

2297D SERIES COMPUTER-CONTROLLED DIRECT-DRIVE, HIGH-SPEED ZIGZAG STITCH MACHINE 直驱高速电子曲折缝缝纫机

使用说明书 & 零件样本 **Operation Instruction & Parts Book**

为了安全地使用，请您在使用之前一定阅读本使用说明书。另外，请您注意保管本使用说明书，以便随时查阅；零件更改设计时，恕不另行通知。

Read safety instructions carefully and understand them before using. Retain this Operation Instruction for future reference. Excuse for not noticement in advance while the design of the sparepart has to be changed.

非常感谢您购买本公司的工业缝纫机。在使用缝纫机之前，请仔细阅读<为了您的安全使用>和使用说明书。

工业缝纫机的特性之一，是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，所以请在接受过培训的人员或有熟练操作技术的人员的指导下，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本产品，防止您及他人受到危害和损害。

表示方法及含义如下：

说明

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

图案和符号



符号△表示“应注意事项”。
三角中的图案表示必须要注意的内容。
(如左图的符号表示“注意受伤”。)



符号⊘表示“禁止”。



符号●表示“必须”。
圆圈中的图案表示必须要做的内容。
(如左图的符号表示“必须接地”。)

⚠ 危险



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

⚠ 注意

使用环境

- ❗ 应避免在强电气干扰源(如高频焊机)的附近使用缝纫机。
强电气干扰源可能会影响缝纫机的正确操作。
- ❗ 缝纫机的最佳工作环境是相对湿度在45%-85%的范围内，干燥或潮湿的环境均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。
- ❗ 使用时应避免暴露于直射的阳光下。
直射的阳光会影响缝纫机的正确操作。
- ❗ 电源容量应大于缝纫机的消耗能量。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。
- ❗ 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。

安装

- ⊘ 请让受过培训的技术人员来安装缝纫机。
- ❗ 固定电缆时，不要过度弯曲电缆或用卡钉固定得过紧，会引起火灾或触电的危险。
- ❗ 请委托购买商店或电气专业人员进行电气配线。
- ❗ 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。
- ❗ 缝纫机重约40公斤，安装工作必须由两人以上来完成。
- ⚠ 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。
- ⊘ 在安装完成前，请不要连接电源，如果误按启动开关，缝纫机动作会导致受伤。
- ⊘ 使用润滑油或黄油时，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。
将油放在小孩拿不到的地方。
- ❗ 请在切断电源后，再拔掉电源插头。不然易成为控制箱发生故障的原因。
- ⚡ 必须接地。接驳地线不牢固，是造成触电或误动作的原因。

⚠ 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。



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。



本缝纫机不能用于除缝纫以外的任何其他用途。



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



发生下列情况时，请切断电源。否则误按动启动开关，缝纫机动作会导致受伤。

- 机针穿线时
- 更换机针或梭芯时
- 缝纫机不使用，或人离开缝纫机时



如果缝纫机操作中发生误动作，或者听到异常的噪声或闻到异常的气味，应立即切断电源。然后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。



如果缝纫机出现故障时，请与购买商店或受过培训的技术人员联系。

⚠ 清洁



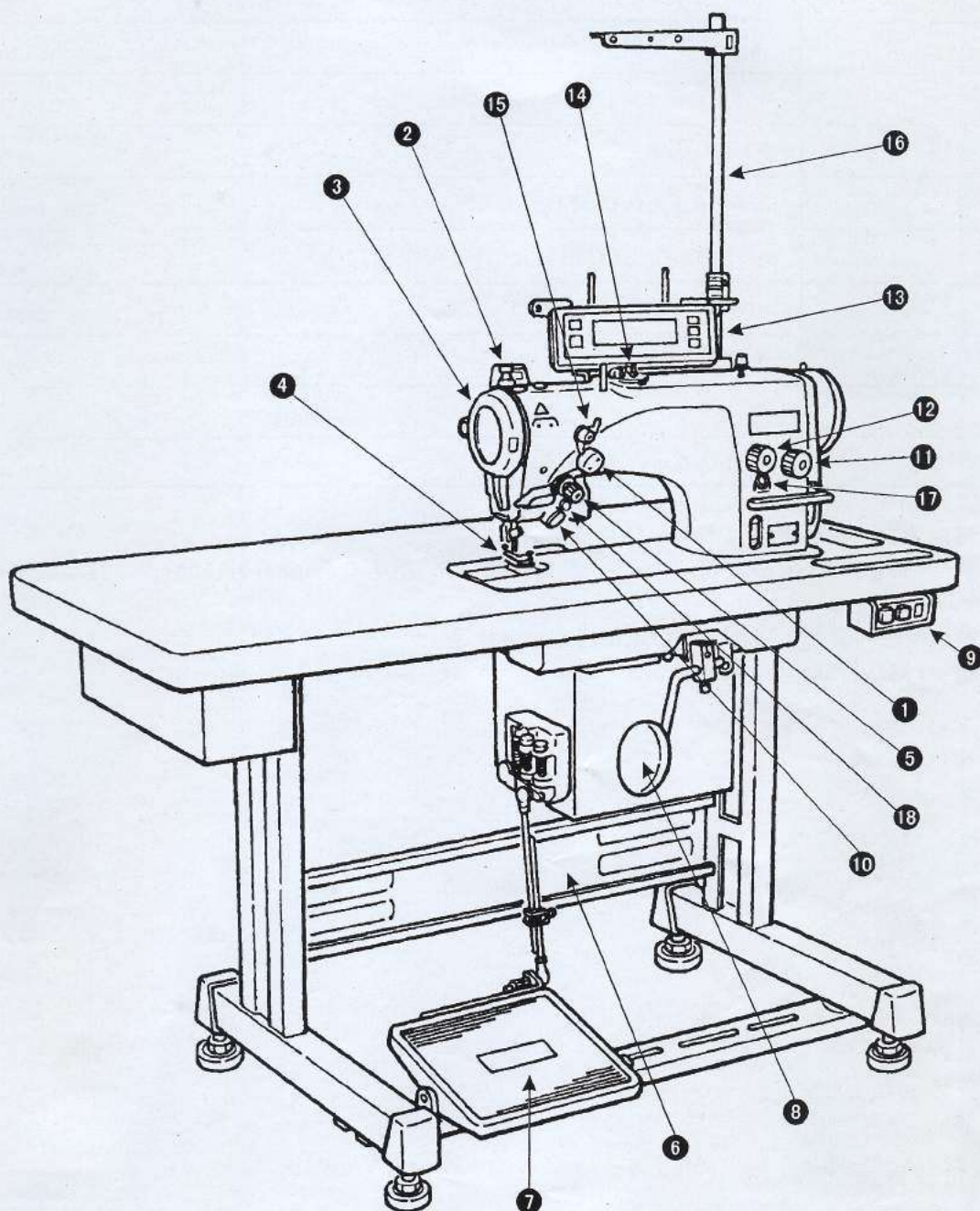
在开始清洁作业前，请切断电源。如果误踩了脚开关，缝纫机动作会导致人员受伤。



使用润滑油或黄油时，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。
将油放在小孩拿不到的地方。

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- | | | |
|--------------|----------|--------------|
| ① 上线挑出装置 | ⑦ 踏板 | ⑬ 控制盘 |
| ② 挑线杆开关 | ⑧ 膝动提升拨杆 | ⑭ 绕线装置 |
| ③ 挑线杆护罩 | ⑨ 电源开关 | ⑮ 第一线张力器（虚饰） |
| ④ 手指防护器 | ⑩ 手持开关 | ⑯ 线立柱 |
| ⑤ 线张力器（旋转张力） | ⑪ 送布拨盘 | ⑰ 加油口 |
| ⑥ 电气箱 | ⑫ 缩缝拨盘 | ⑱ 对称翻转开关 |

2. 规格

型式(微量加油型)	2297D
用途	薄料~中厚料
最高转速	4500 rpm (※1)
最大摆动幅度	8 mm (※2)
最大送布量	2.5 mm (无级微调整)
缝制图案	8种14图案 (自设图案500针, 可编制20种)
使用机针	DP×5,11#
使用机油	专用机油
切线	有
送布方式	标准送布

※1. 最高缝制速度受机针平均每1针的针摆动量的限制。

摆动量至4mm时为4500rpm, 摆动量至5mm时为3800rpm, 摆动量至6mm时为3500rpm, 摆动量至8mm时为3000rpm。

请根据缝制物和缝制工序的具体情况适当地设定转速。

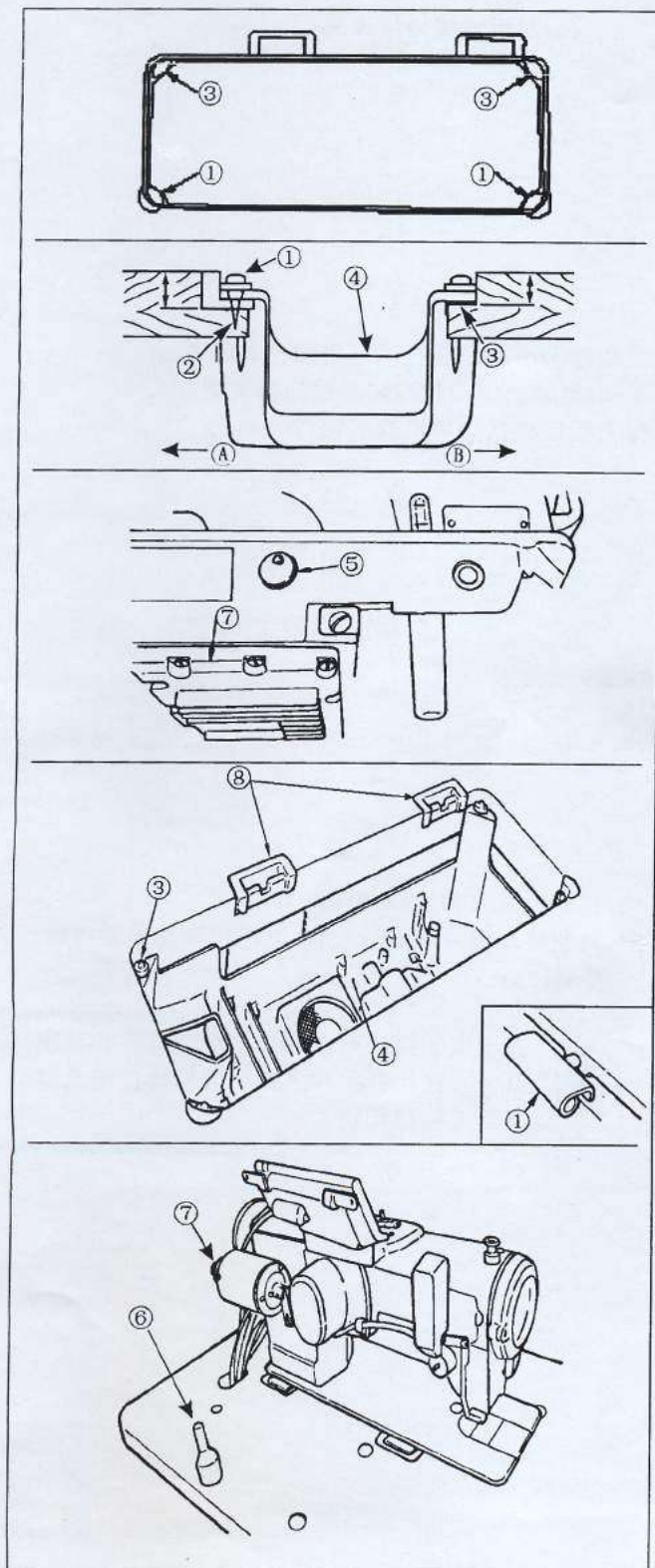
※2. 标准出货时最大摆动宽度限制为8mm。



注意

- 安装缝纫机必须让受过训练的技术人员进行。
- 为了防止电气配线的事故，请委托经销店或电气专业技术人员进行配线。
- 搬运缝纫机时，必须由2人以上来进行，移动时请使用台车等用具。
- 为了防止缝纫机的突然起动造成意外事故，全部安装结束之前，请不要插上电源插头。
- 为了防止漏电造成事故，请一定连接上地线。
- 请一定安装上安全保护外罩、手指防护器等。

3-1. 缝纫机机头的安装



底槽的安装

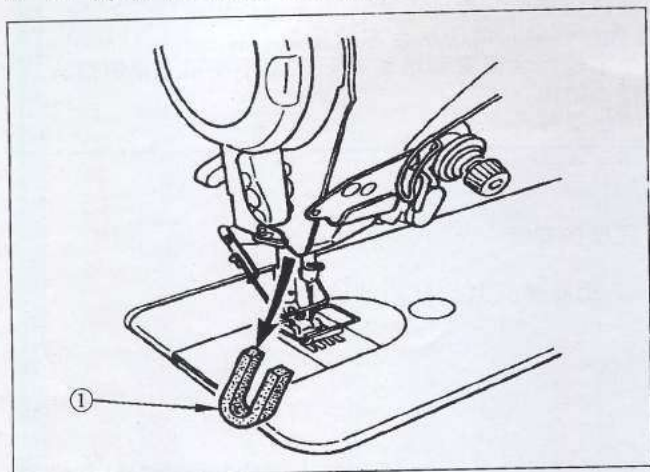
- 1) 把底槽支到机台沟的四角上。
- 2) 用螺钉②把前侧④的2个头部橡胶支座①钉到机台的伸出部，用粘接剂粘接固定好铰链侧⑤的2个头部胶垫座③，然后把底槽④放上去。
- 3) 请卸下机台的放气盖⑤。
(搬动机头时，请一定把放气盖⑤盖上。)



不卸下放气盖⑤运转缝纫机的话，齿轮箱⑦有可能漏油。

- 4) 把铰链①放到机台的孔上，对准台板橡胶支座⑧，把头部放到四角的机头胶垫③上。
- 5) 请把机头支撑杆⑥安装到机台上。
(但是，装有AK⑦时不需要。)

3-2. 针杆止动器的安装



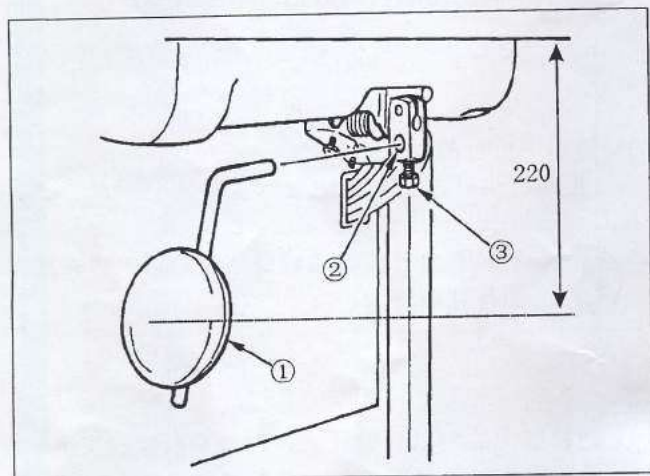
请卸下运输用的针杆止动器①。



卸下的针杆止动器应妥善保管，在搬运缝纫机时，请把此针杆止动器安装上。

如果用强力拉拔针杆止动器的话，有可能被弄断。因此，请把针杆稍稍左右移动，然后慢慢地拔出来。

3-3. 膝挡的安装

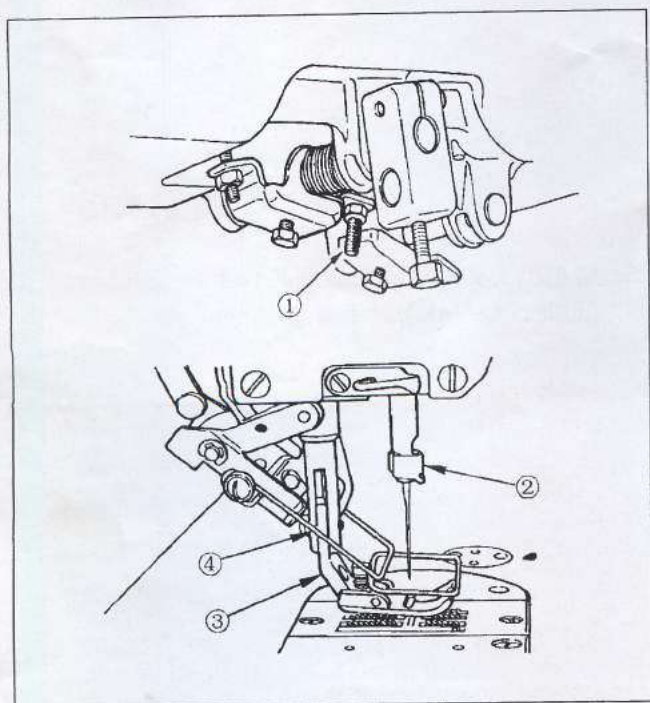


把膝挡①插入安装孔②，用螺栓③固定。

※ 请把膝挡①调整到容易使用的位置。

作为大致数据为离机台下面220mm。

3-4. 膝动提升高度的调整



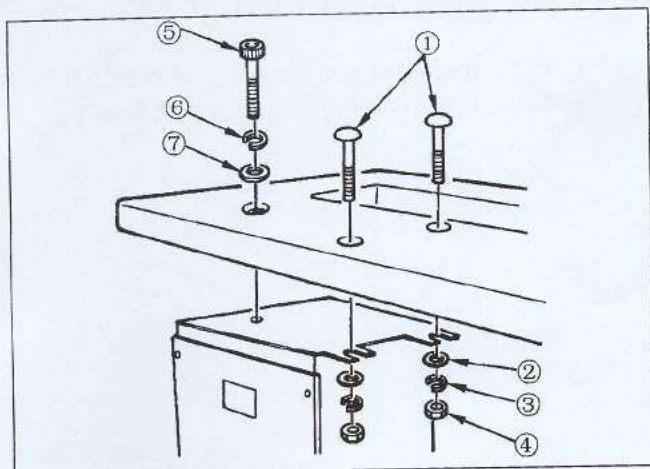
1) 膝动提升压脚的标准高度为10mm。

2) 调整膝动提升调节螺丝1可以把压脚高度最高调整到15mm。



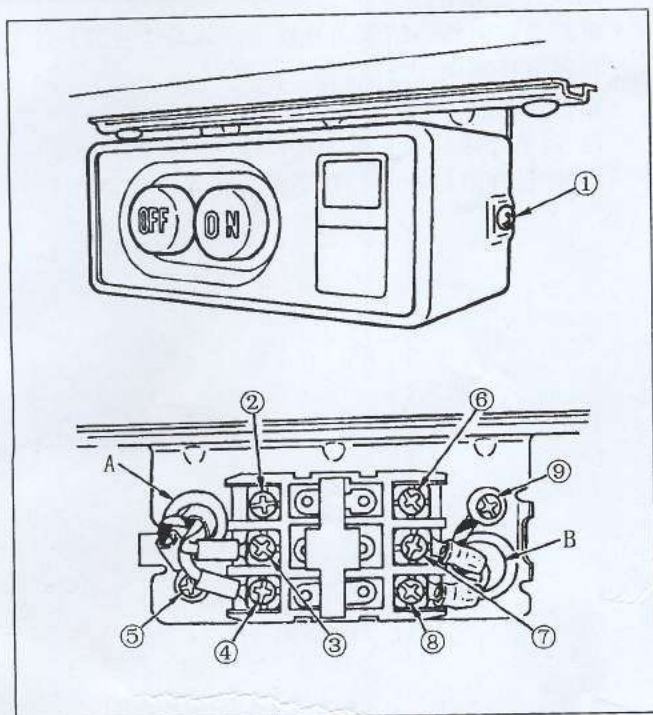
在压脚③提升到10mm以上后，针杆②和压脚③，拨线杆④和压脚③会相碰，因此请不要运转缝纫机。

3-5. 电气箱的安装



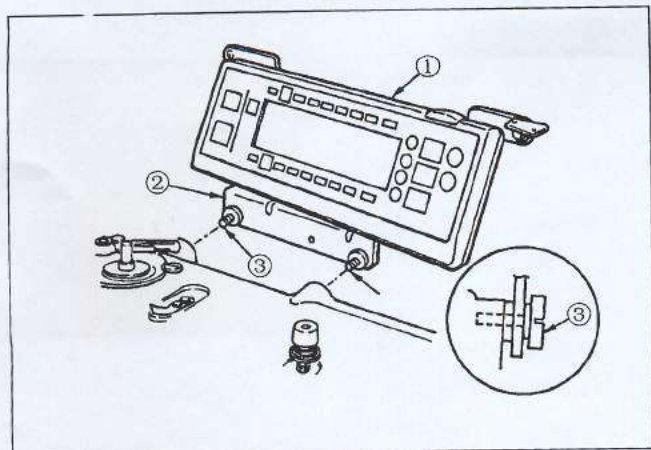
把缝纫机机台上附属的圆头螺栓①平垫片②弹簧垫片③螺母④按照图示的位置安装好，再把头上有六角凹坑的螺栓⑤平垫片⑥弹簧垫⑦按照图示的位置安装好。

3-6. 电源开关的电缆线连接



- 1) 拧松附属品的电源开关横侧部的螺丝①，卸下电源开关护罩。
- 2) 电气箱输入电源电缆线的连接
 - 电气箱输入电源电缆线为3P时
从电源开关的孔A插入3P电缆线，用螺丝把绿 / 黄电缆线固定到⑤，把褐电缆线固定到③，把红色电缆线固定到④。
- 3) 附属品电源电缆线的连接
 - 单相电源电缆线时
从电源开关的孔B插入电源电缆线，用螺丝把绿 / 黄电缆线固定到⑨，把其它电缆线固定到⑦和⑧。⑥不使用。
- 4) 安装电源开关护罩
拧紧电源开关横侧部的螺丝①。

3-7. 操作盘的安装

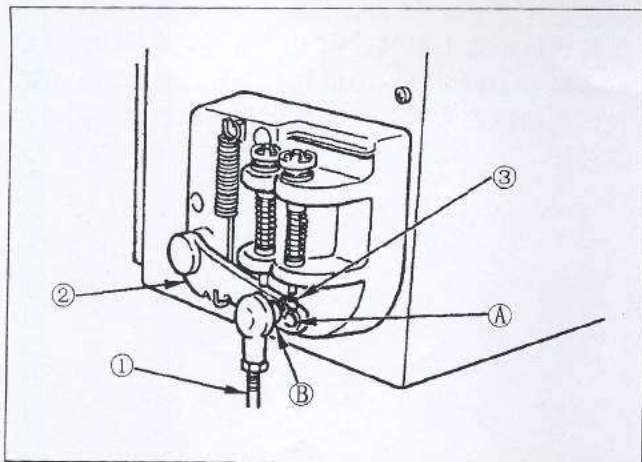


使用已经安装到操作盘安装架②上的螺丝③把操作盘①安装到缝纫机机头。



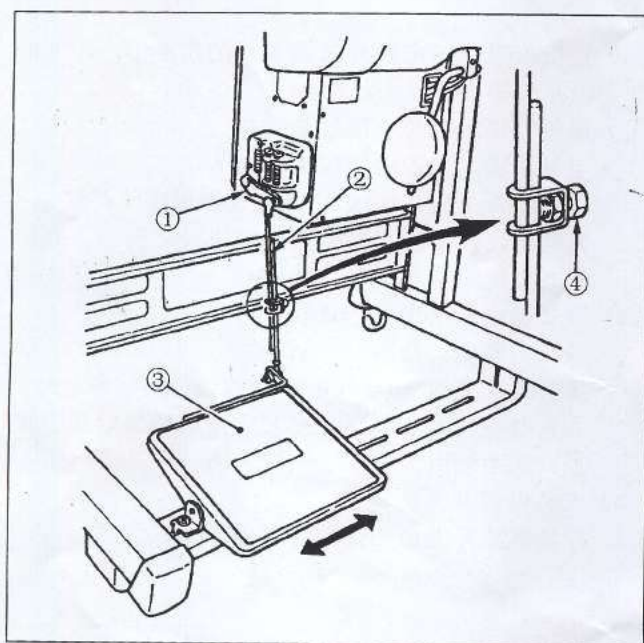
为了防止操作盘的损坏，请不要分解操作盘。

3-8. 连结杆的安装方法



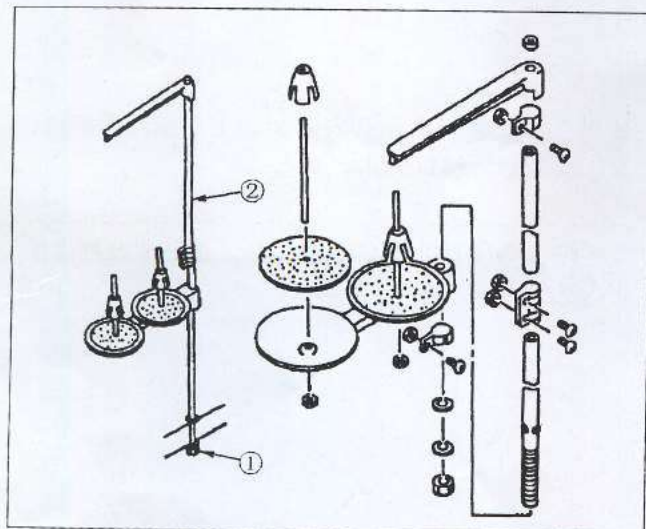
- 1) 连结杆①用螺母③固定到踏板拨杆②的安装孔B。
- 2) 把连接杆①安装到安装孔A之后，踏板踩踏行程变长，可以用中间速度舒适地进行踏板操作。

3-9. 踏板的调整



- 连接杆的安装
向箭头方向移动踏板调节板③，让马达控置杆①和连接杆②成一直线。
- 踏板的角度
 - 1) 调节连接杆的长度即可以改变踏板的角度。
 - 2) 拧松调节螺丝④，移动连接杆②进行调节。

3-10. 线架的安装

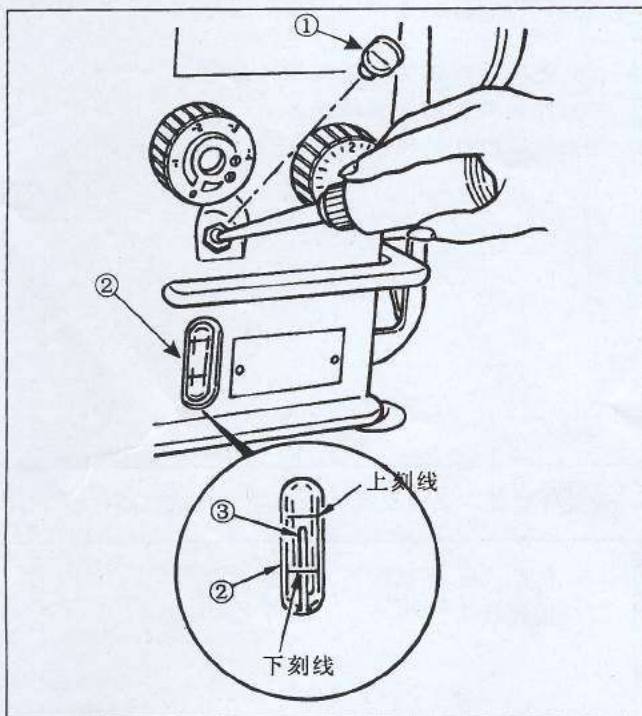


- 1) 如图所示那样把线架安装到机台孔上。
- 2) 用固定螺母①固定线架。
- 3) 顶线配线时，请把电源线从线架杆②中穿过。

3-11. 加油

**注意**

- 为了防止缝纫机的突然起动造成事故，加油结束之前，请不要连接电源插头。
- 为了防止炎症或斑疹，如果油沾到眼睛或身上后，请立即洗净。
- 误饮油后有可能发生腹泻或呕吐。请把油放到小孩子拿不到的地方。



运转缝纫机之前，请一定往旋梭油槽中加油。

- 1) 卸下加油口盖①，使用附属的加油壶加入专用机油。
- 2) 把油量指示杆③插到与油量指示窗②的上刻线一致的位置。
- 3) 使用缝纫机时，如果油量指示杆③指到油量指示窗②的下刻线以下，请进行加油。



- 使用新缝纫机或较长时间没有使用的缝纫机时，请先进行3000~3500rpm的磨合运转之后再使用。
- 关于旋梭油，请购买专用机油。

3-12. 试运转

(1) 打开电源

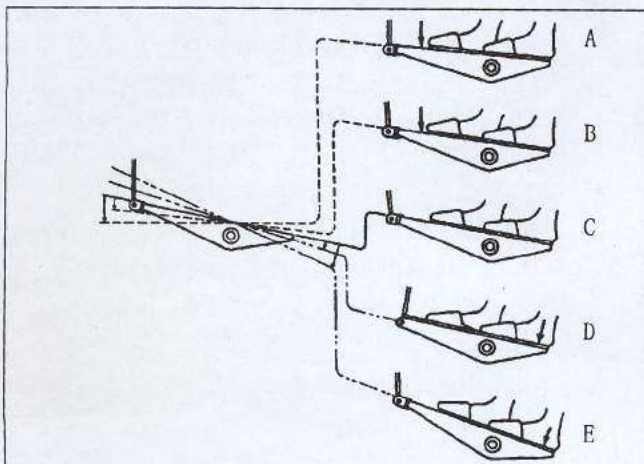
**注意**

- 连接电源电缆线之前，请再次确认电源电压规格。
- 确认了电源开关关闭之后，再把电源电缆线插连接到电源插座上。
- 请一定连接地线。
- 打开电源后蜂鸣器立即响个不停时，有可能是电缆连接有错误或电源电压有错误，请立即关闭电源。

1) 针杆在上位置时，进行机针摆动原点检测。

2) 针杆不在上位置时，出现下图所示的显示，因此请转动飞轮，让针杆移动到上位置，显示变为下面的显示，针杆左右移动进行原点检测。

(2) 踏板操作



踏板有4级操作：

- 1) 向前轻轻地踩踏板之后为低速缝制B。
- 2) 再继续向前踩踏板之后为高速缝制A。
(但是，自动倒缝开关被设定时，倒缝结束之后
再高速缝制)
- 3) 轻轻地踩踏板，脚踩在踏板上返回缝纫机停止C。
(机针为上停止或下停止)
- 4) 向后强力踩踏板之后缝纫机做切线动作E。
向后轻轻地踩踏板之后缝纫机做压脚提升动作D(只限PFL规格)，再继续向后踩踏板之后缝纫机做切线动作。

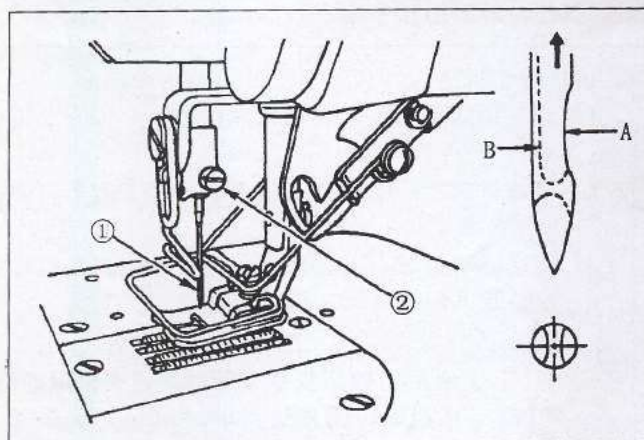
4. 缝制前的准备

4-1. 机针的安装方法



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



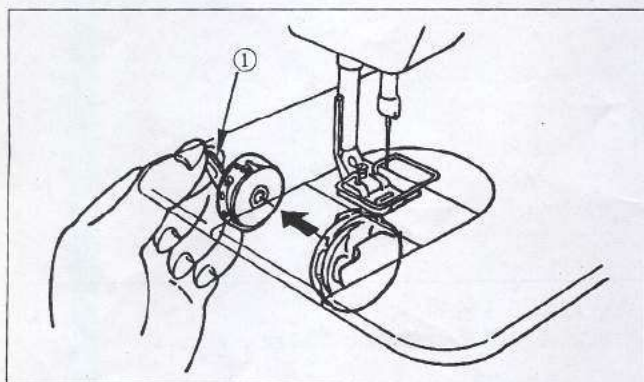
- 1) 转动飞轮，把机针上升到最高的位置。
- 2) 拧松机针固定螺丝②，把机针①的长槽部B转到前面。
- 3) 把机针向箭头方向深深地插进。
- 4) 拧紧机针固定螺丝②。
- 5) 确认机针的长槽B是否朝向前面。

4-2. 梭壳的安装方法



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



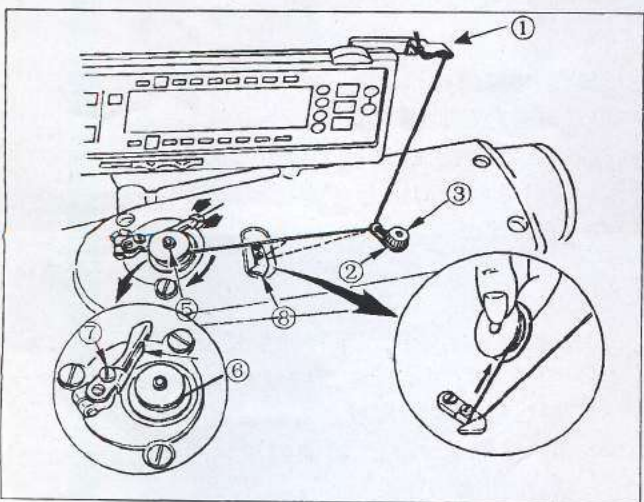
- 1) 转动飞轮，把机针升到最高位置。
- 2) 扳起梭壳的抓片①，取下梭壳。

4-3. 底线的卷绕方法



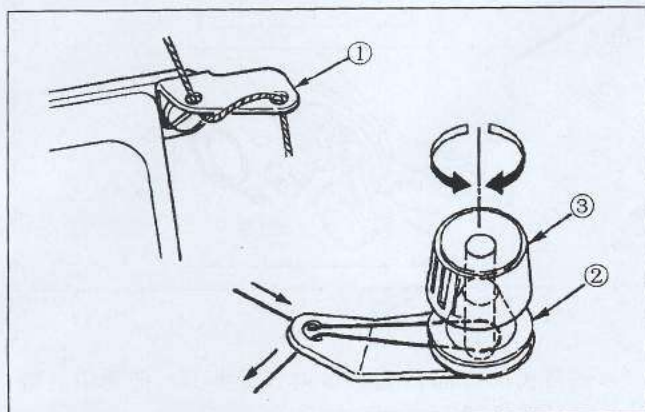
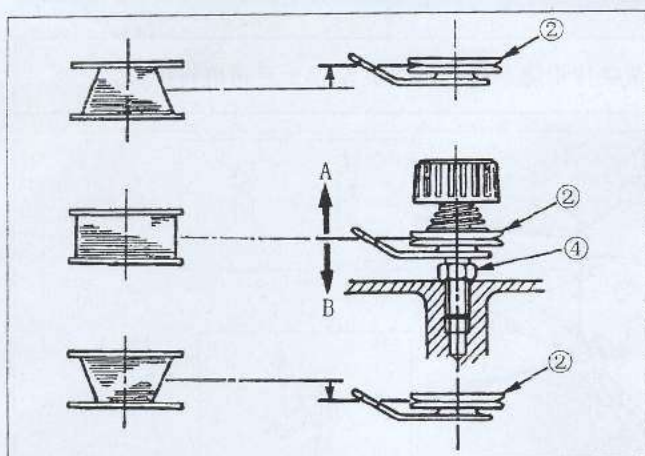
注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



- 1) 把梭心插到绕线轴⑤上。
- 2) 把线架右侧的卷线拉出的线按图中从①开始的顺序穿线，然后把线端在梭心上卷绕几圈。
- 3) 向A方向按压绕线拨杆⑥，让缝纫机转动。梭心向C方向转动，线被绕到梭心上。绕完之后绕线轴⑤自动停止。
- 4) 取下梭心，用切线保持板⑧切线。
- 5) 调整底线卷绕量时，拧松固定螺丝⑦，向A或B方向移动绕线调节板⑥，然后拧紧固定螺丝⑦。
A方向：变少
B方向：变多

4. 缝制前的准备



- 6) 如果线不能平坦地卷绕时, 请拧松螺母④, 转动卷线线张力器, 调整线张力盘②的高度。
 - 梭心的中心和线张力盘的中心高度相同时为标准。
 - 下面绕得多时, 向左图的A方向移动线张力盘②, 上面绕得多时, 向左图的B方向移动线张力盘的位置。
 调整后, 拧紧固定螺母④。

- 7) 调整底线张力时, 转动线张力螺母③, 进行调整。



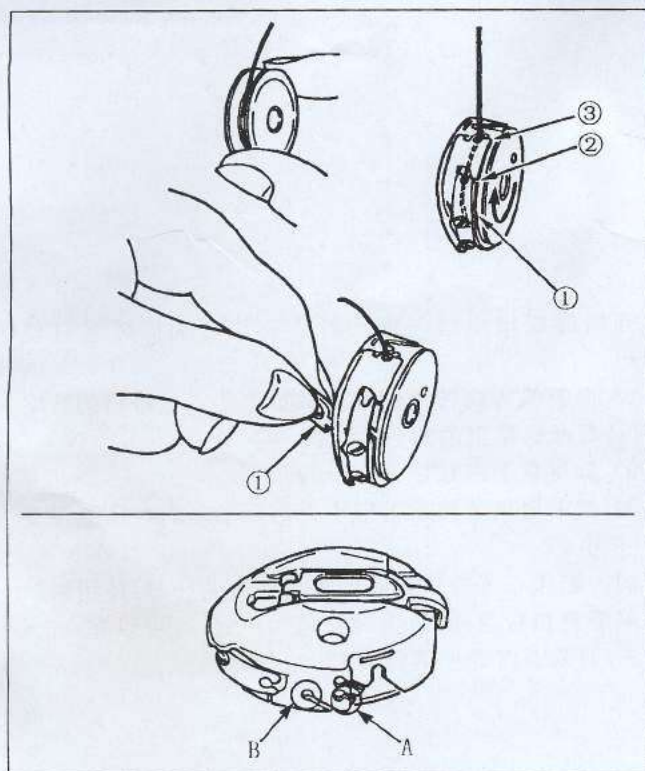
- 卷绕底线时, 请在梭芯和线张力盘②之间的线拉紧的状态开始卷绕。
- 不进行缝制的状态, 卷绕底线时, 请卸下挑线杆线道的上线, 并从旋梭中取出梭芯。

