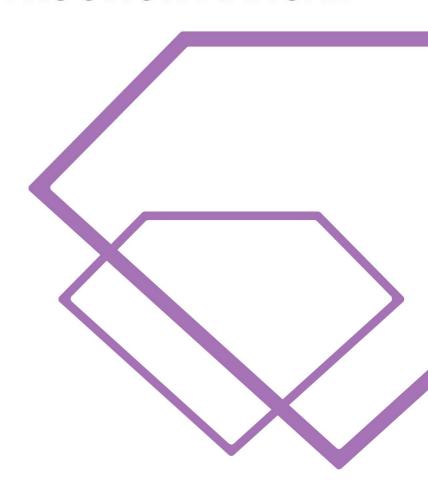
中国高端电脑缝纫机

HIKARI®富山 使用说明书 INSTRUCTION MANUAL



HW782TA 系列 Serles

电脑直驱横筒自动剪线绷缝机 COMPUTER CYLINDER INTERLOCK SERIES

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安全须知 请先仔细阅读

注记

- 坚决禁止未经HIKARI精密机械科技有限公司书面许可,将此使用说明书的全部或一部分,以纸面形式或电子网络形式进行转载、复印、翻译、发布、送信等。
- 此使用说明书所记载的内容只是以提供信息为目的,有未通告而变更的可能。对于这些信息本公司不负任何责任。同时,在此使用说明书中如果有错误或不正确的记述,本公司也不负任何责任、不承担任何债务。
- HIKARI缝纫机时常引入最先进的技术,坚持不断的改革该产品性能、规格的方针。因此,保留未预告而变更规格、设计的权利。这对于本书的「规格」一章中记载的所有型号及子型号的产品有效。

指令

本小册以及省力装置,为了使用的安全按各危险的程度分开使用警告标志。请理解其内容,应严守警告指示。

此缝纫机包含欧洲安全规格的标准和生产厂家的通告,是依据欧洲安全规格而组装的。请严格遵守包括此使用 说明书在内,遵循以一般被承认的制定法做成、符合所有规格和法律的必要条件,以及所有环境保护的规则。 也请严格遵守适用于工作中事故的社会保险的各种规则、以及各地区管理部门及机关制定的规则。

1. 前 言

- 该书是为了安全使用本产品的使用说明书。
- 在使用该产品之前,务必阅读此书,在充分理解掌握缝纫机的操作、检查、调整、维修等方法之后,再进行使用。

■ 工业用缝纫机是在缝纫作业中,操作者距机针等运动着的缝纫机部件近距离进行操作的. 所以时常有接触缝纫机运动部件的危险性,这点应充分认识。

因此, 为了确保安全, 需要本公司提供安全的产品, 使用者正确安全的操作。对于顾客也有一些必要安全对策和要求。缝纫机使用的有关人员务必熟读本书与驱动装置的使用说明书, 在实施必要的安全对策之后, 再充分使用缝纫机。

2. 警告标志

在本公司的产品及本书中, 为了安全使用产品, 根据危险程度将警告表示分别使用。请充分理解其内容, 务必严守书中的提示。

警告标签应贴在时常清楚地明显看得出来的地方。

如那些标签剥落或亏损时, 应及时更换, 贴上新的标签。

如需更换用新的标签,请随时向本公司营业所联系。

提醒注意的标记以及报警用语

危险	表示危险性极大。弄错操作等时会有可能至于死亡或受重伤的危险。
全 警告	操作有错误时,会至于受重伤,甚至发生死亡事故的危险。
 注意	操作有错误时,有可能受轻伤或中等伤害,或会发生损伤物质的危险。

说明图表记号



必须严守指使,应按其内容准确操作为要



万一弄错操作,会有触电的危险。



弄错操作,会招致手指受伤。



有接触高温烫手受伤的危险。



绝对不可碰手



需要进行修理,调整等维修工作时,或有可能落雷的危险时,应预先把电源插头由供电的插座拔掉,以免意外。



必需连接地线,以保护为要。



表示缝纫机转动轮旋转方向。

3. 安全措施

①用途 目的

本公司的工业缝纫机,是以提高服装业的质量和生产率为目的而研 究开发的商品。因此除以上用途外,请绝不要使用。

② 使用环境

本公司的工业缝纫机,根据使用的环境,有可能给缝纫机的寿命, 性能及安全性带来不良影响。



为了安全保护,请勿在下述环境条件之下使用。

- 1. 在靠近高频焊机等生产干扰的机器设备旁边。
- 2. 产生药品蒸气气氛的地方,及受药品飞溅等地方使用或保管。
- 3. 屋外,高温高湿,直接曝晒阳光的地方。
- 4. 周围的温度,湿度很大,会给缝纫机带来坏影响的地方。
- 5. 额定电压常超过±10%以上的电压变动较厉害的地方。
- 6. 电源容量无法确保控制马达规格上所需要的容量时。

③ 安全措施



- (1) 进行维修保养,检验时的安全保护
- ●在对缝纫机进行检查、修理、清扫等维护作业时、请关掉电源开 关之后,再进行操作。

但是,有必要接通电源进行作业时,请制定防止缝纫机以外转动 或操作者错误导致危险的安全操作准则,并遵守一切安全防护规 则。



- ●在进行以下作业时,务必关掉电源开关,将电源插销从插 座上拔下之后进行。
- 加油
- 穿线
- 打扫缝纫机
- 换机针
- 进行供油元件的清扫和更换时。
- 更换机油

●在进行以下作业时,请务必关掉电源开关后进行。 调节针脚长时 调节差动比时 调节上送布牙前后量时

●实施定期检修,保养时,应限由充分熟练省力装置以及缝纫机的 维修工作的专门技术员来进行。



请勿按客户的任意判断而加以改造或更改,会招致事故的 原因

※如有改造或更改的需求,应先联系经销商或本公司营业所询问。

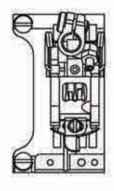


(2) 开始运转前的检验事项

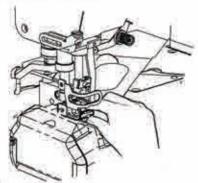
●在开始操作运转缝纫机前,先检查缝纫机的缝纫部分,看是否有 损伤,功能不良等问题。

万一有异常现象时,应马上修理或采取必要的措施。

- ●务必用手触摸来确认针箍是否固定好。
 - ※请注意针尖有危险。
- ●在使用缝纫机之前,务必确认压脚是否在正确的位置。(用手轻轻转动手轮,确认针尖是否落在压脚的针孔中心)。



●务必检查压脚是否牢固的固定好、(使用抬压脚机构抬起压脚、用 手前后左右扳动、检查看压脚是否有松动)





(3) 培训. 进修

●为了防止事故、缝纫机头或缝纫系统的操作人员及维修保养专员。 应先学会所需知识和有关技能、以期工作的安全。 为此,请由客户的管理单位给她们安排培训计划,而实施充分的训练。

4. 各操作过程的注意事项



注意

① 开箱

- 缝纫机机头在出厂时包装好后装入纸箱运出的。从印刷在纸箱上 的标记字样确认上下后。请从上到下按顺序开箱。
- 把缝纫机机头从缓冲包装材料里拿出时,绝不要提拿与机针部位 或过线器等有关的部件,否则会发生危险或损伤机器。
- 3. 在取出缝纫机机头时,应注意重心的位置,小心谨慎的取出。
- 4. 开箱用过的纸箱如果以后还用的话。请好好保存放好。

包装材料的处理

●包裝材料包括木头,纸张,纸箱,VCE纤维。恳请顾客负有责任 的将包装材料正确适合的进行处理。

缝纫机废物的处理

- 1. 缝纫机废物,请客商负责进行处理。
- 2. 制造缝纫机所使用的材料有铁、铝、锌及各种塑料。
- 缝纫机的废物应遵照当地环境保护的有关规定,分别进行处理 必要时请专门的厂家进行处理。
- ※有油污的部件务必遵照当地环境保护的有关规定,分别进行处理。

在顾客领地内移动缝纫机

●关于在顾客领地内移动缝纫机,本制造商没有责任。移动时为 了避免缝纫机掉落摔坏,请注意不要倾斜缝纫机。

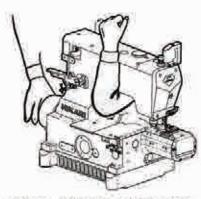
90000000000 安全须知 请先仔细阅读



② 搬运

- 缝纫机机头的搬运一定要两个人以上进行。另外。用人直接搬运应 只限于搬往缝纫机台板或小台车。其他搬运务必使用小台车进行。
- 2. 移动缝纫机机头时,用右手抓住传动轮,左手垮在机头里。扎实牢 固的搬运。

缝纫机上沾有油污在搬运时容 易滑落摔坏,搬运前请好好擦 净机头上的油污。



- 在往續纫机台板上或小台车上搬运时,请注意不要过分冲击或震动,以免缝纫机倾倒造成危险。
- 4. 如果要第二次运送缝纫机并要包装时,请一定擦干净机头上的油污。否则、搬运时会滑脱摔坏机头或油污使包装材料变质穿成。

▲ 注意

③ 安装・准备

缝纫机台板

- 请使用能充分承受缝纫机机头重量及搬运时产生的反作用力的缝 纫机台板(台板、铁架)
- 应充分考虑缝纫机装配部件和操作光线的明亮度。放置在容易作业的环境中。

如果光线不是十分明亮时。应根据需要安装照明电灯。

- 在运转缝纫机时。为防止操作者踩踏板时脚滑脱造成事故。一定要在缝纫机踏板上装防止滑脱的垫子。
- 4. 在考虑操作者姿势的前提下。决定台板面的高度(工作时的高度)

▲ 警告

接线

请将电控箱的损头和电源插座牢固的插好。
 伺服电机的插头和电控箱进行连接时,务必在将电源开关关闭的状态下进行操作。

- 2. 在使用中请不要给连接线过多的力。
- 3. (请不要过度弯曲连接线。
- 接近运动部件(如传动轮、电机等)的连接线、应最小距离 在25mm处进行安装。
- 5. 必要时考虑连接位置或加设护罩来保护连线。
- 6. 固定连接线时绝对不要使用订书钉,以免发生漏电或火灾。



接地

- 接地线,是按每台缝纫系统分别装设专用的接地线,不应与其 他机器共用。



④ 使用缝纫机油

- 在油盘内没有注入油以前绝对不要进行运转。请使用本公司指定的「HIGH SPEED SEWING MACHINE OIL」或使用与此相同的「ESSOTEX SM22 (Exxon Mobil制造)」。
- 机油进入眼睛会使眼睛发炎、所以在使用时请戴防护眼镜以免机油进入眼睛。
- ※万一进入眼睛,请用干净水冲洗15分钟再请医生进行治疗。

- 3. 机油接触皮肤后, 请马上用水和肥皂洗干净。
- 4. ② 绝对不要使机油进入口腔。
- 5. 机油请保管在孩子摸不到的地方。
- ※万一进入口腔,不要硬性呕吐,马上请医生进行治疗。
- 6. 废油, 废容器的处理方法有必要遵照法令的义务, 请根据法令正确处理。如不知道时请与购买部门联系后, 正确进行处理。
- 7. 为了防止灰尘,水分的混入,使用完后保管机油时请盖紧油箱盖, 放在没有阳光直射的阴凉处保管。

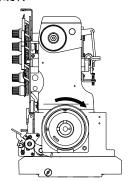


擎告

⑤ 运转缝纫机前的注意事项

缝纫机台板

- 打开电源前,请确认接线或接头是否有损伤,脱落,松动等外观上的异常。
- 2. 在打开电源时,请不要将手放在机针附近或传动轮附近。
- 3. 最初开始运转缝纫机时,打开电源确认传动轮的运转方向。缝纫 机的正运转从传动轮侧面来看是向右旋转。



- 操作缝纫机者应为受过适当训练,充分理解本书及使用说明书的内容之后,再进行操作使用。
- 5. 关于缝纫机机头上的危险,警告标志 应熟读并理解「2. 警告表示」,必要时应对使用者进行安全教育。
- 6. 最初使用的一个月应降低速度。请使用在最高转速的3/4以下的 转速。



、警告

⑥ 运转缝纫机中的注意事项

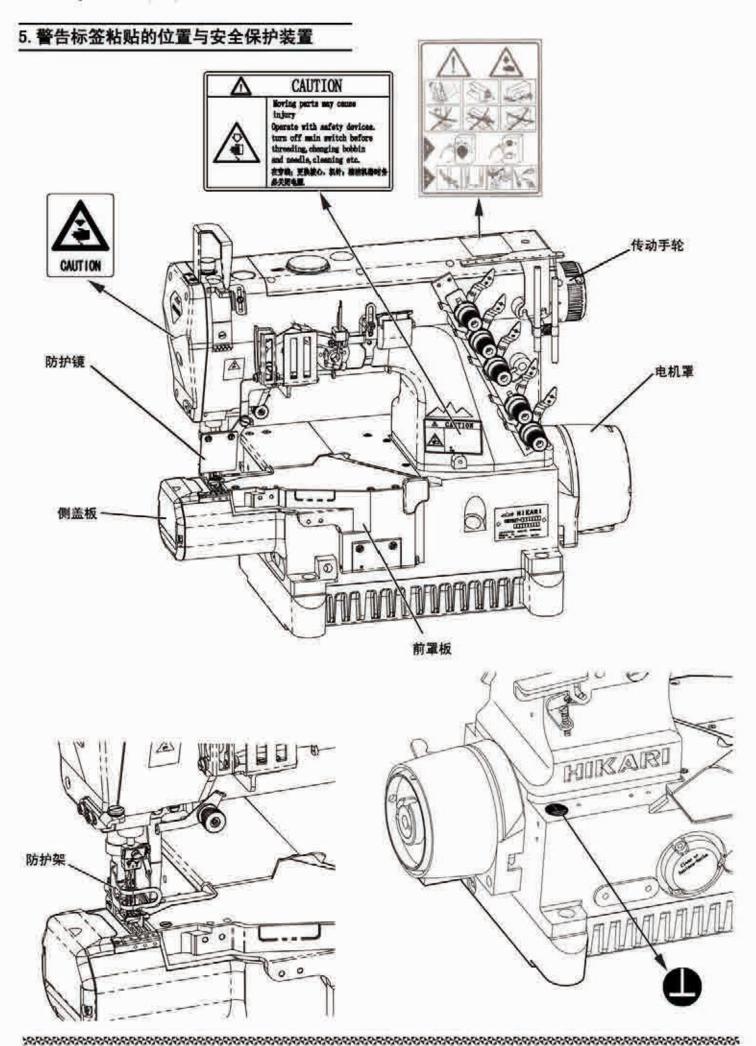
1. **全** 在拆下防护镜,防护架,电机罩等安全装置的状态下,请不要运转缝纫机。

- 2. 缝纫机在运转中是很危险的,绝对不要将手放入机针下。
- 4. 使用带有自动送料装置的缝纫机在开闭导向器时, 小心不要夹了 手指。
- 5. **全** 使用带有RP装置的缝纫机时,缝纫中注意不要让滚轮卷 住手指, 头发。在抬起滚轮放下时, 要十分注意不要夹了手指。
- 6. **全** 使用带有FT装置的缝纫机时,请不要将手指太靠近FT部位,特别在缝纫中很容易发生事故,是很危险的。
- 7. 在不使用缝纫机时或者离开缝纫机时,一定要将电源开关关掉。
- 8. 停电时务必将电源关掉。
- 9. 在操作缝纫机时,请穿着不易被机械卷入的服装。
- 10. **俭** 缝纫机在运转中,请不要在缝纫机台板上放置工具及其他与缝纫无关的物品。



⑦ 维护、检查、修理

- 1. 维护,检查,修理的作业应由受过特别训练的人并在充分理解本书及使用说明书的内容之后,再进行作业。
- 2. 为了维护,检查,修理要将缝纫机机头放倒时,务必将 电源开关关掉,把电源插头从插座上拨下之后,再进行操作。
- 对于缝纫机机头的日常检验或定期检查,应按照本书及使用说明书的指示,切实认真的进行。
- 4. 缝纫机的修理或部件的更换请使用本公司的真实部件。对于不得当修理,调整或使用假冒伪劣部件所造成的事故,本公司将不负一切责任。
- 5. 请不要根据顾客自己的判断对缝纫机进行改造,否则因改造而 发生的事故,本公司将不负一切责任。
- 6. 临时因修理,调整而拆下的安全装置,安全护罩,待作业完成 后务必按原来的状态安装好。
- 7. 维护,检查,修理的作业完成后,请检查接通电源之后是否确 实没有危险。



6. 安全保护装置

这个项目是为了使大家都知道各种安全保护装置,并记载了各部件的注意事项。



注意

安全保护装置

(1) 防护镜



不要打开

为了眼睛的安全,绝对不要打开防护镜的状况下操作缝纫机。 防护镜是为了在缝纫中针断了时,使断针不会飞入眼睛而安装 的防护镜。

(2) 防护架



不要把手指伸入

为了防止上下运动的机针与人接触而产生危险,在机针附近安装了防护架。但是,在防护架上方为了便于穿线而留有间隙,如果将手指从间隙伸入,机针有可能会刺伤手指造成危险。

(3) 电机罩



不要拆卸

缝纫机的伺服电机被罩在电机罩内,在缝纫中易发热(特别在高速运转中)与人接触是很危险的。为了避免,务必长时间使电机置处于安装好的状态。

(4) 传动手轮

请确认缝纫机传动手轮的旋转方向,正确的旋转方向在传动手 轮侧看是向右转的。

(5) 压脚



不要把手指伸入

从针板表面压脚的上升量是5mm以上,这个间隙有夹手指的危险。 在抬升压脚时,请不要将手指伸入压脚下方。

(6) 前罩板



不要打开

弯针的运动从缝纫机正面看时,是进行左右往复的圆弧运动。 为了避免进行圆弧运动的弯针与人接触,务必请在前罩板闭合的状 态下操作缝纫机。

(7) 侧盖板



不要打开

弯针的运动从缝纫机正面看时,是进行左右往复的圆弧运动。 为了避免进行圆弧运动的弯针与人接触,务必请在侧盖板闭合的状 态下操作缝纫机。

(8) 滑板



不要打开

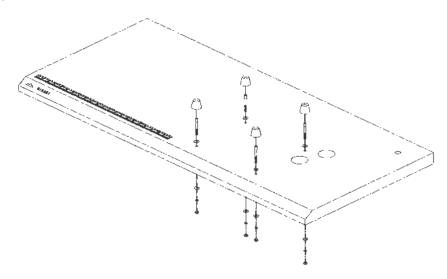
下线挑线器在缝纫时为了挑出一定量的下线在做旋转运动,为了避免进行旋转运动的下线挑线器与人接触,务必请在滑板闭合的状态下操作缝纫机。

