

高级珠边机

零件样本

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安 装

1、台架的安装

用合而把工作台1固定在台架上，装好支架板2，在台架上插上导线架3用来调整线轴夹的方向，用螺钉把可翻折工作平台4固定在台架底座前，然后，用销子把台灯5固定在机头上，用软布擦拭工作区。(支架组和针杆)见图1。

2、电机电压

注意电源电压，必须符合电动机铭牌上所示电压。电压如果改变，应该按照电动机铭牌上所示电压(220-380)接通电源。必须有经验的电工操作，如果电压转变，必须按照下列操作步骤：

- a、改变电机接线板上的连线头；
- b、改变转换变压器接线板上电源进线头；
- c、调节热开关，参照电机铭牌上所示的数值；(安培表调节器在电路板外铭牌下)

3、试运转

机器的运转用电机控制，用脚向前轻踩一下脚踏板6时，它可减缓运转速度，多踩几下脚踏板，机器可达到预先设定最高速度运转，当脚踏板回顾到初始位置时，第1个循环或第2个循环针扎在布里，如果车缝边角，可转动机头，当脚踏板向后移时，针已在准备上线的位置，插上电源插头，按下按钮7(指示灯亮)，另外，调节空气压缩管上压力表的气压，使之达到5.5个大气压，启动脚踏板6可运转，从而带动飞轮按照指针所示方向运转，如果飞轮旋转方向不对，可交换两根电线中任何一个插头，(仅适用三相位电器)，允许最高速度内，机器经几分钟运转可达到最高速度。

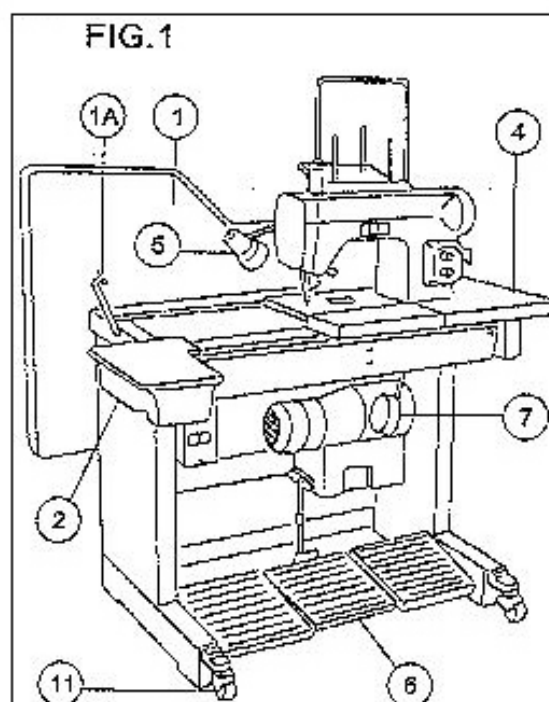
操作提示

4、纱线的选择

纱线的选择对机器的运转和产品的质量极为重要，我们建议您用在市场上容易找到的再三种涤纶包线、涤纶成棉芯线。

GUTERMANN A 282, AMMANN SABA C 120 (80C--100C)

木棉丝线120 混合线120 ACKERMANN RASANT 120 及特性相似的纱线



5、上线穿针

a) 上线及穿线管

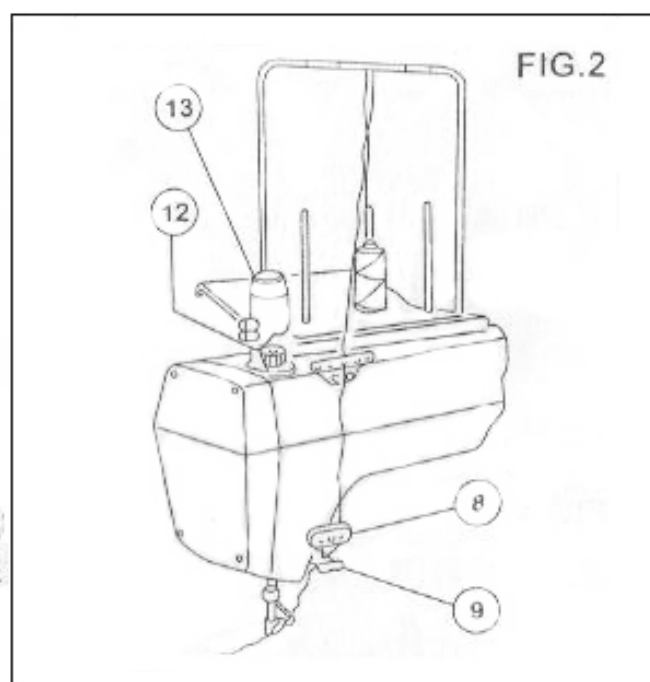
上线步骤见图2所示，这段线必须以线管绷直出来后，穿过机头下刀片，向左拉直为准，最长达到90CM，这段不超过设立长度，穿针前把布料放在支架下。

b) 气动穿线

启动电机，向后踩脚踏板，针眼自动打开，电机自动提起针杆及线钩到理想位置穿线，针眼销从柱体上升起。

c) 手工穿线(机子无需提升针眼销)

向后踩脚踏板6让机子运转，用右手提起调节螺帽时，让针线杆针眼移动到露出位置，然后从针眼口穿线，最后调节螺帽10关上针眼口。图3-3A



6、键盘



黄色按钮

这个按钮作用是转换选定的线迹，左手边绿色灯凸起表示较小针在织物下面。黄色微型开关(G)参照图1，安装在左边开关盒上，跟键上的黄色按钮有同样的作用，这个作用是能改变马达的参数。这两个调节器在高压储气瓶上调节速度行程转化。



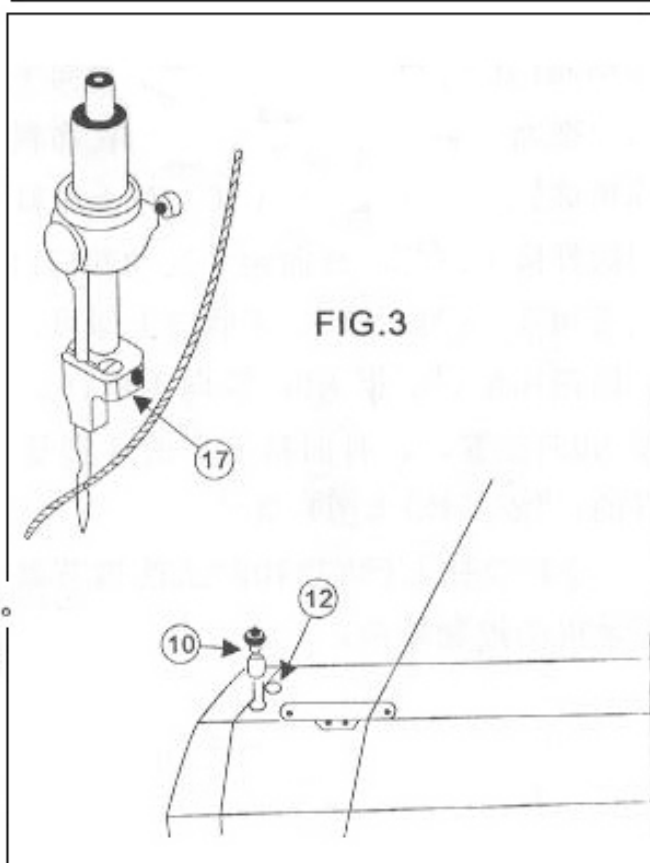
橙色按钮

当机器正常运行时，针到达织物里面是停止的。当按下时，机器达到一半线，针伸出在织物上。如果又按下，针在织物里面。改变电动机的设置，可以现机器运行其它功能：它能按规定完成整个旋转，始终能使针停止在织物的底部或顶部。



蓝色按钮

这个按钮抽出空气内部活塞调节针。允许机器操作员利用线调节刻度盘(15)调节针。



7、调整针的长度

通过《调针长度》旋钮14来调节针的长度，如果许多旋钮指示为0，此时此地的长度最能小，顺时针调针旋钮至8，此时针最长。

8、针脚的调节

针脚的长短或短长，通过有刻度的旋钮15来调节，刻度指向6时，针脚达到最小，顺时针转动旋钮直到刻度指向0时，针脚越来越小，直到最后消失。

9、长短针的转换

对长短针的转换，启动在机头左下端气动阀门11，可用手柄调节，手柄向下调节，在布上可看到长针针脚，而在布料下面形成短针针脚（正确）图4C。对于布料上面的针脚见图4B，反向调节气动阀门11，无需调节旋钮14、15，手柄向上即可，调节旋钮15使刻度指向0，换向手柄16，刻度为0的位置，此时面料上下的针脚是一样的。（皮革针）见图4A

小转换柱上（HA72409）上的调节器主要速度的控制转换。

10、压脚的调节

压脚可保障面料均匀车缝，适当的气压可以使面料匀速前行，并保证布料不受损。顺时针旋转调节器12增大压力，逆时针旋转则减少气压。图5A、B

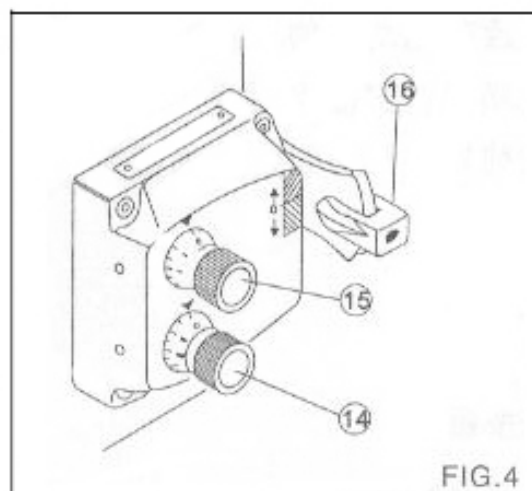


FIG. 4A

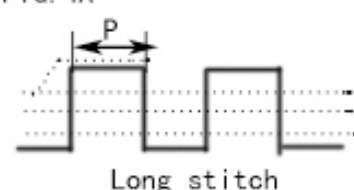


FIG. 4. B

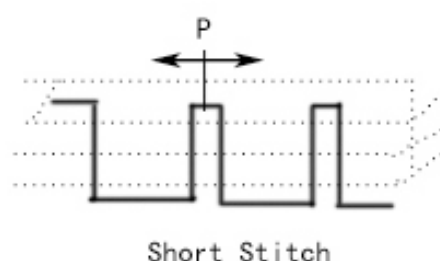


FIG. 4C



故障提示

11、两个生产循环构成一套针的运行

第一个循环：布料上面针的构成

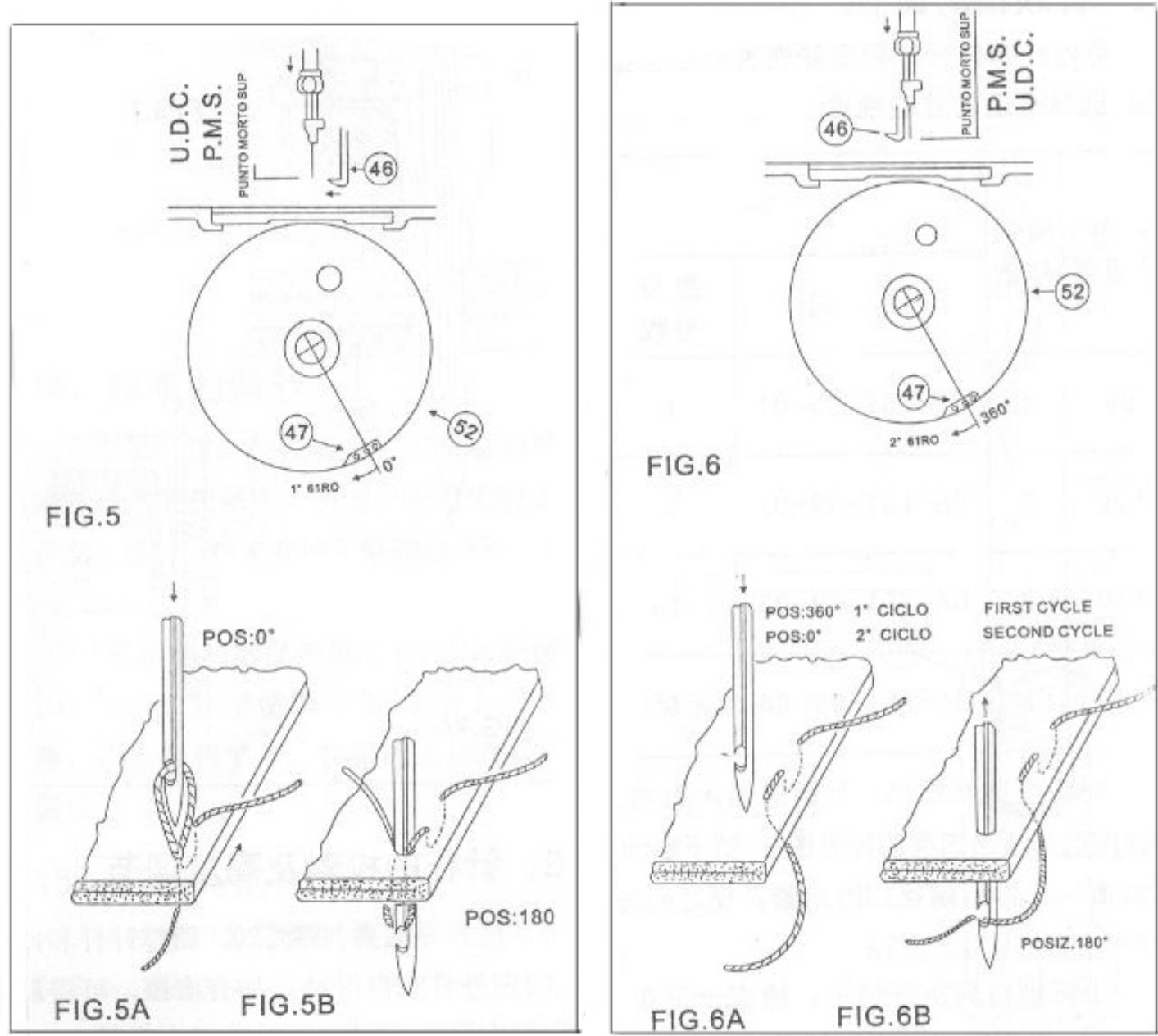
第一个循环节带线针从上死点落下，上钩针46的上线夹开始运行，当针板返回到上死点，同时上钩针46在针后位置停住。图5A、B

第二个循环布料下面针的构成

第二个循环从不带线的针从上死点落下开始，它抵达第一循环时，上钩针停在针后位置，结束时带线针返回到上死点，这时上线钩停在上线开始的位置。图6A、B

对于针杆的两个工作循环，上钩针和旋转钩47按以下过程运转：

- a: 针杆完成来回两次过程 b、上钩针46完成了一个来回一次过程 c、旋转钩47 360度转了两圈



故障提示

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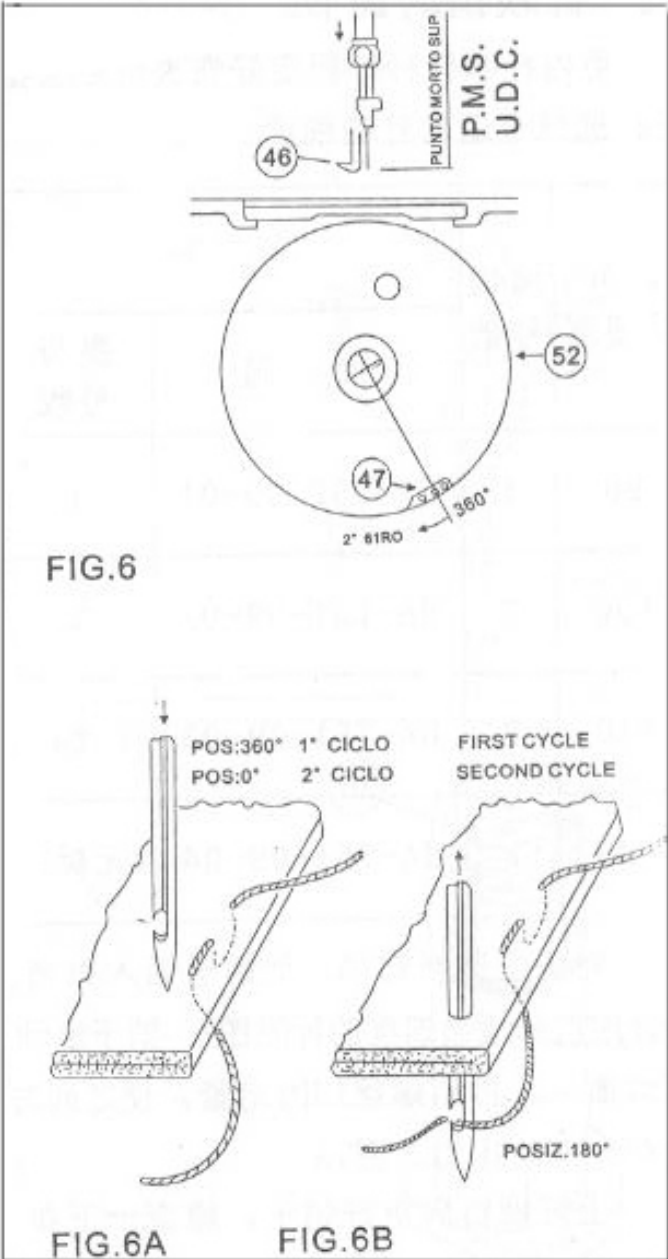
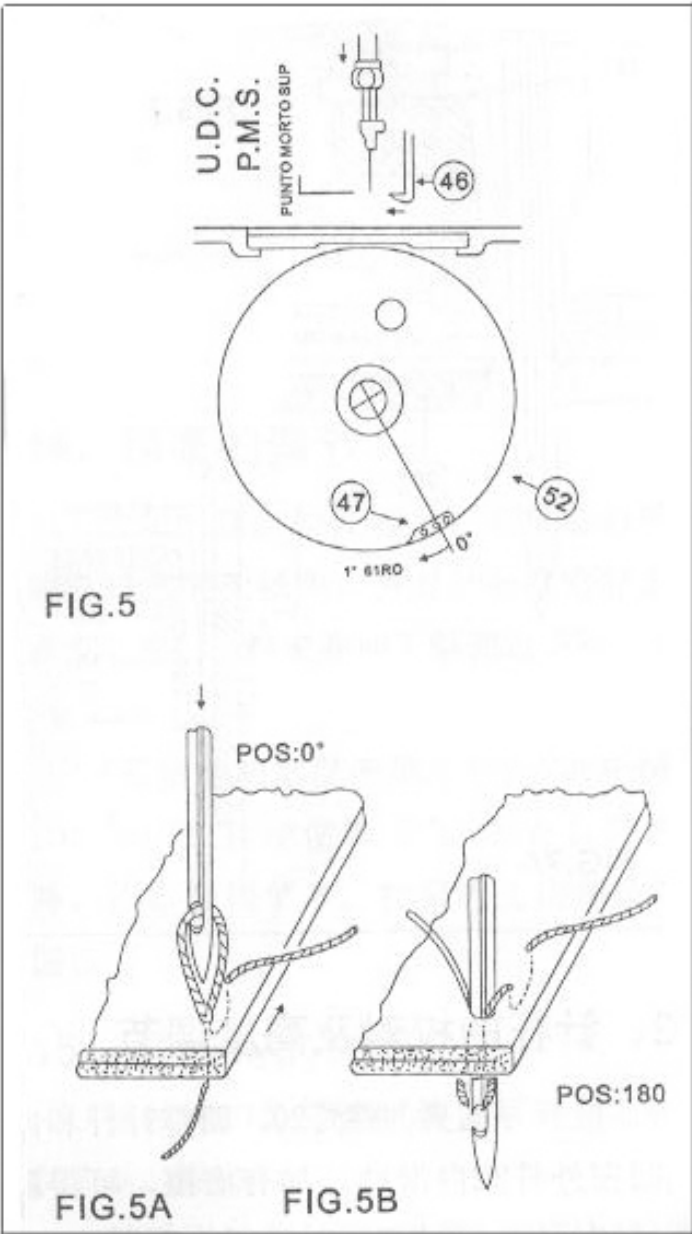
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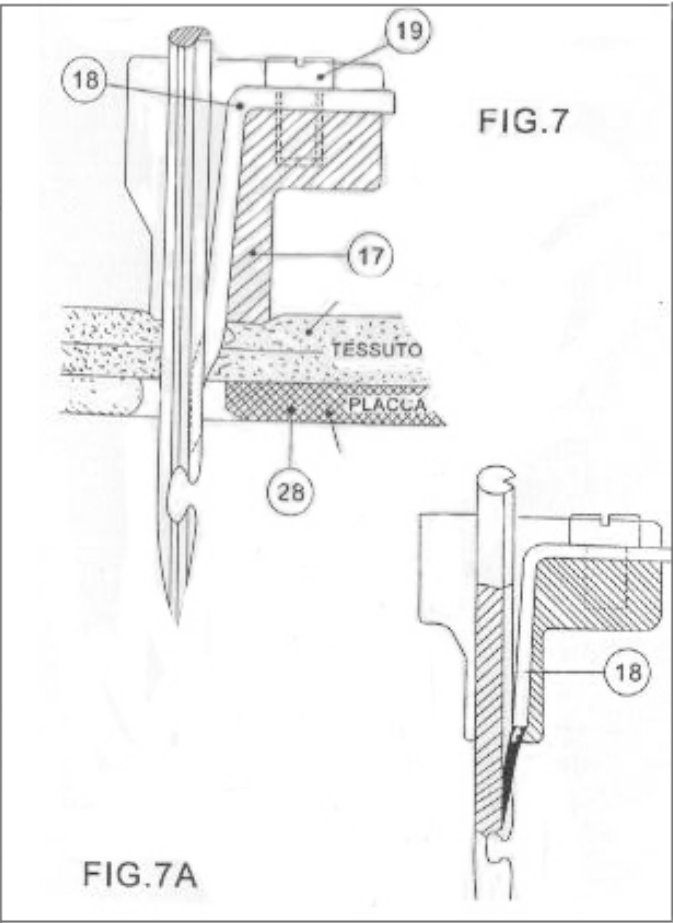
12、针眼销的调节

用内杆和针杆针固定好布夹17，依据下表选择合适的针的细度。

780C 针细度	槽钩 号数	布 夹	
		代码	参与 号数
90	1	HA-951-09-01	1
100	3	HA-751-09-02	2
110	3	HA-751-09-03	3
125	3	HA-751-09-04	4无标记

对于安装新销18，把销子插入布夹，新针应选择适当细度的针眼图7，销子沿针槽钩插入，再用螺丝19固定紧，使之同对针有一定的压力。图7A

上好螺钉固定好销子，检查一下布夹，使之排列整齐而不沿针滑动。



13、针杆的校对及高度调节

松开导向夹的螺钉20，调整针杆和内杆21在外杆22内滑动，如有摩擦，可得新调整销钉23. 见图9。

分别在各自的杆上装配外地夹24和夹布器17，用双钩针从线夹上部插入图8，要保证塞面在机器左侧，止动环25在针槽的上尖部。

上紧螺丝26提升内杆，同时让夹布器靠紧夹子和内杆壁，然后把螺丝拧紧。

按照上面所提程度提升内杆并检查它的上下移动情况，使之能自由移动。

转动飞轮使针杆移到上死点，在这个死点上调节针杆高度，以便让针尖和针板28的距离是16cm。

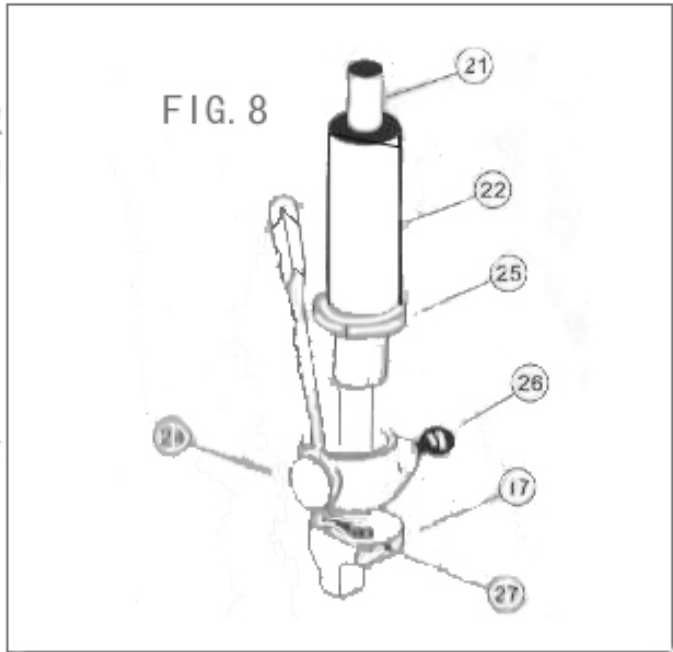


FIG. 9

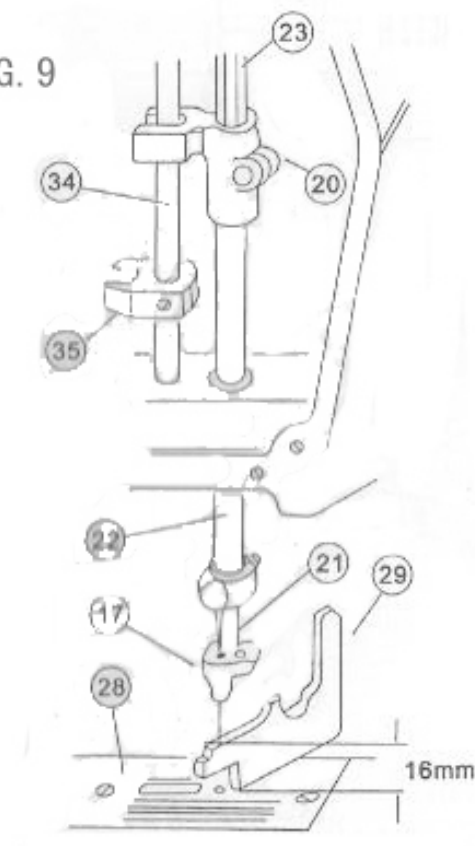
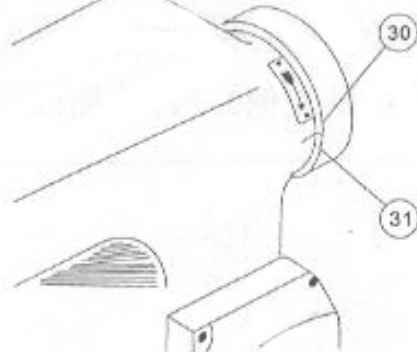


FIG. 10



仔细调节并让针板和卡规的距离是19mm。图9

调节针杆到下死点线夹在针杆左侧，上紧导线夹20，松开机槽30和飞轮31，然后固定好飞轮。

图10

14、销高的调节

销高的高度与针有关，调节要准确，销夹与之间无缝隙，并且针杆在它上死点上，图11，销尖要向下略过下钩针0.8-1.2mm。

（根据针的细度来调节）调节器铝帽时10，顺时针转动使销升高，反时针转销下降，固定好调节器，拧紧帽上内部螺钉。图12

15、移线钩的调节

移线钩37必须按照钩尖从杆向前伸出0.3mm。

图13

转动飞轮带动移线钩直到最大处，慢慢调节移线钩，使针板下部和移线钩之间的距离是0.3mm。

图14

FIG. 11

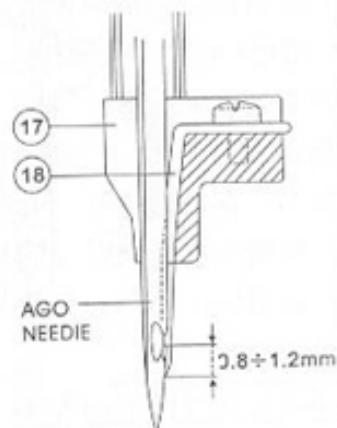
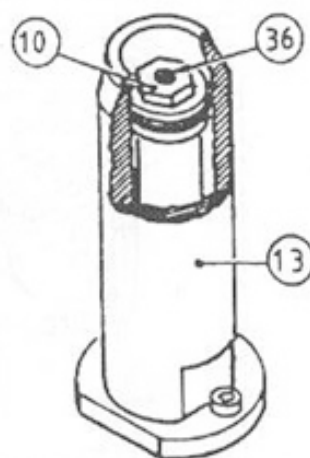


FIG. 12



移动移线钩至针后，调节杆38，使针与移线钩的距离是2.5mm，并且移线钩外边伸出部分在针左侧0.3mm。图15、16

16、针槽

移动杆42与轴承间不能有空隙

推动基座上的螺栓43消除缝隙以便使轴承自由运转。

图17

针槽作用是避免车缝时布料太厚而使针弯曲，主要先靠针槽短牙内边来保护针的。图18

FIG. 13

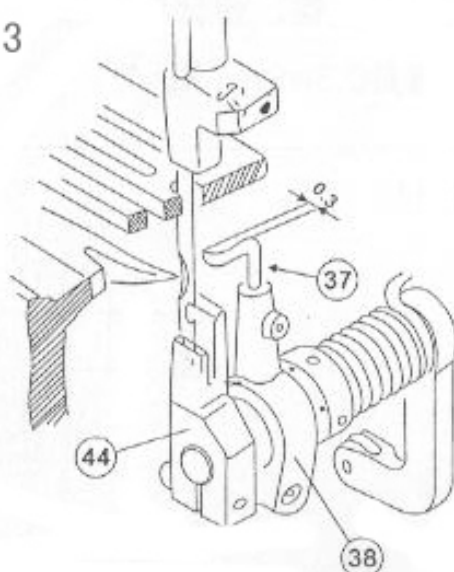


FIG. 15

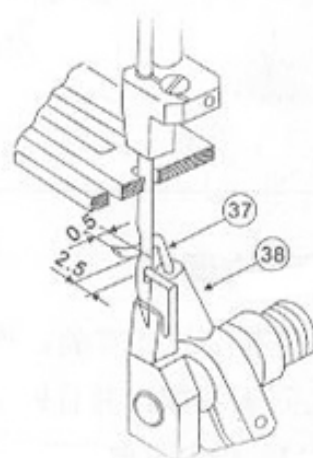


FIG. 16

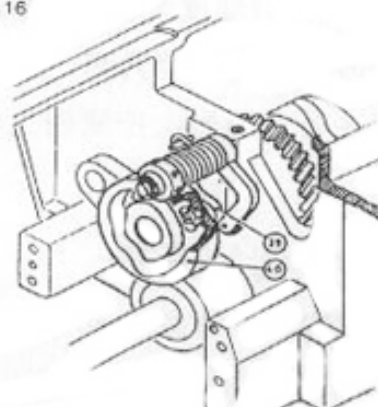


FIG. 14

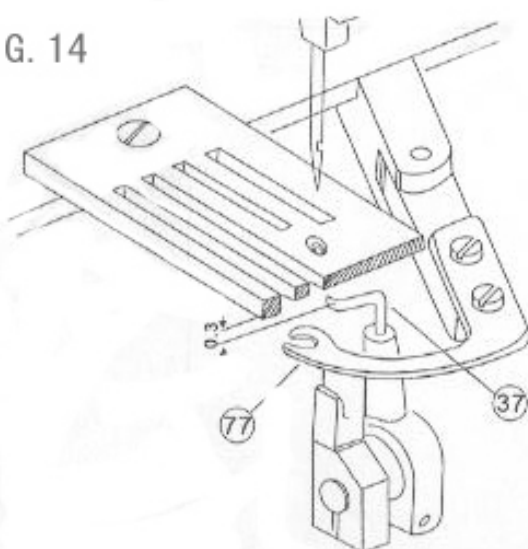
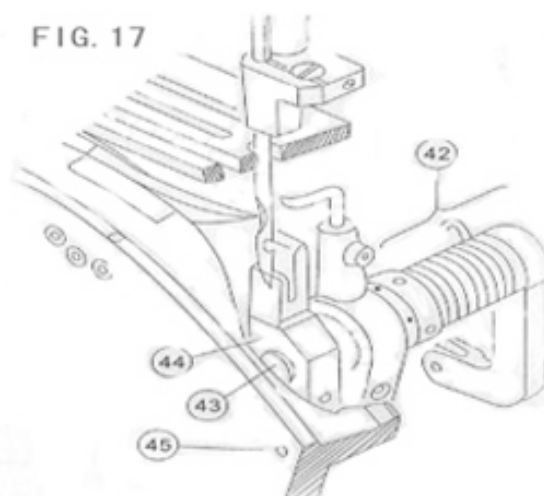