4-4. 梭心的放入方法



注意

为了防止突然的起动造成人身事故, 请关掉电源, 确认马达完全停止后再进行操作。



- 1) 转动飞轮, 把机针升到最高的位置。
- 2) 如图所示的那样, 把梭心的线端拉出5cm左右, 然后放入梭壳里。
- 3) 将线按槽上的号码顺序穿线, 从线口拉出线。拉底线梭心就会向箭头方向转动。
- 4) 如图所示那样, 扳起梭壳的抓片①。
- 5) 这时, 从下护罩把手伸进, 深深地插进内旋梭轴上。(听到发出咯嗒的声音)
- 6) 确实关好梭壳的抓片。

梭壳线孔的使用方法

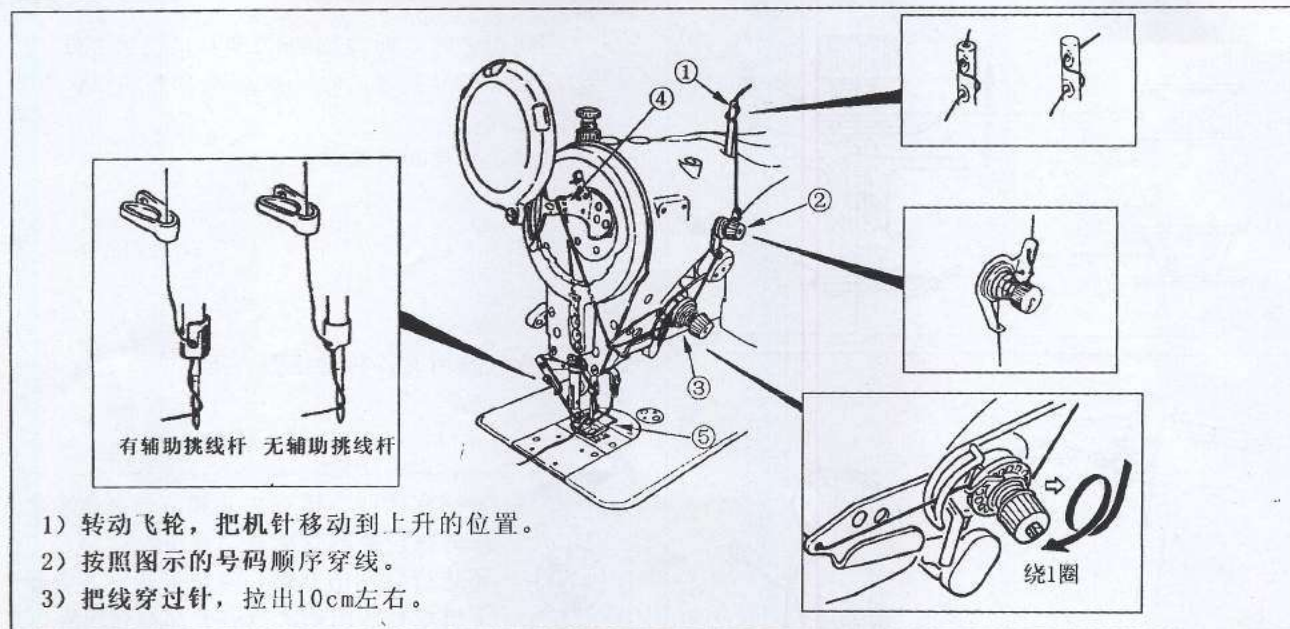
- 1) A孔主要在缝制2点曲折缝、扇形荷叶边曲折缝以外时使用。
- 2) B孔主要在缝制2点曲折缝、扇形荷叶边曲折缝时使用。

4-5. 上线的穿线方法

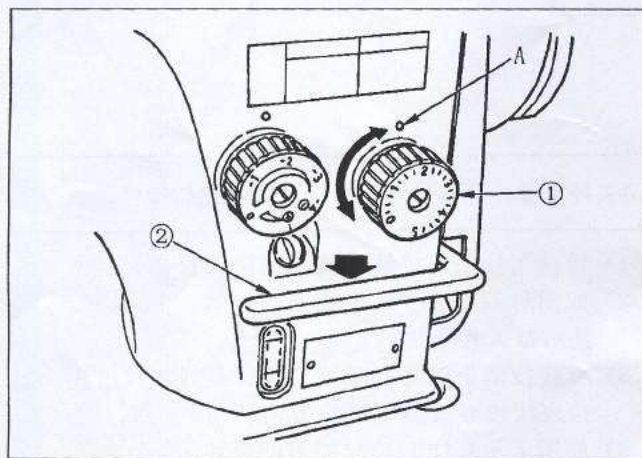


注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。

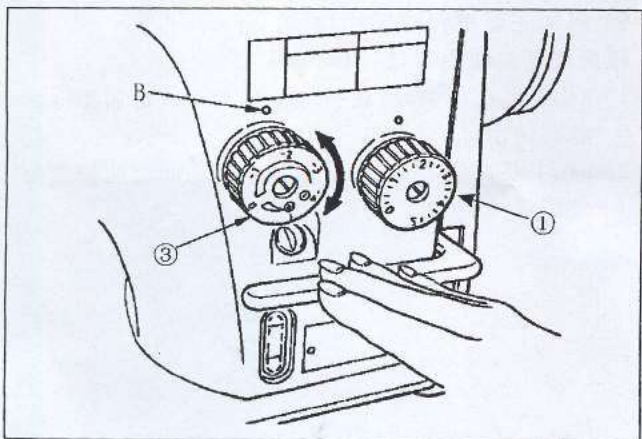


4-6. 送布长度的调整



- 1) 朝箭头的方向转动送布调节拨盘①，把希望的数字对准机架上的刻点A。
- 2) 刻度盘上的数字单位是mm。
- 3) 进行倒缝时，把送布拨杆②向下按。
在按下的时间可以进行倒缝。手离开后送布拨杆返回原来的位置，变为正向送布。

4-7. 缩缝的调整



开始缝或结束缝时缩小针距，进行加固缝等时使用。

- 1) 向箭头方向转动缩缝调节拨盘③，把希望的数字对准机架上的刻点B。
- 2) 刻度盘上的数字单位是mm。
- 3) 把缩缝调节拨盘①向+方向转动之后，倒缝量变小。

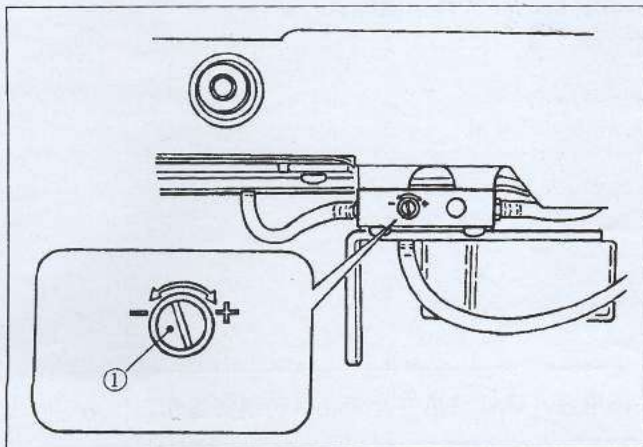
例：把送布调整拨盘③的刻度设定为+2后使用时，缩缝调整拨盘①的最大调整值为-2。（可以在-2~+2的范围内进行调整。）

5-1. 旋梭油量的调整



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



旋梭油量用旋梭油量调节螺丝①来调节。

调节方法

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



- 调整旋梭油量时，请先稍稍多量加油，然后减少油量进行调整。
- 旋梭油量出货时是按照最高转速进行调整的，如果顾客经常使用低速运转，有可能因旋梭油量不足而发生故障，因此经常以低速运转时，请调整旋梭油量。
- 在旋梭油量调整螺丝1全部拧紧的状态下使用的话，因为机油不能回流到机油槽里，所以可能发生从旋梭轴部漏油的故障，请不要把螺丝完全拧紧。另外，如果不把旋梭油量调整螺丝1拧到几乎完全拧紧旋梭油就流不出来时，可能是旋梭油芯堵塞，因此请更换旋梭轴油芯。

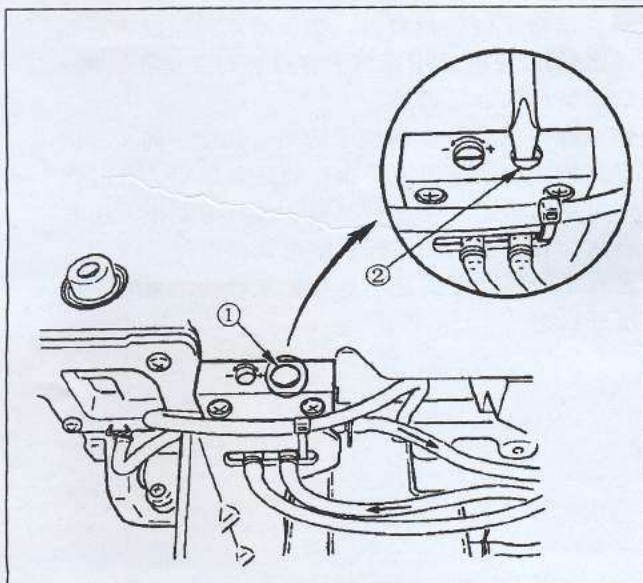
5-2. 机头面部加油量的调整



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。

工厂出货时已进行了调整，因此机头面部加油量不需要调整。（机头面部加油槽油量调整螺丝②由于不需要调整，因此用固定栓①遮隐着。如果错误地调整（不是旋梭油量调整）的话，请按照下列说明重新调整。



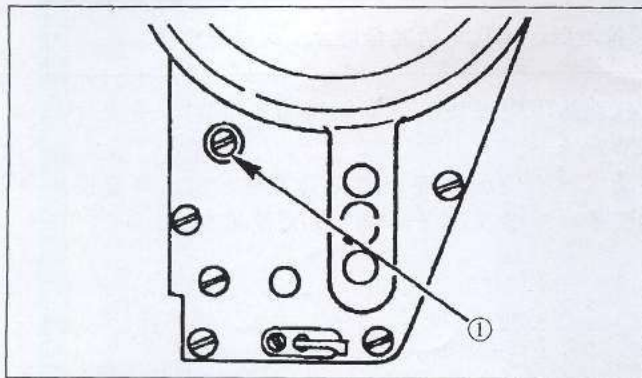
- 1) 卸下固定栓①，轻轻地拧紧调整螺丝②后，请从固定位置反转0.6圈。（从全关闭反转0.6圈）



请轻轻地拧紧螺丝②。注意不要用强力拧。

- 2) 如果正常，则可以确认到机油的流动。（图的箭头方向）如果不流动时，请一定重新调整。（不重新调整会磨损机头面部机构）

5-3. 压脚杆高度的调整



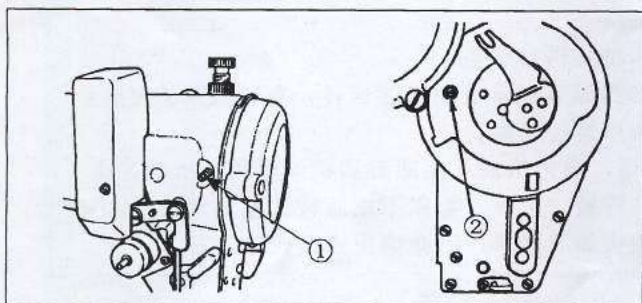
- 1) 想要变更压脚杆的高度或压脚的角度时，拧松压脚套管固定螺丝①进行调整。
- 2) 调整后，拧紧固定螺丝。

5-4. 压脚微量浮起的调整



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



有的缝制料请把压脚稍稍浮起进行缝制。其调整方法如下。

- 1) 拧松压脚浮起固定螺丝①。
- 2) 向左右方向转动压脚浮起螺丝②，调整到需要量后用固定螺丝①拧紧固定。



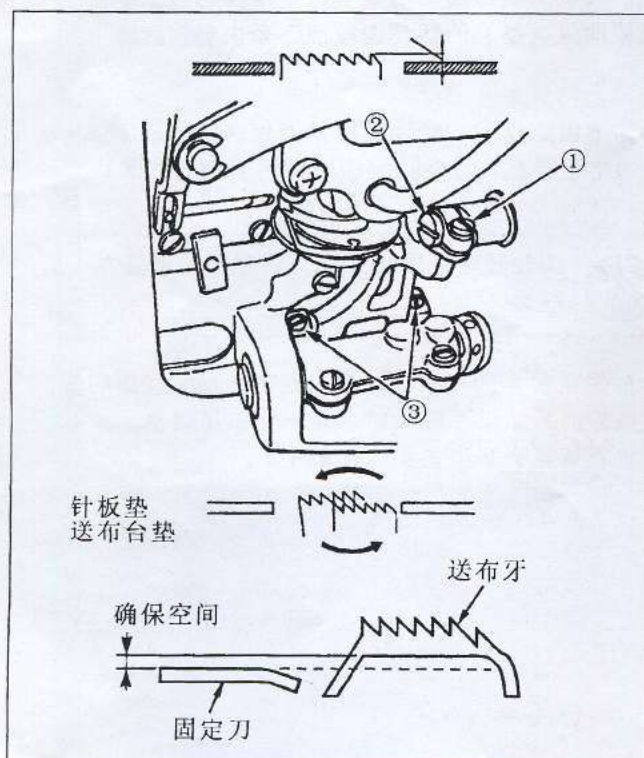
注意 不使用时，请把压脚浮起螺丝②全部转回来。浮起量大约是1张纸的厚度。

5-5. 送布牙的高度、倾斜



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



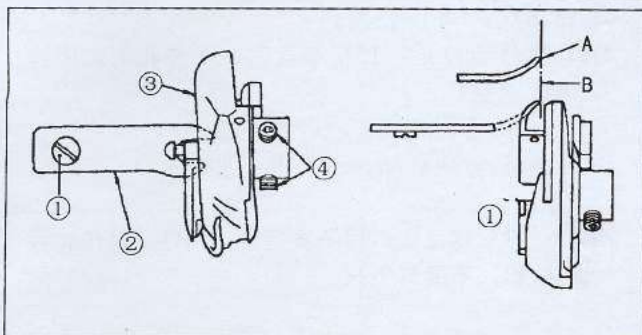
- 1) 如图所示拧松上下送布环轴固定螺丝①，用螺丝刀转动上下送布轴②来调整送布牙高度。
- 2) 送布牙的高度标准为1.2mm。
- 3) 调整送布牙倾斜角度时，如图所示拧松送布台轴固定螺丝2根③，用螺丝刀穿过机台上的孔，转动送布台轴进行调整。
- 4) 切线规格机种时，调整了送布（高度，同步时间等变更）后或使用市场出售的送布牙后，有时固定刀和送布牙之间没有空间。此时需要垫上送布台垫片和针板下面用针板垫以确保空间。

送布牙的标准倾斜是，送布牙从针板出来时，呈水平状态。

5-6. 旋梭的安装, 拆卸

**注意**

为了防止突然的起动造成人身事故, 请关掉电源, 确认马达完全停止后再进行操作。



更换旋梭时, 请按照以下顺序进行。

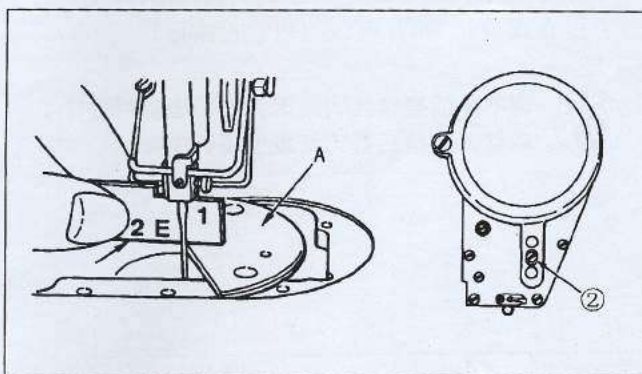
- 1) 转动飞轮, 把机针上升到最高位置。
- 2) 卸下机针、压脚、针板、送布牙、梭壳。
- 3) 卸下内旋梭固定螺丝①, 取下内旋梭固定部件②。
- 4) 拧松旋梭③的2个固定螺丝④。

安装旋梭时, 按此相反的顺序进行。此时, 内旋梭固定部件前端A基本与图的B线一致。但是, 前端不能向右侧凸出图的B线外。

5-7. 针杆高度的调整

**注意**

为了防止突然的起动造成人身事故, 请关掉电源, 确认马达完全停止后再进行操作。



- 1) 摆动宽度设为0, 机针位置设为中央。
- 2) 卸下压脚、针板、月牙板、送布牙。
- 3) 把半圆板放到机台针板安装面, 如图所示拧松固定螺丝②, 把从半圆板A的上面到针杆下端的高度调整到同步标尺①的“1”。

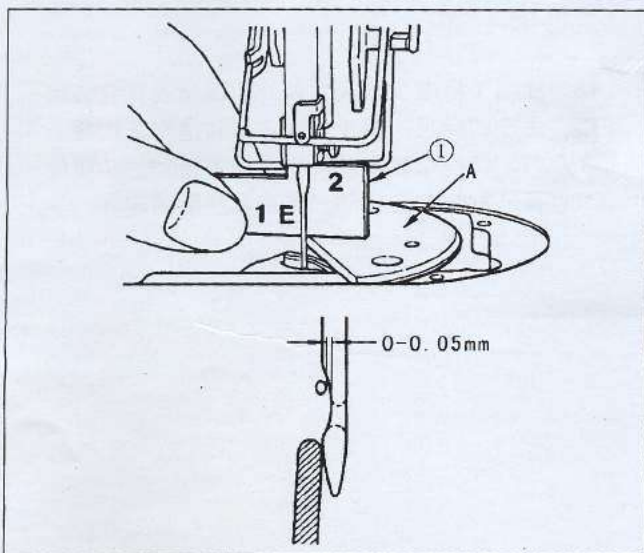


- 因为月牙板和针板的厚度不同, 所以请一定使用月牙板。同时机针摆动为0, 以基准线为中心。
- 请使用刻有「E」的附属同步标尺。

5-8. 机针和旋梭的同步和针座的调整

**注意**

为了防止突然的起动造成人身事故, 请关掉电源, 确认马达完全停止后再进行操作。



(1) 旋梭位置的调整

- 1) 调整完针杆高度之后, 把旋梭尖转动到机针的中心, 把高度调整到附属同步标尺①的“2”。
- 2) 此时, 针座不应碰到机针, 旋梭尖和机针稍有接触。

(2) 确认

最大振幅时 (LZ-2290A: 5mm) 的左摆时, 针孔上端和旋梭尖的距离应为0.2~0.5mm。
摆动幅度10mm或机针的凹陷形状与出货针不同时, 请重新调整针杆高度。

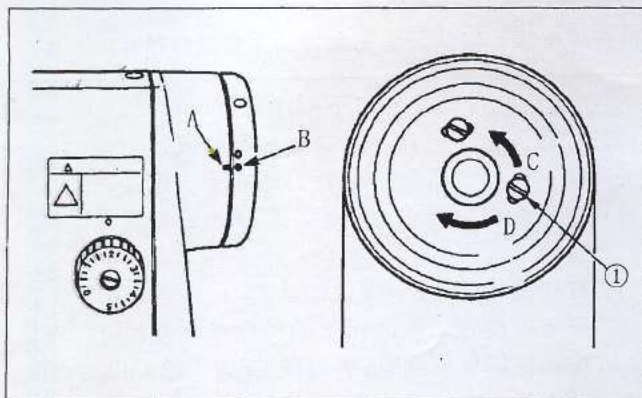
(3) 针座的调整

- 1) 把摆动幅调到最大, 弯曲针座调整, 让左右哪侧机针均不能碰到旋梭尖。
此时, 机针与旋梭尖的间隙应为0~0.05mm。
- 2) 针座是不让旋梭尖和机针相碰, 防止损害旋梭尖的部件。更换旋梭时, 请一定调整针座的位置。



发生断线后, 有时线被咬进旋梭。请解开被咬进的线, 然后再进行缝制。

5-9. 机针停止位置的调整



(1) 切线后的停止位置

1) 标准的机针停止位置是机臂的刻点A和飞轮上的白刻点B对齐的位置。

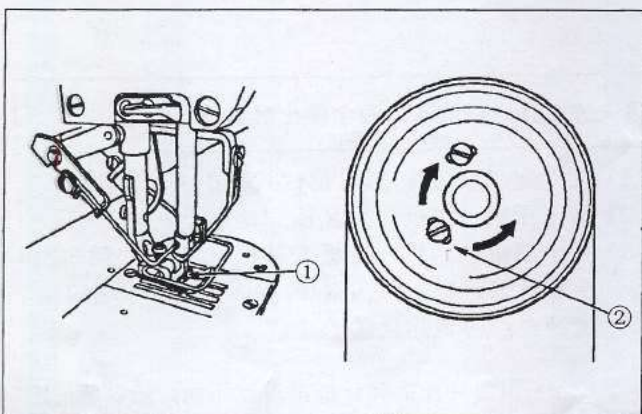
2) 让机针上停止，拧松螺丝①，在长孔的范围内进行调整。

I 向C的方向移动，机针停止提前。

II 向C的方向移动，机针停止推迟。



注意 拧松螺丝①，请不要运转。另外，只把它拧松，不要卸下来。



(2) 下停止位置

拧松螺丝②在长孔范围内进行调节，向前踩踏板到中立时机针正好在下停止位置，同样让机针①下停止之后进行调整。向A的方向移动机针停止提前，向B方向移动则停止推迟。



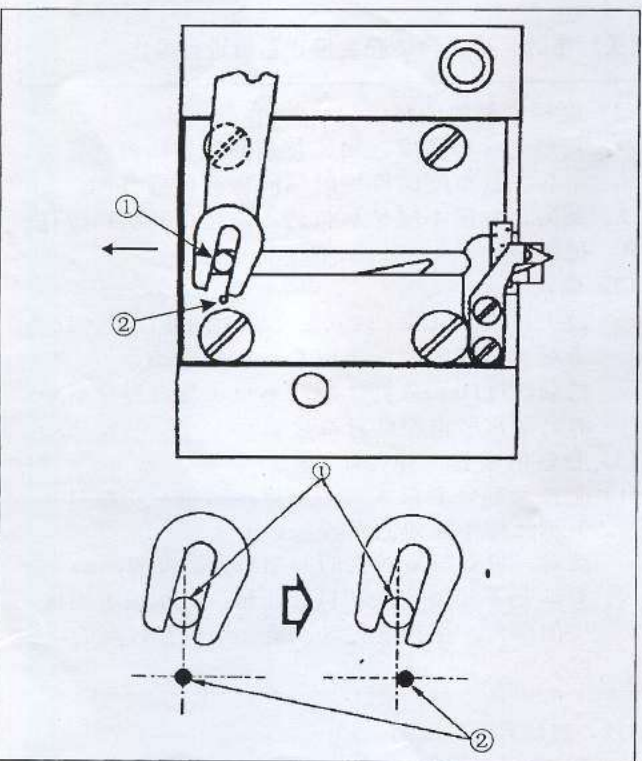
注意 请不要调整螺丝②。因为工厂出货时进行了调整，调整后有可能发生脱针故障。

5-10. 切线的调整



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。

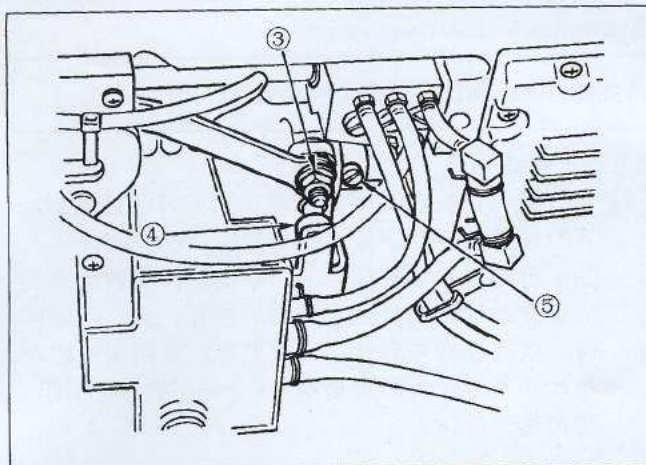


(1) 移动刀的初期位置

移动刀的初期位置如图所示，让移动刀销钉①与刻点②一致。

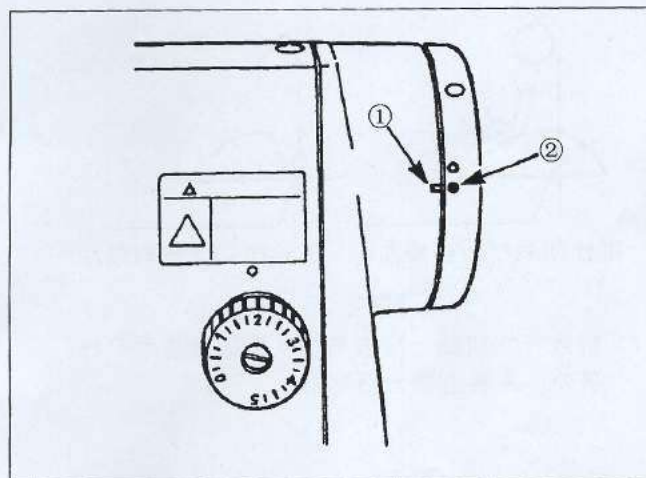


使用了标准出货尺寸以外的标尺或其它公司生产的标尺，而发生固定刀和送布牙相碰时，请拧松螺母③，把活动刀销①的初期位置从刻②向左移动一半左右然后固定。



初期位置不正确时

拧松螺母③，左右移动，调整①-②。
在适合的位置拧紧螺母③。



(2) 切线同步的调整

把凸块④嵌入凸轮槽的状态，静静地逆转飞轮时，皮带轮罩的刻点①和飞轮的红刻点②对准的位置，飞轮不能转动。

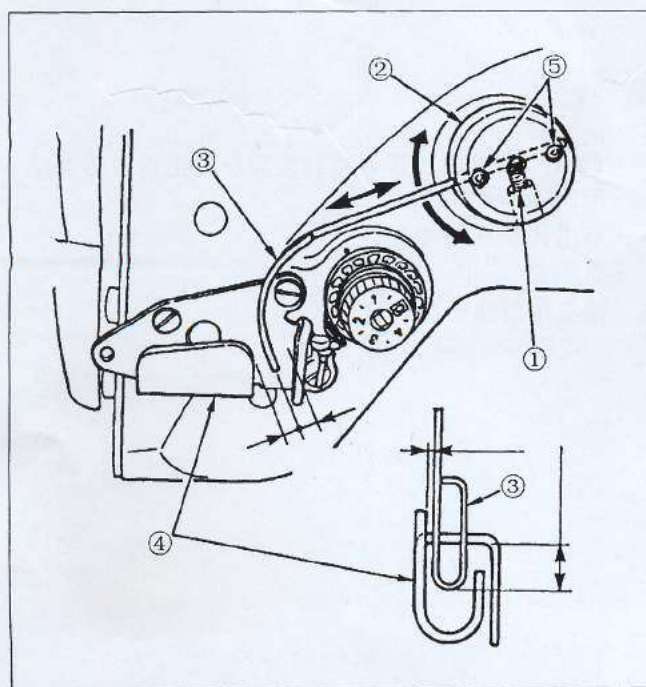
调整切线凸轮时，皮带轮护罩和飞轮的红刻点对齐，凸块嵌入凸轮槽的状态下，慢慢向与下轴转动相反的方向转，在停止的位置把2个螺丝⑤固定起来。

5-11. 上线挑线装置的调整（仅切线规格）



注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。



挑线钢丝的标准位置

- 1) 拧松固定螺丝①。
- 2) 转动挑线钢丝安装台②，让挑线弹簧③的前端与挑线导向器A④的导向部距离为C (8~12mm)，然后拧紧固定螺丝①。



此时，挑线钢丝和挑线导向器A的表面相距0.5~1mm。

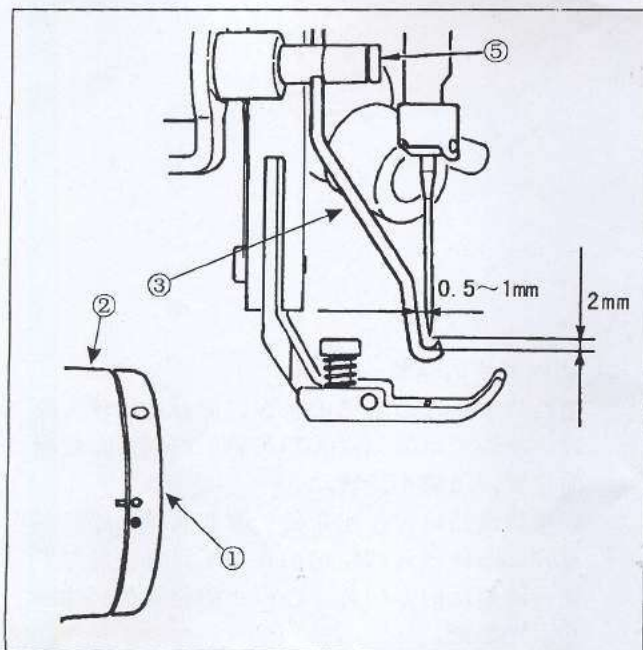
- 3) 进行微调，让挑线钢丝的前端应基本在挑线导向器A的中心位置 ($A \approx B$)，然后拧紧固定螺丝⑤。
- 关闭挑线装置时
把电气功能设定No. 89设定为OFF。
- 想加大上线挑线量时
请拧松固定螺丝5，调整为 $A > B$ 。
拧松固定螺丝1，向上（较小地设定C的值）调整挑线杆安装座2整体，可以大量调整挑出。

5-12. 防止缠线规格挑线杆的调整



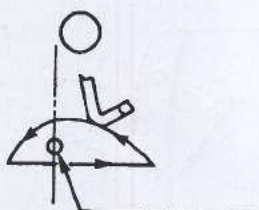
注意

为了防止突然的起动造成人身事故，请关掉电源，确认马达完全停止后再进行操作。

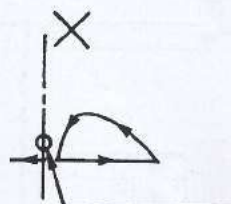


挑线杆位置

1) 把飞轮①的白色刻点对准皮带轮护罩②的刻点对齐的位置，轻轻地按挑线杆环A，移动挑线杆③，前进时挑线杆被棘爪向后退，恢复到原来的位置是针芯或超过了针芯的位置。另外，返回时，挑线杆③来到针芯的位置后，用挑线杆固定螺丝⑤把与针尖距离调整为约2mm，把与侧面距离调整为约1mm。

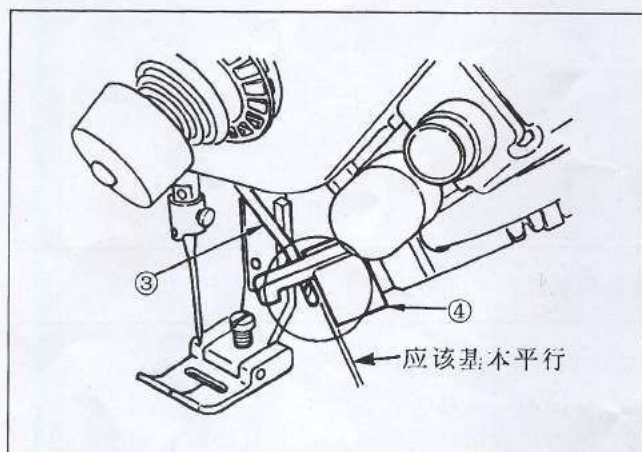


机针(8mm摆动到最左)



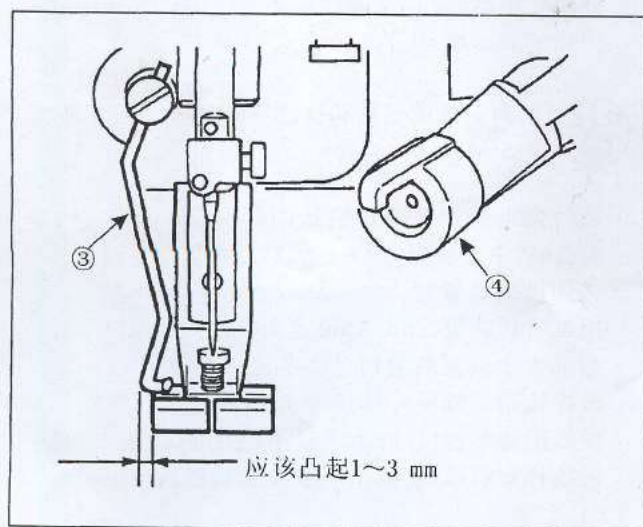
机针(8mm摆动到最左)

2) 挑线杆③前端，应该与夹头④端面基本平行。另外，夹头上侧为凸起部。



3) 挑线杆的最大行程调整到距离标准出货压脚左端面1~3mm的位置。

- 标准出货压脚组件
- 选购品
细宽度用压脚组件



Thank you very much for buying our sewing machine. Before using your new machine, please read the safety instructions below and the explanations given in the Operation Instruction.

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

SAFETY INSTRUCTIONS

1. Safety indications and their meanings

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

The meaning of these indications and symbols are given below.

Indications

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

Symbols



..... This symbol ($\triangle$) indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.
(For example, the symbol at left means "beware of injury".)



..... This symbol ($\otimes$) indicates something that you must not do.



..... This symbol ($\bullet$) indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.
(For example, the symbol at left means "you must make the ground connection".)

2. Notes on safety



DANGER



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



CAUTION

Environmental requirements

-  Use the sewing machine in an area which is free from sources of strong electrical noise such as high-frequency welders. Sources of strong electrical noise may cause problems with correct operation.
-  Any fluctuations in the power supply voltages should be within $\pm 10\%$ of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.
-  The power supply capacity should be greater than the requirements for the sewing machine's electrical consumption. Insufficient power supply capacity may cause problems with correct operation.
-  The ambient temperature should be within the range of 5°C to 35°C during use. Temperatures which are lower or higher than this may cause problems with correct operation.
-  The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices. Excessively dry or humid environments and dew formation may cause problems with correct operation.
-  Avoid exposure to direct sunlight during use. Exposure to direct sunlight may cause problems with correct operation.
-  In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet. Lightning may cause problems with correct operation.

Installation

-  Machine installation should only be carried out by a qualified technician.
-  Contact your dealer or a qualified electrician for any electrical work that may need to be done.
-  The sewing machine weighs approximately 40kg. The installation should be carried out by two or more people.
-  Don't connect the power cord until installation is complete, otherwise the machine may operate if the foot switch is depressed by mistake, which could result in injury.
-  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.
-  Hold the machine head with both hands when tilting it back or returning it to its original position. Furthermore, after tilting back the machine head, do not push the face plate side or the pulley side from above, as this could cause the machine head to topple over, which may result in personal injury or damage to the machine.
-  All cords should be secured at least 25mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shock may occur.
-  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
-  Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they don't get into your eyes or onto your skin, otherwise inflammation can result. Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhoea. Keep the oil out of the reach of children.



CAUTION

Sewing



This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.



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



The sewing machine should not be used for any applications other than sewing.



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



Be sure to wear protective goggles when using the machine.

If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.



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



If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest dealer or a qualified technician.



Turn off the power switch at the following times, otherwise the machine may operate if the foot switch is depressed by mistake, which could result in injury.

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



If the machine develops a problem, contact your nearest dealer or a qualified technician.

Cleaning



Turn off the power switch before carrying out cleaning, otherwise the machine may operate if the foot switch is depressed by mistake, which could result in injury.



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, otherwise inflammation can result.

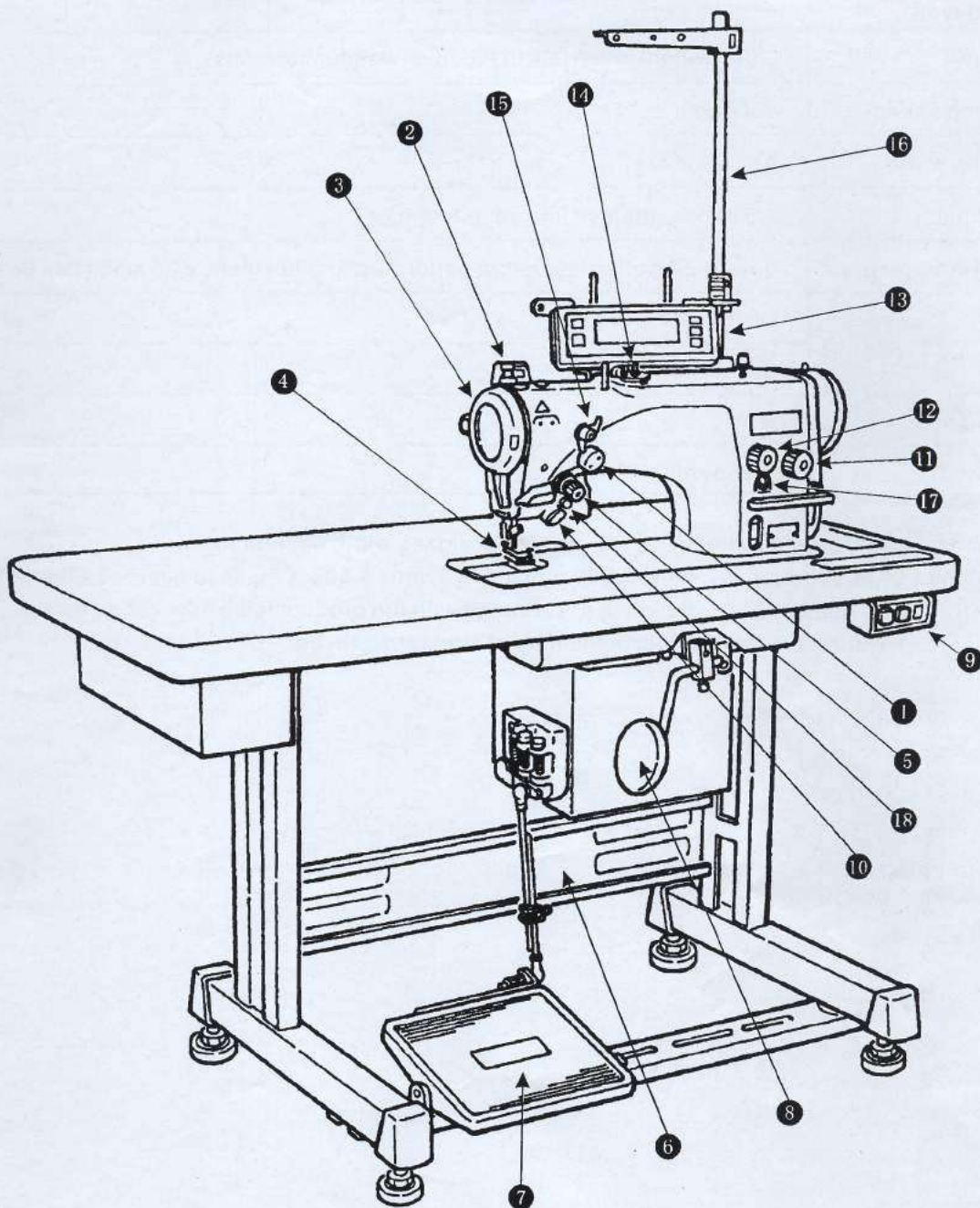
Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhoea.

