- 1) As you turn thread tension No.1 nut ① clockwise (in direction A), the thread remaining on the needle after thread trimming will be shorter.
- 2) As you turn nut ① counterclockwise (in direction B), the thread length will be longer.
- 3) As you turn thread tension nut ② clockwise (in direction C), the needle thread tension will be increased.
- 4) As you turn nut ② counterclockwise (in direction D), the needle thread tension will be decreased.

(2) Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ③ clockwise (in direction F), the bobbin thread tension will be increased.
- 2) As you turn screw ③ counterclockwise (in direction G), the bobbin thread tension will be decreased.

15. 拉线弹簧 / THREAD TAKE-UP SPRING



(1) 要改变拉线弹簧①的行程时,

- 1) 拧松线张力台固定螺丝②。
- 2) 把线张力杆③向右(A)的方向转动则变大。
- 3) 向左(B)的方向转动则变小。

(2) 要改变拉线弹簧①的压力时,

- 1) 拧松固定螺丝②, 卸下张力器(组件)⑤。
- 2) 拧松线张力杆, 固定螺丝④进行调整。
- 3) 把线张力杆③向右(A)的方向转动则变强。
- 4) 向左(B)的方向转动则变弱。

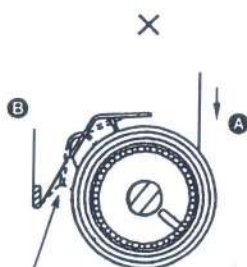
(1) Changing the stroke of thread take-up spring ①.

- 1) Loosen setscrew ②.
- 2) As you turn tension post ③ clockwise (in direction A), the stroke of the thread take-up spring will be increased.
- 3) As you turn the knob counterclockwise (in direction B), the stroke will be decreased.

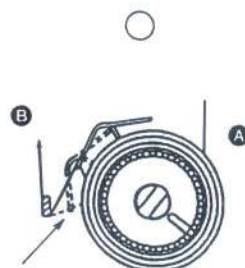
(2) Changing the pressure of thread take-up spring ①.

- 1) Loosen setscrew ②, and remove thread tension (asm) ⑤.
- 2) Loosen setscrew ④.
- 3) As you turn tension post ③ clockwise (in direction A), the pressure will be increased.
- 4) As you turn the post counterclockwise (in direction B), the pressure will be decreased.

(注意) 8991DS, DF规格因为采用完全干式旋梭, 与一般的使用加油旋梭比较, 容易受挑线弹簧调整的影响。挑线弹簧调整的不适当, 就容易发生缠线、断线及绕线圈等现象。挑线弹簧调整适当的判定方法是: 确认挑线弹簧的压力调整后, 把上线向(B)方向拉出后, 线从被拉出之前, 挑线弹簧是否都在动作。如果不是到最后都在动作, 请减弱挑线弹簧的压力。另外, 挑线弹簧的动作行程过小的话缝制效果变坏。一般布料10-13mm左右为适当。



- 挑线弹簧的张力过强, 所以动作途中线从(A)被拉出来。
- When the thread take-up spring moves up to midway, thread is fed out from A since the tension of the thread take-up spring is high.



- 挑线弹簧一直动作到最后。
- The thread take-up spring works up to the last.

(Caution) For the Models, 8991DS and-DF, the fully-dry hook is adopted, Comparing with the sewing machine using the existing hook, the sewing machine tends to be affected by the adjustment of the thread take-up spring. If the thread take-up spring does not work sufficiently, thread running increase. As a result, thread breakage, balloon stitching etc. may occur.

To judge the work of the thread take-up spring, confirm whether or not the thread take-up spring works up to the last before needle thread is pulled out from ① when pulling out needle thread in the direction of ② after the pressure of the thread take-up spring has been performed. When it does not work up to the last, decrease the pressure of the thread take-up spring. In addition, the stroke of the thread take-up spring is excessively small, the spring does not work properly. For the general fabrics, a stroke of 10 to 13 mm is proper.

16. 挑线杆挑线量的调节 / ADJUSTING THE THREAD TAKE-UP STROKE



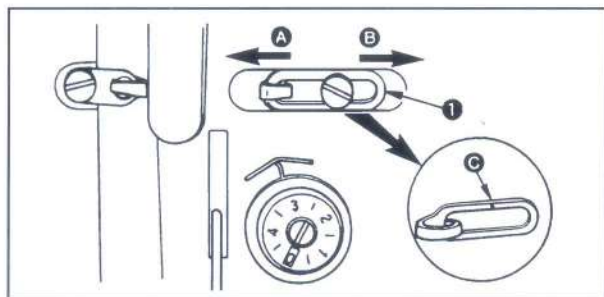
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



- 1) 缝制厚料时，把导线器①向左①的方向移动，挑线量变大。
- 2) 缝制薄料时，把导线器①向左②的方向移动，挑线量变小。
- 3) 导线器①的刻线③在螺丝的中心位置时是标准位置。

- 1) When sewing heavy-weight materials, move thread guide ① to the left (in direction ①) to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ① to the right (in direction ②) to decrease the length of thread pulled out by the thread take-up.
- 3) Normally thread guide ① is positioned in a way that marker line ③ is aligned with the center of the screw.

17. 机针停止位置的调整 / ADJUSTMENT THE NEEDLE STOP POSITION



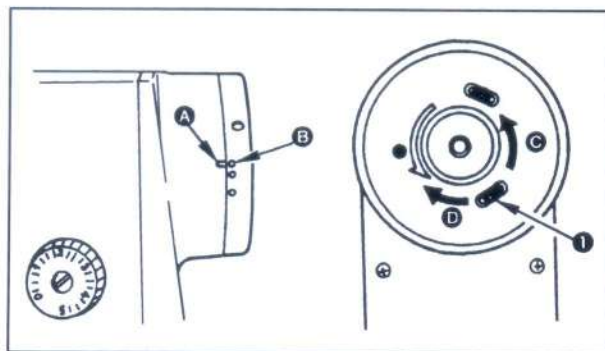
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



(1) 切线后的停止位置

- 1) 标准的机针停止位置是皮鞋带轮外罩的刻点和飞轮的白刻点⑧一致时的位置。
- 2) 让机针上升到上停止位置，拧松螺丝①，在长孔范围进行调节。

A. 向③的方向移动机针停止提前。

B. 向④的方向移动机针停止推迟。

(注意) 拧松螺丝①的状态下请不要运转缝纫机。此螺丝只能拧松而不能拧下来。

(1) Stop position after thread trimming

- 1) The standard needle stop position is obtained by aligning marker dot ⑧ on the pulley cover with white marker dot ③ on the handwheel.

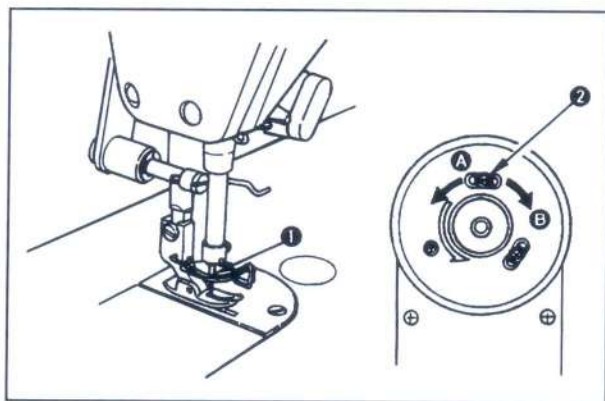
(In case of connecting with EC-10A, adjustment is necessary)

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

A. The needle stop timing is advanced if you move the screw in direction ③.

B. The needle stop timing is delayed if you move the screw in direction ④.

(Caution) Do not operate the machine with screw ① loosened. Just loosen the screw, and do not remove it.



(2) 下停止位置

- 1) 踏板从前踩踏变为中立时的机针下停止位置与上停止同样，让机针①下停止之后拧松螺丝②在长孔范围内进行调整。向③方向移动机针停止位置提前，向④方向移动机针停止位置推迟。

(注意) 拧松螺丝①的状态下请不要运转缝纫机。此螺丝只能拧松而不能拧下来。

(2) Lower stop position

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

Stop needle ① in its lowest position, loosen screw ②, and make adjustment within the slot of the screw.

Moving the screw in direction ③ advances the needle stop timing. Moving the screw in direction ④ delays the timing.

(Caution) Do not operate the machine with screw ① loosened. Just loosen the screw, and do not remove it.

18. 踏板压力和行程 / PEDAL PRESSURE AND PEDAL STROKE



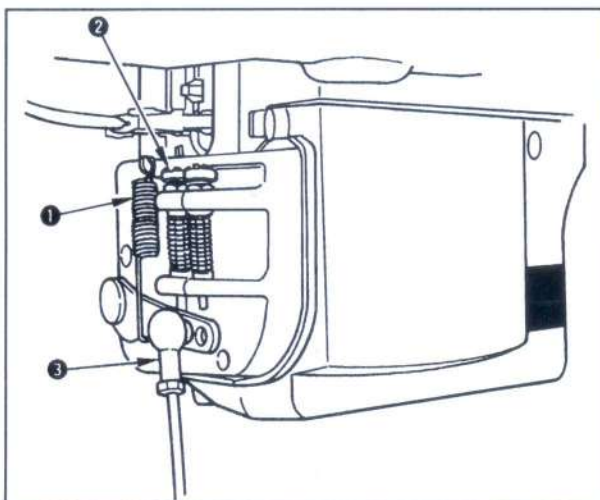
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



(1) 踏板踩踏压力的调整

- 1) 摘下踏板压力调节弹簧①进行调节。
- 2) 把弹簧挂到左侧压力变轻。
- 3) 挂到右侧压力变大。

(2) 踏板返回力的调整

- 1) 用返踩调节螺丝②可以进行调节。
- 2) 拧紧调节螺丝压力为大。
- 3) 拧松螺丝压力变轻。

(3) 踏板踩踏行程的调整

把连接杆③安装到左侧的孔内，行程变小。

(1) Adjusting the pressure required to depress the front part of the pedal

- 1) This pressure can be changed by altering the mounting position of pedaling pressure adjust spring ①.
- 2) The pressure decreases when you hook the spring on the left side.
- 3) The pressure increases when you hook the spring on the right side.

(2) Adjusting the pressure required to depress the back part of the pedal

- 1) This pressure can be adjusted using regulator screw ②.
- 2) The pressure increases as you turn the regulator screw in.
- 3) The pressure decreases as you turn the screw out.

(3) Adjusting the pedal stroke

The pedal stroke decreases when you insert connecting rod ③ into the left hole.

19. 踏板的调整 / ADJUSTMENT OF THE PEDAL



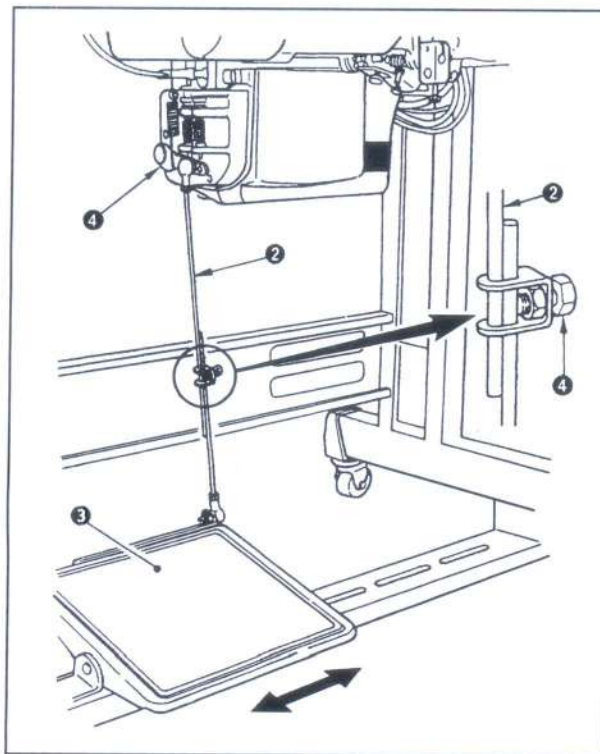
注意

为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



WARNING:

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



(1) 连接杆的安装

- 1) 箭头方向移动踏板调节板③，让马达控制杆①和连接杆②成一直线。

(2) 踏板的角度

- 1) 调节连接杆的长度即可以改变踏板的角度。
- 2) 拧松调节螺丝④，移动连接杆②进行调节。

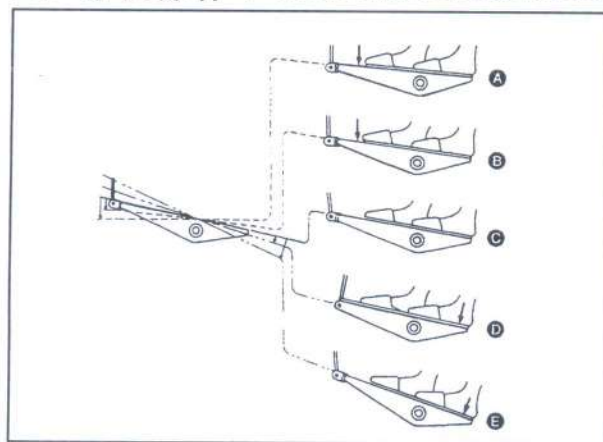
(1) Installing the connecting rod

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

(2) Adjusting the pedal angle

- 1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.
- 2) Loosen adjust screw ④, and adjust the length of connecting rod ②.

20. 踏板操作 / PEDAL OPERATION



(1) 踏板有4级操作。

- 1) 向前轻轻踩踏板为低速缝纫⑧。
- 2) 在继续往前踩踏板为高速缝纫⑨。(但是，设定了自动倒缝开关后，倒缝结束之后为高速缝纫)
- 3) 轻轻踩踏板然后返回缝纫机停止③(机针上停止或下停止)。
- 4) 向后踩踏板为切线动作④。

* 使用自动压脚提升装置时，在停止和切线之间增加一级开关。向后轻轻踩踏板，为压脚提升动作④，在继续踩踏板为切线动作。

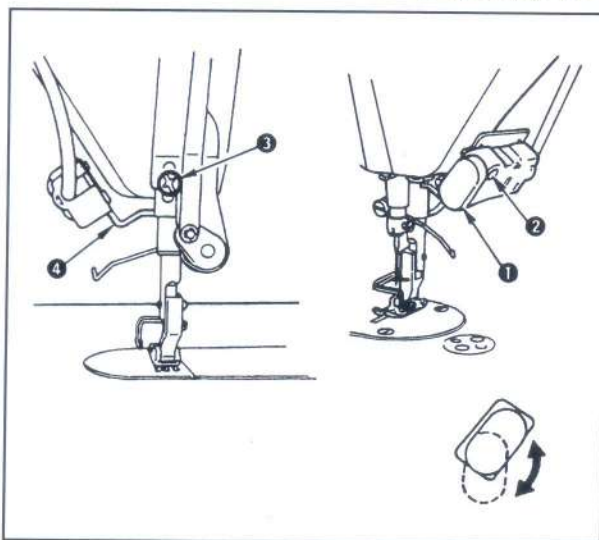
- 始缝的自动倒缝中，把踏板返回中立位置则缝纫机倒缝结束后停止。
- 从调整缝纫或低速缝纫中向后用力踩踏板缝纫机均可切线。
- 缝纫机切线中把踏板返回中立位置但机器仍然把线切完。
- 缝纫机停止机针下降停止之后，如果想升起机针时，请往后踩一次踏板。

(1) The pedal is operated in the following four steps.

- 1) The machine runs at low sewing speed when you lightly depress the front part of the pedal ⑧.

- 2) The machine runs at high sewing speed when you further depress the front part of the pedal ④. (If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching.)
 - 3) The machine stops (with its needle up or down) when you reset the pedal to its original position ③.
 - 4) The machine trims threads when you fully depress the back part of the pedal ⑤.
- * If your machine is provided with the Auto-lifter, an additional step is given between the machine stop and thread trimming step. The presser foot goes up when you lightly depress the back part of the pedal ⑥, and if you further depress the back part, the thread trimmer is actuated.
- While machine in automatic back sewing, if the pedal is put to the neutral place, machine will stop after back sewing.
 - The machine will perform normal thread trimming even if you depress the back part of the pedal immediately following high or low speed sewing.
 - The machine will completely perform thread trimming even if you reset the pedal to its neutral position immediately after the machine started thread trimming action.
 - When the machine stops with its needle down, and if you want to bring the needle up, depress the back part of the pedal once.

21. 单触手动倒缝 / ONE-TOUCH TYPE REVERSE FEED STITCHING MECHANISM



(1) 使用方法

- 1) 按下开关拔杆①, 缝纫机立即倒缝。
- 2) 在按下的时间进行倒缝。
- 3) 手一松开立即变为正向缝纫。

(1) How to operate

- 1) The moment switch lever ① is pressed, the machine performs reverse feed stitching.
- 2) The machine performs reverse feed stitching as long as the switch lever is held depressed.
- 3) The machine resumes normal feed stitching the moment the switch lever is released.

(1) 开关高度 / Height of the switch



注意

为了防止缝纫机的意外启动, 请关掉电源之后再进行操作。



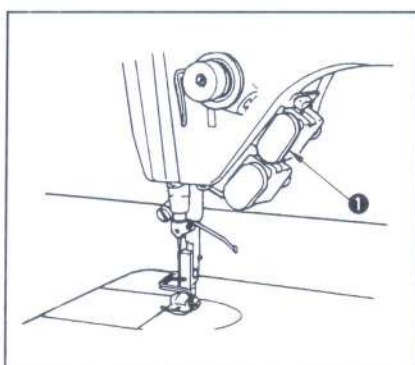
WARNING:

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

- 1) 拧松固定螺丝②, 上下移动开关主体调节高度。
- 2) 开关①有2档位置可以使用。

- 3) 想把开关①的位置再下降时, 请拧松缝纫机背面的固定螺丝③, 降下开关座④。
- 1) Loosen setscrew ② and move the switch itself up and down to adjust the height.
- 2) Switch ① can be used in two positions by turning it.
- 3) In addition, when you desire to lower the position of switch ①, loosen setscrew ③ located in the back of machine head and lower switch base ④.

■ 选购开关(另外购置) / Optional switch (separately-available)



使用选购开关(23632656)①以下的功能可以用单触键进行。

- (1) 半针补偿缝纫...每按一次开关进行上、下半针动作。
- (2) 倒缝缝纫...每按一次开关, 以低速进行倒缝。(只有在CP-160D操作盘上选择了定尺寸缝制图案时有效。)
- (3) 结束倒缝1次取消功能...按开关之后, 下一次的结束自动倒缝被取消。
- (4) 切线功能...按开关后进行切线。
- (5) 压脚提升功能...按开关后压脚自动提升。
- (6) 1针补偿缝纫...每按一次开关进行1针补偿缝纫。

The following functions can be performed by one-touch operation using optional switch (23632656) ①.

