

在使用缝纫机之前请阅读本使用说明书。  
请将本使用说明书放在便于查阅的地方保管。



高速电子花样机 ZJ5760-3020系列

COMPUTER-CONTROLLED HIGH SPEED PATTERN  
SEWING MACHINE SERIES

# 使用说明书

OPERATION MANUAL

# 零件手册

PARTS BOOK



手机官网



官方订阅号

浙江中捷缝纫科技有限公司  
ZOJE SEWING MACHINE CO.,LTD

# 使用说明书

## OPERATION MANUAL

为了创造更加美好的环境

### 请您协作

首先对您使用我们产品表示衷心的感谢！

我们公司致力于关爱地球环境，制定了“智能制造、绿色制造”的基本方针。当地的公民在环境保护活动中也应该对当地社会、环境二方面尽每个人的微薄之力。

因此，希望您能配合这个计划，作为环境保护活动的一环，在平时处理废弃物的时候能多加注意。

- 1.不用的包装材料，为了能再次回收利用，请交付给当地相关回收公司进行处理。
- 2.使用完的润滑油、请根据相关的法律和规定进行妥善处理。
- 3.产品保养或修理需要更换零部件时，有不需要的电路板和电子零件，以及产品废弃时，请作为电子废弃物处理。

非常感谢您购买我们工业缝纫机。

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，因为要在机针和旋梭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

 <b>危险</b>	该内容表示如果忽视此标志而进行错误的操作，必将导致死亡或重伤。
 <b>警告</b>	该内容表示如果忽视此标志而进行错误的操作，肯定会引起死亡或重伤。
 <b>注意</b>	如果忽视此标志而进行错误的操作，有可能会引起受到轻微或中度伤害。

#### 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，左边的内容表示“当心受伤”。）



..... 该符号（⊘）表示“禁止”。



..... 该符号（●）表示“必须”。

## [2] 安全注意事项

### ⚠ 危险



在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, 再打开控制箱盖。触摸带有高电压的区域将会造成人员伤亡。

### ⚠ 警告



缝纫机内不允许进入任何液体, 否则会引起火灾、电击或操作故障。



如果缝纫机内(机头或控制箱)进入任何液体, 请立即关闭电源, 并将电源插头从插座上拔出, 然后联系销售商或资深技术人员。

### ⚠ 注意

#### 使用环境



请不要在有电源线干扰及静电干扰等有强电气干扰源影响的环境下使用。  
强电气干扰源可能会影响缝纫机的正确操作。



环境温度应在5°C-35°C 的范围内使用。  
低温或高温会影响缝纫机的正确操作。



电源电压的波动应该在额定电压的±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。



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。



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。



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。



请勿将USB存储器以外的设备连接到USB连接端口上。否则有可能导致故障。

#### 安 装



请让受过培训的技术人员来安装缝纫机。



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。



请委托购买商店或电气专业人员进行电气配线。



缝纫机头倒下时, 请一定要固定工作台, 不可使其随意移动。



缝纫机重约56 kg, 安装工作必须由两人以上来完成。

工作台移动易发生脚等被夹住之事故, 是导致人身事故的原因。



在安装完成前, 请不要连接电源, 如果误踩下踏板时, 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。单手操作时因缝纫机的重量万一滑落易导致受伤。



请在切断电源后, 再拔掉电插头。  
不然易成为控制箱发生故障的原因。



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。



必须接地。  
接驳地线不牢固, 是造成触电或误动作的原因

另外, 润滑油或黄油不能饮用, 否则会引起呕吐和腹泻。



固定电缆时, 不要过度弯曲电缆或用卡钉固得过紧, 会引起火灾或触电的危险。






将油放在小孩拿不到的地方。

## 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                                     |  缝纫过程中，不要触摸任何运动部件或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。                 |
|  本缝纫机不能用于除缝纫外的任何其他用途。                                      |  缝纫机头倒下时，请一定要固定工作台，不可使其随意移动。                                  |
|  使用缝纫机时必须戴上保护眼镜。   | 工作台移动容易发生脚等被夹住事故，是导致人身事故的原因。   |
|  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镜并造成伤害。                    |  缝纫机头倒下或竖起时，请用双手操作。   |
|  发生下列情况时，请切断电源。  | 单手操作时因缝纫机的重量万一滑落容易导致受伤。  |
|  否则误按开关缝纫机动作会导致受伤。   |  如果缝纫机操作中发生误操作，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。 |
| <ul style="list-style-type: none"><li>● 机针穿线时</li><li>● 更换机针或梭芯时</li><li>● 缝纫机不使用，或人离开缝纫机时</li></ul>  |  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                                 |
|  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。 |  |

### 清洁

- |   |   |
|---|---|
|  在开始清洁作业前，请切断电源。             |  使用润滑油和黄油时，务必戴好保护眼镜和保护手套等，以放润滑油落入眼中或沾在皮肤上，这是引起发炎的原因。 |
|  如果误按开关缝纫机动作会导致人员受伤。         | 另外，润滑油或黄油不能饮用，否则会引起呕吐和腹泻。   |
|  缝纫机头倒下时，请一定要固定工作台，不可使其随意移动。 | 将油放在小孩拿不到的地方。   |
| 工作台移动易发生脚等夹住事故，是导致人身事故的原因。  |   |
|  缝纫机头倒下或竖起时，请用双手操作。          |   |
| 单手操作时因缝纫机的重量万一滑落易导致受伤。  |   |

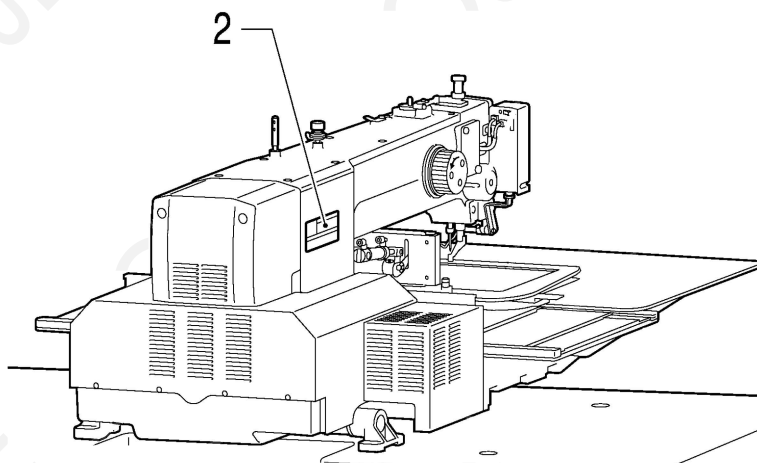
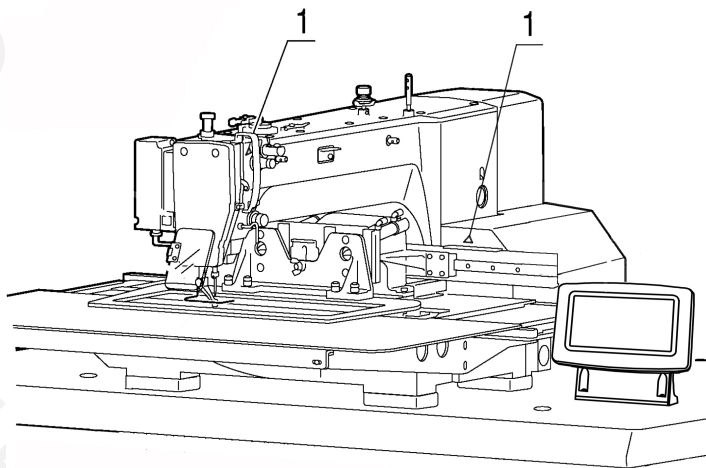
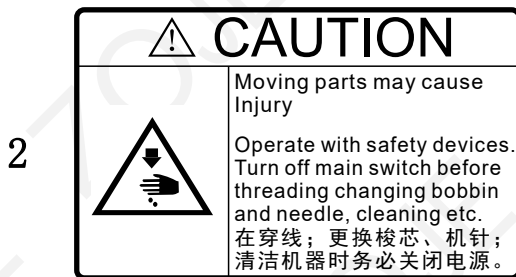
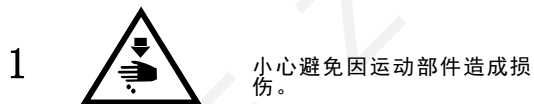
### 保养和检查

- |  |  |
|--|--|
|  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。     |  缝纫机头倒下时，请一定要固定工作台，不可使其随意移动。工作台移动易发生脚等被夹，导致人员事故。  |
|  与电气有关的维修、保养和检验请委托购买商店或电气专业人员维修。  |  缝纫机头倒下或竖起时，请用双手操作，单手操作万一滑落容易导致受伤。                |
|  发生下列情况时，请关闭电源，并从电源插座上拔下插头。       | 更换零件或安装可选附件时，请务必使用正品零件。否则将不承担由使用非正品零件而造成的任何事故或故障责任。  |
| 否则误按开关时缝纫机会导致误伤。   |  安全保护装置再次安装时，请务必安装在原位上，并检查能正常发挥作用。                |
| <ul style="list-style-type: none"><li>● 检查、调整和维修</li><li>● 更换旋梭，切刀容易损零部件</li></ul>                                   |  为防止发生事故及故障，请勿擅自改造本缝纫机。我们将不承担由改造缝纫机而造成的任何事故及故障责任。 |
|  打开马达罩盖前，务必先关闭电源，等待一分钟后，再执行操作。    |  |
| 触摸马达表面可能会导致烫伤。   |  |
|  在接上电源开关进行调整时，务必切换到保养模式，遵守所有注意事项。 |  |

### [3] 警告标签

缝纫机上有下列警告标签。

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，请和购买商店联系。



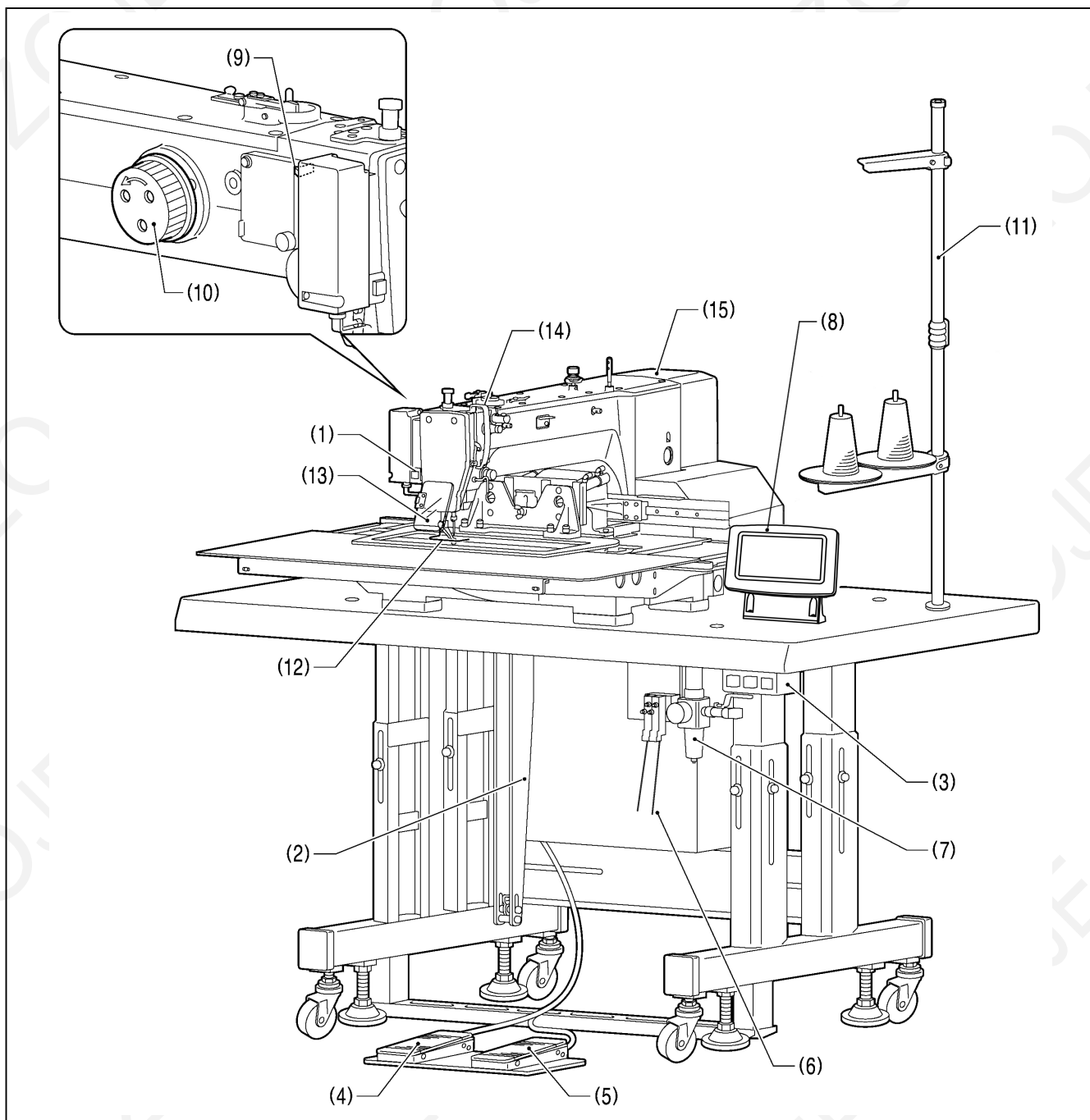
# 目 录

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1. 主要零部件的名称 .....	1	7-9. 动刀的位置调整 .....	20
2. 规格 .....	2	7-10. 动刀和定刀的更换方法 .....	22
3. 工作台板加工图 .....	3	7-10-1. 送料板的安装方法 .....	23
4. 安装方法 .....	4	7-11. 扫线器的调整 .....	23
4-1. 头部固定用螺栓的拆除方法 .....	4	7-12. 间歇压脚的安装位置 .....	24
4-2. 缝纫机头的倒下及竖起的方法 .....	5	7-13. 间歇压脚行程的变换 .....	24
4-3. 减震器的安装方法 .....	6	7-14. 压脚上升量的调整 .....	26
5. 缝纫前的准备 .....	9	7-15. 空气压力的调整 .....	26
5-1. 机针的安装方法 .....	9	8. 故障检修 .....	27
5-2. 2 连脚踏开关的操作方法 .....	9		
5-3. 面线的穿法 .....	10		
5-4. 底线的绕线方法 .....	11		
5-5. 梭芯套的装取方法 .....	12		
5-6. 缝纫张力 .....	13		
5-6-1. 底线的张力 .....	13		
5-6-2. 面线的张力 .....	13		
6. 保养 .....	14		
6-1. 旋梭的清扫 .....	14		
6-2. 废油 .....	14		
6-3. 调节器的点检 .....	15		
6-4. 控制箱进气口的清扫 .....	15		
6-5. 护眼板的清洁 .....	15		
6-6. 机针的检查 .....	15		
6-7. 加油 .....	15		
7. 标准调整 .....	16		
7-1. 挑线簧的调整 .....	16		
7-2. 机壳线导向 R 的调整 .....	17		
7-3. 针杆高度的调整 .....	17		
7-4. 针杆上升量的调整 .....	17		
7-5. 梭托导针部的调整 .....	18		
7-6. 针隙的调整 .....	18		
7-7. 旋梭导线器的调整 .....	18		
7-8. 旋梭供油量的调整 .....	19		

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# 1. 主要零部件的名称



- (1) 暂停开关
- (2) 机头支撑架
- (3) 电源开关
- (4) 压脚开关
- (5) 启动开关
- (6) 控制箱
- (7) 电磁阀
- (8) 操作盘
- (9) 扫线用开关
- (10) 手轮
- (11) 线架

### 安全保护装置

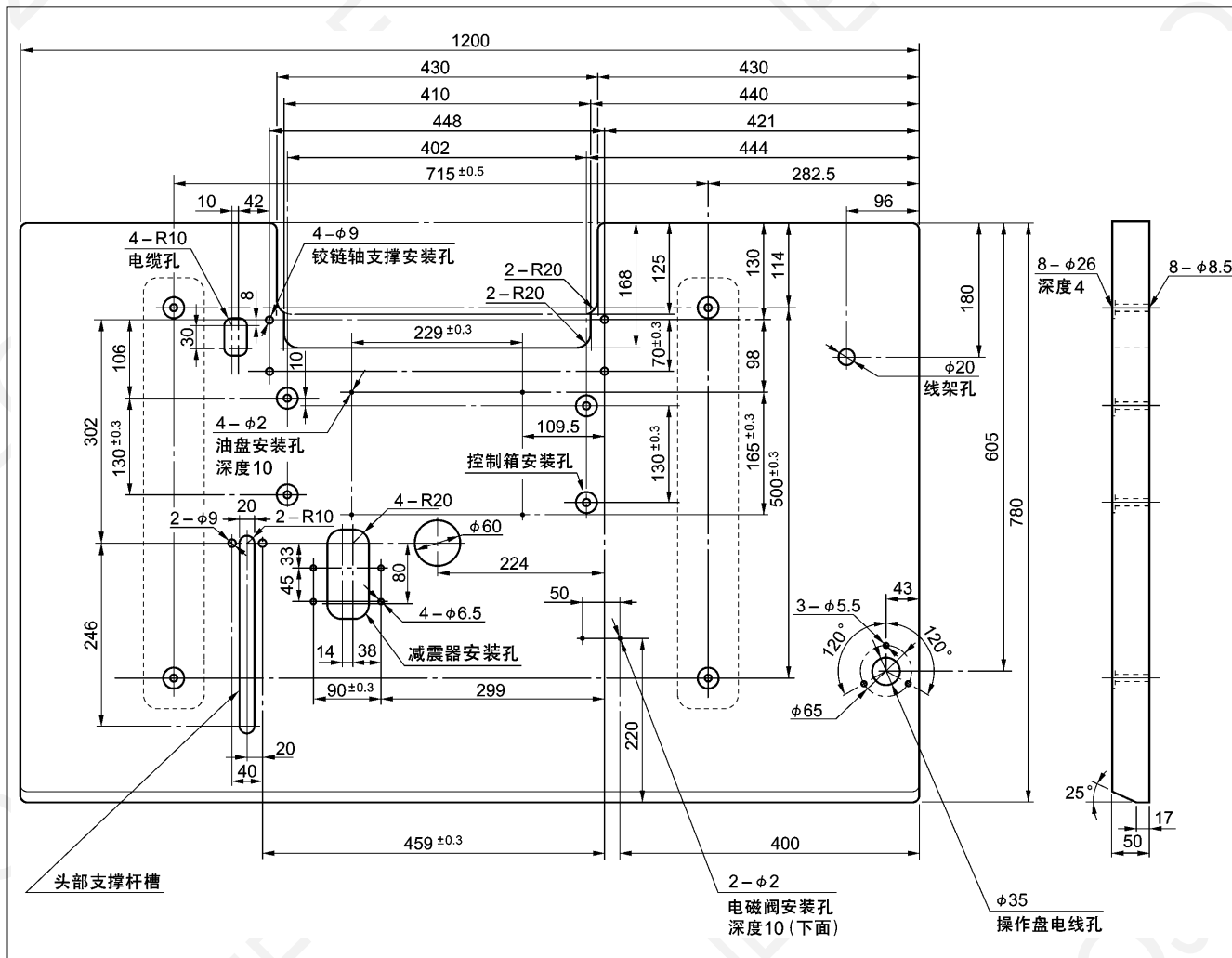
- (12) 护指器
- (13) 护眼板
- (14) 挑线杆防护罩
- (15) 马达罩

## 2. 规格

使用的缝纫机	平缝花样缝缝机(带大旋梭)
线迹形式	单针平缝
最高缝纫速度	2,800rpm
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	0.1~12.7mm
使用机针	DP×17 DP×5
拾压脚方式	空压式
压脚上升量	最大30mm
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
扫线装置	标准
切线装置	标准
数据存储方式	内存\U盘
马达	伺服马达750W
电源	220V±10%, 50\60Hz
空气压力	0.5 MPa 1.8 l/min

### 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，并经的起缝纫机的震动。
- 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。

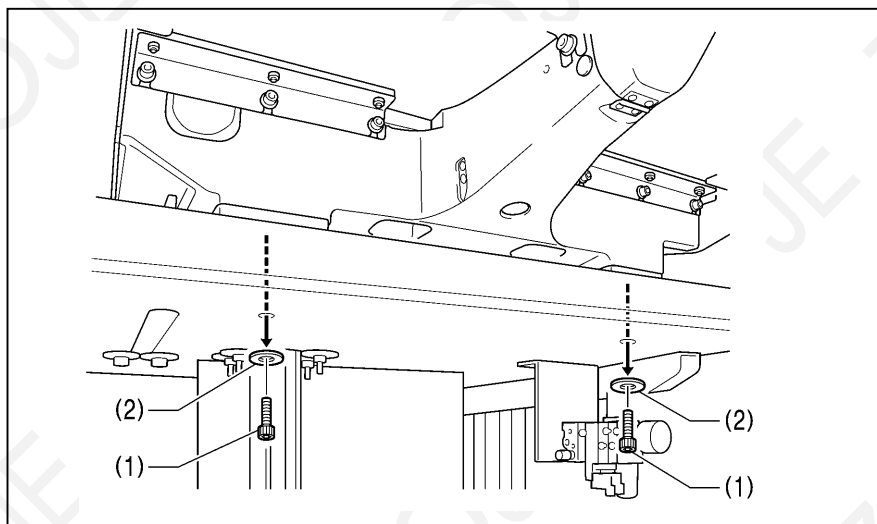


## 4. 安装方法

### ⚠ 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。
- ⚠ 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。


### 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。

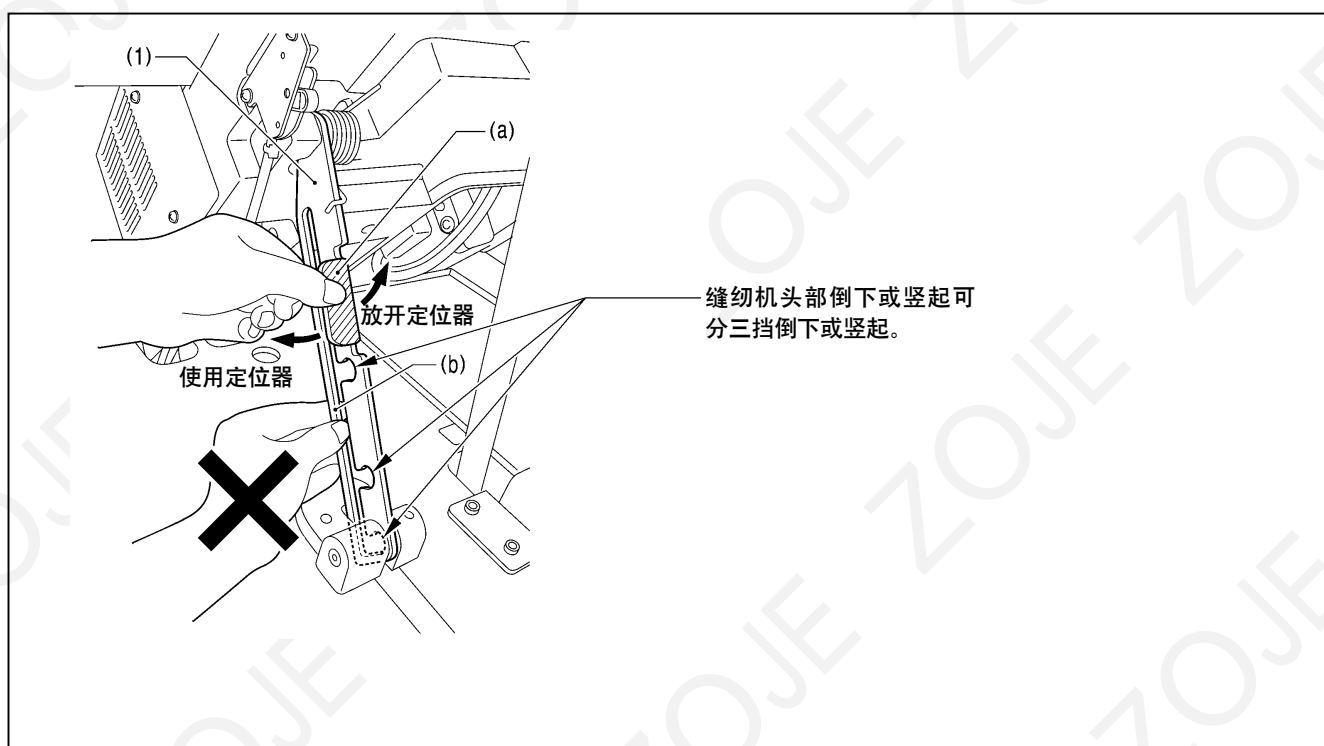
## 4-2. 缝纫机头的倒下及竖起的方法

### ⚠ 注意

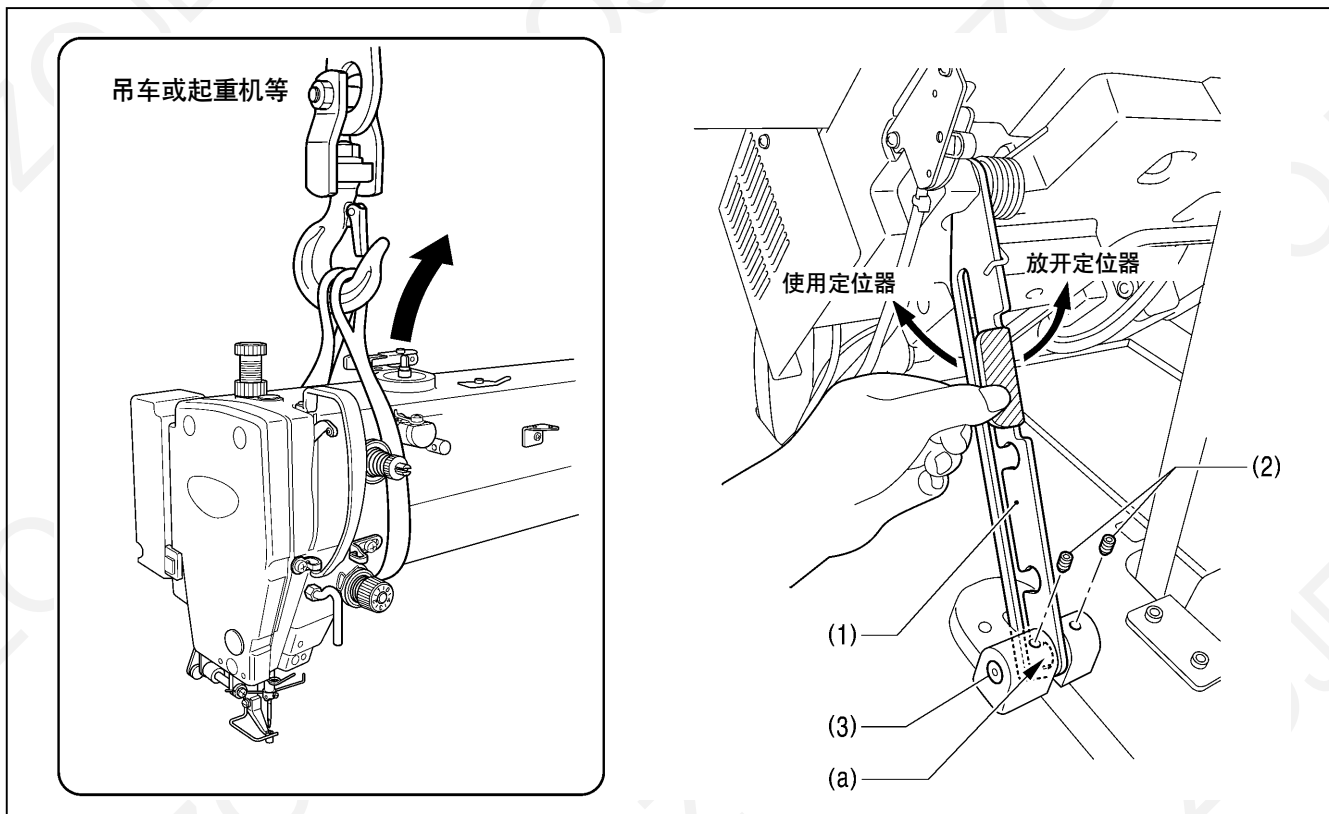
 缝纫机头倒下或竖起时，请用双手进行操作。  
另外在缝纫机头倒下的状态下，请不要用力压缝纫机。如缝纫机失去平衡，缝纫机头滑落到地上是造成受伤或缝纫机损坏的原因。

 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。



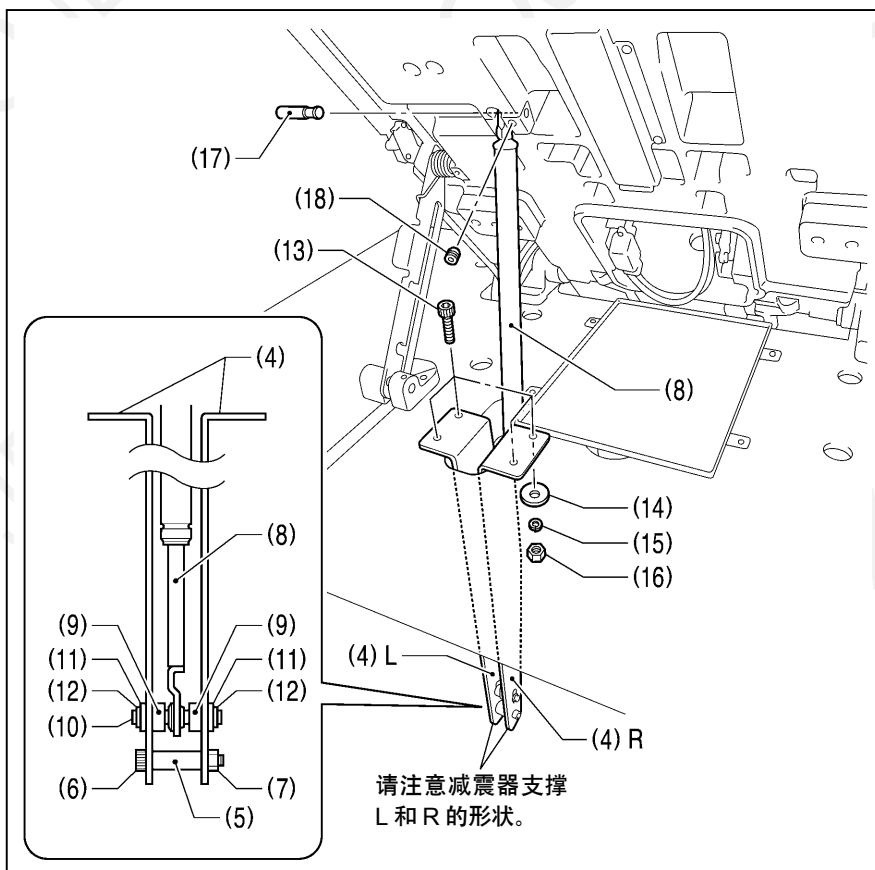
### 4-3. 减震器的安装方法



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「4-2. 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

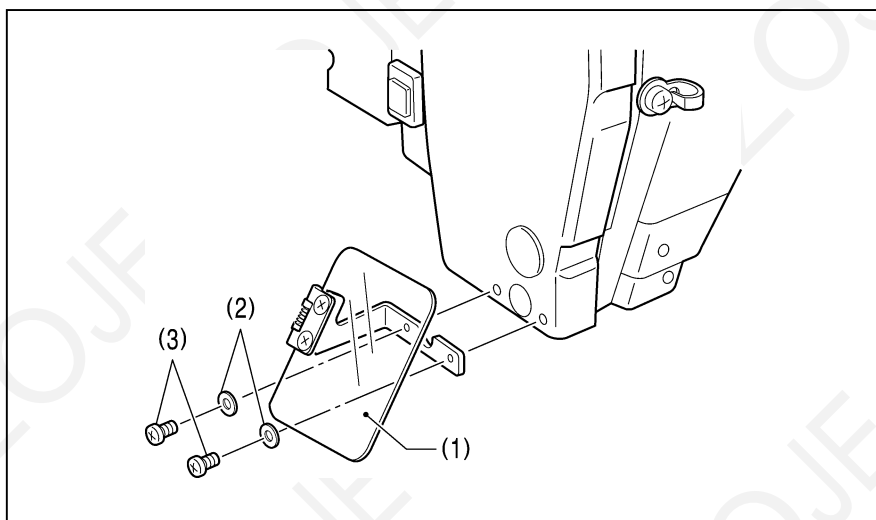
\* 安装完减震器(8)后，将缝纫机头部慢慢竖起。  
(参考「4-2. 缝纫机头的倒下及竖起的方法」)

### 4-4. 护眼板的安装方法

#### ⚠ 注意

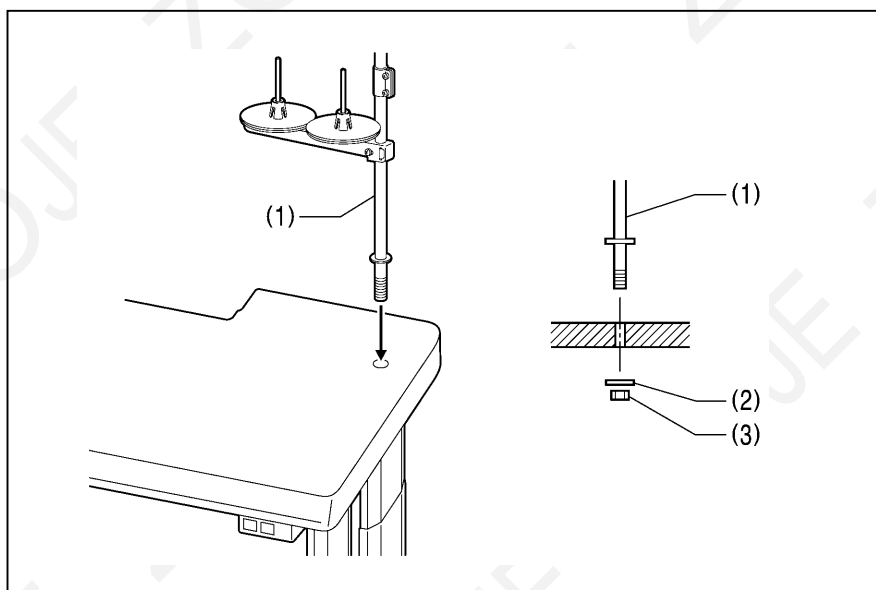


为了安全起见，在使用本缝纫机之前，请安装保护装置。  
如果未安装这些安全装置就使用缝纫机，会造成人身伤害及缝纫机损坏。



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

### 4-5. 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- 6. 供油

### ⚠ 注意

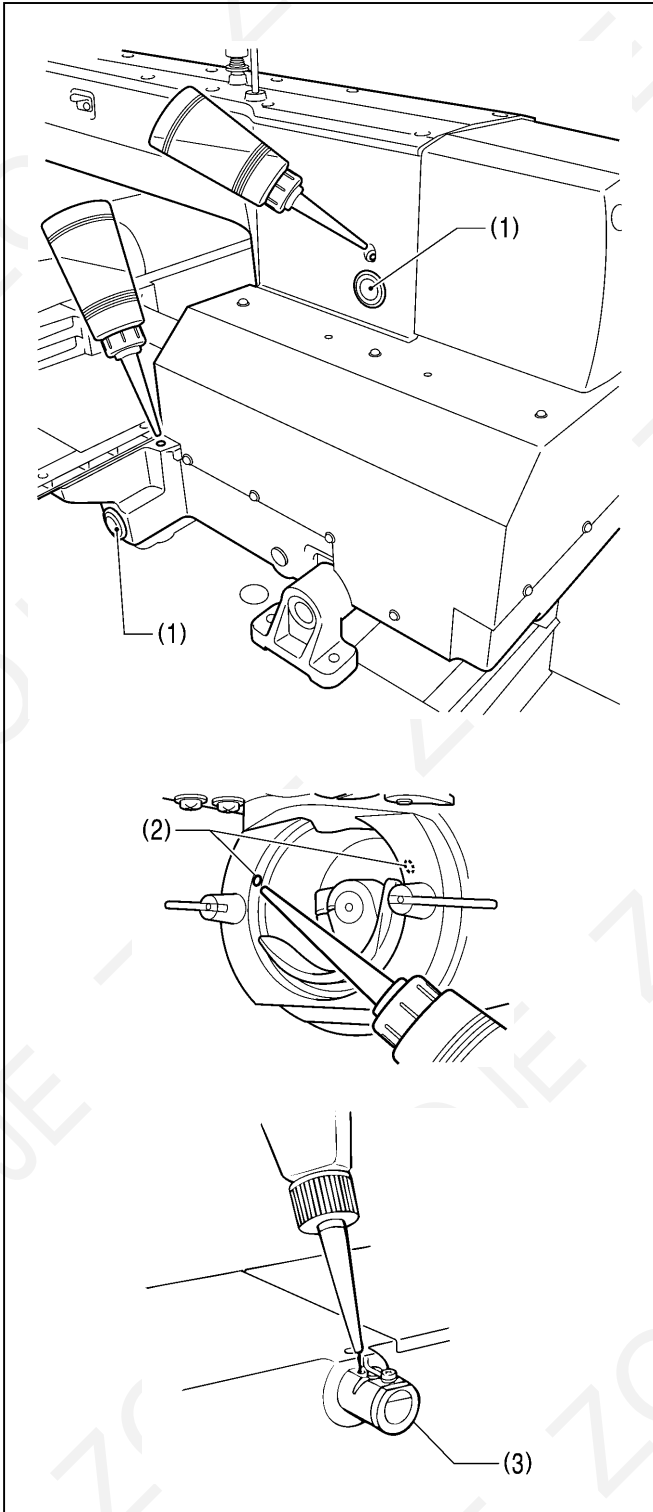


在加油未完成前，请勿插上电源。  
如果误踩脚开关，缝纫机动作会导致受伤。



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。



- 第一次使用缝纫机或长时间未使用缝纫机时，必须要补充机油。
- 请使用10#缝纫机白油。

SM10; VG10)。

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(100mm<sup>2</sup>/s)。

(冷却液槽(3)的使用方法参考「5-3. 面线的穿法」)