Keep the oil out of the reach of children.

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1.NAME OF EACH COMPONENT



- | | | |
|---------------------------------|----------------------|----------------------------|
| ① Needle thread draw-out device | ⑦ Pedal | ⑬ Control panel |
| ② Wiper switch | ⑧ Knee lifter lever | ⑭ Bobbin winder |
| ③ Thread take-up cover | ⑨ Power switch | ⑮ Tension controller No. 1 |
| ④ Finger guard | ⑩ Hand switch | ⑯ Thread stand |
| ⑤ Thread tension | ⑪ Stitch length dial | ⑰ Oil supply opening |
| ⑥ Electrical box | ⑫ Condensation dial | ⑱ Mirror inversion switch |

2.SPECIFICATIONS

Model (Minute-quantity lubricating type)	2297D
Application	Light-weight materials to medium-weight materials
Max. sewing speed	4500 rpm (※1)
Max. zigzag width	8 mm (※2)
Max. feed pitch	2.5 mm (stepless fine adjustment)
Stitch pattern	8 kinds 14 patterns(custom pattern:up to 500 stitches,20 kinds can be stored)
Needle	DP×5,11#
Oil used	Special oil
Thread trimmer	With
Feed method	Standard feed

※1. The max. sewing speed is limited by the amount of zigzag width per stitch.

Up to 4 mm : 4,500 rpm, up to 5 mm : 3,800 rpm, up to 6 mm : 3,500 rpm, up to 8 mm : 3,000 rpm

Properly set the number of revolution in accordance with the product to be sewn and process.

※2. Max. zigzag width is limited to 8 mm at the time of standard delivery.

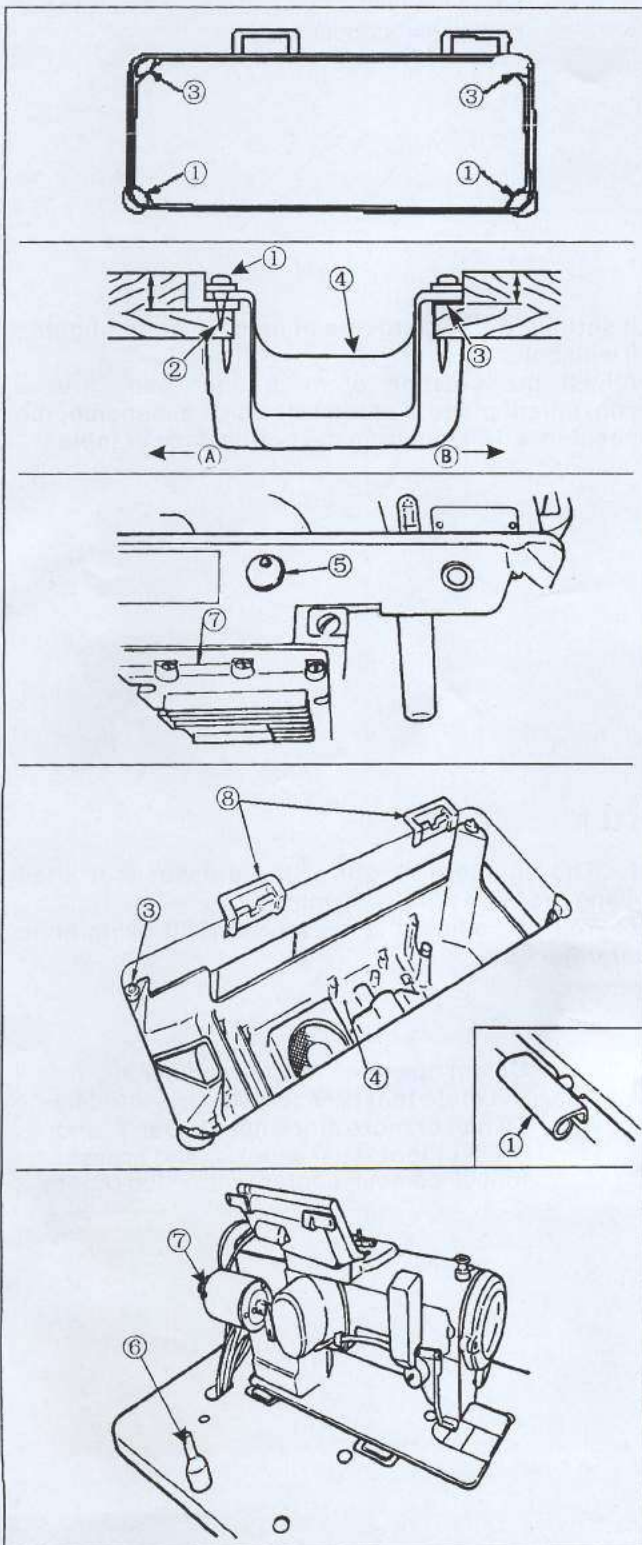
3.INSTALLATION



WARNING

- Perform the installation of the sewing machine by the technical personnel who have been trained. To prevent personal injury, ask our dealer or the electrician for electric wiring.
- Be sure to perform the work with two persons or more when transporting the sewing machine and use a lorry when moving it.
- To prevent personal injury caused by abrupt start of the sewing machine, do not connect the power plug until the set-up of the sewing machine is completed.
- Be sure to earth the ground wire to prevent personal injury caused by leak.
- Be sure to attach safety protection cover, finger guard, etc.

3-1.Installation of the sewing machine head



• Installing the under cover

1) The under cover should rest on the four corners of the machine table groove.

2) Fix two rubber seats ① on side A (operator's side) using nails ② as illustrated above. Fix two cushion seats ③ on side B (hinged side) using a rubber-based adhesive. Then place under cover ④ on the fixed seats.

3) Remove air vent cap ⑤ attached to the machine bed. (Be sure to attach cap ⑤ when transporting the machine head in the state that the machine head is removed from the machine table.)



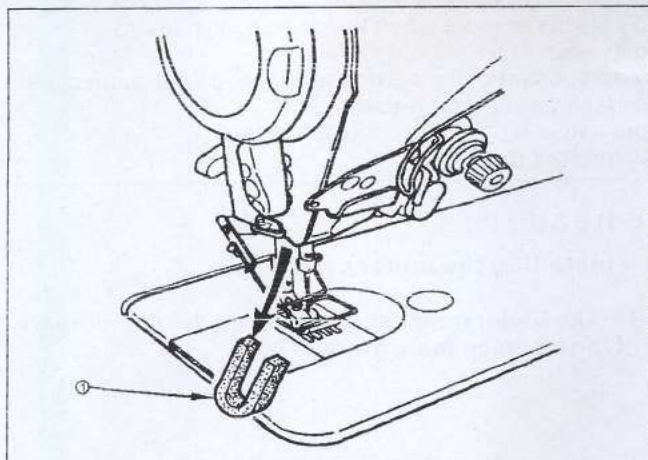
If the sewing machine is operated without removing air vent cap ⑤, oil leakage from gear box portion ⑦ may occur.

4) Fit hinge ① into the opening in the machine bed, and fit the machine head to table rubber hinge ⑧ before placing the machine head on cushions ③ on the four corners.

5) Attach head support rod ⑥ to the machine table. (However, this step is not necessary for the machine with AK device.)

3.INSTALLATION

3-2.Removing the needle bar stopper

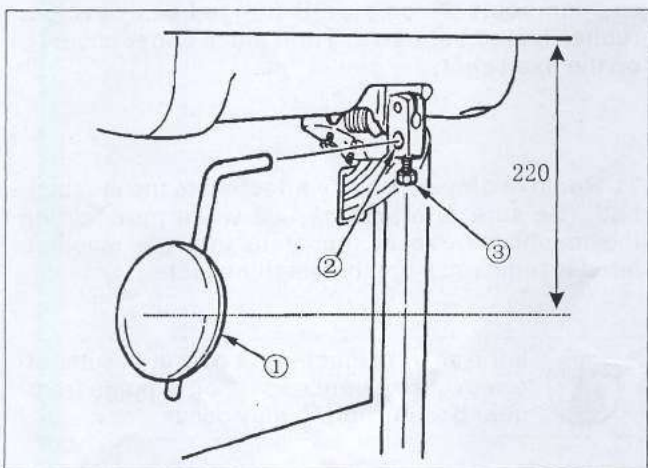


Remove needle bar stopper ① for transportation.



Keep the needle bar stopper which has been removed, and install this needle bar stopper when transporting the sewing machine. The needle bar stopper may be cut when it is strongly drawn out. Slightly move the needle bar to the right or left and slowly draw out the needle bar stopper.

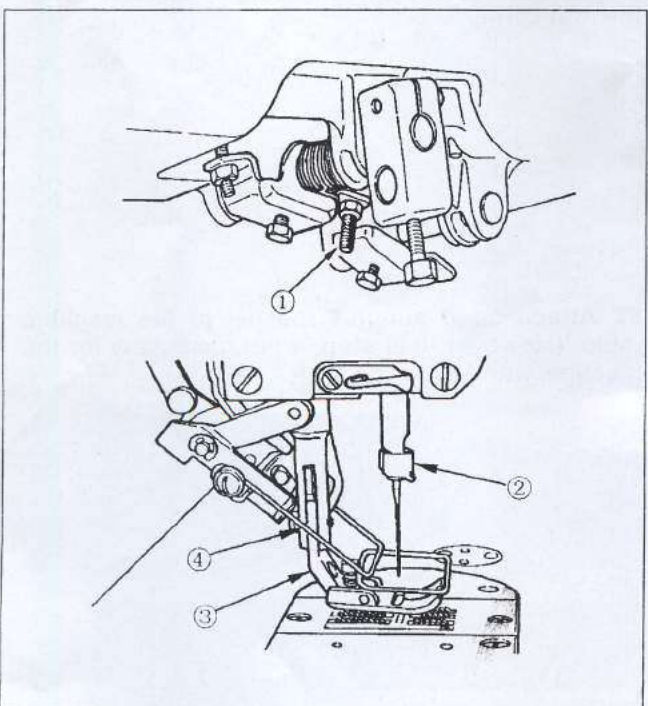
3-3.Attaching the knee-lifter



Insert knee-lifter into attaching hole ② and tighten it with bolt ③.

Adjust the position of knee lifter pad ① to a convenient place. For the reference dimension, the position is 180 mm from the bottom face of table.

3-4.Adjusting the height of the knee lifter



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

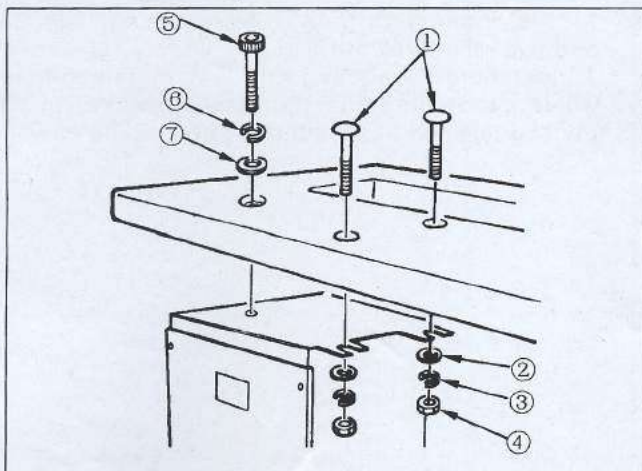
2) You can adjust the presser foot lift using knee lifter ①.



Do not operate the sewing machine in the state that presser foot ③ is lifted by 10 mm or more since needle bar ② and presser foot ③, or wiper ④ and presser foot ③ come in contact with each other.

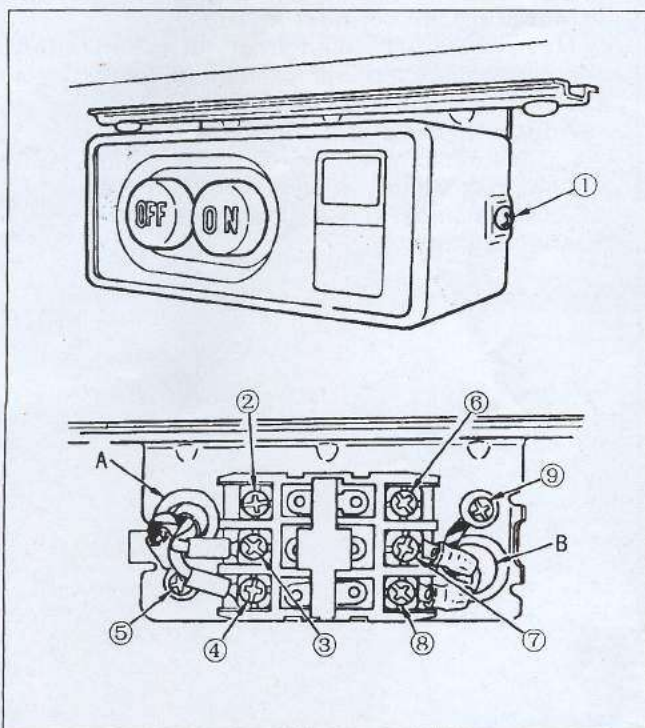
3. INSTALLATION

3-5. Installing the electrical box



Install the electrical box on the underside of the table at the location illustrated using round-head bolt ①, plain washer ②, spring washer ③ and nut ④ supplied with the machine, and using bolt having hexagonal indentation on the head ⑤, plain washer ⑥ and spring washer ⑦ supplied with the machine.

3-6. Connecting the power switch cord



1) Loosen screw ① located on the side of the power switch supplied as accessories and remove the power switch cover.

2) Connecting the input power cord of electrical box

- When the input power cord of electrical box is 4P Put 4P cord from hole A of the power switch and securely fix green/yellow cord to ⑤, white cord to ②, black cord to ③ and red cord to ④ with screws.

- When the input power cord of electrical box is 3P Put 3P cord from hole A of the power switch and securely fix green/yellow cord to ⑤, brown cord to ② and sky blue cord to ③ with screws.

3) Connecting the power cable supplied as accessories

- In case of 3-phase power cable

Put power cable from hole B of the power switch, and securely fix green/yellow cord to ⑨, white cord to ⑥, black cord to ⑦ and red cord to ⑧ with screws.

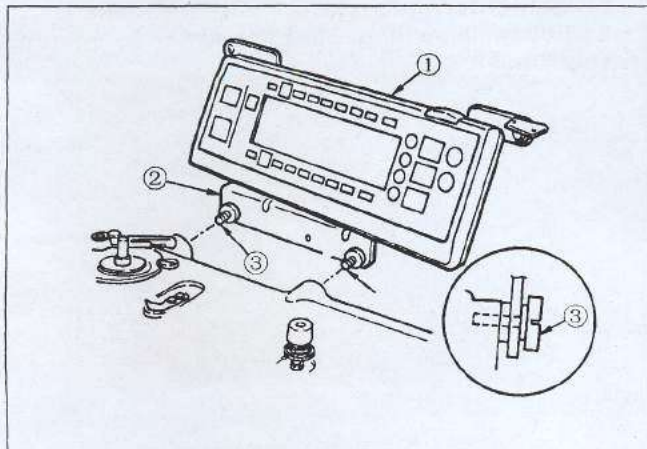
- In case of single phase power cable

Put power cable from hole B of the power switch, and securely fix green/yellow cord to ⑨ and other cords to ⑥ and ⑦ with screws. ⑧ is not used.

4) Installing the power switch cover

Securely tighten screw ① located on the side of the power switch.

3-7. Installing the operation panel



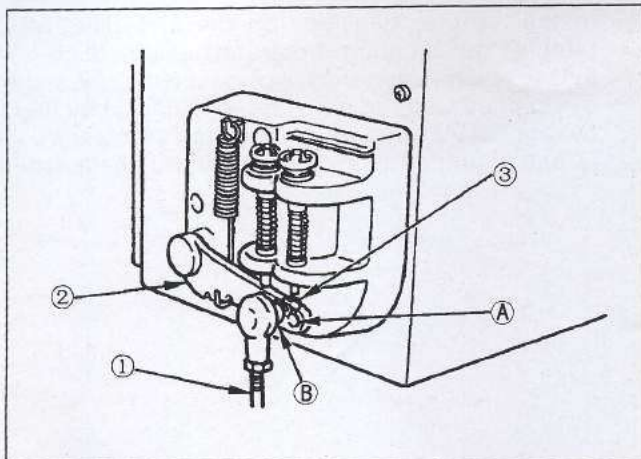
Install operation panel ① on the machine head using screws ③ which have been assembled to panel installing bracket ②.



Caution Do not disassemble the operation panel to prevent it from breakage.

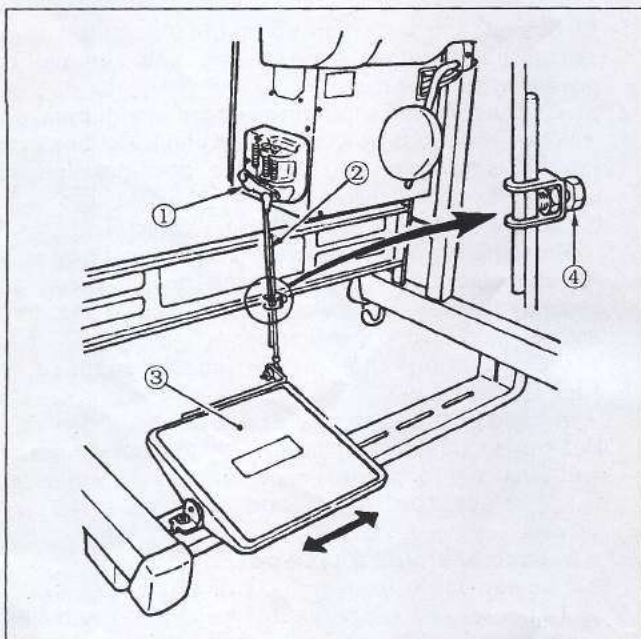
3.INSTALLATION

3-8.Attaching the connecting rod



- 1) Fix connecting rod ① to installing hole B of pedal lever ② with nut ③.
- 2) Installing connecting rod ① to installing hole A will lengthen the pedal depressing stroke, and the pedal operation at a medium speed will be easier.

3-9.Adjustment of the pedal



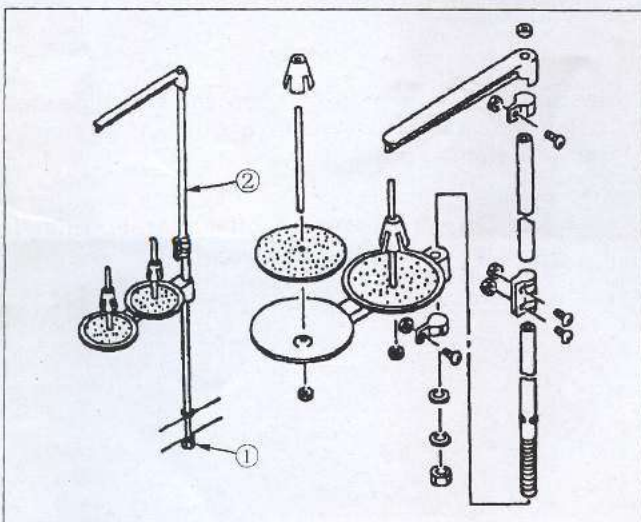
• Installing the connecting rod

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

• Adjusting the pedal angle

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

3-10.Installing the thread stand



- 1) Assemble the thread stand unit, and insert it in the hole in the machine table.
- 2) Tighten locknut ① to fix the thread stand.
- 3) For ceiling wiring, pass the power cord through spool rest rod ②.

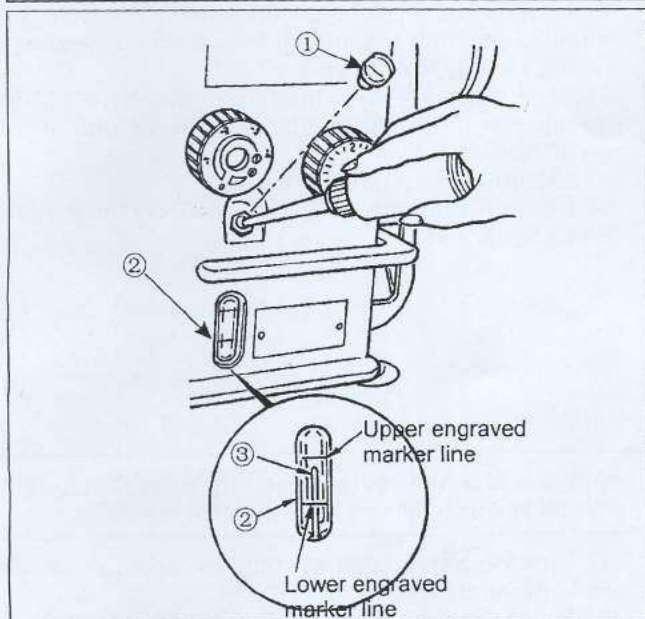
3.INSTALLATION

3-11.Lubrication



WARNING

- Do not connect the power plug until the lubrication has been completed so as to prevent accidents due to abrupt start of the sewing machine.
- To prevent the occurrence of an inflammation or rash, immediately wash the related portions if oil adheres to your eyes or other parts of your body.
- If oil is mistakenly swallowed, diarrhea or vomiting may occur. Put oil in a place where children cannot reach.



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

1) Remove oil hole cap ① and fill the oil tank with New Defrix Oil No. 1 using the oiler supplied with the machine.

2) The amount of oil should reach up to the engraved marker line of oil tank ②. If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. So, be careful.

3) When you operate the sewing machine, refill oil if the top end of oil amount indicating rod ③ comes down to the lower engraved marker line of oil amount indicating window ④.



When you use a new sewing machine or a sewing machine after an extended period of disuse, run your machine at 3,000 to 3,500 rpm for the purpose of break-in.

3-12.Test run

(1)Turn ON the power



WARNING

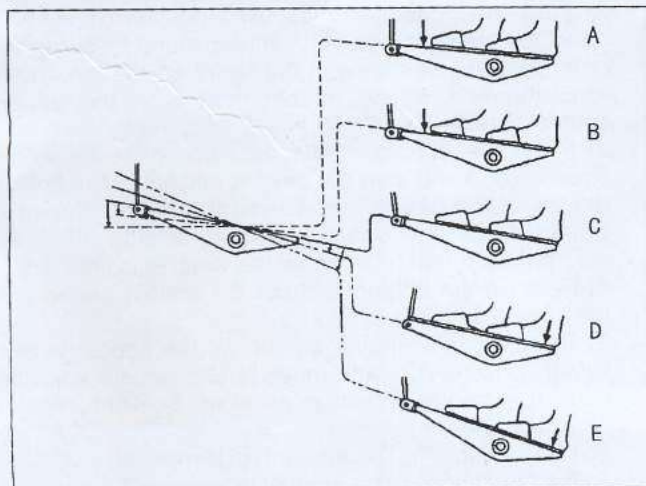
- Check again the power voltage before connecting the power cord.
- Check that the power switch is turned OFF and connect the power cord to the power receptacle. Be sure to connect the earth wire.
- In case where the buzzer keeps beeping immediately after turning ON the power, there is a possibility of the wrong connection of cord or wrong power voltage. Turn OFF the power.

1) When the needle bar is in its UP position, zigzag origin detection is performed.

2) When the needle bar is in the position other than UP position :

Display as shown in the figure below appears. Turn the handwheel to bring the needle bar to needle UP position and the display changes to the next screen. Then the needle moves left and right, and zigzag origin detection is performed.

(2)How to operate the pedal



The pedal is operated in four stages:

1) Lightly depress the front part of the pedal for low speed operation B.

2) Further depress the front part of the pedal for high speed operation A. (Note that the sewing machine will enter the high-speed operation mode after the completion of reverse feed stitching if the automatic reverse feed stitching function is specified with the corresponding switch.)

3) Bring the pedal back to its neutral position, and the sewing machine will stop running C. (The needle stops in the highest / lowest position.)

4) Strongly depress the back part of the pedal, and the thread trimmer will be actuated E.

Lightly depress the back part of the pedal, and the presser foot will go up D. Further depress the back part of the pedal, and the thread trimmer will be actuated.

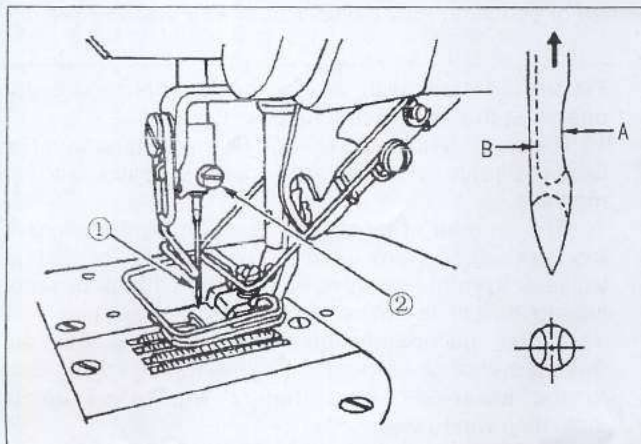
4. PREPARATION BEFORE SEWING

4-1. Inserting the needle



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



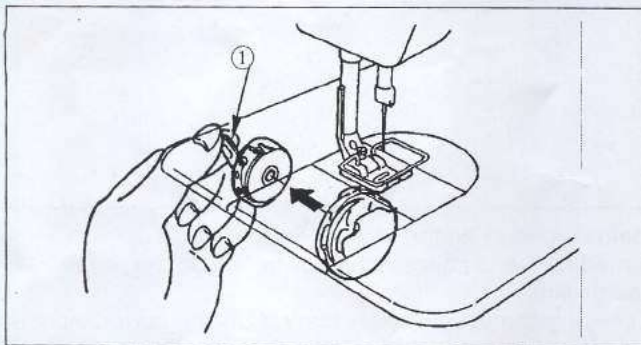
- 1) Turn the handwheel by hand to raise the needle to its highest position.
- 2) Loosen the needle clamp screw (2). Hold the needle (1) so that the long groove B on the needle is facing exactly toward you.
- 3) Insert the needle deep into the hole of the needle bar in the direction of the arrow until it will go no further.
- 4) Securely tighten the screw (2).
- 5) Confirm that the long groove B on the needle faces toward you.

4-2. Removing the bobbin case



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



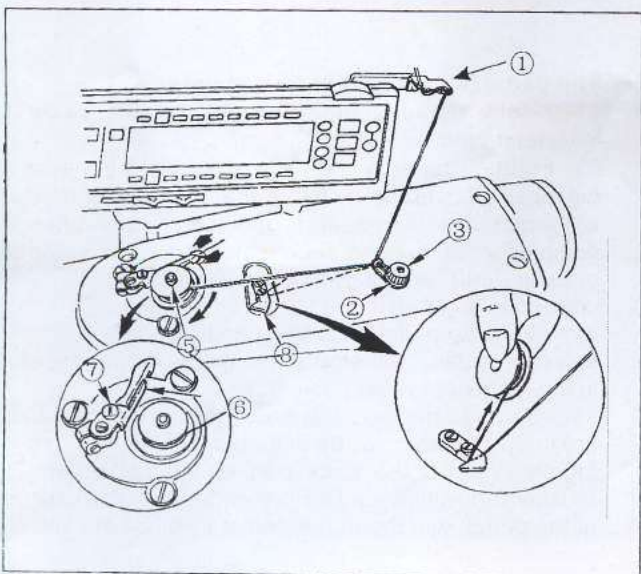
- 1) Turn the handwheel by hand to raise the needle to its highest position.
- 2) Raise bobbin case latch (1) and remove the bobbin case.

4-3. Winding the bobbin thread



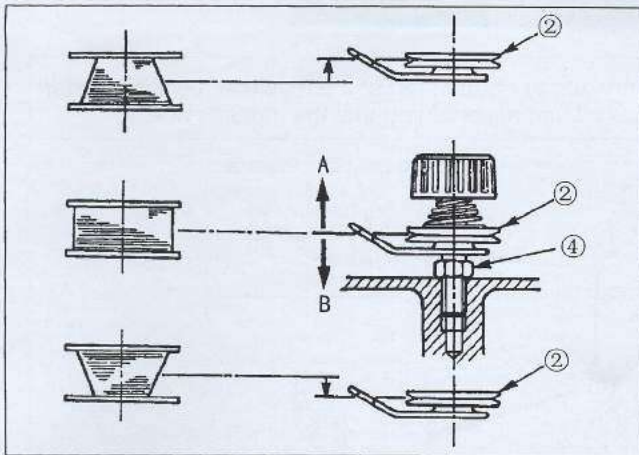
WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Insert the bobbin deep into the bobbin winder spindle (5) until it will go no further.
- 2) Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order from (1) as shown in the figure on the left. Then, wind the end of the bobbin thread on the bobbin several times.
- 3) Press the bobbin winder adjusting plate (6) in the direction of A and start the sewing machine. The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle (5) will automatically stop as soon as the winding is finished.
- 4) Remove the bobbin and cut the bobbin thread with the thread cut retainer (8).
- 5) To adjust the winding amount of the bobbin thread, loosen setscrew (7) and move bobbin winder adjusting plate (6) to the direction of A or B. Then, tighten setscrew (7).
To the direction A: The amount is decreased.
To the direction B: The amount is increased.

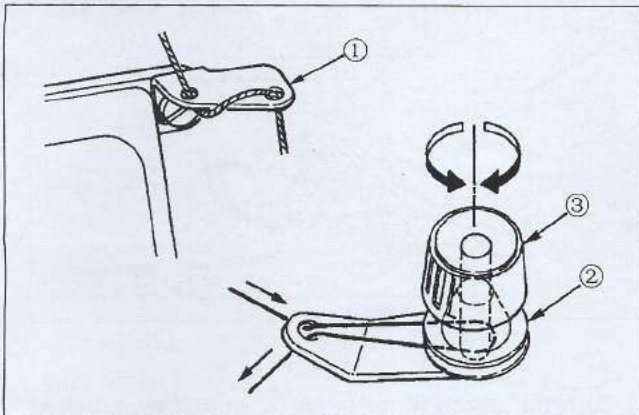
4. PREPARATION BEFORE SEWING



6) In case that the bobbin thread is not wound evenly on the bobbin, loosen the nut ④ and turn the bobbin thread tension to adjust the height of the thread tension disk ②.

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

- Move the position of the thread tension disk ② to the direction A as shown in the figure on the left when the winding amount of the bobbin thread on the lower part of the bobbin is excessive and to the direction B as shown in the figure on the left when the winding amount of the bobbin thread on the upper part of the bobbin is excessive. After the adjustment, tighten the nut ④.



7) Turn the thread tension nut ③ to adjust the tension of the bobbin thread winder.



• When winding bobbin thread, start winding in the state that the thread between bobbin and thread tension disk ② is tense.

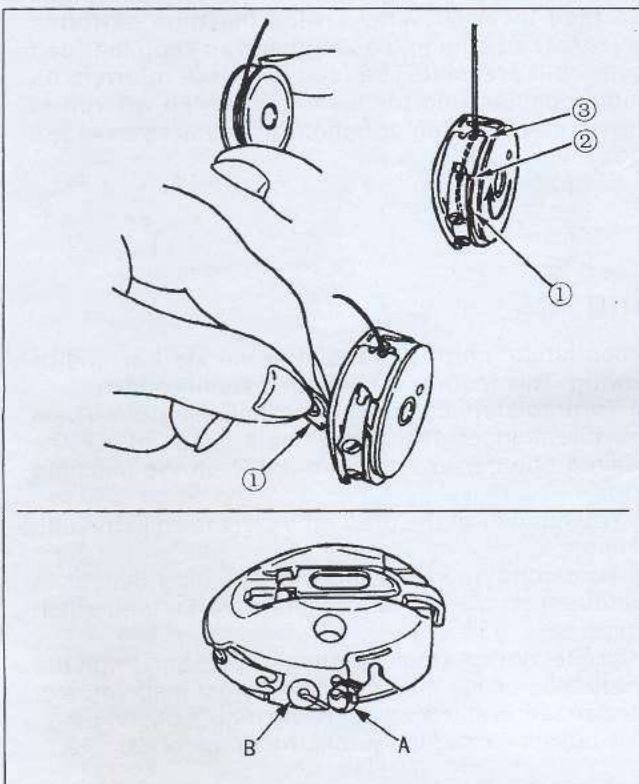
• When winding bobbin thread in the state that the sewing is not performed, remove needle thread from the thread path of the thread take-up and remove bobbin from the hook.

4-4. Placing the bobbin case and the bobbin



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



1) Turn the handwheel by hand to raise the needle to its highest position.

2) Take a bobbin by your right hand with the thread drawn out about 5 cm from the thread end of the bobbin and place it into the bobbin case as illustrated.

3) Thread the bobbin case in the order of the numbers and pull it out through the thread path as illustrated. The bobbin rotates in the bobbin case in the direction shown by arrow when bobbin thread is drawn.

4) Raise bobbin case latch ① and hold it between your two fingers as shown in the figure on the left.

5) Insert the bobbin case into the sewing hook shaft as far as it will go by putting your hand from the under cover of the inner hook. (Click sounds.)

6) Release the bobbin case latch to let it steadily rest in the closing position.

How to use the bobbin case thread hole

1) Use hole A mainly for zigzag stitches other than standard zigzag stitch and scallop zigzag stitch.

2) Use hole B mainly for standard zigzag stitch and scallop zigzag stitch.

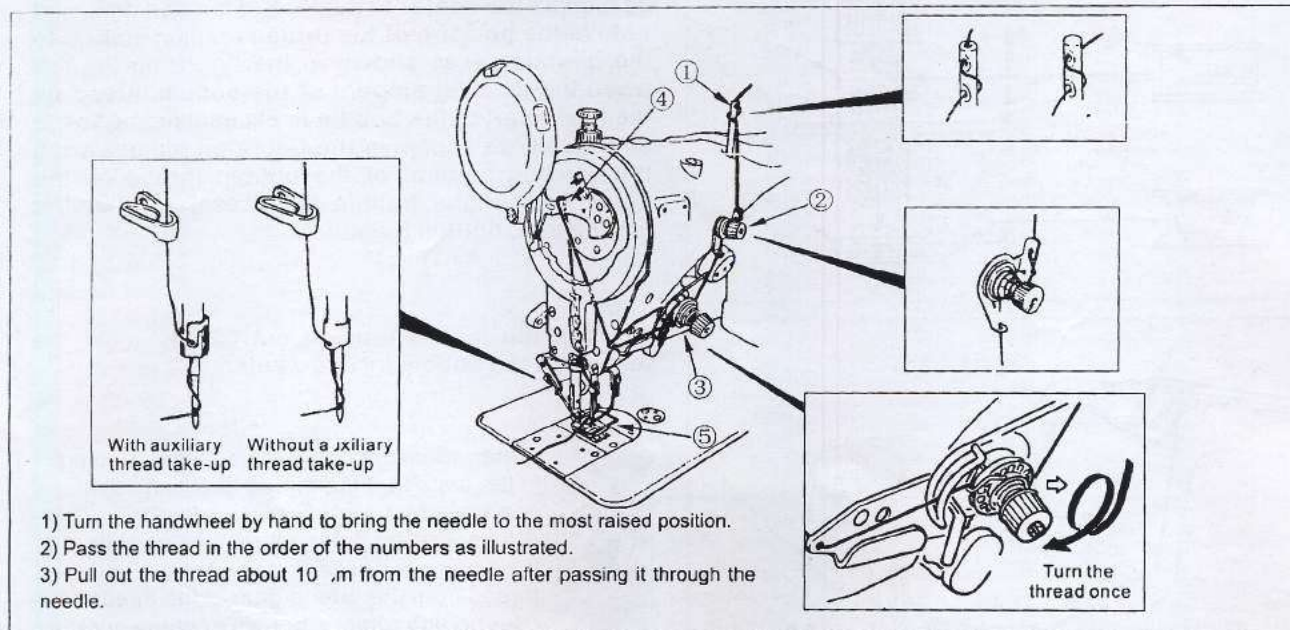
4. PREPARATION BEFORE SEWING

4-5. Threading the machine head



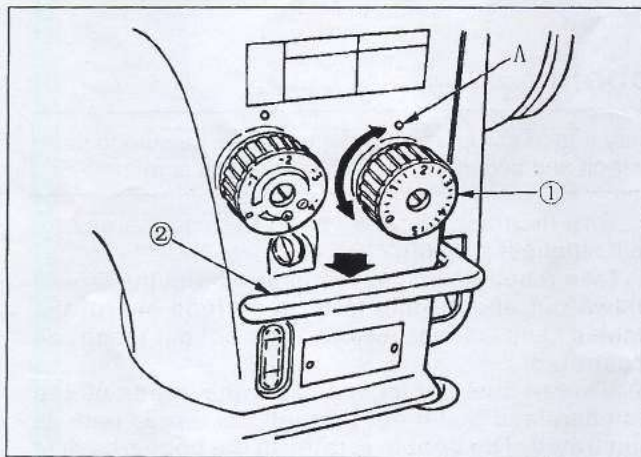
WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



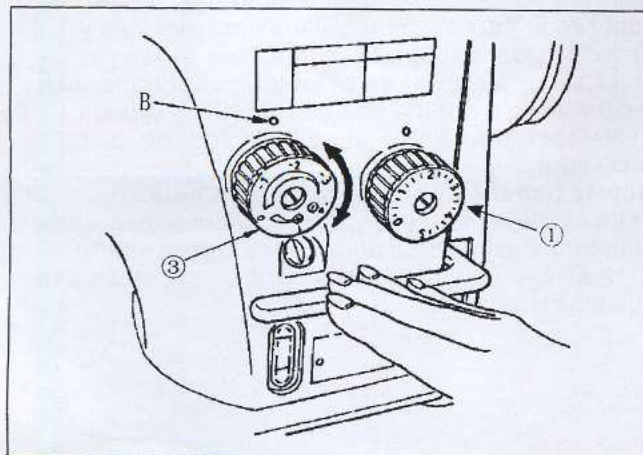
- 1) Turn the handwheel by hand to bring the needle to the most raised position.
- 2) Pass the thread in the order of the numbers as illustrated.
- 3) Pull out the thread about 10 cm from the needle after passing it through the needle.