- (1) Needle up/down compensating stitching... Every time the switch is pressed, needle up / down compensating stitching is performed.
- (2) Back compensating stitching... Every time the switch is pressed, reverse feed stitching is performed at low speed (This is effective only when the constant-dimension stitching pattern is selected on the CP-160D panel).
- (3) Function to cancel once reverse feed stitching at the end of sewing ... When the switch is pressed, the next automatic reverse feed stitching at the end of sewing only can be canceled once.
- (4) Thread trimming function... When the switch is pressed, thread trimming is performed.
- (5) Presser lifting function... When the switch is pressed, automatic presser lifting can be executed.
- (6) One stitch compensating stitching.... Every time the switch is pressed, one stitch compensating stitching is performed.

■ 选购件开关的连接 / Connection of the optional switch



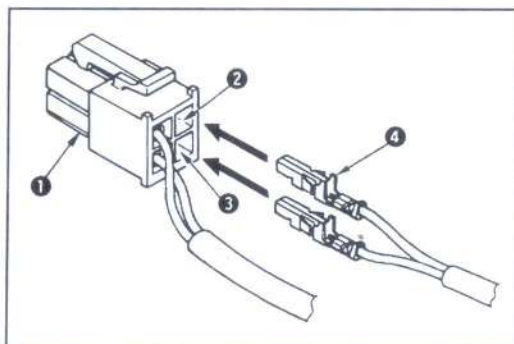
注意

为了防止缝纫机的意外起动, 请关掉电源之后再进行操作。



WARNING:

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



请把选购件开关的电缆插入到从机头部引来的4P插头①的②和③, 可互换(没有极性)。因为插销针的插入方向有规定, 所以请把突起部④朝上插入。

Insert the cord of the optional switch into ② and ③ of 4P connector ① coming from the machine head (There is no polarity)

The pin is provided with the inserting direction. Insert it with protruding portion upward.

22. 挑线杆 / WIPER



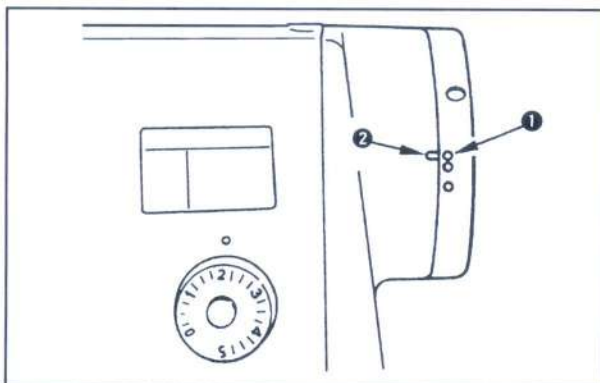
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

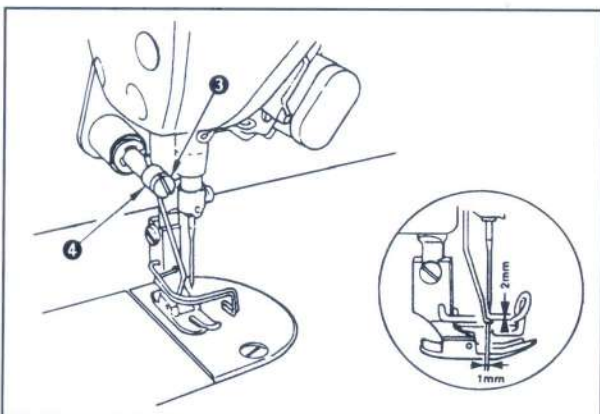
Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



(1) 挑线杆的位置

调线杆位置根据布料的厚度按下列方法进行调节。

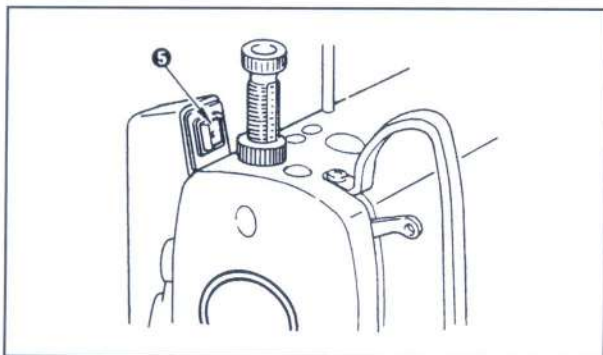
- 1) 向正常方向转动飞轮，让飞轮白刻点①对准机架的刻点②。
- 2) 用挑线杆环④推挑线杆，然后拧紧固定螺丝③。
- 3) 不使用挑线杆时，请关掉挑线杆开关⑤。



(1) Positioning the wiper

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

- 1) Turn the handwheel in the normal direction of rotation to align white marker dot ① on the hanwheel with marker dot ② on the machine arm.
- 2) Adjust the distance between the flat part of the wiper and the center of the needle to 1mm. Tighten wiper adjust screw ③ so that the wiper is pressed and fixed by wiper collar ④.
- 3) When the wiper is unnecessary, turn wiper switch ⑤ OFF.



23. 机针与旋梭的关系 / NEEDLE-TO-HOOK RELATIONSHIP



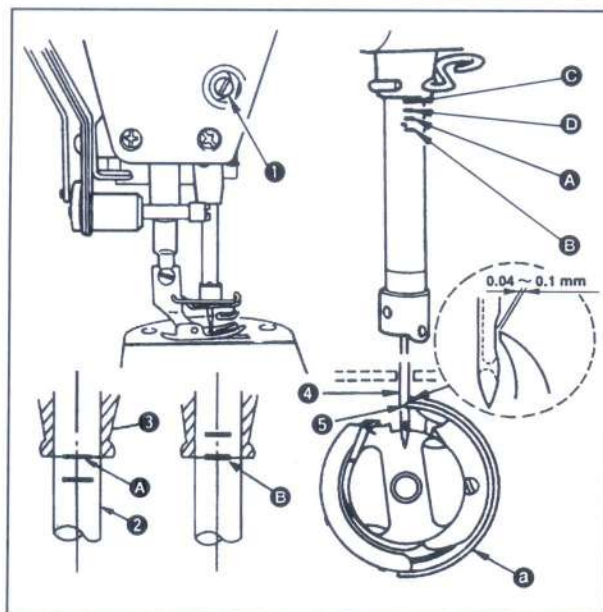
注意

为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



WARNING:

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



(1) 请按如下方法调整机针和旋梭。

1) 转动飞轮，让针杆降到最下点，然后拧松针杆套固定螺丝①。

(决定针杆高度)

2) (DB针时)把针杆②的刻线A对准针杆下铁块的下端，然后拧紧针杆套管固定螺丝①。

(DA针时)把针杆②的刻线C对准针杆下铁块的下端，然后拧紧针杆套管固定螺丝①。

(决定旋梭a的安装位置)

3) (DB针时) 拧松3根旋梭固定螺丝，转动飞轮在针杆②上升的方向，把刻线B对准针杆下铁块③的下端。

(DA针时) 拧松3根旋梭固定螺丝，转动飞轮在针杆②上升的方向，把刻线D对准针杆下铁块③的下端。

4) 在此状态下，让旋梭尖⑤对准机针④的中心，把机针与旋梭的间隙调整为0.04-0.1mm (大致)，然后拧紧螺丝。

(注意) 间隙过小的话，会操作旋梭尖。间隙过大的话，会跳针。

•8990DS, 8991DS型的请使用以下的旋梭，不能使用一般的加油旋梭。

货号如下:11418001

(1) Adjust the timing between the needle and the book as follows:

1) Turn the handwheel to bright the needle bar down to the lowest point of its stroke, and loosen setscrew ①.

(Adjusting the needle bar height)

2) **(For a DB needle)** Align marker line A on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

(For a DA needle) Align marker line C on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

(Adjusting position of the hook a)

3) **(For a DB needle)** Loosen the three hook setscrews, turn the handwheel and align marker line B on ascending needle bar ② with the bottom end of needle bar lower bushing ③.

(For a DA needle) Loosen the three hook setscrews, turn the handwheel and align marker line D on ascending needle bar ② with the bottom end of needle bar lower bushing ③.

4) After making the adjustments mentioned in the above steps, align hook blade point ⑤ with the center of needle ④ provide a clearance of 0.04mm to 0.1mm (reference value) between the needle and the hook, then securely tighten setscrews in the hook.

(Caution) If the clearance between the blade point of hook and the needle is smaller than the specified value the blade point of hook will be damaged. If the clearance is larger, stitch skipping will result.

- The following hooks are used for 8990DS and 8991DS. When replacing the hook, use the hook of Part No. corresponding to your destination since the usual hook cannot be used.
Type as follows 11418001

24. 固定刀 / COUNTER KNIFE



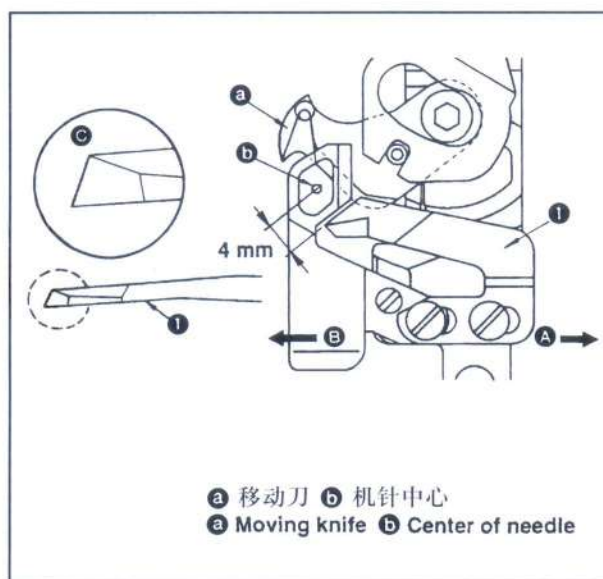
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



切刀不快时，请尽早如图©所示研磨固定刀①，然后正确地安装好。

- 1) 把固定刀的安装位置往标准位置的右Ⓐ方向移动，切线长度比标准位置时长。
- 2) 往左Ⓑ方向移动切线变短。

(注意)研磨固定刀时请注意研磨方法。

When the knife sharpness has deteriorated, resharpen counter knife ① as illustrated in ©, and properly reinstall it.

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

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

25. 送布牙的高度和倾斜度 / HEIGHT AND TILT OF THE FEED DOG



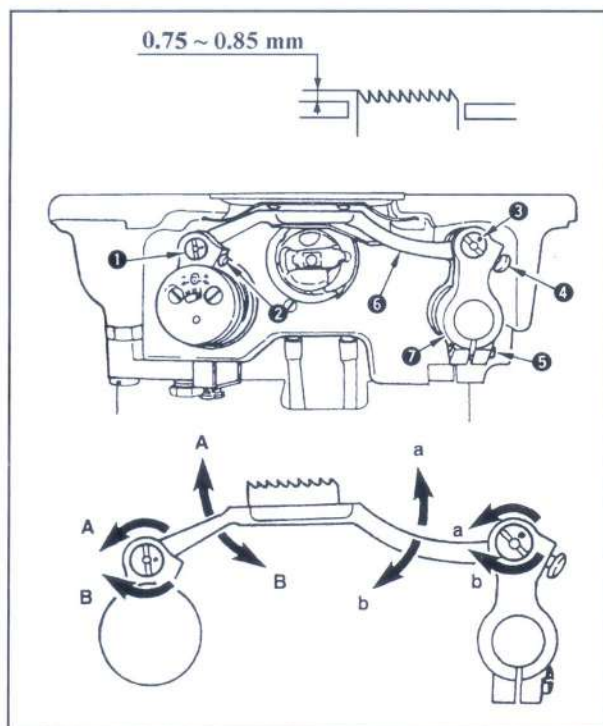
注意

为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



WARNING:

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



送布牙的高度是高出针板0.75-0.85mm。

请根据布料的具体情况调节适当的高度。

(1) 送布牙的高度和倾斜度的调整

- 1) 拧松上下送布台轴①的固定螺丝②以及水平送布台轴③的固定螺丝。
- 2) 用螺丝刀转动①、③两轴，就可以改变送布牙的高度和倾斜度。
- 3) 有关各轴的转动方向和送布台⑥的倾斜关系请参照图示。
- 4) 调整后，请把拧松的螺丝拧紧固定。(固定螺丝②、④，请在推住轴①、③的状态拧紧。

(注意)

- (1) 如果只用一侧的轴调整送布牙的倾斜度，送布牙的高度也会变化，所以请一定用两侧的轴来调整。
- (2) 如果调整轴位置之后，送布牙的运动位置偏斜，请拧松水平送布曲柄⑦的固定螺丝⑤，调整送布牙的运动位置。

Height of the feed dog is adjusted so that the feed dog protrudes from the throat plate surface by 0.75 to 0.85mm. Adjust the height in accordance with the material to be used.

(1) Adjusting the height and tilt of the feed dog

- 1) Loosen setscrew ② in feed bar driving shaft ① and setscrew ④ in feed bar rocker shaft ③.
- 2) Height and tilt of the feed dog will change by turning both shafts ① and ③ with a screwdriver.
- 3) For the relation between the rotating direction of each shaft and tilt of feed bar ⑥, refer to the figure on the left.
- 4) After the adjustment, securely tighten the setscrews. (Tighten setscrews ② and ④ in the state that shafts ① and ③ pushed against the handwheel side.)

(Caution)

- (1) If the tilt of the feed dog is adjusted with one shaft only, the height of the feed dog changes. Be sure to adjust it with both shafts.
- (2) Movement position of the feed dog may be shifted depending on the adjusting position of the shaft. At this time, loosen setscrew ⑤ in feed rocker shaft arm ⑦ and adjust the movement position.

27. 松线的解除机构 / THREAD TENSION RELEASE RELEASING MECHANISM



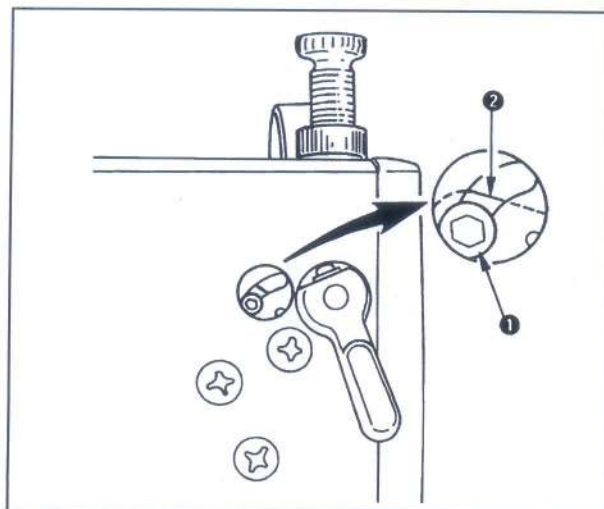
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



利用松线解除机构，缝制中也可以提升上线也不松线。(厚的叠屑部用膝动提升压脚，让它超过叠屑部，而线张力不变化)。

(1) 解除方法

- 1) 卸下缝纫机的盖子，用六角扳手拧松线变换螺丝①。
- 2) 把螺丝①固定到松线变换板②的最上部。
提升压脚线张力盘也不浮起，上线张力也不松。
(只在切线时线张力盘浮起。)

(注意) 螺丝①的位置，只能固定到松线变换板的最上或最上位置，其它位置不能使用。
* 缝纫机出货时固定在最下位置。

By means of the thread tension release releasing mechanism, sewing can be performed without slackening the needle thread tension even when the presser foot is lifted during sewing.

(Even when the presser foot is slightly lifted at the thick overlapped section by the knee lifter, this mechanism can prevent the thread tension from being changed.)

(1) How to release

- 1) Remove the cap in the machine head and loosen thread tension release changeover screw ① using a hexagon wrench.
- 2) Fix screw ① on the top of thread tension release changeover plate ②. The thread tension disk does not rise even when the presser foot is lifted, and the needle thread tension is not loose. (The thread tension disk rises only when thread trimming is performed.)

(Caution) Do not use screw ① at any position other than the top or bottom position of the thread tension release changeover plate.

* The screw has been factory-set to the bottom position at the time of delivery.

28. 微量压脚提升 / MICRO-LIFTING MECHANIS OF THE PRESSE FOOT



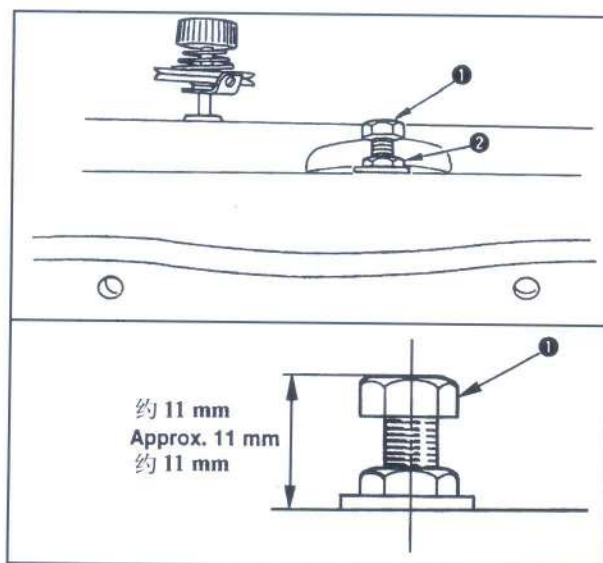
注意

为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



WARNING:

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



缝制丝绒等起手性素材时，使用微量压脚提升螺丝①功能就可以不使素材缝偏，减轻素材的损伤。在拧紧螺母②的状态，一点一点拧紧微量压脚提升螺丝①，调整到适合素材的让压脚微量上升的位置，然后用螺母②固定。

(注意) 微量压脚提升机构不使用时，请把螺丝①的高度调整到比缝纫机高约11mm的位置。微量压脚提升机构提升后缝纫机的送布能力会减弱。

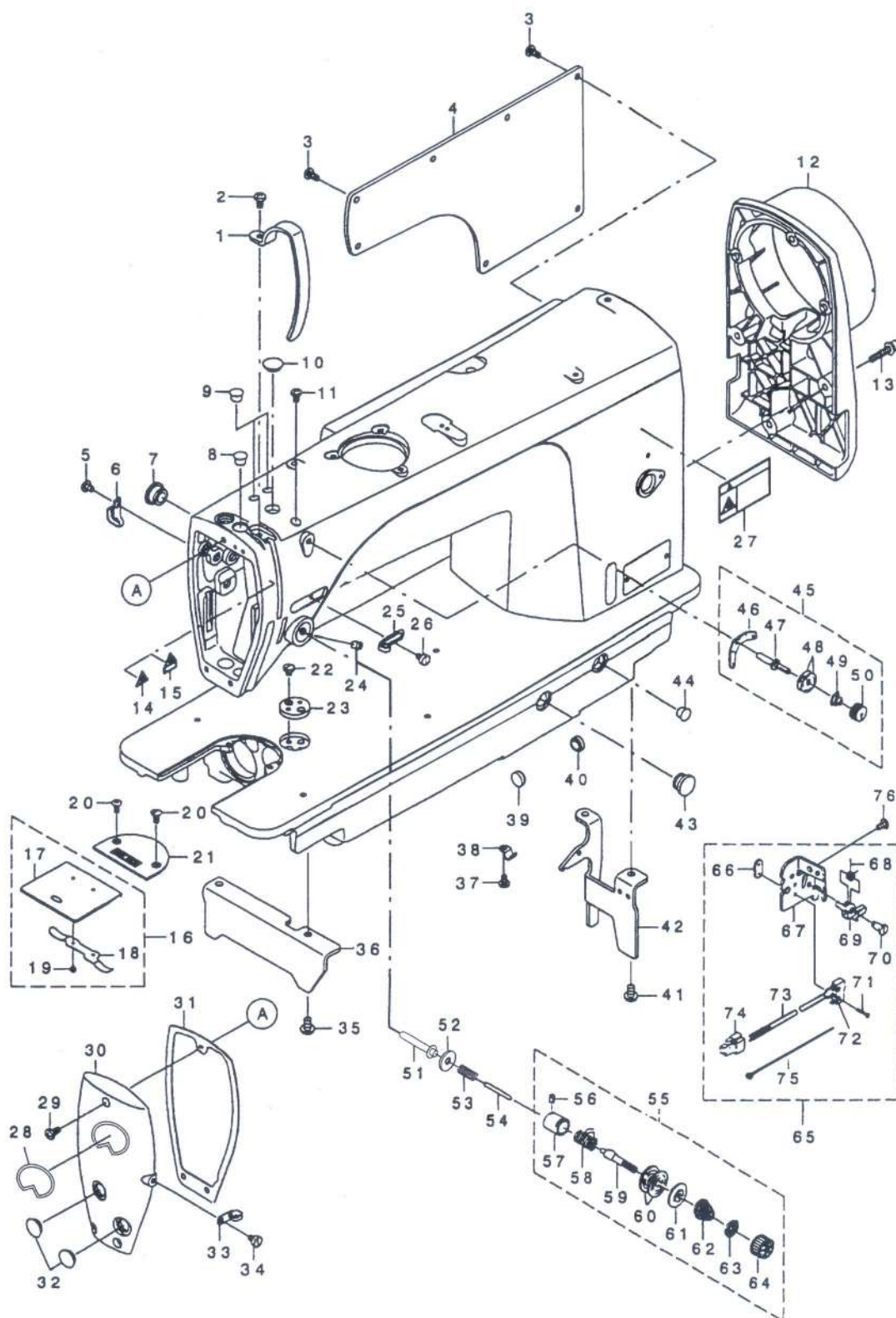
When sewing velvet or the like which is fluffy, slippage of material or damage of material is reduced by using screw① for presser foot micro-lifting

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

(Caution) When the presser foot micro-lifting mechanism is not used, adjust the height of screw① so that it is higher by approximately 11mm than the sewing machine. If the sewing machine is operated in the state that the micro-lifting mechanism is working, sufficient feed force cannot be obtained.

