

十分感谢您购买我公司工业缝纫机。
在使用缝纫机之前，请仔细阅读<为了您的安全使用>和使用说明。

工业缝纫机的特性之一，因为要在机针和挑线杆等运动零部件附近进行操作，而这些零部件很容易引起受伤的危险，所以请在受过培训的人或熟练人员的安全操作知识的指导下，正确地使用本缝纫机。

为了您的安全使用

[1] 安全使用的标记及其意义

本使用说明书及产品所使用的标记和图案记号是为了您的安全而正确地使用产品，防止您及其他人受到危害和损害。表示方法及含意如下。

标记

	危险	如果忽视此标记而进行了错误的操作，肯定会引起人员死亡或重伤。
	注意	如果忽视此标记而进行了错误的操作，有可能会引起人员受伤及造成设备损坏。

图案和符号

- 该符号(△)表示“应注意事项”。
三角中的图案表示必须要注意的实质内容。
(例如，左边的图案表示“当心受伤”)
- 该符号(⊘)表示“禁止”。
- 该符号(●)表示“必须”。
圆圈中的图案表示必须要做的事情的实质内容。
(例如，左边的图案表示“必须接地”。)

[2] 安全注意事项

 危险

 打开控制箱盖时，先关闭电源开关并将电源插头从插座上拔下后，至少等待 5 分钟后，再打开控制箱盖。
触摸带有高电压的区域将会造成人员受伤。

 注意

使用环境

-  应避免在强电气干扰源(如高频焊机)的附近使用本缝纫机。
强电气干扰源可能会影响缝纫机的正确操作。
-  缝纫机可以在电源电压的波动范围小于额定电压的±10% 以内的环境下使用。
电压大幅度的波动会影响缝纫机的正确操作。
-  电源容量应大于缝纫机的消耗电量。电源容量不足会影响缝纫机的正确操作。
-  压缩空气的供气量应大于缝纫机所要求的总耗气量。压缩空气的供气量不足可能会导致缝纫机的操作不正常。
-  环境温度应在 5℃~35℃ 的范围内使用。
低温或高温会影响缝纫机的正确操作。
-  相对湿度应在 45%~85% 的范围内，并且设备内不会形成结露的环境下使用。干燥或多湿的环境和结露会影响缝纫机的正确操作。
-  万一发生雷电暴风雨时，关闭电源开关，并将电源插头从插座上拔下。雷电可能会影响缝纫机的正确操作。

安 装

-  请让受过培训的技术人员来安装缝纫机。
-  请委托购买商店或电气专业人员进行电气配线。
-  缝纫机质量约为 160kg。
请使用吊车或起重机等，来安装缝纫机和调整工作台面的高度。
如果由人工来搬运的话，易引起腰痛等及产生受伤的原因。
-  安装完成前,请不要连接电源。
如果误踩了脚踏开关，缝纫机动作会导致受伤。
-  缝纫机头倒下或竖起时，请用双手进行操作。
另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。
-  必须接地。
接驳地线不牢固，是造成触电或误动作的原因。
-  所有电缆应固定在离活动部件至少 25mm 以外处。另外，不要过度弯曲电缆或用卡钉固定得过紧。
-  会引起火灾或触电的危险。
-  请在机头上及马达上安装安全罩壳。
如果使用带小脚轮的工作台，则应该固定小脚轮，使其不能移动。
-  工作台的高度请使用 84cm 以下的工作台，如果工作台过高一旦失去平衡缝纫机倒下，是造成受伤或缝纫机损坏的原因。
-  使用润滑油及黄油时,务必戴好保护眼镜和保护手套等，以防润滑油及黄油落入眼中或沾在皮肤上，这是引起发炎的原因。
另外，润滑油及黄油不能饮用，否则会引起呕吐和腹泻。
将油放在儿童拿不到的地方。

! 注意

缝 纫

-  本缝纫机仅限于接受过安全操作培训的人员使用。
-  本缝纫机不能用于除缝纫外的任何其他用途。
-  使用缝纫机时必须戴上保护眼镜。
如果不戴保护眼镜，断针时就会有危险，机针的折断部分可能会弹入眼睛并造成伤害。
-  发生下列情况时，请切断电源。
否则误踩了脚踏开关时，缝纫机动作会导致受伤。
 - 机针穿线时
 - 交换梭芯和机针时
 - 缝纫机不使用，或人离开缝纫机时
-  如果使用带小脚轮的工作台，则应该固定小脚轮使其不能移动。
-  为了安全起见，在使用本缝纫机之前，请安装保护装置。
如果未安装这些安全装置就使用缝纫机，会造成人身伤害及缝纫机损坏。
-  缝纫过程中，不要触摸任何运动部件或将物件靠在运动部件上，因为这会导致人员受伤或缝纫机损坏。
-  如果缝纫机操作中发生误动作，或听到异常的噪音或闻到异常的气味，应立即切断电源。然后请与购买商店或受过培训的技术人员联系。
-  如果缝纫机出现故障，请与购买商店或受过培训的技术人员联系。

清 洁

-  清洁前请关闭电源开关。
否则如果误踩了脚踏开关，缝纫机动作会导致受伤。
-  使用润滑油及黄油时，务必戴好保护眼镜和保护手套等，以防润滑油及黄油落入眼中或沾在皮肤上，这是引起发炎的原因。
另外，润滑油及黄油不能饮用，否则会引起呕吐和腹泻。
将油放在儿童拿不到的地方。

维 护 和 检 查

-  只有经过训练的技术人员才能进行缝纫机的维修、保养和检查。
-  与电气有关的维修、保养和检查请委托购买商店或电气专业人员进行。
-  发生下列情况时，请关闭电源。并拔下电源线插座。
否则误踩了脚踏开关时，缝纫机动作会导致受伤。
 - 检查、调整和维修
 - 更换旋梭等易损零部件
-  在检查、调整和修理任何使用气动装备之前，请先断开气源，并等压力表指针下降到“0”为止。
-  缝纫机头倒下或竖起时，请用双手进行操作。
另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。
-  在必须接上电源开关和气源开关进行调整时，务必十分小心遵守所有的安全注意事项。
-  请使用兄弟工业公司指定的更换零部件。
-  取下的安全保护装置，必须要安装回去。且请务必安装在原位上，并检查能否正常的发挥作用。
-  未经授权而对缝纫机进行改装而引起的缝纫机损坏不在保修范围内。

[3] 警告标签

★ 缝纫机上有列警告标签。

当使用缝纫机时，请遵守标签上的说明。

如果标签脱落或模糊不清，请和最近的本公司经销商联系。

1

	⚠ 危険 高電圧部分にふれて、大けがをすることがある。電源を切り、5分たってからカバーをはずすこと。	⚠ 危険 触摸高压电部分，会导致受伤。在切断电源5分钟后，再开启盖罩。
⚠ DANGER Hazardous voltage will cause injury. Turn off main switch and wait 5 minutes before opening this cover.	⚠ GEFAHR Hochspannung verletzungsgefahr! Bitte schalten sie den hauptschalter aus und warten sie 5 minuten, bevor sie diese abdeckung öffnen.	⚠ DANGER Un voltage non adapte provoque des blessures. Eteindre l'interrupteur et attendre 5 minutes avant d'ouvrir le capot.
	⚠ PELIGRO Un voltaje inadecuado puede provocar las heridas. Apagar el interruptor principal y esperar 5 minutos antes de abrir esta cubierta.	

2

	⚠ 注意 触摸运动部分，易造成受伤。所以在装上安全保护装置后，再进行缝纫操作。在切断电源后，进行穿线，更换梭芯，机针和做清扫，调整工作。
⚠ CAUTION Moving parts may cause injury. Operate with safety devices. Turn off main switch before threading, changing bobbin and needle, cleaning etc.	



请注意别让运动部夹住您的手指。



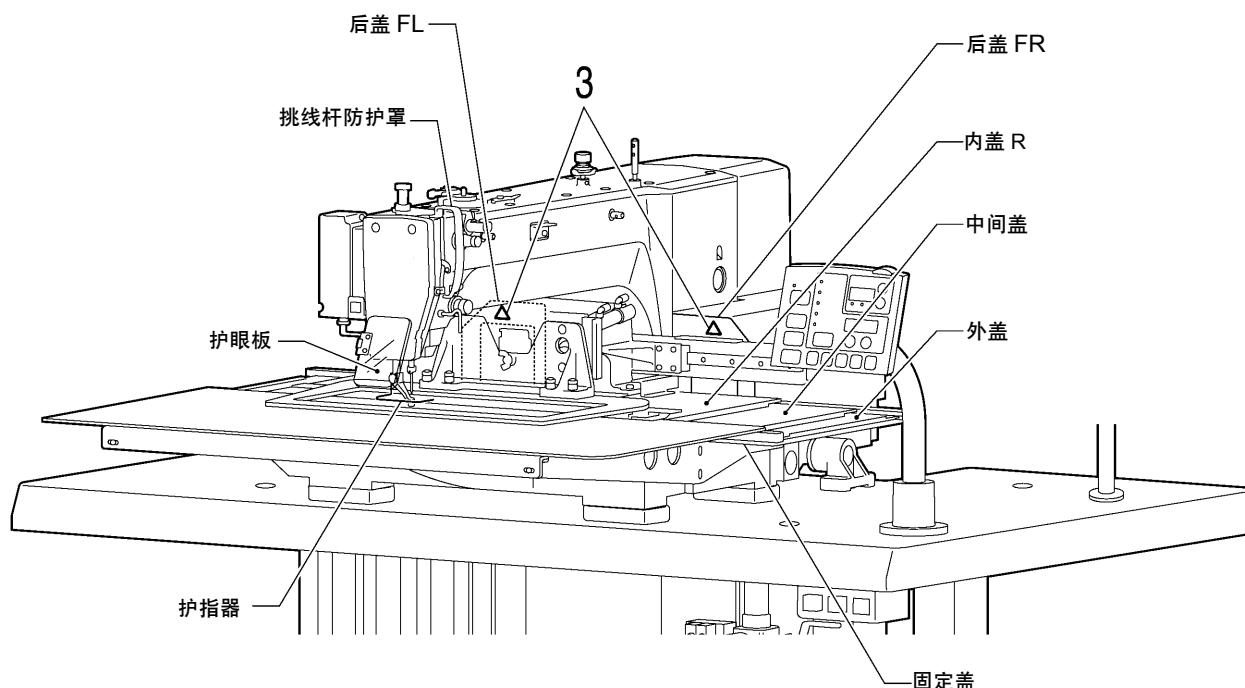
必须接地。
如果接驳地线不牢固，是造成触电或误动作的原因。

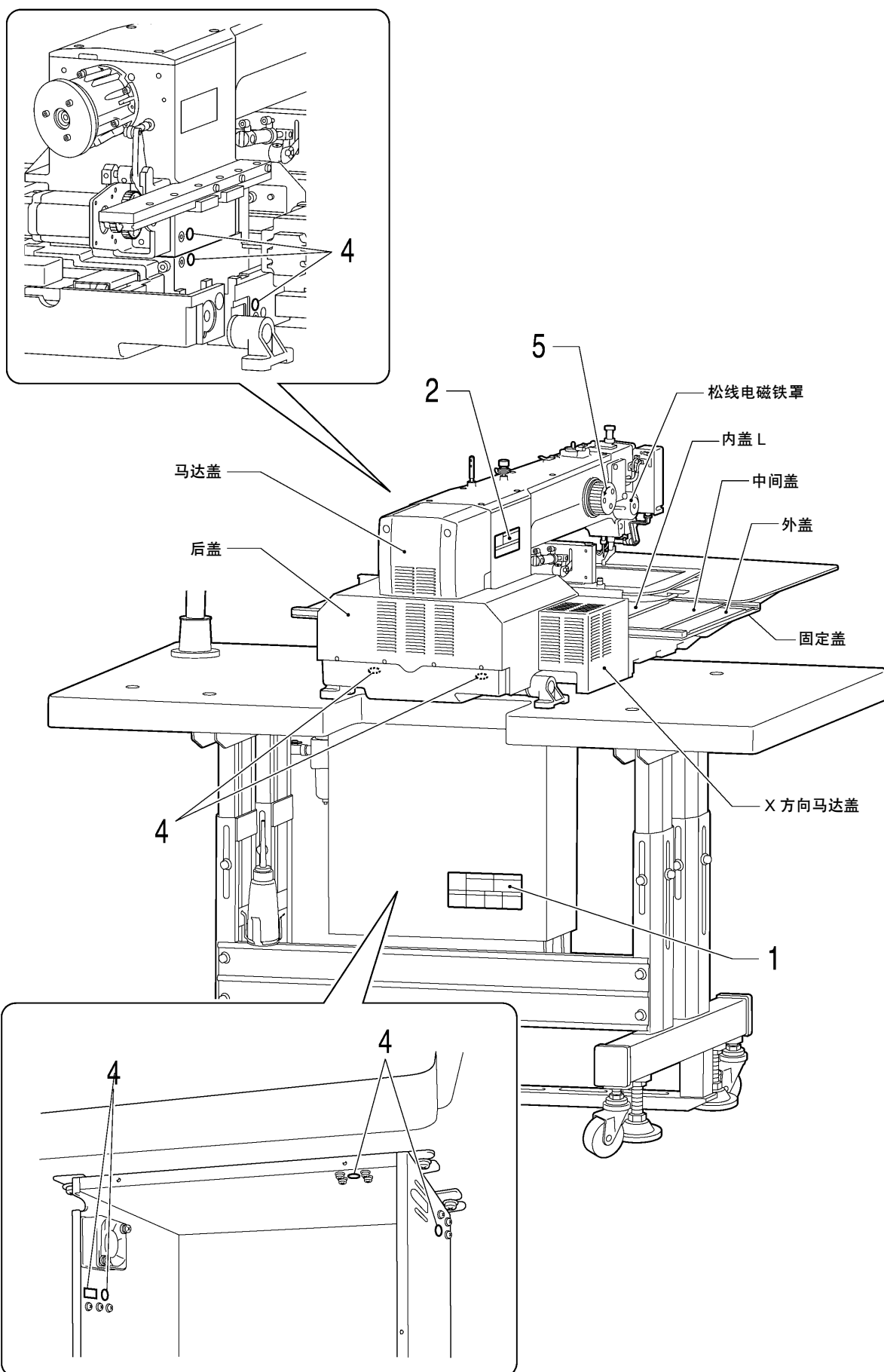


表示回转方向

安全装置：

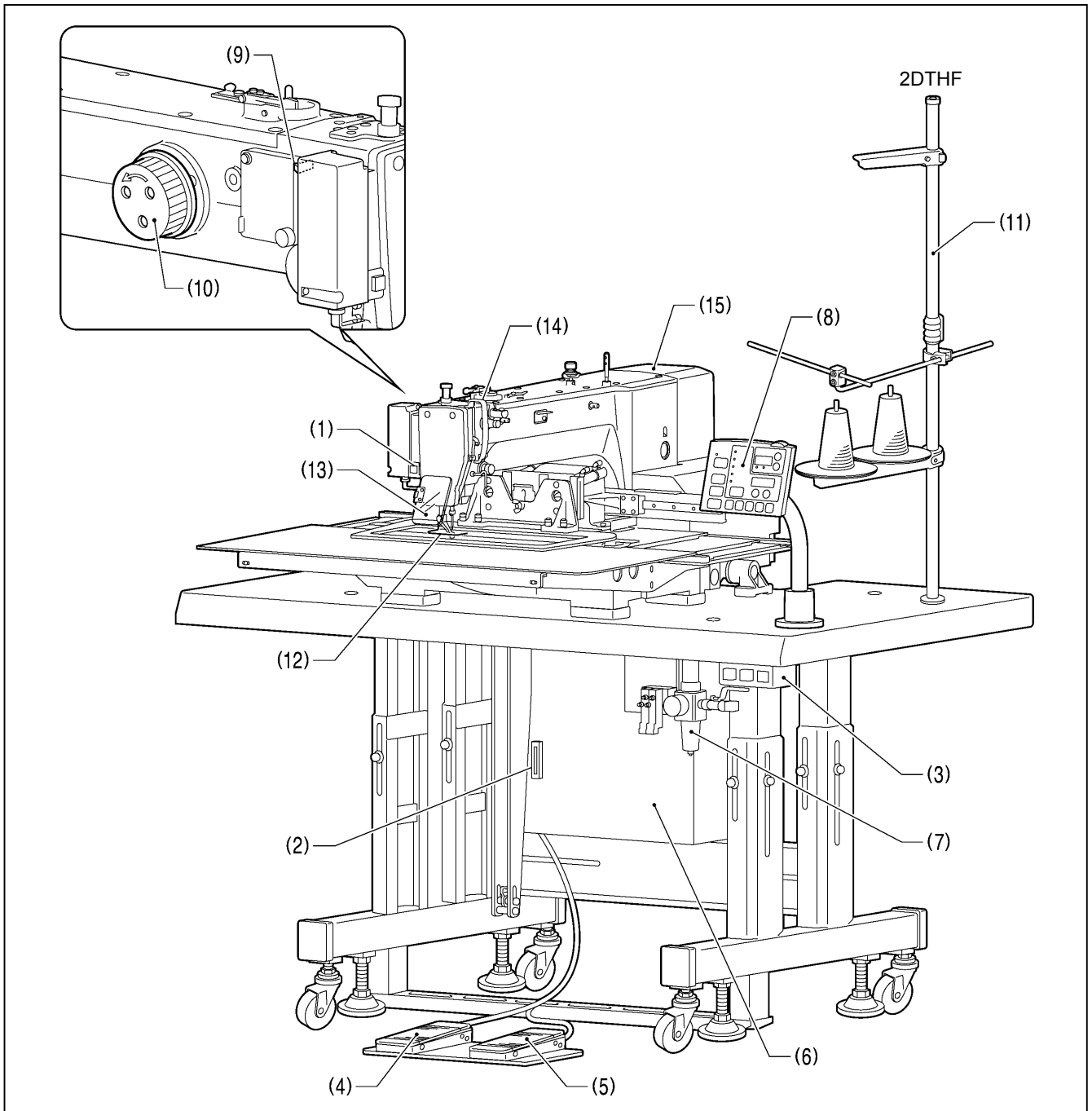
护眼板
护指器
挑线杆防护罩
马达盖
X 方向马达盖
松线电磁铁罩
内盖
外盖
中间盖
固定盖
后盖





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- 安全保护装置**
- (12) 护指器
- (13) 护眼板
- (14) 挑线杆防护罩
- (15) 马达罩

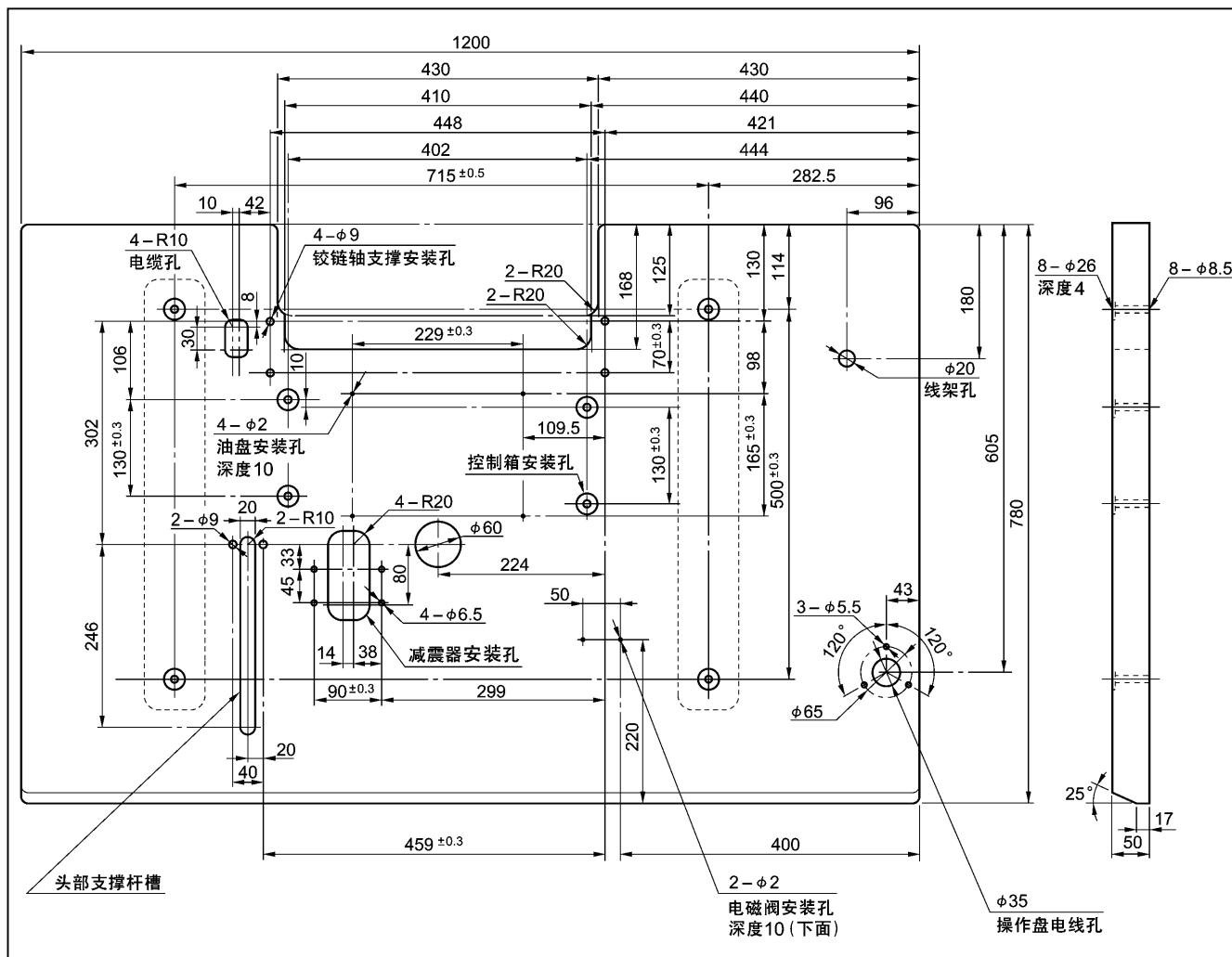
2. 规格

使用的缝纫机	平缝花样缝缝纫机(带大旋梭)
线迹形式	单针平缝
最高缝纫速度	2,700rpm
缝纫尺寸(X×Y)	最大 300×200mm
送布驱动方式	间歇送布(脉冲马达驱动)
针迹节距	0.05~12.7mm
针数	内存 500,000 针(※)
最大针数	20,000 针(1 个程序)
存储可能缝纫的数据	内存：512 种类(※)
抬压脚方式	空压式
压脚上升量	最大 30mm
2 段压脚	左右一体式压脚
间歇压脚上升量	22mm
间歇压脚行程	2~4.5mm, 4.5~10mm 或 0 (出厂时 3mm)
使用的旋梭	半回转 2 倍旋梭(标准旋梭另买)
扫线装置	标准装备
切线装置	标准装备
数据存储方式	内存(快擦写存储器), CF 卡(32MB~2GB) [选购件] 3.5 磁盘 2HD/1.44MB, 2DD
用户程序数	999
循环程序数	9
马达	AC 伺服马达 750W
质量	头部: 约 160kg, 操作盘: 约 0.6 kg 控制箱: 14.2~16.2 kg(根据电压不同而不同)
电源	单相 220V, 3 相 220V / 380V / 400V 500VA
空气压力	0.5 MPa 1.8 l/min

※ 根据各个程序的针数的不同, 能够存储的缝纫数据和针数也有所不同的。

3. 工作台板加工图

- 工作台板的厚度应达 50mm，能够承受缝纫机的重量，并经受起缝机的震动。
- 如使用脚轮时，请使用能够承受缝纫机重量的脚轮。
- 请确认控制箱应离开机脚 10mm 以上。如果控制箱过于靠近机脚，则可能会引起缝纫机的误动作。



4. 安装方法

! 注意

- ⊘ 请让受过培训的技术人员来安装缝纫机。
- ! 请委托购买商店或电气专业人员进行电气配线。
- ! 缝纫机质量约为 160kg。
请使用吊车或起重机等，来安装缝纫机和调整工作台面高度。
如果由人工来搬运的话，易引起腰痛等及产生受伤的原因。
- ⊘ 安装完成前，请不要连接电源。
如果误踩了脚踏开关，缝纫机动作会导致受伤。
- ! 如果使用带小脚轮的工作台，则应该固定小脚轮，使其不能移动。
- ⚠ 工作台的高度请使用 84cm 以下的工作台，如果工作台过高一旦失去平衡缝纫机倒下，是造成受伤或缝纫机损坏的原因。
- ⚠ 缝纫机头倒下或竖起时，请用双手进行操作。
另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。
- ! 所有电缆应固定在离活动部件至少 25mm 以外处。
另外，不要过度弯曲电缆或用卡钉固定得过紧。
会引起火灾或触电的危险。
- ⊘ 必须接地。
接驳地线不牢固，是造成触电或误动作的原因。
- ! 请在机头上及马达上安装安全罩壳。

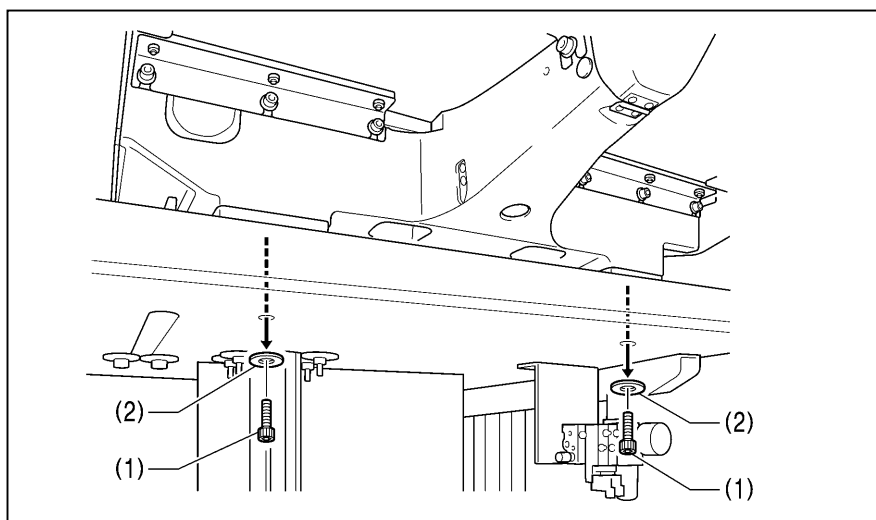
未安装在缝纫机工作台上的情况

请参考下一页的「4-2. 控制箱的安装方法」的顺序进行。

已安装在缝纫机工作台上后交货的情况

请按标题后的[1]到[15]项目号的顺序进行。

4-1. 头部固定用螺栓的拆除方法



对于缝纫机已安装在工作台上后交货的规格，先将头部固定用螺栓(1)[2个]和垫圈(2)[2片]拆下。

4-2. 控制箱的安装方法

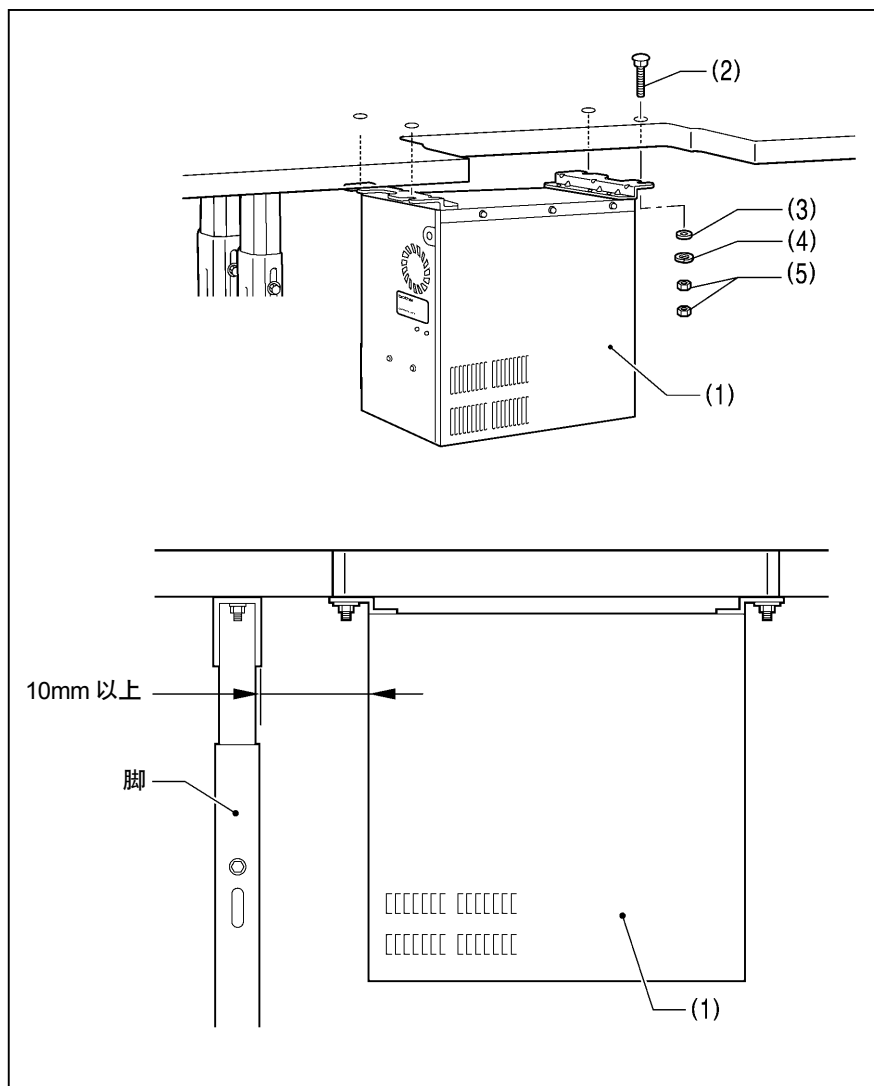
! 注意



因为控制箱很重，安装工作必须由两人以上来完成。

另外，请注意不可使控制箱滑落。

会砸伤自己的脚以及会造成控制箱故障的原因。



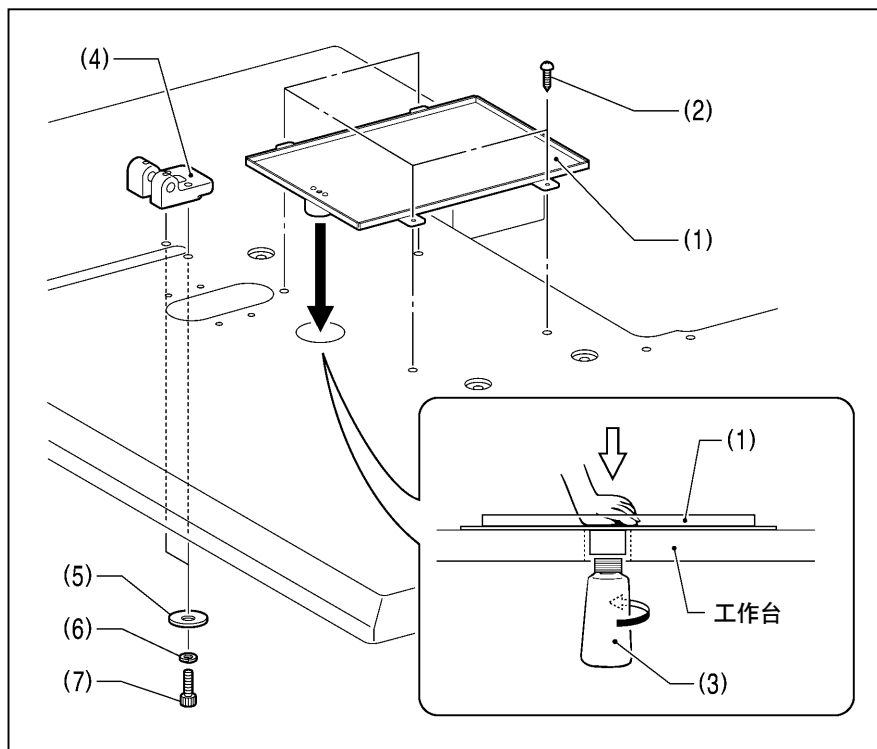
* 如果缝纫机已安装在工作台上时，
倒下缝纫机头。
(具体参考「4-5. 缝纫机头的倒下及
竖起的方法」)

- (1) 控制箱
- (2) 螺栓[4个]
- (3) 垫圈[4片]
- (4) 弹簧垫圈[4片]
- (5) 螺母[8个]

[注意]

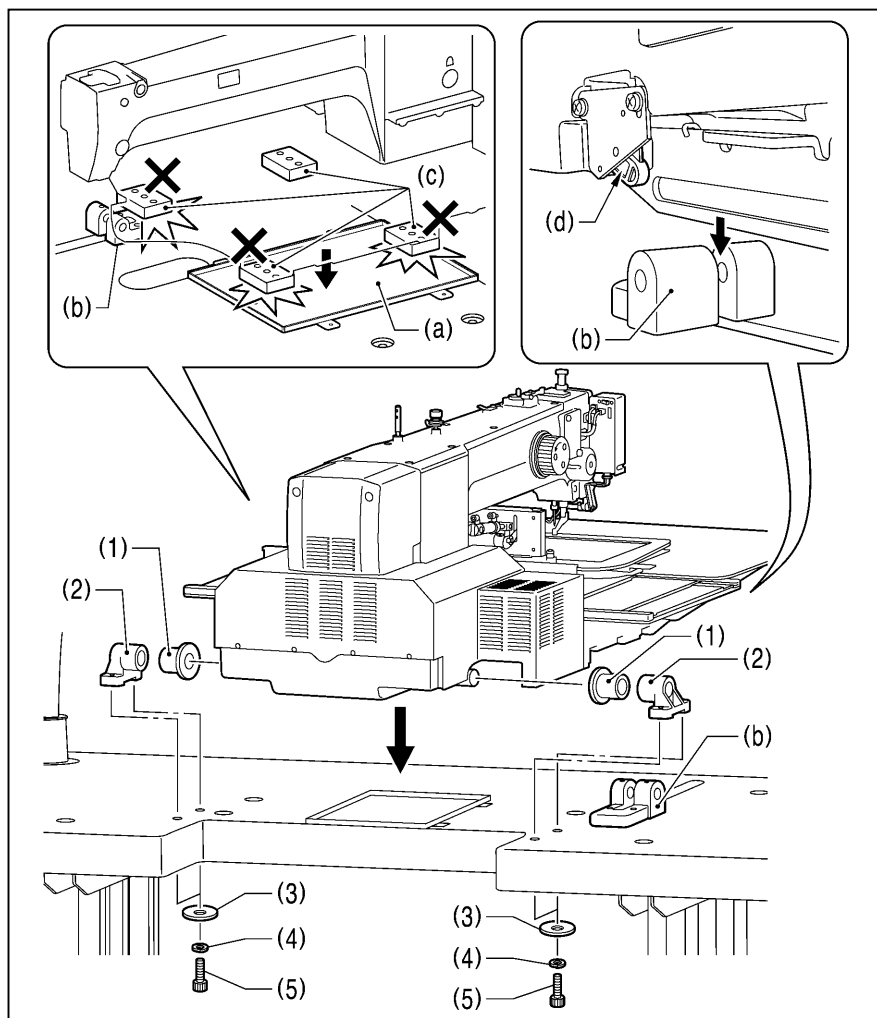
请确认控制箱(1)应安装在离台脚
10mm 以上处。控制箱(1)离台脚太
接近的话，易使缝纫机产生错误动
作。

4-3. 油盘和缝纫机头部支撑座的安装方法



- (1) 油盘
- (2) 木螺钉[4个]
- (3) 油壶
- (4) 头部支撑座
- (5) 垫圈[2片]
- (6) 弹簧垫圈[2片]
- (7) 螺栓[2个]

4-4. 缝纫机头部的安装方法



1. 将缝纫机安装到工作台上。

[注意]

- 请使用吊车或起重机等，来安装缝纫机。
- 将缝纫机头部放到工作台上时，请注意下列事项。

！ 缝纫机头部和工作台之间不可夹住电缆线之类。

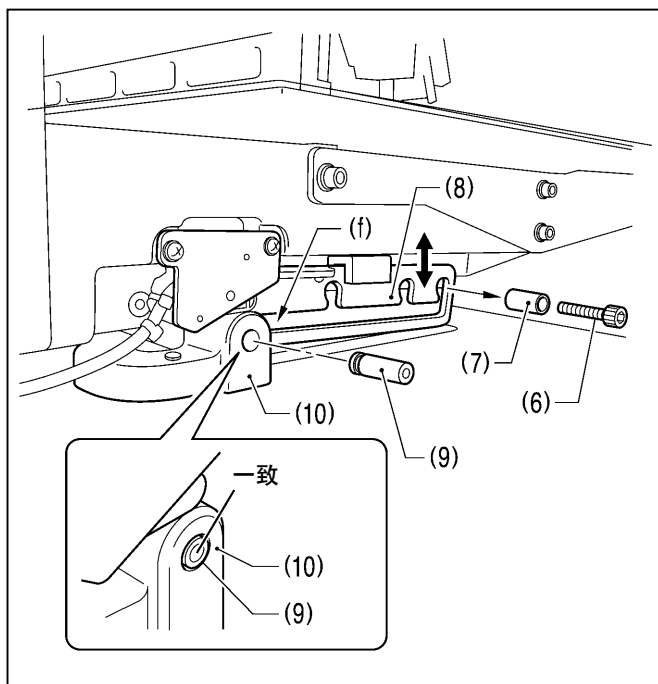
！ 不可将缝纫机头部的防震垫(c)撞到或放到油盘(a)及缝纫机头部支撑座(b)的上面。

！ 安全开关杆的侧面(d)不可撞到缝纫机头部支撑座(b)。

- (1) 橡皮轴套[2个]
- (2) 铰链轴支架[2个]
- (3) 垫圈[4片]
- (4) 弹簧垫圈[4片]
- (5) 螺栓[4个]

(下一页继续)

4. 安装方法



2. 缝纫机安装到工作台上后，拆下螺栓(6)和垫圈(7)。

* 取下的螺栓(6)和垫圈(7)在固定头部支撑杆(8)时还要使用的，所以必须妥善保管。

3. 头部支撑杆轴(9)穿过头部支撑座(10)的孔和头部支撑杆(8)的槽(f)，并一直压到和头部支撑座(10)的表面一致为止。

* 如果头部支撑杆轴(9)不能穿进头部支撑杆(8)的槽(f)时，可将头部支撑杆(8)的一端进行上下移动后，再穿入头部支撑杆轴(9)。

4-5. 缝纫机头的倒下及竖起的方法

⚠ 注意



缝纫机头倒下或竖起时，请用双手进行操作。

另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。



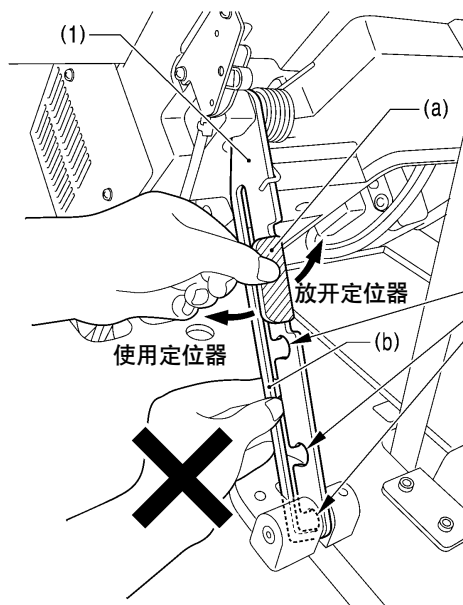
缝纫机头倒下时，必须使用头部支撑杆(1)的定位器。

如果不使用定位器，缝纫机自动复位造成夹伤手指等的原因。



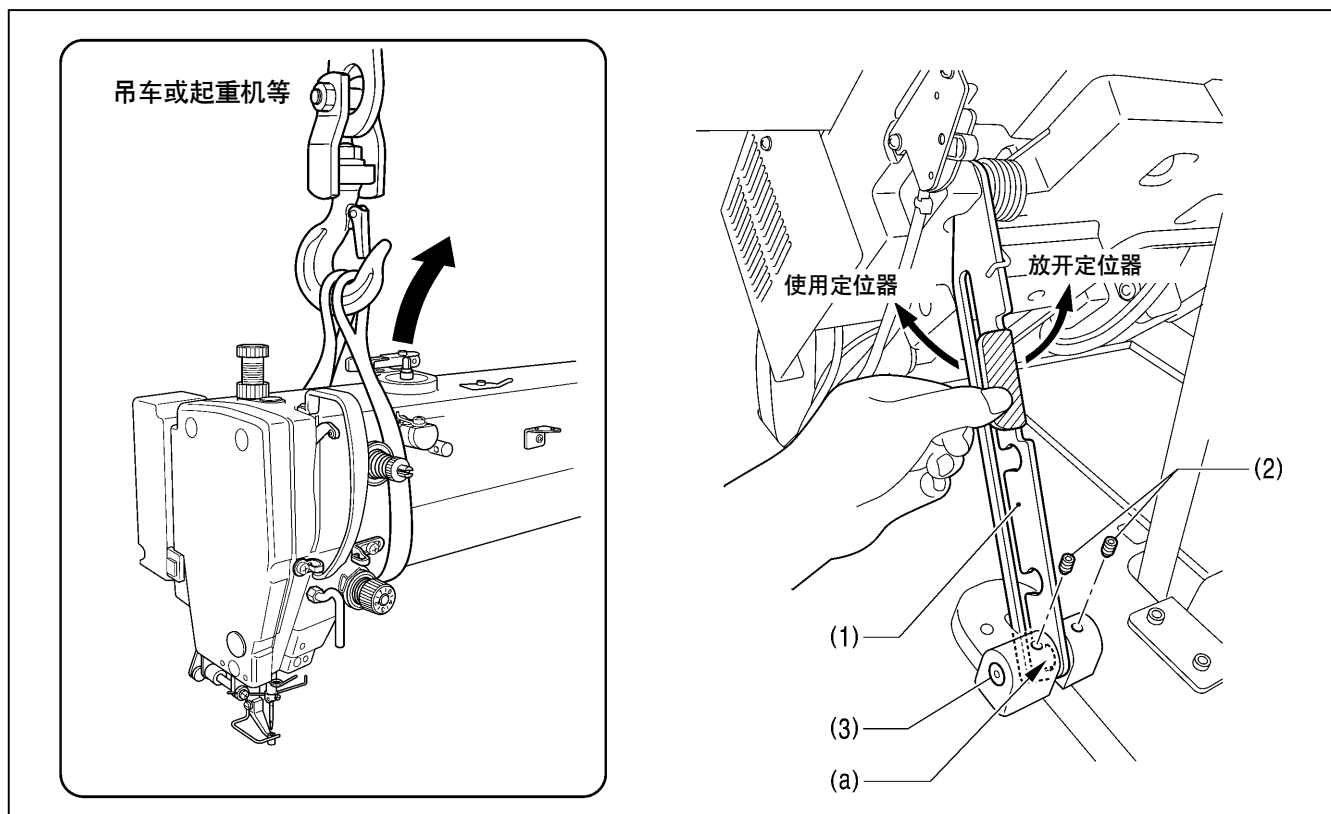
放开定位器时，请一定要抓住捏手部(a)。

如果捏住(b)部的话，缝纫机头部竖起时头部支撑杆(1)和工作台会夹住手指，成为受伤的原因。



缝纫机头部倒下或竖起可分三挡倒下或竖起。

4-6. 减震器的安装方法

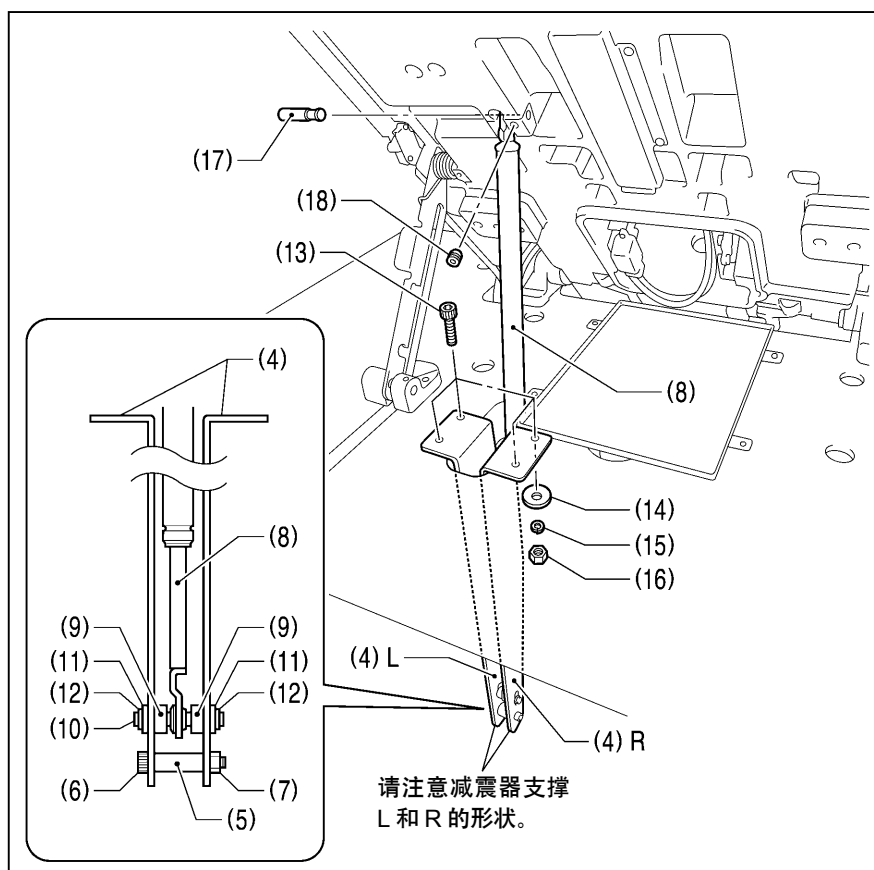


1. 倒下缝纫机头部，并使用头部支撑杆(1)将其固定在定位器(a)的位置。

(参考「4-5. 缝纫机头的倒下及竖起的方法」)

【注意】缝纫机头倒下时，请使用吊车或起重机等。

2. 拧紧螺钉(2)[2个]，固定头部支撑杆轴(3)。



3. 安装减震器(8)。

(4) 减震器支撑[L 和 R]

(5) 垫圈

(6) 螺栓

(7) 螺母

(8) 减震器

(9) 轴套[2个]

(10) 减震器轴D

(11) 垫圈[2片]

(12) 挡圈E[2片]

(13) 螺栓[4个]

(14) 垫圈[4片]

(15) 弹簧垫圈[4片]

(16) 螺母[4个]

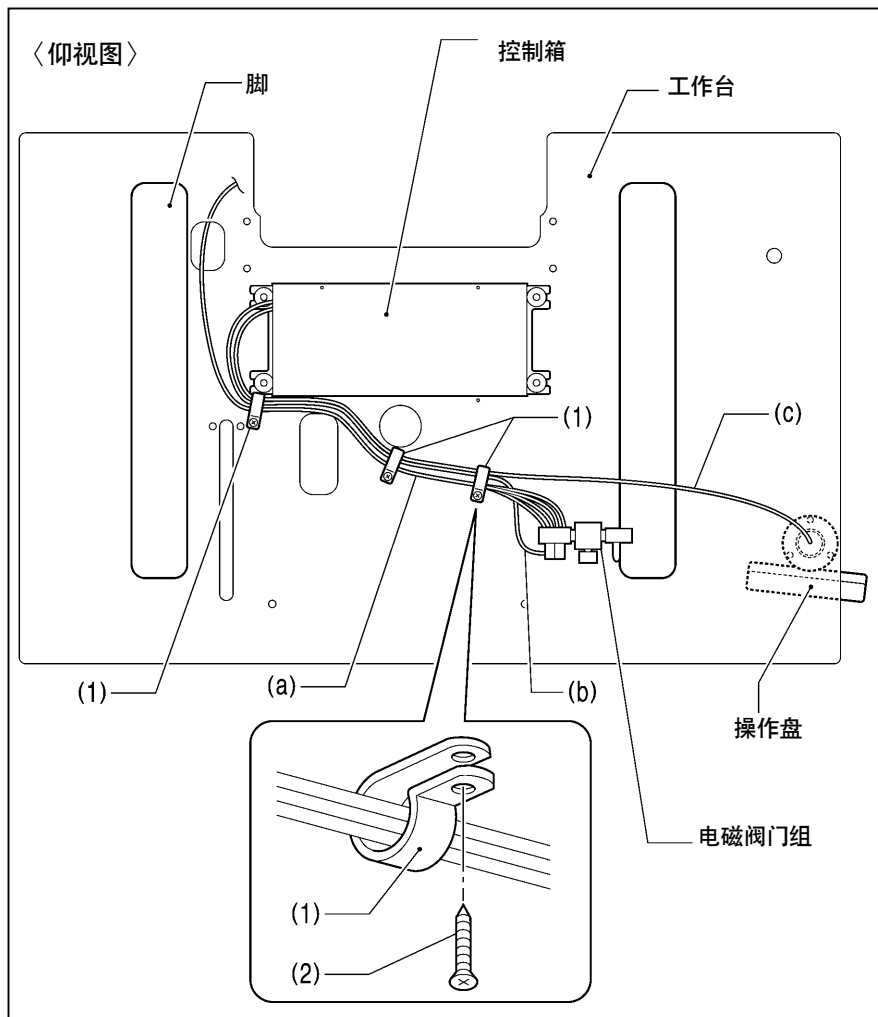
(17) 减震器轴U

(18) 螺钉

* 安装完减震器(8)后，将缝纫机头部慢慢竖起。

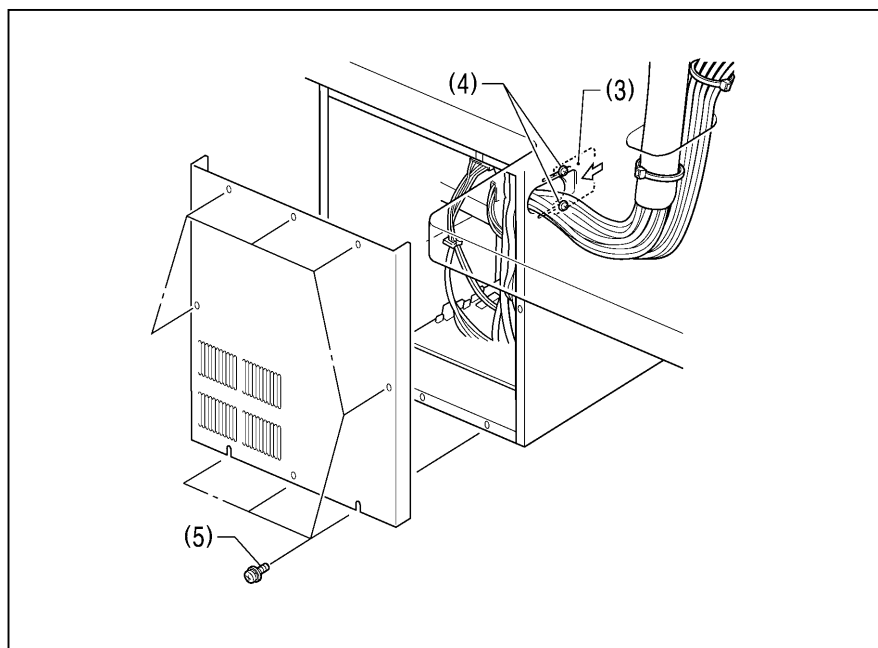
(参考「4-5. 缝纫机头的倒下及竖起的方法」)

4-7. 线缆和空气管的固定方法



使用电线夹(1)[3个]将各空气管(a)、电磁阀组电线(b), 操作盘电线(c)一起固定在工作台的下面。

- (1) 电线夹[3个]
- (2) 木螺钉[3个]



<电线的确认>

1. 慢慢地将缝纫机头部倒下。
(参考「4-5. 缝纫机头的倒下及竖起的方法」)
2. 确认各电线应没有被拉伸情况。
3. 将缝纫机头竖起, 复位。
4. 按箭头方向关闭电线压板(3), 然后拧紧固定螺钉(4) [2个]。

[注意]

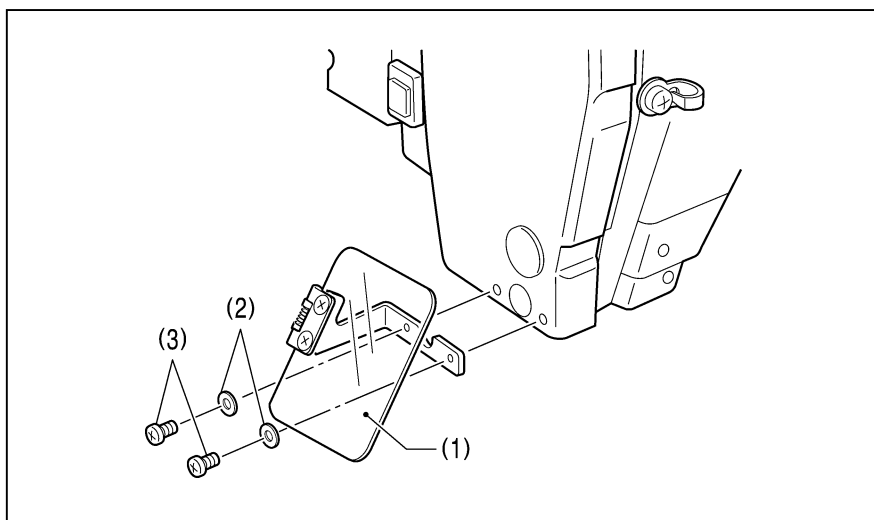
请一定关紧电线压板(3)。不可让异物或是小虫之类进入控制箱内。

5. 安装上控制箱的盖, 使用固定螺钉(5) [8个] 拧紧。此时请确认电线类等应没有被盖子夹住。

4-8. 护眼板的安装方法

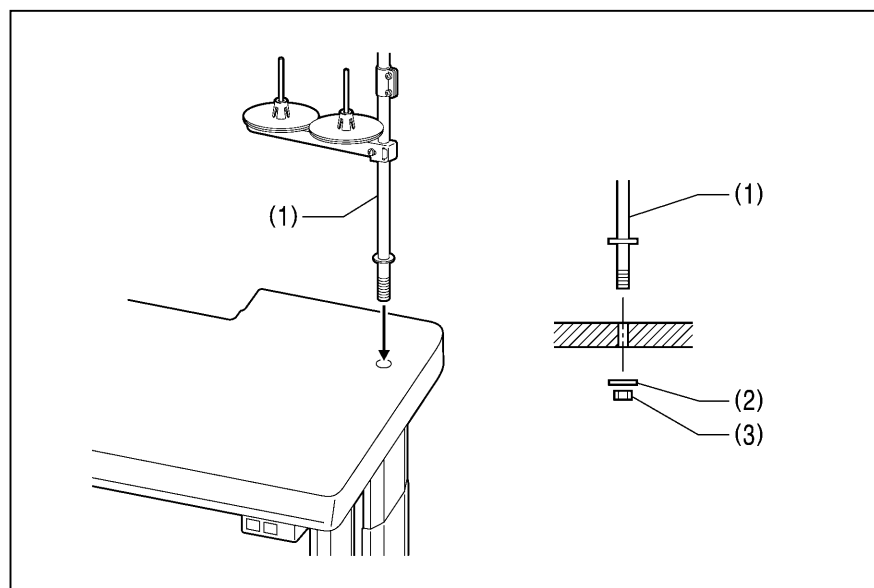
! 注意

为了安全起见，在使用本缝纫机之前，请安装保护装置。
如果未安装这些安全装置就使用缝纫机，会造成人身伤害及缝纫机损坏。



- (1) 护眼板组件
- (2) 垫圈 [2 片]
- (3) 螺钉 [2 个]

4-9. 线架的安装方法



- (1) 线架

[注意]

安装上垫圈(2)，请拧紧螺母(3)使线架完全不能移动。

4-10. 供油

! 注意



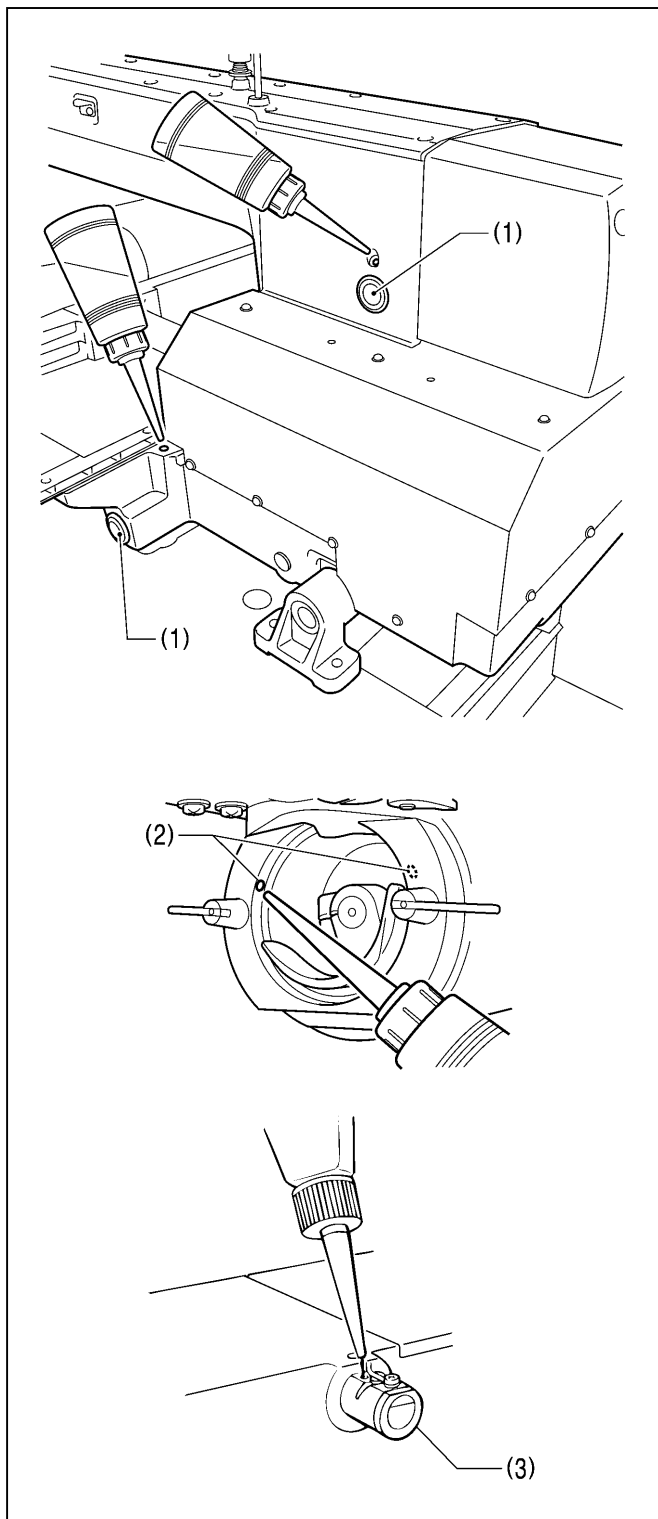
在加油未完成前，请勿插上电源。
如果误踩脚开关，缝纫机动作会导致受伤。



使用润滑油及黄油时，务必戴好保护眼镜和保护手套等，以防润滑油及黄油落入眼中或沾在皮肤上，这是引起发炎的原因。

另外，润滑油及黄油不能饮用，否则会引起呕吐和腹泻。

将油放在儿童拿不到的地方。



1. 向机壳侧面的油箱和底板侧面的油箱注油。

【注意】

当油面下降到油面指示窗(1)的 1/3 左右时，请务必加注机油。如果油面下降到油面指示窗(1)的 1/3 以下，则可能会成为机器烧伤等故障的原因。

2. 给大旋梭本体组件的 2 个孔(2)注入机油，使毛毡上含有微量的机油。

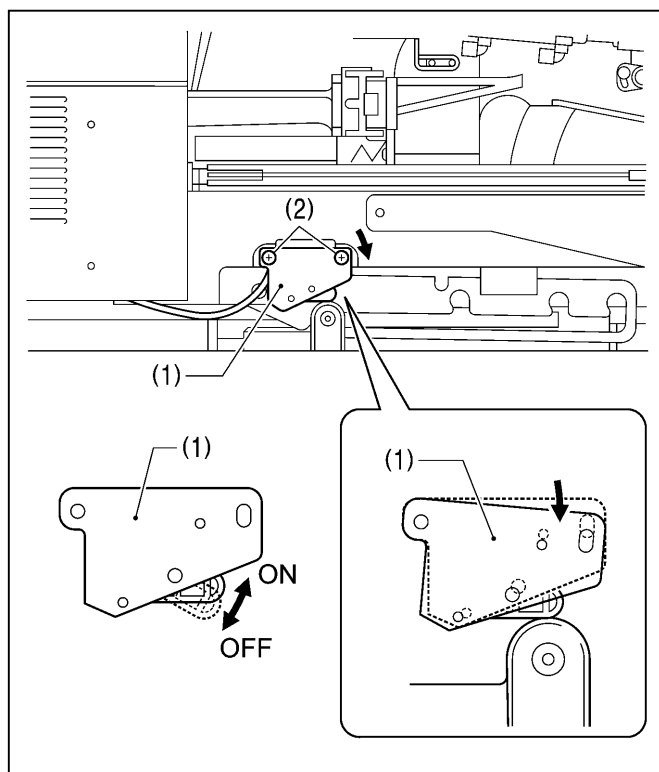
【注意】

如果大旋梭本体组件的毛毡上没有机油时，则可能会造成缝纫故障的原因。

3. 如果使用冷却液槽 (3) 时，请在槽中注入硅油 ($100\text{mm}^2/\text{s}$)。

(冷却液槽(3)的使用方法参考「5-3. 面线的穿法」)

4-11. 安全开关的确认



1. 如果缝纫机头是倒着的，可慢慢地将缝纫机头竖起，复位。（参考「4-5. 缝纫机头的倒下及竖起的方法」）
2. 接通电源。
3. 确认操作盘上没有表示错误 No. 。

如果安全开关(1)没有ON时会发生错误No.