FIG. 17



调整杆槽使之返回到死点2mm。使针弯曲处与针槽短牙内壁接触。

当针杆移动到距下死点3mm，针一定不要和针槽接触，如果针遇到堵塞，可检查调节器。

17、上钩针调节

转动飞轮带动第二个构件，当压力凸轮40图19. 旋转集团和机器平面垂直刚好塞住，当凸轮在这个位置的上带动另一构件上钩针凸轮50图20恰好位于支座上孔51这是这个构件刚好暂时合上这个小孔。这个调节刚好准备。

定位是否正确、针线钩够到针后时，针尖刚好落到移线钩高度。移线钩移动靠凸轮39控制，用凸轮凸出部分的压力使移成线钩移动。安装上钩针46，它的针尖应距针板面16.3mm(注1图与数字不符)图21是0.1mm上钩针尖与针有5度的倾角，这样避免针返回时断裂，图21. 这个倾角可通过提动钩针48来调节，上钩针在第二个循环结束时返回初始位置。并在第二个循环时上钩针停在线夹后部27和上钩针成一直线。

通过主轴向前移动钩针匣48与支座49使上钩针和后面平常器的横向间距是1mm, 图

FIG. 18

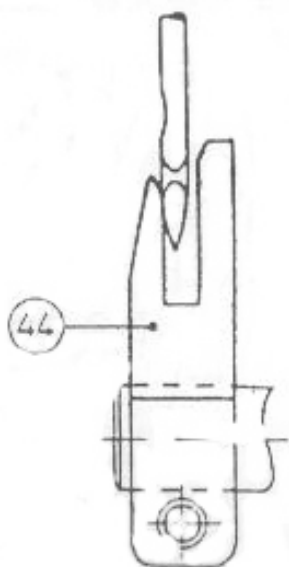


FIG. 19

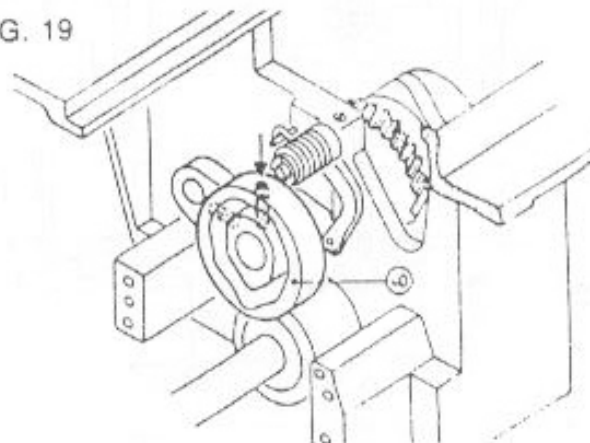


FIG. 20

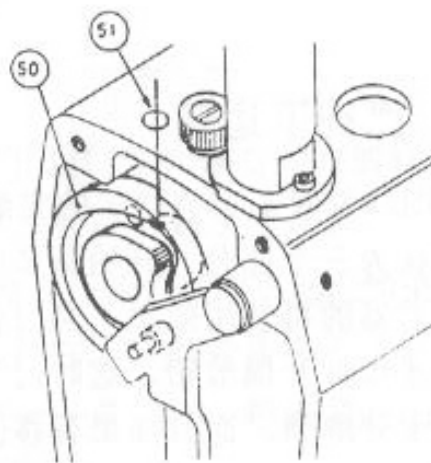
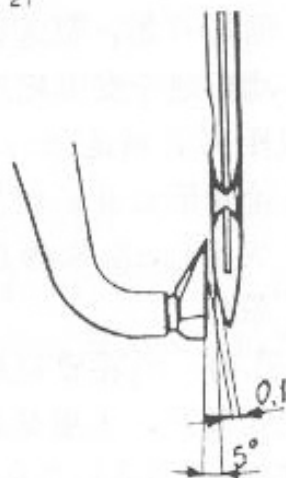


FIG. 21



移动过程:

第一个循环开始, 提起针杆把卡规29调到15mm移动氏地杆支上死点1mm处。这时针尖和针板距离必须是15mm。图23

转动凸轮50带动针杆到上述所运示的构针尖比针尖高1mm阻塞螺栓可堵住支座上部孔51。图20

关闭小孔前, 凸轮带动钩针靠串连滚轴(0.5)注2处离开, 主要是避免凸轮转动时不卡住底部。

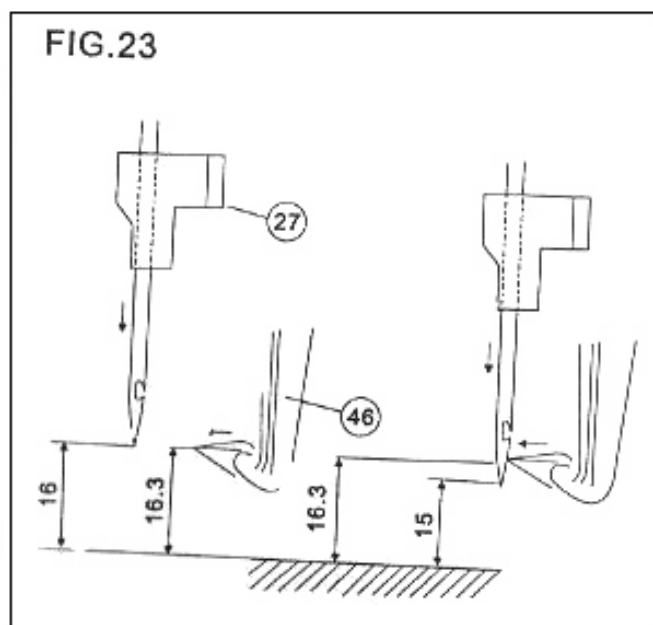
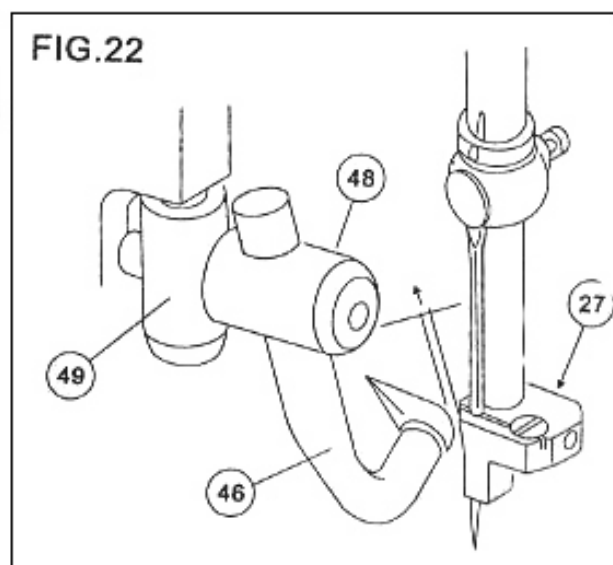
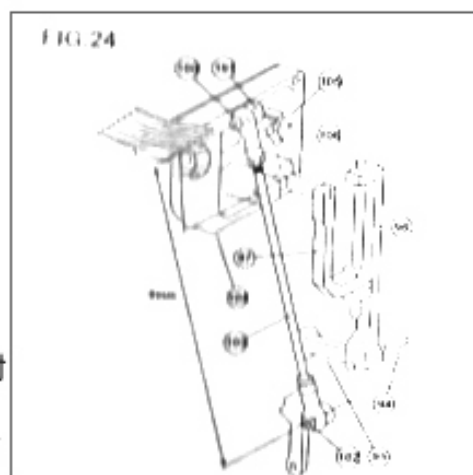
18、抓钩下运转

图24说明了调节器罩的安装, 从图中看可认为三个部分, 开始调节时, 再仔细看调节器的再使用效果, 当且仅当确实必要时才可打开调节箱, 这时同于这个箱子安装十分麻烦。而且如果移位, 易出现故障。

- 卸掉装在校正手柄101上的球状链轴上的螺丝100
- 卸掉球状链轴节螺钉后102重新移动球状链节上的拉动杆103
- 去掉止动阀99
- 去掉弹针弹簧147, 图27
- 去掉弹针杆手柄94上的链接销和调针杆93, 图28
- 去掉固定调节箱上的四个螺钉并拿掉调节盒

记下这几个步骤, 重新安装时按这个顺序相反, 但重新安装时先擦入连接销再装弹针弹簧。

注: A依靠有刻度的反转接手拉手15对针进行校对时, 带动旋转手柄及里面调节器上的销子105、106在开始前转动调节器, 去掉对针调把针调到最长, 这通过手柄14-15来进行调节。图4



调 节

a、调节直杆93和下定轴95之间距离3mm通过调节调杆使使4个连杆82排成一列。图28-29

b、松开提升钩83上的螺钉和弹针叉的暗的螺钉，合针板28上的针孔居中，与针方向垂直。图25
使针板槽里的针齿夹85居中，使针齿平两端与针板槽内两边间距。这通过调节弹针叉86和提升钩83凸轮轴避免运转过快，上紧提升凸轮83和弹针叉的螺钉。图25

c、松开固定弹针偏心轮91的螺钉，转动飞轮带动针杆移到下死点。

移动偏心凸轮作横向移动，如果用手启动弹针支座80。这时针齿夹不动，使用权两杆92称为一条直线，拧紧偏心凸轮的螺钉。

d、转动飞轮带动齿夹85到针板外最高点并转动两个螺钉88-89使齿夹85和针板平行。

依照下列步骤仔细检查线夹运动

1、针必须和针板同高，在运行中齿夹板开始从针板中露出来，后来可以在针板下缩进去。

2、夹的最高点是0.8mm，这时针杆在上死点出。图26

这个阶段的调节器可通过提升夹偏心轮83同时旋转调节器螺栓90，在旋转调节器螺栓90前松开螺栓88。检查上述调节结果齿夹自由运动不可撞上夹板，否则引线线道排列杂乱。

FIG.25

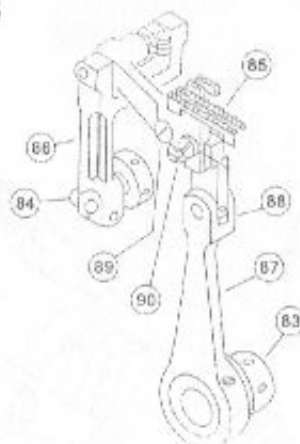


FIG. 27

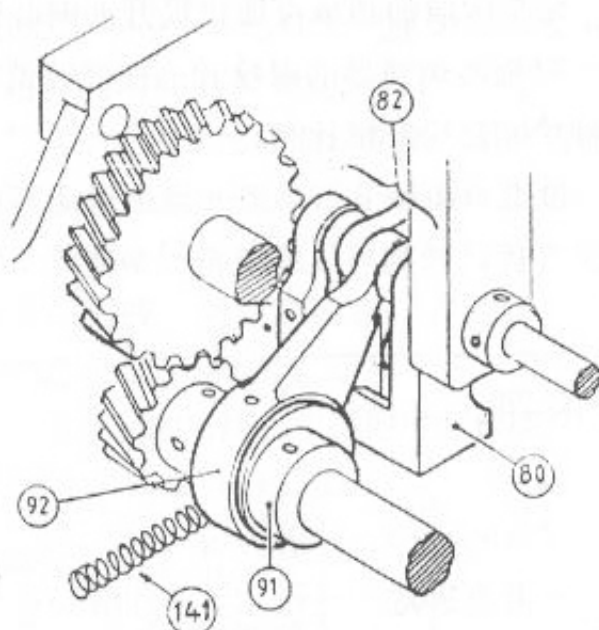
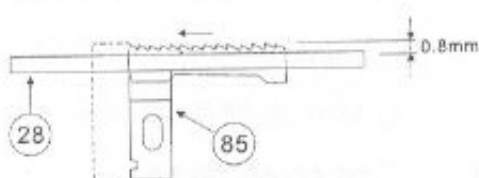


FIG.26



19、下转钩的调节

取掉裁线轮52和固定轮，要使轴与活塞间无间隙，去掉后转钩47。

注意：小滑轮上有两个球状钩针，它们可让下转钩从裁线轮上下来时有够移动一下。重新转动滑轮轴54

仔细检查这些零件切痕（毛边）所有与线接触的表面要擦光亮。图30

对于除掉这些痕迹和毛口，和采用合适的抛光机来擦亮部件，如果没有抛光机可用颗粒很细的磨刀机来抛光。可插入后面下转钩专门的小孔来抛光。

在裁线轮承座上装转钩，拧紧螺栓滑轮轴54向转钩上的小孔移动并用螺栓58堵住小孔。

用一根长线在滑轮上自由移动，它的长度应在滑轮轴最厚时长，因为这样才可能把滑轮推到底。

裁线轮上的线道一定要平滑，裁线轮和固定轮一定要仔细清除残渣和油渍。

可松开裁线轮上的标记环，向轴左边旋转。

FIG.28

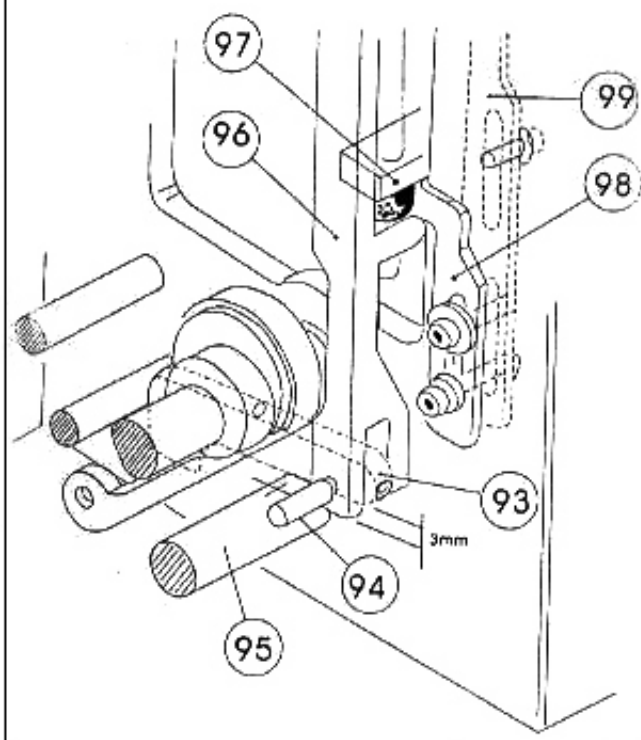


FIG. 29

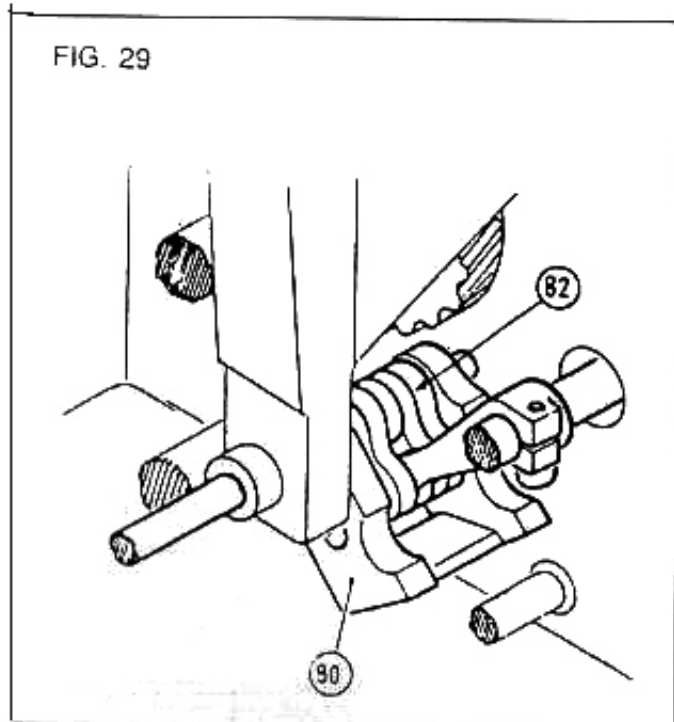


FIG.30

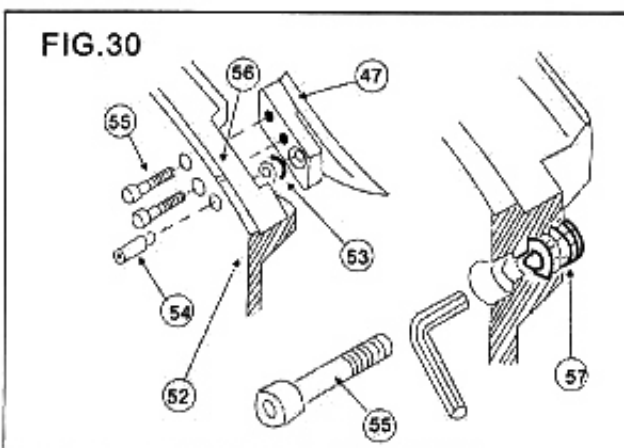


FIG.31

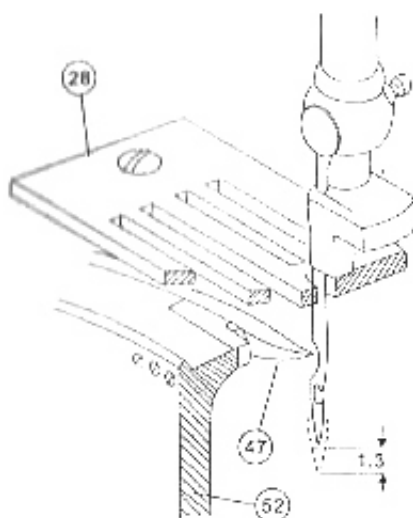
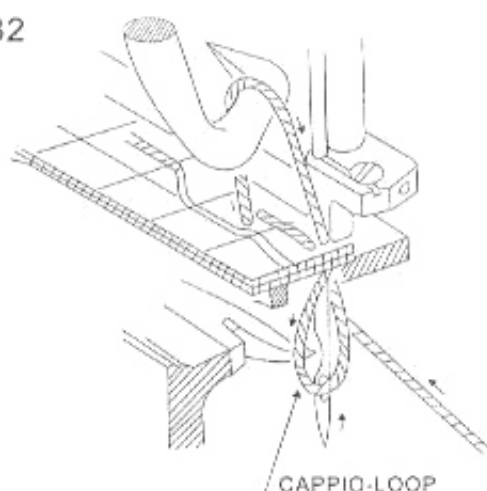


FIG.32



拧紧螺丝使标记环上在轴上摩擦，环上的标记槽必须在左边这样要安装固定轮，可使裁线轮同环槽协调移动一致。然后让轮钩靠近针左侧位置，用卡规精确固定针杆的下死点，移动裁线轮，使针位于裁线轮基准孔中心45，图17。即：在运转方向上转动机器针杆应距下死点1.3mm，同时转钩尖在针中部，图31，在这位置上针杆的线开成一个回路。图32

用调节器上的调节螺钉可让针仅在转钩下0.2mm处否则裁线轮内侧总是移动。

运转时，调节器需要重新检查一下轴54和滑轮54。

调节好针杆高度，小心固定裁线轮上的转钩。

然后用拧紧阻塞螺栓。裁线轮和基准环上的螺本栓再检查一下。

20、抬线杆的调节

要区分两上抬线杆，前面的一个72离工人最面的一个离针近。前面的抬线杆必距裁线轮边3.5-4.5mm，后面抬线杆距裁线轮边5.5-8mm，抬线杆的基座必须外在两个抬线杆同时伸到裁线轮周围。图33

这一过程是这样的，在第一循环时，上钩针尖46到针中心，同时抬线杆在运行过程中最低。转动凸轮74带动抬线杆，这时前面的抬线杆处在最高点。它的杆尖伸在裁线轮外边下5mm处。图34

通过转动支撑轴可横向调节抬线杆，使前抬线杆针板（71）3.5mm。

注：调好抬线轮后，转动凸轮75如同21所解释的那样安装好定向轮裁线轮。

FIG.33

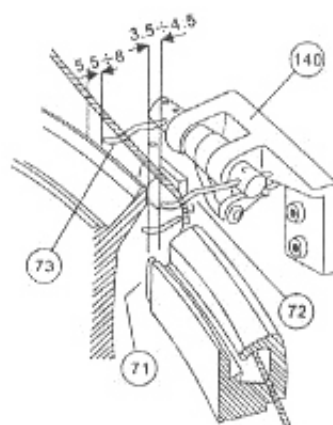


FIG.34

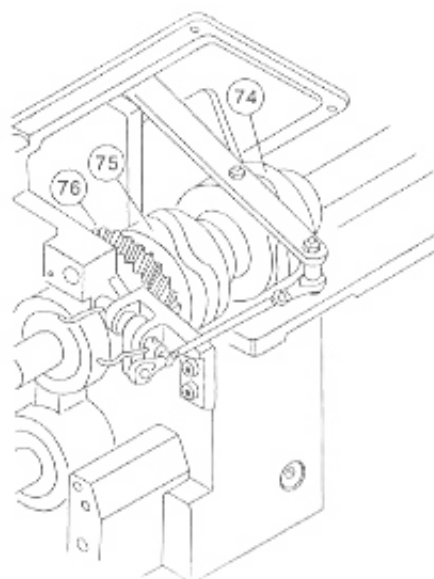
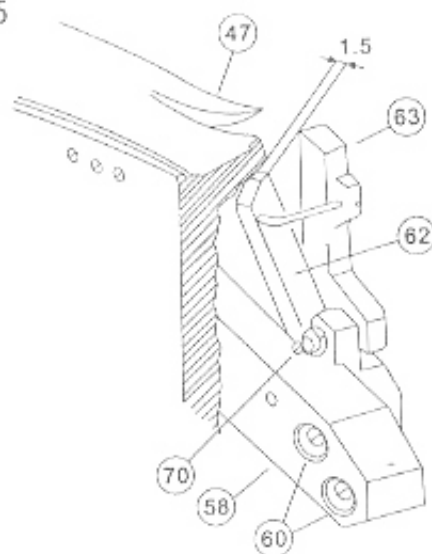


FIG.35



21、拉力原件的调节

移动裁线轮52拆开拉力机械58去掉螺母销下的球结头和两个固定元件的螺钉60，图35-36

松开螺钉65用夹圈64来调节手柄62-63的弹簧压紧，手柄62-63的弹簧使弹簧伸缩到最上（压力较大），维持这个位置调节两个弹簧使他们承受最小的存压力，检查他们迅速回弹和移动的情况。图36

重新安装调节好的张力压件，拧紧两个螺钉60和螺丝59注意基座上两个小指针管套，把守装定向轮把长方形导线夹67定位，它和初板71，图33，的距离是0.2mm处。

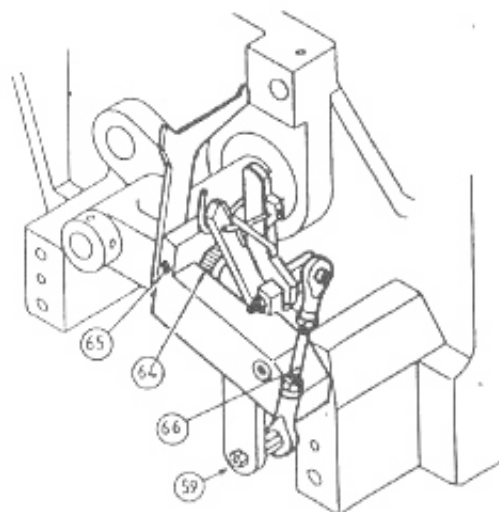
注：由于拉力原件精细，机器运转时必须小心应量避免转钩47和拉力原件58摩擦。

手动时，向右末端运动闭合拉件，使裁线轮的右边缘闭合拉件的中心距离是18mm，这个距离可通过调节两个球节之间的距螺母销66来完成，图36，把张力凸轮40图18安装在上面的轴上，针在左手边手柄和基座孔上轴的中心店45. 这时，线平面上边和裁线轮的外边要垂直。调节移线弹力变曲杆61. 向前伸4-5mm体倾斜面转轮基座平面点69距裁线轮内的直径1mm处。图38

拆卸裁线轮

凸轮40运转是否正常，图16如果在第一个循环时，上钩针的末端到针中间同时张力原件闭合，然后上面的回路形成张力原件拆开1.5mm松开防松螺母图35和调节螺栓柱70来进行。图33按这个尺寸上线。图35长方形67需在导线板71向左端图33安装定向轮重新安装转轮，拧紧裁线轮上的阻塞螺栓。

FIG. 36



22、上线夹的调节

上线夹主要是给针上线。

针尖后部署A位置必须和针接触而又不能把针弄完。

松开两上螺针（78）在支架上调节上线夹。图40、41

当上线夹向运动到尽头时，上线夹尖A与裁线轮（52）的右边距是1.5-2mm，图41（这个尺寸是机器上线时必须检查）图

这个距离可通过调节两个接头之间的连杆79进行。

上线夹的变曲可通过调节高度图41，调节上线夹和抓钩下部分之间空隙是0.2-0.3mm。图42

FIG.37

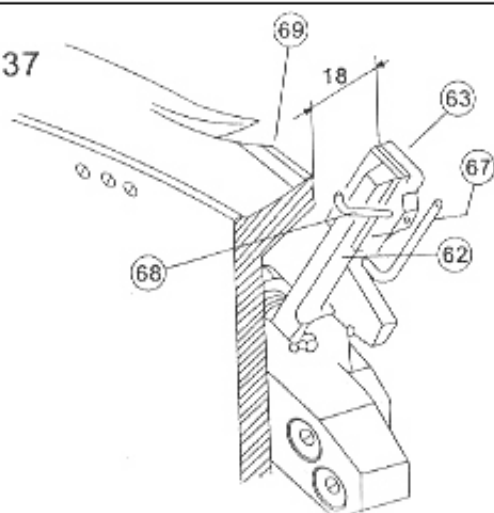


FIG.38

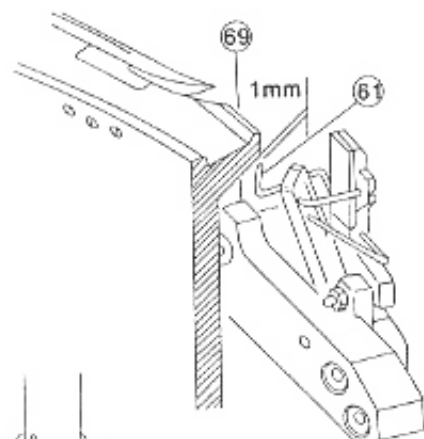


FIG.40

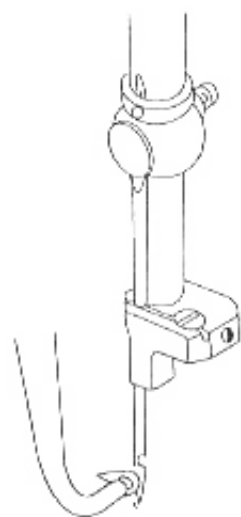
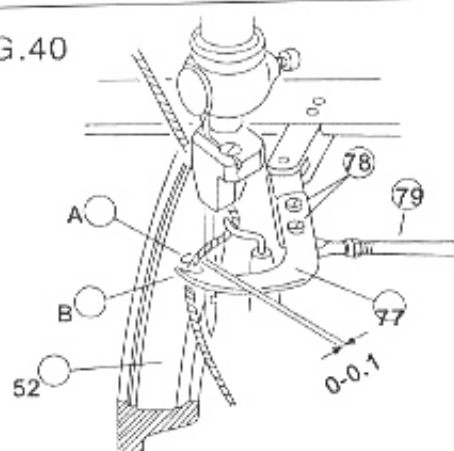
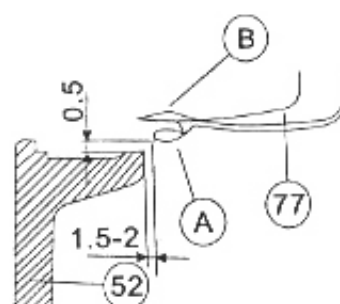


FIG.39

FIG.41



凸轮的运转75图34, 检查两个凸轮74、75的精确循环, 按照下列步骤:

第二个构件在上线凸轮运转时必须与第一个构件抬线夹74在同一条轴上, 检查好这道工序, 机械做好运转准备, 然扣用卡规量一下上线夹上的线, 以没有触到针为准, 序, 可以安装针板。

23、上部调节

在连杆上加可接基座(107)在机器工作循环运转时, 针板下面的抓钩是倾斜, 在运转时曲杆可使导杆(手册上所列TAV-11-C0752-12)和支座(108)间的距离是0.3mm.这时要让支脚在针板顶板, 并且和针板平行。

在接口插入软针(见20)和在连杆上插入球节支座(109), 转动飞轮带动抓钩到最低点, 因定好球节支座(109)使支座面板平行, 通过调节螺钉(141)图43来调节两个支座面(109-107)达到同样尺寸。

支座活动必须协调, 对抓钩而言, 叉形移动板(110)活动时, 球形结的位置产生变化, 同时, 支座手柄(113)活动, 通过支架侧左边的孔来调节球形结(114)的位置(仅在机器配备手册编, 一定要保证固定好叉形移动手柄(110), 以便搭板伸缩环(111)离开手柄时能自由移动。转动飞轮移动到最大时, 各部分构件不能碰撞。

转动支座的偏心凸轮C0750-10、703控制基座从抓钩落下时, 同时抓钩开始从针板伸出来, 注意要使偏心轮和连杆成一排成一行。然拧上偏心凸轮螺钉。

去掉盖罩, 固定偏心凸轮的螺钉可伸入支座上部。

转达动飞轮带动上钩针48, 在第一个循环中。

转动曲杆并把支座升到最高, 转动飞轮使上钩针球形结(109)交叉, 这时上钩针在最小距离必须垂直离开球形结。

这个调节通过升高撑脚C0752-04-01, 去掉盖罩, 可达到支臂后面, 拿信纹纸垫在支脚下, 反向调节长针度的手柄(14)。钻出11个孔, 在延缓一个和11个孔之间的距离16mm, 固定好连接柄位置97, 使止动器(98)达到最小时, 用调节针长手柄刻度指到0, 这时拧紧板上固定螺线, 图 28、46。

FIG. 42

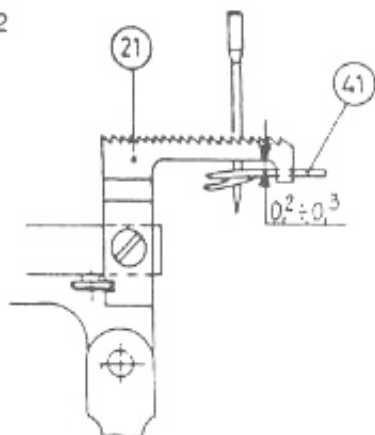
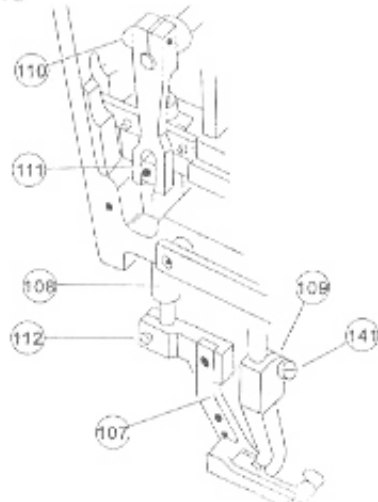