零件样本
PARTS BOOK

一、机壳、盖板组件 Machine frame & Miscellaneous cover components



一、机壳、盖板组件 Machine frame & Miscellaneous cover components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	300249	236-00505	挑线杆护罩	Thread tade-up lever cover	1
2	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 40 L=9	1
3	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	7
4	300247	236-00208	后窗板	Side plate	1
5	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	1
6	11412051	135-30001	上轴前电线弯钩	Upper shaft front metal oil wi	1
7	11422003	TA-1470704 - R0	孔塞	Rubber plug	1
8	10122011	B1405-012-000	针杆孔塞	Rubber plug	1
9	10122005	TA-0850604-R0	挑线连杆销螺孔塞	Rubber plug	2
10	10122004	TA-1250705-R0	针杆曲柄螺孔塞	Rubber plug	1
11	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	1
12	300250	236-00604	电机罩	Pulley cover	1
13	114S30001	SL-6052592-TN	螺栓(内六角)	Bolt	4
14	11437002	CM-3002000-01	注意危险	Attention seal	1
15	11437003		标签 (16)	Label(16)	1
16	1011500200	229-01250	推板组件	Slide plate asm.	1
17	10115002	229-01201	推板	Slide plate	1
18	10127009	229-01300	推板簧	Slide plate spring	1
19	101S11019	SS-6060210-SP	推板簧螺钉 SM3/32"×56L=1.9	Screw SM2/32" × 56 L=1.9	2
20	104S17002	SS-2110920- TP	针板螺钉 SM11/64"×40L=8.5	Screw SM11/64" × 40 L=8.5	2
21	10115001	B1109-012-I0B	针板	Throat plate	1
22	114S11006	SS-7110540-SP	卷边器座螺钉	Screw	2
23	11412040	229-02605	卷边器座	Ruler stop seat	1
24	101S15006	SS-8150710-TP	螺钉 SM15/64" × 28 L=7	Screw SM5/64" × 28 L=7	1
25	11413001	236-26104	右线钩	Arm thread guide A	1
26	101S11007	SS-6110610 - TP	螺钉 SM11/64" × 40 L=6	Screw SM11/64" × 40 L=6	1
27	11237001	CM-3002001-01	警告标记	Safety laber	1
28	10137004		商标牌	Plate	1
29	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	3
30	300871	236-00307	面板	Face plate	1
31	11422001	236-00406	面板垫	Face plate packing	1
32	10122003	TA-1250406 - R0	面板调节螺孔塞	Rubber plug	2
33	10113005	229-20607	左线钩	Arm thread guide B	1
34	101S11007	SS-6110610 - TP	螺钉 SM11/64" × 40 L=6	Screw SM11/64" × 40 L=6	1
35	101S11026	SS-4120915-SP	螺钉 SM15/64" × 28 L=9	Screw SM15/64" × 28 L=9	2
36	11412004	236-00703	支撑板	Bed stud A	1

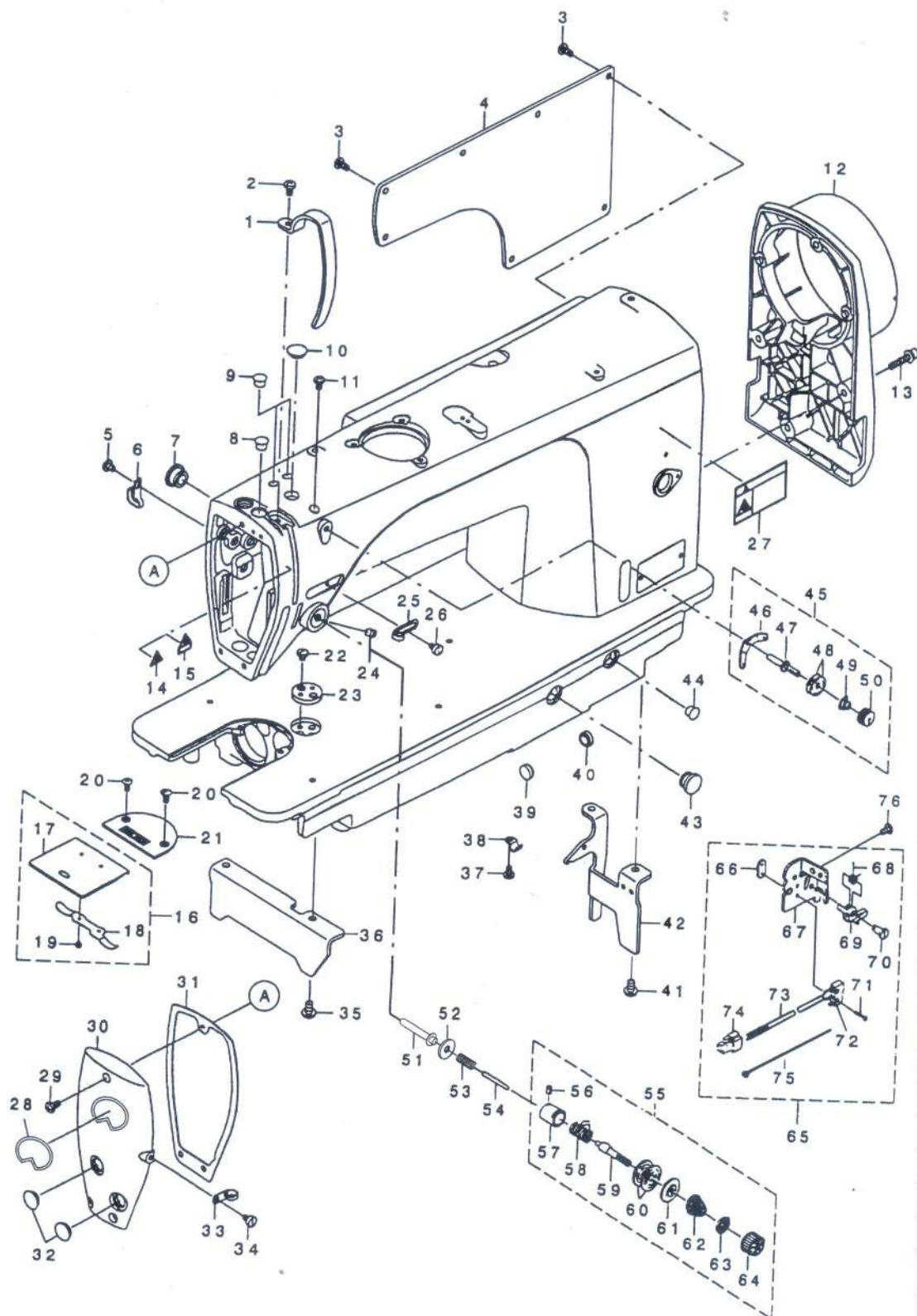
注: 零件样本中采用了三种线框符号

①、 虚线框表示同一部件的零部件

②、 点线框表示8990DS/8991DS不用的零部件

③、 实线框表示8990DS/8991DS专用的零部件

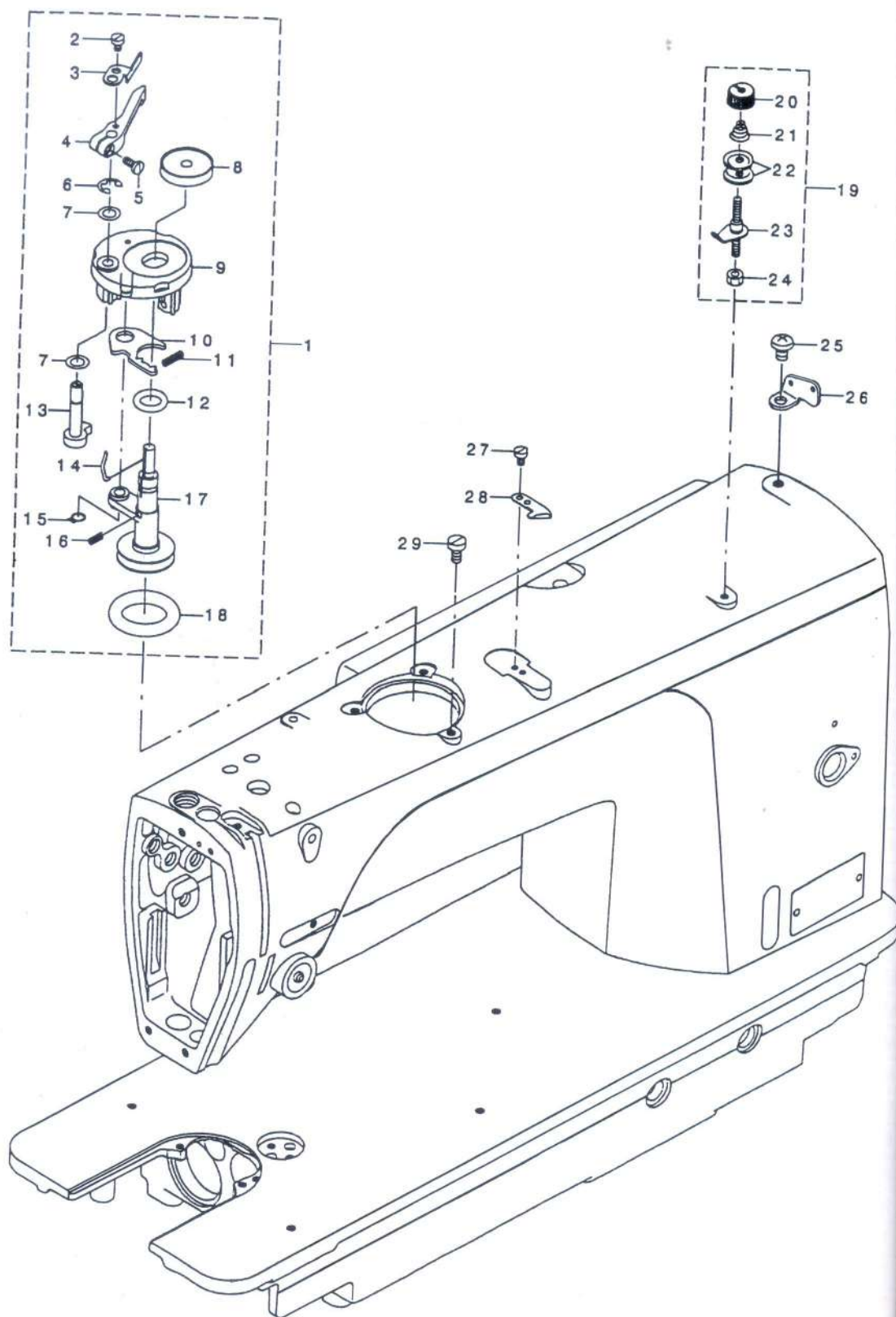
一、机壳、盖板组件(续) Machine frame & Miscellaneous cover components (continuation)



一、机壳、盖板组件(续) Machine frame & Miscellaneous cover components (continuation)

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
37	101S11001	SS-4120915-SP	螺钉 SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	1
38	11412006	B3538-112-000	软管压板	Oil return tube holder	1
39	11422050		橡皮塞 (小)	Rubber plug(small)	1
40	11422002	TA-1270502-R0	橡皮塞	Rubber plug	1
41	101S11026	SS-4150915-SP	螺钉 SM15/64" × 28 L=9	Screw SM15/64" × 28 L=9	2
42	11412005	236-00802	后支撑板	Bed stud B	1
43	11422051	TA-1250705-R0	橡皮塞	Rubber plug	1
44	10122005	TA-0850604-R0	挑线连杆销螺孔塞	Rubber plug	1
44	10122004	TA-1250705-R0	针杆曲柄螺孔塞	Rubber plug	1
45	1121300100	229-45455	小夹线器组件	Thread tension asm.No.1	1
46	11212003	229-45604	小过线导板	Thread tension guide	1
47	112S30001	229-45406	小夹线器螺钉	Thread tension post	1
48	11212004	229-45802	小夹线板	Thread tension disk	2
49	11227001	229-45505	小夹线弹簧	Thread tension spring	1
50	112S16001	229-45703	小夹线螺母	Thread tension nut	1
51	10126003	110-18306	松线辅钉	Tension release supporting pin	1
52	10128001	110-19007	松线辅钉垫片	washer plate	1
53	10127003	110-18405	松线辅钉弹簧	Tension release pin spring	1
54	10126002	B3118-552-F00	松线钉	Thread release pin	1
55	1121300200	236-26054	夹线器组件	Thread tension asm.	1
56	101S15005	SS-8090670-SP	螺钉 SM9/64" × 40 L=5.5	Screw SM9/64" × 40 L=5.5	1
57	10403009	229-45307	挑线簧调节座	Thread tension post base	1
58	10127001	229-21605	挑线簧	Takeup spring	1
59	101S30002	229-21209	夹线螺钉	Thread tension post	1
60	10112005	229-21506	夹线板	Thread tension disk	2
61	10112006	229-21803	松线板	Disk stopper	1
62	10127002	229-21704	夹线簧	Tension spring	1
63	10112007	229-21407	夹线制动板	Tension disc stopper	1
64	112S16002	236-26005	夹线螺母	Tension nut	1
65	1143002300	236-38059	安全开关组件	Safety swith asm.	1
66	11412008	236-38406	安全开关固定板	Safety swith plate	1
67	11412007	236-38000	安全开关支架	Safety swith base	1
68	11427002	236-38208	安全开关弹簧	Safety swith spring	1
69	11427001	236-38109	安全开关跳板	Safety swith asm.	1
70	114S20001	236-38307	安全开关轴位螺钉	Screw	1
71	S01067	SM-4021201-SC	螺钉 M2 × 12	Screw M2 × 12	2
72	11430023		安全开关	Safety swith	1
73	11230008	236-38554	电缆	Safety swith cord asm.	1
74	11436001	HK-0346100-40	接头	Housing	1
75	11211005	EA-9500 B01-00	尼龙扎带	Cable band	1
76	101S11025	SS-4110715-SP	螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	2