安装台的组装

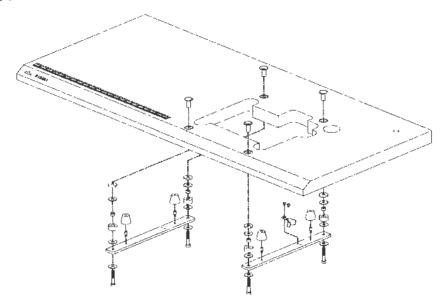
请参照下图组装安装台。

组装时注意不要留缝隙或松动的地方,确实可靠的安装。

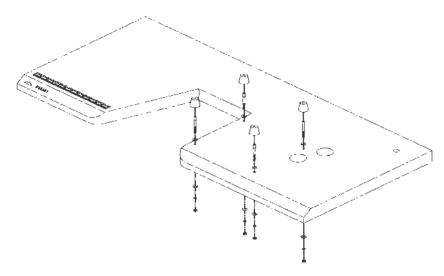
放置式安装



半沉式安装



开口式安装



关于供油

1. 使用的油类

请使用本公司指定的「HIGH SPEED SEWING MACHINE OIL」或者请使用与此相同的「ESSOTEX SM22(Exxon Mobil制造)」。

2. 供油的方法

揭开供油口的盖子 1. 加油至油面到达油标尺的H线和L线中间。 加完油后,请盖好供油口的盖子 1。

3. 油的定量

油标尺 2 的 H 线和 L 线表示着油量的上限和下限。为使油面 经常保持在 H 线和 L 线之间,请常常检查注意加油。

4. 用手加油

在用手加油时,务必将缝纫机的电源关掉,将插头从电源插销上拔下来之后再进行。

缝纫机刚开始使用时,或长期未使用的缝纫机重新开始使用时,请在针杆3、弯针轴 4 等处,用注油壶加2-3滴油。

HIGH SPEED SEWING MACHINE OIL

5. 检查机油的循环状况

请在加完油后,踩下缝纫机踏板,使缝纫机运转,通过油窗 5 检查机油的循环状况是否良好。

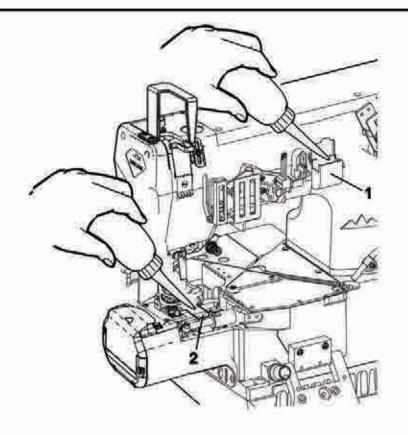
往

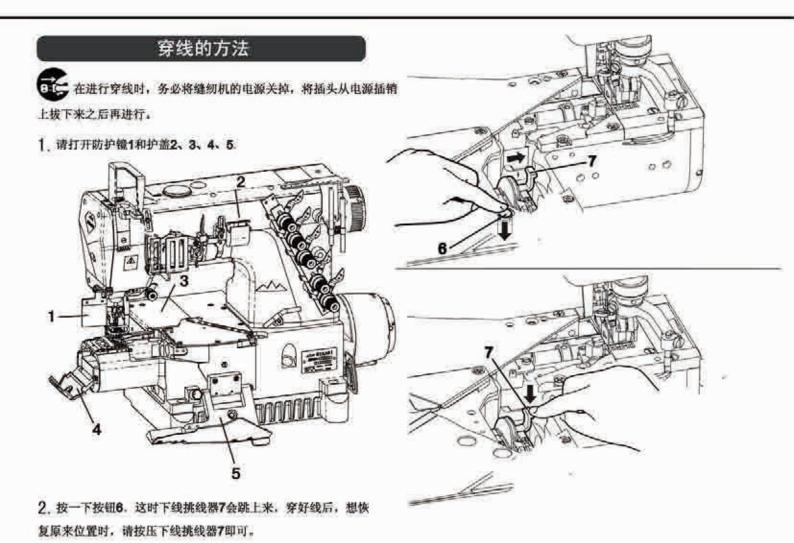
如果不喷油时,请看16页"过滤器的检查与更换"再次检查过 滤器。

给 HR 装置供油

● 在給川 R 裝置供油时, 务必将缝纫机的电源关掉, 将捕 头从电源插销上拔下来之后再进行。

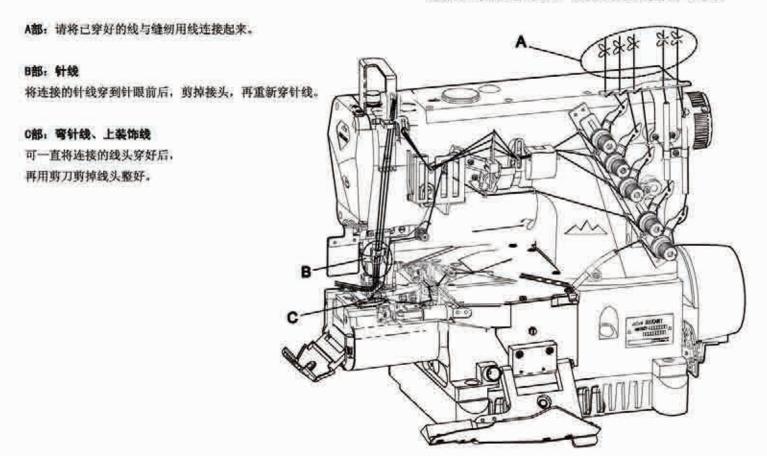
在 H R 装置的硅油盒1、2. 为了防止机线断线加有硅油, 请经常检查, 请尽早补充硅油。



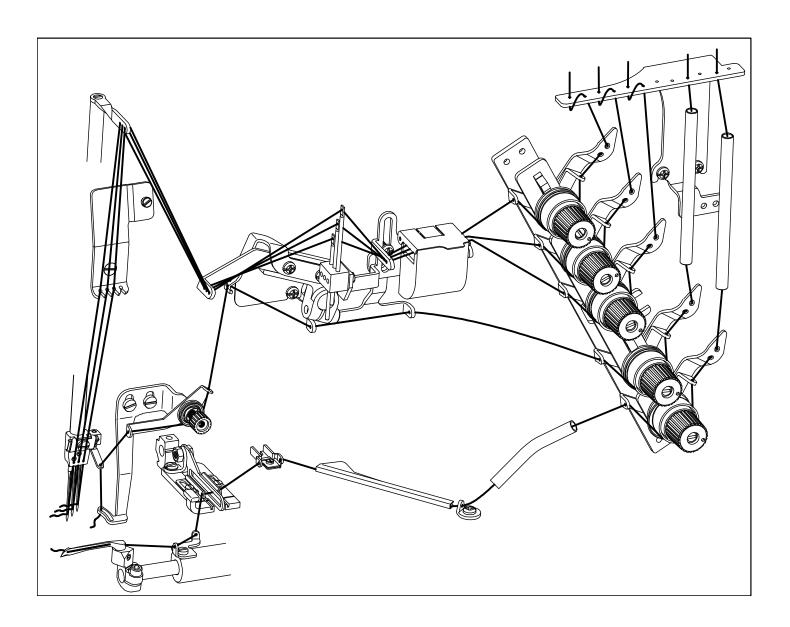


3. (如果已穿好线时)

缝纫机如果没有穿线的话,请参见穿线图穿好线(13页)



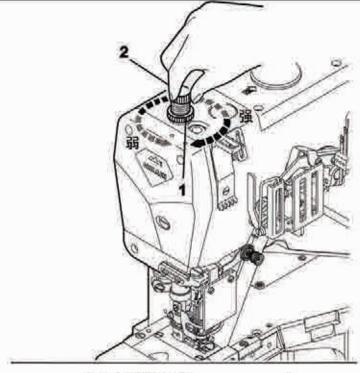
4. 穿线图



压脚压力的调节

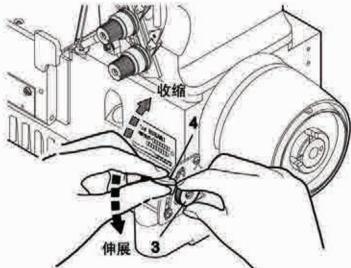
压脚的压力在送布能正确的进行,并且能缝出稳定针脚的范围 内,请尽量使用较小的压力为宜。

松开螺母1, 用手旋转调压螺丝 2 进行调节, 调节完后拧紧螺母1。



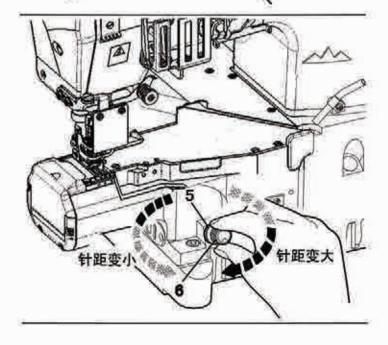
差动比的调节

- 松开螺母3,将扳手4向上扳,则差动比变大,缝过的布料会缩起来,将扳手4向下扳,则差动比会变小,缝过的布料会伸长。
- 2. 调节完后, 请将螺母3 拧紧。



针脚长度的调节

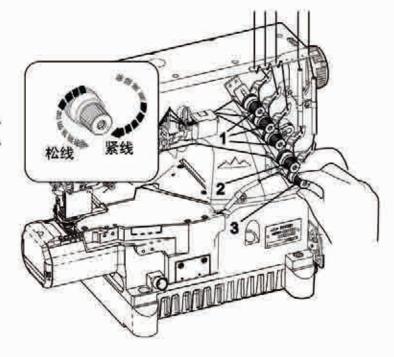
松开螺母5,将调节螺杆6向右旋转则针脚针距变大,向左旋转则针脚针距变小。调节后请拧紧螺母5。



线状态的调节

线状态的调节请用针线调节旋扭1、上装饰线调节旋扭2和下弯针调节旋扭3进行调节。

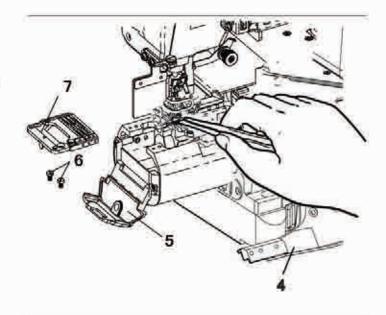
想将线拉紧一些时,可将各旋扭向右旋转,想松一些时可向左旋转。 在能取得均匀且漂亮缝纫效果的情况下,尽量采用较松的夹线状态。

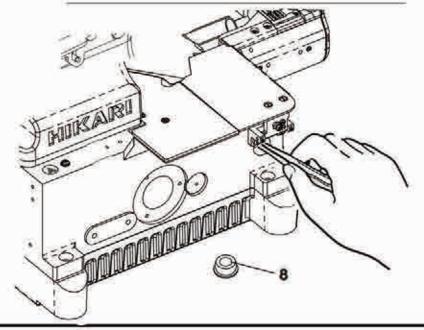


缝纫机的清扫

在清扫缝纫机时,务必将缝纫机的电源关掉,将插头从电源 插销上拔下来之后再进行。

- 1 打开护盖4、5, 请松开螺丝8将针板架7拆卸下来。
- 2. 请打扫针板的空槽和送布牙周围。
- 3. 用螺丝6安装好针板架7后,请闭合护盖4、5。
- 4. 拆卸下橡胶塞8. 清扫内部后, 安装好橡胶塞8.

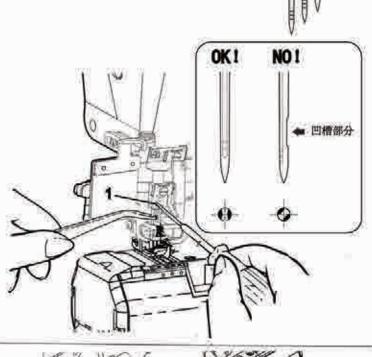




机针的更换

在更换机针时,务必将缝纫机的电源关掉,将插头从电源插 销上拔下来之后再进行。

- 1. 请使用(1.5mm)的六角螺丝刀松开固定螺丝1。
- 2. 用附带工具箱的镊子将旧针取下来。
- 3. 将机针的凹槽朝着缝纫机后面进行安装。
- 4. 用镊子将新针插入到针箍架的最深处。
- 5. 然后使用(1.5mm)的六角螺丝刀拧紧固定螺丝1。



OK!

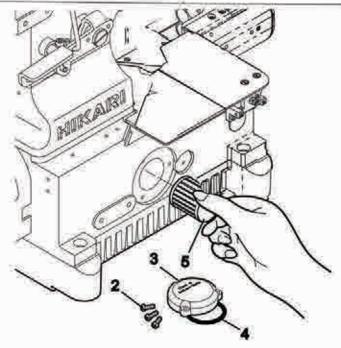
NO!

过滤器的检查与更换

在检查过滤器时,务必将缝纫机的电源关掉,将插头从电源插 销上拨下来之后再进行。

拆卸下螺丝2、盖子3、O形密封關4及过滤器5,然后检查过滤器。 检查或更换过滤器之后,用螺丝2安装好过滤器5、O形密封图4、 盖子3。

如果过滤器5被垃圾堵住的话,就不能正常的供油,所以请每六个月 拆下过滤器5进行检查或更换一次。

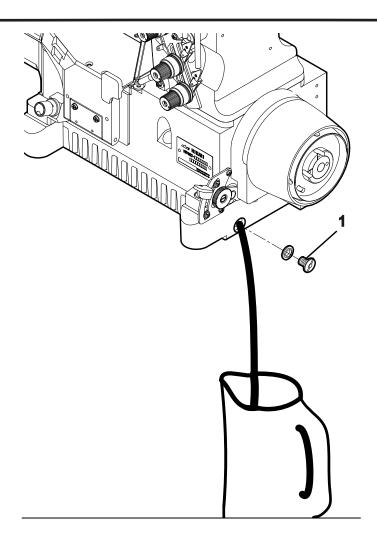


机油的更换

缝纫机在开始使用1个月后更换一次机油,然后请每6个月更换一次 机油,如果不更换机油继续使用,缝纫机有可能发生故障。

排油的方法

- 1. 请卸开油箱底座排油孔盖螺丝1,排出旧油。
- 2. 排完油后,将排油孔盖螺丝1拧紧。



FT装置的调节

手工润滑

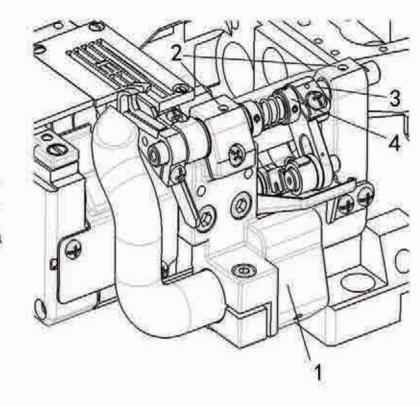
首次使用附带装置的缝纫机以及暂停使用时,请对 切刀固定座1上的油孔2进行手工润滑,加入适量润滑油。

刀的啮合压力的调节

关于上下刀的啮合压力。请在顺利地切割布料的范围内尽可能地 将压力调节得弱一些。

调节时保持连杆3在正确的安装位置,然后调节轴固4的位置来 调节切刀啮合力,让后锁紧4上的螺钉

轴固4向左移动啮合力变强。向右移动啮合力变弱。



下刀台左右位置的调节





进行下刀台的调节时,请务必关闭缝纫机的电源开关。

从插座拔掉电源插头,并由专业技术人员进行。

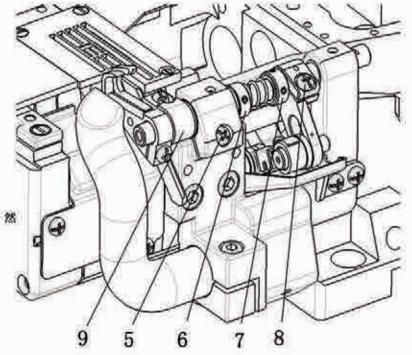
调节布料的切割位置时、请左右移动切刀座5来进行。

调节时,请首先松开,螺钉5、螺钉8、以及轴固6、7上的螺钉,然 后移动切刀座9来进行调节。

调节后,请重新紧固螺钉5、螺钉4以及轴固螺钉。

注意调节后应保持动刀左端面距离排料管有适当的距离

※调节下刀台之后、请重新调节刀的啮合压力。



上刀上下量的调节



⚠ 注意



进行上刀的上下量的调节时,请务必关闭缝纫机的电源 开关,从插座拔掉电源插头,并由专业技术人员进行。

请根据布料的厚度调节上刀的上下量。

- 1 调节时、请松动螺母1、通过上下移动连接销2来进行调节
- 向上移动连接销2,上下量会增多
- 向下移动连接销2、上下量会减少

※调节上刀的上下量之后, 请重新调节刀的啮合压力。

刀的更换



⚠ 注意



在调节刀片时,务必将缝纫机的电源关掉。把电源插头

从插座上拔下来之后,请专门的技术人员进行操作。

刀片的刃部有划破手指的危险,操作时要特别小心注意。

下刀的更换

- 1. 请松开螺钉4、螺钉6,将动刀座3向左移动,然后取出 旧的下刀5
- 2. 取出新的下刀5插入下刀座7的槽内, 使下刀5的刀刃与 针板平面在同一水平面上, 然后紧固螺钉4 和 6

上刀的更换

- 1. 请松开螺钉4, 将上刀座3取下, 请松开螺钉8 将旧的上刀9取下。
- 2. 将新的上刀9取来,放在上刀座3上,
- 对其销孔及螺钉孔, 然后锁紧螺钉8
- 3. 在进行厚料缝纫时,建议将切刀护罩10取下, 以防出现阻塞布屑的情况

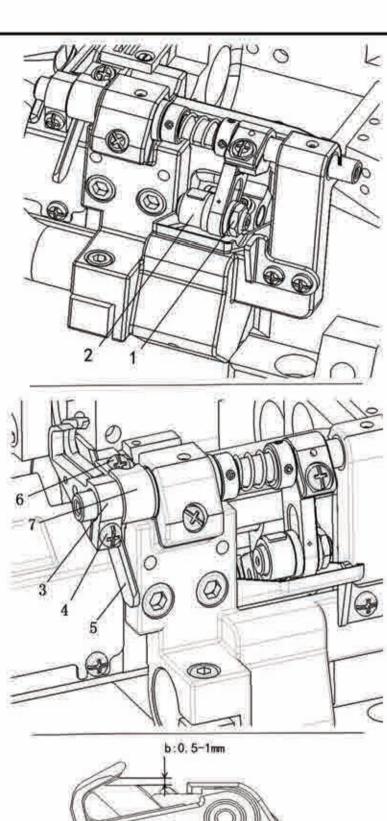
刀的啮合调节

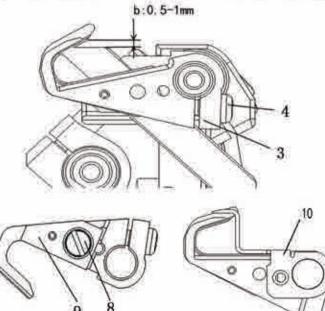
请旋转传动手轮,将上刀调节至最下位置。

请正确进行调节,以便上刀和下刀的啮合尺寸b达到如图所示的

0.5mm。调节时, 请松动螺钉4, 并上下移动动刀座3. 调节后,

请紧固螺钉。





RP装置的调节

手工润滑

首次使用附带RP装置的缝纫机以及暂停使用时,请对环1的加 油孔2进行手工润滑。

滚筒的升降

安装布料时,以及取下缝纫完毕的布料时,或不使用RP装置时, 请升高杠杆5。

使用RP装置进行缝制时,请下调杠杆5。

滚筒的压杆压力的调节

关于滚筒3的压杆压力,请在顺利地传送布料的范围内尽可能将 压力调节得弱一些。

- ●将调节螺丝4向右旋转,压杆压力就会增强。
- ●将调节螺丝4向左旋转,压杆压力就会减弱。

送布料量的调节



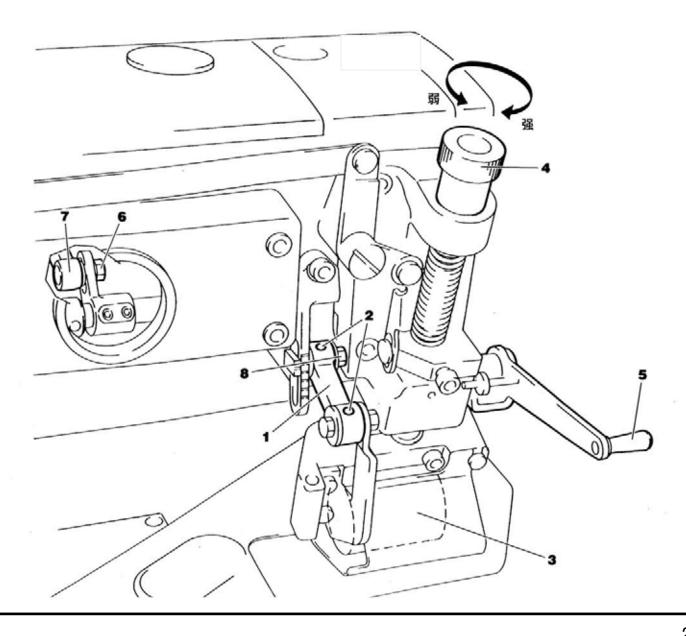
建全 进行送布料量的调节时,请务必关闭缝纫机的电源开关,从 插座拔掉电源插头,并由专业技术人员进行。