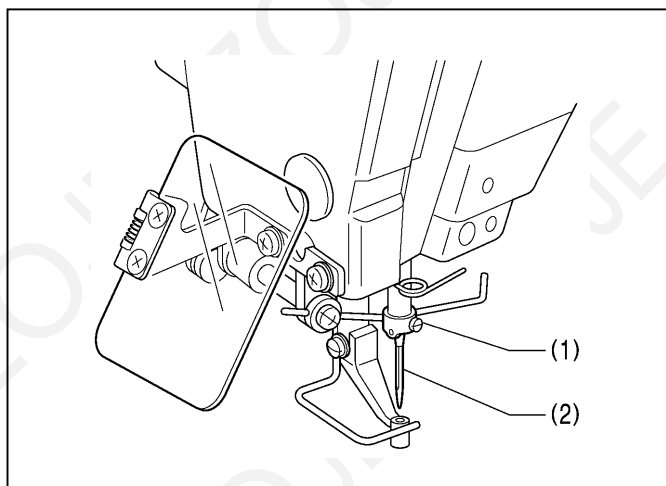
## 5. 缝纫前的准备

### 5-1. 机针的安装方法



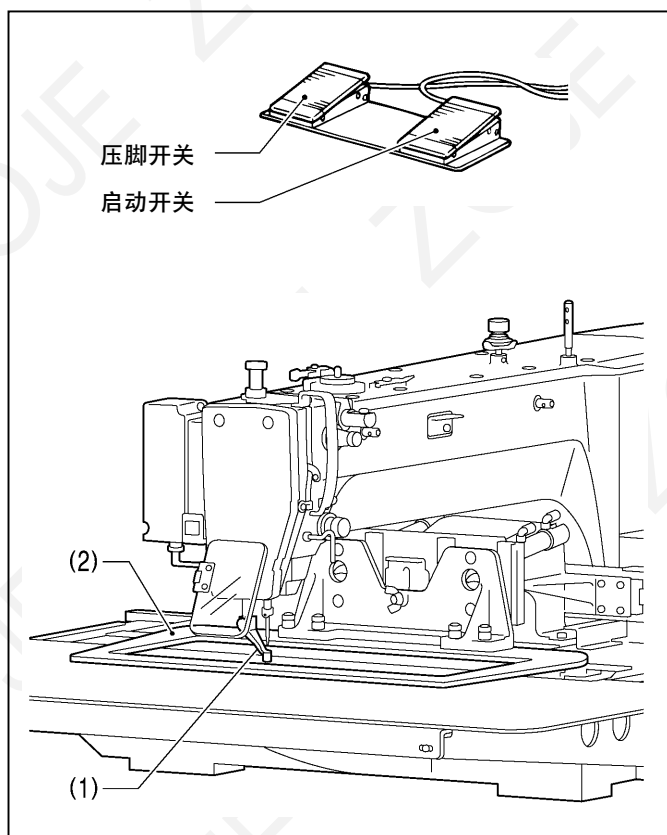
安装机针时，请切断电源。

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

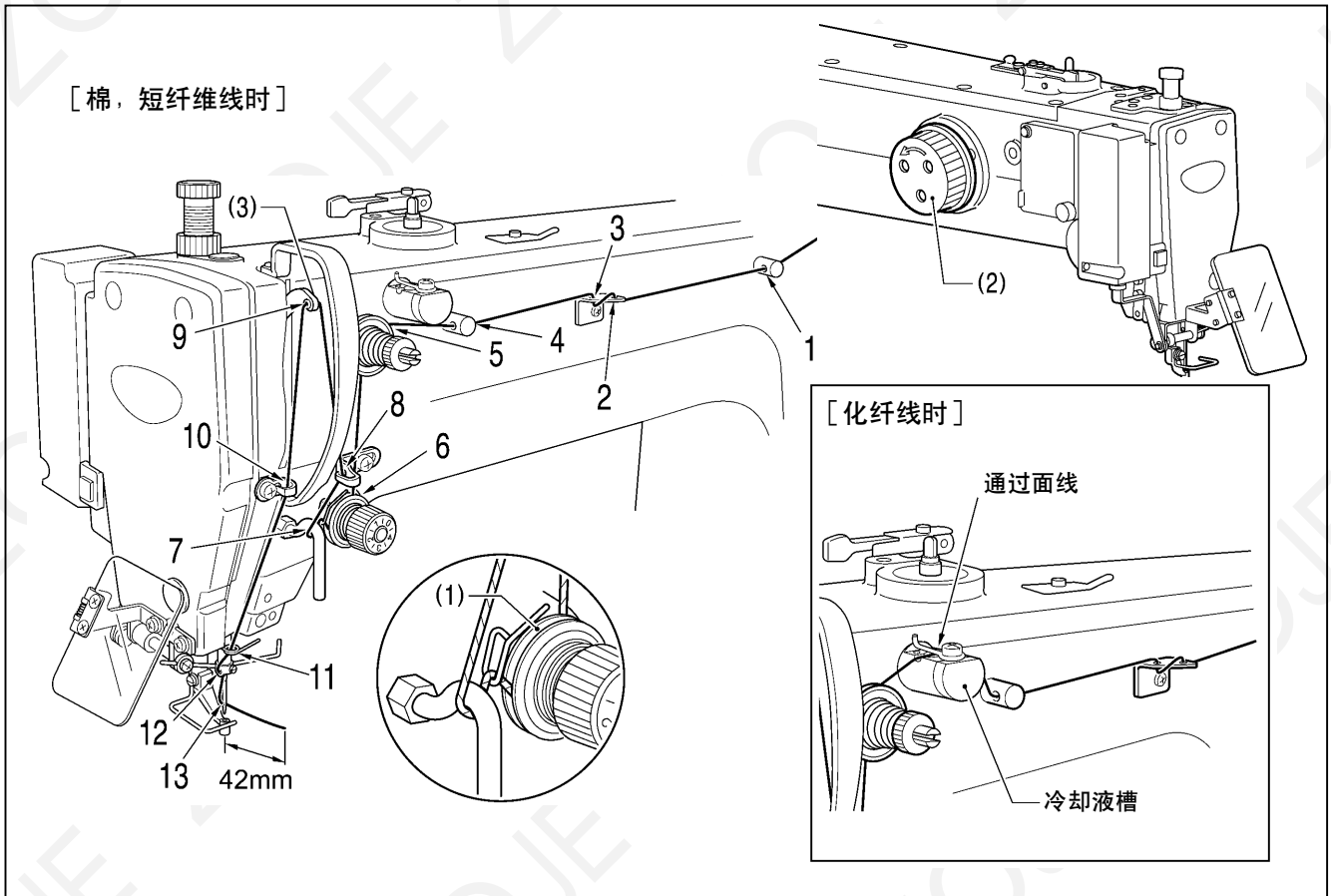


当踩下压脚开关(左侧)时压脚(1)和压脚板(2)下降，当踩下启动开关(右侧)时缝纫机启动。

### 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)



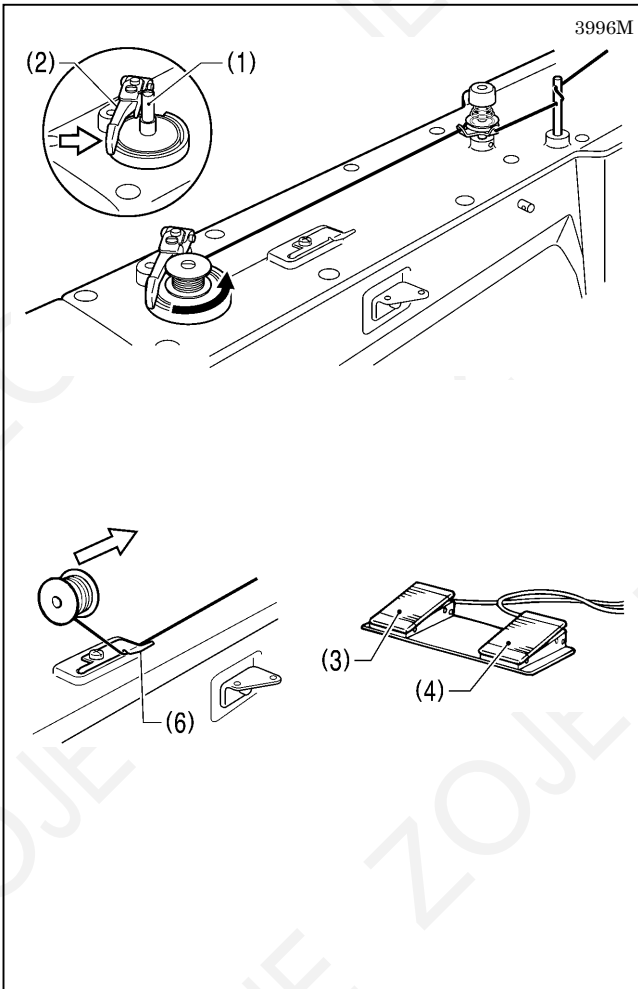
- 回转缝纫机手轮(2)，请将挑线杆(3)调到最高点后，进行穿线。  
(容易穿线，且可防止开始缝纫时的脱线。)
- 在线穿过机针后，从机针孔处留出线的长度为42mm左右。  
如留出的线过长有可能会打结。

5-4. 底线的绕线方法

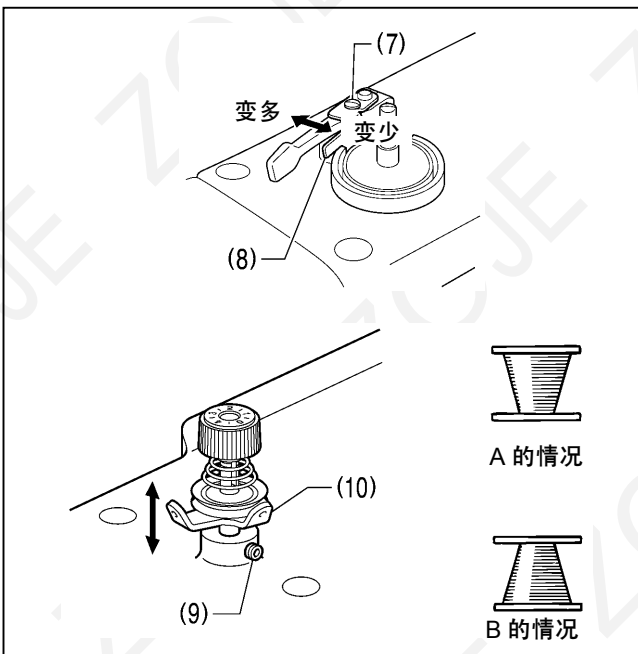
**注意**



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. 先踩下压脚开关(3)，放下压脚板后，再踩下启动开关(4)。(进行原点检出。)
5. 确认机针不碰到压脚板。
6. 再一次踩下压脚开关(3)，压脚板降下。
7. 然后按着绕线键，踩下启动开关(4)。
8. 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。
9. 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。

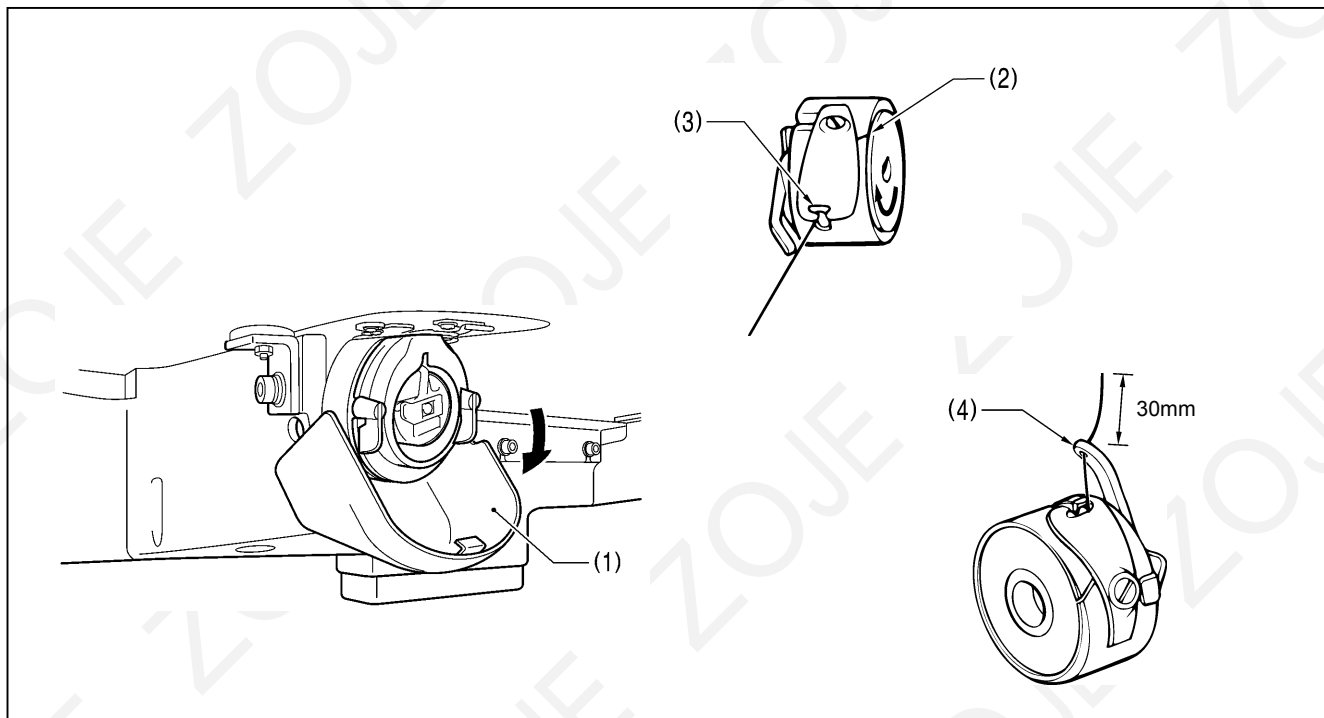
\* A的情况，将卷线器夹线组件(10)向下移动，B的情况，正好相反，向上移动。

### 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

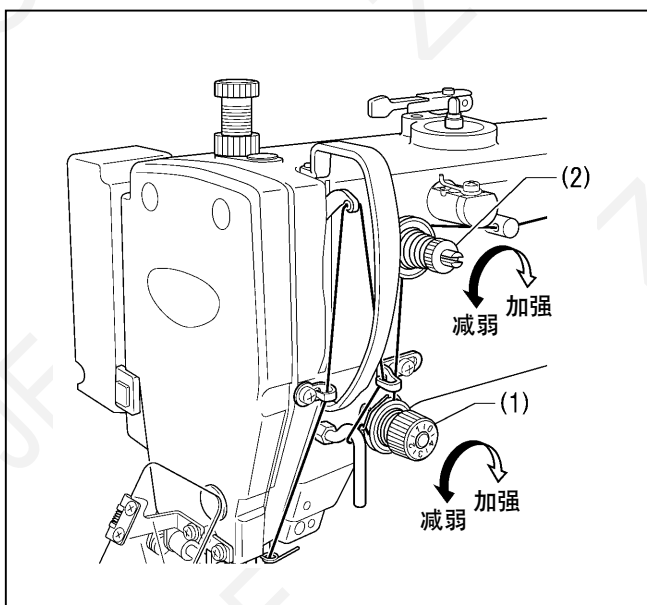
面线	相当#20号
底线	相当#20号
面线的张力(N)	1.4~1.8
底线的张力(N)	0.3~0.4
预张力(N)	0.2~0.4
机针	DP×17#19

### 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，使面线残留在42mm左右的范围内。

## 6. 保养

### ⚠ 注意



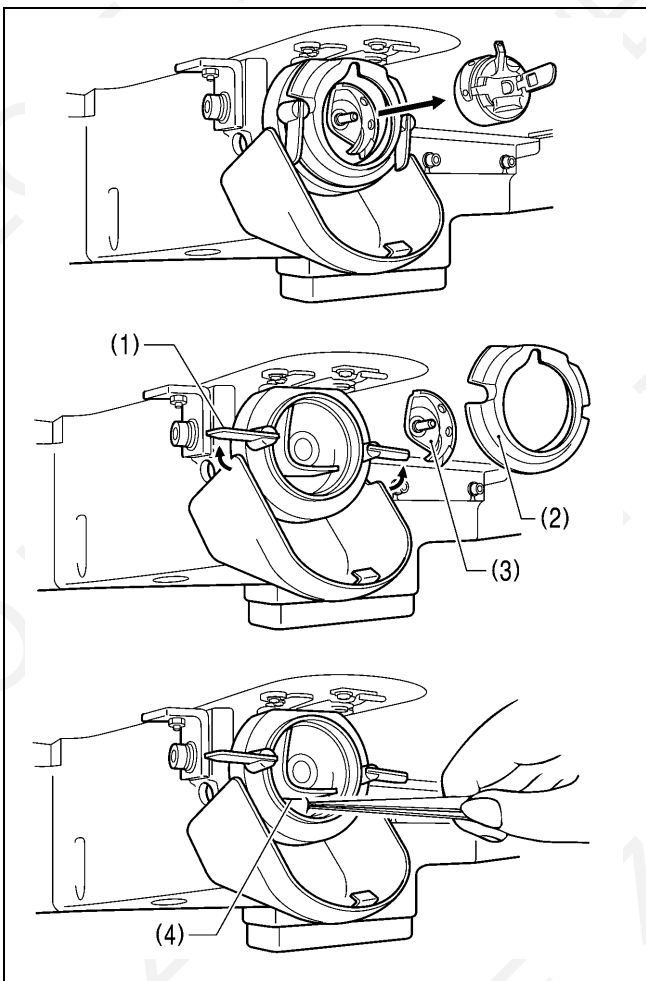
在开始清洁作业前，请切断电源。  
如果误踩了脚开关，缝纫机动作会导致人员受伤。



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。

### 6-1. 旋梭的清扫

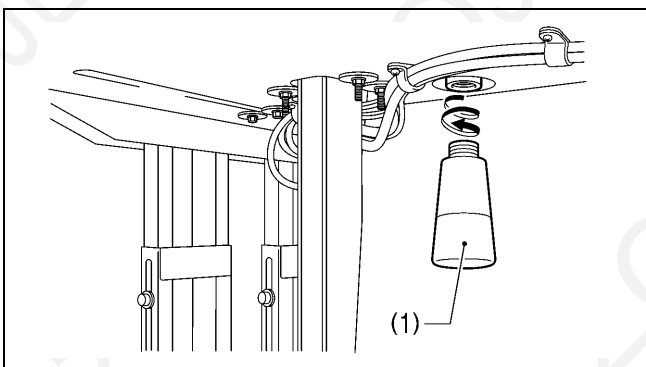


1. 将大旋梭盖向下拉开，取出梭芯盒。

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。

### 6-2. 废油

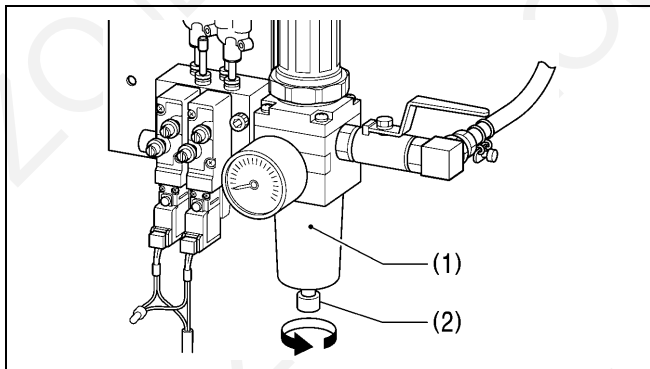


1. 当油壶(1)内积满了废油时，请拆下油壶(1)，并清除里面的废油。

2. 清除完后，将油壶(1)拧回到原来位置。

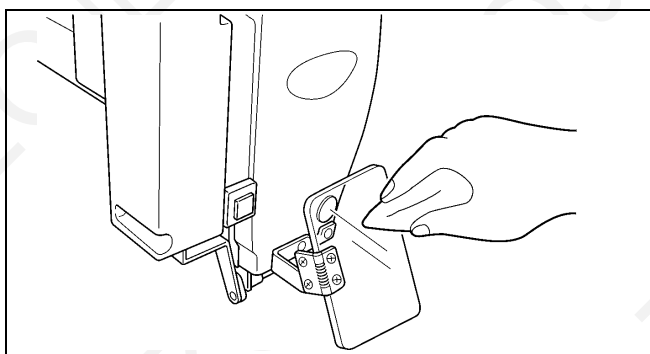
\*请遵守废油处理法规，正确处理废油。

### 6-3. 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)。

### 6-4. 护眼板的清洁

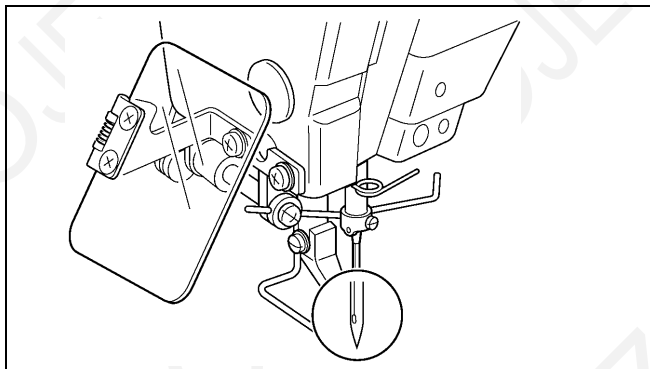


护眼板污秽时, 请用软布将其擦拭干净。

**[注意]**

请勿使用有机溶液如汽油或稀释剂清洁护眼板。

### 6-5. 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。

### 6-6. 加油

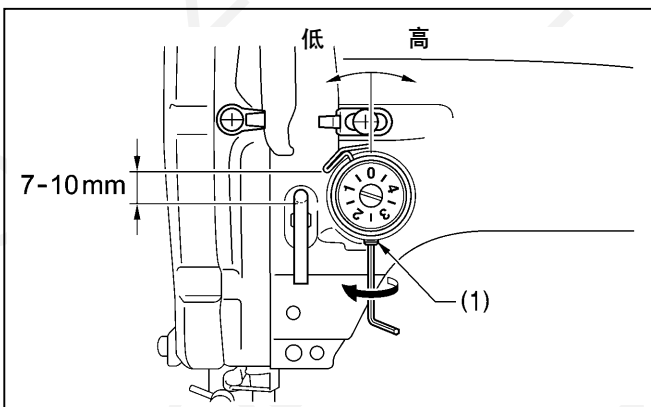
参考「4-8. 加油」所述, 添加机油。

## 7. 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。

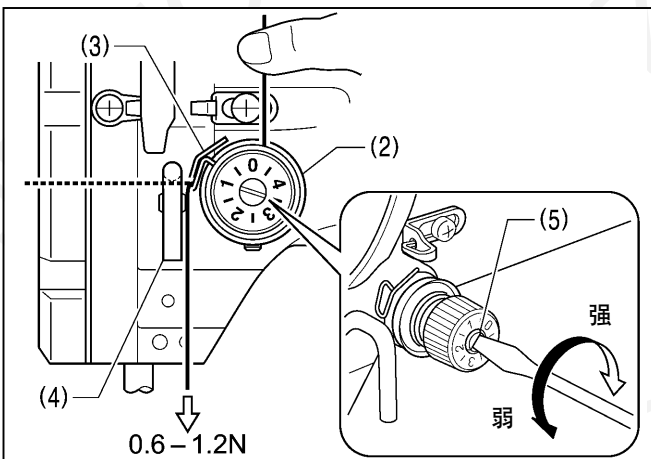
### 7-1. 挑线簧的调整



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。



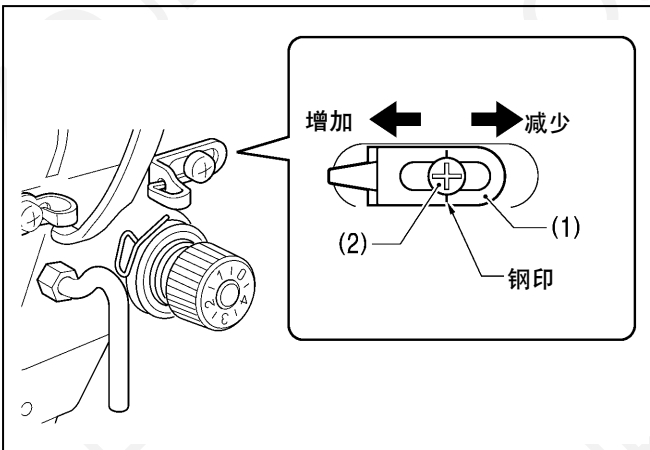
#### <挑线簧强度>

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。

### 7-2. 机壳线导向R的调整

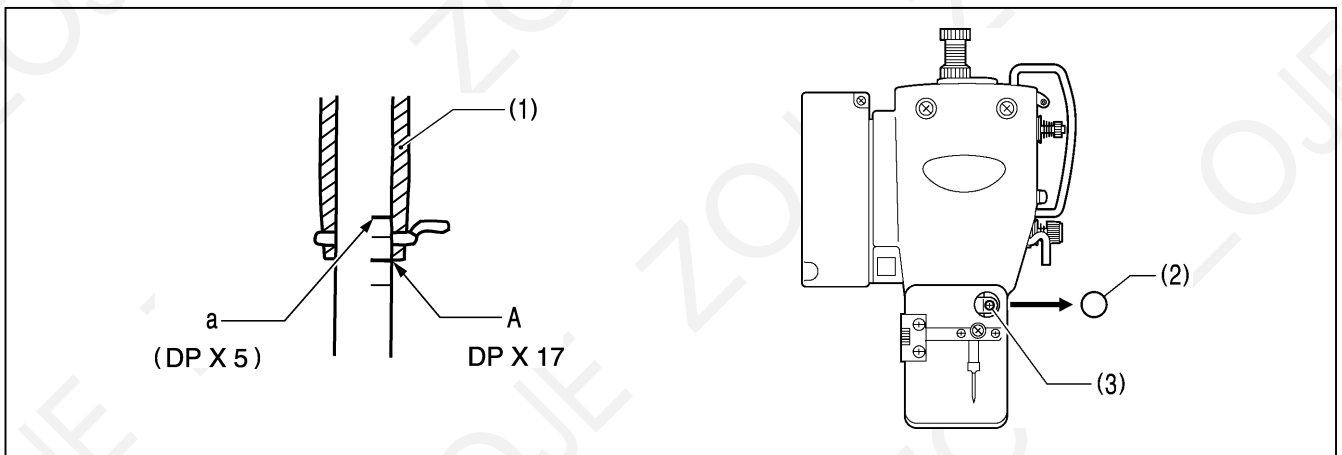


机壳线导向R(1)的位置，当螺钉(2)被固定在钢印的位置时为标准位置。

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。)

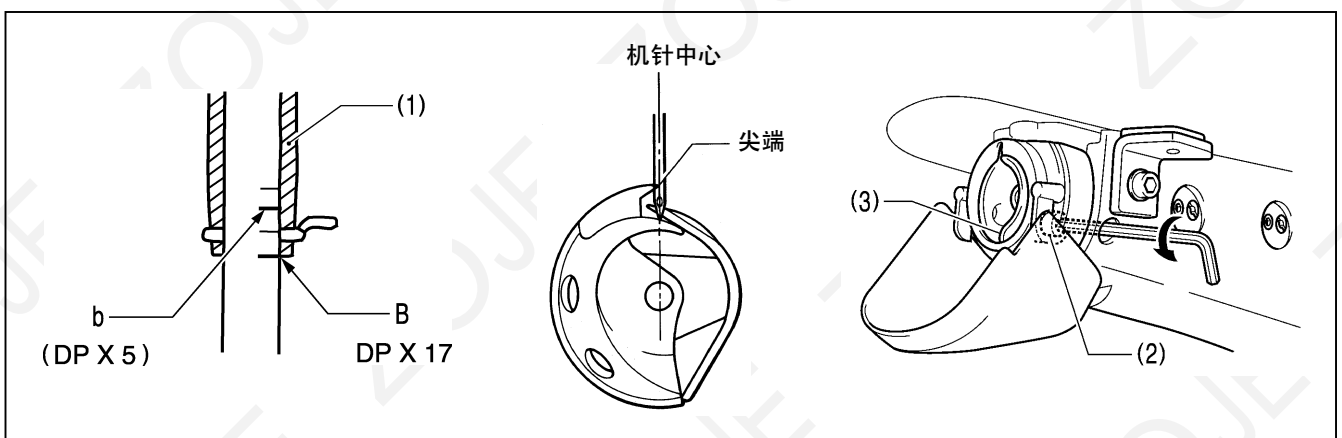
### 7-3. 针杆高度的调整



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。

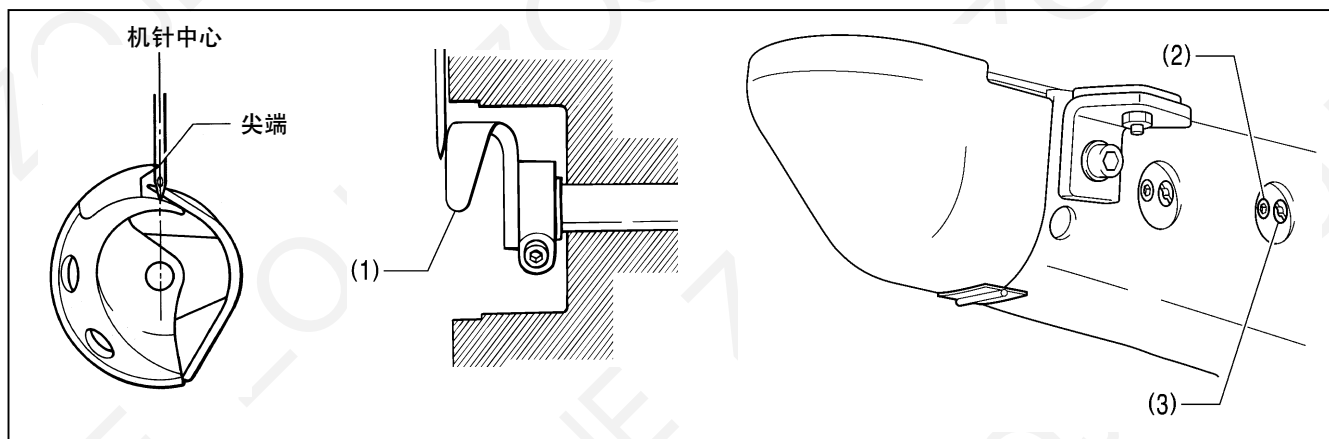
### 7-4. 针杆上升量的调整



转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。

### 7-5. 梭托导针部的调整

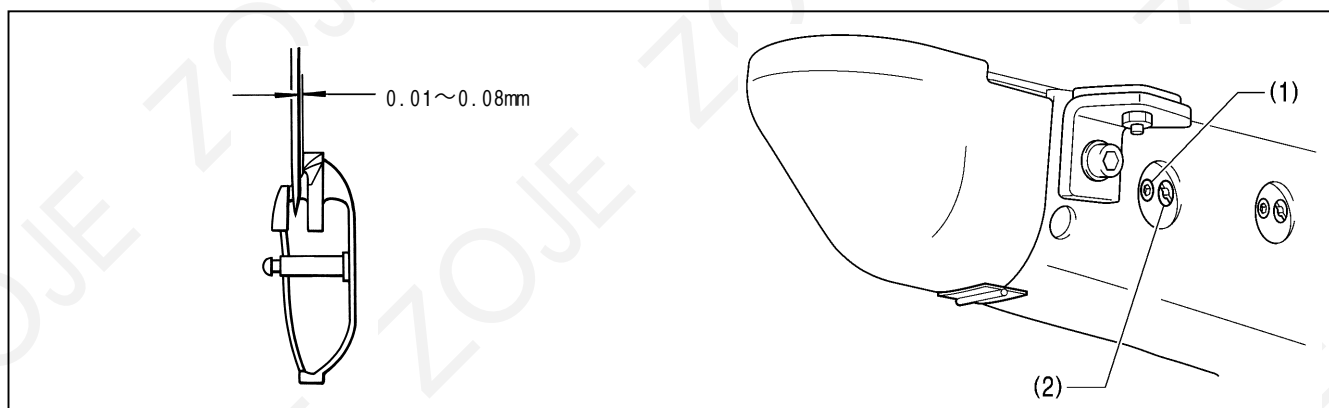


转动手轮使旋梭尖端与机针中心对齐时，梭托导针部(1)好象要与机针接触似的，松开螺钉(2)，转动旋梭调节轴(3)进行调整。

**【注意】**

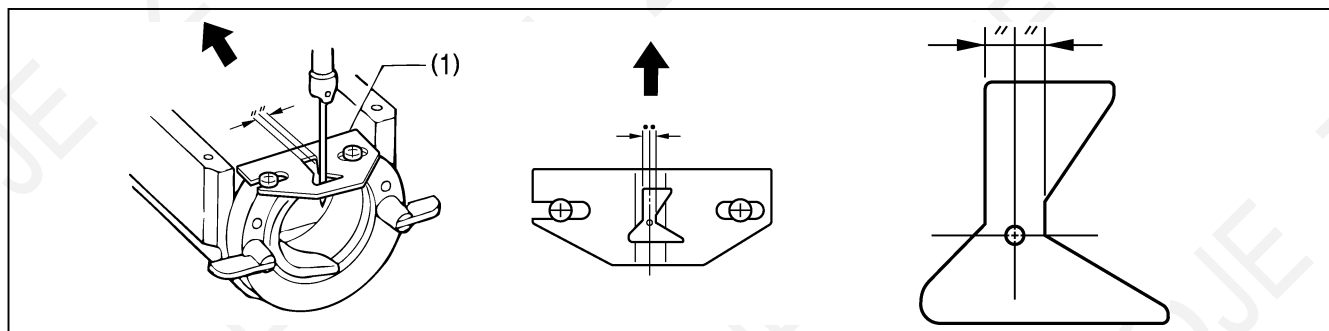
如果导针部的过度导入会使机针的负担加重，还会引起夹线不良。此外，如果导针部不导入，则中旋梭的梭尖端会和机针相接触，会产生跳针的原因。

### 7-6. 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。

### 7-7. 旋梭导线器的调整

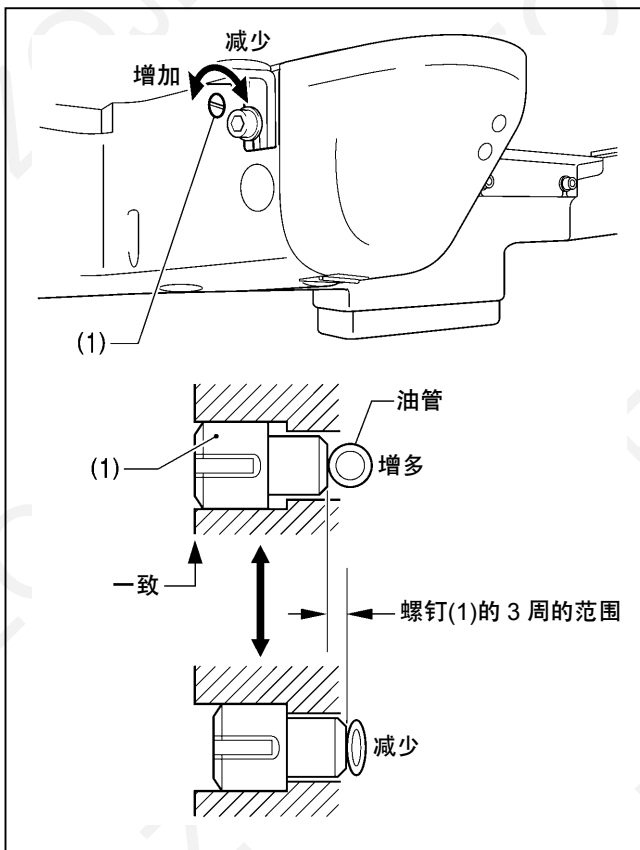


左右位置是将旋梭导线器(1)的针槽作为机针中心的分配位置，前后位置是将旋梭导线器(1)按箭头方向压上并安装的位置。

**【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。

### 7-8. 旋梭供油量的调整

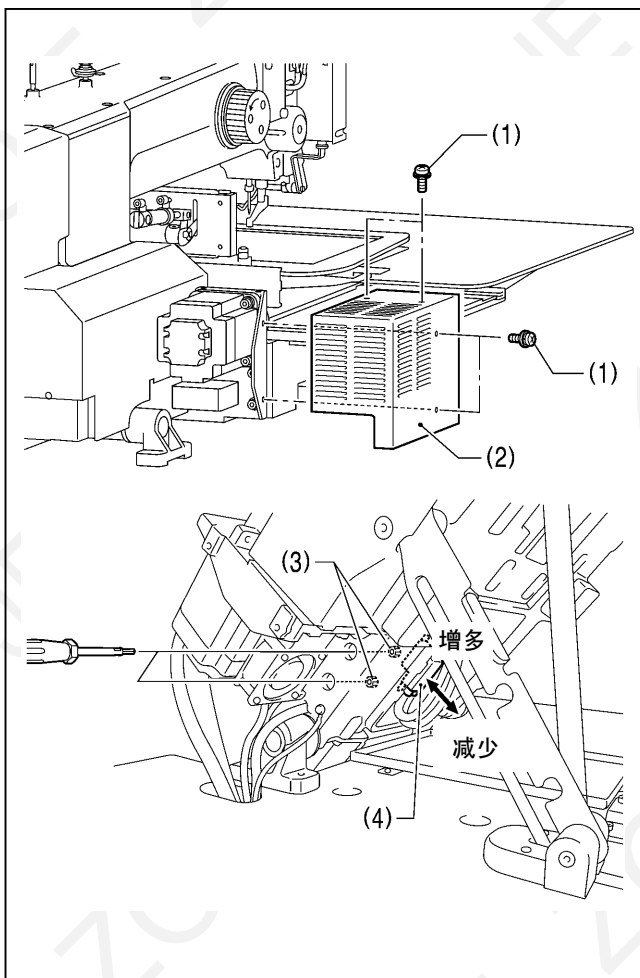


#### <根据油管的压入量进行调整>

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。

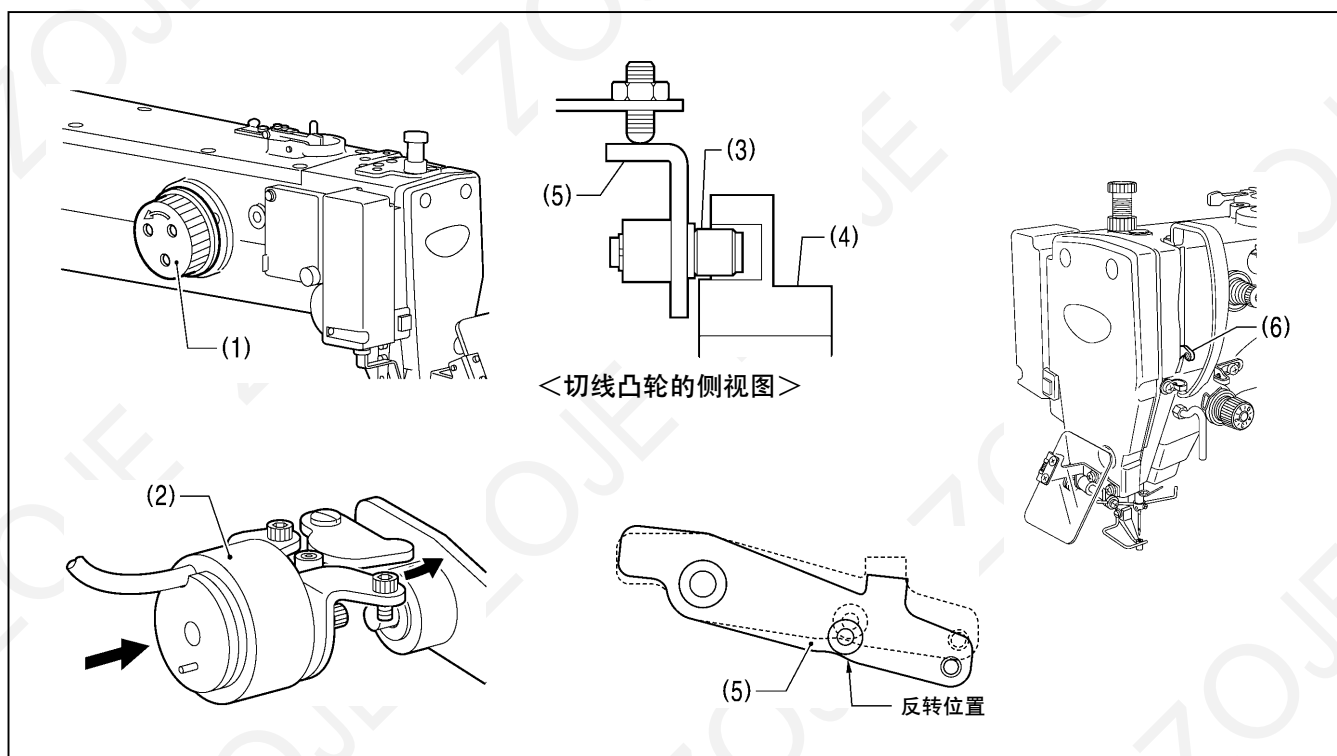
4. 上下移动副油罐(4)进行位置调整后,拧紧螺栓(3)[2个]。

- 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。

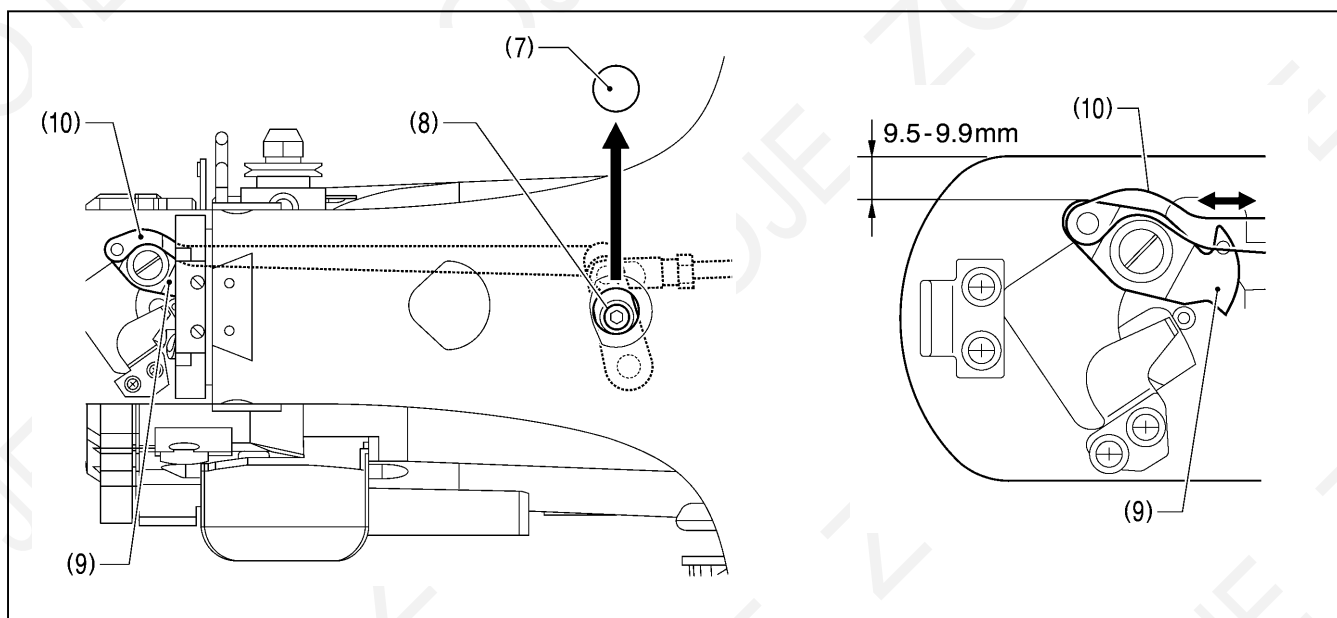
5. 将缝纫机头竖起。

6. 使用螺钉(1)[4个],将X马达罩(2)安装上。

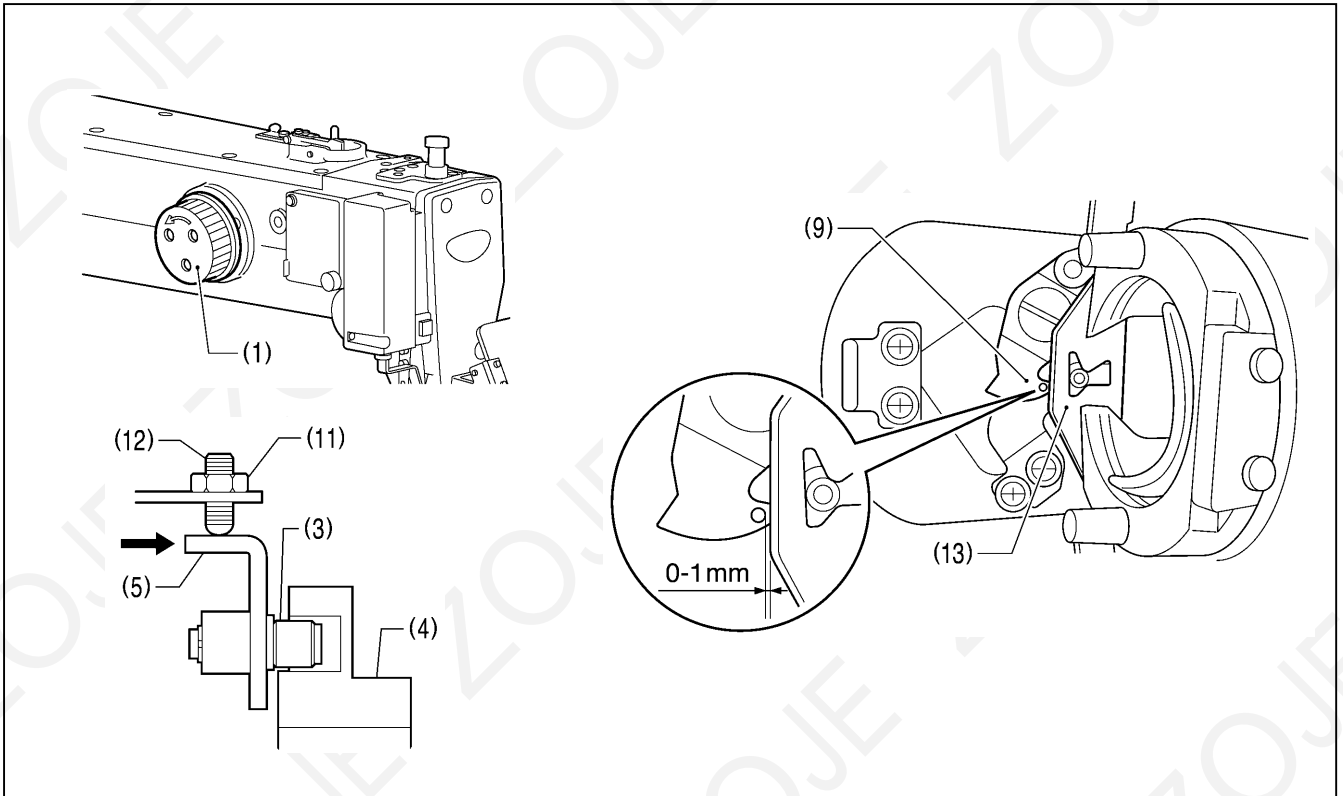
### 7-9. 动刀的位置调整



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)。

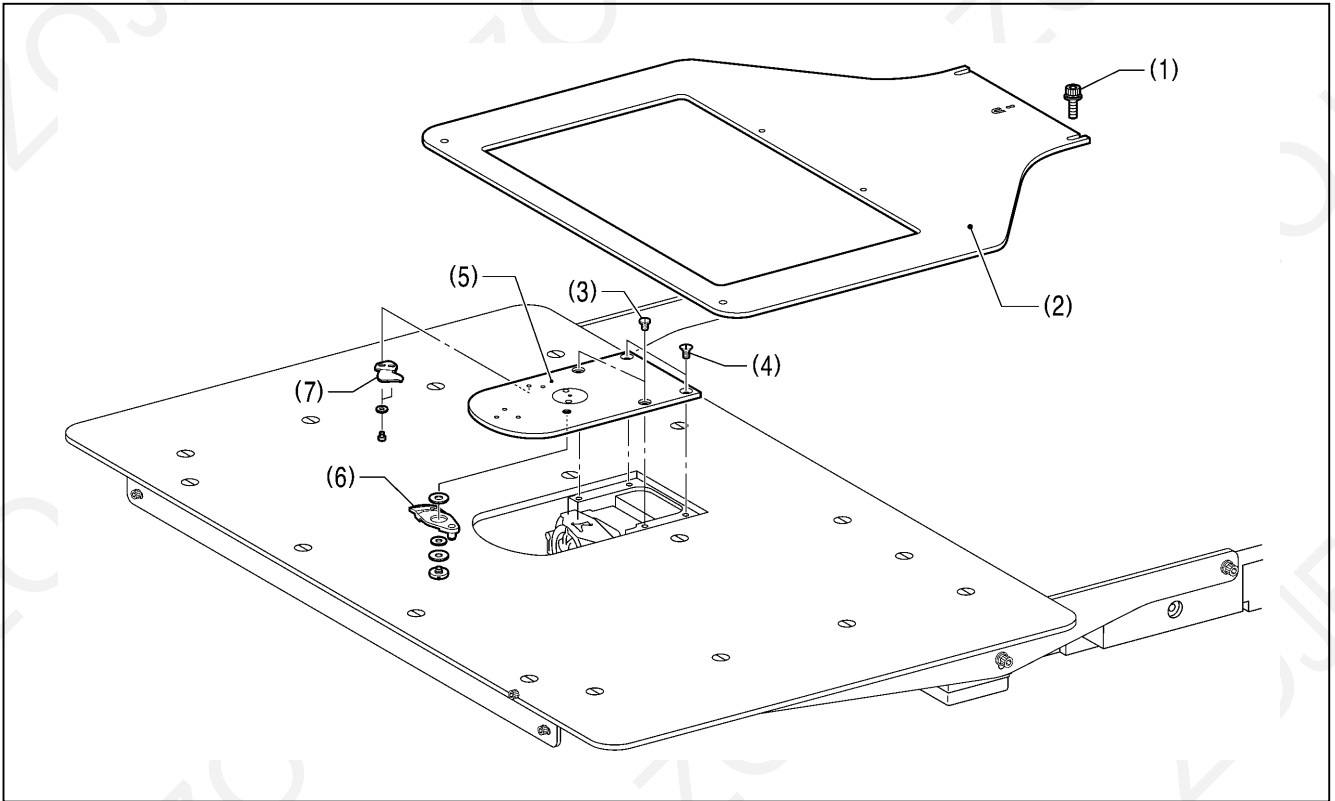


4. 取下橡皮塞(7)。
5. 松开螺栓(8)。
6. 将针板右侧的棱线到动刀(9)的棱线之间的距离保持在 9.5~9.9 mm，前后移动动刀连杆(10)来进行调整。
7. 拧紧螺栓(8)后，再次确认上述的位置。