请调整安全开关(1)的安装位置。

- 1) 关闭电源。
- 2) 松开螺钉(2)[2个]。
- 3) 在安全开关(1)的右侧完全被按下，安全开关(1)变成ON的位置后，拧紧螺钉(2)[2个]。
- 4) 接通电源，确认是否已没有错误No. 的表示。

5. 缝纫前的准备

5-1. 机针的安装方法

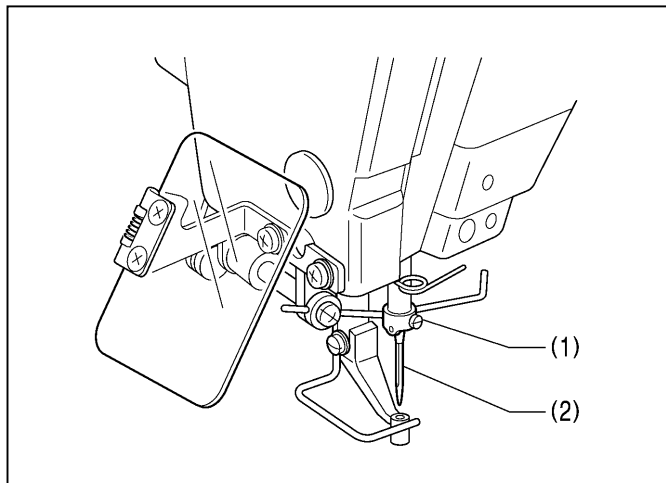


注意



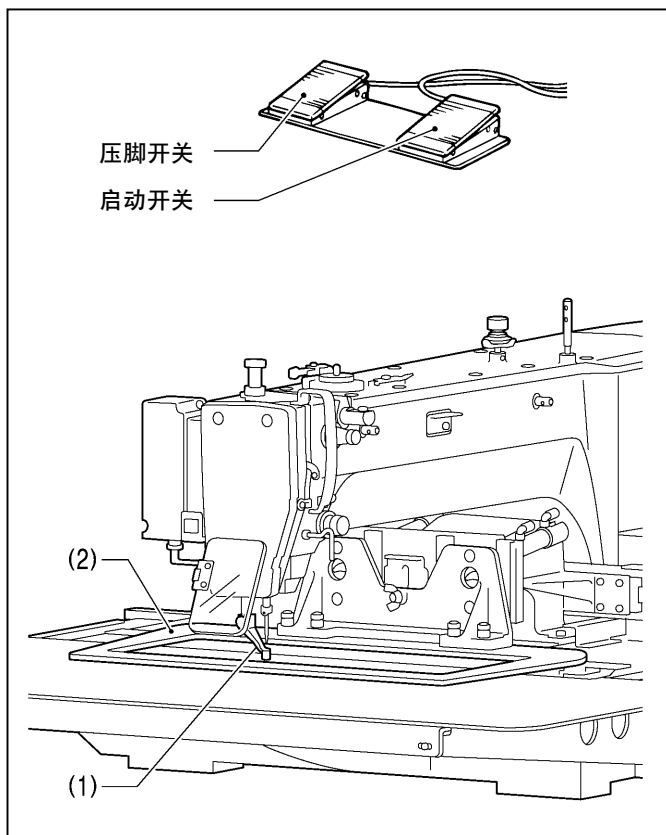
安装机针时，请切断电源。

当误踩下脚踏开关时，缝纫机动作会导致人员受伤。



1. 松开螺钉(1)。
2. 机针(2)的长槽朝着正面，笔直插到底并用力拧紧螺钉(1)。

5-2. 2 连脚踏开关的操作方法



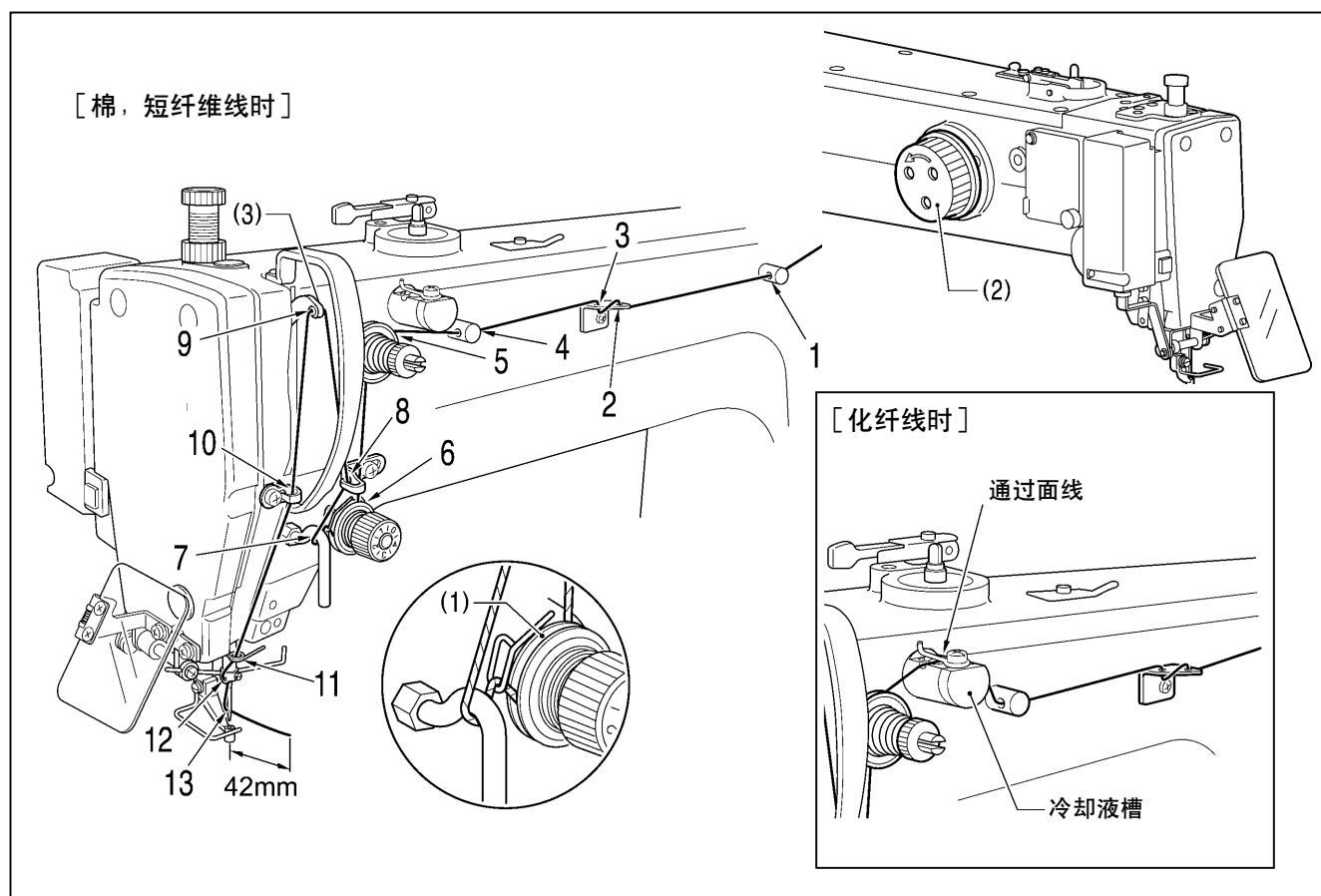
当踩下压脚开关(左侧)时压脚(1)和压脚板(2)下降，当踩下启动开关(右侧)时缝纫机启动。

* 压脚板(2)的放下方法，使用存储器开关 No. 002 可以改变。(参考「7-3. 存储器开关一览表」)

5-3. 面线的穿法

请按下图所示序号正确地穿面线。

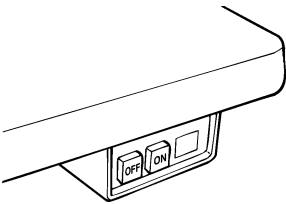
*如果在穿线模式下进行穿线时，夹线盘(1)将变成打开状态，缝线就更加便于穿过。(参考下一页)



- 回转缝纫机手轮(2)，请将挑线杆(3)调到最高点后，进行穿线。
(容易穿线，且可防止开始缝纫时的脱线。)
- 在线穿过机针后，从机针孔处留出线的长度为42mm左右。
如留出的线过长有可能会打结。

<穿线模式>

在穿线模式下，即使踩下脚踏开关，缝纫机也不会启动，所以非常安全。

1	接通电源。 	
2	按回零键 	按穿线键，同时键符改变。   • 降下压脚。
3	进行穿线	
4	穿线模式结束	按穿线键，同时键符改变。   • 压脚返回到进入穿线模式前的状态。

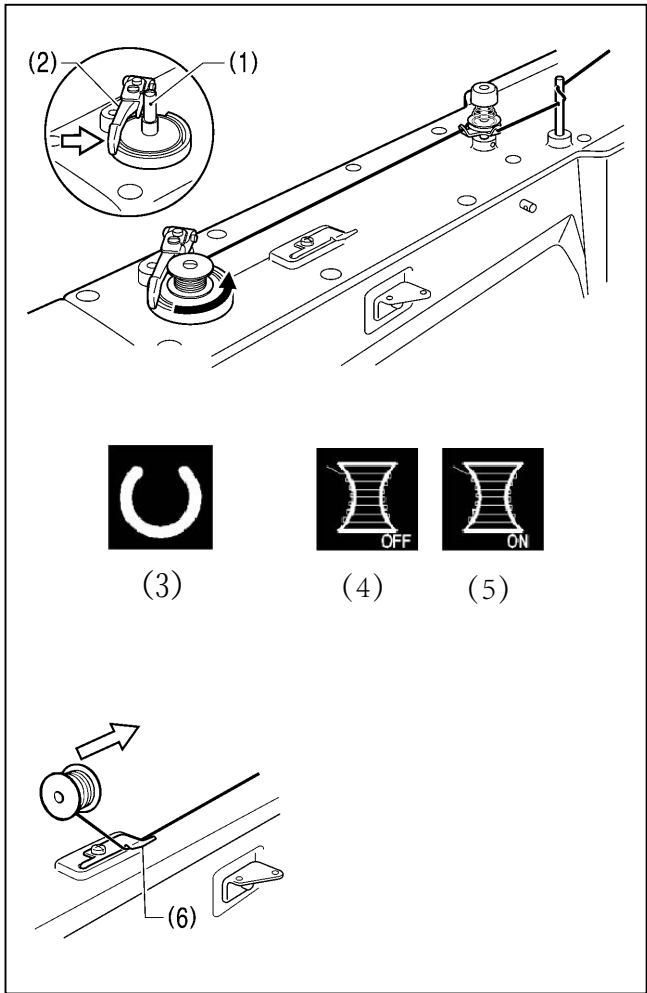
5-4. 底线的绕线方法



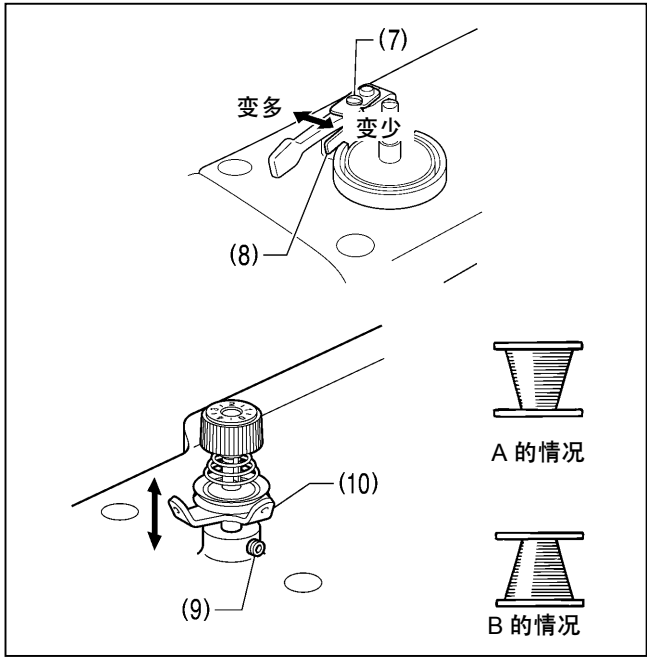
注意



在卷线过程中，不要触摸任何运动部件或将物件靠在运动部件上，因为这会导致人员受伤或缝纫机损坏。



1. 将梭芯嵌入卷线轴(1)上。
2. 按图示进行穿线，将线在梭芯内绕几圈，然后压上梭芯压臂柄(2)。
3. 接通电源。
4. 按回零键(3)进行原点检测。
5. 确认机针不碰到压脚板。按绕线键(4)，使绕线键(4)切换成绕线键(5)，并处于“ON”状态，将脚踏开关踩到第2档位置，开始绕线。
(2连脚踏开关时，踩下2连脚踏开关的启动开关)
6. 当绕线量达到一定的数量(梭芯外径的 80% ~ 90%)时应停止绕线，梭芯压臂柄(2)将自动返回(如果在中途踩下脚踏开关的启动开关，或按下绕线键(5)，使绕线键(5)切换成绕线键(4)，并处于“OFF状态”，则停止绕线)。
7. 取下梭芯，将线钩在切刀(6)上，朝箭头方向拉梭芯，将线割断。



梭芯绕线量的调节

拧松螺钉(7)，移动梭芯压杆(8)进行调节。

绕线不均匀的调节

松开螺钉(9)，上下移动卷线器夹线组件(10)进行调节。

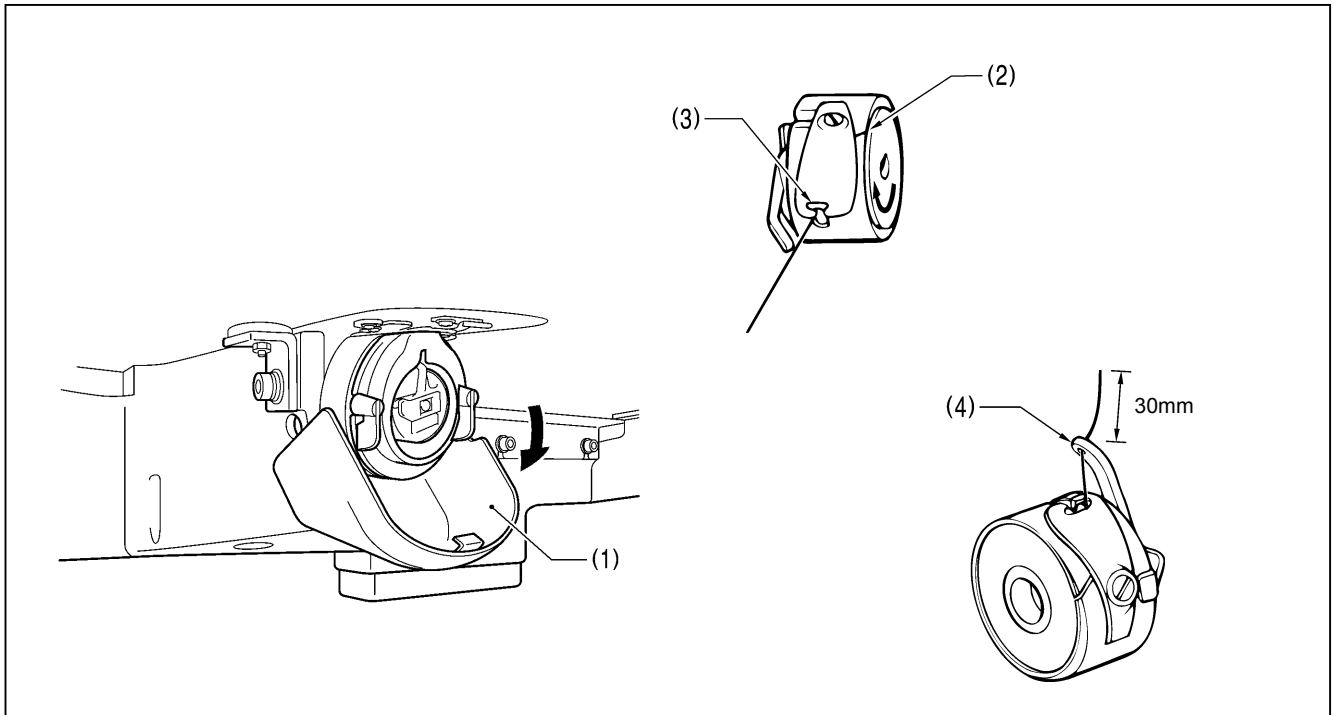
* A 的情况，将卷线器夹线组件(10)向下移动，B 的情况，正好相反，向上移动。

5 - 5. 梭芯套的装取方法

! 注意



在安装梭芯套时，请切断电源。
当误踩下脚踏开关时，缝纫机动作会导致人员受伤。



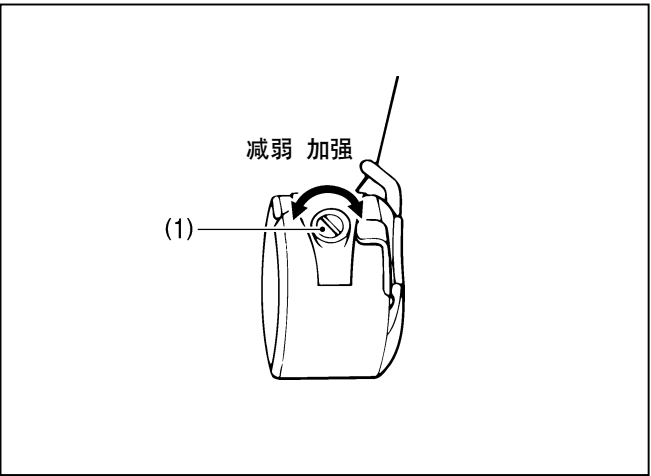
1. 向下拉大旋梭盖(1)将其打开。
2. 按底线向右卷绕的方向握住梭芯，然后将梭芯插入梭芯套。
3. 将底线穿过线槽(2)，然后从导线部(3)中拉出。
4. 当拉出底线后，检查梭芯是否按箭头方向转动。
5. 将线穿过套柄上的线孔(4)，使线端长出 30 mm 左右。
6. 拿住梭芯套上的捏手，将梭芯套插入旋梭。

5-6. 缝纫张力

参考线张力

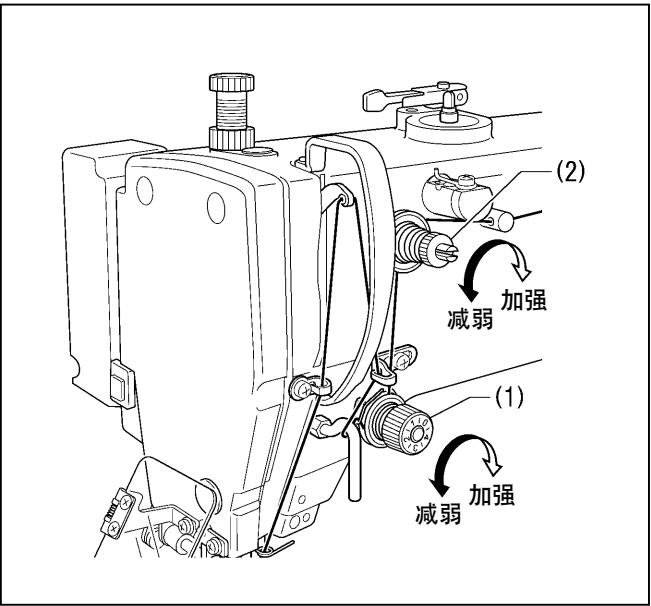
面线	相当#20号
底线	相当#20号
面线的张力(N)	1.4~1.8
底线的张力(N)	0.3~0.4
预张力(N)	0.2~0.4
机针	DP×17#19

5-6-1. 底线的张力



转动调节螺钉(1)来调节底线的张力，将张力调节到当用手握住线端时梭芯套靠它的自重不会滑落的程度，尽可能调弱张力。

5-6-2. 面线的张力



1. 转动夹线螺母(1) (主夹线器)，根据缝制品进行张力的调节。
2. 用夹线螺母(2) (副夹线器)进行调节，使面线残留量在42mm左右的范围内。

6. 缝纫

⚠ 注意



发生下列情况时，请切断电源。

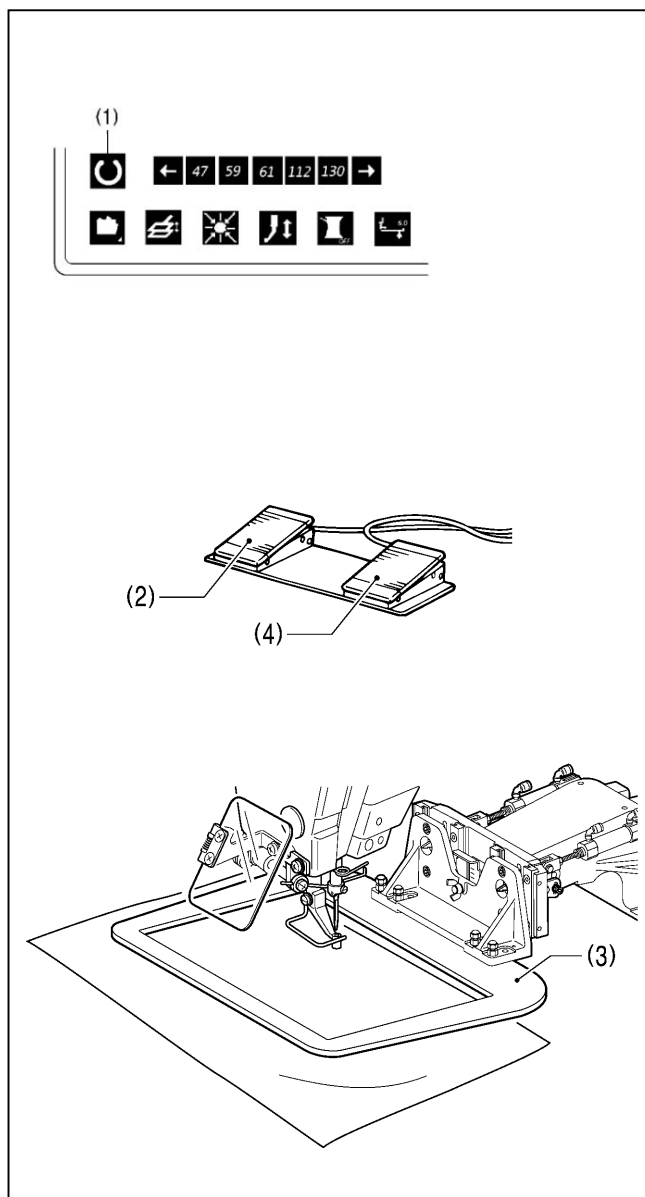
当误踩脚开关时，缝纫机动作会导致受伤。

- 机针穿线时
- 更换机针或梭芯时
- 缝纫机不使用，或人离开缝纫机时



缝纫过程中不要触摸任何活动部件或将物件靠在运动部件上，因为这会导致受伤或缝纫机损坏。

6-1. 缝纫的方法



1. 打开电源。
2. 按 $\square$ 键或是 $\square$ 键，按数字键选择要缝纫的程序号。

3. 按回零键 (1) 进行原点检测。

4. 将布料放在压脚板 (3) 的下面

5. 踩下压脚开关 (2)。

- 压脚板 (3) 下降。

6. 再踩下启动开关 (4)。

- 缝纫机起动。

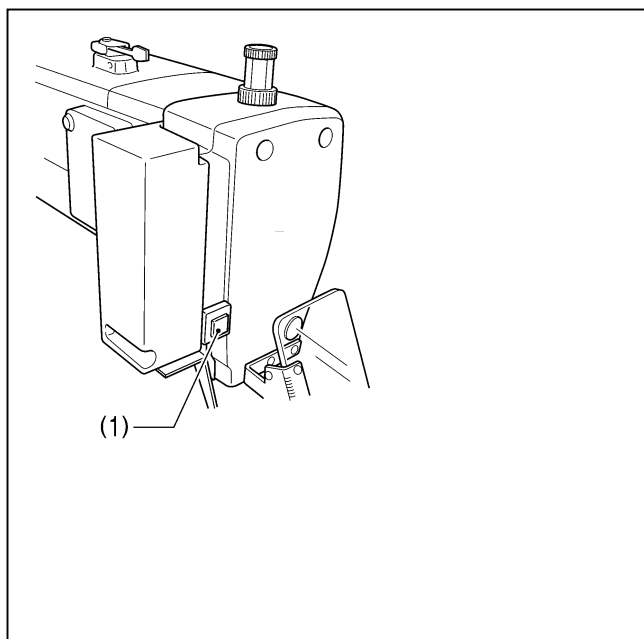
7. 缝纫一结束就剪线，然后压脚板 (3) 上升。

请使用能确保缝制布料不偏移的压脚板和送布板。

如使用标准的压脚板和送料板而缝制布料偏移时，请使用压脚板和送料板不能滑动的措施。

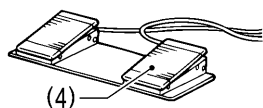
6-2. 暂停开关的使用方法

在缝制中或是试送布中，如果按了暂停开关(1)，缝纫机立即会停止。



<接着缝制的方法>

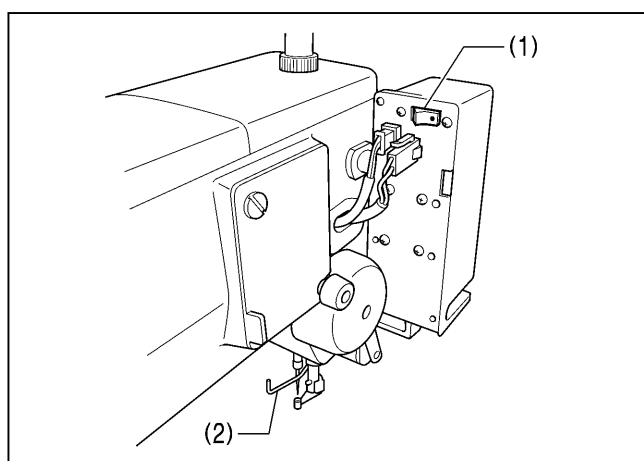
在缝纫中，当出现断线或是底线用完等情况时，按下了暂停开关(1)后，还是可以在出现断线的位置处继续接着缝制工作的。



踩下启动开关(4)。

- 缝纫机起动，缝纫开始。

6-3. 扫线用开关的使用方法



使用扫线用开关(1)，可以切换扫线杆(2)的开和关(ON, OFF)。

7. 保养

! 注意



在开始清洁作业前，请切断电源。

如果误踩了脚开关，缝纫机动作会导致人员受伤。

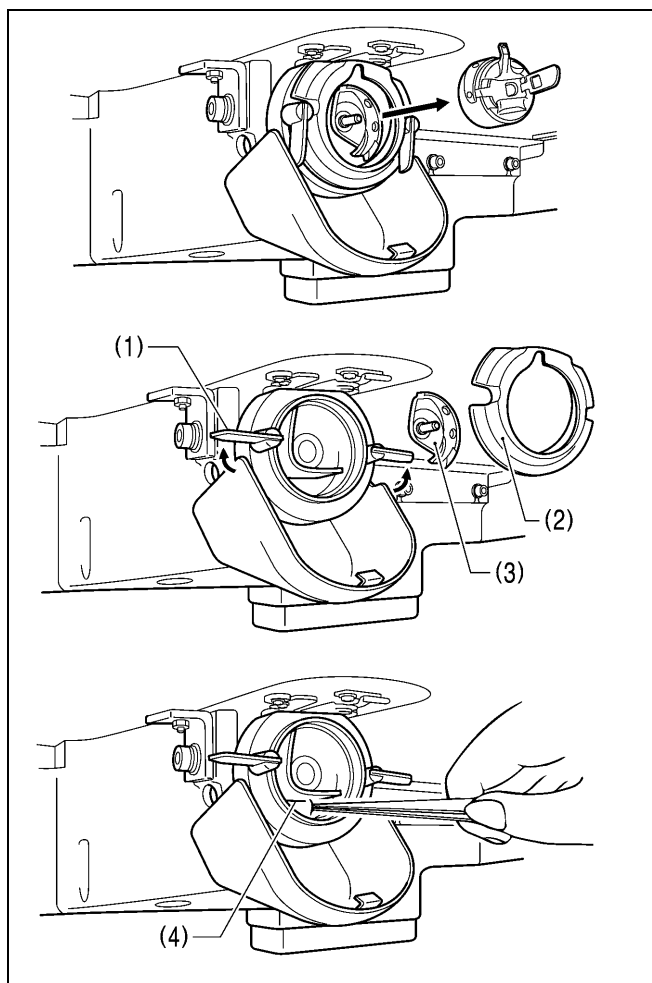


使用润滑油和黄油时，务必戴好保护眼镜和保护手套等，以防润滑油落入眼中或沾在皮肤上，这是引起发炎的原因。

另外，润滑油或黄油不能饮用，否则会引起呕吐和腹泻。

将油放在儿童拿不到的地方。

7-1. 旋梭的清扫

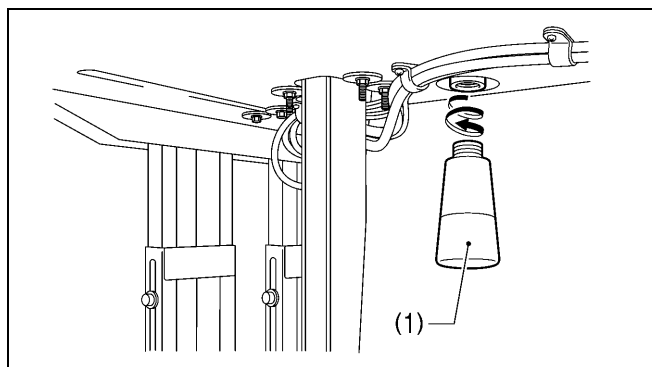


1. 将大旋梭盖向下拉开，取出梭芯盒。

2. 将大旋梭固定柄(1)朝箭头方向打开，取出大旋梭(2)和中旋梭(3)。

3. 将梭托(4)的四周，旋梭线导向上部及旋梭边缘的棉尘和线屑等清除干净。

7-2. 废油

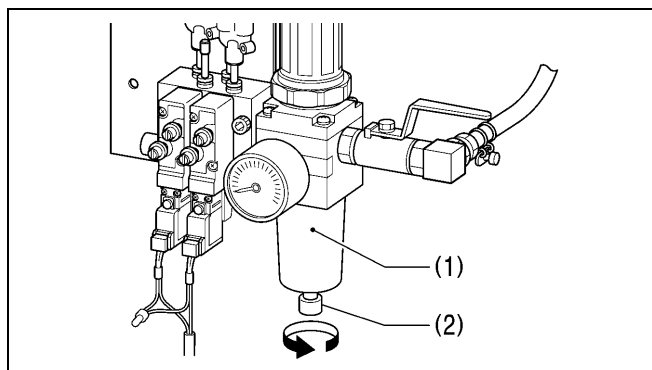


1. 当油壶(1)内积满了废油时，请拆下油壶(1)，并清除里面的废油。

2. 清除完后，将油壶(1)拧回到原来位置。

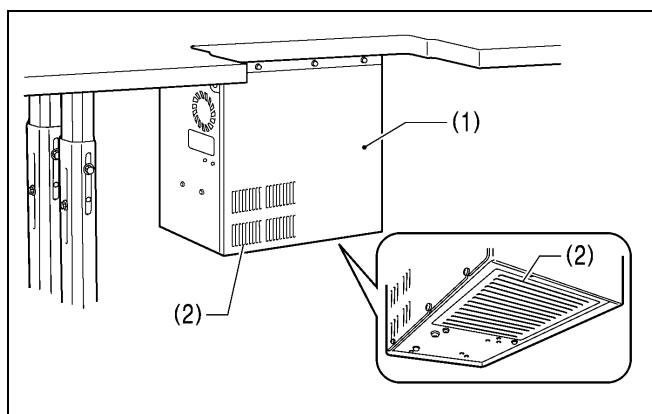
*请遵守废油处理法规，正确处理废油。

7-3. 调节器的点检



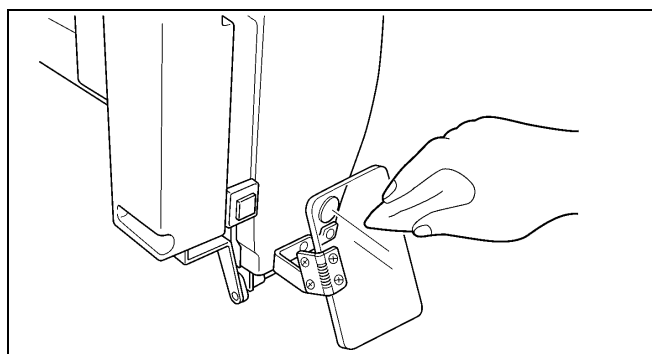
1. 在调节器(1)内的瓶中如有积水时，排泄阀(2)按箭头方向回转来排泄积水。
2. 排泄完了后拧紧排泄阀(2)。

7-4. 控制箱进气口的清扫



请每月一次左右用吸尘器清洁控制箱(1)的进气口(2)处的滤网。

7-5. 护眼板的清洁

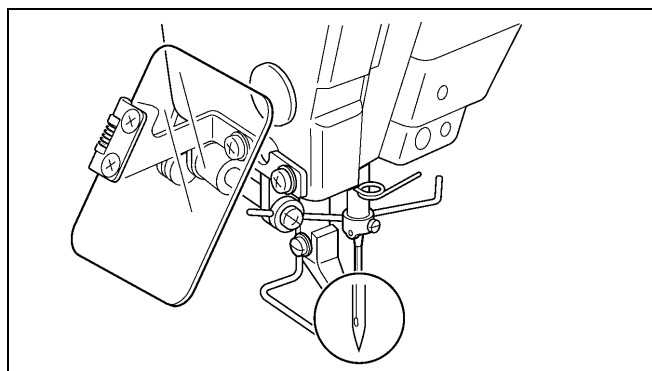


护眼板污秽时，请用软布将其擦拭干净。

[注意]

请勿使用有机溶液如汽油或稀释剂清洁护眼板。

7-6. 机针的检查



缝纫开始前先确认针头有否断裂，机针有否弯曲。

7-7. 加油

参考「4-10. 加油」所述，添加机油。

8. 标准调整

注意

- 只有经过训练的技术人员才能进行缝纫机的维修、保养和检查。

与电气有关的维修、保养和检查请委托购买商店或电气专业人员进行。

发生下列情况时，请关闭电源。并拔下电源线插座。

否则误踩下脚踏开关时，缝纫机动作会导致受伤。

 - 检查、调整和维修
 - 更换旋梭等易损零部件

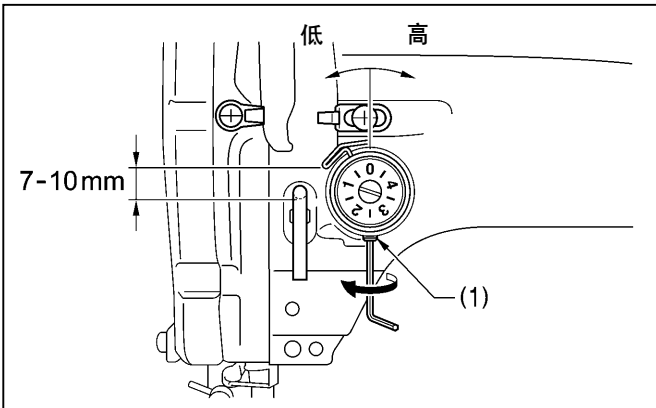
在检查、调整和修理任何使用气动装备之前，请先断开气源，并等压力表指针下降到“0”为止。

在必须接上电源开关和气源开关进行调整时，务必十分小心遵守所有的安全注意事项。
- 缝纫机头倒下或竖起时，请用双手进行操作。另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。

使用润滑油及黄油时，务必戴好保护眼镜和保护手套等，以防润滑油及黄油落入眼中或沾在皮肤上，这是引起发炎的原因。另外，润滑油及黄油不能饮用，否则会引起呕吐和腹泻。将油放在儿童拿不到的地方。

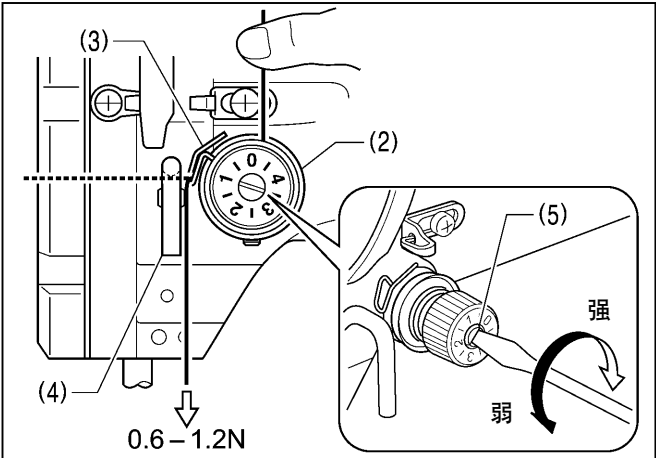
取下的安全保护装置，必须要安装回去。且请务必安装在原位上，并检查能否正常的发挥作用。

8-1. 挑线簧的调整



挑线簧高度(mm)	7~10
挑线簧强度(N)	0.6~1.2

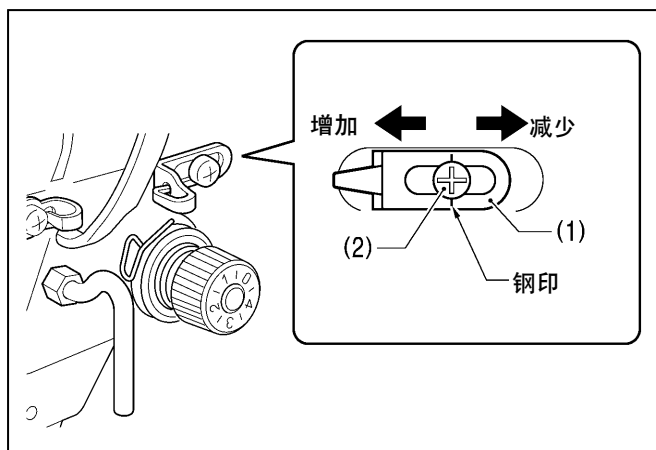
<挑线簧高度>
松开固定螺钉(1)，转动调节器全体进行调节。



<挑线簧强度>
1. 在张力器基座(2)的稍稍上方，用手指压着面线使面线不能放出。
2. 将面线向下拉，使挑线簧(3)和机壳线钩(4)的底面呈一样高度的状态下，测试挑线簧(3)的强度。
3. 用螺丝刀转动夹线杆(5)进行挑线簧强度的调节。

[注意]
如果对挑线簧(3)不能正确地进行调整，那么每次剪线后，面线的残留量有可能会长短不一致。

8-2. 机壳线导向 R 的调整

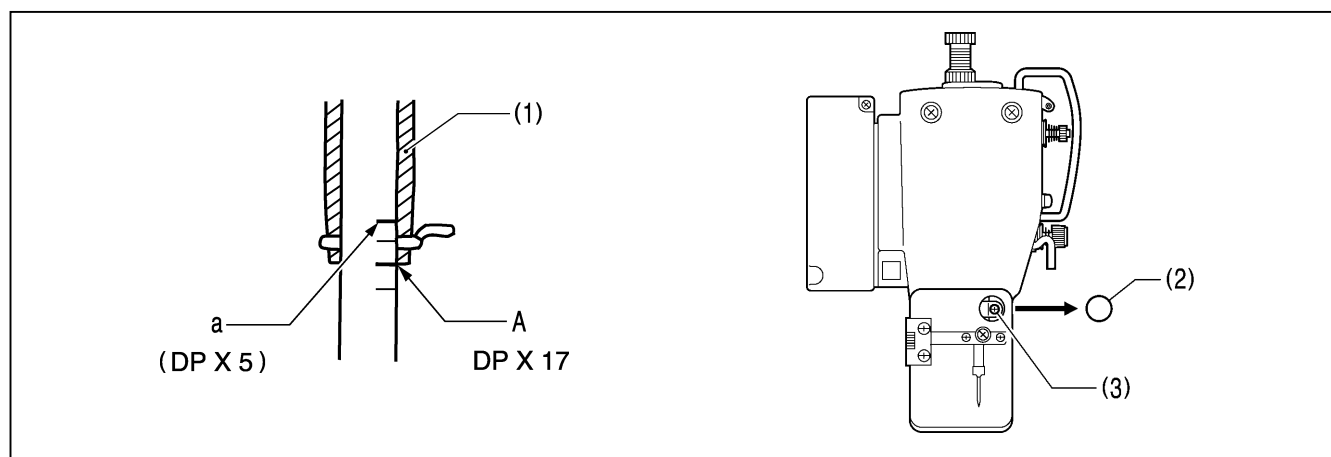


机壳线导向 R (1) 的位置，当螺钉 (2) 被固定在钢印的位置时为标准位置。

松开螺钉 (2)，移动机壳线导向 R (1) 进行位置的调节。

- 当缝纫厚料时，向左移动机壳线导向 R (1)。(挑线量增加。)
- 当缝纫薄料时，向右移动机壳线导向 R (1)。(挑线量减少。)

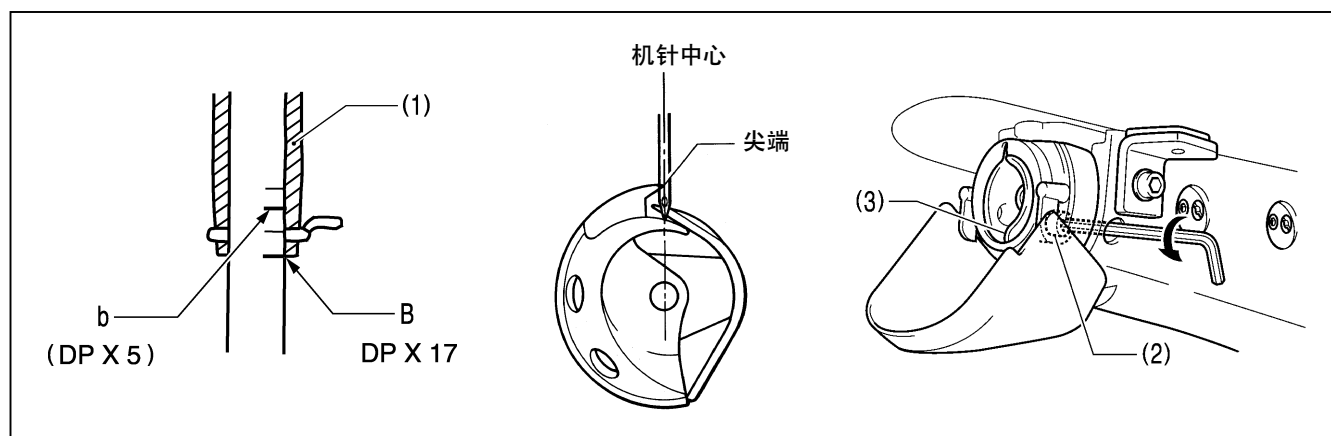
8-3. 针杆高度的调整



转动手轮使针杆降至最低点时，将针杆下方的第二根基线 A 与针杆轴套 (1) 下端对齐，卸下橡皮栓 (2) 并松开螺钉 (3)，上下移动针杆进行调整。

*使用 DP × 5 的机针时，应与最上方的基线 a 对齐。

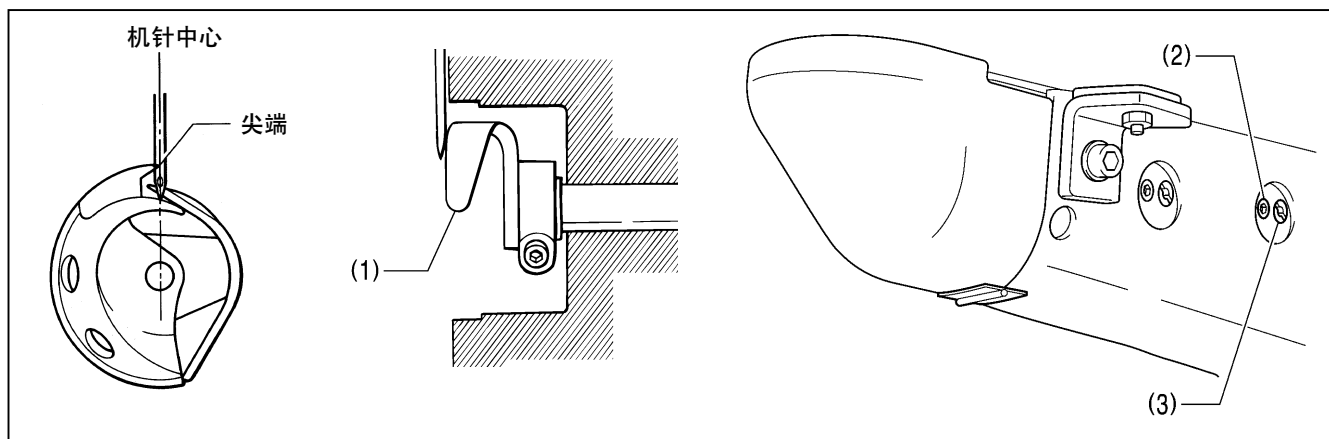
8-4. 针杆上升量的调整



动手轮使针杆从最低点开始上升，当针杆最下方的基线 B 与针杆轴套 (1) 下端对齐时，旋梭尖端应与机针中心对齐一致，松开螺栓 (2)，移动梭托 (3) 进行调整。

*使用 DP × 5 的机针时，应与从上方开始的第二根基线 b 对齐。

8-5. 梭托导针部的调整

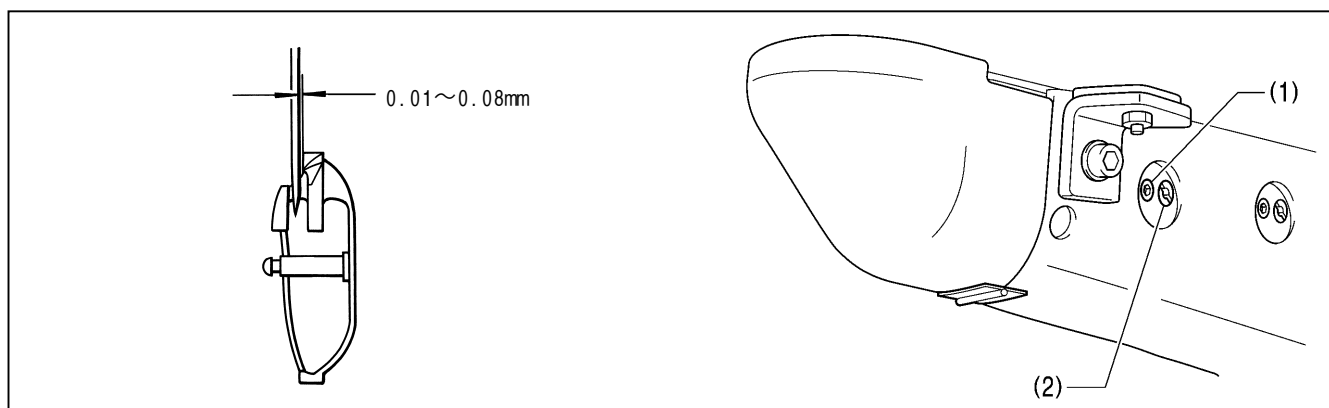


转动手轮使旋梭尖端与机针中心对齐时，梭托导针部(1)好象要与机针接触似的，松开螺钉(2)，转动旋梭调节轴(3)进行调整。

【注意】

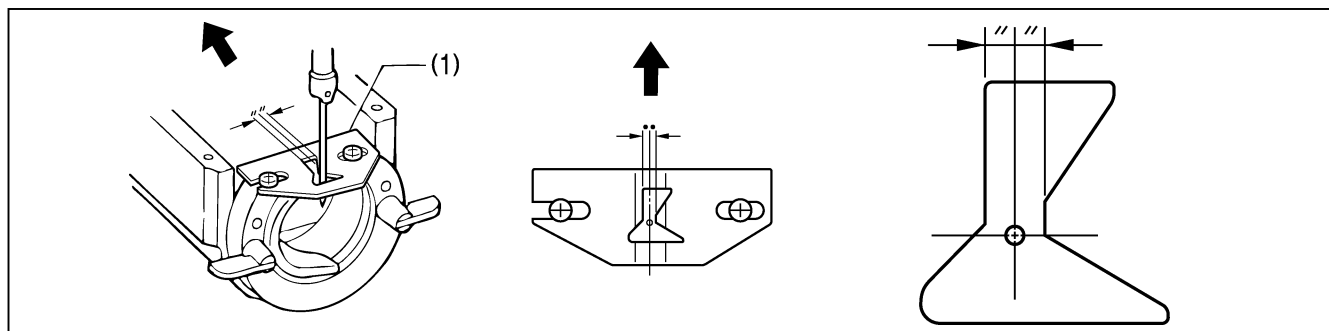
如果导针部的过度导入会使机针的负担加重，还会引起夹线不良。此外，如果导针部不导入，则中旋梭的梭尖端会和机针相接触，会产生跳针的原因。

8-6. 针隙的调整



转动手轮使旋梭尖端与机针中心对齐时，机针和旋梭尖端之间的间距为 0.01~0.08mm，并松开螺钉(1)，转动旋梭调节轴(2)进行调整。

8-7. 旋梭导线器的调整



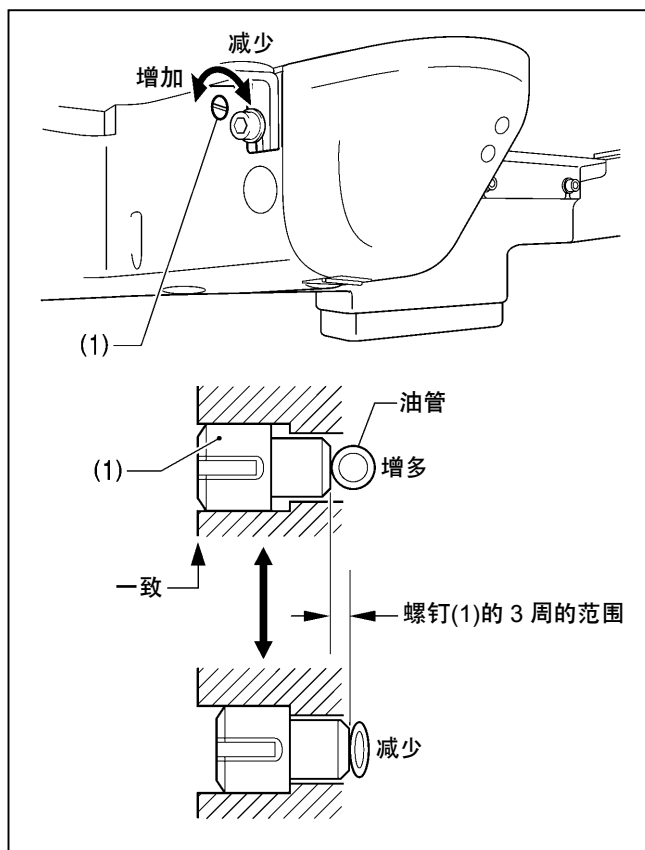
左右位置是将旋梭导线器(1)的针槽作为机针中心的分配位置，前后位置是将旋梭导线器(1)按箭头方向压上并安装的位置。