请进行调节时,以便送出与缝纫机缝制布料的量相同的量。大致的 调节只需对连杆7的位置进行调节即可。请松动螺母6。

- ●升高连杆7,送布料量就会减少。
- ●下调连杆7,送布料量就会增加。 调节后,请紧固螺母6。

微调只需调节环1的位置即可。请松动螺母8。

- ●升高环1,送布料量就会减少。
- ●下调环1,送布料量就会增加。 调节后,请紧固螺母8。



挑线、过线的调节

1. 挑线的调整

- 针棒最低位置,和托架1水平位置,调整时,松开螺丝2,将托架上下调整。
- 从托架(a)到针过线(b)标准尺寸为75mm,调整时松开螺丝 3,左右移动针挑线杆4。
- 左(-)方向动时,针线紧。
- 右(+)方向动时,针线松。

2. 过线的调整

● 过线件5

螺丝6中心到过线件5孔中心尺寸为7.0mm, 调整时松动螺丝6, 将过线件5上下移动。

- 过线件7、8、9 螺丝6中心到过线件7、8、9孔中心尺寸如图所示,调整时 松开螺丝10、11、12 ,将过线件7、8、9上下移动调整。
- 往上移动线紧。
- ◆ 往下移动线松。对照线的特性进特调整。

3. 护线的调整

护线件13在长孔中心安装螺丝14, 护线件13, 弯针进线时可以改变线圈形状。

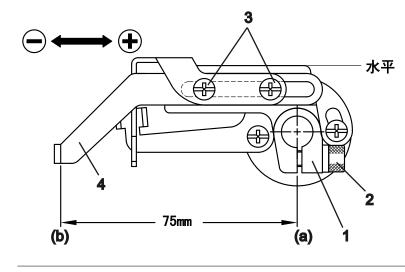
护线件13(+)方向移动时,线圈变大。

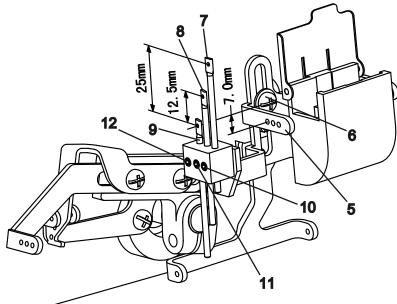
护线件13(-)方向移动时,线圈变小。

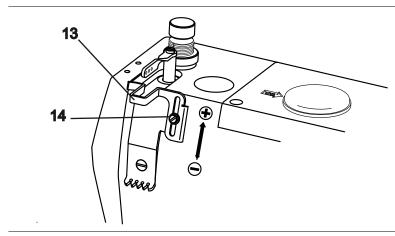
4. 饰线过线调整

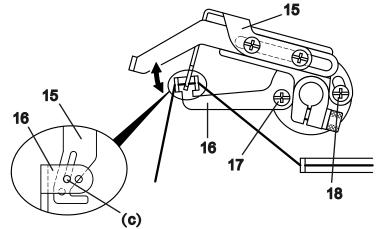
饰线过线件15在最高位置时,饰线过线16的孔(C)如图所示,将饰线过线件16调到孔下面。

调整时松开螺丝17、18,将饰线过线件16上下调整。









下线挑线器的拆卸或安装

在拆卸或安装下线挑线器时,务必将缝纫机的电源关掉, 并将插头从电源插销上拔下来之后,再请专门的技术人员 进行操作。

下线挑线器的拆卸

- 1. 请连续按两下按钮1, 抬升起下线挑线器架2。
- 2. 松开螺丝3, 拆卸下下线挑线器4。

下线挑线器的安装

- 1. 请将下线挑线器4安装在轴5上。
- 2. 边将下线挑线器4向箭头方向按压,边拧紧螺丝3。
- 3. 然后请按回下线挑线器架2。

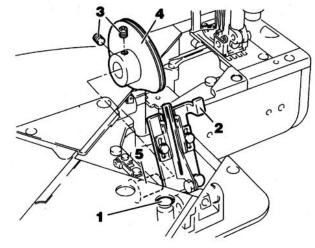
※安装好下线挑线器后,务必参照「下线挑线器的调节」调节下 线挑线器。

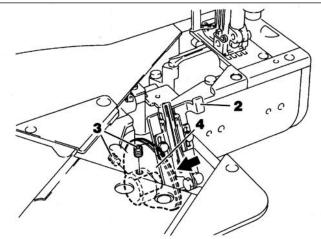
下线挑线器的调节

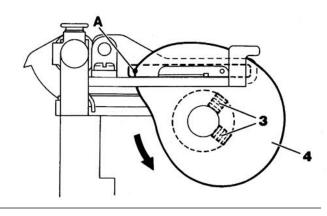
在调节下线挑线器时,务必将缝纫机的电源关掉,并将插头从电源插销上拔下来之后,再请专门的技术人员进行操作。

当弯针从最左位置向右运动,左边的针下降到右图所示的位置时, 使下线呈从下线挑线器的**A**点将要脱出的状态。

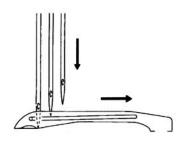
调节时,松开螺丝**3**,转动下线挑线器进行调节,调节好后,请 拧紧螺丝**3**。







从下线挑线器4的A点处弯针线 要脱出时,左边针尖的位置



下降到弯针下边沿时

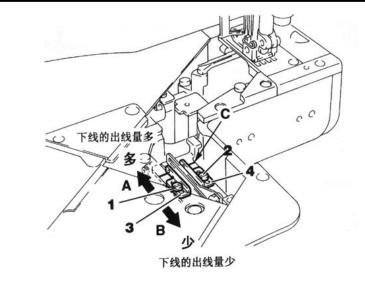
下线过线器的调节

在调节下线过线器时,务必将缝纫机的电源关掉,并将插头从电源插销上拔下来之后,再请专门的技术人员进行操作。

参照右图松开螺丝1、2,将下线过线器3、4的孔部对准记号C (标准位置)。然后临时拧紧螺丝1、2。

•将下线过线器3、4向着箭头A方向移动,则下线的出线量变多。 •将下线过线器3、4向着箭头B方向移动,则下线的出线量变少。

调节好后,请拧紧螺丝1、2。



上装饰的调节



在调节上装饰器时,务必将缝纫机的电源关掉,并将插 头从电源插销上拔下来之后,再请专门的技术人员进行操作。

1. 钩线器的调节

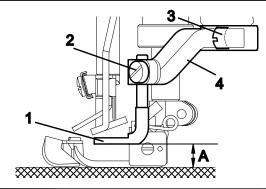
(1) 高度及前后位置的调节

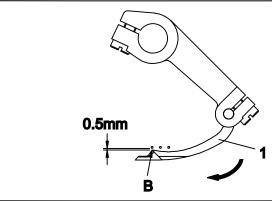
请参照P32的调整标准表,调节针板的上面到钩线器1下边的 尺寸A,使之为与所使用的缝纫机相符合的尺寸。调节好后临 时拧紧螺丝2。

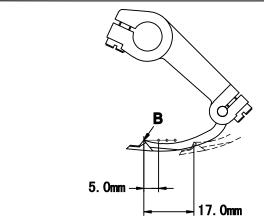
调节前后位置钩线器1从最右边位置移动到左边、钩线器1的 刃尖B到达左针前时,将钩线器1前后移动进行调节,使之与 左针的间隙为0.5mm。调节好后,拧紧螺丝2。

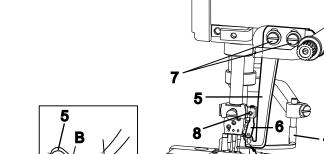
(2) 左右位置的调节

松开螺丝3,左右移动钩线器1进行调节,钩线器1在最左边位 置时,使左边针中心到钩线器1的刃尖B之间的尺寸为5.0mm。 调节好后,拧紧螺丝2。







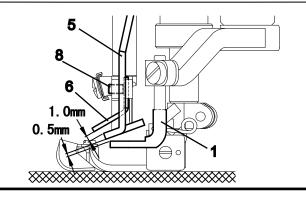


2. 装饰线导向器的调节

- (1) 钩线器1在最右边位置时,松开螺丝7进行调节,使装饰线导向 器5与钩线器1之间的间隙为0.5mm。调节好后,临时拧紧螺丝7。
- (2) 左右移动装饰线导向器5进行调节,使钩线器1的刃尖B能够到达 装饰线导向器5的长槽中心位置为好。调节好后,拧紧螺丝7。

3. 装饰线导向器过线器的调节

- (1) 机针在最下边位置时,松开螺丝8进行调节,使装饰线导向过线 器6能够到达装饰线器5的长槽前D处的最上部为好,调节好后,临 时拧紧螺丝8。
- (2) 前后移动装饰线导向过线器6进行调节,使装饰线导向过线器6与 装饰线导向器5之间的间隙为1.0mm。调节好后,拧紧螺丝8。



(7)

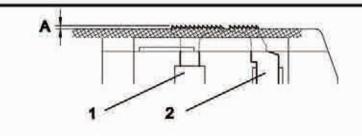
送布牙高度的调节

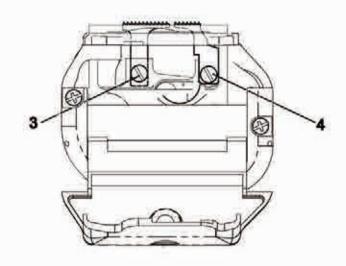


在调节送布牙高度时,务必将缝纫机的电源关掉,并将插 头从电源插销上拨下来之后,再请专门的技术人员进行操作。

当送布牙抬升到最上部位置时,请将针板表面到主送布牙1和差 动送布牙2的牙尖连线的距离A调节到0.8~1.2mm。

调节时松开螺丝3、4、将送布牙1、2向上或向下移动进行调节。 调节后。请拧紧螺丝3、4。





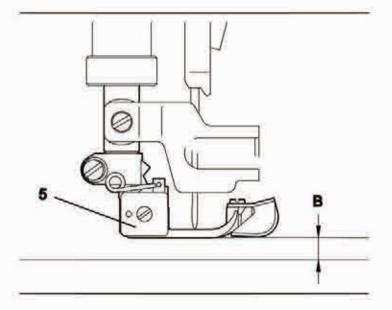
压脚抬升量的调节

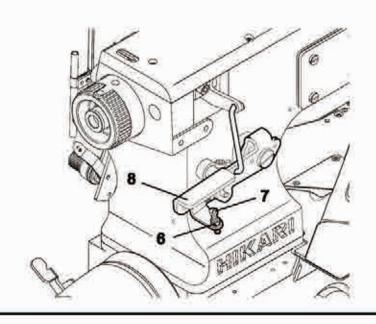


在调节压脚抬升量时,务必将缝纫机的电源关掉,并将插 头从电源插销上拔下来之后,再请专门的技术人员进行操作。

当压脚5拾起来时,根据所使用的缝纫机,并参照P.34参数规格 表,请将针板表面到压脚底面的尺寸B调节到适当的位置。

- 1.请转动手轮,使送布牙下降到最低位置。
- 2. 请扳下扳手8. 调节压脚的抬升量。 这时请注意不要让上装饰钩线器和压脚接触。
- 3.请松开螺母8,将螺丝7旋转顶住扳手8后,拧紧螺母8。





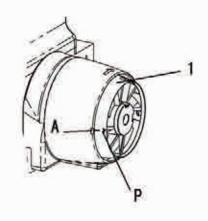
针高度的调节

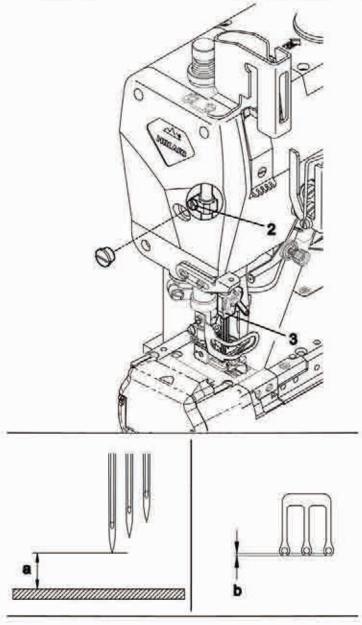


在调节机针高度时,务必将缝纫机的电源关掉,将插头从电源 插销上拔下来之后, 再请专门的技术人员进行操作。

当针上升到最上部位置时,诸参照P. 32调整标准表,以与所使用的缝纫 机相符合的尺寸、调节左边针尖到针板表面的尺寸a.

- 1_请转动手轮1,将手轮上的记号P与电机罩的记号A对齐,并将针棒 升到最高位置。
- 2. 请松开螺丝2将针箍3向上或向下移动,调节针的高度。
 - ●调节完针的高度后,在拧紧螺丝2之前,请调整针板的针孔与 针之间的间隙b使之均匀相等。





弯针的调节





在调节弯针时,务必将缝纫机的电源关掉,并将插头从电 源插销上拔下来之后,再请专门的技术人员进行操作。

1.下弯针的引出量

当弯针在最右边位置时, 根据所使用的缝纫机, 请参照P. 32调整 标准表,调整右针中心到弯针尖的引出量A,使之为适合的尺寸。

调节时松开弯针架2的螺丝3,将弯针架向左右移动进行调节。 调节后, 拧紧螺丝3。

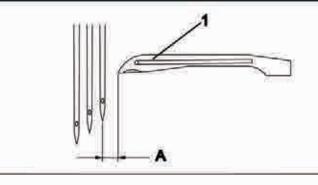
2. 弯针前后位置的调节

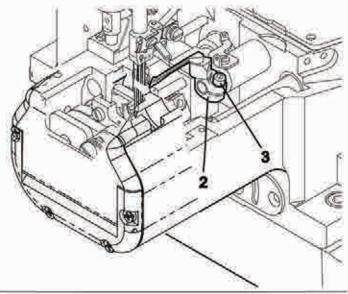
当弯针尖从最右边位置到达左针中心位置时,请将左针与弯针尖的 前后间隙调节到0.05~0.1mm.

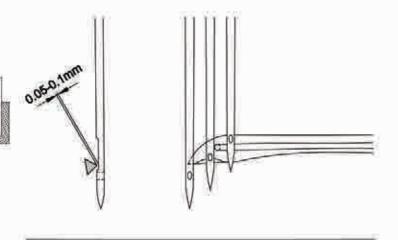
●3根针的缝纫机其弯针尖从最右边位置到达中间针的中心时,调节 使中间针和弯针尖的前后间隙为0~0,05mm。

调节时松开弯针架2的螺丝3,将弯针架向前后移动进行调节。 调节好后, 拧紧螺丝3。

当弯针尖从最右边位置通过右边针的中心时,(在后护针不起 作用的状态下)调节使右边针和弯针尖只有轻微接触。







(后)护针的调节



(后)护针时,务必将缝纫机的电源关掉,并将插头 从电源插销上拔下来之后, 再请专门技术人员进行操作。

- 1. 当弯针尖从最右边位置到达右边针的中心时, 松开螺丝2向上 或向下移动(后)护针+进行调节,如右图所示的使(后)护针+ 的A线和右针之间为1mm。调节好后, 拧紧螺丝2。
- 2. 当弯针尖从最右边位置到达右边针的中心时, 松开螺丝3向前 或向后移动(后)护针1进行调节,使右针和弯针尖的前后间 隙为0-0.05mm。调节好后, 拧紧螺丝3。
- 3.3根针的缝纫机其弯针尖到达中间针的中心时,松开螺丝2将 (后)护针1向左或向右摆动,调节使中间针和弯针尖的前后 间歇保持0-0.05mm的状态下,并使中间针与(后)护针1轻接 触为好。

(前)护针的调节

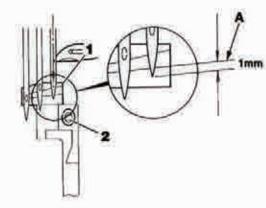


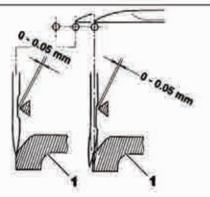
日 在调节(前)护针时,务必将缝纫机的电源关掉,并将 插头从电源插销上拨下来之后。再请专门的技术人员进行操作。

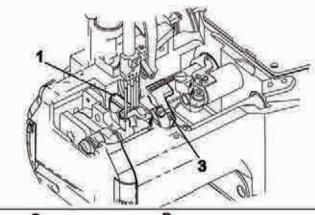
1 请通过松动螺丝6来调节护针5的高度,以便护针5和护针台7 的间隙C达到0.5mm。

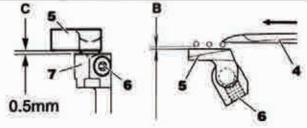
调节后,请预装配螺丝6.