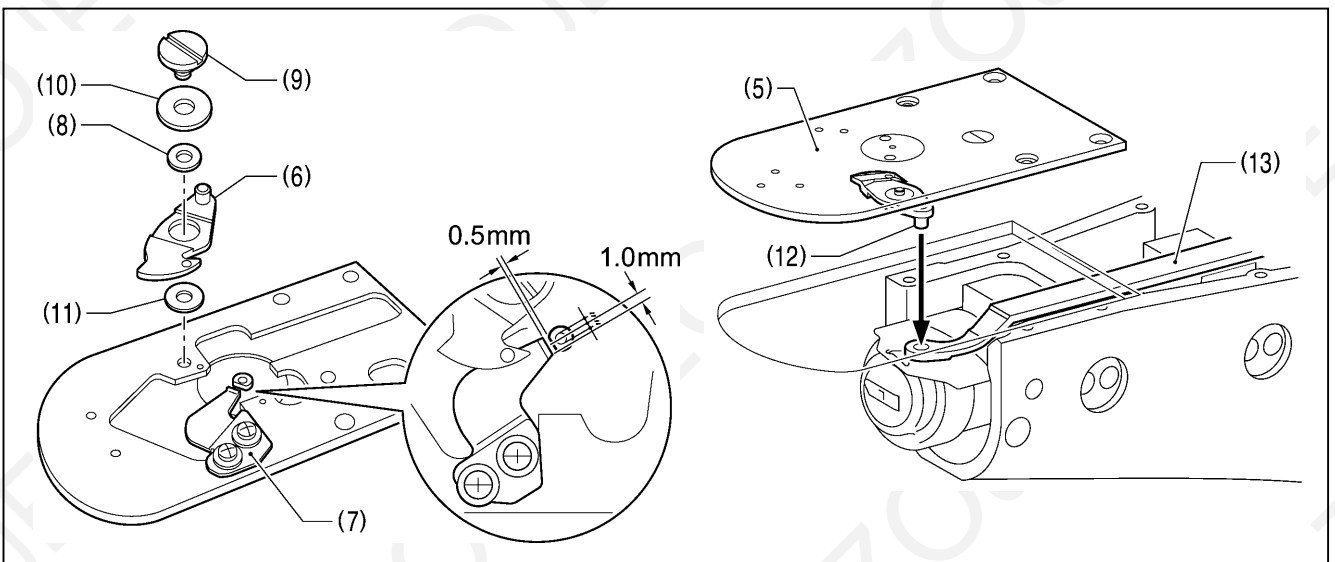


8. 用手转动手轮(1)使针杆置于最低位置。
9. 松开螺母(11)，将嵌入切线凸轮(4)槽中的切线滚轮(3)在碰到其内侧为止后旋紧螺钉(12)，再从此开始将其按逆时针方向回转约1/4转。
10. 旋紧螺母(11)，确认切线滚轮(3)不能接触到切线凸轮(4)的内侧。还有，用手将切线驱动杆(5)推向切线凸轮侧，切线滚轮(3)嵌入到切线凸轮(4)的槽中后，当松开手后确认切线驱动杆(5)应能顺畅地复位。
11. 动刀(9)的孔的外周和旋梭线导向(13)的棱线，在没有空隙的状态下确认其范围在0~1mm之间。

### 7-10. 动刀和定刀的更换方法

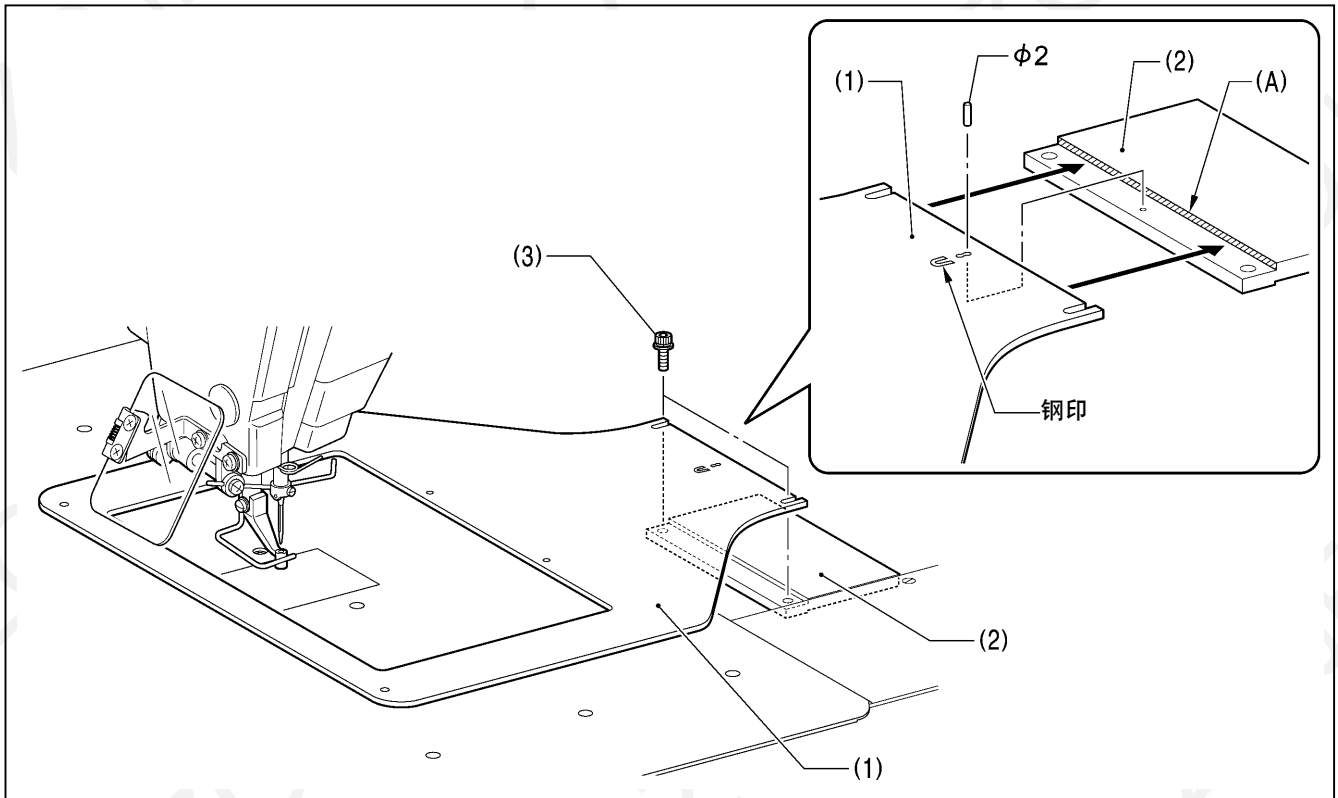


1. 松开螺栓(1) [2个]，拆下送料板(2)。
2. 打开大旋梭盖，旋下螺钉(3)[2个]和螺钉(4)[2个]，拆下针板(5)。
3. 拆下动刀(6)和定刀(7)。



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)

### 7-10-1. 送料板的安装方法

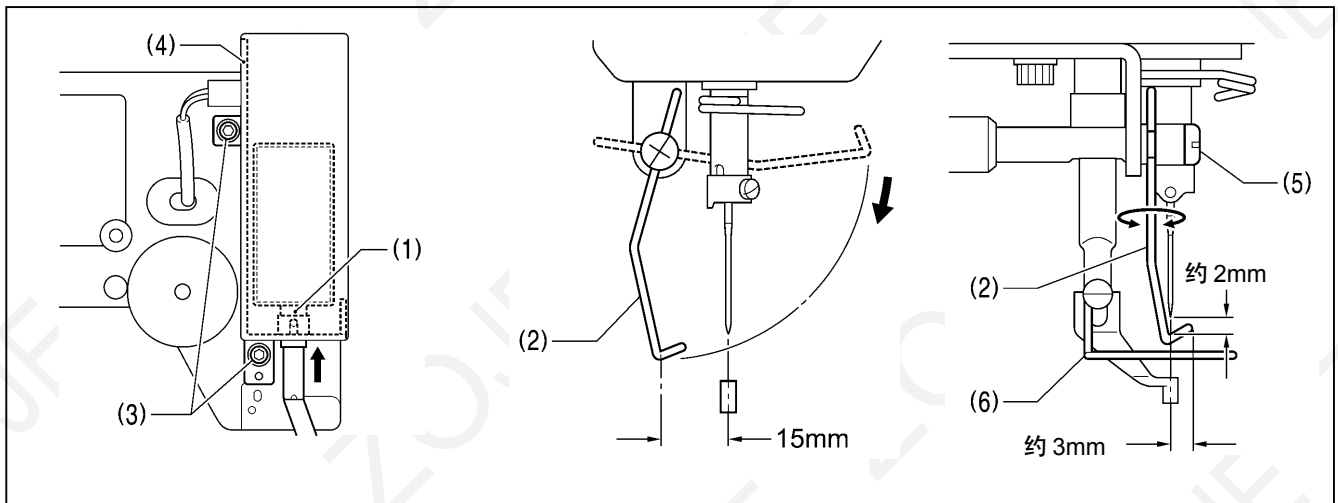


**[注意]**

安装送料板(1)时, 请将有钢印的面向上。

送料板(1)的后端刚好碰到Y基板(2)的段差部(剖面线(A)面), 送料板(1)的孔和Y基板(2)上的孔插入直径 $\phi 2$ 的孔用销(或机针的针柄)使其一致状态后, 再使用螺栓(3) [2个] 将其拧紧。

### 7-11. 扫线器的调整

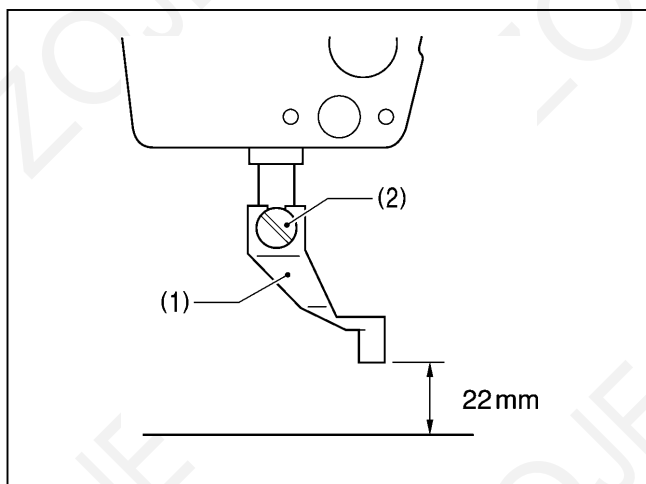


1. 扫线器的电磁铁插棒(1)被拉到最大时, 为使扫线杆(2)能扫过机针中心向前15mm处, 将螺钉(3) [2个] 松开, 电磁铁安装板(4)整体上下移动来进行调整。
2. 操作扫线杆(2)为了使其在通过机针的下面时, 扫线杆(2)和机针的尖端之间的间隙约为2mm左右, 扫线杆(2)的尖端到机针中心约为3mm左右, 松开螺钉(5)调整扫线杆(2)的位置。

**[注意]**

请确认扫线杆(2)不可碰到护指器(6)。

### 7-1 2. 间歇压脚的安装位置

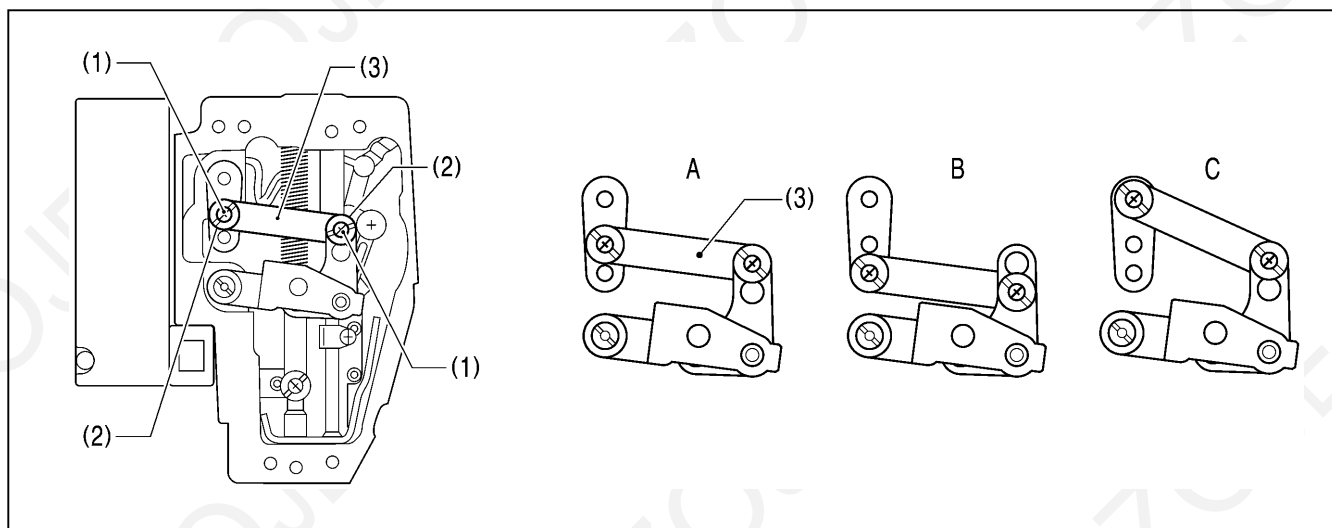


缝纫机在停止位置处间歇压脚(1)呈上升状态时,从间歇压脚(1)的底部到针板表面的距离为22mm时将螺钉(2)装上拧紧。

### 7-1 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>



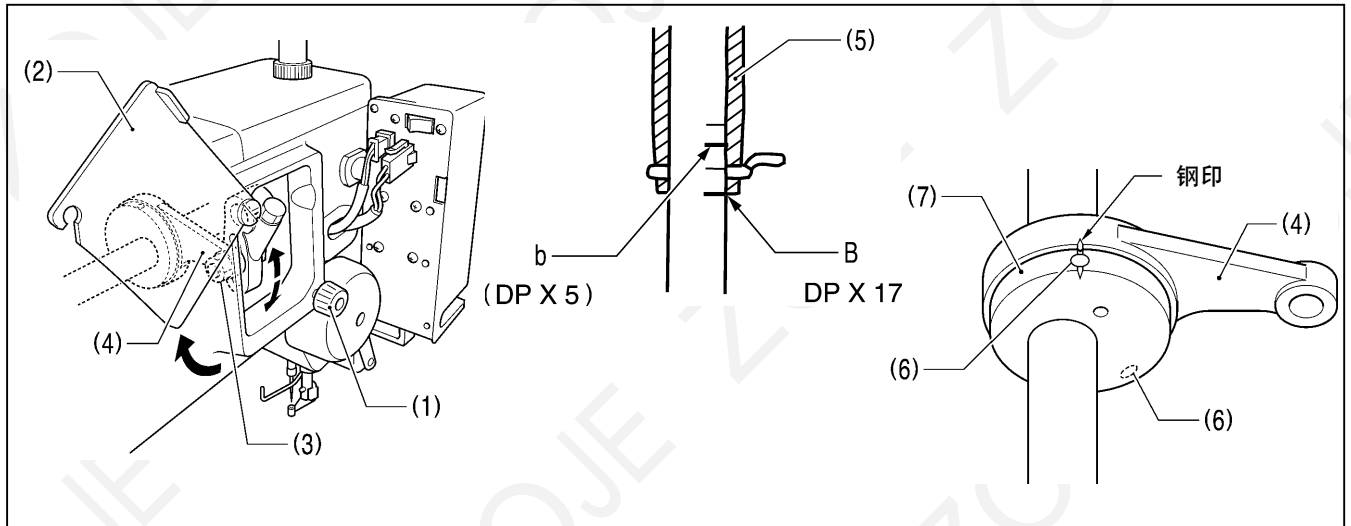
1. 拆下面板。
2. 取出螺钉(1) [2个] 和段螺钉(2) [2个], 拆下间歇连杆 A(3)。
3. 间歇连杆 A(3)的安装位置可更改成在上述的 A~C 中的任何位置。

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)	

## 7. 标准调整

### <间歇压脚连杆的位置调整>

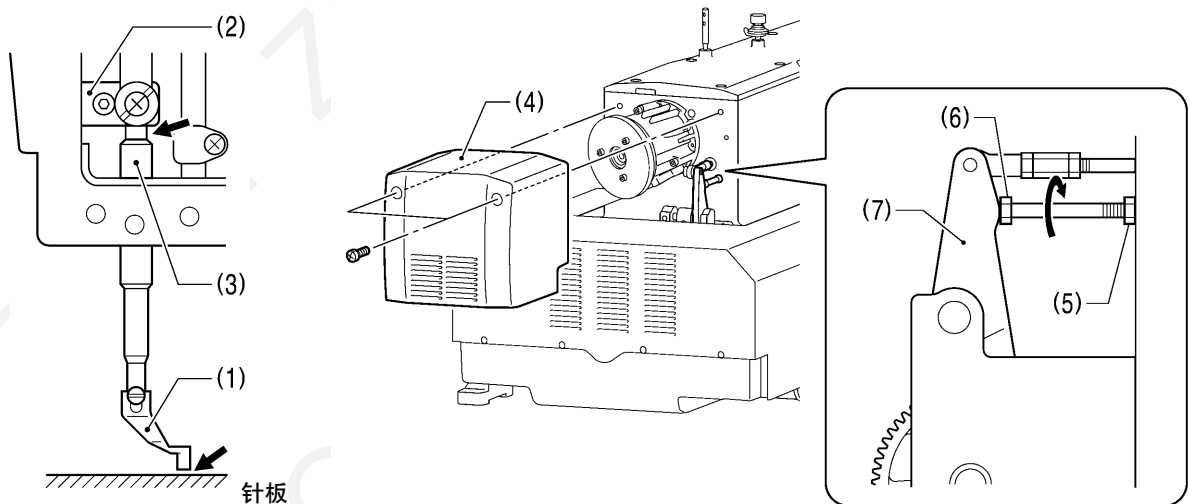


1. 松开螺钉(1)，打开间歇盖板(2)。
2. 旋松螺母(3)，调整间歇压脚连杆(4)的位置。
  - 如将间歇压脚连杆(4)向上去的位置时，间歇压脚行程变大。
  - 如将间歇压脚连杆(4)向下去的位置时，间歇压脚行程变小。

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>

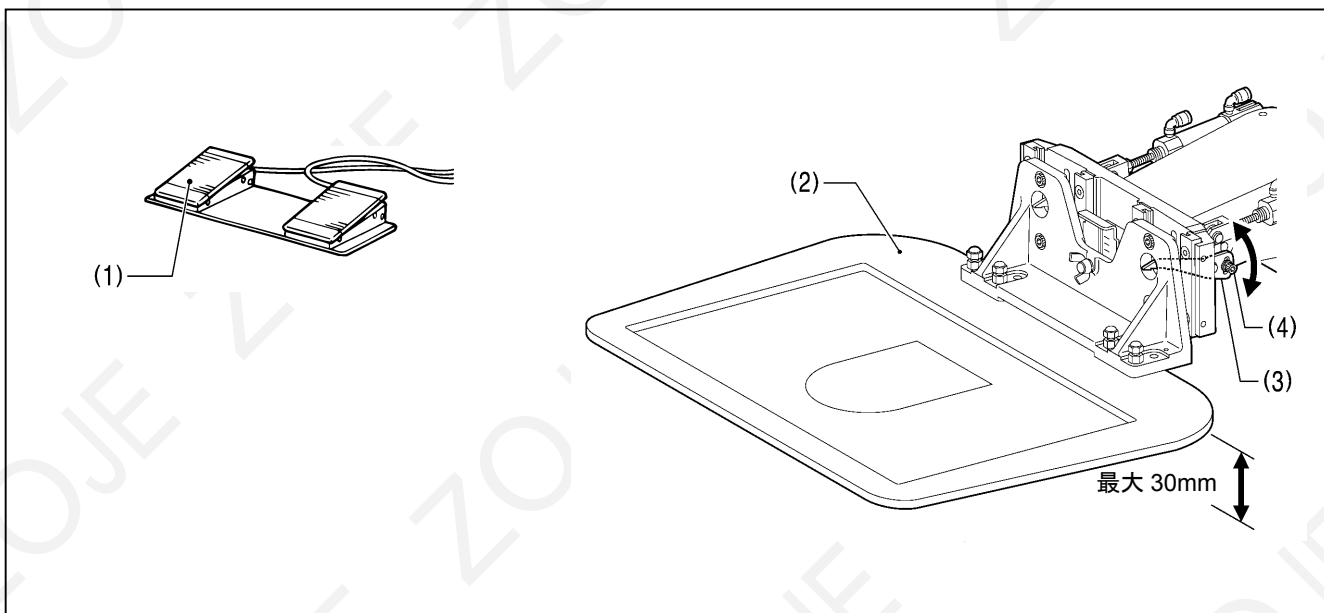
拆下马达盖(4)。

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。

## 7. 标准调整

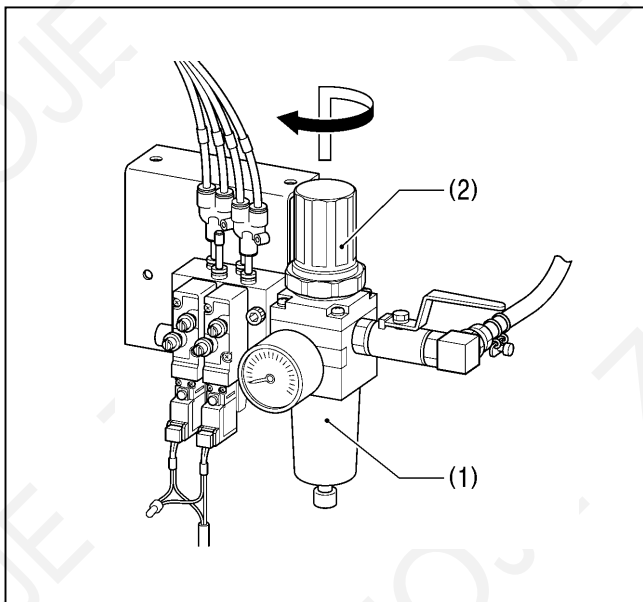
### 7-14. 压脚上升量的调整 压脚板

(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。

### 7-15. 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。

## 8. 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. 26
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. 23
		调整扫线器的运动量	P. 23
	扫线器的位置不对	调整扫线器的运动量	P. 23
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. 11
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. 11
脱线	在缝纫开始时有脱线	请参考「跳针」一览	P. 28
	面线的残余量不稳定，偏差很大	调整副夹线器	P. 13
	旋梭导线器的位置不对	调整旋梭导线器的位置	P. 18

## 8. 故障检修

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. 13
	机针的安装方法不正确	正确的方向安装机针	P. 9
	和机针相比线太粗	选择使用符合机针的线	P. 13
	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 16
	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. 10
	穿线不正确	在线道上正确穿线	P. 10
底线断线	底线张力太强	调整底线张力	P. 13
	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. 18
	机针和旋梭的相遇不正确	调整针杆的上升量	P. 17
	梭托过度的(必要以上)导入了机针	调整梭托导针部	P. 18
	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. 9
断针	机针和旋梭尖端的间隙过大	调整机针的间隙	P. 18
		调整针杆的上升量	P. 17
	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	P. 13
	机针太细	选择符合缝纫条件的机针	P. 13
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. 16
	机针和旋梭的相遇不正确	调整针杆的上升量	P. 17
	旋梭导线器没能分线	调整旋梭导线器的位置	P. 18

## 8. 故障检修

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. 22
	定刀的刀锋不利	磨快定刀或是更换新的定刀	P. 22
	动刀勾不住面线	调整旋梭导线器的位置	P. 18
		调整针杆的上升量	P. 17
	最后一针因跳针, 动刀勾不住面线	请参考「跳针」一览	P. 28
	动刀的位置不正确	调整动刀的位置	P. 20
	副夹线器的张力太弱	回转夹线螺母进行调整	P. 13
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. 18
	面线不够紧密	调整面线张力	P. 13
	面线的残余量不稳定, 偏差很大	调整副夹线器	P. 13
线不够紧密	面线张力太弱	调整面线张力	P. 13
	底线张力太弱	调整底线张力	P. 13
	挑线簧的强度和高度不正确	调整挑线簧的强度和高度	P. 16
	机壳线导向 R 的位置不正确	调整机壳线导向 R 的位置	P. 17
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. 16
	副夹线器的张力太弱	回转夹线螺母进行调整	P. 13
	定刀的刀锋不利	磨快定刀或是更换新的定刀	P. 22

In order to create a better environment

## Please cooperate with you

First of all, I would like to express my heartfelt thanks to you for using our products.

Our company is committed to caring for the earth's environment and has formulated the basic policy of "intelligent manufacturing and green manufacturing". Local citizens in environmental protection activities should also do little to the local community, the environment two aspects of everyone's contribution.

Therefore, I hope you can cooperate with this plan, as part of the environmental protection activities, when dealing with wastes in peacetime can pay more attention.

1. Unused packaging materials, in order to be recycled again, please send them to the local recycling company for disposal.
2. Lubricants used shall be properly handled according to relevant laws and regulations.
3. When parts need to be replaced in product maintenance or repair, there are unnecessary circuit boards and electronic parts, and when products are discarded, please treat them as electronic waste.

Thank you very much for purchasing our industrial sewing machine  
Before using the sewing machine, please read <for your safe use> and use instructions carefully

The characteristic of industrial sewing machine is that it should be operated near the moving parts such as needles and spindles, which are easy to cause injury, so please use the sewing machine correctly under the guidance of the safety operation knowledge of trained or skilled personnel.




## For Your Safe Use

### [1] Safety Usage Markup And Its Significance

The labels and pattern marks used in this instructions and products are for your safety and correct use of the products to prevent you and others from being harmed and damaged.

The methods and implications are as follows.

#### Sign

 <b>Danger</b>	This content indicates that if this mark is mishandled, it will cause death to become serious.
 <b>Warning</b>	This content indicates that if this mark is mishandled, people will die or be seriously injured.
 <b>Note</b>	That if this mark is mishandled, it may cause minor or moderate injuries.

### Patterns And Symbols



..... The symbol ( $\triangle$ ) indicates "points for attention".  
The pattern in the triangle represents the essential content that must be paid attention to.  
(For example, the pattern on the left shows "watch out for injuries".)



..... The symbol ( $\otimes$ ) indicates "prohibition".



..... The symbol ( $\bullet$ ) indicates "must".  
The pattern in the circle indicates the substance of what must be done.  
(For example, the pattern on the left shows "must be grounded".)

## [2] Safety Precautions

### Danger



After closing the power switch and unplugging the power plug from the socket, wait for at least 5 minutes before opening the control box cover. Touching areas with high voltage can cause casualties.

### Warning



No liquid is allowed to enter the sewing machine, otherwise it will cause fire, electric shock and operation failure.



If any liquid enters the sewing machine (head or control box), turn off the power supply immediately, pull the plug out of the socket, and contact the vendor or senior technicians.

### Be Careful

#### Use Environment



Please don't use in the environment with strong electrical interference sources such as power line interference and electrostatic interference.

Strong electrical interference sources may affect the correct operation of sewing machines.



The fluctuation of power supply voltage should be used in the environment of rated voltage less than  $\pm 10\%$ .

The large fluctuation of voltage will affect the correct operation of sewing machine.



The power supply capacity should be greater than the power consumption of the sewing machine. Insufficient power supply capacity will affect the correct operation of sewing machine.



The ambient temperature should be used in the range of 5-35 degrees Celsius.

Low or high temperature will affect the correct operation of sewing machine.



Relative humidity should be in the range of 45% - 85%, and the equipment will not form condensation environment. Dry or wet environment and dew will affect the correct operation of sewing machine.



In case of thunderstorm, turn off the power switch and pull the power plug off the socket. Lightning may affect the correct operation of sewing machine.



Do not connect devices other than USB memory to USB connection ports. Otherwise, it may lead to failure.

#### Install



Ask trained technicians to install sewing machines.



Please commission the purchase shop or electrical professionals for electrical wiring.



The sewing machine weighs about 56Kg. Installation must be completed by more than two people.



Please do not connect the power supply before the installation is completed. If you step on the pedal by mistake, the sewing machine will cause injury.



Please unplug the plug after cutting off the power supply. Otherwise, it will easily become the cause of the failure of the control box.



It must be grounded. Insufficient ground connection is the cause of electric shock or misoperation.



When fixing the cable, do not bend the cable excessively or fix it too tightly with clamps, which may cause fire or electric shock.



If a worktable with casters is used, the casters should be fixed so that they cannot move.



When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will. Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.



When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.



When lubricating oil and butter are used, it is necessary to wear protective glasses and gloves to prevent lubricating oil from falling into serious or sticking to the skin, which is the cause of inflammation.

In addition, lubricants or butter should not be drunk, otherwise vomiting and diarrhea will occur.

Keep oil out of reach of children

# Be careful

## Sewing



This sewing machine is only used by persons trained in safe operation.



This sewing machine cannot be used for any purpose other than sewing.



Protective glasses must be worn when sewing machines are used.

If you don't wear protective glasses, there will be danger when you break the needle. The broken part of the needle may pop into your eyes and cause injury.



When the following happens, please cut off the power supply. Otherwise, when you step on the pedal, the sewing machine will cause injury.

·When the needle goes through the thread

·When changing needle or shuttle core

·When a sewing machine is not in use or when a person leaves the sewing machine



If a worktable with casters is used, the casters should be fixed so that they cannot move.



For the sake of completeness, please install protective device before using this sewing machine. If these safety devices are not installed, use sewing opportunities to cause personal injury and sewing machine damage.



During the sewing process, do not touch any moving parts or place the objects on the moving parts, because this will cause injuries to people or damage to the sewing machine.



When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will.

Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.



When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.



If the sewing machine operates incorrectly, or hears abnormal noise or smells abnormal odor, the power supply should be cut off immediately. Then contact the shop or trained technicians.



If the sewing machine breaks down, please contact the shop or trained technicians.

## Clean



Please cut off the power supply before starting the cleaning operation.

If you step on the pedal by mistake, the sewing machine will cause injury.



When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will.

Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.

When the sewing machine head falls down or stands up, please operate with both hands.



One-handed operation can easily cause injury if the weight of the sewing machine slips.



When lubricating oil and butter are used, it is necessary to wear protective glasses and gloves to prevent lubricating oil from falling into serious or sticking to the skin, which is the cause of inflammation.

In addition, lubricants or butter should not be drunk, otherwise vomiting and diarrhea will occur.

Keep oil out of reach of children

## Maintenance And Inspection



Only trained technicians can repair, maintain and inspect sewing machines.



Maintenance, maintenance and inspection related to electricity should be entrusted to purchasing shops or electrical professionals.



Turn off the power supply when the following happens. Pull the plug from the power outlet.

Otherwise, when you step on the pedal, the sewing machine will cause injury.

·Inspection, adjustment and maintenance

·Replacement of fragile parts such as spindle and cutter



Before opening the motor cover, be sure to turn off the power supply, wait a minute, and then perform the operation.

Touching the motor surface can cause burns.



When the power switch must be connected to adjust, be sure to switch to maintenance mode.

Be careful to observe all safety precautions



When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will.

Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.

When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.



When replacing parts or installing optional accessories, be sure to use only genuine parts.

The Company will not be liable for any accident or malfunction caused by the use of non-authentic parts.



When removing the safety protection device and installing it again, be sure to install it in situ and check whether it can work properly.




In order to prevent accidents and malfunctions, please do not alter the sewing machine without authorization.

The Company will not be liable for any accident or malfunction caused by the modification of the sewing machine.


### [3] . Warning Label

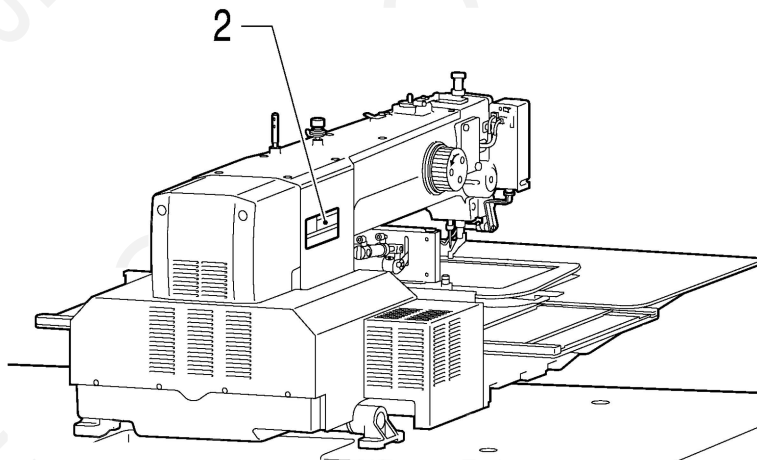
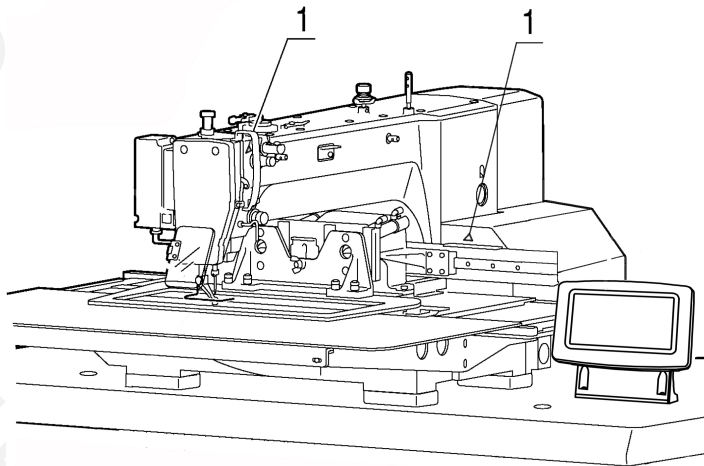
The following warning labels are on the sewing machine

When using the sewing machine, please follow the instructions on the label. If the label falls off or is ambiguous, please contact the purchase shop.