【注意】

如果旋梭导线器(1)的位置不佳，则会导致断线，缝线受污或是线被缠绕。

旋梭导线器的位置(1)在出厂时已作调整完。请尽可能不作改动。

8-8. 旋梭供油量的调整

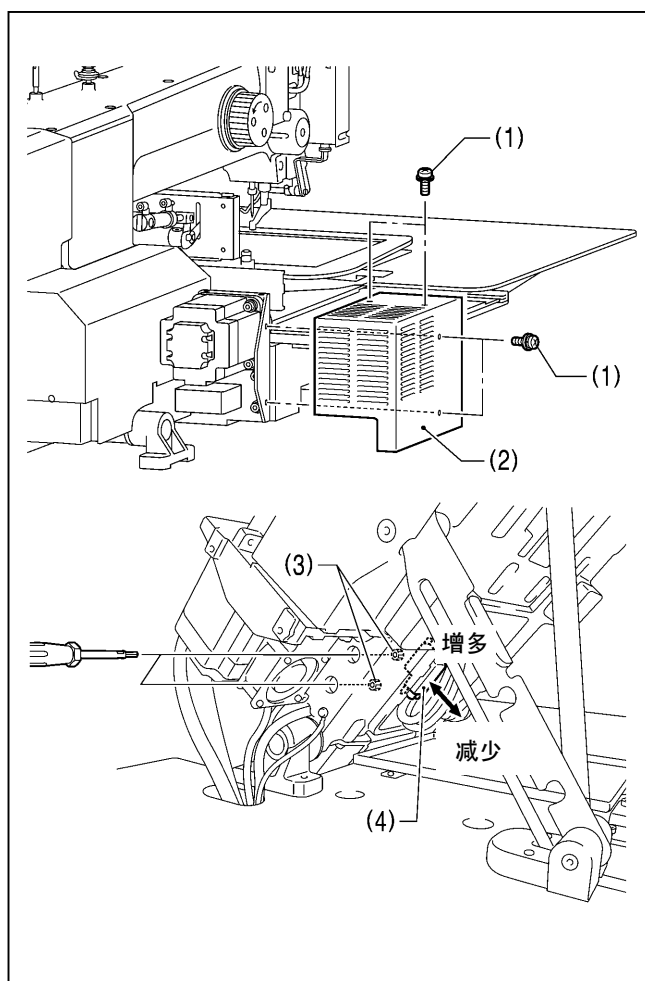


<根据油管的压入量进行调整>

螺钉(1)的头部和底板的端面呈一致状态时为适量的位置。供油量的调节, 可从该位置起向右旋转 3 周的范围内进行调节。

- 螺钉(1)向右旋转时供油量减少。
- 螺钉(1)向左旋转时供油量增加。

* 如果想要比螺钉(1)的头部和底板的端面呈一致状态时更多的供油时, 请使用下述方法进行调整。



<调整副油罐的供油量>

1. 旋下螺钉(1) [4 个], 取出 X 马达罩(2)。

2. 将缝纫机头倒下。

3. 从缝纫机机壳的左侧面的孔中用起子将螺栓(3) [2 个] 松开。

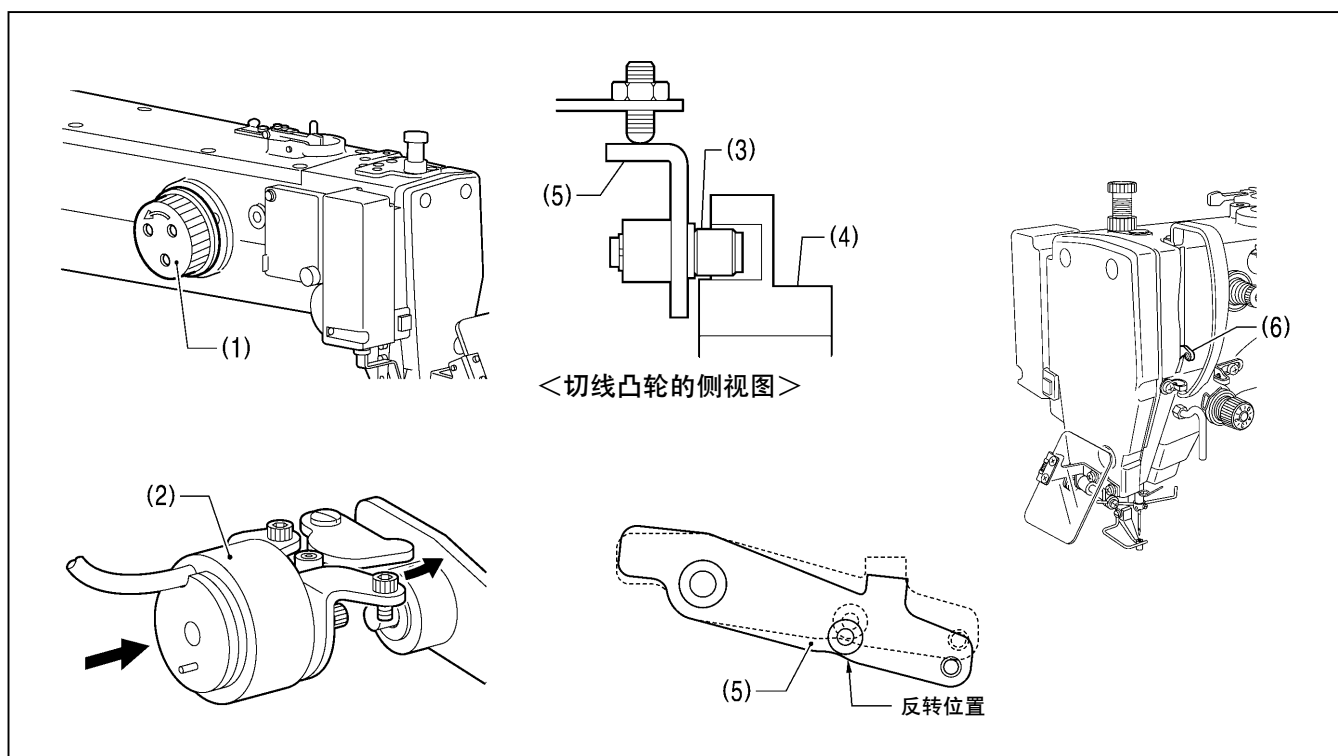
4. 上下移动副油罐(4) 进行位置调整后, 拧紧螺栓(3) [2 个]。

- 副油罐(4) 的位置向上移动, 供油量增加。
- 副油罐(4) 的位置向下移动, 供油量减少。

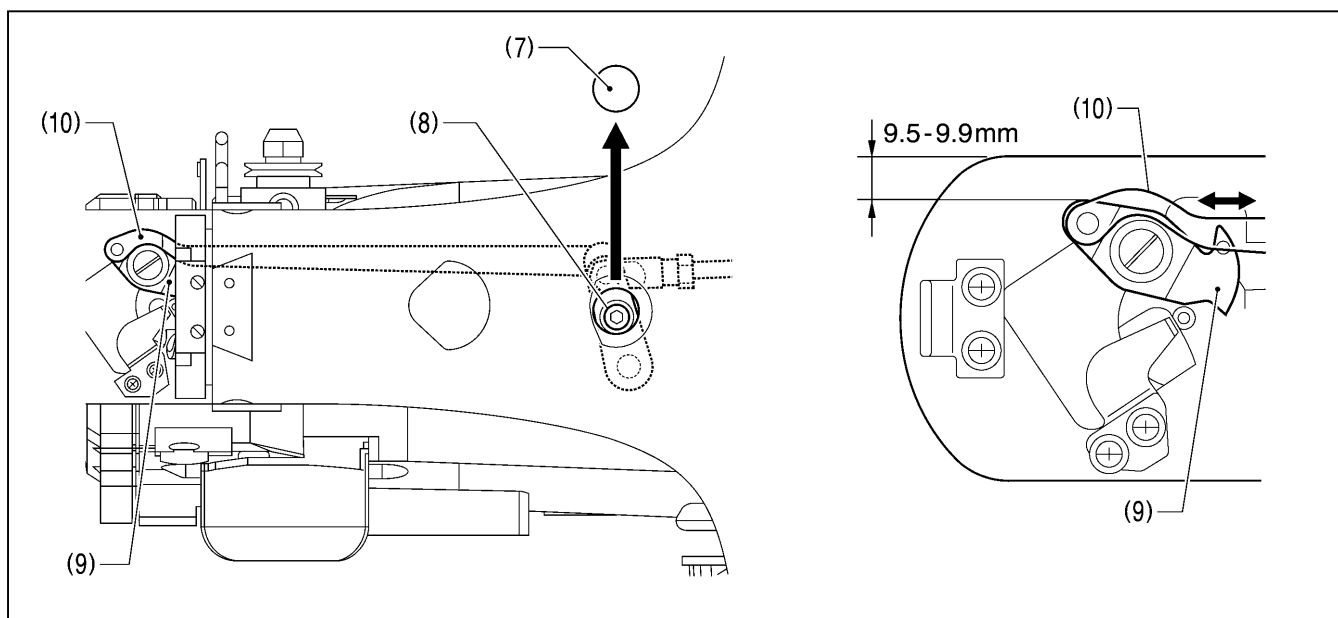
5. 将缝纫机头竖起。

6. 使用螺钉(1) [4 个], 将 X 马达罩(2) 安装上。

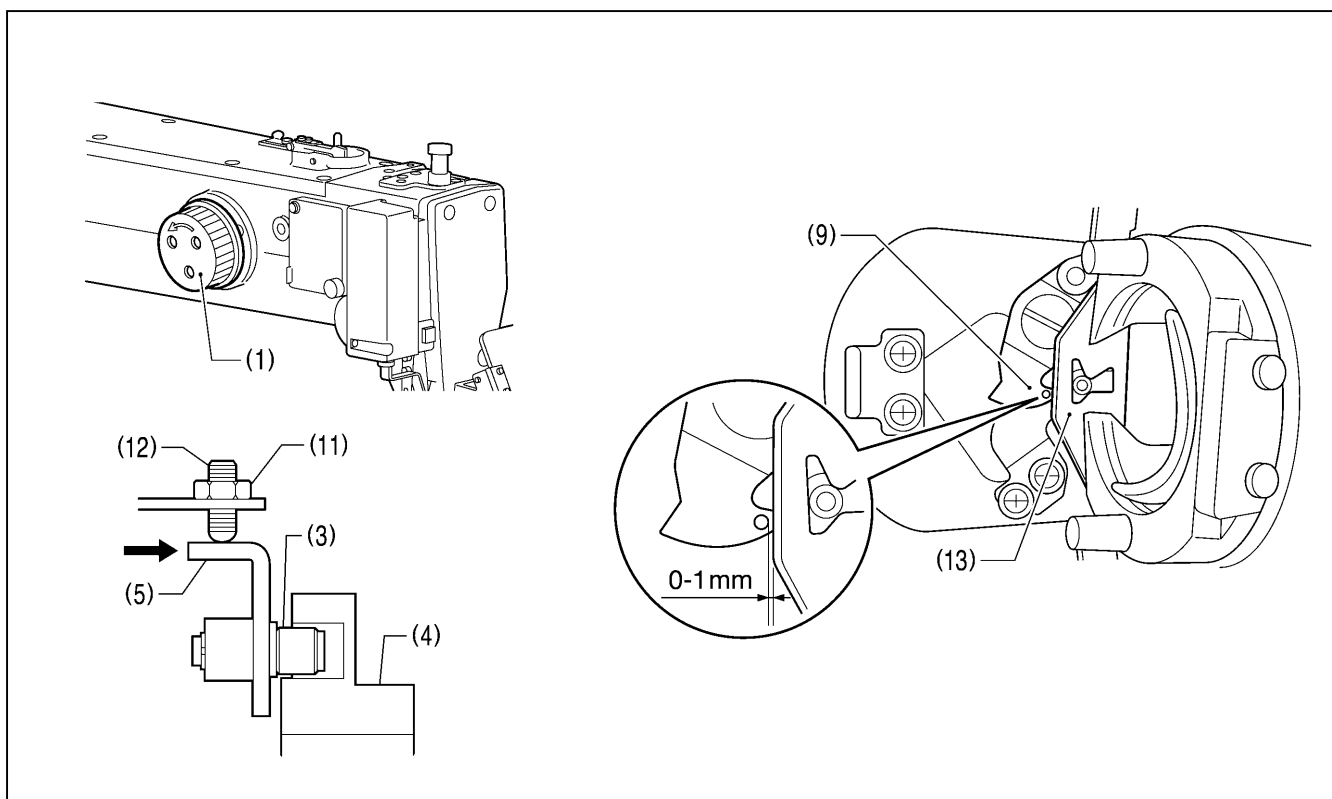
8-9. 动刀的位置调整



1. 取下上盖，将机头放倒。
2. 用手转动手轮(1)使针杆在最低位置后，将切线电磁铁(2)完全压到底。
3. 在切线滚轮(3)嵌入切线凸轮(4)的槽中的状态下，用手回转手轮(1)，使切线驱动杆(5)在反转位置(挑线杆(6)处于最低位置附近)。

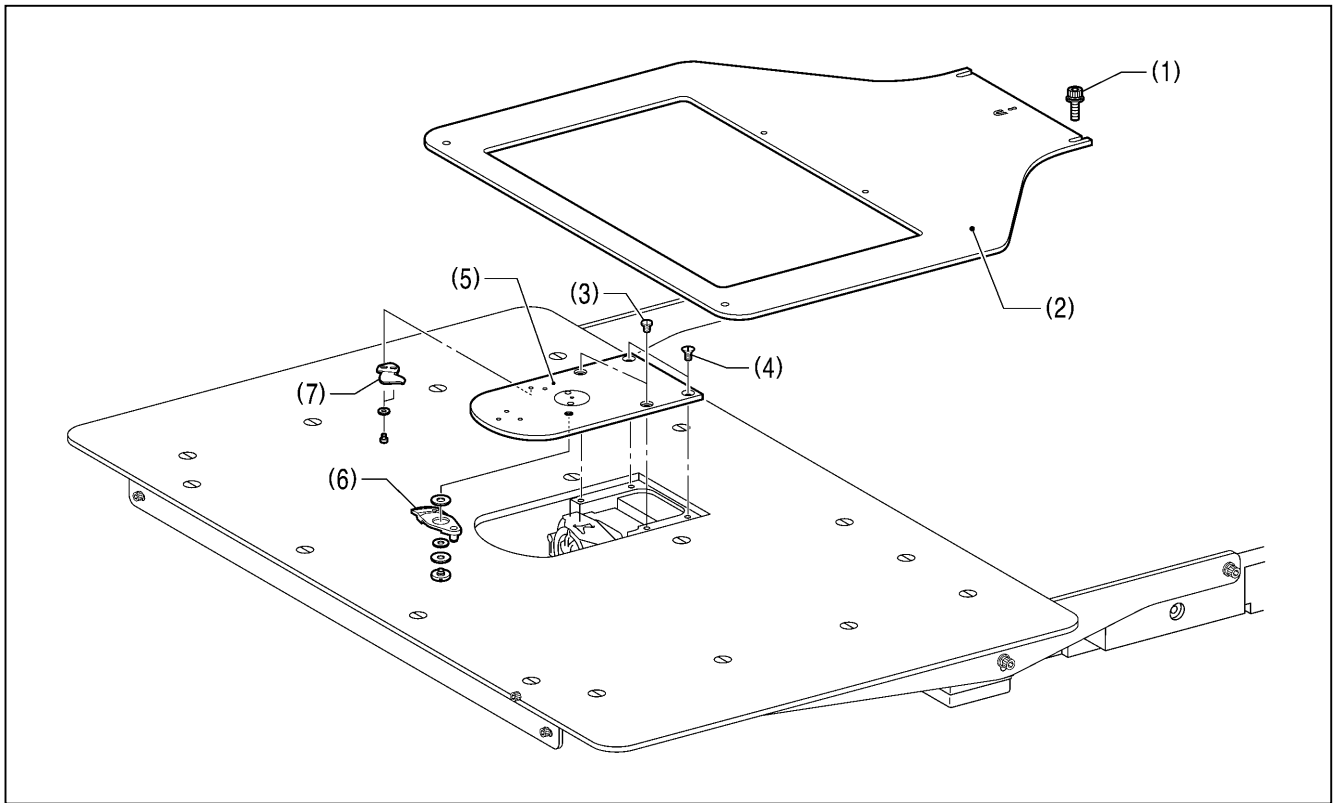


4. 取下橡皮塞(7)。
5. 松开螺栓(8)。
6. 将针板右侧的棱线到动刀(9)的棱线之间的距离保持在 9.5~9.9 mm，前后移动动刀连杆(10)来进行调整。
7. 拧紧螺栓(8)后，再次确认上述的位置。

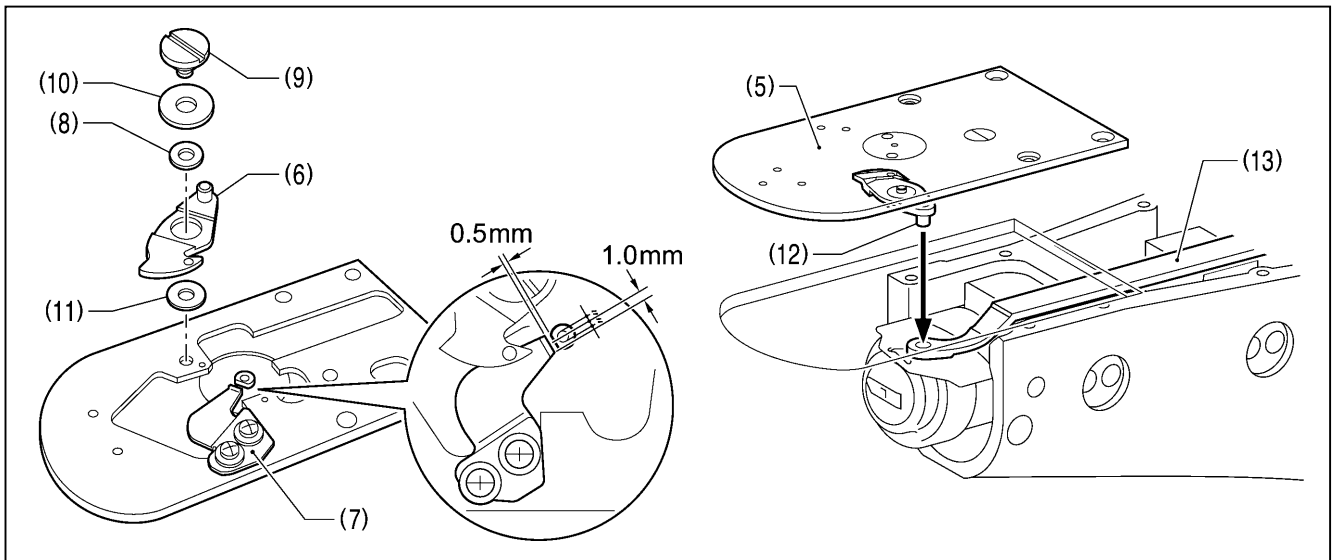


8. 用手转动手轮(1)使针杆置于最低位置。
9. 松开螺母(11)，将嵌入切线凸轮(4)槽中的切线滚轮(3)在碰到其内侧为止后旋紧螺钉(12)，再从此开始将其按逆时针方向回转约1/4转。
10. 旋紧螺母(11)，确认切线滚轮(3)不能接触到切线凸轮(4)的内侧。还有，用手将切线驱动杆(5)推向切线凸轮侧，切线滚轮(3)嵌入到切线凸轮(4)的槽中后，当松开手后确认切线驱动杆(5)应能顺畅地复位。
11. 动刀(9)的孔的外周和旋梭线导向(13)的棱线，在没有空隙的状态下确认其范围在0~1mm之间。

8-10. 动刀和定刀的更换方法

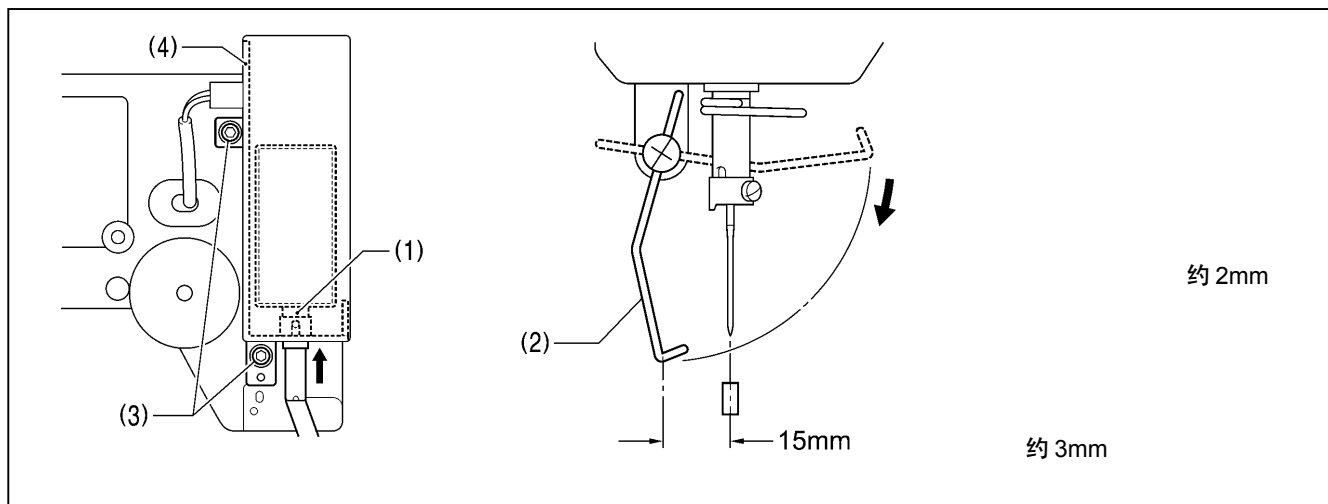


1. 松开螺栓(1) [2 个]，拆下送料板(2)。
2. 打开大旋梭盖，旋下螺钉(3) [2 个]和螺钉(4) [2 个]，拆下针板(5)。
3. 拆下动刀(6)和定刀(7)。



4. 在如图所示位置安装新的定刀(7)。
5. 在动刀圈套(8)的外周部和段螺钉(9)处涂上润滑脂，和轴向垫圈(10)及动刀之间的垫片(11)，再加上新的动刀(6)一起安装。
6. 确认动刀(6)和定刀(7)在切线时的锋利度。为了能很好的切线使用附属的动刀之间的垫片(厚度 $t=0.2、0.3、0.4$) 来进行调整。
 *当刃压很低，不能完全切断缝线时，请使用薄的动刀之间的垫片。
 *当刃压很高，动刀(1)的回转很重时，请使用厚的动刀之间的垫片。
7. 在动刀的销(12)处涂上润滑脂嵌入动刀连杆(13)的孔中，然后安装针板(5)。
8. 确认针孔中心和机针对齐。
9. 安装上送料板(2)。(参考下一页)

8-11. 扫线器的调整

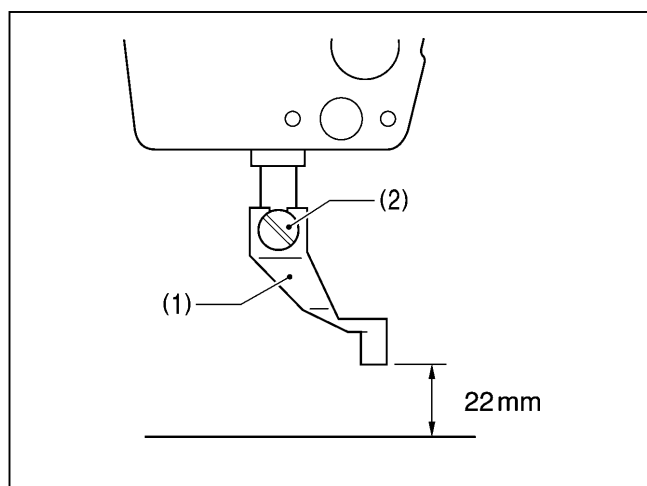


1. 扫线器的电磁铁插棒(1)被拉到最大时, 为使扫线杆(2)能扫过机针中心向前 15mm 处, 将螺钉(3) [2 个] 松开, 电磁铁安装板(4)整体上下移动来进行调整。
2. 操作扫线杆(2)为了使其在通过机针的下面时, 扫线杆(2)和机针的尖端之间的间隙约为 2mm 左右, 扫线杆(2)的尖端到机针中心约为 3mm 左右, 松开螺钉(5)调整扫线杆(2)的位置。

[注意]

请确认扫线杆(2)不可碰到护指器(6)。

8-1 2. 间歇压脚的安裝位置

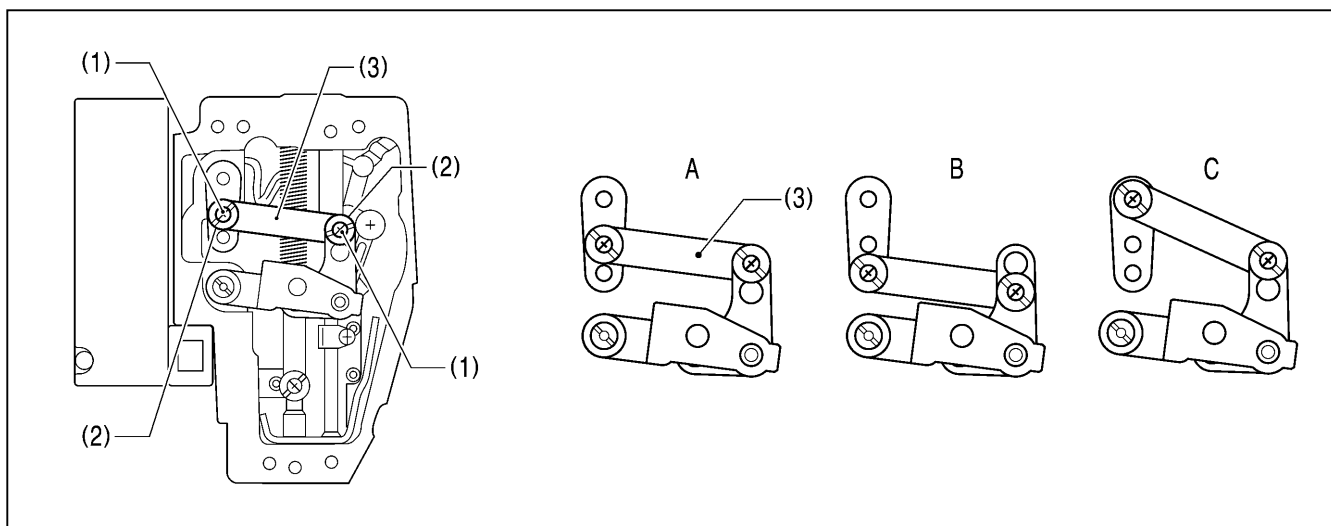


缝纫机在停止位置处间歇压脚(1)呈上升状态时，从间歇压脚(1)的底部到针板表面的距离为 22mm 时将螺钉(2)装上拧紧。

8-1 3. 间歇压脚行程的变换

根据间歇压脚连杆的位置调整、及间歇连杆 A 的安装位置的更改，可以在 2~10mm 之间更改间歇压脚的行程。

<间歇连杆 A 的安装位置的更改>

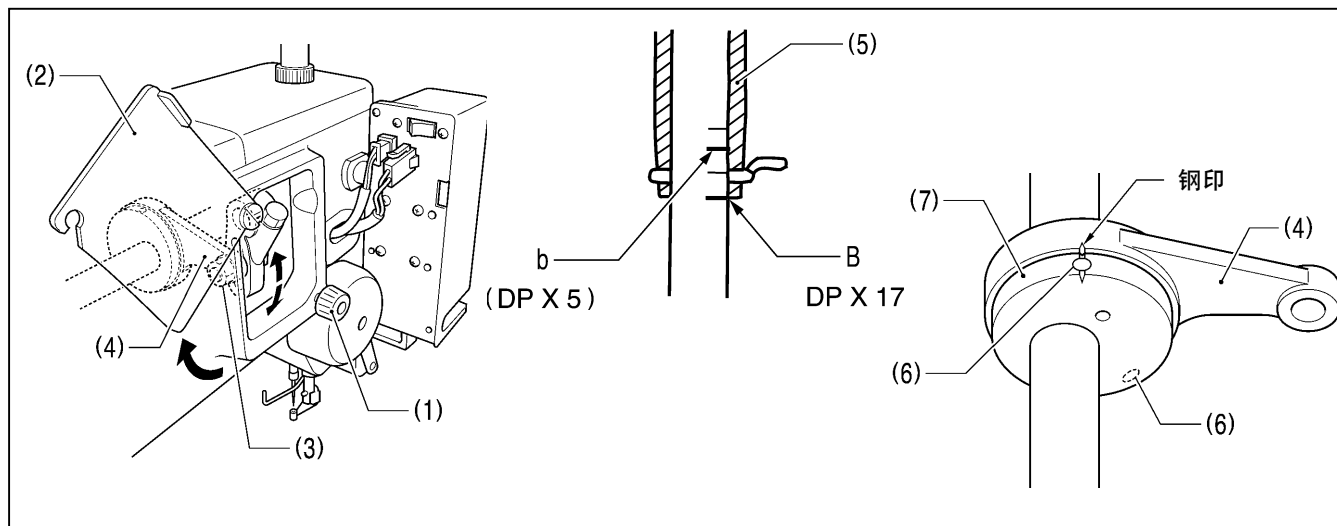


1. 拆下面板。
2. 取出螺钉(1) [2 个] 和段螺钉(2) [2 个]，拆下间歇连杆 A(3)。
3. 间歇连杆 A(3) 的安装位置可更改成在上述的 A~C 中的任何位置。

在各个不同的安装位置处，如下表所示，当对间歇连杆的位置进行调整时，间歇压脚的行程在下表所示的范围内可进行调整。(参考下一页)

安装位置	间歇压脚行程的范围	
A	2~4.5mm	
B	4.5~10mm	
C	0mm (间歇压脚不能上下移动)	

<间歇压脚连杆的位置调整>

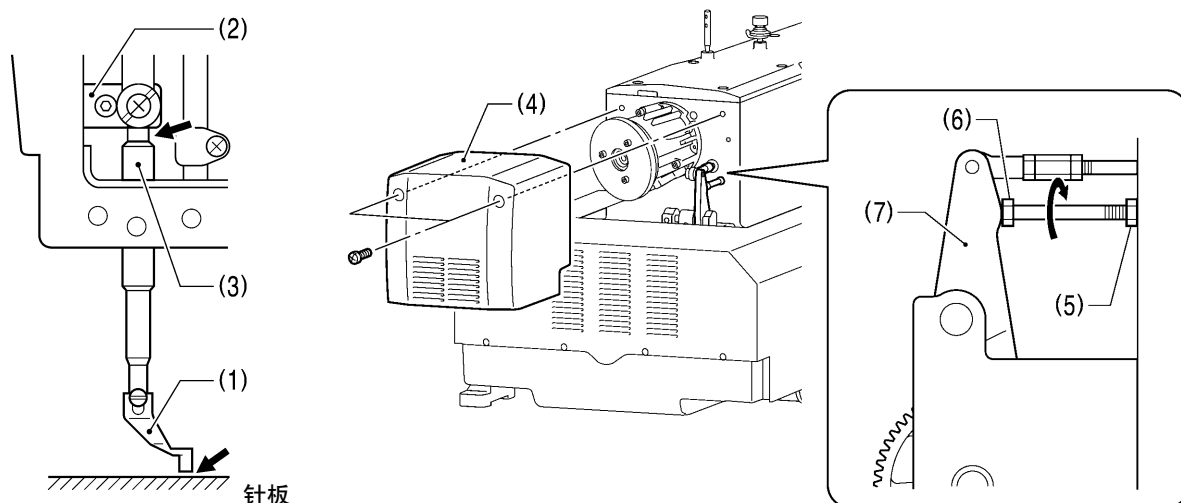


1. 松开螺钉(1)，打开间歇盖板(2)。
2. 旋松螺母(3)，调整间歇压脚连杆(4)的位置。
 - 如将间歇压脚连杆(4)向上去的位置时，间歇压脚行程变大。
 - 如将间歇压脚连杆(4)向下去的位置时，间歇压脚行程变小。

下面是针杆和间歇压脚操作时应同步。

3. 回转手轮让针杆从最下点向上升，使针杆的最下面的基线和针杆轴套(5)的下端面一致对齐。(如果是使用 DP × 5 的机针时，请与从上往下数第二条的基线 b 一致对齐。)
4. 拆下上盖，旋松螺钉(6) [2 个]。
5. 使间歇压脚凸轮(7)和间歇压脚连杆(4)的钢印一致后，拧紧螺钉(6)。

间歇压脚的行程变更之后，请进行以下的确认。



1. 在间歇压脚(1)呈下降状态，回转手轮使间歇压脚(1)降到最下点。
2. 确认间歇压脚(1)是否没碰到针板，还有压杆抱箍(2)是否也没碰到压杆轴套(3)。

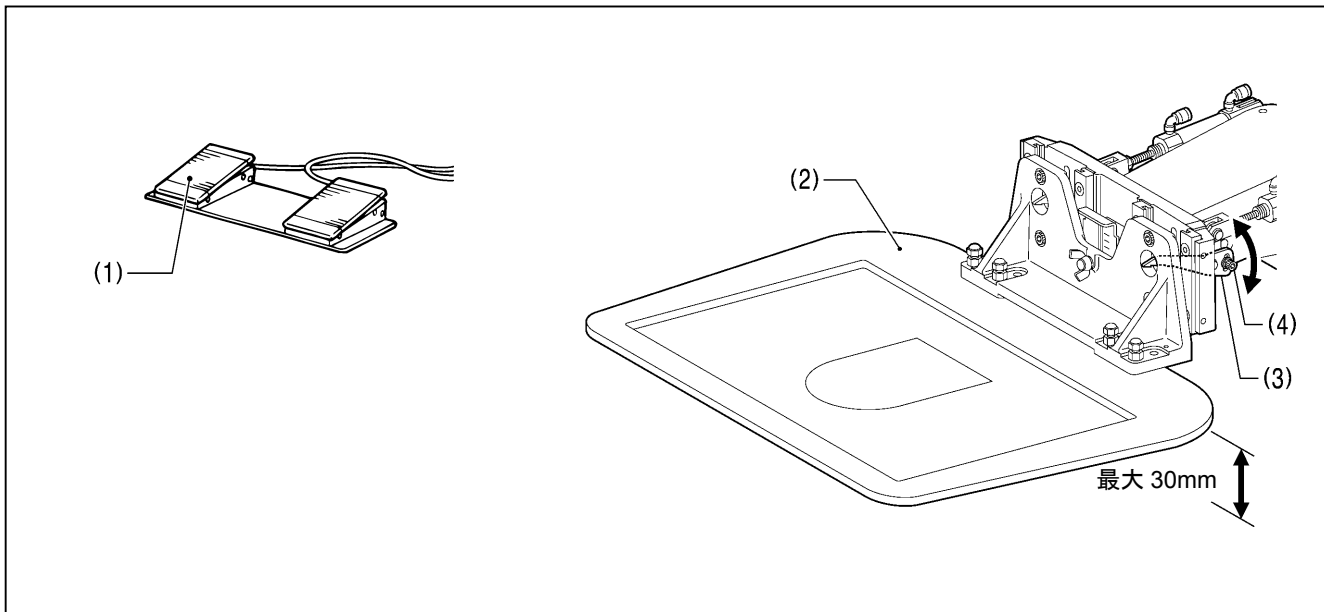
<如果有碰到时>

拆下马达盖(4)。

旋松螺母(5)，回转螺栓(6)使其推动间歇驱动杆(7)来调整，直到上述 2 处不被碰到为止。

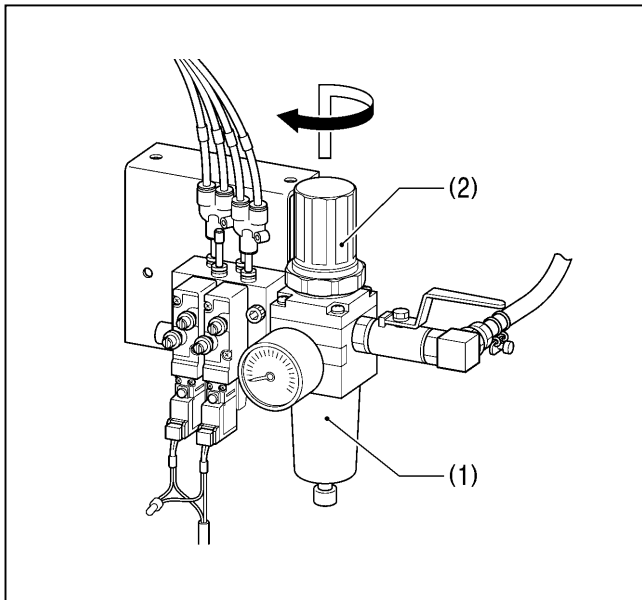
8-14. 压脚上升量的调整

压脚板(2)的最大上升量为从针板向上 30mm。



1. 送入气压，接通电源开关。
2. 踩下压脚开关(1)，压脚板(2)上升。
3. 旋松压脚臂杆(3)的螺栓(4) [2 个]，上下移动压脚臂杆(3)来进行调整。

8-15. 空气压力的调整



将调节器(1)的手轮(2)向上拔起后再回转，使空气压力调整到 0.5MPa。

调整完了后，按下手轮(2)并锁住。

9. 故障检修

- 请您在要求维修或服务前，先检查以下各项。
- 如果以下方法仍然不能解决问题，关闭电源开关，向受过训练的技术人员或经销商咨询。

注意



在作业之前，请先关闭电源开关。并将电源插头从插座上拔下。
如果误踩脚踏开关，缝纫机动作会导致受伤。

现 象	原 因	措 施	参 照
压脚板不能上升 压脚板不能下降	压脚动作很重	在压脚滑块的运动部分涂敷适当的润滑脂	
	抬压脚汽缸的空气接管的弯曲，破损	修正弯曲了的空气接管或更换新的空气接管	
压脚上升量不正确	压脚臂杆的位置不对	调整压脚臂杆的位置	P. 33
压脚板不能上升到最高点	压脚汽缸接头的位置不对	调整压脚汽缸接头的位置	
扫线器动作不好	扫线器和机针有干扰	调整扫线器的高度	P. 30
		调整扫线器的运动量	P. 30
	扫线器的位置不对	调整扫线器的运动量	P. 30
底线绕线时被卷在一边	卷线夹线器组的高度不对	调整卷线夹线器组的高度	P. 16
底线被卷的线量不恰当	梭芯压杆的位置不对	调整梭芯压杆的位置	P. 16
脱线	在缝纫开始时有脱线	请参考「跳针」一览	P. 35
	面线的残余量不稳定，偏差很大	调整副夹线器	P. 18
	旋梭导线器的位置不对	调整旋梭导线器的位置	P. 25

现 象	原 因	措 施	参 照
面线断线	面线张力太强	调整面线张力	P. 18
	机针的安装方法不正确	正确的方向安装机针	P. 13
	和机针相比线太粗	选择使用符合机针的线	P. 18
	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 23
	旋梭, 针孔板和机针等有碰伤, 划伤和毛刺	分别将这些零部件的伤痕和毛刺研磨或更换	
	因发热断线(化纤线)	使用冷却液槽	P. 14
	穿线不正确	在线道上正确穿线	P. 14
底线断线	底线张力太强	调整底线张力	P. 18
	针孔板, 和梭芯盒的角部有碰伤, 划伤	分别将这些零部件的伤痕研磨或更换	
跳针	机针和旋梭尖端的间隙过大	调整机针的间隙	P. 25
	机针和旋梭的相遇不正确	调整针杆的上升量	P. 24
	梭托过度的(必要以上)导入了机针	调整梭托导针部	P. 25
	机针弯曲	更换机针	
	机针的安装方法不正确	正确的方向安装机针	P. 13
断针	机针和旋梭尖端的间隙过大	调整机针的间隙	P. 25
		调整针杆的上升量	P. 24
	机针弯曲	更换机针	
	进针时机针被拉偏	选择符合缝纫条件的机针 降低回转数	P. 18
	机针太细	选择符合缝纫条件的机针	P. 18
咬线	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 23
	机针和旋梭的相遇不正确	调整针杆的上升量	P. 24
	旋梭导线器没能分线	调整旋梭导线器的位置	P. 25

现 象	原 因	措 施	参 照
面线未切断	动刀的刀锋不利	更换新的动刀	P. 29
	定刀的刀锋不利	磨快定刀或是 更换新的定刀	P. 29
	动刀勾不住面线	调整旋梭导线器的位置	P. 25
		调整针杆的上升量	P. 24
	最后一针因跳针，动刀勾不住面线	请参考「跳针」一览	P. 35
	动刀的位置不正确	调整动刀的位置	P. 27
	副夹线器的张力太弱	回转夹线螺母进行调整	P. 18
布料的背面缝纫针迹不良	旋梭导线器不能完全分线	调整旋梭导线器的位置	P. 25
	面线不够紧密	调整面线张力	P. 18
	面线的残余量不稳定，偏差很大	调整副夹线器	P. 18
线不够紧密	面线张力太弱	调整面线张力	P. 18
	底线张力太弱	调整底线张力	P. 18
	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 23
	机壳线导向 R 的位置不正确	调整机壳线导向 R 的位置	P. 24
面线的残余量不稳定，偏差很大	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 23
	副夹线器的张力太弱	回转夹线螺母进行调整	P. 18
	定刀的刀锋不利	磨快定刀或是 更换新的定刀	P. 29
接通电源，即使踩下脚踏开关缝纫机也不启动	安全开关不起作用	确认安全开关的电源线是否脱开着	
		调整安全开关的位置	P. 12
		如果安全开关有故障的话 更换新的开关	

Thank you very much for buying a sewing machine from my company. Before using your new machine, please read the safety instructions below and the explanations given in the instruction manual.

With industrial sewing machines, it is normal to carry out work while positioned directly in front of moving parts such as the needle and thread take-up lever, and consequently there is always a danger of injury that can be caused by these parts. Follow the instructions from training personnel and instructors regarding safe and correct operation before operating the machine so that you will know how to use it correctly.

SAFETY INSTRUCTIONS

[1] Safety indications and their meanings

This instruction manual and the indications and symbols that are used on the machine itself are provided in order to ensure safe operation of this machine and to prevent accidents and injury to yourself or other people. The meanings of these indications and symbols are given below.

Indications

 DANGER	The instructions which follow this term indicate situations where failure to follow the instructions will result in death or serious injury.
 CAUTION	The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.

Symbols

-  This symbol () indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.
(For example, the symbol at left means “beware of injury”.)
-  This symbol () indicates something that you must not do.
-  This symbol () indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.
(For example, the symbol at left means “you must make the ground connection”.)

[2] Notes on safety

DANGER



Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the cover of the control box. Touching areas where high voltages are present can result in severe injury.

CAUTION

Environmental requirements



Use the sewing machine in an area which is free from sources of strong electrical noise such as electrical line noise or static electric noise.

Sources of strong electrical noise may cause problems with correct operation.



Any fluctuations in the power supply voltage should be within $\pm 10\%$ of the rated voltage for the machine.

Voltage fluctuations which are greater than this may cause problems with correct operation.



The power supply capacity should be greater than the requirements for the sewing machine's power consumption.

Insufficient power supply capacity may cause problems with correct operation.



The pneumatic delivery capability should be greater than the requirements for the sewing machine's total air consumption.

Insufficient pneumatic delivery capability may cause problems with correct operation.



The ambient temperature should be within the range of 5°C to 35°C during use.

Temperatures which are lower or higher than this may cause problems with correct operation.



The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices.

Excessively dry or humid environments and dew formation may cause problems with correct operation.



In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet.

Lightning may cause problems with correct operation.

Installation



Machine installation should only be carried out by a qualified technician.



Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.



The sewing machine weighs approximately 160 kg. Use equipment such as a crane or hoist when installing the machine head and adjusting the height of the table.

If you try to lift the machine head yourself, it may cause injuries such as back injury.



Do not connect the power cord until installation is complete. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



Hold the machine head with both hands when tilting it back or returning it to its original position.

In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.



All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shocks could occur.



Install the safety covers to the machine head and motor.



If using a work table which has casters, the casters should be secured in such a way so that they cannot move.



Use a table with a height of 84 cm or less. If the table is too high, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.



Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result.

Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.

CAUTION

Sewing

-  This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.
-  The sewing machine should not be used for any applications other than sewing.
-  Be sure to wear protective goggles when using the machine.
If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.
-  Turn off the power switch at the following times. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
 - When threading the needle
 - When replacing the bobbin and needle
 - When not using the machine and when leaving the machine unattended
-  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
-  Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.
-  Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.
-  If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest Brother dealer or a qualified technician.
-  If the machine develops a problem, contact your nearest Brother dealer or a qualified technician.

Cleaning

-  Turn off the power switch before carrying out cleaning. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
-  Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result.
Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting.
Keep the oil out of the reach of children.

Maintenance and inspection

-  Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.
-  Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.
-  Turn off the power switch and disconnect the power cord before carrying out the following operations. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
 - Inspection, adjustment and maintenance
 - Replacing consumable parts such as the rotary hook
-  Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.
-  Hold the machine head with both hands when tilting it back or returning it to its original position.
In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.
-  If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.
-  Use only the proper replacement parts as specified by Brother.
-  If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.
-  Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

[3] Warning labels

The following warning labels appear on the sewing machine.

Please follow the instructions on the labels at all times when using the machine. If the labels have been removed or are difficult to read, please contact your nearest Brother dealer.

1

	⚠ 危険 高電圧部分にふれて、大けがをすることがある。電源を切り、5分たってからカバーをはずすこと。	⚠ 危険 触摸高压电部分，会导致受伤。在切断电源5分钟后，再开启盖罩。
⚠ DANGER	⚠ GEFAHR	⚠ DANGER
Hazardous voltage will cause injury. Turn off main switch and wait 5 minutes before opening this cover.	Hochspannung verletzungsgefahr! Bitte schalten sie den hauptschalter aus und warten sie 5 minuten, bevor sie diese abdeckung öffnen.	Un voltage non adapte provoque des blessures. Eteindre l'interrupteur et attendre 5 minutes avant d'ouvrir le capot.
	⚠ DANGER	⚠ PELIGRO
		Un voltaje inadecuado puede provocar las heridas. Apagar el interruptor principal y esperar 5 minutos antes de abrir esta cubierta.

2

	⚠ 注意 触摸运动部分，易造成受伤。所以在装上安全保护装置后，再进行缝纫操作。在切断电源后，进行穿线，更换梭芯，机针和做清扫，调整工作。
⚠ CAUTION	
Moving parts may cause injury. Operate with safety devices. Turn off main switch before threading, changing bobbin and needle, cleaning etc.	

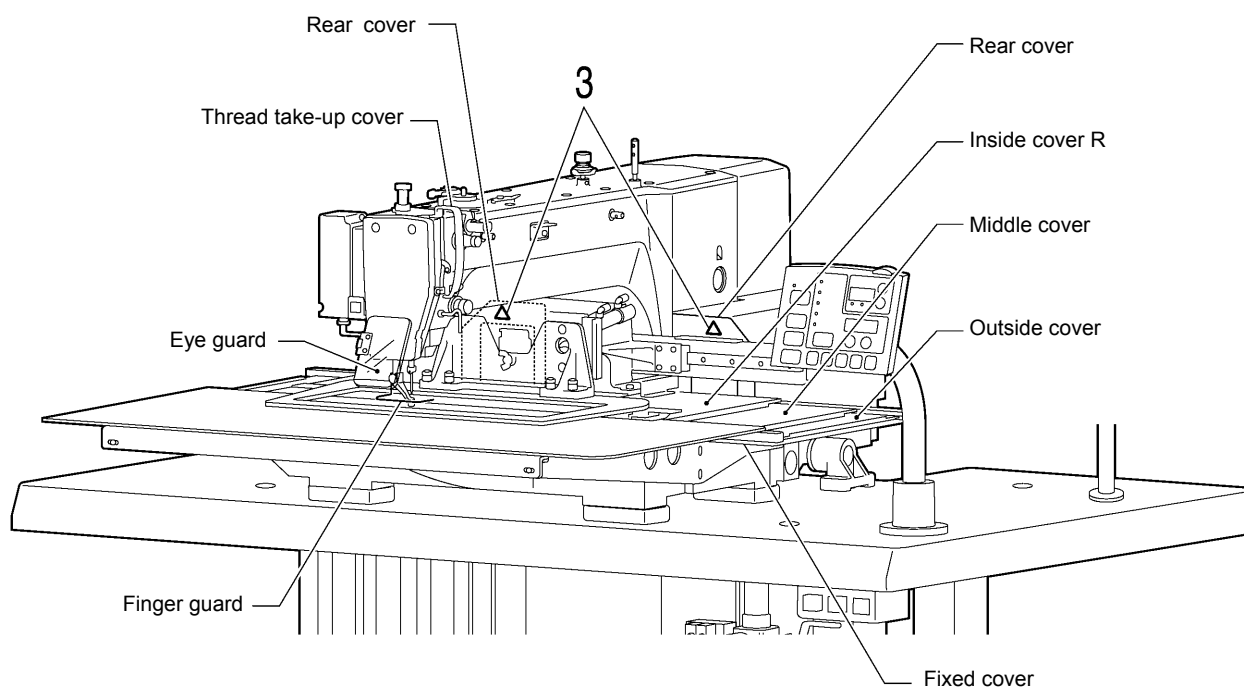
Safety devices:

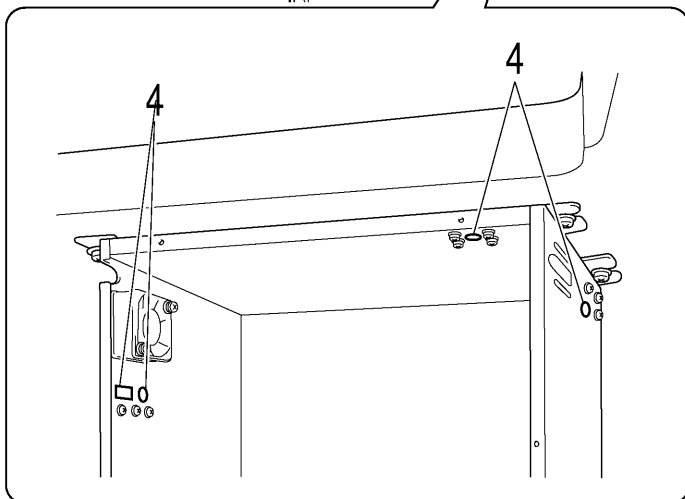
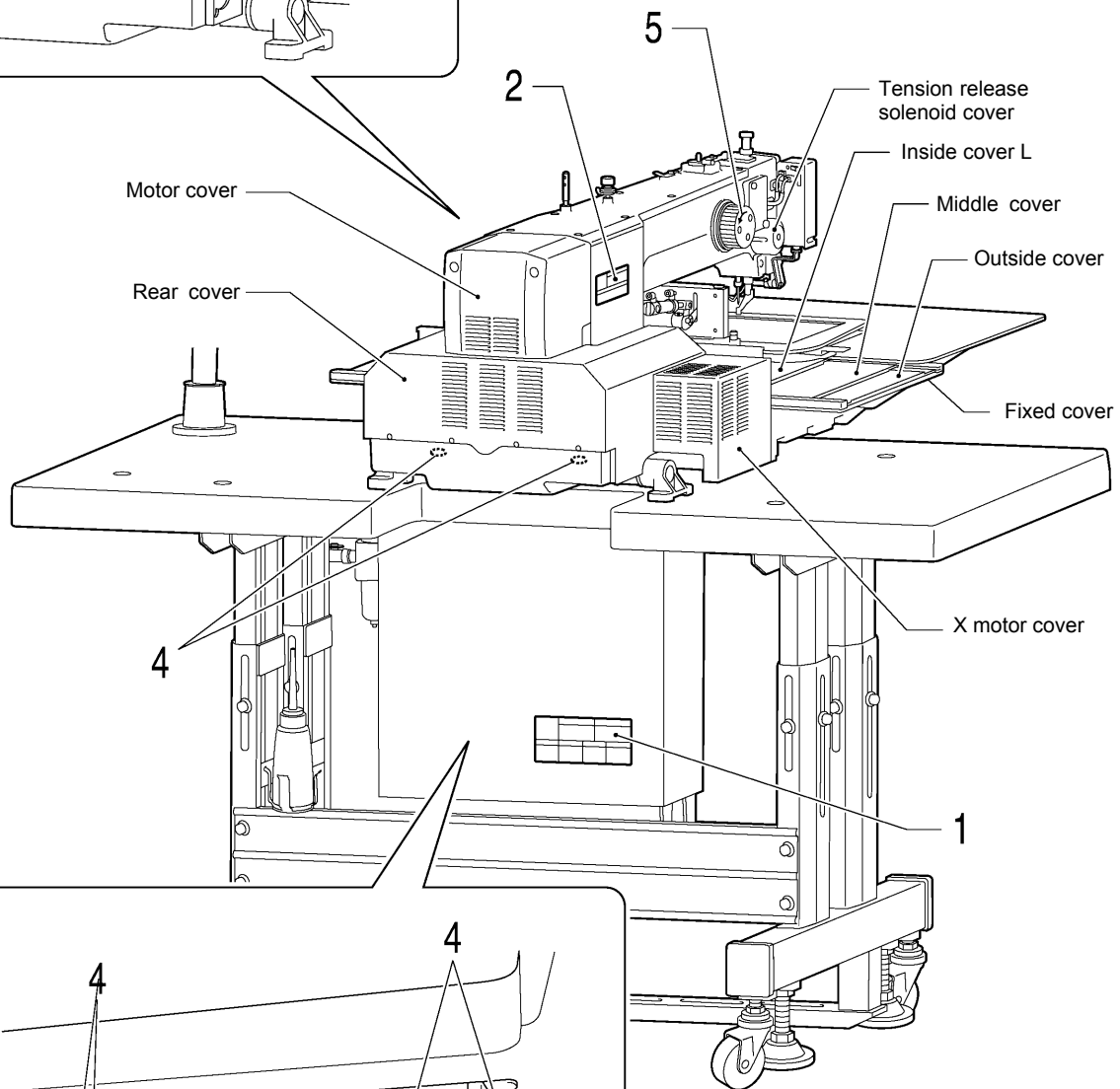
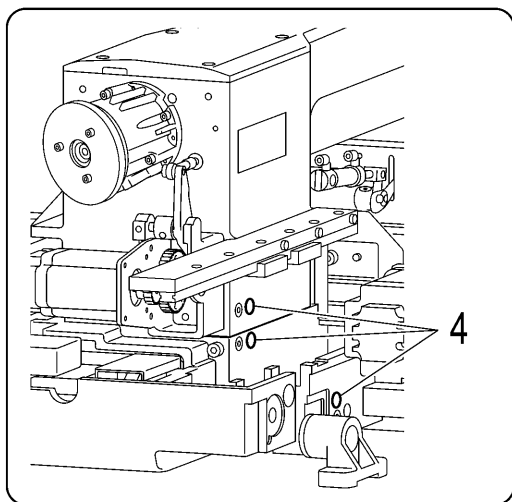
Devices such as eye guard, finger guard, thread take-up cover, motor cover, X motor cover, tension release solenoid cover, inside cover, outside cover, middle cover, fixed cover and rear cover

3 Be careful to avoid getting hands caught in sliding parts.

4 Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

5 Direction of operation

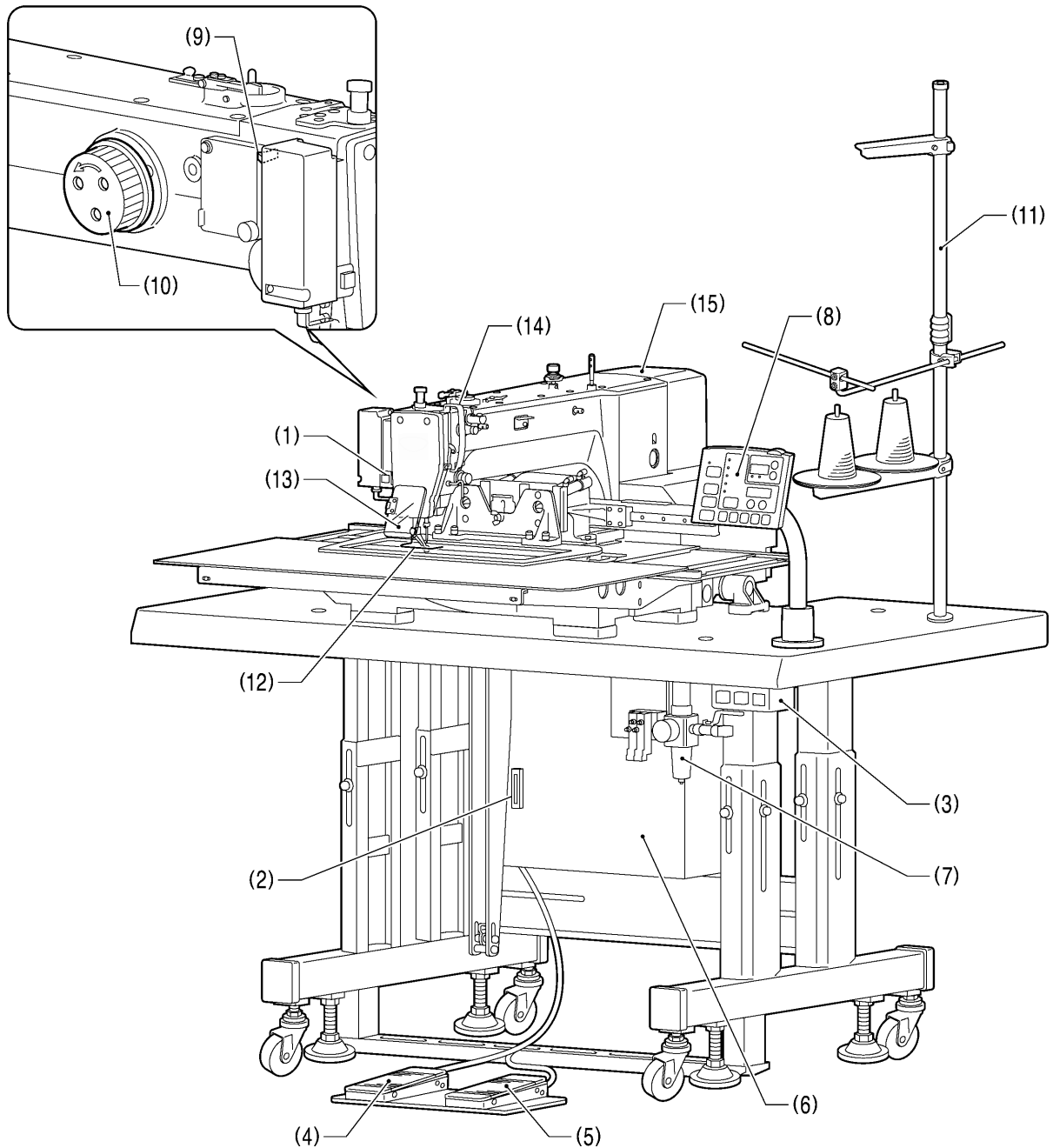




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1. NAMES OF MAJOR PARTS



- (1) STOP switch
- (2) CF slot
- (3) Power switch
- (4) Work clamp switch
- (5) Start switch
- (6) Control box
- (7) Solenoid valve
- (8) Operation panel
- (9) Thread wiper switch
- (10) Pulley
- (11) Cotton stand

Safety devices:

- (12) Finger guard
- (13) Eye guard
- (14) Thread take-up cover
- (15) Motor cover

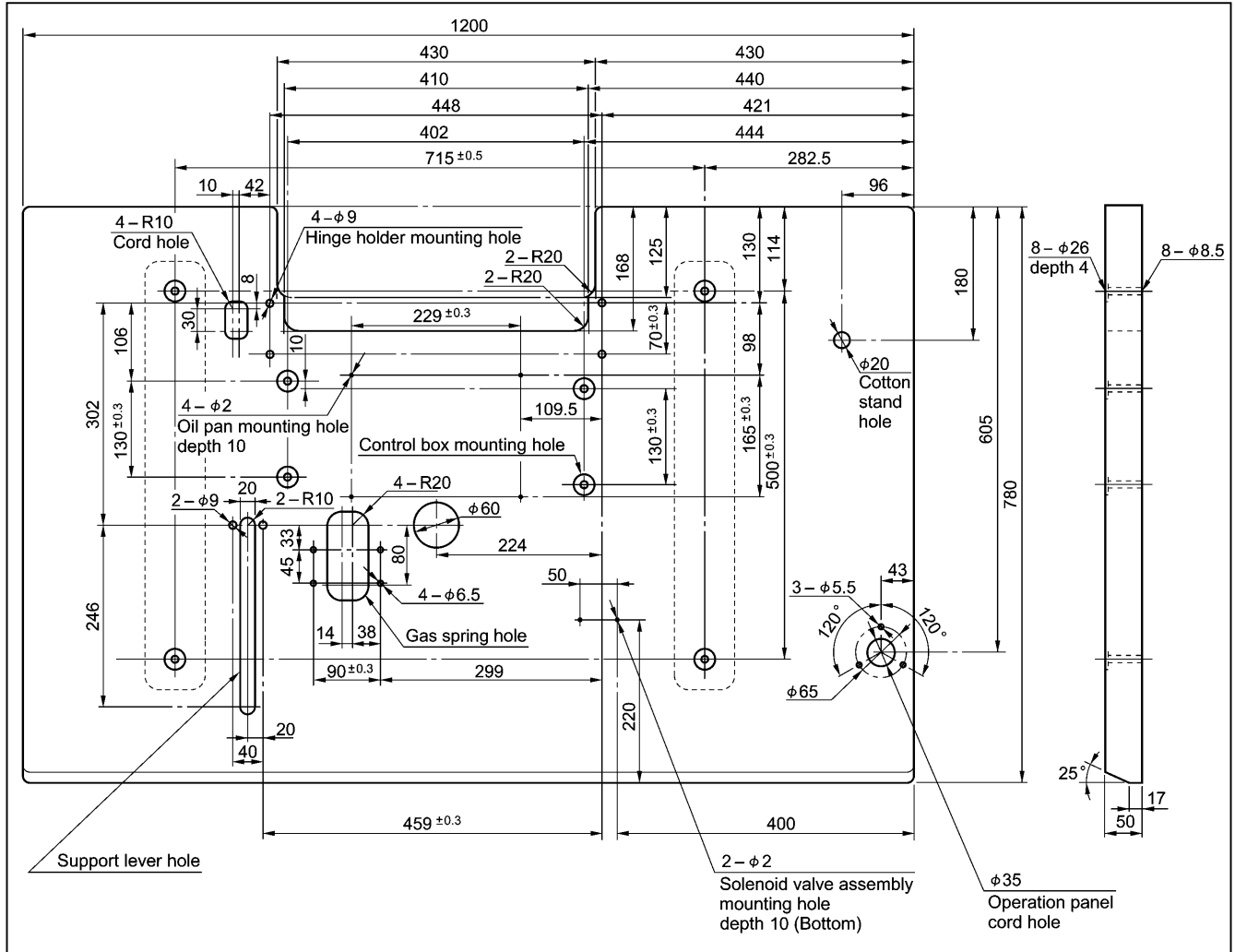
2. SPECIFICATIONS

Sewing machine	Lock stitch, pattern tacking sewing machine (with large shuttle hook)
Stitch formation	Single needle lock stitch
Max. sewing speed	2,700 rpm
Sewing area (X x Y)	Max. 300 x 200 mm
Feed mechanism	Intermittent feed, pulse motor drive
Stitch length	0.05 – 12.7 mm
No. of stitches	500,000-stitch internal memory (*)
Maximum no. of stitches	20,000 stitches (per program)
No. of sewing data items that can be stored	Internal memory: 512 (*)
Work clamp lift method	Pneumatic method
Work clamp height	Max. 30 mm
2-step work clamp	Integrated-type work clamp
Intermittent presser foot lift amount	22 mm
Intermittent stroke	2 – 4.5 mm, 4.5 – 10 mm or 0 (Default setting 3 mm)
Rotary hook	Double-capacity shuttle hook (standard shuttle hook sold separately)
Wiper device	Standard equipment
Thread trimmer	Standard equipment
Data storage method	Internal memory (Flash memory), CF card (32 MB – 2 GB) [Option] 3.5 floppy disk 2HD/1.44MB, 2DD
User programs	999
Cycle programs	9
Motor	750 W AC servo motor
Weights	Machine head approx. 160 kg, operation panel approx. 0.6 kg Control box 14.2 – 16.2 kg (Differs depending on destination)
Power supply	Single-phase 220 V, Three-phase 220 V/380 V/400 V 500 VA
Air pressure	0.5 MPa 1.8 l/min.