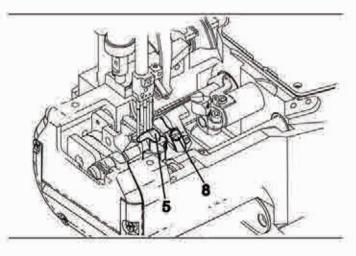
2. 弯针4向左移动通过各针的内侧时, 松开螺丝6、8、调节(前) 护针的角度和前后位置,使针与(前)护针5之间的间隙B为0.3-0.5 岫. 调节好后, 拧紧螺丝6、8。











差比动的调节

出厂时差动比率设定为1:0.9~1:1.3。(针距≤4.5吋) 针距<4.5~6吋,差动比率为1:0.9

在调节差动比时,务必将缝纫机的电源关掉,并将插头从电源捕销上接下来之后,再请专门的技术人员进行操作。

如果使用差动比为1:1.3~1:1.8时。

备注: 当使用大针距时(4.5≪大针距≪6.5),可以通过松开 螺钉1与螺钉5进行调节,此时需要注意差动比,主牙只能比差 动牙快或者同步,不允许使用1: 1.1~1: 1.8,若使用此差动比 会造成差动牙磁机壳与针板。



注章

如果使用差动比为1: 1.3~1:1.8时,送布牙和针板会冲突,有发生破损的可能,务必请将送布牙的运动量设定在2.5mm以下。

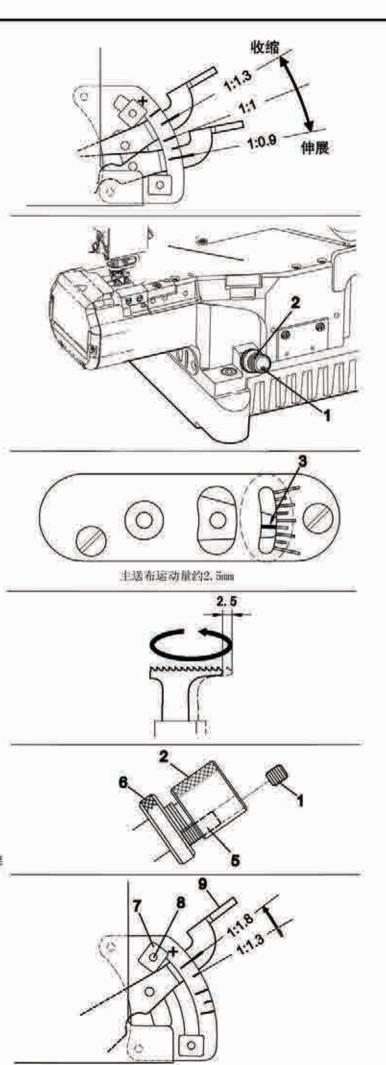
▲ 如果使用差动比为1: 1.3~1:1.8时,务必将缝纫机的旋转数设定在4500rpm 以下。

如果使用差动比为1: 1.3~1:1.8时, 请按照以下要求将主送布牙的运动量限制在最大为2.5mm。

- 1 松开并卸下带节螺丝1。
- 旋转针脚长度调节螺丝2, 请将扳手的刻度3调到右图所示位置。 (主送布牙的运动量约2.5mm)
- 用手转动缝纫机手轮,并转动针脚长度调节螺丝2进行微调,使 主送布牙的运动量为2.5mm。
- 4. 向右转动针脚长度调节旋钮内的销螺丝5直到接触螺母6,然后请将销螺丝1装入针脚长度调节螺丝2中。
- 5、松开定位块7的固定螺丝8。

松开螺母,将调节扳手9对准如图所示位置(调节扳手9的记号对准 1:1.8的刻度位置),拧紧螺母。

将固定块7接触调节扳手9. 然后请拧紧固定螺丝8。

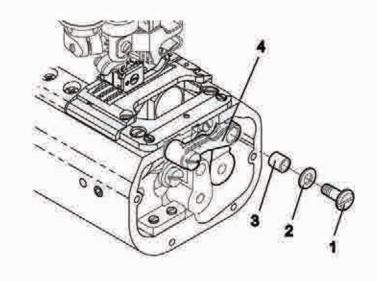


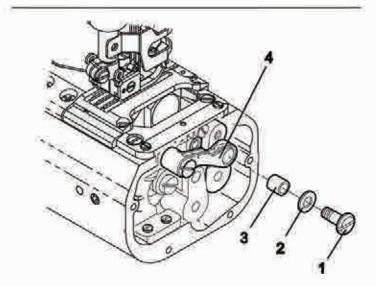
如果使用差动比为1:0.6~1:1.1时

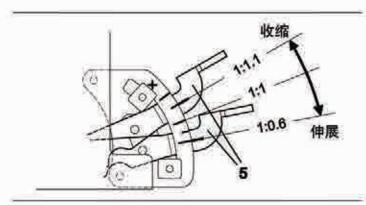


在进行差动比变换时,务必将缝纫机的电源关掉,并将插头 从电源插销上拔下来之后,再请专门的技术人员进行操作。

- 1. 请依照螺丝1、垫片2、套筒3的顺序拆卸下来。
- 2.将链套4的安装位置错开下边的螺丝孔,依照套筒3、垫片2、螺 丝1的顺序进行安装。
- 3. 变更以上链套4的安装位置。调节扳手5的可动范围仍为出厂时的 状态(标准位置),而差动比则变为1:0.6~1:1.1。







针杆行程的变换



⚠ 注意

□ ← 在进行针杆行程的变换时,务必将缝纫机的电源关掉,并 将插头从电源插销上拔下来之后,再请专门的技术人员进行操作。

缝纫机在使用高行程时,必须将缝纫机的旋转数定在 4500rpm以下使用。

在进行针杆行程的变换时,务必请参照针高的调节 (P26)、弯针的调节(P27)、护针的调节(P28),重新进行调节。

- 1 请松开摆动配重1的螺丝2. 用螺丝刀将偏心连杆3向箭头方向 左右旋转,(直到槽A的左死点或右死点)
- 2. 转动偏心连杆3的螺丝4, 向左或向右旋转, 以变换位置则可 变换针杆的行程。

标准行程的位置

请将偏心连杆3的槽A旋转到右死点

高行程的位置

请将偏心连杆3的槽A旋转到左死点

给针杆腔供油量的调节



注意

因为供给针杆腔的油量在出厂时设定在最佳状态,通常不需要进 行调节,万一需要进行调节时,请按以下顺序进行调节。

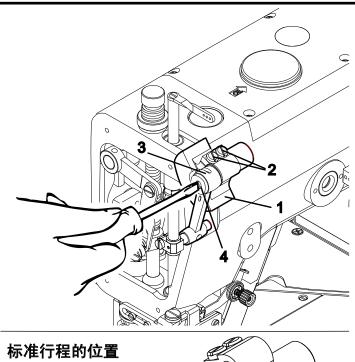


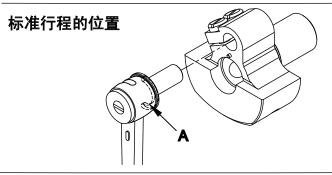
警告

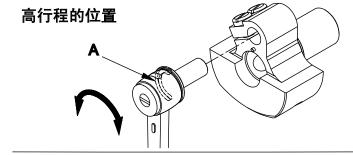
请绝对不要进行超出可调节范围的调节,以免损伤缝纫机。 请松开螺母6,转动调节螺丝5,调节供油量。(调节范围是以螺 丝槽为基准左右转动45°)

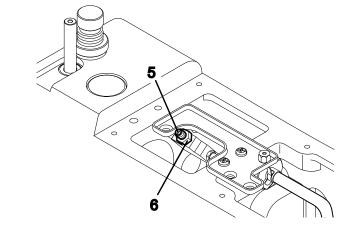
- 将调节螺丝5向右转动,则供油量减少。
- 将调节螺丝5向左转动,则供油量增多。

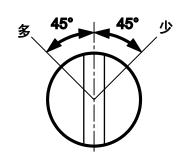
调节后请拧紧螺母6。











右切刀装置的调节

送布牙前后运动时带动上切刀运动,从送布牙送出来的多条布料,一边上 切刀切,一边从送橡皮筋装置送出橡皮筋使其漂亮的的缝合。

手动供油

安装切刀装置的缝纫机开始使用时或很久未使用时,切到固定座油 孔1 请手动供油。

导布板的调节

要使上切刀在一定的宽幅切落布料,根据布料的种类、厚度,调节导布板 2 的位置

调节的时候松螺钉3调节导布板2的左右运动

压脚上升的调节



⚠ 注意

进行压脚上升的调节时,请务必关闭缝纫机的电源开关,从插座拔掉插头,并由专业技术人员进行。

合并皮筋、花边、布料等种类和厚度,可以调节压脚的上升量。 在缝有厚度的皮筋时,抬压脚的前面使之减轻压脚的抵抗,能顺畅的 送皮筋和布料。调节时松螺母4、螺钉5安顺时针方向调节。

切刀部分的调节



小 注意

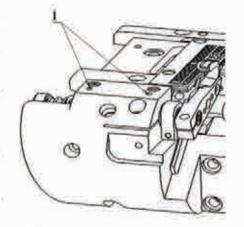
进行切刀部分的调节时,请务必关闭缝纫机的电源开关,从插 座拔掉插头,并由专业技术人员进行。

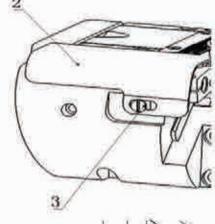
1. 上切刀压力的调节

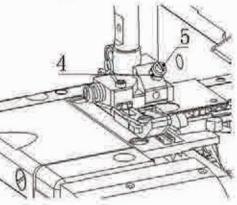
上切刀咬合的压力, 在能顺畅切布料的范围内尽量减弱压力

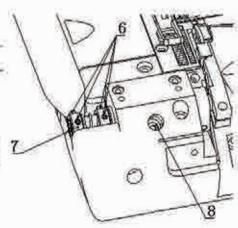
- 1. 增强咬合压力时, 松螺钉4个螺钉6和一个螺钉9把轴固7往右移 7
- 减小咬合压力时, 松螺钉4个螺钉6和一个螺钉9把轴固7往左

调整好压力之后重新把所有松动的螺钉锁紧



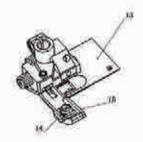






2. 下切刀座左右位置的调节

1. 松掉两个螺钉9、螺钉10 和螺钉11, 下切刀座11 可以进行左右移动, 下切刀座11 左右移动的时候要同步松掉件12 (压脚)上的螺钉14 左右移动件15(皮筋导向板)。调节好之后要把所有松动的螺钉重新锁紧并重新调节上切刀的压力。



3. 上切刀座的安装高度的调节

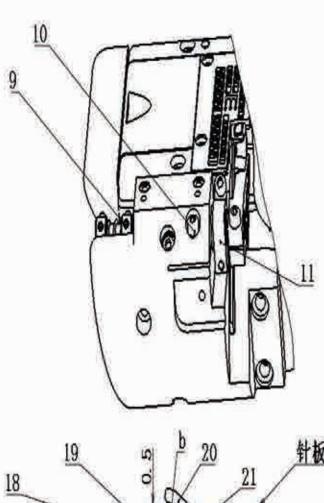
在调节上切刀座 17 的安装高度时转手轮, 使上切刀 19 在最下位置, 松螺钉 18 再调节上切刀座 17 上下运动。上切刀 20 在最下位置时, 上切刀 20 的尖端和下切刀 16 刀的咬合约 0.5mm。

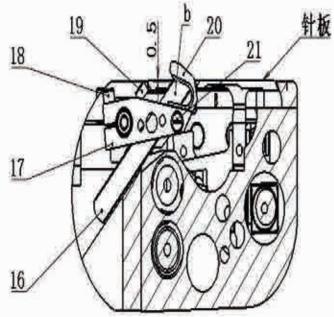
4. 上切刀的交换

- 1. 送螺钉21, 取下旧上切刀;
- 2. 新上切刀的刀刃面与下切刀b面贴合,锁紧螺钉21;
- 转手轮使上切刀20到最下位置。上切刀和下切刀的咬合 深度约0.5mm, 没在规定范围内。上切刀座的安装高度请再 度调节。
- 4. 转动手轮确认上下切刀能否剪线。

5. 下切刀的交换

- 1. 松螺钉19后,上切刀座17靠右拆下旧刀
- 2. 上切刀座17 靠右,新下切刀16从下切刀座的潜端插入,刀尖同针板面一平或略低(0.3mm之内),锁紧螺钉19
- 3. 转动手轮确认上下切刀是否剪线





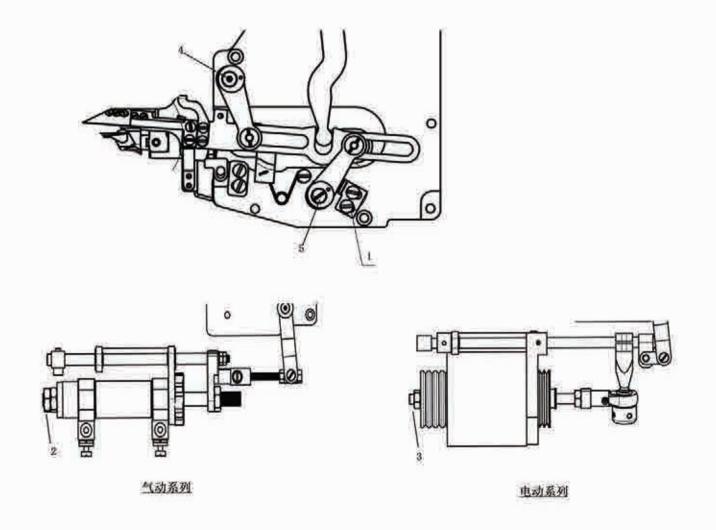
驱动力的调节



企调节刀片时,务必将电源开关关掉之后,请专门的技术人员进行操作。

关于切刀位置的调整, 如图所示分气动系列和电动系列驱动

- 1. 在调整刀组时先将限位片1松开,然后调节驱动行程螺母(气动为2,电动为3), 松开螺母后,将驱动气缸或电磁铁运动行程控制在17.5mm,具体要求见下一页 刀组位置的调整。
- 2. 刀组前后位置的调节可以通过松开螺钉4和5,调整偏心套,使其达到理想位置。



下刀片的调节



在调节刀片时。务必将电源开关关掉之后。请专门的技术人员进行操作。



刀片的刃部有划破手指的危险,操作时要特别小心注意。



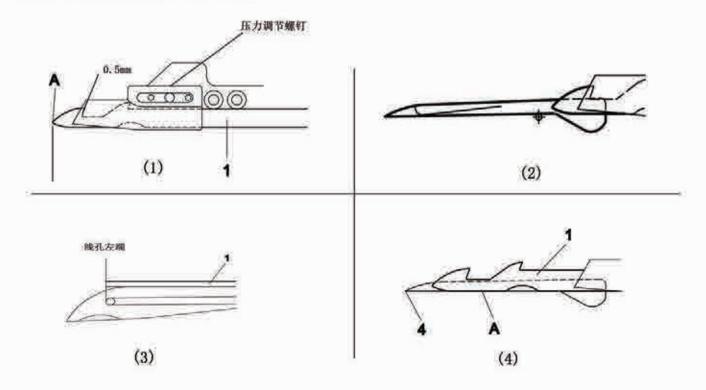
因为下刀片与机针有接触的危险。所以在调节时。请务必将缝纫机的针升到最高位置。

1. 动刀片与定刀片咬合尺寸

动刀片与定刀片自然位置重合为0.5mm, 并且要保证切线锋利, 可以通过中间 螺钉调整夹线压力,夹线压力需适中,夹住线后手动应能够带出线头(有少量 沾阻力感) 见图1所示

2. 动刀片起始位置调节

当机器处于停车位时, 手动对刀确保动刀起始点应位于横梁的中间位置(见图2) 当动刀行驶到左极限时,刀尖与弯针孔一平或略超出0.5mm(见图3),刀尖前后位置 位于弯针尖的1/2出(见图4)



限位片的调节

⚠ 注意

在调节刀片时,务必将电源开关关掉之后,请专门的技术人员进行操作。



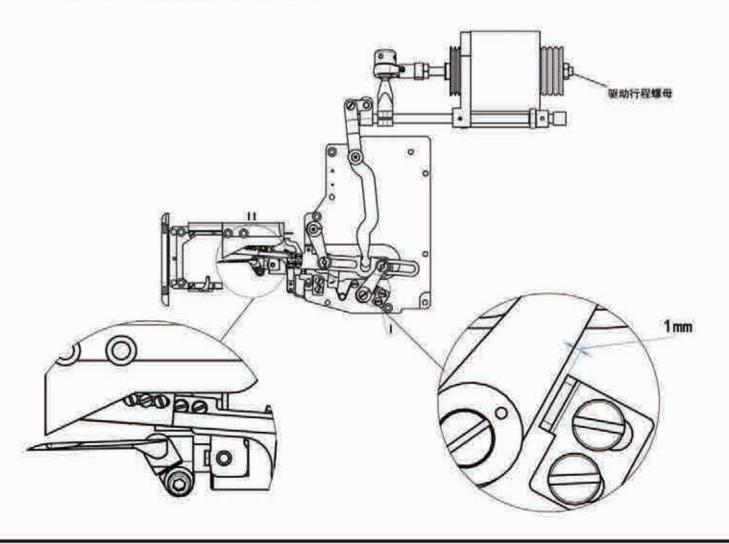
刀片的刃部有划破手指的危险、操作时要特别小心注意。



因为下刀片与机针有接触的危险,所以在调节时,请务必将缝纫机的针升到最高位置。

1. 关于限位片的调整

当刀组退回右极限时,刀盘螺钉与盖板螺钉一齐为最佳调整位置,这个时候, 锁紧驱动电磁铁螺钉或气缸螺钉,并将行程固定,并且在右极限时,需要确保 限位片与摇臂有Lmm间隙,先将驱动行程调好,再调限位片,若刀组长时间运行 一段时间后发现摇臂与限位片的间隙小或碰上, 请将电磁铁行程螺钉松开重新调 整,按照图示并确保有1mm间隙。



上装饰线剪线器的调节



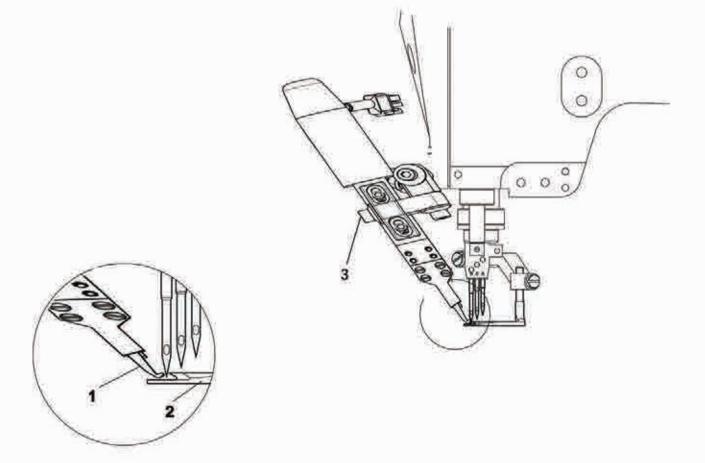


在调节上装饰切刀时。务必将电源开关关掉之后,请专门的技术人员进行操作。



刀片的刃部有划破手指的危险,操作时要特别小心注意。

- 1. 在机针提升至最高点时, 将活动刀 1 行程调至最长, 也不碰触左端的针及喂针 2 且离压脚距离约 2~3mm, 使活动刀勾线时勾到线。
- 2. 松开万向接头螺钉3共三颗,将其调制最合适的位置,万向接头所起的作用是调节任何方向任何位置。



调整基准数值

(mm)

	X 🗆 🗆		t	99	<u> </u>	**	-	<u>*</u>	
1000 (T) 01 000	000	标准扬程	8.8	4.7~5.0	7.8				
HW782 (H) TA-	232	高扬程	10. 3	4.3~4.5	9.0]			
x 🗆 🗆 🗆	0.40	标准扬程	8. 3	4.3~4.6	7.8]	17.0		
	240	高扬程	9.8	3.9~4.1	9.0]			
	0.40	标准扬程	7.9	3.9~4.2	8.2]			
	248	高扬程	9. 4	3.5~3.7	9. 2	5. 0	17.0	0.8~1.2	
	050	标准扬程	7. 5	3.5~3.8	8.2	1			
	356	高扬程	9. 0	3.1~3.3	9.2]			
	004	标准扬程	7.1	3.1~3.4	8.2				
	364	高扬程	8. 6	2.7~2.9	9. 2				

针号对照表

日本針号(Organ)	#	9	10	11	14	16	18	21
德国针号(Schmetz)	Nm	65	70	75	90	100	110	130

标准用针

HW782 (H) TA -01 -02	X 🗆 🗆	Organ UY128GAS
-03 -33	232	9S
-35	240	9S
	248	9S
	356	118
	364	118

HW782(H)T系列子型号规格表 HW782 (H) T系列

HW782 (H) TA-33A

HW782 (H) TA-33B

HW782 (H) TA-35A

HW782 (H) TA-35B

3

3

5

5

4

5

4

5

扁平松紧带车缝

下摆折缝

		V		1-1	1	55	_1		(C	
用途	子型号	针数 线数		最大针 脚长	最大针 脚长 差动比	压脚抬升量 (mm)		最高旋转数 (rpm)		备考	
	1	(根)	(根)		(mm)		S	H	S	Н	a service i
		_		3.2 • 4			5.6	6.8		4, 500	
基本缝	HW782 (H) TA -01	2	4	4.8	4.5	0.9~1.3	6	7	5, 000		
		3	5	5.6 • 6.4							
		2		3.2 • 4	4.5	0.6~1.1	5.6				
液边缝	HW782 (H) TA-02		4	4.8			6	-	5,000		
	1	3	5	5.6 • 6.4			0				
立骨盖缝	HW782 (H) TA-03F	2	4	4.8	4.5	0.0-1.2	6	7	E 000	4, 500	
工戶面接	n#102 (n) 1A USF	3	5	5.6 • 6.4	4. 0	0.9~1.3	3 6	1	5,000		
		2	4	4			5.6	6.8			
倒骨盖缝	HW782 (H) TA-03G	Z	4	4.8	4.5	0.6~1.1	6	7 5,000 4,500		4,500	
	1887.	3	5	5.6 • 6.4			6 7	-			

4.5

4.5

4.5

4.5

0.9~1.3

0.9~1.3

0.9~1.3

0.9~1.3

6

6

6

6

7

5,000 4,500

5,000 4,500

5,000 4,500

5,000 4,500

※差动比使用1:1.3以上时,请将主送布牙运动量设定在2.5mm以下。请使用4,500以下的最高转数。

※压脚抬升量和最高旋转数的表示记号S和H是表示S: 针棒行程标准为31mm, H:针棒行程标准为33.4mm。

5.6 • 6.4

5.6 • 6.4

4.8

5.6 • 6.4

4.8

5.6 • 6.4

針脚形式	602, 605	神堂	46Kg
使用的针	UY128GAS#9S UY128GAS#11S	ARR	54 Kg
整机尺寸(WxDxH)	W:530mm D:280 H:430	場合位	n=4,500rpm:LpA≤80.0dB DIN 45635 484-1 連備

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Be sure to study very carefully for safety.