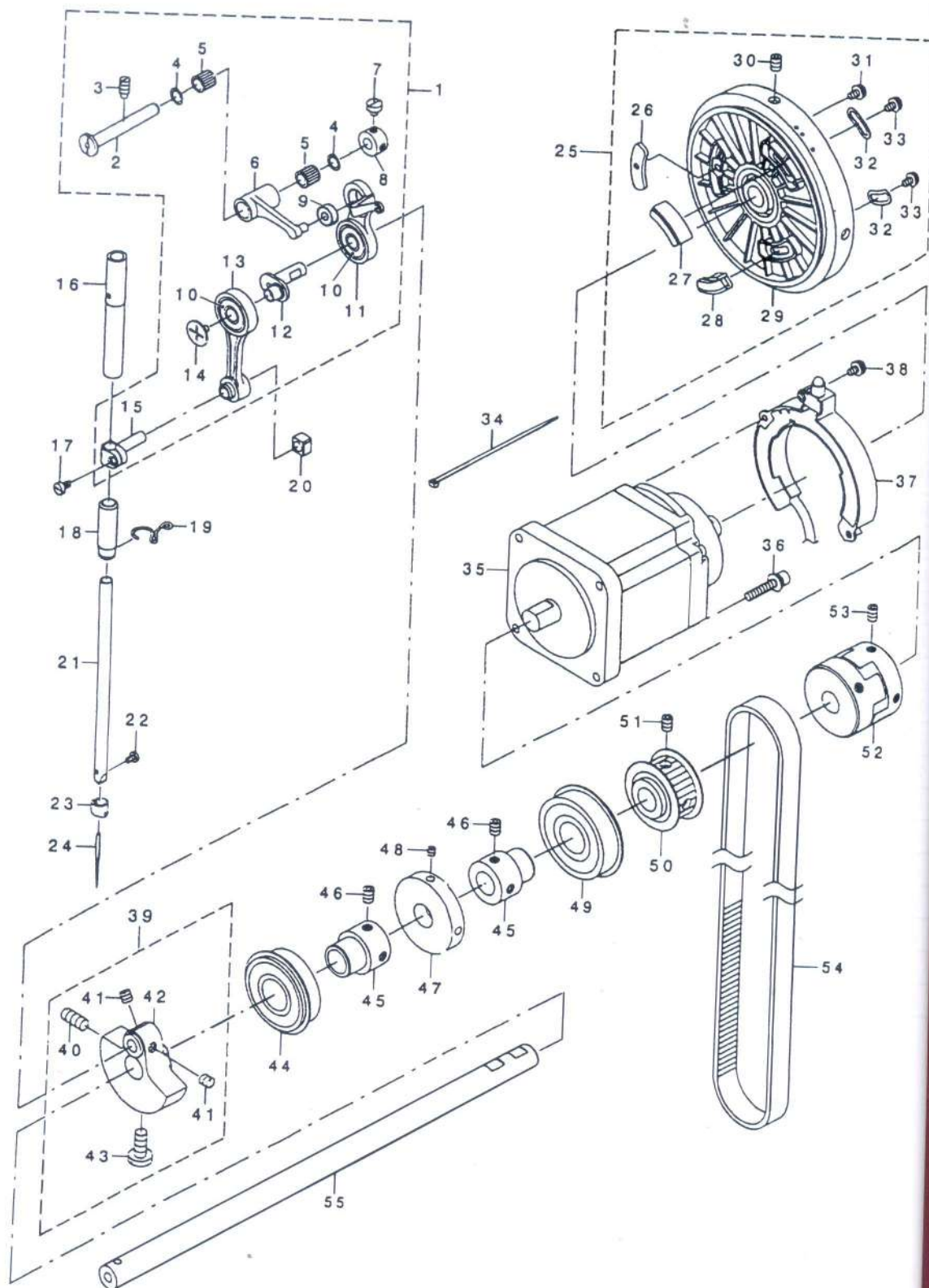
二、梭心绕线组件 Bobbin winder components



二、梭心绕线组件 Bobbin winder components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1143100100	236-36061	绕线器组件	Bobbin winder asm.	1
2	114S11001	SS-6090520-SP	螺钉 SM9/64" × 40 L=5	Screw SM9/64" × 40 L=5	1
3	11412009	236-36509	绕线调节板	Bobbin winnder adjust plate	1
4	11404001	236-36202	绕线控制杆	Bobbin lever	1
5	114S11002	SS-7091410-SP	螺钉 SM9/64" × 40 L=13.5	Screw SM9/64" × 40 L=13.5	1
6	H05006	RE-0500000-K0	挡圈 5	E-ring	1
7	11411002	106-18304	平垫片	Vertical roller washer	2
8	11411003	236-36707	绕线衬垫	Bobbin cushion	1
9	11431002	225-37658	绕线装置主座	Bobbin fitting basis compl.	1
10	11412010	225-38409	调节板	Adjusting plate	1
11	11427004	229-12109	弹簧	Spring	1
12	O01034	RO-0922702-00	O型圈9.5 × 2.7	Rubber ring	1
13	1141000100	225-38151	绕线凸轮组件	Bobbin cam shaft compl.	1
14	11427005	B3212-761-000	卡紧弹簧	Latch spring	1
15	H01008	RC-0560711-KP	轴用弹性挡圈5.6	Retaining ring	1
16	11427003	B1529-890-00C-A	弹簧	Pressur foot spring	1
17	1140200100	236-36053	绕线轴组件	Bobbin winder shaft compl.	1
18	O01033	236-36301	O型圈25.5 × 6.8	Ring25.5 × 6.8	1
19	1141300200	236-36657	底线夹线器	Bobbin thread tension asm.	1
20	11411004	110-72402	夹线螺母	Thread tension nut	1
21	11427006	D7133-555-B00	小夹线弹簧	Connecting rod spring	1
22	11413003	B3126-012-000	夹线板	Thread tension disk	2
23	1143100300	141-13450	底线过线杆	Bobbin thread tension rod asm.	1
24	114S16001	NS-6110530-SP	螺母SM11/64" × 40	Nut SM11/64" × 40	1
25	101S11026	SS-4150915-SP	螺钉 SM9/64" × 40 L=9	Screw SM9/64" × 40 L=9	1
26	11412011	137-06700	过线板	Thread guide plate	1
27	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	2
28	11419001	105-02300	割线刀	Thread cutter	1
29	114S11003	SS-6121030-SN	螺钉 SM3/16" × 28 L=10	Screw SM3/16" × 28 L=10	3

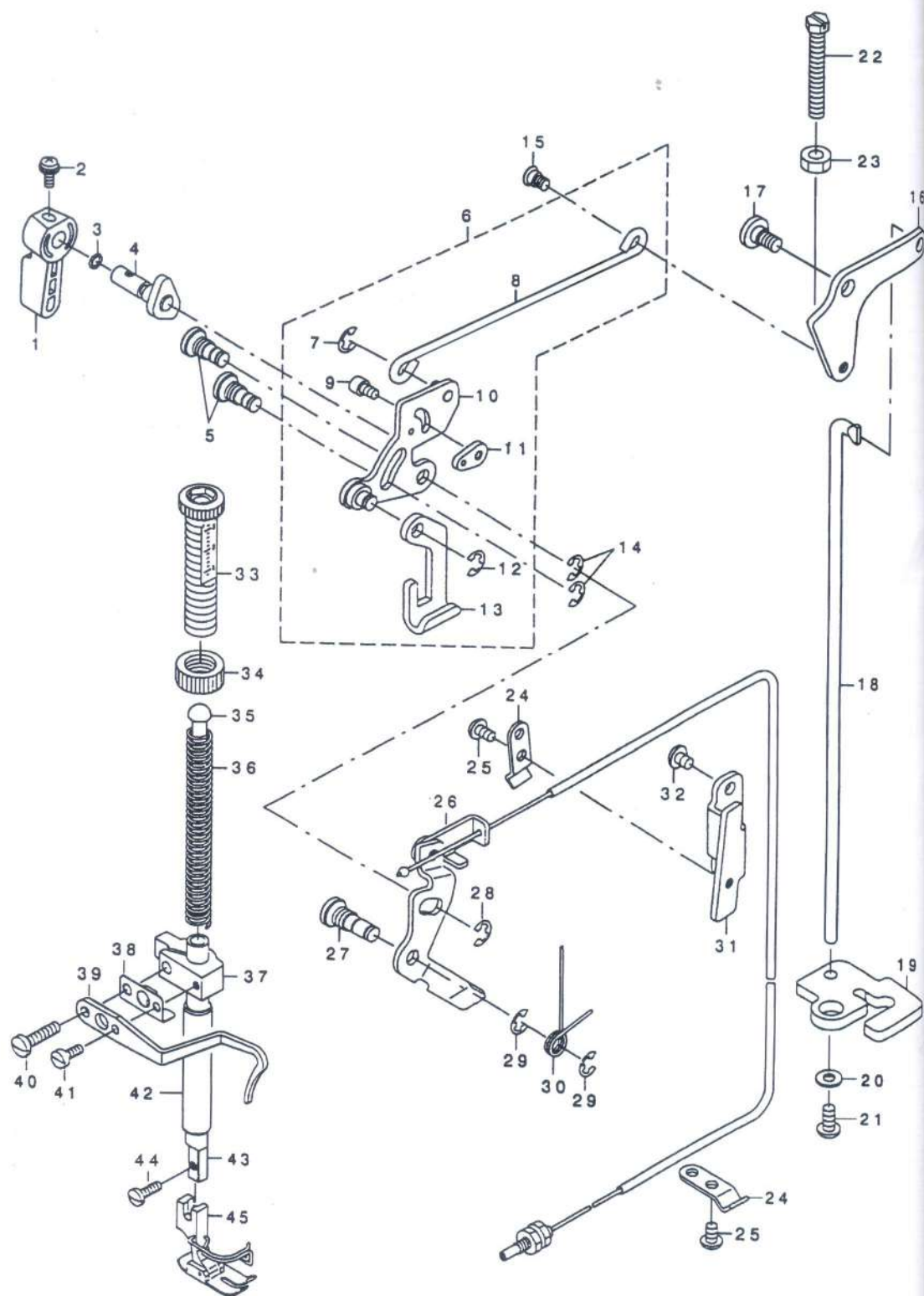
三、上轴、针杆组件 Main shaft & Needle bar components



三、上轴、针杆组件 Main shaft & Needle bar components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1143800100		挑线组件	Thread take-up asm.	1
2	11426001	236-22400	挑线连杆销	Thread take-up crank shaft	1
3	101S15010	SS-6151920-TP	螺钉 SM15/64" × 28 L=10.5	Screw SM15/64" × 28 L=10.5	1
4	11411005	228-91204	轴承支承挡圈	Bearing support	2
5	B08003	SB-3070002-00	滚针轴承K7 × 10 × 10	Bearing	2
6	11438004		挑线连杆	Thread take-up lever crand rod	1
7	114S11008		挡圈螺钉	Screw	2
8	11408002		挡圈	Thrust collar asm.	1
9	B01013		轴承605	Bearing605	1
10	B01014		轴承608	Bearing608	2
11	11438003		挑线杆	Thread take-up lever	1
12	11402007		挑线曲柄	Needle bar crand	1
13	1143800200		针杆连杆组件	Needle bar crand rod asm.	1
14	114S30004		挑线曲柄左旋螺钉	Screw(left twist)	1
15	11404005	229-06408	针杆连接柱	Needle rod holder	1
16	11403006	236-08003	针杆上套	Needle bar metal,upper	1
17	101S11005	SS-6090620-TP	针杆连接柱螺钉	Screw SM9/64" × 40 L=6	1
18	11403007	236-08102	针杆下套	Needle bar metal,lower	1
19	11413004	236-26203	针杆下衬套线钩	Needle bar metal,lower thread guide	1
20	11409001	B1414-555-000	针杆连接柱滑块	Slide block	1
21	11402005	110-35003	针杆	Needle bar	1
22	104S11006	SS-7080510-TP	螺钉SM1/8" × 44 L=4.5	Screw SM1/8" × 44 L=4.5	1
23	10113002	110-05303	针杆线勾	Needle bar thread guide	1
24	10117001	MDB-100B1400	机针DB × 1 #14	Needle DB × 1 #14	1
25	1143500200		手轮部件	Hand wheel asm.	1
26	300712		手轮	Hand wheel	1
27	11430024		感光片A	photosensitive glass A	1
28	11428007		垫片	Shim	1
29	11430024		感光片B	photosensitive glass B	1
30	11428007		波形垫片	Shim	1
31	11428007		垫片	Shim	1
32	H03005		挡圈18	Ring 18	1
33	S05044	SM-8060812-TP	螺钉M6 × 8	Screw M6 × 8	2
34	11211005	EA-9500B01-00	尼龙扎带	Cable band	2
35	700061	M6001-471-AA0	电机组件	Motor A asm.	1
36	114S30001	SL-6052592-TN	内六角螺栓	Bolt	4
37	11433002	M6801-471-0A0	同步器	Sync asm.	1
38	S01010	SL-4040881-SC	螺钉M4 × 8	Screw M4 × 8	2
39	1140400200	236-04168	针杆曲柄部件	Cornter weight asm.	1
40	101S15004	SS-8681650-TP	针杆曲柄紧固螺钉	Screw	1
41	101S15007	SS-8660810-TP	螺钉SM1/4" × 40 L=8	Screw SM1/4" × 40 L=6	2
42	11404003	236-04119	针杆曲柄	Cornter weight	1
43	101S11003	SS-7681650-TP	针杆曲柄定位螺钉	Screw	1
44	B10001	SB-1200009-00	轴承 6204	Bearing	1
45	11403002	236-04200	主轴轴承套	Bearing support	2
46	S05044	SM-8060812-TP	螺钉M6 × 8	Screw M6 × 8	4
47	11435008	236-36400	绕线器驱动轮	Bobbin winder driveng wheel	1
48	113S14002	SS-7110551-SP	螺钉 SM11/64" × 40 L=4	Screw SM11/64" × 40 L=4	2
49	B01003	SB-1200008-00	轴承 6304	Bearing	1
50	1143500400	236-07054	上同步齿轮组件	Sprocket,upper	1
51	S05044	SM-8060812-TP	螺钉M6 × 8	Screw M6 × 8	4
52	11403003	236-04309	联轴器	Coupling	2
53	S05044	SM-8060812-TP	螺钉M6 × 8	Screw M6 × 8	2
54	11435007	236-07302	同步带	Timing belt	1
55	11402004	236-04002	主轴	Main shaft	1

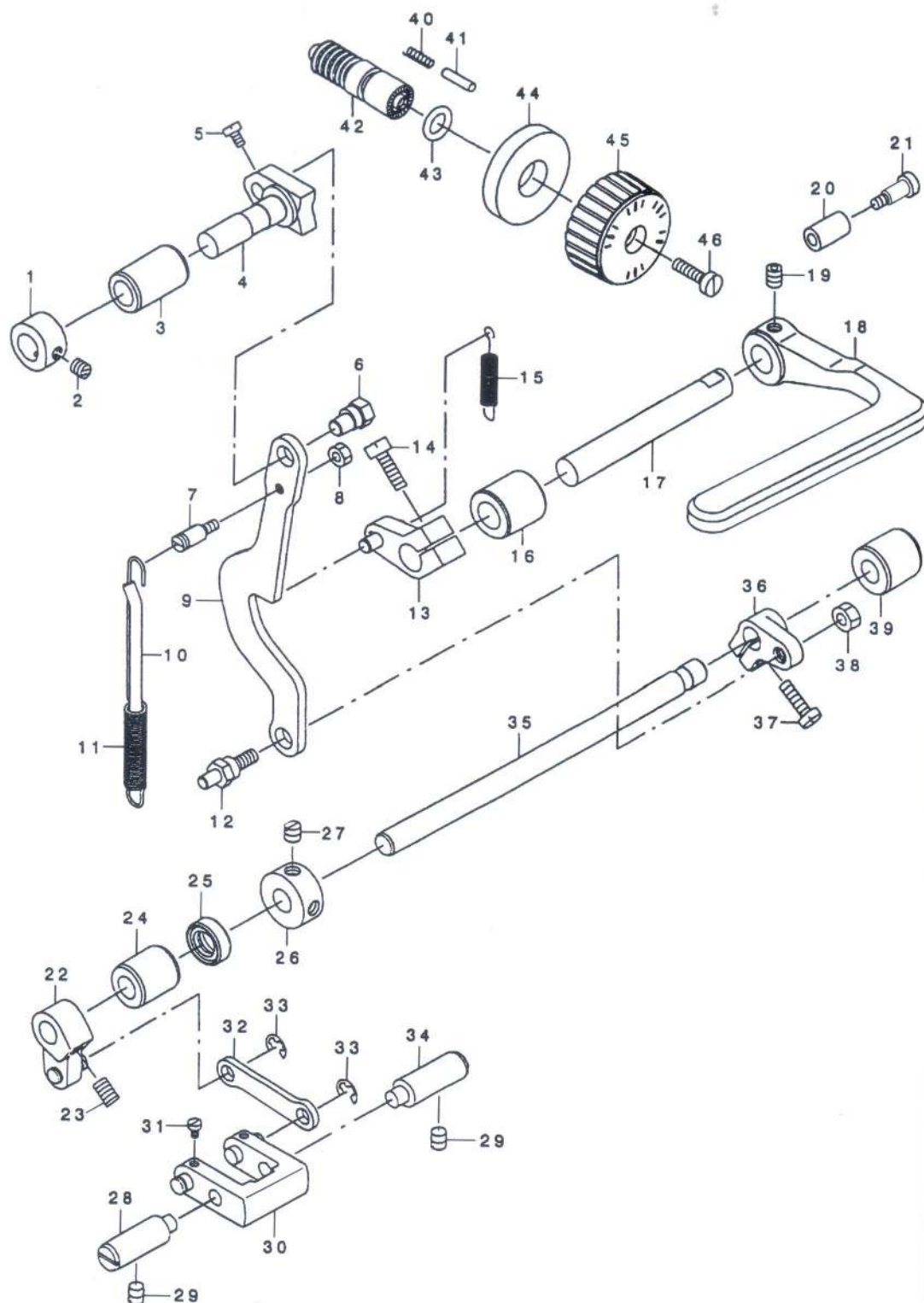
四、抬压脚及松线组件 Hand lifter & Tension release components



四、抬压脚及松线组件 Hand lifter & Tension release components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	10111001	110-71800	压脚扳手	Hand lifter	1
2	101S11010	B1521-555-000	油线固定板螺钉	screw	1
3	O01004	R0-0371801-00	压脚扳手轴O形圈4×1.8	Rubber ring	1
4	1041000200	229-08552	压脚扳手凸轮	Hand lifter cam asm.	1
5	101S20001	110-06509	前杠杆螺纹销	Link shaft	2
6	1140500300	236-09357	膝提拉杆组件	Lifting ever connect rod asm.	1
7	H05006	RE-0500000-K0	挡圈 5	E-ring	1
8	11405004	236-09308	抬压脚拉杆	Lifting ever connect rod	1
9	S05011	SM-6040602-TP	螺钉M4×6	Screw M4×6	1
10	1140500500	236-09456	抬压脚前杠杆	Lifting lind compl	1
11	11412014	236-09605	平板	Plate	1
12	H05006	RE-0500000-K0	挡圈 5	E-ring	1
13	11412017	229-08008	压脚升降板	Lifting plate	1
14	H05006	RE-0500000-K0	挡圈 5	E-ring	2
15	101S20004	110-07101	抬牙脚拉杆螺钉	Hinge screw	1
16	11405006	236-09704	抬压脚后杠杆	Lifting lever link	1
17	101S20003	SD-0720331-SP	后杠杆轴位螺钉	Hinge screw	1
18	11405007	236-09803	连接杆	Connecting rod	1
19	11411007	236-09902	连接柱导向板	Connecting rod guide	1
20	W01009	WP-0501016-SD	垫圈 5	Washer	1
21	101S11001	SS-4120915-SP	后窗板螺钉	Screw SM3/16"×28 L=9	1
22	114S12001	236-10801	螺钉	Screw	1
23	114S16005	NS-6150310-SP	螺母	Nut SM15/64"×28	1
24	11412020	110-45408	松线导管压板	Wire holder a	2
25	101S11025	SS-4110715-SP	螺钉 SM11/64"×40 L=7	Screw SM11/64"×40 L=7	2
26	11412019	236-26351	松线顶板组件	Thread tension release wire	1
27	101S20002	110-18108	松线顶板螺纹销	Tensiod release shaft	1
28	H05006	RE-0500000-K0	挡圈 5	E-Ring	3
29	H05006	RE-0500000-K0	挡圈 5	E-Ring	2
30	11427009	236-26807	松线顶板复位簧	Tension release return spring	1
31	11413006	236-26906	松线导管支架	Wire holder bra cket	1
32	101S11001	SS-4120915-SP	螺钉 SM3/16"×28 L=9	Screw SM3/16"×28 L=9	2
33	114S30005	236-09209	调压螺钉	Presser spring regulator	1
34	114S16002	110-71701	调压螺母	Nut	1
35	11405008	236-10306	调压导杆	Presser guide bar	1
36	11427007	B1505-227-000-A	调压弹簧	Presser spring	1
37	11404006	236-10108	压杆导架	Presser bar guide bracket	1
38	11412018	236-10405	导架板	Guide bracket plate	1
39	11413005	236-09100	缓线调节钩	Presser bar thread guide	1
40	114S11004	SS-7111810-TP	螺钉 SM11/64"×40 L=18	Screw SM11/64"×40 L=18	1
41	101S11005	SS-6090620-TP	针杆连接柱螺钉	Screw SM9/64"×40 L=9	1
42	11403008	236-09001	压杆套	Bushing	1
43	11402009	236-10207	压杆	Presser bar	1
44	101S11009	SS-7091110-TP	螺钉 SM9/64"×40 L=10.5	Screw SM9/64"×40 L=10.5	1
45	1011600100	B1524-012-0BA	活压脚组件	Presser foot asm.	1