1  Be careful to avoid the damage by moving the Thread take-up lever.

2 

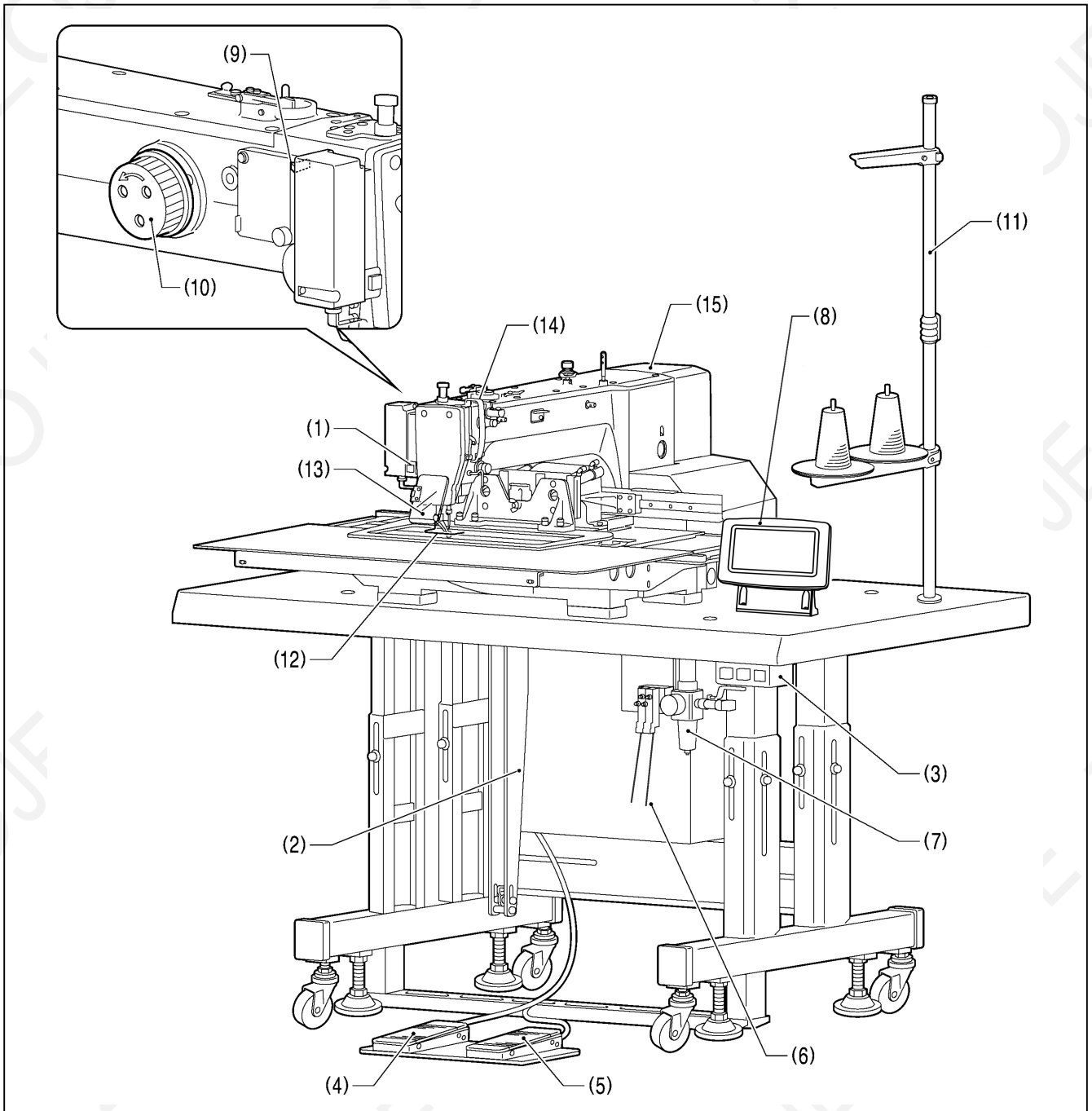
	<b>CAUTION</b> Moving parts may cause Injury Operate with safety devices. Turn off main switch before threading changing bobbin and needle, cleaning etc. 在穿线; 更换梭芯、机针; 清洁机器时务必关闭电源。
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# CONTENTS

<b>1. NAMES OF MAJOR PARTS .....</b>	<b>1</b>	6-16. Adjusting the air pressure .....	28
<b>2. SPECIFICATIONS .....</b>	<b>2</b>	6-17. If processing the work clamps and the feed plate to a shape that matches the sewing pattern .....	29
<b>3. INSTALLATION .....</b>	<b>3</b>	<b>7. TROUBLESHOOTING.....</b>	<b>30</b>
3-1. Table processing diagram .....	4		
3-2. Method of removing bolts for head fixing .....	5		
3-3. Tilting back and returning the machine head ...	5		
3-4. Installing the gas spring .....	6		
3-5. Installing the eye guard .....	7		
3-6. Installing the cotton stand.....	7		
3-7. Lubrication .....	8		
<b>4. PREPARATION BEFORE SEWING.....</b>	<b>9</b>		
4-1. Installing the needle.....	9		
4-2. 2-pedal foot switch operation method .....	9		
4-3. Threading the upper thread .....	10		
4-4. Winding the lower thread.....	11		
4-5. Installing the bobbin case .....	12		
4-6. Thread tension.....	13		
4-6-1. Lower thread tension .....	13		
4-6-2. Upper thread tension .....	14		
<b>5.CLEANING .....</b>	<b>15</b>		
5-1. Cleaning the rotary hook .....	15		
5-2. Draining the oil.....	15		
5-3. Cleaning the regulator .....	16		
5-4. Cleaning the eye guard .....	16		
5-5. Checking the needle .....	16		
5-6. Lubrication .....	16		
<b>6.STANDARD ADJUSTMENTS.....</b>	<b>17</b>		
6-1. Thread take-up spring.....	18		
6-2. Arm thread guide R.....	18		
6-3. Adjusting the needle bar height .....	19		
6-4. Adjusting the needle and rotary hook timing.....	19		
6-5. Adjusting the driver (needle guard) position .....	20		
6-6. Adjusting the clearance between the needle and rotary hook tip .....	20		
6-7. Adjusting the shuttle race thread guide .....	20		
6-8. Rotary hook lubrication amount .....	21		
6-9. Adjusting the position of the movable knife .....	22		
6-10. Replacing the movable and fixed knives .....	24		
6-11. Installing the feed plate .....	25		
6-12. Adjusting the thread wiper .....	25		
6-13. Intermittent presser foot installation position .....	26		
6-14. Adjusting the intermittent presser foot .....	26		
6-15. Adjusting the work clamp lift amount .....	28		

# 1. NAMES OF MAJOR PARTS



- (1) STOP switch
- (2) Head support frame
- (3) Power switch
- (4) Work clamp switch
- (5) Start switch
- (6) Control box
- (7) Solenoid valve
- (8) LCD panel
- (9) Thread 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
Stitch formation	Single needle lock stitch
Max. sewing speed	2,800 sti/min
Max. sewing area (XxY)	300 x 200 mm
Feed mechanism	Intermittent feed, pulse motor drive
Stitch length	0.1 – 12.7 mm
Maximum No. of stitches	20,000 stitches (per program)
No. of sewing data items that can be stored	999 (Internal memory, USB memory) (*1)
Work clamp lift method	Pneumatic cylinder method
Work clamp height	Max. 30 mm
Intermittent presser foot lift amount	22 mm
Intermittent presser foot stroke	2 – 4.5 mm, 4.5 – 10 mm or 0 (Default setting 3 mm)
Hook	Double-capacity shuttle hook
Wiper device	Standard equipment
Thread trimmer	Standard equipment
Digital tension	Standard equipment
Thread breakage detector	Standard equipment
Motor	750 W AC servo motor
Power source	220V ± 10%, 50\60Hz
Air pressure	0.5 MPa 1.8 l/min.

(\*1) The number of data items and stitches that can be stored will vary depending on the number of stitches in each program.  
No guarantees of operation can be given for any media.

## 3. INSTALLATION

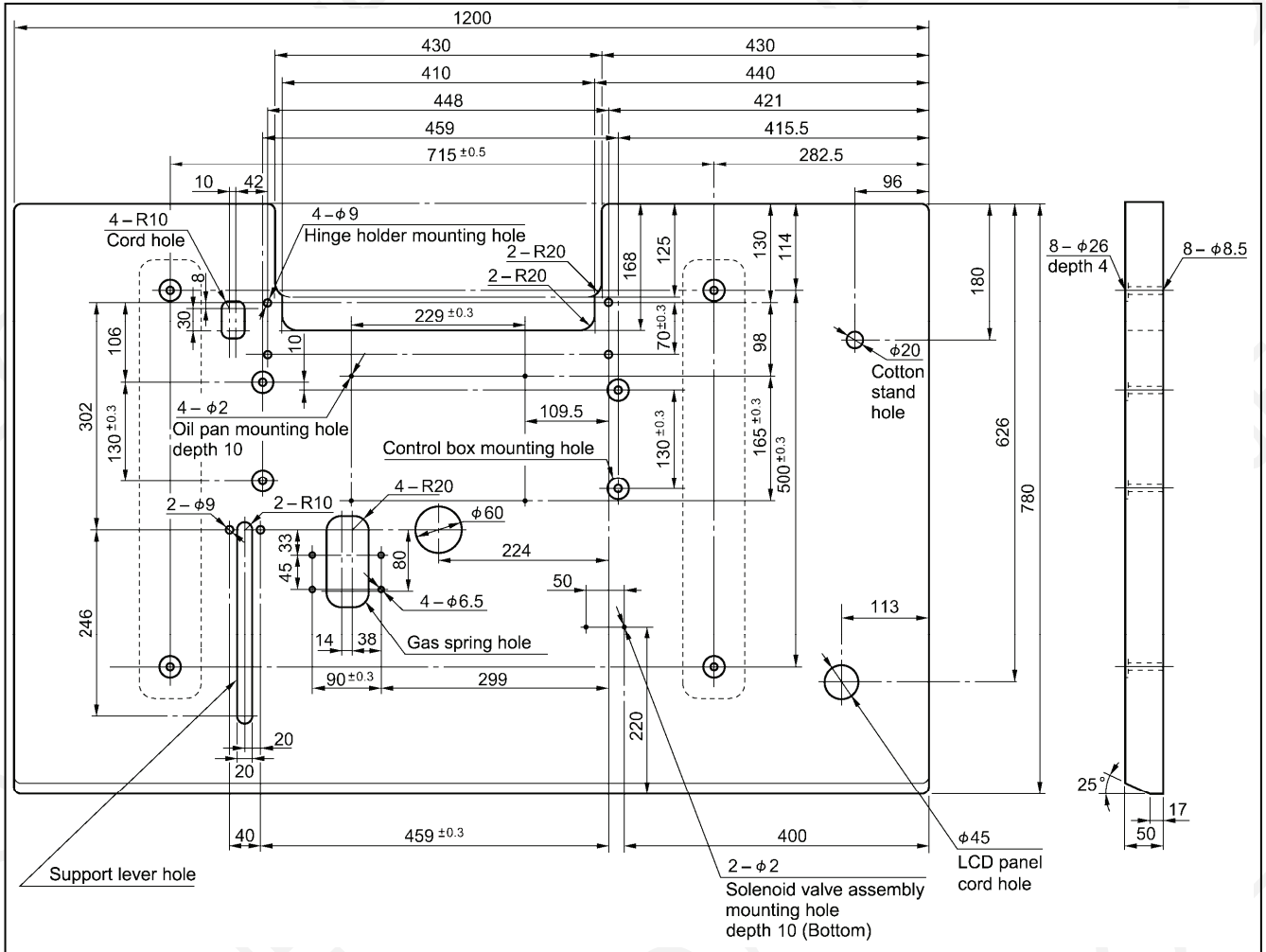
### CAUTION

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

### 3. INSTALLATION

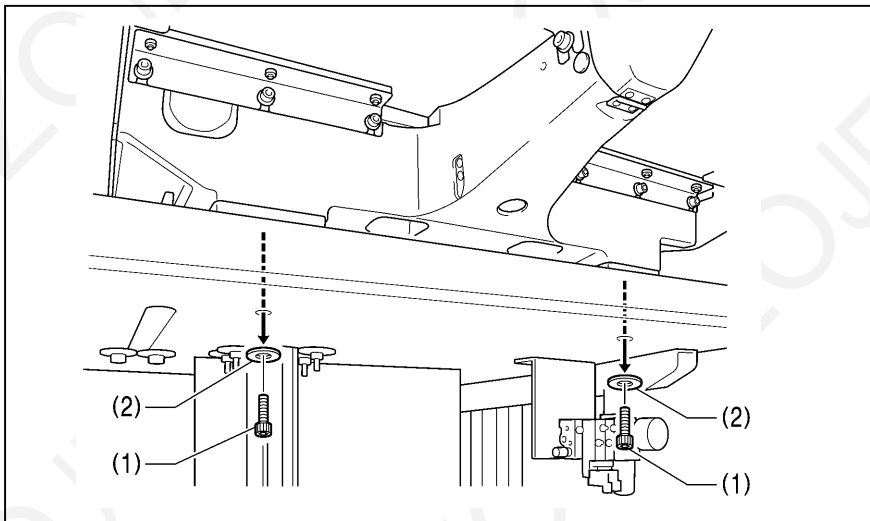
#### 3-1. Table processing diagram

- 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.



### 3. INSTALLATION

#### 3-2. Method of removing bolts for head fixing



First remove the machine head fixing bolts(1)[2PC] and washer(2)[2pc]

#### 3-3. Tilting back and returning the machine head

### ⚠ CAUTION



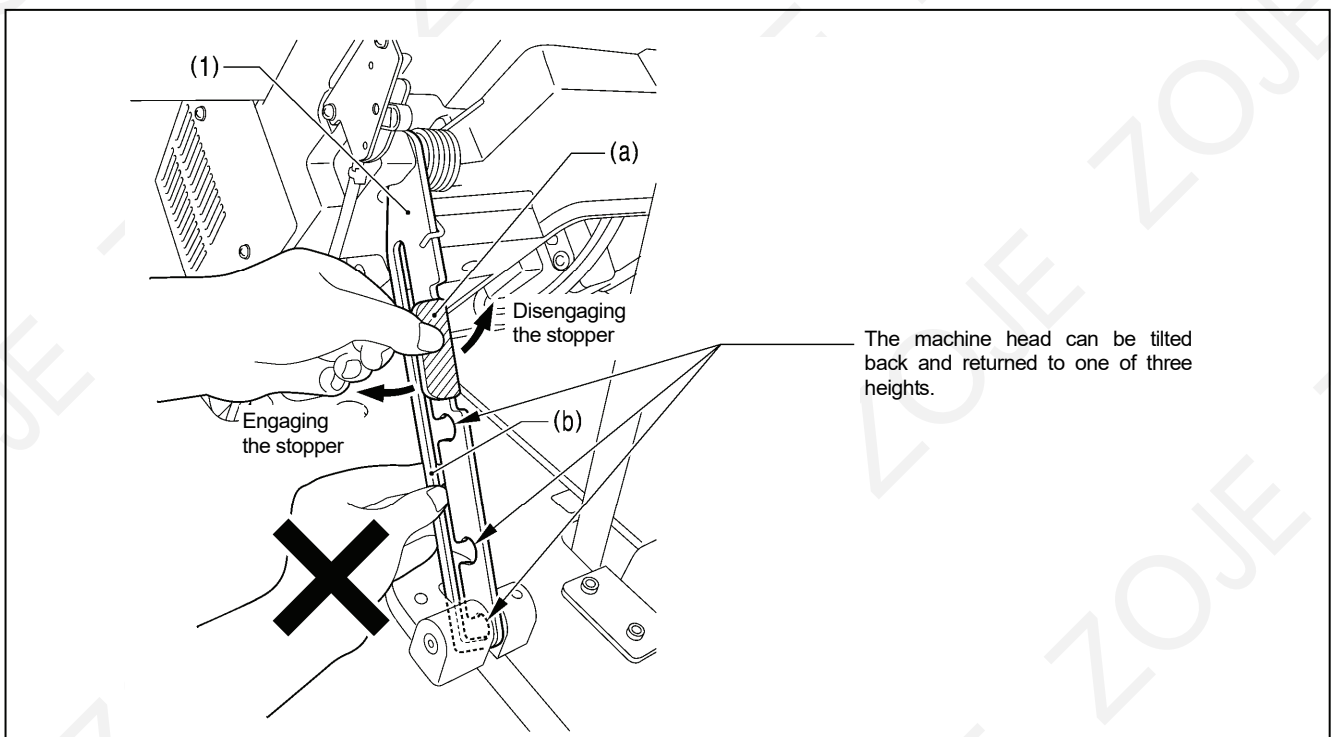
Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the 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.

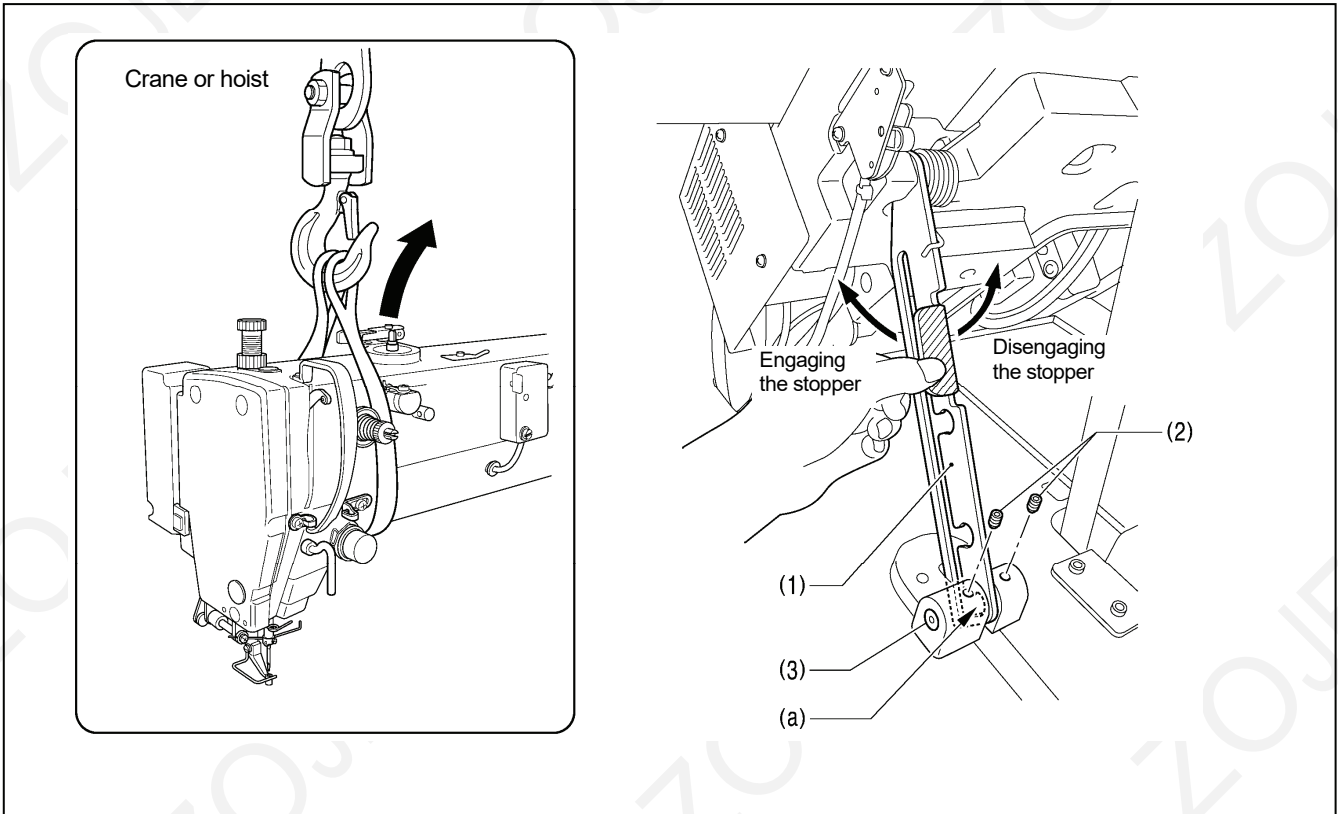


When disengaging the stopper, hold it by the knob (a). If you hold at the place indicated by (b), your hand will get caught between the support lever (1) and the table when the machine head is returned to its original position and injury will result.



### 3. INSTALLATION

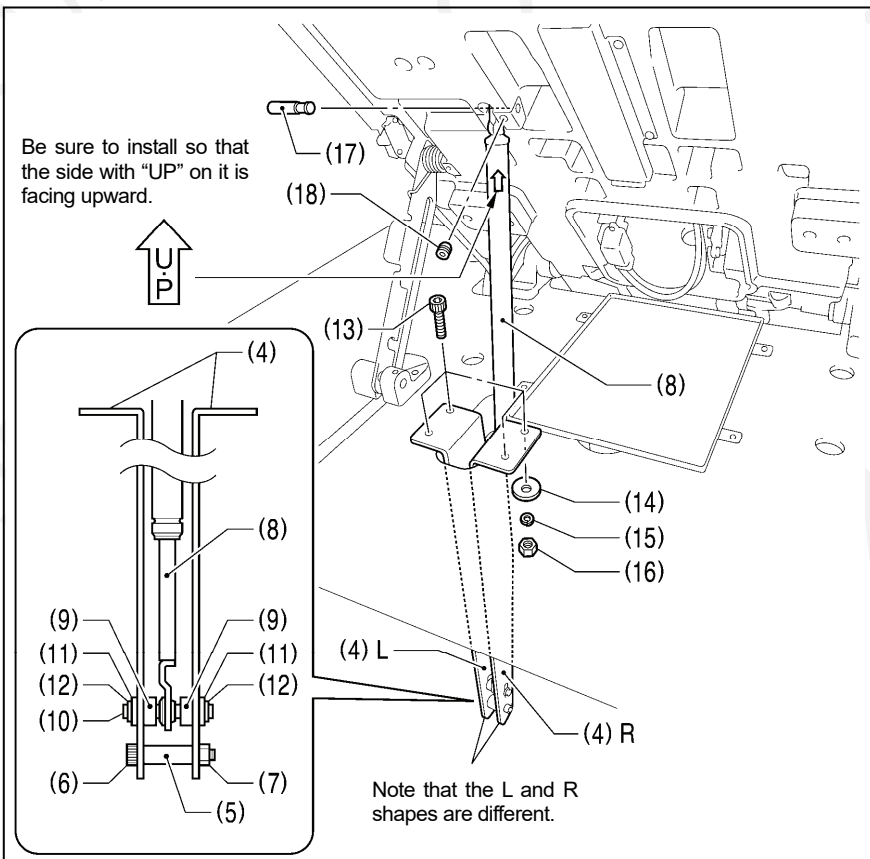
#### 3-4. Installing the gas spring



1. Tilt back the machine head, and then secure the support lever (1) at stopper position (a). (Refer to "3-3. 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 "3-3. Tilting back and returning the machine head".)

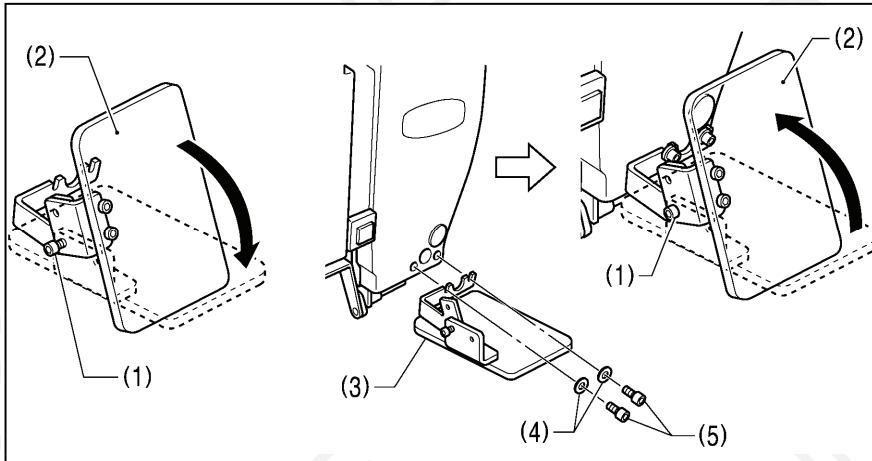
### 3. INSTALLATION

#### 3-5. Installing the eye guard

### ! CAUTION



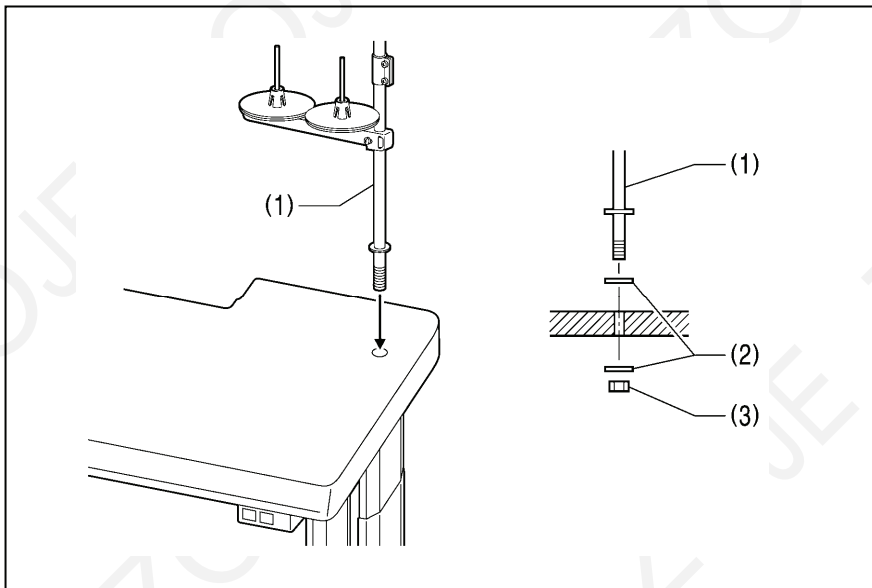
Attach all safety devices before using the sewing machine.  
If the machine is used without these devices attached, injury may result.



- (1) Bolt (loosen)
- (2) Eye guard (tilt forward)
- (3) Eye guard assembly
- (4) Plain washers [2 pcs.]
- (5) Bolts [2 pcs.]

After installing the eye guard assembly (3), return the eye guard (2) to its original angle, and then tighten the bolt (1) to secure it in place.

#### 3-6. Installing the cotton stand



- (1) Cotton stand

#### NOTE:

Securely tighten the nut (3) so that two washers (2) are securely clamped so that the cotton stand (1) does not move.

### 3. INSTALLATION

#### 3-8. Lubrication

### ⚠ CAUTION

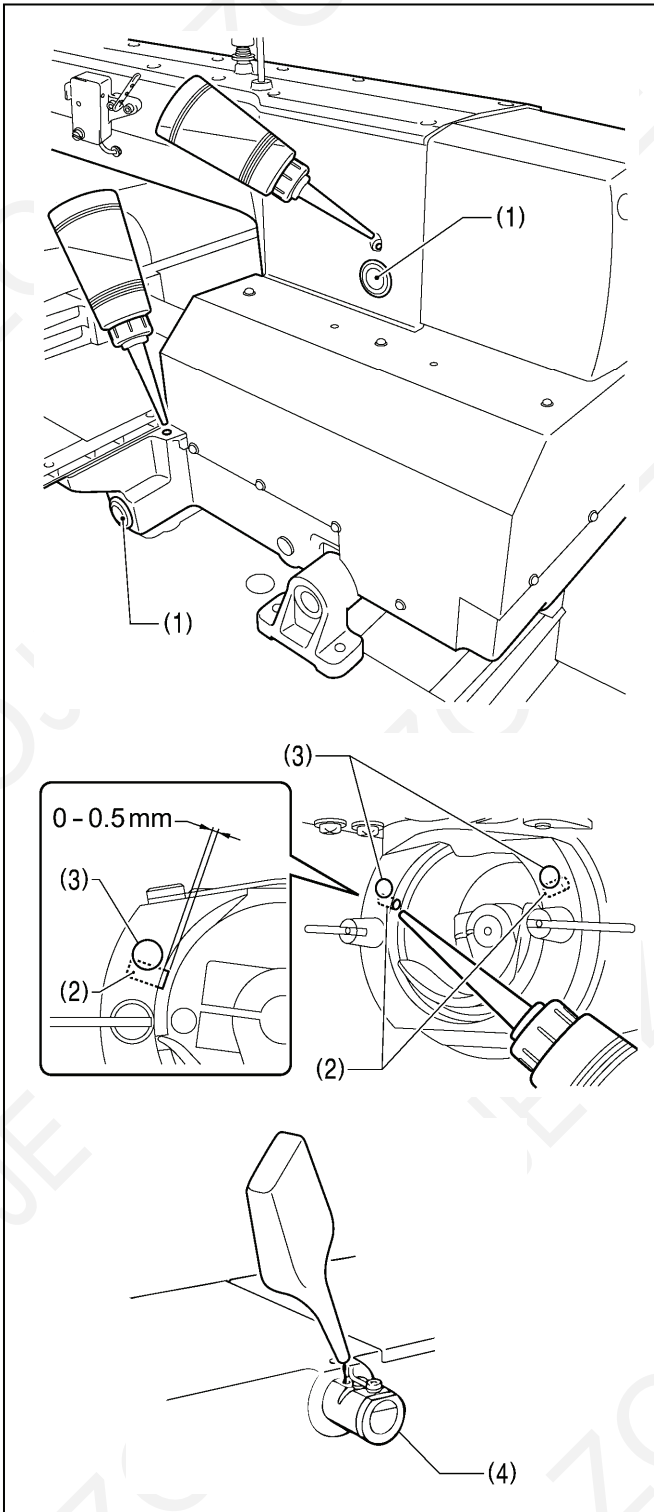


Do not connect the power cord until lubrication is complete.

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.



- The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time, and also after long periods of non-use.
- Use only the 10# lubricating oil <JX Nippon Oil &

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 of the shuttle race base assembly so that the felt (2) is lightly moistened. If it is difficult to add oil, you can also remove the rubber cap (3) and pour in the oil through the hole.

**NOTE:**

- The two pieces of felt (2) should normally project by 0 to 0.5 mm from the hook race. Be careful not to push in the felt (2) when lubricating.
- If there is no more oil on the felt (2) of the shuttle race base assembly, problems with sewing may result.

3. If using the needle cooler (4), fill it with silicon oil (100 mm<sup>2</sup>/s). (Refer to "4-3. Threading the upper thread" for details on using the needle cooler (4).)

## 4. PREPARATION BEFORE SEWING

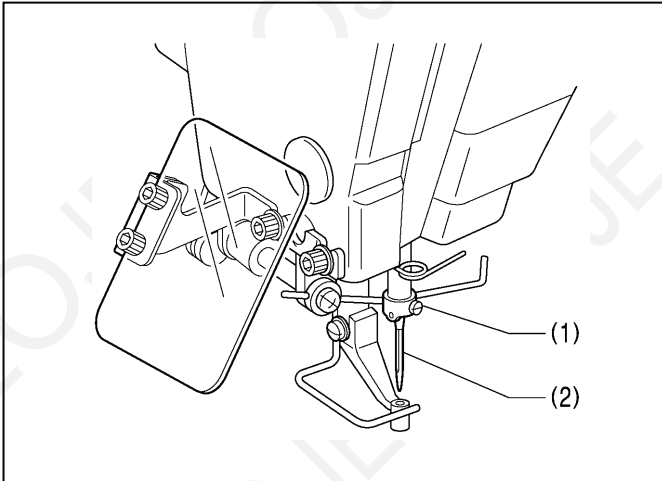
### 4-1. Installing the needle

#### ⚠ CAUTION



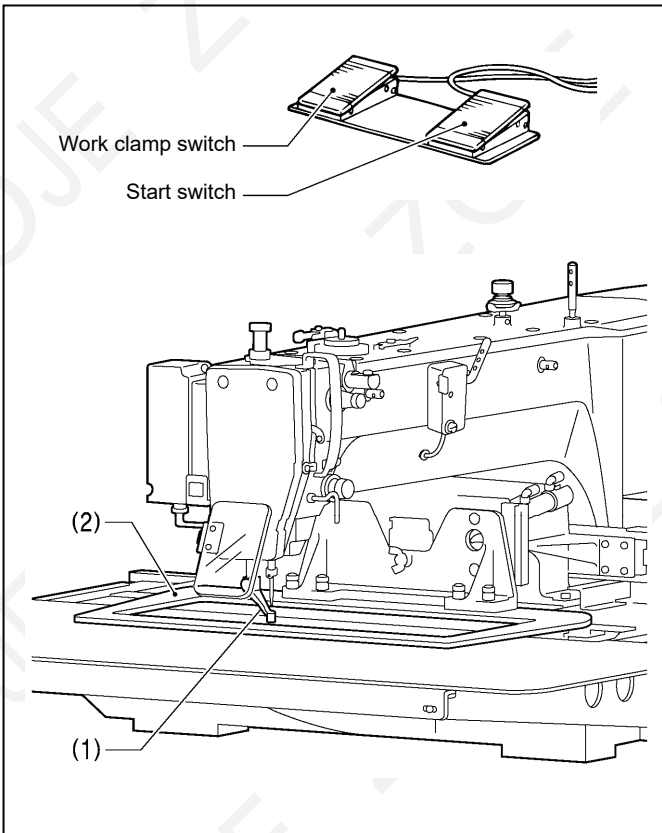
Turn off the power switch before installing the needle.

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).

### 4-2. 2-pedal foot switch operation method



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.

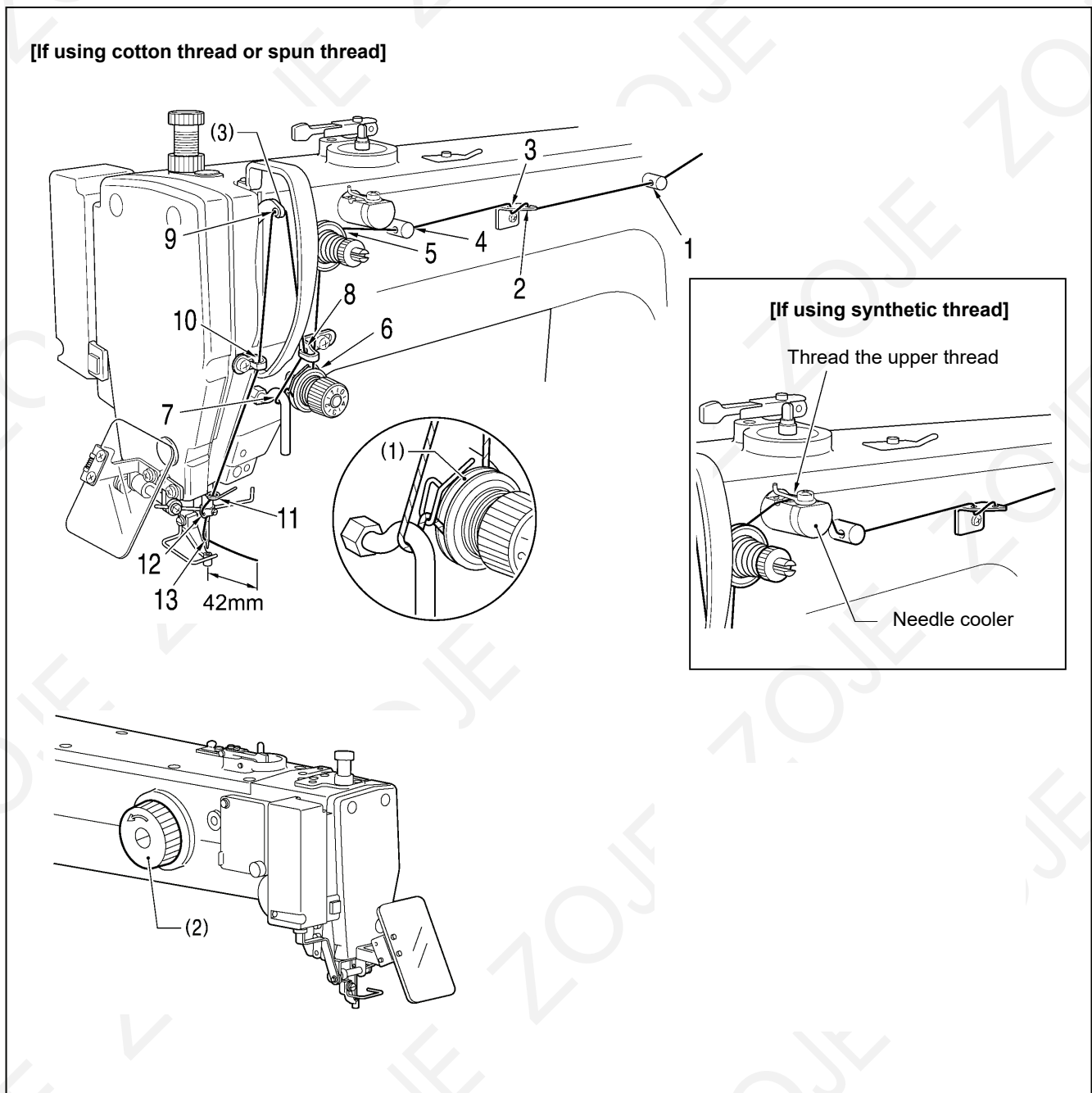
## 4. PREPARATION BEFORE SEWING

### 4-3. Threading the upper thread

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

\* When using threading mode for threading, the thread can be threaded more easily.

(Refer to "Threading mode" on the next 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 it is too long, the thread may become tangled, and if it is too short, the thread may pull out at the sewing start.

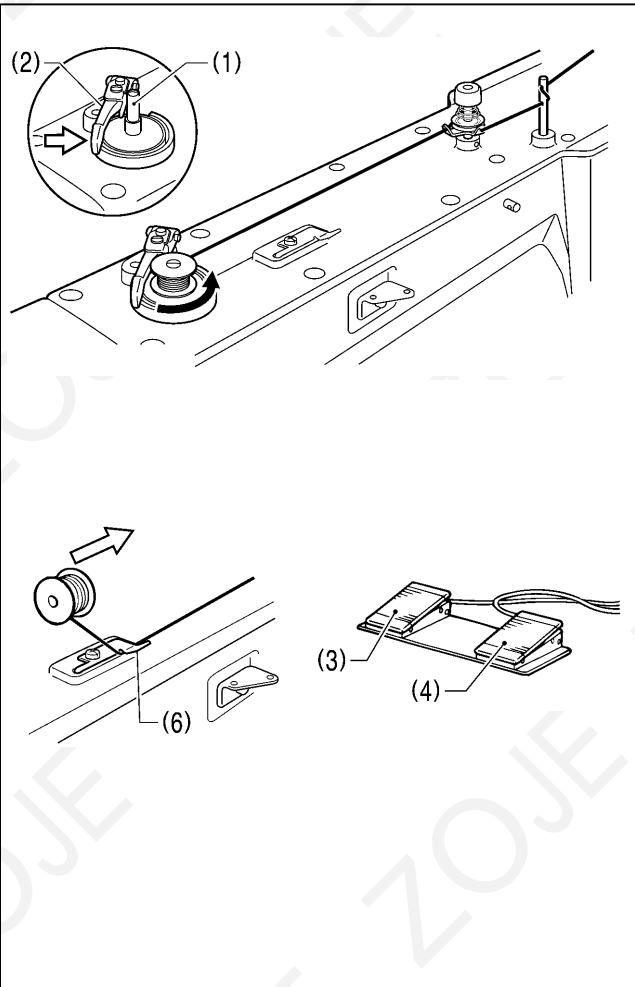
## 4. PREPARATION BEFORE SEWING

### 4-4. Winding the lower thread

#### CAUTION

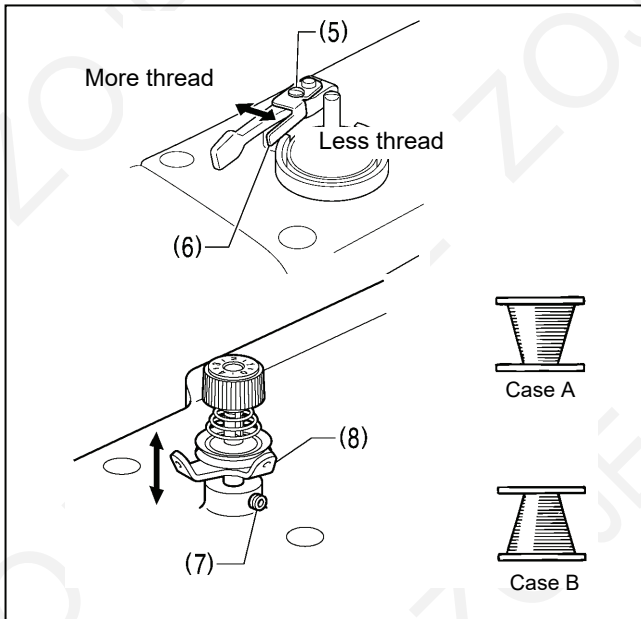


Do not touch any of the moving parts or press any objects against the machine while winding the lower thread, as this may result in personal injury or damage to the machine.



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.
4. Lower the work clamp before depressing the start switch. Home position detection will be carried out.
5. Touch the Wind key on the screen.
6. The display will switch to the thread winding mode screen.
7. Check that the needle does not touch the work clamp, and then lower the work clamp before depressing the start switch.
8. Keep depressing the start switch until the lower thread stops being wound onto the bobbin.
9. 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.
10. Remove the bobbin, hook the thread onto the knife (3), and then pull the bobbin in the direction of the arrow to cut the thread.

## 4. PREPARATION BEFORE SEWING



### Adjusting the bobbin winding amount

Loosen the screw (5) and move the bobbin presser (6).

### If the thread winds onto the bobbin unevenly

Loosen the set screw (7) and move the bobbin winder tension assembly (8) up and down to adjust.

\* For case A, move the bobbin winder tension assembly (8) down, and for case B, move it upward.