Copyright

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Disclaimer

The contents described in this instruction manual are intended for giving information and subject to change without notice, We assume no responsibility for these information, and any errors and/or incorrect descriptions that may appear in this instruction manual.

- HIKARI Sewing Machine Mfg.Co.,Ltd.has a policy that we always modify the performance and/or specifications of this product introducing the state-of-the-art technology. Accordingly we reserve the right to change the specifications and /or design without notice.
- This instruction manual is valid for all the models and subclasses listed in the chapter "Specifications."

Directives

This machine is constructed in accordance with the European regulations contained in the conformity and manufacturer's declarations. In addition to this instruction manual, strictly observe all the generally accepted, statutory regulations, legal requirements and all the environmental protection regulations.

Also rigidly adhere to the regionally valid regulations of the social insurance society for occupational accidents or other supervisory organizations.

1.Introduction

- This is the instruction manual that describes how to use this product safely.
- Read this instruction manual and learn very carefully how to operate, adjust and service this sewing machine before beginning any of the procedures.
- You should realize first that there is always the risk of contacting moving parts, such as needles because you
 have to work at point-blank range to them when you are operating industrial sewing machine.

For safety it is essential that we supply safe products and you use them correctly and safely.

There may be some safety measures that you yourself must take.

Therefore, you should read and understand very carefully this instruction manual together with that of the driving equipment and take necessary safety measures in order to use this machine efficiently and effectively.

2. Indications of dangers, warnings and cautions

To prevent accidents and ensure safety, warning indications which show the degree of danger are used on our products and in this manual.

Study the contents of these indications carefully and follow all warnings and instructions.

Indication labels should be found easily.

Attach new labels when they are stained or removed.

Contact our sales office when new labels are needed.

Symbols, signs and/or signal words which attract users'attention

DANGER	Indicates an immediate hazard to life or limb.
WARNING	Indicates a potential hazard to life or limb.
A CAUTION	Indicates a possible mistake that could result in injury or damage.

Symbols and messages

⚠	Be sure to follow the instructions when you operate the machine and/or labor saving device.
A	If you use the machine and/or labor labor saving device incorrectly, you may get an electrical shock.
	If you use the machine and/or labor saving device incorrectly, your hands and/or fingers may be injured.
	Indicates a danger of burn injury due to high temperature.
\Diamond	Never do this.
	Unplug the machine or shut off the power when checking, adjusting and/or repairing the
9 =\$	machine and/or labor sabor saving device, or when lightning may strike.
•	Be sure to ground the machine and labor saving device securely.
-	Denotes the mormal rotating direction of the machine pully.

3. Safety precautions

①Applications purpose

Our industrial sewing machines have been developed in order to increase quality and/or production in the sewing industry.

Accordingly never use our products for other than intended use described above.

② Circumstances

The environment in which our industrial sewing machines are used may seriously affect their lives, functions, performance and/or safety.



For safety, do not use the machine under the circumstances below.

- 1. Do not use the machine near objects which make noise such as a high-frequency welder, etc.
- Do not use or store the machine in the air which has vapor from chemicals, or do not expose the device to chemicals.
- 3. Do not leave the machine outside, in high temperatures or the direct sun.
- 4. Do not use the machine in the places of high ambient temperature and humidity that seriously affects sewing machines.

- 5. Do not use the machine on the condition that the voltage fluctuation range is more than $\pm 10\%$ of the rated voltage.
- 6. Do not use the machine in the place where the supply voltage specified for the control motor cannot be properly obtained.

③Safety measures



(1) Safety precautions when you perform maintenance on the machine.

• Always turn off the power,unlug the machine and then make sure that the machine does not run by pressing the treadle before performing any maintenance, such as checking, repairing, cleaning,etc. However, if you need to perform these procedures with the power on, to prevent accidents due to the unexpected start of the machine and users' misoperation, estabish your oun procedures for safety and follow them.



- Always turn off the power and unplug the machine before performing the procedures shown below
- Lubrication
- · Threading
- Cleaning
- · Replacing the needle
- · Checking/replacing the oil element
- · Replacing the oil

 Always turn off the power before performing the procedures shown below.

Adjusting the stitch length

Adjusting the differential feed ratio

Adjusting the front-to-back movement amount of the top feed dog

 Only well-trained people should perform routine daily maintenance and/or repair the machine.



Do not modify the machine yourself

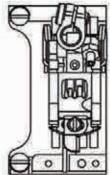
«Consult your local "HIKARI"sales or representative for modification.



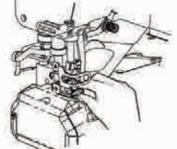
- (2) Before operating the machine
- Check the machine head and unit for any damage and/or faulty function at the start of each day.
 If there should be someting wrong with the machine.

immediately perform repairs and/or other necessary procedures.

- Check by hand to see if the needle holder is secured.
 **Be careful of the needle point.
- Before starting the machine, make sure that the presser foot is
 positioned correctly(turn the machine pulley slowly by hand to
 see if the needle point is centered in the needle drop holp on the
 presser foot).



 Check to see if the presser foot is secured(raise the presser foot by the foot lifter and press it by hand front to back and left to right).





(3) training

 To prevent accidents, operators and service/maintenance personnel should have proper knowledge and skills for safe operation.

To ensure so, managers must design and conduct training for these people.

Notes for each procedure



CAUTION

① Unpacking

- The machine is packaged in a cardboard box before shipping.
 Unpack your machine in orderly sequence while checking them right-side up by referring to the indications, shch as logo, etc. printed on the boxes.
- Never hold the area near the needle and/or thread guide related parts when taking out the machine from the cushion. Otherwise it may cause injury and/or damage to the machine.
- Take out the machine very carefully while checking the position of the center or the gravity.
- Keep the cardboard box and packing carefully in case secondary transport is needed in the future.

Disposal of the packaging

• The packaging material of the machine consists of wood, paper, cardboard and VCE fiber. The proper disposal of the packaging is the responsibility of the customer.

Disposal of machine waste

- The proper disposal of machine waste is the responsibility of the customer.
- The materials used on the machines are steel, aluminum, brass and various plastics.
- The machine waste is to be disposed of in accordance with the locally valid environmental protection regulations. A specialist should be commissioned if necessary.
- The parts contaminated with lubricants should be disposed off separately according to the locally valid environmental protection regulations.

Transport within the customer's premises

• The manufacturer assumes no liability for transport within the customer's premises. Care should be taken to transport the machine in an upright position avoiding it from dropping or falling down to the ground when it is moved.

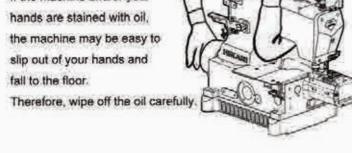
for safety

⚠ WARNING

② Transportation

- The machine should be carried by at least more than two pepople when it is mounted on the table and/or a hand truck
 Be sure to use a hand truck for other transportation.
- To carry the machine, hold the machine pulley tightly with your right hand and the machine arm with your left upper arm.

 If the machine and/or your hands are stained with oil, the machine may be easy to



- Care should be taken to avoid excessive shock and shake when the machine is mounted on the table and/or transferred using a hand truck. Otherwise the machine may fall down.
- 4. Wipe off the oil from the machine before packaging it again for secondary transport. Otherwise the machine may easily slip out of your hands or the bottom of the box may come off while in transit.



③ Installation, preparation

Machine table

- Use the machine table(table board, metal legs)that completely carries the machine and is fully resistant to warping while the machine is running
- Arrange the working environment for easy operation by considering where to place the machine and the brightness, around the working area, if the illumination is insufficient, control or change lighting as required.
- Attach a non-slip pad to the treadle(foot switch).
 Otherwise the operator may slip off the treadle while running the machine, causing trouble.
- Adjust the height of the table according to a working posture of the operator.



Cables

- When connecting the cables between the electricity box and the motor be sure to turn off the power and connect each cable connectors securely.
- 2. Do not strain the cables in use.
- 3 O Do not bend the cables excessively
- When connecting the cables that are close to the moving parts, such as pulley or motor, keep a distance of 25mm at least between them.
- Protect each cable using a cover or adjusting its position if necessary.
- Never use staples to fasten the cables otherwise it causes a short circuit and/or a fire.



Ground

STREET, THE TOTAL PROPERTY OF THE PROPERTY OF

- Connect each of the ground wires in the sewing machine system to the ground terminal. Do not connect to another devices'
- Connect the ground wires securely to the indicated ground points on the machine head.

⚠ WARNING

Handling machine oil

- Never start the machine with no oil in the reservoir Use the following oil.
- HIKARI designated oil:HIGH SPEED SEWING MACHINE OIL or Equivalents: ESSOTEX SM22 manufactured by Exxon Mobil
- If machine oil gets in your eyes, it may cause eye irritation.To prevent the machine oil from getting in your eyes, wear a pair of protective glasser.
- Should machine oil gets in your eyes, wash them with fresh
 water for 15 minutes and then go to see a doctor.

- Avoid skin contact Immediately wash contacted areas completely with water and soap.
- 4. Never swallow machine oil
- 5. Keep machine oil out of the reach of children.
- ##If swallowed,do not induce vomiting.

 Immediately go to see a doctor.

 Immediately go to see
- Dispose of the waste oil and/or containers properly as demanded by law. If you have further questions on its disposal, consult the store or shop at which you purchased it.
- 7. After opening the oil container, be sure to seal it to prevent dust and water from getting into the oil and keep it in the dark to avoid direct sunlight.

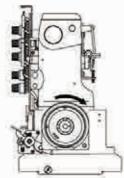


WARNING

⑤ Before starting the machine

Machine table

- Before turning the power on, visually check the cables and connectors for defective conditions, such as damage, disconnection and/or loosening.
- Never bring your hands close to the needle and/or pulley when turning on the power.
- When the machine is used for the first time, turn on the power and then check the rotating direction of the machine pulley.
 The machine pulley should turn clockwise as seen from the machine pulley.



- Well trained operator should use the machine after studying these precautions and the instruction manual carefully.
- Regarding symbols that indicate a danger or a warning, read and study"2. Waning indications" carefully and give training on safety to the operators as required.
- Run the machine at the speed less than 3/4 of its maximum for the first one month.



WARNING

®Precautions while you are running the machine

- Do not run the machine with the safety devices removed, such as safety plate, safety holder, motor cover, etc.
- Never bring your hands under the needle while running the machine.

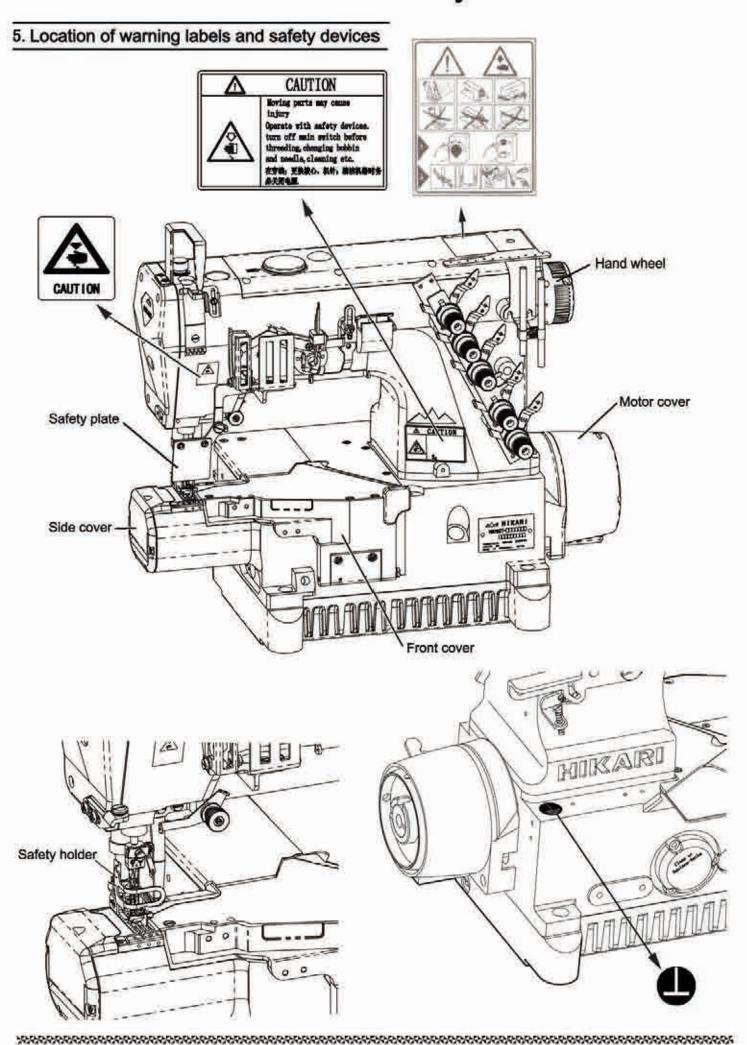
- 3. To prevent accidents, never bring any part of your fingers, hair and clothes near the macine pulley, servo motor, thread take-up, and needle bar Also never lever leave scissors, tweezers, tools, etc. around these areas.
- 4. If you use the machine with the feed device, be careful that any part of your fingers is not caught in the guide when the guide is opened/closed.
- 5. A If you use the machine with the RP device be careful that any part of your fingers and hair are not caught in the roller during sewing. Also be extremely careful that any part of your hands and fingers are not caught in the roller when the roller is raised and then lowered again.
- 6. A If you use the machine with the FT device, do not bring any part of your hands and fingers too close to the FT during sewing. Otherwise it may cause accidents and physical in jury.
- Always turn off the power while the machine is not used or before leaving the machine table.
- 8. In the event of a power failure, be sure to turn off the power.
- While operating the machine, wear clothes that cannot be caught in the machine.
- 10. On not put any tools or other unnecessary objects on the machine table while running the machine.



CAUTION

Maintenance, Check, Repair

- Well trained people should perform maintennce, check and repair of the machine after studying these precautions and the Instruction manual carefully.
- 2. If it is necessary to lay the machine backward for maintenance, check and repair, always turn off the power, unplug the machine and press the treadle to make sure that the machine and press the treadle to make sure that the machine dose not operate before beginning any of the procedures.
- Carry out daily maintenance work and periodical inspections properly by following these precautions and the instruction manual.
- 4. Employ HIKARI'genuine parts when repairing the machine and/or replacing the parts. We are not responsible for accidents caused by any improper repair/adjustment and substituting other parts for those manufactured by HIKARI.
- Do not attempt to modify the machine at your own discretion.
 We are not responsible for accidents caused by the modification.
- Be sure to replace the safety devices and/or safety covers that are temporarily removed for maintenance and/or adjustment.
- After performing maintenance, check and repair, make sure that turning on the power does not pose any danger to you.



6. Protectors for safety

This chapter describes each protector for safety. Therefore, read and study the following carefully.



CAUTION

Protectors for safety

(1) Safety plate



Never leave the eye guard open.

For the safety of eyes, do not operate the machine with the safety plate open. The safety plate will prevent any pieces of the broken needle from getting into your eyes if the needle should bread during sewing.

(2) Safety holder



Never insert any of your fingers.

To prevent the needle that moves up and down from contacting any of your body, the safety holder is installed close to the needle. However, there is clearance above the safety holder for easy threading. Be careful that the needle may penetrate any of your fingers if you insert it into this clearance.

(3) Motor cover



Never remove

The machine servo motor are covered with the motor cover. The machine motor at high speed during sewing. To prevent accidents, operate the machine with the motor cover installed in place.

(4) Hand wheel

Check the direction in which the machine pulley rotates. It should rotate clockwise as seen from the pulley.

(5) Presser foot



Never insert any of your fingers.

There is a clearance of more than 5mm between the top surface of the needle plate and the presser foot.

Be careful that none of your fingers are caught in this clearance. Never insert any of your fingers under the presser foot when raising the presser foot with the knee switch or automatically raising it with the treadle.

(6) Front cover



Never leave the front cover open.

The looper travels left to right while drawing an arc as seen from the front of the machine. To prevent the looper from contacting any part of your body, be sure to operate the machine with the front cover closed securely.

(7) Side cover



Never leave the side cover open.

The looper travels left to right while drawing an arc as seen from the front of the machine. To prevent the looper from contacting any of your body, be sure to operate the machine with the side cover closed securely.

(8) Sliding plate



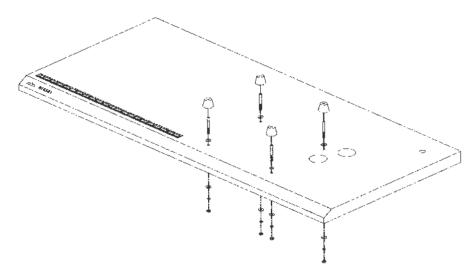
Never leave the sliding plate open.

The looper thread take-up rotates in order to supply the required amout of looper thread during sewing. To prevent the looper thread take-up from contacting any of your body, be sure to operate the machine with the sliding plate closed securely.

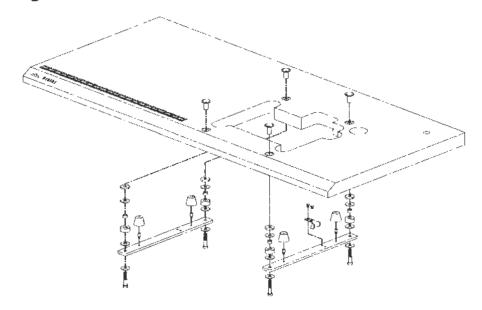
Assembling the machine rest board

Assemble the components comprising the machine rest board by referring to the illustration below. Be sure to secure all rods, nuts and bolts firmly with no shake.

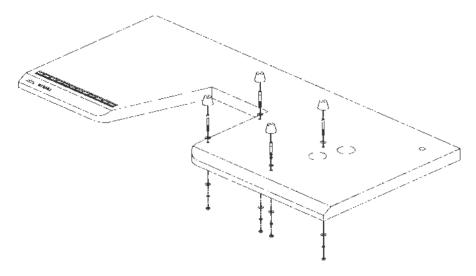
Non-submerged Installation



Semi-submerged Installation



Open-submerged Installation



Lubrication

1. Oil

Use the following oil.

HIKARI designated oil: HIGH SPEED SEWING MACHINE OIL or Equivalents: ESSOTEX SM22 manufactured by Exxon Mobil.

2. To fill the machine with oil

Remove cap 1.

Add the oil until the oil level (see oil gauge 2) reaches(H).

After filling the tank with oil, replace cap1.

Required amount of oil

(H)on oil gauge 2:Upper limit

(L)on oil gauge 2:Lower limit

The oil level should always lie between(H)and(L)

4. Manual lubrication

Always turn off the power and unplug the machine when you apply oil by hand.

Apply two or three drops of oil to needle bar 3 and looper shaft 4 by hand when the machine is used for the first time or left unused for some time.