* The number of data items and stitches that can be stored will vary depending on the number of stitches in each program.

3. TABLE PROCESSING DIAGRAM

- The thickness of the table should be at least 50 mm, and it should be strong enough to bear the weight and vibration of the sewing machine.
- If using casters, use ones which can bear the total weight of sewing machine and table.
- Check that the control box is at least 10 mm away from the leg. If the control box and the leg are too close together, it may result in incorrect sewing machine operation.



4. INSTALLATION

CAUTION

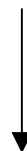
-  Machine installation should only be carried out by a qualified technician.
-  Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.
-  The sewing machine head weighs approximately 160 kg.
Use equipment such as a crane or hoist when installing the machine head and adjusting the height of the table.
If you try to lift the machine head yourself, it may cause injuries such as back injury.
-  Do not connect the power cord until installation is complete.
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
-  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
-  Use a table with a height of 84 cm or less. If the table is too high, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.
-  Hold the machine head with both hands when tilting it back or returning it to its original position.
In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.
-  All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly staples, otherwise there is the danger that fire or electric shocks could occur.
-  Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.
-  Install the safety covers to the machine head and motor.

When placing the sewing machine on the table

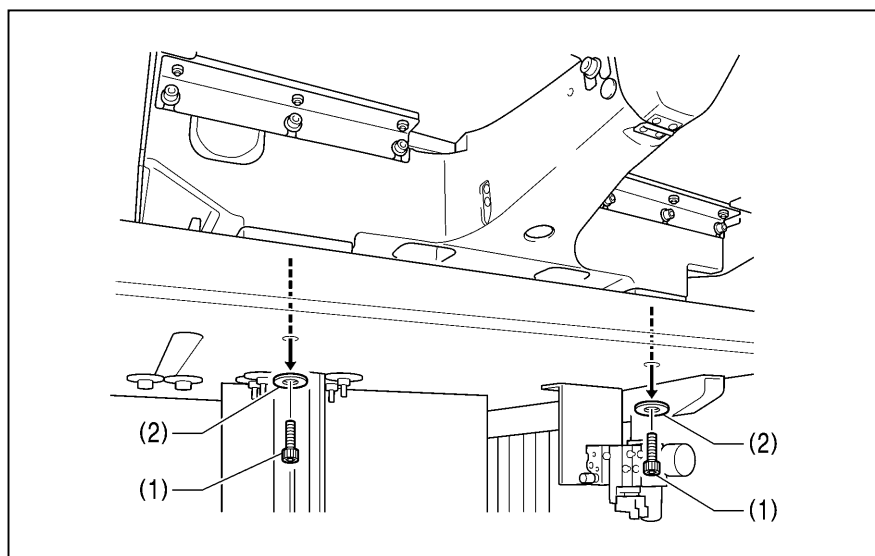
Carry out the procedure starting from "4-2. Installing the control box" on the next page.

If the sewing machine was already installed to the table when it was delivered

Carry out the procedures indicated by [1] to [15] in the titles in the order of the numbers.



4-1. Removing the machine head fixing bolts



If the sewing machine was already installed to the table when it was delivered, remove the two machine head fixing bolts (1) and the two plain washers (2).

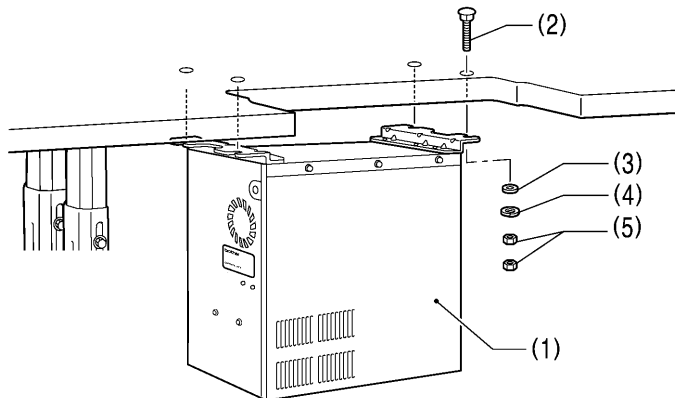
4-2. Installing the control box



CAUTION



The control box is heavy, so installation should be carried out by two or more people. In addition, take steps to make sure that the control box does not fall down. If this is not done, injury to feet or damage to the control box may result.

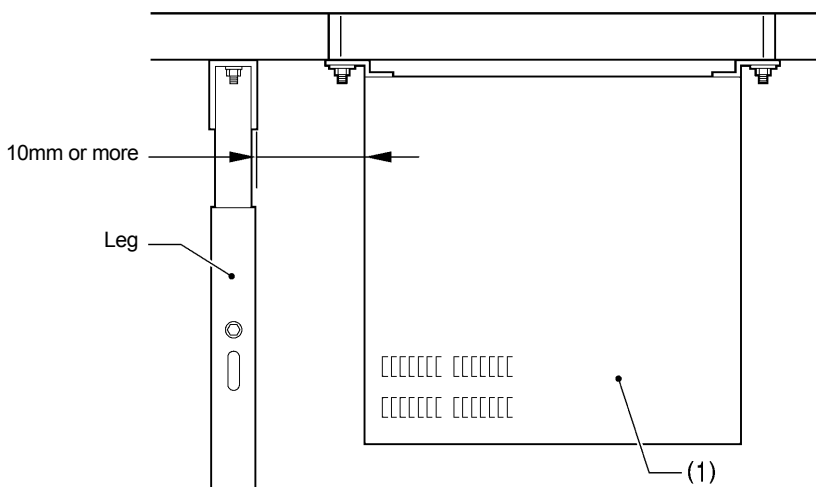


* If the sewing machine is installed to the table, tilt back the machine head. (Refer to "4-5. Tilting back and returning the machine head".)

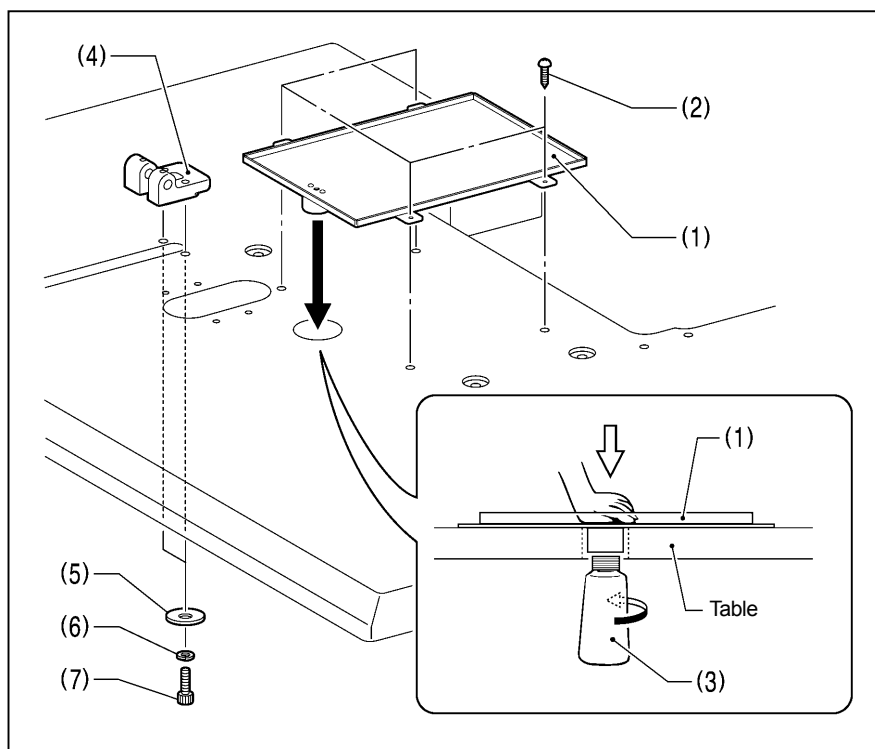
- (1) Control box
- (2) Bolts [4 pcs.]
- (3) Plain washers [4 pcs.]
- (4) Spring washers [4 pcs.]
- (5) Nuts [8 pcs.]

NOTE:

Check that the control box (1) is at least 10 mm away from the leg. If the control box (1) and the leg are too close together, it may result in incorrect sewing machine operation.

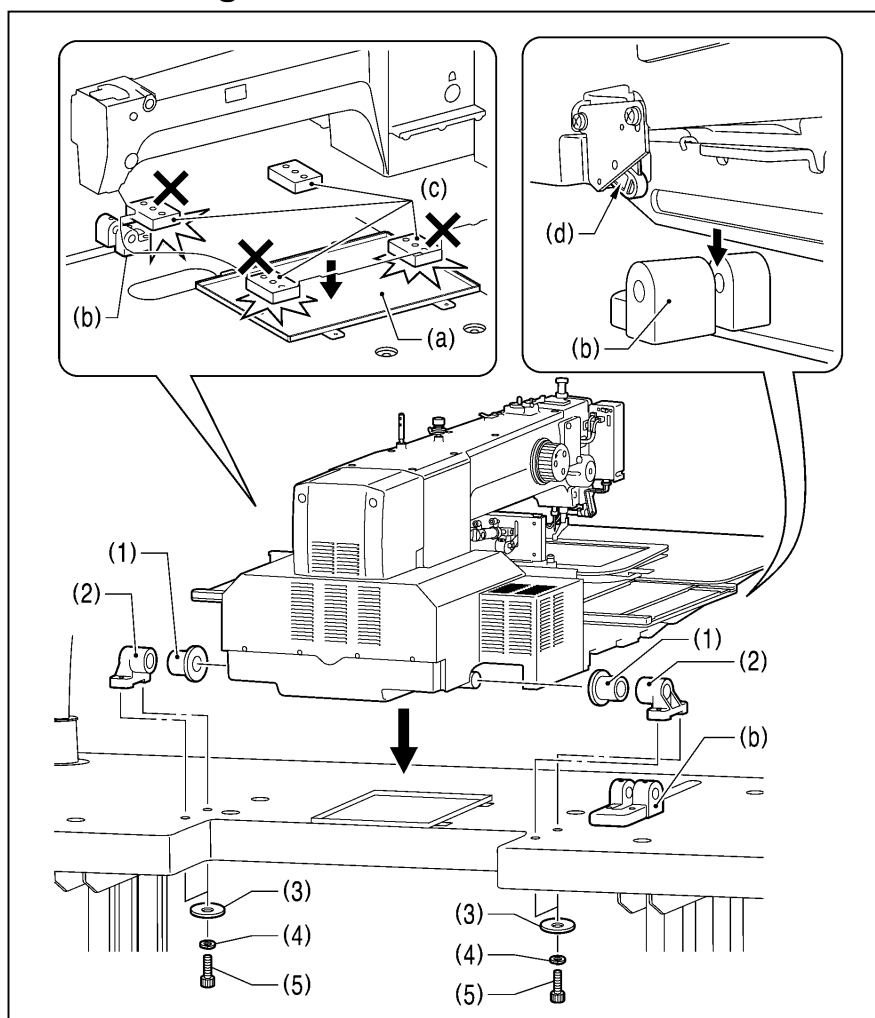


4-3. Installing the oil pan and support lever base



- (1) Oil pan
- (2) Wood screws [4 pcs.]
- (3) Oiler
- (4) Support lever base
- (5) Plain washers [2 pcs.]
- (6) Spring washers [2 pcs.]
- (7) Bolts [2 pcs.]

4-4. Installing the machine head



1. Place the machine head onto the table.

NOTE:

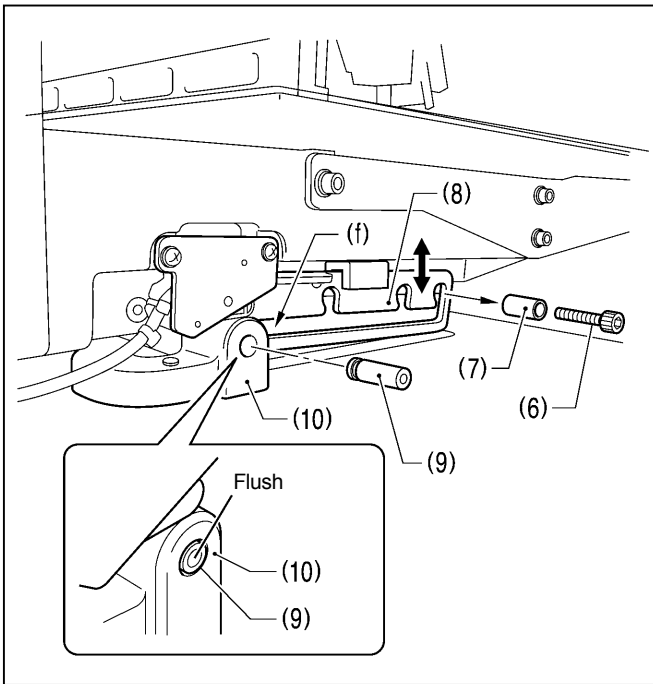
- Use a crane or hoist to install the sewing machine.
- Be careful of the following when lowering the machine head onto the table.

- ! Do not let any cords get clamped between the machine head and the table.
- ! Do not place the machine head cushion (c) on top of the oil pan (a) or the support lever base (b).
- ! Do not let the side (d) of the safety switch lever touch the support lever base (b).

- (1) Rubber bushes (2 pcs.)
- (2) Hinge holders (2 pcs.)
- (3) Plain washers [4 pcs.]
- (4) Spring washers [4 pcs.]
- (5) Bolts [4 pcs.]

(Continued on next page)

4. INSTALLATION



2. After placing the machine head onto the table, remove the bolt (6) and the spacer (7).

* The bolt (6) and the spacer (7) are necessary for securing the support lever (8) when the machine head is removed from the table, so keep them in a safe place.

3. Pass the support lever shaft (9) through the hole in the support lever base (10) and through the groove (f) in the support lever (8), and push it in until it is flush with the surface of the support lever base (10).

* If it is difficult to pass the support lever shaft (9) through the groove (f) in the support lever (8), move the end of the support lever (8) up and down while passing the support lever shaft (9) through.

4-5. Tilting back and returning the machine head

CAUTION



Hold the machine head with both hands when tilting it back or returning it to its original position.

In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.



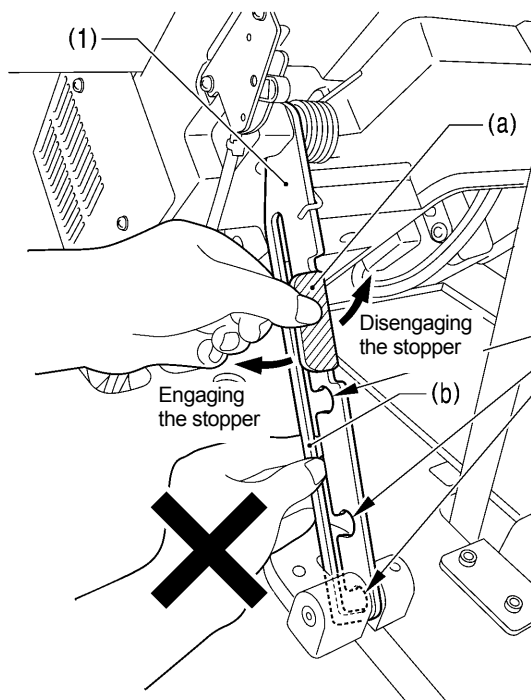
Always be sure to engage the stopper of the support lever (1) when tilting back the machine head.

If the stopper is not engaged, the machine head may return to its original position and your hands may get caught and injury may result.



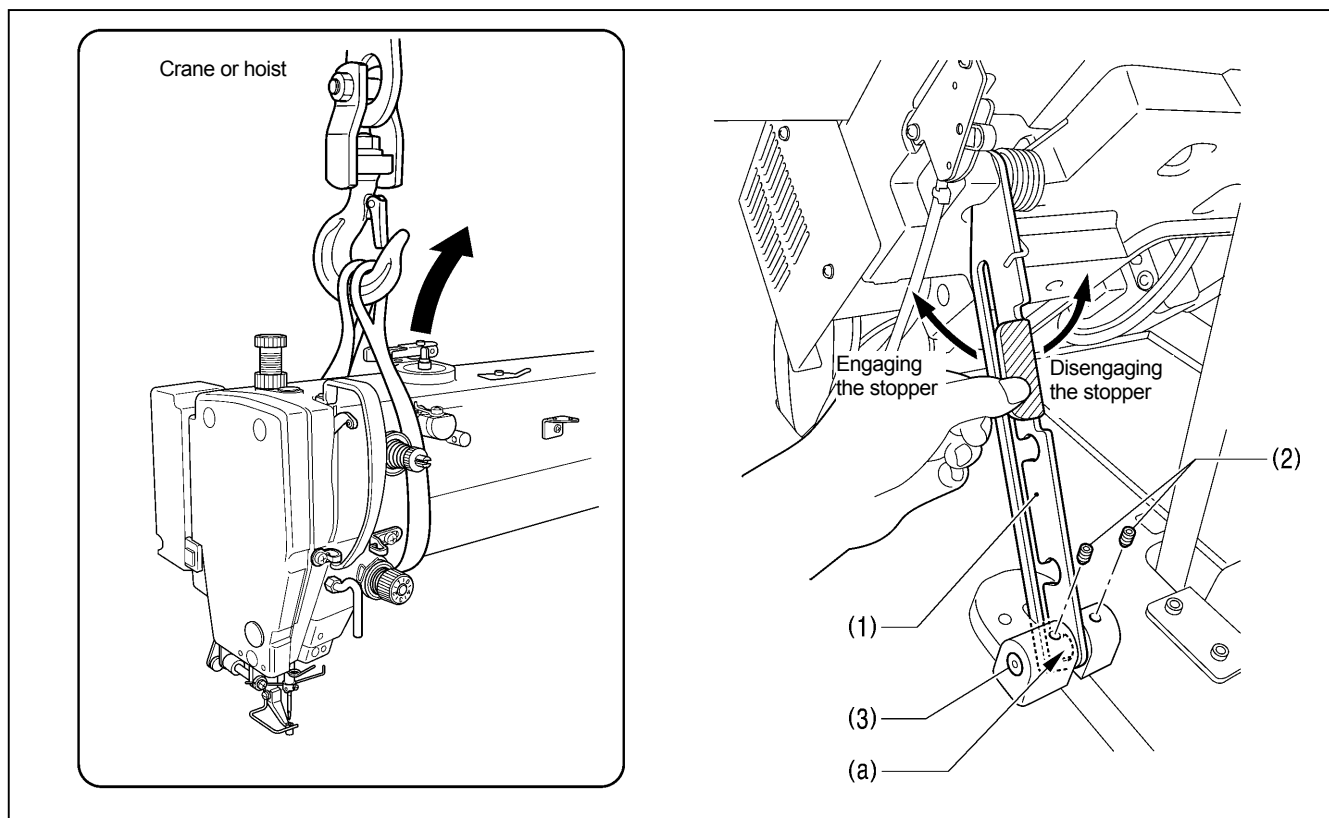
When disengaging the stopper, hold it by the knob (a).

If you hold at the place indicated by (b), your hand will get caught between the support lever (1) and the table when the machine head is returned to its original position and injury will result.



The machine head can be tilted back and returned to one of three heights.

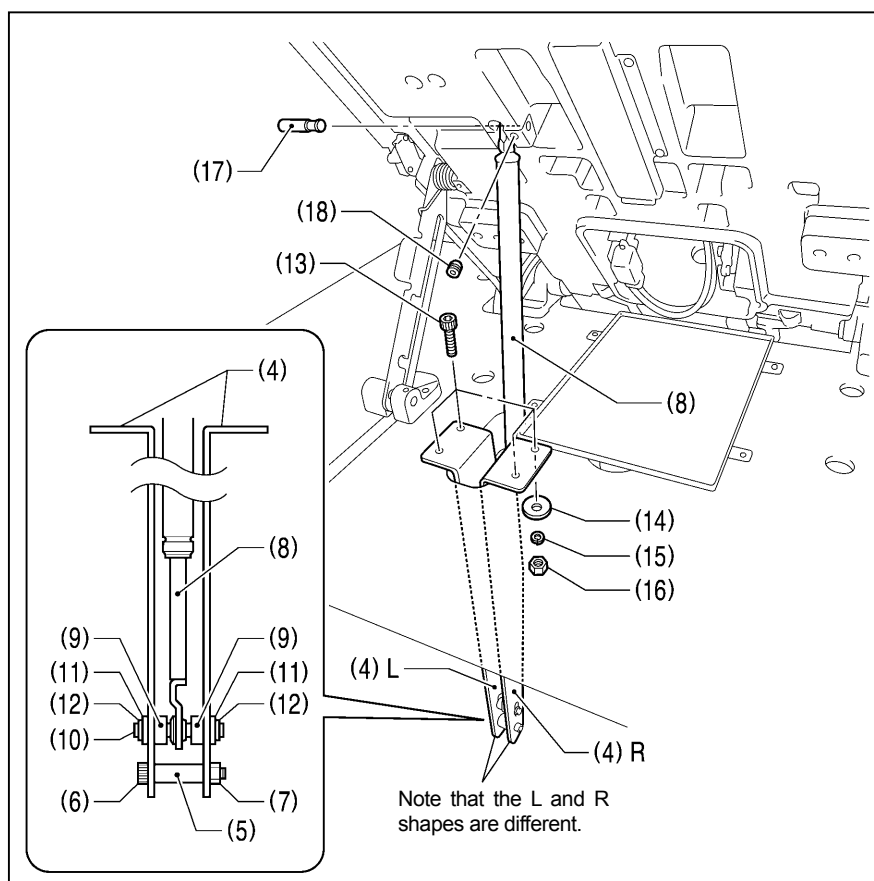
4-6. Installing the gas spring



1. Tilt back the machine head, and then secure the support lever (1) at stopper position (a).
(Refer to "4-5. Tilting back and returning the machine head".)

NOTE: Use equipment such as a crane or hoist to tilt back the machine head.

2. Tighten the two set screws (2) to secure the support lever shaft (3).

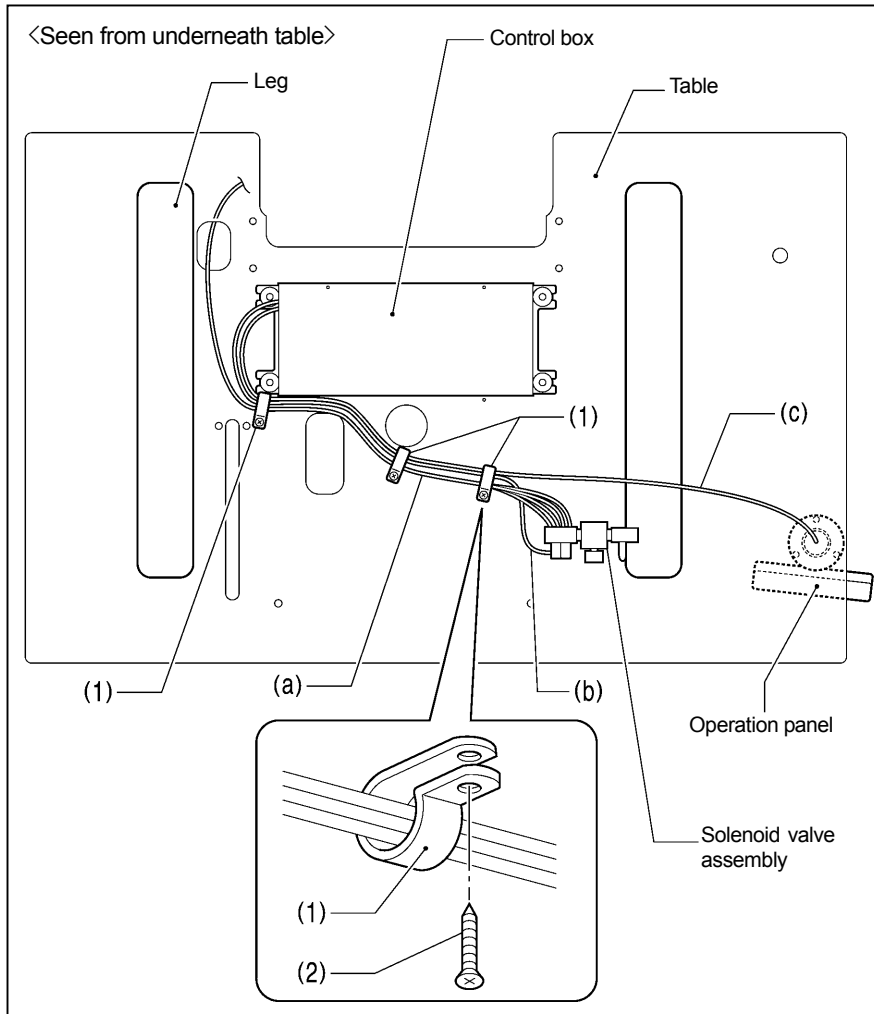


3. Install the gas spring (8).

- (4) Gas spring holders [L and R]
- (5) Spacer
- (6) Bolt
- (7) Nut
- (8) Gas spring
- (9) Shaft collars [2 pcs.]
- (10) Gas spring shaft D
- (11) Plain washers [2 pcs.]
- (12) Retaining rings E [2 pcs.]
- (13) Bolts [4 pcs.]
- (14) Plain washers [4 pcs.]
- (15) Spring washers [4 pcs.]
- (16) Nuts [4 pcs.]
- (17) Gas spring shaft U
- (18) Set screw

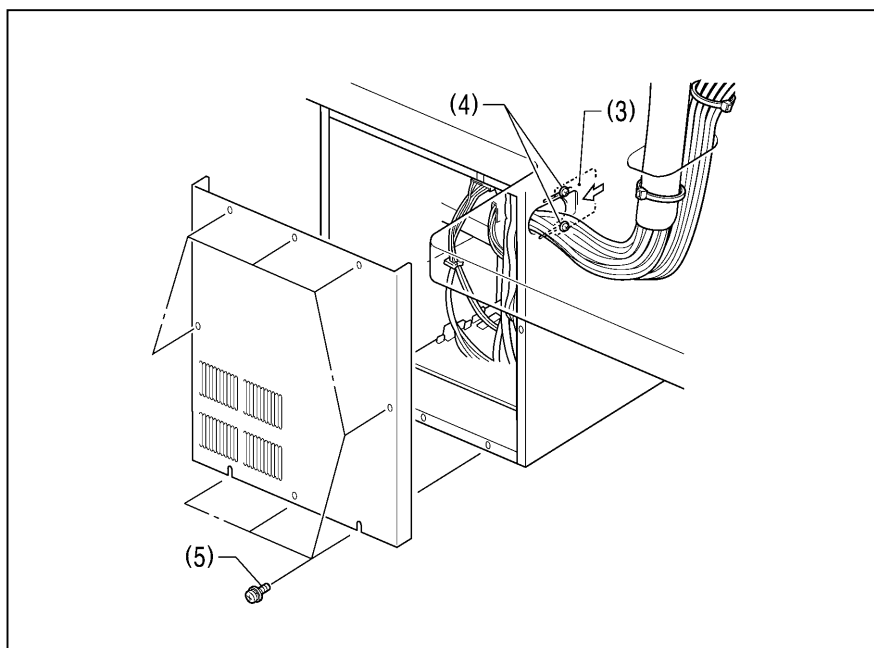
* After installing the gas spring (8), gently return the machine head to its original position.
(Refer to "4-5. Tilting back and returning the machine head".)

4-7. Securing the cords and air tubes



Secure the air tubes (a), the solenoid valve assembly cord (b) and the operation panel cord (c) together underneath the table with the three cord holders (1).

- (1) Cord holders [3 pcs.]
- (2) Wood screws [3 pcs.]



<Checking the cords>

1. Gently tilt back the machine head. (Refer to "4-5. Tilting back and returning the machine head".)
2. Check that none of the cords are being pulled.
3. Return the machine head to its original position.
4. Close the cord presser plate (3) in the direction of the arrow, and secure it by tightening the two screws (4).

NOTE:

Tighten the cord presser plate (3) securely so that no foreign objects or small animals can get inside the control box.

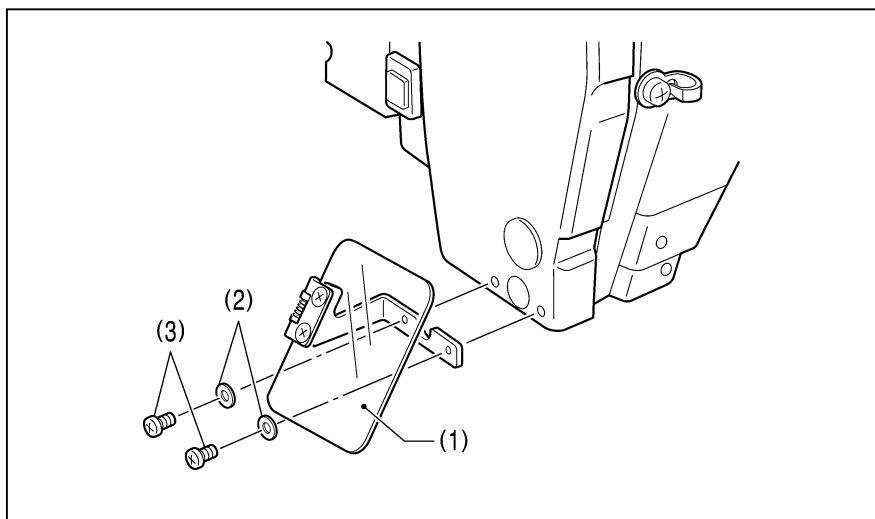
5. Secure the cover of the control box by tightening the eight screws (5). Check that the cords are not clamped by the cover at this time.

4-8. Installing the eye guard

CAUTION

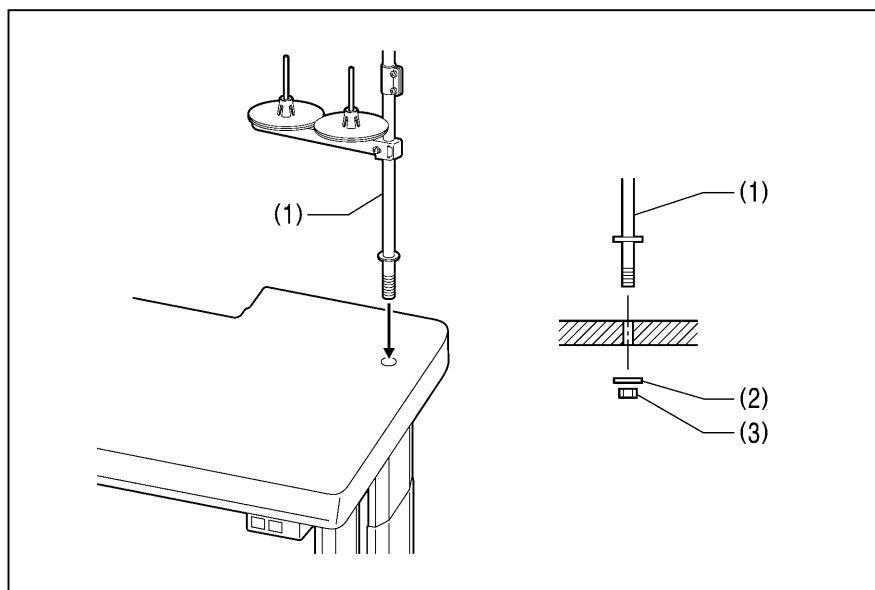


Attach all safety devices before using the sewing machine.
If the machine is used without these devices attached, injury may result.



- (1) Eye guard assembly
- (2) Plain washers [2 pcs.]
- (3) Screws [2 pcs.]

4-9. Installing the cotton stand



- (1) Cotton stand

NOTE:

Fit the washer (2), and then securely tighten the nut (3) so that the cotton stand does not move.

4-10. Lubrication

CAUTION

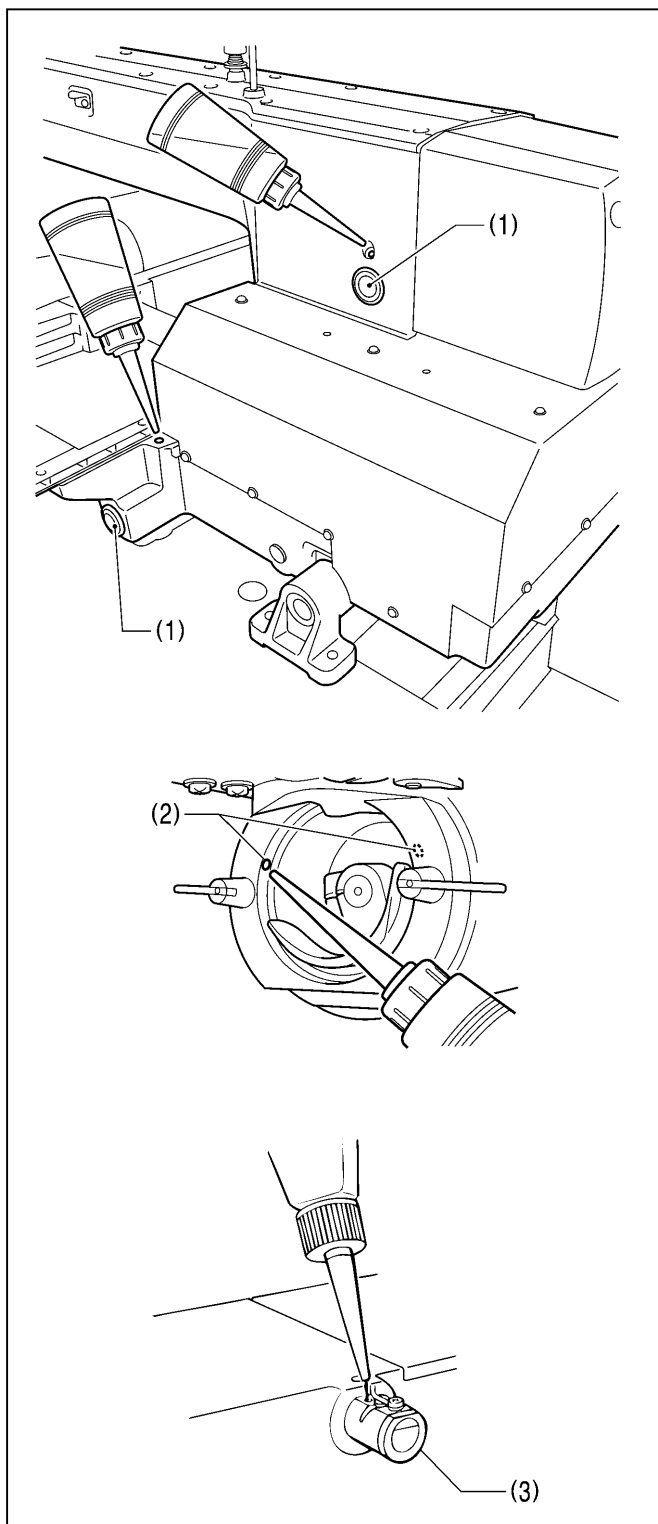


Do not connect the power cord until lubrication is complete.

If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result. Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.



1. Fill the arm oil tank and the bed oil tank with oil.

NOTE:

Be sure to add more oil when the oil level drops down to about one-third full in the oil gauge window (1). If the oil drops below the one-third full level in the oil gauge window (1), there is the danger that the sewing machine may seize during operation.

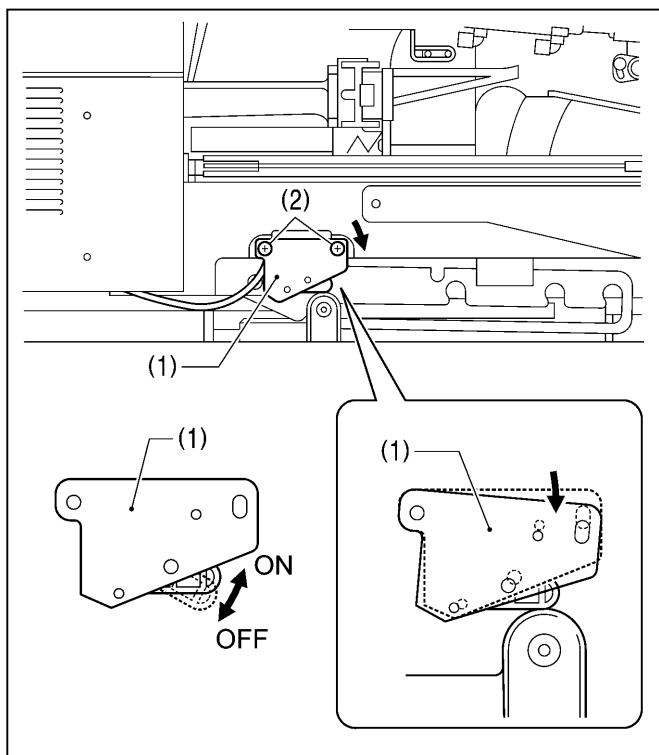
2. Pour oil in through the two holes (2) of the shuttle race base assembly so that the felt is lightly moistened.

NOTE:

If there is no more oil on the felt of the shuttle race base assembly, problems with sewing may result.

3. If using the needle cooler (3), fill it with silicon oil (100 mm²/s).
(Refer to "5-3. Threading the upper thread" for details on using the needle cooler (3).)

4-11. Checking the safety switch



1. If the machine head is tilted back, gently return it to its original position. (Refer to "4-5. Tilting back and returning the machine head".)
2. Turn on the power switch.
3. Check that no error numbers are displayed on the operation panel.

If the safety switch (1) is not turned on, error [E050], [E051] or [E055] will occur.

Check the installation position of the safety switch (1).

1. Turn off the power switch.
2. Loosen the two screws (2).
3. Push down the right side of the safety switch (1) as far as possible so that the safety switch (1) turns on, and then tighten the two screws (2).
4. Turn on the power and check that no error numbers are displayed.

5. PREPARATION BEFORE SEWING

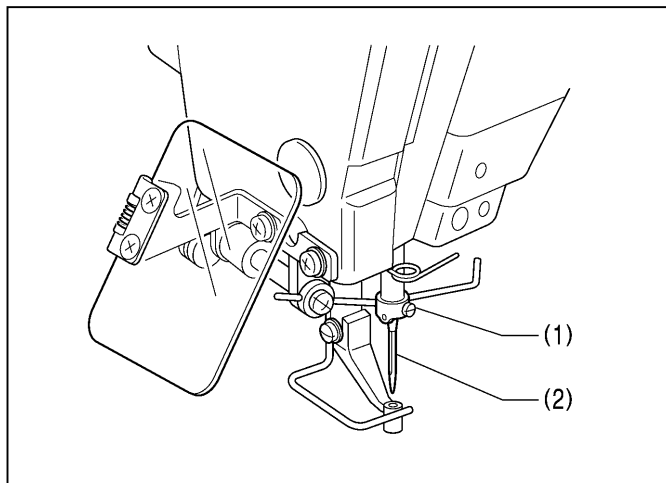
5-1. Installing the needle

! CAUTION



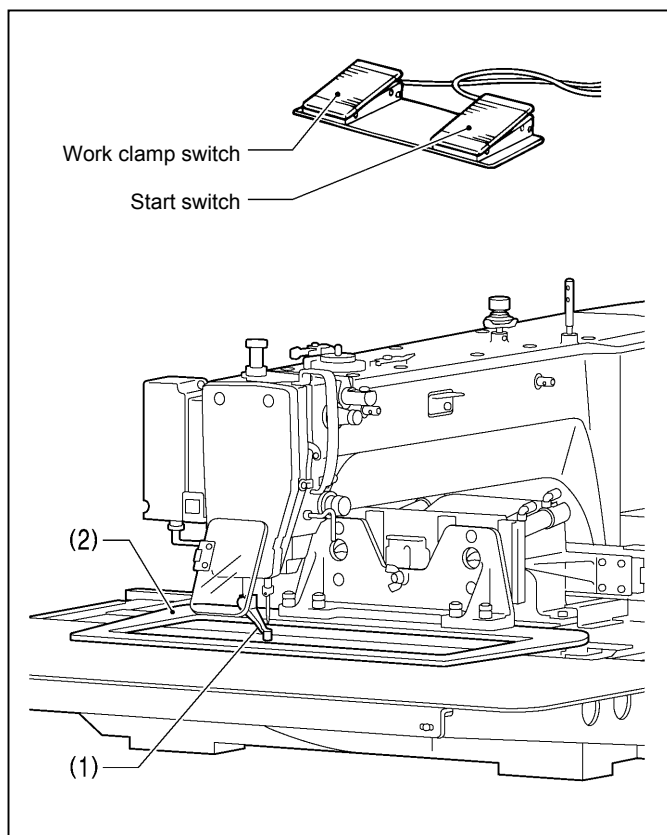
Turn off the power switch before installing the needle.

If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



1. Loosen the set screw (1).
2. Insert the needle (2) in a straight line as far as it will go, making sure that the long groove on the needle is at the front, and then securely tighten the set screw (1).

5-2. Operating the 2-pedal foot switch



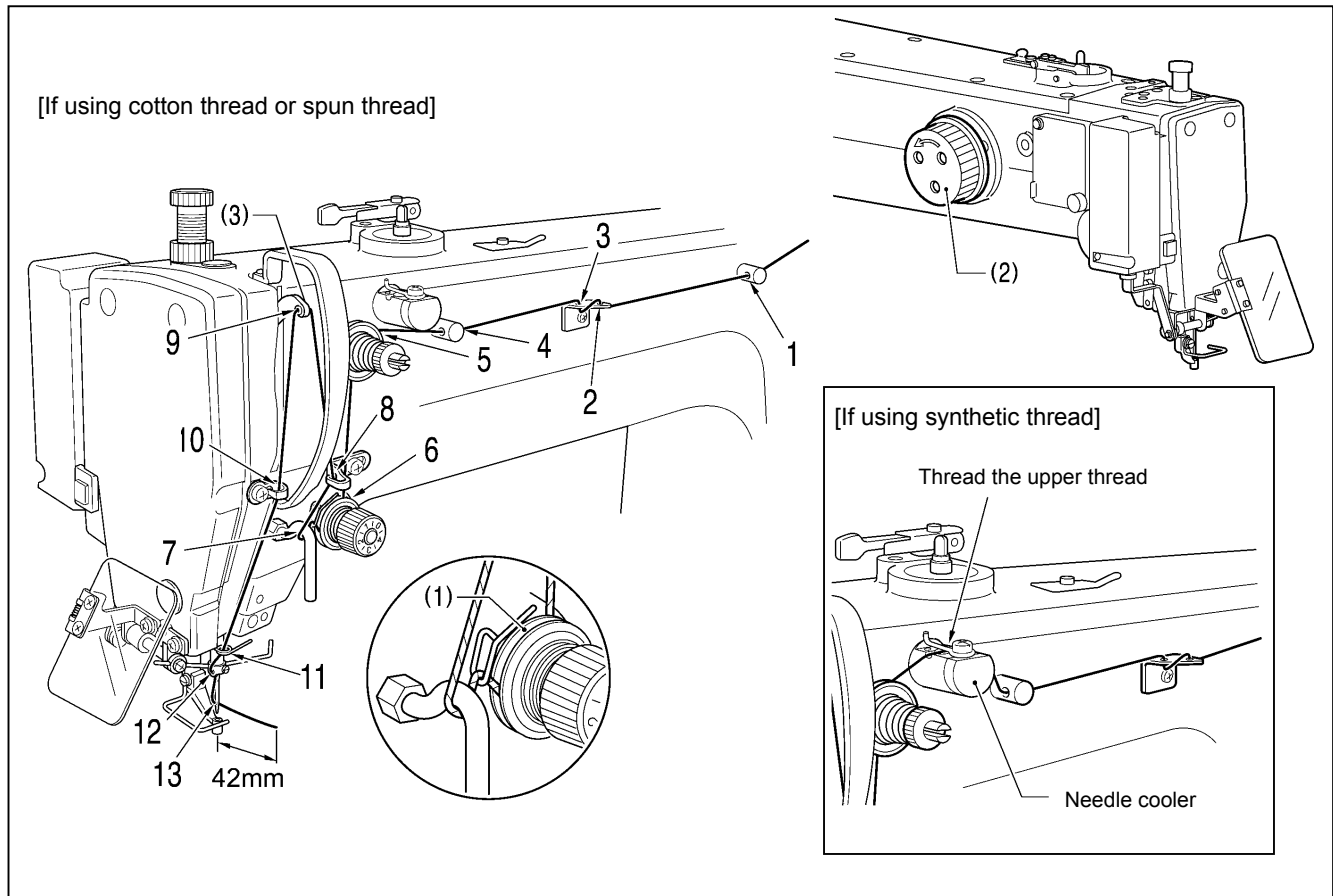
When the work clamp switch (left side) is depressed, the intermittent presser foot (1) and the work clamp (2) are lowered, and when the start switch (right side) is then depressed, the sewing machine starts operating.

* The work clamp (2) lowering method can be changed using memory switch No. 002. (Refer to "7-3. List of memory switch settings.")

5-3. Threading the upper thread

Thread the upper thread correctly as shown in the illustration below.

* When using threading mode for threading, the tension discs (1) will open so that the thread can be threaded more easily. (Refer to following page.)

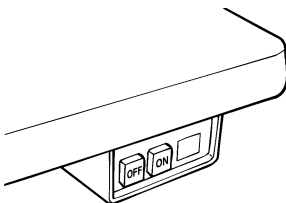


- Turn the machine pulley (2) and raise the thread take-up (3) to its highest position before threading the upper thread. (This will make threading easier and it will prevent the thread from coming out at the sewing start.)
- When threading the thread through the needle, allow a distance of approximately 42 mm between the needle hole and the end of the thread.
If the trailing length of the thread is too long, it may cause the thread to become tangled.

5. PREPARATION BEFORE SEWING

<Threading mode>

Threading mode is safe because the sewing machine will not start even when the foot switch is depressed.

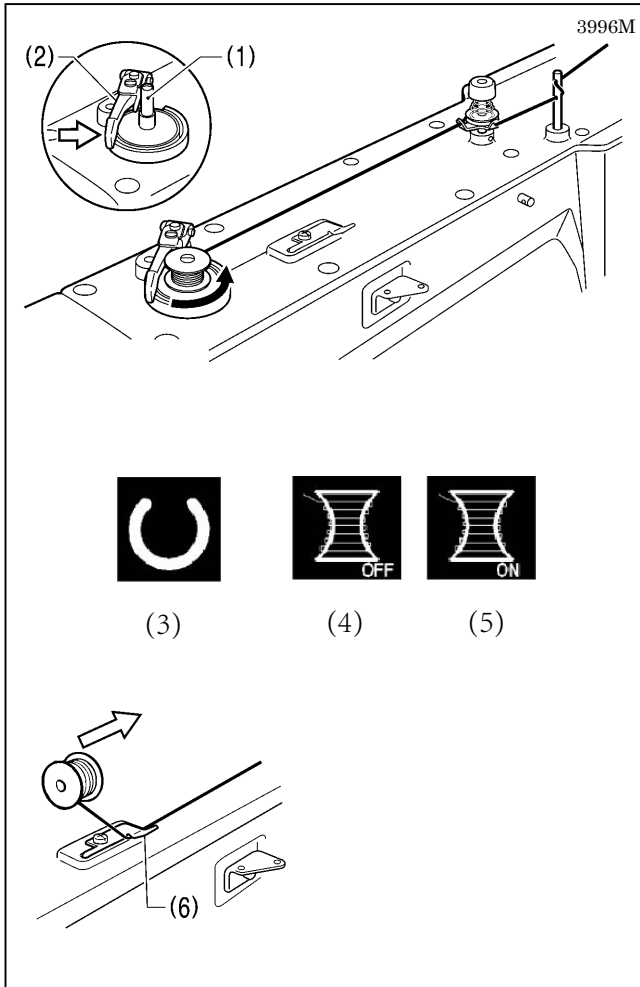
1	Turn on the power switch. 	
2	Press the home position key 	Press the threading key, and key.   • The work clamp will drop.
3	Threading the thread.	
4	Ending threading mode	Press the threading key, and the key change   • The work clamp will return to where it was before threading mode was started.

5-4. Winding the lower thread

! CAUTION



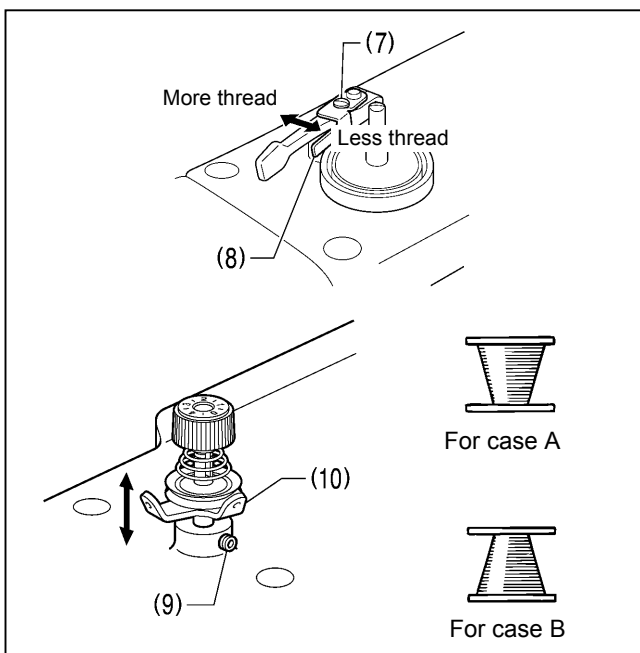
Do not touch any of the moving parts or press any objects against the machine while winding the lower thread. Injury or damage to the sewing machine may result.



1. Place the bobbin onto the bobbin winder shaft (1).
2. Thread the thread as shown in the illustration, wind the thread around the bobbin several times, and then press the bobbin presser arm (2).
3. Turn on the power switch.
4. Depress the work clamp switch (3) to lower the work clamp, and then depress the start switch (4). (Home position detection will be carried out.)
5. Check that the needle is not touch the clamp, and then press the bobbin winder key (4), the bobbin winder key (4) change to key (4) change to the bobbin winder key (5), and it keep in the state "on", depress the foot switch to the 2nd step, and it will start wind.
(If using a two-pedal foot switch, depressing the start switch two-pedal foot switch.)
6. Once winding of the set amount of lower thread (80 - 90% of the bobbin capacity) is completed, the bobbin presser arm (2) will return automatically.
7. Remove the bobbin, hook the thread onto the knife (6), and then pull the bobbin in the direction of the arrow to cut the thread.

Adjusting the bobbin winding amount

Loosen the screw (7) and move the bobbin presser (8) to adjust.



If the thread winds onto the bobbin unevenly

Loosen the set screw (9) and move the bobbin winder tension assembly (10) up and down to adjust.

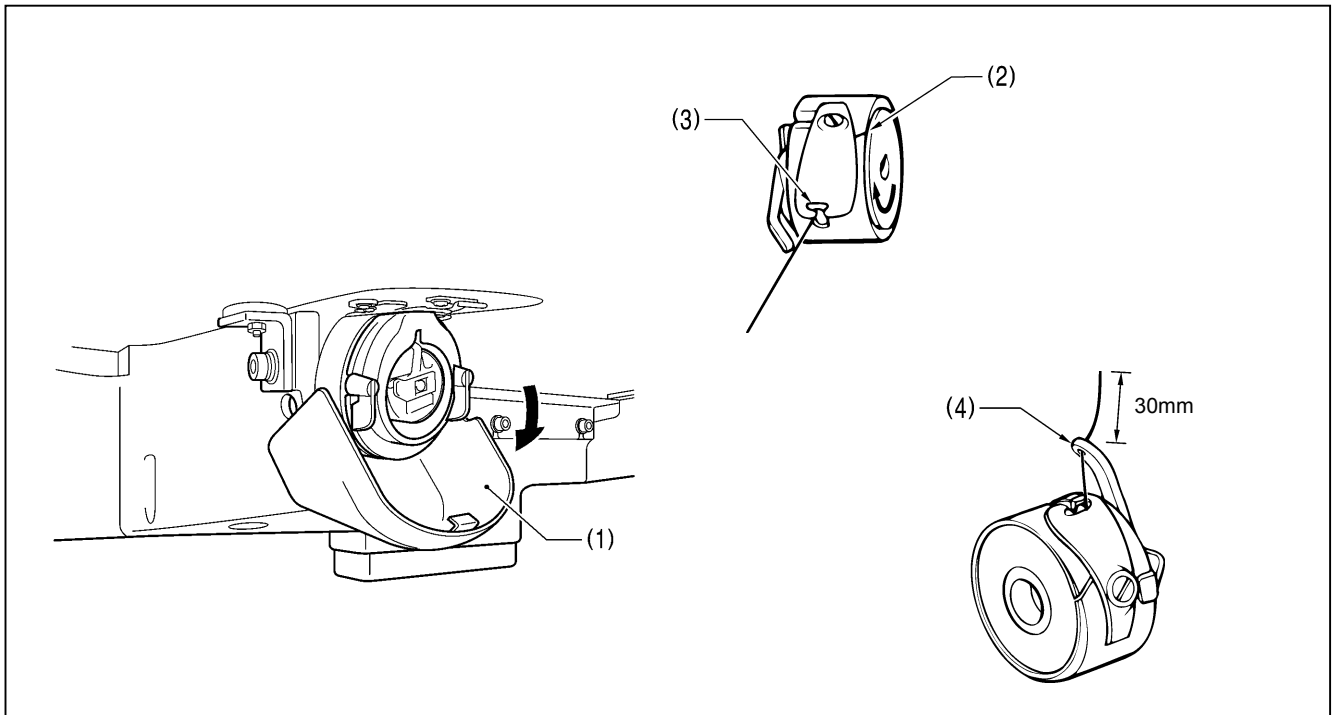
- * For case A, move the bobbin winder tension assembly (10) down, and for case B, move it upward.

5-5. Installing the bobbin case

CAUTION



Turn off the power switch before installing the bobbin case.
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



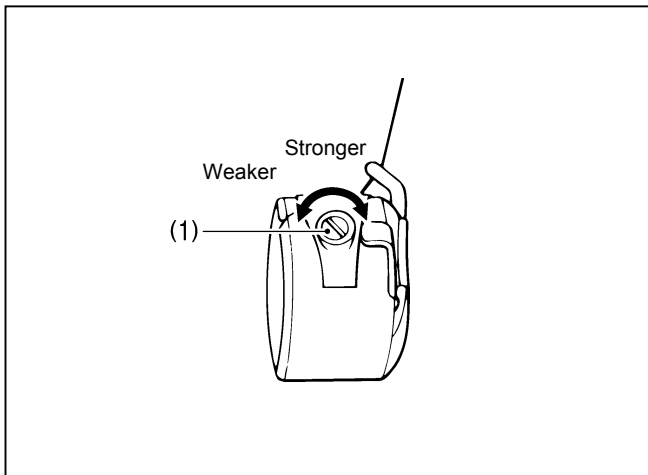
1. Pull the shuttle race cover (1) downward to open it.
2. While holding the bobbin so that the thread winds to the right, insert the bobbin into the bobbin case.
3. Pass the thread through the slot (2) and pull it out from the thread hole (3).
4. Check that the bobbin turns in the direction of the arrow when the thread is pulled.
5. Pass the thread through the lever thread hole (4), and then pull out approximately 30 mm of thread.
6. Hold the latch on the bobbin case and insert the bobbin case into the rotary hook.