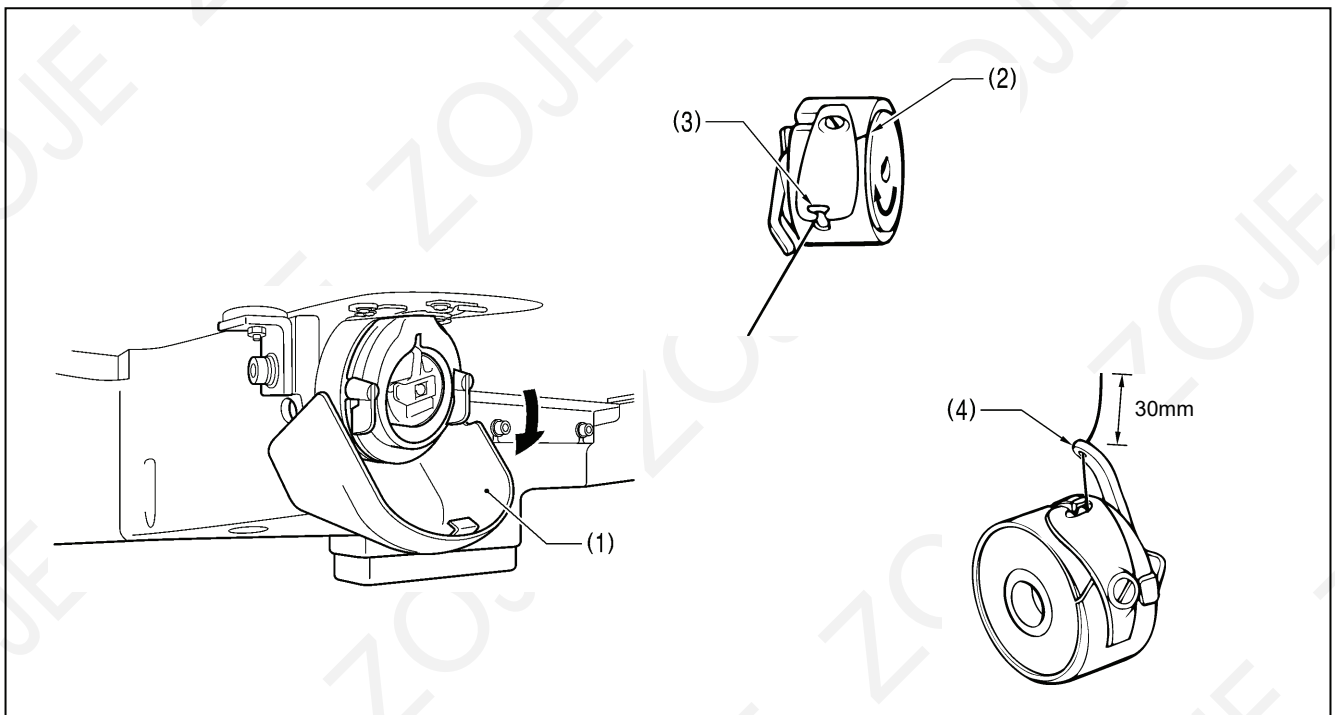
## 4-5. Installing the bobbin case

### ⚠ 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.

## 4. PREPARATION BEFORE SEWING

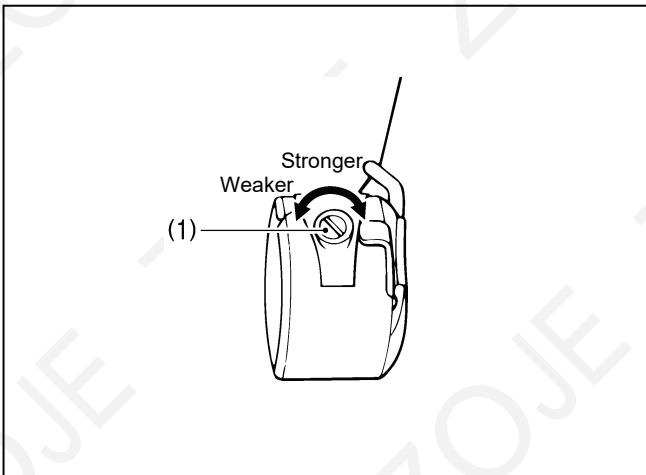
### 4-6. Thread tension

[Thread tension reference]

Upper thread	#20 or similar
Lower thread	#20 or similar
Upper thread tension (N) [Tension value]	1.4 – 1.8 [140 - 180]*1
Lower thread tension (N)	0.3 – 0.4
Pre-tension (N)	0.2 – 0.4
Needle	DP x 17 #19
Normal sewing speed	2,000 sti/min

\*1 This is the tension value when the pretension is 0.2 N.

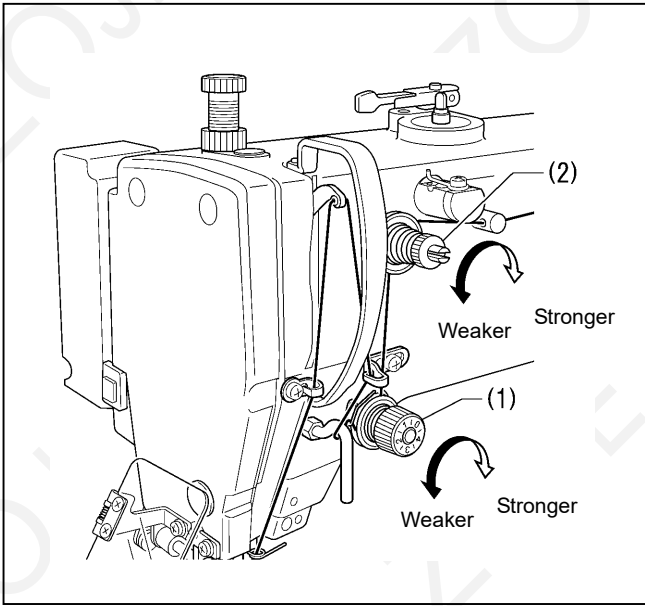
#### 4-6-1. Lower thread tension



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.

## 4. PREPARATION BEFORE SEWING

### 4-6-2. Upper thread tension



Turn the tension nut (1) (main-tension) to adjust the tension as appropriate for the material being sewn.

Turn the tension nut (2) (sub-tension) to adjust so that the upper thread trailing length is about 42 mm.

## 5. CLEANING

### CAUTION



Turn off the power switch before carrying out cleaning.

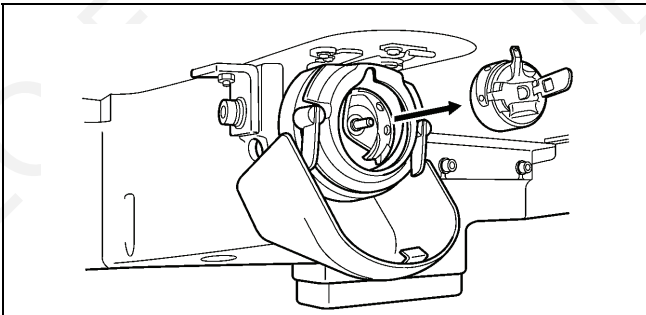
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



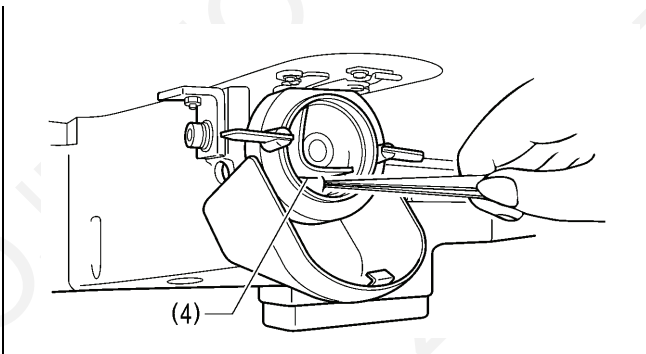
Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result.

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.

### 5-1. Cleaning the rotary hook

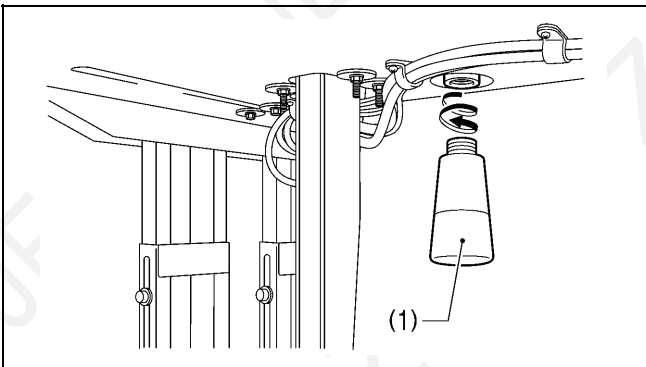


1. Pull the shuttle race cover downward to open it, and then remove the bobbin case.



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

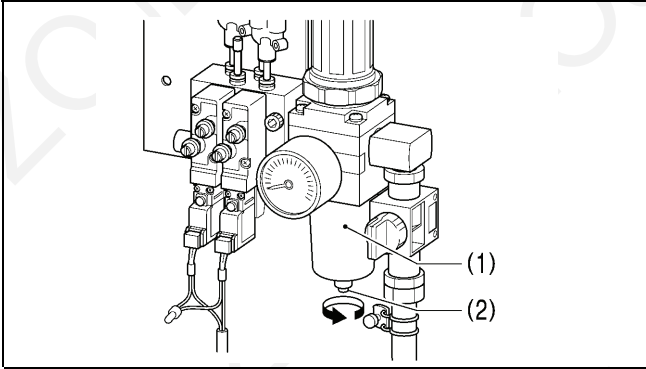
### 5-2. Draining the oil



1. Remove and empty the oiler (1) whenever it is full.
2. After emptying oiler (1), screw it back into its original position.

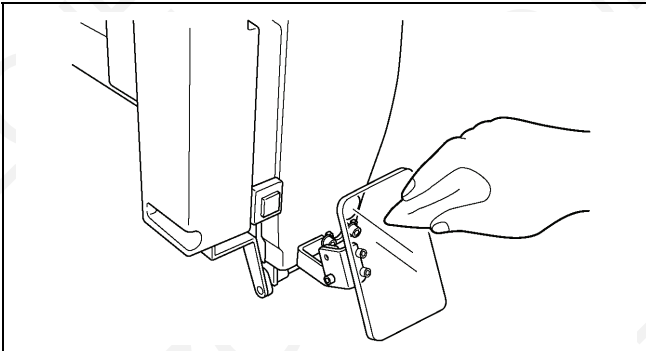
## 5. CLEANING

### 5-3. 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).

### 5-4. Cleaning the eye guard

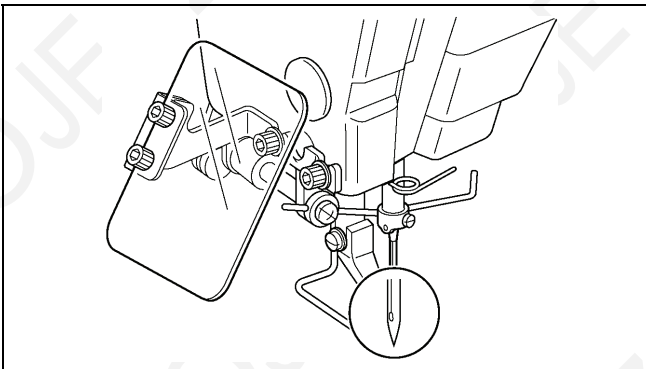


Wipe the eye guard clean with a soft cloth.

**NOTE:**

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

### 5-5. 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.

### 5-6. Lubrication

Lubricate the sewing machine while referring to "3-8. Lubrication".

## 6. STANDARD ADJUSTMENTS

### CAUTION



Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.



Ask your 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.

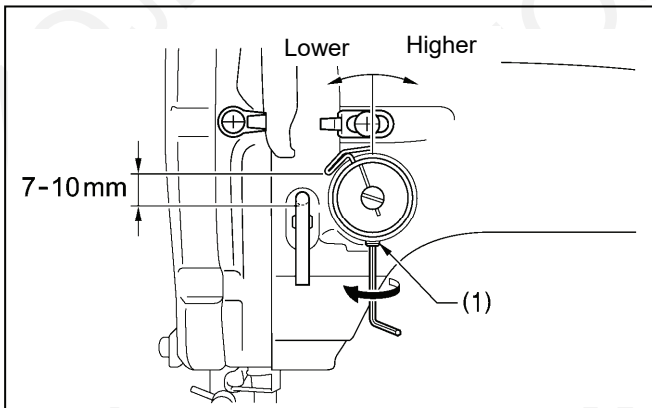
Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.



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.

## 6. STANDARD ADJUSTMENTS

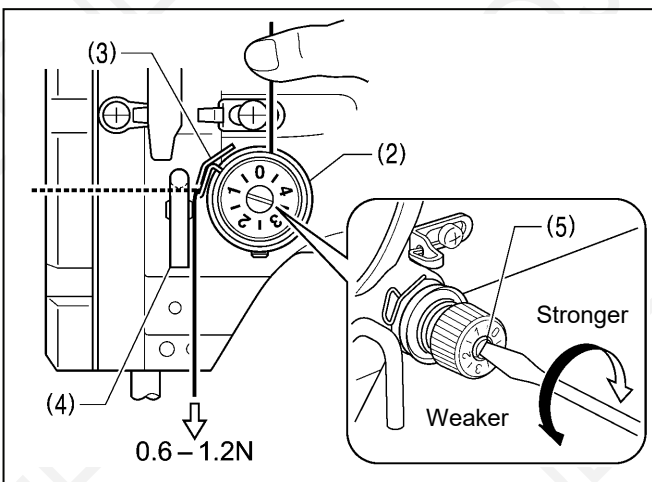
### 6-1. Thread take-up spring



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.



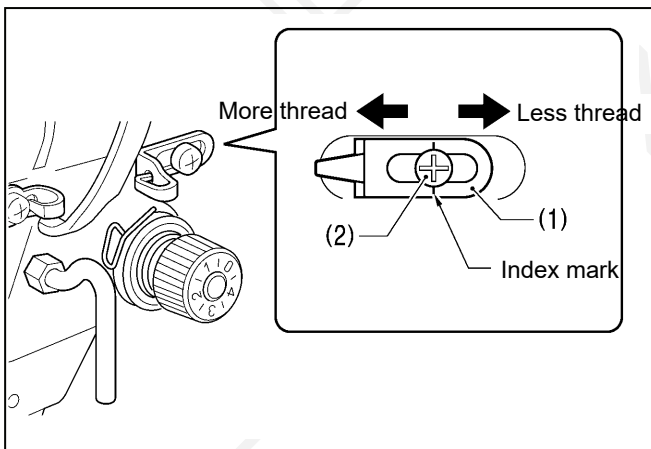
#### <Thread take-up spring tension>

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.

### 6-2. Arm thread guide R

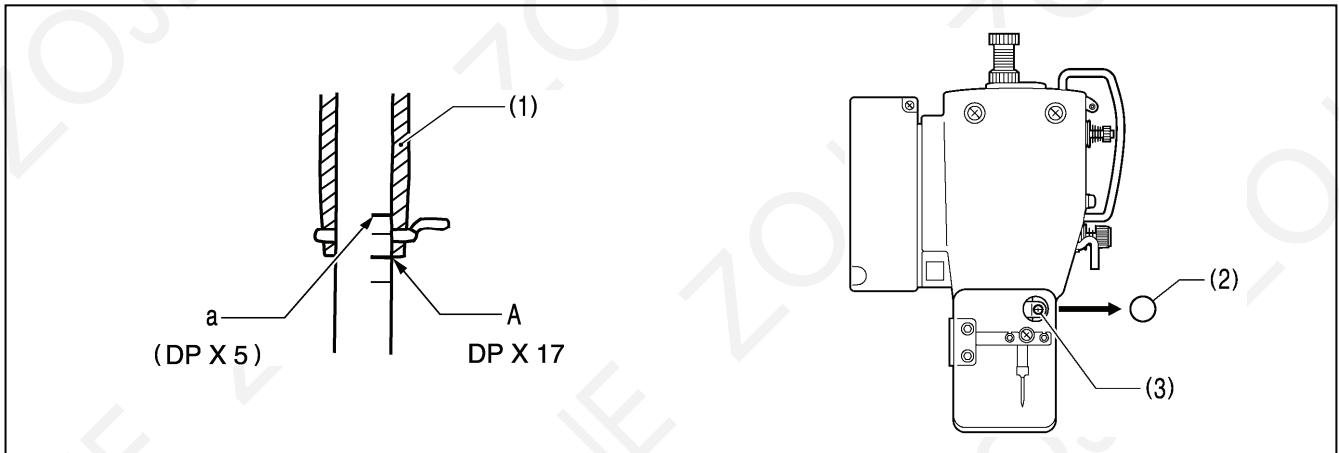


The standard position of arm thread guide R (1) is when the screw (2) is aligned with the index mark.

Loosen the screw (2) and move the arm thread guide R (1) to adjust.

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

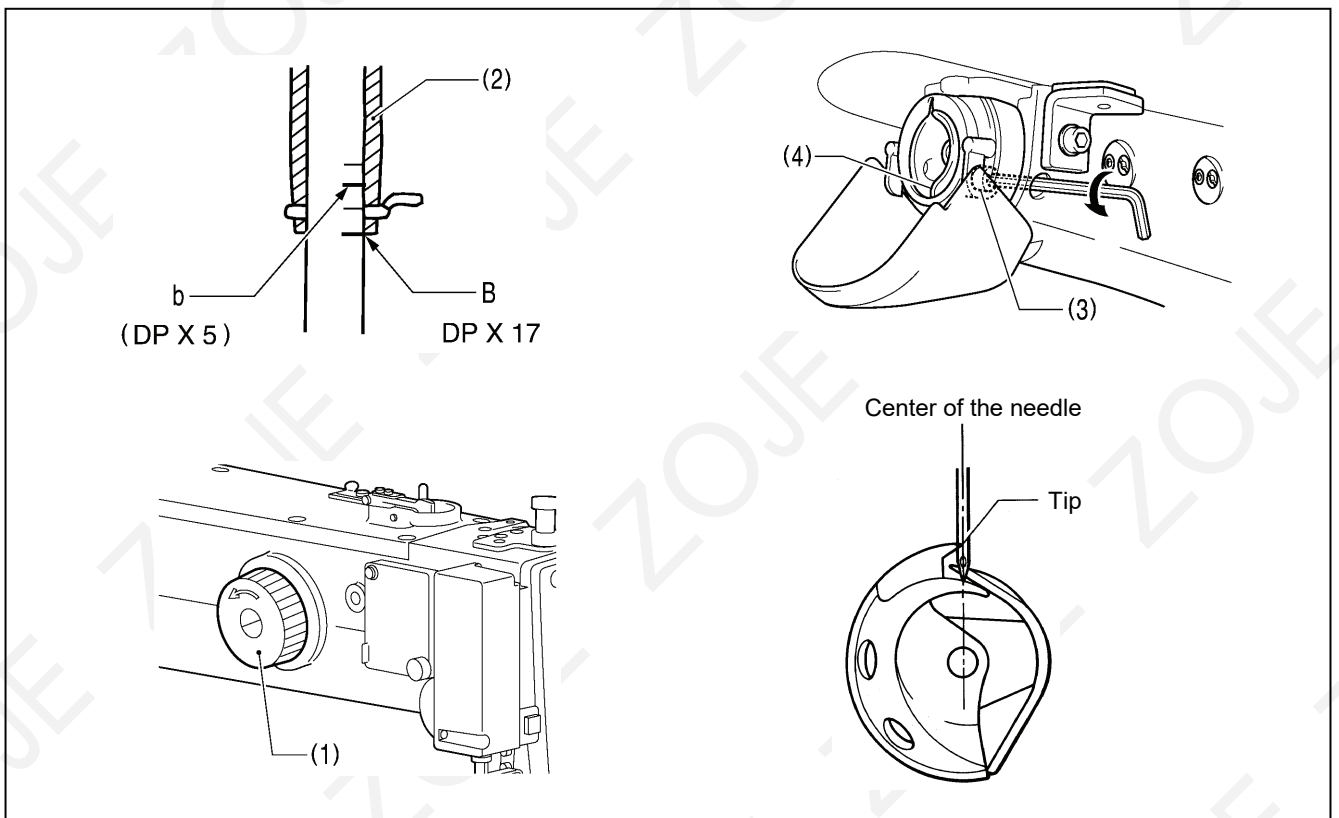
### 6-3. Adjusting the needle bar height



Turn the pulley in the direction of the arrow 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, align with the highest reference line (reference line a).

### 6-4 Adjusting the needle and rotary hook timing



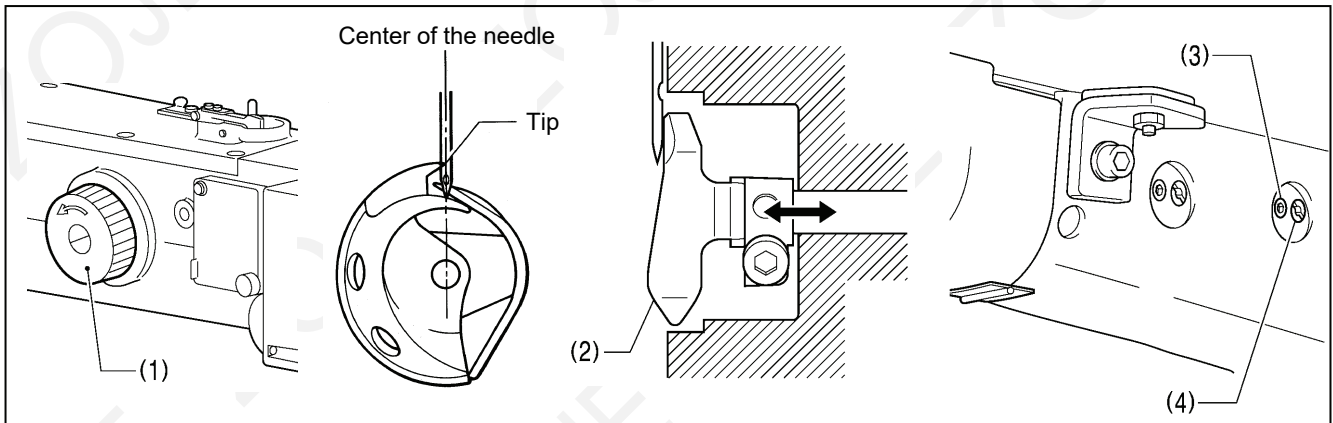
1. Turn the pulley (1) in the direction of the arrow to raise the needle bar from the lowest position until the lowest reference line on the needle bar (reference line B) is aligned with the lower edge of the needle bar bush (2).

\* If using a DP X 5 needle, align with the reference line b which is the second reference line from the top.

2. Loosen the bolt (3).

3. Move the driver (4) sideways so that the tip of the rotary hook is aligned with the middle of the needle, and then tighten the bolt (3).

### 6-5. Adjusting the driver (needle guard) position

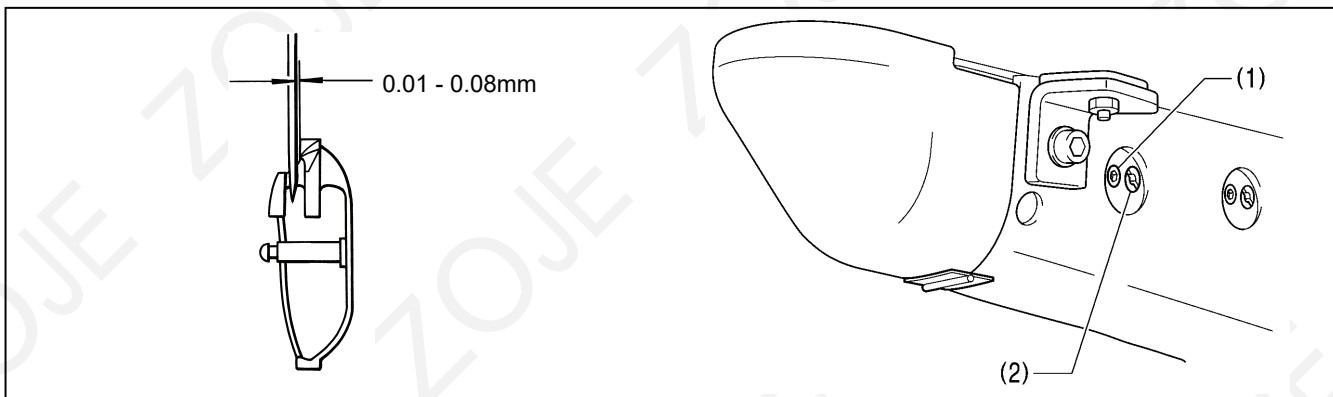


Turn the pulley (1) in the direction of the arrow to align the tip of the rotary hook with the center of the needle, and then loosen the set screw (3) and turn the adjusting stud (4) to adjust so that the driver (2) is touching the needle.

**NOTE:**

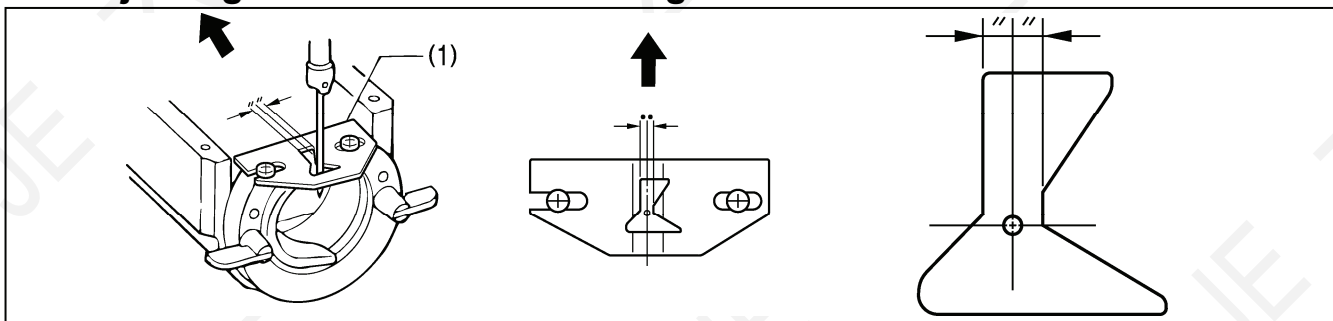
If the driver (2) crosses the needle more than necessary, it will cause problems with the thread tension. Furthermore, if it does not cross the needle at all, the tip of the rotary hook will interfere with the needle and skipped stitches may occur.

### 6-6. Adjusting the clearance between the needle and rotary hook tip



Turn the pulley in the direction of the arrow 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 tip of the rotary hook is 0.01 to 0.08 mm.

### 6-7. Adjusting the shuttle race thread guide



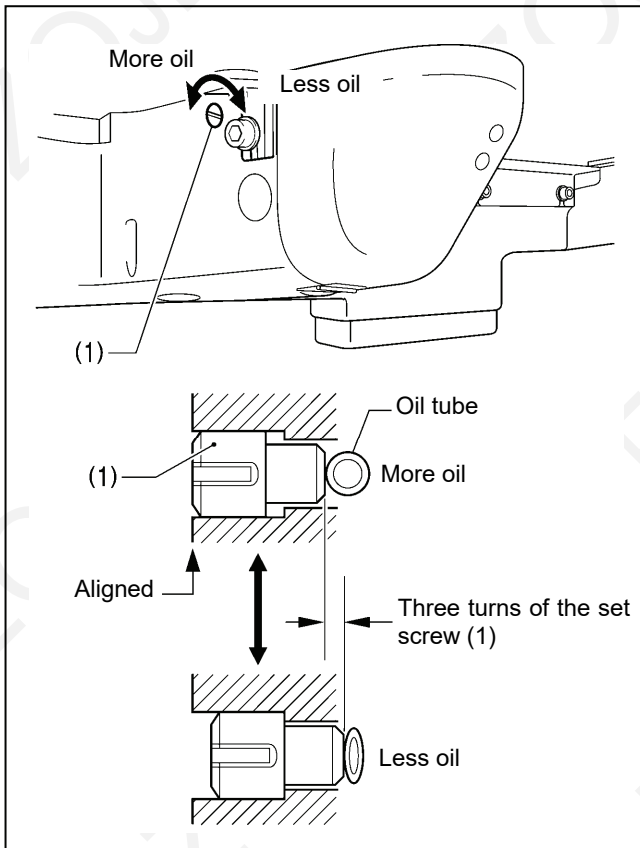
Install the shuttle race thread guide (1) by pushing it in the direction of the arrow so that the needle groove is aligned with the center of the needle plate hole.

**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.

### 6-8. Rotary hook lubrication amount

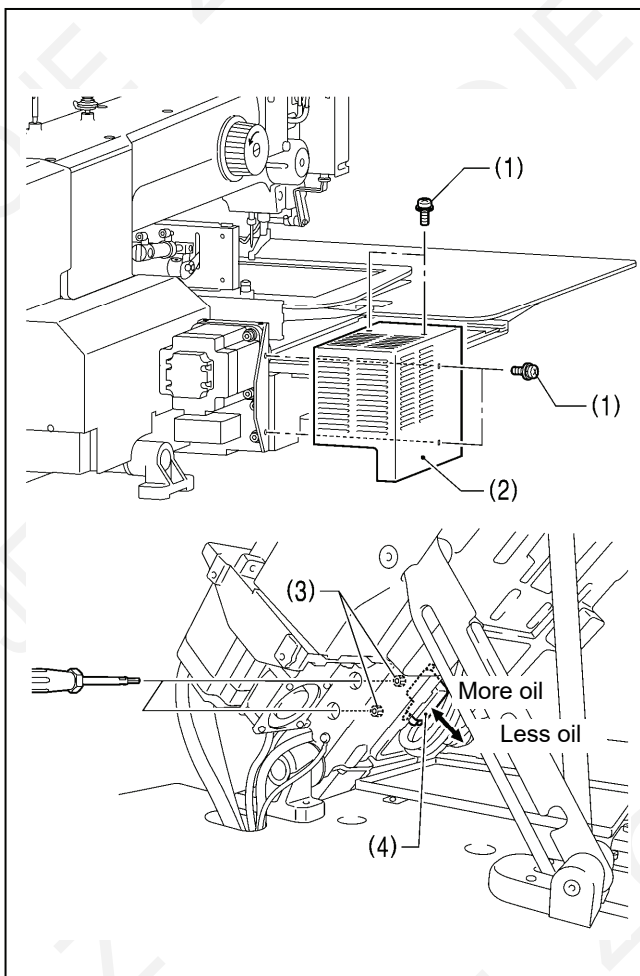


#### <Adjusting by changing the pressure on the oil tube>

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).

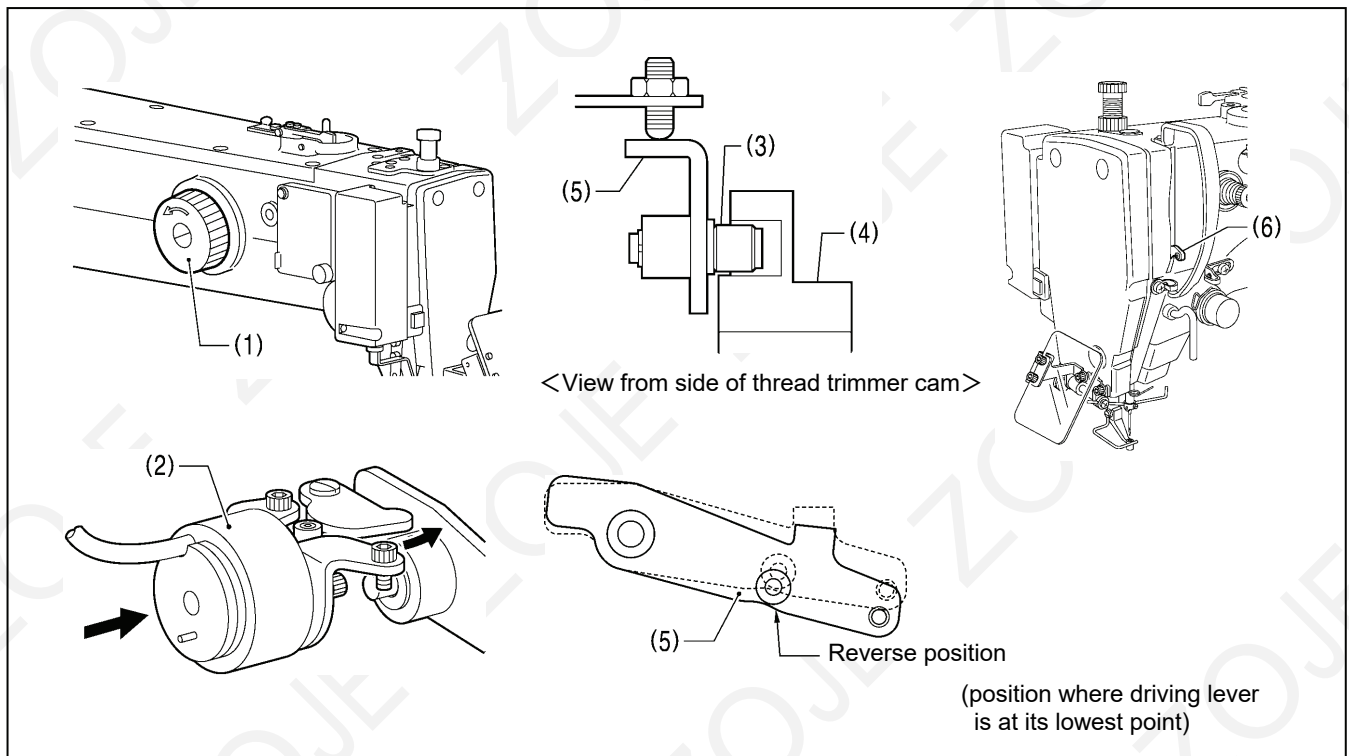
- If the position of the sub-tank (4) is raised, the lubrication amount will increase.

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

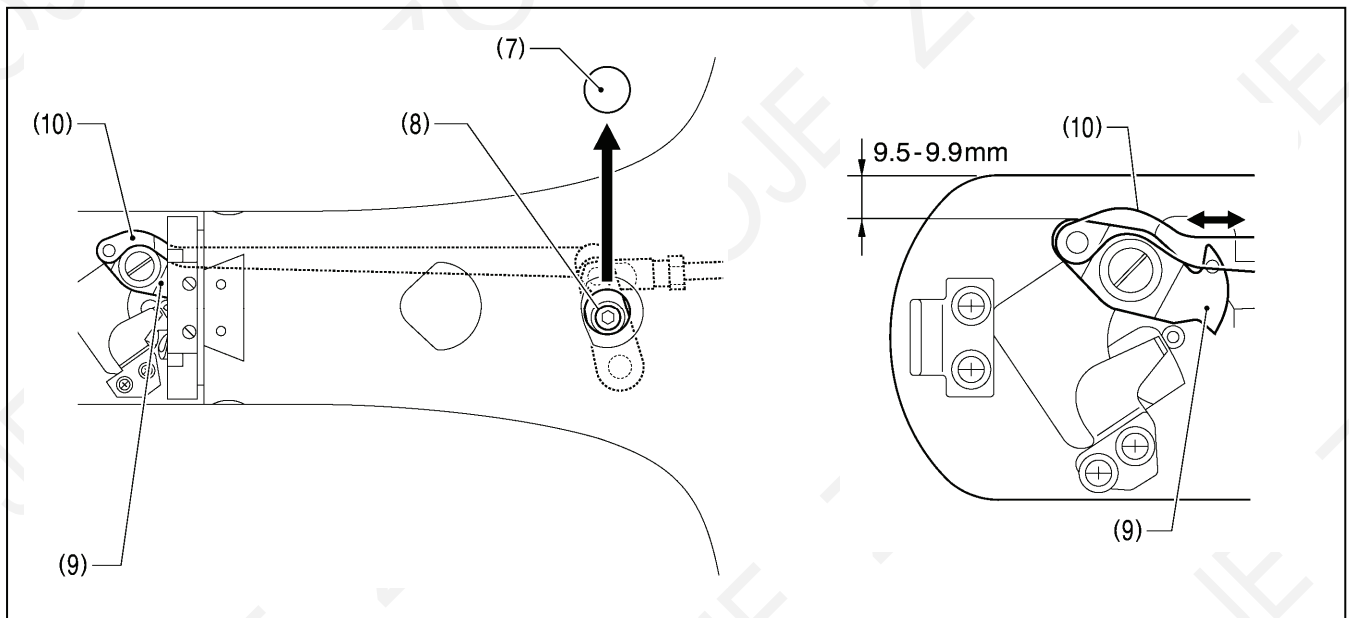
5. Return the machine head to its original position.

6. Install the X motor cover (2) with the four screws (1).

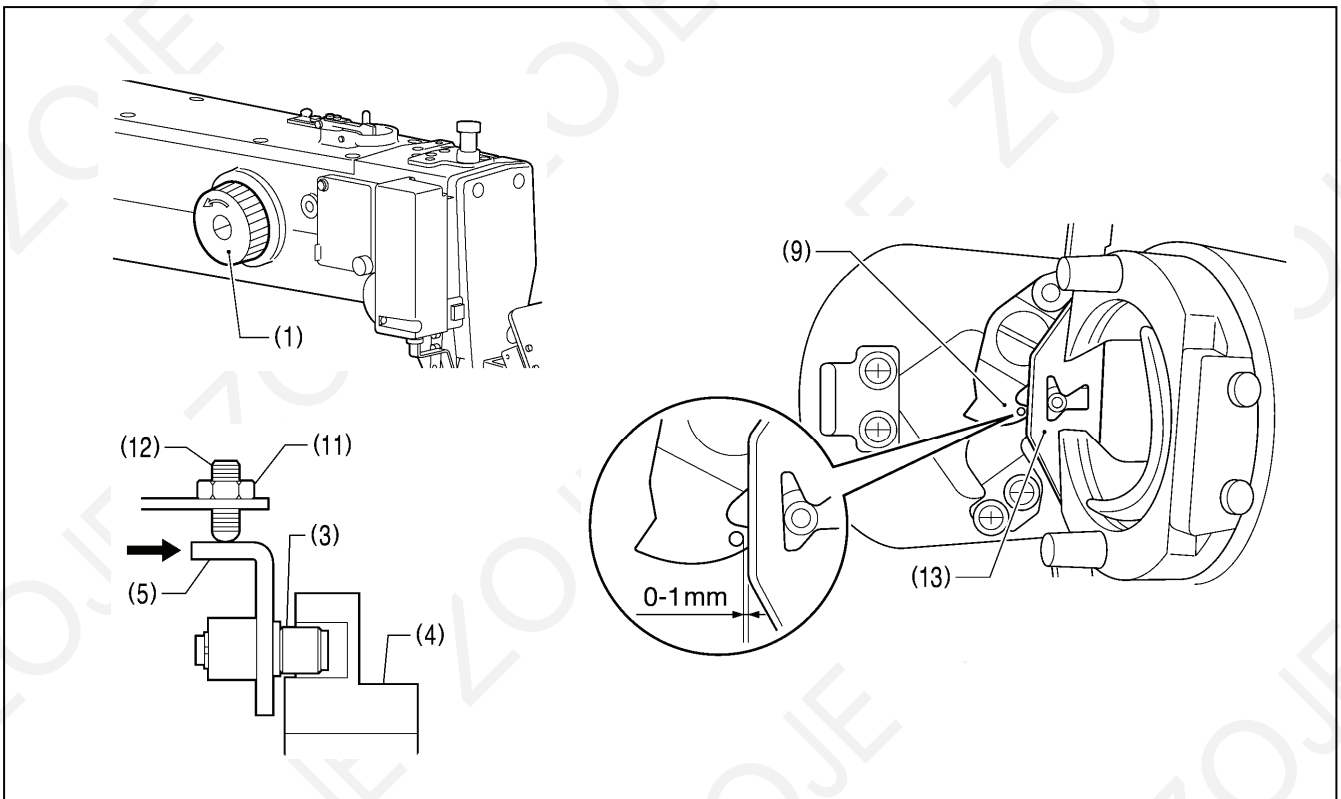
6-9. Adjusting the position of the movable knife



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).