FIG. 43



顺时针转动手柄，带动刻度在 $8\frac{1}{2}$ 位置，除这个位置，其他位置一概不用调节此把手。

在它的针长时，固定好上面止动调节器99，图28。

主件调节好后，机器如用来车皮革，针长最小1.8mm，最长6.3mm。

注意：移动使用调节时，必须按照机件的各个说明进行，在安装期间，不要私自调节备用件的螺钉，因为他们已调到最高值的位置。

24、针的调节

顺时针转动旋钮（15）来校针，使刻度指向0停止，再逆时针转动旋钮，图46。

顺时针转动旋钮（14），使刻度指示最大。

拧紧校针杆（120）上的螺钉，这时用手动来给校正旋钮（121）定位，图47。

在第二次循环时，转动飞轮带动杆到下死点，用校正杆（120）保持不动，反复反向转动转换器手柄（16）给偏心凸轮（22）定位。

偏心凸轮（122）接班杆成一直线时，上紧螺钉固定偏心凸轮。

FIG.44

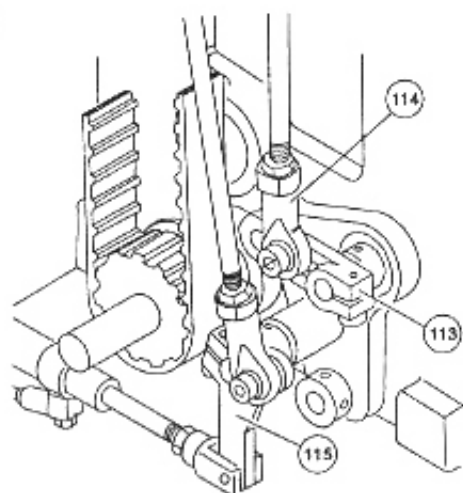


FIG.46

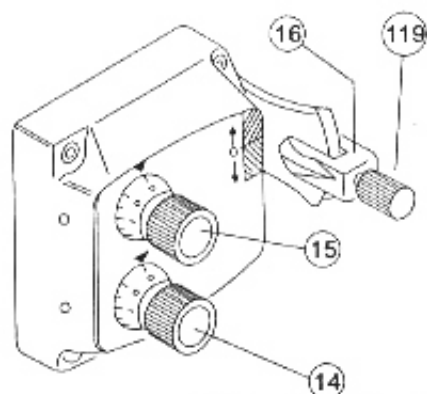
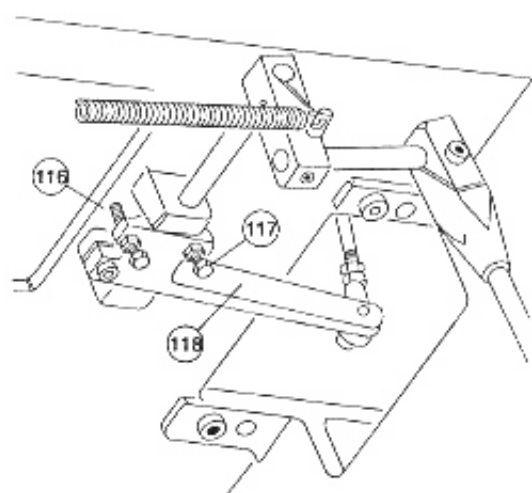


FIG.45



通过旋钮帽（119）来调节换问器（16）的位置到最低。

松开校正杆（120）和校正旋钮（121）上的螺钉，当针杆在下死点时，在第二个循环时，调节校针手柄（120）上钩针的位置，能使校正旋钮销（121）与校正旋钮前边缘的接触线距离是1mm，拧紧校正旋钮销上的螺钉。

调节控制手柄上的螺钉（123）使螺钉伸出反向杆（124）1mm。

在第二个循环时，针位于下死点反向杆上调节螺钉（123）不变，通过调节校针杆（120）和反向杆（124）螺钉，使校正旋钮（121）与钩针距离0.5mm时上紧反向杆上的紧钉。

拿上纸板穿孔，并用《B》在一系列孔下作记号，经过校正短针脚在布样上编后的位置，这是因为转向器（16）位置在调节盒位置偏低。

转动飞轮带动针杆到下死点，松开换向器的螺帽（119），提升拉杆（16）稍高位置并用螺钉固定。

重新做一个穿孔，并在下面做记号《T》，经过校正短针针脚在布样上的位置偏前，这时因为转向器偏高。

对比这两种情况，结果是一样的。

这台机械主要用软件来工作，所以这一系列记作《T》的短针针脚的长主应该稍稍调节比记作《B》的针脚长度短一些。

由于服装前幅与翻领上校正短针针脚可获得相同的结果，所以这种调节很必要。

为了纠正这种表面差异按照下列方法操作：

a，对比两种打孔结果，以便作出决定校正。

b，转动飞轮带动校针杆（120）到最大位置，用钩针与调整针长校正旋钮销（121）相触，图47，松开两个转换控制杆（115）上的螺钉。

c，移动力校正支座（125）向针脚校正杆（126）处移动，可得到一系列比记号《B》长但比记号《T》短的校正针脚。

d，移致力校正支座（125）向针脚校正杆（126）处移动，可得到一系列比记号《B》短但比记号《T》长的校正针脚。

这个结果明显说明了伸长杆（96）与针脚调节控制杆（93）连接在各种情况下的位置。图28

e，校正后拧紧控制拉杆（155）上的螺针。图44

下列调节是在保持校正短针针脚长度最小时。

1）转动飞轮带动校正针杆（120）到钩针触点最前端。正对着调节旋钮（121）。

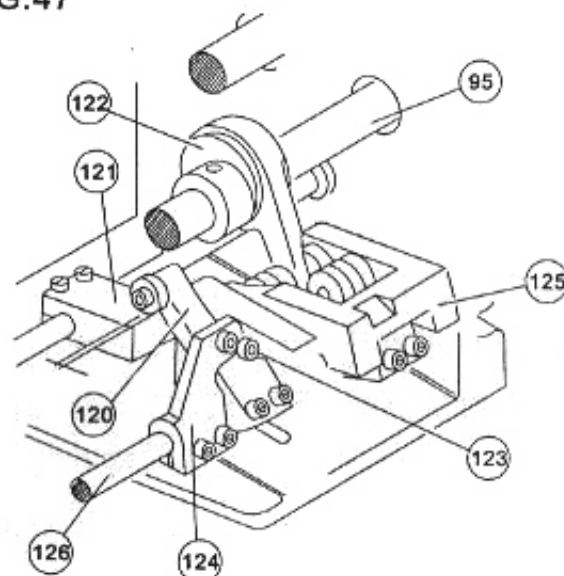
2）松开防松螺栓（123）与校针针杆上的螺栓（120）。

3）顺时针转动调节螺栓（123）与校针针杆（120），缩短校正针脚，反向转动时，伸长校正短节旋钮。

4）调节螺栓（123）与校正针杆（120）斜向上的调剂旋钮。

调节好后，固定好连杆和螺栓，这样，它们正对着调整块（122）。图47

FIG.47



25、拉线制动闸用作切线前对线的处理

接班线制动闸仅当曲杆运动时张开。

调节凸轮高度来控制接班线制动闸，在提起沿轴支脚或移动拉线制动闸，松开凸轮螺（136）当机器开始上线，要保证曲杆加快运转支脚抬起，制动闸打开。图48

26、切线的调节

切线刀片在支座运转时起作用。

要调节好刀片以免割破布料。

在上刀片（132）在槽内运转时以通过调节偏心销（134），松开支座螺钉后启动偏心轮。偏心销不能碰到上面刀片槽（133）。

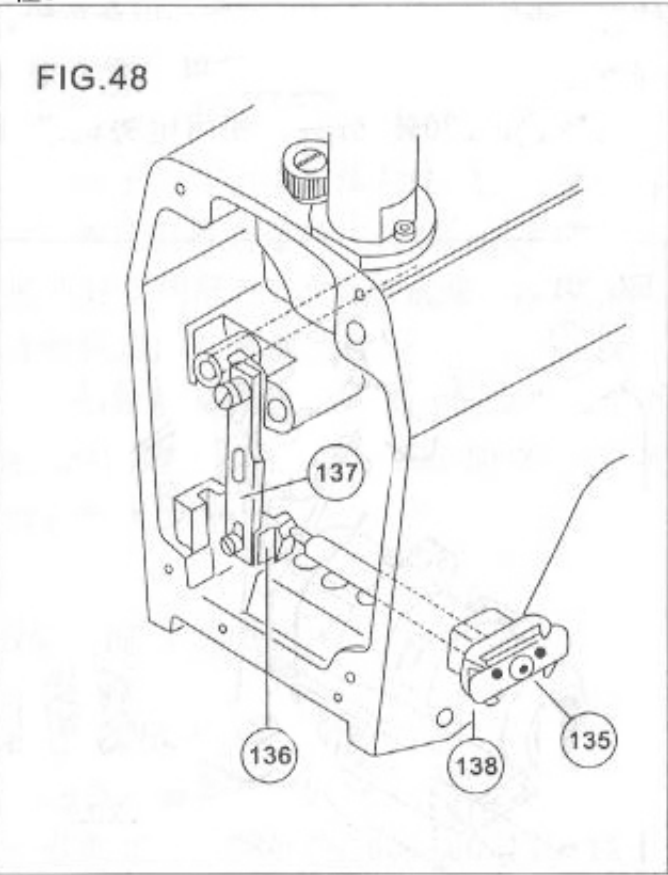
尽量调节控制基座（107）和球形基座（109）靠近。

调节时注意拧紧弹簧上的螺钉。

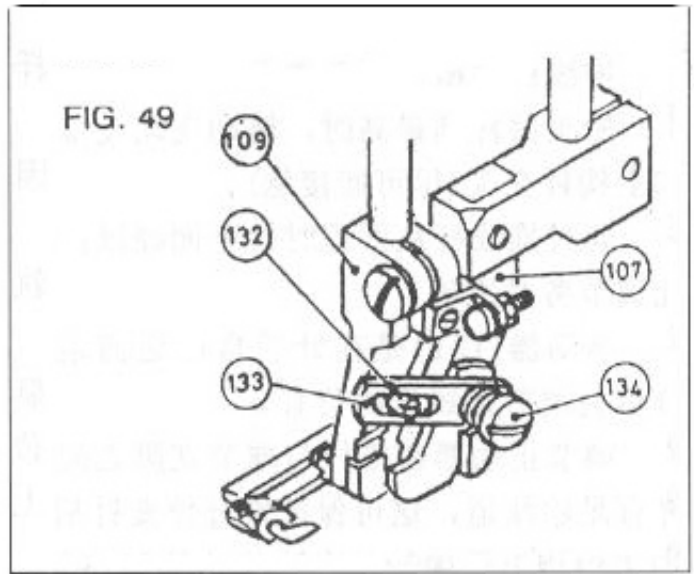
27、柔性针的调节（软件调节）

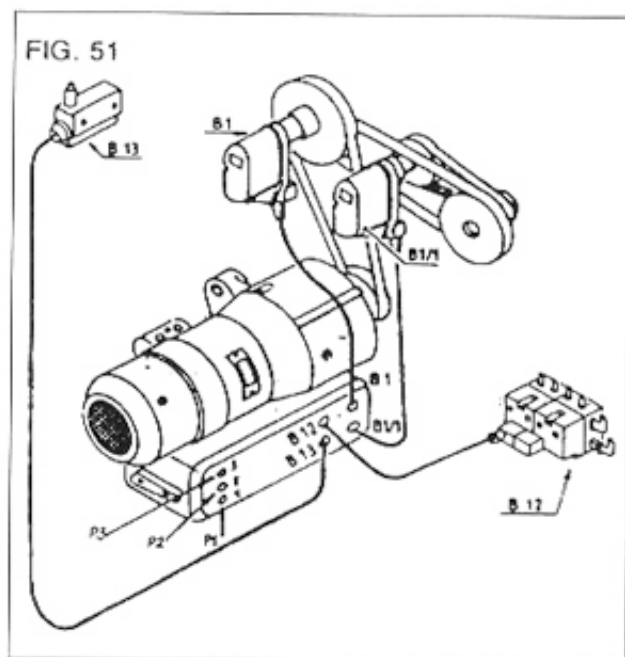
转动飞轮带动机器在运转，在第一个循环时使上钩针（46）在针后的自己运行轨道尽头，调节控制阀门杆接柱（127）的高度和位置，它的高度在控制台杆和上钩线夹板1.5mm，它纵向和控制住轴平行，可通过阀门拉杆接柱（127）上的螺钉来调节。

转动夹圈（128）压住弹簧，使弹簧压到最低，注意靠近操作员工边软针针杆（129）最大时没有被包住。



拧紧回线杆（130）上的固定螺栓，以便下列调节。使针线杆（129）处在和针衬板1.5mm距离的高度，上紧螺钉固定针线杆（129）。软针的效果根据工人的特殊要求决定。软针运转可用运转回线杆（130）转动飞轮使针杆到上死点处，上钩针给针上线。这个位置上，推针尖和上钩针垂直距离是3mm, 图50





推线杆的横向调节如下：

抬头曲杆到最高时，转动飞轮使推杆和上钩针交叉(尽可能接触)。

同时推线杆从回程时针下面经过，因此调节务必准确。

些动器(131)是在针后自己运河运轨迹尽头调节推线杆的位置。

调节止动器在推杆与球节支脚之间最好有足够线道，这可保证推杆停要针后位置，软针装置可和上钩针移动杆(139)上的手柄调节。图50

28、电机的调节

定位针同步机的调节和机器速度要固定，所以安装和保养不可缺少，除非特殊情况，否则不要轻易打开调节，以免危险。保养按下步骤进行。要保障用转数表来测飞轮转数，180转1分钟，和用电势机来测

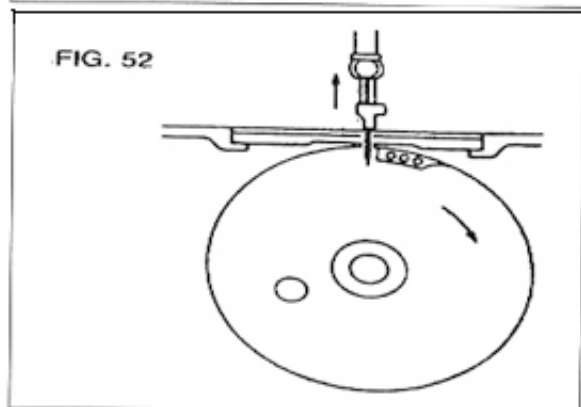
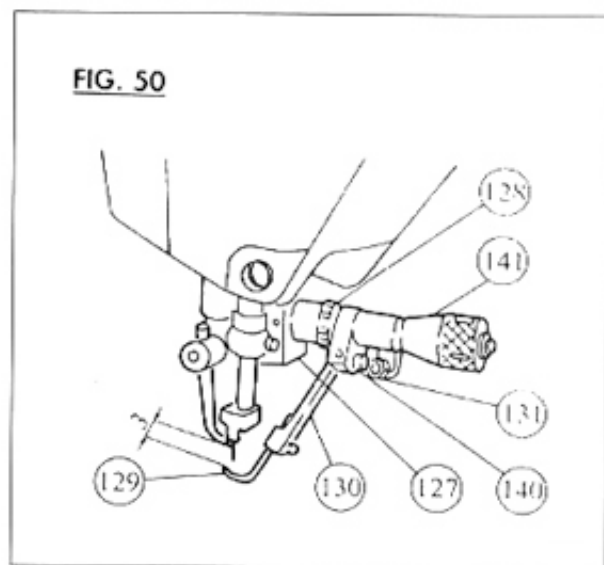
各种变化。图51

去掉同步机B1/1盖罩。转动有ILN404标记的圆盘，向前踩脚踏板后松开，机器住转钩处在针上方位置，针杆则好从下死点返回，图52

转动有405标记的圆盘，在第一循环时，钩针停在夹布器后面，针杆上方位置，针杆从上死点下来。

在1°和2°两个循环时，机器不能上线，此时必须转动704圆盘做180°旋转，反复操作这个动作。

通过气棒(空气压缩机)提升控制电闸B



-12位置，机构器上线。

调节完毕，盖上同步机外罩。电机EDKA
的标识：

B1=同步额定速度

B1/1=同步机定位针

B12=针杆活塞阀门

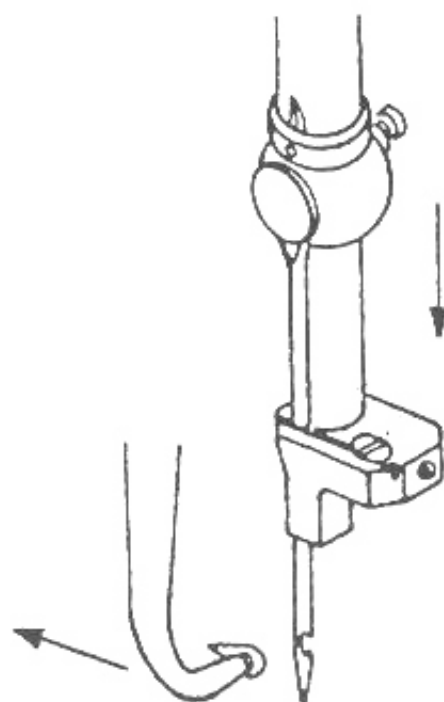
B13=台式限位开关

P1=调节初速度

P2=调节最小到最大间的速度

P3=调节速度至最大值

FIG. 53



29、加油和清扫

至少每月加油和清扫一次。

先让机器选运转去掉废线头和灰尘，
加油时要使所有部件运转起来，滚珠轴承，
各种线道结口都要运转。

凸轮活塞和齿轮须加齿轮专用油，其它部件和缝纫机油，型号TERESS032"E150"C的
缝纫机润滑油。

30、技术参数

--电机：550W、1400转

--速度：最高420转/分

--针的型号：780CNm. 90-100-110-125

--针长：主针1.6-6.3mm，短针最短1mm

--线长：最大90cm

--压缩机：5-5.5个大气压

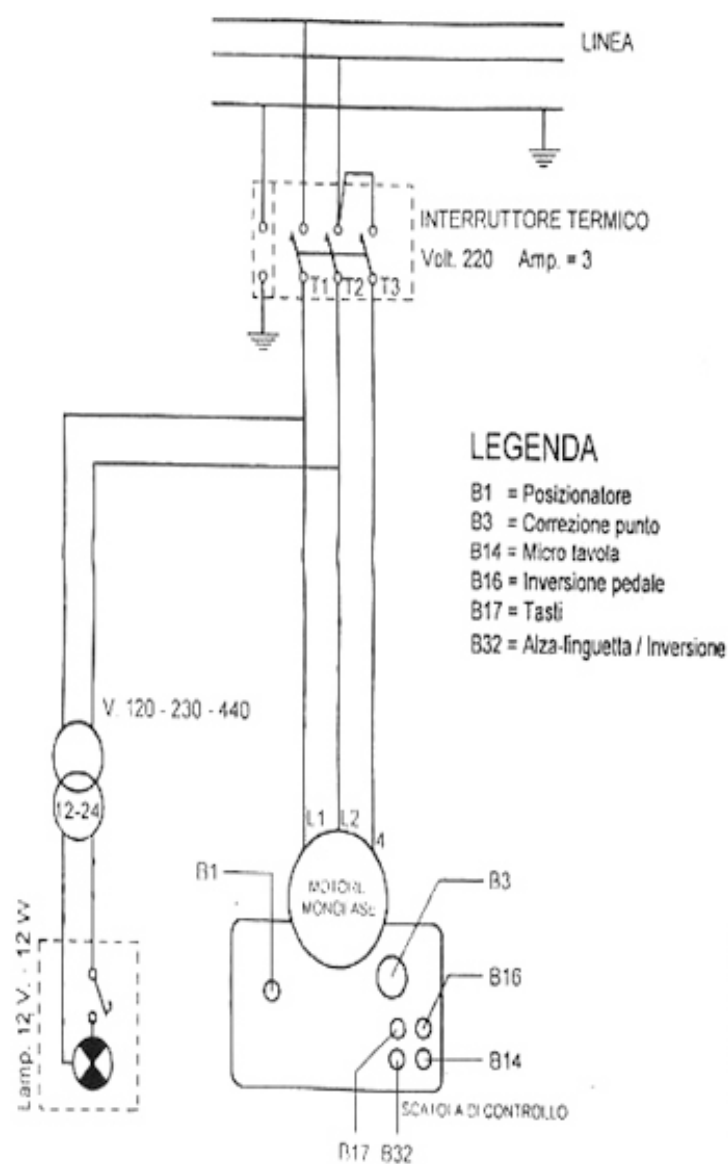
--台灯：25W 24伏

--规格尺寸：台60×90

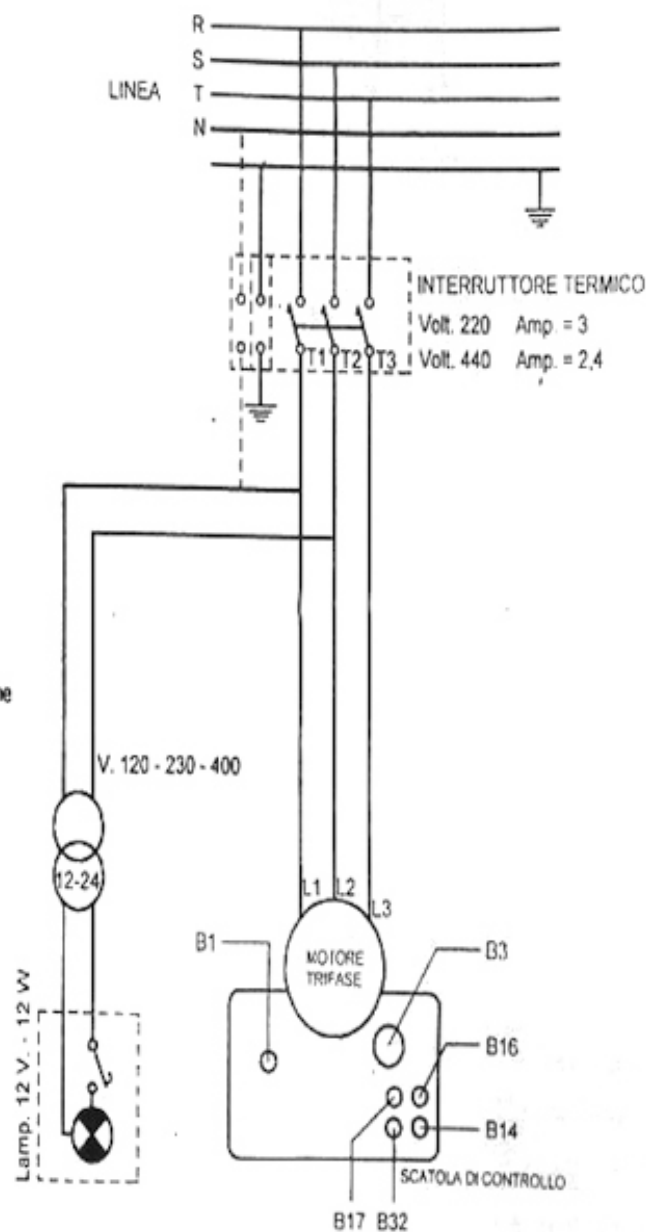
工作台99×124

台高83cm

MONOFASE



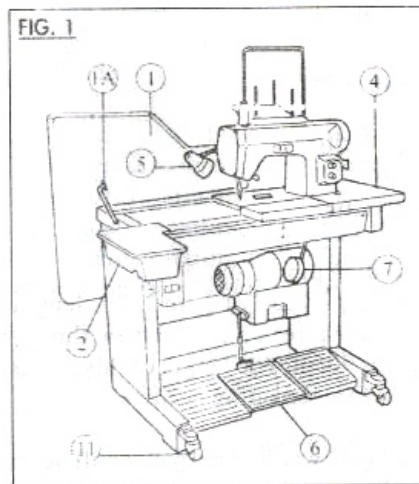
TRIFASE



Installation

1.The installation of carriage

Fix the working table 1 on the carriage, install the stand frame plate 2, plug the thread leading stand 3 onto the table stand to adjust the orientation of the bobbin clamp. Fix the turnover working platform 4 in the front of the base of the table stand with bolt then fix the table lamp 5 on the head with a peg. Clean the working area with soft cloth. (stand frame sets and blade). See figure 1.



2.Motor voltage

The power voltage should be consistent with the voltage shown on the card of the motor. The voltage should be changed according to that shown on the card of the motor (220v~380v). Closing the electrical current must be done by experienced electrician. Change the voltage by following steps.

- ① change the wire-connecting terminal on the terminal block
- ② change the electric source imported wire terminal on the terminal block of the transformer
- ③ adjust thermal switch according to the value shown on the card of the motor

3.Test running

The running of the machine is controlled by motor. Pedal lightly the pedal 6 forward and the running speed can be reduced. With the pedal pedaled several more times the running speed of the machine can reach the highest preset. When the pedal returns to the initial position the needle is pricked into cloth in the first or second Cyclic. For sewing the edge of cloth, just turn the head. When the pedal is moving backward the needle is on the position ready for threading. Insert the power plug and press the button 7 (the indicator light is on). Adjust the air pressure of the pressure gauge on the air compression pipe to 5.5 atm. Start pedal 6 and it can drive the flying wheel to run.

in the direction showed by pointer. If the flying wheel's rotating direction is not right change either of the plugs of two electrical wires.(applicable only for three phase appliance). Within the highest speed allowed the machine can reaches the highest running speed after running several minutes.

Operating hints

4.The selection of yarn

Since the selecting of yarn is very important for the running and the product quality we suggest that you choose terylene thread, cotton core thread which are to be found in the market easily.

GUTERMANN A 282,

AMMANN SABA C 120 (80C100C)

CEIBA SILK THREAD 120

MIXED SPINNING THREAD 120

ACKERMANN RASANT 120

And yarn with similar characteristic

5.Thread placing and threading of needles

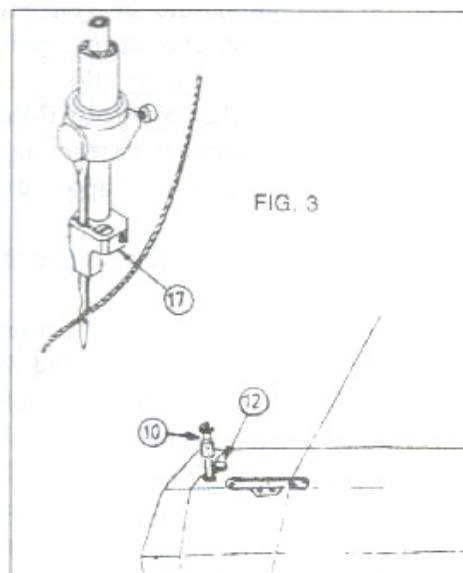
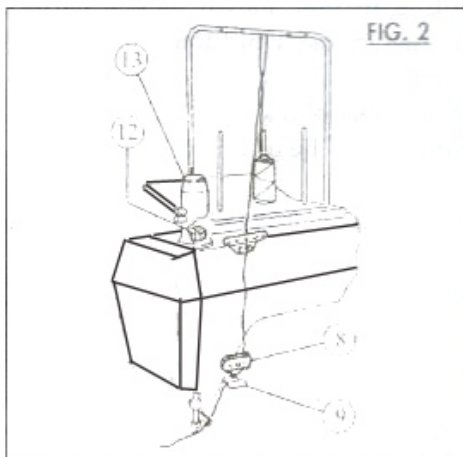
① thread placing and the threading pipe

The steps of placing thread are displayed by figure 2. The length of this part of thread , which is stretched straight from the thread pipe and then, through the blade under the head, stretched straight leftwards, tops 90cm. The length of this part is not beyond the set one.

Put the cloth under the plank before threading needles

② threading by pneumatic

Start the motor, pedal the pedal backwards. The eyelet will be open automatically. The motor automatically lift the needle stem and thread hook to a perfect position for threading. The needle eyelet peg rises from the cylinder.



③ manual threading(no need of raising needle eyelet peg)

Pedal the pedal(6)backwards to let the machine run. As raising the adjusting screw cap, let the eyelet of needle stem moves to the basset position then put the tread through the eyelet. At last adjust screw cap(10)to close the eyelet. Figure 33A

5.The keyboard

Yellow button

This button is used for changing the chosen stitch mark. The protruding of the green light on the left means the smaller stitches are under the fabrics. The yellow subminiature switch (G) (consult to figure 1) fixed on the left switch box has the same function with the yellow button on the keyboard. The function is changing the parameters of the motor. These two adjusters are used to adjust speed journey on the high-pressure gas storage cylinder.

Orange button

When the machine is running in right way the needle is still once it reaches the inside of the fabrics. With this button pressed once, the machine reaches half the thread and the needle is stick out of the fabrics. With the button pressed again, the needle is inside the fabrics. You can change the setting of the motor so the machine has other functions. It can complete the whole rotating according to the regulation and make the needle always stay below or on the top of the fabrics.

Blue button

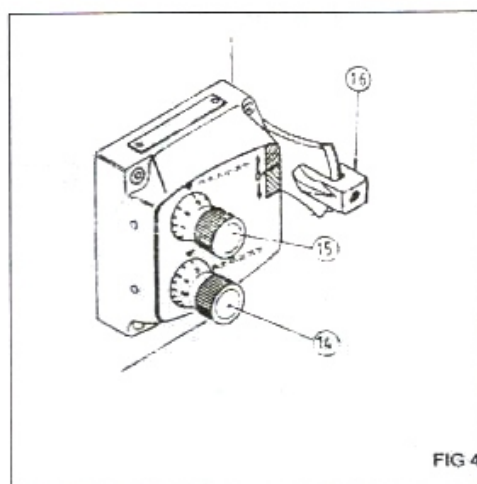
This button draws out air inside piston adjusting-needle. It allows the machinc operator to adjust the needle with thread adjusting dial.

6.Adjust the length of the needle

Adjust the length of the needle with 《the length of the needle adjusting》 knob(14). The length of the needle is minimal when many knobs show zero and maximal when it is adjusted to(8).

8.Adjust the stitches

The length of the stitches is adjusted through the scaled knob 15. It reaches its minimum when the scale points to 6 and diminishes gradually when the knob is turned clockwise and at last vanishes completely when the scale points to zero. Figure 4

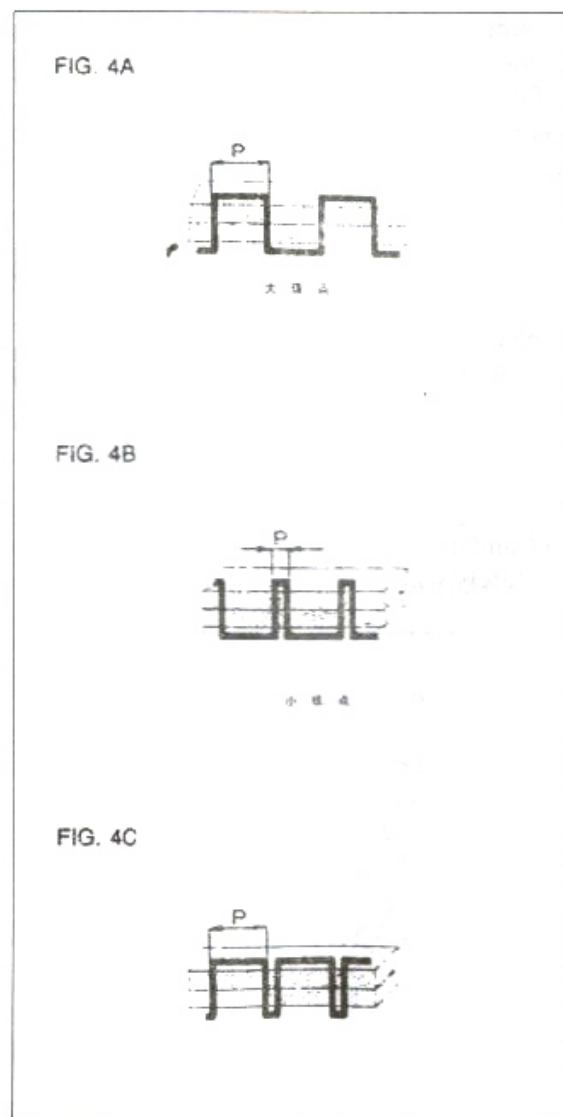


9. The alternation between long stitches and short stitches

For the alternation between long stitches and short stitches, start the control valve(11) which can be adjusted by hand. The long stitches can be seen on the cloth and the short stitches can be seen under the cloth. Figure 4C. The stitches can be seen in figure 4B, adjust oppositely valve 11, but no need to adjust knob 14、15. It's ok with the knob turning upward. Adjust knob 15 and let the sale be zero, reversing handle 16, in the position of zero, at this time the stitches up and down the fabric are the same.(leather stitches)seeing figure 4A.