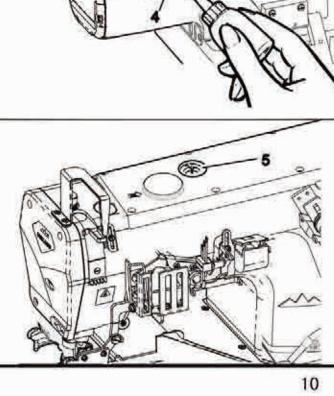
HIGH SPEED SEWING MACHINE OIL

5. Checking oil circulation

Once the machine has been properly filled with oil, press the machine treadle to run the machine and check oil gauge window 5 to see if the oil is flowing.

Note:

If oil not splashing, check the oil filter by referring to "Replacing the oil filter" on page 16.



Silicone oil for H. R. device

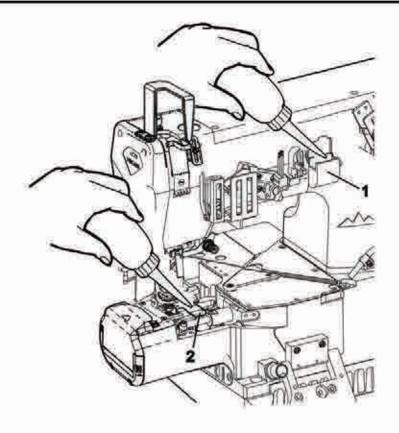


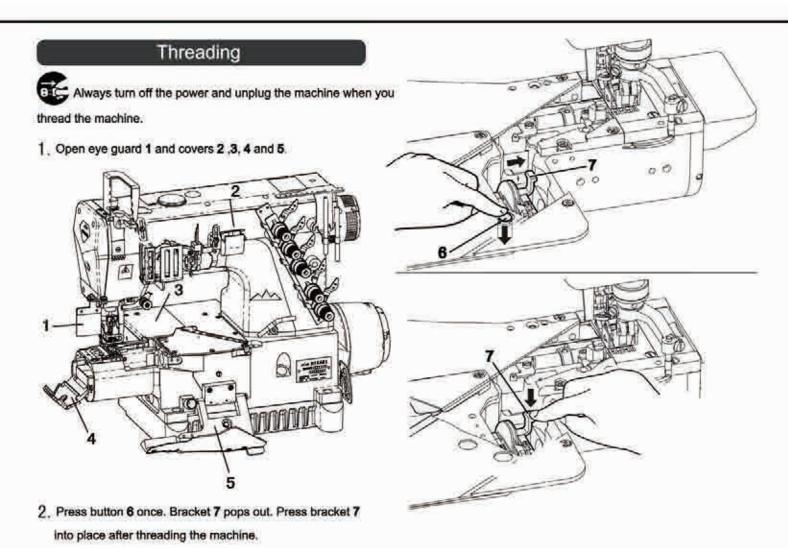
at Always turn off the power and unplug the machine when

you fill the HR device with silicone oil.

Fill silicone oil tanks, 1 • 2 with silicone oil.

To prevent thread breakage or fabric damage, add the silicone oil before it is too low.





3. In case the machine is threaded previously

Be sure to thread the machine correctly by referring to the threading diagram. (See page 13)

A: Knot the preset thread and the thread being used toget to thread the machine.

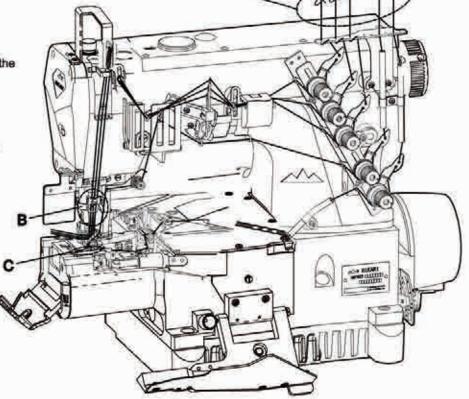
B: Needle thread

Trim the knots off neatly before passing through the eye of the needle to rethead.

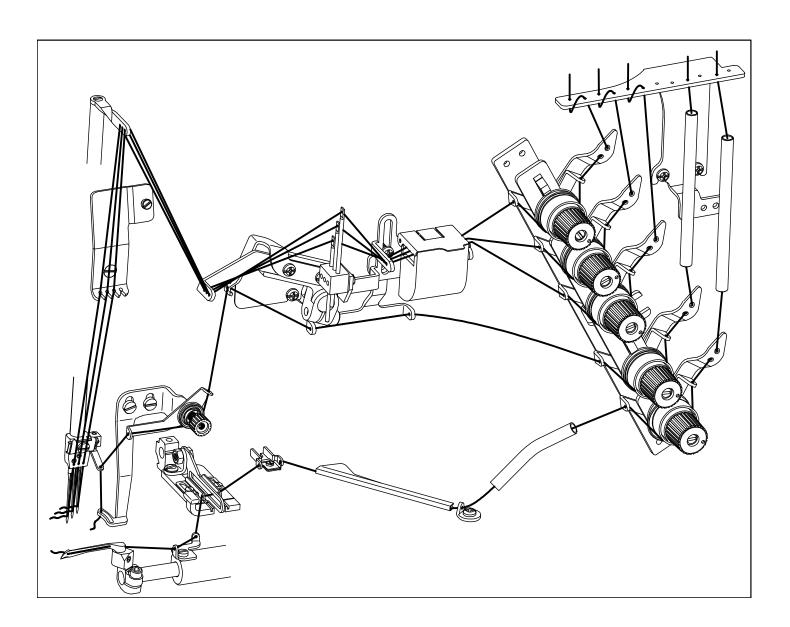
C: Looper thread,top cover thread

Trim the knots of neatly after passing through

the eye of the looper.



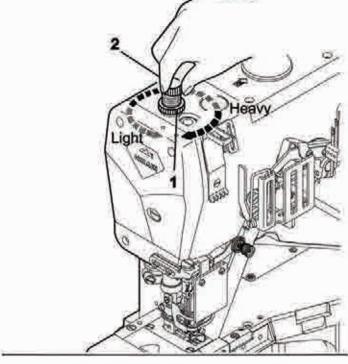
4. Threading diagram



Adjusting presser foot pressure

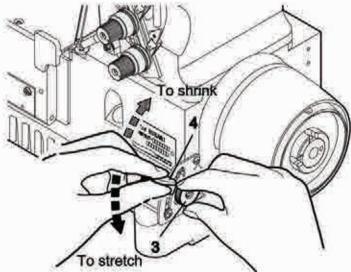
The presser foot pressures should be as light as possible, yet sufficient to feed the fabric correctly and provide the uniform stitch formation.

Loosen nut 1. Adjust the presser foot pressure. Sdjustment is made by turning screw 2 clockwise or counterclockwise using a coin. Tighten nut 1.



Adjusting the differential feed ratio

- 1. Loosen nut 3. Adjust the differential feed ratio.
 - To increase the differential feed ratio, raise lever 4.
 - The finished fabric is shrunk.
 - To decrease the differential feed ratio, lower lever 4.
 - The finished fabric is stretched.
- 2. After this adjustment tighten nut 3.



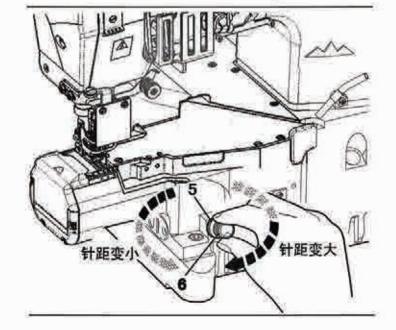
Adjusting stitch length

Loosen nut 5.

To make the stitch length coarse, turn knob 6 clockwise.

To make the stitch length fine, turn knob 6 counterclockwise.

After this adjustment tighten nut 5.



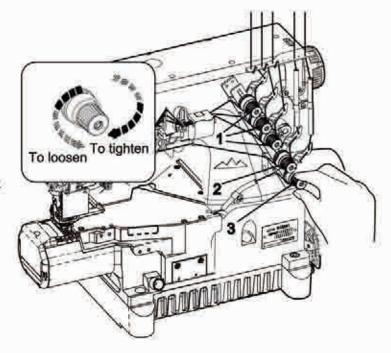
Adjusting the thread tension

To obtain the proper thread tension, adjust needle thread tension knobs 1, top cover thread tension knobs 2 and looper thread tension knob 3.

To tighten the thread, turn each knob clockwise.

To loosen the thread, turn each knob counterclockwise.

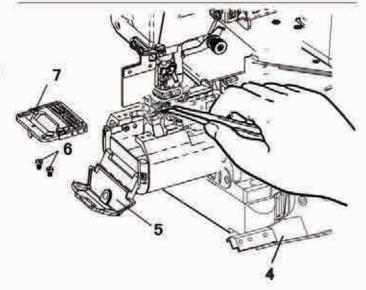
Each thread tension should be as light as possible, yet be sufficient to produce balanced and beautiful stitches.

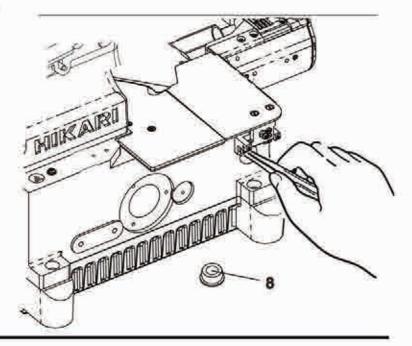


Cleaning the machine

Always turn off the power and unplug the machine when you clean the machine.

- Open covers 4 and 5. Loosen screws 6. Remove needle plate bracket 7.
- Clean the grooves of the needle plate and the area around the feed dogs.
- Replace needle plate bracket 7 into place. Tighten screws 6 Then close covers 4 and 5.
- Remove rubber plug 8. Clean the inside. Replace rubber plug 8 into place.

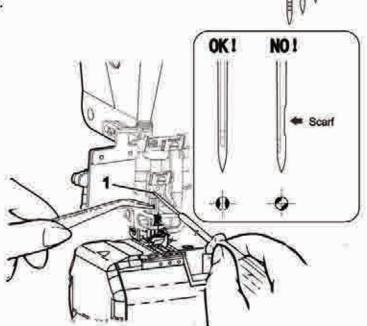




Replacing the needle

Alaways turn off the power and unplug the machine when you replace the needle(s)

- 1. Locaen screw(s) 1 using a handled key wrench (1.5mm).
- Remove the old needle(s) by using a pincette (provided as accessaries).
- 3. Fix the needle so that its scarf faces the rear side of machine.
- Insert a new needle into, the needle hole as far it will go by using a pincette.
- 5. Tighten screw(s) 1 using a handled key wrench(1.5mm).



OK!

NO!

Replacing the oil filter

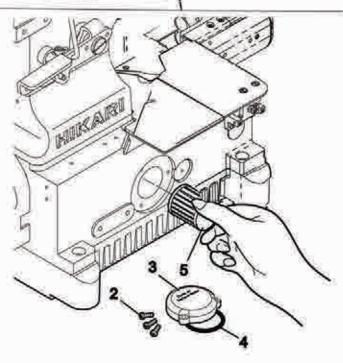
Always turn off the power and unplug the machine when you check or replace the filter.

Remove screws 2, cover 3,0 ring 4 and filter 5. Check filter 5.

Replace the filter if necessary. After checking or replacing the filter, put filter 5, 0 ring 4, cover 3 and screws 2 back into place.

Contaminants on oil filter 5 may cause improper lubrication.

Check and clean oil filter 5 every six months by removing 2 to 5.

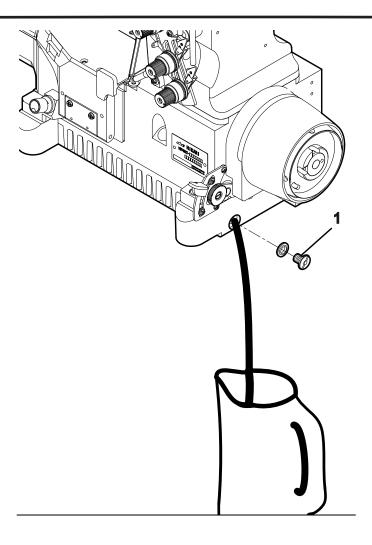


Oil replacement

Replace the oil one month after the first use and threrafter every six months. If you keep using the old oil, it may cause the damage to the machine.

To drain the oil

- 1. Drain the oil by removing screw 1 on the left side of the oil pan.
- 2. Tighten screw 1 after draining.



Adjustment of FT device

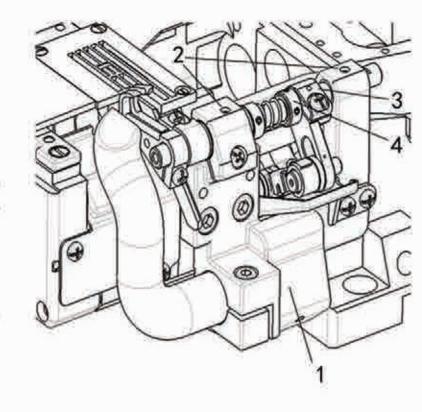
Manual Oil Lubrication

Please use manual oil lubrication to the oil hole no.2 on the fixed knife bases, if the extra FT device is the first time used or not use temporarily.

Adjustment of upper knife pressure

About the knife pressure, pls lower the pressure within the range the clothing cutting working successfully.

Maintain the connecting rod 3 to the right installation position, then adjustment rod 4 to adjust the knife pressure and tighten the screw on the Turn 4 to the left to increase the pressure, to the right to decrease the pressure.



Adjustment of left and right position of lower knife seat



Caution

Pls turn off the power before adjusting the lower knife bases, remove the power plug, and this should be done the technicians.

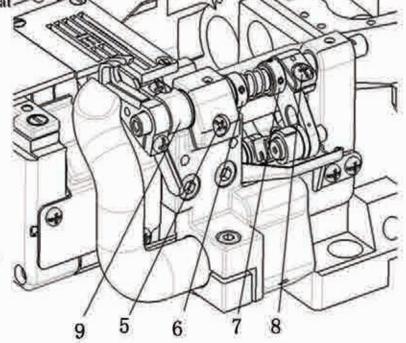
Adjust the knife base to the left or right to adjust the cloth cutting.

Pls loose the screw 5,8, 6, 7, then move the knife base 9 to adjust

After adjustment, pls tighten the screw 5 and 8 and the screws on the rod.

Pls leave some space between the moving knife and the fabric pipe after adjustment.

Pls readjust the pressure of the knife.



Adjustment of the upper knife stroke



Caution



Pls turn off the power, before adjusting, remove the plug, which to be doe the technicians.

Pls adjust the knife stroke according to the fabric thickness.

- 1. Loosen the screw to move the connecting pin up and down to adjust.
- · More upper to increase the stroke
- Move lower to decrease the stroke.
- 2. After adjusting, pls tighten the screw 2, and install 1.
- * Pls re adjust the pressure of the knife after adjusting the upper knife stroke,

Knife change



M Caution



Pls turn off the power, before adjusting,

remove the plug, which to be doe the technicians.

Pls watch out from being hurt by the sharp knife.

Lower knife change

- 1.Pls loose the screw 4 and 6, move the moving knife base to left and take the used knife 5
- 2. Put the new knife into the notch, no 7 on the knife bases, and make sure the blade of the no 5 and the needle plate surface are at the same level, then tighten the screw 6.

Upper knife change

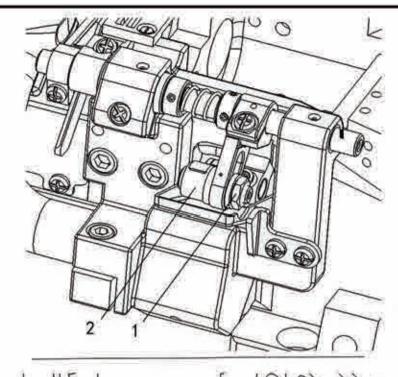
- I.Pls loose the screw 4, take the upper knife base 3, and loose the screw 8 to take the used upper knife out.
- 2. Put the new knife to the upper knife base 3, and tighten screw 4.
- 3. When stitching the heavy fabric, the cutter cover 10 shall be taken out to avoid the fabric blocking

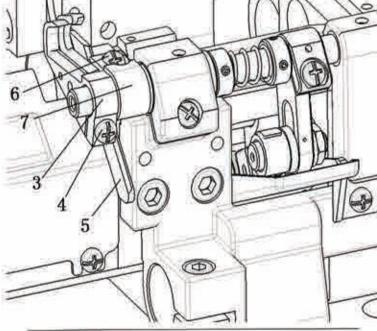
Meshing adjustment

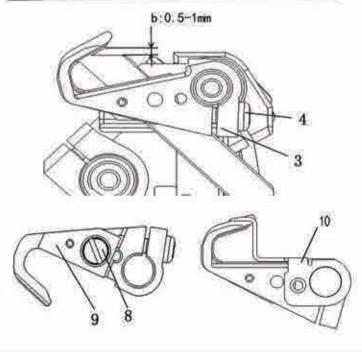
Turn the transmission wheel to adjust the upper knife to the lowest

Pls adjust correctly so the the size b shown on the picture between upper and lower knife us 0.5mm, during the adjustment, pls loosen the screw 4 and move the moving knife base 3 up and down.

After adjustment, pls tighten screw.







Adjusting the RP device

Manual Iubrication

Apply oil to oil holes 2 on link 1 by hand when the machine with the RP device is used for the first time or has been left unused for some time

To move the roller up or down

To position the fabric, to remove the fabric from the machine when sewing is completed, or when the RP device is not used, raise lever 5. When the RP device is used, lower lever 5.

To adjust the roller pressure

The pressure of roller 3 should be as light as possible, yet be sufficient to feed the fabric easily.

- •To increase the pressure, turn adjustment knob 4 clockwise.
- •To decrease the pressure, turn adjustment knob 4 counterclockwise.

To adjust the feeding amount



$oldsymbol{\Delta}$ CAUTION



Always turn off the power, unplug the machine and then well-

qualified technicians should adjust the feeding amount of the RP device.

Adjust the feeding amount of the RP device according to that of the machine. A rough adjustment is made by positioning rod 7. Loosen nut 6.

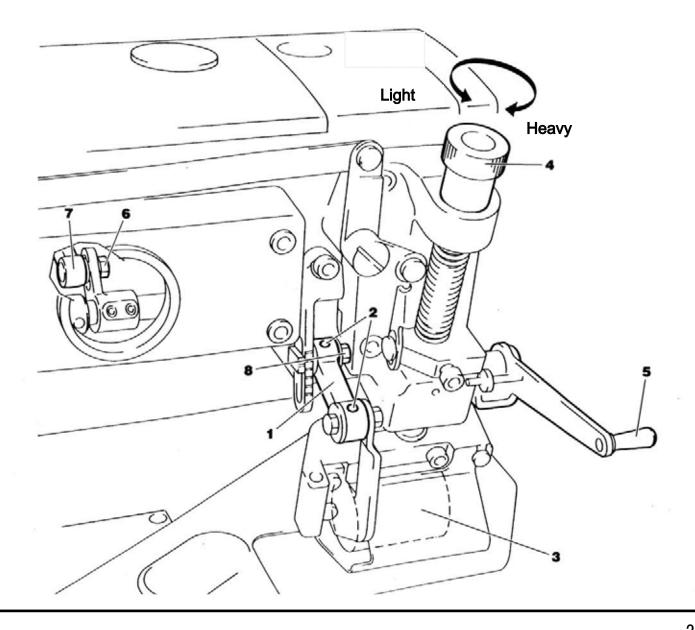
- ●To decrease the feeding amount, raise rod 7
- ◆To increase the feeding amount, lower rod 7.

After the above adjustment is made, tighten nut 6. A fine adjustment is made by positioning link 1.

Loosen nut 8.

- ●To decrease the feeding amount, raise link 1.
- •To increase the feeding amount, lower link 1.