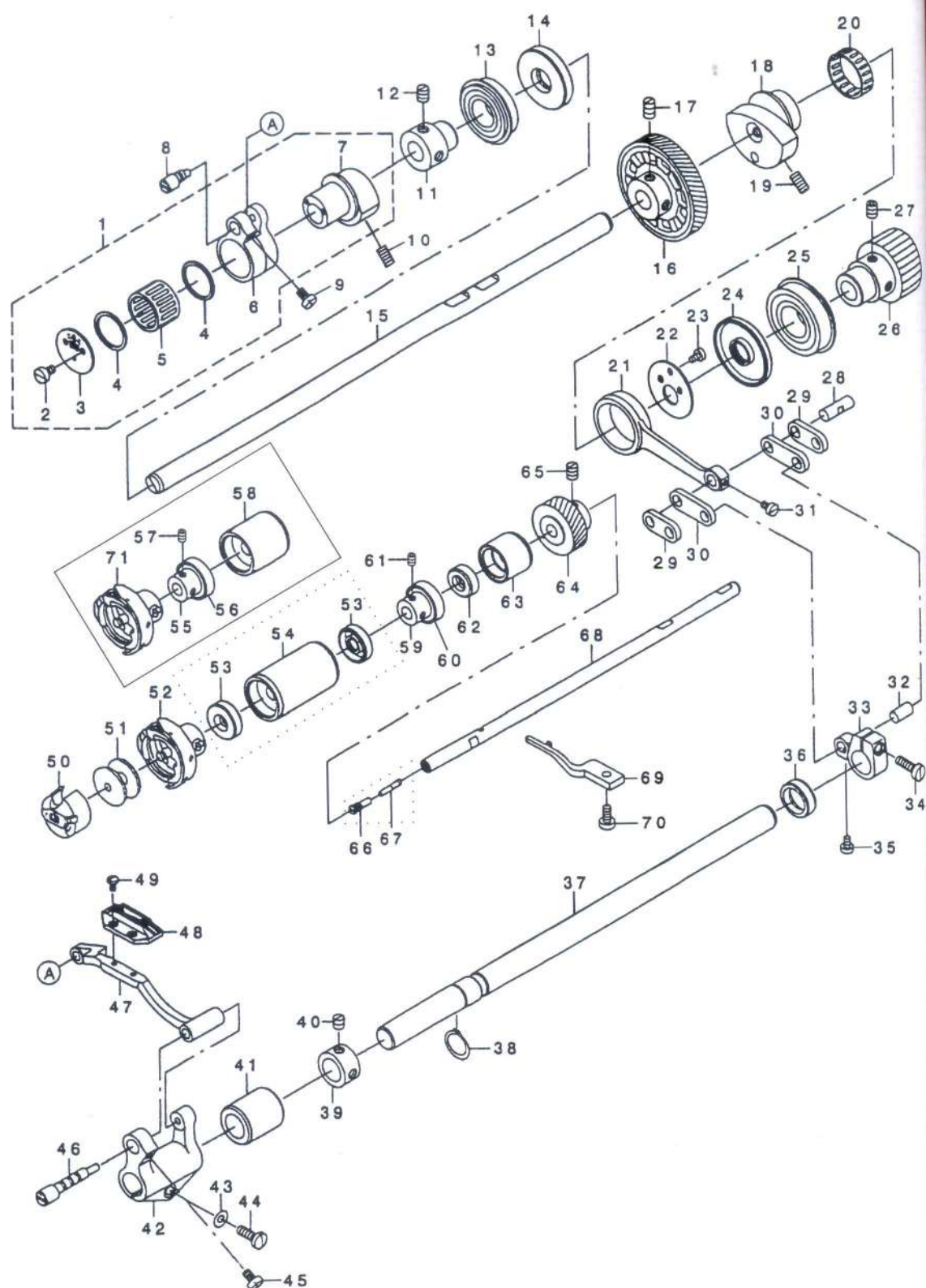
五、送料调节组件 Feed adjust mechanism components



五、送料调节组件 Feed adjust mechanism components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	11408007	CS-111101E-SH	送料调节座挡圈	Collar asm.	1
2	114S15001	SS-8660330-SP	送料调节座挡圈螺钉	Screw	2
3	11403009	236-13508	送料调节器轴套	Adjusting base shaft metal	1
4	11402011	236-13300	送料调节座	Feed adjusting base	1
5	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	2
6	11402012	236-13409	送料调节销	Feed adjusting pin	1
7	114S30007	101-20004	弹簧悬置螺钉	Screw	1
8	114S16004	NS-6110310-SP	螺母	Nut	1
9	11404013	236-13201	送料摆动杆	Feed adjusting rod	1
10	11436002	236-3007	油管	Tube	1
11	11427011	236-14001	送料调节弹簧	Feed adjusting spring	1
12	11426007	236-13102	后送料调节轴曲柄螺栓	Feed changing shaft arm B pin	1
13	1140401400	236-13953	倒送料曲柄组件	Feed lever arm asm.	1
14	101S11016	SS-6121410-SP	送料曲柄螺钉	Screw	1
15	11427012	236-14308	送料杠杆拉簧	Feed lever spring	1
16	11403010	236-13805	送料扳手轴套	Feed lever shaft metal	1
17	11402013	236-13706	送料杠杆轴	Feed lever shaft	1
18	300251	236-13607	倒送料扳手	Feed lever	1
19	S05044	SM-8060812-TP	螺钉M6 × 8	Screw M6 × 8	2
20	11203001	111-00500	送料扳手定位套	Reverse feed lever stopper	1
21	112S11002	SS-6121840-SP	送料扳手定位套螺钉	Screw	1
22	1140400900	236-12450-00	前送料调节轴曲柄部件	Feed changing shaft arm asm.	1
23	101S15007	SS-8660810-TP	螺钉	Screw	1
24	11408005	236-12807	倒送料轴后轴套	Metal.A	1
25	11422005	236-12609	送料调节轴油封	Feed changing shaft oil seal	1
26	11408004	236-12708	拾牙轴挡圈	Thrust collar	1
27	101S15007	SS-8660810-TP	上轴挡圈螺钉	Screw	2
28	10126010	110-08802	调节摆动板座销钉A	Adjusting link fulcrum shaft A	1
29	101S15010	SS-8151150-TP	5550-0615螺钉	Screw	2
30	1140400700	236-12054-00	调节摆动座部件	Adjusting link asm.	1
31	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	2
32	11405009	236-12104	调节摆动座连接板	Adjusting link connecting link	1
33	H05006	RE-0500000-K0	挡圈 5	E-Ring	2
34	11426005	236-12302	调节摆动板座销钉B	Adjusting link fulcrum shaft B	1
35	11402010	236-12500	送料调节轴	Feed changing shaft	1
36	11404012	236-13003	倒送料调节轴曲柄	Feed changing shaft arm,B	1
37	101S11016	SS-6121410-SP	送料曲柄螺钉	Screw	1
38	114S16005	NS-6150310-SP	螺母	Nut	1
39	11408006	236-12906	倒送料轴前轴套	Metal.B	1
40	10127010	B1148-555-000	送料距锁合簧	Spring	1
41	10126015	110-52701	送料距锁合销	Pin	1
42	10426006	229-11804	送料调节螺柱	Feed regulator screw	1
43	10122016	R0-0922702-00	送料调节螺钉O形圈	Rubber ring	1
44	11422007	D2468-555-B00	橡皮塞	Rubber plunger	1
45	10111002	110-71909	送料距旋钮	Feed dial	1
46	101S11022	SS-6121860-SP	螺钉 SM3/16" × 28 L=18	Screw SM3/16" × 28 L=18	1

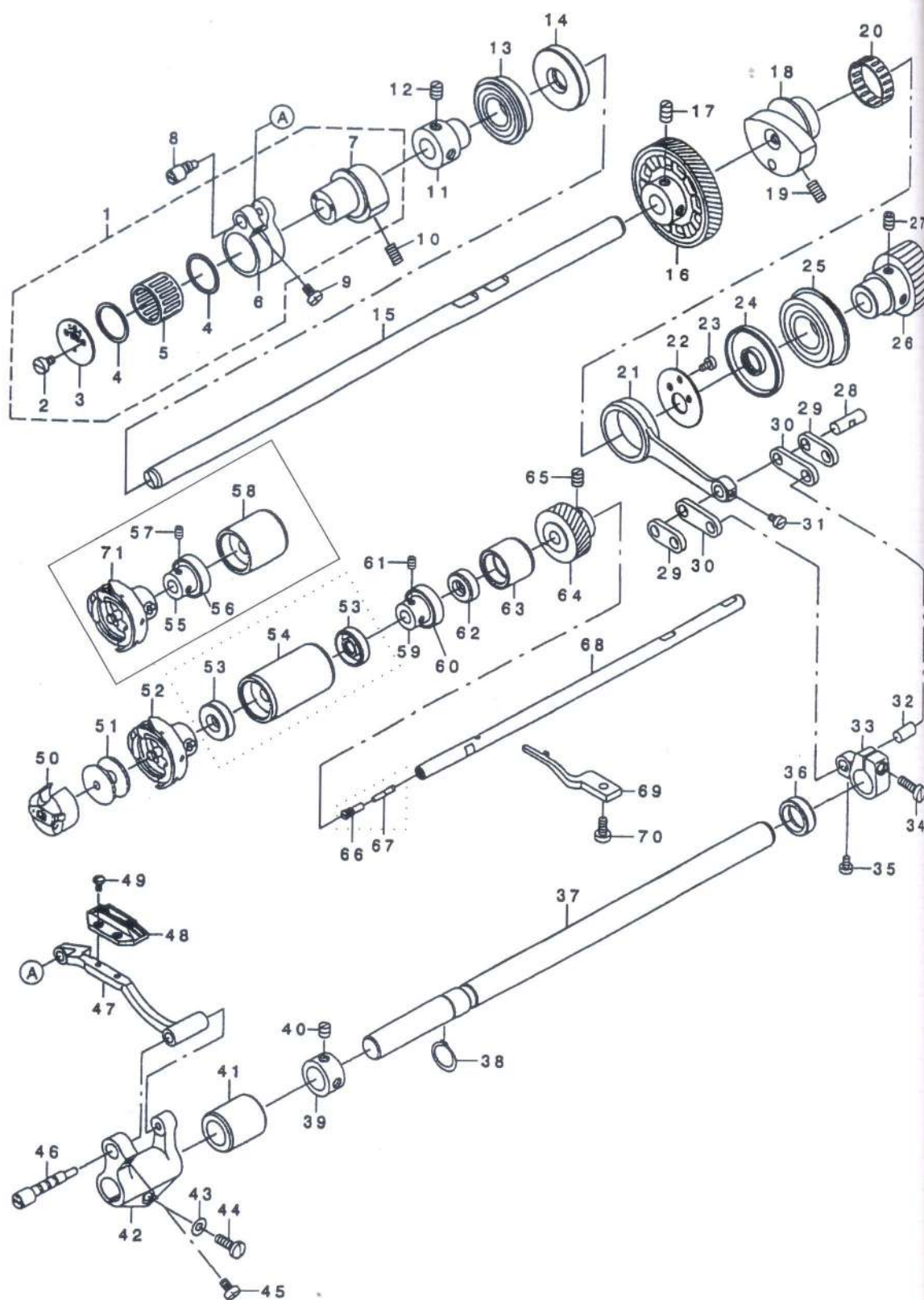
六、送料及钩线驱动组件 Machine frame & Miscellaneous cover components



六、送料及钩线驱动组件 Machine frame & Miscellaneous cover components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1141000500		抬牙凸轮组件	Feed driving cam asm.	1
2	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 28 L=6	2
3	11412024	236-18309	送料驱动盖板	Feed reiving cam plate	1
4	11403012	236-18101	抬牙曲柄轴承衬套	Feed driving cam thrust bush	2
5	B08005	SB-3200006-0A	滚针轴承K20 × 24 × 17	Bearing	1
6	11404018	236-18200	送料驱动基座臂	feed friving base arm	1
7	11410006	236-18002	送料驱动凸轮	Feed driving cam	1
8	11402016	236-18408	送料驱动偏心轴	Feed driving base shaft	1
9	101S11025	SS-7110740-TP	螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	1
10	101S15010	SS-8151150-TP	螺钉	Screw	2
11	11403013	236-18606	送料驱动轴轴承套	Bearing support	1
12	101S15007	SS-8660810-TP	螺钉	Screw	2
13	B01010	SB-1170004-00	滚针轴承6003	Bearing	1
14	1142201000	236-18705	抬牙轴前油封	Oil seal	1
15	11402017	236-18507	抬牙轴	Feed driving shaft	1
16	1142500100	236-20503	大齿轮组件	Gear,large asm.	1
17	101S15007	SS-8660810-TP	螺钉SM1/4" × 40 L=8	Screw SM1/4" × 40 L=8	2
18	11410004	236-16006	送料摇杆凸轮	Feed rocker cam	1
19	101S15010	SS-8151150-TP	螺钉	Screw	2
20	B08004	B4123-522-00A	滚针K25 × 29 × 10	Needle rollar	1
21	11405010	236-16105	送料摇杆连杆	Feed rocker rod	1
22	11412021	236-16204	送料摇杆凸轮盖板	Feed rocker cam plate	1
23	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	2
24	1142201200	236-18804	抬牙轴后油封	Oil seal	1
25	B10003	SB-1200010-00	轴承6004ZZN	Bearing	1
26	11435009	236-07203	下同步齿轮	Lower sprocket	1
27	S05044	SS-8660810-TP	螺钉M6 × 8	Screw M6 × 8	2
28	11426010	110-09206	短摆动板连接销	Walking foot pin	1
29	11412022	236-16303	送料短摆动板	Connecting link,A	2
30	11412023	236-16402	送料长摆动板	Connecting link,B	2
31	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	1
32	11426009	110-09107	送料曲柄销	Walking foot pin	1
33	11404017	236-16501	送料曲柄部件	Feed rocker arm asm.	1
34	101S11016	SS-6121610-SP	送料曲柄螺钉	Screw	1
35	101S11005	SS-6090620-TP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	1
36	1142200800	228-88002	油封组件	Oil seal asm.	1
37	11402014	236-16600	送料轴	Feed rocker shaft	1
38	H03001	RC-0150001-KP	送料轴轴用挡圈15	Retaining ring	1

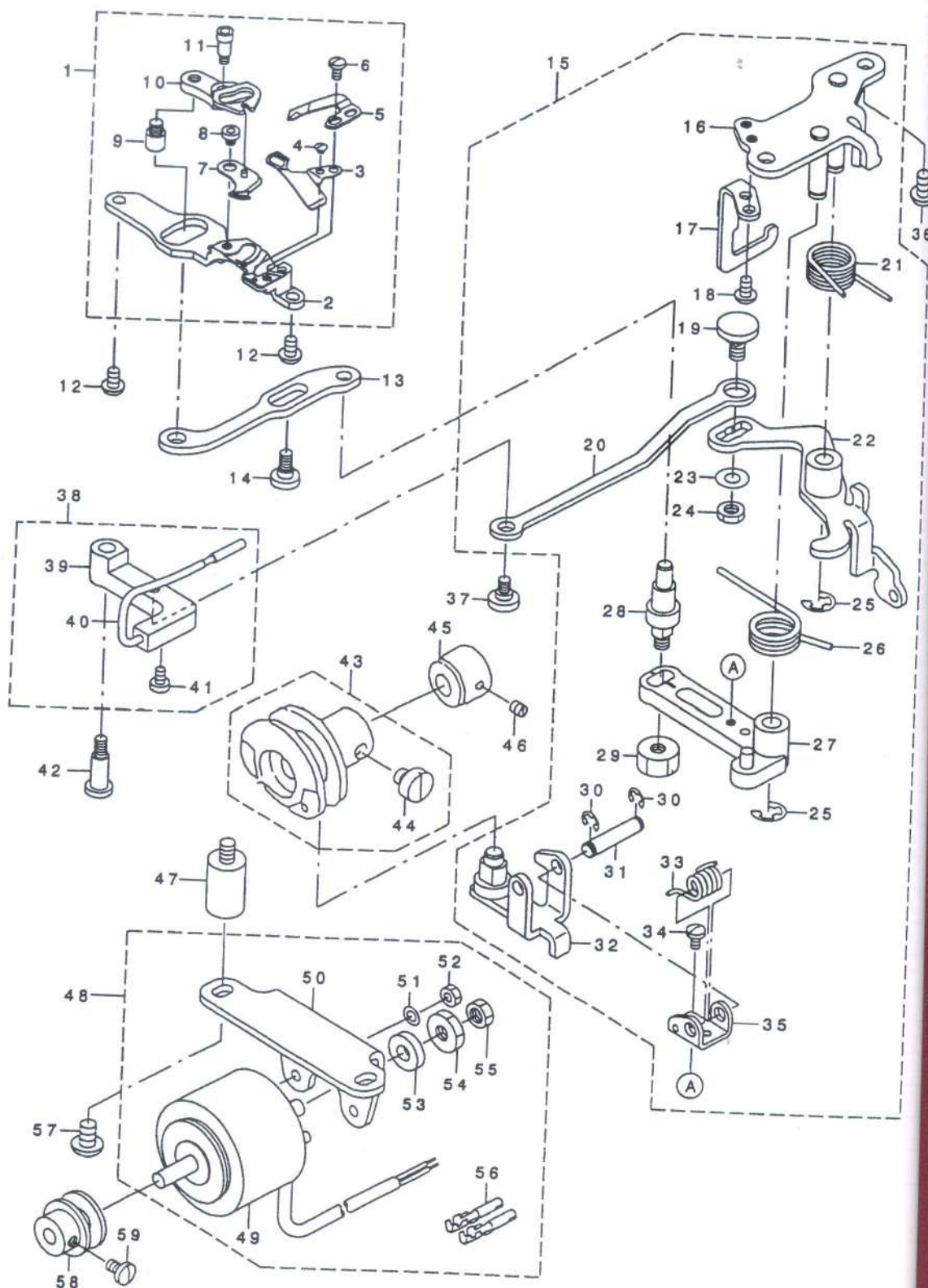
六、送料及钩线驱动组件(续) Machine frame & Miscellaneous cover components (continuation)



六、送料及钩线驱动组件(续) Machine frame & Miscellaneous cover components (continuation)