10. Adjust the presser foot

The presser foot ensures the fabrics being sewed equably. Proper air pressure makes cloth go in a steady speed and protect it from damages. The air pressure increases by screwing the adjuster clockwise and decreases by screwing it anti-clockwise. Figure 5A、5B



Hints for faults

11.the running of the needle includes two production cycles

The first cycle: the structure of the stitches on the obverse cloth

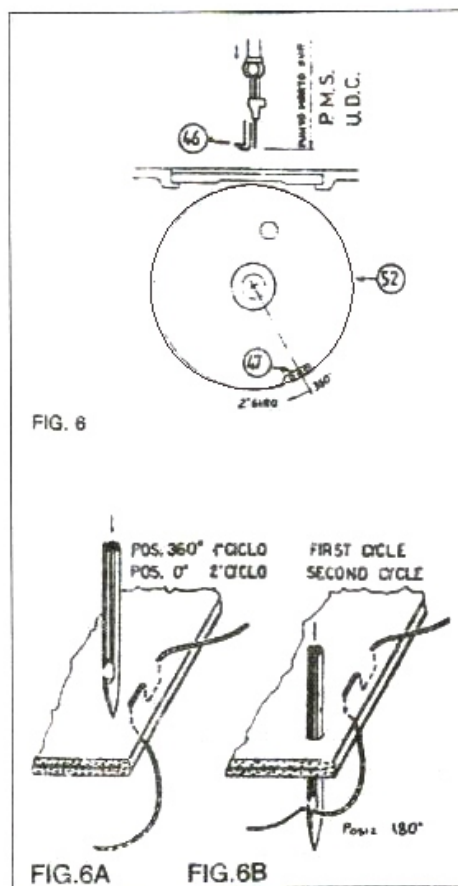
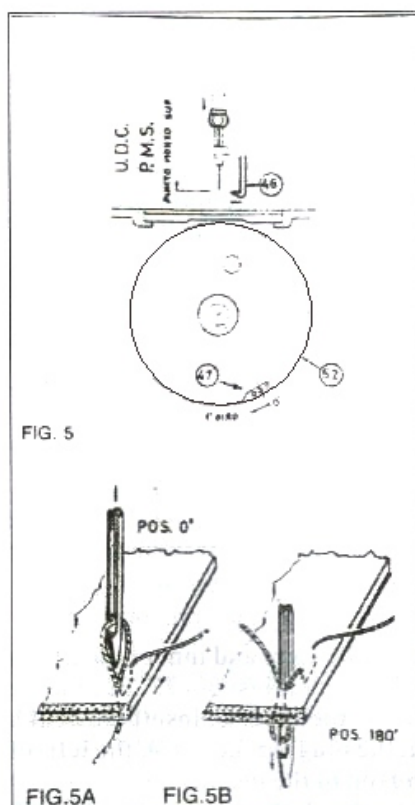
In the first cycle the needle with thread falls from the top dead point then the thread placing clamp starts running. When the needle returns to the top dead point the top crochet hook stops behind the needle. Figure 5A、5B

The second cycle: the structure of the stitches on the reverse cloth

The second cycle starts when the needle without thread falls down from the top dead point. When it covers the first cycle the upper crochet hook is at the back of the needle and the thread-adding hook is ready for adding thread.

For needle stem's two working cycles, the upper crochet hook and rotating hook 47 run in this way:

- ① The needle stem finishes two cycles .
- ② The upper crochet hook 46 finishes a cycle.
- ③ Rotating hook 47 completes two cycles.



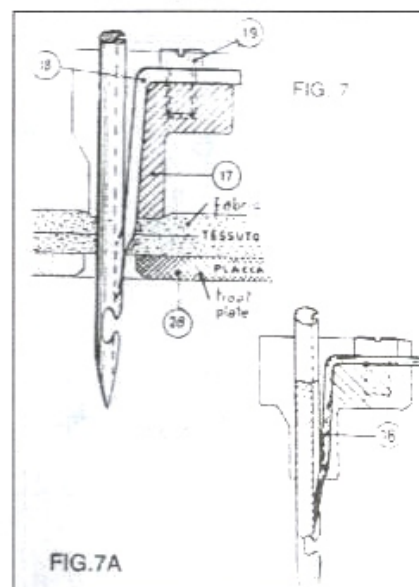
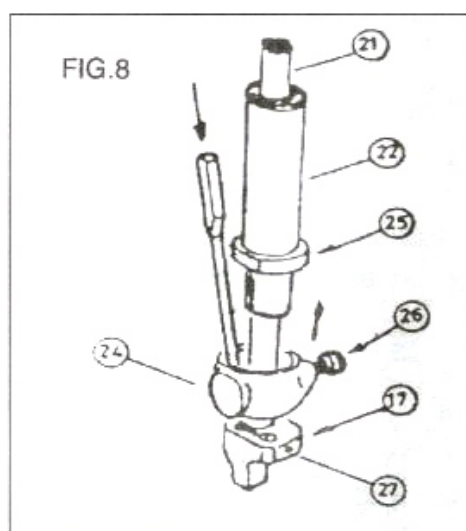
12.The adjustment of needle eyelet peg

Fix the cloth clamp 17 with inner hole and stem needle, choose proper size of needle from the following table

780c Needle Model	Toothed Hook	Clip	
		Code No .	Relevant NO .
90	1	HA-95-09-01	1
100	3	HA-751-09-02	2
110	3	HA-751-09-03	3
125	3	HA-751-09-04	4 No mark

To install the new peg 18, insert it into the cloth clamp. New needle demands eyelet of proper size. (Figure 7) The peg should be inserted along the needle slot and then fastened with screw 19 so it can produce some pressure on the needle. Figure 7A

Place the bolt and fasten the peg, then check the cloth clamp, make them in a orderly array and not slide along the needle.



13. The proofing of the needle stem and the adjustment of its height

Loosen screw 20 of the leading clamp, regulate the needle stem and inner hole 21 while sliding it within the outer stem. If any friction you should readjust pin 23. See the figure 9. Respectively mount outer clip 24 and cloth clamp 17 on their stems, insert the double hook needle from above the thread clamp. Make sure that the plugging face is on the left of the machine and locating snap ring 25 is on the peak and top of the needle slot.

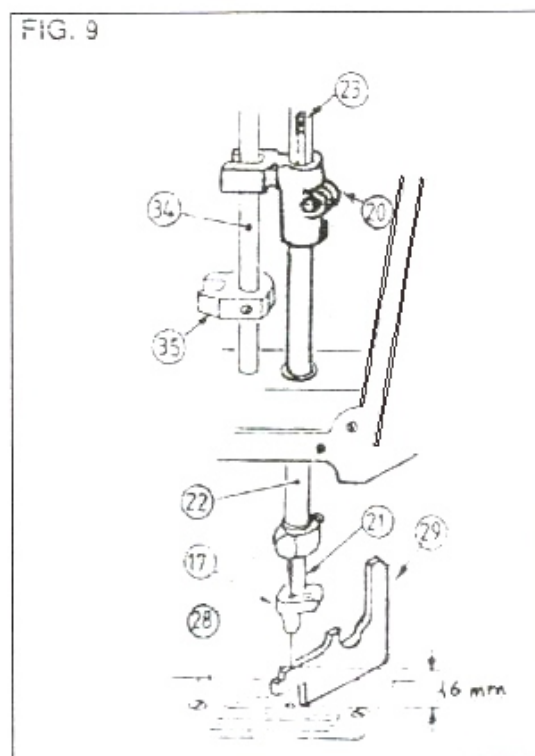
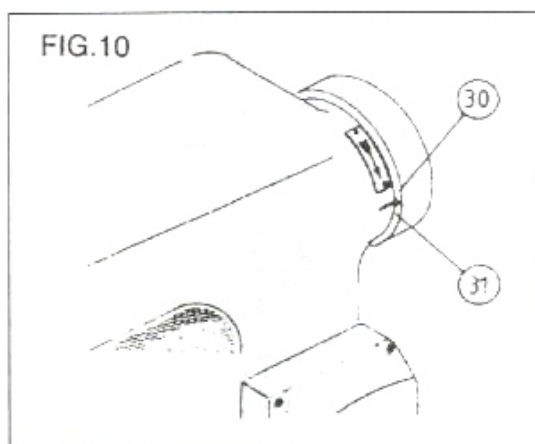
Fasten the screw 26 and lift the inner hole while make the cloth clamp lean against the clamp and the face of the inner hole, then tightly screw the screw.

According to the above lifting degree, raising the inner hole and check its up and down moving condition so as to let it move freely.

Rotate the flying wheel to move the needle stem to the top dead point, at which adjust the height of the needle stem so as to make the distance 16 mm between needle point and needle plate.

Carefully adjust the distance between needle plate and calipers. Figure 9

Adjust the needle stem in order to let the lower dead point thread clamp on the left of it. Fasten the thread leading clamp 20, loosen the machine slot 30 and the flying wheel 31, then fasten the flying wheel. Figure 10



11. Adjustment of the height of the peg

The height of the peg is related with the needle. Adjust them so precisely as to make no room between them and make sure that the needle stem is on its the top dead point.

Figure 11. the peak of the peg should exceed the lower crochet hook by 0.8~1.2mm adown.

Adjust (in the light of the size of needle)the screw cap10 of the adjuster clockwise so the peg rises. Adjust it anti-clockwise so the peg descends. Fix the adjuster and fasten the inner screw of the screw cap. Figure 12.

15. The adjustment of thread moving hook

The peak of the thread moving hook should stretch out of the stem by 0.3mm. Figure 13 Rotate the flying wheel to drive the thread moving hook to the maximal point. Gradually adjust the thread moving hook so as to make the distance as 0.3mm between the lower part of the needle plate and the thread moving hook. Figure 14.

FIG. 11

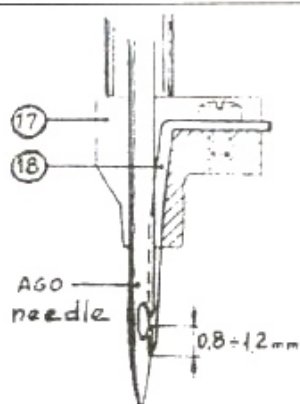


FIG. 12

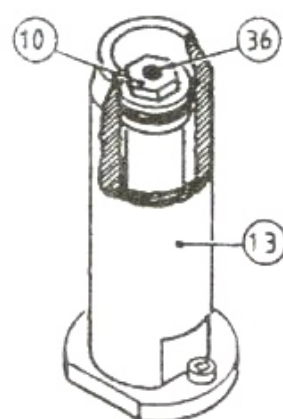


FIG. 13

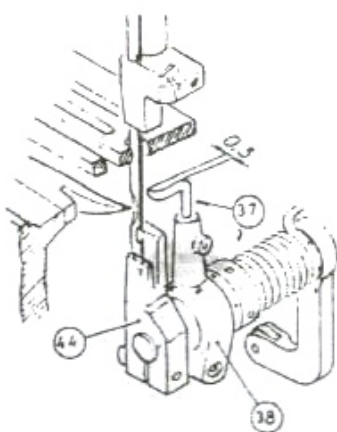
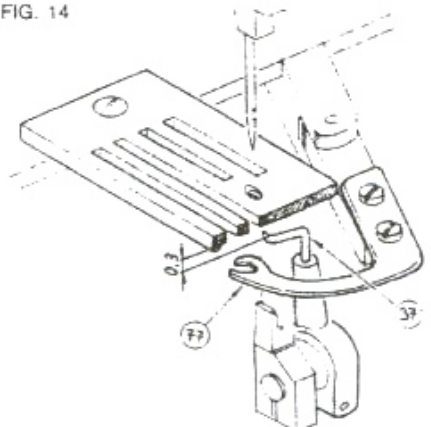


FIG. 14



Move the thread moving hook to the back of the needle and adjust stem 38, let the distance between the needle and the thread moving hook be 2.5mm and the thread moving hook stretch out of the needle on the left by 0.3mm. figure 15. Figure 16

FIG. 15

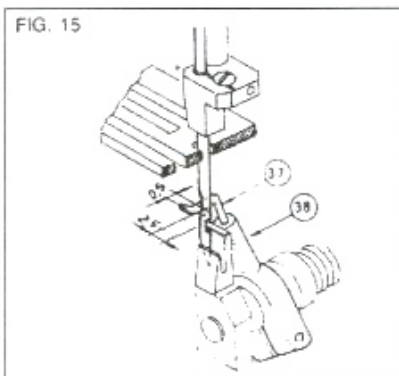
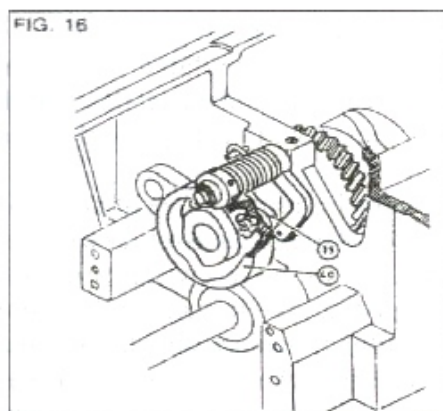


FIG. 16

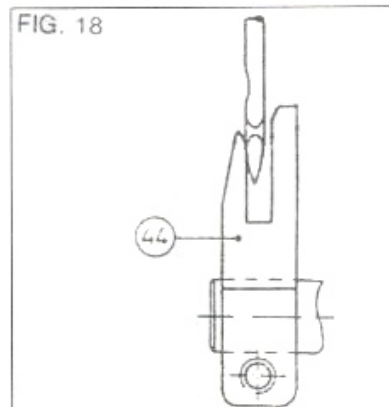
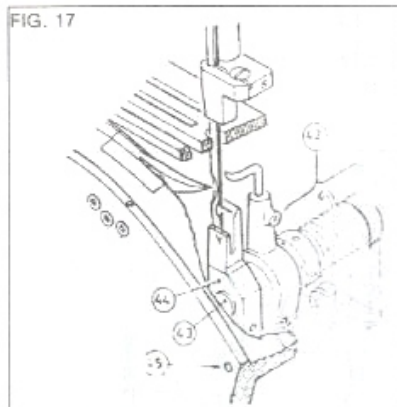


16. Needle slot

There shouldn't be any space between Moving hole 42 and axletree.

Push bolt 43 to eliminate the space so the axletree can run freely. Figure 17

The function of needle slot is to prevent the needle from bending because of too thick cloth when sewing. The needle is protected mainly by the short-teeth inner side of the needle slot. Figure 18



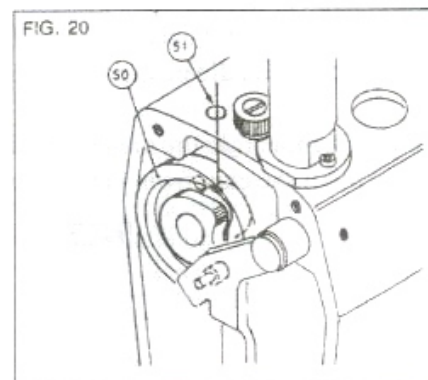
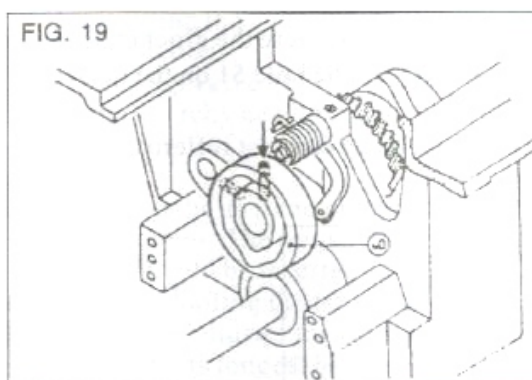
A

adjust the needle slot to return it back to the lower dead point 2mm. make the bending part of the needle touch the short-teeth inner side of the needle slot.

When the needle stem is 3mm from the lower dead point the needle mustn't touch the needle slot. In the condition that the needle comes across any jam just inspect the adjuster.

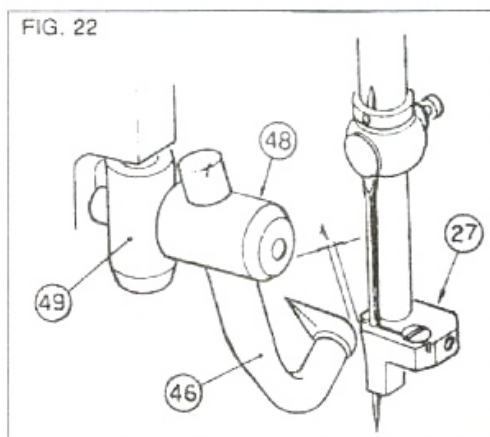
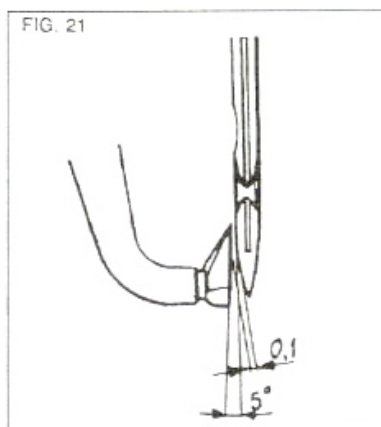
16. The upper crochet hook adjustment

Rotate the flying wheel and drive the second hook. When the pressure cam 40 (Figure 19) rotating group is perpendicular to the machine plane it is just jammed. When the cam in this position drive another hook, the upper crochet hook, the cam is right on the stand plate upper hole 51 and at the same time this hook has just closed this pole. The adjustment is just ready.



The positioning is right or not , when the needle-thread hook moves to the back of the needle the peak of the needle is on the height of the thread moving hook. The moving of the thread is controlled by the cam 39, the force produced by whose protuberant part forces the thread moving hook to move. Install the upper crochet hook 46, the distance between whose peak and needle plate should be 16.3mm.(Note 1:the figure is not consistent with the numbers) Figure 21 reveals there is an angel of 5 degree between 0.1mm upper crochet hook and the needle, which can avoid the fracture

when the needle returns, figure 21. This angel can be adjusted by lifting crochet hook 48. The upper crochet returns to its initial location at the end of the second cycle. During the second cycle it stays at the back of the thread clamp 27 and lines with it. Through the main axis move forwards the crochet hook brake 48 and bearing 49 so that the transverse distance between the upper crochet hook and the back ordinary device is 1mm, figure22



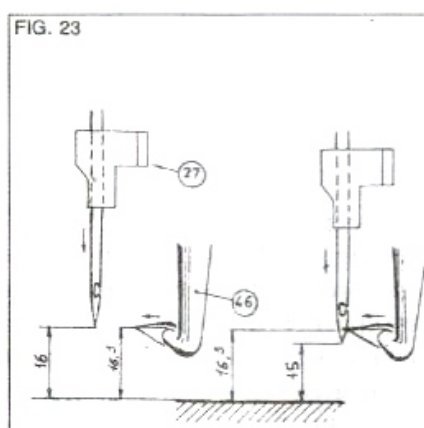
The moving process:

At the beginning of the first cycle, raise the needle stem and adjust the calipers29 to be 15mm , move the needle stem to the top dead point by 1mm. At this time the distance between the needle peak and the needle plate must be 15mm. figure 23.

Rotate the cam 50, let it drive the needle stem to the position where the crochet hook peak is 1mm higher than needle peak. The barrage bolt can plug up the hole 51 on the bearing.

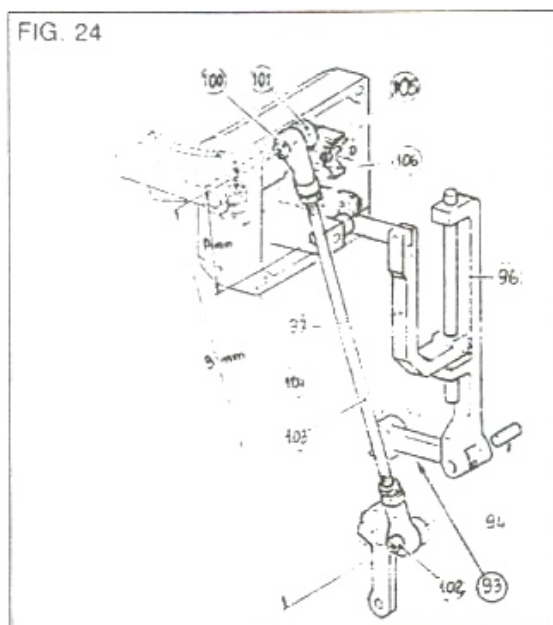
Figure 20

Before closing the hole the cam drive the crochet to leave by connect roller(0.5)(notice 2) in order to protect the cam from jam at the bottom.



18. The grapnel lower running

Figure 24 shows the installation of the adjuster mantel, which can be seen as composed of three parts. Only when the installation is beginning check the effectiveness of reutilization of the adjuster. And the adjuster box can be opened only when it is necessary to do so. Because this box is very difficult to install and is prone to troubles if any movement.

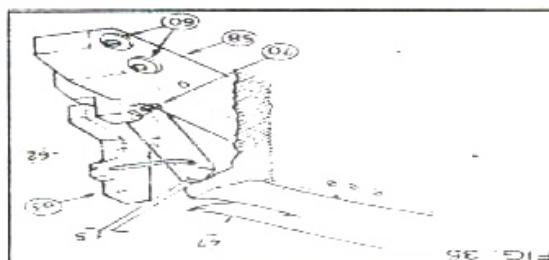
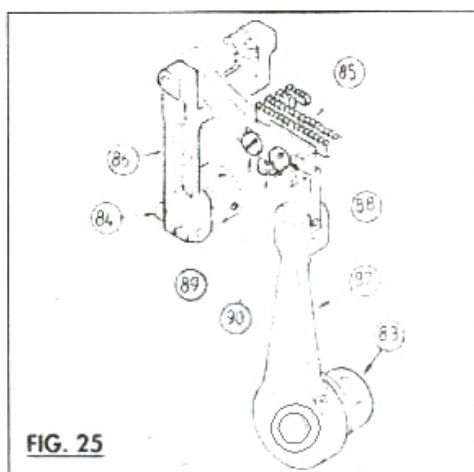


- Demount the screw 100 of the spherical chain axis attached to the adjustment knob 101.
 - After demounting the bolt 102 of the spherical chain axis remove the tie bar 103 of the spherical chain section.
 - Take out the stop valve 99
 - Take out the stretchy needle spring 147, figure 27
 - Take out the connect peg and needle-adjusting stem 93 on the stretchy needle stem 94, figure 28
 - take out the four bolts fixed on the adjuster box and move the adjuster box.
- Remember these steps. The reinstallation of it should be done in the reverse sequence but the connect peg should be inserted first and then the stretchy needle spring is installed.
- Notice: A: When proofing the needle with scaled knob 15 drive the rotating handle and peg 105、106 of the adjuster inside it to run the adjuster ahead of the beginning. Then adjust the needle to its longest being, which is adjusted by handle 14-15. Figure 4

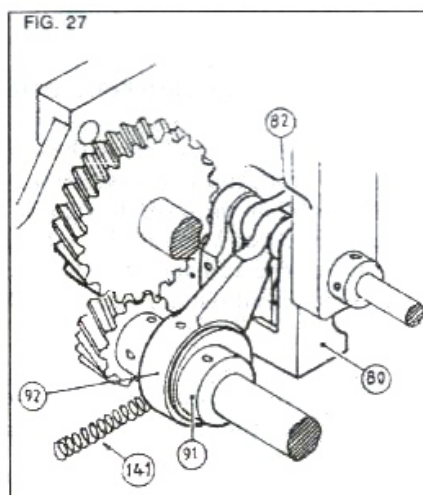
The adjustment

- ① Adjust straight pole 93 and lower dead axle 95 and let distance between them be 3mm. Form the four connecting-rods 82 into a line through adjusting the needle-adjusting pole. Figure 28-29.

② Loosen the bolt on the lifting hook 83 and the dark bolt of the stretchy needle fork. The needle hole on the needle plate 28 is in the center, perpendicular to the needle. Figure 25 Center the needle teeth clip 85 in the needle plate slot and uniform the distances between it and the two sides of the needle teeth clip. This is done by adjusting stretchy needle fork 86 and lifting hook 83. The cam axis mustn't run too fast. Fasten the lifting hook 83 and the bolt of stretchy needle fork. Figure 25



③ Loosen the bolt that fastens the stretchy needle eccentric cam and rotate the flying wheel to move the needle stem to the lower dead point. Move the eccentric cam breadthwise. If the needle teeth clip doesn't act when you start the stretchy needle bearing just use the double stroke 92 and form them in a line. Fasten the bolt of the eccentric cam.

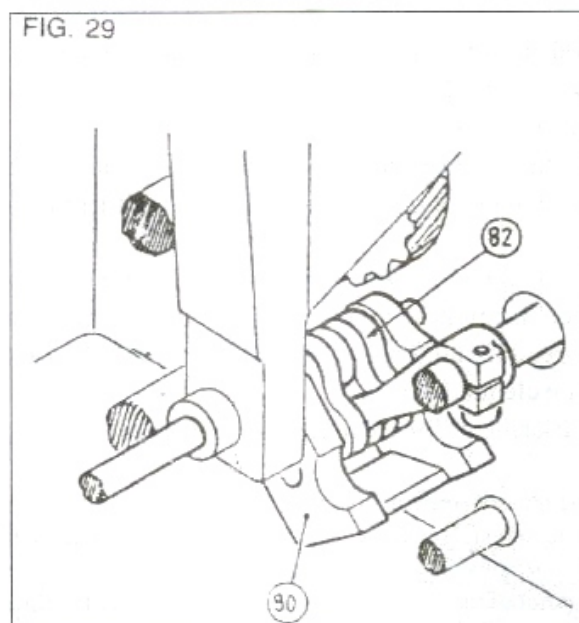


④ Turn the flying wheel and drive the needle teeth clip 85 to the highest point out of the needle plate and turn the two bolt 88-89 to parallel the teeth clip with the needle plate.

Check the movements of the thread clamp according to the following steps.

- 1.The needle must be level with the needle plate. During running the teeth clip begins to stretch out of the needle plate, and can move back insides under the needle plate afterward.
- 2.The top point of the clamp is 0.8mm, and when it reaches this height the needle stem is at the top dead point. Figure 26

Adjustment of this period can be done by raising eccentric cam 83 and turning the bolt of the adjuster 90. it is demanded to loosen the bolt 88 before turning the bolt 90 of the adjuster. Check adjustment results above, make sure that the teeth clip moves freely and never run up against the plywood. Otherwise the leading thread passenger will be a mess.



19.Adjustment of the lower turning hook

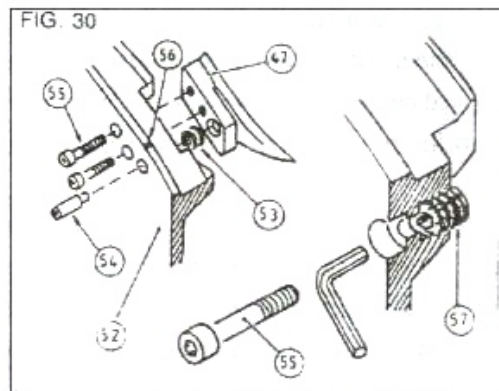
Take out the thread loading wheel and dead wheel, make no space between the axis and piston. Move away the backwards turning hook 47.

Attention: There on the small chain wheel are two spherical crochet hooks which can make it possible for the lower turning hook to move when falling from the tread loading wheel..

Turn the chain wheel axis 54 again.

Check all the faces of these spares for the faces touching the threads should be smooth.

Figure 30



To move these marks you can adopt proper polishing machine to burnish spares. If there is no polishing machine knife grinder is ok. It can be inserted into the little hole of the lower turning hook on the back to polish.

Install a turning hook on the axletree bearing of the thread loading wheel, twist tightly the bolt chain wheel axis 54 and move it toward the hole on the turning hook and stopple the hole with bolt 56.

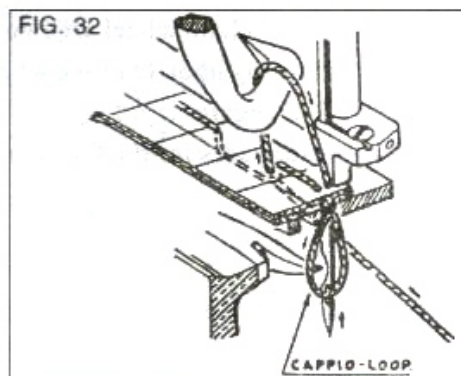
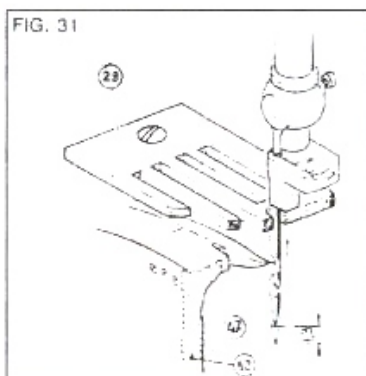
Make a long thread slide on the chain wheel freely. The length of it should be the same with that when the chain wheel is thickest so it is possible to push the chain wheel to its end.

The thread way of the thread loading wheel should be smooth. It is also demanded that the leavings and oil stains be cleaned carefully.

You can loosen the remark ring of the tread loading wheel and circumrotate to the left of the axis.

Screw the screw to make the remark ring rub the axis. The remark slot on the ring should be on the left.

Respect to this it is supposed to install chain wheel in order that the thread loading wheel moves according to the ring slot in harmony. Then let the wheel hook comes near the left side of the needle, fix accurately the lower dead point of the needle stem with calipers. Move the thread loading wheel, locate the needle in the center 45 of the standard hole of the thread loading wheel., figure 17. That is: run the machine in the rotating direction and the needle stem is 1.3 mm far from the lower dead point, and the same time the turning hook peak is in the middle of the needle, figure 31, in this position the thread forms a loop. Figure 32.



Use the adjusting bolt on the adjuster to locate the needle 0.2 mm under the turning hook, or the inside of the thread loading is always in motion.

During running, axis 54 and chain wheel 54 are ought to be checked again.

Adjust the needle stem height well, fix the turning hook of the thread loading wheel with care.

Then twist tightly the barrage bolt. Inspect the bolts on the thread loading wheel and standard ring.

19. Adjustment of thread lifting poles

Distinguish the two thread lifting poles. The forgoing one 72 is near worker and the latter is near the needle. The forgoing one must be 3.5-4.5 far from the side of thread loading wheel and the latter 5.5-8mm. figure 33

The process is like this: in the first cycle, the upper crochet hook peak 46 reaches the center of the needle, at the same time thread lifting poles is on its lowest position during the running. Rotate the cam 74, drive thread lifting poles, at this moment the forgoing one is at its top point, whose peak is 5mm under the thread loading pole outside.

Notice: after adjusting the thread lifting wheel rotate the concave wheel 75 just like what is demonstrated by figure 21 and install dead wheel thread loading wheel.