After the above adjustment is made, tighten nut 8,



The way to adjust thread take-up and thread connecting

1. The way to adjust thread take-up

- The lowest position of needle, the horizontal position with supporting shaft 1, when adjust, loose screw 2, please move the supporting shaft up and down to adjust.
- The pivot point of supporting shaft (a) pass thread guide
 (b)for 75mm, when adjust, loose screw 3, move the thread guide 4 left and right to adjust.
- Left(-)direction, thread will be tight.
- Right(+)direction, thread will Loose.

2. Thread connecting adjustion

- Thread connecting device 5
 The pivot point of screw 6 passes thread connecting device 5 for 7.0mm, when adjust, loosen screw 6, move the thread connecting device 5 up and down to adjust.
- Thread connecting 7、8、9
 Screw 6's position as the picture shows, when adjust, loosen screw 10, 11, 12, adjust thread connecting device 7、8、9 up and down.
- When move up, the thread will be tight.
- When move down, the thread will be loose.
 When adjust, please compare thread description.

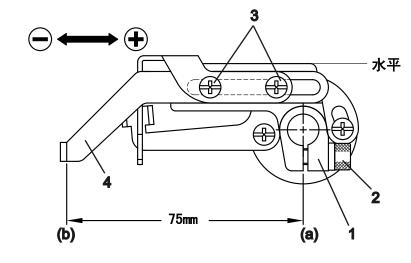
3. The adjustment of the protection thread

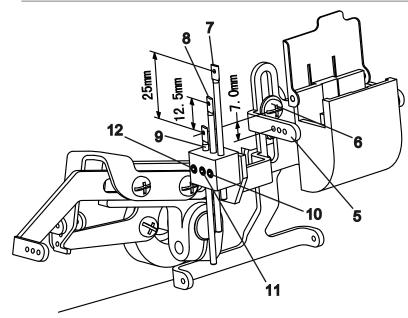
Put screw 14 in the middle of thread protection device 13, when the looper comes in, it can change the shape of the of thread loop.

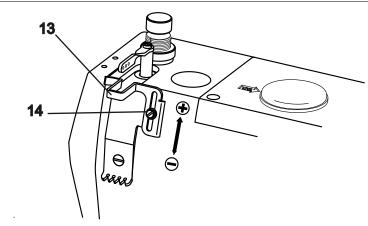
When the thread protection moves(+), thread loop becomes large. When the thread protection moves(-),thread loop becomes small.

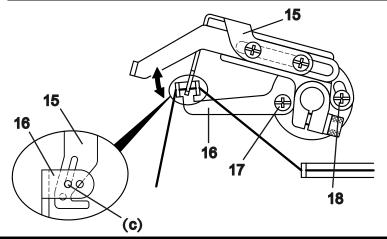
4. Decoration thread adjustion

When Decoration thread connecting device 15 is at the highest position, device 16's hole(C) is as the picture shows. When adjusting, loosen the screw 17 and 18, adjust the decoration thread device up and down.









Removing and reinstalling the looper thread take-up

Always turn off the power, unplug the machine and then wellqualified technicians should remove/reinstall the looper thread take-up.

To remove the looper thread take-up

- 1. Raise looper thread take-up bracket 2 by pressing push button 1 twice.
- 2. Loosen screws 3. Remove looper thread take-up 4.

To reinstall the looper thread take-up

- 1. Fit looper thread take-up 4 onto shaft 5.
- 2. Tighten screws 3 while pressing looper thread take-up. 4 in the direction of the arrow.
- 3. Put looper thread take-up bracket 2 back into place.
- ※After reinstalling the looper thread take-up, be sure to readjust it by referring to "Adjusting the looper thread take-up".

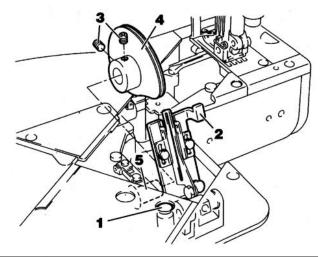
Adjusting the looper thread take-up

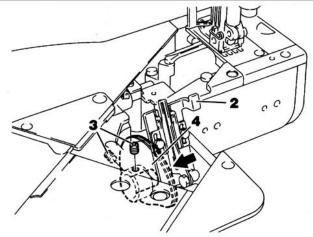
Always turn off the power, unplug the machine and then well-qualified technicians should adjust the looper thread take-up.

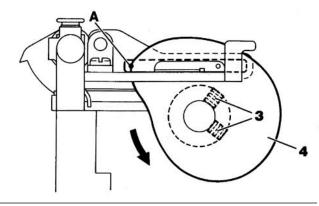
When the left needle needle has reached the point shown in the illustration while the looper is moving to the right from the extreme left end of its travel, the looper thread should be released from point **A** on the looper thread take-up.

To make this adjustment, loosen screws 3 and turn looper thread take-up 4 as required.

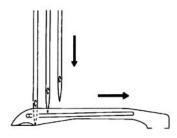
After the above adjustment, tighten screw 3.







Position of the point of the left needle when the looper thread is released from point A on looper thread take-up 4.



The point of the left needle has reached the bottom end of the looper blade.

Adjusting the looper thread guides



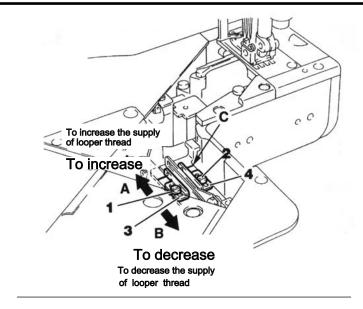
Always turn off the power, unplug the machine and then well-

qualified technicians should adjust the looper thread guides. Loosen screws 1 and 2 (see the illustration below). Align each eyelet on looper thread guides 3 and 4 with alignment mark C (standard position).

After this adjustment is made, tighten screws 1 and 2 temporarily

- •To increase the supply of looper thread, move looper thread guides 3 and 4 in the direction of A.
- •To decrease the supply of looper thread, move looper thread guides 3 and 4 in the direction of B.

After this adjustment is made, tighten screws 1 and 2.



Adjusting the spreader



$oldsymbol{\Omega}$ CAUTION



Always turn off the power, unplug the machine and the wellqualified technicians should adjust the spreader.

1. To adjust the spreader

(1) To adjust the spreader height:

Adjust distance A from the top surface of the needle plate to the bottom surface of spreader 1. Select the distance according to the machine being used by referring to the table of adjustment dimensions(see page 32). Adjustment is made by loosening screw 2 and moving spreader 1 up or down.

After the above adjustment is made, tighten screw 2 temporarily. To adjust the spreader front to back:

When point B on the spreader has comes close to the left needle while spreader 1 is moving to the left from the extreme right end of its travel, there should be a distance of 0.5mm from point B to the left needle. Adjustment is made by moving spreader 1 front to back.

After this adjustment is made, tighten screw 2.

(2) Left-to-right adjustment.

When spreader 1 is at the extreme left end of its travel, there should be a distance of 5.0mm from the center line of the left needle to point B on the spreader. Adjustment is made by loosening screw 3 and moving spreader 1 left to right. After this adjustment is made, tighten screw 3.

2. Adjusting the spreader thread guide

- (1) When spreader 1 is at the extreme right end of its travel, there should be a clearance of 0.5mm between the bottom surface of spreader thread guide 5 and spreader 1. Adjustments is made by loosening screws 7. After this adjustment is made, tighten screws 7 temporarily.
- (2) Align the center of the slot of spreader thread guide 5 with point B on the spreader. Adjustment is made by moving spreader thread guide 5 left to right. After this adjustment is made, tighten screws 7.

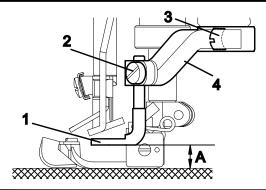
3. Adjusting the thread guide

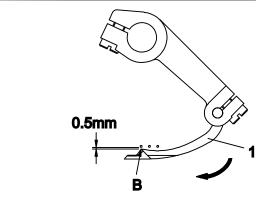
(1) When the needles are at the bottorm of their stroke, position thread guide 6 just above front end D of the slot on thread guide 5. Adjustment is made by loosening screw 8.

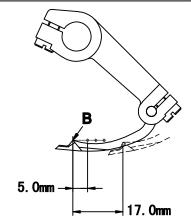
After this adjustment is made, tighten screw 8 temporarily.

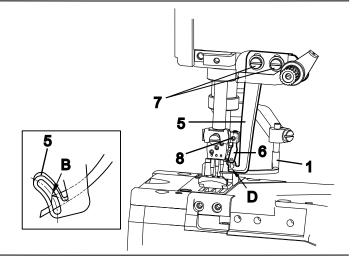
(2) There should be a clearance of 1.0mm between thread guide 6 and spreader thread guide 5. Adjustment is made by moving thread guide 6 front to back.

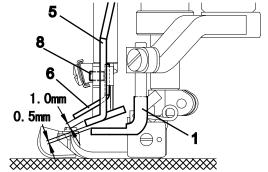
After this adjustment is made, tighten screw 8.











Adjusting the feed dog height

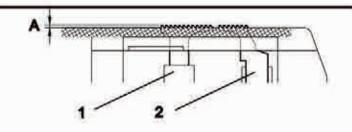


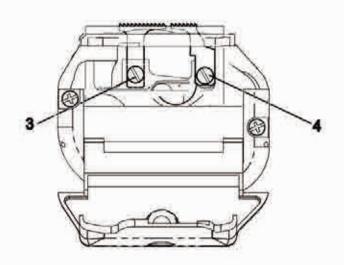
▲ CAUTION

Always turn off the power, unplug the machine and then wellqualified technicians should adjust the feed dog height.

When the feed dogs are at their highest point of travel, there should be a distance of 0.8~1.2mm from the top surface of the needle plate to extended line A from the tips of main 1 and differential 2 feed dogs. Adjustment is made by loosening screws 3 and 4, and moving feed dogs 1 and 2 up or down.

After the above adjustment, tighten screw 3 and 4.





Adjusting the presser foot lift

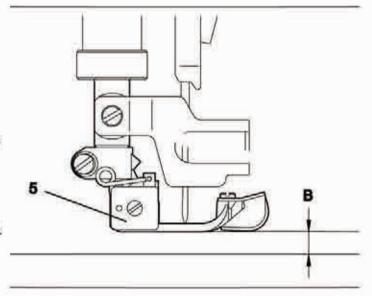


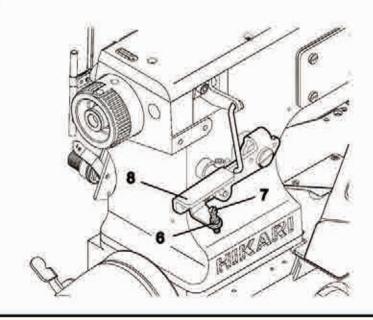
$oldsymbol{\Lambda}$ CAUTION

Always turn off the power, unplug the machine and then wellqualified technicians should adjust the presser foot lift.

When presser foot 5 is raised, adjust distance B from the top surface of the needle plate to the bottom surface of the presser foot. Select the distance according to the machine being used by referring to the specifications(see page 34).

- 1. Turn the machine pulley until the feed dogs are at their lowest point of travel.
- Adjust the presser foot lift by lowering lever 8. Note that the presser foot should not be in contact with the spreader.
- 3. Loosen nut 6. Adjust screw 7 so that it contacts lever 8. Then tighten nut 6.





Adjusting the needle height

⚠ CAUTION

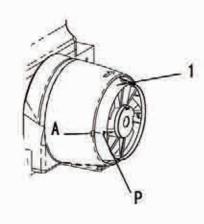
Always turn off the power,unplug the machine and then wellqualified technicians should adjust the needle height.

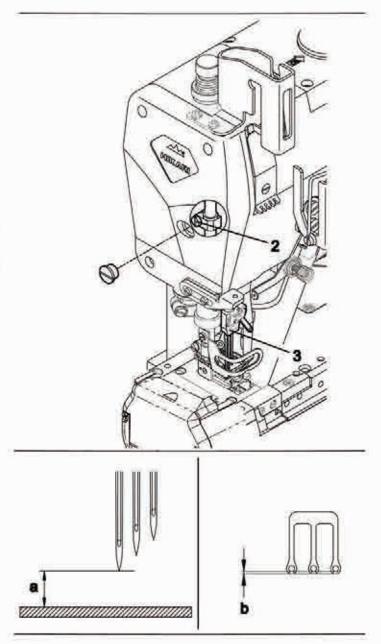
Adjust distance a from the point of the left needle to the top surface of the needle plate when the needle is at the top of its stroke.

The distance varies according to the machine being used,

Refer to the table of adjustment dimensions (see page 32)

- Turn handwheel 1 and align mark A on motor cover with mark P on the handweel to bring the needle bar to the top of its stroke.
- Loosen screw 2. Adjust the needle height by moving needle Holder 3 up or down.
- Adjust the relationship between each needle and needle drop hole so that clearance b is equal after the needle height adjustment(see the illustration). Then tighten screw 2.





Adjusting the looper

⚠ CAUTION

Always turn off the power, unplug the machine and then wellqualified technicians should adjust the looper.

1.Adjusting the looper-needle setting distance

Adjust looper-needle setting distance A from the center of the right needle to the point of looper 1 when the looper is at its farthest position to the right. Select the distance according to the machine being used by referring to the table of adjustment dimensions(see page 32).

Adjustment is made by loosening screw 3 on looper holder 2 and moving looper holder 2 to the left or right. After the adjustment, tighten screw 3.

Adjusting the looper avoiding distance

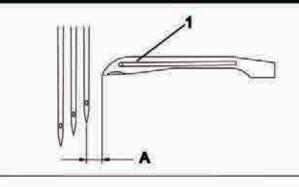
When the point of the looper has reached the center of the left needle from the extreme right end of its travel, there should be 0.05~0.1mm front -to-back clearance between the left needle and the point of the looper.

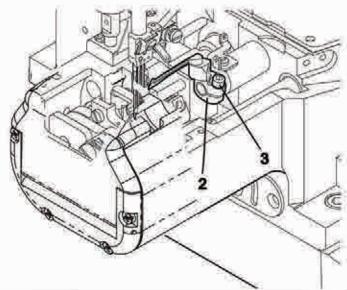
For 3-needle machine

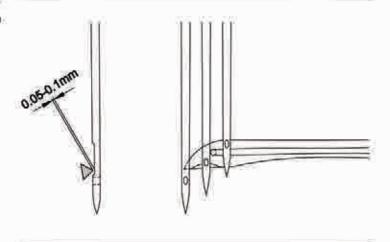
When the point of the looper has reached the center of the middle needle from the extreme right end of its travel, there should be 0~0.05mm front-to-back clearance between the middle needle and the point of the looper.

Adjustment is made by loosening screw 3 on looper holder 2 and moving looper holder 2 forward or backward. After the adjustment, tighten screw 3.

 When the point of the looper is passing the center of the right needle from the estreme right end of its travel(the rear needle guard is not effective), the right needle slightly contacts the point of the looper.







Adjusting the needle guard(rear)



Always turn off the power, unplug the machine and then well-qualified technicians should adjust the needle guard(rear).

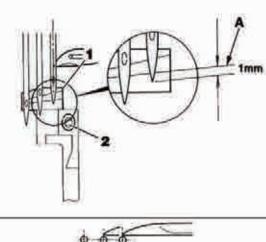
- 1. When the point of the looper has reached the center line of the right needle from the extreme right end of its travel, there should be a distance of 1mm from line A on needle guard (rear) 1 to the point of the right needle. Adjustment is made by loosening screw 2 and moving needle guard (rear) 1 up or down. After adjusting, tighten screw 2.
- 2. When the point of the looper has reached the center of the right needle from the extreme right end of its travel, there should be 0~0.05mm front-to-back clearance between the right needle and the point of the looper. Adjustment is made by loosening screw 3 and moving needle guard(rear) 1 forward and backward. After adjusting, tighten screw 3.
- For 3-needle machines: When the point of the looper has reached the center of the middle needle, the middle needle must slightly contact needle guard(rear) 1 with 0~0.05mm front -to-back clearance between the middle needle and the point of the looper. Adjustment is made by loosening screw 2 and swing needle guard(rear) 1 to the left or right.

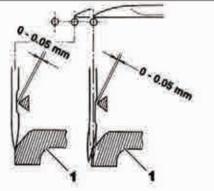
Adjusting the needle guard (front)

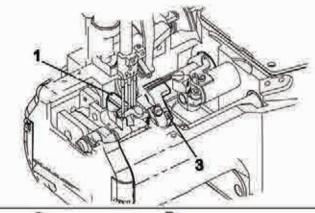


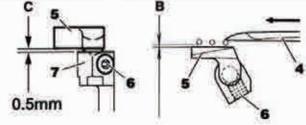
Always turn off the power, unplut the machine and then wellqualified technicians should adjust the needle guard(front).

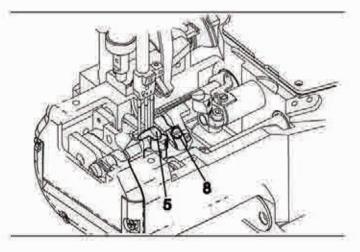
- 1. There should be a clearance of 0.5mm C between needle guard 5 and needle guard holder 7. To make this adjustment, loosen screw 6 and adjust the height of needle guard 5. After this adjustment is made, tighten screw 6 temporarily.
- 2. When looper 4 is moving to the left in the back side of the needles, there should be a clearance of 0.3-0.5mm B between the needles and needle guard (front) 5. To make this adjustment, loosen screws 6 and 8, and then adjust the angle of needle (front) 5 and its front-to-back position. After the adjustment, tighten screws 6 and 8.











Adjusting the differential feed ratio

The differential feed ratio is set to 1:0.9-1:1.3 at the factory. (stitch length ≤4.5)

stitch length >4, 5~6, The differential feed ratio is 1:0.9

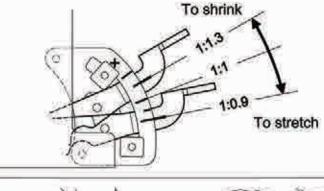


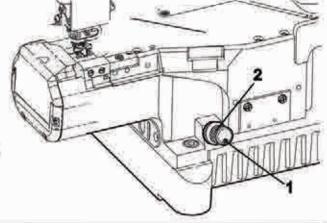
Always turn off the power, unplug the machine and then well-

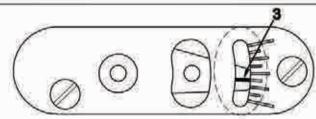
qualified technicians should adjust the differential feed ratio.

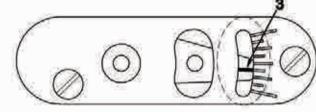
In the case of a differential feed ratio of 1:1.3~1:1.8.

Note: It should be noted that when the big trip, can be adjusted by loosening the screws and screw 5 lt should be noted, the main feed dog than differential teeth faster or the same speed, does not allow the use of such differential than if the difference ratio will lead to differential teeth in collision sports chassis and the needle plate

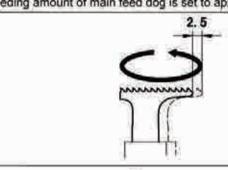


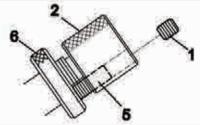


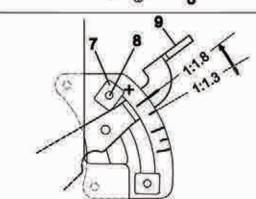




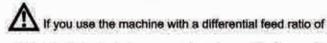
Feeding amount of main feed dog is set to approxiately 2.5mm











1:1.3~1:1.8, the feed dogs may strike the needle plate and be damaged. Check to make sure the movement amount of the feed dogs is less than 2.5mm.



If you use the machine with a differential feed ratio of 1:1.3~

1:1.8,run the machine at less than 4,500 rpm.

To use the machine with a differential feed ratio of 1:1.3~1:1.8, set the main feed dog movement amount at less than 2.5mm by following the steps below.