4-6. Adjusting the stitch length



- 1) Turn the stitch length dial ① in the direction of the arrow so that the number corresponding to the desired stitch length meets the marker dot A engraved on the machine arm.
- 2) Numbers on the stitch length dial are calibrated in mm.
- 3) To perform reverse feed stitching, press down the feed lever ②. The sewing machine performs reverse feed stitching as long as you keep the feed lever held pressed. The feed lever will return to its home position and the sewing machine will run in the normal stitching direction when you release the feed lever.

4-7. Adjusting the condensation stitching



Stitch length can be reduced at the start or end of sewing. This feature is used for fastening stitch.

- 1) Turn condensation stitching adjusting dial ③ in the direction of the arrow mark, and adjust the desired number to engraved dot B on the machine arm.
 - 2) The number of the graduation is shown in the unit of mm.
 - 3) Turn condensation stitching adjusting dial ③ in the direction of + to reduce the reverse feed stitch length.
- Example : When stitch length dial ① is used with the graduation of +2, the maximum adjustment value of condensation stitching adjusting dial ③ becomes -2. (It is possible to adjust within the range of -2 to +2.)

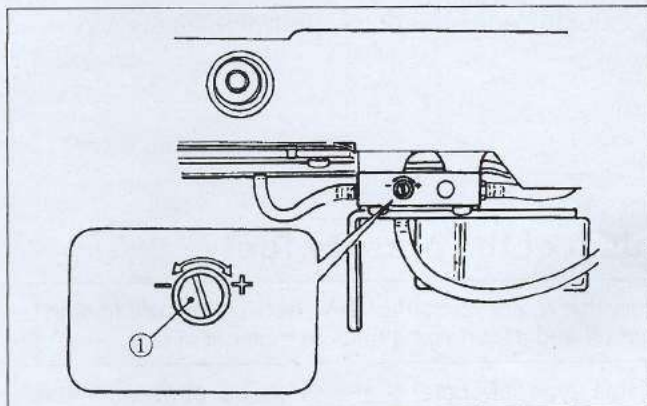
5. STANDARD ADJUSTMENT

5-1. Adjusting the amount of oil in the hook



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Adjustment of the amount of oil in the hook is performed with oil amount adjustment screw ①.

Adjustment procedure

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



- When adjusting the amount of oil in the hook, perform the adjustment in a way of reducing the oil amount after somewhat increasing it.
- The amount of oil in the hook has been adjusted at the max. number of revolution at the time of delivery. When you always use the sewing machine at low speed, there is a possibility that trouble occurs due to the lack of amount of oil in the hook. When the sewing machine is used always at low speed, perform the adjustment of the amount of oil in the hook.
- There is a possibility of causing oil leakage from the hook shaft section since oil does not return to the oil tank when oil amount adjustment screw 1 is used in fully-tightened state. Do not use the screw in fully-tightened state. In addition, when the amount of oil in the hook is not obtained unless oil amount adjustment screw 1 is near in fully-tightened state, it is considered that hook shaft oil wick is clogged or the like. Replace the hook shaft oil wick.

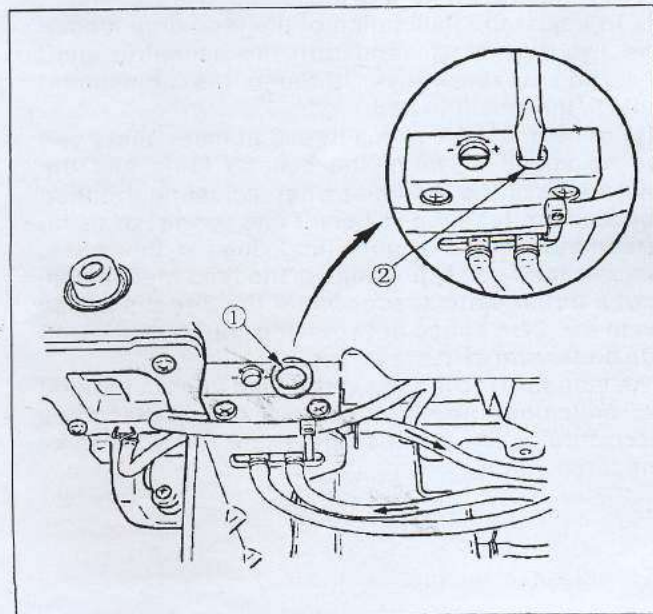
5-2. Adjusting the amount of lubricating to face plate section



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

It is not necessary to adjust the amount of lubricating to face plate section since it has been factory-adjusted at the time of delivery. (Oil amount adjustment screw 2 in the face plate section lubricating tank is hidden with stop plug 1 since it is not necessary to be adjusted.) When the adjustment is performed by mistake (mistaken as the adjustment of oil amount in the hook), re-adjust as shown below.



1) Remove stop plug ①, and when lightly tightening the adjustment screw ②, return the screw by approximately 0.6 turn from the stop position.

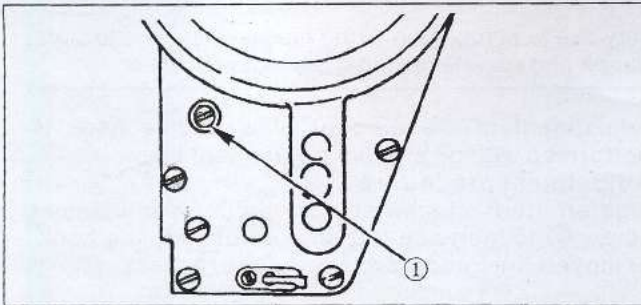


Lightly tighten the screw ②. Be careful that it is not excessively tightened.

2) In case of the normal state, the flow of oil can be confirmed (direction of the arrow in the illustration). In case the flow is stopped, be sure to adjust. (Wornout of the mechanism of face plate section will be caused.)

5. STANDARD ADJUSTMENT

5-3. Adjusting the height of the presser bar



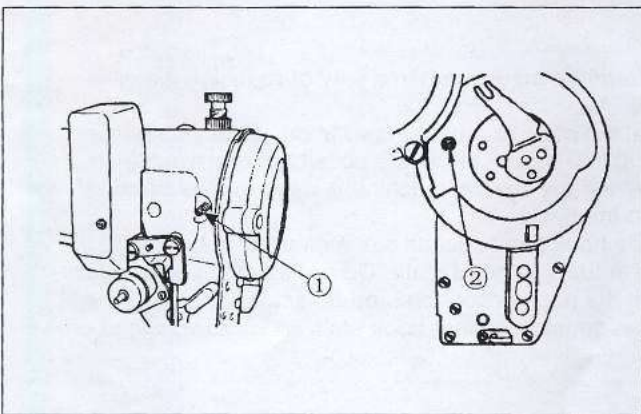
- 1) To change the height of the presser bar or the inclination of the presser foot, loosen the presser bar connection screw ① and perform the adjustment properly.
- 2) After the adjustment, securely tighten the screw.

5-4. Adjusting the micro-lifting mechanism of the presser foot



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Some type of material needs to be sewn with the presser foot slightly lifted. In this case, perform this adjustment following the procedure described below.

- 1) Loosen the setscrew ① in the presser foot micro-lifter.
- 2) Turn the presser foot micro-lifting screw ② clockwise through the hole in the face plate until the presser foot is raised as desired. Then, tighten the screw ①.



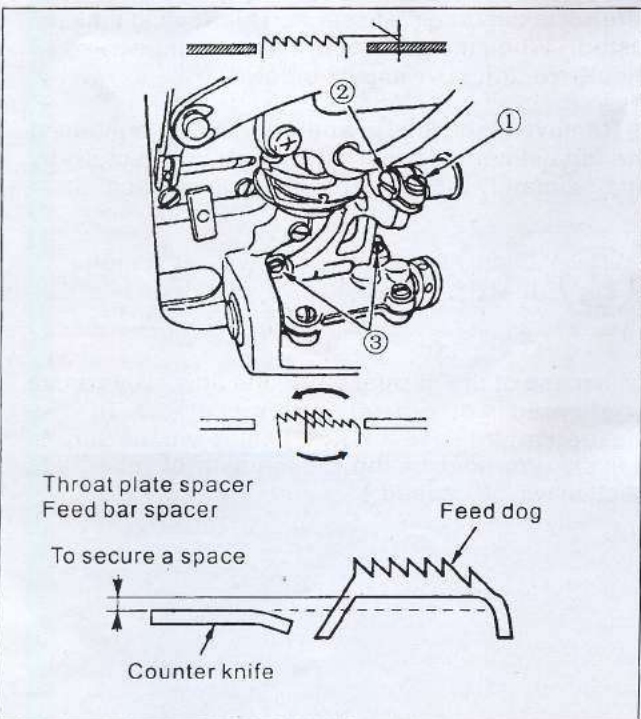
If you do not use the micro-lifting mechanism of the presser foot, fully return the presser foot micro-lifting screw ② to its home position. The standard of lifting amount of the presser foot is as thick as a sheet of paper.

5-5. Height and inclination of the feed dog



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) To adjust the height of the feed dog, loosen the screw ① and turn the feed driving link pin ② using a screwdriver.

2) The standard height of the feed dog is 1.2 mm.

- 3) To adjust the inclination of the feed dog, loosen the two screws ③ and turn the eccentric shaft inserting a screwdriver through the adjustment hole in the machine bed.

4) For the machine with a thread trimmer, there can be no space between the counter knife and the underside of the feed dog when adjusting the feed mechanism (change in height and timing) or using a commercially-available feed dog. In this case, place a feed bar spacer under the feed mechanism and a throat plate spacer under the throat plate so as to secure a space between the counter knife and the underside of the feed dog.

The standard inclination of the feed dog is obtained by adjusting the feed dog so that it becomes horizontal when it rises above the top surface of the throat plate.

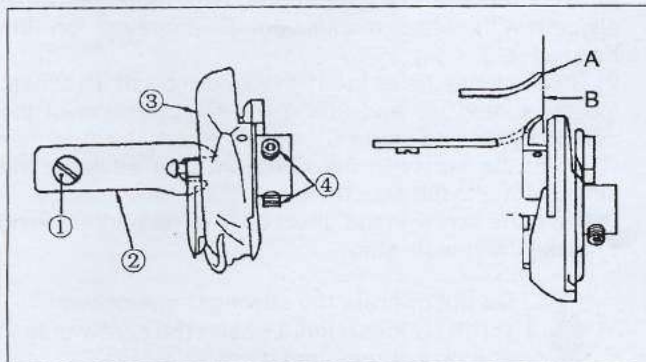
5. STANDARD ADJUSTMENT

5-6. Attaching / removing the hook



WARNING

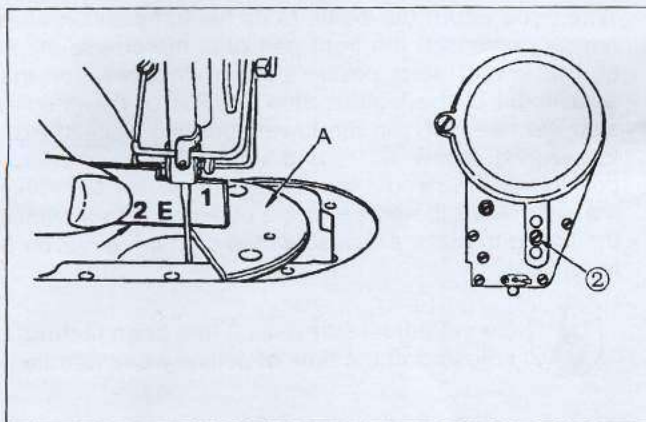
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



When you replace the sewing hook, remove it in the following procedures.

- 1) Turn the handwheel until the needle reaches to its highest position.
 - 2) Remove the needle, presser foot, throat plate, feed dog and bobbin case from the machine.
 - 3) Remove the setscrew ① and take out the bobbin case positioning finger ②.
 - 4) Loosen the two screws ④ and remove the sewing hook ③.
- Reverse the above procedures when inserting the sewing hook. At this time, make sure that top end A of the bobbin case positioning finger is aligned with line B, as shown in the figure on the left. Never let A protrude from line B.

5-7. Adjusting height of the needle

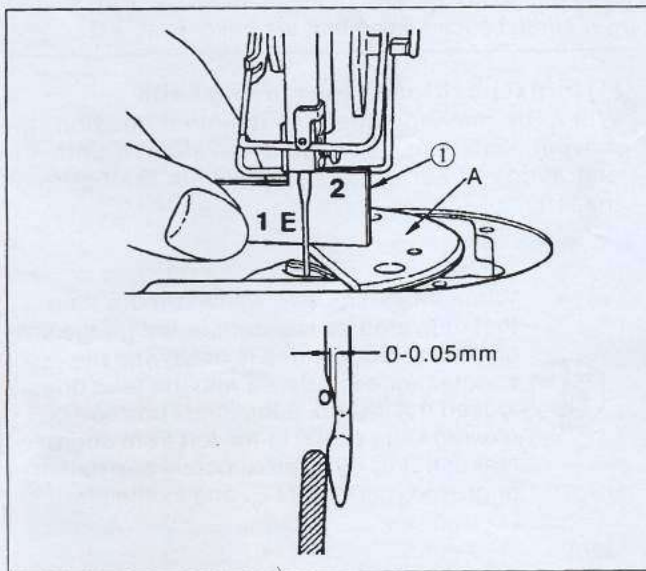


- 1) Set the zigzag width to "0". Bring the needle to the center of the zigzag stroke.
- 2) Remove the presser foot, throat plate, semicircle plate and feed dog.
- 3) Place a semicircle plate on the plane, to which the throat plate is to be attached, of the bed. Loosen setscrew ②, and adjust so that from the top surface of semicircle plate A to the bottom end of the needle bar is as high as "1" of timing gauge ①.



Thickness of the semicircle plate is different from that of the throat plate. Be sure to use the semicircle plate when adjusting the height of the needle bar. Be sure to perform the adjustment with zigzag width set to zero and with the needle positioned at the center of the zigzag stroke.

5-8. Adjusting the needle-to-hook timing and the needle guard



When thread breakage has occurred, there is a case where thread is caught in the hook. Be sure to perform sewing after removing the thread caught in the hook.

(1) Positioning the hook

- 1) After the completion of the adjustment of the needle bar height, adjust so that the blade point of the hook comes to the center of the needle at the height of the "2" of timing gauge 1 which has been supplied as accessories.
- 2) At this time, the blade point of the hook should slightly come in contact with the needle when the needle guard does not touch the needle.

(2) Confirmation

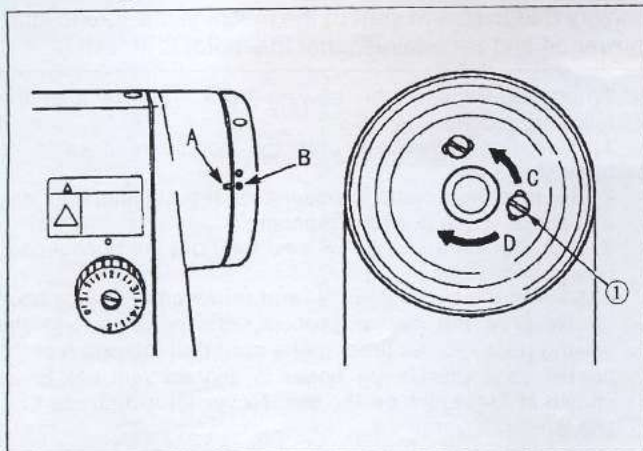
Maximize the zigzag width (5mm). Bring the needle to the leftmost position of the zigzag stroke. Now, confirm that the top end of the needle eyelet is spaced 0.2 to 0.5 mm away from the blade point of the hook. If the zigzag width of 10 mm is used or the shape of indented part of the needle is different from that of indented part of the needle at the time of delivery, re-adjust the height of the needle bar.

(3) Adjusting the needle guard

- 1) Maximize the zigzag width. Bend the needle guard to adjust so that the needle does not come in contact with the blade point of the both at the leftmost and rightmost positions of the zigzag stroke. At this time, adjust the clearance provided between the needle and the blade point of the hook to 0 to 0.05 mm.
- 2) The needle guard functions to keep the needle away from the blade point of the hook, thereby preventing damage to the blade point of the hook. Whenever you have replaced the hook with a new one, be sure to adjust the position of the needle guard.

5. STANDARD ADJUSTMENT

5-9. Adjusting the stop position of the needle



(1) Stop position of the needle after thread trimming

1) The needle stops at the standard stop position when marker dot A engraved on the handwheel cover is aligned with white marker dot B engraved on the handwheel.

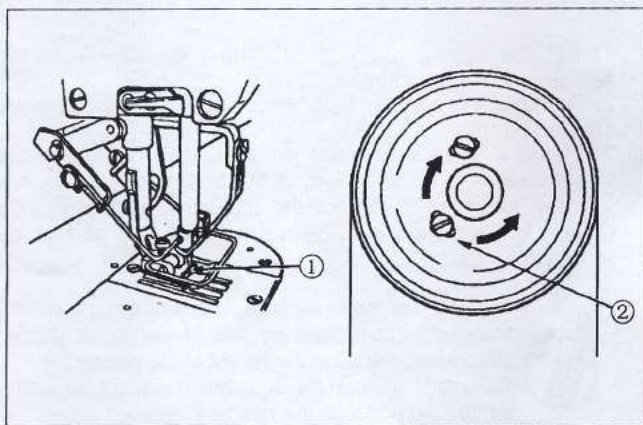
2) Stop the needle at the highest position of its stroke, loosen screw ①, and adjust the stop position of the needle by moving screw ① within the slot.

(1) Move the screw in the direction C to advance the timing to make the needle stop.

(2) Move the screw in the direction D to retard the timing to make the needle stop.



Do not operate the sewing machine with screw ① loosened. Loosen the screw only, and do not removed it.



(2) The lowest stop position of the needle

When you return the pedal to its neutral position after having depressed the front part of it, the needle stops at the lowest stop position. As in the case of the adjustment of the highest stop position of the needle, stop the needle ① in the lowest position of its stroke, loosen the screw ②, and adjust the lowest stop position of the needle by moving the screw ② within the slot. Move the screw in the direction A to advance the timing to make the needle stop or in the direction B to retard it.



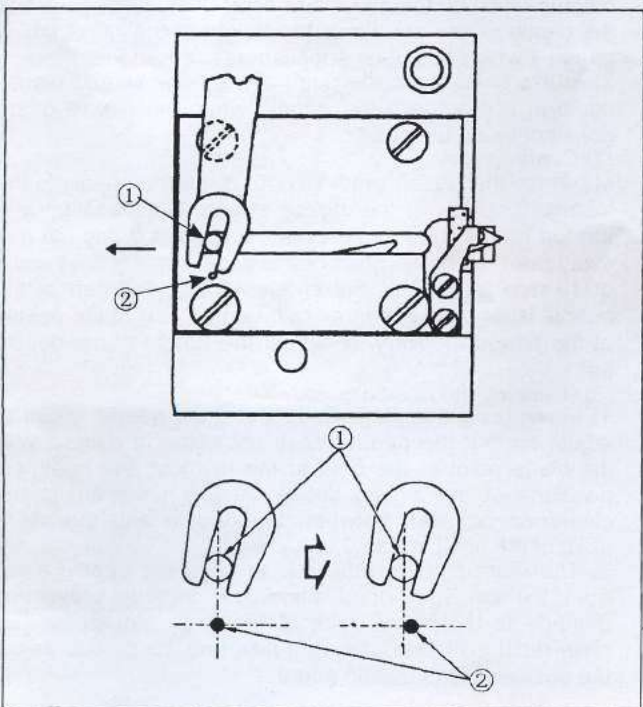
Do not adjust screw ②. It has been factory-adjusted at the time of delivery and needle

5-10. Adjusting the thread trimmer



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



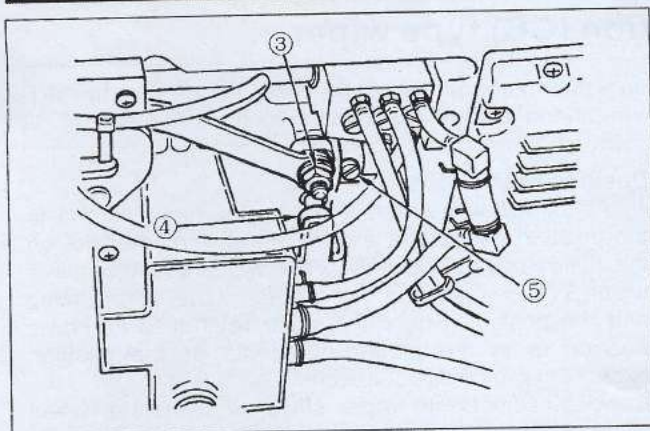
(1) Initial position of the moving knife

When the moving knife is in its initial position, the moving knife pin ① should be aligned with the engraved marker dot ② as shown in the figure on the left.



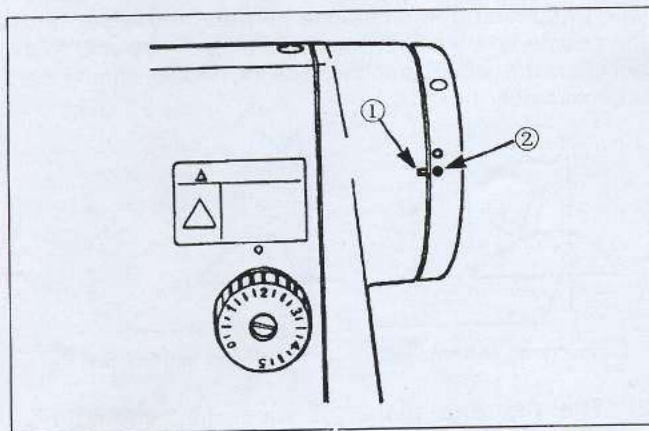
When the gauge size which is more than that delivered as standard or the gauge size of other manufactures is used, and the counter knife interferes with the feed dog, loosen nut ③, move the initial position of moving knife pin ① to the left from engraved maker dot ① by approximately one half of engraved marker dot ① and fix the pin.

5. STANDARD ADJUSTMENT



If the initial position of the moving knife is not correct

Loosen the nut (3), and move the moving knife to the right or left until the pin (1) meets the marker dot (2). Then, tighten the nut (3).



(2) Adjusting the thread trimming timing

Put roller (4) in the cam groove. Now, gradually turn the handwheel in the reverse direction. The handwheel will go no further when marker dot (1) engraved on the handwheel cover is aligned with red marker dot (2) engraved on the handwheel.

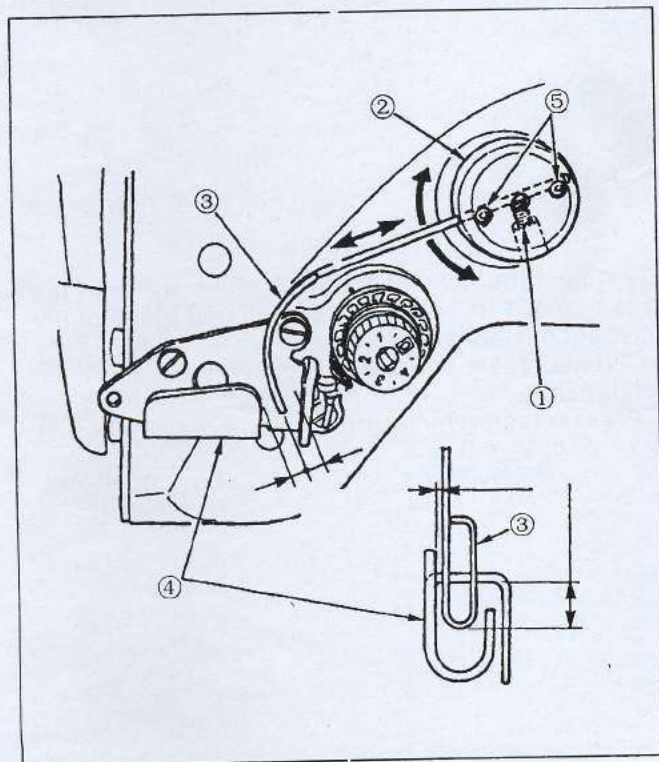
To adjust the thread trimmer cam, align the red marker dot on the handwheel cover with the red marker dot on the handwheel, put the roller in the groove of the thread trimming cam, and gradually turn the handwheel in the direction opposite to the direction of rotation of the hook driving shaft until it will go no further. Now, tighten two screws (5).

5-11. Adjusting the needle thread feeding device (Thread trimmer type only)



WARNING

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



• Standard position of the feeding wire

- 1) Loosen screw (1).
- 2) Turn the feeding wire together with feeding wire installing base (2), adjust the installing position of the feeding wire so that a distance of C (8 to 12 mm) is provided between the top end of feeding wire (3) and the guide portion of thread take-up thread guide A (4), and tighten screw (1).



At this time, leave a space of 0.5 to 1 mm between the feeding wire and the top surface of the thread take-up thread guide A.

- 3) Finally adjust with setscrews (5) so that the top end of the feeding wire is placed approximately in the center (A ≈ B) of the thread take-up thread guide A.

• When turning OFF the feeding device:

It is possible to turn OFF with the function setting No.89 described in the function setting list.

• When needle thread feeding amount is desired to be increased:

Loosen setscrew (1) and adjust the relation between A and B to A > B.

Loosen setscrew (1) and when the whole feeding wire installing base (2) is adjusted to the upward direction (decrease the value, C), the feeding amount can be increased.

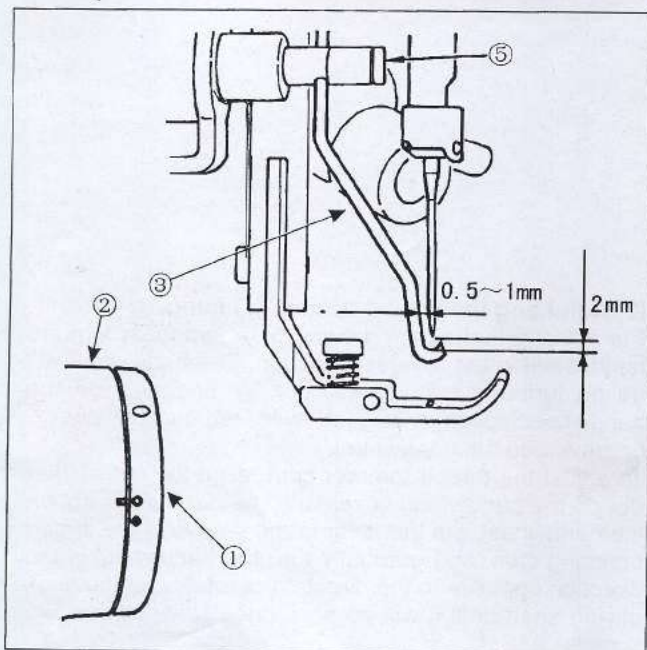
5. STANDARD ADJUSTMENT

5-12. Adjusting the bird's nest prevention (CB) type wiper



WARNING

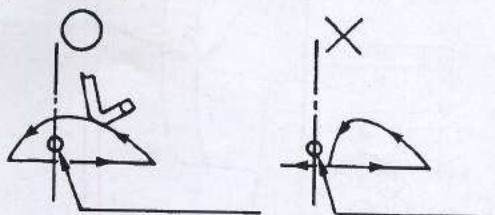
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Position of the wiper

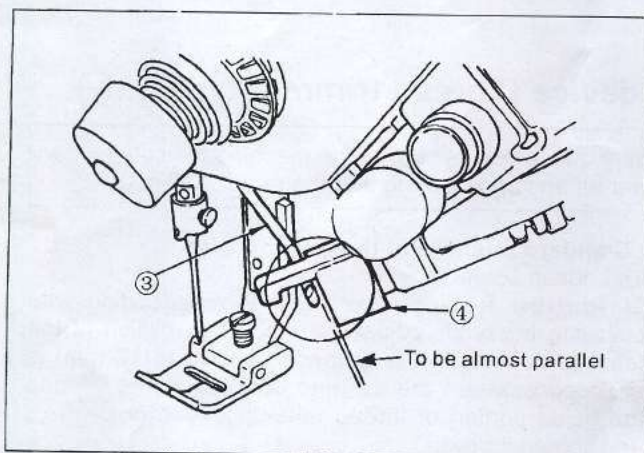
1) Adjust the white marker dot on the handwheel 1 to the position where it is aligned with the marker dot on the pulley cover 2, quietly press wiper link A to move wiper 3. The wiper recedes by the ratchet when going and the position where the wiper returns to its home position is in the center of needle or the position exceeding the center of needle.

Besides, adjust with wiper setscrew 5 so that when wiper 3 comes to the position of the center of needle when returning, the clearance between the wiper and the needle tip should be approximately 2 mm and that between the wiper and the side of needle should be approximately 1 mm.



8 mm zigzag extreme left

3 mm zigzag extreme left



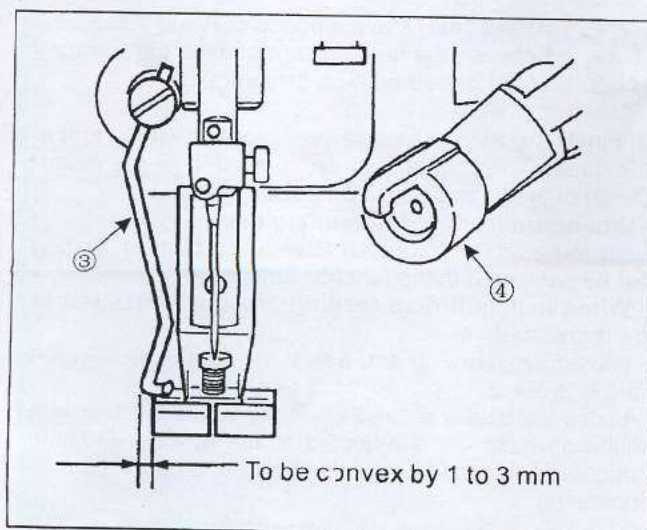
2) The top end plane of wiper ③ should be positioned to be almost parallel to the end plane of clamp head ④. Besides, set the clamp head so that the upper side is the protruding section.

3) Adjust the maximum stroke of the wiper to the position of 1 to 3 mm from the left end plane of the presser of standard delivery.

- Presser (asm.) of standard delivery

- Optional

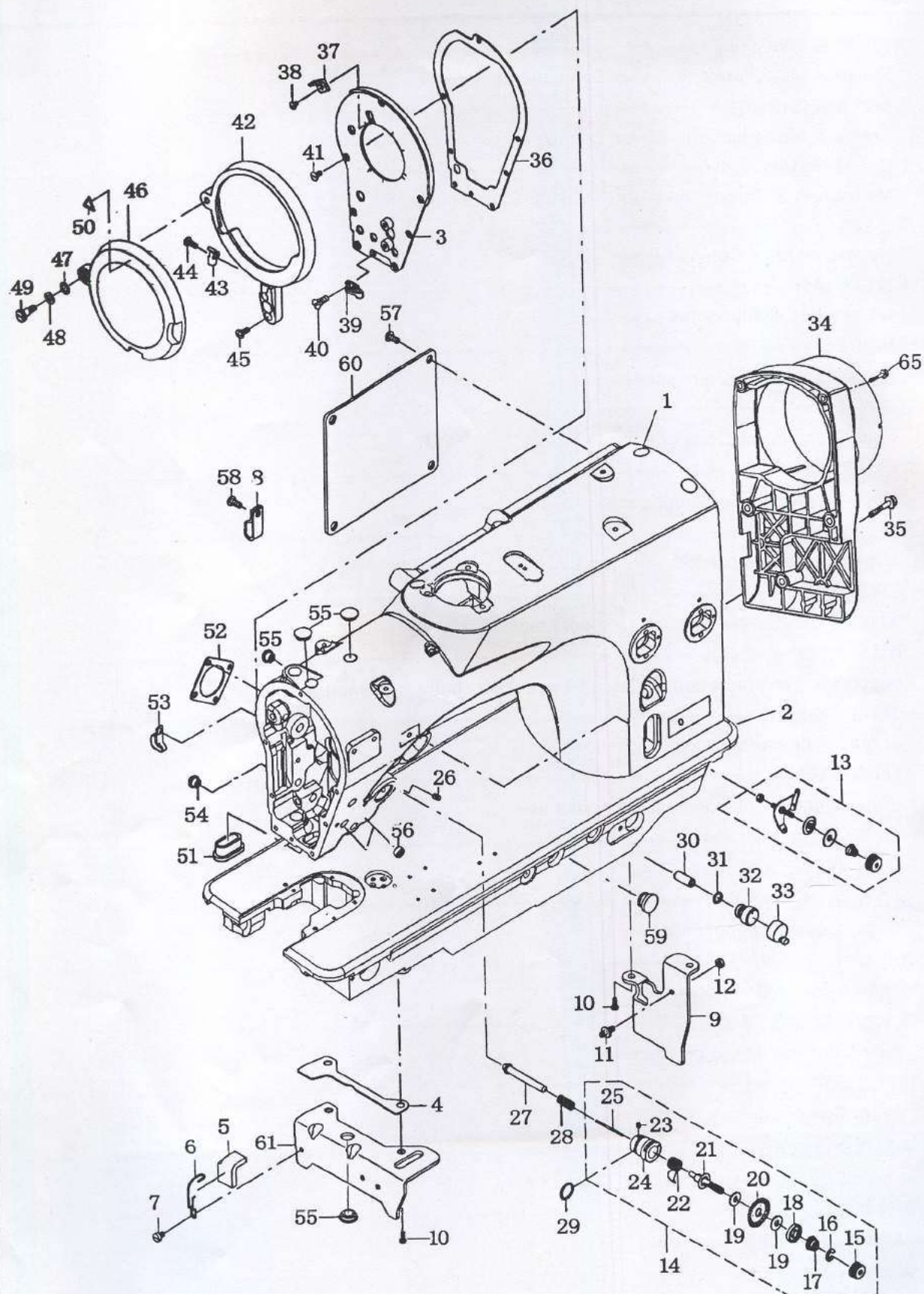
Presser (asm.) for narrow width



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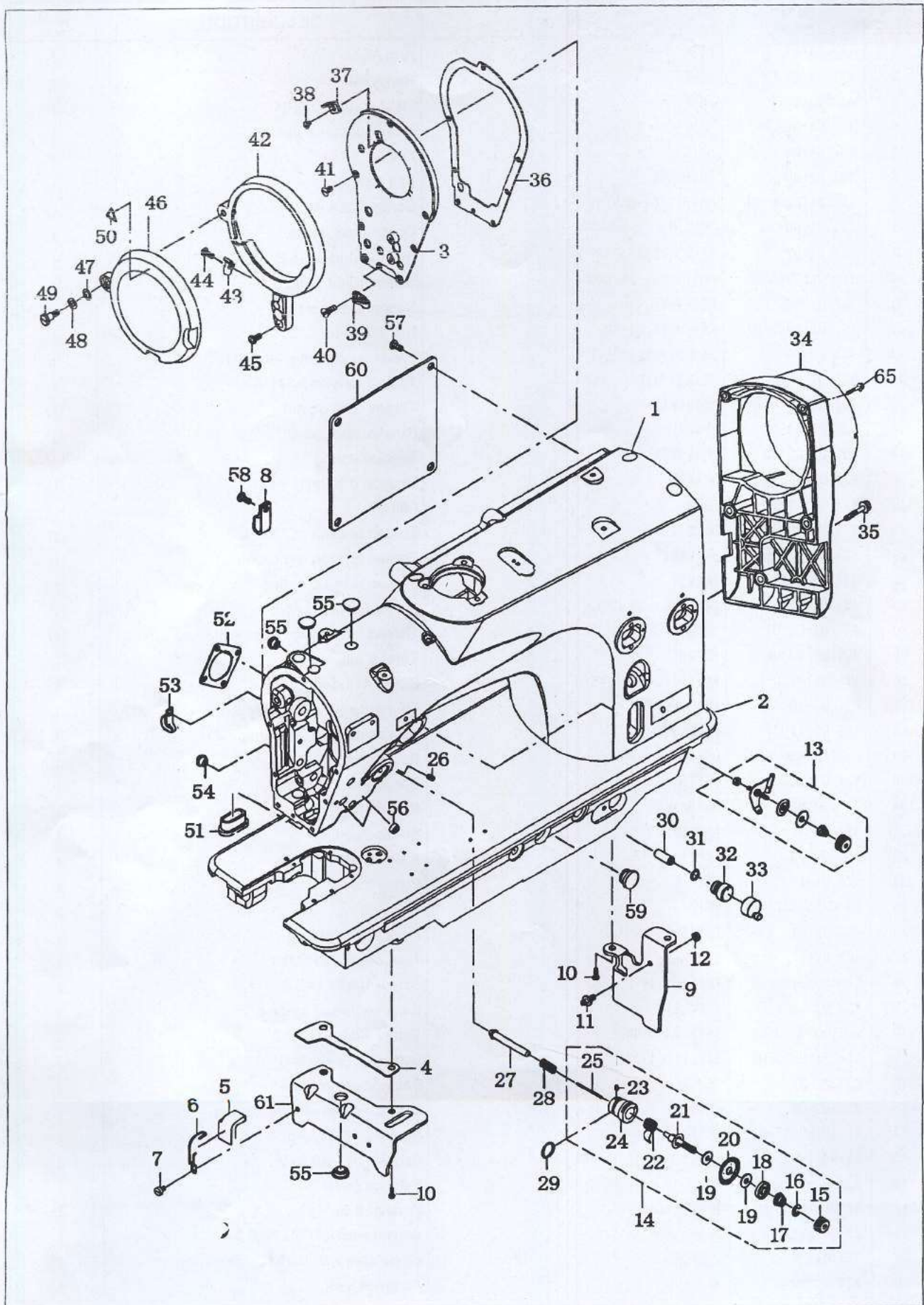
1. 机壳、外露部件 Frame & Miscellaneous Cover Components