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
39	10108003	229-04106	送料轴挡圈	Main shaft thrust collar	1
40	101S15007	SS-8660810-TP	上轴挡圈螺钉	Screw	2
41	11403011	236-16709	送料轴套筒	Feed rocker shaft metal	1
	11503001		送料轴套筒(8990用)	Feed rocker shaft metal(for 8990)	1
42	11407002	236-16808	牙架座	Feed rocker bade arm	1
43	10128003	WP-0480856-SP	牙架座螺钉垫圈	Washer	1
44	101S11016	SS-7121410-TP	牙架座螺钉	Screw	1
45	101S11025	SS-7110740-TP	螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	1
46	11402015	236-16907	送料摇杆偏心轴	Feed rocker base shaft	1
47	11407003	236-17004	牙架	feed base	1
48	11214001	B1613-012-I00	送料牙	Feed dog	1
49	104S11018	SS-4080620-TP	送料牙螺钉	Screw	2
50	10118002	110-38759	梭子	Bobbin case asm.	1
51	10118003	B9117-552-A00	梭心	Bobbin	1
52	11218001	111-41355	旋梭	Hook asm.	1
53	1142201400	236-20206	下轴前轴套油封	Oil seal	2
54	11403014	236-20156	下轴前套筒	Hook driving shaft metal compl.	1
55	11403016	228-89851	下轴前轴承套	Bearing support	1
56	11424001		6901轴承	Bearing	1
57	113S14002		螺钉	Screw	1
58	11403015		旋梭轴前轴套	Hook driving shaft metal compl.	1
59	11403016	236-20354	下轴前轴承套	Bearing support	1
60	11424001		6901轴承	Bearing	1
61	113S14002	SS-7110551-SP	螺钉 SM11/64" × 40 L=4.5	Screw SM11/64" × 40 L=4.5	2
62	1142201600	228-90008	油封组件	Oil seal asm.	1
63	11403018	236-20404	旋梭轴后轴套	Hook shaft rear metal	1
64	11425002	236-20701	斜齿轮A	Gear,small	1
65	101S15007	SS-8660810-TP	螺钉SM1/4" × 40 L=8	Screw SM1/4" × 40 L=8	2
66	101S30005	B1808-552-000	下轴限油螺钉	Oil seal screw	1
67	10123003	110-15906	下轴限油芯	Oil wick	1
68	11402019	236-20008	下轴	Hook driving shaft	1
69	10112016	110-38809	旋梭定位钩	Bobbin case holder	1
70	101S11011	SS-6111010-TP	旋梭定位钩螺钉	Screw	1
71	11418001	228-90404	旋梭	Hook asm.	1

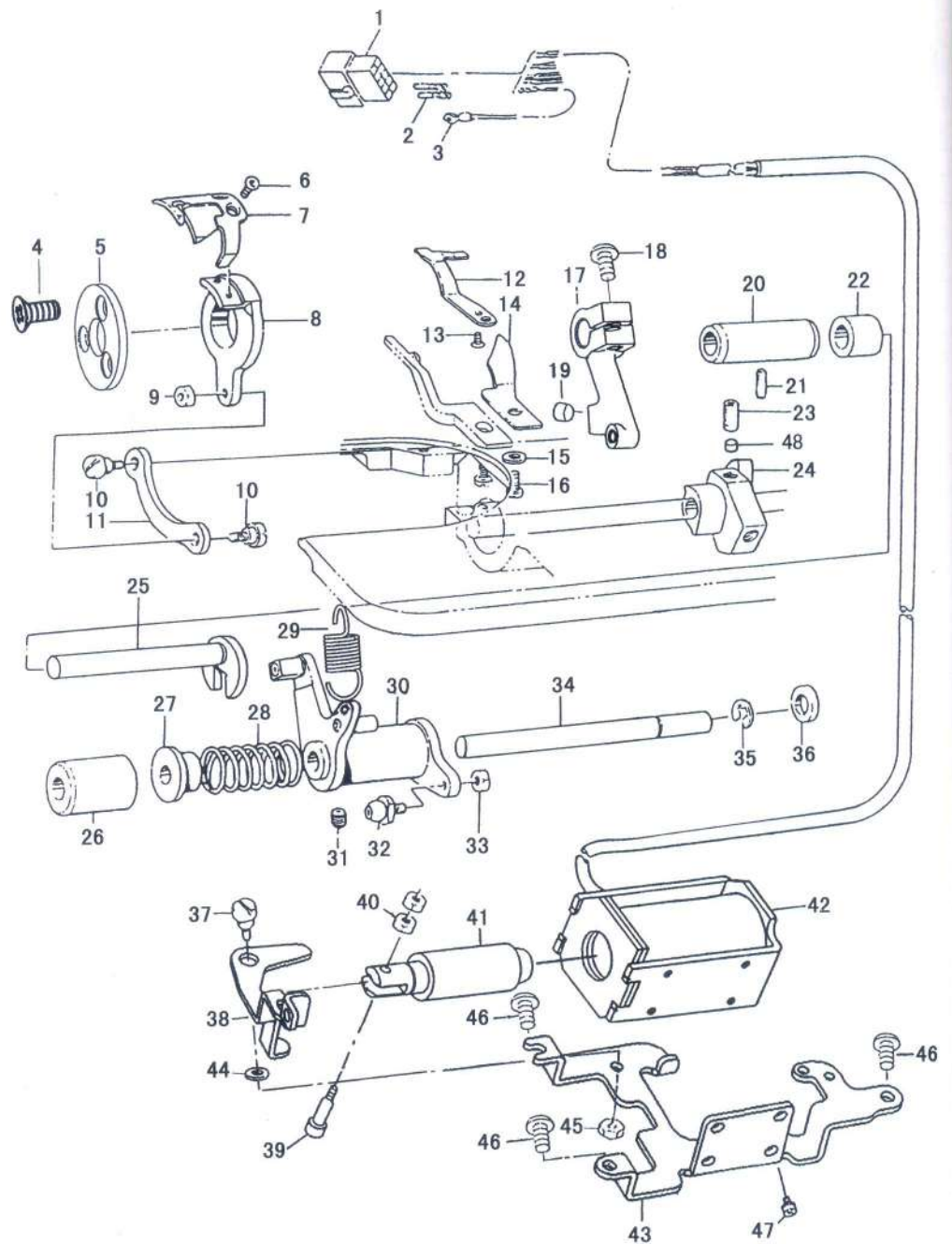
七、切线组件(8990) Thread trimmer components(8990)



七、切线组件(8990) Thread trimmer components(8990)

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1141900200	236-23051	切线刀组件	Knife unit	1
2	11419003	236-23002	刀架	Knife installing base	1
3	11419004	113-13103	导线片	Thread guide for knife	1
4	112S11005	SS-2060210-SP	螺钉 SM3/32" × 56 L=2.3	Screw SM3/32" × 56 L=2.3	1
5	11219003	D2406-555-D0H	固定刀	Cornter knife	1
6	112S11006	SS-4080620-TP	螺钉 SM1/8" × 44 L=6	Screw SM1/8" × 44 L=6	2
7	11219002	110-40052	活动刀	Moring knife asm.	1
8	112S13001	110-40508	活刀螺钉	Moring knife hinge screw	1
9	11426014	110-40409	止动销	Pin	1
10	11204001	236-23903	活动刀曲柄	Forked base for knife	1
11	112S20001	SD-0460703-TP	螺钉销 D=4.6 L=7	Hinge screw D=4.6 L=7	1
12	101S11011	SS-6111010-TP	旋梭定位钩螺钉	Screw	2
13	11433006	236-24000	活动刀连杆	Moving knife link	1
14	114S20002	SD-0600321-SP	轴位螺钉	Screw	1
15	1141900500	236-23168	切线主动组件	Thread trimmer driving unit	1
16	1141202700	236-23556	剪线驱动座组件	Base plate asm.	1
17	11412029	236-23804	挡板	Driving arm stopper	1
18	101S11025	SS-7110740-TP	螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	2
19	112S30003	110-42306	挡线器连杆连接螺钉	Screw	1
20	11405011	236-23705	挡线连杆	Picker link	1
21	11427020	110-41704	剪线离合复位弹簧	Clutch spring	1
22	1141202500	236-23358	剪线离合架组件	Clutch plate asm.	1
23	W01003	WP-0621016-SH	垫圈 6	Wadher6	1
24	112S16004	NS-6150310-SP	螺母 SM15/64" × 28	Nut SM15/64" × 28	1
25	H05009	RE-0600000-K0	开口挡圈	E-ring	2
26	11427019	110-43700	切线复位弹簧	Roller return spring.B	1
27	1140401900	236-23150	剪线驱动曲柄组件	Knife driving arm asm.	1
28	11430005	236-23200	切线连杆连接螺钉	Moving knife link pin	1
29	112S16004	NS-6150810-SP	螺母 SM15/64" × 28	Nut SM15/64" × 28	1
30	H05013	RE-0400000-K0	开口挡圈	E-ring	2
31	11426013	110-41407	跳板销	roller fulcrum shaft	1
32	11212021	110-40953	离合跳板组件	Roller arm asm.	1
33	11427018	110-41506	跳板簧	Roller return spring	1
34	112S11009	SS-7090610-SP	螺钉 SM9/64" × 40 L=6	Screw SM9/64" × 40 L=6	1
35	11412030	110-41308	托板支持架	Roller arm asm.	1
36	101S11026	SS-4150915-SP	螺钉 SM15/64" × 28 L=9	Screw SM15/64" × 28 L=9	2
37	114S20003	SD-0630275-SP	轴位螺钉	Screw	1
38	1140100300	236-24158	剪线下挡线组件	Picker arm asm.	1
39	11401004	236-24109	挡线器座	Picker arm	1
40	11412031	236-24257	挡线	Thread take-up picker asm.	1
41	101S11005	SS-6090620-TP	螺钉	Screw	2
42	114S20004	SD-0641452-TP	轴位螺钉	Screw	1
43	11210001	110-42850	剪线驱动滑轮组件	Thread trimmer cam asm.	1
44	112S30002	SS-6660610-TP	螺钉 SM1/4" × 40 L=6	Screw SM1/4" × 40 L=6	2
45	11208001	110-42959	切线驱动滑轮定位挡圈	Cam collar asm.	1
46	112S15001	SS-8110520-TP	螺钉 SM11/64" × 40 L=4.5	Screw SM11/64" × 40 L=4.5	1
47	114S30008	D8233-241-E00	支架支撑	Belt cover support	2
48	1123000600	236-24356	剪线电磁铁组件	Solenoid asm.	1
49	11430007	236-24307	电磁铁	Solenoid	1
50	11412032	236-24406	支架	Solenoid base	1
51	11428005	WP-0450000-SD	垫圈 4.5 × 8 × 0.5	Wadher4.5 × 8 × 0.5	2
52	N01001	NH-604000-SN	螺母 M4	Nut M4	2
53	11222005	110-43304	电磁铁橡皮	Solenoid rubber	1
54	114S16006	NS-6660410-SH	螺母	Nut	1
55	114S16007	NS-6660430-SP	螺母 SM1/4" × 40	Nut SM1/4" × 40	1
56	11230005	HK-0346400-0B	电线插针	Pim contact	2
57	101S11026	SS-4150915-SP	螺钉 SM15/64" × 28 L=9	Screw SM15/64" × 28 L=9	2
58	11408009	236-24505	驱动轮	Driving block	1
59	101S11025	SS-7110740-TP	螺钉	Screw	1

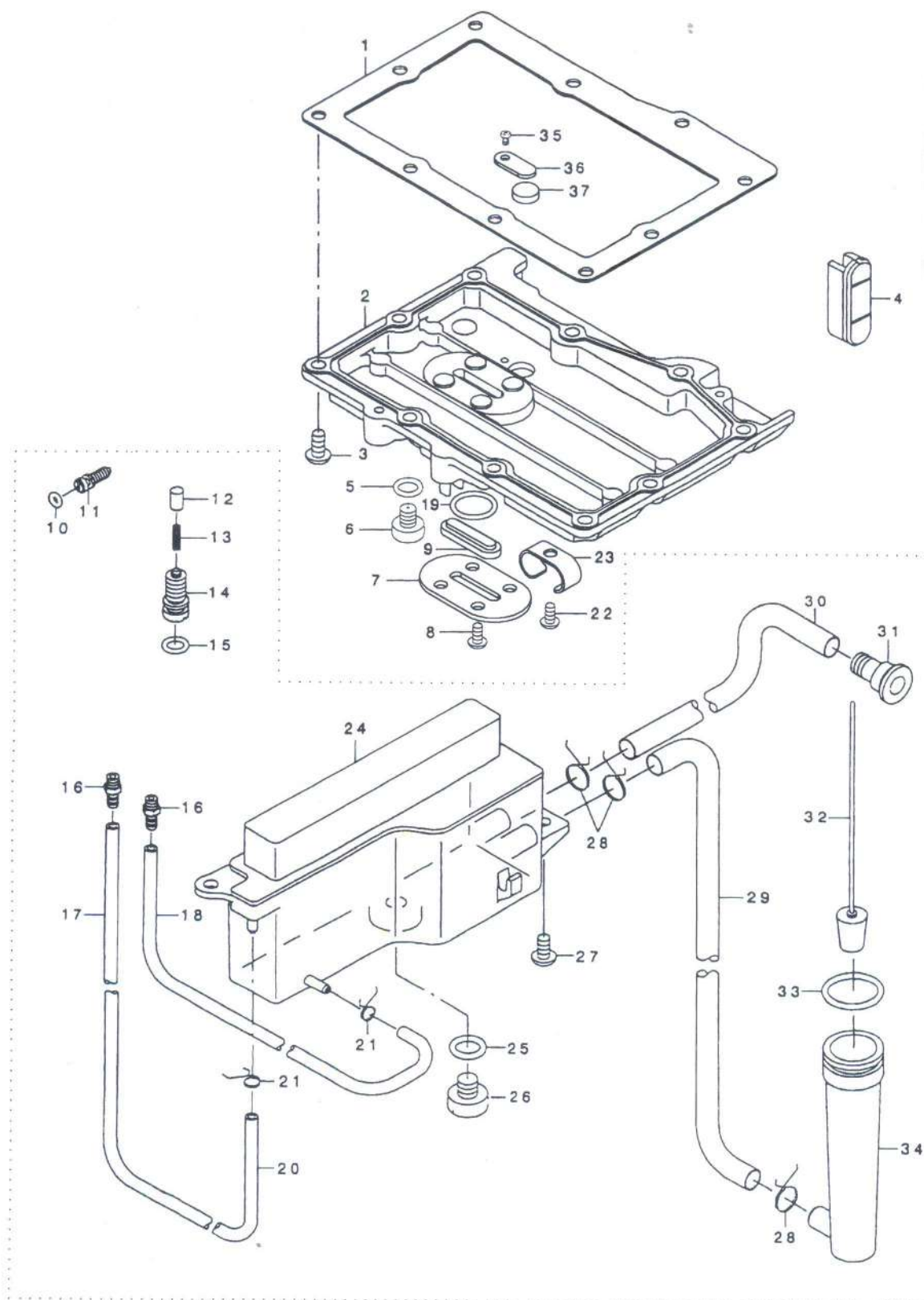
七、切线组件(8991) Thread trimmer components(8991)



七、切线组件(8991) Thread trimmer components(8991)

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	11230004		接线器	Housing 14P	1
2	11230005		电线插针	Pin contact	1
3	11212025		地线接头	Ground wire asm.	1
4	114S17001		刀架压板螺钉	Screw	2
5	11512001		刀架压板	Partiality shank asm.	1
6	113S17002		活动刀固定螺钉	Screw	2
7	11319002		活动刀	Motorial knife	1
8	11307001		剪线刀架	Knife bracket	1
9	113S16001		螺母	Nut	1
10	115S20001		连杆螺钉	Screw	2
11	11505001		连杆	Knife shaft connecting rod	1
12	11319001		割线刀	Secant knife	1
13	113S17001		螺钉	Screw	1
14	11312003		护针片	Protect needle patch	1
15	W02004		垫圈	Washer	1
16	114S11009		螺钉	Screw	1
17	11504001		驱动曲柄	Thread shear rock arm	1
18	113S11002		螺钉	Screw	2
19	11511001		驱动曲柄止动块	Positioning block	1
20	11303003		切线轴套	Thread shear cam rock arm assy	1
21	113S14001		螺钉	Screw	1
22	11503005		驱动曲柄轴衬套	Short bush	1
23	116S14005		螺钉	screw	1
24	11310001		凸轮	Thread shear cam	1
25	11304002		切线凸轮曲柄轴	Thread shear rock arm shaft	1
26	11503004		切刀驱动轴轴套	Thread shear rock arm	1
27	11322002		扭簧端盖	Spring cover	1
28	11327002		弹簧	Spring	1
29	11527001		弹簧	Spring	1
30	1150400200		剪线驱动组件	Thread shear rock arm shaft	1
31	116S14003		针杆曲柄销定位螺钉	Screw	1
32	11324001		滚柱	Roll shaft assy	1
33	113S16001		螺母	Nut	1
34	11302002		轴	Thread shear shaft	1
35	H03006		挡圈	Retaining ring	1
36	11322003		电磁铁缓冲垫	Magnetic plug cushion mat	1
37	115S20003		轴位螺钉	Hinge screw	1
38	11512003		剪线驱动板	Driving plate	1
39	115S20002		轴位螺钉	Plunger arm pin	1
40	114S16008		螺母	Nut	2
41	11530002		电磁铁芯轴	Reverse feed solenoid plunger	1
42	1153000200		剪线电磁铁组件	Magnetic plug	1
43	11512002		切线磁铁支架	Magnetic plug cushion mat	1
44	11528002		垫圈	Wisher	1
45	115S16001		螺母	Nut	1
46	101S11026		螺钉	Screw	1
47	S04008		螺钉	Screw	1
48	11309030		凸轮顶柱	pole	4