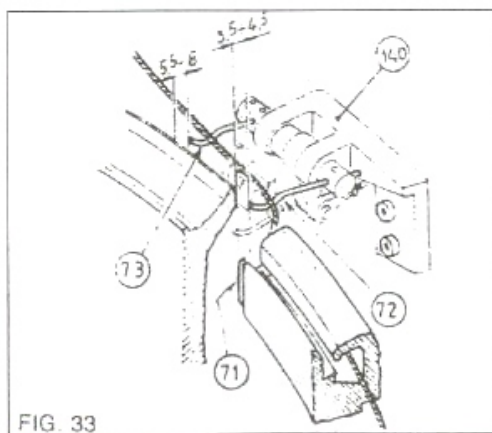


FIG. 33

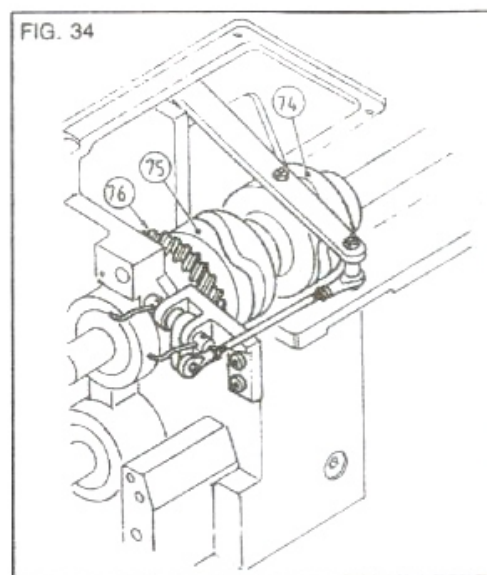
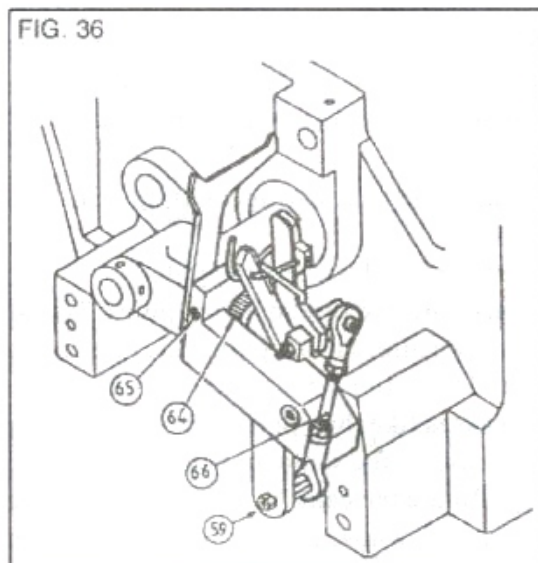
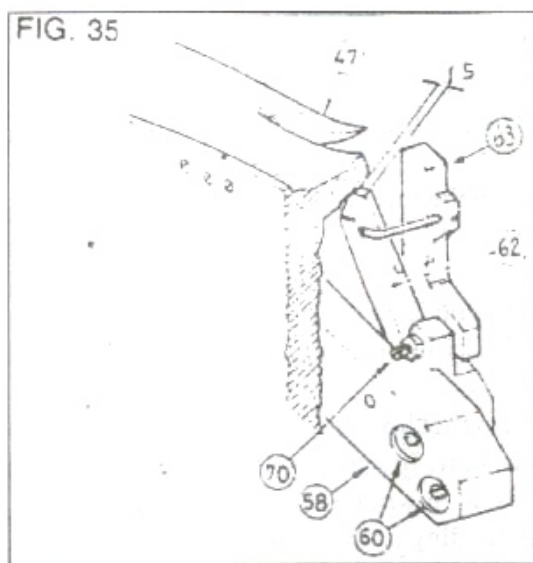


FIG. 34

20. Adjustment of pull organ

Move thread loading wheel 52, disconnect pull device 58, move away the spherical knot under the screw peg and bolt 60 of two dead organs. Figure 35-36

Loosen bolt 65, use clamping ring 64 to adjust the springs of handle 62-63 and press them with the biggest pressure, keep on this position and adjust the two springs to inflict the smallest pressure on them, inspect the situation when they rebound quickly. Figure 36



Reinstall the adjusted strain casting die, twist tightly two bolt 60 and screw 59. Notice the two small finger pipe casing, use dead wheel to locate the quadrate leading thread clamp 67 which is 0.2mm far from the original board 71. Figure 33

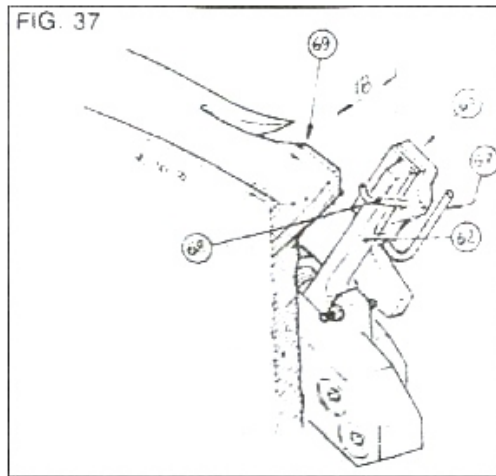
Notice: Because of the fine of pull organ avoid the friction between turning hook 47 and pull organ 58 when the machine is working.

Operating by hand, move the closing pull piece to the right, let the distance be 18mm between the left side of the thread loading wheel and the center of the closing pull piece. The distance can be adjusted by adjusting bolt peg 66 between the two spherical knots.

Figure 36. Install the strain cam 40 (figure 18) on the above axis. The needle is at the center point 45 of axis of the left hand and the base hole. The thread plane should be level with the outside of the thread loading wheel. Adjust thread-moving spring pole 61. The turning wheel bearing point 69 should be 1mm far from the diameter of the thread loading wheel. Figure 38

Disassembly of thread loading wheel

If the cam 40 operates normally, figure 16, during the first cycle, the end of upper crochet hook reaches the middle of the needle and the strain organ is closed, then the loop above forms. The disassembly of strain organ is done by loosening the relief-avoiding nut (figure 35 and adjusting bolt pole 70. Figure 33 add thread in this measure. Figure 35.



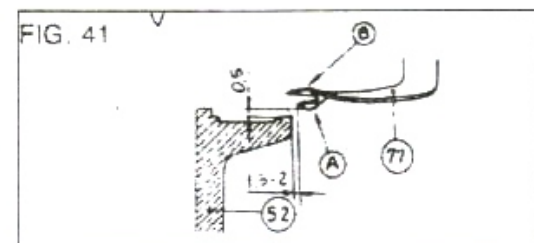
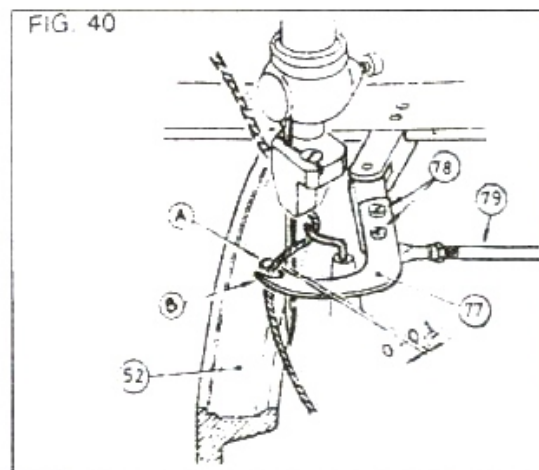
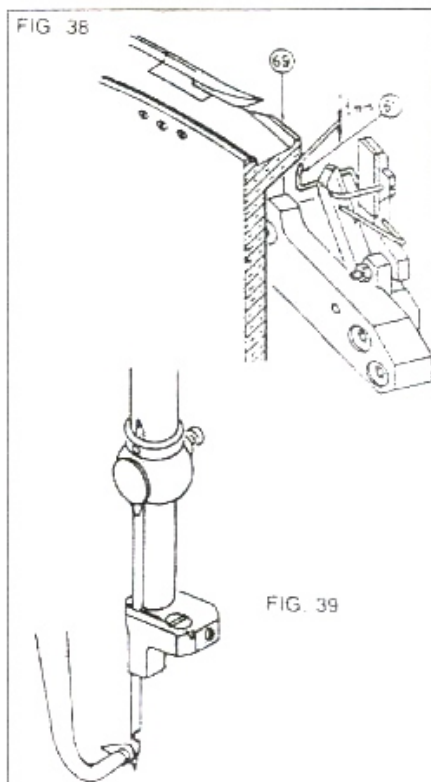
Rectangle 67 is supposed to be on the left of the lead plate 71, figure 33. Install dead wheel and reinstall thread loading wheel, twist the barrage bolt.

22.adjustment of the thread-adding clamp

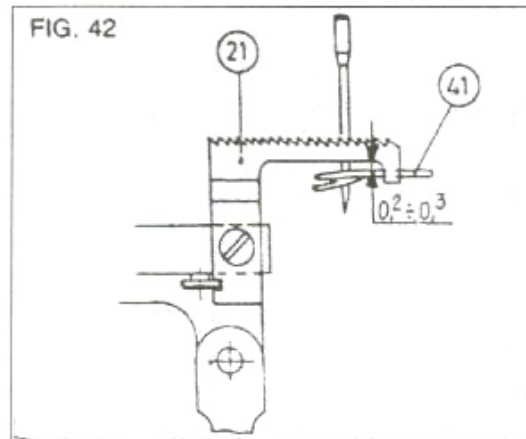
The function of thread-adding clamp is to thread the needle.

The position A behind the needle peak must contact the needle but should not bend the needle

Loosen the two upper screw needles, adjust the thread clamp on the bracket. Figure 40、41.



When the thread-adding clamp moves to the end on the right the peak A of it is 1.52mm far from the right side of the thread loading wheel, figure 41(This measure must be checked when adding thread). The distance can be done by adjusting the connecting-rod 79. You can adjust the height of thread-adding to bend it. Adjust the space between the thread-adding clamp and the lower part of the grapnel, and let it be 0.2—0.3mm. Figure 42



The running of cams is shown by figure 34. check the precise cycle of the two cams 74、75 by following steps:

The second hook should be on the same axis with the first hook thread-carrying clamp 74 when the thread-adding cam is running. Check this working procedure and prepare the machine for running. Then measure thread on the calipers. The thread is supposed not to contact the needle. The procedure should be completed at the location 3mm under the lower crochet hook. Then the needle board can be installed.

22.Upside adjustment

You can add base 107 to the connecting-rod. During the running time the grapnel under the needle board is gradient. The crank lever can make the distance between the leading lever and the bearing(108)be 0.3mm. At this time the stabilizer is supposed to prop up deadly the needle board and be parallel with the needle board.

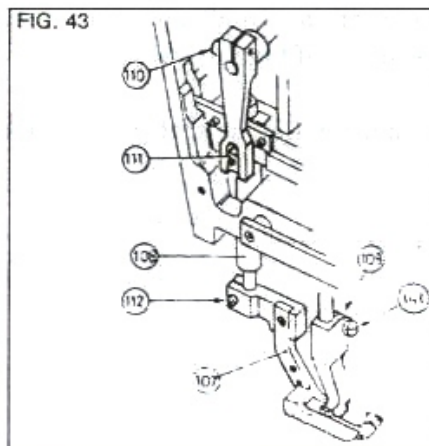
Plug soft needle into the interface(consult 20) and plug the spherical knot bearing(109) into connecting-rod, rotate the flying wheel to drive the grapnel to the lowest point, fasten the spherical bearing(109)to parallel the bearing plane. Uniform the sizes of two bearing(107-109)by adjusting bolt(141)(figure 43).

Bearing's activities should be in harmony. To the grapnel, when the furcate mobile board (110)is in motion the position of spherical knot changes, and at the same time bearing handle(113)moves, adjust the position of spherical knot through the hole on the left side of the bracket. Make sure that the furcated mobile handle(110)is well fixed to ensure the freely motion of stretchy ring(111)after it leaves handle. When running the flying wheel to its biggest avoid the collision of each parts.

Rotate the bearing's eccentric cam CO750-10、703 the control base falls from the grapnel and the grapnel stretches out of the needle board. Ensure to array the eccentric cam and the connecting-rod in a line. Then twist tightly the bolt of eccentric cam.

Move away the cover, fasten the bolt of eccentric cam that can reach the upper part of the bearing.

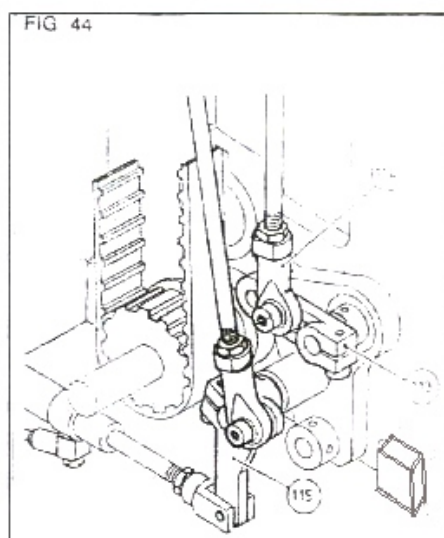
Rotate the flying wheel and drive the upper crochet hook 48 during the first cycle.



Rotate the crank lever and raise the bearing to its highest position. Rotate the flying wheel to cross the upper crochet hook and spherical knot. At this time the upper crochet must be vertical to the spherical knot when it leaves.

This can be done by lifting armbrace CO752-04-01. Move away the covering hood then it can reach behind the arm. Underlay the stabilizer with paper and adjust the handle(14) oppositely.

Drill 11 holes. After postponing distance between each two holes to 16mm, fastening the connecting-rod 97 and having the stop dog at its smallest adjust the long handle of the adusting needle to point to zero, then twist tightly the spiral. Figure 28、46.



Rotate the handle clockwise when the scale is 8 1/2 and don't have to rotate when it is not this value.

When the needle is long fasten the stop dog adjuster 99 above. Figure 28.

After adjusting the main part adjust the length of needle. For example it should be 1.8mm at least and 6.3 at most if the machine is used for sewing leather.

Attention: run according to the instructions. Don't adjust bolts of appendages privately since they has been adjusted to the position of highest value.

22.Adjustment of needles

Turn the knob clockwise to adjust needle. Let the scale be zero and stop, then turn the knob anti-clockwise. Figure 46.

FIG. 45

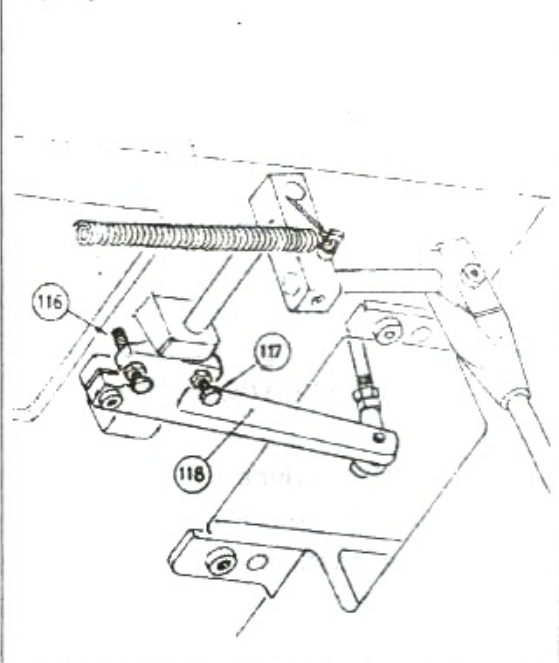
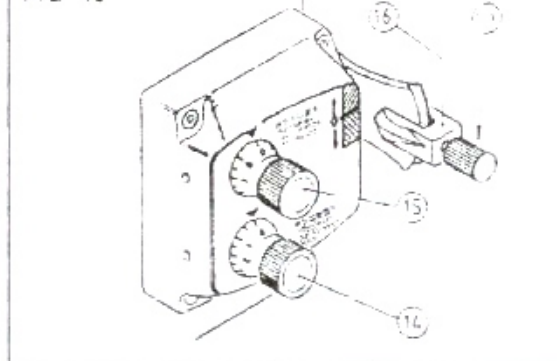


FIG 46



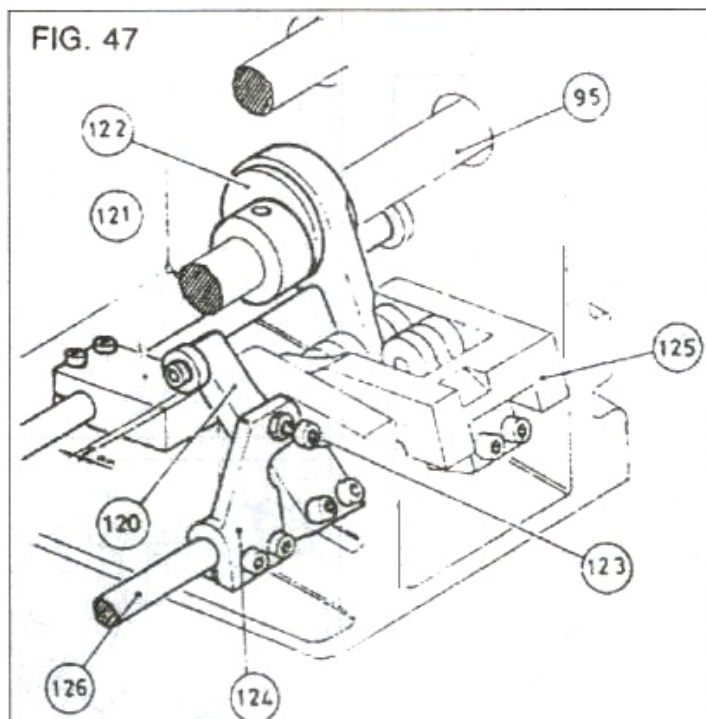
Turn the knob(10)clockwise to point it to the biggest value.

Twist the bolt on the needle-adjusting lever(120)and position the adjusting knob by hand.

During the second cycle, when rotating the flying wheel to drive the needle stem to the lower dead point keep still with adjusting lever(120)and turn the transfer handle oppositely again and again to position the eccentric cam(22).

Fix the bolt and fasten the eccentric cam when the eccentric cam and the connecting-rod are in the same line.

Loosen bolts on adjusting lever(120) and adjusting knob(121)when the needle stem is on the lower dead point. During the second cycle, adjust the position of crochet hook of needle adjusting handle, it can make the distance as 1mm between adjustment knob peg(121) and the touch thread on the front side of the adjusting knob.



Adjust bolt(123)on the control handle to stretch the screw out of the opposite lever(124) by 1mm

During the second cycle the needle is still on the lower dead point opposite lever, and the adjusting bolt(123)doesn't change. Through adjusting bolts of needle adjusting lever (120)and opposite lever(124)fasten the bolt on the opposite lever when adjusting knob (121) is 0.5mm far from the crochet.

Take paper board and dig holes in it, then mark under these holes with 《B》 .After the adjustment the short stitches are at the position near the back fabric. That's because the redirector(16)is at the lower part of the adjustment box.

Rotate the flying wheel to drive the needle stem to the lower dead point. Loosen the screw cap(119), raise tie bar(16)to higher point and fasten it with bolt.

Dig a hole again and mark below it. After adjustment the short stitches are near the front of the fabric. That's because the redirector is on a higher position.

Compare the two situations you will find the results are the same.

The machine mainly use soft needle for working so this short stitches called 《T》 should be adjusted to be shorter than stitches called 《B》 .

FIG. 48

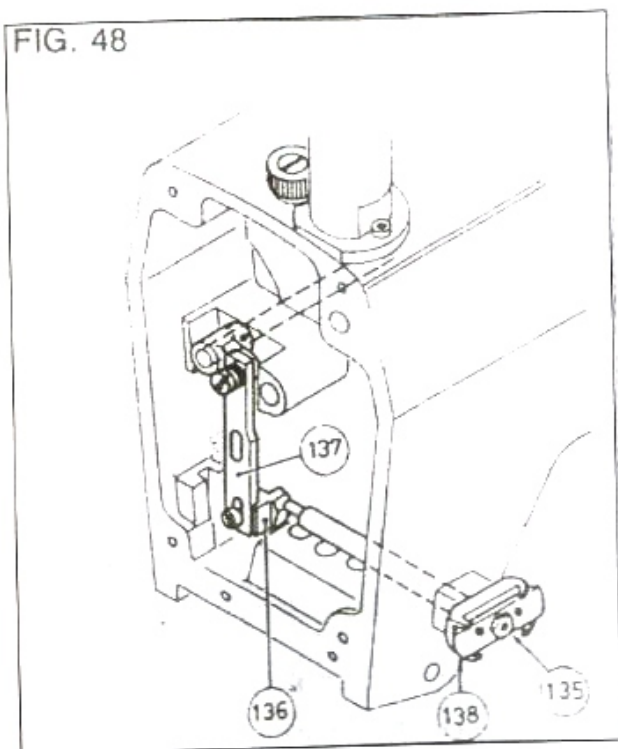


FIG. 50

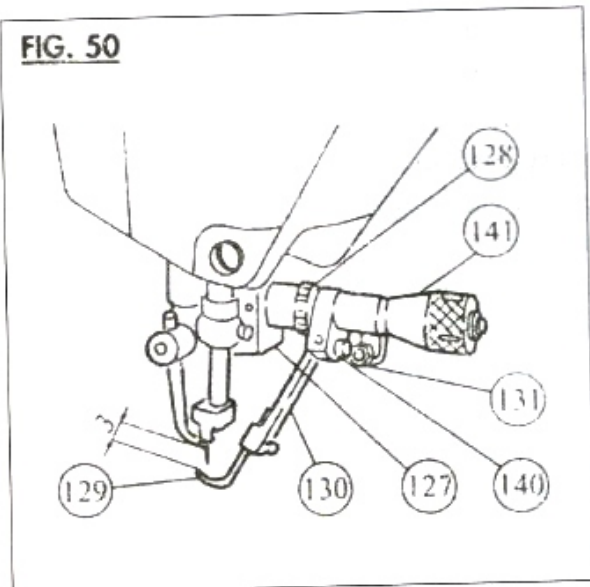


FIG. 49

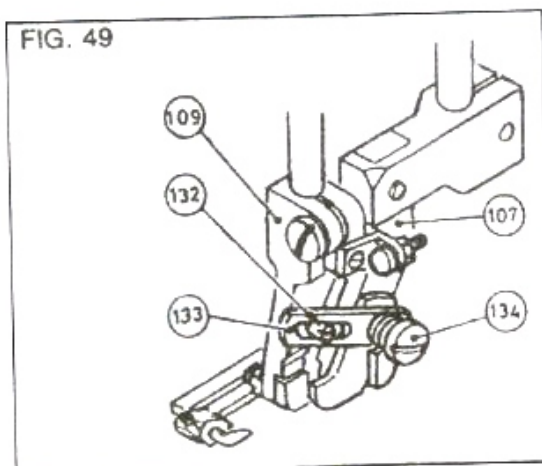


FIG. 51

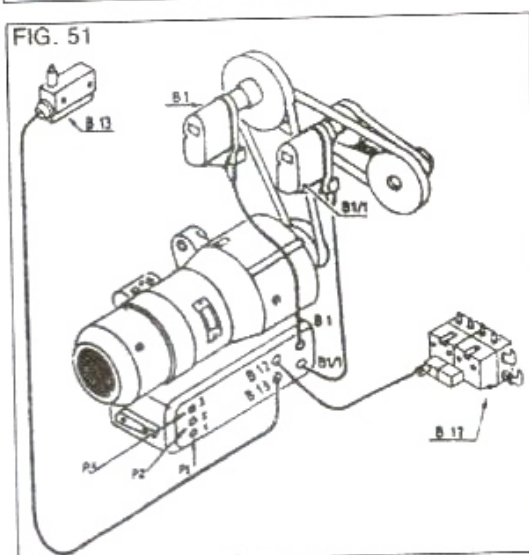


FIG. 52

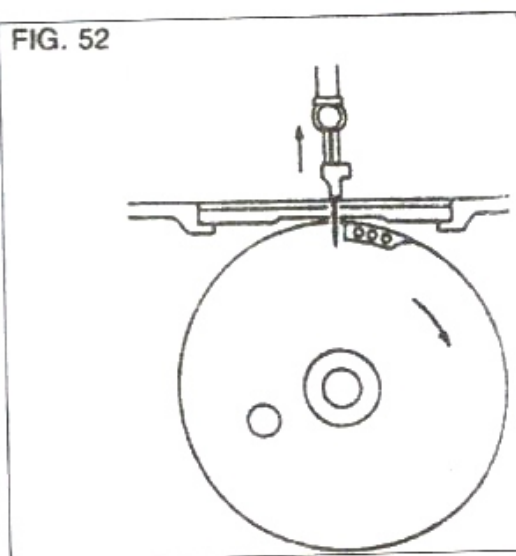
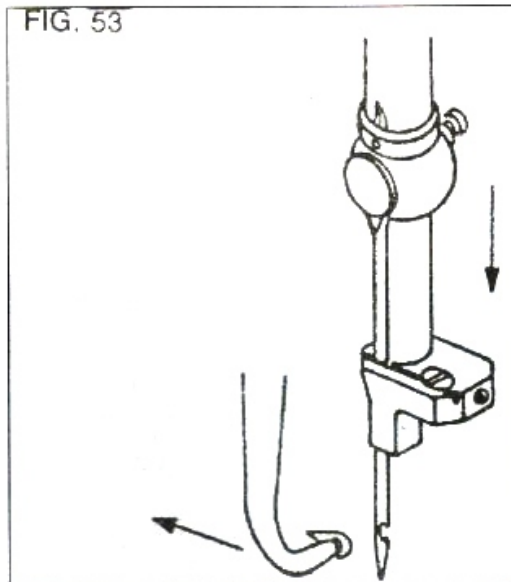
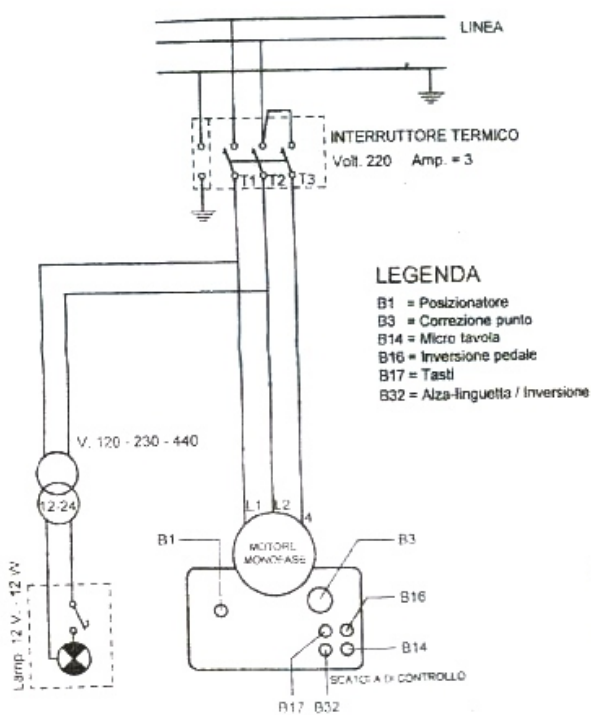


FIG. 53



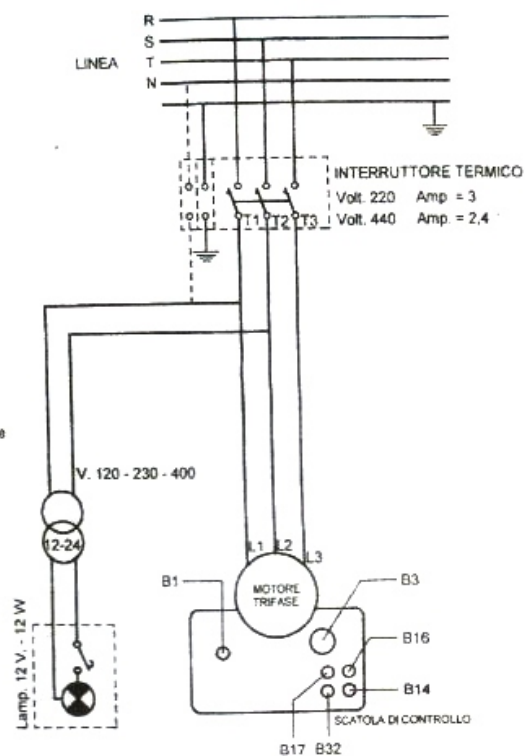
MONOFASE



LEGENDA

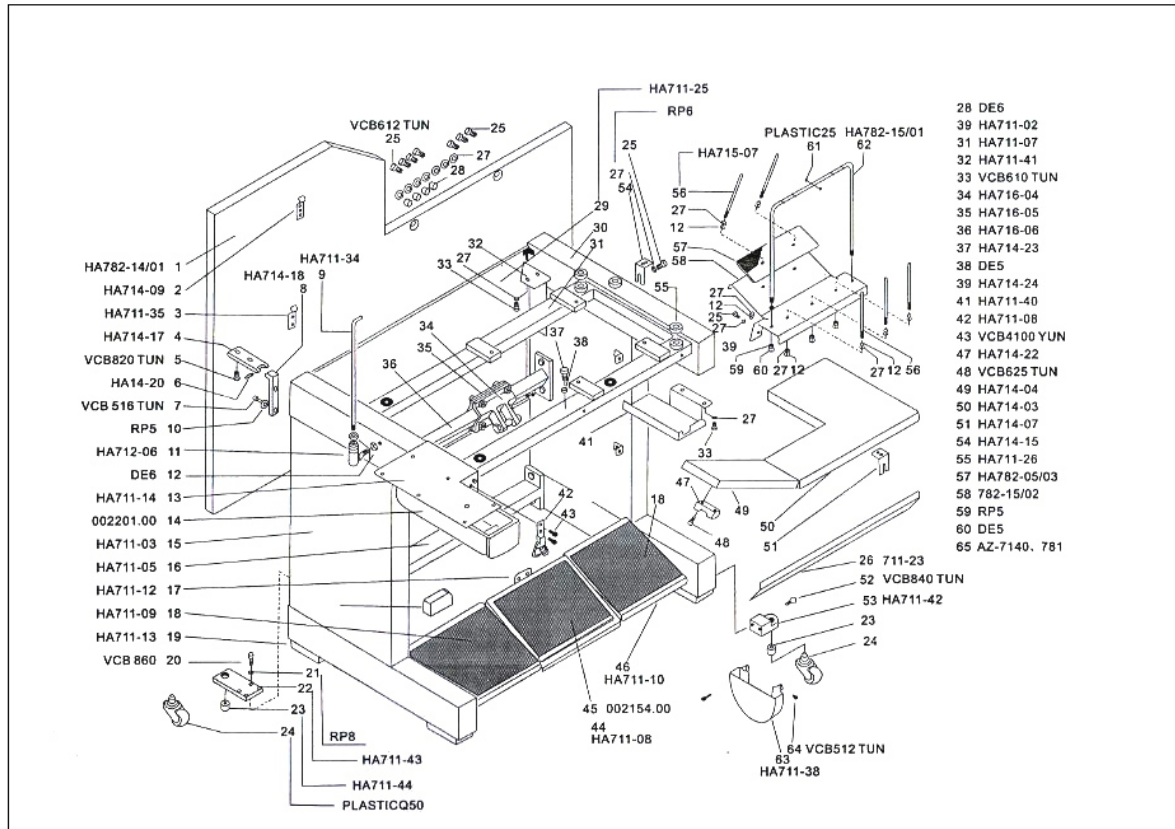
- B1 = Posizionatore
- B3 = Correzione punto
- B14 = Micro tavola
- B16 = Inversione pedale
- B17 = Tasti
- B32 = Alza-linguetta / Inversione