5-6. Thread tension

Thread tension reference

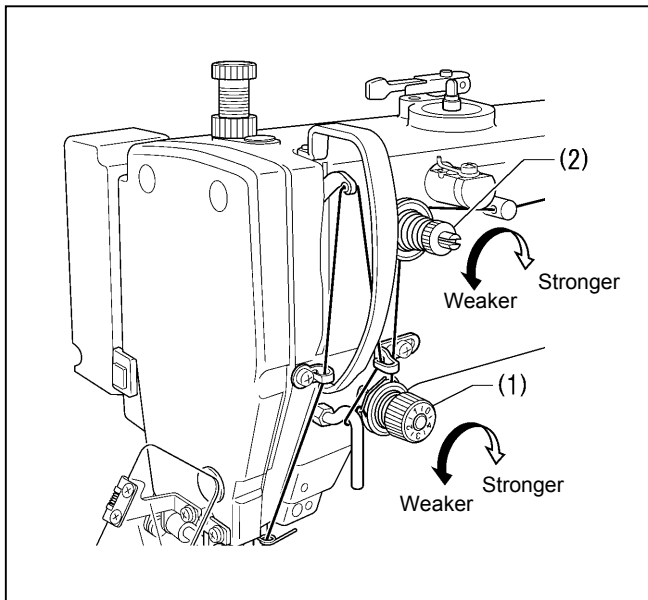
Upper thread	#20 or similar
Lower thread	#20 or similar
Upper thread tension (N)	1.4 – 1.8
Lower thread tension (N)	0.3 – 0.4
Pre-tension (N)	0.2 – 0.4
Needle	DP × 17 #19

5-6-1. Lower thread tension



Adjust the thread tension to the weakest possible tension by turning the thread tension nut (1) until the bobbin case will not drop by its own weight while the thread end coming out of the bobbin case is held.

5-6-2. Upper thread tension



1. Turn the tension nut (1) (main tension) to adjust the tension as appropriate for the material being sewn.
2. Use the tension nut (2) (sub tension) to adjust the upper thread trailing length to about 42 mm.

6. SEWING

! CAUTION



Turn off the power switch at the following times.

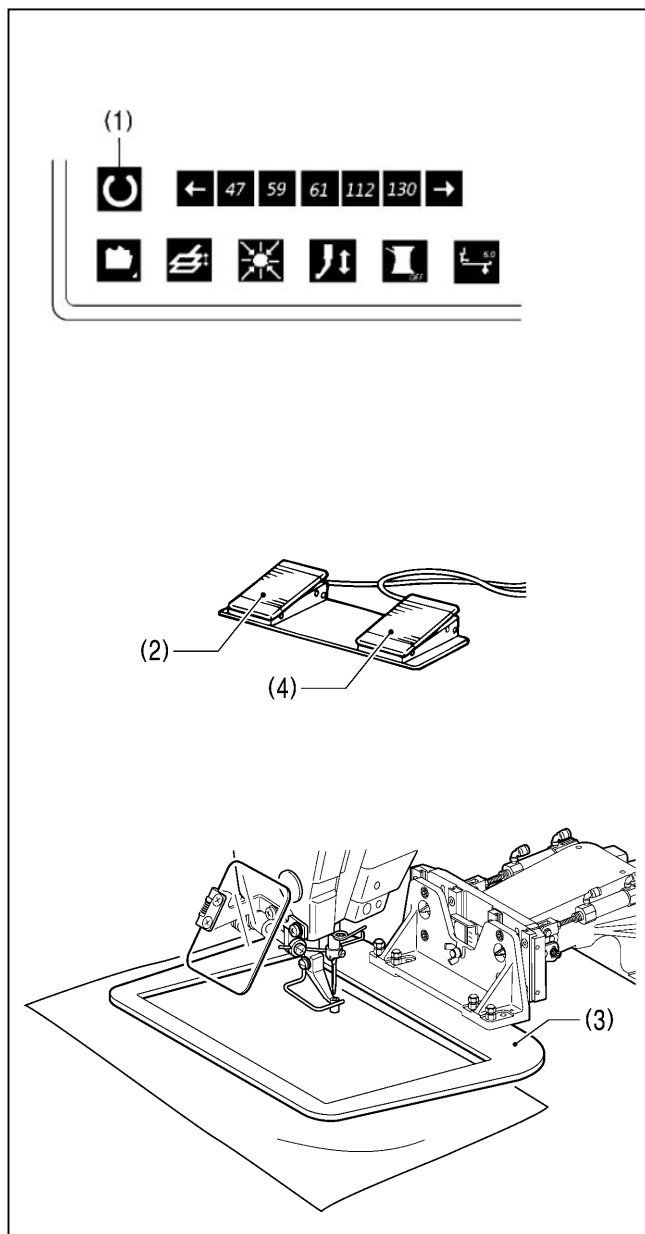
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

- When threading the needle
- When replacing the bobbin and needle
- When not using the machine and when leaving the machine unattended



Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

6-1. Sewing



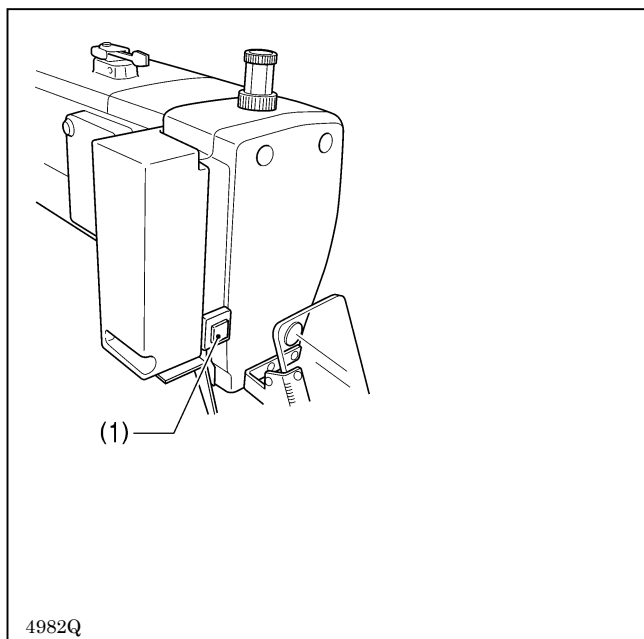
1. Turn on the power switch.
2. Press the or key to turn on the page, and press the data key to select the sewing program
3. Depress the work clamp switch (2) to lower the work clamp (3), and then depress the start switch (4).
 - The work clamp will move to the sewing start position.
 - Home position detection will be carried out immediately after the power switch is turned on.
4. Place the article to be sewn underneath the work clamp (3).
5. Depress the work clamp switch (2).
 - The work clamp (3) will drop.
6. Depress the start switch (4).
 - The sewing machine will start sewing.
7. When sewing is complete, the thread will be trimmed and the work clamp (3) will rise.

Use a work clamp and a feed plate which will hold the article securely so that it does not slip.

If using the standard work clamp and feed plate and the article being sewn is slipping, take measures to stop the work clamp and feed plate from being slippery.

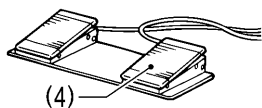
6-2. Using the STOP switch

If you press the STOP switch (1) while sewing or test feeding is in progress, the CAUTION indicator (2) will illuminate and the sewing machine will stop immediately.



<Continuing sewing from a stopping point>

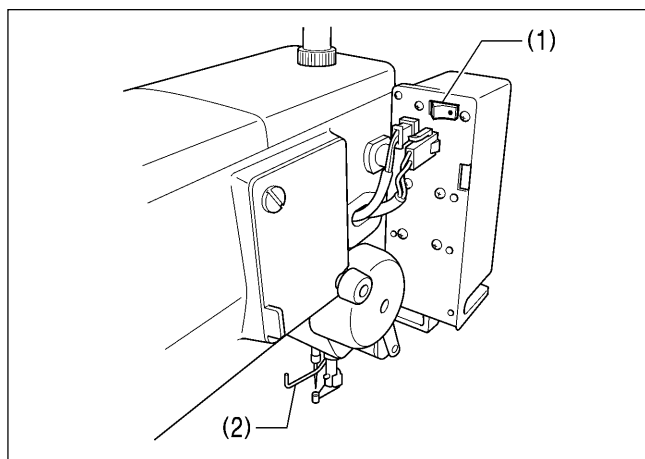
If you have pressed the STOP switch (1) at times such as if the thread breaks while sewing or the lower thread runs out, you can resume sewing from the point where the thread ran out.



Depress the start switch (4).

- The sewing machine will start operating and sewing will start.

6-3. Using the thread wiper switch



The thread wiper switch (1) can be used to turn the thread wiper (2) on and off.

7. CLEANING

! CAUTION



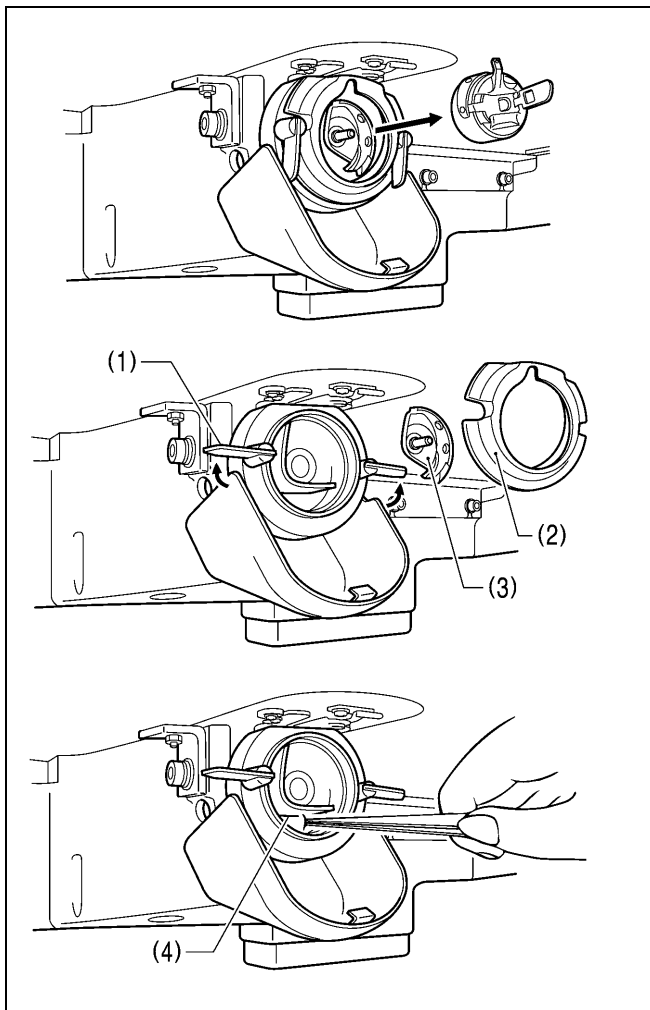
Turn off the power switch before carrying out cleaning.

If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result. Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.

7-1. Cleaning the rotary hook

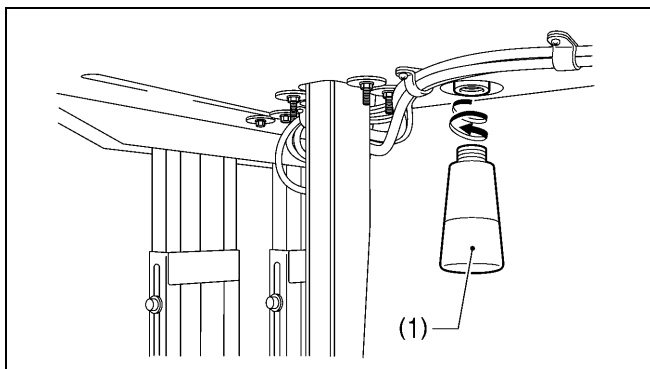


1. Pull the shuttle race cover downward to open it, and then remove the bobbin case.

2. Open the setting claw (1) in the direction indicated by the arrow, and then remove the shuttle race base (2) and the shuttle hook (3).

3. Clean all the dust and thread ends from around the driver (4), the top of the rotary hook thread guide and the shuttle race.

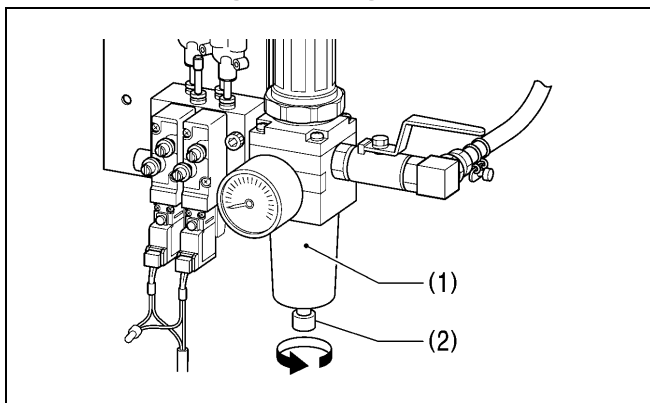
7-2. Draining the oil



1. Remove and empty the oiler (1) whenever it is full.

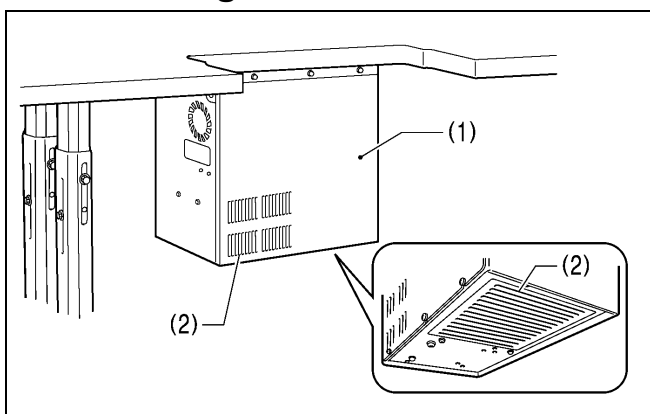
2. After emptying oiler (1), screw it back into its original position.

7-3. Checking the regulator



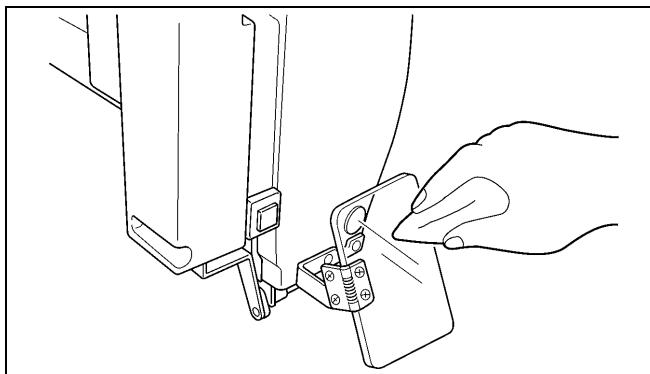
1. If water collects in the bottle of the regulator (1), turn the drain cock (2) in the direction of the arrow to drain the water.
2. After draining the water, tighten the drain cock (2).

7-4. Cleaning the control box air inlet ports



Use a vacuum cleaner to clean the filter in the air inlet ports (2) of the control box (1) at least once a month.

7-5. Cleaning the eye guard

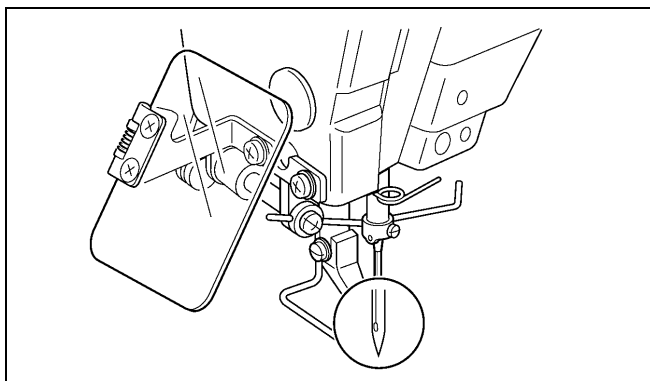


Wipe the eye guard clean with a soft cloth.

NOTE:

Do not use solvents such as kerosene or thinner to clean the eye guard.

7-6. Checking the needle



Always check that the tip of the needle is not broken and also that the needle is not bent before starting sewing.

7-7. Lubrication

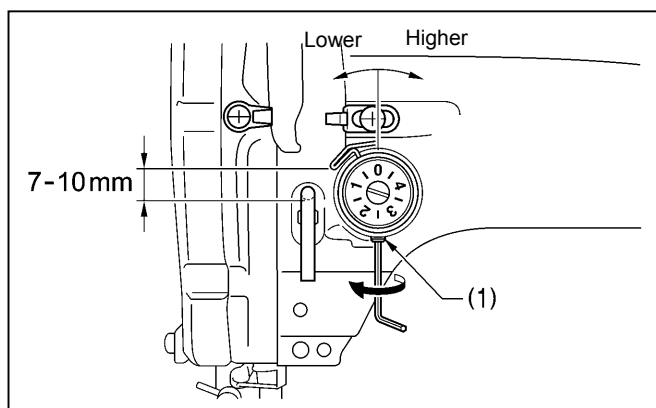
Lubricate the sewing machine while referring to "4-18. Lubrication".

8. STANDARD ADJUSTMENTS

⚠ CAUTION

-  Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.
-  Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.
-  Turn off the power switch and disconnect the power cord before carrying out the following operations. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
 - Inspection, adjustment and maintenance
 - Replacing consumable parts such as the rotary hook
-  Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.
-  If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.
-  Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.
-  Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result. Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.
-  If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.

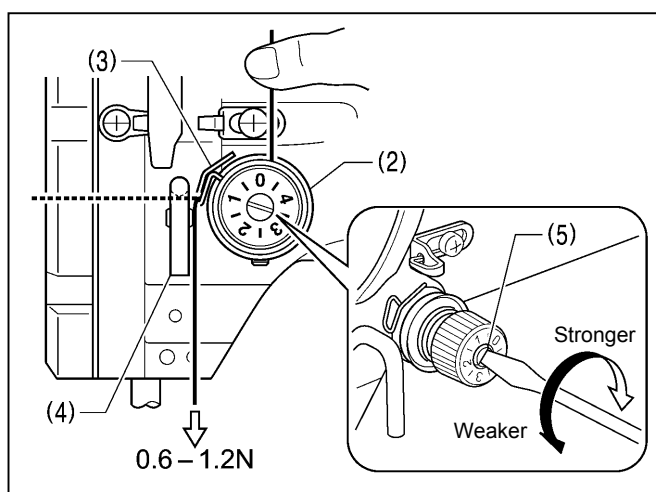
8-1. Adjusting the thread take-up spring



Thread take-up spring height (mm)	7 – 10
Thread take-up spring tension (N)	0.6 – 1.2

<Thread take-up spring height>

Loosen the set screw (1) and turn the adjuster to adjust.



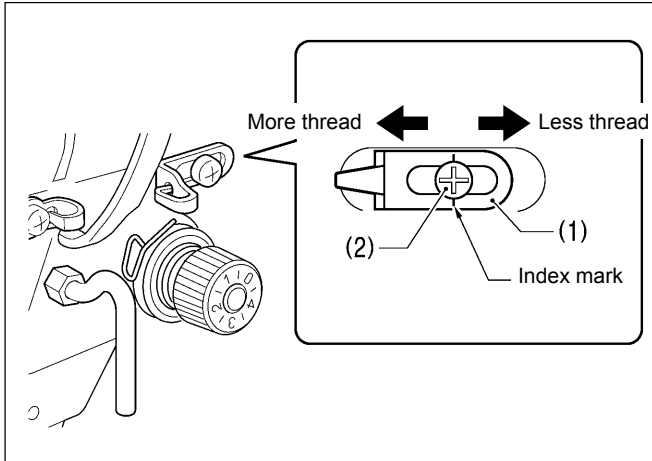
<Thread take-up spring tension>

1. Press the upper thread slightly above the tension bracket (2) with a finger to stop the thread spooling out.
2. Pull the upper thread downward so that the thread take-up spring (3) is extended to the same height as the base of the thread guide arm (4), and then measure the tension of the thread take-up spring (3).
3. Use a screwdriver to turn the tension stud (5) in order to adjust the tension of the thread take-up spring (3).

NOTE:

If the thread tension spring (3) is not adjusted correctly, the upper thread trailing length will be uneven after thread trimming.

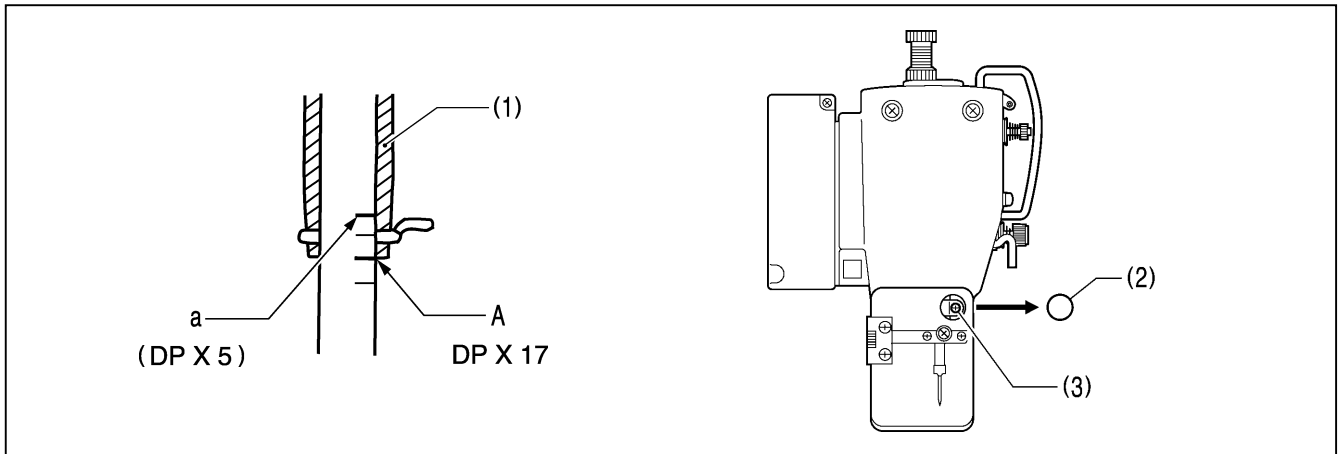
8-2. Adjusting arm thread guide R



The standard position of arm thread guide R (1) is when the screw (2) is aligned with the index mark. Loosen the screw (2) and move arm thread guide R (1) to adjust.

- * When sewing heavy material, move arm thread guide R (1) to the left. (The thread take-up amount will become greater.)
- * When sewing light material, move arm thread guide R (1) to the right. (The thread take-up amount will become less.)

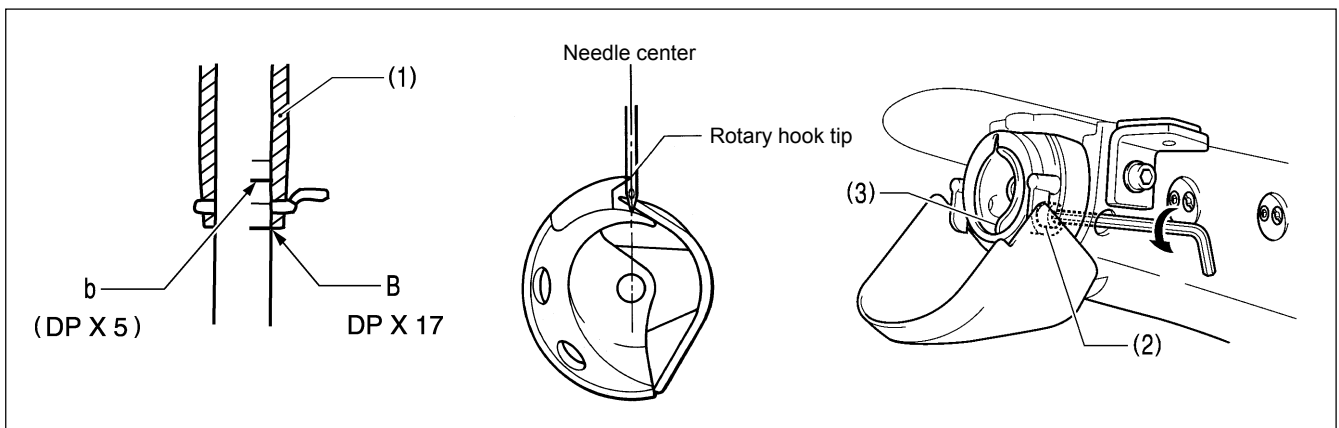
8-3. Adjusting the needle bar height



Turn the machine pulley to move the needle bar to the lowest position. Then remove the rubber plug (2), loosen the screw (3) and then move the needle bar up or down to adjust so that the second reference line from the bottom of the needle bar (reference line A) is aligned with the lower edge of the needle bar bush (1).

- * If using a DP X 5 needle, use the highest reference line (reference line a).

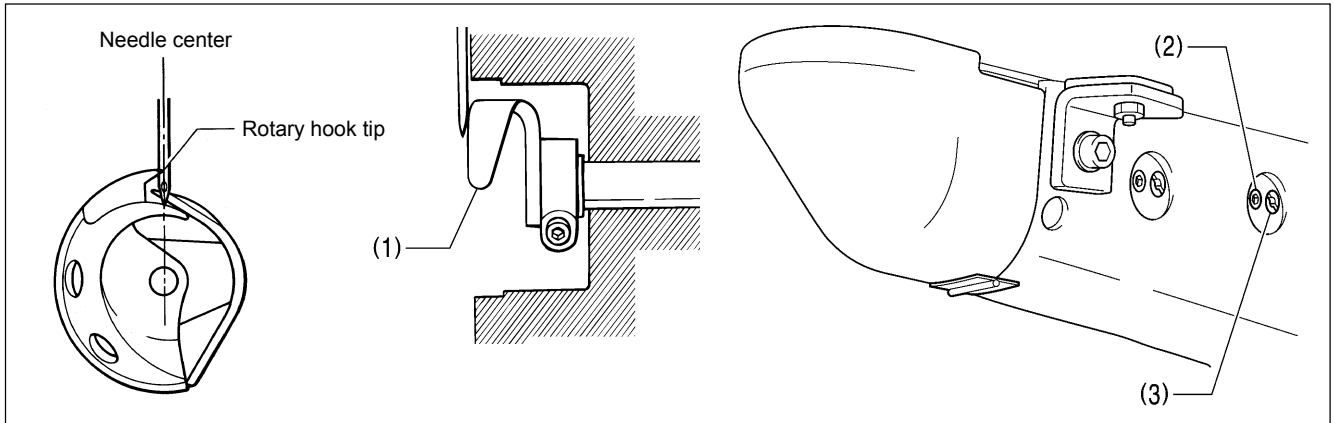
8-4. Adjusting the needle bar lift amount



Turn the machine pulley to raise the needle bar from the lowest position until the lowest reference line on the needle bar (reference line B) is aligned with the lower edge of the needle bar bush (1), and then loosen the bolt (2) and move the driver (3) so that the tip of the rotary hook is aligned with the center of the needle.

- * If using a DP X 5 needle, use the second reference line from the top of the needle bar (reference line b).

8-5. Adjusting the driver needle guard

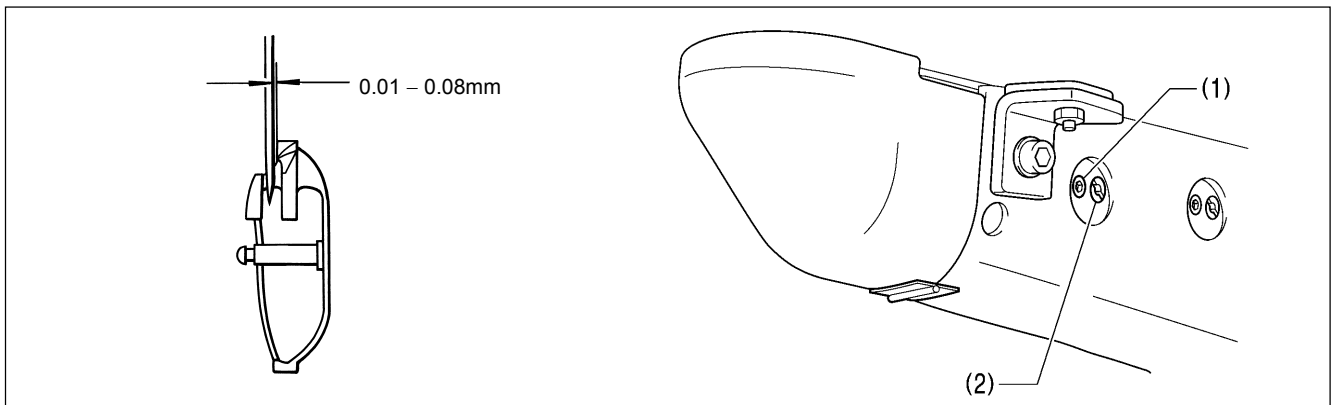


Turn the machine pulley to align the tip of the rotary hook with the center of the needle, and then loosen the set screw (2) and turn the adjusting stud (3) to adjust so that the driver needle guard (1) is touching the needle.

NOTE:

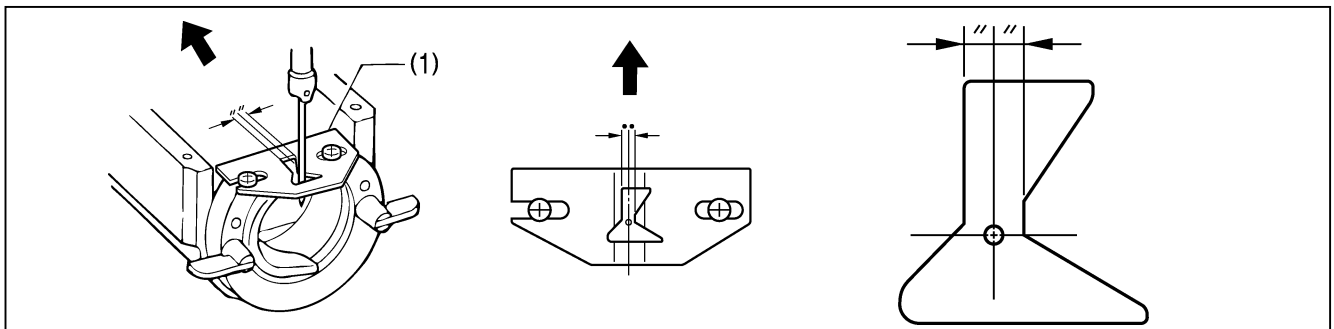
If it crosses the needle more than necessary, it will place a load on the needle, or it may cause poor thread tension. Furthermore, if it does not cross the needle at all, the tip of the rotary hook will interfere with the needle and skipped stitches may occur.

8-6. Adjusting the needle clearance



Turn the machine pulley to align the tip of the rotary hook with the center of the needle, and then loosen the set screw (1) and turn the adjusting stud (2) to adjust so that the clearance between the needle and the rotary hook is 0.01 – 0.08 mm.

8-7. Adjusting the shuttle race thread guide



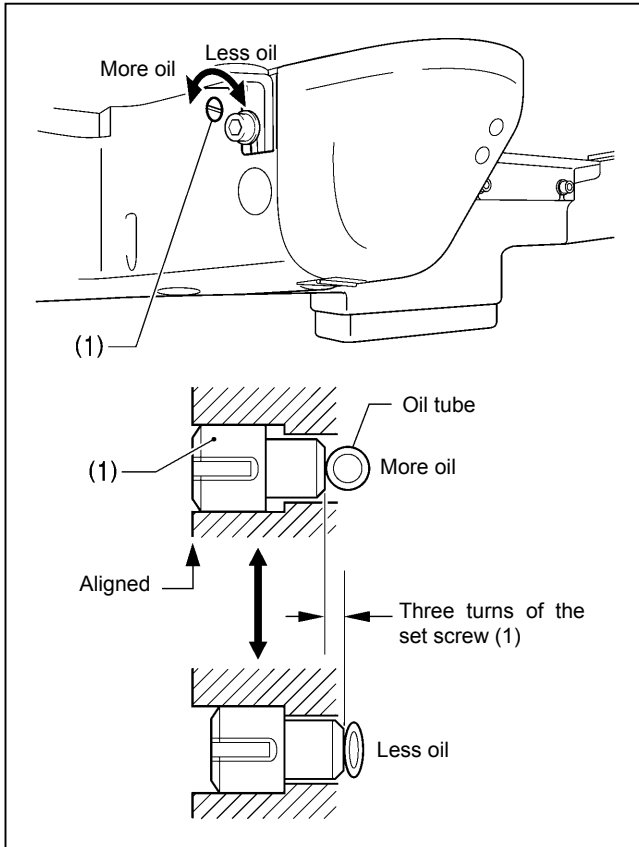
Install the shuttle race thread guide (1) by pushing it in the direction of the arrow so that the needle groove is aligned with the center of the needle plate hole.

NOTE:

If the shuttle race thread guide (1) is in the wrong position, thread breakages, soiled thread or tangling of the thread may occur.

The position of the shuttle race thread guide (1) is adjusted at the time of shipment from the factory. It should not be changed if possible.

8-8. Adjusting the rotary hook lubrication amount

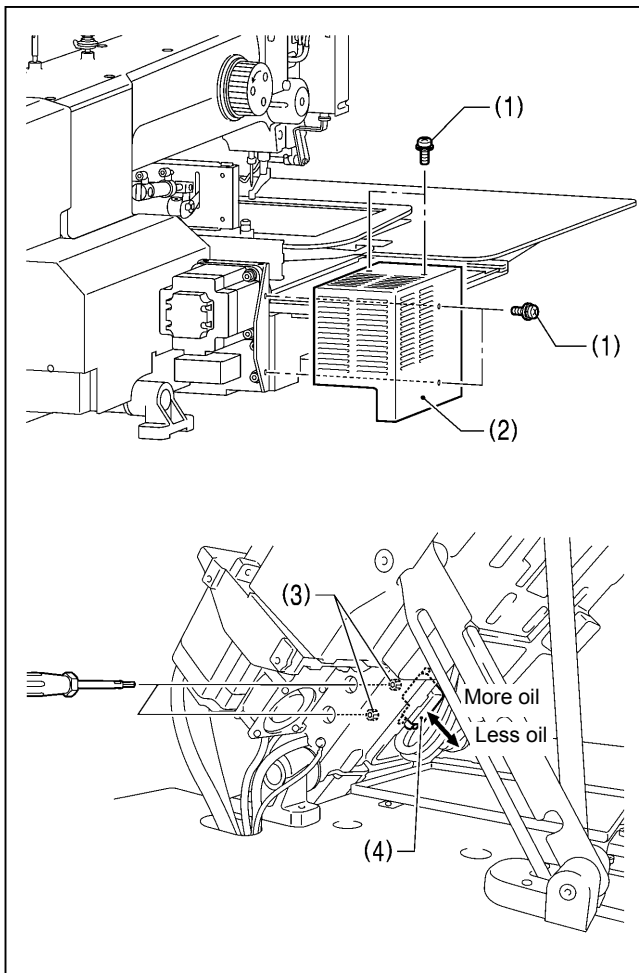


<Adjusting by changing the pressure on the oil tube>

The optimum position is when the head of the set screw (1) is aligned with the edge of the bed. The rotary hook lubrication amount can be adjusted within three turns to the right from that position.

- If the set screw (1) is turned clockwise, the lubrication amount becomes smaller.
- If the set screw (1) is turned counterclockwise, the lubrication amount becomes greater.

* If you would like the lubrication amount to be increased further from the position the head of the set screw (1) is aligned with the edge of the bed, use the following method to make the adjustment.



<Adjusting by changing the amount of oil supplied from the sub-tank>

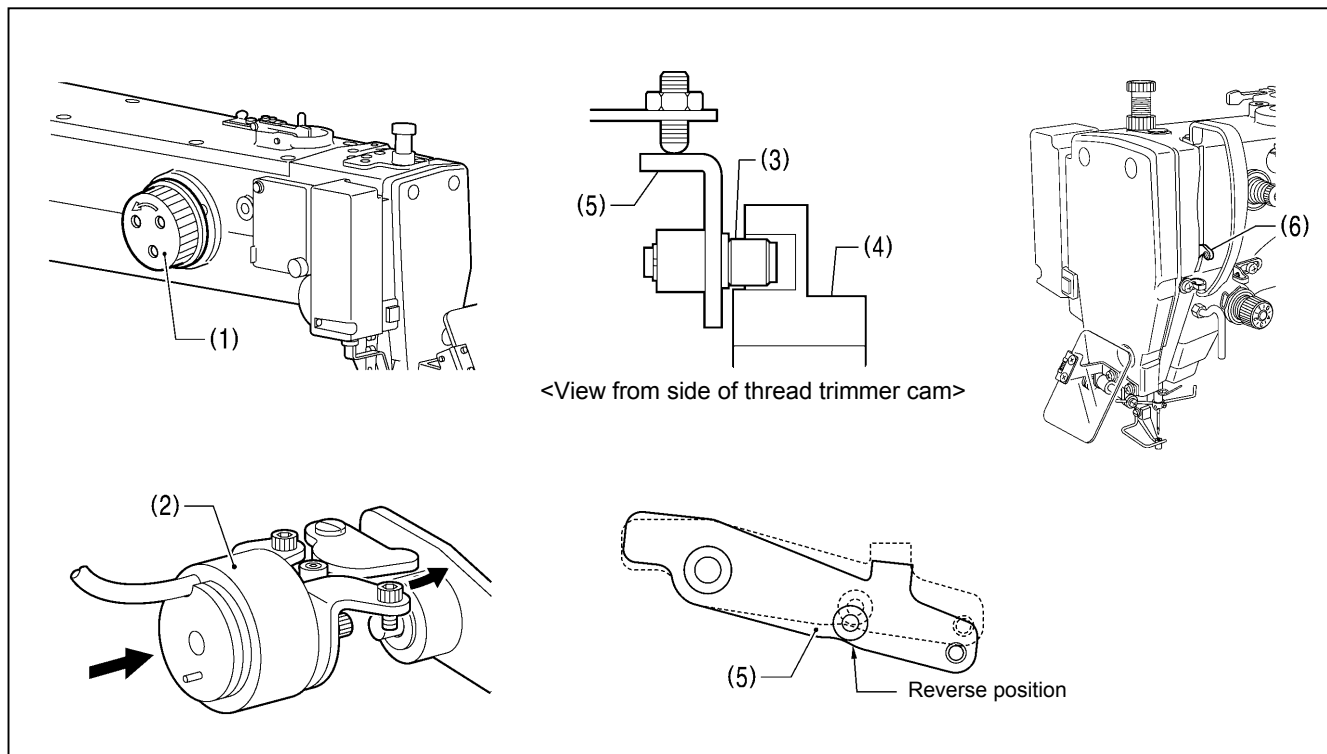
1. Remove the four screws (1), and then remove the X motor cover (2).

2. Tilt back the machine head.
3. Insert a screwdriver into the holes in the left side of the sewing machine bed and loosen the two bolts (3).
4. Move the sub-tank (4) up or down to adjust its position, and then tighten the two bolts (3).

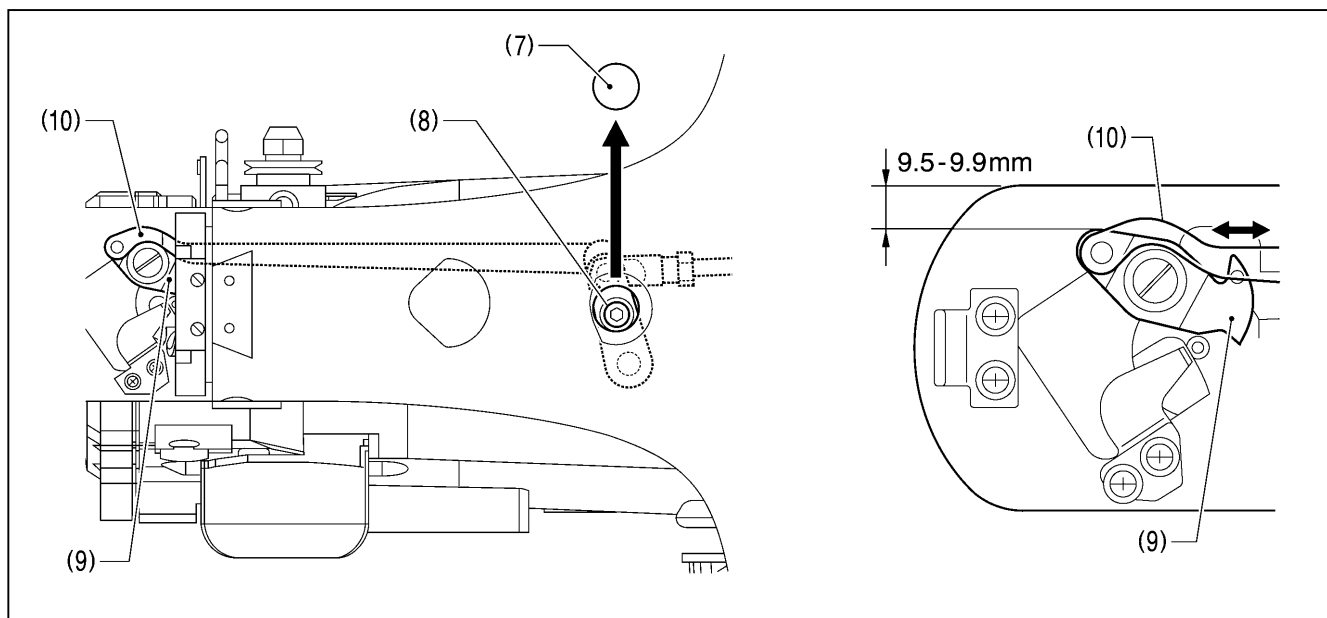
- If the position of the sub-tank (4) is raised, the lubrication amount will increase.
- If the position of the sub-tank (4) is lowered, the lubrication amount will decrease.

5. Return the machine head to its original position.
6. Install the X motor cover (2) with the four screws (1).

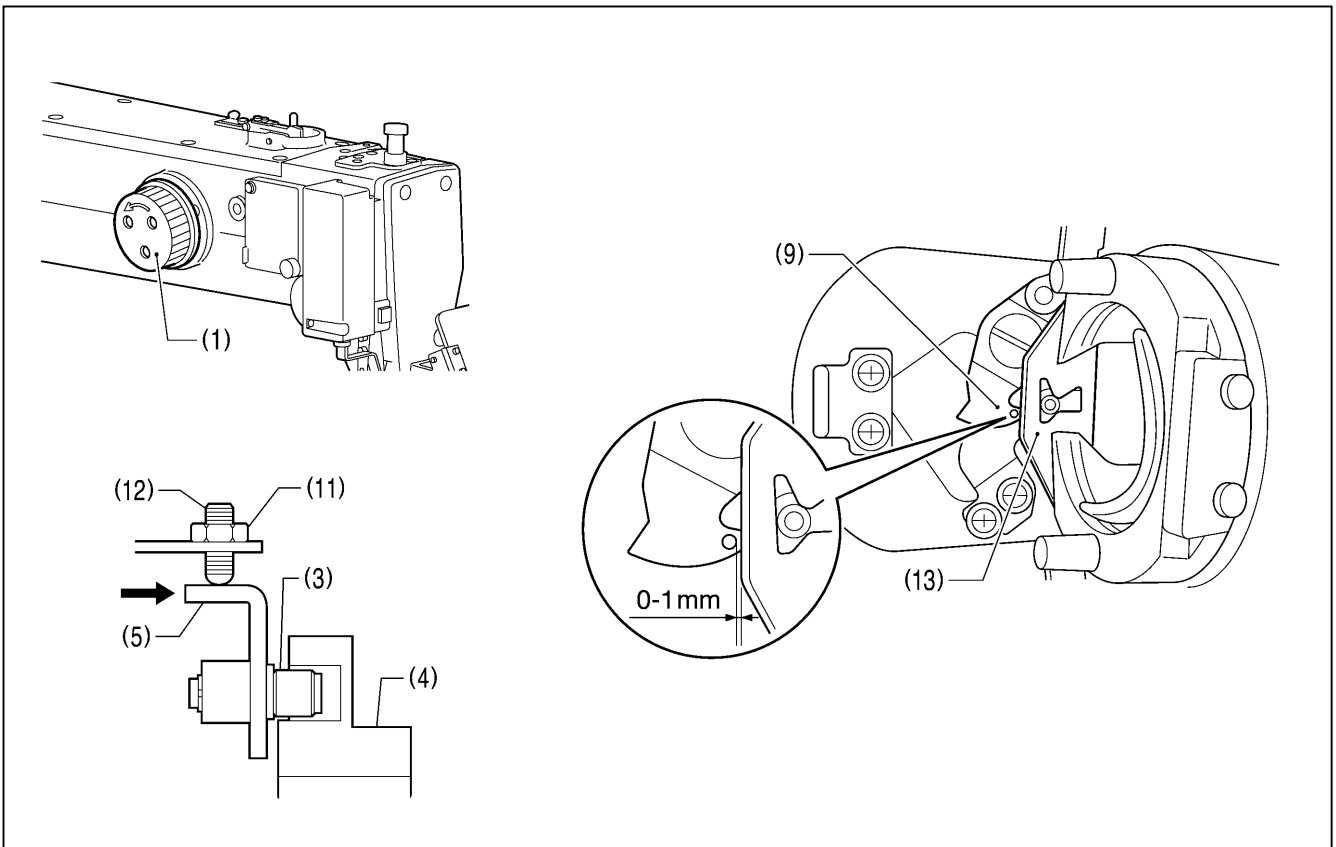
8-9. Adjusting the position of the movable knife



1. Open the top cover and tilt back the machine head.
2. Turn the pulley (1) by hand to lower the needle bar to its lowest position, and push the thread trimmer solenoid (2) as far as it will go.
3. With the collar (3) inserted into the groove of the thread trimmer cam (4), turn the pulley (1) by hand to set the driving lever (5) to the reverse position (when the thread take-up (6) is close to its lowest position).

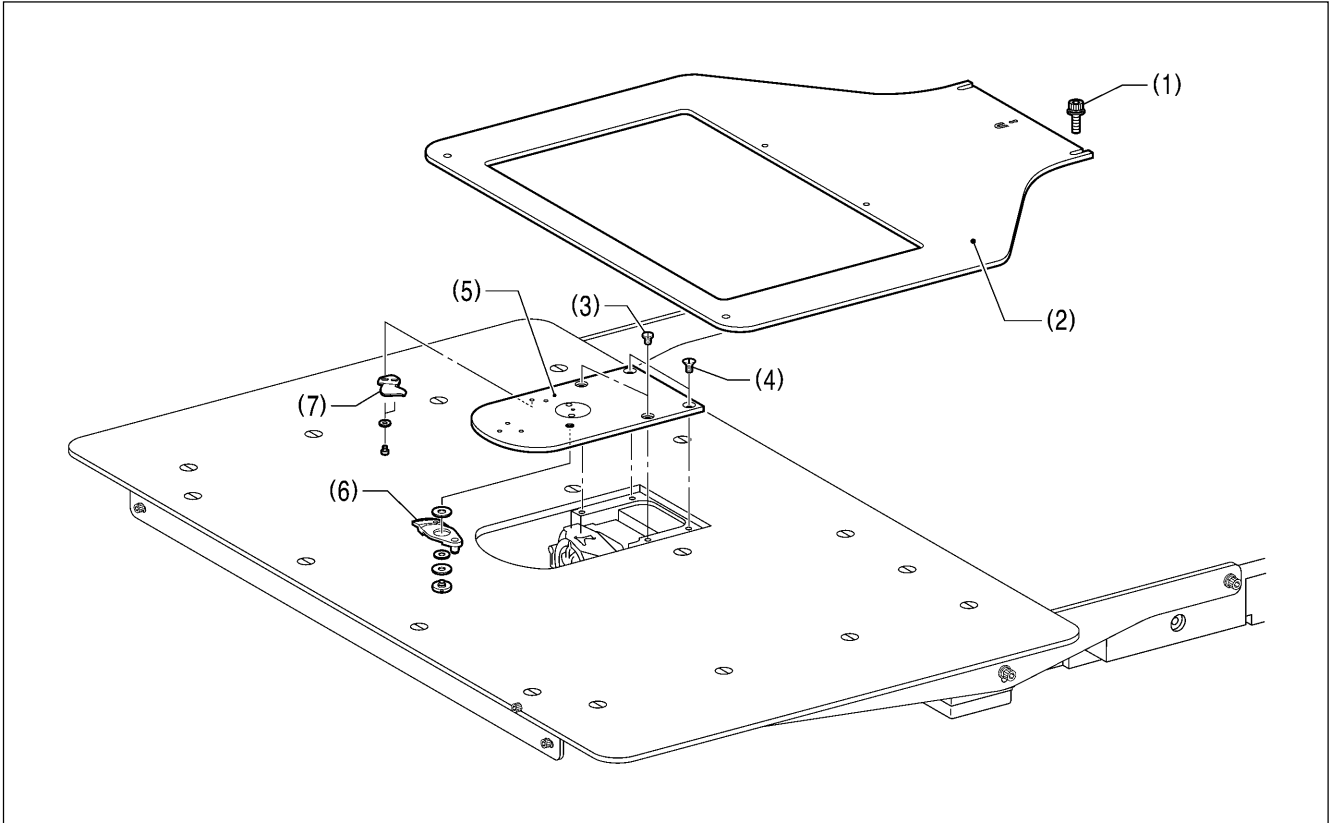


4. Remove the rubber cap (7).
5. Loosen the bolt (8).
6. Move the movable knife connecting plate (10) back and forth to adjust so that the distance from the ridge on the right side of the needle plate to the ridge on the movable knife (9) is 9.5 to 9.9 mm.
7. After tightening the bolt (8), check the above position once more.

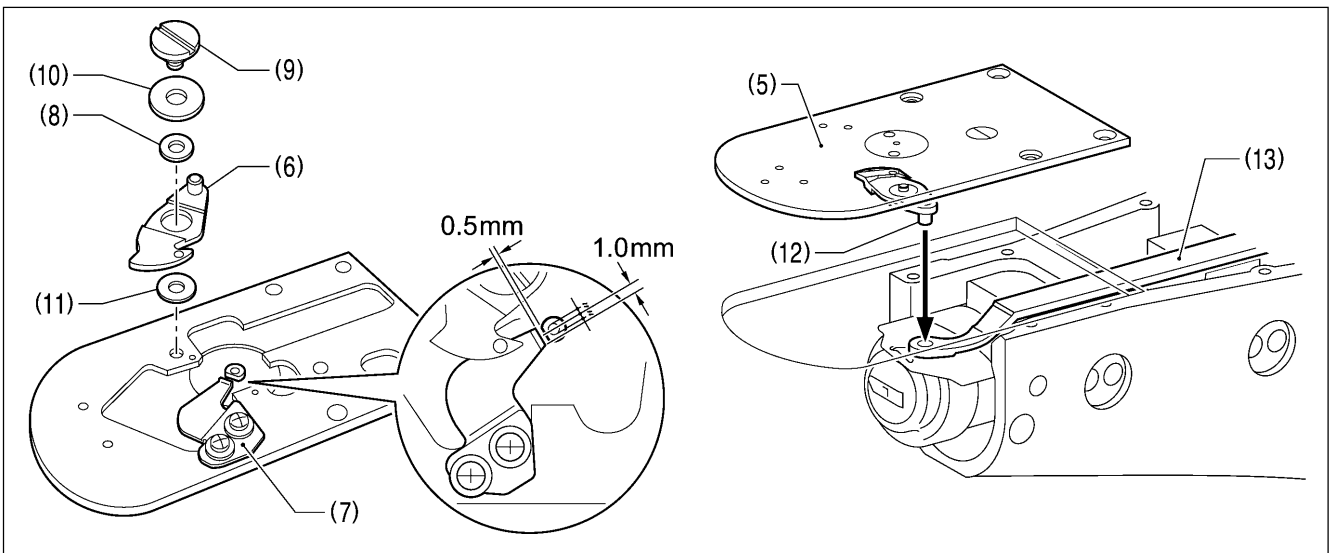


8. Turn the pulley (1) by hand to move the needle bar to its lowest position.
9. Loosen the nut (11), tighten the set screw (12) until the collar (3) is touching the inside of the groove in the thread trimmer cam (4), and then turn it back in the counterclockwise direction by approximately 1/4 of a turn.
10. Tighten the nut (11), and then check that the collar (3) is not touching the inside of the groove in the thread trimmer cam (4). In addition, push the driving lever (5) by hand toward the thread trimmer cam until the collar (3) touches the groove of the thread trimmer cam (4), and then check that the driving lever (5) returns smoothly to its original position when it is released.
11. Check that there is a gap of about 0 - 1 mm between the outside of the hole in the movable knife (9) and the ridge line on the shuttle race thread guide (13) when there is still play between the parts.

8-10. Replacing the movable and fixed knives

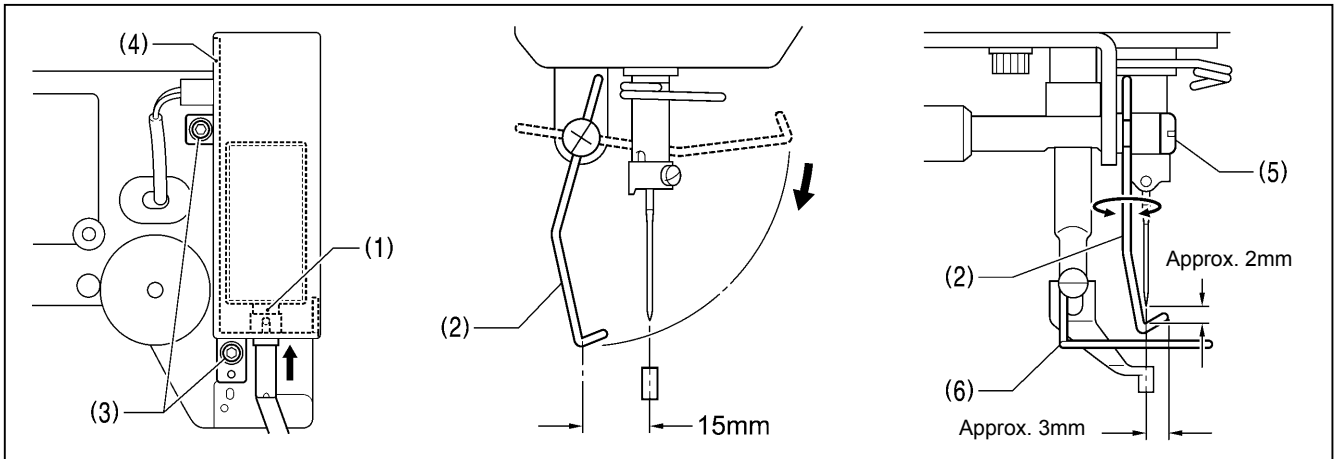


1. Loosen the two bolts (1) and then remove the feed plate (2).
2. Open the shuttle race cover, remove the two screws (3) and the two flat screws (4), and then remove the needle plate (5).
3. Remove the movable knife (6) and the fixed knife (7).



4. Install the new fixed knife (7) in the position shown in the illustration.
5. Apply grease to the outside of the collar (8) and to the shoulder screw (9), and then install the new movable knife (6) together with the thrust washer (10) and the movable knife spacer (11).
6. Check that the movable knife (6) and fixed knife (7) cut the thread cleanly. Replace the movable knife spacer with accessory spacers ($t=0.2, 0.3, 0.4$) so that the knives trim the thread accurately.
 - * If the knife pressure is too weak and the thread is not completely cut, use a thinner movable knife spacer.
 - * If the knife pressure is too strong and the movable knife (1) turns stiffly, use a thicker movable knife spacer.
7. Apply grease to the pin (12), place it into the movable knife connecting plate (13), and install it to the needle plate (5).
8. Check that the needle is aligned with the center of the needle hole.
9. Install the feed plate (2). (Refer to the next page.)

8-10. Adjusting the thread wiper

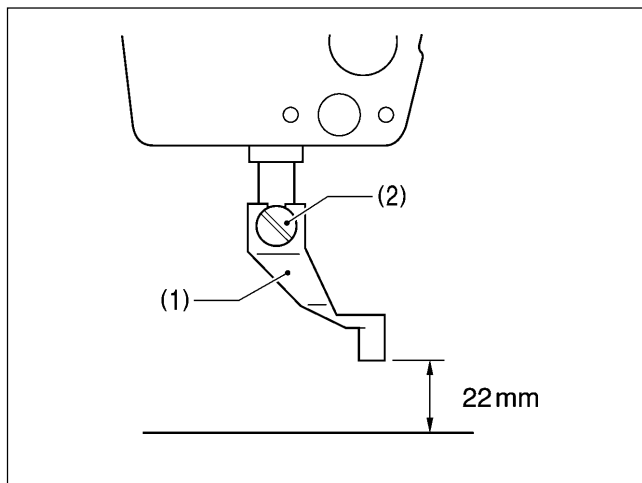


1. Loosen the two screws (3) and shift the entire solenoid setting plate (4) up or down to adjust so that the thread wiper (2) is 15 mm in front of the needle center when the plunger (1) of the thread wiper solenoid is driven to the full stroke.
2. Loosen the screw (5) and adjust the position of the thread wiper (2) so that the distance from the thread wiper to the tip of the needle is approximately 2 mm and the tip of the thread wiper (2) is approximately 3 mm from the center of the needle when the thread wiper (2) passes below the needle during operation.

NOTE:

Check that the thread wiper (2) does not touch the finger guard (6).