- 1. Loosen pin screw 1 and remove it.
- 2. Turn stitch length adjustment knob 2 until mark 3 on the lever points the reading as shown in the illustration(the main feed dog movement amount is approximately 2.5mm).
- 3. Turn the machine pulley(handwheel)by hand until the main feed dog movement amount is 2.5mm. To make a fine adjustment, turn stitch length adjustment knob 2.
- 4. Turn pin screw 5 inside the stitch length adjustment knob 2 clockwise until pin screw 5 contacts nut 6. Install pin screw 1 on stitch length adjustment knob 2.
- Loosen screw 8 of stopper 7. Loosen the nut. Align the alignment mark on adjustment lever 9 with "1:1.8" reading. Then tigten the nut. Adjust stopper 7 so that it contacts adjustment lever 9. Tighten screw 8.

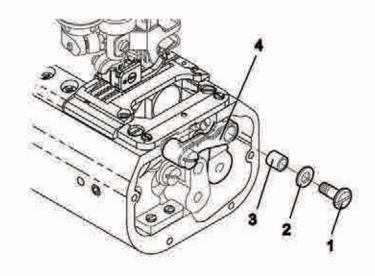
In the case of a differential feed ratio of 1:0.6~1:1.1

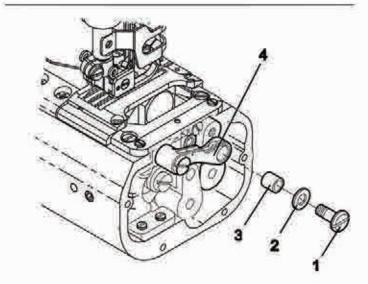


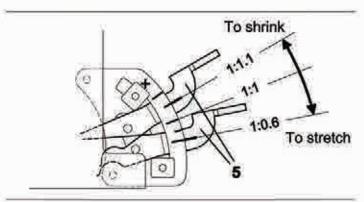
⚠ CAUTION

Always turn off the power, unplug the maching and then wellqualified technicians should adjust the differential feed ratio.

- 1. Remove screw 1, washer 2 and bushing 3 in sequence.
- 2. Align the hole on link 4 with the lower screw hole Then install bushing 3, washer 2 and screw 1 in reverse sequence of step 1.
- 3. Altering the installation position of link 4 changes the differential feed ratio to 1:0.6~1:1.1 without changing the factory-set movable range of adjustment lever 5 (standard).







Changing the needle bar stroke



⚠ Caution

, Always turn off the power, unplug the machine and then wellqualified technicians should change the needle bar stroke.

If you use the machine with high stroke, be sure to run the machine at a speed less than 4,500 rpm.

If you change the needle bar stroke, be sure to readjust the needle height (see page 26), the looper (see page 27) and the needle guard (see page p28).

- 1. Loosen screws 2 on motion 1. slightly turn eccentric 3 in the direction of the arrow with a screwdrive until groove A
- 2. To change the needle bar stroke, with turning screw 4 of eccentric 3.

To position the needle bar stroke with stndard stroke

To turn eccentric stroke 3's groove A to utmost right.

To position the needle bar stroke with high stroke

To turn eccentric stroke 3's groove to the utmost left.

Adjusting the supply of oil for the needle bar chamber



CAUTION

The amount of oil to be supplied to the needle bar chamber is factory-set properly, so do not adjust it under normal conditions. However, if it should be necessary, follow the steps shown below.

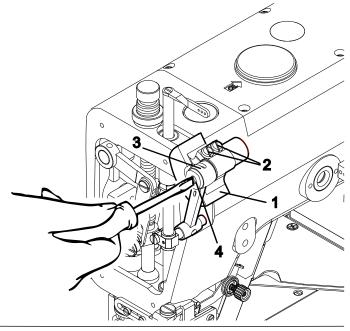


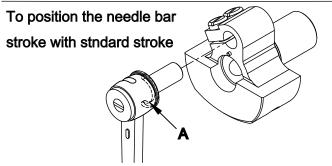
WARNING

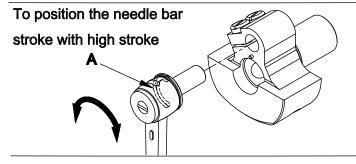
Do not adjust the screw beyond the range shown below. Otherwise the machine may be damaged.

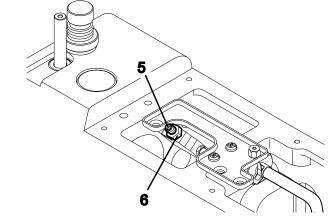
Loosen nut 6. Adjust the amount of oil by turning screw 5. The adjust range is within 45°clockwise or counterclockwise, referred to the groove on screw 5 (see the illustration).

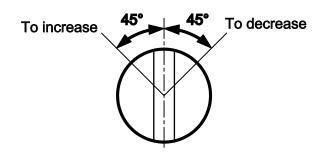
- To decrease the amount, turn screw 5 clockwise.
- To increase the amount, trun screw 5 counterclockwise. After this adjustment is made, tighten nut 6.











Adjust of right cutter device

The movement of feeding dog bring the movement of right cutter, the Fabric sent by feeding dog will be cut by right cutter and synchronous sewing with the rubber band together

Manual oil supply

Machine without fabric cutting device or have cutting device, but long time no use, please adjust the fixed base oil hole 1 for manual oil supply

Adjustment of the fabric guide plate

According to the kind of fabric , thickness , to adjust the position of fabric guide plate 2 , to ensure the cutter can cut off fabric within particular fabric width

Loosen the bolt 3 to adjust the right-left movement of fabric guide plate 2

Adjustment of the ascending of presser foot

A Caution

Before adjust the ascending of presser foot by professional technician .Please turn off the power of sewing machine , and pull up the plug from the socket .

By adjust the ascending of presser foot 4 to fit the thickness of rubber band, lace, fabric; by loosen the screw 5 and adjust the bolt 6 in clockwise direction, to ease the resistance of presser foot, and make smoothly feeding of rubber band and fabric.

Adjustment of cutter

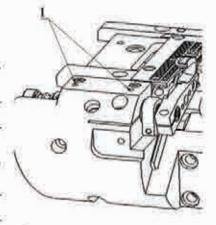
∧ Caution

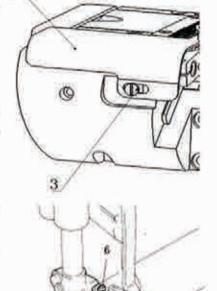
& Before adjust the cutter, please turn off the power of sewing machine and pull up the plug from socket, this need professional technician to operate.

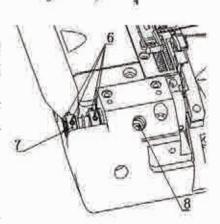
1. Adjustment of upper cutter pressure

Under the condition that the upper cutter can smoothly cut off fabric , Try to reduce the occlusal pressure of upper cutter.

- To enhance the occlusal pressure ,by loosen 4 pieces of bolt 6, I pieces of bolt 9, and remove the solid shaft 7 in right direction.
- 2. To reduce the occlusal pressure ,by loosen 4 pieces of bolt 6 ,1 pieces of bolt 9 ,and remove the solid shaft 7 in left direction.
 After adjust the pressure ,fasten the all loose bolts .

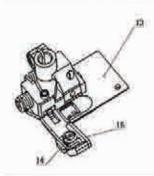






Adjustment of the position of down cutter base

Loosen 2 pieces of bolt 9 ,bolt 10 ,and bolt 11 ,move the down cutter base 11 from right and left direction ,when move the down cutter base 11 ,need loosen bolt 14 (which is on parts 12 of the presser foot) and move 15 (rubber band guide plate),after adjustment ,please refasten all the bolt and readjust the pressure of up cutter .



adjustment of the installment height of upper cutter

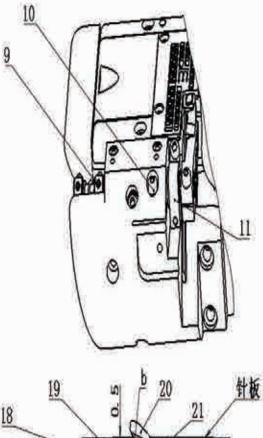
Turn the hand wheel to adjust the installment height of upper cutter base 17 ,make the upper cutter 19 at the lowest position, loosen bolt 18, then adjust upper cutter base 17 by up-down movement. When upper cutter 20 at the lowest position, the occlusion between the upper cutter 20' tip and down cutter 16 is 0.5mm.

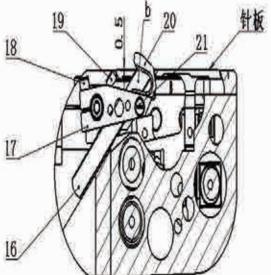
4 the exchange of upper cutter

- 1. Loosen the bolt 21 to Take down the old upper
- 2. Fit the blade of upper cutter and B side of down cutter ,fasten bolt 21;
- 3. Turn the hand wheel to make the upper cutter 20 at the lowest position, the occlusion between upper cutter and dow cutter is 0.5mm, without the prescribed scope, please readjust the installment height of upper cutter base.
 - 4. Turn the hand wheel to make sure the upper and down cutter can cutting thread.

5. Exchange the down cutter

- 1. Loosen bolt 19, keep right of upper cutter base 17, take off the old cutter
- Keep right of the upper cutter base 17, insert the new down cutter 16 from the down cutter base, keep the same level of the cutter tip and needle plate or lower (0.3mm), fasten bolt
 19.
- 3. Turn the hand wheel to make sure the upper and down cutter can cutting thread.





Adjusting the driving system



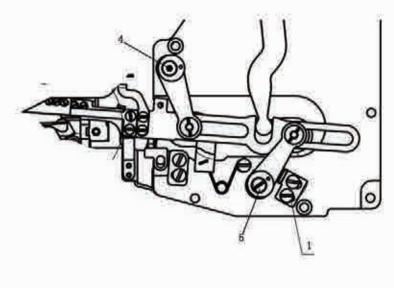
CAUTION

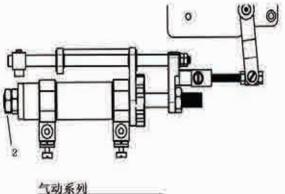


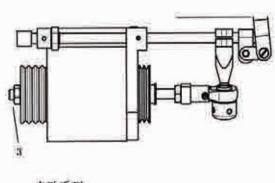
Always turn off the power, and ask professional technicians to adjust the lower knife.

Adjustment of the trimmer, as shown in the picture between pneumatic and electronic

- 1. Lossen stopper I before adjusting the trimmer, then adjust the stroke screw(2 for pneumatic, 3 for electronic), after loosening the screw, fix the stroke within 17.5mm, refer to the trimmer adjustment on next page.
- 2. Loosen the screw 4 and 5 to adjust the trimmer position, and adjust the eccentric sleeve to fix it.







Lower knife adjustment



⚠ CAUTION

Always turn off the power, and ask professional technicians

to adjust the lower knife.

To prevent injury your fingers by the edge of the knife, great care should be taken when you.

The lower knife and the needle may touch with each other.

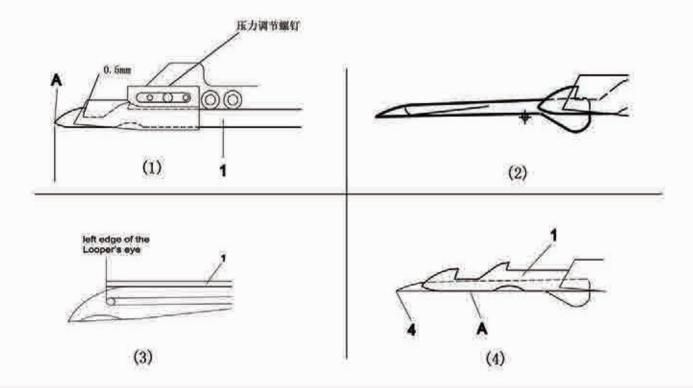
Be sure to bring the needle to its highest position when adjusting the lower knife.

1. Fixed and moving knife alignment

The normal trimming gap is 0.5mm, adjust the thread clamping tension through the middle screw, the tension should be tempered, the thread tails can with pulled out manually as shown in the picture 1.

Initial position adjustment of the moving knife.

Move the hand wheel manually when the machine stops, adjust the trimmer initial point in the middle of the balade (as shown in the picture2), when the trimmer moves to the left hand limit, the trimmerpoint should be in the 1/2 of the looper point. (as shown in the picure 4)



Lower knife adjustment



CAUTION



Always turn off the power, and ask professional technicians to adjust the lower knife.



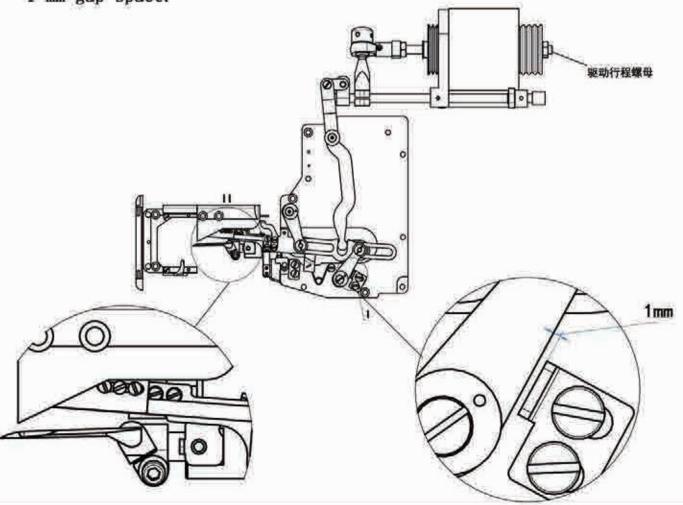
To prevent injury your fingers by the edge of the knife, great care should be taken when you .



The lower knife and the needle may touch with each other. Be sure to bring the needle to its highest position when adjusting the lower knife.

1. The adjustment of the stopper

The best adjustment position is the trimmer screw and the cover screw are aligned, then tighten the solenoid screw and the valve screw and fix the stroke. When the knife is at the right hand-limit, leave 1mm space between the rocker arm and the stopper. Adjust the stopper after adjusting the stroke. If the space became smaller or touch each between the rocker and the stopper after trimmer working for a period of time, Pls re adjust the stroke, making sure the 1 mm gap space.



Adjusting the top cover thread trimmer



A CAUTION

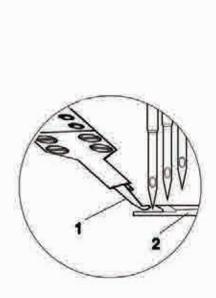
Always turn off the power, and ask professional technicians

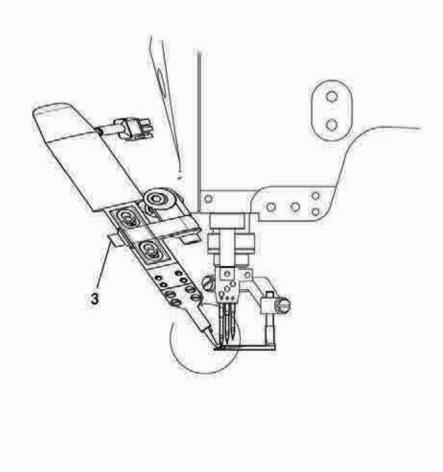
to adjust the top cover thread trimmer.

To prevent injury your fingers by the edge of the knife, great care should be taken when you .

activities knife can the line

- 1. When the needle is at the top, turn the journey of knife to the maximum, keep it not touching the left needle and spreader 2, so the the distance between it and presser foot should keep 2-3mm, keep the
- 2. Loosen the 3 cardan joint screws, adjust them to the proper position. The cardan joint plays the role of adjusting the direction.





Adjustment dimensions

(mm)

	X 🗆 🗆	1988	t	99	E	***	-	<u>+</u>
1377 (11) m 1	232	Standard lift	8.8	4.7~5.0	7.8	5. 0	17. 0	
HW782 (H) TA-		High lift	10.3	4.3~4.5	9. 0			
X	240	Standard lift	8.3	4.3~4.6	7.8			
		High lift	9.8	3.9~4.1	9. 0			
	248	Standard lift	7.9	3.9~4.2	8. 2			0.0.10
		High lift	9.4	3.5~3.7	9. 2			0.8~1.2
	356 364	Standard lift	7.5	3.5~3.8	8. 2			
		High lift	9.0	3.1~3.3	9. 2			
		Standard lift	7.1	3.1~3.4	8. 2			
		High lift	8.6	2.7~2.9	9. 2			

Comparison table of equivalent sizes

Japanese (Organ)	#	9	10	11	14	16	18	21
Metric size(Schmetz)	Nim	65	70	75	90	100	110	130

Standard needle

HW782 (H) TA -01 -02	x	Organ UY128GAS
−03 −33	232	98
-35	240	98
	248	9S
	356	118
	364	118

HW782(H)T Series subclass specifications HW782(H)T Series



Application	Subclass	Number of	Number of	Needle space	Max. stitch length	Diff.	presser foot lift		Max. speed (rpm)		Remarks
		needles	threads	1	(m)	feed tatio	S	H	S	H	
	HT782 (H) TA -01	2	4	3.2 • 4	4.5	0.9~1.3	5. 6	6.8	5, 000	4, 500	
Versatile				4.8			6	7			
		3	5	5.6 • 6.4				_ '			
	HT782 (H) TA-02	2	4	3.2 • 4	4.5	0.6~1.1	5.6		5, 000	_	
Binding tape				4.8			6	_			
		3	5	5.6 • 6.4							
Covering	HW782 (H) TA-03F	2	4	4.8	4.5	0.9~1.3	6	7	5, 000	4 500	
OVICE ENG		3	5	5.6 • 6.4						1, 300	
	H#782(H) TA-03G	3	4	4	4.5	0.6~1.1	5.6	6.8		4, 500	
Covering				4.8			6	7	5, 000		
			5	5.6 • 6.4							
Attaching flat elastic on tubular goods	HW782 (H) TA-33A	3	5	5, 6 • 6, 4	4.5	0.9~1.3	6	7	5,000	4, 500	
	HW782 (H) TA-33B	3	5	5.6 • 6.4	4.5	0.9~1.3	6	7	5,000	4, 500	
Hemning	HW782 (H) TA-35A	2	4	4.8	4.5	0.9~1.3	6	7	5, 000	4, 500	
		3	5	5.6 • 6.4							
12 attil	EW782 (B) TA-35B	2	4	4.8	4.5	0.0-1.0	6	7	5, 000	4, 500	
		3	5	5.6 • 6.4		0.9~1.3					

M If you use the machine with a differential feed ratio of more than 1:1.3, the main feed dog movement amount should be less than 2.5mm and the maximum machine speed less than 4,500 rpm

X S and H in the columns of Presser foot lift and Max. machine speed denote as follows. s: at a needle bar stroke of 31mm (Satandard) H: at a needle bar stroke of 33.4mm (hight lift).

Stitch type	602, 606	Not weight (hand only) 455g	
Needle cize	UTI 2004SUES UTI 2004SUI 18	Gross weight (with accessories) 54Eg	
Machine size(Palzii)	T: 530mm D: 280 H: 450	Working noise level n=4,500cpm:Lp4<80.0d5 Noise measurement according DIN 45835 484-1	ug to







NO.800, ZHONGDA ROAD, ZHUJING INDUSTRIAL ZONE,

富山IoT

微信公众号

网址/Web: www.chinahikari.com

HIKARI (SHANGHAI) PRECISE MACHINERY SCIENCE AND TECHNOLOGY CO., LTD

邮箱/E-mail:hikari@chinahikari.com 上海市金山区朱泾镇工业园区中达路800号

传真/Fax: (00)86-21-67311311 JINSHAN DISTRICT, SHANGHAI CHINA

电话/Tel: (00)86-21-67311111 (转外贸部/ext .Foreign Trade Dept)