1. 机壳、外露部件 Frame & Miscellaneous Cover Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.01-01	机头	Arm ASM.	1
2	427.01-02	底板	Bed ASM.	1
3	423.01-03	面板	Face plate COMPL.	1
4	427.01-03	支撑板垫	Head support a paking	1
5	427.01-04	油毡	Felt	1
6	427.01-05	油毡压簧	Felt presser	1
7	11-70110620-01	螺钉11/64-40 L=6	Screw 11/64-40 L=6	1
8	424.21-06	大固定夹	Cord holder, large	2
9	427.01-07	底板支撑板B	Bed support plate B	1
10	11-40150925-01	螺钉15/64-28 L=9	Screw 15/64-28 L=9	4
11	427.01-08	限位螺钉	Suspension screw	1
12	11-60113020-01	螺母SM11/64-40	Nut 11/64-40	1
13	423.01-24	预张力夹线器组件	Pre-tension controller ASM.	1
14	427.01-09	夹线器组件	Thread tension ASM. A	1
15	427.01-09-01	夹线螺母	Thread tension nut	(1)
16	427.01-09-02	止动片	Rotation stopper	(1)
17	427.01-09-03	夹线弹簧	Tension spring	(1)
18	423.01-44-11	夹线板	Tension disc holder	(1)
19	423.01-44-10	毛毡	Felt	(4)
20	427.01-09-04	夹线盘组件	Thread tension t COMPL.	(1)
21	427.01-09-05	夹线螺钉	Thread tension rod COMPL.	(1)
22	427.01-09-06	挑线簧	Thread take-up spring	(1)
23	423.01-44-02	螺钉9/64-40 L=5.5	Screw 9/64-40 L=5.5	(1)
24	427.01-09-07	夹线座	Thread tension rod base ASM.	(1)
25	427.01-09-08	松线钉	Thread release pin	(1)
26	11-80110710-01	螺钉11/64-40 L=6.5	Screw 11/64-40 L=6.5	1
27	427.01-10	松线辅钉	Thread release auxiliary pin	1
28	427.01-11	松线辅钉弹簧	Thread release pin spring	1
29	31-14018000-09	O型橡皮圈	Rubber ring	1
30	427.01-12	弹簧销8X20	Spring pin 8x20	1
31	31-09018000-09	O型橡皮圈	Rubber ring	1
32	427.01-13	排气栓	Air-discharging	1
33	134.01-09	排气孔塞	Air-discharging cap	1
34	427.01-14	带轮罩	Pulley cover	1
35	16-60502522-02	螺栓	Bolt	3
36	423.01-04	面板垫	Face plate packing	1
37	423.01-17	挑线割线刀	Take-up thread cutter	1
38	11-60080420-01	螺钉1/8-44 L=3.8	Screw 1/8-44 L=3.8	1
39	423.01-14	面板线勾	Balance thread guide b	1
40	11-10090720-01	螺钉 9/64-40 L=7.2	Screw 9/64-40 L=7.2	1
41	11-20110850-01	螺钉11/64-40 L=8	Screw 11/64-40 L=8	7
42	423.01-07	平盖底座	Balance cover base	1
43	423.01-09	弹簧片	Balance cover stopper spring	1
44	11-40120625-01	螺钉3/16-28 L=6	Screw 3/16-28 L=6	1
45	11-40110925-01	螺钉11/64-40 L=9	Screw 11/64-40 L=9	2
46	423.01-08	平盖	Balance cover	1
47	21-06510110-01	垫圈6.5X11X1	Washer 6.5x11x1	1
48	23-06405110-09	波形垫圈6.4X11X0.3	Waved washer 6.4x11x0.3	1
49	423.01-29	铰链螺钉	Hinge screw D=6.35 H=7.5	1
50	423.01-10	警告标牌	Attention seal	1

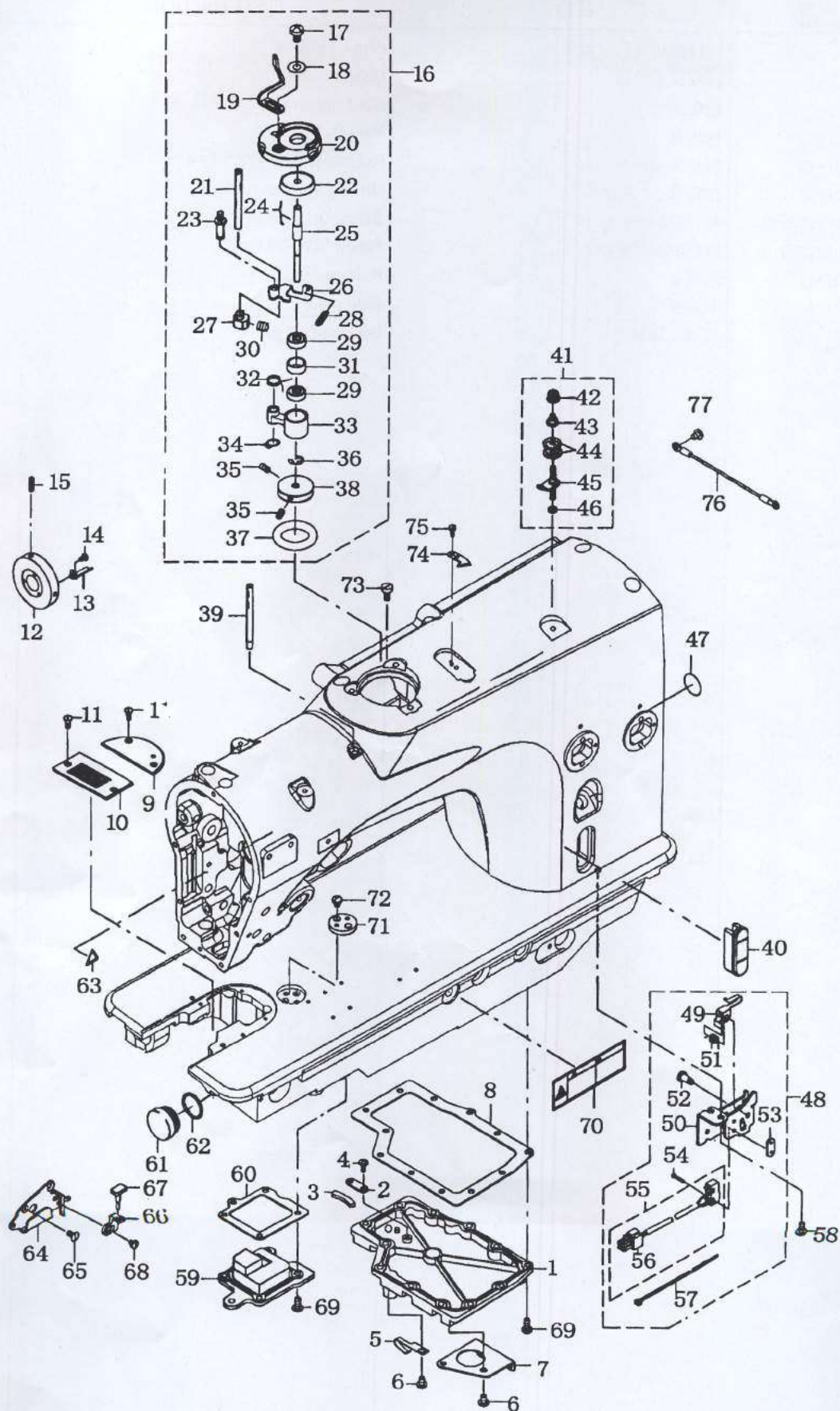
1. 机壳、外露部件 Frame & Miscellaneous Cover Components



1. 机壳、外露部件 Frame & Miscellaneous Cover Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
51	423.01-47-01	针杆摆动槽挡油板	Arm oil shield	1
52	423.01-06	松线窗盖板垫	Gasket	1
53	427.01-15	固定夹	Cord holder	1
54	423.01-22	橡皮塞	Plug D=8 L=4.5	1
55	501.01-45	橡皮塞	Rubber plug D=12.5 L=4	4
56	423.01-36	橡皮塞	Driving stopper rubber	2
57	11-40121025-01	螺钉3/16-28 L=10	Screw 3/16-28 L=10	3
58	11-40121225-01	螺钉3/16-28 L=12	Screw 3/16-28 L=12	1
59	101.01-11	橡皮塞	Rubber plug	1
60	427.01-16	后盖板	Side plate	1
61	427.01-17	底板支撑板	Bed support plate	1

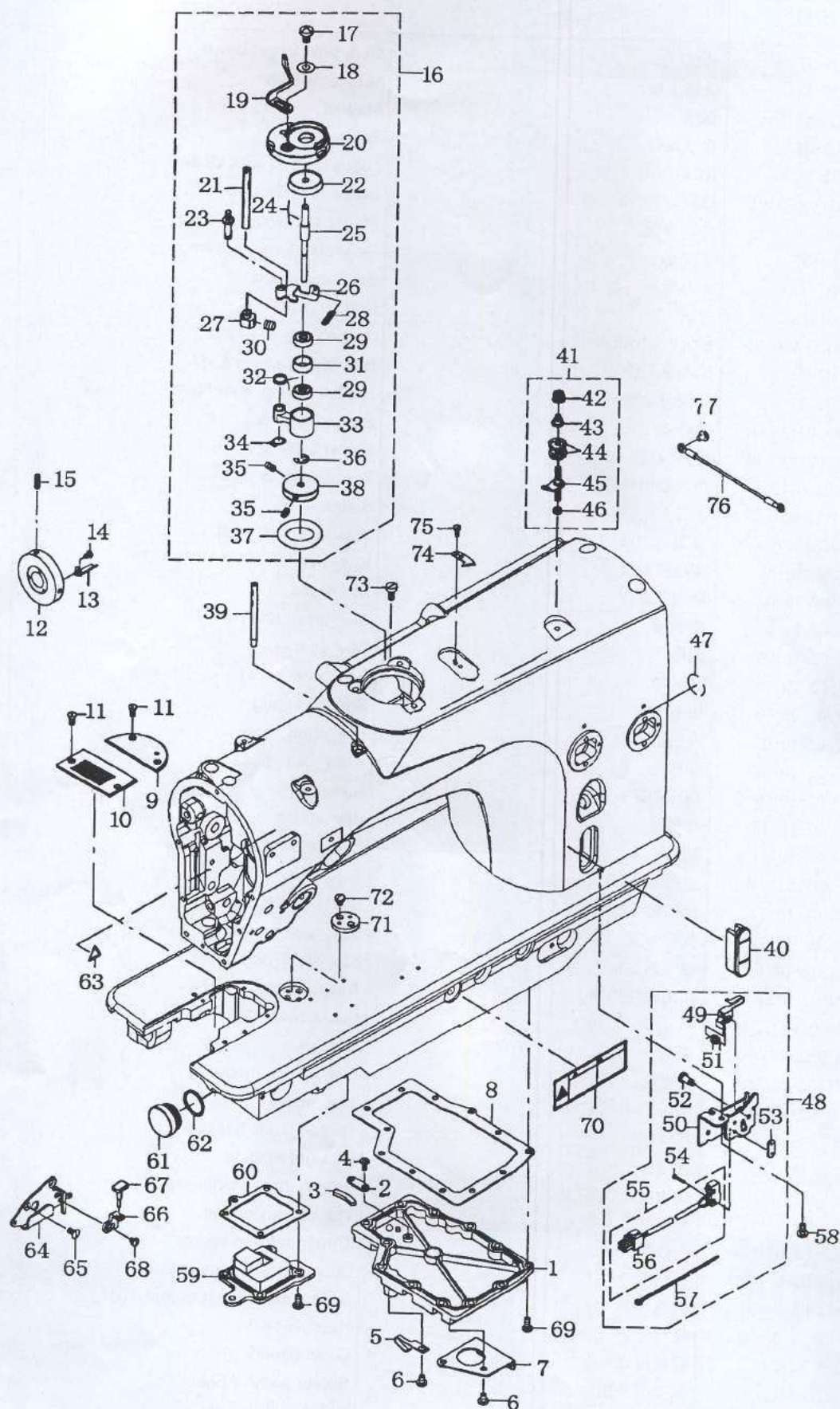
2. 机头、外装盖板部件 Frame & Miscellaneous Cover Components



2. 机头、外装盖板部件 Frame & Miscellaneous Cover Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.02-01	油盘	Gear box (large) cover	1
2	427.02-02	磁铁压板	Magnet washer	1
3	427.02-03	磁铁	Magnet	1
4	427.02-04	自攻螺钉	Tapping screw	1
5	427.02-05	油线夹	Lubricating oil wick stoppe.	1
6	11-40120625-01	螺钉3/16-28 L=6	Screw 3/16-28 L=6	2
7	427.02-06	油管导板	Pipe guide plate	1
8	427.02-07	油盘垫	Gear box (large) packing	1
9	423.02-03	半月板	Semilunar plate	1
10	423.07-13	针板	Needle plate	1
11	11-10090820-01	螺钉9/64-40 L=7.5	Screw 9/64-40 L=7.5	4
12	427.02-08	绕线驱动轮	Btw driving wheel ASM.	(1)
13	427.02-09	绕线驱动轮阻片	Bobbin driving wheel blade	(3)
14	12-40300625-01	螺钉M3 L=6	Screw M3 L=6	3
15	11-80621620-01	螺钉 3/16-32 L=16	Screw 3/16-32 L=16	2
16	134.02-01	绕线器组件	Bobbin winder unit	1
17	12-40400625-01	螺钉	Screw	(3)
18	21-04308090-01	垫圈 4.3X8X0.9	Washer 4.5x10x0.8	(1)
19	427.02-10-01	绕线控制板手	Btw_lever	(1)
20	427.02-10-02	绕线器底座	Btw_base	(1)
21	427.02-10-03	扳手轴	Btw_lever_shaft	(1)
22	427.02-10-04	隔垫	Btw_spacer	(1)
23	427.02-10-05	凸轮轴	Btw_base_shaft	(1)
24	423.03-01-06	梭心压簧	Bobbin_spring	(1)
25	427.02-10-07	绕线轴	Btw_shaft	(1)
26	427.02-10-08	杠杆	Rbtw_cam_plate	(1)
27	427.02-10-09	绕线凸轮控制杆	Btw_cam_leve	(1)
28	427.02-10-10	拉簧	Btw_spring	(1)
29	427.02-10-11	轴承	Btw_bearing	(2)
30	12-80500512-01	螺钉M5 L=5	Screw M5 L=5	(1)
31	427.02-10-12	绕线轴承隔垫	Btw_bearing_spacer	(1)
32	427.02-10-13	扭杆弹簧	Btw_torsion_spring	(1)
33	427.02-10-14	绕线轴曲柄	Btw_shaft_base	(1)
34	423.03-01-12	轴用弹性挡圈	Retaining ring	(1)
35	12-80401012-01	螺钉 M4 L=10	Screw M4 L=10	(2)
36	24-08000000-08	卡簧	E-ring 4	(1)
37	427.02-10-15	橡皮轮	Btw_wheel_rubber	(1)
38	427.02-10-16	绕线轮	Btw_wheel	(1)
39	423.01-13	导线柱	Thread guide bar	1
40	1228.08-11	视油窗	Oil sight window	1
41	423.03-07	绕线器夹线器组件	Bobbin thread tension ASM.	(1)
42	423.03-07-01	夹线螺母	Thread tension nut	(1)
43	423.03-07-02	夹线弹簧	Thread tension spring	(1)
44	423.03-07-03	夹线板	Bobbin thread tension disc	(2)
45	423.03-07-04	夹线柱	Bobbin thread tension rod ASM.	(1)
46	423.03-07-05	螺母NUT 11/64-40	Nut 11/64-40	(1)
47	423.02-09	接地标志	Ground mark	1
48	427.02-11	安全开关组件	Safety switch ASM.	1
49	427.02-11-01	安全开关	Safety switch ASM.	(1)
50	427.02-11-02	安全开关座	Safety switch base	(1)

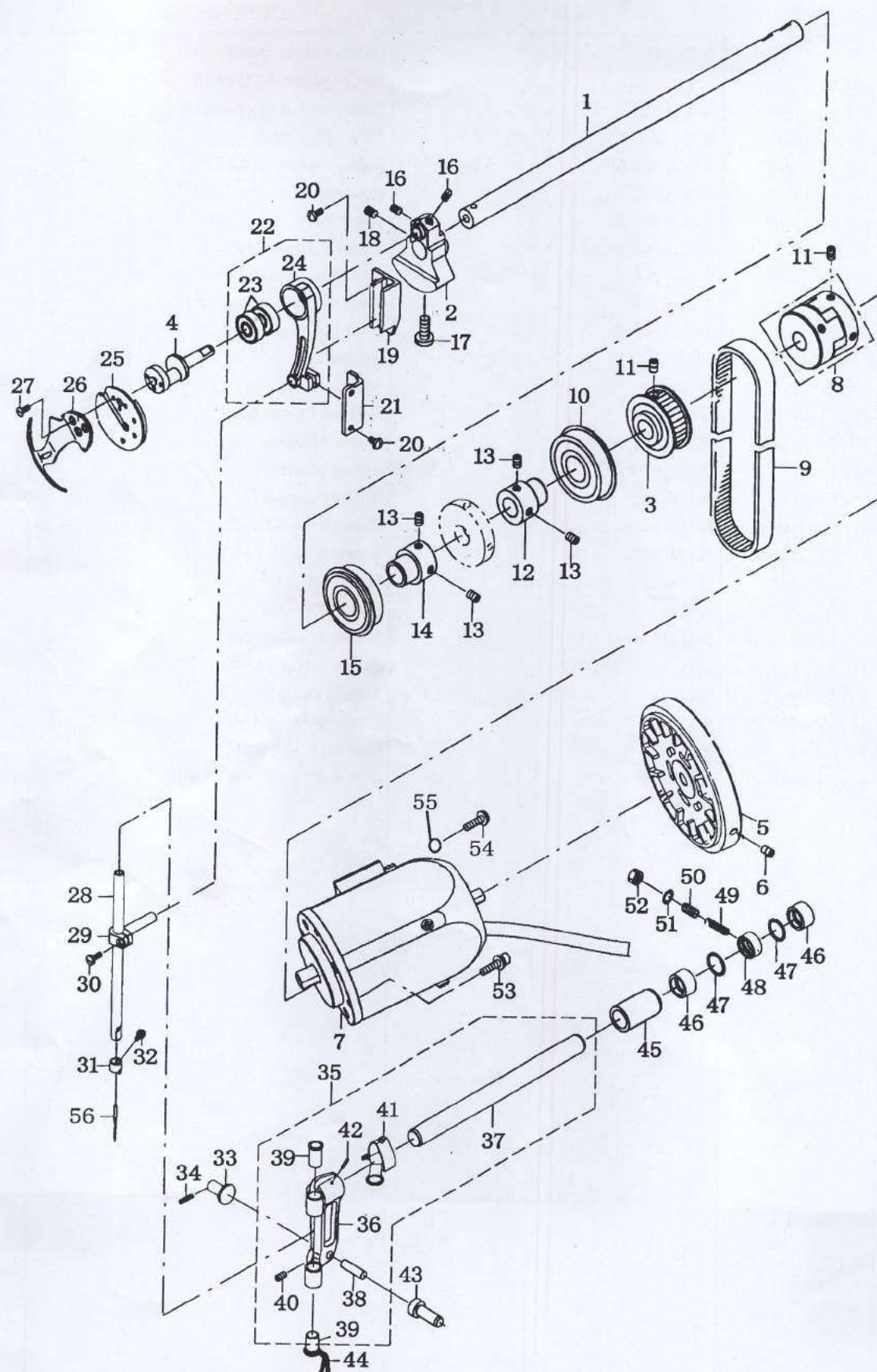
2. 机头、外装盖板部件 Frame & Miscellaneous Cover Components



2. 机头、外装盖板部件 Frame & Miscellaneous Cover Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
51	427.02-11-03	开关弹簧	Safety switch spring	(1)
52	427.02-11-04	安全开关轴	Safety switch ASM shaft	(1)
53	427.02-11-05	安全开关座垫板	Safety switch stopper plate	(1)
54	12-40201221-02	螺钉 M2 L=12	Screw M2 L=12	(2)
55	427.02-11-07	安全开关线组件	Safety switch cord ASM.	(1)
56	427.02-11-08	6P电线接头	Housing 6p	(1)
57	427.02-11-09	电线扎带	Cable band	(1)
58	11-40120925-01	螺钉 3/16-28 L=9	Screw 3/16-28 L=9	2
59	427.02-12	小齿轮箱盖	Gear box (small) cover	1
60	427.02-13	小齿轮箱垫	Gear box (small) packing	1
61	427.02-14	小齿轮箱孔塞	Gear box (small) cap	1
62	31-20024000-09	O型圈	Rubber ring	1
63	423.01-10	警告标牌	Attention seal	1
64	424.21-01	导线板A	Balance thread buide a	1
65	11-20110850-01	螺钉11/64-40 L=8	Screw 11/64-40 L=8	2
66	423.01-11	挑线簧防护架	Spring guard	1
67	423.01-21	限位橡皮	Rubber stopper	1
68	11-70090420-01	螺钉9/64-40 L=3.5	Screw 9/64-40 L=3.5	1
69	11-40121025-01	螺钉3/16-28 L=10	Screw 3/16-28 L=10	16
70	427.02-15	安全标签	Safety label 12	1
71	101.01-17	安装板	Ruler stop seat	1
72	11-00110620-01	螺钉11/64-40 L=6	Screw 11/64-40 L=6	1
73	11-70121020-01	螺钉 3/16-28 L=10	Screw 3/16-28 L=10	3
74	134.02-03	割线刀	Thread cutter	1
75	11-00090620-01	螺钉	Screw 9/64-40 L=6	2
76	427.02-16	地线组件	Ground wire a ASM.	1
77	11-40120625-01	螺钉3/16-28 L=6	Screw 3/16-28 L=6	1

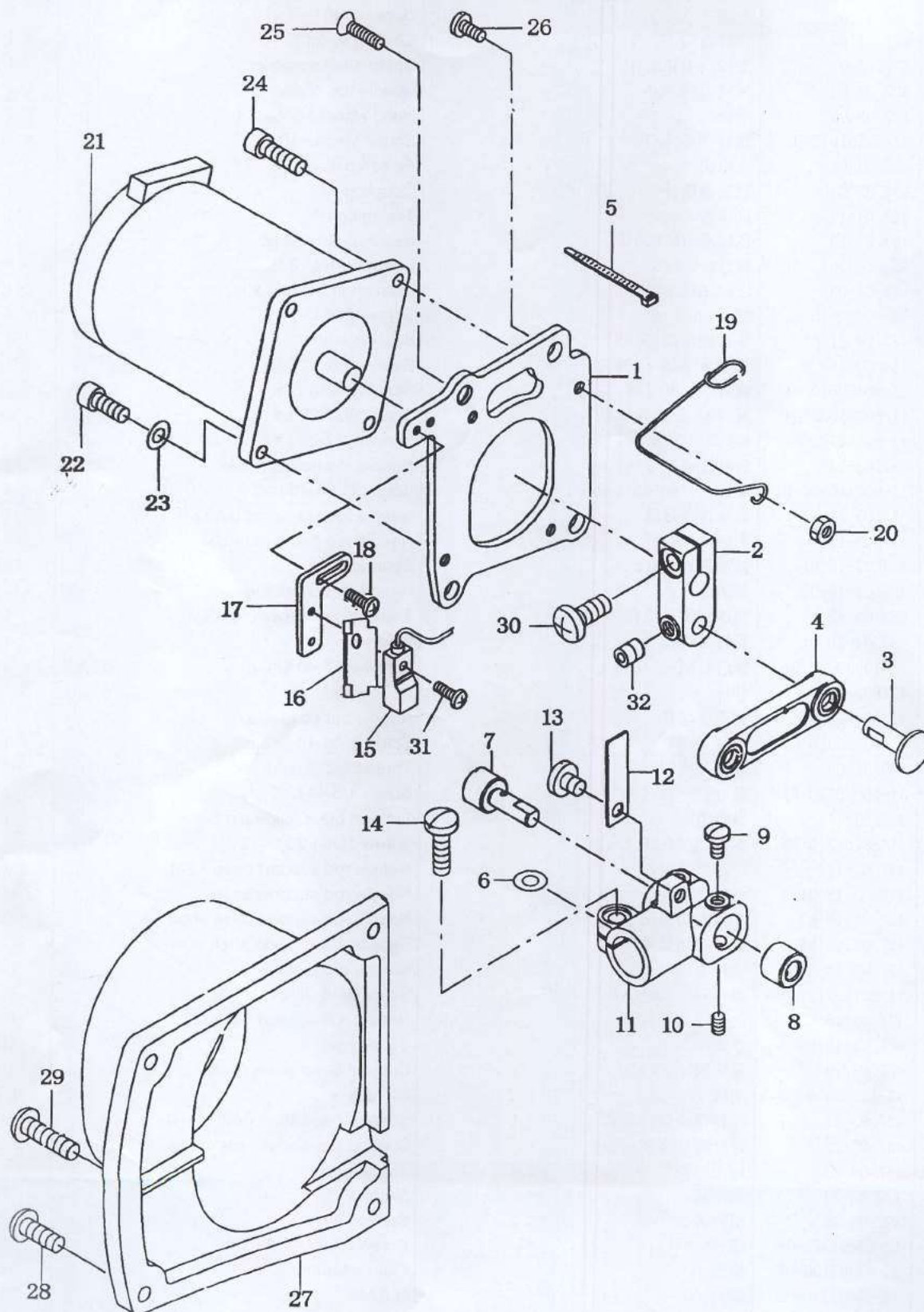
3. 上轴、针杆部件 Main Shaft & Thread Take-up & Needle Abr Components



3. 上轴、针杆部件 Main Shaft & Thread Take-up & Needle Abr Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.03-01	主轴	Upper shaft	1
2	427.03-02	针杆曲柄	Counter weight	1
3	427.03-03	主轴同步轮组件	Upper shaft sprocket	1
4	427.03-04	挑线曲柄	Needle rod crank	1
5	427.03-05	手轮	Hand wheel ASM.	1
6	12-80501012-01	螺钉 M=5 L=10	Screw M=5 L=10	2
7	427.03-06	主电机	Ac servo motor	1
8	134.03-04	联轴器组件	Coupling	1
9	423.04-14	同步带	Timing belt	1
10	134.03-19	中轴承NTN 6304Z	Bearing ntn 6304z	1
11	12-80600612-01	螺钉M=6 L=6	Screw M=6 L=8	6
12	134.03-03	主轴轴承套(中)	Main shaft bearing support	1
13	12-80600612-01	螺钉M=6 L=6	Screw M=6 L=8	4
14	427.03-11	主轴轴承套(前)	Bearing holder	1
15	134.03-18	前轴承 NTN 6204LB	Bearing ntn 6204lb	1
16	11-80160610-01	螺钉1/4-40 L=6	Screw 1/4-40 L=6	2
17	11-60181630-01	螺钉9/32-28 L=16	Screw 9/32-28 L=16	1
18	11-80180710-01	螺钉9/32-28 L=7	Screw 9/32-28 L=7	1
19	427.03-13	针杆连接柱导轨	Needle rod holder guide	1
20	11-600110820-01	螺钉 11/64-40 L=8.5	Screw 11/64-40 L=8.5	4
21	427.03-14	曲柄连杆导轨	Needle rod crank rod guide	1
22	427.03-15	曲柄连杆组件	Needle rod crank rod ASM.	1
23	427.03-15-01	轴承TNT 608LB	Bearing	(2)
24	427.03-15-02	曲柄连杆	Needle rod crank rod	(1)
25	423.04-13	挑线平衡盘组件	Take-up counterweight ASM.	1
26	423.04-20	旋转挑线杆	Balance v	1
27	11-10090920-01	螺钉9/64-40 L=8.6	Screw 9/64-40 L=8.6	3
28	427.03-16	针杆	Needle bar	1
29	423.04-35	针杆连接柱	Needle bar connection	1
30	11-60090920-01	螺钉 9/64-40 L=8.5	Screw 9/64-40 L=8.5	1
31	423.04-06	针杆过线勾	Thread rack, right	1
32	11-60080620-01	螺钉1/8-44 L=6	Screw 1/8-44 L=6	1
33	427.03-17	导向销B	Support base guide pin B	1
34	11-80151210-01	螺钉15/64-28 L=12	Screw 15/64-28 L=12	1
35	427.03-18	针杆摆动组件	Needle rod support base ASM.	1
36	427.03-18-01	针杆摆动架	Needle rod support base	(1)
37	427.03-18-02	针杆摆动架轴	Needle rod support base shaft	(1)
38	427.03-18-03	针杆摆动架导向销	Support base guide shaft	(1)
39	427.03-18-04	针杆套	Needle rod metal	(2)
40	11-80120712-01	螺钉3/16-28 L=7	Screw 3/16-28 L=7	(1)
41	427.03-18-05	针杆摆动架毡	Needle rod support base felt	(1)
42	427.03-18-06	弹簧销	Spring pin	(1)
43	427.03-19	导向销A	Support base guide pin A	1
44	43-10250000-00	油线	Oil wick	0.15
45	427.03-21	针杆摆动架轴前套	Support base shaft front metal	1
46	427.03-22	针杆摆动架轴后套	Support base shaft rear metal	2
47	427.03-23	轴用挡圈	Thrust bush	2
48	427.03-24	调整套	Metal b	1
49	427.03-25	阻力弹簧	Spring	1
50	12-80601222-01	螺钉M=6 L=12	Screw M=6 L=12	1
51	21-07205100-01	垫圈	Plain washer	1
52	14-60603210-02	螺母M6	Nut M6	1
53	16-60502522-02	螺栓	Bolt	3
54	12-90501723-02	螺栓	Bolt	1
55	22-05000000-08	弹簧垫圈	Washer	1
56	427.03-26	机针DPX5 #10	Needle DPX5 #10	1

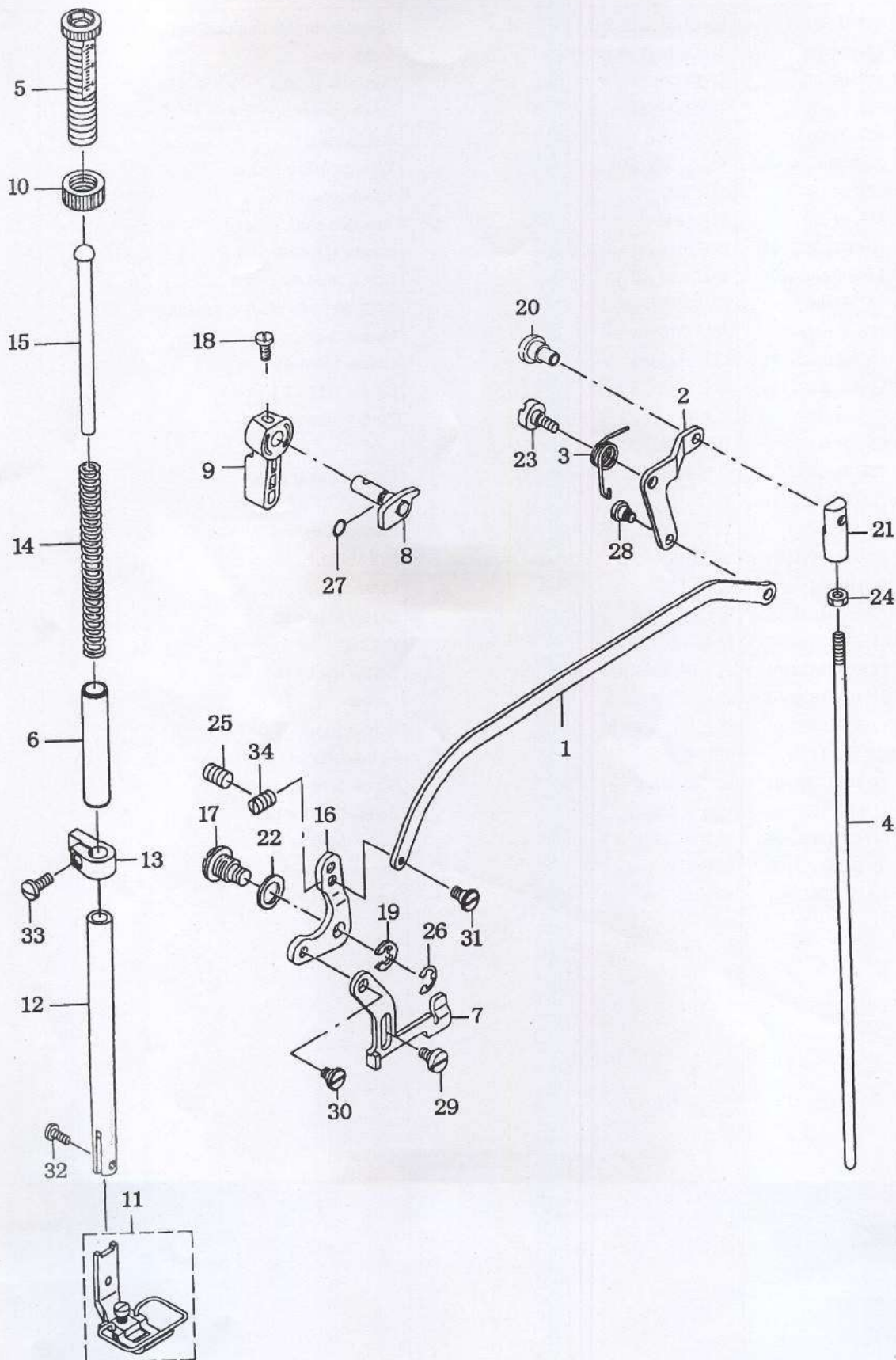
4. 摆针部件 Needle Vibrator Components



4. 摆针部件 Needle Vibrator Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.04-01	摆针马达安装底板	Needle vibrator unit basis	1
2	427.04-02	马达连接器	Motor link	1
3	427.04-03	联接轴A	Junction shaft A	1
4	427.04-04	联接杠杆组件	Shaft connection link	1
5	427.04-05	电线扎带	Cable band	2
6	21-05205080-01	垫圈5.2X9.5X0.6	Washer 5.2x9.5x0.6	1
7	427.04-06	联接轴A	Junction shaft A	1
8	427.04-07	联接轴套	Junction shaft collar	1
9	11-00110620-01	螺钉11/64-40 L=6.5	Screw 11/64-40 L=6.5	2
10	11-80090610-01	螺钉9/64-40 L=5.5	Screw 9/64-40 L=5.5	1
11	427.04-08	摆动架联接座	Support base shaft connection	1
12	427.04-09	传感器接板	Sensor slit	1
13	11-70110520-01	螺钉11/64-40 L=5	Screw 11/64-40 L=5	1
14	11-40121225-01	螺钉3/16-28 L=12	Screw 3/16-28 L=14	1
15	427.04-10	传感器	Zero sensor a ASM.	1
16	427.04-11	传感器垫片		1
17	427.04-12	传感器安装板	Sensor fitting plate	1
18	12-40300625-01	螺钉	Screw	2
19	427.04-13	线夹	Cord clamp	1
20	14-60403020-02	螺母M4X0.7	Nut M4x0.7	1
21	427.04-14	摆针马达	Pulse motor	1
22	12-60401022-01	螺钉M4 L=10	Screw M4 L=10	3
23	21-04212090-02	垫圈	Washer	2
24	12-60401422-01	螺钉M4 L=14	Screw M4 L=14	1
25	11-10151320-01	螺钉	Screw	1
26	11-60150720-01	螺钉15/64-28 L=7	Screw 15/64-28 L=7	3
27	427.04-15	摆针盖板	Needle vibrator unit cover	1
28	11-40121225-01	螺钉3/16-28 L=12	Screw 3/16-28 L=12	3
29	11-40121625-01	电线夹长螺钉	Screw 3/16 L=16	1
30	12-40501125-01	螺钉M5 L=11.5	Screw M5 L=11.5	1
31	12-40250821-02	螺钉M2.5 L=8	Screw M2.6 L=8	1
32	12-80500612-01	螺钉M5 L=6	Screw M5 L=6	1