8-12. Presser foot installation position

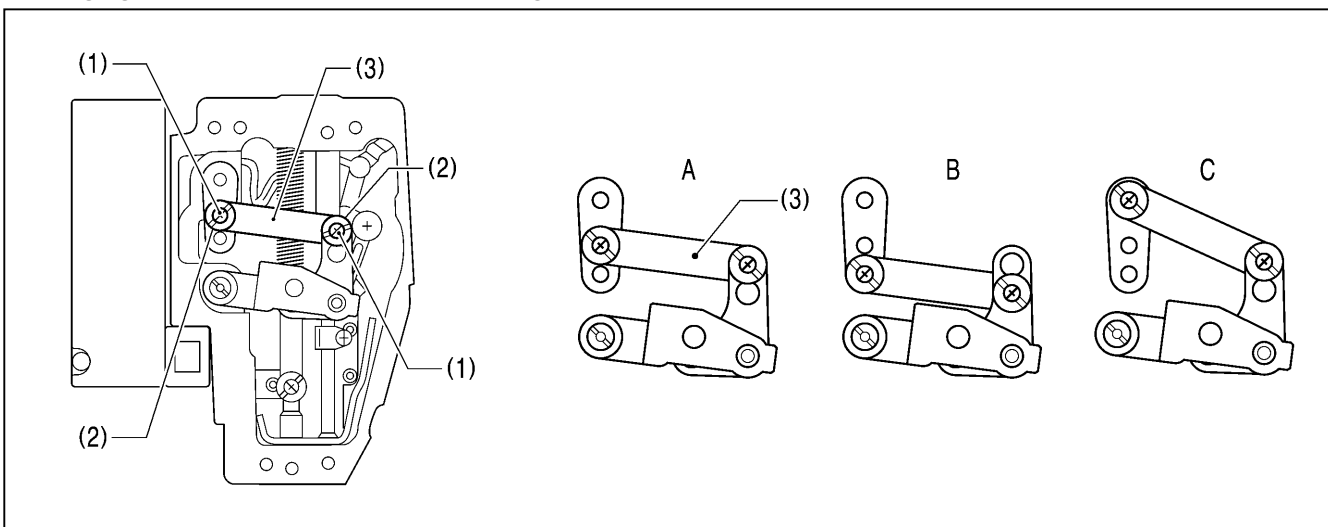


Install the presser foot (1) with the screw (2) so that the distance from the bottom of the presser foot to the top of the needle plate is 22 mm when the sewing machine is stopped and the presser foot (1) is raised.

8-13. Changing the intermittent stroke

The intermittent stroke can be adjusted to within 2 – 10 mm by adjusting the position of the stepping clamp connecting rod and changing the installation position of stepping clamp link A.

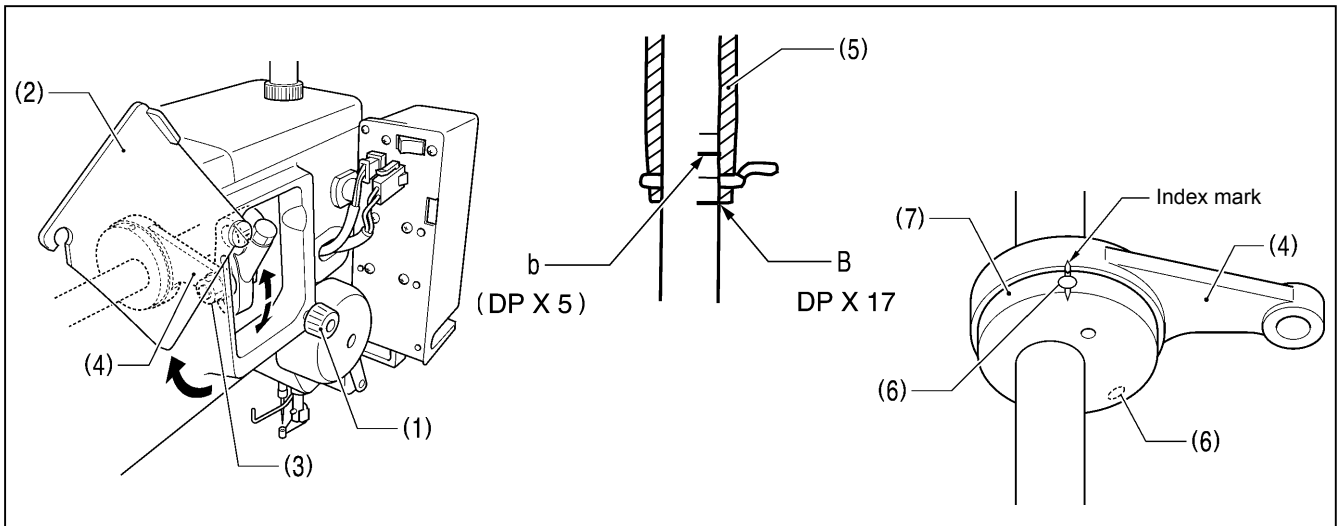
<Changing the installation position of stepping clamp link A>



1. Remove the face plate.
 2. Remove the two screws (1) and the two shoulder screws (2), and then remove stepping clamp link A (3).
 3. Change the installation position for stepping clamp link A (3) to either A, B or C above.
- If the position of the stepping clamp connecting rod is adjusted as described in the following at any one of the installation positions, the adjustment range for the intermittent stroke will as given in the following table. (Refer to the next page.)

Installation position	Intermittent stroke range	
A	2 – 4.5mm	
B	4.5 – 10mm	
C	0 mm (Presser foot does not move up and down)	

<Stepping clamp connecting rod position adjustment>

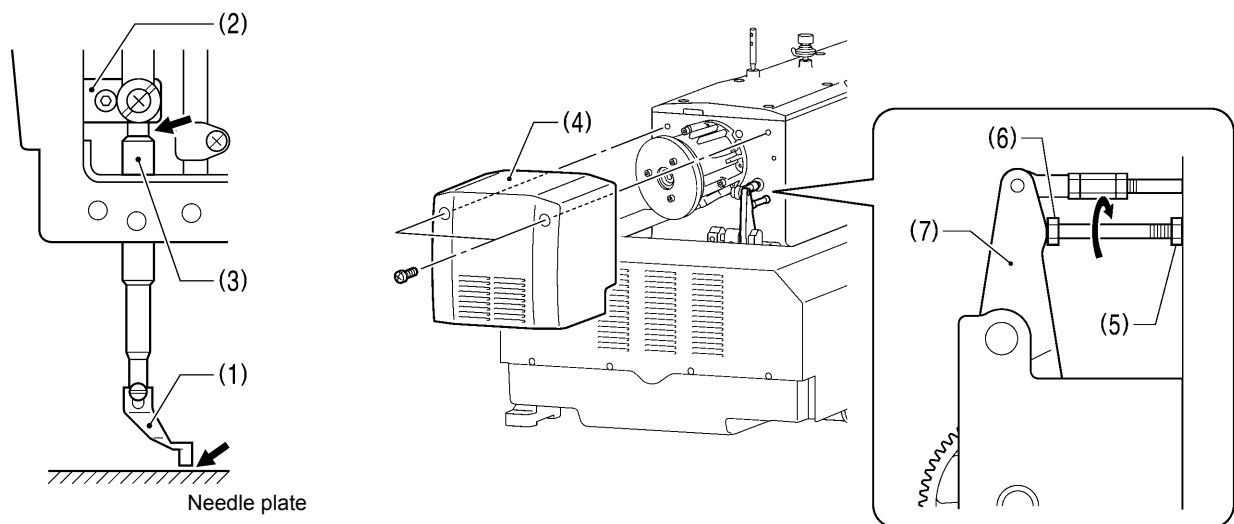


1. Loosen the screw (1), and then open the cover (2).
2. Loosen the nut (3), and then adjust the position of the stepping clamp connecting rod (4).
 - When the stepping clamp connecting rod (4) is raised, the intermittent stroke will increase.
 - When the stepping clamp connecting rod (4) is lowered, the intermittent stroke will decrease.

Next, adjust the needle bar and presser foot timing.

3. Turn the machine pulley to raise the needle bar from the lowest position until the lowest reference line on the needle bar (reference line B) is aligned with the lower edge of the needle bar bush (5).
(If using a DP x 5 needle, align with the second reference line from the top (reference line b).)
4. Open the top cover and loosen the two set screws (6).
5. Align the index marks on the stepping clamp cam (7) and the stepping clamp connecting rod (4), and then tighten the set screws (6).

Check the following after changing the intermittent stroke.



1. With the intermittent presser foot (1) lowered, turn the pulley to move the intermittent presser foot (1) to its lowest position.
2. Check that the presser foot (1) does not touch the needle plate and that the presser bar clamp (2) does not touch the presser bar bush (3).

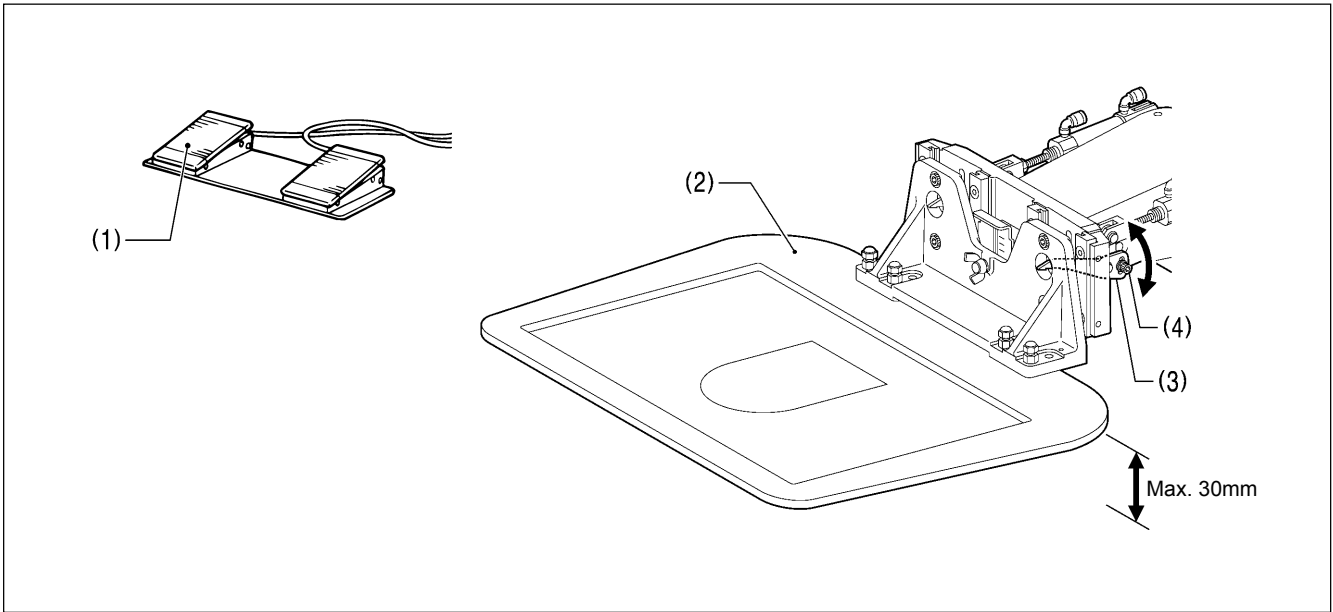
<If they are touching>

Remove the motor cover (4).

Loosen the nut (5), and turn the bolt (6) until it is pressing against the intermittent drive lever (7), and then adjust until the two points mentioned above are not touching.

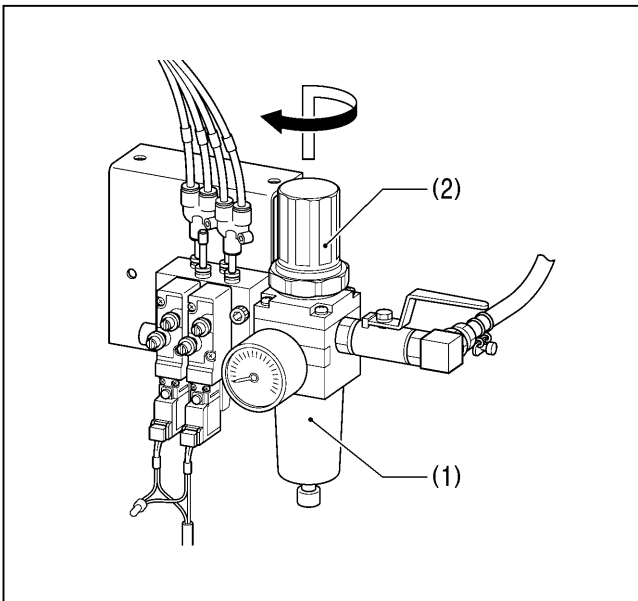
8-14. Adjusting the work clamp lift amount

The maximum lift amount for the work clamp (2) is 30 mm above the top of the needle plate.



1. Turn on the air, and then turn on the power switch.
2. Depress the work clamp switch (1) to raise the work clamp (2).
3. Loosen the two bolts (4) of the work clamp lifter lever (3), and then move the work clamp lifter lever (3) up or down to adjust the lift amount.

8-15. Adjusting the air pressure



Lift up the handle (2) of the regulator (1) and then turn it to adjust the air pressure to 0.5 MPa. After adjustment is complete, push the handle (2) downward to lock it.

9. TROUBLESHOOTING

- Please check the following points before calling for repairs or service.
- If the following remedies do not fix the problem, turn off the power switch and consult a qualified technician or the place of purchase.



CAUTION



Turn off the power switch and disconnect the power cord before carrying out troubleshooting.
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

Problem	Cause	Remedy	Reference
Work clamp does not lift.	Work clamp moves stiffly.	Apply a suitable amount of grease to the sliding parts of the work clamp slider.	
Work clamp does not drop.	Air tube of presser lifter cylinder is bent or damaged.	Straighten the bend in the tube or replace the tube.	
Work clamp lift amount is incorrect.	Work clamp lifter lever position is incorrect.	Adjust the position of the work clamp lifter lever.	P. 33
Work clamp does not lift to the maximum height.	Cylinder joint position is incorrect.	Adjust the position of the cylinder joint.	
Thread wiper does not operate correctly.	The thread wiper is obstructing the needle.	Adjust the height of the thread wiper.	P. 30
		Adjust the stroke of the thread wiper.	P. 30
	Thread wiper position is incorrect.	Adjust the stroke of the thread wiper.	P. 30
Lower thread winds to one side.	Bobbin winder tension assembly height is incorrect.	Adjust the height of the bobbin winder tension assembly.	P. 16
Lower thread winding amount is incorrect.	Bobbin presser position is incorrect.	Adjust the position of the bobbin presser.	P. 16
Thread slips out of the needle.	Stitches being skipped at the sewing start.	Refer to "Skipped stitches occur".	P. 35
	Upper thread trailing length is uneven.	Adjust the sub-tension.	P. 18
	Position of shuttle race thread guide is incorrect	Adjust the position of the shuttle race thread guide.	P. 25

9. TROUBLESHOOTING

Problem	Cause	Remedy	Reference
Upper thread breaks.	Upper thread tension is too strong.	Adjust the upper thread tension.	P. 18
	Needle is incorrectly installed.	Install the needle correctly.	P. 13
	Thread is too thick for the needle.	Select a thread that matches the needle.	P. 18
	Thread take-up spring tension and height are incorrect.	Adjust the tension and height of the thread take-up spring.	P. 23
	Damage or burring of the rotary hook, needle hole plate or needle.	Repair or replace the problem part.	
	Thread breaking from heat (Synthetic thread)	Use a cooling tank.	P. 14
	Thread is threaded incorrectly.	Thread the thread correctly.	P. 14
Lower thread breaks.	Lower thread tension is too strong.	Adjust the lower thread tension.	P. 18
	Damage to corners of needle hole plate or bobbin case.	Repair or replace the problem part.	
Skipped stitches occur.	Clearance between needle and rotary hook tip is too great.	Adjust the needle clearance.	P. 25
	Needle and rotary hook timing is incorrect.	Adjust the needle bar lift amount.	P. 24
	The driver is covering the needle more than necessary.	Adjust the driver needle guard.	P. 25
	Needle is bent.	Replace the needle.	
	Needle is incorrectly installed.	Install the needle correctly.	P. 13
Needle is broken.	Clearance between needle and rotary hook tip is too great.	Adjust the needle clearance.	P. 25
		Adjust the needle bar lift amount.	P. 24
	Needle is bent.	Replace the needle.	
	Needle deflection	Select a needle that is suitable for the sewing conditions. Reduce the sewing speed.	P. 18
	Needle is too thin.	Select a needle that is suitable for the sewing conditions.	P.18
Thread jamming.	Thread take-up spring tension and height are incorrect.	Adjust the tension and height of the thread take-up spring.	P. 23
	Needle and rotary hook timing is incorrect.	Adjust the needle bar lift amount.	P. 24
	Shuttle race thread guide is not separating the threads.	Adjust the position of the shuttle race thread guide.	P. 25

Problem	Cause	Remedy	Reference
Upper thread is not trimmed.	Movable knife is not cutting cleanly.	Replace with a new one.	P. 29
	Fixed knife is not cutting cleanly.	Sharpen the fixed knife or replace it with a new one.	P. 29
	Movable knife is not picking up the upper thread.	Adjust the position of the shuttle race thread guide.	P. 25
		Adjust the needle bar lift amount.	P. 24
	Movable knife is not picking up the upper thread because the last stitch is being skipped.	Refer to "Skipped stitches occur".	P. 35
	Movable knife position is incorrect.	Adjust the position of the movable knife.	P. 27
	Sub-tension is too weak.	Turn the sub-tension nut to adjust the tension.	P. 18
Poor stitch finish on underside of material.	Shuttle race thread guide is not separating the threads enough.	Adjust the position of the shuttle race thread guide.	P. 25
	Incorrect tightening of the upper thread	Adjust the upper thread tension.	P. 18
	Upper thread trailing length is uneven.	Adjust the sub-tension.	P. 18
Incorrect tightening of the thread	Upper thread tension is too weak.	Adjust the upper thread tension.	P. 18
	Lower thread tension is too weak.	Adjust the lower thread tension.	P. 18
	Thread take-up spring tension and height are incorrect.	Adjust the tension and height of the thread take-up spring.	P. 23
	Position of arm thread guide R is incorrect.	Adjust the position of arm thread guide R.	P. 24
Upper thread trailing length is uneven.	Thread take-up spring tension and height are incorrect.	Adjust the tension and height of the thread take-up spring.	P. 23
	Sub-tension is too weak.	Turn the sub-tension nut to adjust the tension.	P. 18
	Fixed knife is not cutting cleanly.	Sharpen the fixed knife or replace it with a new one.	P. 29
Sewing machine does not operate when the power is turned on and the foot switch is depressed.	Safety switch does not work.	Check if the safety switch cord is disconnected.	
		Adjust the position of the safety switch.	P. 12
		If the safety switch is malfunctioning, replace it with a new one.	

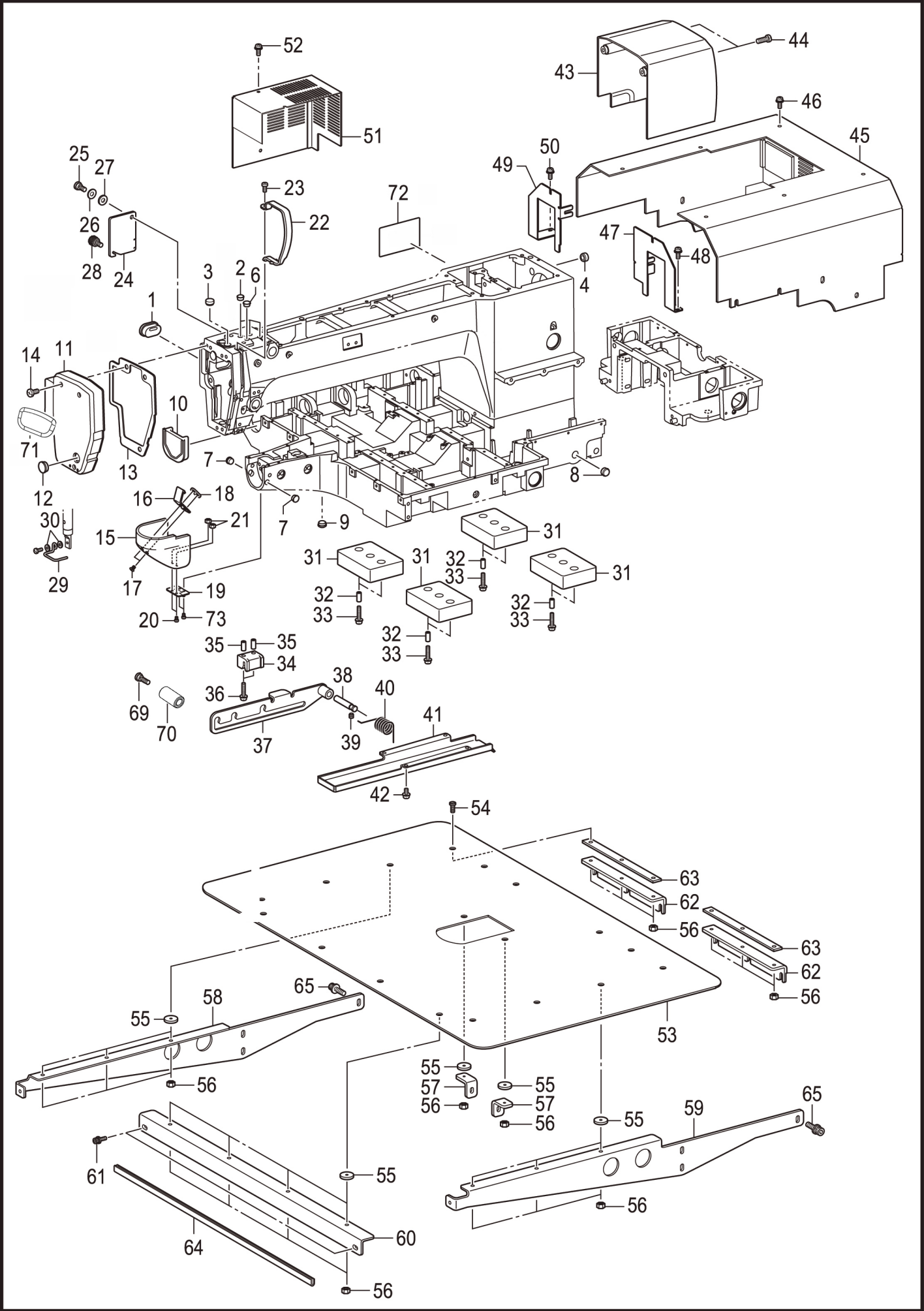
零件样本

PARTS BOOK

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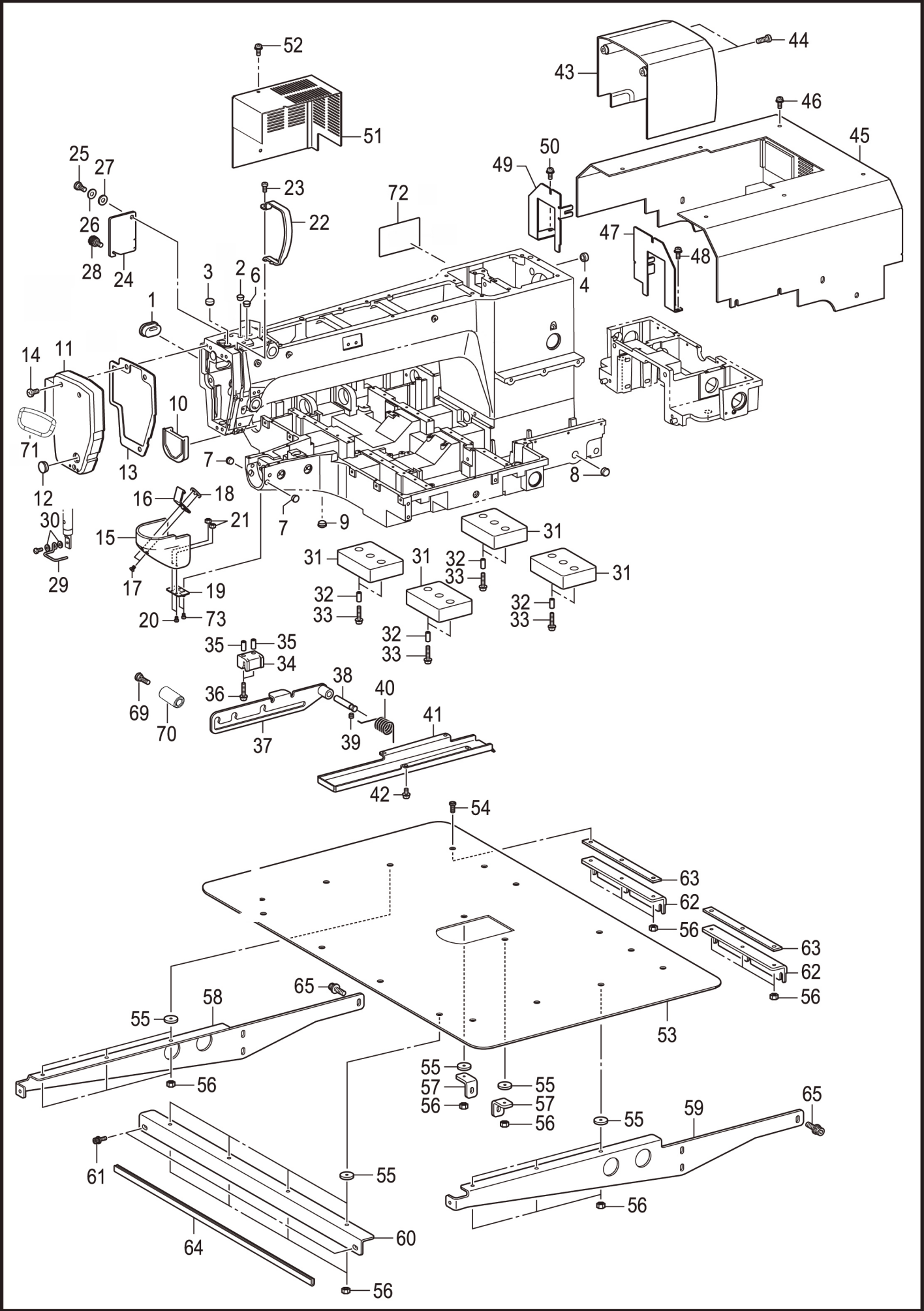
A1 . 机体部分 / Machine body



A1、机体部分/Machine body

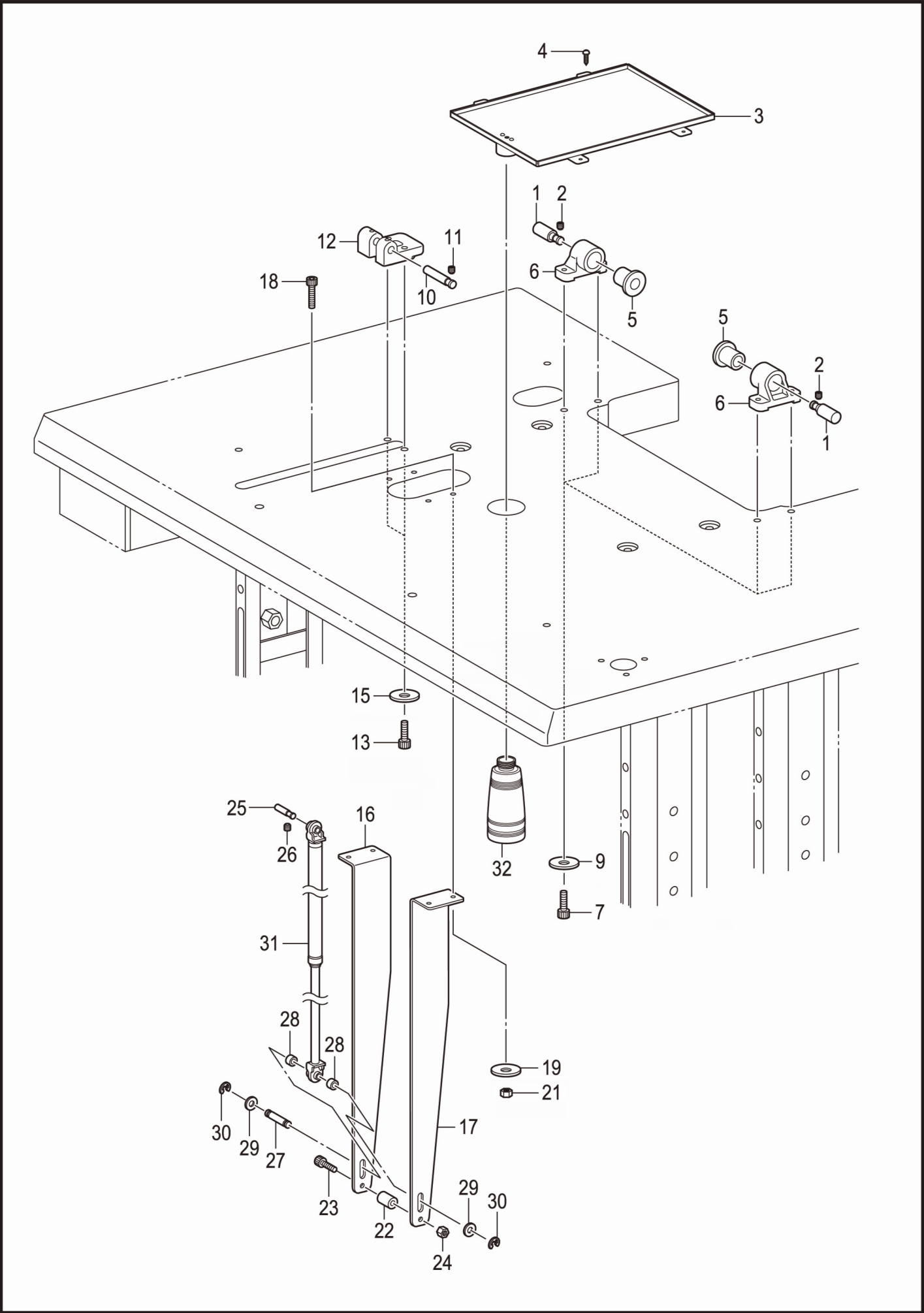
序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41722001	SA4596001	橡皮塞 20-15	RUBBER CAP 20-15	1	
2	41722003	104821001	橡皮塞 10.5	RUBBER CAP 10.5	3	
3	41722009	S20164001	橡皮塞 13	RUBBER CAP 13	1	
4	41722009	S20164001	橡皮塞 13	RUBBER CAP 13	1	
6	41222002	117936001	橡皮塞 9.4	RUBBER CAP 9.4	1	
7	41722007	S44010001	橡皮塞 11.5	RUBBER CAP 11.5	2	
8	41722301	150592001	橡皮塞 16	RUBBER CAP 16	2	
10	41722302	SA8548101	底板盖	BED COVER	1	
11	304727	SA4600001	面板 Q	FACE PLATE	1	41701201
12	41722004	104449001	橡皮塞 15.5	RUBBER CAP 15.5	1	
13	41712003	SA4601001	面板垫片	F-PLATE PACKING	1	
14	S04038	062061016	螺钉 M6X10	SCREW PAN M6X10	3	
15	301383	SA4603101	大旋梭盖	SHUTTLE RACE COVER	1	41712004
16	41712005	SA6272001	大旋梭盖挂钩 D	SHUTTLE RACE COVER HOOK D	1	
17	S02031	004300513	螺钉 M3X5	SCREW,FLAT M3X5	2	
18	41712006	SA3264001	板螺母	NUT PLATE	1	
19	4171220200	SA6207001	铰链	HINGE	1	
20	403S11035	062300506	十字槽圆柱头螺钉	SCREW PAN M3X5	2	
21	N01013	021300103	螺母 M3	NUT ,1 M3	2	
22	301384	SA3200101	桃线杆防护罩	THREAD TAKE-UP COVER	1	41712007
23	417S30025	062401006	复合槽圆柱头螺钉	SCREW PAN M4X10	1	
24	41711207	SA4604001	间歇盖板 Q	STEPPING COVER	1	
25	417S30012	SA3306001	段螺钉 7-3	SHOULDER SCREW ,7-3	1	
26	41728020	120265002	弹簧垫圈	SPRING WASHER	1	
27	41728035	S07350002	垫圈	WASHER PLAIN	1	
28	41711208	S36475000	螺钉 M5Q	SCREW,M5	1	
29	41712009	SA8679001	护指器	FINGER GUARD	1	
30	41728025	025350332	平垫圈 L3.5	WASHER PLAIN L3.5	2	
31	41722303	SA8670001	防震垫	CUSHION	4	
32	41708301	SA8680001	管套	SPACER	8	
33	417S30301	0A5402005	螺栓（带垫圈）M4X20DB	SCREW PAN(S/P WASHER)M4X20	8	
34	41722304	SA8880001	防震橡皮垫	RUBBER CUSHION	1	
35	41708301	SA8680001	管套	SPACER	2	
36	417S30301	0A5402005	螺栓（带垫圈）M4X20DB	SCREW PAN(S/P WASHER)M4X20	2	
37	4171230100	SA8549001	头部支撑杆	SUPPORT LEVER	1	
38	41702301	SA8550001	头部支撑杆轴	SUPPORT LEVER SHAFT	1	
39	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	1	
40	41727301	SA8551001	弹簧	TOSHON SPRING	1	
41	41712303	SA8552001	供油盘	OIL PAN	1	
42	417S30025	0A5401006	螺栓（带垫圈）M4X10DB	SCREW PAN(S/P WASHER)M4X10	2	
43	41711218	SA8553001	马达罩 Q	MOTOR COVER	1	
44	S04099	062061616	螺钉 M6×16	SCREW M3X6	2	
45	301748	SA8816001	后盖组件	REAR COVER ASSY	1	
45	41722317		后盖减震橡皮 A	CUSHIONA	2	
45	41722318		后盖减震橡皮 B	CUSHIONB	2	
46	417S30025	0A5401006	螺栓（带垫圈）M4X10DB	SCREW PAN(S/P WASHER)M4X10	16	
47	301749	SA8555001	后盖 FR	HEAR COVER FR	1	41712305
48	417S30025	0A5401006	螺栓（带垫圈）M4X10DB	SCREW PAN(S/P WASHER)M4X10	3	
49	301751	SA8556001	后盖 FL	HEAR COVER FL	1	41712306
50	417S30025	0A5401006	螺栓（带垫圈）M4X10DB	SCREW PAN(S/P WASHER)M4X10	3	
51	301750	SA8557001	马达盖 (X)	X MOTOR COVER	1	4171234500

A1 . 机体部分 / Machine body



A1、机体部分/Machinebody

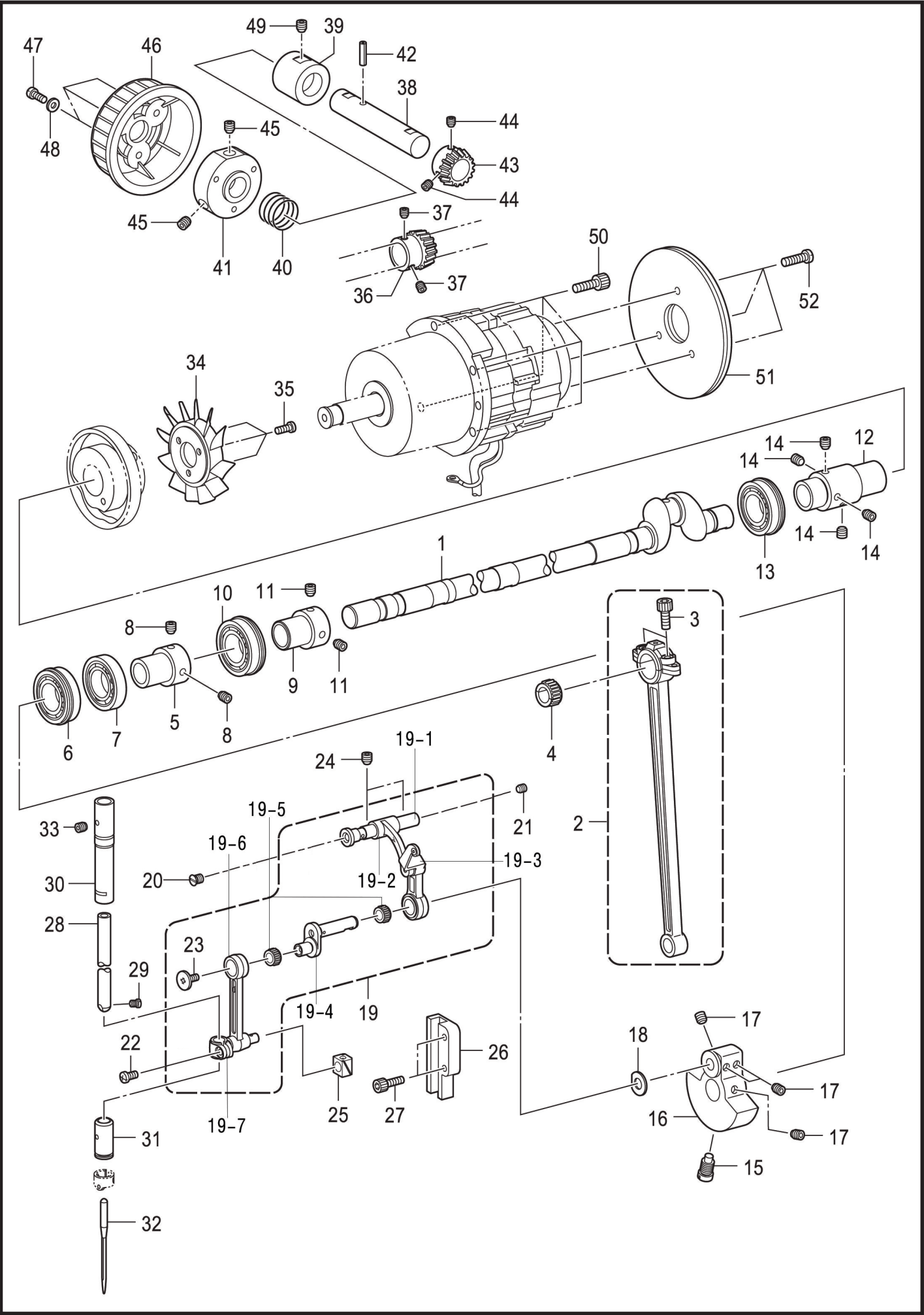
52	417S30025	0A5401006	螺栓（带垫圈）M4X10DB	SCREW PAN(S/P WASHER)M4X10	4	
53	41712308	SA8559001	针板补助板	AUXILIARY PLATE	1	
54	417S15003	SA8560001	螺钉 M4X12	SCREW M4X12	18	
55	41722010	SA4677101	补助板缓冲胶垫	AUXILIARY PLATE CUSHION	12	
56	407N01002	021400206	自锁螺母 M4	NUT2M4	20	
57	41712064		L 形支架		2	
58	41712309	SA8561001	补助板支架 L	AUXILIARY PLATE BRACKET L	1	
59	41712310	SA8562001	补助板支架 R	AUXILIARY PLATE BRACKET R	1	
60	41712311	SA8563001	补助板支架 M	AUXILIARY PLATE BRACKET M	1	
61	417S30302	S55481001	螺栓（带垫圈）M4X12	SCREW PAN(S/P WASHER)M4X12	2	
62	41712312	SA8564001	补助板支架 B	AUXILIARY PLATE BRACKET B	2	
63	41722305	SA8672001	补助板防震垫 B	AUXILIARY PLATE CUSHION B	2	
64	41722306	SA8879001	调整长条 L5400	TRIMS L540	1	
64	S04078	062400816	螺栓 M4X8	SCREW PAN M4X8	4	
65	417S30037	S42446001	螺栓 M6X14	BOLT SOCKET(S/P WASHER)M4X12	14	
69	41708306	SA8680001	管套 D	SPACER D	1	
70	S05119	018402036	螺栓 M4X20	BOLT SOCKET M4X20	1	
73	421S10005		螺钉 M3×6	BOLT SOCKET M3X6	2	



A2、机体部分/Machine body

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41702302	SA8668001	头部铰链轴	HINGE SHAFT	2	
2	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
3	4171231400	AS866501	油盘组件	OIL PAN SAA Y	1	
5	41722307	SA8667001	橡皮轴套	RUBBER BUSH	2	41701301
6	301752	SA8669001	铰链轴支架（啼漆）	HINGE HOLDER	2	
7	S05125	018087036	螺栓 M8X70	BOLT SOCKET M8X70	4	
9	41728030	213650001	垫圈 2.3X8.5X38	WASHER 2.3X8.5X38ST	4	
10	41702301	SA8550001	头部支撑杆轴	SUPPORT LEVER SHAFT	1	
11	S10019	012060636	螺钉 M6X6	ST SCREW SOCKET (FT)M6X6	2	
12	301753	SA8671001	头部支撑座（喷漆）	SUPPORT LEVER BASE	1	41701302
13	S05125	018087036	螺栓 M8X70	BOLT SOCKET M8X70	2	
15	41728030	213650001	垫圈 2.3X8.5X38	WASHER 2.3X8.5X38ST	2	
16	41712315	SA8673001	减震器支撑 L	HOLDER ABSORBER L	1	
17	41712316	SA8674001	减震器支撑 R	HOLDER ABSORBER R	1	
18	S05126	SA3387001	螺栓 M6X75	BOLT,SOCKET M6X75	4	
19	41728030	213650001	垫圈 2.3X8.5X38	WASHER 2.3X8.5X38ST	4	
21	205S16005	021060106	螺母	NUT ,1 M6	4	
22	41703027	SA5251001	垫圈	SPACER	1	
23	S05117	018064031	螺栓 M6X40	BOLT SOCKET M6X40	1	
24	205S16005	021060106	螺母	NUT ,1 M6	1	
25	41702023	SA4847001	轴 U	SHAFT U	1	
26	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET (FT)M6X6	1	
27	41702024	S17974101	轴 D	SHAFT D	1	
28	41703028	S17975100	轴套 GS	SHAFT COLLAR GAS	2	
29	41728018	025080132	垫圈 S8	WASHER PLAIN S8	2	
30	H05031	048060342	挡圈 E6	RETAINING RING E6	2	
31	41730301	SA8675001	减震器	SHOCK ABSORBER GAS	1	
32	41711066		油壶	OILER	2	
32	41711006		油壶盖	OIL POT COVER	2	

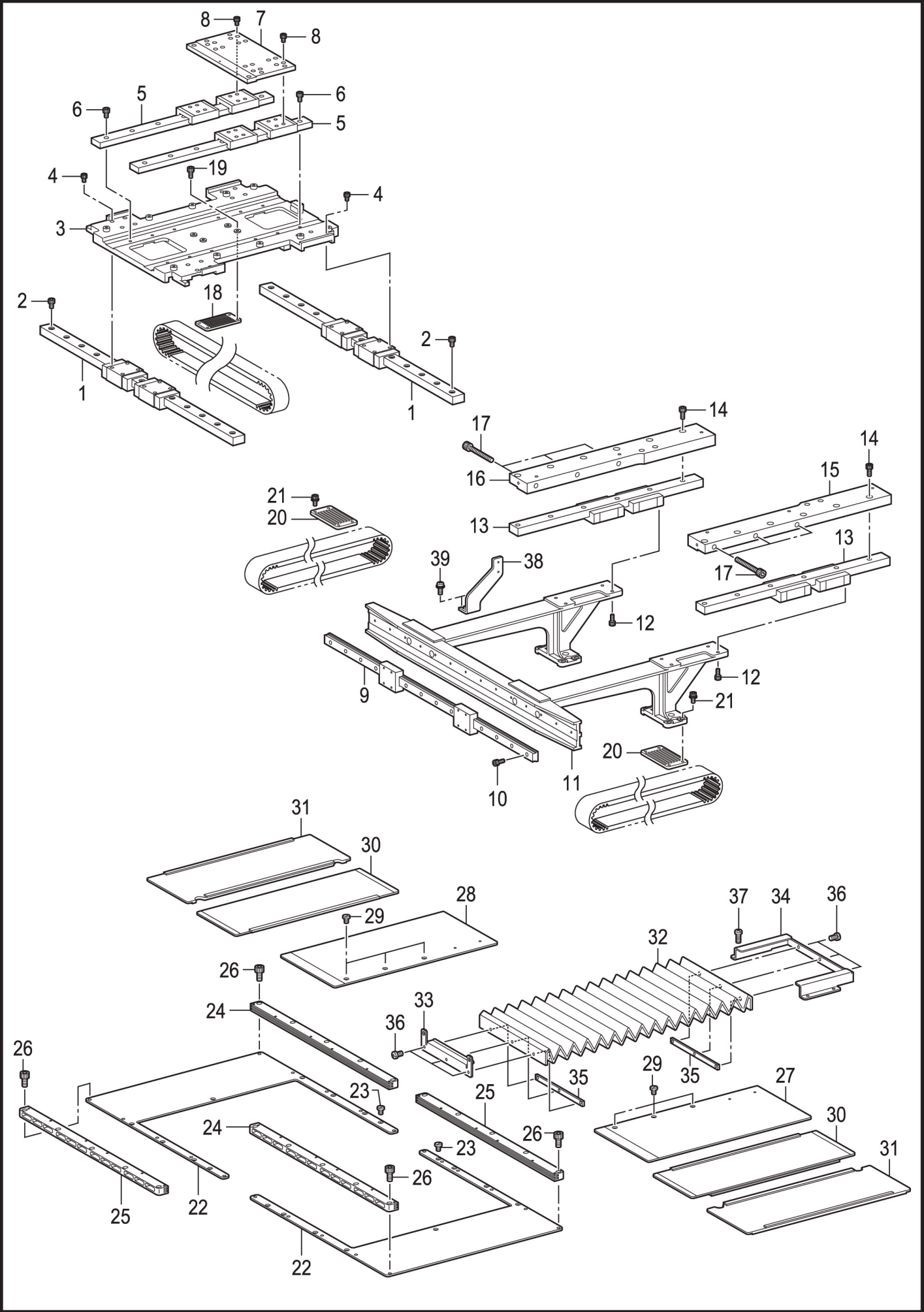
B . 上轴 · 针杆装置 / Upper shaft and needle bar mechanism



B、上轴•针杆装置/Upper shaft and needle bar mechanism

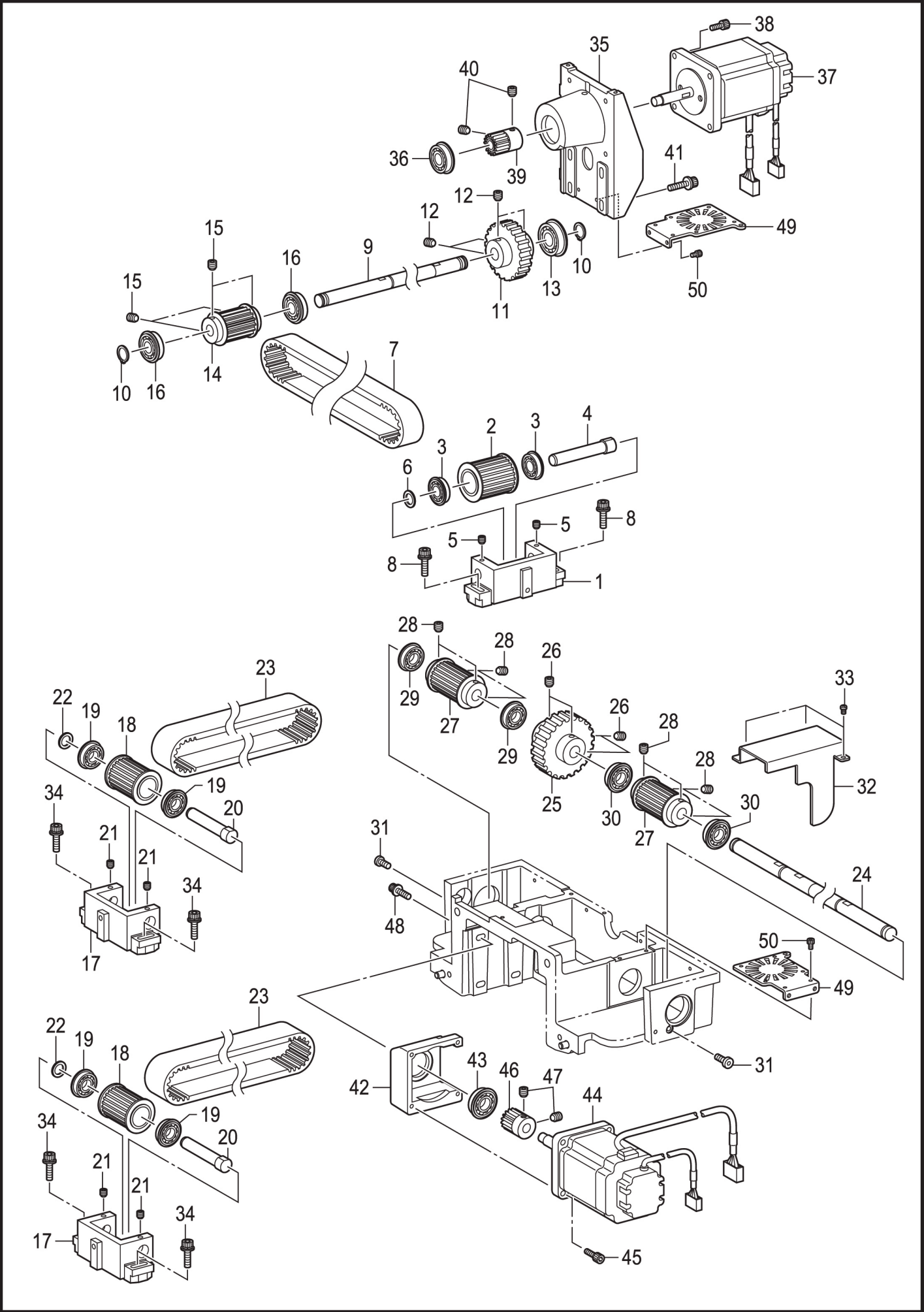
序号 No.	公司件号 Part No.	参考件号 Ref. No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41702303	SA8565101	上轴	UPPER SHUFT	1	
2	4170501100	SA3499001	曲柄轴组件	CRANK ROD ASSY	1	
4	41724001	SA4172001	滚针轴承 K15X 18X 14	NEEDLE BEARING :BLUE	1	
5~7	141724028	SA3206001	一体式轴承 (6004-NR)	BALL BEARING BUSH	1	
8	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET(FT)M6X6	2	
9~10	141724027	SA4177001	一体式轴承(6904-LNRT)	BALL BEARING 6004DDUNR	1	
11	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET(FT)M6X6	2	
12	41703004	SA4608101	管接头 G	JOINT G	1	
13	B10013	SA4178001	轴承 6204DDUNR	BALL BEARING 6204DDUNR	1	
14	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET (FT) M6 X 6	4	
15	417S30002	S25235001	螺钉 M8	SCREW , M8	1	
16	41704001	SA4609 101	针杆曲柄 G	THREAD TAKE-UP CRANK G	1	
17	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET (FT) M6 X 6	4	
18	41712133	110367001	垫圈 8	WASHERPLAIN SPECIAL 8	1	
19	14170500400	SA6182001	针杆连杆组件 FK	THREAD TAKE-UP LEVER FK SET	1	
20	417S17003	SA2958001	螺钉 M5X6	SCREW FLAT M5 X 6	1	
21	S09019	12500536	螺钉 M5X5	SET SCREW SOCKET (FT) M5 X 5	1	
22	S04078	62400816	螺钉 M4 X8	SCREW PAN M4X 8	1	
24	S10019	12060636	螺钉 M6X6	SET SCREW SOCKET (FT) M6 X 6	2	
25	41709001	142211001	滑块	SLIDE BLOCK	1	
26	41709002	SA3528001	滑块导向 B	SLIDE BLOCK GUIDE	1	
27	S05118	18401636	螺栓 M4X16	BOLT SOCKET M4X 16	2	
28	41702002	SA4622001	针杆	NEEDLE BAR	1	
29	417S15002	144458001	螺钉 SM3. 57-40 X 4. 5	SET SCREW, SM3. 57-40 X 4. 5	1	
30	41703005	SA4666001	针杆辅套 UK	NEEDLE BAR BUSH UK	1	
31	41703006	SA3224001	针棒袖套 D	NEEDLE BAR BUSH D	1	
33	S09041	12060536	螺钉 M6X5	SET SCREW SOCKET (FT) M5 X 5	1	
34	12411002	S38713100	叶轮	FAN	1	
35	S04078	62400816	螺钉 M4 X8	SCREW PAN M4X 8	3	
36	40325010	SA6108001	上轴转动齿轮	PULLEY GEAR R	1	
38	41702003	SA4626 101	上轮轴	PULLEY SHUFT	1	
39	41703007	SA4627001	上轮轴套	PULLEY BUSH	1	
40	41727001	SA4628001	上轮弹簧	PULLEY SPRING	1	
41	41703008	SA4629001	上轮基座	PULLEY BASE	1	
42	P03027	47401242	弹簧销 4X 12(发黑)	PIN SPRING ROLL AW4	1	
43	41725002	SA4624001	齿轮	PULLEY GEARL	1	
45	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET (FT) M6 X 6	2	
46	41711001	SA4630001	上轮	PULLEY	1	
47	S04081	62401006	螺钉M4×12	SCREW PAN M4 X 12	3	
48	41728024	SA5158001	垫圈 L4		3	
49	S10019	12060636	螺钉 M6X6	SET SCREW SOCKET (FT) M6 X 6	1	
50	S05124	18501636	螺栓 M5X16	BOLT SOCKET M5X 16	4	
51	41712011	SA5230001	惯性轮 2	FRIES WHEEL 2	2	
52	403S11043	62401016	x 向传感器螺钉组件	SCREW PAN M4 X 10	3	

C1 . 送料装置 / Feed mechanism



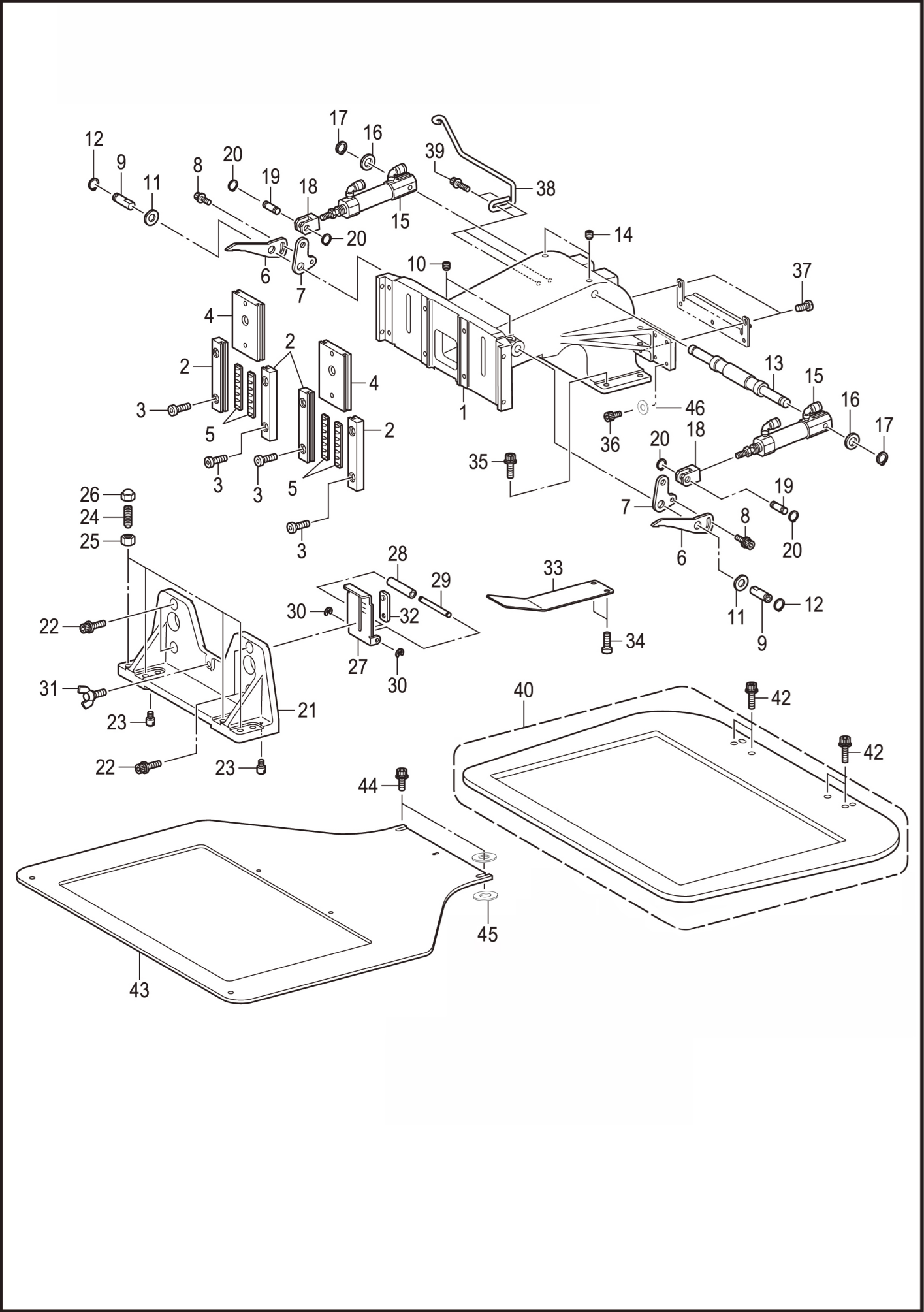
C1、送料装置/Feed mechanism

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	141724035	SA8566001	导轨 FC	X-LM GUIDE FC	2	
2	421S13035	018400836	螺栓 M4X8	BOLT SOCKET M4X8	22	
3	41701315	SA8567001	基板(X)	BASE PLATE X	1	
4	S05192	018300536	螺栓 M3×6(切换)	OLT SOCKET M3×6	16	
5	141724036	SA8568001	导轨 FC	Y-LM GUIDE FC	2	
6	421S13035	018400836	螺栓 M4X8	BOLT SOCKET M4X8	12	
7	4170930200	SA8569101	基板组件(Y)	BASE PLATE Y ASSY	1	
8	S05192	018300536	螺栓 M3×6(切换)	BOLT SOCKET M3×5	16	
9	141724037	SA8571001	导轨 RC	X-LM GUIDE R	1	
10	413S14012	018301036	TK-T1790S-0159 螺钉	BOLT SOCKET M3X14	14	
11	41701316	SA8819001	Y 臂 A	Y-ARM A	1	
11	41701317		Y 臂 B	Y-ARM B	2	
11	S05040		螺栓 M6X16	BOLT SOCKET M6X16	4	
12	413S13017	018401236	螺栓 M4X10	BOLT SOCKET M4X12	8	
13	141724038	SA8574001	导轨 RC	Y-LM GUIDE RC	2	
14	S05004	018501236	内六角圆柱头螺钉 M5×14	BOLT SOCKET M5X12	12	
15	41709303	SA8575001	Y 导向支座 R	Y-LM GUIDE BRACKET R	1	
16	41709304	SA8576001	Y 导向支座 L	Y-LM GUIDE BRACKET L	1	
17	S05112	018066036	螺栓 M6X60	BOLT SOCKET M6X60	6	
18	41712317	SA8590001	皮带支撑板	BELT HOLDER	1	
19	S05133	018401236	螺栓 M4X12	BOLT SOCKET M4X12	4	
20	41712317	SA8590001	皮带支撑板	BELT HOLDER	2	
21	417S30302	S55481001	螺栓(带垫圈)M4X12	BOLT SOCKET (S/P WASHER) M4X12	8	
22	41712318	SA8608001	固定盖	FIXATION	2	
23	417S15008	SA3538001	螺钉 M4X8	SCREW M4X8	14	
24	41711217	SA8609001	盖轨 Q	COVER RALL FR ASSY	4	
24	41722308		O 形圈	O-RING	12	
24	P03008		销 2X6	PIN 2X6	12	
26	413S13017	018401036	螺栓 M4X10	BOLT SOCKET M4X10	20	
27	41711213	SA8612001	内盖 QR	INSIDE COVER R ASSY	1	
27	41722309		盖橡皮条 A	COVER CUSHION A	4	
28	41711214	SA8615001	内盖 QL	INSIDE COVER L ASSY	1	
29	417S15008	SA3538001	螺钉 M4X8	SCREW M4X8	6	
30	41711215	SA8617001	中盖 Q	MIDDLE COVER ASSY	2	
30	41722310		盖橡皮条 B	COVER CUSHION B	4	
30	41722311		盖橡皮条 C	COVER CUSHION C	2	
31	41711216	SA8619001	外盖 Q	OUTSIDE COVER ASSY	2	
32	41722313	SA8622001	波纹片	BELLOW	1	
33	41712319	SA8623001	波纹片支座 F	BELLOW PRESSER F	1	
34	41712320	SA8624001	防震橡皮垫 R	BELLOW PRESSER R	1	
35	41712321	SA8625001	波纹片螺母	BELLOW NUT	2	
36	413S11022	062300416	螺钉 M3X4	SCREW PAN M3X4	6	
37	417S30025	062401016	螺栓(带垫圈) M4X10DB	SCREW PAN (S/P WASHER) M4X10	4	
38	41712322	SA8626001	Y 感应器安装板	SENSOR PLATE Y	1	
39	417S30025	0A5401006	螺栓(带垫圈)M4X10DB	SCREW PAN (S/P WASHER) M4X10	2	