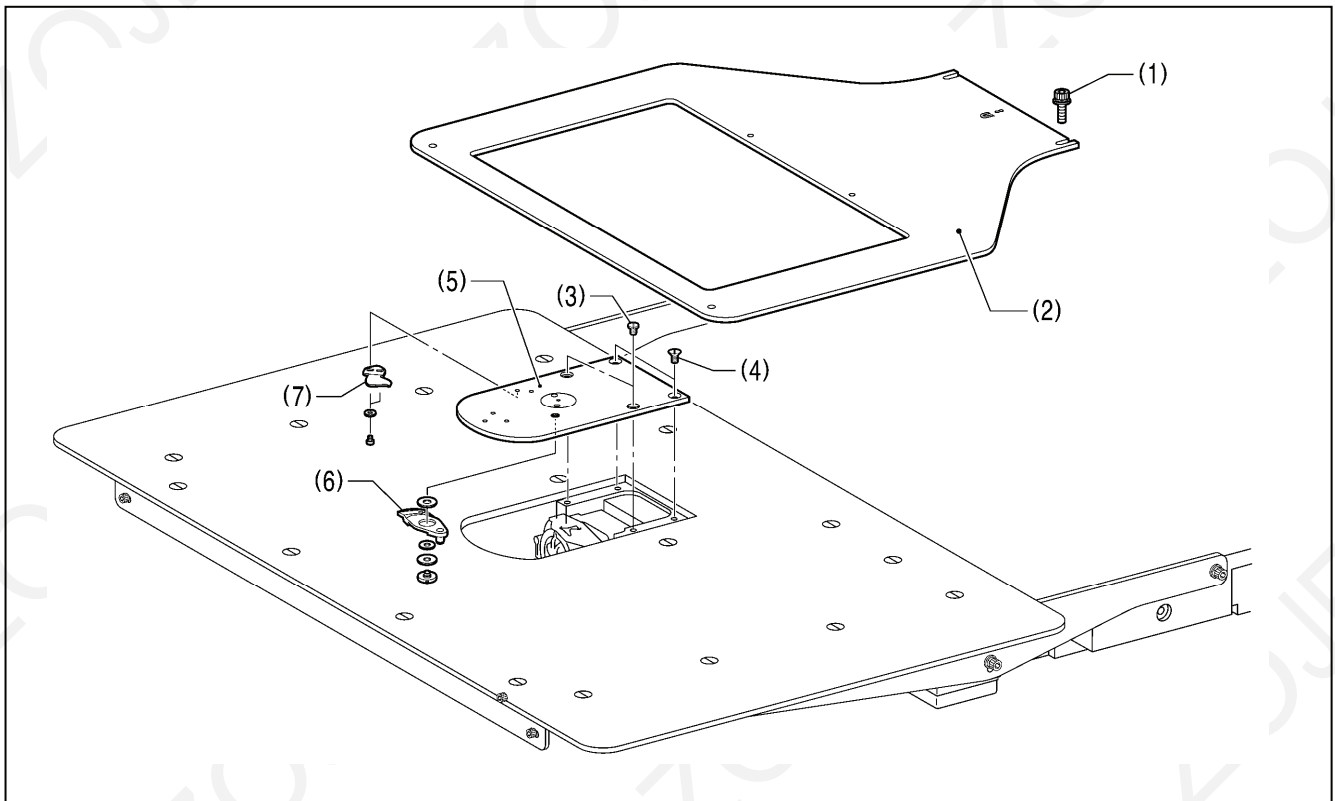


4. Remove the rubber cap (7).
5. Loosen the bolt (8).
6. Move the movable knife connecting plate (10) back and forth to adjust so that the distance from the ridge on the right side of the needle plate to the ridge on the movable knife (9) is 9.5 to 9.9 mm.
7. After tightening the bolt (8), check the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

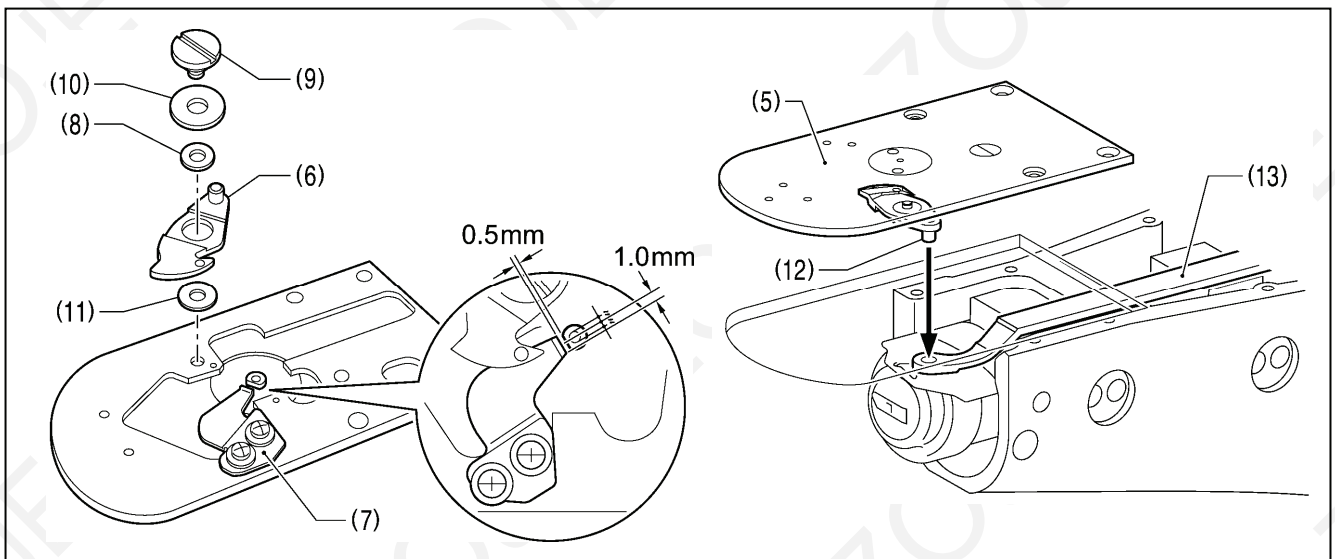


8. Turn the pulley (1) by hand to move the needle bar to its lowest position.
9. Loosen the nut (11), tighten the set screw (12) until the collar (3) is touching the inside of the groove in the thread trimmer cam (4), and then turn it back in the counterclockwise direction by approximately 1/4 of a turn.
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).

### 6-10. Replacing the movable and fixed knives

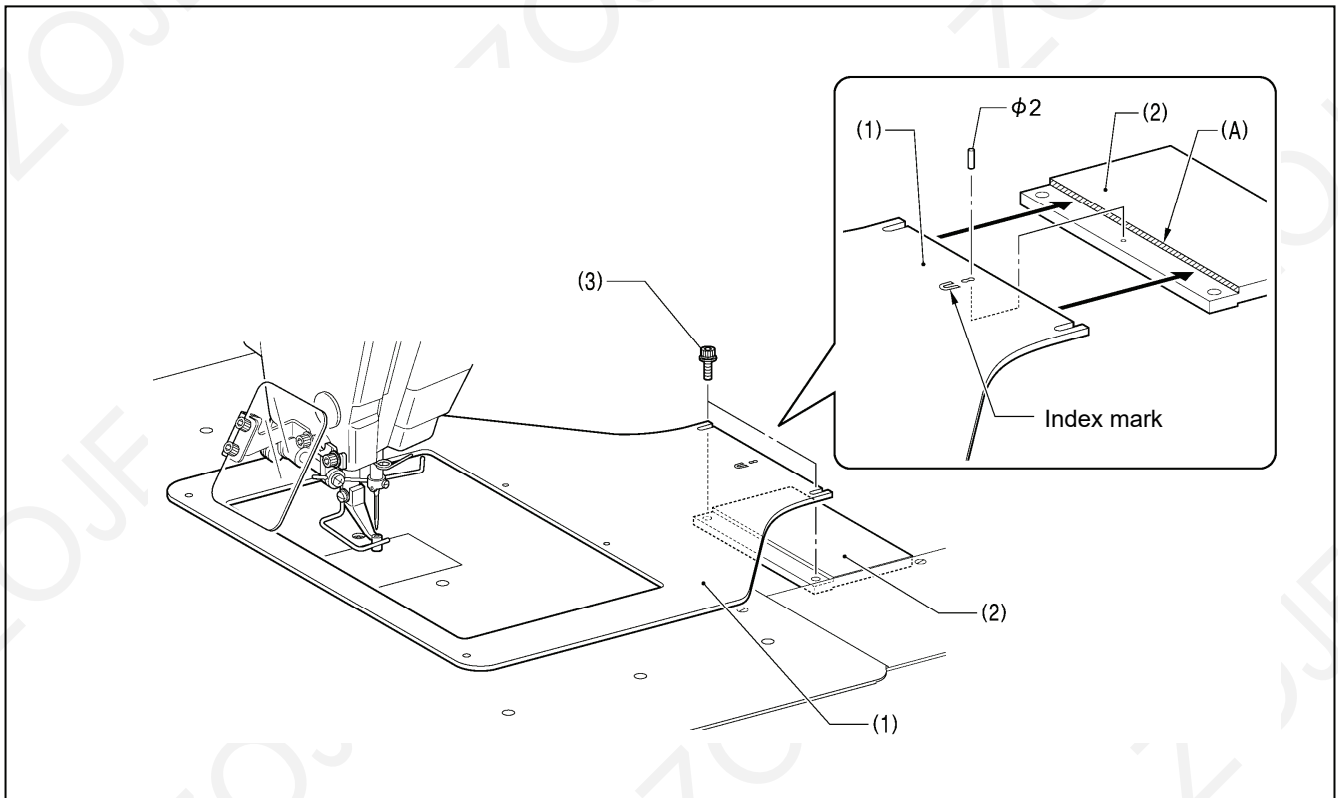


1. Loosen the two bolts (1) and then remove the feed plate (2).
2. Open the shuttle race cover, remove the two screws (3) and the two flat screws (4), and then remove the needle plate (5).
3. Remove the movable knife (6) and the fixed knife (7).



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.)

### 6-11. Installing the feed plate

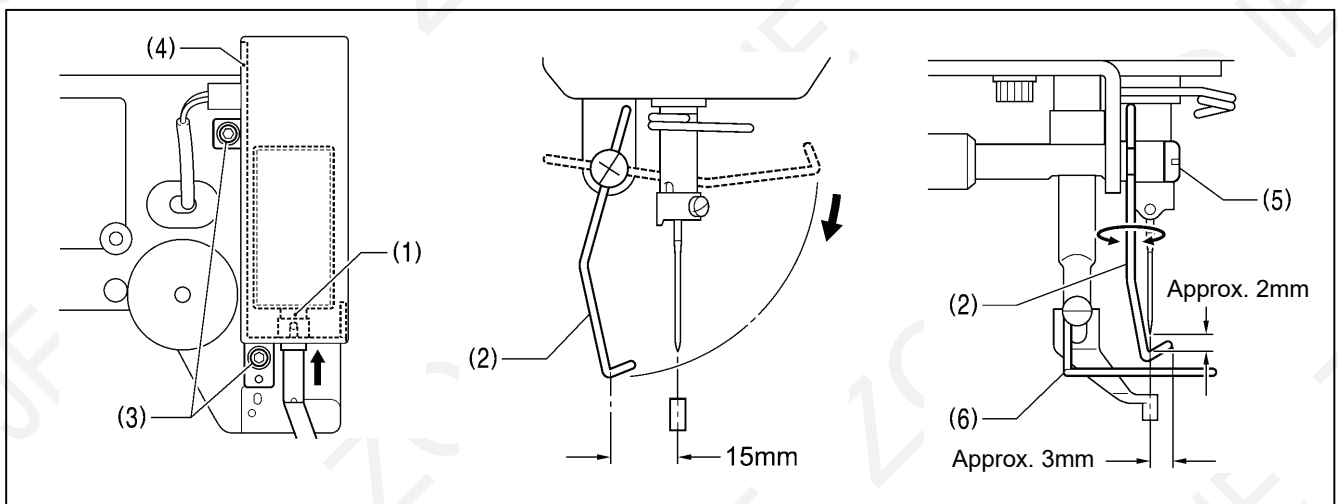


**NOTE:**

Install the feed plate (1) so that the surface with the index mark is facing upward.

Place the rear edge of the feed plate (1) against the stepped part (A) of the base plate Y (2) and use a 2 mm diameter pin (such as a DP needle) to align the hole in the feed plate (1) with the hole in the base plate Y (2); then tighten the two bolts (3).

### 6-12. Adjusting the thread wiper

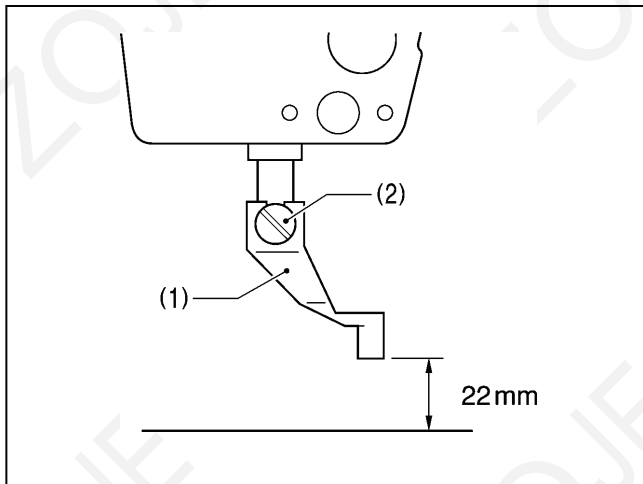


1. Loosen the two screws (3) and shift the entire solenoid setting plate (4) up or down to adjust so that the thread wiper (2) is 15 mm in front of the needle center when the plunger (1) of the thread wiper solenoid is driven to the full stroke.
2. Loosen the screw (5) and adjust the position of the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

### 6-13. Intermittent presser foot installation position

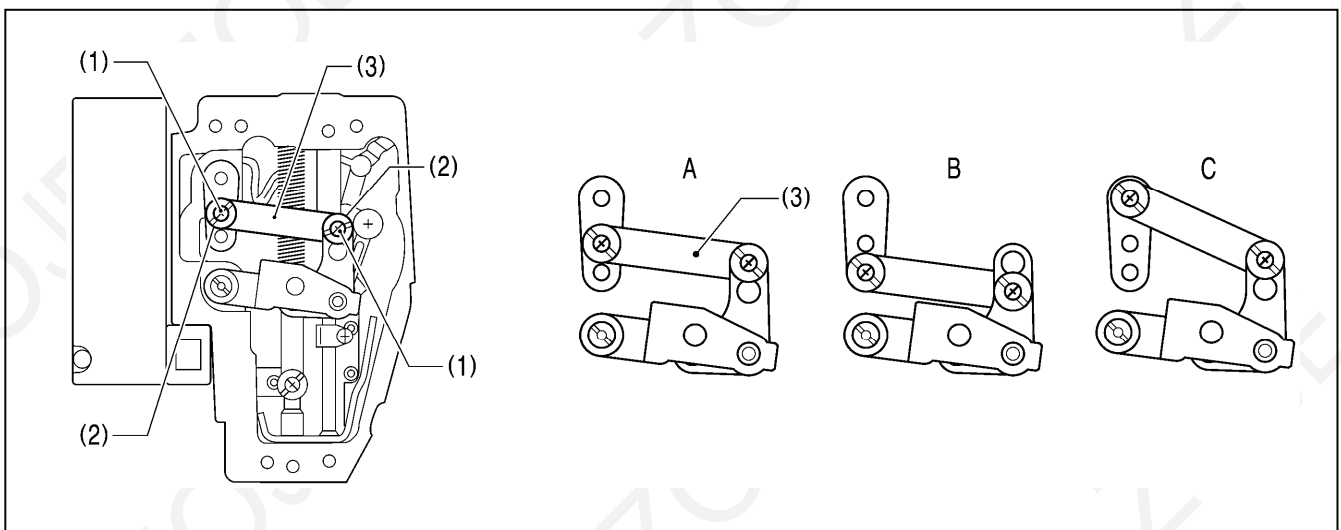


Install the intermittent presser foot (1) with the screw (2) so that the distance from the bottom of the intermittent presser foot (1) to the top of the needle plate is 22 mm when the sewing machine is stopped and the intermittent presser foot (1) is raised

### 6-14. Adjusting the intermittent presser foot

The intermittent presser foot 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.

#### <Changing the installation position of stepping clamp link>



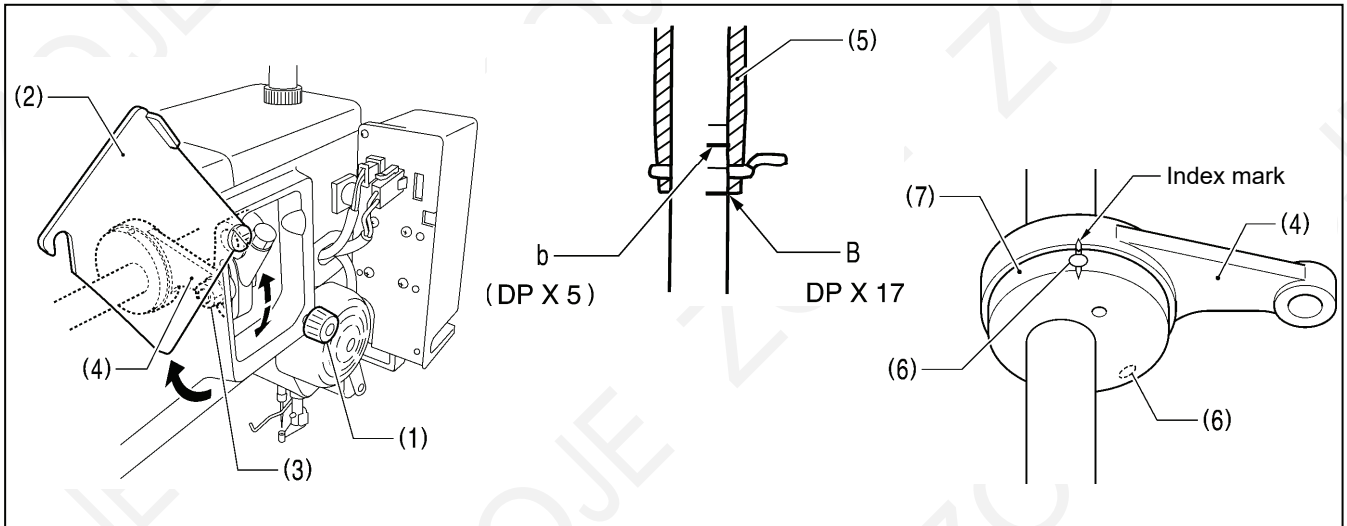
1. Remove the face plate.
2. Remove the two screws (1) and the two shoulder screws (2), and then remove the stepping clamp link (3).
3. Change the installation position for the stepping clamp link (3) to either A, B or C above.

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 presser foot stroke will as given in the following table. (Refer to the next page.)

Installation position	Intermittent presser foot stroke range	
A	2 - 4.5mm	
B	4.5 - 10mm	
C	0mm (Intermittent presser foot does not move up and down)	5012Q

## 6. STANDARD ADJUSTMENTS

### <Stepping clamp connecting rod position adjustment>

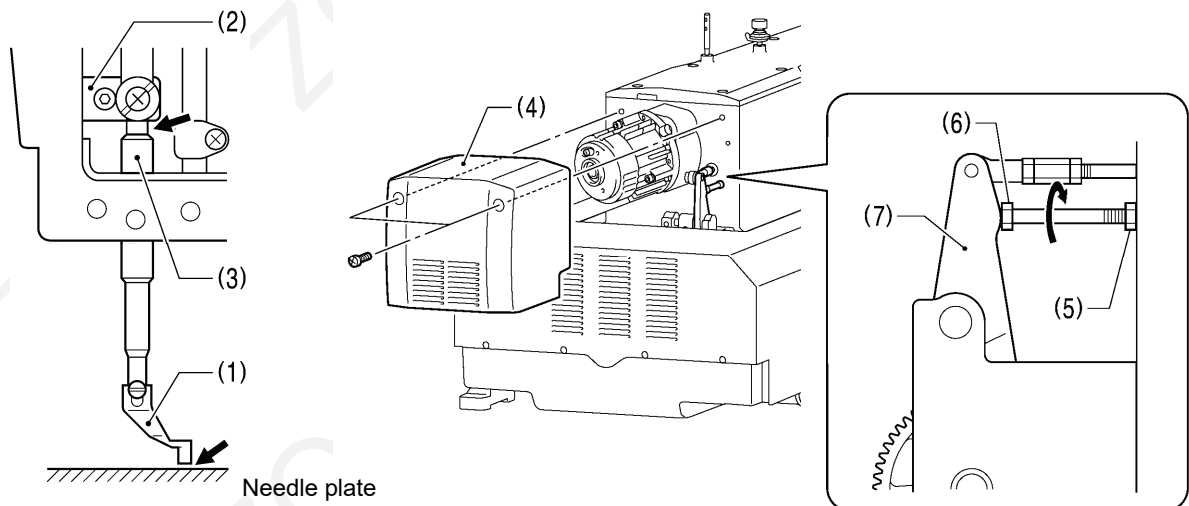


1. Loosen the screw (1), and then open the cover (2).
2. Loosen the nut (3), and then adjust the position of the stepping clamp connecting rod (4).
  - When the stepping clamp connecting rod (4) is raised, the intermittent presser foot stroke will increase.
  - When the stepping clamp connecting rod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

Next, adjust the needle bar and intermittent presser foot timing.

3. Turn the pulley in the direction of the arrow 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 of the stepping clamp cam (7) and the stepping clamp connecting rod (4), and then tighten the two set screws (6).

Check the following after changing the intermittent presser foot stroke.



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

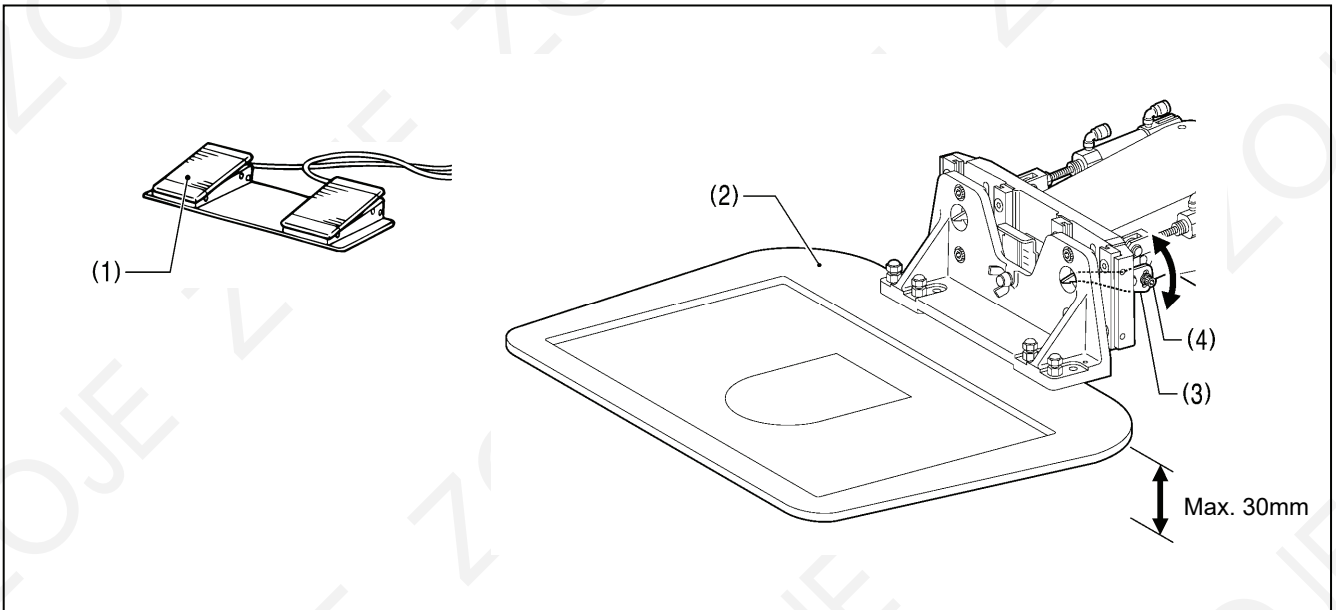
#### <If they are touching>

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.

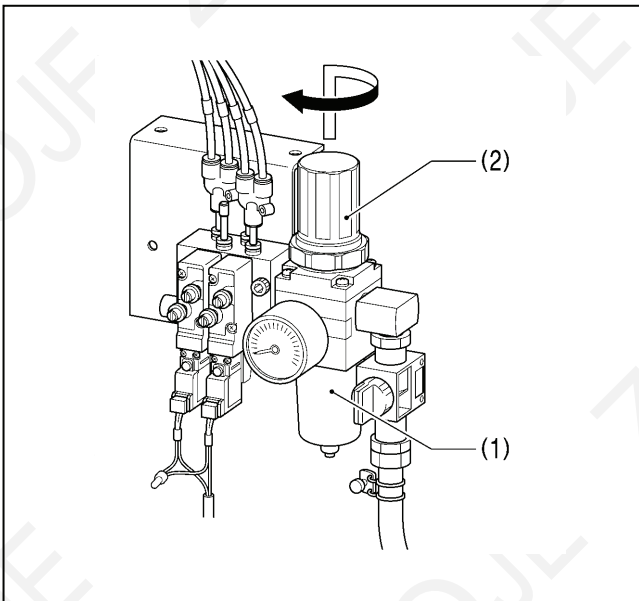
### 6-15. Adjusting the work clamp lift amount

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 depress the work clamp switch (1) to raise the work clamp (2).
2. Loosen the two bolts (4) of the work clamp lifter lever (3), and move the work clamp lifter lever (3) up or down to adjust.

### 6-16. 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

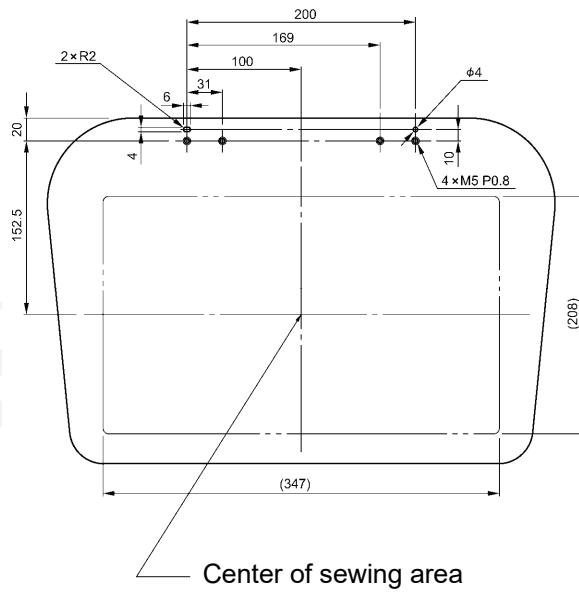
After adjustment is complete, push the handle (2) downward to lock it.

**6-17. If processing the work clamp and the feed plate to a shape that matches the sewing pattern**

Process the work clamp and feed plate which match the sewing pattern, while referring to the processing diagram below.

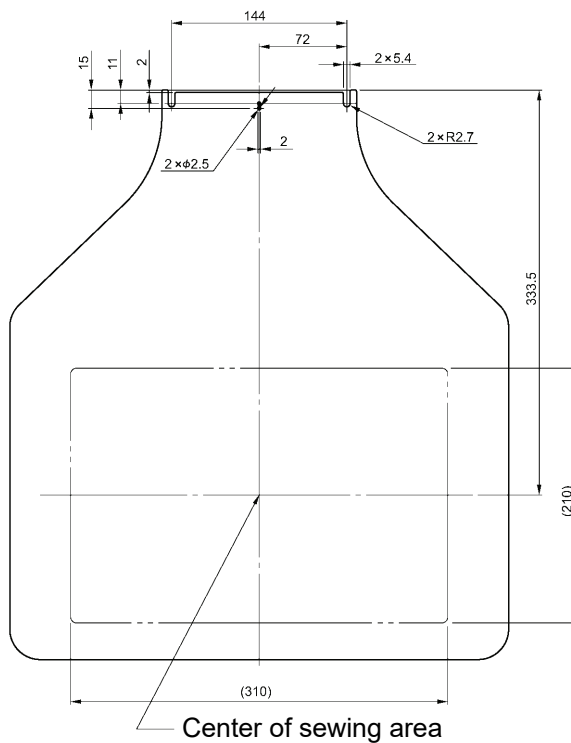
\* Values in ( ) are the recommended sizes when sewing using the maximum area

**<Work clamp processing diagram>**



**<Feed plate processing diagram>**

Recommended thickness 1.5 mm



[mm]

## 7. 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 and consult a qualified technician or the place of purchase.

### CAUTION



Turn off the power switch and disconnect the power cord before carrying out these operations. The machine may operate if the foot switch is depressed by mistake, which could result in injury.

Problem	Cause	Remedy	Reference
<b>Lower thread winds to one side.</b>	Height of bobbin winder tension assembly is incorrect.	Adjust the height of the bobbin winder tension assembly.	P. 12
<b>Lower thread winding amount is incorrect.</b>	Bobbin presser position is incorrect.	Adjust the position of the bobbin presser.	P. 12
<b>Thread unraveling at sewing start.</b>	Needle is too thick.	Select a needle that is suitable for the sewing conditions.	P. 13
	Upper thread trailing length is too short.	When threading the thread through the needle, allow a distance of approximately 42 mm between the needle hole and the end of the thread.	P. 10
		Adjust the sub-tension so that the upper thread trailing length after thread trimming is approximately 42 mm.	P. 14
	Amount of lower thread being fed out from bobbin is too small.	Set the feeding amount to approximately 30 mm.	P. 12
	Sewing start speed is too fast.	Adjust the sewing start speed.	
<b>Skipped stitches occur.</b>	Rotary hook tip is missing.	Replace the part.	
	Needle is too thin.	Select a needle that is suitable for the sewing conditions.	P. 13
	Needle is too thick.		
	Needle is bent.	Replace the needle.	P. 9
	Needle is not installed correctly.	Install the needle so that it faces correctly.	P. 9
	Needle and rotary hook tip are touching.	Adjust the driver needle guard.	P. 20
	Clearance between needle and rotary hook tip is too large.	Adjust the needle clearance.	P. 20
	Needle and rotary hook timing is incorrect.	Adjust the timing.	P. 19
	Material is flapping.	Replace the needle hole plate with one with a smaller needle diameter.	
Use a thinner feed plate. * Recommended thickness: 1.5 mm Process the work clamp and the feed plate into shapes that can hold the material near the seam.			P. 29
Adjust the intermittent height of the intermittent presser foot.			



(Continued on next page)

## 7. TROUBLESHOOTING

Problem	Cause	Remedy	Reference
<b>Upper thread is breaking.</b>	Thread is too thick for the needle.	Select a thread which is suitable for the needle.	P. 13
	Needle is not installed correctly.	Install the needle so that it faces correctly.	P. 8
	Thread is not threaded correctly.	Thread the thread correctly.	P. 10
	Damage or burring in parts such as the rotary hook, needle hole plate, needle or thread path.	Repair the respective part by buffing it. Alternatively, replace the part.	
	Needle and rotary hook timing is incorrect.	Adjust the timing.	P. 19
	Upper thread tension is too strong.	Reduce the upper thread tension.	P. 20
	Thread take-up spring tension is too strong.	Reduce the tension of the thread take-up spring.	P. 18
	Thread breaks due to heat.	Use a needle cooler unit (optional). Reduce the sewing speed.	P. 10
<b>Lower thread is breaking.</b>	Damage to the needle hole plate or bobbin case.	Repair the respective part by buffing it. Alternatively, replace the part.	
	Lower thread tension is too strong.	Reduce the lower thread tension.	P. 13
<b>Needle breaks.</b>	Needle is bent.	Replace the needle.	P. 9
	Needle is too thin.	Select a needle that is suitable for the sewing conditions.	P. 13
	Needle and rotary hook tip are touching.	Adjust the driver needle guard.	P. 20
		Adjust the needle clearance.	P. 20
	Needle and rotary hook timing is incorrect.	Adjust the timing.	P. 19
	Feed timing is too slow.	Advance the feed timing.	*
<b>Upper thread is not cut.</b>	Movable knife is blunt.	Replace the movable knife with a new one.	P. 24
	Fixed knife is blunt.	Sharpen the fixed knife or replace it with a new one.	P. 24
	Movable knife is not picking up the upper thread.	Adjust the timing.	P. 19
		Adjust the standby position of the movable knife.	P. 22 P. 23
	Movable knife is not picking up the needle thread because the last stitch is being skipped.	Refer to "Skipped stitches occur".	P. 30
<b>Lower thread is not cut.</b>	Lower thread tension is too weak.	Increase the lower thread tension.	P. 13

(Continued on next page)

## 7. TROUBLESHOOTING

Problem	Cause	Remedy	Reference
<b>Upper thread is not tight.</b>  0573M	Needle is too thin.	Select a needle that is suitable for the sewing conditions.	P. 13
	Hole diameter in needle hole plate is too small.	Replace the needle hole plate with one with a larger hole diameter.	
	Feed plate is too thin.	Use a thicker feed plate. *Recommended thickness: 1.5 mm	
	Hole diameter of intermittent presser foot is too small.	Replace the intermittent presser foot with one with a larger hole diameter.	
	Sliding parts of outer rotary hook and inner hook have little or no sewing machine oil.	Lubricate the felts for the sliding parts of the outer rotary hook and inner hook.	P. 8
	Damage or burring in parts such as the rotary hook, needle hole plate, needle or thread path.	Repair the respective part by buffing it. Alternatively, replace the part.	
	Lower thread tension is too strong.	Reduce the lower thread tension.	P. 13
	Upper thread tension is too weak.	Increase the upper thread tension. *Adjust the upper thread tension after adjusting the lower thread tension.	P. 14
	Thread take-up spring tension is too weak.	Increase the tension of the thread take-up spring.	P. 18
	Feed timing is too fast.	Retard the feed timing.	*
	Intermittent height of intermittent presser foot is too low.	Adjust the intermittent height of the intermittent presser foot.	
	Needle and rotary hook tip are touching. 0574M		Adjust the driver needle guard.
		Adjust the needle clearance.	P. 20
<b>Lower thread is not tight.</b>  0574M	Lower thread tension is too weak.	Increase the lower thread tension.	P. 13
	Upper thread tension is too strong.	Reduce the upper thread tension. *Adjust the upper thread tension after adjusting the lower thread tension.	P. 14
<b>Poor seam finish on underside of material at the sewing start.</b>	Upper thread trailing length is too long.	Adjust the sub-tension so that the upper thread trailing length after thread trimming is approximately 42 mm.	P. 14
<b>Upper thread trailing length is irregular.</b>	Movable knife is blunt.	Replace the movable knife with a new one.	P. 24
	Fixed knife is blunt.	Sharpen the fixed knife or replace it with a new one.	P. 24
	Sub-tension is too weak.	Adjust the sub-tension.	P. 14
	Thread take-up spring tension is too weak.	Increase the tension of the thread take-up spring.	P. 18
<b>Pattern is distorted.</b>	Work clamp and feed plate are too heavy.	If using a heavy work clamp and feed plate, change the operation settings to the settings for heavy-weight materials. Ask the place of purchase for details on the setting method.	*

# 目 录

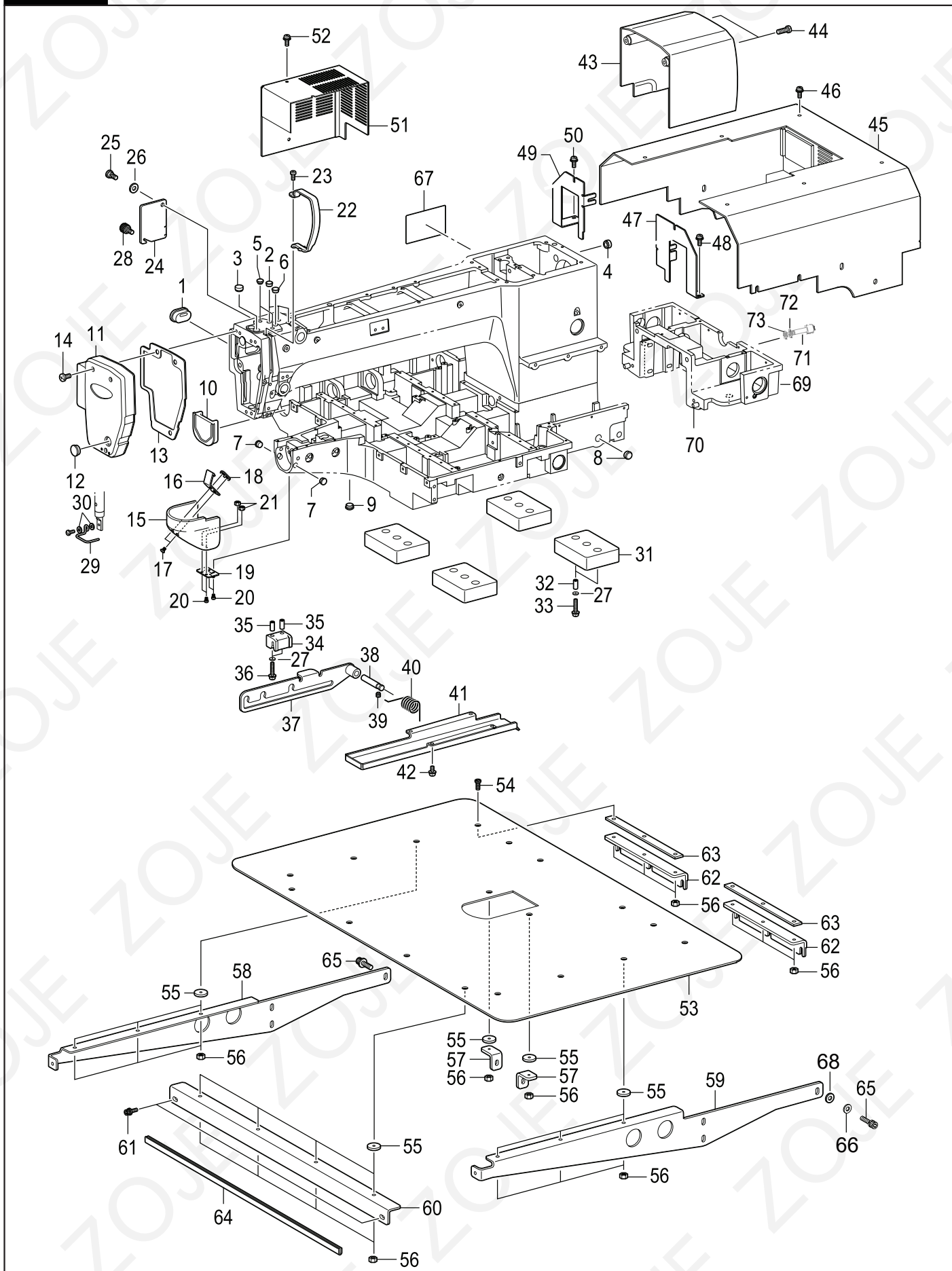
## CONTENTS

### 零件样本 Parts Book

<b>A1</b>	机壳分组件1 Machine Body 1	• .....	1
<b>A2</b>	机壳分组件2 Machine Body 2	• .....	4
<b>B</b>	上轴针杆分组件 Upper Shaft & Needle Bar Components	• .....	6
<b>C1</b>	送料导轨分组件 Feed Guide Components	• .....	9
<b>C2</b>	送料齿轮分组件 Feed Gear Components	• .....	11
<b>C3</b>	送料架分组件 Feed Arm Components	• .....	13
<b>D1</b>	抬压分组件1 Work Clamp Lifter Components 1	• .....	15
<b>D2</b>	抬压分组件2 Work Clamp Lifter Components 2	• .....	18
<b>E</b>	下轴分组件 Lower Shaft Components	• .....	20
<b>F</b>	供油润滑分组件 Lubrication Components	• .....	22
<b>G</b>	穿线分组件 Lower Shaft Components	• .....	25
<b>H</b>	绕线分组件 Bobbin Winder Components	• .....	27
<b>J</b>	剪线分组件 Thread Trimmer Components	• .....	29
<b>K</b>	扫线分组件 Thread Wiper Components	• .....	32
<b>L</b>	松线分组件 Tension Release Components	• .....	34
<b>P</b>	气动分组件 Pneumatic Components (Type F,B) Components	• .....	36
<b>M</b>	电控分组件 Computer-Controlled Components	• .....	37
<b>M</b>	附件分组件 Accessories Components	• .....	39

# A1

## 机壳分组件1 Machine Body 1



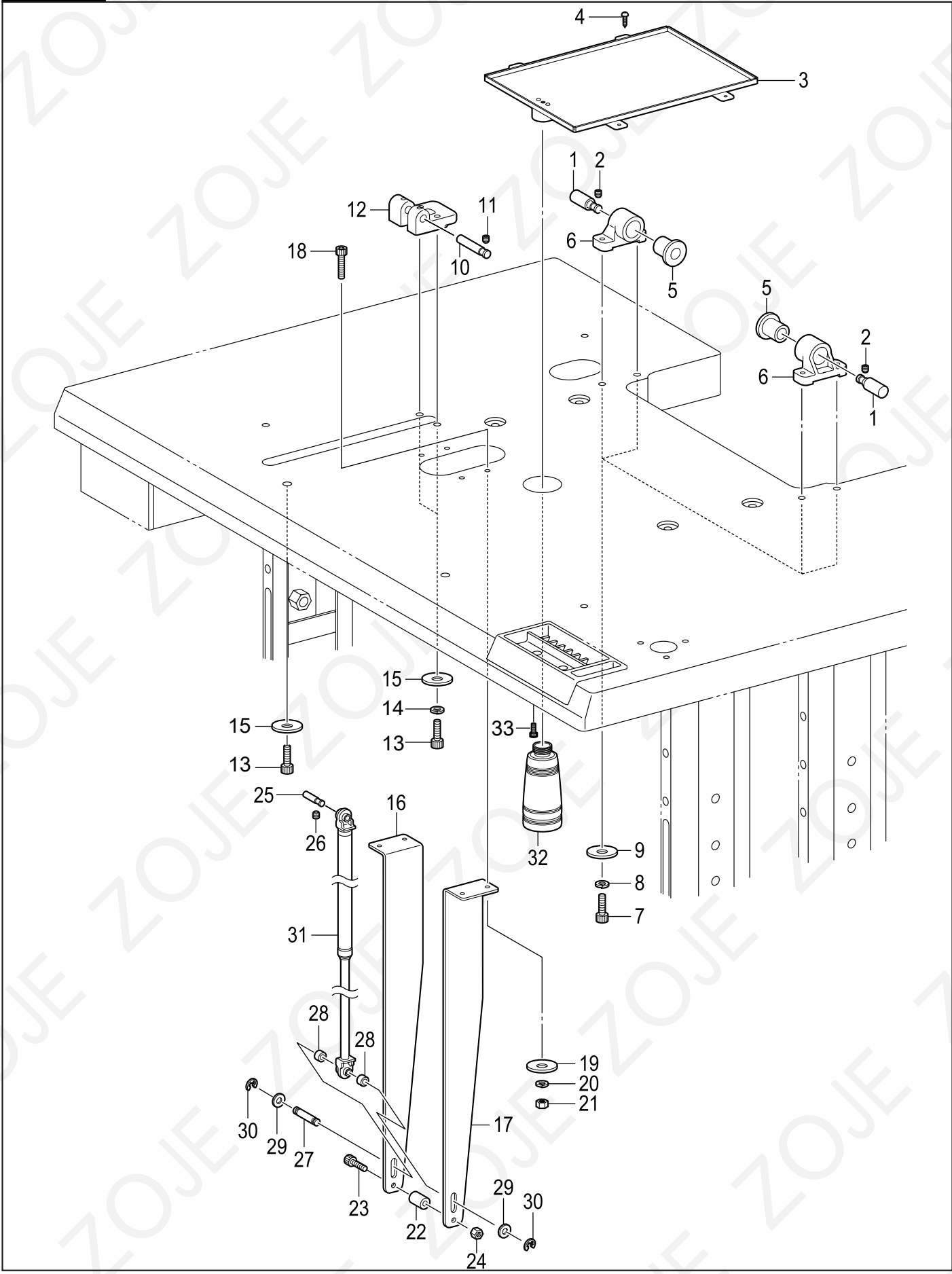
**A1**机壳分组件1  
Machine Body 1

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
A1-1	10073558	橡皮塞20-15	Rubber cap 20-15	1	
A1-2	10011136	橡皮塞10.5	Rubber cap 10.5	3	
A1-3	10008977	橡皮塞13	Rubber cap 13	1	
A1-4	10008977	橡皮塞13	Rubber cap 13	1	
A1-5	10010720	橡皮塞7	Rubber cap 7	2	
A1-6	10008943	橡皮塞8.5	Rubber cap 8.5	1	
A1-7	10073559	橡皮塞11.5	Rubber cap 11.5	2	
A1-8	10083947	橡皮塞16	Rubber cap 16	1	
A1-9	10073561	橡皮塞15.5	Rubber cap 15.5	1	
A1-10	10073560	底板盖	Bed cover	1	
A1-11	20029061	面板	Face plate	1	
A1-12	10073561	橡皮塞15.5	Rubber cap 15.5	1	
A1-13	10073562	面板垫片	F-plate packing	1	
A1-14	10071929	螺钉M6×10	Screw M6×10	3	
A1-15	20029066	大旋梭盖	Shuttle race cover	1	
A1-16	10073563	大旋梭盖挂钩D	Shuttle race cover hook D	1	
A1-17	10069694	螺钉 M3×5	Screw M3×5	2	
A1-18	10071931	板螺母	Nut plate	1	
A1-19	10073564	铰链	Hinge	1	
A1-20	10051792	螺钉 M3×5	Screw M3×5	4	
A1-21	10003018	M3螺母	Nut M3	2	
A1-22	20028006	挑线杆防护罩	Thread take-up cover	1	
A1-23	10011199	螺钉组件M4×10	Screw M4×10	1	
A1-24	10073565	间歇盖板	Stepping cover	1	
A1-25	10072106	轴位螺钉7-3	Shoulder screw 7-3	1	
A1-26	10072107	O形圈P7	O ring P7	1	
A1-27	10003122	4垫圈	Washer 4	10	
A1-28	10073566	螺钉M5	Screw M5	1	
A1-29	10073567	护指器	Finger guard	1	
A1-30	10011680	4.6×9.7×0.8垫圈	Washer plain	2	
A1-31	10073568	防震垫	Cushion	4	
A1-32	10073569	管套	Spacer	8	
A1-33	10012080	M4×20螺钉	Screw M4×20	8	
A1-34	10073570	防震橡皮垫	Rubber cushion	1	
A1-35	10073569	管套	Spacer	2	
A1-36	10012080	M4×20螺钉	Screw M4×20	2	
A1-37	10073571	头部支撑杆	Support lever	1	
A1-38	10073572	头部支撑杆轴	Support lever shaft	1	
A1-39	10011232	M6×6螺钉	Screw M6×6	1	
A1-40	10073573	弹簧	Spring	1	
A1-41	10073574	供油盘	Oil pan	1	
A1-42	10005041	螺钉M4×10	Screw M4×10	4	
A1-43	10073575	马达罩	Motor cover	1	
A1-44	10073576	螺钉M6×16	Screw M6×16	2	
A1-45	20029062	后盖	Rear cover	1	
A1-46	10011199	螺钉组件M4×10	Screw M4×10	16	
A1-47	20029064	后盖FR	Rear cover	1	