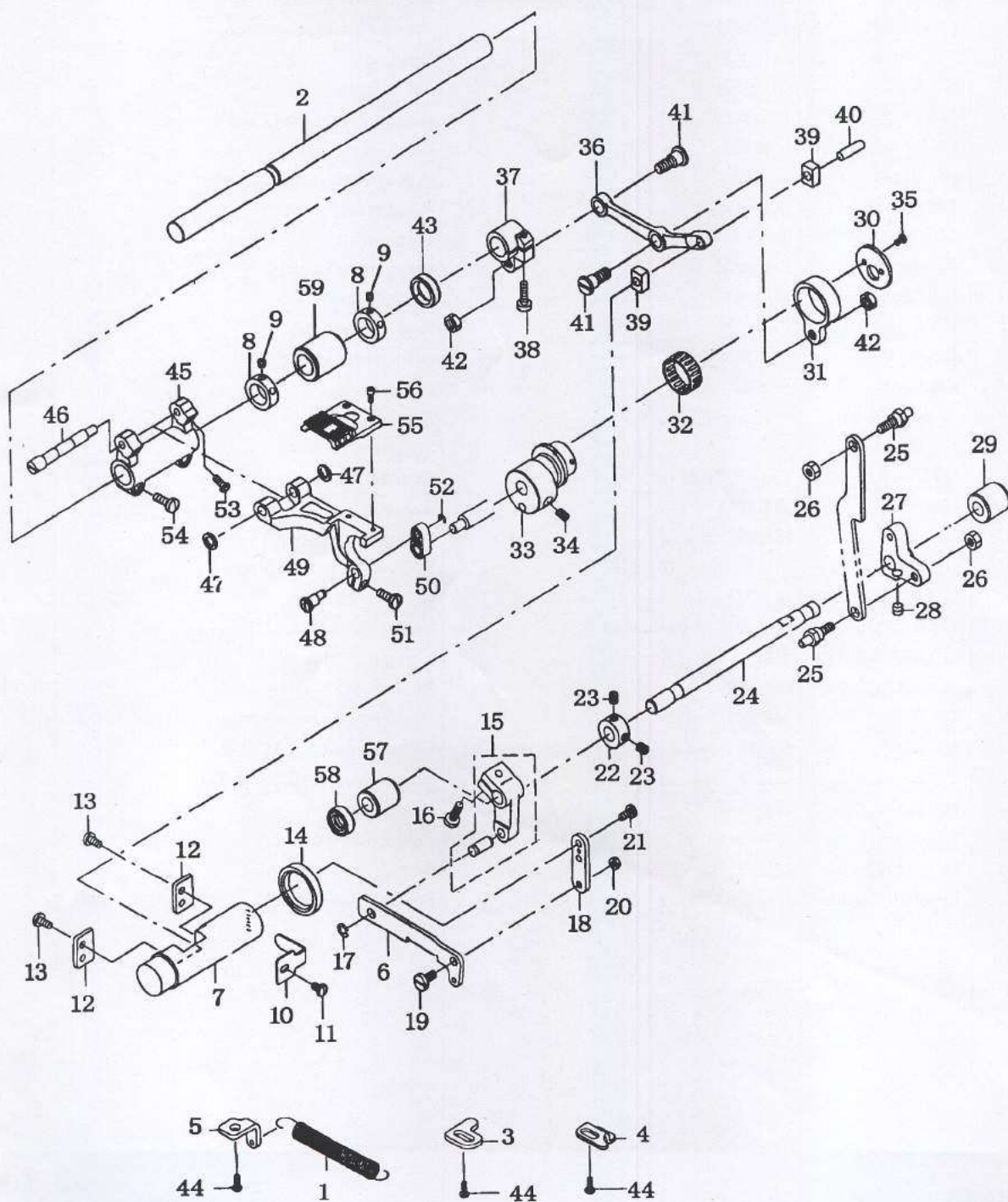
5. 压脚提升部件 Hand Lifter Components



5. 压脚提升部件 Hand Lifter Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.05-01	抬压脚拉杆	Knee lifting side rod link	1
2	427.05-02	抬压脚后杠杆	Knee lifting link	1
3	427.05-03	抬压脚后杠杆弹簧	Knee lifting link spring	1
4	427.05-04	抬压脚顶杆	Knee lifting junction rod	1
5	134.04-03	调压螺钉	Presser spring regulator	1
6	427.05-05	压杆下套	Bushing	1
7	423.08-33	压脚升降板	Lifting plate	1
8	423.08-32	抬压脚凸轮组件	Presser lifter cam COMPL	1
9	423.08-14	压脚扳手	Hand lifter	1
10	101.04-02	调压螺母	Presser spring regulator nut	1
11	424.21-03	压脚组件	Presser foot ASM.	1
12	423.08-08	压杆	Presser bar	1
13	423.08-09	压杆导架	Presser bar holder	1
14	423.08-12	调压弹簧	Presser spring T	1
15	423.08-11	压脚导柱	Presser guide bar	1
16	423.08-02	抬压脚前杠杆	Lifting lever link	1
17	423.08-17	铰链销	Hinge pin	1
18	11-30091020-01	压脚扳手固定螺钉	Screw	1
19	423.08-29	卡簧	Snap ring	1
20	1211.04-07	抬压脚后杠杆螺钉	Connecting rod hinge screw	1
21	423.08-06	调节螺栓	Swivel	1
22	423.08-16	铰链螺钉密封圈	Lifting lever gasket	1
23	423.08-20	抬压脚后杠杆铰链螺钉	Knee lifting link step-screw	1
24	13-60623020-01	螺母3/16-32	Nut 3/16-32	1
25	11-80150510-01	锁紧螺钉15/64-28 L=4.7	Screw 15/64-28 L=4.7	1
26	24-06000000-08	卡簧	E-ring 6	1
27	31-03618000-09	O型橡皮圈	Rubber ring	1
28	427.05-06	铰链螺钉D=6.0 H=3.4	Hinge screw D=6.0 H=3.4	1
29	423.08-27	铰链螺钉D=6.35 H=2.7	Hinge screw D=6.35 H=2.7	1
30	423.08-23	铰链螺钉D=6.35 H=3	Hinge screw D=6.35 H=3	1
31	427.05-07	铰链螺钉	Hinge screw	1
32	11-60090920-01	螺钉 9/64-40 L=8.5	Screw 9/64-40 L=8.5	1
33	11-60111120-01	螺钉 11/64-40 L=10.5	Screw 11/64-40 L=10.5	1
34	11-80151750-01	压脚浮动螺钉15/64-28 L=17	Screw 15/64-28 L=17	1

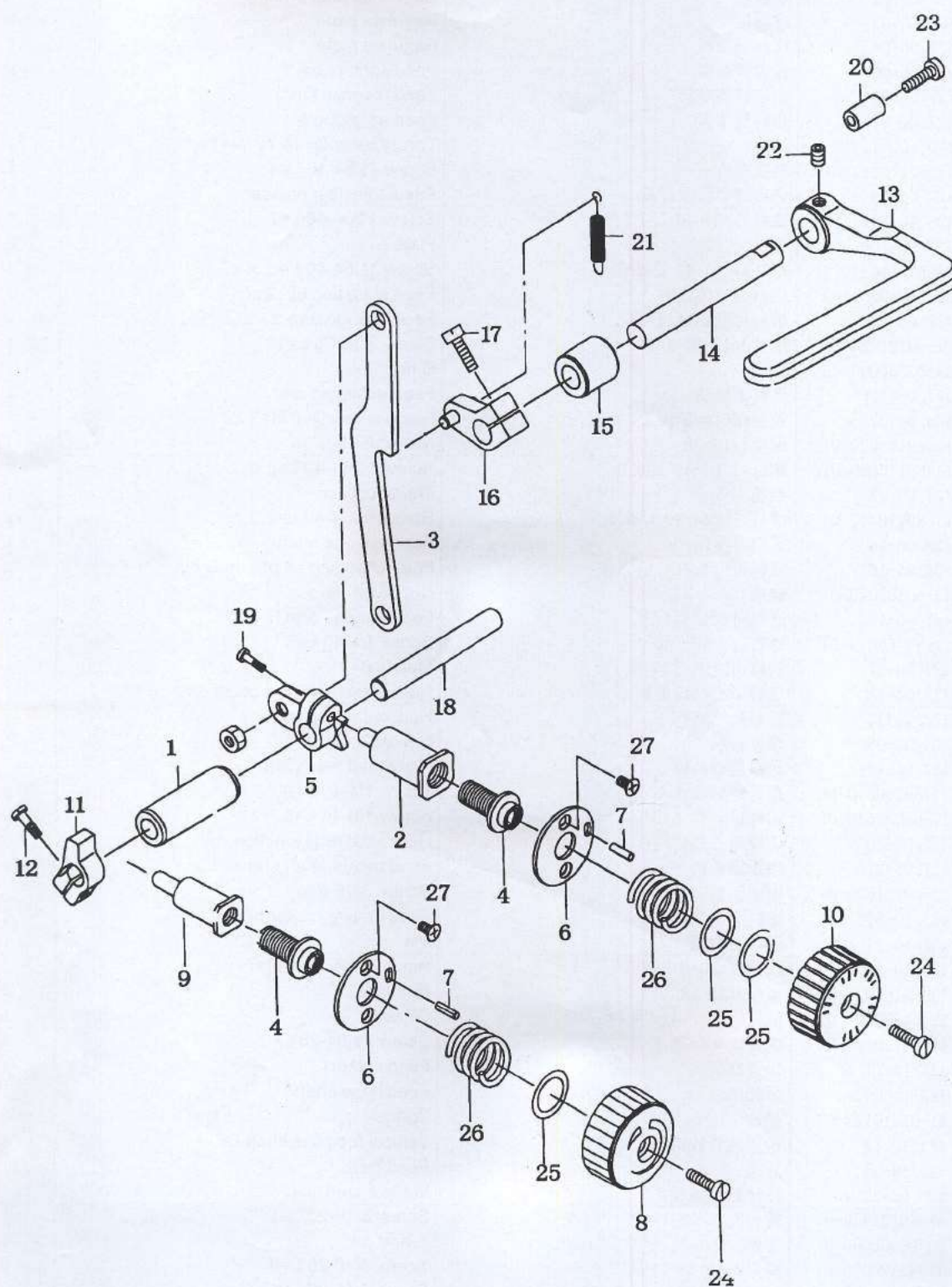
6. 送料抬牙部件 Feed Mechanism Components



6. 送料抬牙部件 Feed Mechanism Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.06-01	拉簧	Feed adjusting spring	1
2	427.06-02	送料轴	Horizontal feed shaft	1
3	427.06-03	送料限位板	Regulate plate	1
4	427.06-04	送料限立板	Regulate plate	1
5	427.06-05	拉力弹簧架	Feed spring rack	1
6	427.06-06	倒送料调节杆	Feed reversal link	1
7	427.06-07	送料调节器	Feed adjusting A	1
8	1197.05-11	挡圈	Thrust collar D=14.72 W=7	2
9	11-80110412-01	挡圈螺钉	Screw 11/64-40 L=4	4
10	427.06-09	送料调节器限位板	Feed adjusting presser	1
11	423.10-30	螺钉11/64-40 L=7	Screw 11/64-40 L=7	1
12	427.06-10	垫板	Plate A	2
13	11-600110820-01	螺钉11/64-40 L=8.5	Screw 11/64-40 L=8.5	4
14	32-24060350-09	送料调节器油封	Feed adjusting oil seal	1
15	427.06-11	送料可变曲柄组件(左)	Feed change arm a ASM.	1
16	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	1
17	24-05000000-08	卡簧5	E-ring	1
18	427.06-12	送料调节板	Feed adjusting arm	1
19	423.09-37	铰链螺钉D=6 H=3.2	Hinge screw D=6 H=3.2	1
20	13-60123020-01	螺母3/16-28	Nut 3/16-28	1
21	11-60110820-01	螺钉11/64-40 L=8.5	Screw 11/64-40 L=8.5	2
22	427.06-13	挡圈	Thrust collar	1
23	11-80110412-01	螺钉 1 /64-40 L=4.5	Screw 11/64-40 L=4.5	2
24	427.06-14	送料可变轴	Feed change shaft	1
25	134.05-16	送料可变轴杠杆销	Feed changing shaft arm E pin	2
26	13-60153020-01	螺母15/64-28	Nut 15/64-28	2
27	427.06-16	送料可变曲柄(右)	Feed change arm B	1
28	11-80160612-01	螺钉1/4-40 L=6	Screw 1/4-40 L=6	1
29	427.06-17	送料可变轴后套	Metal, B	1
30	427.06-18	送料偏心凸轮盖板	Horizontal feed cam cover	1
31	423.10-36	送布凸轮连杆	Horizontal feed rod	1
32	304.08-08	滚针轴承	Needle bearing	1
33	427.06-19	送料偏心凸轮	Horizontal feed cam	1
34	11-80160810-01	螺钉1/4-40 L=8	Screw 1/4-40 L=8	2
35	11-60080620-01	螺钉1/8-44 L=6	Screw 1/8-44 L=6	2
36	427.06-20	送料偏心凸轮连杆	Horizontal feed junction rod	1
37	427.06-21	抬牙轴曲柄	Feed rocker shaft crank	1
38	11-60121620-01	抬牙轴曲柄螺钉	Screw. 3/16-28	1
39	423.10-52	送料滑块	Feed driving rocker block	2
40	423.10-21	送料滑块销	Pin	1
41	423.10-26	铰链螺钉D=9 H=7	Hinge screw D=9 H=7	2
42	13-60184020-01	螺母9/32-28	Nut 9/32-28	2
43	32-14170220-09	油封	Oil seal	1
44	11-40150925-01	螺钉15/64-28 L=9	Screw 15/64-28 L=9	3
45	423.10-11	牙架曲柄	Feed rocker	1
46	423.10-09	牙架销	Feed base shaft	1
47	21-07310122-03	垫片	Spacer	2
48	423.10-12	抬牙连杆铰链轴	Vertical feed link shaft D	1
49	423.10-03	牙架	Feed base	1
50	427.06-22	抬牙连杆组件	Vertical feed link	1
51	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	1
52	24-03000000-08	卡簧3	E-ring 3	1
53	11-40120925-01	螺钉3/16-28 L=9	Screw 3/16-28 L=9	2
54	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	2
55	423.07-17	送料牙	Feed dog	1
56	11-60580722-01	螺钉1/8-40 L=7	Screw 1/8-40 L=7	2
57	427.06-23	送料可变轴前套	Metal, A	1
58	32-09470190-09	送料可变轴油封	Feed changing shaft oil seal	1
59	427.06-24	送料轴套	Feed rocker shaft metal	1

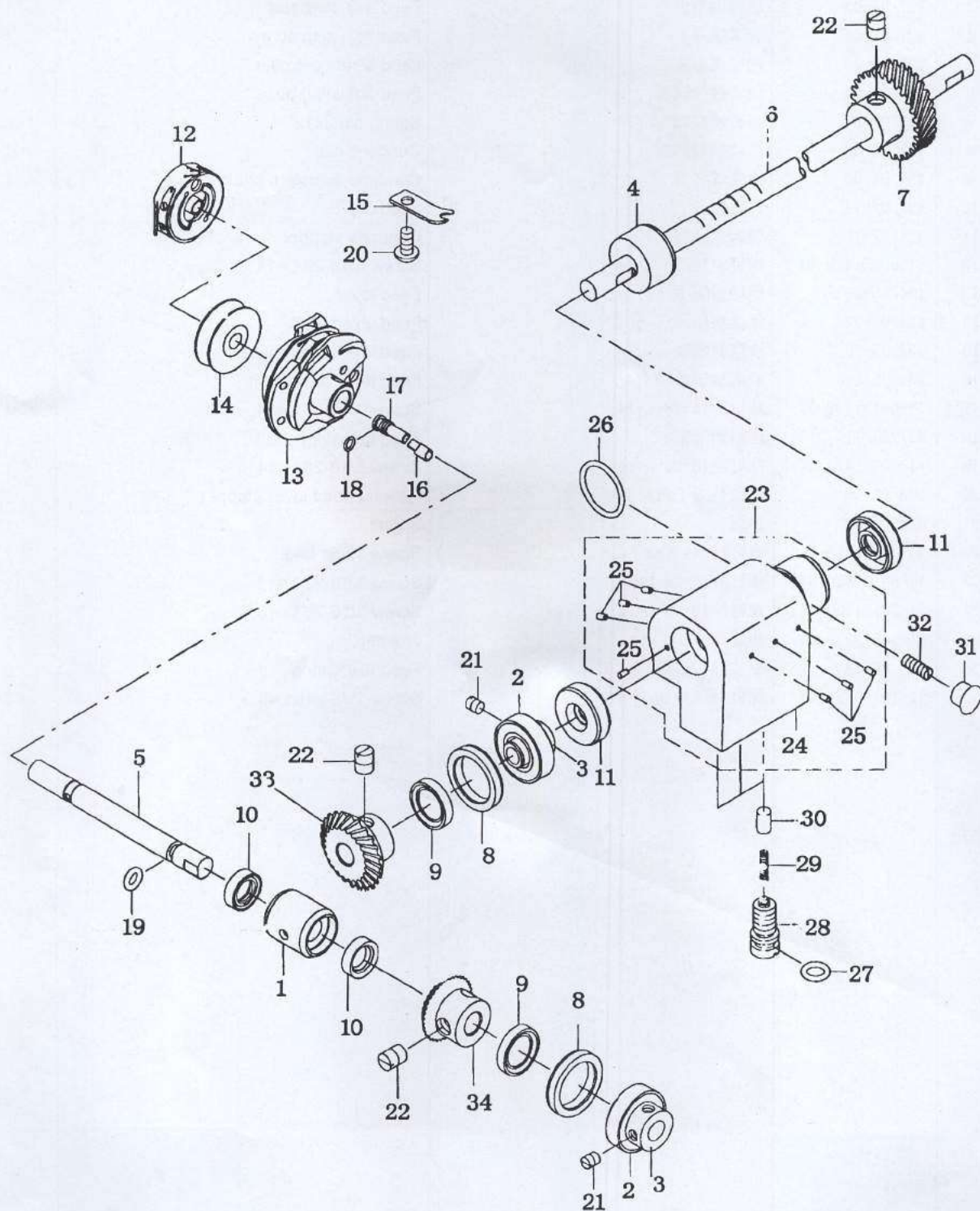
7. 倒送料部件 Feed Mechanism Components



7. 倒送料部件 Feed Mechanism Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.07-01	送料调节轴轴套	Feed adjusting shaft metal	1
2	427.07-02	调节螺杆套	Feed adjusting shaft	1
3	427.07-03	送料调节连杆	Feed adjusting rod	1
4	427.07-04	调节螺杆	Feed adjusting screw	2
5	427.07-05	送料调节座	Feed blind controller	1
6	427.07-06	调节螺杆底板	Feed adjusting base	2
7	427.07-07	弹簧销3X12	Spring pin 3x12	2
8	427.07-08	微调控制标盘	Condens dial	1
9	427.07-09	微调螺杆套	Condens adjusting shaft	1
10	427.07-14	针距标盘	Feed dial	1
11	427.07-10	微调止动器	Condens stopper	1
12	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	1
13	134.05-21	倒送料扳手	Feed lever	1
14	134.05-22	倒送料轴	Feed lever shaft	1
15	134.05-23	倒送料轴轴套	Feed lever shaft metal	1
16	134.05-24	倒送料轴曲柄	Feed lever arm ASM.	1
17	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	1
18	427.07-11	送料调节轴	Feed adjusting shaft	1
19	11-60121420-01	螺钉3/16-28 L=14	Screw 3/16-28 L=14	1
20	109.01-18	倒送料扳手限位器	Reverse feed lever stopper	1
21	427.07-12	弹簧	Spring	1
22	11-80150810-01	螺钉15/64 L=8	Screw 15/64 L=8	2
23	11-60121820-01	螺钉3/16-28 L=18	Screw 3/16-28 L=18	1
24	11-70121820-01	螺钉3/16-28 L=18	Screw 3/16-28 L=18	2
25	21-16515230-01	垫圈	Washer	3
26	427.07-13	复位弹簧	Feed dial spring	2
27	11-10110821-01	螺钉11/64-40 L=8.3	Screw 11/64-40 L=8.3	4

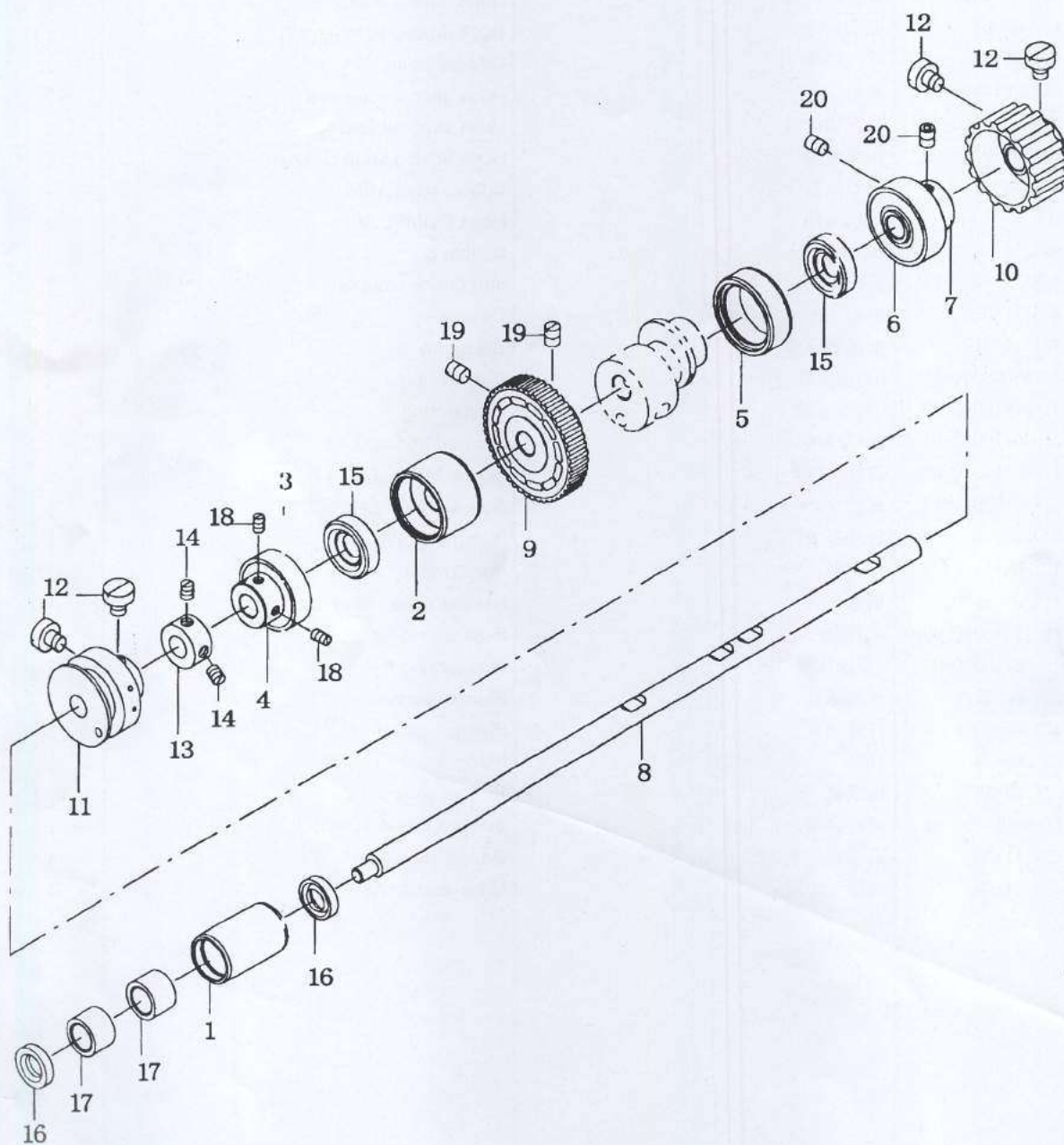
8. 旋梭驱动轴部件 Hook Driving Shaft Components



8. 旋梭驱动轴部件 Hook Driving Shaft Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.08-01	旋梭轴前套	Hook shaft front metal	1
2	427.08-02	轴承6901Z	Hook shaft bearing ASM.	2
3	427.08-03	轴承套	Hook shaft bearing bushing	2
4	427.08-04	旋梭驱动轴后套	Hook driving shaft rear metal	1
5	427.08-05	旋梭轴	Hook shaft	1
6	427.08-06	旋梭驱动轴	Hook driving shaft	1
7	427.08-07	驱动齿轮	Hook driving gear (small)	1
8	427.08-08	油封挡圈	Oil seal collar	2
9	32-12035180-09	油封	Hook gear box oil seal	2
10	32-08040140-09	旋梭轴油封	Hook shaft oil seal	2
11	32-08070180-09	旋梭驱动轴油封	Hook driving shaft oil seal	2
12	427.08-09	梭芯套组件	Bobbin case ASM.	1
13	427.08-10	旋梭组件	Hook COMPL. V	1
14	423.11-09	梭心	Bobbin S	1
15	423.11-20	旋梭定位勾	Inner hook stopper	1
16	423.11-32	油芯	Oil wick	1
17	423.11-31	油量调节销	Set screw	1
18	31-03508000-09	O型橡皮圈	Rubber ring	1
19	31-04818000-09	O型橡皮圈	Rubber ring	1
20	11-40110925-01	螺钉11/64-40 L=9	Screw 11/64-40 L=9	1
21	11-80110510-01	螺钉11/64-40 L=4.5	Screw 11/64-40 L=4.5	4
22	11-80160810-01	螺钉1/4-40 L=8	Screw 1/4-40 L=8	6
23	427.08-11	柱塞泵组件	Rump metal ASM.	1
24	427.08-11-01	柱塞泵	Pump metal	(1)
25	427.08-11-02	铜塞	Needle cooler plug cap	(7)
26	31-17518000-09	O型橡皮圈	Rubber ring	1
27	31-06718000-09	O型橡皮圈	Rubber ring	3
28	427.08-12	柱塞螺钉	Plunger screw	3
29	427.08-13	柱塞弹簧	Plunger spring	3
30	427.08-14	柱塞	Plunger	3
31	427.08-15	橡皮塞	Rubber plug	1
32	11-80111250-01	螺钉11/64-40 L=12.0	Screw 11/64-40 L=12.0	1
33	423.11-33	旋梭驱动伞齿轮	Gear ASM. Large	1
34	423.11-08	旋梭伞齿轮	Mitre gear small	1

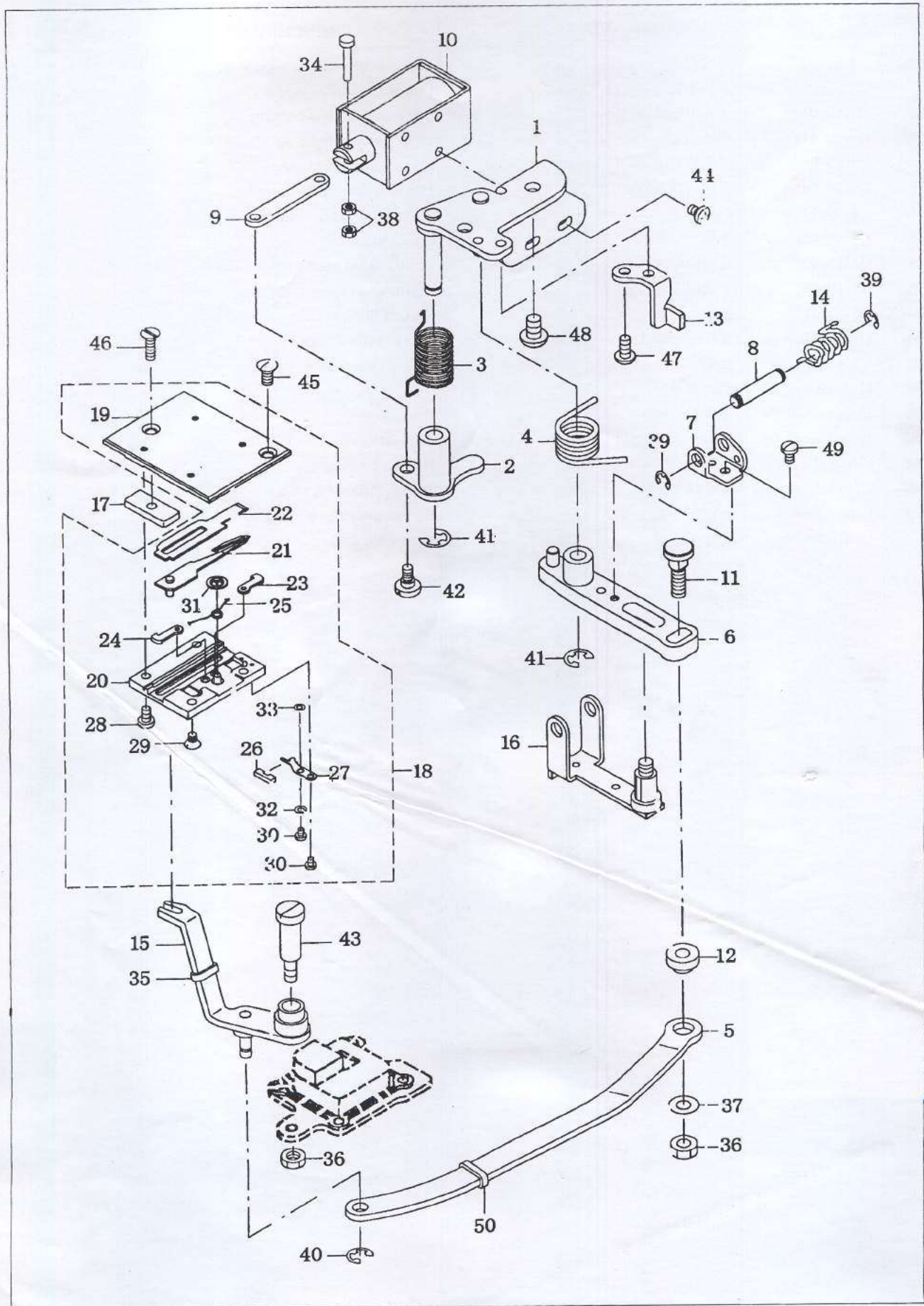
9. 下轴部件 Lower Shaft Components



9. 下轴部件 Lower Shaft Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427. 09-01	下轴前套	Lower shaft front bearing bus	1
2	427. 09-02	下轴中套	Lower shaft inner metal	1
3	427. 09-03	下轴中轴承NSK 6002Z	Lower shaft inner bearing	1
4	427. 09-04	中轴承套	Inner bearing bushing	1
5	427. 09-05	下轴后套	Lower shaft rear bush	1
6	427. 09-06	下轴后轴承NSK 6202Z	Lower shaft rear bearing	1
7	427. 09-07	后轴承套	Rear bearing bushing	1
8	427. 09-08	下轴	Lower shaft	1
9	427. 09-09	旋梭驱动大齿轮	Hook driving gear (large)	1
10	427. 09-10	下轴同步轮	Lower shaft sprocket	1
11	427. 09-11	剪线凸轮	Thread trimmer cam	1
12	11-00160720-01	螺钉1/4-40 L=7	Screw 1/4-40 L=7	1
13	427. 06-13	挡圈	Thrust collar ASM.	1
14	11-80110510-01	挡圈螺钉		2
15	32-10080260-09	油封	Oil seal	2
16	32-09740180-09	油封	Oil seal	2
17	427. 09-13	滚针轴承	Needle bearing	2
18	11-80110710-01	螺钉11/64-40 L=6.5	Screw 11/64-40 L=6.5	2
19	11-80160810-01	螺钉1/4-40 L=8	Screw 1/4-40 L=8	2
20	12-80600812-01	螺钉M6 L=8	Screw M6 L=8	2

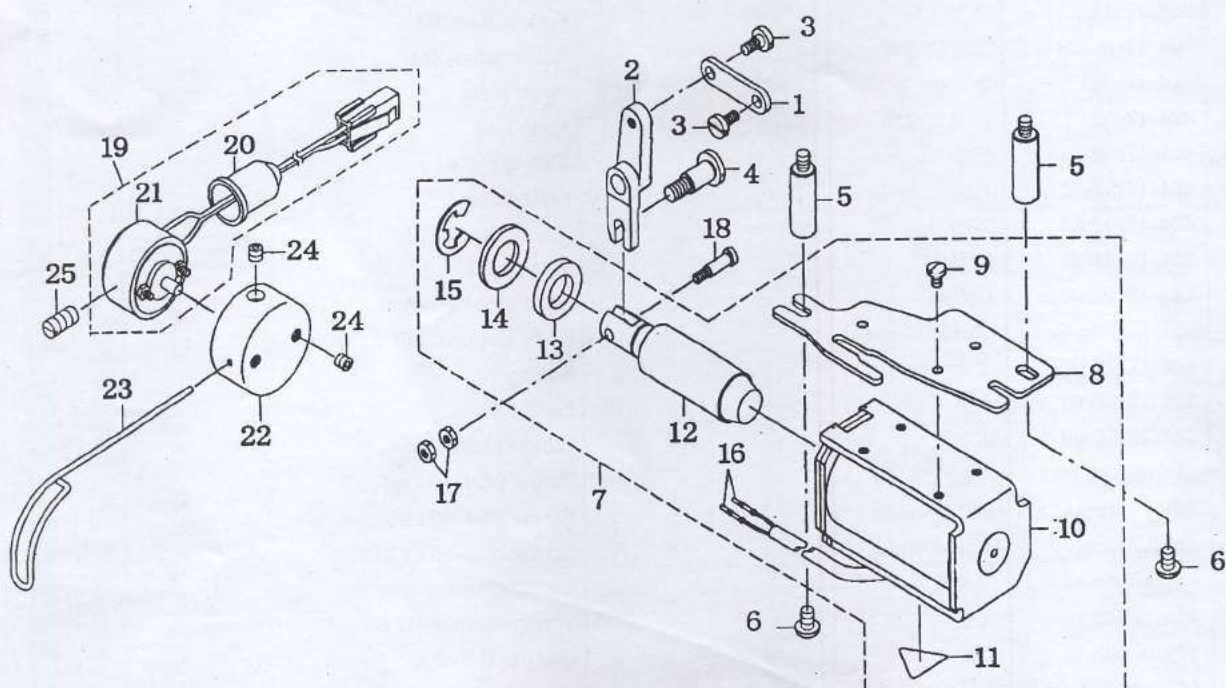
10. 剪线部件 Thread Trimmer Mechanism Components



10. 剪线部件 Thread Trimmer Mechanism Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.10-01	支撑板组件	Base plate ASM.	1
2	424.17-01-02	离合器组件	Clutch plate ASM.	1
3	424.17-01-07	离合器复位弹簧	Clutch return spring	1
4	427.10-02	动刀复位弹簧	Knife return spring	1
5	427.10-03	动刀连杆	Moving knife link	1
6	424.17-01-20	传动刀臂组件	Knife driving arm ASM.	1
7	424.17-01-21	滚轮柱摇臂支架	Roller arm seat	1
8	424.17-01-22	滚轮柱摇臂轴	Roller fulcrum shaft	1
9	424.17-01-03	离合器连杆	Clutch link	1
10	427.10-05	剪线电磁铁	Thread trimmer solenoid	1
11	424.17-04	动刀铰链螺钉	Moving knife link pin	1
12	424.17-07	铰链螺套	Moving knife link base	1
13	424.17-01-05	传动臂限位器	Driving arm stopper	1
14	424.17-01-08	滚轮柱复位弹	Roller return spring	1
15	424.17-11	叉形连杆	Fork knife ASM.	1
16	424.17-01-09	滚轮柱摇臂	Roller arm ASM.	1
17	424.17-05	固定板	Fixed plate	1
18	424.17-02	切线刀组件	Knife unit	1
19	424.17-02-01	推板	Sliding plate	(1)
20	424.17-02-02	刀座	Knife base	(1)
21	424.17-02-03	传动刀	Driving knife ASM.	(1)
22	424.17-02-04	定刀	Fixed knife	(1)
23	424.17-02-05	右刀塞	Knife stopper, right	(1)
24	424.17-02-06	左刀塞	Knife stopper, left	(1)
25	424.17-02-07	弹簧	Spring	(1)
26	424.17-02-08	油毡	Felt	(1)
27	424.17-02-09	油毛夹	Clamp plate	(1)
28	11-70090620-01	螺钉9/64-40 L=6	Screw 9/64-40 L=6	(2)
29	424.17-02-14	螺钉9/64-40 L=5	Screw 9/64-40 L=5	(2)
30	424.17-02-10	螺钉3/32-56 L=3	Screw 3/32-56 L=3	(2)
31	424.17-02-12	弹簧垫圈	Locating spring washer	(1)
32	424.17-02-15	垫圈	Spring washer M2.6	(1)
33	424.17-02-16	垫圈	Washer B T=0.4	(1)
34	427.10-06	连杆轴	Clutch link pin	1
35	427.10-07	橡皮保护套	Oil protecting rubber	2
36	13-60153020-01	螺母15/64-28	Nut 15/64-28	2
37	21-06210132-03	垫圈	Washer	1
38	14-60302420-02	螺母M3	Nut M3	2
39	24-040000000-08	卡簧	E-ring 4	2
40	24-050000000-08	卡簧	E-ring 5	1
41	24-060000000-08	卡簧	E-ring 6	2
42	424.17-01-11	铰链螺钉D=6 H=2.9	Hinge screw D=6 H=2.9	1
43	424.17-12	铰链螺钉D=7.94 H=15	Hinge screw D=7.94 H=15	1
44	424.17-01-13	螺钉M4x0.7 L=6	Screw M4x0.7 L=6	3
45	11-20110850-01	螺钉11/64-40 L=8.5	Screw 11/64-40 L=8.5	1
46	11-10111220-01	螺钉11/64-40 L=12	Screw 11/64-40 L=9.5	1
47	11-40110925-01	螺钉11/64-40 L=9	Screw 11/64-40 L=9	2
48	11-40150925-01	螺钉15/64-28 L=9	Screw 15/64-28 L=9	2
49	11-70090620-01	螺钉9/64-40 L=6	Screw 9/64-40 L=6	1
50	427.10-08	保护套	Oil protecting rubber	1