TRIFASE

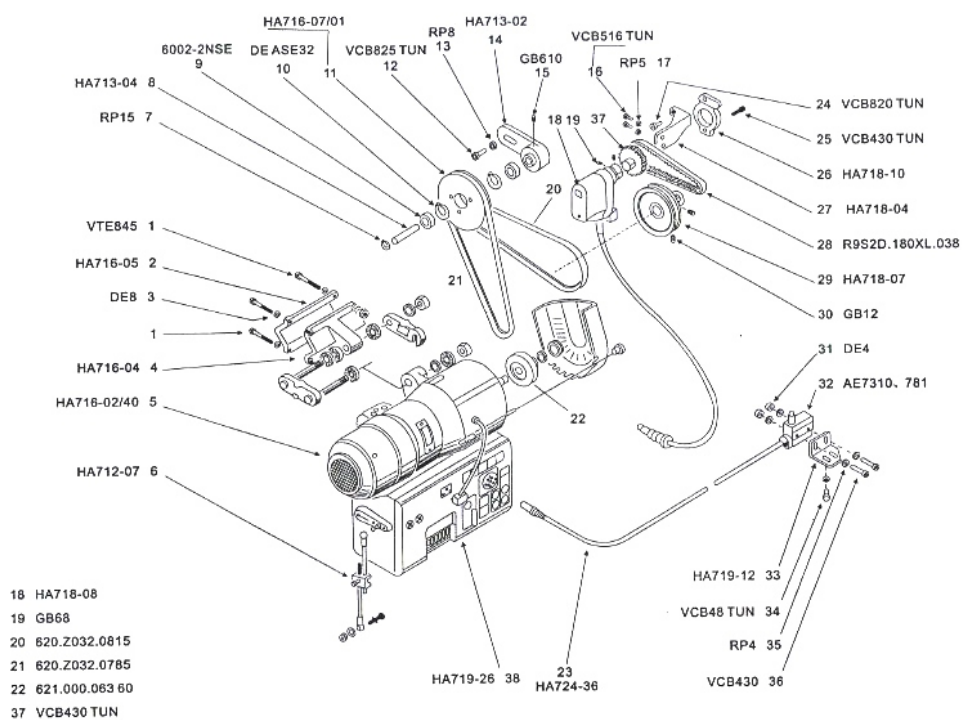


序号		数量	名 称	Name
1	HA782-14/01	1	操控工作台板	console table board
2	HA714-09	1	连接件门	fastener latch
3	HA711-35	1	工作台向上翻覆钩	table tilt up hook
4	HA714-17	2	上合叶	upper hinge
5	VCB820 TUN	4	有头螺钉x	hex.soc.hd.cap screw
6	HA14-20	2	螺纹销钉	threaded pin
7	VCB516 TUN	4	有头螺钉x	hex.soc.hd.cap screw
8	HA714-18	2	下合叶	lower hinge
9	HA711-34	1	工作台板支架杆	table board support rod
10	RP5	4	平垫圈	flat washer
11	HA712-06	1	连接转向节	knuckle connection
12	DE6	12	螺帽	hex nut
13	HA711-14	1	抽屉支架板	drawer support plate
14	002201.00	1	抽屉	drawer
15	HA711-03	1	左桌脚	left hand leg assy
16	HA711-05	1	下背部横杆	lower rear traverse
17	HA711-12	1	脚踏板	foot treadle
18	HA711-09	2	踏板橡皮垫	treadle rubber pad
19	HA711-13	4	橡皮垫	rubber pad
20	VCB860 TUN	8	有头螺钉x	hex.soc.hd cap screw
21	RP8	8	平垫圈	flat washer
22	HA711-43	2	后轮支架板	rear wheels support plate
23	HA711-44	4	套筒	sleeve
24	PLASTICQ50	4	反转轮	turning wheel
25	VCB612 TUN	10	有头螺钉x	hex.soc.hd cap screw
26	HA711-23	1	前装饰板	front trimming
27	RP6	24	平垫圈	flat washer
28	DE6	4	螺帽	hex nut
29	HA711-25	1	后挡板	back guard
30	HA711-02	1	右桌脚	right hand leg assy
31	HA711-07	1	机器支撑框架	machine support frame
32	HA711-41	1	保护罩	guard

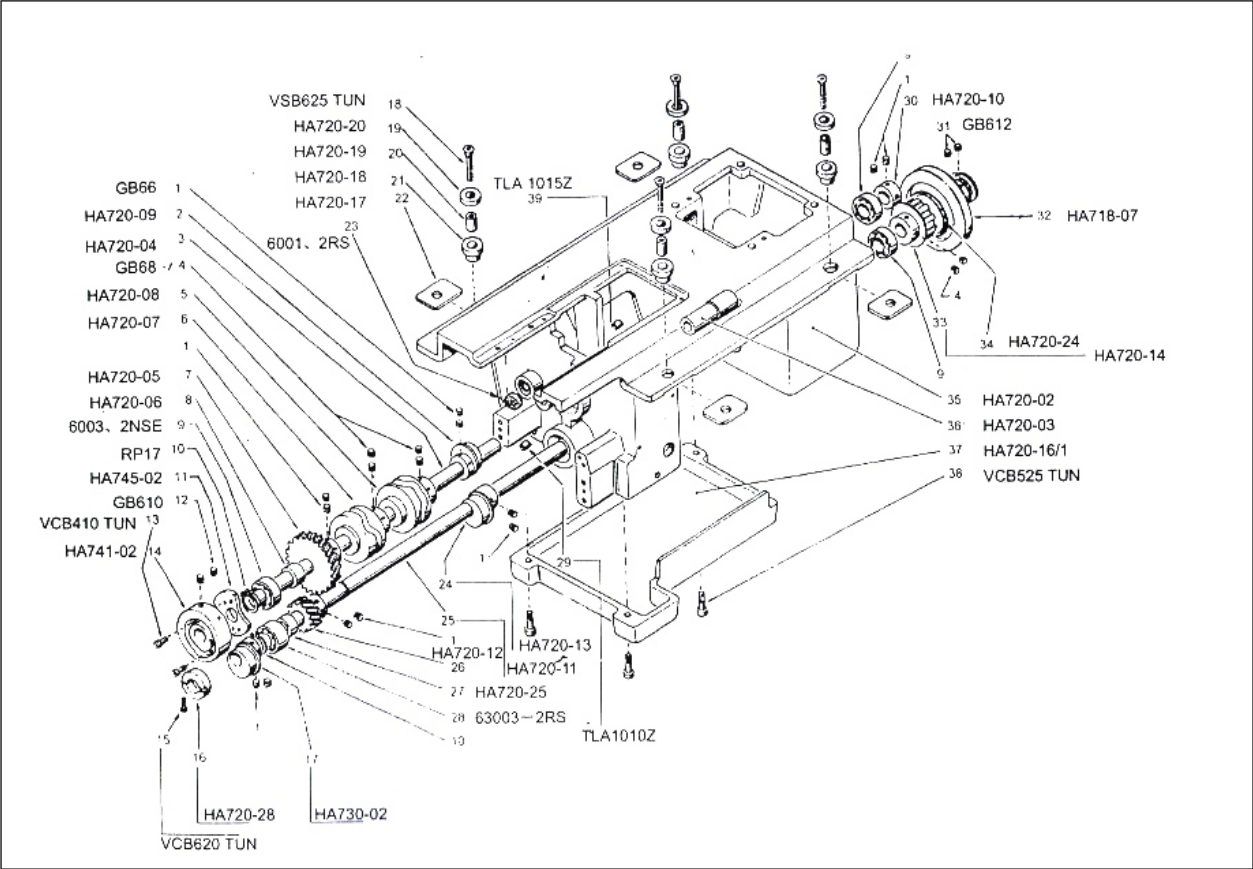
序号	数量	名称	Name
33 VCB610 TUN	4	有头螺钉x	Hex. soc. cap screw
34 HA716-04	1	电动机前支架	motor front support
35 HA716-05	1	电动机后支架	motor back support
36 HA711-06	1	电动机支架横杆	motor support traverse
37 HA714-23	1	磁铁	magnet
38 DE5	1	螺帽	hex nut
39 HA714-24	5	工作台垫圈	spacer table
41 HA711-40	1	皮带	belt guard
42 HA714-08	1	锁定手柄	locking handle
43 VCB410 TUN	2	有头螺钉x	hex. soc. hd. cap screw
44 HA711-08	1	左边固定踏板	side fixed pedal
45 002151.00	1	工作台固定踏板	table fixed pedal
46 HA711-10	1	右边规定踏板	right fixed pedal
47 HA714-22	1	磁铁块	magnet block
48 VCB625 TUN	2	有头螺钉x	hex. soc. hd cap screw
49 HA714-04	1	折页工作台板	hinged table board
50 HA714-03	1	操作台板	console table board
51 HA714-07	1	支撑托架	support bracket
52 VCB 840 TUN	4	有头螺钉x	hex. soc. hd cap screw
53 HA711-42	2	前轮支架块	front wheels support square
54 HA714-15	1	支撑托架	support bracket
55 HA711-26	6	工作台支架垫	table support
56 HA715-07	5	螺栓	stud
57 HA782-15/03	1	泡沫保护垫	protection mouses
58 HA782-15/02	1	线轴支架块	spool-holder plate
59 RP5	4	垫圈	washer
60 DE5	2	螺帽	hex nut
61 PLASTUC25	10	管环	tubular ring
62 782-15/01	1	穿线杆	threading hook bar
63 711-38	1	轮子保护罩	guard for wheel
64 VCB512	3	有头螺钉x	hex. soc. hd. cap screw
65 AZ-7140、781	1	微型开关	micros wit



序号	数量	名 称	Name
1 VTE845	3	螺钉X	hex,hd screw
2 HA716-05	1	电动机后支架	motor back support
3 DE8	3	平垫圈	flat washer
4 HA716-04	1	电动机前支架	motor front support
5 HA716-02/30	1	三相电动机	three-phase motor
5 HA716-02/40	1	单相电动机	single-phase motor
6 HA712-07	1	带动连接杆	tie rod assy
7 RP15	1	卡环	ring
8 HA713-04	1	皮带轮销钉	pulley pin
9 6002-2NSE	2	滚珠轴承	ball bearing
10 DE ASE32	2	卡环	ring
11 HA716-07/01	1	还原皮带轮	reduction pulley
12 VCB825 TUN	2	螺钉X	hex.hd.screw
13 RP8	2	平垫圈	flat washer
14 HA713-02	1	支架	support
15 GB610	2	定位螺丝	hex.soc.set screw
16 VCB516 TUN	2	有头螺丝X	hex.soc.hd.cap screw
17 RP5	2	平垫圈	flat washer
18 HA718-08	1	同步器	synchronizer
19 GB68	2	定位螺丝X	hex.soc.set screw
20 620.z032.0815	1	“V”型皮带	“v”belt
21 620.z032.0785	1	“V”型Z30 3/4皮带	“v”blet z30 3/4
22 621.000.063	1	60周皮带驱动轮	60 cycle drive pulley
22 621.000.075	1	50周皮带驱动轮	50 cycle drive pulley
23 HA724-36	1	电缆连接器	cable with connector
24 VCB820 TUN	1	有头螺钉x	hex.soc.hd.cap screw
25 VCB430 TUN	2	有头螺钉x	hex.soc.flat hd.cap screw
26 HA718-10	1	同步器夹	synchronizer holder clamp
27 HA718-04	1	同步器托架	synchronizer bracket
28 R9S2D.180XL.038	1	正时皮带	timing blet
29 HA718-07	1	主正时皮带轮	main pulley with timing belt pulley
30 GB12	2	定位螺丝X	hes.soc.set screw
31 DE4	2	螺帽	hex nut
32 AZ7310、781	1	微型开关	micro switch
33 HA719-12	1	开关托架	switch bracket
34 VCB48 TUN	1	有头螺钉x	hex.soc.hd.cap screw
35 RP4	5	平垫圈	flat washer
36 VCB430	2	有头螺钉x	hex.soc.hd.cap screw
37 HA718-09	1	皮带轮	pulley
38 HA719-26	1	三相电控制盒	control box,three-phase



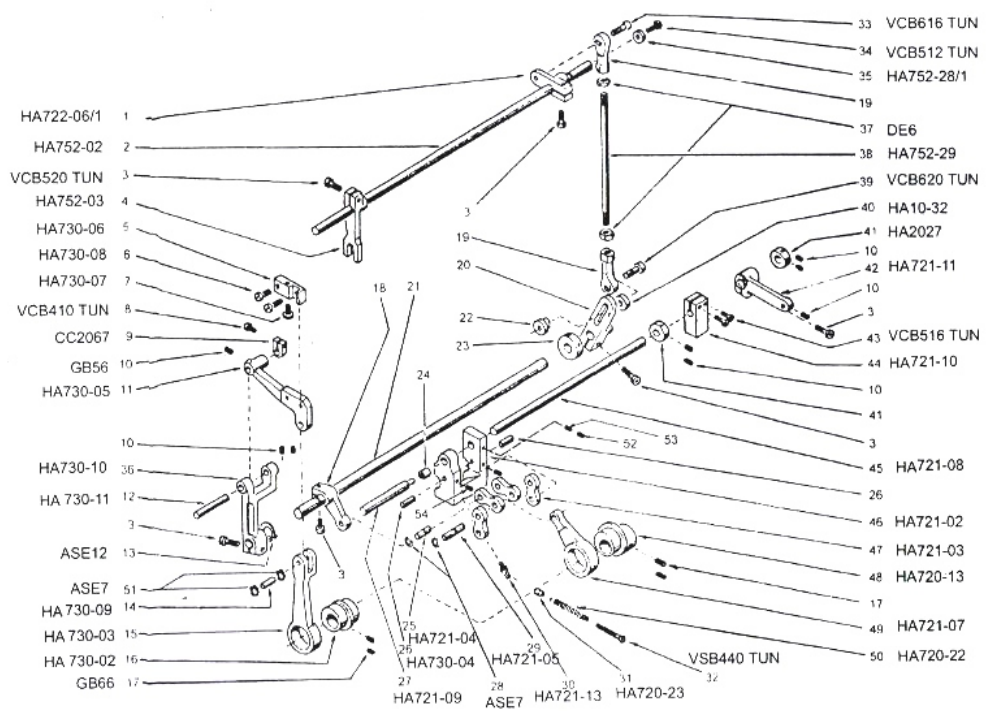
序号	数量	名 称	Name
1 GB66	12	定位螺丝	hex.soc.set screw
2 HA720-09	1	短针偏心轮	stitch shortening eccentric
3 HA720-04	1	下凸轮轴	lower com shaft
4 GB68	4	定位螺丝	hex.soc.set screw
5 HA720-08	1	提升凸轮	thread lifting cam
6 HA720-07	1	装载凸轮	thread loader cam
7 HA720-05	1	主动轮	driver gear
8 HA720-06	1	隔离套	spacer
9 6003、2NSE	3	滚珠轴承	ball bearing
10 RP17	2	卡环	ring
11 HA745-02	1	脱轮缘凸轮	pull off ringer cam
12 GB610	2	定位螺丝	hex.soc.set screw
13 VCB410 TUN	2	有头螺钉	hex.soc.hd.cap screw
14 HA741-02	1	张力驱动轮	tension drive cam
15 VCB620 TUN	1	有头螺钉	hex.soc.hd.cap screw
16 HA720-28	1	止动轴环	looper wheel stop collar
17 HA730-02	1	供给提升偏心轮	feed lift eccentric
18 VSB625 TUN	4	有头螺钉	hex.soc.flat hd.cap screw
19 HA720-20	4	垫圈	washer
20 HA720-19	4	隔离套	grommet spacer
21 HA720-18	4	减震垫圈	shock absorber grommet
22 HA720-17	4	支架垫片	support pad
23 6001、2RS	2	滚珠轴承	ball bearing
24 HA720-13	1	总管供给偏心轮	main feed eccentric
25 HA720-11	1	下总轴	lower main shaft
26 HA72012	1	主动齿轮	driving gear
27 HA720-25	1	隔离套	spacer
28 63003-2RS	1	滚珠轴承	ball bearing
29 TLA1010Z	2	轴承座套	roller-bearing sleeve
30 HA720-10	1	卡环	ring
31 GB612	2	定位螺丝	hex.soc set screw
32 HA718-07	1	主正时皮带轮	main pulley with timing belt pulley
33 HA720-14	1	下正时皮带轮	lower timing belt pulley
34 HA720-24	1	皮带轮凸缘	pulley flange
35 HA720-02	1	机座	bed
36 HA720-03	1	轴套	bushing
37 HA720-16/1	1	底盖	bottom cover
38 VCB525 TUN	3	有头螺杆	hex.soc.hd.cap screw
39 TLA1015Z	1	轴承座套	roller-bearing sleeve



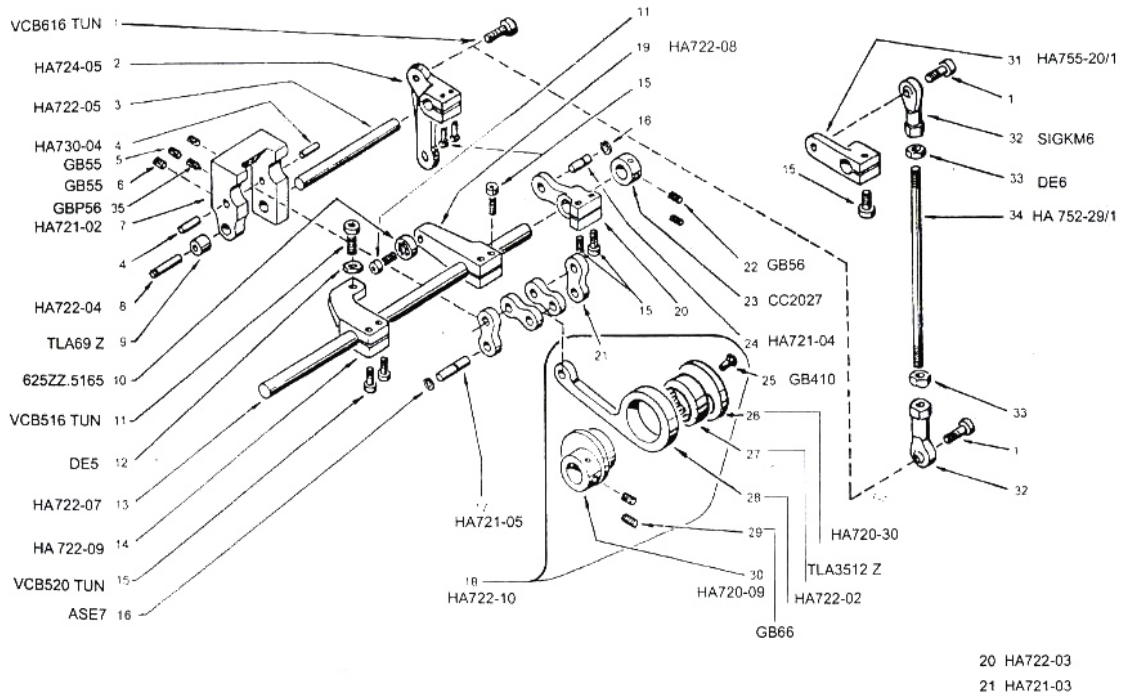
序号	数量	名 称	Name
1	HA722-06/1	1 控制杆	control lever
2	HA752-02	1 驱动轴	drive shaft, foot movement
3	VCB520 TUN	6 有头螺钉	hex. soc. hd. cap screw
4	HA752-03	1 叉杆	fork lever
5	HA730-06	1 供给挡块固定器	feed dog holder
6	HA730-08	2 供给挡块螺钉	feed dog screw
7	HA730-07	1 供给挡块高度调整螺钉	feed dog height adjustment screw
8	VCB410 TUN	1 有头螺钉	hex. soc. hd. cap screw
9	cc2067	1 夹钳	clamp
10	GB56	8 定位螺丝	hex. soc. set screw
11	HA730-05	1 供给挡块运载棒	feed dog carrier bar
12	HA730-11	1 铰链销钉	hinge stud
13	ASE12	1 卡环	ring
14	HA730-09	1 短轴	stud
15	HA730-03	1 供给提升连接环	feed lift connecting tod
16	HA730-02	1 供给提升偏心轮	feed lift eccentric
17	GB66	4 定位螺丝	hex. soc. set screw
18	HA721-06	1 长针控制杆	stitch- (lenthner) control lever
19	SIGKM6	2 球接头	articulated (endpiece)
20	HA730-13	1 压脚控制杆	foot control lever
21	HA730-12	1 压脚驱动轴	feed drive rock shaft
22	HA730-14	1 圆螺母	ring nut
23	HA743-04	1 圆环	ring
24	TLA069Z	1 轴承座套	roller-bearing sleeve
25	HA721-04	1 短轴	stud
26	HA730-04	2 辊子	roller
27	HA721-09	1 铰链销钉	hinge stud
28	ASE7	2 防护环	retainning ring
29	HA721-05	1 短轴	stud
30	HA721-13	1 弹簧连接轴	spring connection
31	HA720-23	1 圆螺母	ring nut
32	VSB440 TUN	1 有头螺钉	hex. soc. falt hd. cap screw
33	VCB616 TUN	1 有头螺钉	hex. soc. hd. cap screw
34	VCB512 TUN	1 有头螺钉	hex. soc. hd. cap screw
35	HA752-28/1	1 垫圈	washer
36	HA730-10	1 供给挡块叉	feed dog fork
37	DE6	2 螺旋套	hex nut
38	HA752-29	1 连杆	connecting rod
39	VCB620 TUN	1 有头螺钉	hex. soc. hd. cap screw
40	HA10-32	1 隔离垫圈	spacer ring

序号		数量	名 称	Name
41	HA2027	2	圆环	ring
42	HA721-11	1	长针控制杆	stitch-lengthner control lever
43	VCB516 TUN	2	有头螺钉	hex.soc.hd.cap screw
44	HA721-10	1	钳块	clamp block
45	HA721-08	1	长针枢轴	stitch-lengthner pivot shaft
46	HA721-02	1	长针支架	stitch-lengthner support
47	HA721-03	4	滑环	link
48	HA721-13	1	主供给偏心轮	main feed eccentric
49	HA721-07	1	长针连杆	stitch-lengthner connecting rod
50	HA720-22	1	弹簧	spring
51	ASE7	2	卡环	ring
52	GB55	1	定位螺丝	hex.soc.set screw
53	GB56	1	定位螺丝	hex.soc.set screw
54	GBP58	2	定位螺丝	hex.soc.set screw

- 18 HA721-06
- 19 SIGKM6
- 20 HA730-13
- 21 HA730-12
- 22 HA730-14
- 23 HA743-04
- 24 TLA0609Z
- 52 GB56
- 53 GB56
- 54 GBP58

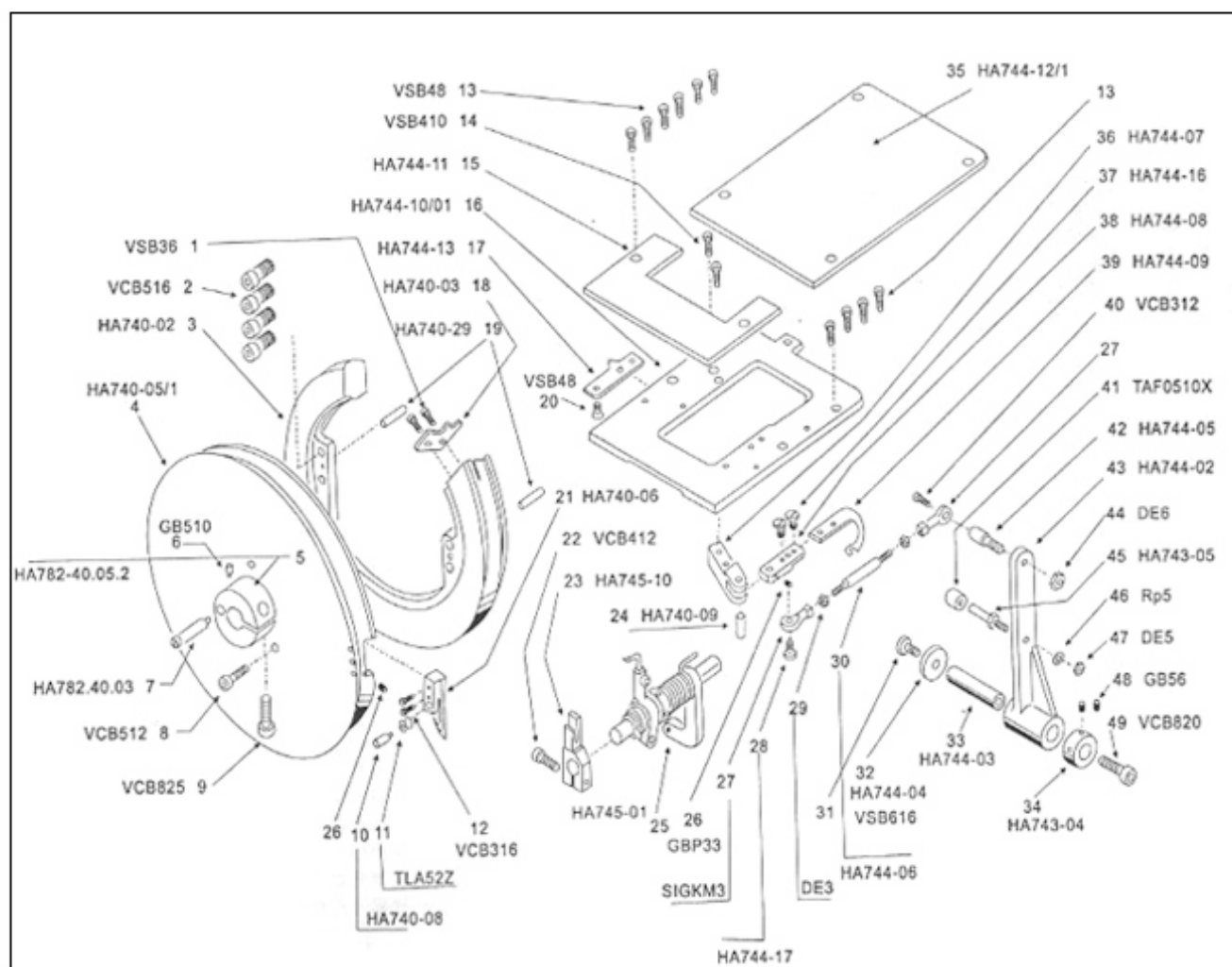


序号		数量	名 称	Name
1	VCB616 TUN	2	有头螺钉	hex.soc.hd.cap screw
2	HA724-05	1	针转化控制杆	stitch inversion control lever
3	HA722-05	1	放松支架控制轴	loose support control shaft
4	HA730-04	2	辊子	roller
5	GB55	1	定位螺丝	hex.soc.set screw
6	GB55	2	定位螺丝	hex.soc.set screw
7	HA721-02	1	长针支架	stitch-lengthner support
8	HA722-04	1	短轴	hinge stud
9	TLA69Z	1	轴承座套	roller-bearing sleeve
10	625ZZ.5165	1	滚珠轴承	ball bearing
11	VCB516 TUN	2	有头螺钉	hex.soc.hd.cap screw
12	DE5	1	螺旋套	hex nut
13	HA722-07	1	控制轴	shaft, stitch correction lever
14	HA722-09	1	辊子支持杆	counter lever
15	VCB520 TUN	9	有头螺钉	hex.soc.hd.cap screw
16	ASE7	2	定位环	retaining ring
17	HA721-05	1	短轴	stud
18	HA722-10	1	凸缘和偏心轮组件	cam with excentric
19	HA722-08	1	针校正杠杆	stitch correction lever
20	HA722-03	1	针校正控制杆	stitch correction control lever
21	HA721-03	4	滑环	link
22	GB56	2	定位螺丝	hex.soc.set screw
23	CC2027	1	圆环	ring
24	HA721-04	1	短轴	stud
25	GB410	1	有头螺钉	hex.soc.flat hd.cap screw
26	HA720-30	1	凸缘	flange
27	TLA3512Z	1	轴承座套	roller-bearing sleeve
28	HA722-02	1	针校正连接环	stitch correction connecting rod
29	GB66	2	定位螺丝	hex.soc.set screw
30	HA720-09	1	针缩短偏心轮	stitch shortening eccentric
31	HA755-20/1	1	针校正控制杆	stitch correction control lever
32	SIGKM6	2	球接头	articulates(endpiece)
33	DE6	2	螺旋套	hex nut
34	HA752-29/1	1	连杆	connecting rod
35	GBP56	1	定位螺丝	hex.soc.set screw



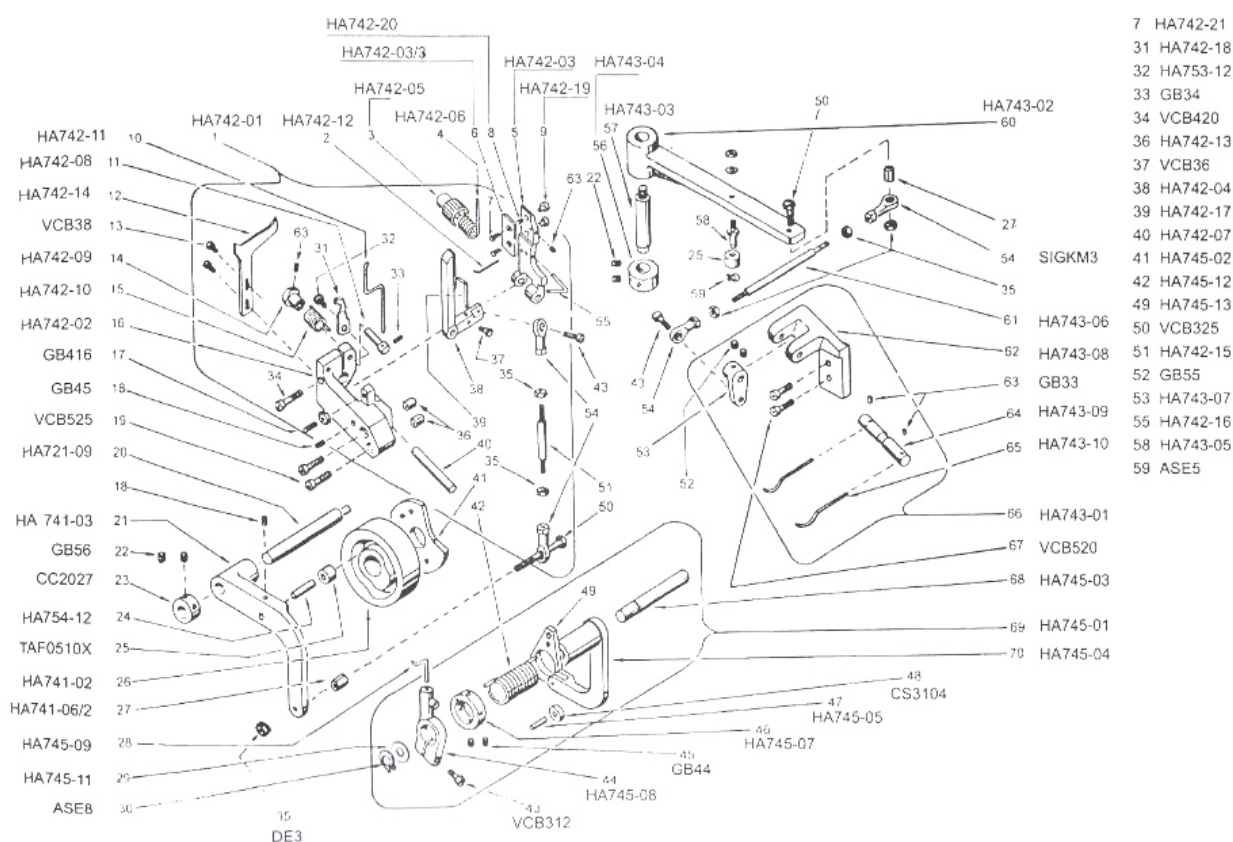
序号	数量	名 称	Name
1 VSB36	2	有头螺钉	hes.soc.flat hd.cap screw
2 VCB516	4	有头螺钉	hex.soc.hd.cap screw
3 HA740-02	1	固定轮	stationary wheel
4 HA740-05/1	1	转动轮	wheel
5 HA782-40.05.2	1	轮毂	hub
6 GB510	1	定位螺丝	hes.soc.set screw
7 HA782.40.03	1	装载凸轮销钉	cam for(hread loader)wheel
8 VCB512	3	有头螺钉	hex.soc.hd.cap screw
9 VCB825	1	有头螺钉	hex.soc.hd.cap screw
10 HA740-08	1	滑轮轴	sheave shaft
11 TLA52Z	1	轴承	bearing
12 VCB316	2	有头螺钉	hex.soc.hd.cap screw
13 VSB48	10	有头螺钉	hex.soc.hd.cap screw
14 VSB410	2	有头螺钉	hex.soc.hd.cap screw
15 HA744-11	1	左盖板	left and cover plate
16 HA744-10/01	1	针板支架框	throat plate support frame
17 HA744-13	1	线分离器	thread separator
18 HA740-03	1	线导向板	thread guide plate
19 HA740-29	2	销钉	dowel pin
20 VSB48	2	有头螺钉	hex.soc.flat hd.cap screw
21 HA740-06	1	旋转钩	rotary hook
22 VCB412	1	有头螺钉	hex.soc.hd.cap screw
23 HA745-10	1	针导板	needle guide
24 HA740-09	1	接合销	dowel pin
25 HA745-01	1	线移动装置	thread shifter assembly
26 GBP33	2	定位螺丝	hex.soc.set screw
27 SIGKM3	2	球接头	articulated(endpiece)
28 HA744-17	1	螺钉	screw
29 DE3	2	螺旋套	hex nut
30 HA744-06	1	连杆	connecting rod
31 VSB616	1	有头螺钉	hex.soc.flat hd.cap screw
32 HA744-04	1	垫圈	washer
33 HA744-03	1	铰链短轴	hinge stud
34 HA743-04	1	圆环	ring
35 HA744-12/1	1	右盖板	right and cover plate
36 HA744-07	1	铰链叉	hinge fork
37 HA744-16	2	螺钉	screw
38 HA744-08	1	固定器	holder
39 HA744-09	1	线装载机	(thread loader)
40 VCB312	1	有头螺钉	hex.soc.hd.cap screw