“\*” 具体内容需向客服咨询

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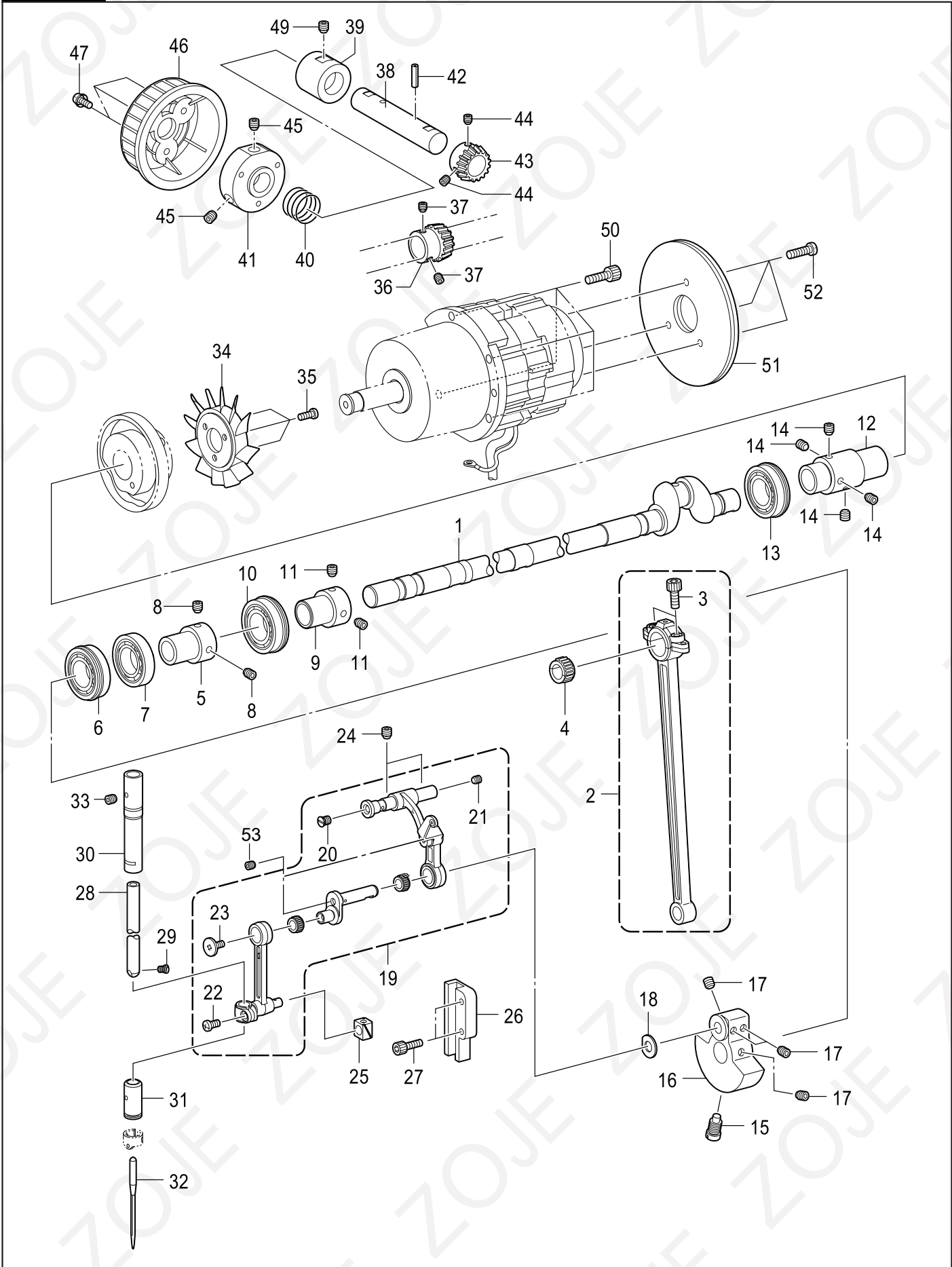






# B

## 上轴针杆分组件 Upper Shaft & Needle Bar Components



# B

## 上轴针杆分组件 Upper Shaft & Needle Bar Components

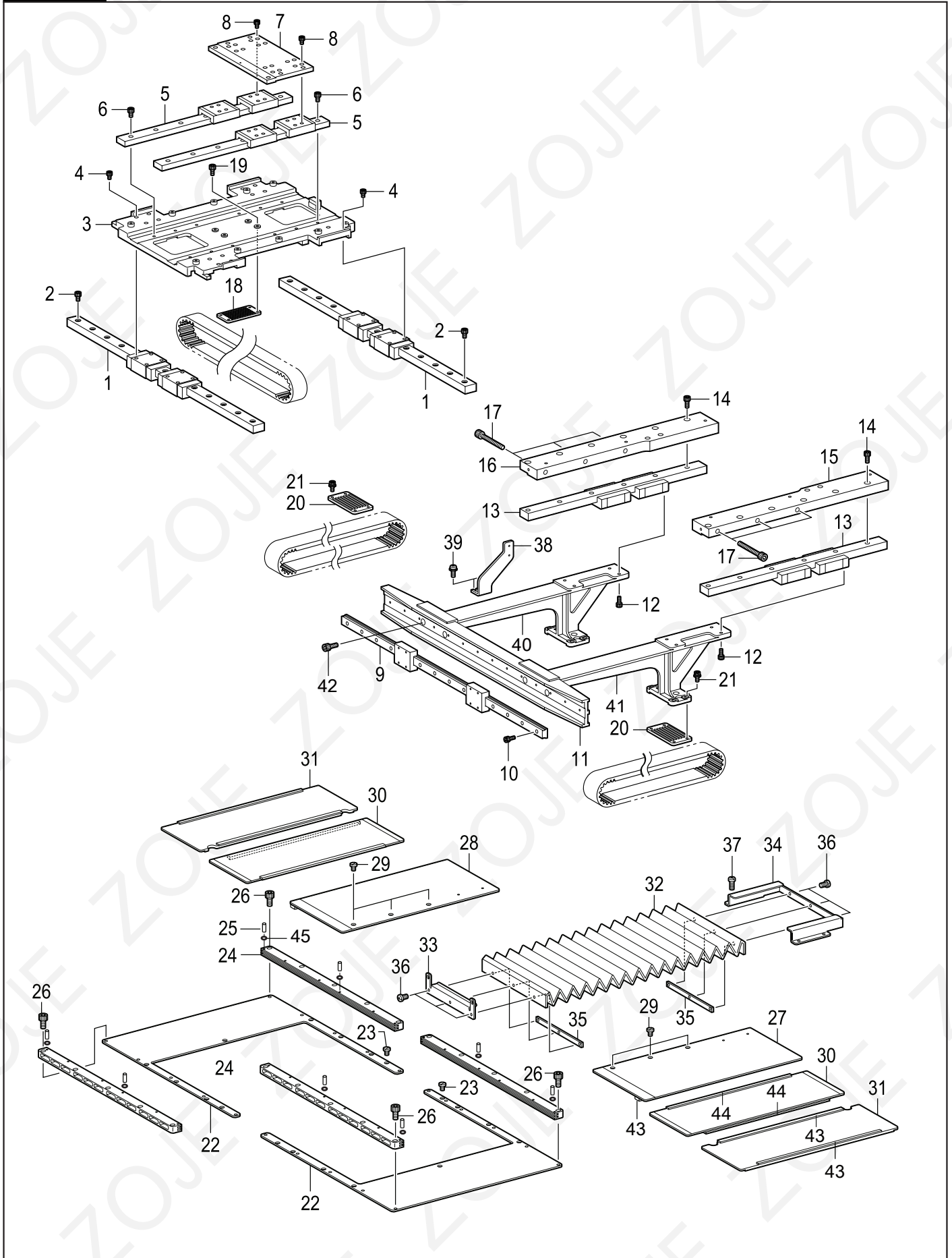
序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
B-1	10073595	上轴	Upper shaft	1	
B-2	10071940	曲柄轴组件	Crank rod assy	1	
B-3	10012073	M5×16螺钉	Bolt socket M5x16	2	
B-4	10071943	滚针轴承	Needle bearing	1	
B-4	10071944	滚针轴承	Needle bearing	(1)	
B-4	10071945	滚针轴承	Needle bearing	(1)	
B-4	10071946	滚针轴承	Needle bearing	(1)	
B-5	10071920	上轴轴套	Ball bearing bush	1	
B-6	10060317	6904ZZNR轴承	Ball bearing 6904ZZNR	1	
B-7	10071735	6904ZZ轴承	Ball bearing 6904ZZ	1	
B-8	10022863	M6×0.75螺钉	Set screw socket M6×0.75	2	
B-9	10071920	上轴轴套	Ball bearing bush	1	
B-10	10025882	6004NR-2RS	Ball bearing 6004NR-2RS	1	
B-11	10022863	M6×0.75螺钉	Set screw socket M6×0.75	2	
B-12	10073596	管接头G	Joint G	1	
B-13	10071737	6204ZZNR轴承	Ball bearing 6204ZZNR	1	
B-14	10022863	M6×0.75螺钉	Set screw socket M6×0.75	4	
B-15	10071954	螺钉M8	Screw M8	1	
B-16	10073598	曲柄G	Thread take-up crank G	1	
B-17	10050053	M6×0.75螺钉	Set screw socket M6×0.75	4	
B-18	10071952	垫圈8	Washer 8	1	
B-19	10073597	针杆连杆组件FK	Thread take-up lever FK set	1	
B-20	10071951	螺钉M5×6	Screw flat M5×6	1	
B-21	10012161	M5×5螺钉	Screw M5×5	1	
B-22	10011264	M4×8螺钉	Screw M4×8	1	
B-23	10010537	SM9/64"×40(左)螺钉	Screw, SM9/64"×40	1	
B-24	10011232	M6×6螺钉	Set screw socket	2	
B-25	10073599	螺钉A滑块M5	Slide block	1	
B-26	10071957	滑块导向B	Slide block guide	1	
B-27	10009103	M4×16螺钉	Bolt socket Mx16	2	
B-28	10073600	针杆	Needle bar	1	
B-29	10013598	SM9/64"×40螺钉	Screw, SM9/64"×40	1	
B-30	10073601	针杆轴套UK	Needle bar bush UK	1	
B-31	10070880	针杆轴套D	Needle bar bush D	1	
B-32	10004896	DP×17 18#机针	Needle, DPx17 18#	1	
B-33	10009076	M6-6h×5螺钉	Set screw, socket M6x5	1	
B-34	10072134	叶轮	Fan	1	
B-35	10011199	螺钉组件M4×10	Screw M4×10	3	
B-36	10073602	齿轮R	Pulley gear R	1	
B-37	10042418	螺钉M5×5	Set screw socket M5x5	2	
B-38	10073603	上轮轴	Pulley shaft	1	
B-39	10073540	上轮轴套	Pulley bush	1	
B-40	10073604	上轮弹簧	Pulley spring	1	
B-41	10072479	上轮基座	Pulley base	1	
B-42	10003477	4×10销	Pin spring roll AW4	1	
B-43	10073605	齿轮	Pulley gear L	1	
B-44	10042418	螺钉M5×5	Set screw socket M5x5	2	

“\*” 具体内容需向客服咨询  
 “\*\*” Specific content need to consult customer service



# C1

## 送料导轨分组 Feed Guide Components



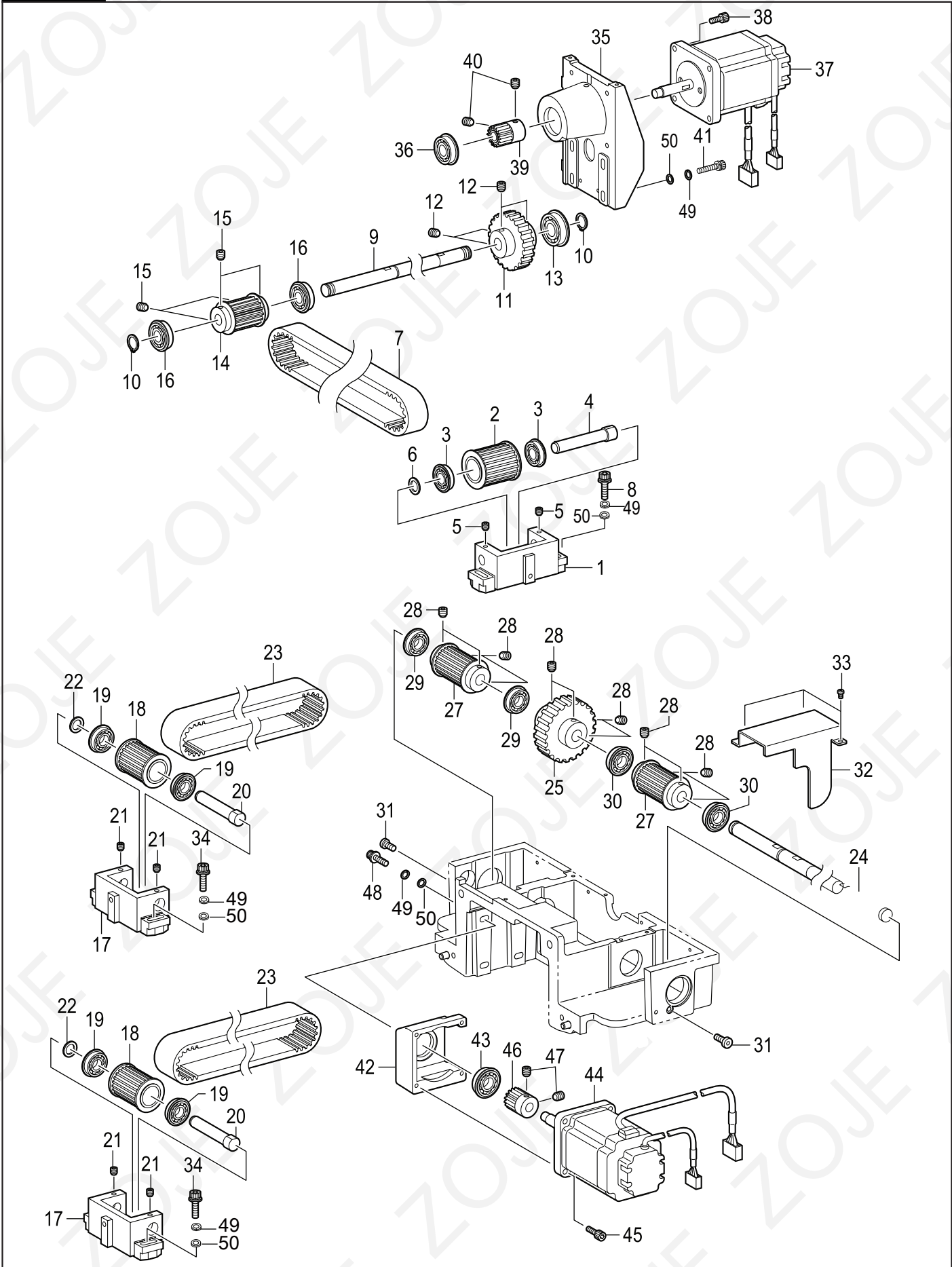
# C1

## 送料导轨分组件 Feed Guide Components

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
C1-1	10071144	X-LM导向 F	X-LM guide F	2	
C1-2	10042268	螺钉	Bolt socket M4x8	22	
C1-3	10073607	基板 (X)	Base plate X	1	
C1-4	10001040	M3×6螺钉	Bolt socket M3x6	16	
C1-5	10071163	Y-LM导向 F	Y-LM guide F	2	
C1-6	10042268	螺钉	Bolt socket M4x8	12	
C1-7	10073608	基板组件 (Y)	Base plate Y assy	1	
C1-8	10009021	M3×5螺钉	Bolt socket M3x5	16	
C1-9	10071145	X-LM导向 R	X-LM guide R	1	
C1-10	10073654	螺钉M3×10	Bolt socket M3x10	14	
C1-11	10073609	Y臂组件导轨座	Y-ARM guide bracket	1	
C1-12	10000863	M4×12螺钉	Bolt socket M4x12	8	
C1-13	10071164	Y-LM导向 R	Y-LM guide R	2	
C1-14	10000259	M5×12螺钉	Bolt socket M5x12	12	
C1-15	10073612	Y导向支座R	Y-LM guide bracket R	1	
C1-16	10073613	Y导向支座L	Y-LM guide bracket L	1	
C1-17	10058148	M6×60螺钉	Bolt socket M6x60	6	
C1-18	10073621	皮带支撑板	Belt holder	1	
C1-19	10012752	M4×10螺钉	Bolt socket M4x10	4	
C1-20	10073621	皮带支撑板	Screw M3×5	2	
C1-21	10059084	M4×16组合螺钉	Bolt socket M4x16	8	
C1-22	10073614	固定盖	Fixation	2	
C1-23	10072164	螺钉M4×8	Screw M4×8	14	
C1-24	10073615	盖轨	Cover rail	4	
C1-25	10002880	2×6销	Pin 2×6	8	
C1-26	10042268	M4×8螺钉	Bolt socket M4x8	20	
C1-27	10073616	内盖R	Inside cover R	1	
C1-28	10073618	内盖L	Inside cover L	1	
C1-29	10072164	螺钉M4×8	Screw M4×8	6	
C1-30	10073619	中盖	Middle cover	2	
C1-31	10073622	外盖	Outside cover	2	
C1-32	10073623	波纹片	Bellow	1	
C1-33	10073626	波纹片支座F	Bellow presser F	1	
C1-34	10073624	波纹片支座R	Bellow presser R	1	
C1-35	10073625	波纹片螺母	Bellow nut	2	
C1-36	10010607	M3×3.7螺钉	Screw M3×3.7	6	
C1-37	10011199	螺钉组件M4×10	Screw M4×10	4	
C1-38	10073627	Y感应器安装板	Sensor plate Y	1	
C1-39	10011199	螺钉组件M4×10	Screw M4×10	2	
C1-40	10073610	Y臂组件 (左臂)	Y-ARM L	1	
C1-41	10073611	Y臂组件 (右臂)	Y-ARM R	1	
C1-42	10009008	M6×16螺钉	Screw M6×16	4	
C1-43	10073617	防尘盖橡胶条 (厚)	Rubber strip	6	
C1-44	10073620	防尘盖橡胶条 (薄)	Rubber strip	4	
C1-45	10053384	O型圈	O-ring	8	

“\*” 具体内容需向客服咨询

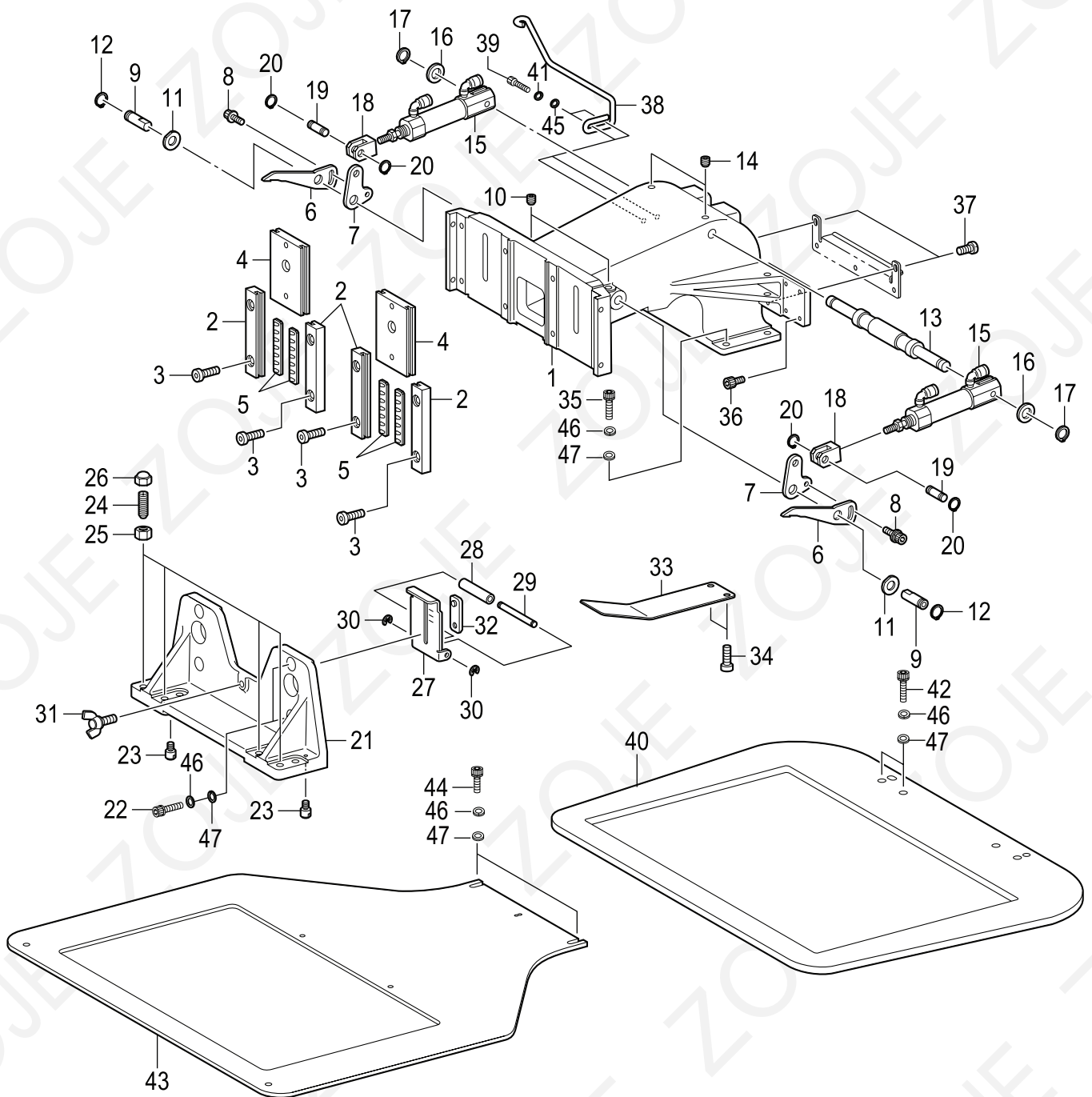
“\*” Specific content need to consult customer service



序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
C2-1	10073628	X手轮基座	X-pulley bracket	1	
C2-2	10073629	手轮组件A	Pulley A assy	1	
C2-3	10058580	轴承_6901ZZ-NR	Ball bearing, 6901ZZNR	2	
C2-4	10073630	手轮支点轴	Pulley fulcrum shaft	1	
C2-5	10012162	M5×5螺钉	Set screw socket M5x5	2	
C2-6	10073631	支点轴套	Pulley fulcrum shaft collar	1	
C2-7	10073632	X-GT 皮带	X-GT belt	1	
C2-8	10001901	M6×30螺钉	Bolt socket M6x30	2	
C2-9	10073633	X驱动轴	Drive shaft X	1	
C2-10	10003290	C15挡圈	Retaining ring external C15	2	
C2-11	10073634	X齿轮	Gear X	1	
C2-12	10011232	M6×6螺钉	Screw M6×6	4	
C2-13	10009779	6002ZZNR轴承	Ball bearing 6002 ZZNR	1	
C2-14	10073635	手轮组件B	Pulley B assy	1	
C2-15	10011232	M6×6螺钉	Screw M6×6	4	
C2-16	10009787	6202ZZNR轴承	Ball bearing radial 6202ZZNR	2	
C2-17	10073636	Y手轮基座	Y-pulley bracket	2	
C2-18	10073629	手轮组件A	Pulley A assy	2	
C2-19	10058580	轴承_6901ZZ-NR	Ball bearing, 6901ZZNR	4	
C2-20	10073630	手轮支点轴	Pulley fulcrum shaft	2	
C2-21	10012162	M5×5螺钉	Set screw socket M5x5	4	
C2-22	10073631	支点轴套	Pulley fulcrum shaft collar	2	
C2-23	10073638	Y-GT 皮带	Pulley fulcrum shaft collar	2	
C2-24	10073637	Y驱动轴	Y-GT belt	1	
C2-25	10073639	Y齿轮	Gear Y	1	
C2-27	10073635	手轮组件B	Pulley B assy	2	
C2-28	10011232	M6×6螺钉	Screw M6×6	12	
C2-29	10009779	6002ZZNR轴承	Ball bearing 6002 ZZNR	2	
C2-30	10009787	6202ZZNR轴承	Ball bearing radial 6202ZZNR	2	
C2-31	10000259	M5×12螺钉	Bolt socket M5x12	2	
C2-32	10073640	Y齿轮罩	Cover gear Y	1	
C2-33	10042268	螺钉	Screw M4×8	3	
C2-34	10001901	M6×30螺钉	Bolt socket M6x30	4	
C2-35	10073641	X马达基座	Motor bracket X	1	
C2-36	10073466	轴承_6201ZZNR	Ball bearing 6201ZZNR	1	
C2-38	10012073	M5×16螺钉	Bolt socket M5x16	4	
C2-39	10073642	X马达齿轮	Motor gear X	1	
C2-40	10011232	M6×6螺钉	Screw M6×6	2	
C2-41	10001901	M6×30螺钉	Bolt socket M6x30	4	
C2-42	10073643	Y马达基座	Motor bracket Y	1	
C2-43	10073466	轴承_6201ZZNR	Ball bearing 6201ZZNR	1	
C2-45	10012073	M5×16螺钉	Bolt socket M5x16	4	
C2-46	10073644	Y马达齿轮	Motor gear Y	1	
C2-47	10011232	M6×6螺钉	Screw M6×6	2	
C2-48	10002028	M6×20螺钉	Bolt socket M6x20	4	
C2-49	10003077	弹垫6	Spring washer 6	14	
C2-50	10005714	6垫圈	Washer 6	14	

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序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
C3-1	10073646	抬压臂A	Work clamp arm	1	
C3-2	10073647	压脚导向组件	Work clamp guide assy	4	
C3-3	10073662	螺钉M5×12	Bolt socket M5x12	8	
C3-4	10073648	压脚滑块	Work clamp slider	2	
C3-5	10073649	滚板	Cross roller	4	
C3-6	10073652	压脚扳手	Work clamp lifter lever U	2	
C3-7	10073653	抬压臂杆	Work clamp arm lever	2	
C3-8	10003875	螺钉	Bolt socket M4x8	2	
C3-9	10073656	联接板轴	Shaft stepping clamp lift link	2	
C3-10	10011232	M6×6螺钉	Set screw socket M6x6	2	
C3-11	10073657	垫圈8	Washer, plain special 8	2	
C3-12	10009655	8挡圈	Retaining ring external C8	2	
C3-13	10073658	气缸轴	Cylinder shaft	1	
C3-14	10011232	螺钉M6×6	Set screw socket M6x6	2	
C3-15	10059756	气缸	Air cylinder assy	2	
C3-16	10003073	5垫圈	Washer, plain 5	2	
C3-17	10009653	挡圈 E4	Retaining ring E4	2	
C3-18	10073659	气缸接头	Cylinder joint	2	
C3-19	10073660	气缸接头轴	Cylinder joint shaft	2	
C3-20	10003278	挡圈E6	Retaining ring E6	4	
C3-21	10073661	压脚	Work clamp	1	
C3-22	10073662	螺钉M5×12	Bolt socket M5x12	4	
C3-23	10073664	定位段螺钉	Shoulder screw	2	
C3-24	10073665	螺钉M6×19	Set screw, M6x19	4	
C3-25	10012850	M6螺母	Nut M6	4	
C3-26	10073807	盖形螺母M6	Nut ,cap M6	4	
C3-27	10073666	压脚定位器	Work clamp stopper	1	
C3-28	10073667	定位橡皮	Work clamp stopper rubber	1	
C3-29	10073668	滚轮轴	Roller shaft	1	
C3-30	10007933	挡圈E3	Retaining ring E3	2	
C3-31	10073669	蝶形螺栓M5×20	Wing screw	1	
C3-32	10073670	板形螺母	Work clamp plate nut	1	
C3-33	10073671	板弹簧	Work clamp spring	1	
C3-34	10073662	螺钉M5×12	Bolt socket M5x12	2	
C3-35	10073662	螺钉M5×12	Bolt socket M5x12	4	
C3-36	10073672	螺钉M3×8	Screw M3x8	8	
C3-37	10005003	M5×8螺钉	Screw M5x8	2	
C3-38	10073673	管夹	Hose support	1	
C3-39	10072116	螺栓M4×12	Screw M4x12	2	
C3-40	10073674	压脚板	Work clamp	1	
C3-41	10002991	4弹簧垫圈	Spring washer 4	2	
C3-42	10073663	螺钉M5×16	Screw M5x16	4	
C3-43	10073675	送料板	Feed plate	1	
C3-44	10071939	螺钉M5×10	Screw M5x10	2	
C3-45	10011168	垫圈4	Washer 4	2	
C3-46	10005537	5弹簧垫圈	Spring washer 5	14	
C3-47	10003073	5垫圈	Washer 5	14	

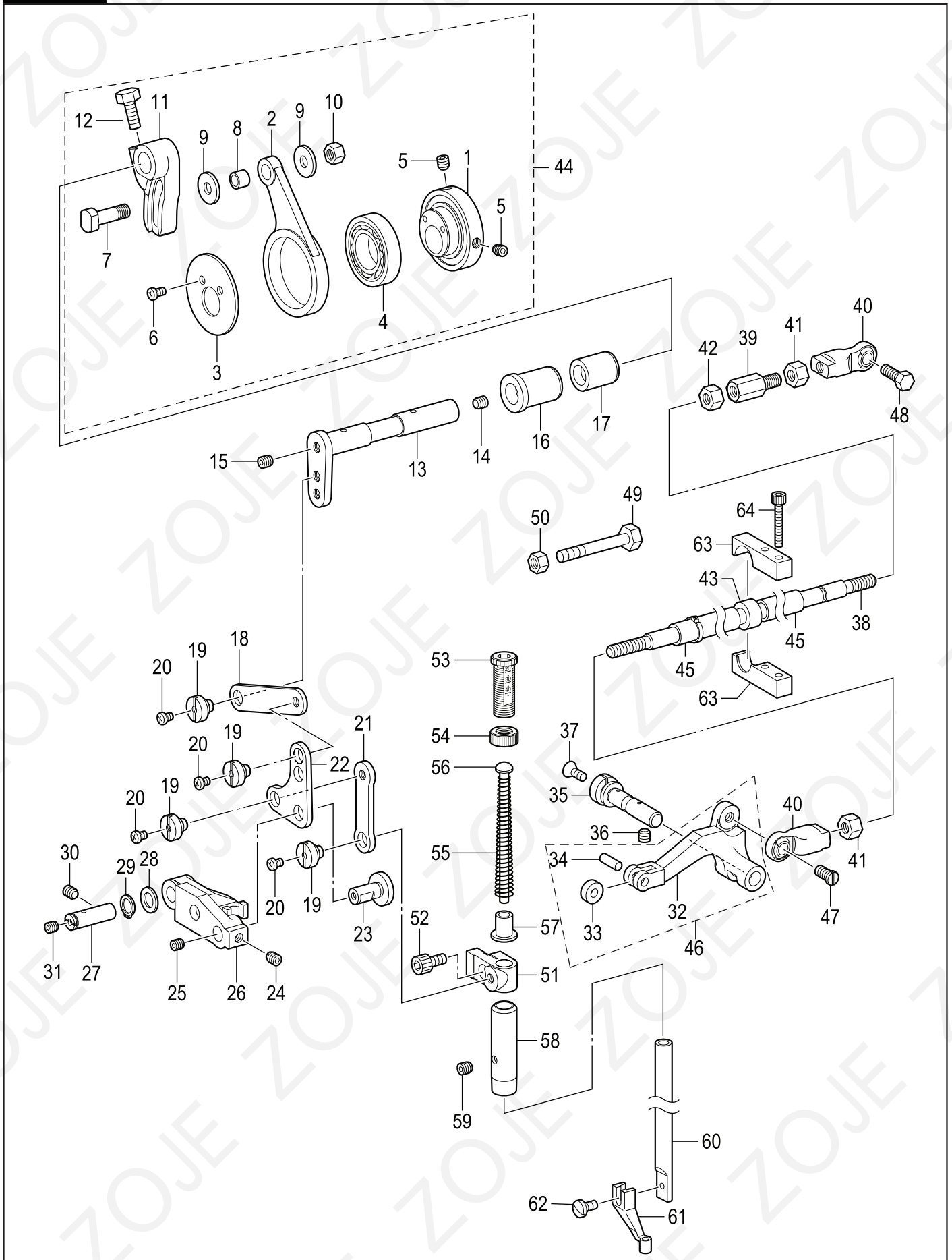
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# D1

## 抬压分组件1

## Work Clamp Lifter Components 1



**D1**

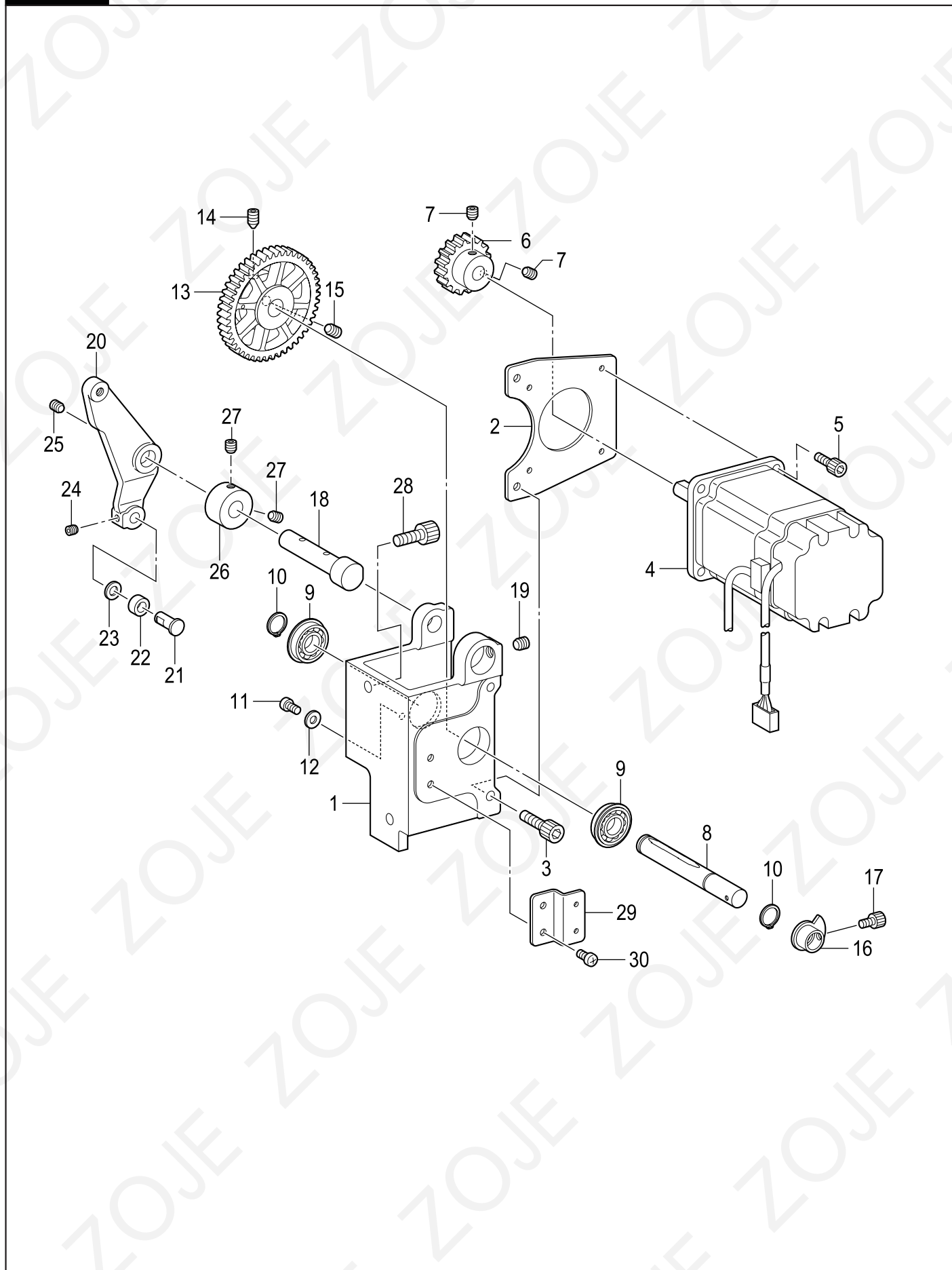
抬压分组件1  
Work Clamp Lifter Components 1

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
D1-1	10073676	凸轮	Stepping clamp cam	1	
D1-2	10073677	连杆	Stepping clamp con.rod	1	
D1-3	10073678	垫圈	Washer stepping clamp cam	1	
D1-4	10003597	6805VV轴承	Ball bearing, 6805VV	1	
D1-5	10005300	M6×0.75×8螺钉	Set screw socket M6x8	2	
D1-6	10072210	M4×6螺钉	Screw pan M4x6	2	
D1-7	10064435	滚轮轴	Roller shaft stepping clamp	1	
D1-8	10064436	滚轮	Roller steping clamp	2	
D1-9	10073682	垫圈	Washer	1	
D1-10	10003084	M6螺母	Nut 1 M6	1	
D1-11	10073707	压臂R	Stepping clamp arm R	1	
D1-12	10000865	螺钉M6x12	Bolt M6x12	1	
D1-13	10073655	压臂F	Stepping clamp arm F	1	
D1-14	10011232	M6×6螺钉	Set screw socket M6x6	1	
D1-15	10050053	M6×0.75螺钉	Set screw socket M6x6	1	
D1-16	10073542	压臂轴套F	Bush stepping clamp F	1	
D1-17	10073543	压臂轴套R	Bush stepping clamp R	1	
D1-18	10073683	间隙连杆A	Stepping clamp link A	1	
D1-19	10073684	段螺钉6	Shoulder screw 6	4	
D1-20	10001616	螺钉 M3×4	Screw pan M3x4	4	
D1-21	10073685	间隙连杆B	Stepping clamp link B	1	
D1-22	10073686	间隙连杆	Stepping clamp link	1	
D1-23	10064446	联杆轴	Shaft stepping clamp link	1	
D1-24	10011232	M6×6螺钉	Set screw socket M6x6	1	
D1-25	10009074	M4×4螺钉	Set screw socket M4x4	1	
D1-26	10073688	联接板	Stepping clamp lifter link	1	
D1-27	10073689	联接板轴	Shaft stepping clamp lift link	1	
D1-28	10073690	垫圈	Washer	1	
D1-29	10023263	挡圈C8	Retaining ring external C8	1	
D1-30	10011232	M6×6螺钉	Set screw socket M6x6	1	
D1-31	10009074	M4×4螺钉	Set screw socket M4x4	1	
D1-32	10073692	间歇提升杆	Stepping clamp lifter	1	
D1-33	10073693	提升杆滑轮	Roller stepping clamp lifter	1	
D1-34	10073694	滚轮	Roller	1	
D1-35	10073695	提升杆轴	Shaft stepping clamp lifter	1	
D1-36	10011232	M6×6螺钉	Set screw socket M6x6	1	
D1-37	10011049	M4×8螺钉	Screw, flat M4	1	
D1-38	10073696	间歇提升连杆	Stepping clamp lifter rod	1	
D1-39	10073698	提升连杆接头	Joint stepping clamp lifter	1	
D1-40	10073697	球接头组件	Round joint assy	2	
D1-41	10001997	M6螺母	Nut M6	2	
D1-42	10001997	M6螺母	Nut M6	1	
D1-43	10073700	橡皮管套	Rubber bush	1	
D1-44	10073680	压脚凸轮连杆组件	Stepping clamp cam assy	1	
D1-45	10073699	橡皮管	Rubber tube	2	
D1-46	10073691	间歇提升连杆组件	Stepping clamp lifter rod assy	1	
D1-47	10073701	螺钉M6×12	Screw M6x12	1	