C2、送料装置/Feed mechanism

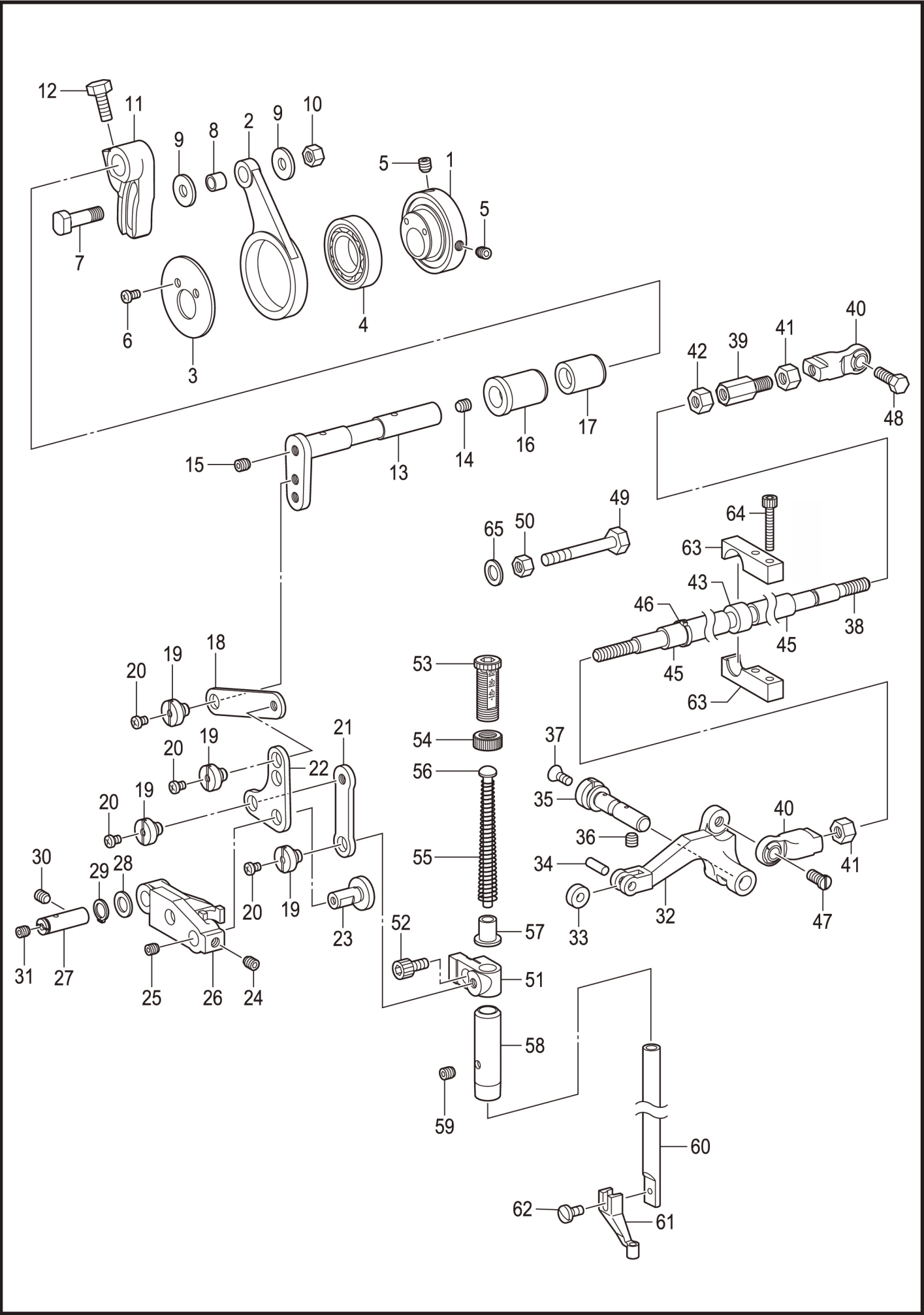
序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41709305	SA8578001	X 手轮基座	X-PULLEY BRACKET	1	
2	14173500300	SA8579001	丰轮组件 A(5GT)	PULLEY A ASSY	1	
3	B10017	SA1283001	球轴承 6901ZZNR	BALL BEARING 6901ZZNR	2	
4	41702304	SA8582001	手轮支点轴	PULLEY FULCRUM SHAFT	1	
5	S09019	012500536	螺钉 M5X5	SET SCREW SOCKET(FT)M5X5	2	
6	41728301	SA8583001	支点轴套	PULLEY FULCRUM SHAFT COLLAR	1	
7	41735303	SA8584001	X-GT 皮带	X-GT BELT	1	
8	417S30303	S47270001	螺栓(带垫圈)M6X30	BOLT SOCKET(S/P WASHER)M6X30	2	
9	41702305	SA8585001	X 驱动轴	DRIVE SHAFT X	1	
10	H03001	048150142	轴用挡圈 C15	RETAINING RING EXTERNAL C15	2	
11	41725301	SA8586001	X 齿轮	GEAR X	1	
12	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	4	
13	B10018	SA6674001	轴承 6002ZZNR	BALL BEARING 6002ZZNR	1	
14	14173500400	SA8587001	手轮组件 B(5GT)	PULLEY B ASSY	1	
15	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	4	
16	41324011	076202850	R 轴承 6202ZZNR	BALL BEARING RADIAL 6202ZZNR	2	
17	41706301	SA8592001	Y 手轮基座	Y-PULLEY BRACKET	2	
18	14173500300	SA8579001	手轮组件 A(5GT)	PULLEY A ASSY	2	
19	B10017	SA1283001	球轴承 6901ZZNR	BALL BEARING RADIAL 6202ZZNR	4	
20	41702304	SA8582001	手轮支点轴	PULLEY FULCRUM SHAFT	2	
21	S09019	012500536	螺钉 M5X5	SET SCREW SOCKET(FT)M5X5	4	
22	41728301	SA8583001	支点轴套	PULLEY FULCRUM SHAFT COLLAR	2	
23	41735306	SA8593001	Y-GT 皮带	X-GT BELT	2	
24	41702306	SA8595001	Y 驱动轴	DRIVE SHAFT Y	1	
25	41725302	SA8596001	Y 齿轮	GEAR Y	1	
26	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	4	
27	14173500400	SA8587001	手轮组件 B(5GT)	PULLEY B ASSY	2	
28	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	8	
29	B10018	SA6674001	轴承 6002ZZNR	BALL BEARING 6002ZZNR	2	
30	41324011	076202850	R 轴承 6202ZZNR	BALL BEARING RADIAL 6202ZZNR	2	
31	417S13301	SA8597001	螺栓 M5X12	BOLT SOCKET M5X12	2	
32	41712324	SA8602001	Y 齿轮罩	COVER GEAR Y	1	
33	S04078	062400816	螺钉 M4X8	SCREW PAN M4X8	3	
34	417S30303	S47270001	螺栓(带垫圈)M6X30	BOLT SOCKET(S/P WASHER)M6X30	4	
35	301799	SA8604001	X 马达基座	MOTOR BRACKET X	1	41701321
36	B10020	SA8599001	轴承 6201ZZNR	BALL BEARING 6201ZZNR	1	
38	S05124	018501636	螺栓 M5X16	BOLT SOCKET M5X16	4	
39	41725303	SA8607001	X 马达齿轮	MOTOR GEAR X	1	
40	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
41	417S30303	S47270001	螺栓(带垫圈)M6X30	BOLT SOCKET(S/P WASHER)M6X30	4	
42	301800	SA8598001	Y 马达基座(成品)(喷漆)	FAN BRACKET	1	41701322
43	B10020	SA8599001	轴承 6201ZZNR	BALL BEARING 6201ZZNR	1	
44	141733006	SA8542001	Y 向步进电机 2	PULSE MOTOR ASSY Y	1	
45	S05124	018501636	螺栓 M5X16	BOLT SOCKET M5X16	4	
46	41725304	SA8601001	Y 马达齿轮	MOTOR GEAR Y	1	
47	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
48	421S13036	S47269001	螺栓(带垫圈)M6X25	BOLT SOCKET(S/P WASHER)M6X20	4	



C3、送料装置/Feed mechanism

序号 No.	公司件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41701308	SA8628001	抬压臂(成品)	WORK CLAMP ARM	1	
2	4170930600	SA8629001	压脚导向组件	WORK CLAMP GUIDE ASSY	4	
3	417S13301	SA8597001	螺栓 ffix12	BLOT SOCKET M5X12	10	
4	41709308	SA8631001	压脚滑块组件	WORK CLAMP SLIDER	2	
5	41724305	SA8632001	滚板	CROSS ROLLER	4	
6	41712326	SA8633001	压脚板手	WORK CLAMP LIFTER LEVER U	2	
7	41712327	SA8634001	抬压臂杆	WORK CLAMP ARM LEVER	2	
8	413S13008	S55479001	螺钉组件	BOLT SOCKET(S/P WASHER)M4X8	2	
9	41702014	SA4771001	联接板轴	SHAFT STEPPING CLAMP LIFT LINK	2	
10	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
11	41712133	110367001	垫圈 8	WASHER PLAIN SPECIAL 8	2	
12	H03006	048080142	挡圈 8	BOLT SOCKET M4X8	2	
13	41702307	SA8635001	汽缸轴	CYLINDER SHAFT	1	
14	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
15	41730304	SA8636001	汽缸组件	AIR CYLINDER ASSY	2	
15	40736004		可调气管接头		4	
16	41728028	146354002	垫圈 5	WASHER PLAIN 5	2	
17	H05029	048040342	挡圈 E4	RETAINNING RING E4	2	
18	41709012	SA4720001	汽缸接头	CYLINDER JOINT	2	
19	41726002	SA4721001	汽缸接头轴	CYLINDER JOINT SHAFT	2	
20	H03003	048060142	轴用挡圈 C6	RETAINNING RING EXTERNAL C6	4	
21	41701309	SA8638001	压脚	WORK CLAMP	1	
22	417S30036	S55485001	螺栓(带垫圈)M5X12	BOLT SOCKET(S/P WASHER)M5X12	6	
23	417S20001	SA4709001	定位段螺钉	SHOULDER SCREW	2	
24	417S10003	S25475101	螺钉 M6X19	SET SCREW M6X19	4	
25	205S16005	021060206	螺母	NUT 2 M6	4	
26	417S16301	SA8909001	螺母 M6	NUT CAP M6	4	
27	41712328	SA8640001	压脚定位器	WORK CLAMP STOPPER	1	
28	41722314	SA8641001	定位橡皮	WORK CLAMP STOPPER RUBBER	1	
29	41702308	SA8820001	滚轮轴	ROLLER SHAFT	1	
30	H05002	048030342	挡圈 E3	RETAINING RING E3	2	
31	417S30305	SA8642001	蝶形螺栓	WING SCREW	1	
32	41712329	SA8643001	板型螺母	WORK CLAMP PLATE NUT	1	
33	41712330	SA8644001	板弹簧	WORK CLAMP SPRING	1	
34	417S13301	SA8597001	螺栓 M5X12	BOLT SOCKET M5X12	2	
35	417S30306	S55485001	螺栓(带垫圈)M5X15	BOLT SOCKET(S/P WASHER)M5X12	4	
36	S05052	018300836	螺栓 M3X 10	BOLT SOCKET M3X8	8	
37	S04028	062500816	螺钉 ffix8	SCREW PAN M5X8	2	
38	41712331	SA8645001	管夹	HOSE SUPPORT	1	
40	4171233200	SA8646001	压脚板组件	WORK CLAMP ASSY	1	
42	417S30306	S55487001	螺栓(带垫圈)M5X15	BOLT SOCKET(S/P WASHER)M5X15	4	
43	41712334	SA8648001	送料板	FEED PLATE	1	
45	41728004	SA430200	垫圈	WASHER	2	
46	W01002		平垫圈 3	WASHER PLAIN 3	8	

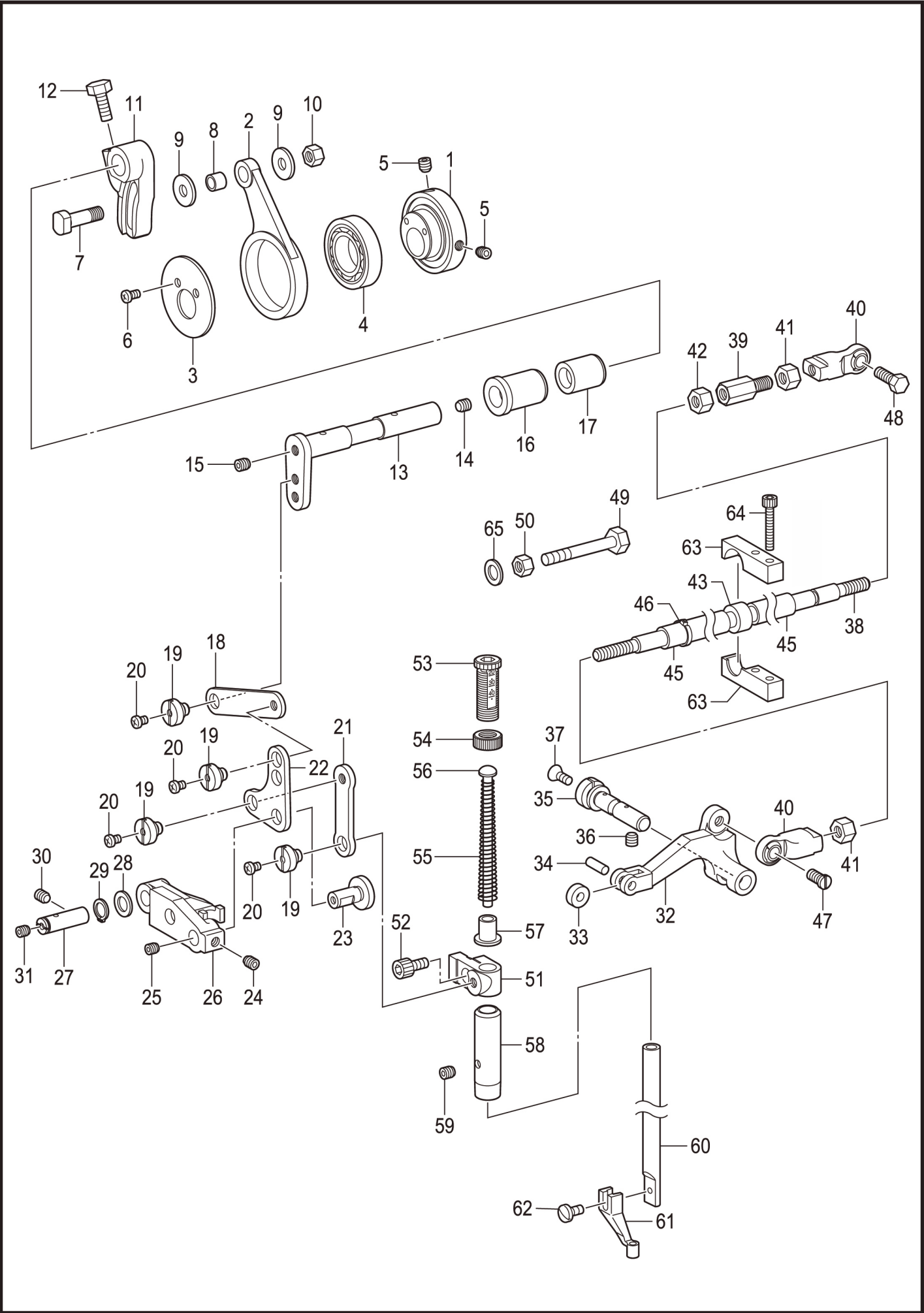
D1 . 抬压装置 / Work clamp lifter mechanism



D1、抬压脚装置/Work clamp lifter mechanism

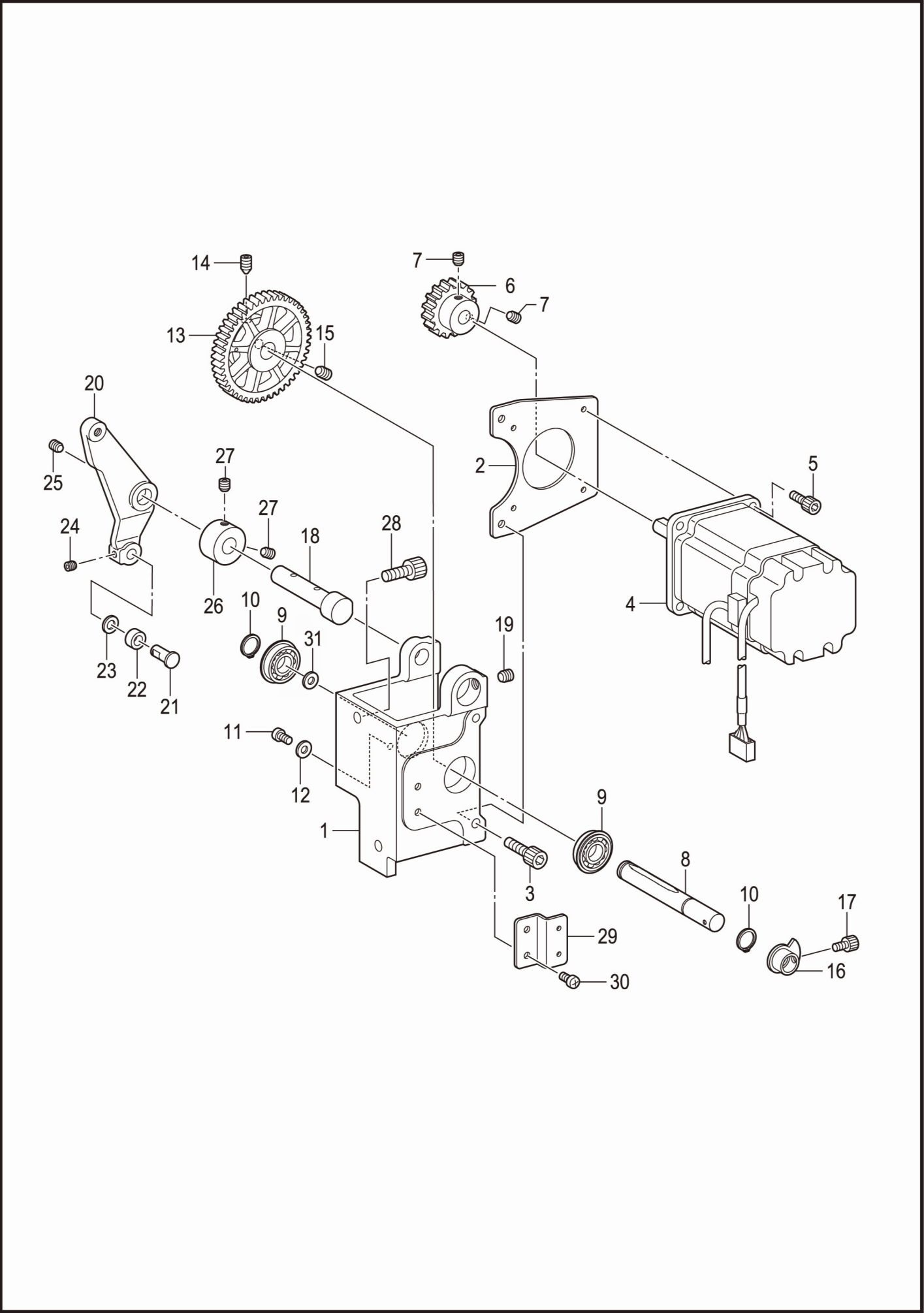
序号 No.	件号 Part.No.	参 考 件 号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41710001	SA4759001	凸轮	STEPPING CLAMP CAM	1	
2	41705001	SA4760001	连杆	STEPPINGCLAMP C0N.ROD	1	
3	41728003	SA4763001	垫圈	WASHER STEPPING CLAMP CAM	1	
4	B06008	623033000	轴承 6805VV	BALL BEARING 6805W	1	
5	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW S0CKET(FT)M6X6	2	
6	S04035	062400616	螺钉 M4X6	SCREW PAN M4X6	2	
7	41726003	SA4761001	滚轮轴	ROLLER SHAFT STEPPING CLAMP	1	
8	41703010	SA4762001	滚轮	ROLLER STEPPING CLAMP	1	
9	41728004	SA4302001	垫圈	WASHER	2	
10	205S16005	021060106	螺母	NUT1M6	1	
11	41709017	SA4764001	压臂 R	STEPPING CLAMP ARM R	1	
12	L02032	017061213	螺栓 M6X12	BOLT M6X12	1	
13	41702013	SA4765001	压臂 F	STEPPING CLAMP ARM F	1	
14	S10019	012060636	螺钉 M6X6	SET SCREW S0CKET(FT)M6X6	1	
15	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW S0CKET(FT)M6X6	1	
16	41703011	SA4766001	压臂轴套 F	BUSH STEPPING CLAMP F	1	
17	41703012	SA4767001	压臂轴套 R	BUSH STEPPING CLAMP R	1	
18	41712053	SA4768001	间歇连杆 A	STEPPING CLAMP LINK A	1	
19	417S30007	SA4769101	段螺钉 6	SHOULDER SCREW 6	4	
20	413S11022	062300416	螺钉 M3X4	SCREW PAN M3X4	4	
21	41712054	SA4770001	间歇连杆 B	STEPPING CLAMP LINK B	1	
22	41712055	SA4772001	间歇联杆	STEPPING CLAMP LINK	1	
23	41726004	SA4773001	联杆轴	SHAFT STEPPING CLAMP LINK	1	
24	S10019	012060636	螺钉 M6X6	SET SCREW S0CKET(FT)M6X6	1	
25	S09103	012400436	螺钉 M4X4	SET SCREW S0CKET(FT)M4X4	1	
26	41709018	SA4777001	联接板	STEPPING CLAMP LIFTER LINK	1	
27	41702014	SA4771001	联接板轴	SHAFT STEPPING CLAMP LIFTER	1	
28	41728031	SA2161001	垫圈	WASHER	1	
29	H03006	048080142	轴用挡圈 C8	RETAINING RING EXTERNAL C8	1	
30	S10019	012060636	螺钉 M6X6	SET SCREW S0CKET(FT)M6X6	1	
31	S09103	012400436	螺钉 M4X4	SET SCREW S0CKET(FT)M4X4	1	
32	41709019	SA4779001	间歇提升杆	STEPPING CLAMP LIFTER	1	
33	41703013	SA4781001	提升杆滑轮	ROLLER STEPPING CLAMP LIFTER	1	
34	41726005	141362001	滚轮轴	ROLLER	1	
35	41702015	SA4780001	提升杆轴	SHAFT STEPPING CLAMP LIFTER	1	
36	S10019	012060636	螺钉 M6X6	SET SCREW S0CKET(FT)M6X6	1	
37	S02039	S25310101	螺钉 M4	SCREW FLAT M4	1	
38	41705302	SA8683001	间歇提升连杆	STEPPING CLAMP LIFTER ROD	1	
39	417S12003	SA4853001	提升连杆接头	JOINT STEPPING CLAMP LIFTER	1	
40	4170530300	SA8684001	球接头组件	BALL JOINT ASSY	2	
41	205S16005	021060306	螺母	NUT3M6	2	
42	417S16001	SA3227001	螺母 M6X0.75	NUT(FT)M6	2	
43	41711313		橡皮管套		1	
45	41722315	SA8912001	橡皮管	RUBBER TUBE	2	
47	417S11301	SA8689001	螺钉 M6X12	SCREW M6X12	1	
49	L01007	017065002	螺栓 M6X50	BOLT M6X50	1	
50	41728032		垫圈		1	
50	205S16005	02060106	螺母	NUT I M6	1	
51	41709020	SA4778001	压紧杆接头	PRESSER BAR CLAMP	1	
52	421S13035	018400836	螺栓 M4X8	BOLT SOCKET M4X8	1	
53	123S30002	SA1174001	调压螺钉	PRESSER ADJUSTING SCREW M14	1	
54	123S16001	SA1175001	调压螺母	ADJUST SCREW NUT	1	
55	41727004	SA5300001	弹簧	PRESSER BAR SPRING	1	

D1 . 抬压装置 / Work clamp lifter mechanism



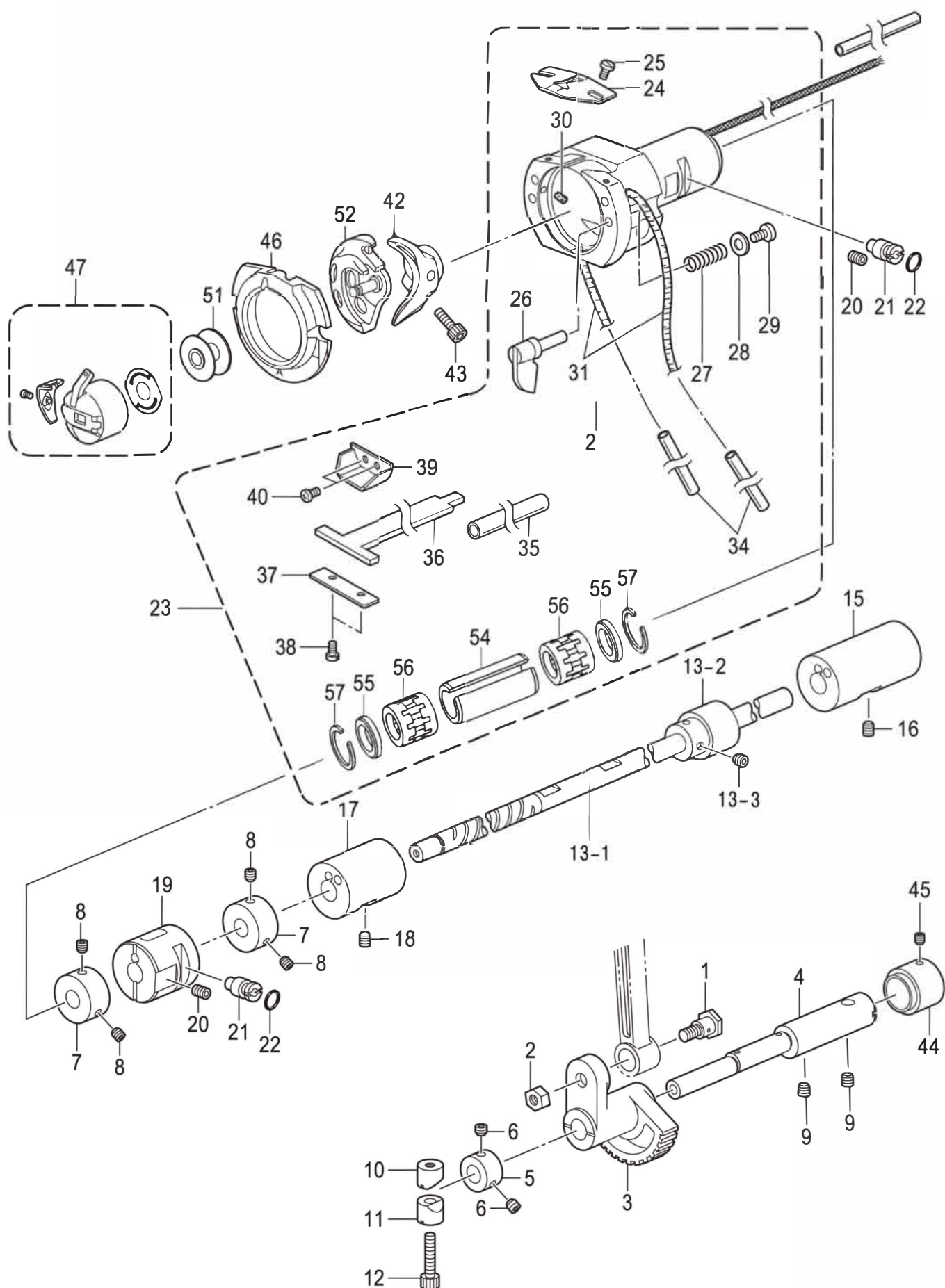
D1、抬压脚装置/Work clamp lifter mechanism

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
56	41702017	S10112101	弹簧导向	PRESSER BAR SPRING GUIDE	1	
57	41703014	SA5301001	弹簧管套	COLLAR PRESSER BAR SPRING	1	
58	41703015	SA2195001	压紧杆轴套	PRESSER BAR BUSH	1	
59	S09041	012060536	螺钉 M6X5	SET SCREW SOCKET(FT)M6X5	1	
60	41702018	111466121	压紧杆	PRESSER BAR	1	
61	41716001	S42843001	压脚	WORK CLAMP	1	
62	417S15011	S13399001	螺钉 SM3.57X12	SCREW SM3.57X12	1	
63	41709309	SA8690001	间歇提升连杆支架	HOLDER STEP-CLAMP LIFTER TOD	2	
64	S05063	018402536	螺栓 M4X25	BOLT SOCKET M4X25	2	



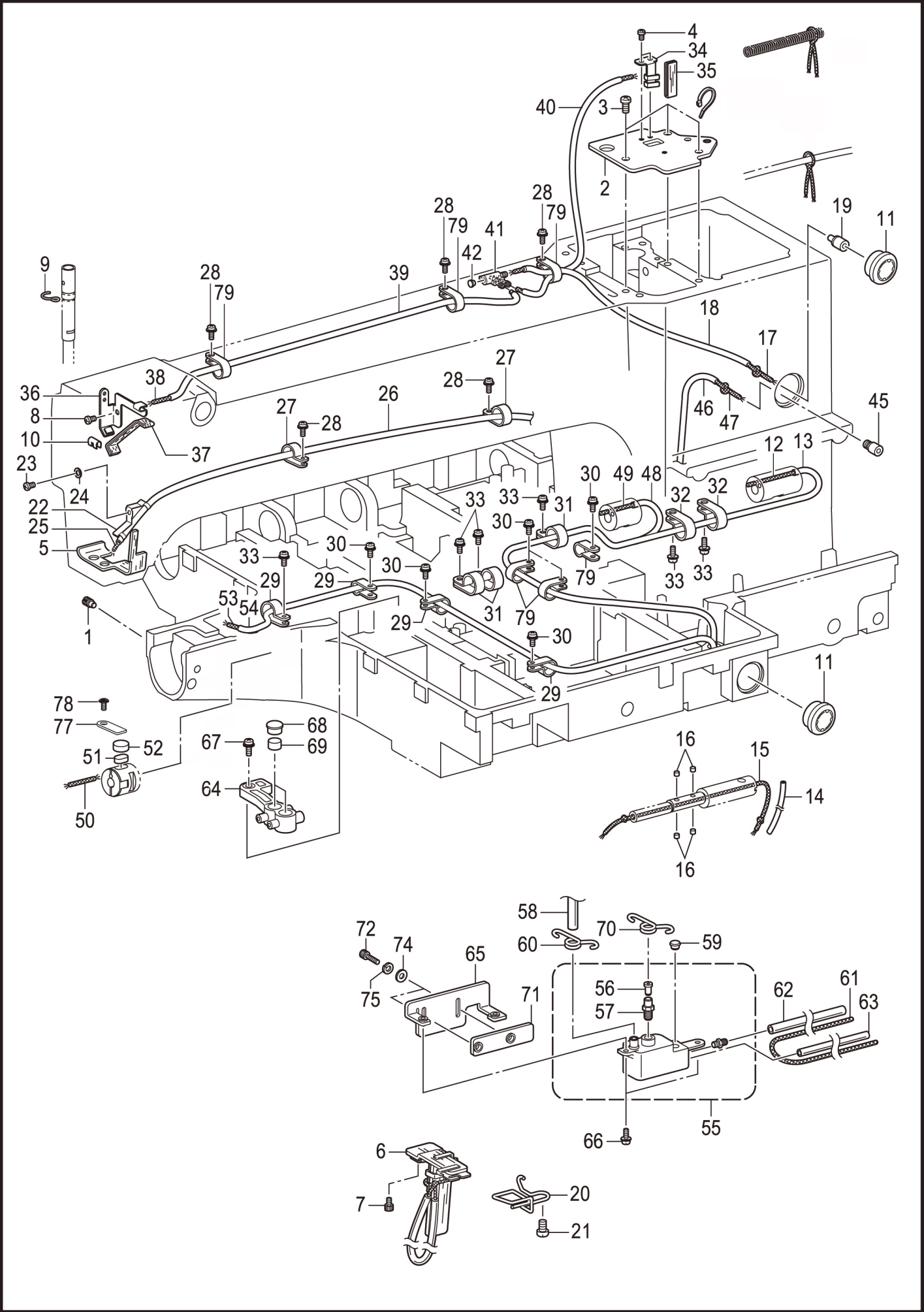
D2、抬压装置/Work clamp lifter mechanism

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41701008	SA4741101	马达座	MOTOR BRACKET	1	
2	41712063	SA4742001	压脚马达板	WORK CLAMP MOTOR PLATE	1	
3	S05121	018501036	螺栓 M5X10	BOLT SOCKET M5X10	2	
4	141733010	SA4826201	Z 向步进电机 3	PULSE MOTOR ASSY P	1	
5	S05133	018401036	螺钉 M4X12	BOLT SOCKET M4X10	4	
6	41725009	SA4743001	驱动齿轮	WORK CLAMP DRIVING GEAR	1	
7	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
8	41702020	SA4744001	压脚支点轴	WORK CLAMP FULCRUM SHAFT	1	
9	B10015	SA4647001	球轴承 6900ZZNR	BALL BEARING 6900ZZNR	2	
10	H03008	048100142	挡圈 10	RETAINING RING EXTERNAL C10	2	
11	S04035	062400616	螺钉 M4X6	SCREW PAN M4X6	1	
12	W01001	025040236	垫圈 4	WASHER PLAIN M4	1	
13	41725010	SA4745001	凸轮齿轮	WORK CLAMP CAM GEAR	1	
14	S10021	016061031	螺钉 M6X10	SET SCREW SOCKET(CN)M6X10	1	
15	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	1	
16	4170301700	SA4747001	压脚原点挡块	WORK CLAMP H-POSITION DOG	1	
17	S05115	018400636	螺栓 M4X6	BOLT SOCKET M4X6	1	
18	41702025	SA4748001	压脚柄轴	WORK CLAMP LEVER SHAFT	1	
19	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	1	
20	41709023	SA6210001	间歇驱动杆	STEPPING W-CLAMP DRIVING LEVER	1	
21	41702022	SA3441001	抬压滚轮轴	W-CLAMP LIFTER ROLLER SHAFT	1	
22	B04026	070696800	轴承轴承 R-696ZZ	BALL BEARING RADIAL 696ZZ	1	
23	41728005	109763003	垫圈	WASHER	1	
24	S09019	012500536	螺钉 M5X5	SET SCREW SOCKET(FT)M5X5	1	
25	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	1	
26	41708302	SA4757001	紧圈	SET SCREW COLLAR	1	
27	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
28	S05962	018061236	螺栓 M6X12	BOLT SOCKET M6X12	2	
29	41712062	SA4753001	压脚传感器板	WORK CLAMP SENSOR PLATE	1	
30	S04035	062400616	螺钉 M4X6	SCREW PAN M4X6	2	
31	41728001		平垫圈 10	WASHER PLAIN M10	1	



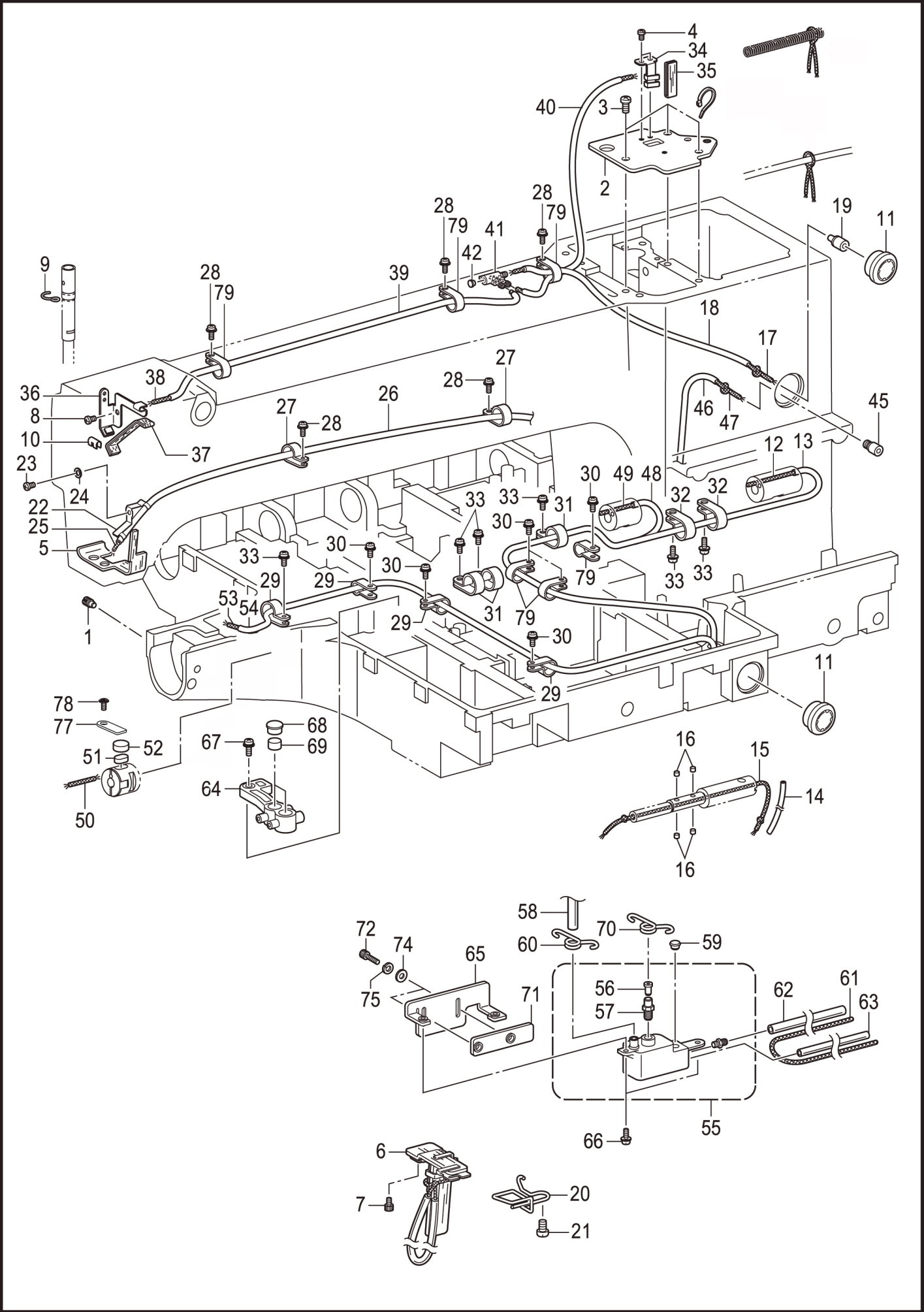
E、下轴装置/Lower shaft mechanism

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	417S20062	SA3226001	段螺钉 (DLC)	SHOULDER SCREW	1	417S30011
2	417S16001	SA3227001	螺母 M6X0.75	NUT(FT)M6	1	
3	41725011	SA3228101	摆动齿轮	ROCK GEAR	1	
4	41702027	SA4782001	摆动齿轮轴	ROCK GEAR SHAFT	1	
5	41708002	SA3231001	紧圈 B	SET SCREW COLLAR B	1	
6	S09041	12060536	螺钉 M6X5	SET SCREW SOCKET (FT) M6 X 5	2	
7	41708305	SA8695001	紧圈	SET SCREW COLLAR	2	
8	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET (FT) M6 X 6	4	
9	S10019	12060636	螺钉 M6X6	SET SCREW SOCKET (FT) M6 X 6	2	
10	41708303	SA8696001	紧固套管 A	PINCH SLEEVE A	1	
11	41708304	SA8697001	紧固套管 B	PINCH SLEEVE B	1	
12	S05119	18402036	螺钉 M4X20	BOLT SOCKET M4X20	1	
13	4170230900	SA8703001	下轴组件(委外)	LOWER SHAFT A-BUSH	1	
15	41703302	SA8701001	下轴轴套	LOWER SHAFT BUSH	1	
16	S10024	12060636	内六角平端紧定螺钉 M6	SET SCREW SOCKET (FT) M6 X 6	1	
17	41703303	SA8702001	下轴中轴套	LOWER SHAFT M-BUSH	1	
18	S10024	12060636	内六角平端紧定螺钉	SET SCREW SOCKET (FT) M6 X 6	1	
19	41703304	SA8703001	下轴调整轴套	LOWER SHAFT A-BUSH	1	
20	S10024	12061036	螺钉 M6X10	SET SCREW SOCKET (FT) M6 X 10	2	
21	41702029	SA3238101	旋梭调节轴	ADJUSTING STUD	2	
22	41722015	81003670	O 形圈 PW3	O RING PW3	2	
23	41701015	SA8705001	大旋梭基座	SHUTTLE RACE BASE ASSY G	1	
42	41718001	SA3284101	梭托 D	DRIVER D	1	
43	S05124	18501236	螺栓 M5X16	BOLT SOCKET M5X 16	1	
44	41703020	SA3283101	紧圈 R	SET SCREW COLLAR R	1	
45	S09019	12500536	螺钉 M5X5	SET SCREW SOCKET (FT) M5 X 5	1	
46	41718002	152686201	外旋梭 B	SHUTTLE RACE BASE B	1	
47	4171801700	S59221201	梭芯套组件 LC	BOBBIN CASE ASSY LC	1	
51	41718004	S44633001	梭芯 LAN	BOBBIN LAN	1	
52	41718018	SA8197101	中旋梭(大)	SHUTTLE HOOK ASSY W/BOXSA8196	1	



F、供油润滑装置/Lubrication

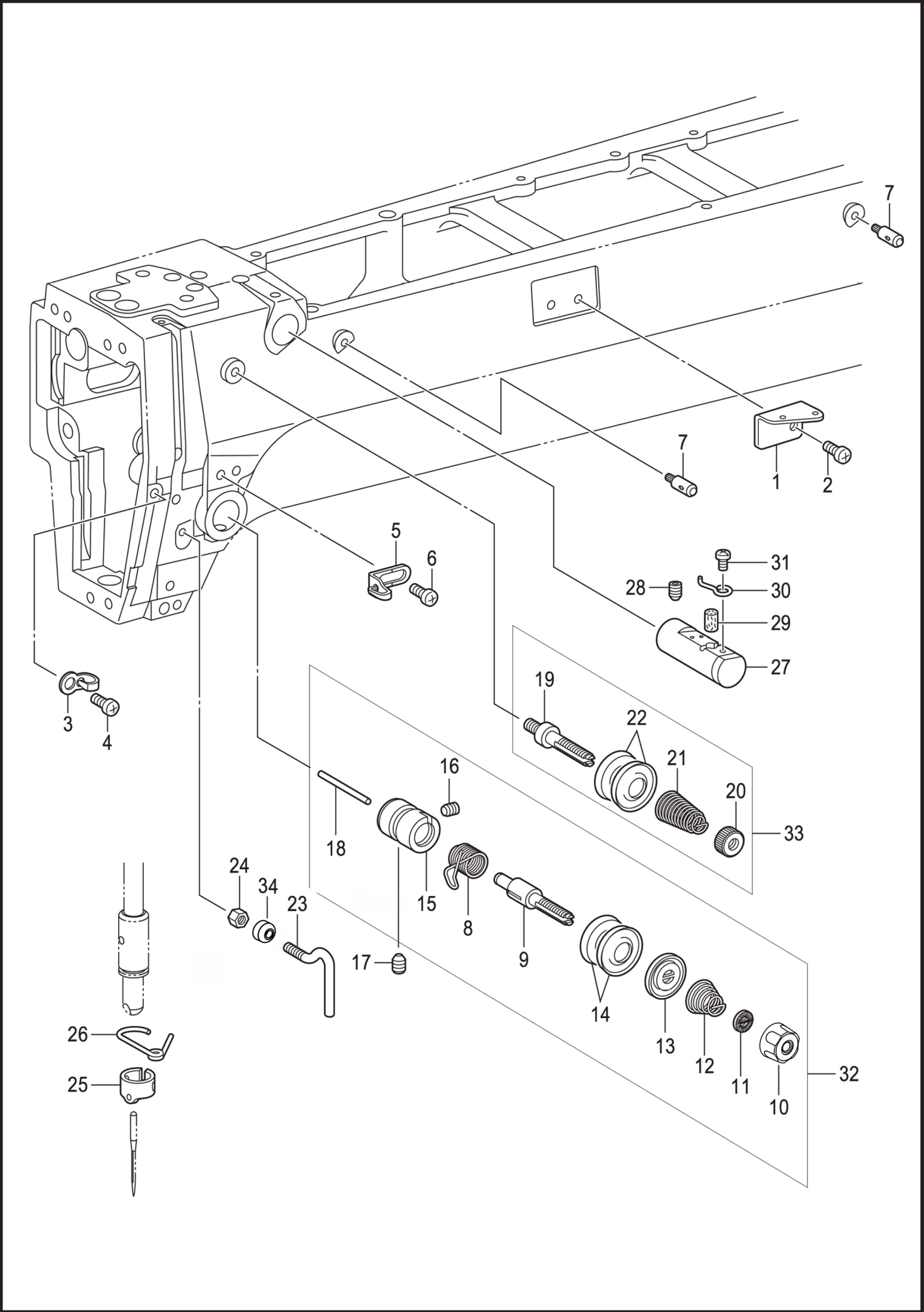
序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	417S30022	SA3244001	螺钉	SET SCREW	1	
2	41712065	SA4785101	曲柄盖	CRANK COVER	1	
3	S04038	062061016	螺钉 M6X10	SCREW PAN M6X10	3	
4	S04035	062400616	螺钉 M4X6	SCREW PAN M4X6	2	
5	41723005	SA4786101	油毡	FELT	1	
6	41712071	SA3246001	齿轮供油支架	GEAR WICK SUPPORT	1	
6	41723006	SA3504201	下轴齿轮油毡	LOWER SHAFT GEAR FELT	1	
6	41712067	SA3503201	下轴给油支架	LOWER SHAFT WICK SUPPORT	1	
6	12921005	S53175000	油管小 4 X 小 6	OIL TUBE $\varnothing$ 4X $\varnothing$ 6	0.51	
6	12923018	SA5292101	油线 4X4	WICK 4X4	1.4	
6	41723031	SA3280001	油毡	GEAR FELT	1	
7	S04035	08400636	螺栓 M4X6	BOCL SOCKET M4X6	2	
8	S04035	062400616	螺钉 M4X6	CREAW PAN M4X6	1	
9	41712069	SA6087001	油线挂钩	WICK SUPPORT	1	
10	41712070	104567101	油线支架	WICK SUPPORT	1	
11	41711004	152948001	油视窗	OIL GAUGE WINDOW	1	
11	41722031		橡胶圈	RUBBER RING	1	
11	41711022		挡片	BAFFLE PLATE	1	
12	12923019	SA8783001	油线 6X6	WICK 6X6	1.52	
13	12921005	SA8784001	油管小 4 X 小 6	OIL TUBE	0.59	
14	12921002	SA5072001	油管小 3X 小 5L=120	OIL TUBE L=120	0.12	
15	12923019	SA6578001	油线 6X6L=300	WICK 6X6 L=300	0.3	
16	41723011	S09043000	滤油毡 (L=5)	FELT	4	
17	12923018	S49982000	油线 4X4L=400	WICK 4X4 L=400	0.4	
18	12921002	S48189000	油管小 3X 小 5L=280	OIL TUBE L=280	0.28	
19	41736002	SA5339101	油嘴管	OIL FEEDING PIPE	1	
20	41712072	SA4789101	油线夹 B	LOWER SHAFT WICK SUPPORT B	1	
21	S04033	062060816	螺钉 M6X8	SCREW PAN M6X8	1	
22	41712073	145547001	回油管托	TUBE HOLDER	1	
23	S04035	062400616	螺栓 M4X6	SCREW PAN M4X6	1	
25	12923018	SA8717001	油线 4X4	WICK 4X4	1	
26	12921005	SA8718001	油管小 4 X 小 6	OIL TUBE	1	
27	41711014	149547000	电线夹 6.4	CORD HOLDER 6.4	2	
28	417S30025	0A5401006	螺栓 (带垫圈) M4X10DB	SCREW PAN(S/P WASHER)M4X10	6	
29	41711014	145974000	电线夹 6.4(切换)	CORD COLTER 6.5	4	
30	417S30025	0A5401006	螺栓 (带垫圈) M4X10DB	SCREW PAN(S/P WASHER)M4X10	6	
31	41711017	552907000	电线夹 16	CORD COLTER 16	2	
32	41711017	552907000	电线夹 16	CORD COLTER 16	3	
33	417S30025	0A5401006	螺栓 (带垫圈) M4X10DB	SCREW PAN(S/P WASHER)M4X10	5	
34	41712066	SA4787001	曲柄供油板	CRANK WICK PLATE	1	
35	41723027	SA5294001	毡油线 L=90	FLAT WICK L=90	0.09	
36	41712068	SA4788001	供油支架	WICK SUPPORT	1	
37	41723027	SA6593001	毡油线 L=180	FLAT WICK L=180	0.18	
38	41723026	SA87001	油线 ϕ 2.5		1	
39	12921005	SA6567001	油管(ϕ 4x ϕ 6)	SCREW PAN M4X6	0.47	
40	12921002	SA6576001	油管小 3X 小 5L=210	OIL TUBE L=210	0.21	
41	41736001	S38265000	管接头 L	TERMINAL L	1	
42	41722016	142274101	橡皮塞 4.2	RUBBER CAP,4.2	1	
45	41736301	SA8722001	油嘴管	OIL FEEDING PIPE	1	
46	12921006	SA8723001	油管小 6 X 小 8	OIL TUBE	0.25	
47	12923019	SA8724001	油线 6X6	WICK 6X6	0.3	
48	12921005	SA8725001	油管小 4 X 小 6	OIL TUBE	0.47	
49	12923019	SA8726001	油线 6X6	WICK 6X6	0.56	



F、供油润滑装置/Lubrication

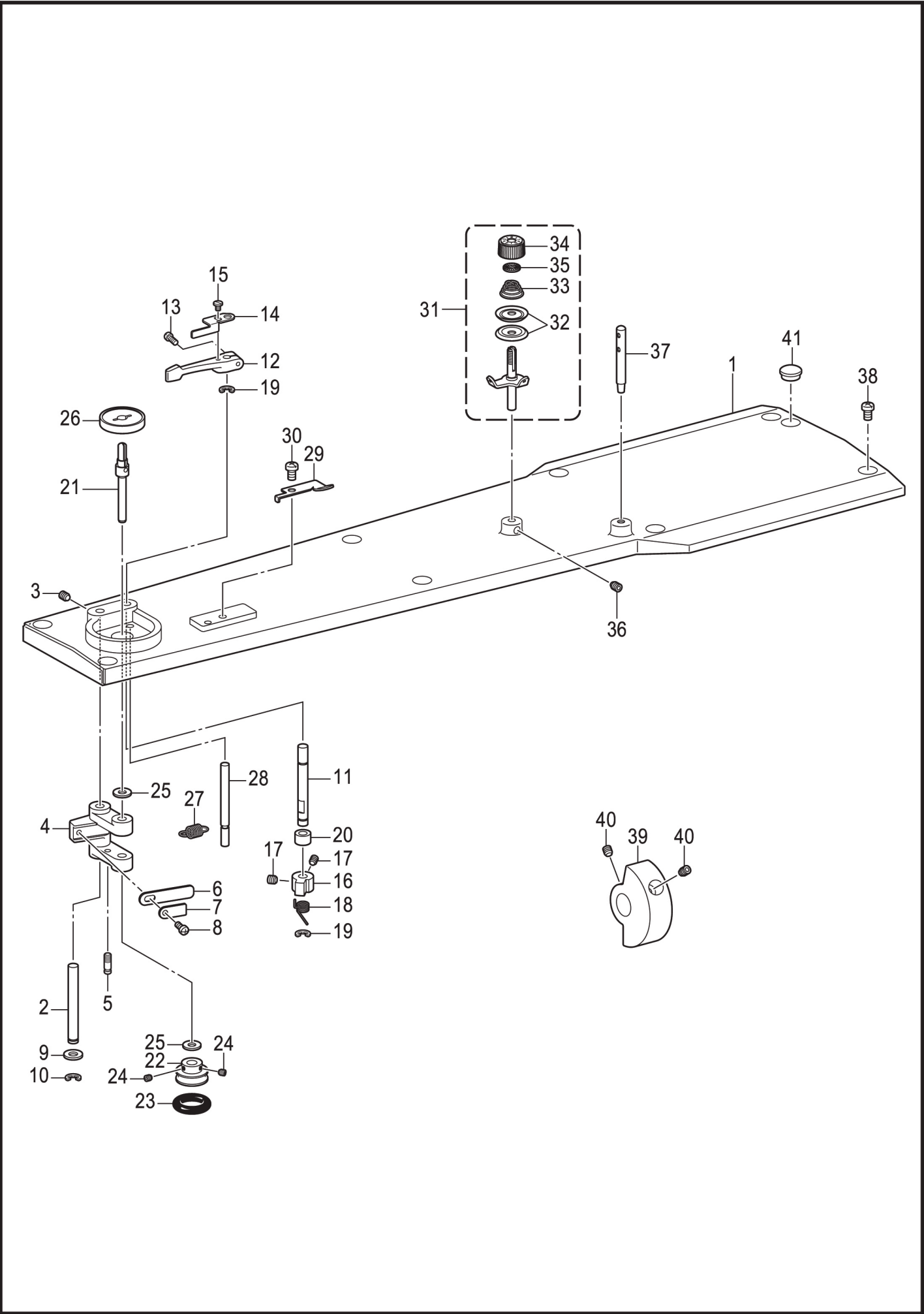
50	12923019	SA8727001	油线 6X6	WICK 6X6	0.03	
51	41723303	SA8728001	油毡	FELT	1	
52	41723304	SA8729001	油毡	FELT	1	
53	12923019	SA8708001	油线 6X6	WICK 6X6	0.9	
54	12921005	SA8785001	油管小 4 X 小 6	OIL TUBE	0.78	
55	12911005	SA8732001	副油罐组件	SUB-TANK ASSY	1	
56	20729005		油管卡簧 Φ8.3		1	
57	12936004	SA3040001	油嘴管	OIL FEEDING PIPE	1	
58	12921006	SA8733001	油管小 6 X 小 8	OIL TUBE	0.15	
59	12922006	104450101	橡皮塞 8	RUBBER CAP,8	1	
60	12912038	SA3055101	油管夹	TUBE CLIP	1	
61	41723311	SA8734001	油毡	FELT	2	
62	12921003	SA8735001	油管小 5 X 小 8	OIL TUBE	0.56	
63	12921003	SA8786001	油管小 5 X 小 8	OIL TUBE	0.53	
64	12936002	SA3946001	油管接头	OIL TERMINAL	1	
65	41712340	SA8736001	油板	OIL PLATE	1	
66	417S30025	0A5401006	螺栓 (带垫圈) M4X10DB	SCREW PAN(S/P WASHER)M4X10	2	
67	417S30025	0A5401006	螺栓 (带垫圈) M4X10DB	SCREW PAN(S/P WASHER)M4X10	1	
68	12922001	SA2929001	橡皮塞 12.5	RUBBER CAP 12.5	2	
69	12923010	S38266000	油毡	ROTARY HOOK SHAFT FELT	2	
70	12912038	SA3055101	油管夹	TUBE CLIP	1	
71	41712013	SA4650001	Y-传感板	Y-SENSOR PLATE	1	
72	S05119	018402036	螺栓 M4X20	BOLT SOCKET M4X20	2	
74	W01001	025040236	平垫圈 M4	WASHER PLAIN M4	2	
75	W02008	028040246	弹簧垫圈 2-4	WASHER SPRING 2-4	2	
76	112322005		油门阀		1	
77	41712085		垫圈		1	
78	417S15008	062400616	螺钉 M4×8	SCREW PAN M4X8	1	
79	41711015	525664000	电线夹 13.2	CORD COLTER13.2	6	