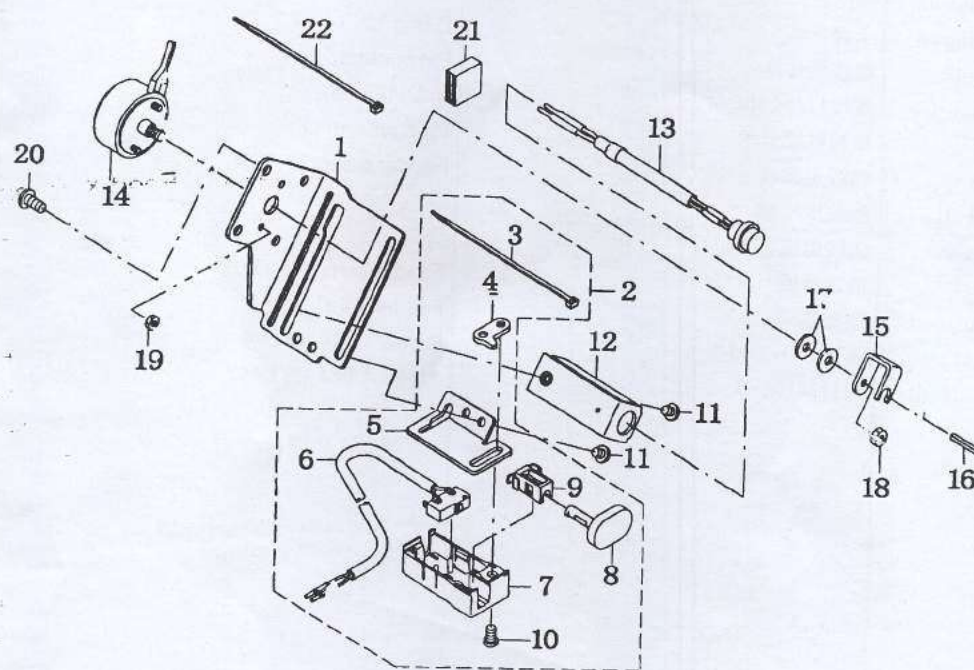
11. 倒缝、挑线电磁铁部件 Automatic Reverse Feed & Thread Feeder Mechanism Components



11. 倒缝、挑线电磁铁部件 Automatic Reverse Feed & Thread Feeder Mechanism Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.11-01	自动倒送料连杆	Automatic reverse feed link	1
2	427.11-02	自动倒送料臂	Automatic reverse feed arm	1
3	427.11-03	铰链螺钉D=6 H=4.5	Hinge screw D=6 H=4.5	2
4	427.11-04	铰链螺钉D=9.53 H=15	Hinge screw D=9.53 H=15	1
5	427.11-05	电磁铁安装板螺栓	Solenoid base stud	2
6	11-40150925-01	螺钉15/64-28 L=9	Screw 15/64-28 L=9	2
7	427.11-06	倒缝电磁铁组件	Solenoid base ASM.	1
8	427.11-06-01	电磁铁安装板	Reverse feed solenoid base	(1)
9	11-60110720-01	螺钉11/64-40 L=7	Screw 11/64-40 L=7	(3)
10	427.11-06-02	倒缝电磁铁	Reverse feed solenoid	(1)
11	427.11-06-03	注意标签	Attention seal 2(3.15)	(1)
12	427.11-06-04	倒缝电磁铁活塞	Reverse feed solenoid plunger	(1)
13	427.11-06-05	橡皮垫圈	Rubber plunger	(1)
14	21-17030300-02	垫圈17/30X3	Washer 17x30x3	(1)
15	24-12000000-08	卡簧	E-ring 12	(1)
16	427.11-06-06	链接销插针	Pin contact	(2)
17	13-60113020-01	螺母11/64-40	Nut 11/64-40	2
18	427.11-07	电磁铁铰链销	Plunger arm pin	(1)
19	427.11-08	挑线电磁铁组件	Feeder solenoid ASM.	1
20	427.11-08-01	防油橡胶套		(1)
21	427.11-08-02	挑线电磁铁小组件		1
22	427.11-09	拨线器座	Feeder wire fitting base	1
23	427.11-10	拨线器	Feeder wire	3
24	11-80110412-01	螺钉11/64-40 L=4	Screw 11/64-40 L=4	1
25	11-80151210-01	螺钉15/64-28 L=12	Screw 15/64-28 L=12	

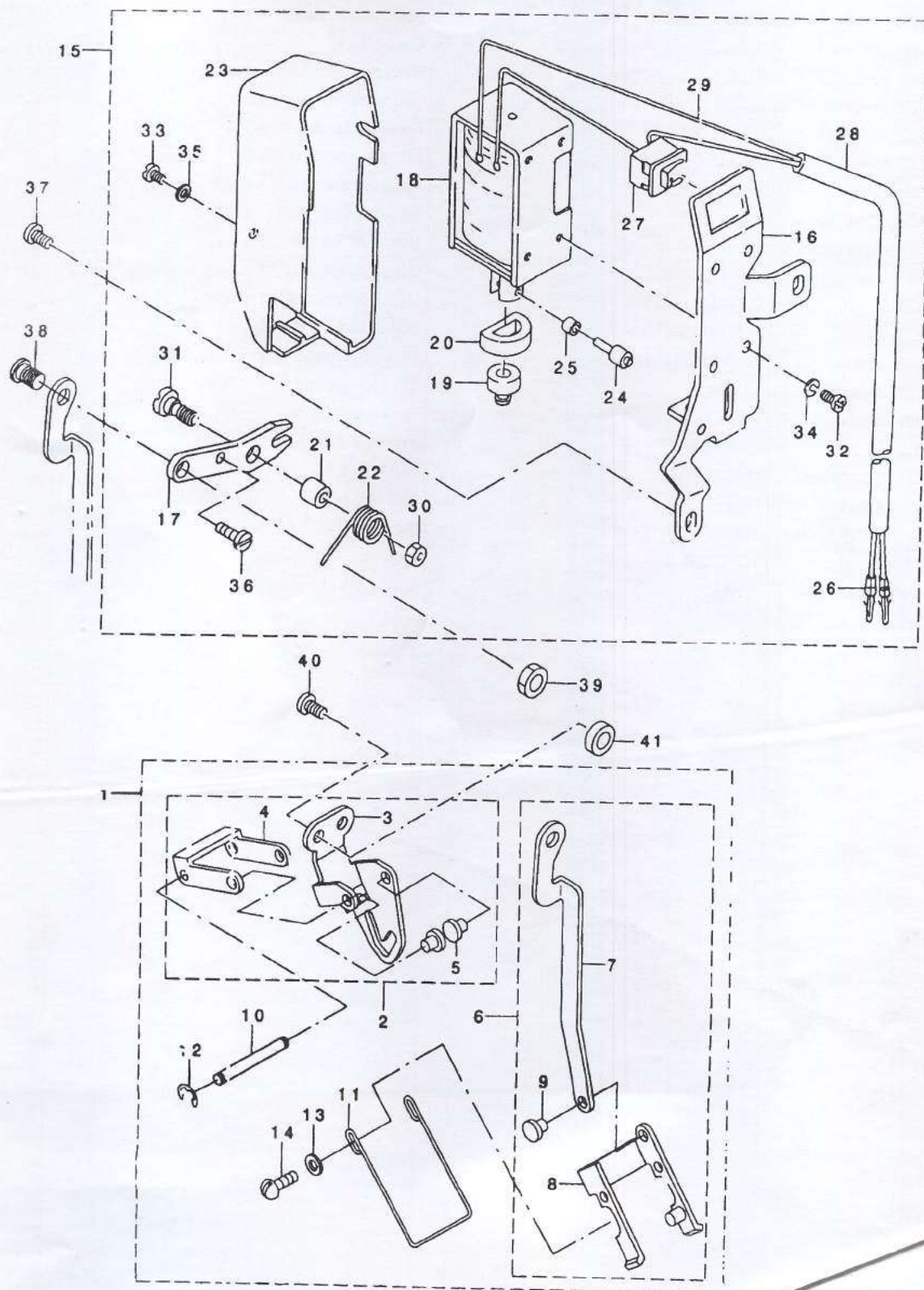
12. 松线电磁铁部件 Thread Release Solenoid Components



12. 松线电磁铁部件 Thread Release Solenoid Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.12-01	开关按凌板	Manual switch base	1
2	427.12-02	倒缝开关组件	Touch back switch base ASM.	1
3	427.02-11-09	电线扎带	Cable band	(1)
4	427.12-02-01	倒缝开关安装垫板	Reverse feed switch base guide	(1)
5	427.12-02-02	倒缝开关底板	Touch back switch base	(1)
6	427.12-02-03	倒缝电线组件	Reverse feed cord ASM.	(1)
7	427.12-02-04	倒缝开关盒	Manual switch base ASM. A	(1)
8	427.12-02-05	倒缝开关	Reverse feed switch shaft	(1)
9	427.12-02-06	倒缝开关座	Reverse feed switch support	(1)
10	11-60110720-01	螺钉11/64-40 L=7	Screw 11/64-40 L=7	(1)
11	11-40110525-01	螺钉11/64-40 L=5	Screw 11/64-40 L=5	(3)
12	427.12-03	花样对称按钮架	Up-and-down switch base	(1)
13	427.12-04	按钮电线组件	Swled cable a ASM.	1
14	427.12-05	松线电磁铁组件	Thread release soler oid ASM.	1
15	424.17-20-02	松线架	Thread release push plate	1
16	427.12-06	弹簧销5X18	Spring pin 3x18	1
17	427.12-07	缓冲垫圈	Frame side cover gasket	2
18	14-60403020-02	螺母M4X0.7	Nut M4x0.7	1
19	14-60302420-02	螺母M3	Nut M3	2
20	11-40121025-01	螺钉3/16-28 L=10	Screw 3/16-28 L=10	4
21	427.12-08	12P电线接头	Housing 12P	1
22	427.02-11-09	电线扎带	Cable band	1

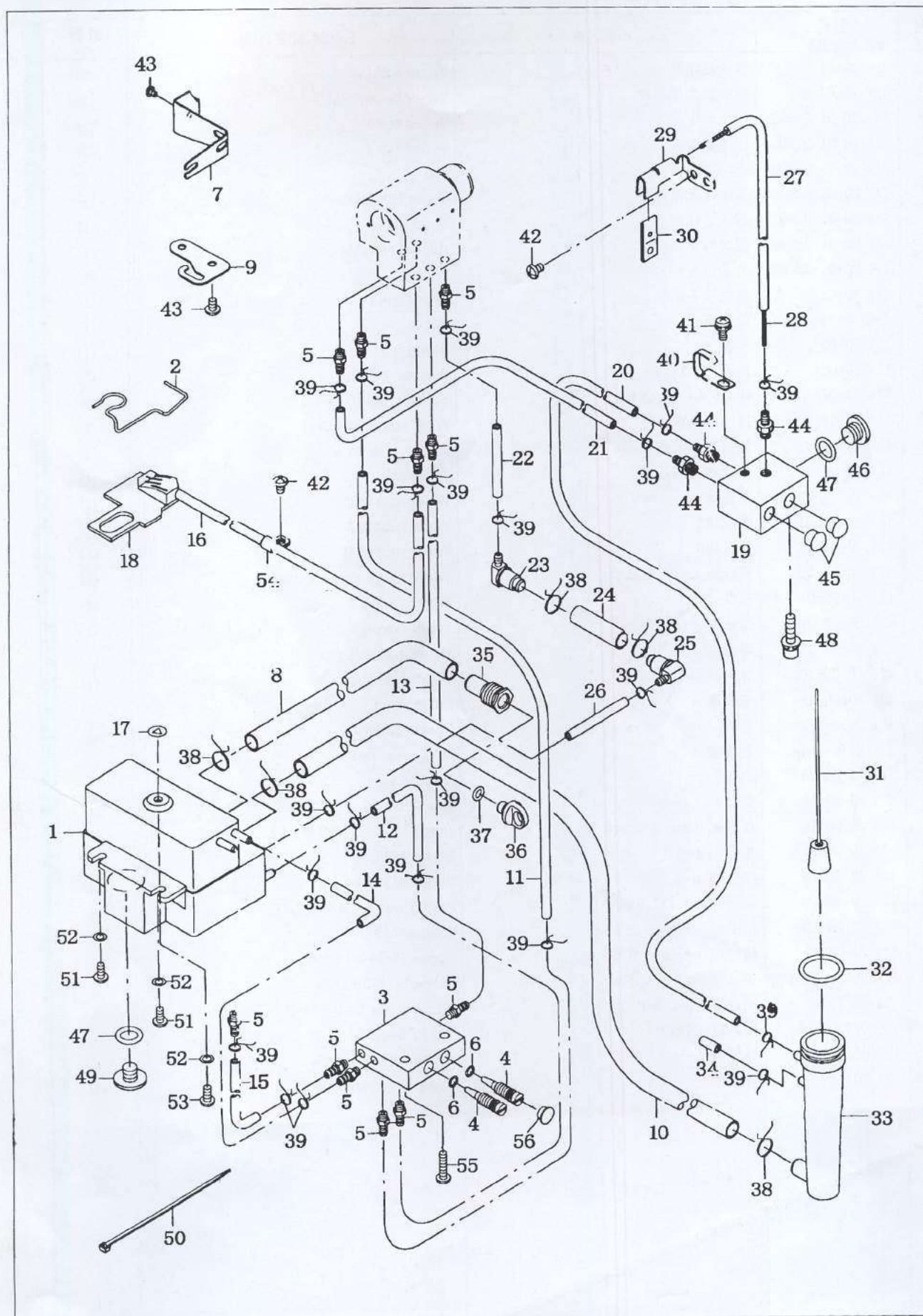
13. 拨线电磁铁部件 Wiper Mechanism Solenoid Components



13. 拨线电磁铁部件 Wiper Mechanism Solenoid Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	424.20-01	拨线器组件	Wiper ASM.	1
2	424.20-01-01	拨线器底部组件	Wiper base ASM.	(1)
3	424.20-01-01-01	拨线器底座	Wiper base	(1)
4	424.20-01-01-02	拨线器接头	Wiper link 1	(2)
5	424.20-01-01-03	滑动销	Pin	(2)
6	424.20-01-02	拨线连杆组件	Wiper link COMPL.	(1)
7	424.20-01-02-01	拨线连杆	Wiper link	(1)
8	424.20-01-02-02	拨线架	Wiper link ASM. 2	(1)
9	424.20-01-02-03	滑动销	Pin	(1)
10	424.20-03	拨线接头销轴	Wiper link shaft	(1)
11	424.20-04	拨线器	Wiper	(1)
12	424.20-05	卡簧	E-ring 3.2	(1)
13	424.20-06	垫圈 3.7X8X1	Washer 3.7x8x1	(2)
14	424.20-07	螺钉9/64-40 L=4.5	Screw 9/64-40 L=4.5	(2)
15	424.20-08	拨线电磁铁组件	Wiper solenoid ASM.	1
16	424.20-08-01	拨线器开关底座	Wiper base	(1)
17	424.20-08-02	拨线器叉口连杆	Wiper link	(1)
18	424.20-08-03	电磁铁	Wiper solenoid	(1)
19	424.20-08-04	橡胶块A	Wiper rubber A	(1)
20	424.20-08-05	橡胶块B	Wiper rubber B	(1)
21	424.20-08-06	拨线器叉口连杆螺套	Wiper hinge screw collar	(1)
22	424.20-08-07	扭簧	Wiper spring	(1)
23	424.20-08-08	拨线电磁铁罩壳	Wiper cover	(1)
24	424.20-08-09	电磁铁导向销	Wiper solenoid pin	(1)
25	424.20-08-10	导向销螺套	Wiper link collar	(1)
26	424.20-08-11	电线接头	Pin contact	(2)
27	424.20-08-12	开关	Power switch	(1)
28	424.20-08-13	电线套	Two-core cord	(1)
29	424.20-08-14	电线	Electric wire	(1)
30	424.20-08-15	螺母11/64-40	Nut 11/64-40	(1)
31	424.20-08-16	铰链螺钉D=6.5 H=3.2	Hinge screw D=6.5 H=3.2	(1)
32	424.20-08-17	螺钉M3 L=6	Screw M3 L=6	(4)
33	424.20-08-18	螺钉M3 L=6	Screw M3 L=6	(1)
34	424.20-08-19	弹簧垫圈3.1X5.9X0.7	Spring washer 3.1x5.9x0.7	(4)
35	424.20-08-20	垫圈M3	Washer M3	(1)
36	424.20-08-21	螺钉11/64-40 L=9.5	Screw 11/64-40 L=9.5	(1)
37	11-40120625-01	螺钉3/16-28 L=6	Screw 3/16-28 L=6	2
38	424.20-10	铰链螺钉D=6.5 H=2.7	Hinge screw D=6.5 H=2.7	1
39	13-60113020-01	螺母11/64-40	Nut 11/64-40	1
40	11-40110925-01	螺钉11/64-40 L=9	Screw 11/64-40 L=9	2
41	424.20-13	弹簧垫圈	Bsw presser plate washer	2

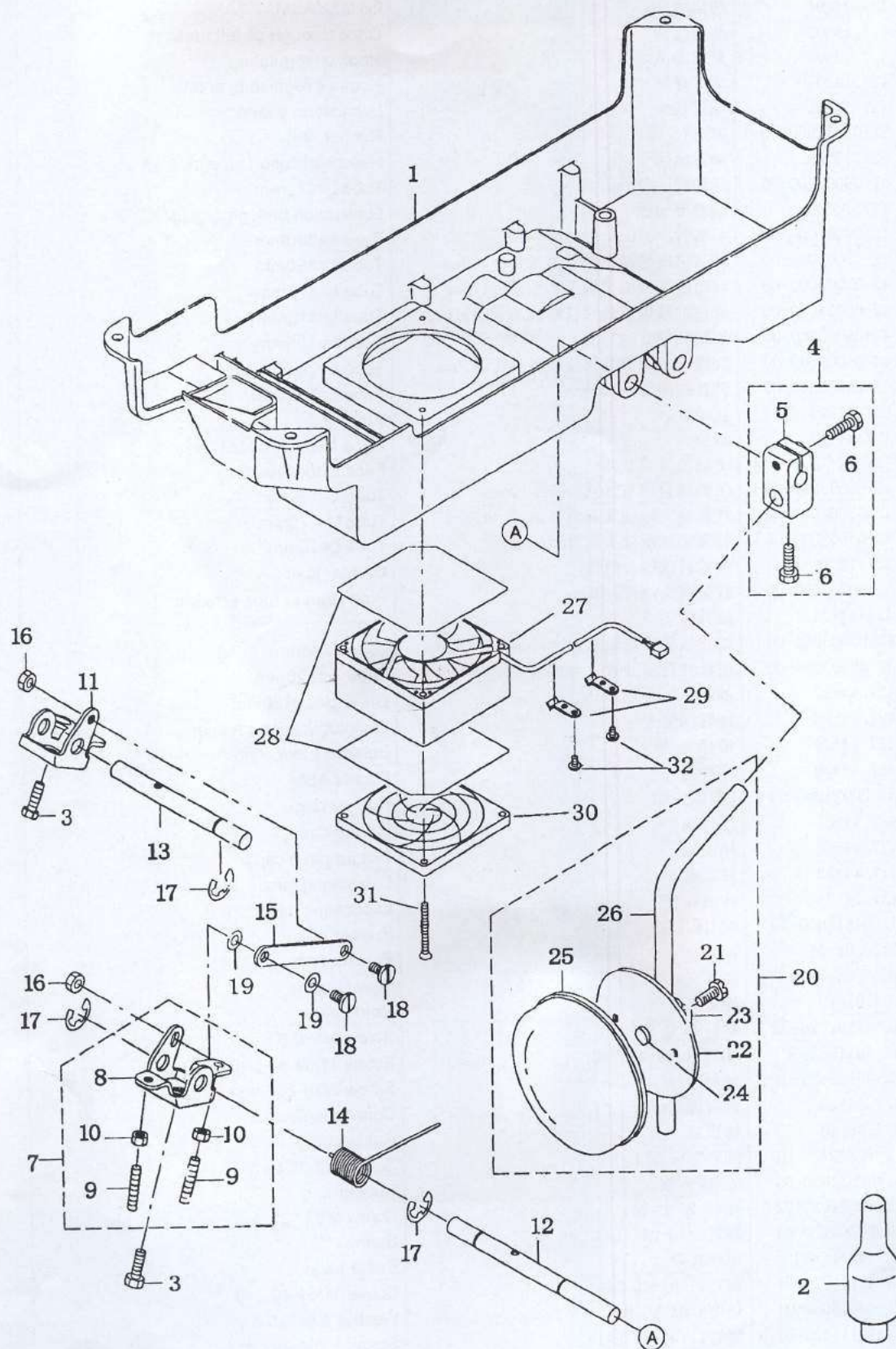
14. 润滑系统部件 Lubrication Components



14. 润滑系统部件 Lubrication Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.14-01	油箱组件	Oil tank ASM.	1
2	427.14-02	油毡压簧	Once through oil felt presser	1
3	427.14-03	旋梭油量调节器	Hook oil regulating	1
4	427.14-04	调节螺钉	Hook oil regulating screw	2
5	427.14-05	油管接头	Lubrication connector	11
6	31-03618000-09	O型橡皮圈	Rubber ring	2
7	427.14-06	油管压板	Head lubrication pipe stopper	1
8	42-09007000-00	注油管L=410mm	Tube L=410mm	0.41
9	427.14-08	油管导向板	Lubrication tank pipe guide	1
10	42-09007000-00	示油管L=310mm	Tube L=310mm	0.31
11	42-05003000-00	柱塞供旋梭油量调节器油管L=160mm	Tube L=160mm	0.16
12	42-05003000-00	油箱接旋梭油量调节器油管L=175mm	Tube L=175mm	0.175
13	42-05003000-00	旋梭油箱调节器接柱塞孔油管L=110mm	Tube L=110mm	0.11
14	42-05003000-00	旋梭回油管L=195mm	Tube L=195mm	0.195
15	42-05003000-00	旋梭油量调节器供旋梭轴油管L=70mm	Tube L=70mm	0.07
16	42-05003000-00	针杆回油管L=1060mm	Tube L=1060mm	1.06
17	501.01-04	止动板	Stopper	1
18	427.14-17	油毡	Once through oil felt	1
19	427.14-18	上轴油量调节器	Face lubrication tank	1
20	42-05003000-00	上轴油量调节器回油管L=190mm	Tube L=190mm	0.19
21	42-05003000-00	柱塞接上轴油量调节器油管L=475mm	Tube L=475mm	0.475
22	42-05003000-00	柱塞接转换接头油管L=45mm	Tube L=45mm	0.045
23	427.14-22	油管转换接头组件	Oil filter joint	1
24	42-09007000-00	转换接头油管L=35mm	Pipe stopper tube L=35mm	2
25	427.14-24	油管接头	Tube	1
26	42-05003000-00	油管接头接油箱油管L=45mm	Tube L=45mm	0.045
27	42-05003000-00	供针杆由柄油管 L=420mm	Tube L=420mm	0.42
28	427.14-27	油线L=460mm	Oil wick L=460mm	1
29	427.14-28	油管固定夹	Face lubrication presser	1
30	427.14-29	油毡	Balance lubricating	1
31	427.14-30	浮标组件	Floater ASM.	1
32	31-20024000-09	O型橡皮圈	Rubber ring	1
33	427.14-31	浮标座	Floater case	1
34	427.14-32	堵油帽	Floater case cap	1
35	427.14-33	注油嘴	Lubricating inlet	1
36	427.14-34	注油孔塞	Lubricating inlet cap	1
37	31-04818000-09	O型橡皮圈	Rubber ring	1
38	1228.08-34	油管夹	Pipe stopper	5
39	1228.08-12	油管夹	Pipe stopper	21
40	134.01-79	固定夹	Cord holder	1
41	16-40501025-02	螺钉M5×0.8 L=10	Screw M5x0.8 L=10	1
42	11-40110625-01	螺钉11/64-40 L=6	Screw 11/64-40 L=6	3
43	11-40120625-01	螺钉3/16-28 L=6	Screw 3/16-28 L=6	3
44	427.14-38	油管连接螺钉	Connecting screw	3
45	427.08-15	橡皮塞	Rubber plug	2
46	11-70240720-01	螺钉3/8-28 L=7	Screw 3/8-28 L=7	1
47	31-09624000-09	O型橡皮圈	Rubber ring	2
48	16-60502022-02	螺钉 M5 L=20	Screw M5 L=20	2
49	11-70200720-01	螺钉5/16-24 L=7	Screw	1
50	427.02-11-09	电线扎带	Cable band	1
51	11-40110825-01	螺钉11/64-40 L=8	Screw 11/64-40 L=8	2
52	21-04608080-01	垫圈4.6X8X0.8	Washer 4.6x8x0.8	3
53	11-40111425-01	螺钉11/64-40 L=14	Screw 11/64-40 L=14	1
54	101.08-28-01	油管夹	Holder	1
55	11-40121625-01	螺钉3/16-28 L=16	Screw 3/16-28 L=16	2
56	530.01-21	橡皮塞 D=7.5 L=3.5	Plug D=7.5 L=3.5	1

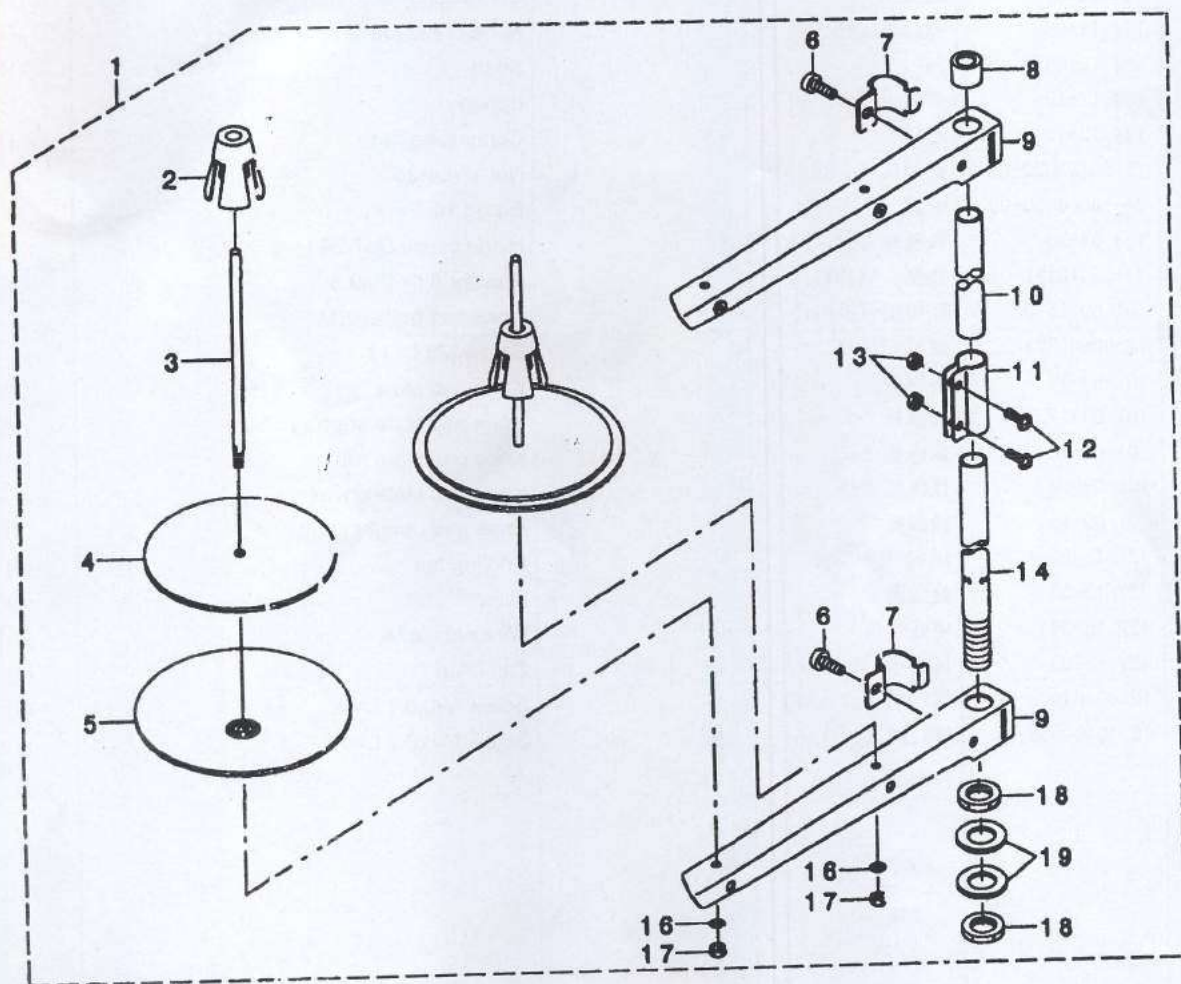
15. 油盘部件 Under Cover Components



15. 油盘部件 Under Cover Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.15-01	油盘	Under cover	(1)
2	501.01-22	机头支注	Machine frame support rod	1
3	12-90601833-02	螺钉M6 L=17.5	Screw M6 L=17.5	(2)
4	101.09-10-00	抬压脚操纵接头组件	Bracket ASM.	1
5	101.09-10	抬压脚操纵接头	Bracket	(1)
6	12-90602423-02	螺钉M6 L=24	Screw M6 L=24	(2)
7	134.12-03	抬压脚双向曲柄组件	Knee lifter rotating arm ASM.	1
8	134.12-03-01	抬压脚双向曲柄	Bracket	(1)
9	12-80603012-02	螺钉M6 L=30	Screw M6 L=30	(2)
10	14-60605020-02	螺母	Nut ma6	(2)
11	134.12-07	连接座	Connecting rod	(1)
12	134.12-08	膝提压脚轴	Knee press rod	(1)
13	134.12-09	轴	Shaft	(1)
14	134.12-10	弹簧	Spring	(1)
15	134.12-11	连杆	Connecting rod	(1)
16	13-60153020-01	螺母15, 64-28	Nut 15/64-28	(2)
17	24-10000000-09	卡簧	E-ring 10	(3)
18	134.04-30	铰链螺钉D=7.24 H=3.3	Hinge screw D=7.24 H=3.3	(2)
19	21-06410131-01	垫圈6.5X13X).8	Washer 6.5x13x0.8	(2)
20	101.09-15-00	膝提操纵板组件	Knee pad plate ASM.	1
21	12-90601223-02	螺钉M6 L=12	Screw M6 L=12	(1)
22	101.09-19	操纵板	Knee pad plate	(1)
23	101.09-17	操纵杆夹头	Knee pad plate support	(1)
24	101.09-18	操纵杆垫块	Knee pad plate rubber	(1)
25	101.09-20	操纵板衬垫	Knee pad plate cover	(1)
26	101.09-15	操纵杆	Knee pad upright shaft	(1)
27	427.15-02	风扇	Cooling fan	(1)
28	427.15-03	滤尘网	Filter	(2)
29	427.15-04	电线压板	Wire presser A	(2)
30	427.15-05	风扇罩	Fan filter	(1)
31	12-40404025-01	螺钉M4x0.7 L=40	Screw M4x0.7 L=40	(2)
32	12-40400625-01	螺钉M4x0.7 L=6	Screw M4x0.7 L=6	(2)

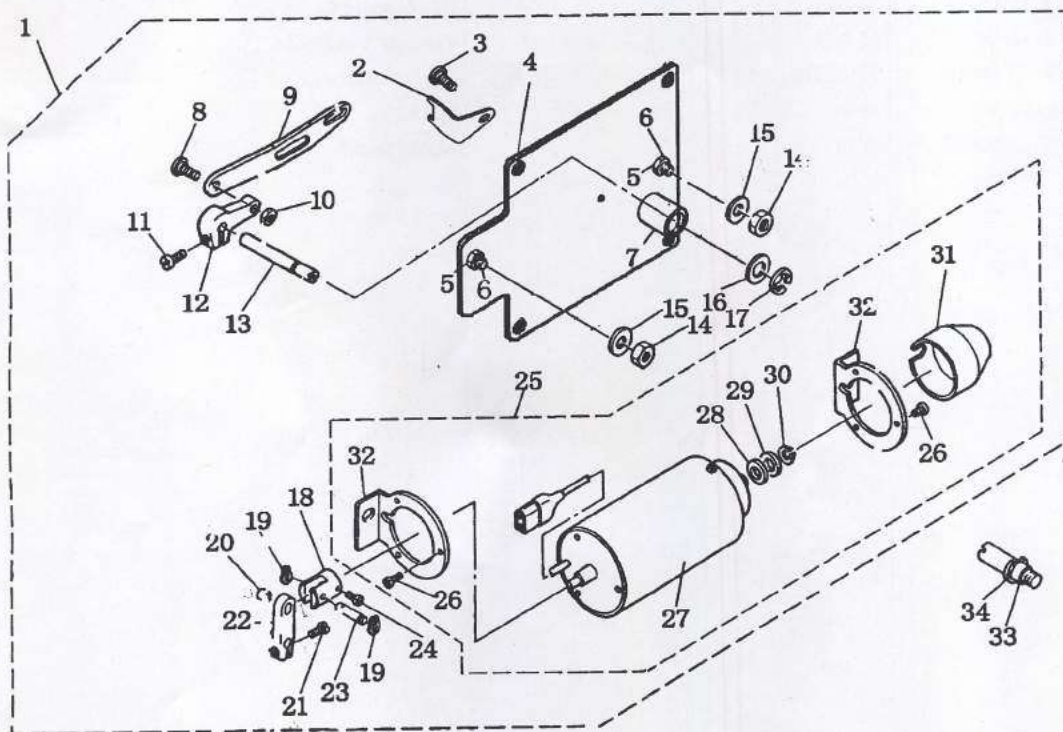
16. 线架部件 Thread Stand Components



16. 线架部件 Thread Stand Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	101. 11-01	线架组件	Thread stand ASM.	1
2	279. 12-00-22	线盘芯	Spool retainer	(2)
3	279. 12-00-23	线盘钉	Spool pin	(2)
4	279. 12-00-24	线盘垫	Spool rest cushion	(2)
5	279. 12-00-25	线圈托盘	Spool rest	(2)
6	279. 12-00-04	螺钉	Screw M6 L=16	(2)
7	279. 12-00-03	线臂抱攀	Thread guide arm joint	(2)
8	279. 12-00-01	上直管盖帽	Spool rest rod rubber cap	(1)
9	279. 12-00-08	短固线臂	Spool rest arm	(1)
10	279. 12-00-02	线架上直管	Spool rest rod, upper	(1)
11	279. 12-00-15	直管接头	Spool rest rod joint	(1)
12	279. 12-00-16	紧固螺钉	Screw M5 L=14	(2)
13	279. 12-00-14	紧固螺母	Nut M5	(2)
14	279. 12-00-19	下直管	Spool rest rod, lower	(1)
15	279. 12-00-21	防震垫	Washer 16x30x2.6	(2)
16	279. 12-00-26	弹性垫圈	Spring washer	(2)
17	279. 12-00-27	螺帽	Nut M5	(2)
18	279. 12-00-20	螺帽	Nut M16x1.5	(2)

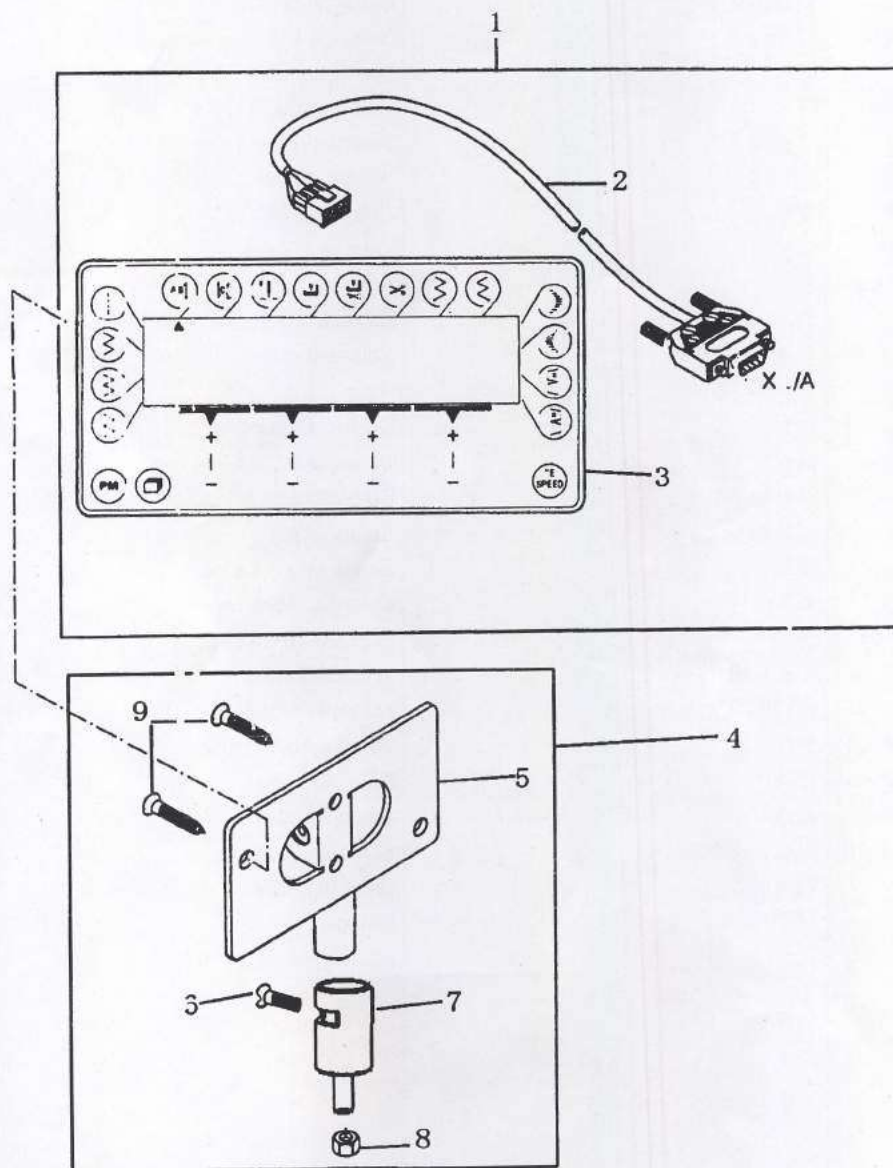
17. 自动抬压脚装置(可选) Auto Lifter (on The Side Plate)