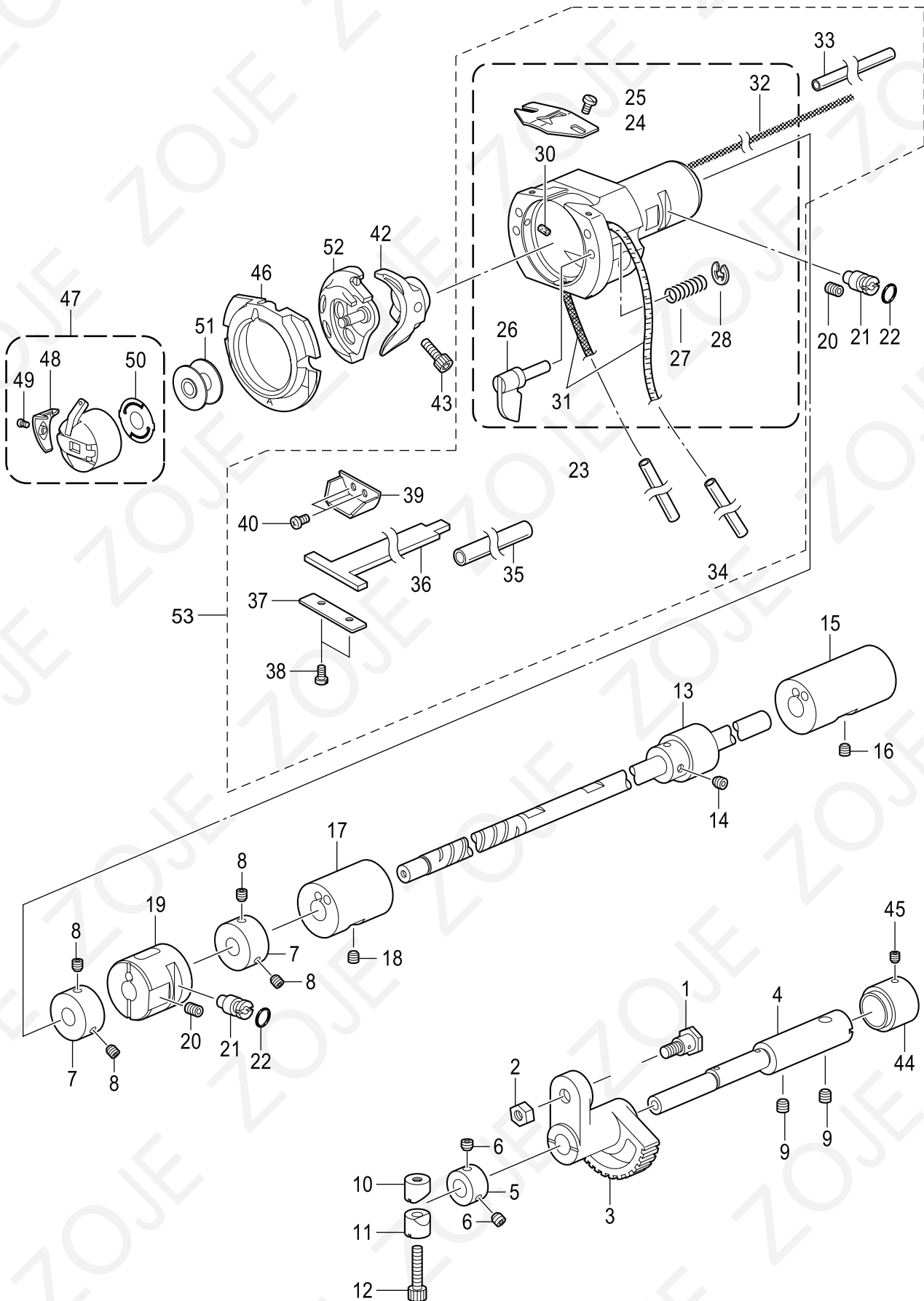
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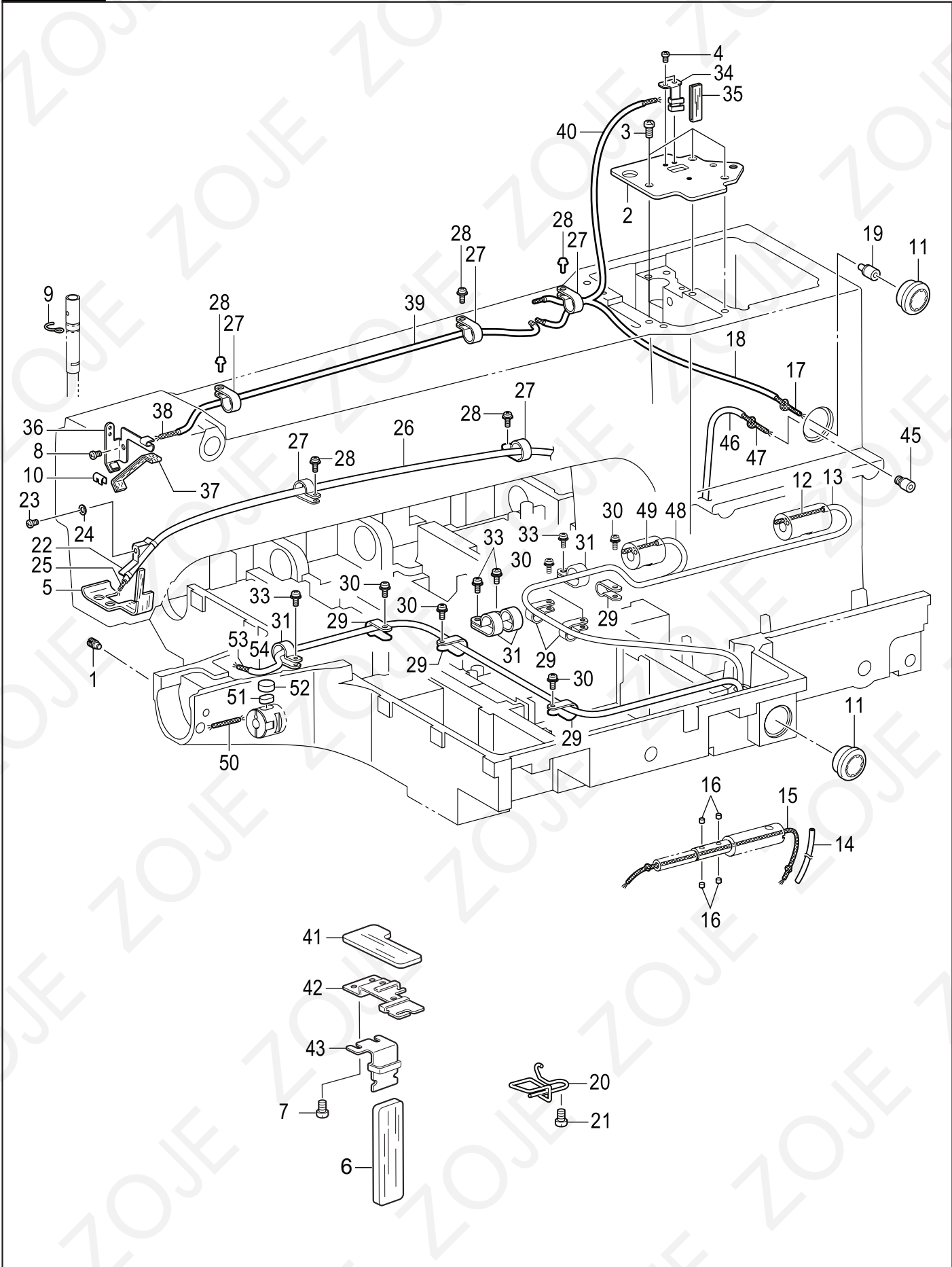
## E

下轴分组件  
Lower Shaft Components

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
E-1	10071948	轴位螺钉	Shoulder screw	1	
E-2	10071949	螺母M6×0.75	Nut M6×0.75	1	
E-3	10071947	摆动齿轮	Rock gear	1	
E-4	10073735	摆动齿轮轴	Rock gear shaft	1	
E-5	10072025	紧圈B	Set screw collar, B	1	
E-6	10009076	M6×5螺钉	Set screw, socket M6x5	2	
E-7	10073737	紧圈	Set screw collar	2	
E-8	10050053	M6×0.75螺钉	Set screw socket M6x0.75x6	4	
E-9	10011232	M6×6螺钉	Set screw socket M6x6	2	
E-10	10073738	紧固套管A	Pinch sleeve A	1	
E-11	10073739	紧固套管B	Pinch sleeve B	1	
E-12	10012080	M4×20螺钉	Bolt socket M4x20	1	
E-13	10073740	下轴组件	Lower shaft assy	1	
E-14	10012162	M5×5螺钉	Set screw socket M5x5	1	
E-15	10073742	下轴轴套	Lower shaft bush	1	
E-16	10011232	M6×6螺钉	Set screw socket M6x6	1	
E-17	10073743	下轴中轴套	Lower shaft m bush	1	
E-18	10011232	M6×6螺钉	Set screw socket M6x6	1	
E-19	10073744	下轴调整轴套	Lower shaft A-bush	1	
E-20	10001938	M6×10螺钉	Set screw socket M6x10	2	
E-21	10072038	旋梭调节轴	Adjusting stud	2	
E-22	10072039	O型圈PW3	O ring PW3	2	
E-23	10072435	梭床小组件	Shuttle race base assy	1	
E-24	10072049	旋梭线导向	Shuttle race thread guide	1	
E-25	10072050	螺钉M3×4	Screw M3x4	2	
E-26	10072044	大旋梭固定柄	S-race base setting claw	2	
E-27	10072047	弹簧	Compression spring	2	
E-28	10009669	3.5挡圈	Retaining ring E3.5	2	
E-30	10072030	油毡	S-race base felt	2	
E-31	10008103	φ2.5油线	Wick	2	
E-32	10008103	φ2.5油线	Wick	1	
E-33	10007800	φ3×φ5油管	Oil tube	1	
E-34	10007800	φ3×φ5油管	Oil tube	2	
E-35	10007800	φ3×φ5油管	Oil tube	1	
E-36	10072058	油毡T	Felt T	1	
E-37	10072054	油毡支架	Felt holder	1	
E-38	10072055	固定螺钉M3×5.5	Screw M3x5.5	2	
E-39	10072056	油毡支架	Felt holder	1	
E-40	10072057	螺钉M3×4	Screw,M3x4	2	
E-42	10072638	摆梭托	Driver D	1	
E-43	10014210	M5×12螺钉	Bolt socket M5x12	1	
E-44	10073101	紧圈R	Set screw collar, R	1	
E-45	10012162	M5×5螺钉	Set screw socket M5x5	1	
E-46	10072261	梭床盖(B)	Shuttle race base B	1	
E-47	10070994	梭壳	Bobbin case assy	1	
E-51	10073745	梭芯	Bobbin	1	
E-52	10070993	摆梭	Shuttle hook	1	
E-53	10072433	梭床组件	Shuttle race base assy	1	

# F

## 供油润滑分组件 Lubrication Components



# F

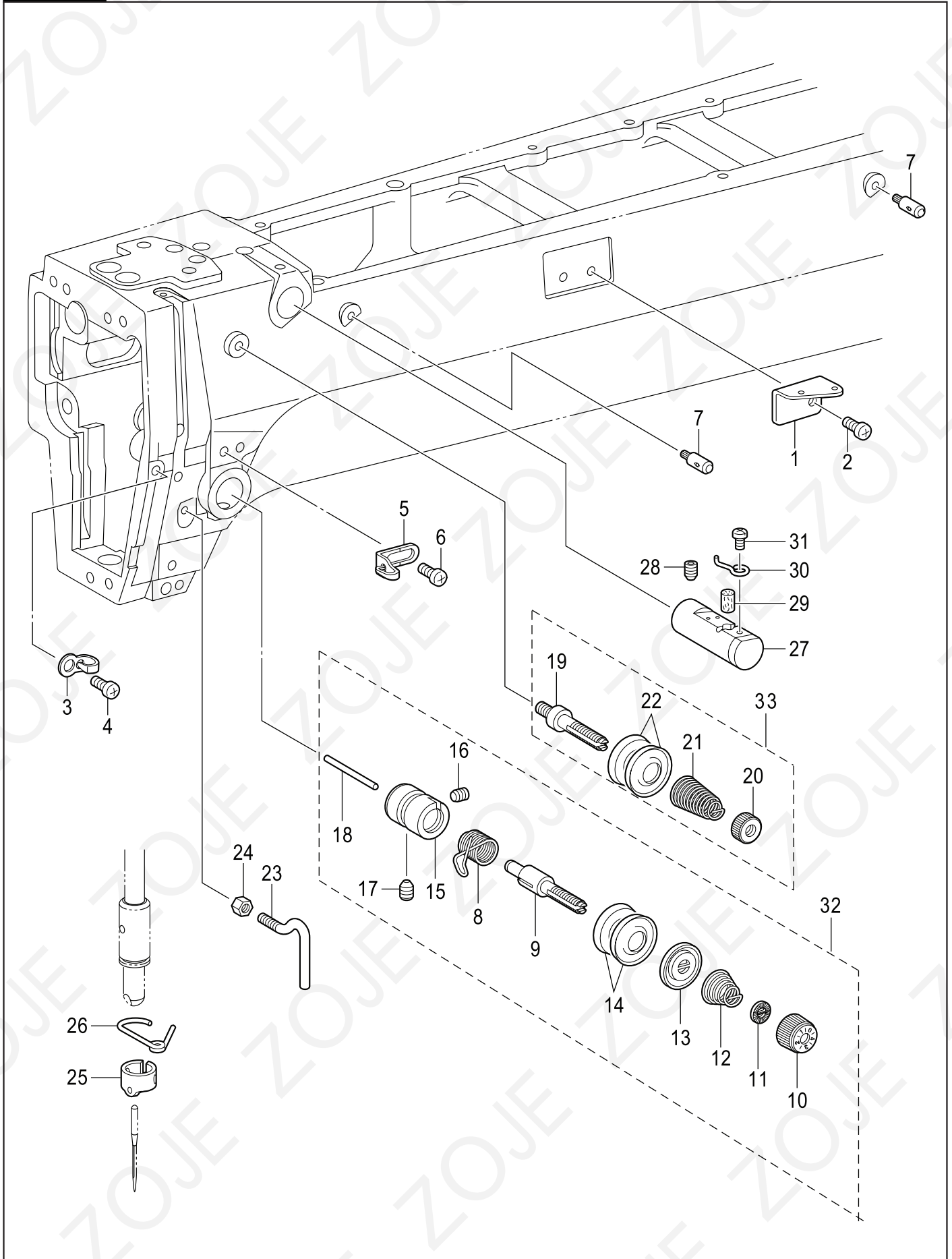
## 供油润滑分组件 Lubrication Components

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
F-1	10072061	螺钉	Set screw	1	
F-2	F001 H 01		Crank cover	1	
F-3	F001 FJGJ	A*y %\$	Screw pan M6x10	3	
F-4	10042402	A(y 6	Screw pan M4x6	2	
F-5	10073709	油毡	Felt	1	
F-6	10072066	下轴齿轮油毡	Gear felt assy	1	
F-7	10010685	M4×6螺钉	Bolt socket M4x6	2	
F-8	10042402	M4×6螺钉	Screw pan M4x6	1	
F-9	10073710	油线挂钩	Wick support	1	
F-10	10073711	油线支架	Wick support	1	
F-11	10073712	油视窗	Oil gauge window	2	
F-12	10008103	φ2.5油线	Wick	1	
F-13	10007800	φ3×φ5油管	Oil tube	1	
F-14	10007800	φ3×φ5油管	Oil tube	1	
F-15	10008103	φ2.5油线	Wick	1	
F-16	10072030	油毡	Felt	1	
F-17	10008103	φ2.5油线	Wick	1	
F-18	10007800	φ3×φ5油管	Oil tube	1	
F-19	10073713	油嘴管	Oil feeding pipe	1	
F-20	10072070	油线夹B	Lower shaft wick support B	1	
F-21	10000325	M6×8螺钉	Screw pan M6x8	1	
F-22	10073714	回油管管托	Tube holder	1	
F-23	10042402	M4×6螺钉	Screw pan M4x6	1	
F-24	10003122	4垫圈	Washer plain S4	1	
F-25	10008103	φ2.5油线	Wick	1	
F-26	10007800	φ3×φ5油管	Oil tube	1	
F-27	10008228	线夹φ5	Cord holder φ5	7	
F-28	10011199	螺钉组件M4×10	Screw pan M4x10	3	
F-29	10001546	电线夹φ15	Cord holder φ5	6	
F-30	10011199	螺钉组件M4×10	Screw pan M4x10	6	
F-31	10001546	电线夹φ15	Cord holder φ5	2	
F-33	10011199	螺钉组件M4×10	Screw pan M4x10	7	
F-34	10073715	曲柄供油板	Crank wick plate	1	
F-35	10073716	毡油线L=27	Flat wick	1	
F-36	10073717	供油支架	Wick support	1	
F-37	10073718	毡油线_180	Flat wick	1	
F-38	10008103	φ2.5油线	Wick	1	
F-39	10007800	φ3×φ5油管	Oil tube	1	
F-40	10007800	φ3×φ5油管	Oil tube	1	
F-41	10072068	油毡	Felt	1	
F-42	10072067	齿轮供油支架	Gear wick support	1	
F-43	10072065	下轴给油支架	Lower shaft wick support	1	
F-45	10073719	油嘴管	Oil feeding pipe	1	
F-46	10007800	φ3×φ5油管	Oil tube	1	
F-47	10008103	φ2.5油线	Wick	1	
F-48	10007800	φ3×φ5油管	Oil tube	1	
F-49	10008103	φ2.5油线	Wick	1	

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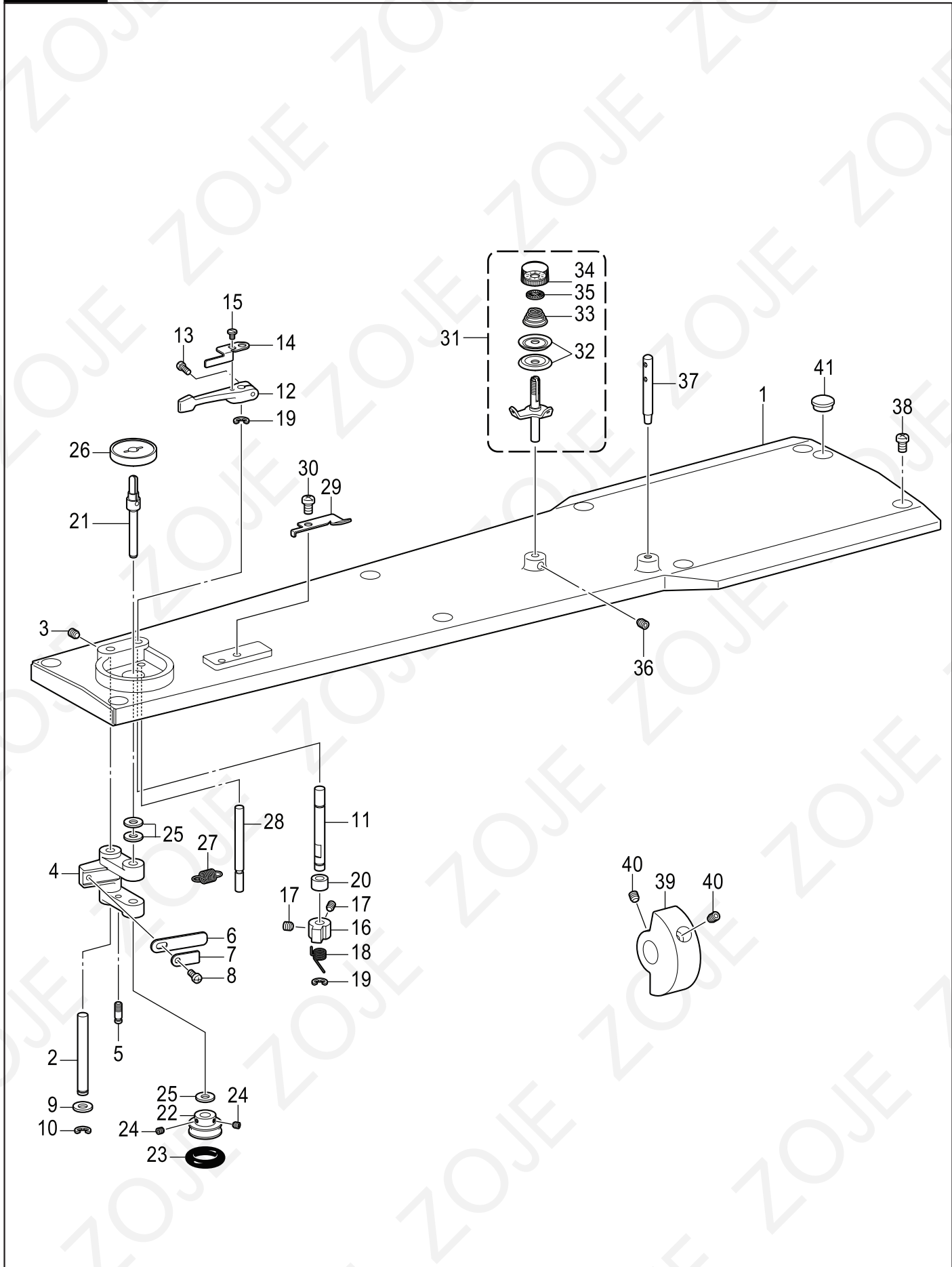








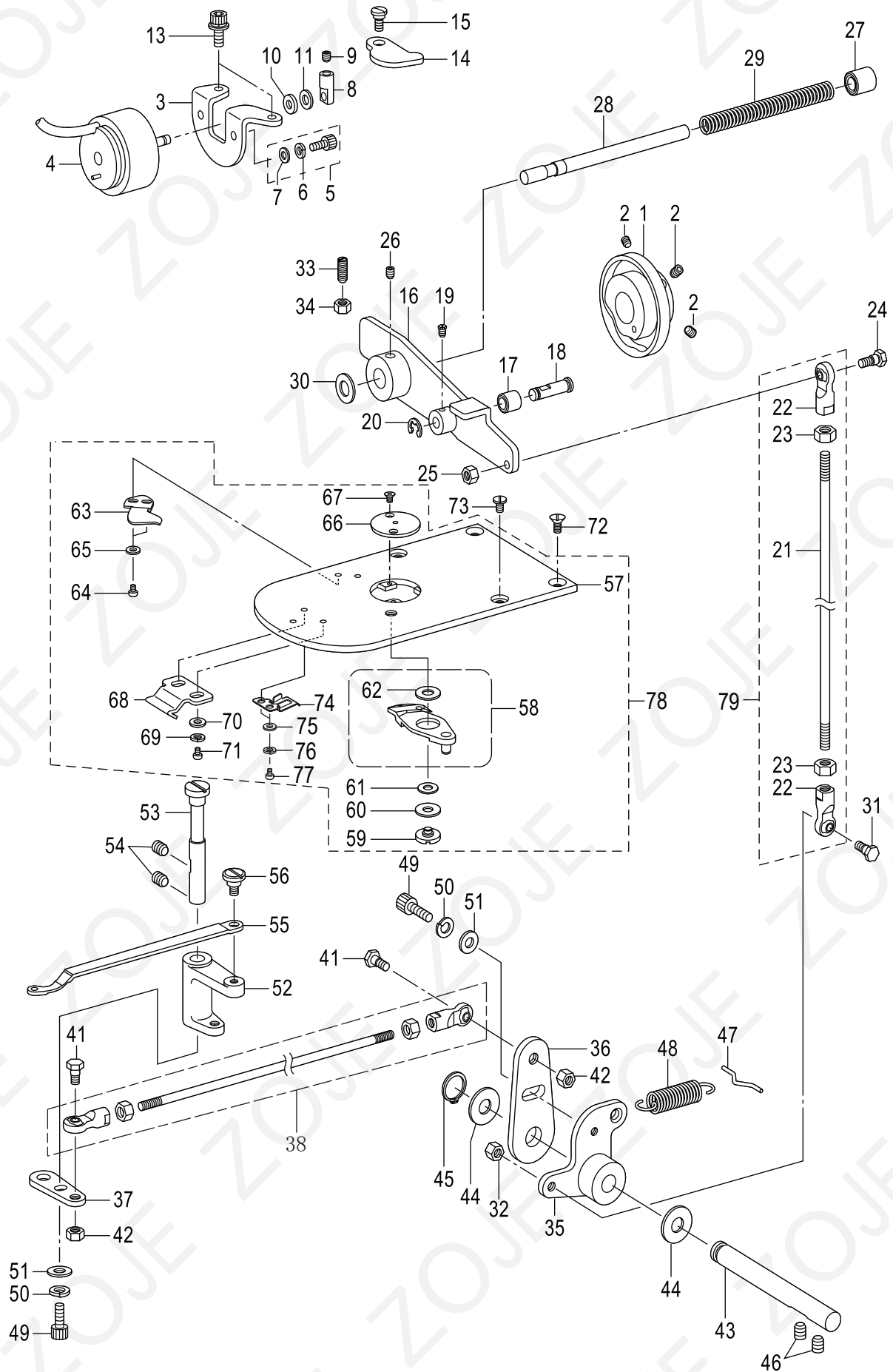
绕线分组件  
Bobbin Winder Components





# J

## 剪线分组件 Thread Trimmer Components



## J

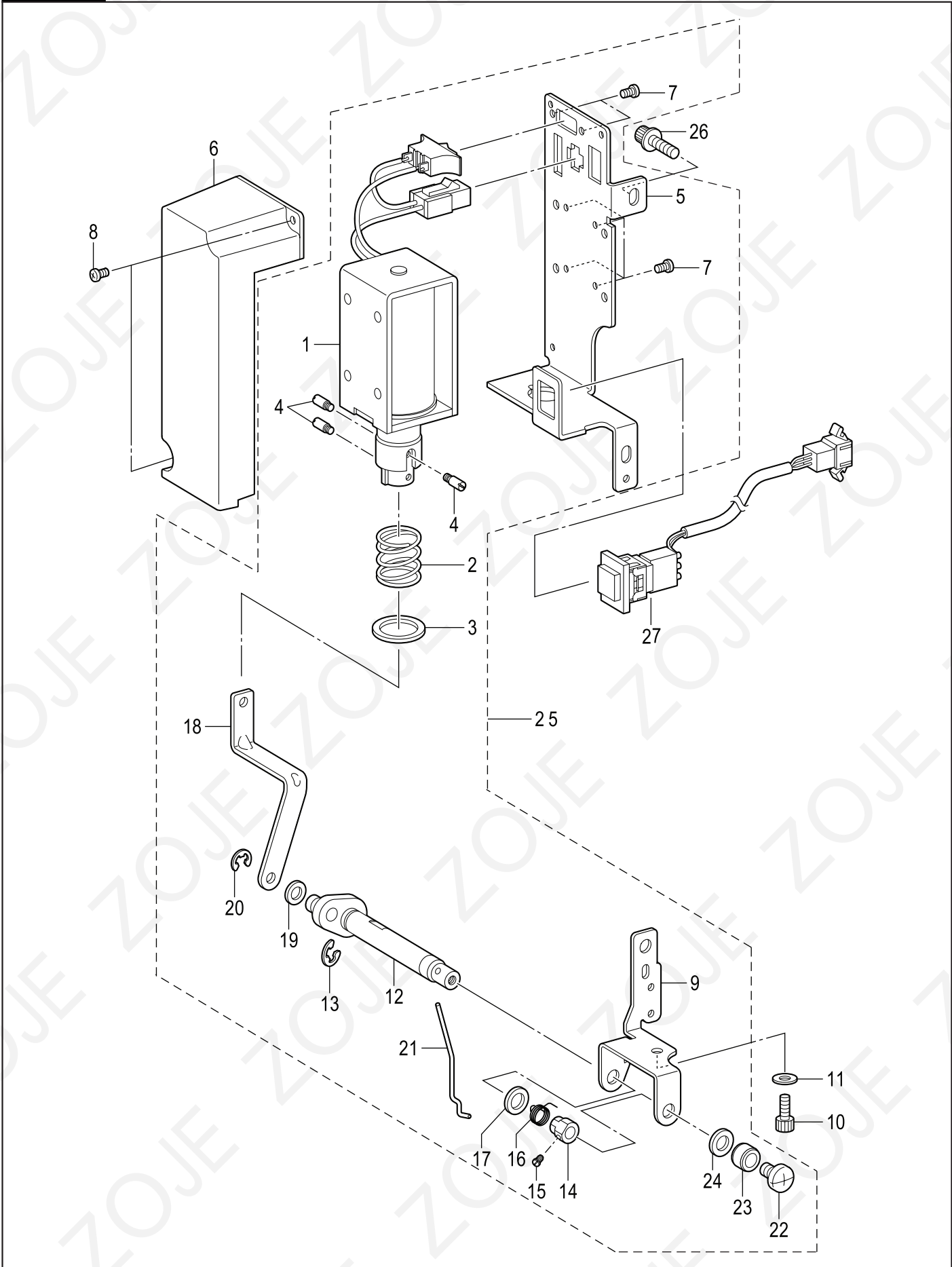
剪线分组件  
Thread Trimmer Components

序号 Ref. No.	件号 Part No.	名称	Name of part	数量 QTY	备注 Remark
J-1	10071295	切线凸轮	Thread trimmer cam	1	
J-2	10022863	M6×0.75螺钉	Set screw socket M6x6	3	
J-3	10073765	电磁铁安装板	Setting plate solenoid thread	1	
J-4	10073764	切线电磁铁组件	Trimmer solenoid	1	
J-5	10003875	螺钉	Bolt M4x8	2	
J-6	10001229	弹簧垫圈	Washer spring 2-4	2	
J-7	10001230	垫片	Washer plain M4	2	
J-8	10072136	电磁铁杆	Solenoid lever	1	
J-9	10009074	M4×4螺钉	Set screw socket M4x4	1	
J-10	10072101	电磁铁缓冲垫圈	Solenoid cushion	1	
J-11	10071989	平垫圈M5	Washer	1	
J-13	10065627	M5×12组合螺钉	Bolt socket M5x12	2	
J-14	10073766	驱动压杆	Pushing lever D-lever	1	
J-15	10072106	轴位螺钉7-3	Shoulder screw, 7-3	1	
J-16	10072141	切线驱动杆	Tr-driving lever	1	
J-17	10072142	切线滚轮	Collar, tr-trimmer	1	
J-18	10072143	切线滚轮轴	Collar shaft	1	
J-19	10009074	M4×4螺钉	Set screw, M4x4	1	
J-20	10009653	挡圈 E4	Retaining ring E4	1	
J-21	10070877	切线杆V	Thread trimmer rod V	1	
J-22	10072147	接头组件	Ball joint assy	2	
J-23	10046240	螺母 M6	Nut M6	2	
J-24	10072146	轴位螺钉B M6	Shoulder screw, B; M6	1	
J-25	10046240	螺母 M6	Nut M6	1	
J-26	10022863	M6×0.75螺钉	Set screw socket M6x6	1	
J-27	10070884	剪线轴后套	Bush, 8x15	1	
J-28	10072148	驱动杆导向轴	Guide shaft	1	
J-29	10072149	弹簧	Spring, compression	1	
J-30	10072144	减震垫圈	Cushion	1	
J-31	10072146	轴位螺钉B M6	Shoulder screw, B; M6	1	
J-32	10046240	螺母 M6	Nut m6	1	
J-33	10073665	螺钉M6×19	Set screw, M6x19	1	
J-34	10012850	M6螺母	Nut M6	1	
J-35	10072172	切线杠杆V	Thread trimmer lever V	1	
J-36	10072171	切线杠杆H	Thread trimmer lever H	1	
J-37	10073769	动刀杠杆D	Moving knife lever	1	
J-38	10083982	切线杆H组件	Thread trimmer rod H	1	
J-41	10072146	轴位螺钉B M6	Shoulder screw, B; M6	2	
J-42	10046240	螺母 M6	Nut M6	2	
J-43	10072173	切线杠杆轴	Shaft tr-trimmer lever B	1	
J-44	10000212	8.5垫圈	Spacer	2	
J-45	10009655	挡圈C8	Retaining ring external C8	1	
J-46	10011232	M6×6螺钉	Set screw socket M6x6	2	
J-47	10073772	弹簧挂钩	Spring hook	1	
J-48	10072175	切线复位弹簧	Spring, extension	1	

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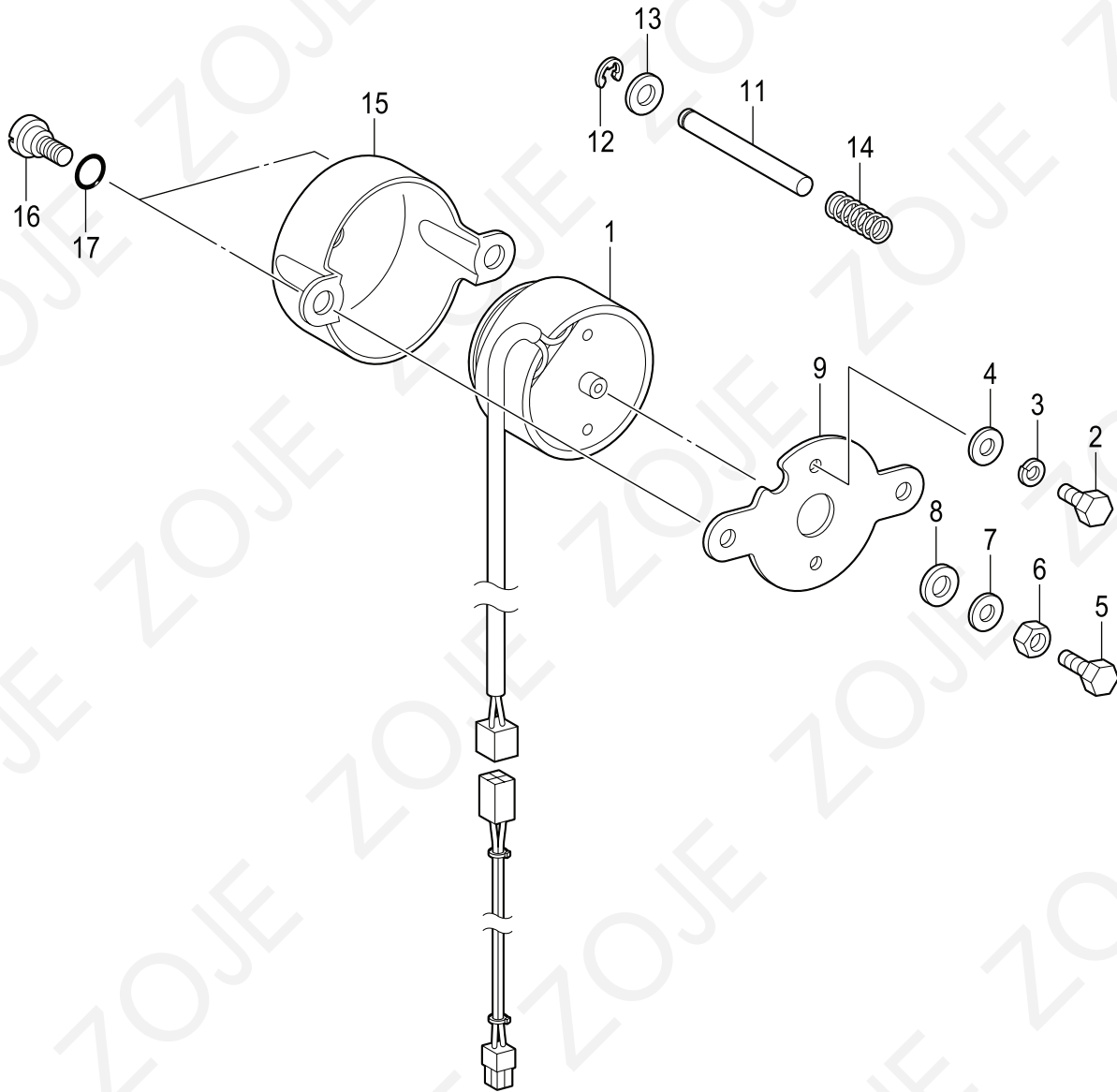






松线分组件

Tension Release Components

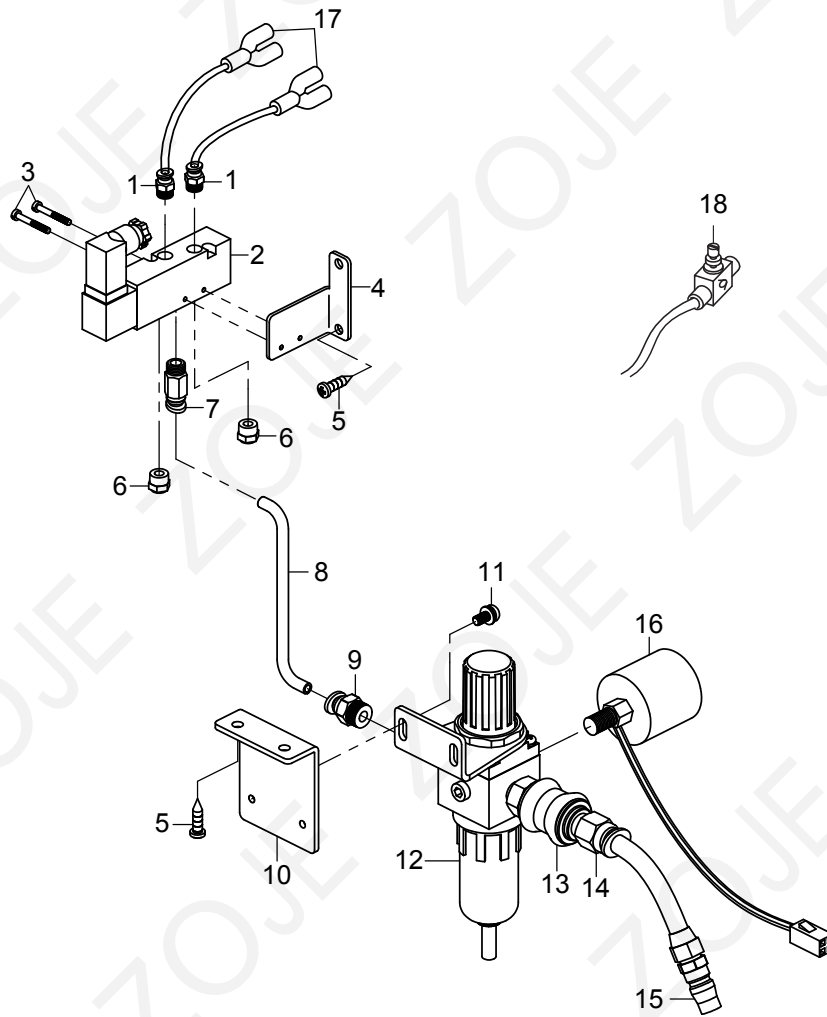




# P

## 气动分组件

## Pneumatic Components (Type F,B)



P-1	10023253	进气接头 $\phi 4 \times R1/8$	Half union $\phi 4 \times R1/8$	2	
P-2	10007696	ATC 4V110-06电磁阀	5 port solenoid valve	1	
P-3	10002148	M3×23螺钉	Screw M3x23	2	
P-4	10030860	安装板	Solenoid valve fitting base	1	
P-5	10002180	M4×30螺钉	screw M4×30	6	
P-6	10003742	消声器	Muffler	2	
P-7	10031295	接头	Half union	1	
P-8	10008150	$\phi 4 \times \phi 6$ 气管	Tube	1	
P-9	10024399	接头	Half union	1	
P-10	10001107	固定板	Filter installing plate	1	
P-11	10003883	螺钉M5×10	Screw M5x10	2	
P-12	10061784	过滤减压阀	Filter regulator	1	
P-13	10007534	ATC HSV08手滑阀	Hand slide valve	1	
P-14	10003458	快速接头 $\phi 10 \times R1/4$	Half union $\phi 10 \times R1/4$	1	
P-15	10024399	接头 $\phi 10 \times R1/4$	Plug $\phi 10 \times R1/4$	1	
P-16	10007620	压力表	Air pressure switch	1	
P-17	10007701	Y型快换接头 $\phi 4$	Y-quick coupling	2	
P-18	10052369	节流阀	Union straight speed controller	2	