序号	数量	名称	Name
41	1	辊子轴套	rollers bearing
42	1	螺钉螺柱	screw stud
43	1	装载杆	thread loader lever
44	1	螺旋套	hex nut
45	1	辊子螺柱	roller stud
46	1	平垫圈	flat washer
47	1	螺旋套	hex nut
48	2	定位螺丝	hex.soc.set screw
49	1	有头螺钉	hex.soc.hd.cap screw

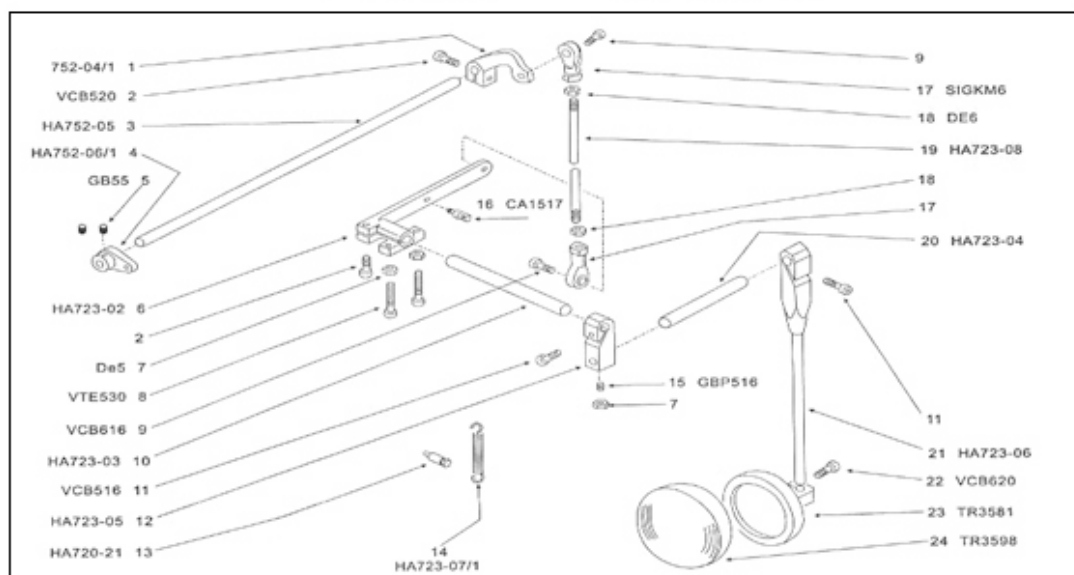


序号	数量	名 称	Name
1	HA742-01	1 张力组件	tension assembly
2	HA742-12	1 线固定钩	thread holder hook
3	HA742-05	1 弹簧张力滚筒	spring tensioning drum
4	HA742-06	2 扭转弹簧	torsion spring
5	HA742-03	1 右张力叉	right hand tension prong
6	HA742-03/3	1 右张力叉板	plate
7	HA742-21	2 有头螺钉	hex.soc.flat hd.cap screw
8	HA742-20	1 止动螺钉弹簧	stop screw spring
9	HA742-19	2 止动螺钉	stop screw
10	HA742-11	1 线推动钩	thread pusher hook
11	HA742-08	1 线推动螺栓	thread pusher stud
12	HA742-14	1 线支架板	thread support plate
13	VCB38	2 有头螺钉	hex.soc.hd.cap screw
14	HA742-09	1 弹簧张力滚筒	spring tensioning drum
15	HA742-10	2 扭转弹簧	torsion spring
16	HA742-02	1 张力支架	(pre-tensioning) support
17	GB416	1 定位螺丝	hex.soc.set screw
18	GB45	2 定位螺丝	hex.soc.set screw
19	VCB525	2 有头螺钉	hex.soc.hd.cap screw
20	HA721-09	1 铰链销钉	hinge stud
21	HA741-03	1 张力驱动杆	tension driver lever
22	GB56	4 定位螺丝	hex.soc.set screw
23	cc2027	1 圆环	ring
24	HA754-12	1 短轴	stud
25	TAF0510X	2 辊子轴套	rollers bearing
26	HA741-02	1 张力驱动凸轮	tension drive cam
27	HA741-06/2	2 螺纹套桶	screw stud
28	HA745-09	1 钩	hook
29	HA745-11	1 垫圈	washer
30	ASE8	1 卡环	ring
31	HA742-18	1 止动杆	stop lever
32	HA753-12	1 螺钉	throat plate screw
33	GB34	1 定位螺丝	hex.soc.set screw
34	VCB420	1 有头螺钉	hex.soc.hd.cap screw
35	DE3	6 螺旋套	hex nut
36	HA742-13	2 销轴套	bushing dowel
37	VCB36	1 有头螺钉	hex.soc.hd.cap screw
38	HA742-04	1 左力张力叉	left hand tension prong
39	HA742-17	1 止动杆	stop lever
40	HA742-07	1 铰链轴	hinge shaft

序号	数量	名 称	Name
41	HA745-02	1 脱缘指针轮	pull off finger cam
42	HA745-12	1 扭转弹簧	torsion spring
43	VCB312	3 有头螺钉	hex.soc.hd.cap screw
44	HA745-08	1 线移动环	thread shifter lever
45	GB44	2 有头螺钉	hex.soc.hd.cap screw
46	HA745-07	1 调整轴环	adjusting collar
47	HA745-05	1 辊子	roller
48	CS3404	1 滚珠轴承	ball bearing
49	HA745-13	1 卡爪	pawl
50	VCB325	2 有头螺钉	hex.soc.hd.cap screw
51	HA742-15	1 连接杆	connecting rod
52	GB55	2 定位螺丝	hex.soc.set screw
53	HA743-07	1 针提升连接杆	thread lifter connecting rod
54	SIGKM3	4 球接头	articulated endpiece
55	HA742-16	1 线擦拭手指	thread wiping finger
56	HA743-04	1 圆环	ring
57	HA743-03	1 销钉	pin for lever
58	HA743-05	1 辊子螺栓	roller stud
59	ASB5	1 止环	ring
60	HA743-02	1 针提升杆	thread lifting lever
61	HA743-06	1 连接杆	tie-rod
62	HA743-08	1 针提升支架	thread lifter support
63	GB33	4 定位螺丝	hex.soc.set screw
64	HA743-09	1 线提升手指轴	thread lifting finger shaft
65	HA743-10	2 线提升手指	thread lifter
66	HA743-01	1 线提升手指组件	thread lifting finger assembly
67	VCB520	2 有头螺钉	hex.soc.hd.cap screw
68	HA745-03	1 防护轴	needle guard carrier shaft
69	HA745-01	1 线提升组件	thread shifter assembly
70	HA745-04	1 线提升控制杆	thread shifter control lever

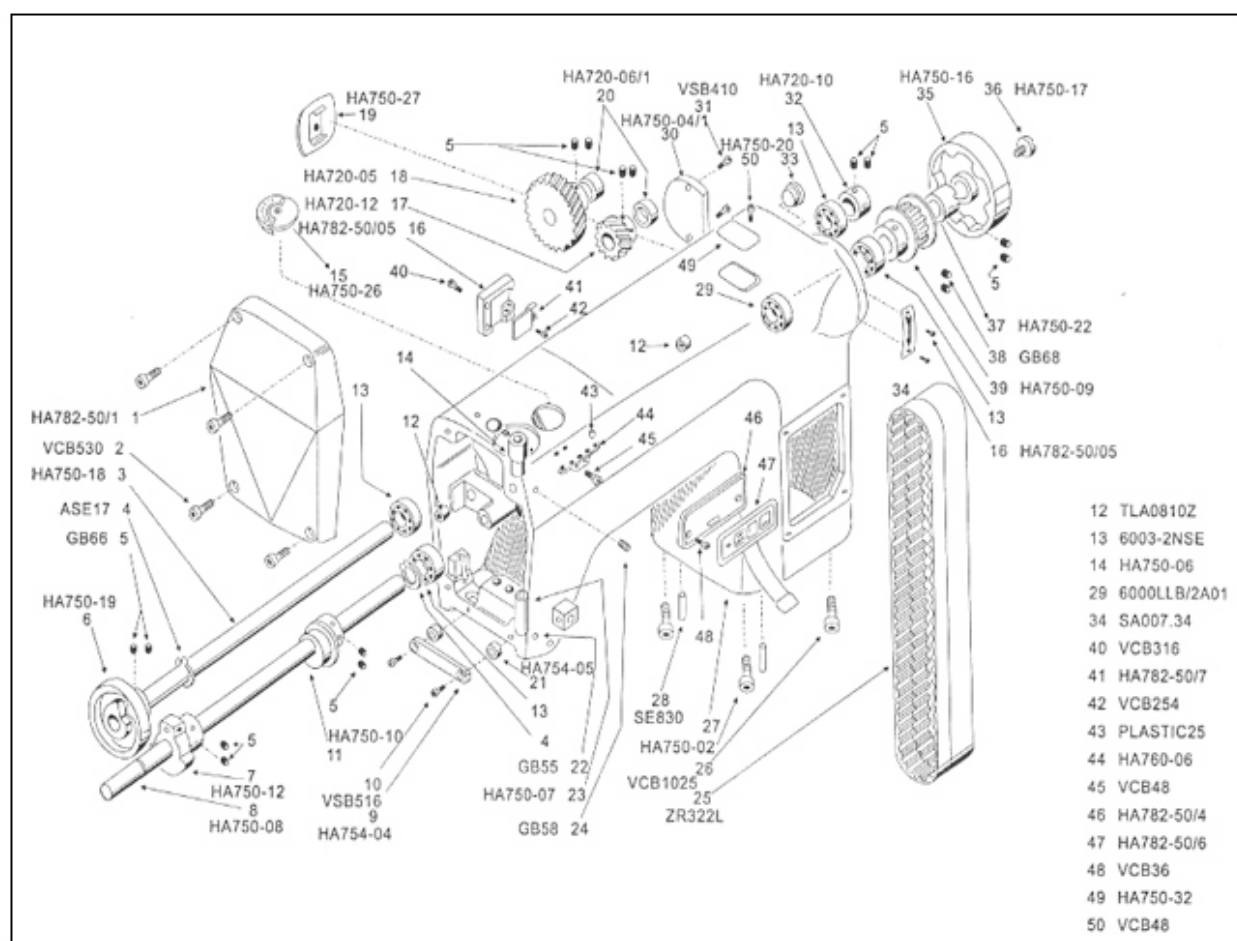


序号	数量	名 称	Name
1 752-04/1	1	压脚提升杆	foot lifter lever
2 VCB520	2	有头螺钉	hex.soc.hd.cap screw
3 HA752-05	1	压脚提升轴	foot lifter shaft
4 HA752-06/1	1	提升曲柄	lifting crank
5 GB55	2	定位螺丝	hex.soc.set screw
6 HA723-02	1	曲柄边接杆	knee lifter connection lever
7 DE5	3	螺旋套	hex nut
8 VTE530	2	螺钉	hex.hd. screw
9 VCB616	2	有头螺钉	hex.soc.hd.cap screw
10 HA723-03	1	曲柄枢轴	knee lever pivot shaft
11 VCB516	2	有头螺钉	hex.soc.hd.cap screw
12 HA723-05	1	调整接头	adjusting joint
13 HA720-21	1	螺纹螺栓	screw stud
14 HA723-07/1	1	螺旋弹簧	coil spring
15 GBP516	1	定位螺丝	hex.soc.set screw
16 ca1517	1	导线螺栓	thread guide
17 SIGKM6	2	球接头	articulated(endpiece)
18 DE6	2	螺旋套	hex nut
19 HA723-08	1	连接杆	connecting rod
20 HA723-04	1	杆轴	lever stud
21 HA723-06	1	曲杆	knee rod lever
22 VCB620	1	有头螺钉	hex.soc.ha.cap screw
23 TR3581	1	提升板	knee device
24 TR3598	1	提升板垫片	knee lever pad



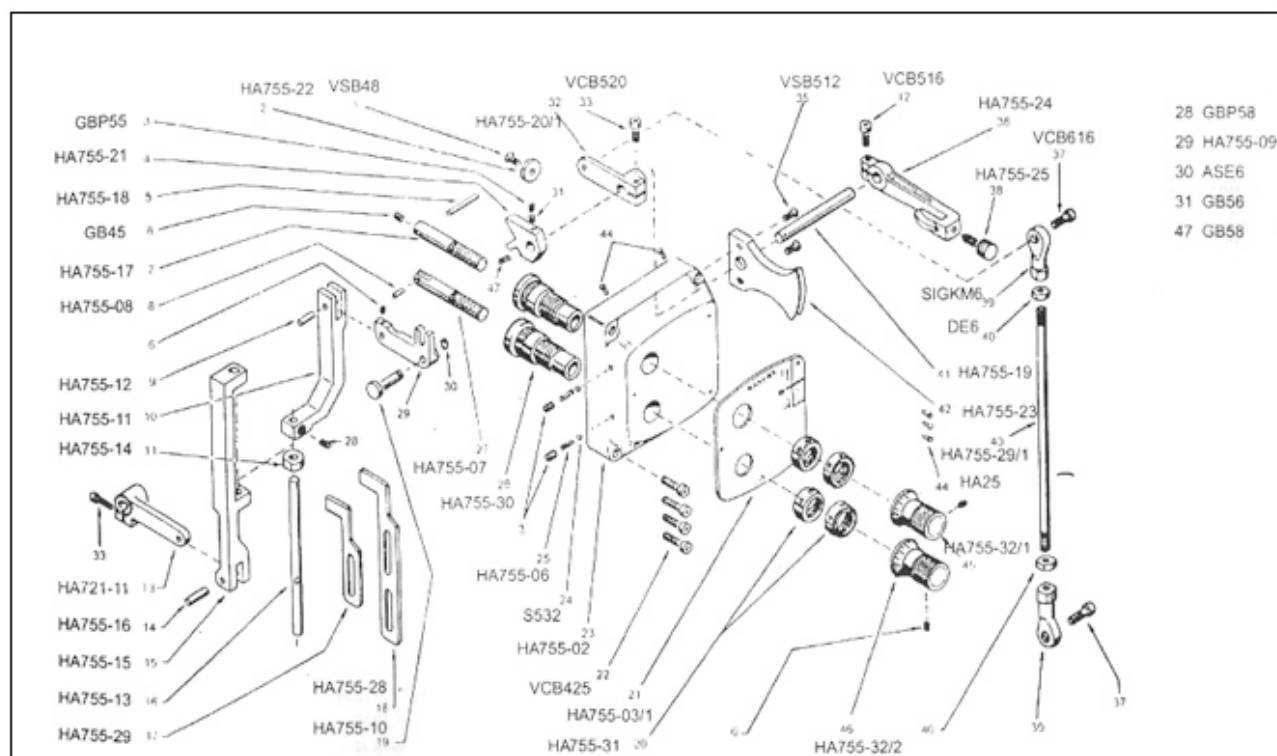
序号	数量	名 称	Name
1	HA782-50/1	1 车头盖	nose section
2	VCB530	4 有头螺钉	hex.soc.hd.cap screw
3	HA750-18	1 下凸轮轴	lower cam shaft
4	ASE17	2 卡环	ring
5	GB66	14 定位螺丝	hex.soc.set screw
6	HA750-19	1 上线环驱动轮	upper looper driver cam
7	HA750-12	1 针棒曲柄	needil bar crank
8	HA750-08	1 上主轴	upper main shaft
9	HA754-04	1 引导杠杆	lever guide
10	VSB516	2 有头螺钉	hex.soc.flat hd.cap screw
11	HA750-10	1 步行压脚提升偏心轮	walking presser lifting eccentric
12	TLA0810Z	2 轴承座套	roller-bearing sleeve
13	6003-2NSE	4 滚珠轴承	ball bearing
14	HA750-06	1 上针棒轴套	upper needle bar bushing
15	HA750-26	1 入口盖	access cover
16	HA782-50/05	1 支架底座连接板	support base for connection board
17	HA720-12	1 主动齿轮	driving gear
18	JA720-05	1 传动齿轮	driver gear
19	HA750-27	1 入口盖	access cover
20	HA720-06/1	2 隔离套	spacer
21	HA754-05	2 隔离套	spacer
22	GB55	1 定位螺丝	hex.soc.set screw
23	HA750-07	1 下针棒轴套	lower needle bar bushing
24	GB58	1 定位螺丝	hex.soc.set screw
25	ZR322L	2 带齿皮带	cogged belt
26	VCB1025	4 有头螺钉	hex.soc.hd.cap screw
27	HA750-02	1 机头	arm
28	SE830	2 销钉	spring pin
29	6000LLB/2A01	1 滚珠轴承	ball bearing
32	HA720-10	1 圆环	ring
33	HA750-20	1 塞子	plug
34	SA007.34	1 箭头标签	tag with arrow
35	HA750-16	1 手轮	hand wheel
36	HA750-17	1 手轮螺钉	hand wheel screw
37	HA750-22	1 正时轴环	timing collar
38	GB68	2 定位螺丝	hex.soc.set screw
39	HA750-09	1 上正时皮带轮	upper timing belt pulley
40	VCB316	2 有头螺钉	hex.soc.hd.cap.crew
41	HA782-50/7	1 按钮带小连接板	small connection board for button-strip

序号	数量	名称	Name
42	VCB254	2 有头螺钉	hex. soc. hd. cap. crew
43	PLASTIC25	5 凸缘管	flanged tube
44	HA760-06	1 线分流器	thread guide
45	VCB48	2 有头螺钉	hex. soc. hd. cap. screw
46	HA782-50/4	1 键盘支架底座	support baes for keyboard
47	HA782-50/6	1 三按钮薄膜带	three-button membrane button strip
48	VCB36	2 有头螺钉	hex. soc. hd. cap. screw
49	HA750-32	1 开入螺钉板	plate with opening for access to gears screws
50	VCB48	1 有头螺钉	hex. soc. hd. cap. screw



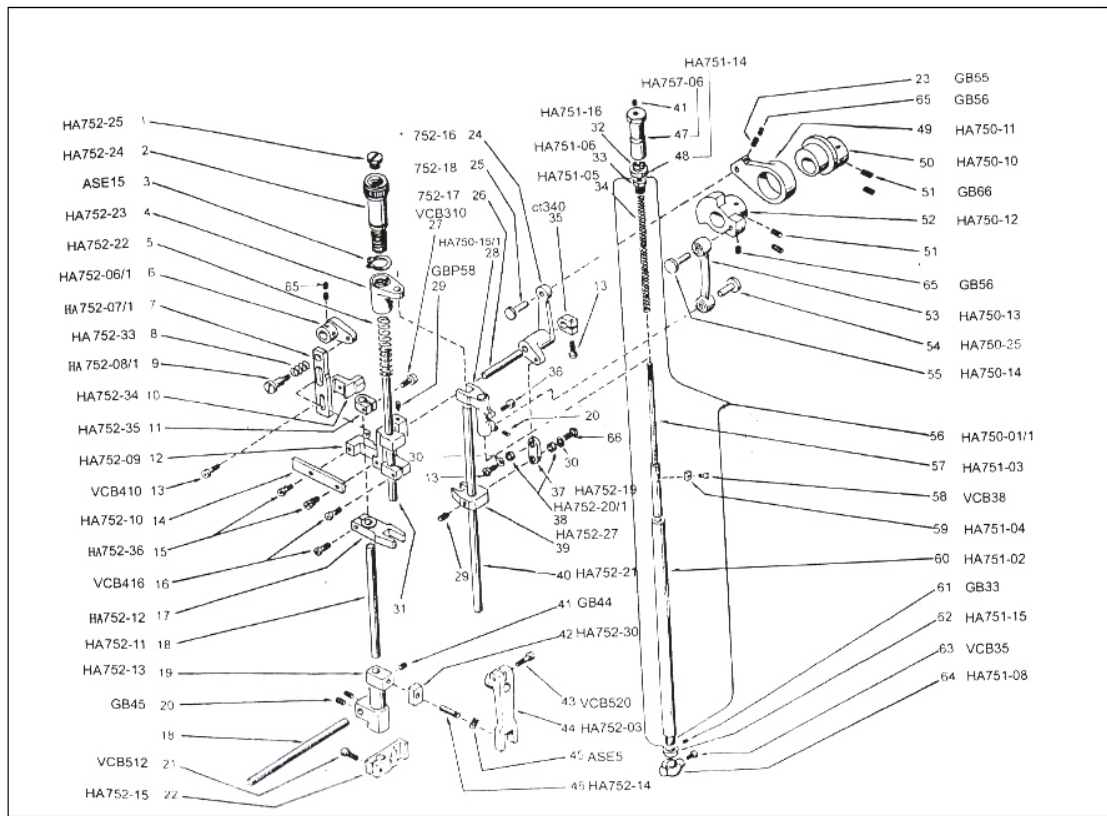
序号	数量	名 称	Name
1 VSB48	1	有头螺钉	Hex.soc.flat hd.cap screw
2 HA755-22	1	止动垫圈	stop washer
3 GBP55	3	定位螺丝	hex.soc.set screw
4 HA755-21	1	针顺序转化棱块	stitch sequence inversion prism
5 HA755-18	1	辊子	roller
6 GB45	4	定位螺丝	hex.soc.set screw
7 HA755-17	1	线迹调整螺钉	stitch regulation screw
8 HA755-08	1	辊子	roller
9 HA755-12	1	辊子	roller
10 HA755-11	1	连接杆	linkage lever
11 HA755-14	1	防震动圈	shock absorber grommet
12 VCB516	1	有头螺钉	hex.soc.hd.cap screw
13 HA721-11	1	长针控制杆	stitch-lengthner control lever
14 HA755-16	1	连接销钉	connection stud
15 HA755-15	1	针长度控制杠杆	stitch length control
16 HA755-13	1	引导棒	guide bar
17 HA755-29	1	最小线迹限制器	minimum stitch length limit stop
18 HA755-28	1	最大线迹限制器	maximum stitch length limit stop
19 HA755-10	1	铰链销钉	hinge pin
20 HA755-31	4	螺旋套桶	ring nut for bush
21 HA755-03/1	1	标度盘板	panel dial plate
22 VCB425	4	有头螺钉	hex.soc.hd.cap screw
23 HA755-02	1	线迹控制面板机壳	stitch length control panel housing
24 S532	2	滚珠	ball
25 HA755-06	2	弹簧	spring
26 HA755-30	2	线迹调整螺母	stitch regulation nut
27 HA755-07	1	线迹长度调整螺丝	stitch length regulating screw
28 GBP58	1	定位螺丝	hex.soc.set screw
29 HA755-09	1	控制叉杆	stitch length control fork lever
30 ASE6	1	卡环	ring
31 GB56	1	定位螺丝	hex.soc.set screw
32 HA755-20/1	1	校正控制杆	stitch correction control lever
33 VCB520	2	有头螺钉	hex.soc.hd cap screw
35 VSB512	2	有头螺钉	hex.soc.flat hd.cap screw
36 HA755-24	1	转化杆	stitch inverting lever
37 VCB616	2	有头螺钉	hex.soc.hd.cap screw
38 HA755-25	1	滚花头螺钉	knurled head screw
39 SIGKM6	2	球接头	articulated(endpiece)
40 DE6	2	螺旋套	hex nut

序号	数量	名称	Name
41	HA755-19	1 转化轴	stitch inversion spindle
42	HA755-23	1 转化导向板	stitch inverting lever guide plate
43	HA755-29/1	1 连杆	connecting rod
44	HA25	5 铆钉	rivet
45	HA755-32/1	1 刻度螺旋按钮	dial knob
46	HA755-32/2	1 刻度螺旋按钮	dial knob
47	GB58	1 定位螺丝	hex.soc.set screw



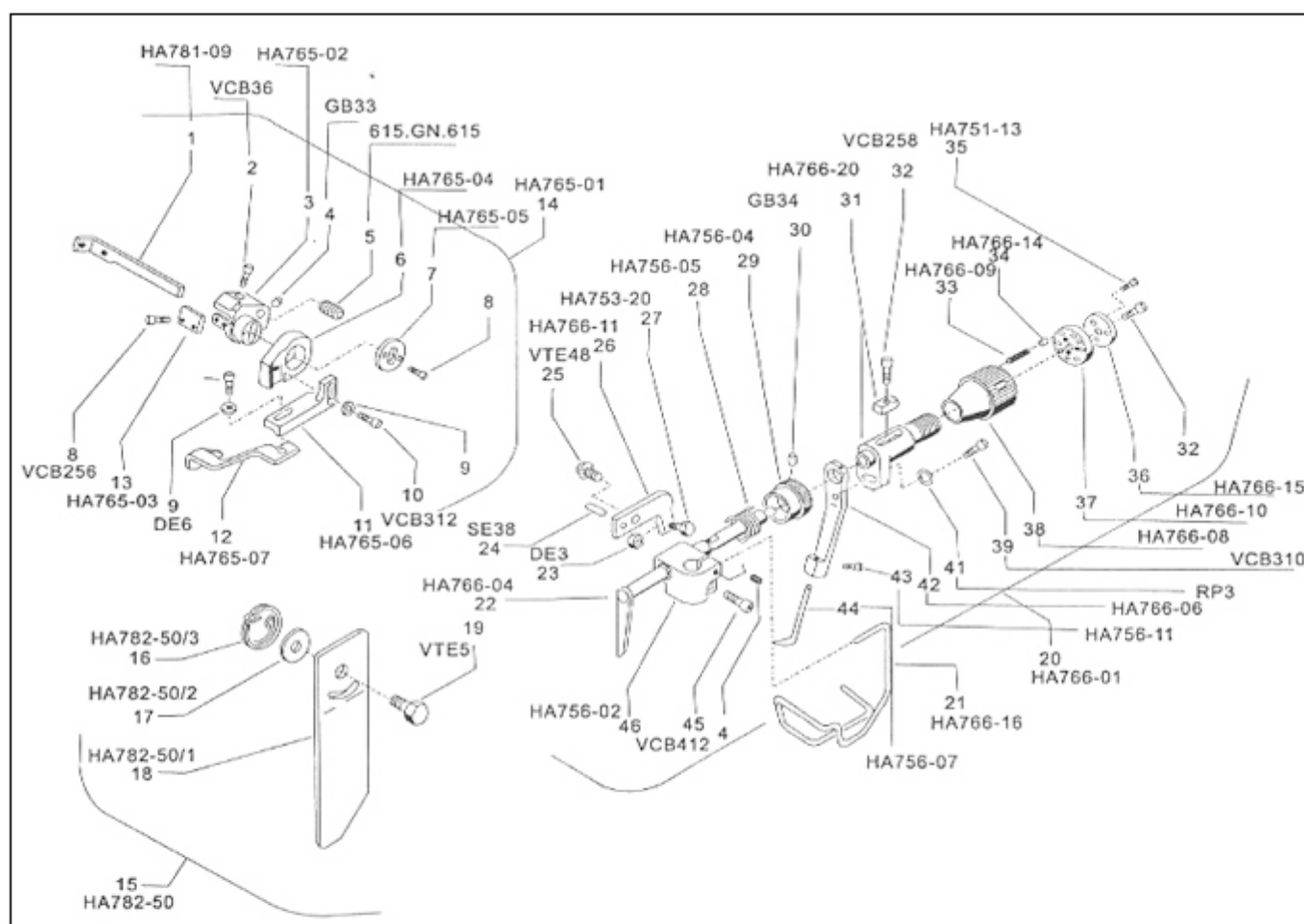
序号	数量	名 称	Name
1	HA752-25	1 螺塞	plug screw
2	HA752-24	1 压力调节螺钉	pressure regulator screw
3	ASE15	1 卡环	ring
4	HA752-23	1 压力调节螺旋套	pressure regulator nut
5	HA752-22	1 弹簧	spring
6	HA752-06/1	1 提升曲柄	lifting crank
7	HA752-07/1	1 引导压脚提升链环	presser feet lifting link
8	HA752-33	1 弹簧	spring
9	HA752-08/1	1 一字螺钉	shoulder screw
10	HA752-34	1 凹凸块	cam block
11	HA752-35	1 夹圈	clamp collar
12	HA752-09	1 压脚提升支架	foot-lifter bracket
13	VCB410	2 有头螺钉	hex.soc.hd.cap screw
14	HA752-10	1 引导杆	guide
15	HA752-36	2 一字螺钉	shoulder screw
16	VCB416	2 有头螺钉	hex.soc.hd.cap screw
17	HA752-12	1 导叉	guide fork
18	HA752-11	2 滑块棒	slider bar
19	HA752-13	1 压脚驱动轴套	presser foot drive bushing
20	GB45	3 定位螺丝	hex.soc.set screw
21	VCB512	1 有头螺要	hex.soc.hd.cap screw
22	HA752-15	1 步行压脚运行架	walking presser holder
23	GB55	1 定位螺丝	hex.soc.set screw
24	HA752-16	1 曲柄	belt crank
25	JA752-18	1 铰链销钉	hinge pin
26	HA752-17	1 枢轴	pivot shaft
27	VCB310	1 有头螺钉	hex.soc.hd.cap screw
28	HA750-15/1	1 夹钳	clamp
29	GBP58	2 定位螺丝	hex.soc.set screw
30	AR04010	2 弹簧	spring
31	HA752-26	1 导向杆	guide bar
32	HA751-16	1 垫圈	cushion ring
33	HA751-06	1 针棒钳	needle bar clamp
34	HA751-05	1 针棒弹簧	Needle bar spring
35	CT340	1 夹钳	clamp
36	VCB412	1 有头螺钉	hex.soc.hd.cap screw
37	HA752-19	1 链环	link
38	HA752-20/1	2 轴环	collar
39	HA752-27	1 压脚提升车钩联杆	foot-lifter drawrod
40	HA752-21	1 压脚杆	presser bar

序号	数量	名 称	Name	
41	GB44	2	定位螺丝	hex.soc.set screw
42	HA752-30	1	小块	small block
43	VCB520	1	有头螺钉	hex.soc.hd.cap screw
44	HA752-03	1	叉杆	fork lever
45	ASE5	1	卡环	ring
46	HA752-14	1	短轴	stud
47	HA757-06	1	调节帽	adjust table cap
48	HA751-14	1	垫圈	cushion ring
49	HA750-11	1	连接滑环	connecting link
50	HA750-10	1	步行压脚提升偏心轮	walking presser lifting eccentric
51	GB66	4	定位螺丝	hex.soc.set screw
52	HA750-12	1	针棒曲柄	needle bar crank
53	HA750-13	1	轴承连接滑环	connection link with bearing
54	HA750-25	1	铰链销钉	hinge pin
55	HA750-14	1	铆钉	pin for con-rod
56	HA751-01/1	1	针棒组件	needle bar assembly
57	HA751-03	1	织物棒	fabric-holder rod
58	VCB38	1	有头螺钉	hex.soc.hd.cap screw
59	HA751-04	1	边块	side block
60	HA751-02	1	针棒	needle bar rod
61	GB33	1	定位螺丝	hex.soc.set screw
62	HA751-15	1	针棒限位环	needle stop collar
63	VCB35	1	有头螺钉	hex.soc.hd.cap screw
64	HA751-08	1	针棒球接头	needle camp
65	GB56	4	定位螺丝	hex.soc.set screw
66	HA752-20	2	有头螺钉	hex.soc.hd.cap screw