G . 穿线装置 / Threading mechanism



G、穿线装置/Threading mechanism

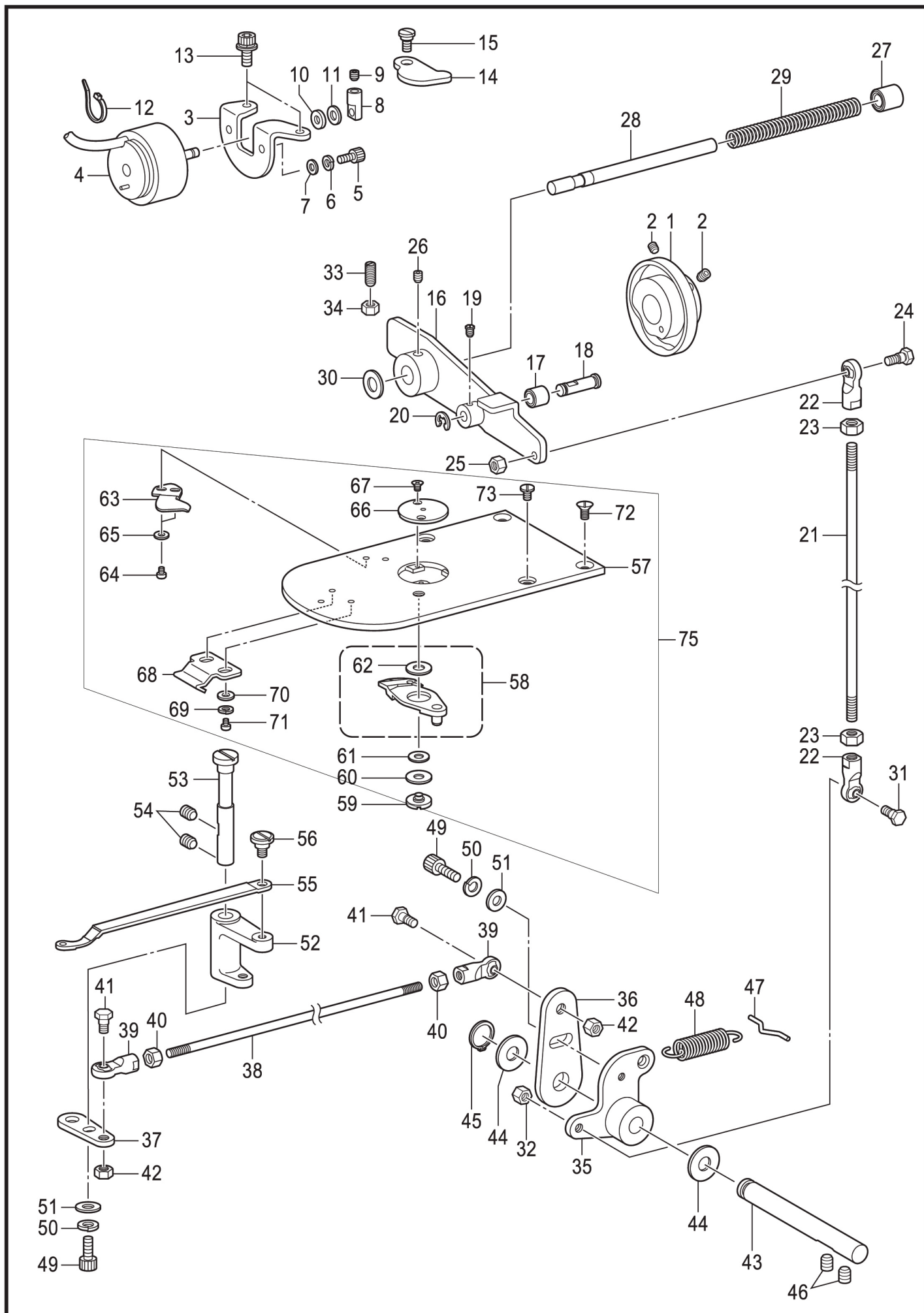
序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41712077	SA3250001	过线导向 A	ARM THREAD GUIDE A	1	
2	S04030	062500616	螺钉 M5X6	SCREW PAN M5X6	1	
3	41712078	SA4333001	过线导向 B	ARM THREAD GUIDE B	1	
4	S04030	062500616	螺钉 M5X6	SCREW PAN M5X6	1	
5	41712079	SA6391001	过线器 C	ARM THREAD GUIDE C	1	
6	S04030	062500616	螺钉 M5X6	SCREW PAN M5X6	1	
7	41702030	153049001	面线导向杆	UPPER THREAD GUIDE STUD	2	
8	41713002	144588301	挑线弹簧 B	THREAD TAKE-UP SPRING B	1	
17	S12001	SA4143001	螺钉 M6X8	SET SCREW (FT) M6X8	1	
23	41713301	SA8691001	机壳线钩	THREAD GUIDE ARM	1	
24	41722320		减震橡皮		1	
24	N01024	021400306	六角螺母 M4	NUT 3M 4	1	
25	41726014	SA3257101	针套	NEEDLE BAR THREAD GUIDE A	1	
26	41712082	SA3258001	针杆轴套线导向 D	N-BAR BUSH THREAD GUIDE D	1	
27	41203018	152881001	线冷却器架	NEEDLE COOLER ASSY	1	
27	41222019		塞头		1	
28	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET (FT) M6X6	1	
29	41223043	152883000	油毡 8X15.5	FELT 8X15.5	1	
30	41213008	152884001	过线钩	NEEDLE COOLER THEAD GUIDE	1	
31	409S11017	062670412	螺钉 SM3.57-40X4	SCREW PAN SM3.57-40X4	1	
32	4171302000		主夹线器组件 Q	THREAD TENSION REGULATOR ASSY	1	
33	4171301400		副夹线器组件	THREAD TENSION REGULATOR ASSY	1	



H. 卷线装置/Bobbin winder mechanism

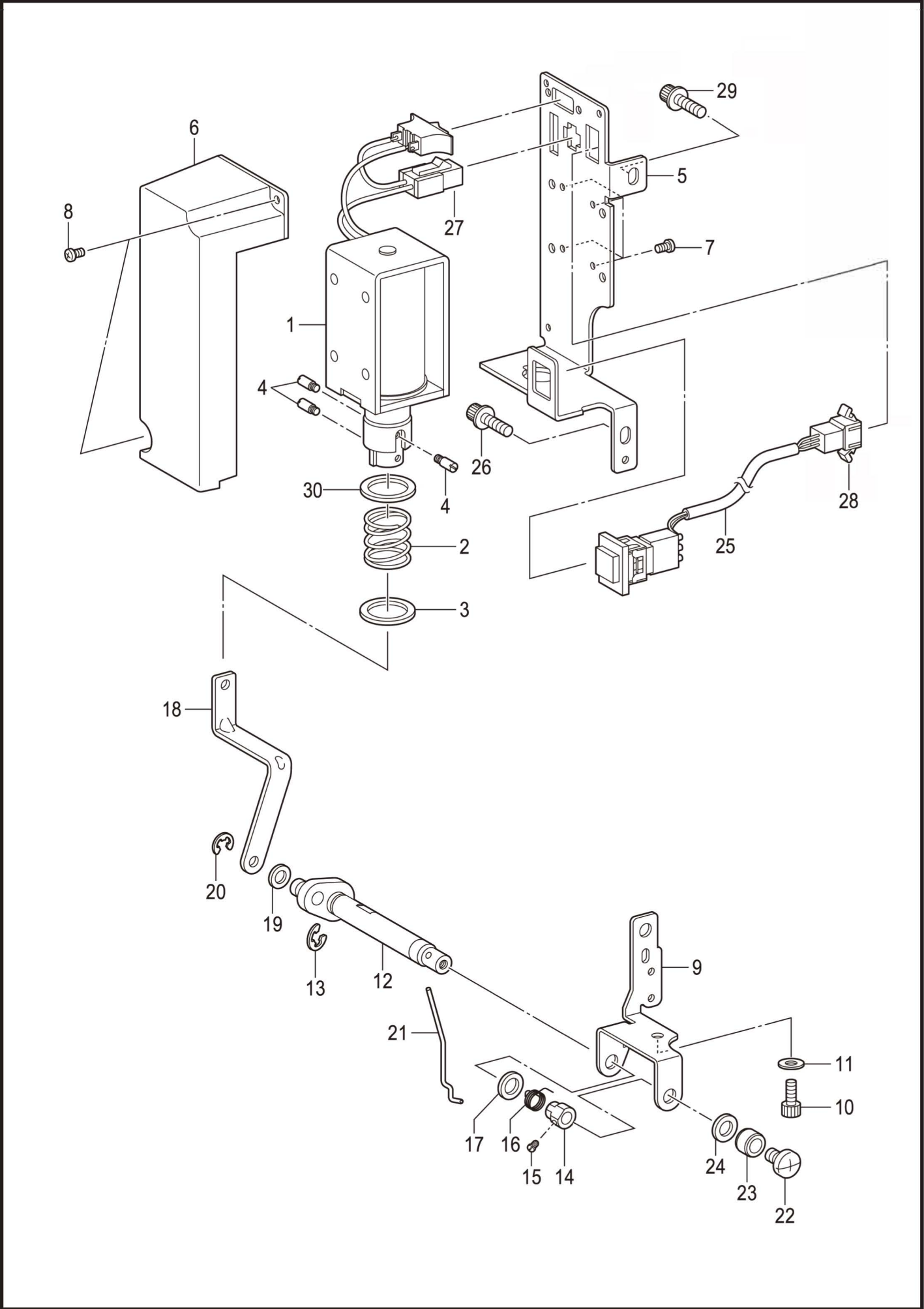
序号 No.	件号 Part.No.	参 考 件 号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	301491	SA8650001	上盖	TOP COVER	1	
2	41702033	SA3290001	卷线手柄轴	SHAFT BW-LEVER	1	
3	S09019	012500536	螺钉 M5X5	SET SCREW SOCKET(FT)M5X5	1	
4	41709026	SA3291001	卷线手柄	BOBBIN WINDER LEVER	1	
5	41702034	SA4171001	弹簧挂钩	SPRING HOOK	1	
6	41712084	152936001	板弹簧	PLATE SPRING	1	
7	41712085	152937001	垫圈	WASHER	1	
8	S04077	062350616	螺钉 M3.5X6	SCREW PAN M3.5X6	1	
9	W01015	159486001	垫圈	WASHER	2	
10	H05006	048050342	挡圈 E5	RETAINING RING E5	1	
11	41702035	SA3293001	卷线卡爪轴	STUD B-WINDER	1	
12	41709027	SA1984001	梭芯压臂柄	BOBBINPRESSER ARM	1	
13	S04081	062401216	螺钉 M4X12	SCREW PAN 4X12	1	
14	41712086	SA3294001	梭芯压杆	BOBBIN PRESSER	1	
15	417S15006	S23418002	螺钉 M4X5	SCREW M4X5	1	
16	41709028	SA3295001	卷线卡爪	CLAW B-WINDER	1	
17	S09103	012400436	内六角平端紧定螺钉 M4×4	SET SCREW SOCKET(FT)M4X4	2	
18	41727007	S10438001	弹簧	SPRING TWIST	1	
19	H05006	048050342	挡圈 E5	RETAINING RING E5	2	
20	41708025	SA4796001	垫管	SPACER COLLER	1	
21	41702036	SA3296001	卷线轴	BOBBIN WINDER SHAFT	1	
22	41703021	SA3297001	卷线器	WHEEL B-WINDER	1	
23	41722017	120448001	橡皮圈	BOBBIN WINDER RUBBER BAND	1	
24	S09103	012400436	内六角平端紧定螺钉 M4×4	SET SCREW SOCKET(FT)M4X4	2	
25	W01015	159486001	垫圈	WASHER	2	
26	41711063	SA1988001	梭芯座	BOBBIN SUPPORT	1	
27	41727008	S10268001	拉簧	SPRING	1	
28	41702037	SA3298001	止动轴	STPPER SHAFT B-WINDER	1	
29	41719001	SA3299001	切刀	KNIFT	1	
30	S04030	062500616	螺钉 M5X6	SCREW PAN M5X6	1	
31	4171302100	SA1994101	卷线器夹线组件 Q	BOBBIN WINDER TENSION ASSY	1	
36	S09019	012500536	螺钉 M5X5	SET SCREW SOCKET(FT)M5X5	1	
37	41713302	SA1359001	穿线杆	SPOOL PIN	1	
38	S04038	062061016	螺钉 M6X10	SCREW PAN M6X10	8	
39	41704002	SA4797101	卷线驱动轮	DRIVING WHEEL B-WINDER	1	
40	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET(FT)M6X6	2	
41	41722002	117934001	橡皮塞 13.5	RUBBER CAP, 13.5	1	

J . 切线装置 / Thread trimmer mechanism



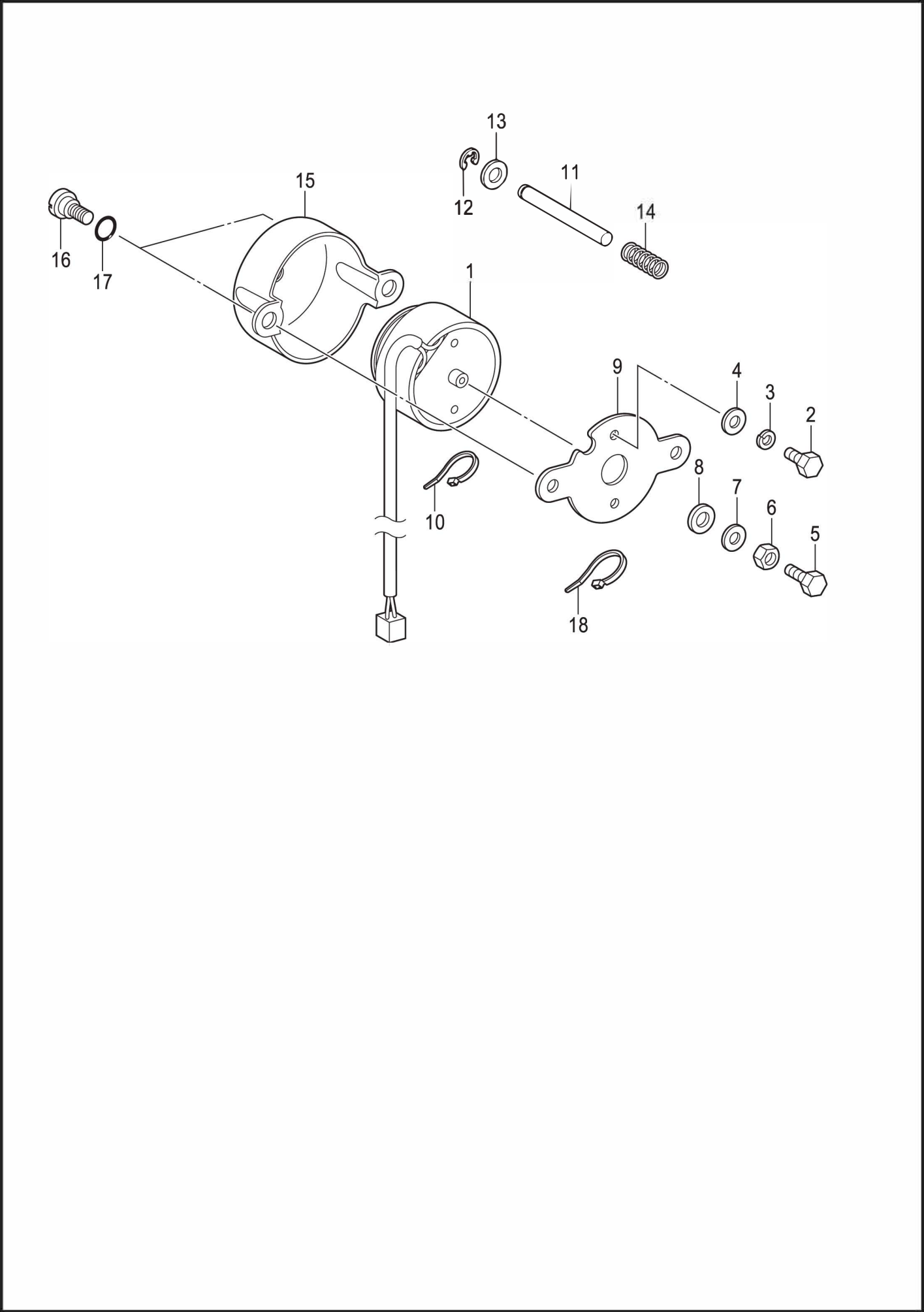
J、切线装置/Thread trimmer mechanism

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41710003	SA3301101	切线凸轮	THREADTRIMMERCAM	1	
2	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET(FT)M6X6	3	
3	41712087	SA4798001	电磁铁安装板	SETTING PLATE SOLENOID	1	
4	41730001	SA5135101	切线电磁铁	THREAD TRIMMER SOLENOID	1	
5	L02031	017400802	螺栓 M4X8	BOLT M4X8	2	
6	W02008	028040246	弹簧垫圈 2-4	WASHER SPRING 2-4	2	
7	W01001	025040236	平垫圈 M4	WASHER PLAIN M4	2	
8	41702038	SA3307001	电磁铁杆	SOLENOID LEVER	1	
9	S09103	012400436	内六角平端紧定螺钉 M4×4	SET SCREW SOCKET(FT)M4X4	1	
11	41728033	S02445001	垫圈	WASHEWR	1	
13	417S30306	S55484002	螺栓 (带垫_)M5X15	BOLT SCREW SOCKET(SP/ffASHER)M5X10	2	
14	41712088	SA4799001	驱动压杆	PUSHING LEVER D-LEVER	1	
15	417S30012	SA3306001	段螺钉 7-3	SHOULDER SCREW 7-3	1	
16	4171211100	SA3309101	切线驱动杆组件	TR-DRIVING LEVER	1	
17	41703022	SA3310001	切线滚轮	COLLAR TR-TRIMMER	1	
18	41702039	SA3311001	切线滚轮轴	COLLAR SHAFT	1	
19	417S12009	S46903001	螺钉 M4X5	SET SCREW M4X5	1	
20	H05029	048040342	挡圈 E4	RETAINING RING E4	1	
21~23	14170202200	SA3317001	切线杆 V 组件	THREAD TRIMMER LEVER V	1	
24	417S12005	S32462001	段螺钉 BM6	SHOULDER SCREW B M6	1	
25	N01012	021060306	六角螺母 M6	NUT3M6	1	
26	403S14006	S23651001	内六角平端紧定螺钉	SET SCREW SOCKET(FT)M6X6	1	
27	41703023	231071001	轴套 8X15	BUSH 8X15	1	
28	41702041	SA3312201	驱动杆导向轴	(3)IDESHAFT	1	
29	41727009	SA3313101	弹簧	SPRING COMPRESSION	1	
30	41722018	154596000	减震垫圈	CUSHION	1	
32	N01012	021060306	六角螺母 M6	NUT3M6	1	
33	417S10003	S25475101	螺钉 M6X19	SET SCREW M6X19	1	
34	205S16005	021060106	螺母	NUT1M6	1	
35	41712089	SA4546001	切线杠杆 V	THREAD TRIMMER LEVER V	1	
36	41712090	SA3317001	切线杠杆 H	THREAD TRIMMER LEVER H	1	
37	41712341	SA8652001	切线杠杆 D	MOVING KNIFE LEVER	1	
38~40	14170202400	S486554001	切线杆 H 组件	THREAD TRIMMER LEVER H	1	
41	417S12005	S32462001	段螺钉 BM6	SHOULDER SCREW B M6	2	
42	N01012	021060306	六角螺母 M6	NUT3M6	2	
43	41702042	SA3319101	切线杠杆轴	SHAFTTR-TRIMMERLEVER	1	
44	41728023	SA4545001	垫片	SPACER	2	
45	H03006	048080142	轴用挡圈 C8	RETAINING RING EXTERNAL C8	1	
46	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
47	41712342	SA8655001	弹簧挂钩	SPRING HOOK	1	
48	41727010	SA3321001	切线复位弹簧	SPRING EXTENSION	1	
49	S05087	018501236	内六角圆柱头螺钉 M5×12	BOLT SOCKET M5X12	2	
50	W02001	028050246	弹簧垫圈 2-5	WASHER SPRING 2-5	2	
51	41728028	146354002	垫圈 5	WASHER PLAIN 5	2	
52	41704301	SA8656001	动刀杆	MOVING KNIFE LEVER	1	
53	41702311	SA8657001	动刀杆轴	SHAFT MOVABLE KNIFE LEVER	1	
54	S10019	012060636	螺钉 M6X6	SET SCREW SOCKET(FT)M6X6	2	
55	41712343	SA8658101	动刀连杆	M-KNIFE CONNECTING PLATE	1	
56	417S30013	SA4354001	段螺钉 6-1.8	SHOULDER SCREW 6-1.8	1	
72	1417NS17001	SA5157101	针板螺钉	NEEDLE PLATE SCREW	2	
73	417S15008	012400436	螺钉 M4×8	SET SCREW M4X8	2	
75	4171500100	SA5157101	针板 A 组件	NEEDLE PLATE A	1	



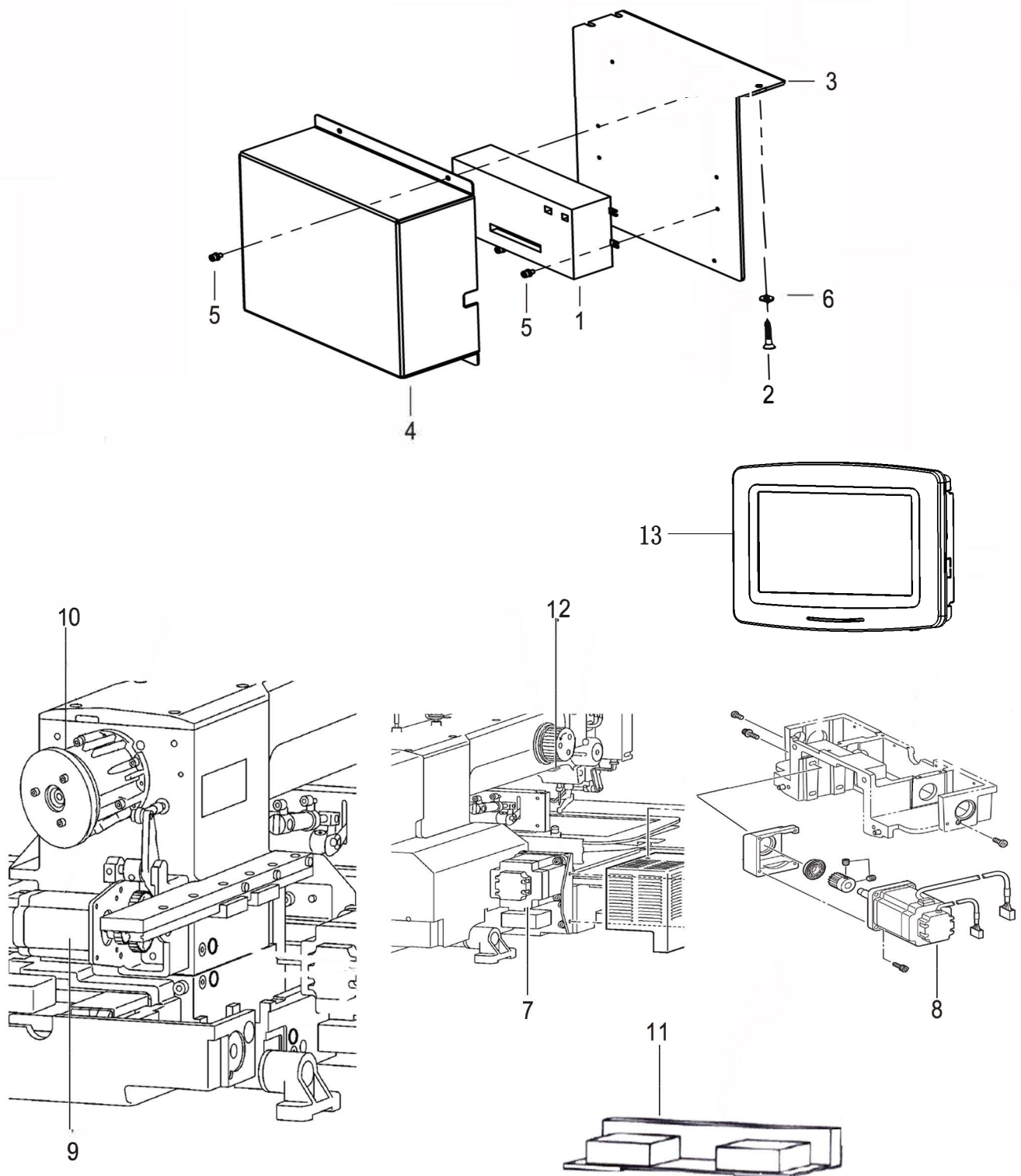
K、扫线装置/Thread wiper mechanism

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41730002	SA5208001	扫线电磁铁组件	THREAD WIPER SOLENOID ASSY	1	
1	41730022		电磁阀接线		1.5	
3	41728011	S41205001	平垫圈	WASHER PLAIN	1	
5	41712210	SA5217001	扫线电磁铁安装板	T-WIPER SOLENOID SETTING PLATE	1	
6	41711210	SA4806001	电磁铁盖 Q	SOLENOID COVER	1	
7	421S10005	060400525	螺钉 M3X6	BOLT SOCKET M3X6	6	
8	421S10005	060400516	螺钉 M3X6	BOLT SOCKET M3X6	2	
9	41712096	SA5218001	扫线轴托架	THREAD WIPER SHAFT BRACKET	1	
10	S05116	018400836	螺栓 M4X8	BOLT SOCKET M4X8	1	
11	W01001	025040236	垫圈 4	WASHER PLAN M4	1	
12	4170204400	SA1967001	扫线曲柄组件	THREAD WIPER CRANK ASSY	1	
13	H05029	048040342	挡圈 E4	RETAINING RING E4	1	
14	41708007	S25454001	螺纹紧圈	SET SCREW COLLAR	1	
15	417S15005	S25279001	螺钉 M3.5-5	SET SCREW (CP)M3.5-5	1	
16	41727012	SA2287001	扭簧	SPRING	1	
18	41712097	SA5219001	扫线杆	THREAD WIPER ROD	1	
19	W01024	110735001	垫圈	WASHER	1	
20	H05002	048030342	挡圈 3	RETAINING RING E3	1	
21	41712098	S10470101	扫线钢丝	WIPER	1	
22	417S15013	060400516	螺钉 M4X5	SCREW BIND M4X5	1	
23	41708008	146288001	挡线轴挡圈	THREAD WIPER STUD COLLAR	1	
24	41728034	S03677001	垫圈	WASHER	1	
25	141730078	SA5213001	急停开关组件	STOP SWITCH ASSY	1	
26	417S30306	S55485001	螺栓(带垫圈)M5X15	BOLT SOCKET(S/P WASHER) M5X15	1	
29	417S30036	S55486001	螺栓(带垫圈)M5×12	BOLT SOCKET(S/P WASHER) M5X12	1	



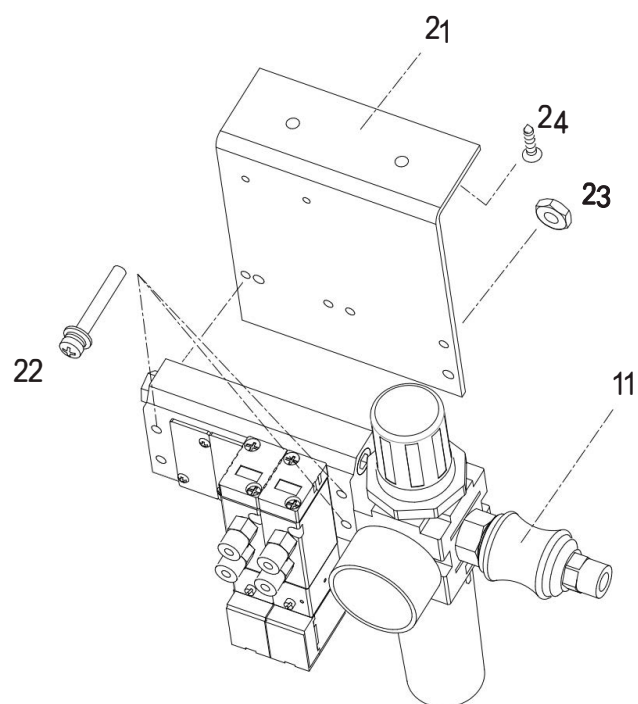
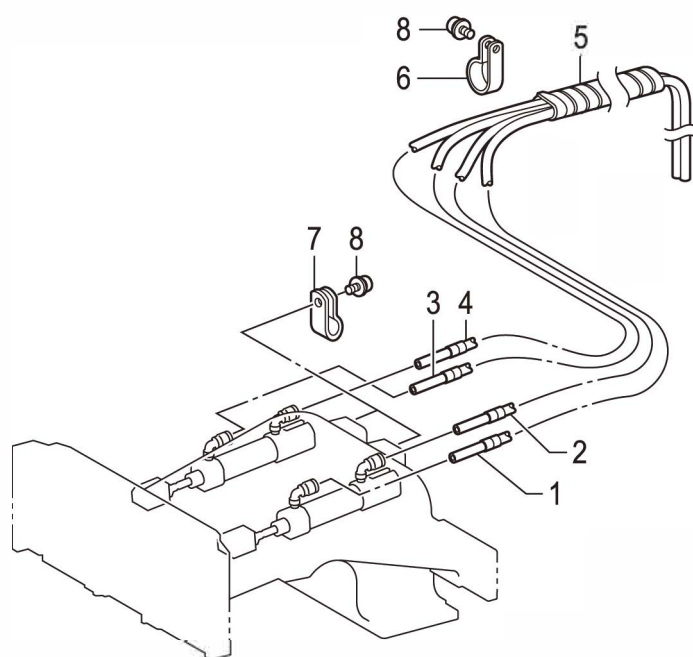
L、松线装置/Tension release mechanism

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41730004	SA4855001	松线电磁铁 HV	TENSION RELEASE SOLENOID HV	1	
2	L02031	017400802	螺栓 M4X8	BOLT M4X8	2	
3	W02008	028040246	弹簧垫圈 2-4	WASHER SPRING 2-4	2	
4	W01001	025040236	垫圈 4	WASHER PLAIN M4	2	
5	L02071	017401415	六角头螺栓 全螺纹 M4×18	BOLT M4X18	1	
9	41712099	SA6389001	电磁铁安装板	SETTING PLATE SOLENOID	1	
11	41702045	SA3347001	松线杆	TENSION RELEASE BAR	1	
12	H05029	048040342	挡圈 E4	RETAINING RING E4	1	
13	W01009	025050236	垫圈 5	WASHER PLAIN M5	1	
14	41727013	SA3348001	弹簧	SPRING COMPRESSION	1	
15	41711211	SA3349001	电磁铁盖 Q	SOLENOID COVER	1	
16	417S30012	SA3306001	段螺钉 7-3	SHOULDE SCREW 7-3	2	
17	41722021	081007070	O 形圈 P7	O RING P7	2	



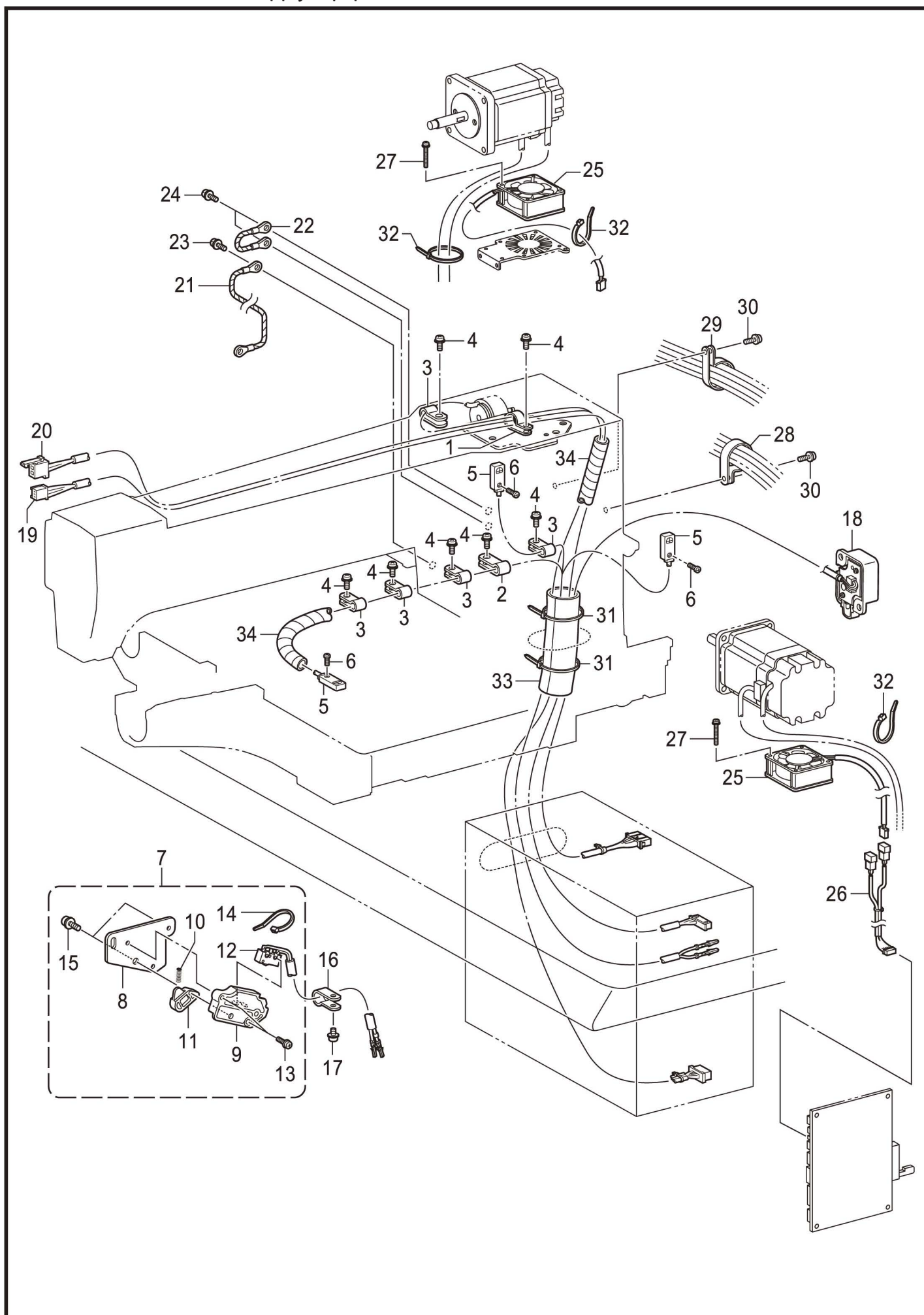
M、电控装置/Electronic control device

序号 No.	件号 Part.No.	参 考 件 号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	811823		大豪二代一体机电控(单电控)		1	
2			木螺钉		3	
3	930000016		电控箱安装板		1	
4	930000015		电控箱安装罩壳		1	
5	417S30035		螺栓(带垫圈) M5X10		8	
6	41728004		垫圈		3	
7	811516	141733005	X 向步进电机 2	MOTOR(X)	1	
8	811518	141733006	Y 向步进电机 2	MOTOR(Y)	1	
9	811515	141733010	Z 向步进电机 3	MOTOR(Z)	1	
10	811517	41733011	主轴电机	SOINDLE MOTOR	1	
11	41730556		脚踏板	2-PEDAL FOOT SWITCH SW ASSY	1	
12	41730070		led 灯 (TD-5)		1	
13	811824		显示屏		1	



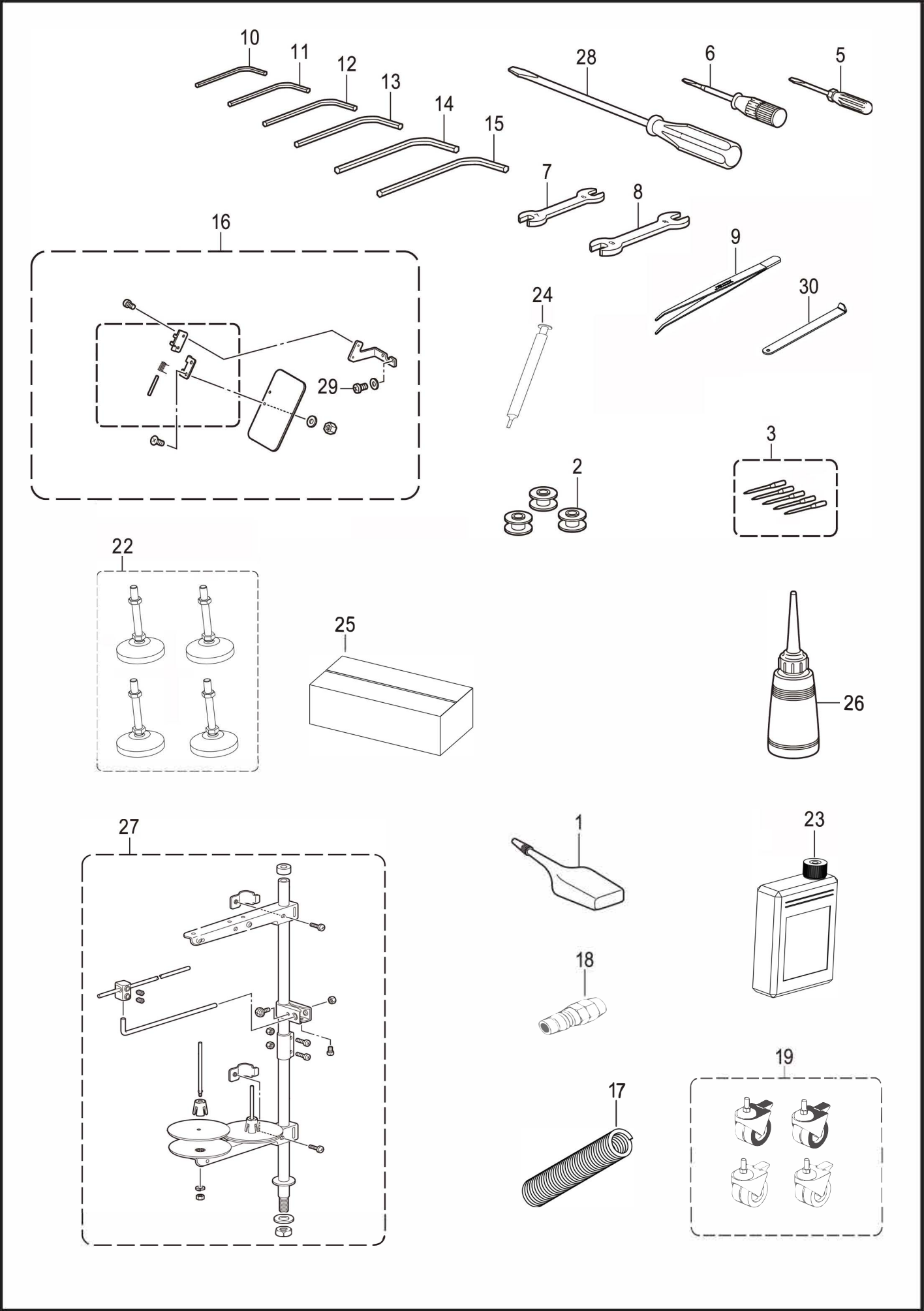
P、空压装置/Air pressure mechanism

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	61911006	SA8659001	空气管小 4X2.5	AIR TUBE R	2.5	
2	61911006	SA8659002	空气管小 4X2.5	AIR TUBE R	2.5	
3	61911006	SA8660001	空气管小 4X2.5	AIR TUBE L	2.5	
4	61911006	SA8660002	空气管小 4X2.5	AIR TUBE L	2.5	
6	41711015	525664000	电线夹 13.2	CORD HOLDER 13.2	1	
7	41711014	149547000	电线夹 6.4	CORD HOLDER 6.4	2	
8	417S30025	0A5401005	螺栓(带垫圈)M4×10DB(切换)	SCREW PAN M4X10	3	
11~20	14174503500		气阀组合 TZ(四位两阀)		1	
21	41712106	SA5286010	阀安装板	SETTING PLATE VALVE	1	
22	417S30024	018503036	螺栓 M4×30	BOLT SOCKET M5X30	2	
23	N01024	021400306	螺母 M4	NUT 3 M4	2	
24	417s30015	032422003	木螺钉	WOOD SCREW	1	



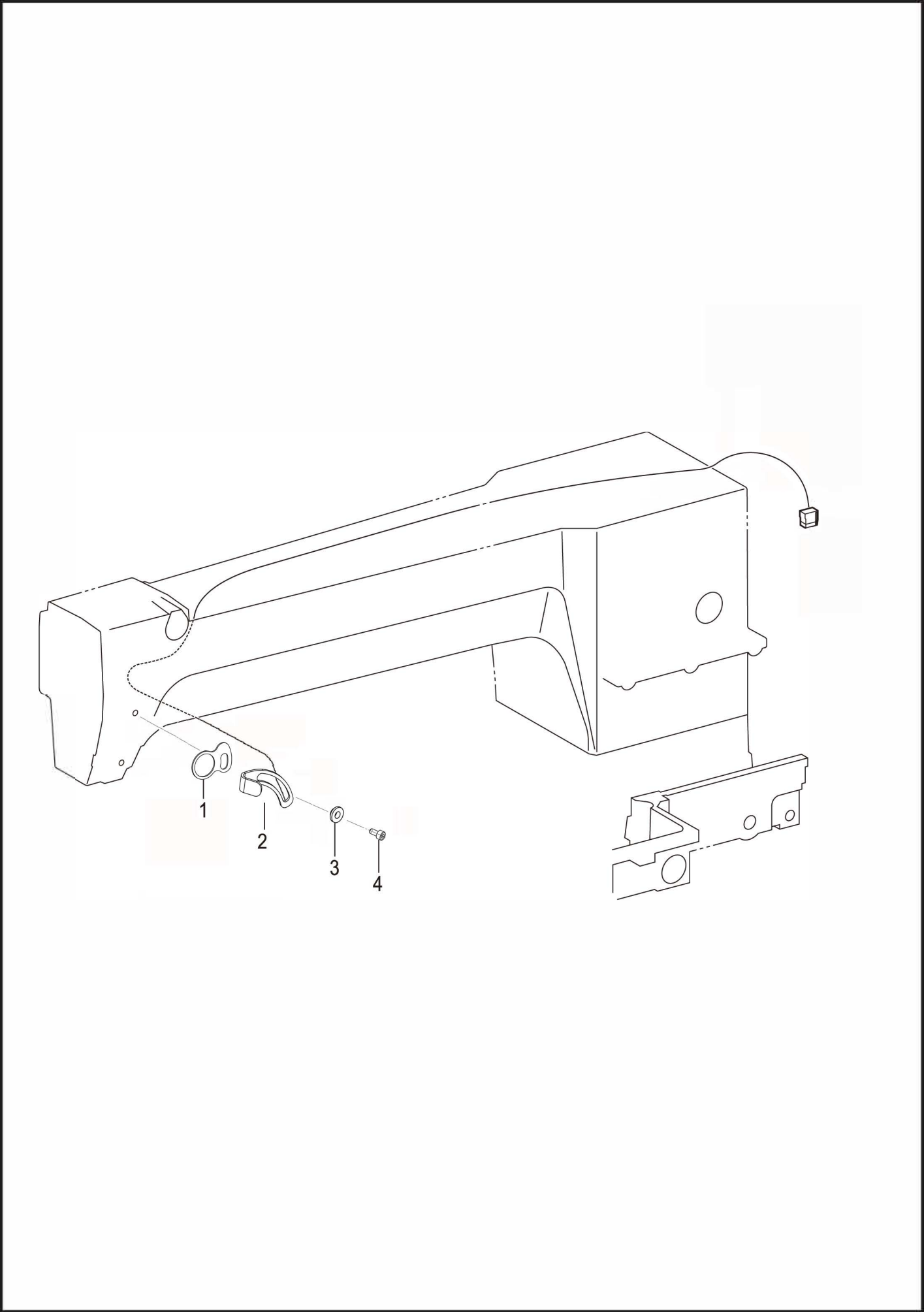
Q、电器部品装置/Power supply equipment mechanism

序号 No.	件号 Part.No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41711017	525567000	电线夹 16	CORD HOLDER 16	1	
2	41711015		电线夹 13.2		1	
3	41711014	149547000	电线夹 6.4(切换)	CORD HOLDER 13.2	5	
4	417S30025	0A5401006	螺栓 (带垫圈)M4X10DB	SCREW PAN(S/P WASHER)M4X10	7	
6	421S10015	062300816	螺钉 M3X8	SCREW PAN M3X8	3	
8	41712344	SA8523001	安全开关板 T3020	SAFETY SWITCH PLATE 3020	1	
9	41711314	SA5730101	开关基座	SAFETY SWITCH BASE	1	
10	41727302	SA5731001	开关弹簧	SAFETY SWITCH SPRING	1	
11	41711315	SA5732101	开关手柄	SAFETY SWITCH LEVER	1	
13	417S30308	SA7293001	螺栓(带垫圈)M3X12	SCREW PAN(S/P WASHER)M3X12	2	
15	417S30025	0A5401006	螺栓 (带垫圈)M4X10DB	SCREW PAN(S/P WASHER)M4X10	2	
28	41711026	554482000	电线夹 23	CORD HOLDER 23	1	
30	417S30025	0A5401006	螺栓 (带垫圈)M4X10DB	SCREW PAN(S/P WASHER)M4X10	2	



Z、附件/Accessories

序号 No.	件号 Part.No.	参 考 件 号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	20131038	S06706001	小油壶(尖嘴)	SILICONE OIL	1	
2	41718004	S44633001	梭心 LAN	BOBBIN LAN	3	
3	40319006	145646019	机针 DPX17 (#19)	NEEDLE DPX17	5	
5	10131004	142443001	螺丝刀 (小)	SCREW-DRIVER (SMALL)	1	
6	10131003	118837001	螺丝刀 (中)	SCREW-DRIVER (MIDDLE)	1	
7	30131005	107779001	双头扳手 6X7	WRENCH 6X7	1	
8	30131006	100887001	双手扳手 8X10	WRENCH 8X10	1	
9	20131051		镊子	FORCEPS	1	
10	30131007	S07783001	内六角扳手 1.5	HEXAGONAL WRENCH 1.5	1	
11	20131046	142002001	内六角扳手 2	HEXAGONAL WRENCH 2	1	
12	30331010	154125001	内六角扳手 2.5	HEXAGONAL WRENCH 2.5	1	
13	30131012	142721001	内六角扳手 3	HEXAGONAL WRENCH 3	1	
14	20131047	118064001	内六角扳手 4	HEXAGONAL WRENCH 4	1	
15	20131056	150335001	内六角扳手 5	HEXAGONAL WRENCH 5	1	
16	4121208400	SA4103001	护眼板组件 D	EYE GUARD SET D	1	
17	40730010		螺旋气管		6	
18	40736001		螺纹套管接头		1	
19	41532020		脚轮		4	
22	41731325		脚垫 M12-120		4	
23	110211011	S55663001	油袋 (400ml)	OIL TANK ASSY	1	
24	11411029		注射器(润滑脂)	INJECTOR (GREASE)	1	
25	41731015		花样机附件箱		1	
26	11631008	114483002	油壶组件	OILER ASSY	1	
27	1383100300	S40574309	线架组件 2DTHF	COTTON STAND ASSY 2DTHF	1	
28	10131002	101572102	螺丝刀(大)	SCREW-DRIVER (MIDDLE)	1	
29	417S30025	0A5401005	螺栓(带垫圈)M4X10DB	SCREW PAN (S/P WASHER)M4X10	2	
30	41712355		针板专用螺丝刀	NEEDLE PLATE SPECIAL SCREWDRIVER	1	

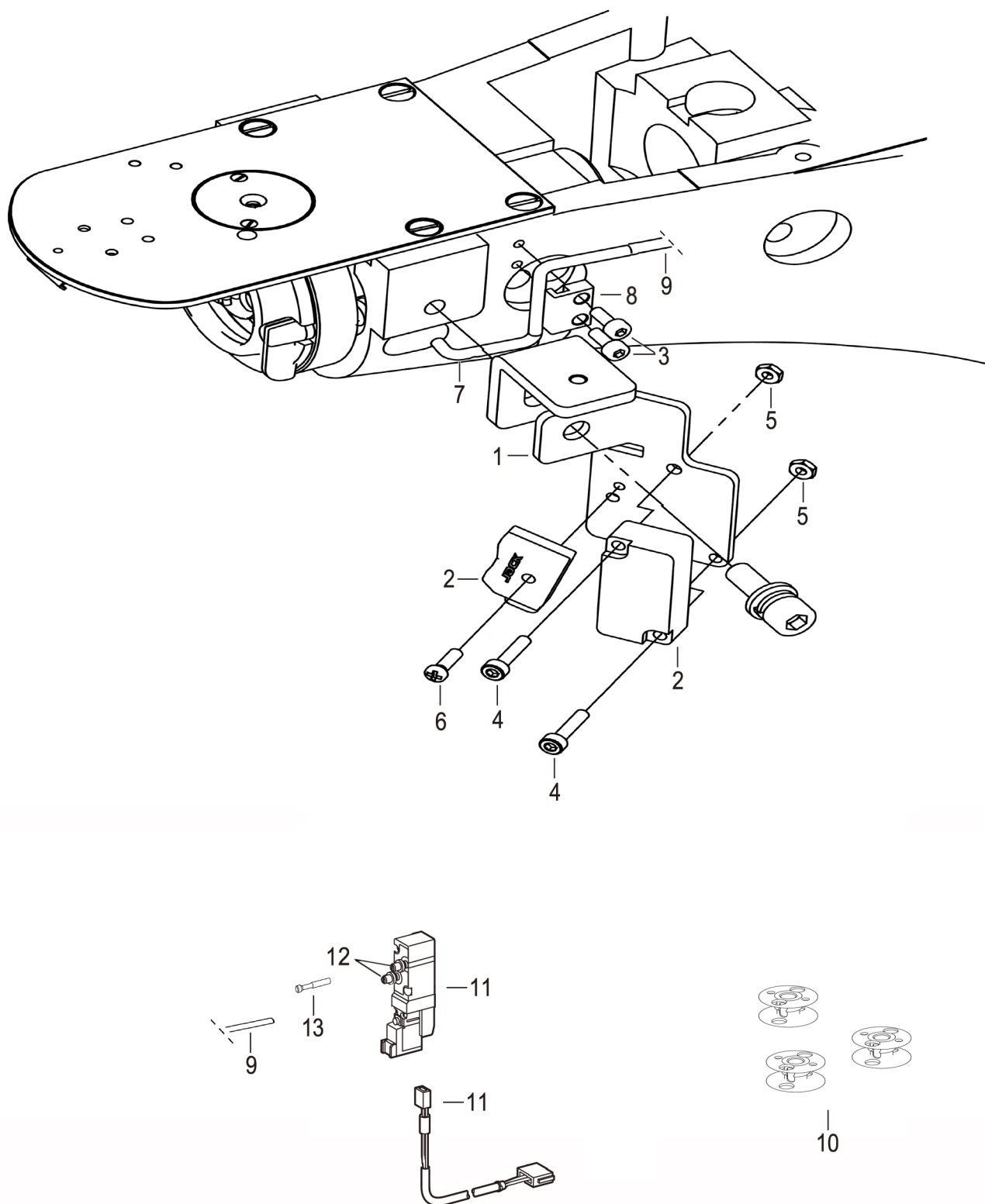


W4、断线感应装置/Thread broken sensors

序号 No.	公司件号 Part No.	参 考 件 号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41711054		传感器内绝缘片	insulation sheet in sensor	1	
3	41711053		传感器外绝缘片	External insulationg of the sensor	1	
4	421S13035		螺栓 M4X8		1	

W7、底线预警装置/Detection device for bottom stitching

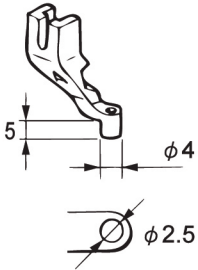
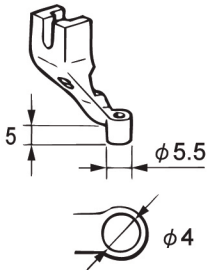
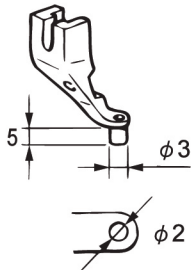
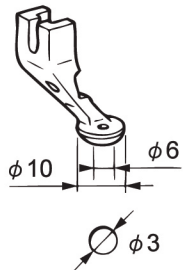
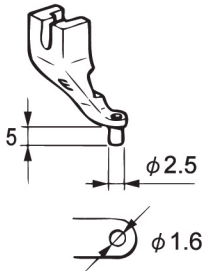
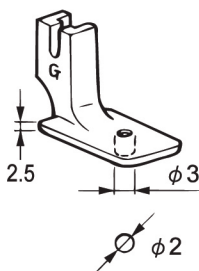
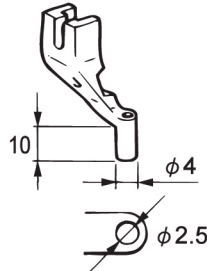
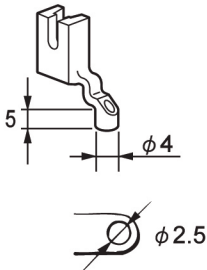
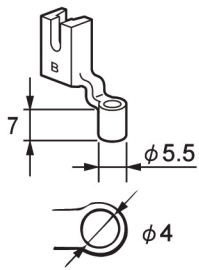
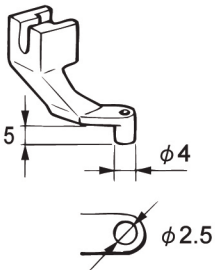
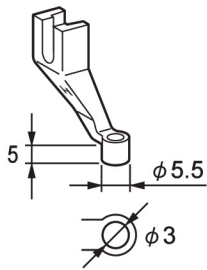
< 底线预警机型专用装置/Special device for bottom stitching detection model >

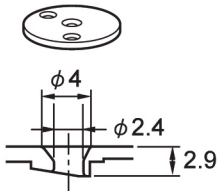
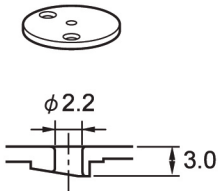
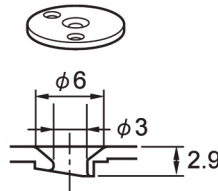
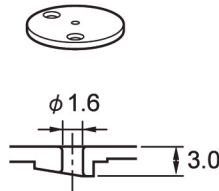


W7、底线预警装置/Detection device for bottom stitching

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	141712005		感应器安装板	Sensor mounting plate	1	
2	14183000400		底线检测传感器	Sensors	1	
3	S05094		螺钉 M3X8(镀铬)	Screw M3 X 8	2	
4	413S14012		螺钉	Screw	2	
5	N01013		螺母 M3(镀锌)	Nut M3	2	
6	S05052		螺钉 M3X10(镀锌)	Screw M3 X 10	1	
7	141721001		铜管	Copper Pipe	1	
8	141709004		铜管压块	Copper Pipe platen	1	
9	61911006		气管 4 X 2 . 5	Air Duct 4X2.5	2.5	
10	141718001		梭芯 1(底线检测)	robbin	3	
11	41730012		非标电磁阀	NON-STANDARD SOLENOID valve	1	
12	41730013		电磁阀接头	SOLENOID valve connector	2	
13	42122001		快换插头 KQ2P-04	Replaceable plug KQ2P-04	1	

Ga . 工模具一览表 / Gauge parts list

压脚 / Presser foot			
A / S42843-001 *	B / S42844-001	C / S42845-001	D / S42846-001
			
E / S42847-001	F / 157237-001	G / 158592-001	J / S42848-001
			
A-CUT / S40214-001	B-L / S49448-001	XA / S42849-101	H / SA4811-001
			

针孔板 / Needle hole plate			
2.4 C0.4 / SA3336-101 *	2.2 / SA5221-001	3.0 C1.5 / SA5222-101	1.6 / SA7191-001
			

印有 * 记号的为标准零部件

The * symbol is for Standard parts.

Ga、工模具一览表/Gauge parts list

序号 No.	公司件号 Part No.	参考件号 Ref.No.	零部件名称	NAME OF PARTS	数量 Amt.	备注
1	41716001	A/S42843001	中压脚 A	WORK CLAMP A	1	
2		B/S42844001	中压脚 B	WORK CLAMP B	1	
3		C/S42845001	中压脚 C	WORK CLAMP C	1	
4	41716004	D/S42846001	中压脚 D	WORK CLAMP D	1	
5		E/S42847001	中压脚 E	WORK CLAMP E	1	
6	41716021	F/157237001	中压脚 F	WORK CLAMP F	1	
7		G/157592001	中压脚 G	WORK CLAMP G	1	
8	41716010	.丁/S42848001	中压脚丁	WORK CLAMP J	1	
9		A-CUT/S40214001	中压脚 A	WORK CLAMP A-CUT	1	
10		B-L/S49448001	中压脚 A	WORK CLAMP B-L	1	
11		XA/S42849101	中压脚 A	WORK CLAMP XA	1	
12	41716003	H/SA4811001	中压脚 H	WORK CLAMP H	1	
13	41712094	2.4C0.4/SA3336001	针孔板中 2.4	NEEDLE HOLE PLATE 小 2.4	1	
14	41715002	2.0/SA5221001	针孔板中 2.0	NEEDLE HOLE PLATE 小 2.0	1	
15	41715005	3.0C1.5/SA5222001	针孔板中 3.0	NEEDLE HOLE PLATE 小 3.0	1	
16		1.6/SA7191001	针孔板中 1.6	NEEDLE HOLE PLATE 小 1.6	2	