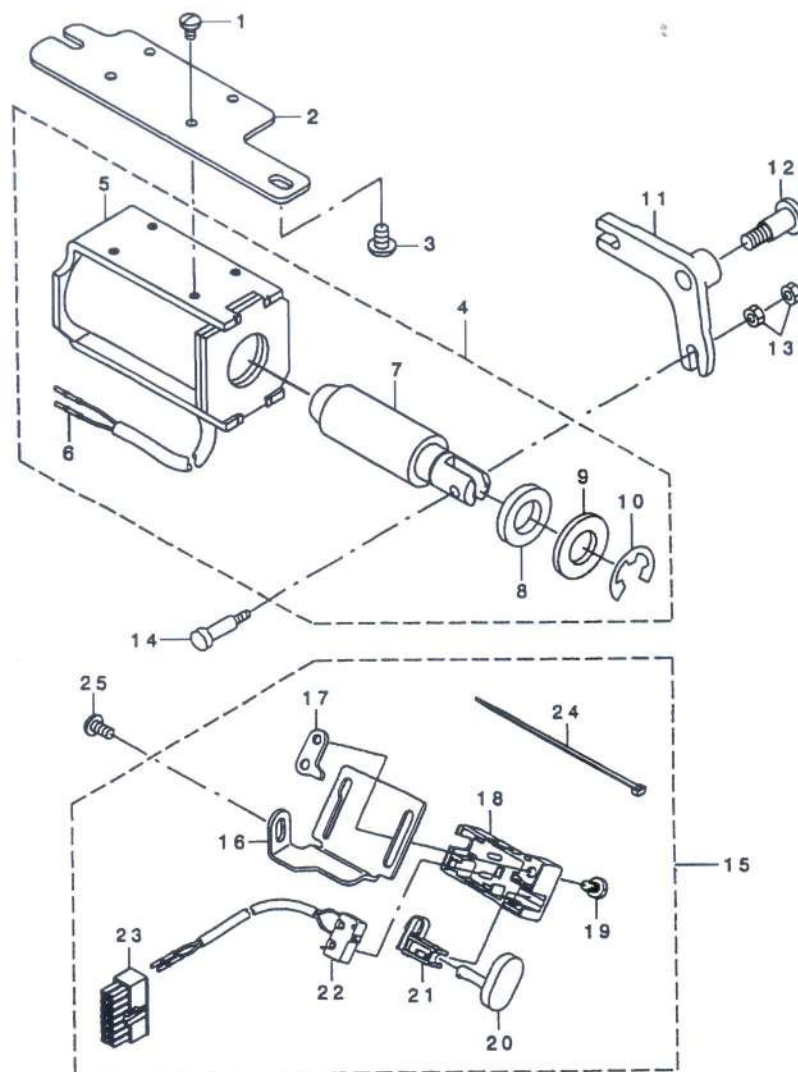
八、润滑组件 Oil lubrication components



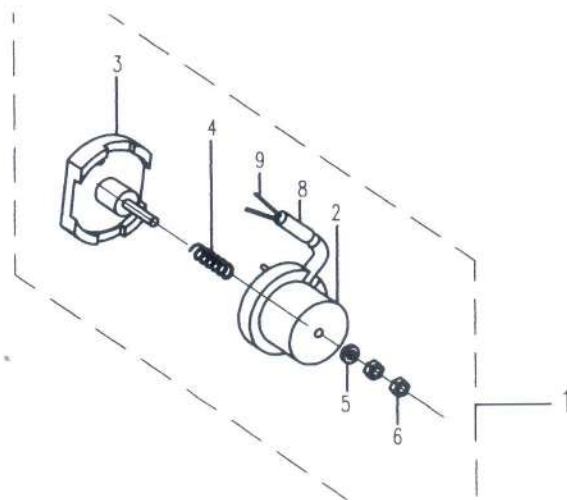
八、润滑组件 Oil lubrication components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	11422018	236-28100	齿轮箱垫	Gear box packing	1
2	11401005	236-28001	齿轮箱盖	Gear box cover	1
3	101S11016	SS-6121410-SP	螺钉	Screw SM3/16" × 28 L=10	10
4	11411015	236-29108	油窗	Oil sight window	1
5	10128015		O型圈	Rubber ring	1
6	114S11011		齿轮箱盖螺钉	Gear box cover screw	1
7	11412057		油窗压板	Oil sight window holder	1
8	101S11007		螺钉	Screw	4
9	10411030		油窗	Oil sight window	1
10	O01038		O型圈3.5 × 2.4	Rubber ring	1
11	114S30015		油量调节螺丝	Oil adjusting screw	1
12	10526003	236-28803	柱塞	Plunger	1
13	11427021	236-28902	柱塞弹簧	Plunger spring	1
14	114S30010	236-29009	插座螺钉	Screw	1
15	O01036	R0-0681901-00	O型圈	Rubber ring	1
16	114S30009	236-29801	润滑连接器	Lubrication connector	2
17	11421002	236-30007	油管	Tube	1
18	11421002	236-30007	油管	Tube	1
19	O01003		O型圈	Rubber ring	1
21	11436003	236-29306	A型塑料管夹	Pipe stopper A	2
22	101S11007		螺钉	Screw	1
23	11412056		油管压板	Tube holder	1
24	1141101100	236-28555	油箱组件	Oil tank asm.	1
25	10128016	236-29306	垫片	Washer	1
26	114S11007		油箱螺钉	Screw	1
27	101S11001	SS-4120915-SP	螺钉	Screw SM3/16" × 28 L=9	2
28	11436004	236-29603	B型塑料管夹	Pipe stopper B	3
29	11421001	BP-8000000-00	油管	Tube	1
30	11421001	BP-8000000-00	油管	Tube	1
31	11436006	236-29603	油口	Oil inlet	1
32	11431005		油标	Floater asm.	1
33	10122019	R0-1952401-00	油窗O形圈	Rubber ring	1
34	11411014	236-28704	油量指示箱	Floater case	1
35	101S11018		螺钉	Screw	1
36	11412058		磁铁压板	Magnet holder	1
37	11401020		磁铁	Magnet	1

九、自动倒回缝组件 Automatic reverse feed components



九(一)、小鸟巢电磁铁组件 (8990DN-3SS) (8990DN-4SS)



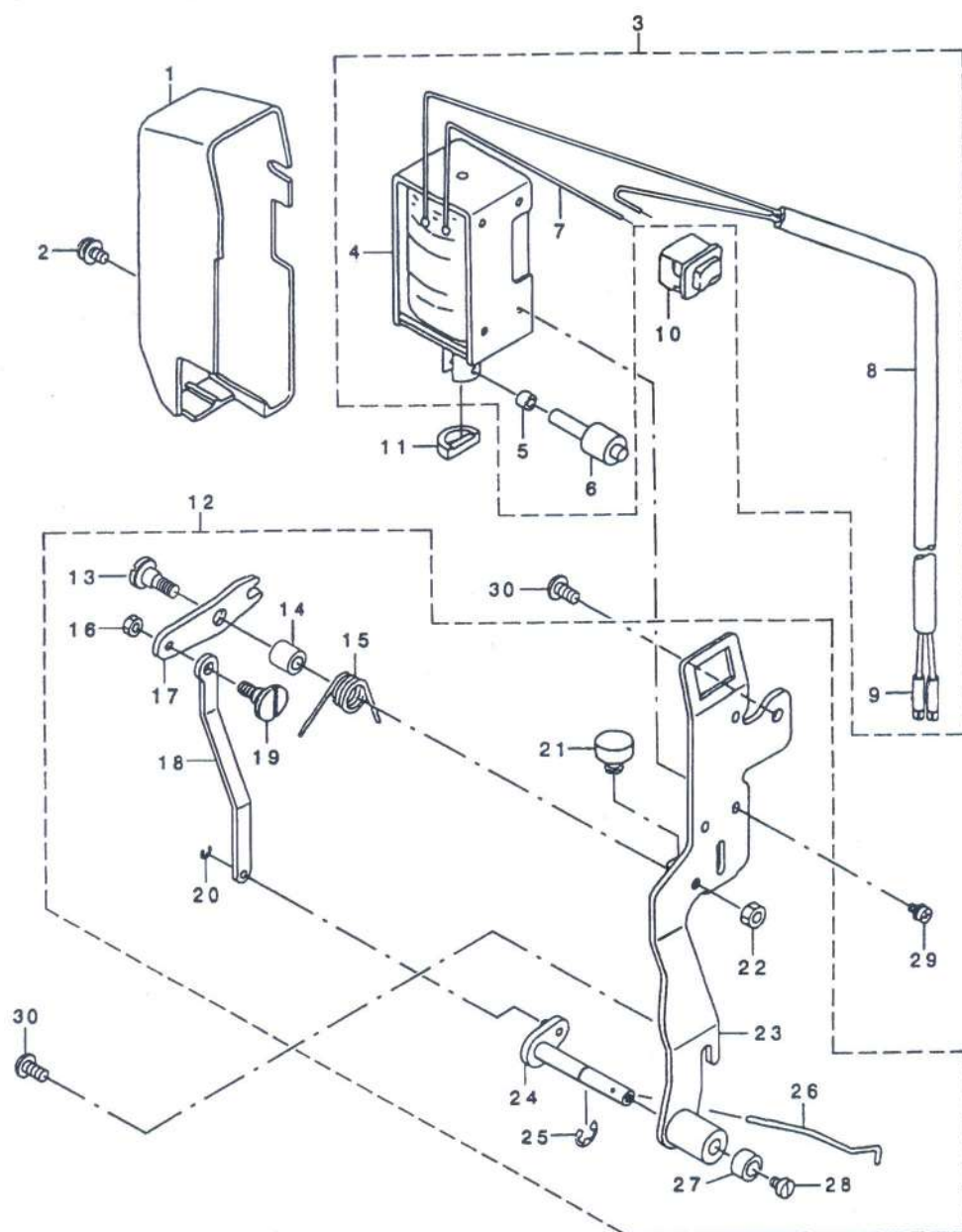
九、自动倒回缝组件 Automatic reverse feed components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	114S11009		螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	4
2	11412035	236-31203	倒送料电磁铁挂板	Reverse feed solenoid base	1
3	101S11026	SS-4150915-SP	螺钉 SM15/64" × 28 L=9	Screw SM15/64" × 28 L=9	2
4	1143000800		自动倒送料电磁铁组件	Reverse feed solenoid base asm.	1
5	11430009	236-31005	自动倒送料电磁铁	Reverse feed solenoid	1
6	11430011	HK-0346400-0B	插针	Pim contact	2
7	11430022	236-31104	自动倒送料电磁铁电磁杆	Reverse feed solenoid plunger	1
8	11222006	D2468-555-B00	橡皮垫圈	Rubber plunger	1
9	W01014	WP-1703001-SC	垫圈16	Washer	1
10	H05014	RE-1200000-K0	开口挡圈	E-ring	1
11	11404021	236-31302	倒送料臂	Reverse feed arm	1
12	114S20006	SD-0951501-SP	铰链螺钉	Screw	1
13	114S16008	NS-6110350-SP	螺母	Nut	2
14	114S20005	113-14408	活塞销	Plunger arm pin	1
15	1143001200	236-31757	自动倒送料开关组件	Reverse feed switch asm.	1
16	11412036	236-32003	倒送料开关支架	Reverse feed switch base	1
17	11412037	236-32102	倒送料开关支架导向板	Reverse feed switch base guide	1
18	11411016	236-31708	倒送料开关护罩	Reverse feed switch cover	1
19	101S11025	SS-7110740-TP	螺钉 SM11/64" × 40 L=7	Screw SM11/64" × 40 L=7	1
20	11411017	236-31807	倒送料开关铰链	Reverse feed switch shaft	1
21	11411018	236-31906	倒送料开关跳板	Reverse feed switch support	1
22	11430013	236-32250	自动倒送料开关	Reverse feed cord asm.	1
23	11430014	HK-03464101-40	接线器	Housing 14p	1
24	11211005	EA-9500B01-00	电线卡箍	Cable band	1
25	101S11001	SS-4120915-SP	螺钉SM3/16" × 28 L=9	Screw SM3/16" × 28 L=9	1

九(一)、小鸟巢电磁铁组件 (8990DN-3SS) (8990DN-4SS)

序号 Ref. No.	件 号 Part No.	名 称	Description	数量 Amt.
1	1143002600	夹线电磁铁组件	Solenoid components	1
2	1143002600(1)	夹线电磁铁	Solenoid	1
3	1143002600(2)	夹线电磁铁心	Solenoid	1
4	1143002600(3)	弹簧	Spring	1
5	1143002600(4)	橡胶垫片	Washer	1
6	1143002600(5)	螺母	Nut	1
7	S10008 GB/T80-1985	螺钉	Screw	1
8	HW-5000700-00	电线	Electric wire	1
9	HK-0346400-0B	电线插针	Pim contact	2

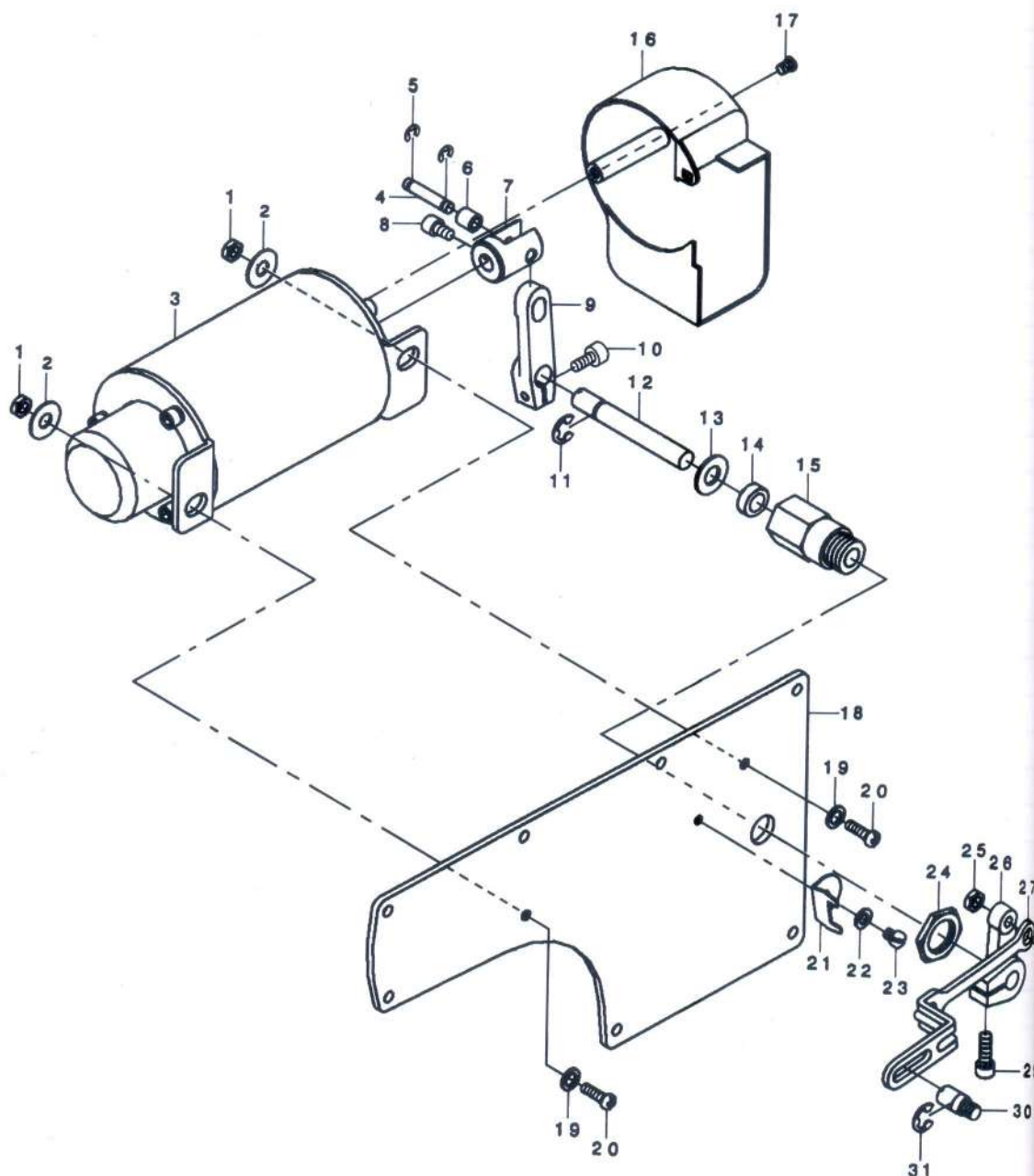
十、自动扫线组件 Automatic wiper components



十、自动挑线组件 Automatic wiper components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	11211003	110-72709	罩壳	Wiper cover	1
2	S04008	SL-4030621-SS	螺钉M3×6	Screw M×6	1
3	1123001000		拨线电磁铁组件	Wiper solenoid asm.	1
4	11230010	111-10301	拨线电磁铁	Wiper solenoid	1
5	11408012	111-11804	滑动衬套	Wiper link collar	1
6	11426015	111-12000	拨线传动销	Wiper solenoid pin	1
7	11430019	HW-2003900-00	电线	Electric wire	1
8	11430020	HW-5000700-00	电线	Electric wire	1
9	11430018	HK-0346400-0B	电线插针	Pim contadt	2
10	11230011	HA-0005900-00	开关	Power switch	1
11	11222008	111-10509	橡皮垫	Wiper rubber B	1
12	1141203500		拨线电磁铁支架组件	Wiper base asm.	1
13	114S20008	SD-0650321-TP	轴位螺钉	Screw D=6.5 H=3.2	1
14	11408010	111-10707	复位衬套	Wiper hinge screw collar	1
15	11427022	111-10806	复位弹簧	Wiper spring	1
16	114S16009	NS-6090310-SP	轴位螺钉螺母	Nut SM9/64"×40	1
17	11412036	111-10608	拨线传动板	Wiper link A	1
18	11405012	236-33209	拨线连杆	Wiper link B	1
19	114S20007	111-11507	轴位螺钉	Wiper link B,hinge dcrew	1
20	H05019	RE-0250000-K0	开口挡圈2.5	E-ring	1
21	11230010	111-10400	橡皮垫块	Wiper rubber A	1
22	114S16010	NS-6110310-SP	轴位螺钉螺母	Nut SM11/64"×40	1
23	11412036	236-33159	拨线电磁铁支架	Wiper base	1
24	1140402200	236-33357	拨线驱动轴组件	wiper shaft asm.	1
25	H05006	RE-0500000-K0	挡圈 5	E-ring	1
26	11413008	111-11606	拨线钩	Wiper	1
27	11408011	111-11309	拨线钩挡圈	Bradket installing collar	1
28	114S11005	SS-6090540-SP	螺钉 SM9/64"×40 L=5	Screw SM9/64"×40 L=5	1
29	S04008	SL-4030641-SE	螺钉M3×6	Screw M3×6	3
30	114S30011	SS-4120915-SP	螺钉 SM3/16"×28 L=9	Screw SM3/16"×28 L=9	2