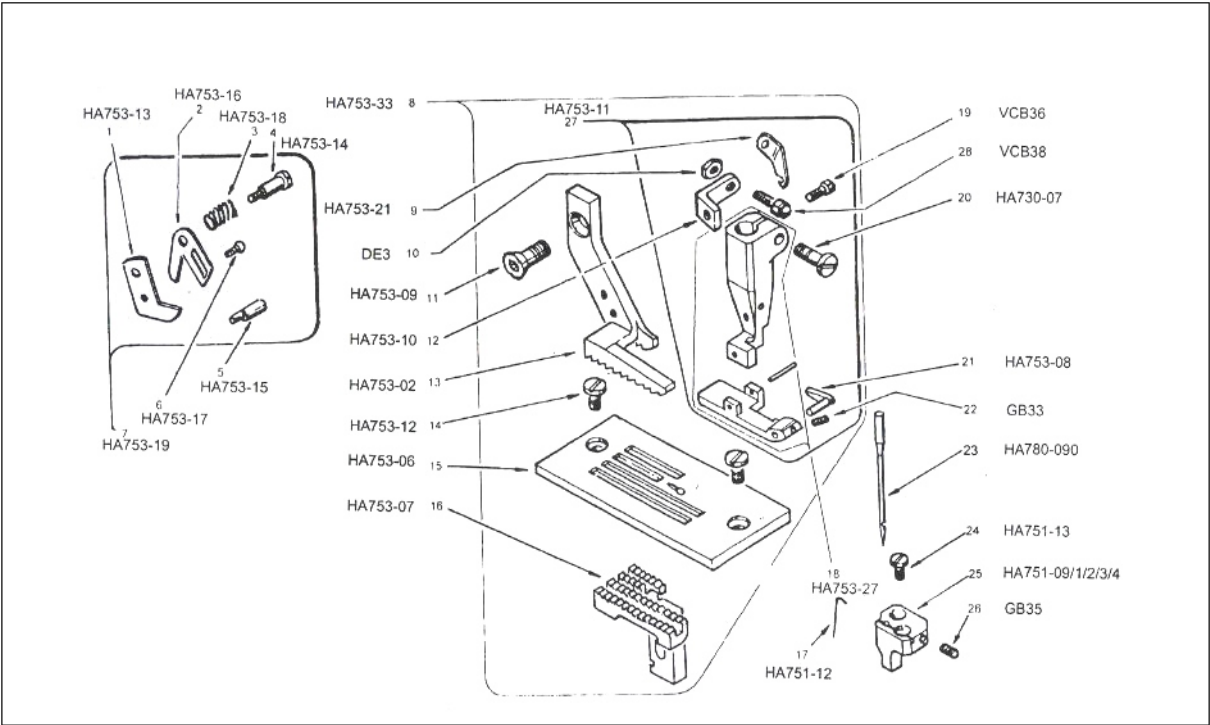


序号	数量	名 称	Name
1	HA781-09	1 引导支架	edge guide support bracket
2	VCB36	2 有头螺钉	hex. soc. hd. cap screw
3	HA765-02	1 可伸缩滑动支架	sliding support for retractable edge guide
4	GB33	2 定位螺丝	hex. soc. set screw
5	615. GN. 615	1 滚珠螺钉	ball presser
6	HA765-04	1 转向引导支架	rotating lever for retractable edge guide
7	HA765-05	1 垫圈	washer for retractable edge guide
8	VCB2-256	4 有头螺钉	hex. soc. hd. cap screw
9	DE6	2 平垫圈	flat washer
10	VCB312	1 有头螺钉	hex. soc. hd. cap screw
11	HA765-06	1 调节引导支架	adjustment support for retractable edge guide
12	HA765-07	1 掀钮引导支架	snap retractable edge guide
13	HA765-03	1 锁板	lock plate for snap retractable edge guide
14	HA7665-01	1 掀钮可伸缩引导组件	snap retractable edge guide assembly
15	HA782-50	1 眼防护组件	eyes guard unit
16	HA782-50/3	1 眼防护复位弹簧	eyes guard return spring
17	HA780-50/2	1 线圈	threaded washer
18	HA70-50/1	1 眼防护片	eyes guard protection
19	VTE5	1 针防护销钉	needle protection pin
20	HA766-01	1 松线组件	stitch slackening assembly with clamp
21	HA766-16	1 防护手指	finger guard
22	HA766-04	1 松线杠杆	stitch slackening lever
23	DE3	1 螺旋套	hex nut
24	SE38	1 平行销钉	parallel pin
25	VTE48	1 凸头螺钉	convex-headed screw
26	HA766-11	1 杠杆锁	lever lock
27	HA753-20	1 止动螺钉	stop screw
28	HA756-05	1 扭转弹簧	torsion spring
29	HA756-04	1 弹簧外套帽	spring housing cap
30	GB34	1 定位螺丝	hex. soc. set screw
31	HA766-20	1 螺纹套桶	threaded sleeve
32	VCB258	2 有头螺钉	hex. soc. hd. cap screw
33	HA766-09	1 弹簧	spring for pawl
34	HA766-14	1 滚珠卡爪	ball pawl
35	HA751-13	3 线爪连接螺钉	latch wire fastening screw
36	HA766-16	1 垫圈	washer
37	HA766-10	1 外加圆盘	impressed disc
38	HA766-08	1 松线调节按钮	stitch slackening adjustment knob
39	VCB310	1 有头螺钉	hex. soc. hd. cap screw

序号	数量	名 称	Name
41	RP3	垫圈	washer
42	HA766-06	松线杆	stitch slackening lever
43	HA766-11	连接螺钉	fastening screw cap
44	HA766-07	松线指针	stitch slackening finger
45	VCB412	有头螺钉	hex.soc.hd cap screw
46	HA756-02	松线轴衬	stitch slackening shaft bushing

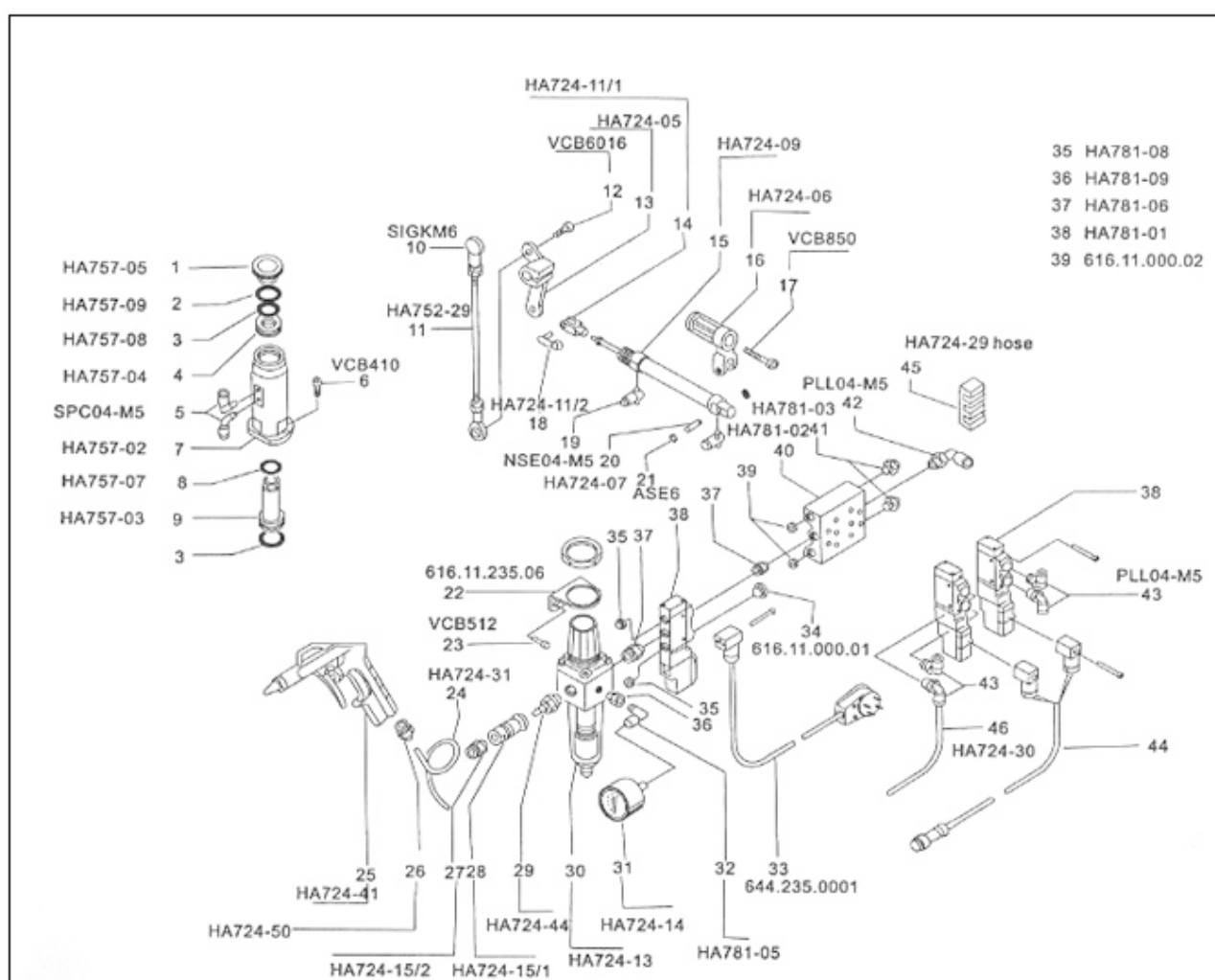


序号	数量	名 称	Name
1 HA753-13	1	固定线剪叶片	thread cutter guide
2 HA753-16	1	移动线剪叶片	thread cutter
3 HA753-18	1	弹簧	spring
4 HA753-14	1	线剪叶片螺钉	thread cutter screw
5 HA753-15	1	偏心轴	eccentric stud
6 HA753-17	1	螺钉	screw
7 HA753-19	1	“N.P” 线剪叶片组件	thread cutter assembly “n.p”
8 HA75333	1	“M.P” 缝纫组件	sewing unit “m.p”
9 HA753-21	1	导线钩	thread guide
10 HADE3	1	螺旋套	hex nut
11 HA753-09	1	螺钉	screw
12 HA753-10	1	止动杆	stop lever
13 HA753-02	1	步行压脚	walking presser
14 HA753-12	2	针板螺钉	throat plate screw
15 HA753-06	1	针板	plate
16 HA753-07	1	下送料挡块	drop feed dog
17 HA751-12	1	线爪	latch wire
18 HA753-27	1	“M.P” 步行压脚	presser feet “m.p”
19 VCB36	1	有头螺钉	hex.soc.hd.cap screw
20 HA730-07	1	送料挡块高度调节螺钉	feed dog height adjustment screw
21 HA753-08	1	边引导器	integrated edge guide
22 GB33	1	定位螺丝	hex.soc.set screw
23 HA780-090	1	780C 90型针	needle gauge 90 system 780c
23 HA780-100	1	780C 100型针	needle gauge 100system 780c
23 HA780-110	1	780C 100型针	needle gauge 110 system 780c
23 HA780-125	1	780C 125型针	needle gauge 125 system 780c
24 HA751-13	1	线爪紧固螺丝	latch wire fastening screw
25 HA751-09/1	1	90型针固定器	fabric holder for needle size90
25 HA751-09/2	1	100型针固定器	fabric holder for needle size100
25 HA751-09/3	1	110型针固定器	fabric holder for needle sizell0
25 HA751-09/4	1	125型针固定器	fabric holder for needle size 125
26 GB35	1	定位螺丝	hex.soc.set screw
27 HA753-1	1	“M.P” 步行压脚	Pesser feet “M.P”
28 VCB38	1	有头螺钉	hex.soc.hd.cap screw

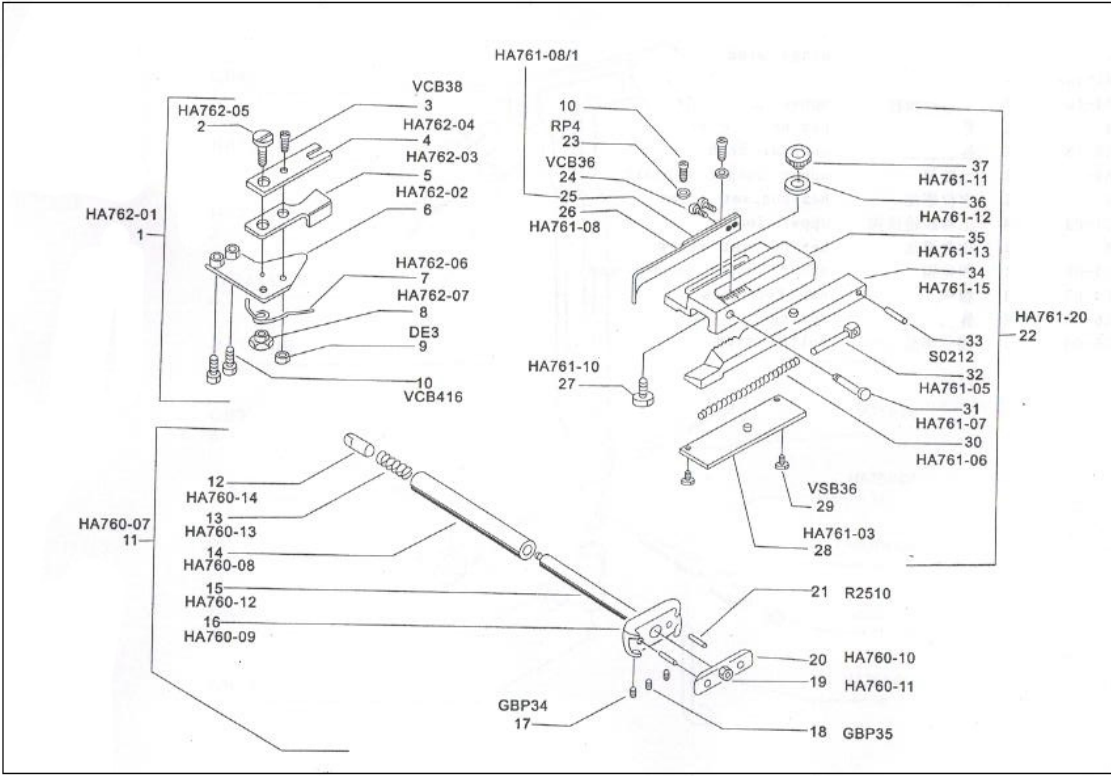


序号	数量	名 称	Name
1	HA757-05	1 阀罩	cyinder cap
2	HA757-09	1 垫圈	02081 washer
3	HA757-08	2 垫圈	washer
4	HA757-04	1 螺纹引导器	threaded guide
5	SPC04-M5	2 肘管连接器	elbow pneumatic coupler
6	VCB410	2 有头螺钉	hex.soc.hd.cap screw
7	HA757-02	1 气体提升汽缸	tang-lifter cylinder
8	HA757-07	1 垫圈	washer
9	HA757-03	1 封闭活塞	seal piston
10	SIGKM6	2 球接头	articulated endpiece
11	HA752-29	1 连杆	connecting rod
12	VCB6016	1 有头螺钉	hex.soc.hd.cap screw
13	HA724-05	1 转化控制杆	stitch inversion control lever
14	HA724-11/1	1 叉	fork
15	HA724-09	1 汽缸体	cylinder body
16	HA724-06	1 耳轴支架	trunnion mounting
17	VCB850	1 有头螺钉	hex.soc.hd.cap screw
18	HA724-11/2	1 线夹	lock clips
19	NSE04-M5	2 调节器	regulator
20	HA724-07	1 铰链销钉	hinge pin
21	ASE6	2 卡环	ring
22	616. 11. 235. 06	1 固定直角块	fixing square
23	VCB512	2 有头螺钉	hex.soc.hd, cap screw
24	HA724-31	1 软管	spring tube
25	HA724-41	1 空气枪	air gun
26	HA724-50	1 直接气流连接器	straight pneumatic coupler
27	HA724-15/2	1 直接气流连接器	straight pneumatic coupler
28	HA724-15/1	1 旋塞	faucet
29	HA724-44	1 主连接器	quick coupling
30	HA724-13	1 过滤器	filter
31	HA724-14	1 仪表	gauge
32	HA781-05	1 肘管气体连接器	elbow pneumatic coupler
33	644. 235. 0001	1 连接器	connector
34	616. 11. 000. 01	1 螺旋器	screw plug
35	HA781-08	2 消声器	muffler
36	HA781-09	1 延伸连接器	extension
37	HA781-06	2 螺纹接头	nipple
38	HA781-01	3 电阀	electro value
39	616. 11. 000. 02	2 螺旋塞	screw plug
40	HA781-02	1 底座接头	sub-base

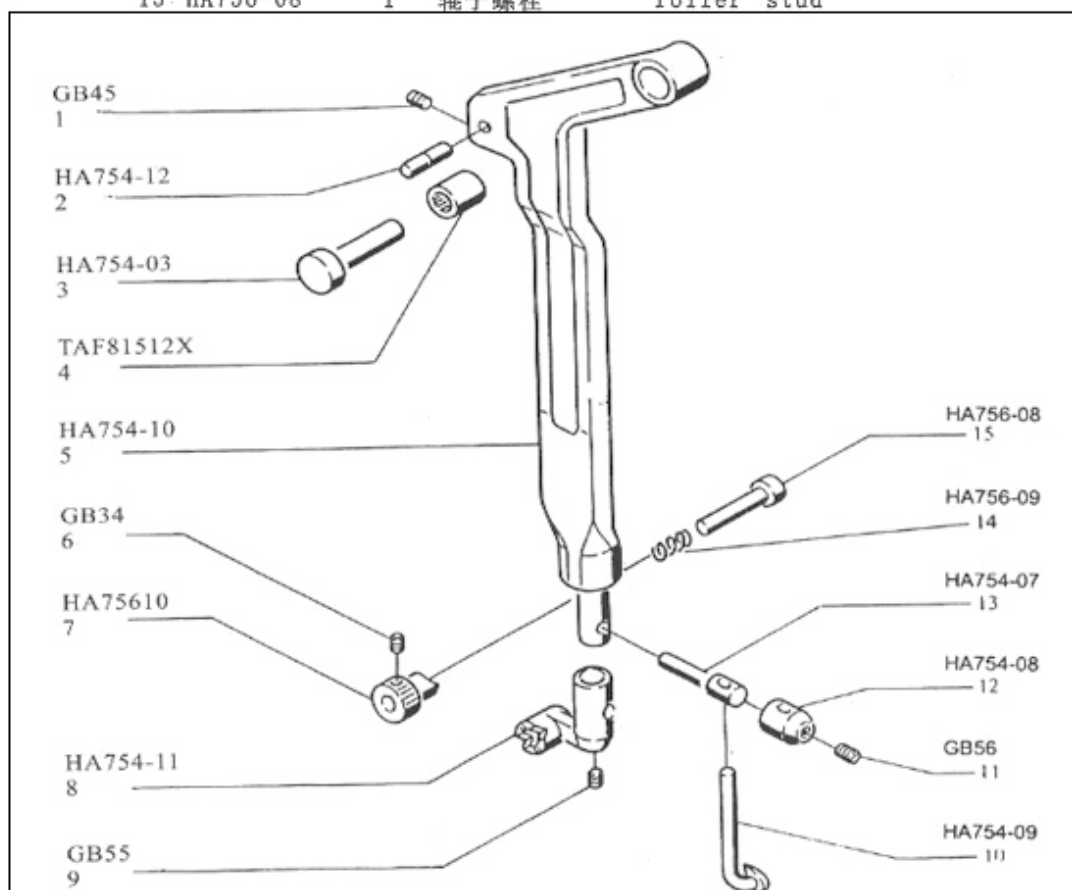
序号	数量	名称	Name
41 HA781-03	2	消声器	muffler
42 PLL04-M5	1	肘管气体连接器	elbow pneumatic coupler
43 PLL04-M5	4	肘管气体连接器	elbow pneumatic coupler
44 644.781.0002	2	连接器	connector
45 HA724-29 hose	1	软线夹	clamp 4
46 HA724-30	1	导管	pipe



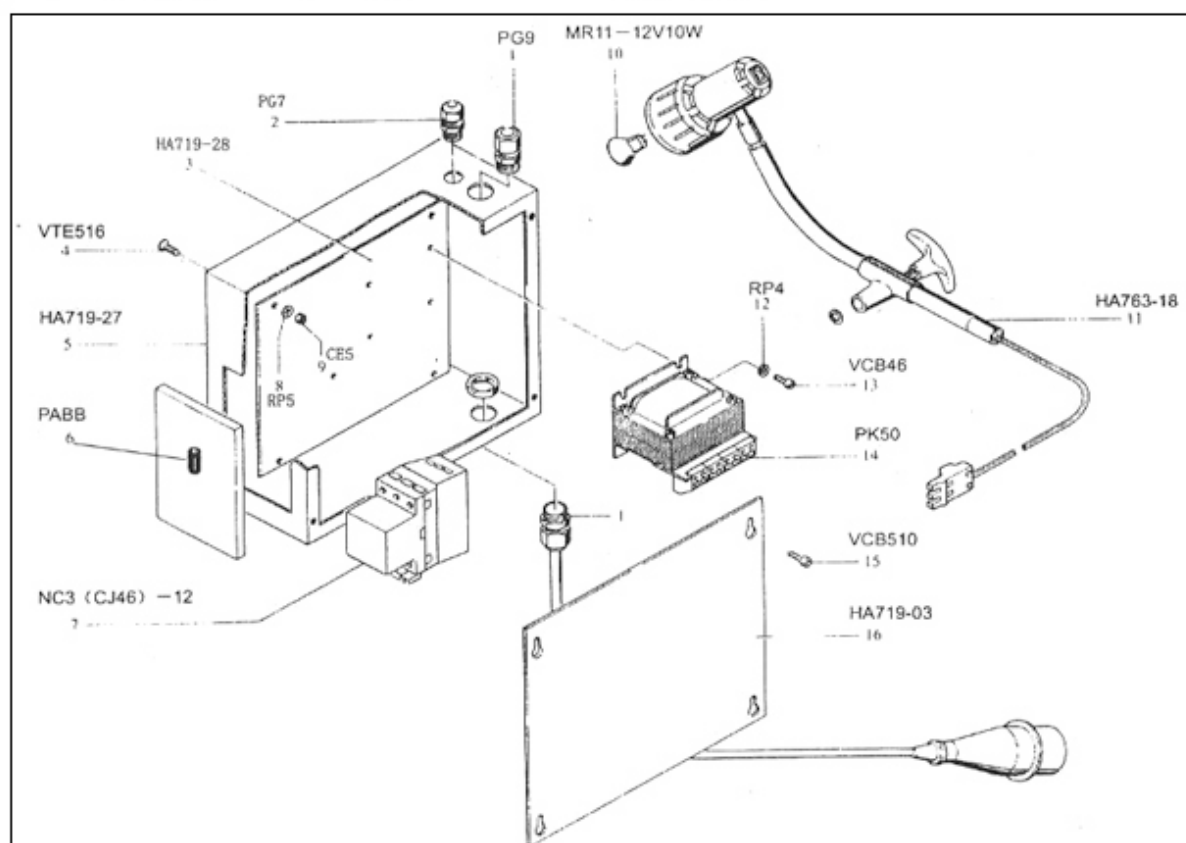
序号	数量	名 称	Name
1	HA762-01	1 剪刀组件	cutters assembly
2	HA762-05	1 一字螺钉	blade screw
3	VCB38	1 有头螺钉	hex.soc.hd.cap screw
4	HA762-04	1 弹簧刀片	spring blade
5	HA762-03	1 可动刀片	moving blade
6	HA762-02	1 固定刀片	stationary blade
7	HA762-06	1 弹簧	spring
8	HA762-07	1 螺母	nut
9	DE3	1 螺旋套	hex nut
10	VCB416	4 有头螺钉	hex.soc.hd.cap screw
11	HA760-07	1 线闸张力组件	thread-brake tension group
12	HA760-14	1 张力帽	tension cap
13	HA760-13	1 弹簧	spring
14	HA760-08	1 导套	guide sleeve
15	HA760-12	1 钳刀松开棒	nipper release rod
16	HA760-09	1 后压板	rear pressure plate
17	GBP34	2 定位螺丝	hex.soc.set screw
18	GBP35	1 定位螺丝	hex.soc.set screw
19	HA760-11	1 螺母	nut
20	HA760-10	1 前压板	front pressure plate
21	R2510	2 辊子	roller
22	HA761-20	1 可伸缩撤钮引导组件	snap retractable edge guide assembly
23	RP4	2 平垫圈	flat washer
24	VCB36	2 有头螺钉	hex.soc.hd.cap screw
25	HA761-08/1	1 强化弹簧板	reinforcement for spring
26	HA761-08	1 松放弹簧板	release spring for guide
27	HA761-10	1 螺纹螺钉	threade block
28	HA761-03	1 底部盖板	bottom for guide with lock
29	VSB36	2 有头螺钉	hex.soc.flat hd.cap screw
30	HA761-06	1 弹簧	spring for cloth-guide
31	HA761-07	1 球头钉	push button for guide
32	HA761-05	1 弹簧引导栓	spring guide point
33	S0212	1 销钉	spring pin
34	HA761-15	1 调节滑动棒	adjustable sliding bar
35	HA761-13	1 调节引导支架	adjustable guide support
36	HA761-12	1 调节螺钮垫圈	index
37	HA761-11	1 球状调节钮	ball grip for adjustable guide



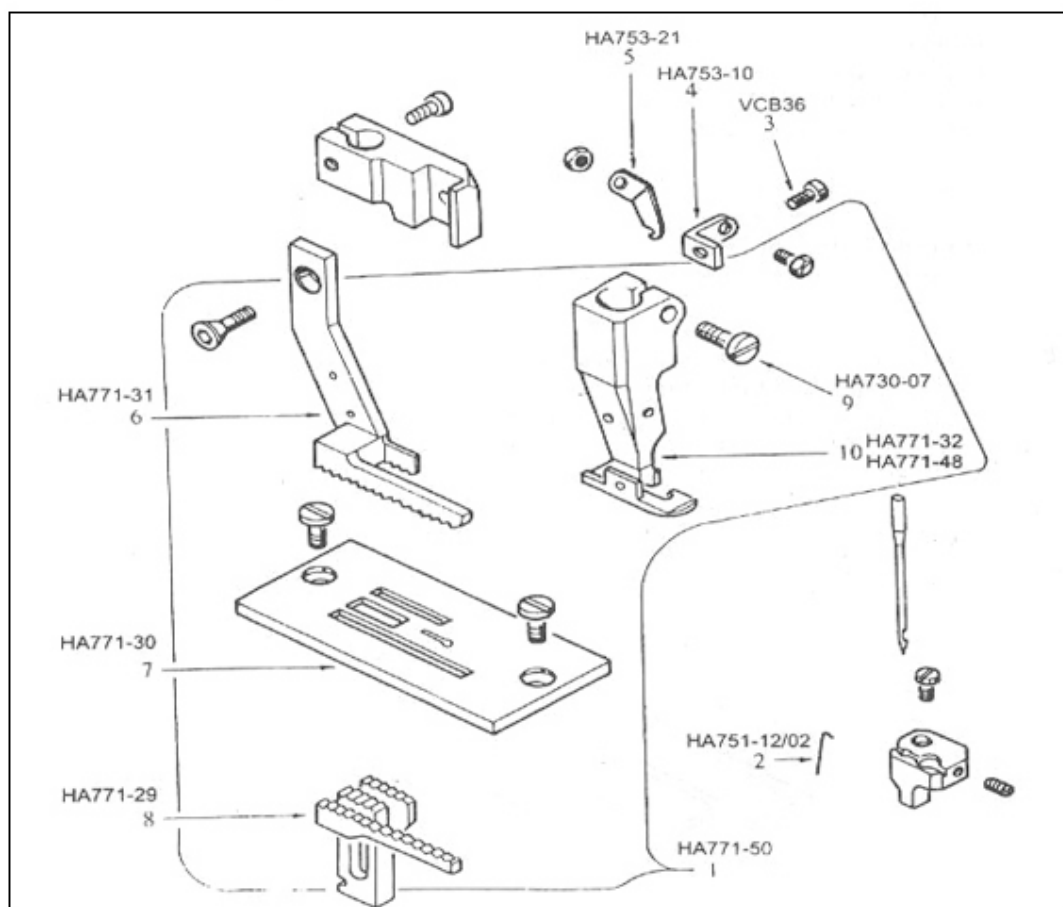
序号	数量	名 称	Name
1 GB45	1	定位螺丝	hex.soc.set screw
2 HA754-12	1	短轴	stud
3 HA754-03	1	铰链铆钉	hinge stud
4 TAF81512X	1	辊子轴承套	rollers bearing
5 HA754-10	1	上弯纱轮杆	upper looper lever
6 GB34	1	定位螺丝	hex.soc.set screw
7 HA756-10	1	控制按钮	control knob
8 HA754-11	1	上支架	upper looper support
9 GB55	1	定位螺丝	hex.soc.set screw
10 HA754-09	4	上弯纱轮线钩	upper looper
11 GB56	1	定位螺丝	hex.soc.set screw
12 HA754-08	1	固定帽	upper looper holder cap
13 HA754-07	1	帽钩	cap for hook
14 HA756-09	1	弹簧	spring
15 HA756-08	1	辊子螺栓	roller stud



序号	数量	名称	Name
1 PG9	2	缆索支架	cable holder
2 PG7	1	缆索支架	cable holder
3 HA719-28	1	盒底座	box base
4 VTE516	2	有头螺钉	hex.soc.flat hd.cap screw
5 HA719-27	1	电源盒	electric box
6 PABB	1	分离盒	indented cover
7 NC3(CJ46)-12	1	过载电流断路器	circuit breaker with terminal overload
8 RP5	2	平垫圈	flat washer
9 CE5	2	螺旋套	hex nut
10 MR11-12V10W	1	电灯泡	light bulb
11 HA763-18	1	灯固定器	halogen lamp
12 RP4	2	垫圈	washer
13 VCB46	2	有头螺钉	hex.soc.hd.cap screw
14 PK50	1	变压器	transformer
15 VCB510	4	凸头螺钉	convex-headed screw
16 HA719-03	1	盒盖	box cover



序号	数量	名 称	Name
1 HA771-50	1	“L” 缝纫组件	Soft stitch feature “L”
1 HA771-62	1	“P.L” 缝纫组件	soft stitch feature “P.L”
2 HA751-12/02	1	线爪	latch wire
3 VCB36	2	有头螺钉	hex.soc.hd.cap screw
4 HA753-10	1	止动杆	stop lever
5 HA753-21	1	导线钩	thread guide
6 HA771-31	1	“L.-P.L.” 步行压脚	walking presser “L.-P.L.”
7 HA771-30	1	“L.-P.L.” 针板	Plate “L.-P.L.”
8 HA771-29	1	“L.-P.L.” 下送料挡块	drop feed dog “L.-P.L.”
9 HA730-07	4	送料挡块高度调节螺钉	feed dog height adjustment screw
10 HA771-32	1	“L” 步行压脚	presser foot “L”
10 HA771-48	1	“P.L” 步行压脚	presser foot “P.L”



序号	名称	Name
1	注油壶	oiler
2	钳子	pincers
3	一字螺丝起子	angular screw driver
4	内六角头螺丝起	socket head screw driver mm.7
5	5, 5.7mm扳手	open and wrench mm.5,5.7
6	1.5mm六角螺丝起	hexagonal key mm.1.5
7	2mm六角螺丝起	hexagonal key mm.2
8	2.5mm六角螺丝起	hexagonal key mm.2.5
9	3mm六角螺丝起	hexagonal key mm.3
10	4mm六角螺丝起	hexagonal key mm.4
11	5mm六角螺丝起	hexagonal key mm.5
12	6mm六角螺丝起	hexagonal key mm.6
13	“M.P.-M.L.”型针板	sample throat plate type “m.p.-m.l.”
14	“L”型针板	sample throat plate type “l”
15	下顶针调节器	sample gauge for lower bad center(on demand)
16	下送料针高度板	template for height of drop feed dog and needle