17. 自动抬压脚装置(可供选择) Auto Lifter (on The Side Plate)

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427. 17-01	抬压脚装置组件	Device ASM.	1
2	424. 22-01-22	限位板	Plate of position	(1)
3	11-40110525-01	限位板螺钉	Screw	(1)
4	427. 17-01-01	后盖板	Side plate	(1)
5	13-60153020-01	磁铁固定螺母	Nut	(2)
6	11-40151225-01	磁铁固定螺钉	Screw	(2)
7	424. 22-01-01-05-01	杠杆螺丝组件	Lever screw set ASM.	(1)
8	424. 22-01-02	铰链螺丝	Hinge screw D=8 H= 3.5	(1)
9	427. 17-01-02	杠杆	Solenoid link	(1)
10	13-60153020-01	螺母	Nut 15/64-28	(1)
11	11-40121425-01	螺丝	Screw 3/16-28 L=14	(1)
12	424. 22-01-06	杠杆曲柄	Solenoid arm	(1)
13	424. 22-01-07	杠杆轴	Solenoid shaft	(1)
14	424. 22-01-08	螺母	Nut 15/64-28	(2)
15	424. 22-01-09	垫片	Washer	(2)
16	21-10010181-01	垫片	Washer	(1)
17	424. 22-01-11	E型卡簧 6	E-ring 6	(1)
18	424. 22-01-12	轧头	Solenoid collar	(1)
19	424. 17-01-17	E型卡簧 4	Ring	(2)
20	424. 22-01-14	衬套	Solenoid pin collar	(1)
21	12-60501422-01	螺丝	Screw M5×0.8 L=14	(1)
22	424. 22-01-16	杠杆曲柄A	Solenoid arm A	(1)
23	424. 22-01-17	轧头销	Solenoid pin	(1)
24	12-60501422-01	螺丝	Screw M5×0.8 L=9	(1)
25	424. 22-01-19	磁铁组件	Solenoid ASM. A	(1)
26	11-40120925-01	螺丝	Screw 3/16-28 L=9	(6)
27	424. 22-01-19-02	电磁铁组件	Wiper solenoid	(1)
28	424. 22-01-19-03	磁铁橡胶垫	Solenoid rubber A	(1)
29	424. 22-01-19-04	垫片	Washer 10.5×18×2	(1)
30	424. 22-01-19-05	止动环	Retaining ring	(1)
31	424. 22-01-19-06	磁铁罩	Solenoid cover	(1)
32	424. 22-01-19-07	电磁铁支承板	Solenoid base	(2)
33	424. 22-01-20	轴销组件	Shaft pin ASM.	(1)
34	423. 07-22	E型卡簧 5	E-ring	(1)

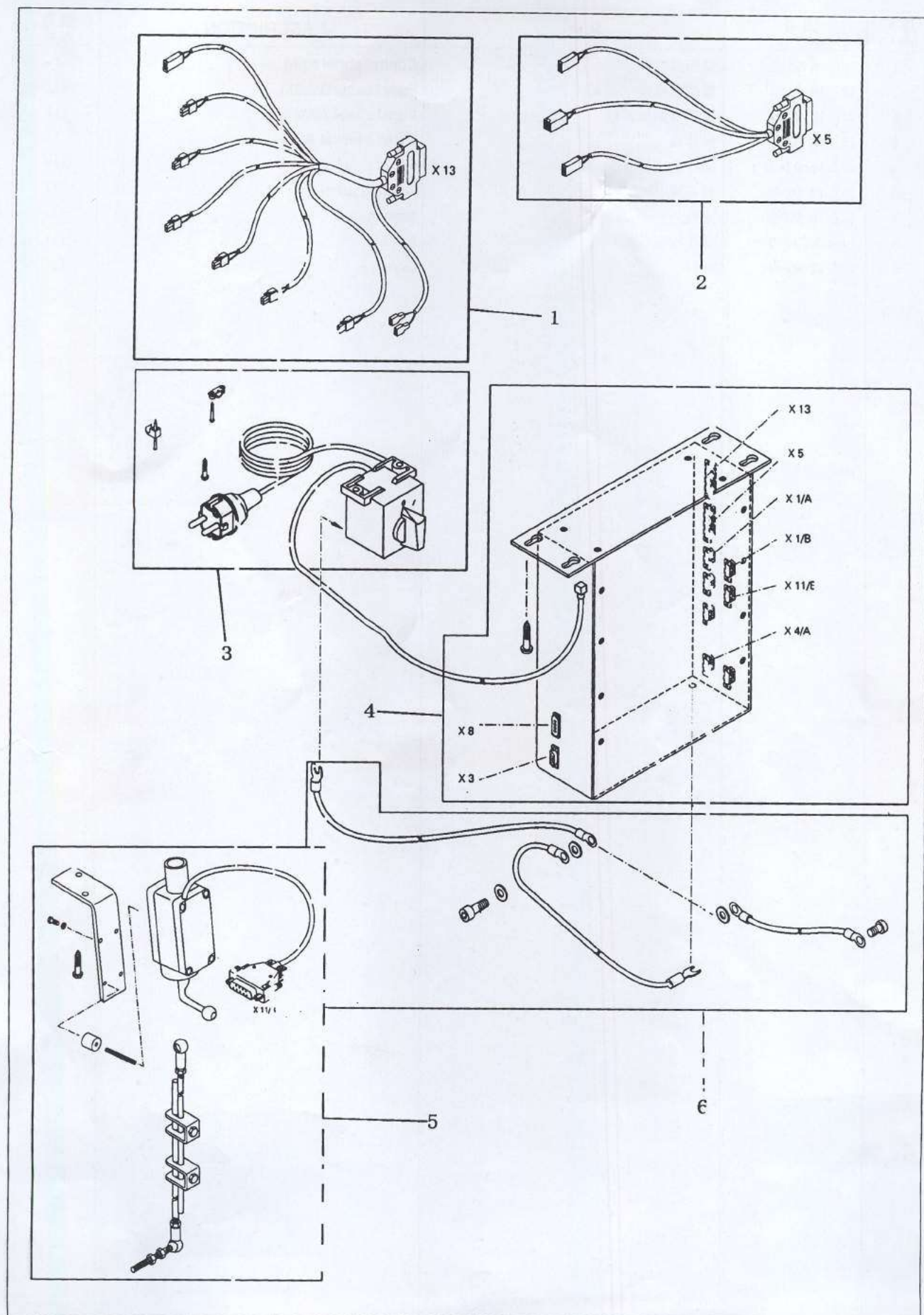
18. 操作盘部件 Control Panel Components



18. 操作盘部件 Contro Panel Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427. 18-01	操作盘组件	Control panel ASM.	1
2	427. 18-01-01	操作盘电缆	Panel cable B ASM.	(1)
3	427. 18-01-02	操作盘面板组件	Panel sheet ASM	(1)
4	427. 18-02	操作盘支架组件	Panel bracket ASM.	1
5	427. 18-02-01	操作盘支架	Panel bracket A	(1)
6	427. 18-02-02	自攻螺钉	Tapping screw	(1)
7	427. 18-02-03	支柱	Stanchion	(1)
8	14-60603010-02	操作板支柱螺母	Nut M6	(1)
9	427. 18-02-04	螺钉	Screw	(2)

19. 电气控制箱和开关部件 Control Box And Power Switch Components



索引 INDEX

部件/序号NO.	图片REF NO.	数量AMT.
7/ 11	427.07-10	1
7/ 18	427.07-11	1
7/ 21	427.07-12	1
7/ 26	427.07-13	2
7/ 10	427.07-14	1
8/ 1	427.08-01	1
8/ 2	427.08-02	2
8/ 3	427.08-03	2
8/ 4	427.08-04	1
8/ 5	427.08-05	1
8/ 6	427.08-06	1
8/ 7	427.08-07	1
8/ 8	427.08-08	2
8/ 12	427.08-09	1
8/ 13	427.08-10	1
8/ 23	427.08-11	1
8/ 24	427.08-11-01	(1)
8/ 25	427.08-11-02	(7)
8/ 28	427.08-12	3
8/ 29	427.08-13	3
8/ 30	427.08-14	3
8/ 31	427.08-15	1
14/ 45	427.08-15	2
9/ 1	427.09-01	1
9/ 2	427.09-02	1
9/ 3	427.09-03	1
9/ 4	427.09-04	1
9/ 5	427.09-05	1
9/ 6	427.09-06	1
9/ 7	427.09-07	1
9/ 8	427.09-08	1
9/ 9	427.09-09	1
9/ 10	427.09-10	1
9/ 11	427.09-11	1
9/ 17	427.09-13	2
10/ 1	427.10-01	1
10/ 4	427.10-02	1
10/ 5	427.10-03	1
10/ 10	427.10-05	1
10/ 34	427.10-06	1
10/ 35	427.10-07	2
10/ 50	427.10-08	1
11/ 1	427.11-01	1
11/ 2	427.11-02	1
11/ 3	427.11-03	2
11/ 4	427.11-04	1
11/ 5	427.11-05	2
11/ 7	427.11-06	1
11/ 8	427.11-06-01	(1)
11/ 10	427.11-06-02	(1)

部件/序号NO.	图片REF NO.	数量AMT.
11/ 11	427.11-06-03	(1)
11/ 12	427.11-06-04	(1)
11/ 13	427.11-06-05	(1)
11/ 16	427.11-06-06	(2)
11/ 18	427.11-07	(1)
11/ 19	427.11-08	1
11/ 20	427.11-08-01	(1)
11/ 21	427.11-08-02	(1)
11/ 22	427.11-09	1
11/ 23	427.11-10	1
12/ 1	427.12-01	1
12/ 2	427.12-02	1
12/ 4	427.12-02-01	(1)
12/ 5	427.12-02-02	(1)
12/ 6	427.12-02-03	(1)
12/ 7	427.12-02-04	(1)
12/ 8	427.12-02-05	(1)
12/ 9	427.12-02-06	(1)
12/ 12	427.12-03	(1)
12/ 13	427.12-04	1
12/ 14	427.12-05	1
12/ 16	427.12-06	1
12/ 17	427.12-07	2
12/ 21	427.12-08	1
14/ 1	427.14-01	1
14/ 2	427.14-02	1
14/ 3	427.14-03	1
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14/ 5	427.14-05	11
14/ 7	427.14-06	1
14/ 9	427.14-08	1
14/ 18	427.14-17	1
14/ 19	427.14-18	1
14/ 23	427.14-22	1
14/ 25	427.14-24	1
14/ 28	427.14-27	1
14/ 29	427.14-28	1
14/ 30	427.14-29	1
14/ 31	427.14-30	1
14/ 33	427.14-31	1
14/ 34	427.14-32	1
14/ 35	427.14-33	1
14/ 36	427.14-34	1
14/ 44	427.14-38	3
15/ 1	427.15-01	(1)
15/ 27	427.15-02	(1)
15/ 28	427.15-03	(2)
15/ 29	427.15-04	(2)
15/ 30	427.15-05	(1)
17/ 1	427.17-01	1

部件/序号NO.	图片REF NO.	数量AMT.
17/ 4	427.17-01-01	-1
17/ 9	427.17-01-02	-1
18/ 1	427.18-01	1
18/ 2	427.18-01-01	(1)
18/ 3	427.18-01-02	(1)
18/ 4	427.18-02	1
18/ 5	427.18-02-01	(1)
18/ 6	427.18-02-02	(1)
18/ 7	427.18-02-03	(1)
18/ 9	427.18-02-04	(2)
19/ 1	427.19-01	1
19/ 2	427.19-02	1
19/ 3	427.19-03	1
19/ 4	427.19-04	1
19/ 5	427.19-05	1
19/ 6	427.19-06	1
20/ 18	427.20-05	1

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部件/序号NO.	图片REF NO.	数量AMT.
1/55	501.01-45	4
14/56	530.01-21	1
1/1	427.01-01	1
1/2	427.01-02	1
1/4	427.01-03	1
1/5	427.01-04	1
1/6	427.01-05	1
1/9	427.01-07	1
1/11	427.01-08	1
1/14	427.01-09	1
1/15	427.01-09-01	(1)
1/16	427.01-09-02	(1)
1/17	427.01-09-03	(1)
1/20	427.01-09-04	(1)
1/21	427.01-09-05	(1)
1/22	427.01-09-06	(1)
1/24	427.01-09-07	(1)
1/25	427.01-09-08	(1)
1/27	427.01-10	1
1/28	427.01-11	1
1/30	427.01-12	1
1/32	427.01-13	1
1/34	427.01-14	1
1/53	427.01-15	1
1/60	427.01-16	1
1/61	427.01-17	1
2/1	427.02-01	1
2/2	427.02-02	1
2/3	427.02-03	1
2/4	427.02-04	1
2/5	427.02-05	1
2/7	427.02-06	1
2/8	427.02-07	1
2/12	427.02-08	(1)
2/13	427.02-09	(3)
2/19	427.02-10-01	(1)
2/20	427.02-10-02	(1)
2/21	427.02-10-03	(1)
2/22	427.02-10-04	(1)
2/23	427.02-10-05	(1)
2/25	427.02-10-07	(1)
2/26	427.02-10-08	(1)
2/27	427.02-10-09	(1)
2/28	427.02-10-10	(1)
2/29	427.02-10-11	(2)
2/31	427.02-10-12	(1)
2/32	427.02-10-13	(1)
2/33	427.02-10-14	(1)
2/37	427.02-10-15	(1)
2/38	427.02-10-16	(1)

部件/序号NO.	图片REF NO.	数量AMT.
2/48	427.02-11	1
2/49	427.02-11-01	(1)
2/50	427.02-11-02	(1)
2/51	427.02-11-03	(1)
2/52	427.02-11-04	(1)
2/53	427.02-11-05	(1)
2/55	427.02-11-07	(1)
2/56	427.02-11-08	(1)
2/57	427.02-11-09	(1)
12/3	427.02-11-09	(1)
12/22	427.02-11-09	1
14/50	427.02-11-09	1
2/59	427.02-12	1
2/60	427.02-13	1
2/61	427.02-14	1
2/70	427.02-15	1
2/76	427.02-16	1
3/1	427.03-01	1
3/2	427.03-02	1
3/3	427.03-03	1
3/4	427.03-04	1
3/5	427.03-05	1
3/7	427.03-06	1
3/14	427.03-11	1
3/19	427.03-13	1
3/21	427.03-14	1
3/22	427.03-15	1
3/23	427.03-15-01	(2)
3/24	427.03-15-02	(1)
3/28	427.03-16	1
3/33	427.03-17	1
3/35	427.03-18	1
3/36	427.03-18-01	(1)
3/37	427.03-18-02	(1)
3/38	427.03-18-03	(1)
3/39	427.03-18-04	(2)
3/41	427.03-18-05	(1)
3/42	427.03-18-06	(1)
3/43	427.03-19	1
3/45	427.03-21	1
3/46	427.03-22	2
3/47	427.03-23	2
3/48	427.03-24	1
3/49	427.03-25	1
3/56	427.03-26	1
20/16	427.03-26	3
4/1	427.04-01	1
4/2	427.04-02	1
4/3	427.04-03	1
4/4	427.04-04	1

部件/序号NO.	图片REF NO.	数量AMT.
4/5	427.04-05	2
4/7	427.04-06	1
4/8	427.04-07	1
4/11	427.04-08	1
4/12	427.04-09	1
4/15	427.04-10	1
4/16	427.04-11	1
4/17	427.04-12	1
4/19	427.04-13	1
4/21	427.04-14	1
4/27	427.04-15	1
5/1	427.05-01	1
5/2	427.05-02	1
5/3	427.05-03	1
5/4	427.05-04	1
5/6	427.05-05	1
5/28	427.05-06	1
5/31	427.05-07	1
6/1	427.06-01	1
6/2	427.06-02	1
6/3	427.06-03	1
6/4	427.06-04	1
6/5	427.06-05	1
6/6	427.06-06	1
6/7	427.06-07	1
6/10	427.06-09	1
6/12	427.06-10	2
6/15	427.06-11	1
6/18	427.06-12	1
6/22	427.06-13	1
9/13	427.06-13	1
6/24	427.06-14	1
6/27	427.06-16	1
6/29	427.06-17	1
6/30	427.06-18	1
6/33	427.06-19	1
6/36	427.06-20	1
6/37	427.06-21	1
6/50	427.06-22	1
6/57	427.06-23	1
6/59	427.06-24	1
7/1	427.07-01	1
7/2	427.07-02	1
7/3	427.07-03	1
7/4	427.07-04	2
7/5	427.07-05	1
7/6	427.07-06	2
7/7	427.07-07	2
7/8	427.07-08	1
7/9	427.07-09	1

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部件/序号NO.	图片REF NO.	数量AMT.
1/ 51	423.01-47-01	1
2/ 9	423.02-03	1
2/ 47	423.02-09	1
2/ 24	423.03-01-06	(1)
2/ 34	423.03-01-12	(1)
2/ 41	423.03-07	(1)
2/ 42	423.03-07-01	(1)
2/ 43	423.03-07-02	(1)
2/ 44	423.03-07-03	(2)
2/ 45	423.03-07-04	(1)
2/ 46	423.03-07-05	(1)
3/ 31	423.04-06	1
3/ 25	423.04-13	1
3/ 9	423.04-14	1
3/ 26	423.04-20	1
3/ 29	423.04-35	1
2/ 10	423.07-13	1
6/ 55	423.07-17	1
20/ 13	423.07-19	1
17/34	423.07-22	-1
5/ 16	423.08-02	1
5/ 21	423.08-06	1
5/ 12	423.08-08	1
5/ 13	423.08-09	1
5/ 15	423.08-11	1
5/ 14	423.08-12	1
5/ 9	423.08-14	1
5/ 22	423.08-16	1
5/ 17	423.08-17	1
5/ 23	423.08-20	1
5/ 30	423.08-23	1
5/ 29	423.08-27	1
5/ 19	423.08-29	1
5/ 8	423.08-32	1
5/ 7	423.08-33	1
6/ 19	423.09-37	1
6/ 49	423.10-03	1
6/ 46	423.10-09	1
6/ 45	423.10-11	1
6/ 48	423.10-12	1
6/ 40	423.10-21	1
6/ 41	423.10-26	2
6/ 11	423.10-30	1
6/ 31	423.10-36	1
6/ 39	423.10-52	2
8/ 34	423.11-08	1
8/ 14	423.11-09	1
20/ 1	423.11-09	1
8/ 15	423.11-20	1
8/ 17	423.11-31	1

部件/序号NO.	图片REF NO.	数量AMT.
8/ 16	423.11-32	1
8/ 33	423.11-33	1
20/ 12	423.16-10	1
10/ 2	424.17-01-02	1
10/ 9	424.17-01-03	1
10/ 13	424.17-01-05	1
10/ 3	424.17-01-07	1
10/ 14	424.17-01-08	1
10/ 16	424.17-01-09	1
10/ 42	424.17-01-11	1
10/ 44	424.17-01-13	3
17/19	424.17-01-17	-2
10/ 6	424.17-01-20	1
10/ 7	424.17-01-21	1
10/ 8	424.17-01-22	1
10/ 18	424.17-02	1
10/ 19	424.17-02-01	(1)
10/ 20	424.17-02-02	(1)
10/ 21	424.17-02-03	(1)
10/ 22	424.17-02-04	(1)
10/ 23	424.17-02-05	(1)
10/ 24	424.17-02-06	(1)
10/ 25	424.17-02-07	(1)
10/ 26	424.17-02-08	(1)
10/ 27	424.17-02-09	(1)
10/ 30	424.17-02-10	(2)
10/ 31	424.17-02-12	(1)
10/ 29	424.17-02-14	(2)
10/ 32	424.17-02-15	(1)
10/ 33	424.17-02-16	(1)
10/ 11	424.17-04	1
10/ 17	424.17-05	1
10/ 12	424.17-07	1
10/ 15	424.17-11	1
10/ 43	424.17-12	1
12/ 15	424.17-20-02	1
13/ 1	424.20-01	1
13/ 2	424.20-01-01	(1)
13/ 3	424.20-01-01-01	(1)
13/ 4	424.20-01-01-02	(2)
13/ 5	424.20-01-01-03	(2)
13/ 6	424.20-01-02	(1)
13/ 7	424.20-01-02-01	(1)
13/ 8	424.20-01-02-02	(1)
13/ 9	424.20-01-02-03	(1)
13/ 10	424.20-03	(1)
13/ 11	424.20-04	(1)
13/ 12	424.20-05	(1)
13/ 13	424.20-06	(2)
13/ 14	424.20-07	(2)

部件/序号NO.	图片REF NO.	数量AMT.
13/ 15	424.20-08	1
13/ 16	424.20-08-01	(1)
13/ 17	424.20-08-02	(1)
13/ 18	424.20-08-03	(1)
13/ 19	424.20-08-04	(1)
13/ 20	424.20-08-05	(1)
13/ 21	424.20-08-06	(1)
13/ 22	424.20-08-07	(1)
13/ 23	424.20-08-08	(1)
13/ 24	424.20-08-09	(1)
13/ 25	424.20-08-10	(1)
13/ 26	424.20-08-11	(2)
13/ 27	424.20-08-12	(1)
13/ 28	424.20-08-13	(1)
13/ 29	424.20-08-14	(1)
13/ 30	424.20-08-15	(1)
13/ 31	424.20-08-16	(1)
13/ 32	424.20-08-17	(4)
13/ 33	424.20-08-18	(1)
13/ 34	424.20-08-19	(4)
13/ 35	424.20-08-20	(1)
13/ 36	424.20-08-21	(1)
13/ 38	424.20-10	1
13/ 41	424.20-13	2
2/ 64	424.21-01	1
5/ 11	424.21-03	1
1/ 8	424.21-06	2
17/7	424.22-01-01-05-01	-1
17/8	424.22-01-02	-1
17/12	424.22-01-06	-1
17/13	424.22-01-07	-1
17/14	424.22-01-08	-2
17/15	424.22-01-09	-2
17/17	424.22-01-11	-1
17/18	424.22-01-12	-1
17/20	424.22-01-14	-1
17/22	424.22-01-16	-1
17/23	424.22-01-17	-1
17/25	424.22-01-19	-1
17/27	424.22-01-19-02	-1
17/28	424.22-01-19-03	-1
17/29	424.22-01-19-04	-1
17/30	424.22-01-19-05	-1
17/31	424.22-01-19-06	-1
17/32	424.22-01-19-07	-2
17/33	424.22-01-20	-1
17/2	424.22-01-22	-1
20/ 14	424.23-09	1
14/ 17	501.01-04	1
15/ 2	501.01-22	1

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3/ 53	16-60502522-02	3
4/ 23	21-04212090-02	2
2/ 18	21-04308090-01	(1)
14/ 52	21-04608080-01	3
4/ 6	21-05205080-01	1
10/ 37	21-06210132-03	1
15/ 19	21-06410131-01	(2)
1/ 47	21-06510110-01	1
3/ 51	21-07205100-01	1
6/ 47	21-07310122-03	2
17/ 16	21-10010181-01	-1
7/ 25	21-16515230-01	3
11/ 14	21-17030300-02	(1)
3/ 55	22-05000000-08	1
1/ 48	23-06405110-09	1
6/ 52	24-03000000-08	1
10/ 39	24-04000000-08	2
6/ 17	24-05000000-08	1
10/ 40	24-05000000-08	1
5/ 26	24-06000000-08	1
10/ 41	24-06000000-08	2
2/ 36	24-08000000-08	(1)
15/ 17	24-10000000-09	(3)
11/ 15	24-12000000-08	(1)
8/ 18	31-03508000-09	1
5/ 27	31-03618000-09	1
14/ 6	31-03618000-09	2
8/ 19	31-04818000-09	1
14/ 37	31-04818000-09	1
8/ 27	31-06718000-09	3
1/ 31	31-09018000-09	1
14/ 47	31-09624000-09	2
1/ 29	31-14018000-09	1
8/ 26	31-17518000-09	1
2/ 62	31-20024000-09	1
14/ 32	31-20024000-09	1
8/ 10	32-08040140-09	2
8/ 11	32-08070180-09	2
6/ 58	32-09470190-09	1
9/ 16	32-09740180-09	2
9/ 15	32-10080260-09	2
8/ 9	32-12035180-09	2
6/ 43	32-14170220-09	1
6/ 14	32-24060350-09	1
14/ 11	42-05003000-00	0.16
14/ 12	42-05003000-00	0.175
14/ 13	42-05003000-00	0.11
14/ 14	42-05003000-00	0.195
14/ 15	42-05003000-00	0.07
14/ 16	42-05003000-00	1.06

部件/序号NO.	图片REF NO.	数量AMT.
14/ 20	42-05003000-00	0.19
14/ 21	42-05003000-00	0.475
14/ 22	42-05003000-00	0.045
14/ 26	42-05003000-00	0.045
14/ 27	42-05003000-00	0.42
14/ 8	42-09007000-00	0.41
14/ 10	42-09007000-00	0.31
14/ 24	42-09007000-00	2
3/ 44	43-10250000-00	0.15
2/ 71	101.01-17	1
5/ 10	101.04-02	1
14/ 54	101.08-28-01	1
15/ 5	101.09-10	(1)
15/ 4	101.09-10-00	1
15/ 26	101.09-15	(1)
15/ 20	101.09-15-00	1
15/ 23	101.09-17	(1)
15/ 24	101.09-18	(1)
15/ 22	101.09-19	(1)
15/ 25	101.09-20	(1)
16/ 1	101.11-01	1
20/ 9	101.12-01	(2)
20/ 8	101.12-02	(2)
20/ 7	101.12-03	(8)
20/ 2	101.12-15	1
20/ 3	101.12-16	1
20/ 4	101.12-17	1
20/ 17	101.12-21	1
7/ 20	109.01-18	1
6/ 8	1197.05-11	2
20/ 5	120.09-04	(2)
20/ 6	120.09-05	(2)
5/ 20	1211.04-07	1
2/ 40	1228.08-11	1
14/ 39	1228.08-12	21
14/ 38	1228.08-34	5
1/ 33	134.01-09	1
1/ 59	134.01-36	1
14/ 40	134.01-79	1
2/ 16	134.02-01	1
2/ 74	134.02-03	1
3/ 12	134.03-03	1
3/ 8	134.03-04	1
3/ 15	134.03-18	1
3/ 10	134.03-19	1
5/ 5	134.04-03	1
15/ 18	134.04-30	(2)
6/ 25	134.05-16	2
7/ 13	134.05-21	1
7/ 14	134.05-22	1

部件/序号NO.	图片REF NO.	数量AMT.
7/ 15	134.05-23	1
7/ 16	134.05-24	1
15/ 7	134.12-03	1
15/ 8	134.12-03-01	(1)
15/ 11	134.12-07	(1)
15/ 12	134.12-08	(1)
15/ 13	134.12-09	(1)
15/ 14	134.12-10	(1)
15/ 15	134.12-11	(1)
20/ 10	134.13-07	1
20/ 15	279.11-18	1
16/ 8	279.12-00-01	-1
16/ 10	279.12-00-02	-1
16/ 7	279.12-00-03	-2
16/ 6	279.12-00-04	-2
16/ 9	279.12-00-08	-1
16/ 13	279.12-00-14	-2
16/ 11	279.12-00-15	-1
16/ 12	279.12-00-16	-2
16/ 14	279.12-00-19	-1
16/ 18	279.12-00-20	-2
16/ 15	279.12-00-21	-2
16/ 2	279.12-00-22	-2
16/ 3	279.12-00-23	-2
16/ 4	279.12-00-24	-2
16/ 5	279.12-00-25	-2
16/ 16	279.12-00-26	-2
16/ 17	279.12-00-27	-2
20/ 11	301.20-13	1
6/ 32	304.08-08	1
1/ 3	423.01-03	1
1/ 36	423.01-04	1
1/ 52	423.01-06	1
1/ 42	423.01-07	1
1/ 46	423.01-08	1
1/ 43	423.01-09	1
1/ 50	423.01-10	1
2/ 63	423.01-10	1
2/ 66	423.01-11	1
2/ 39	423.01-13	1
1/ 39	423.01-14	1
1/ 37	423.01-17	1
2/ 67	423.01-21	1
1/ 54	423.01-22	1
1/ 13	423.01-24	1
1/ 49	423.01-29	1
1/ 56	423.01-36	2
1/ 23	423.01-44-02	(1)
1/ 19	423.01-44-10	(4)
1/ 18	423.01-44-11	(1)

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部件/序号NO.	图片REF NO.	数量AMT.
2/75	11-00090620-01	2
2/72	11-00110620-01	1
4/9	11-00110620-01	2
9/12	11-00160720-01	4
1/40	11-10090720-01	1
2/11	11-10090820-01	4
3/27	11-10090920-01	3
7/27	11-10110821-01	4
10/46	11-10111220-01	1
4/25	11-10151320-01	1
1/41	11-20110850-01	7
2/65	11-20110850-01	2
10/45	11-20110850-01	1
5/18	11-30091020-01	1
12/11	11-40110525-01	(3)
17/3	11-40110525-01	-1
14/42	11-40110625-01	3
14/51	11-40110825-01	2
1/45	11-40110925-01	2
8/20	11-40110925-01	1
10/47	11-40110925-01	2
13/40	11-40110925-01	2
14/53	11-40111425-01	1
1/44	11-40120625-01	1
2/6	11-40120625-01	2
2/77	11-40120625-01	1
13/37	11-40120625-01	2
14/43	11-40120625-01	3
2/58	11-40120925-01	2
6/53	11-40120925-01	2
17/26	11-40120925-01	-6
1/57	11-40121025-01	3
2/69	11-40121025-01	16
12/20	11-40121025-01	4
1/58	11-40121225-01	1
4/14	11-40121225-01	1
4/28	11-40121225-01	3
17/11	11-40121425-01	-1
4/29	11-40121625-01	1
14/55	11-40121625-01	2
1/10	11-40150925-01	4
6/44	11-40150925-01	3
10/48	11-40150925-01	2
11/6	11-40150925-01	2
17/6	11-40151225-01	-2
3/20	11-600110820-01	4
6/13	11-600110820-01	4
1/38	11-60080420-01	1

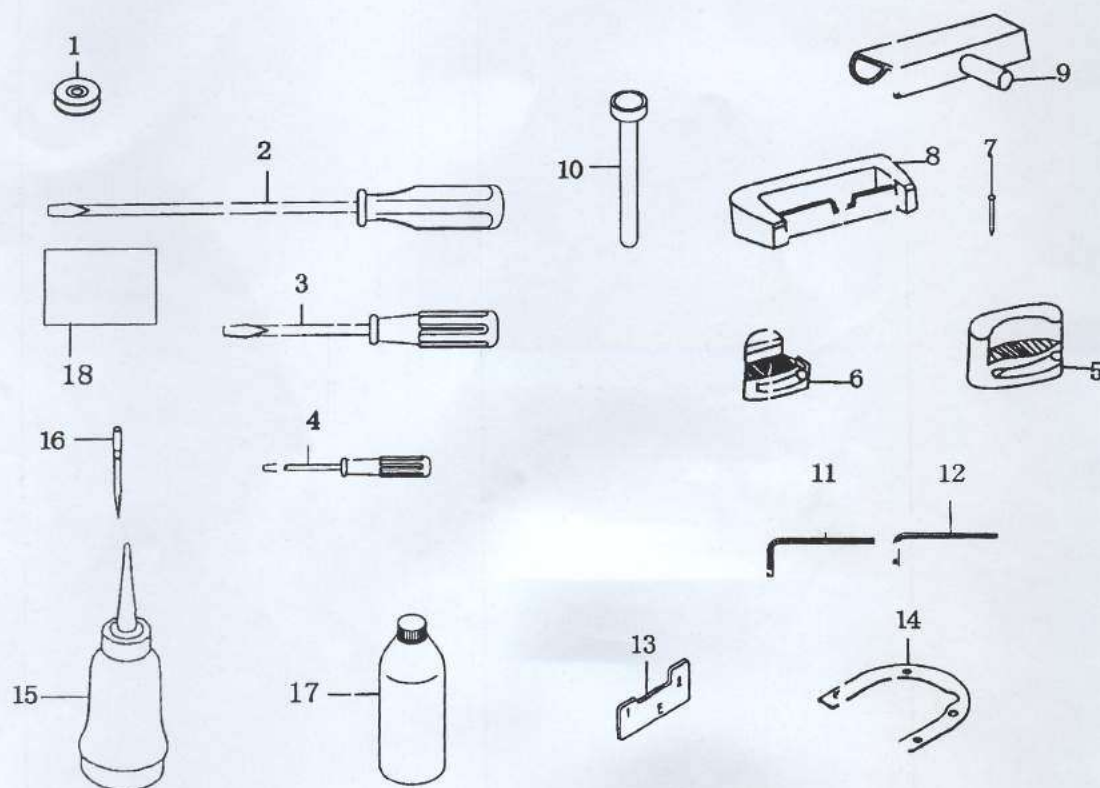
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14/20	42-05003000-00	0.19
14/21	42-05003000-00	0.475
14/22	42-05003000-00	0.045
14/26	42-05003000-00	0.045
14/27	42-05003000-00	0.42
14/8	42-09007000-00	0.41
14/10	42-09007000-00	0.31
14/24	42-09007000-00	2
3/44	43-10250000-00	0.15
1/59	101.01-11	1
2/71	101.01-17	1
5/10	101.04-02	1
14/54	101.08-28-01	1
15/5	101.09-10	(1)
15/4	101.09-10-00	1
15/26	101.09-15	(1)
15/20	101.09-15-00	1
15/23	101.09-17	(1)
15/24	101.09-18	(1)
15/22	101.09-19	(1)
15/25	101.09-20	(1)
16/1	101.11-01	1
20/9	101.12-01	(2)
20/8	101.12-02	(2)
20/7	101.12-03	(8)
20/2	101.12-15	1
20/3	101.12-16	1
20/4	101.12-17	1
20/17	101.12-21	1
7/20	109.01-18	1
6/8	1197.05-11	2
20/5	120.09-04	(2)
20/6	120.09-05	(2)
5/20	1211.04-07	1
2/40	1228.08-11	1
14/39	1228.08-12	21
14/38	1228.08-34	5
1/33	134.01-09	1
14/40	134.01-79	1
2/16	134.02-01	1
2/74	134.02-03	1
3/12	134.03-03	1
3/8	134.03-04	1
3/15	134.03-18	1
3/10	134.03-19	1
5/5	134.04-03	1
15/18	134.04-30	(2)
6/25	134.05-16	2
7/13	134.05-21	1
7/14	134.05-22	1

部件/序号NO.	图片REF NO.	数量AMT.
9/19	11-80160810-01	2
3/18	11-80180710-01	1
2/15	11-80621620-01	2
2/54	12-40201221-02	(2)
4/31	12-40250821-02	1
2/14	12-40300625-01	3
4/18	12-40300625-01	2
2/17	12-40400625-01	(3)
15/32	12-40400625-01	(2)
15/31	12-40404025-01	(2)
4/30	12-40501125-01	1
4/22	12-60401022-01	3
4/24	12-60401422-01	1
17/21	12-60501422-01	-1
17/24	12-60501422-01	-1
2/35	12-80401012-01	(2)
2/30	12-80500512-01	(1)
4/32	12-80500612-01	1
3/6	12-80501012-01	2
3/11	12-80600612-01	6
3/13	12-80600612-01	4
9/20	12-80600812-01	2
3/50	12-80601222-01	1
15/9	12-80603012-02	(2)
3/54	12-90501723-02	1
15/21	12-90601223-02	(1)
15/3	12-90601833-02	(2)
15/6	12-90602423-02	(2)
11/17	13-60113020-01	2
13/39	13-60113020-01	1
6/20	13-60123020-01	1
6/26	13-60153020-01	2
10/36	13-60153020-01	2
15/16	13-60153020-01	(2)
17/5	13-60153020-01	-2
17/10	13-60153020-01	-1
6/42	13-60184020-01	2
5/24	13-60623020-01	1
10/38	14-60302420-02	2
12/19	14-60302420-02	2
4/20	14-60403020-02	1
12/18	14-60403020-02	1
18/8	14-60603010-02	(1)
3/52	14-60603210-02	1
15/10	14-60605020-02	(2)
14/41	16-40501025-02	1
14/48	16-60502022-02	2
1/35	16-60502522-02	3

20. 附件部件 Accessorie Part Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	423.11-09	梭心	Bobbin S	1
2	101.12-15	螺丝刀(大)	Screw driver, large	1
3	101.12-16	螺丝刀(中)	Screw driver, middle	1
4	101.12-17	螺丝刀(小)	Screw driver, small	1
5	120.09-04	机头橡胶垫块(大)	Frame bubble cushion	(2)
6	120.09-05	机头橡胶垫块(小)	Washer	(2)
7	101.12-03	钉	Nail	(8)
8	101.12-02	机头连接座	Rubber cushion	(2)
9	101.12-01	机头连接勾	Hinge COMPL.	(2)
10	134.13-07	膝提压脚顶杆	Knee lifter presser rod	1
11	301.20-13	内六角扳手2	Hexagonal wrench key(2mm)	1
12	423.16-10	内六角扳手3/32	Wrench (3/32)	1
13	423.07-19	同步板	Timing gauge E	1
14	424.23-09	隔离板	Spacer	1
15	279.11-18	滴油壶	Oiler ASM.	1
16	427.03-26	机针	Needle dpx5 #10-2	3
17	101.12-21	油壶(600CC)	Defrix oil no.1(600cc)	1
18	427.20-05	附件袋	Accessorie bag	1

20. 附件部件 Accessorie Part Components



19. 电气控制箱和开关部件 Control Box And Power Switch Components

序号 REF NO.	图号 PART NO.	名称	DESCRIPTION	数量 NUM
1	427.19-01	电缆束X13	Cable tree x13	1
2	427.19-02	电缆束X5	Cable tree x5	1
3	427.19-03	电源开关组件	Power switch assy.	1
4	427.19-04	电气控制箱组件	Control box assy.	1
5	427.19-05	踏板控制器	Set-point generator	1
6	427.19-06	地线组件	Ground wire a ASM.	1