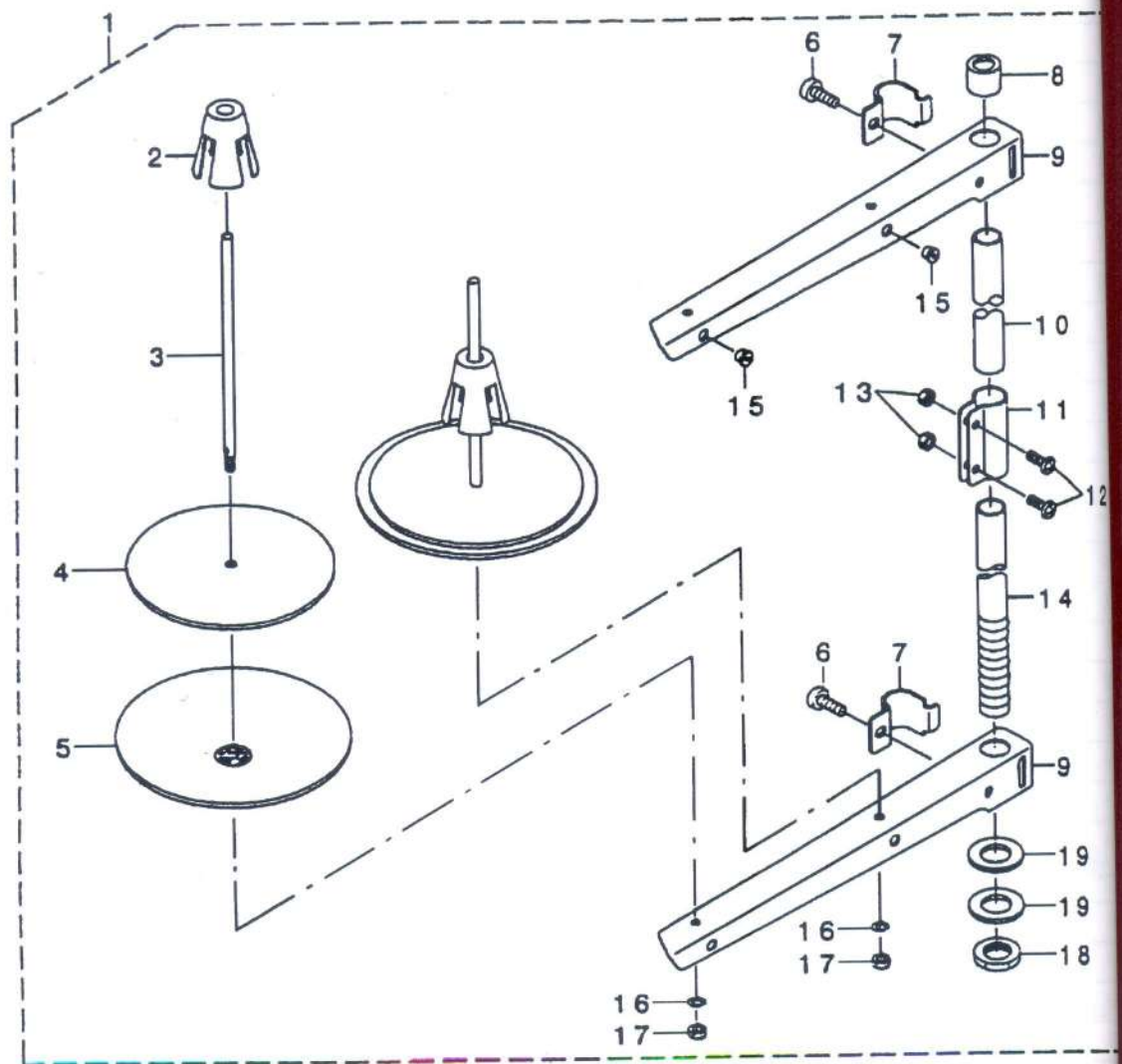
十一、自动抬压脚组件 Auto lifter components



十一、自动抬压脚组件 Auto lifter components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	112S16012		支承螺钉小螺母	Nut	2
2	11428007		垫片	Washer	2
3	11230013		自动抬压电磁铁组件	Magnetic plug asm	1
4	11226007		电磁铁曲柄销	Magnetic plug pin	1
5	H05003		挡圈	E-ring	2
6	11203003		曲柄套筒	Sleeve	1
7	11201003		电磁铁芯轴接头	Magnetic Plug pin tie-in	1
8	S05038		接头螺钉	Screw	1
9	11204005		电磁铁曲柄	Magnetic crank	1
10	S05013		螺钉	Screw	1
11	H05011		挡圈	E-ring	1
12	11202003		自动抬压脚轴	Automated presser foot shaft	1
13	11228003		套筒垫片	Washer	1
14	11222016		油封	Oil seal	1
15	11203002		套筒	Sleeve	1
16	11211006		自动抬压脚罩壳	Wiper cover	1
17	S04022		罩壳螺钉	Screw	2
18	11412002		后窗板	Side plate	1
19	11228001		支架支承螺钉垫片	Washer	1
20	112S11015		支架支承螺钉	Screw	1
21	11212037		拉杆支架	Pull rod bracket	1
22	11228002		拉杆支架垫片	Pull rod bracket washer	1
23	112S11014		拉杆支架紧固螺钉	Screw	1
24	112S16011		套筒螺母	Nut	1
25	112S16012		拉杆螺母	Nut	1
26	11204004		自动抬压脚曲柄	Crank	1
27	11412053		拉杆	Pull rod	1
28	112S20008		拉杆螺钉	Screw	1
29	S05004		螺钉	Screw	1
30	112S20009		抬压脚拉杆螺钉	Screw	1
31	H05013		挡圈	E-ring	1

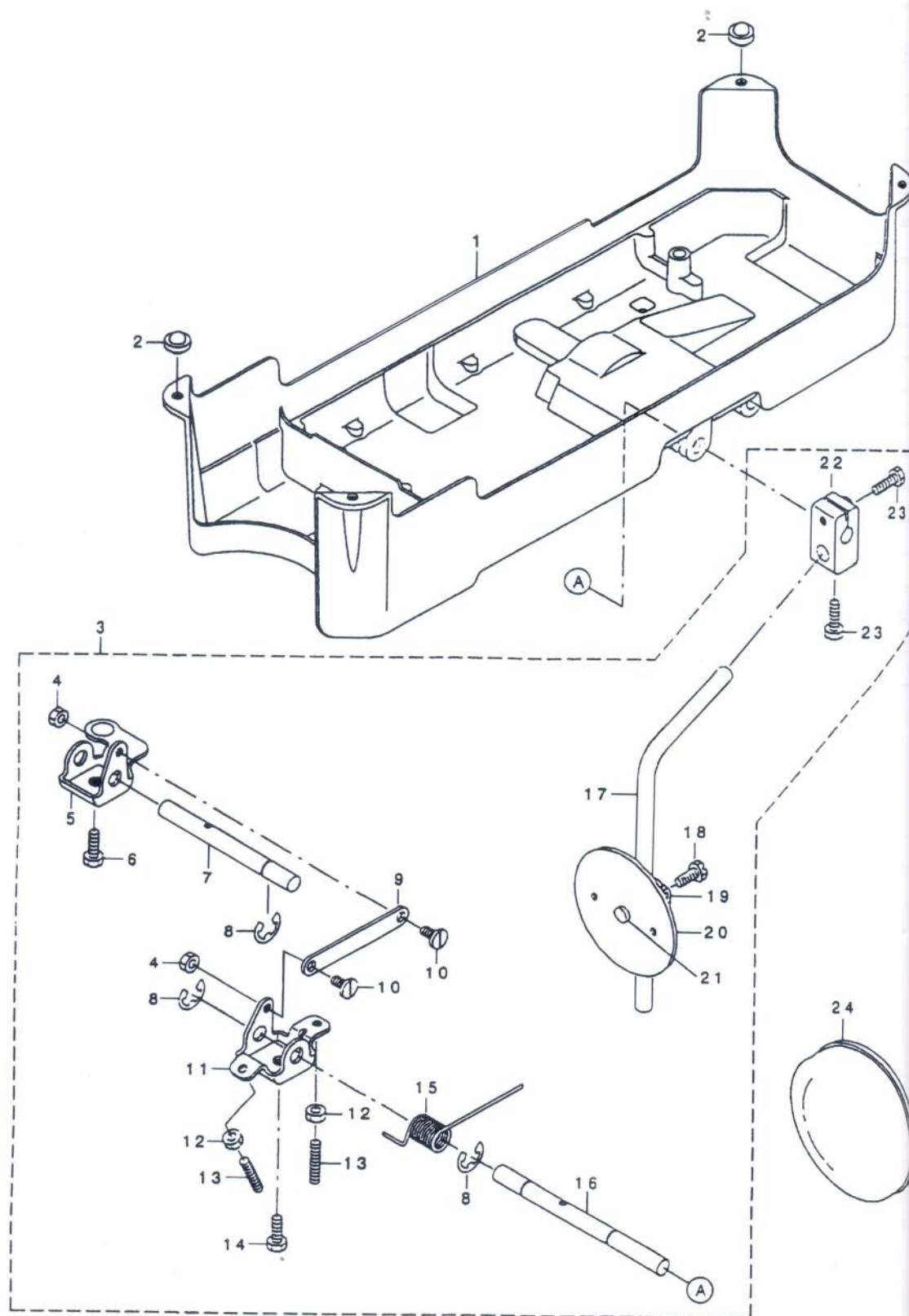
十二、线架组件 Thread stand components



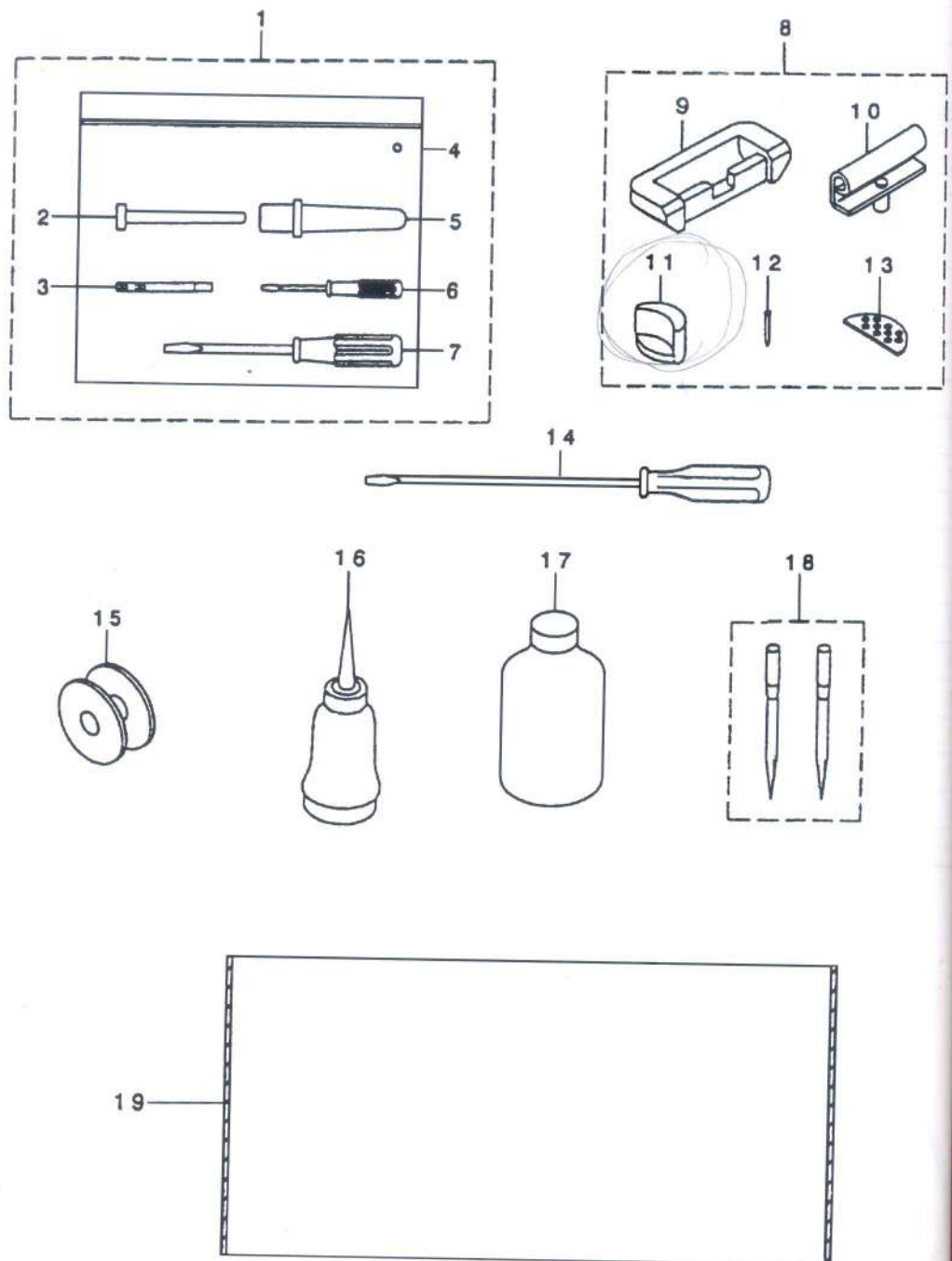
十二、线架组件 Thread stand components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1013100700	229-30358	线架部件	Thread stand asm.	1
2	10111014	229-31109	线团防松垫	Spool retainer	2
3	10131010	229-31000	线盘钉	Spool pin	2
4	10123008	229-30903	线盘垫	Spool rest cushion	2
5	10111013	229-30804	线盘	Spool rest	2
6	S04013	SM-6061610-SC	螺钉M6 L=16	Screw M6 L=16	2
7	10112041	229-30705	线架过线夹	Thread guide arm joint	2
8	10122028	229-31406	线架杆顶防护橡皮	Spool rest rod rubber cap	1
9	10112040	229-30507	线架过线杆	Spool rest arm	2
10	10131009	229-30408	线架杆上节	Spool rest rod,upper	1
11	10112039	229-31307	线架杆节头	Spool rest rod joint	1
12	S04018	SM-4051405-SE	线架杆节头螺钉M5 L=14	Screw M5 L=14	2
13	N01002	NM-6050001-SE	螺母M5	Nut M5	2
14	10131008	229-30309	线架杆下节	Spool rest rod ,lower	1
15	10113010	229-31208	过线圈	Thread guide	2
16	10128009	WS-0510002-KN	紧固螺母弹簧垫圈	Spring washer	2
17	101S16006	NM-6050001-SE	螺母M5	Nut M5	2
18	N02003	NM-6160511-SE	螺母M16 × 1.5	Nut M16 × 1.5	1
19	10128010	WP-1702600-S0	线架杆紧固螺母垫圈	Washer	2

十三、底盘膝抬压脚组件 Under cover & knee lifter components



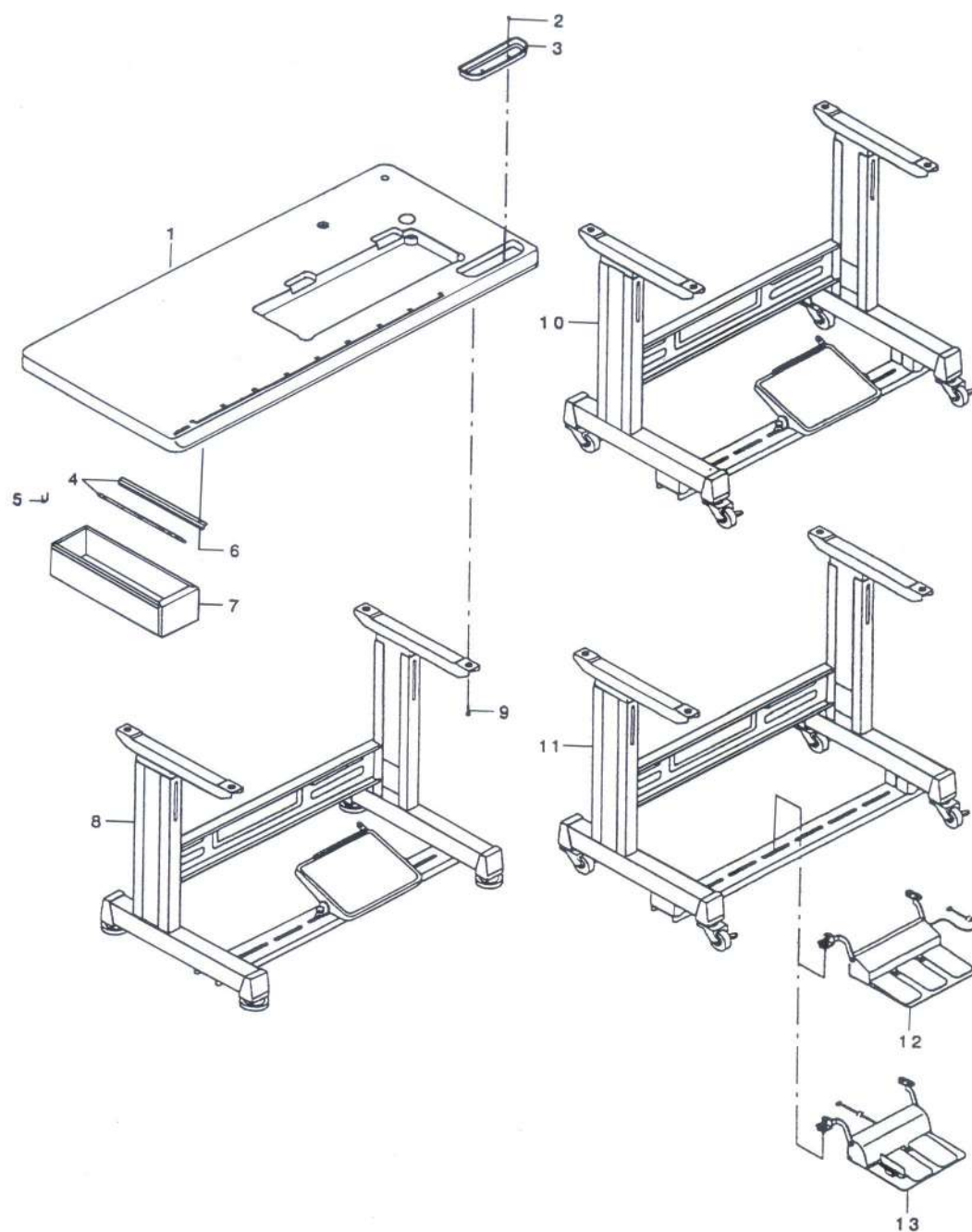
十四、附件组件 Accessorie part components



十四、附件组件 Accessorie part components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	1143100600	236-39750	附件包部件	Accessorie bag asm.	1
2	11411023	236-39701	抬压脚顶销	Knee lifter presser rod	1
3	11212001	229-58300	过线柱	Needle thread guide pin	1
4	11431007	229-32800	附件包	Accessorie bag	1
5	10111011	229-31604	机头支柱	Frame support bar	1
6	10131004	229-33204	螺丝刀 (小)	Screw driver,small	1
7	10131003	229-33105	螺丝刀 (中)	Screw driver,middle	1
8	1011203100	229-58052	机头连接钩部件	Tuvver hinge asm.	1
9	10122026	229-26000	机头连接钩座	Rubber cushion	2
10	10112031	229-26356	机头连接钩	Hinge compl	2
11	10122031	229-58003	机头座垫	Rubber cushion	2
12	101S30010	229-26208	机头连接钩座钉	Rubber cushion nail	8
13	10122022	229-26505	油盘座垫	Washer	2
14	10131002	229-33006	螺丝刀 (大)	Screw driver,large	1
15	10118003	B9117-552-A00	梭心	Bobbin	2
16	11411026	B9121-012-0A0	油壶	Oiler asm.	1
17	11411027	MDF-Rx1600C0	大油壶	Defrix oil No.1	1
18	11217001	MDB-100B1102	机针11#	Needle DB × 1#11-2	4
19	11411025	236-39800	保护袋	Frame vinyl cover	1

十五、机架、台板组件 Table & Stand components



十五、机架、台板组件 Table & Stand components

序号 Ref. No.	件号 Part No.	参考件号 Ref.Part.No.	名 称	Description	数量 Amt.
1	11432001	236-42200	台板	Table	1
2	114S30014	SK-3382001-SC	木螺钉	Wood screw D=3.8 L=20	4
3	11431012	111-56007	盒子	Case	1
4	11431015	111-55207	抽屉支架	Drawer support	2
5	11431017	D8204-555-D00	抽屉定位块	Drawer stopper	1
6	114S30012	SK-3311600-SE	木螺钉	Wood screw D=3.1 L=16	4
7	11431014	111-55108	抽屉	Drawer	1
8	11432003	111-57567	台板架	T-leg junction	1
9	114S30013	SK-3513200-SC	木螺钉	Wood screw D=5.1 L=32	4
10	11432004	111-59365	滑动台板架	T-stand jrnction	1
11	11432005	111-59357	滑动架部件	T-stand asm.	1
12	11432006	GPK-700010A0	3-连接踏板	3-Foint pekal,70	1
13	11432007	GPK-710010A0	2-连接踏板	2-Foint pekal,71	1