



曲折缝缝纫机

ZIGAG SEWING MACHINE

使用说明书

OPERATION MANUAL

中国·中捷缝纫机股份有限公司
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一、用途

1. APPLICATION

该机广泛用作服装、床上用品、鞋帮、毛巾、壁毯等的薄、中、厚料曲折缝、曲折刺绣缝或直缝。

采用了高精度的机械传动和有效的膝控摆幅部件,确保了形成多种线缝的完美质量。

This series of zigzag sewing machine is used to zigzag, embroidery and lockstitch on thin, medium and thick material for garment, bed articles, shoes, towels and wall carpet.

Extra accurate mechanical transmission and knee-control swing range unit assure many kinds of perfect embroidery stitch.

二、安全操作事项

2. SECURE OPERATION

1. 操作人员须经适当培训并仔细阅读该使用说明书后,方可使用;

2. 使用机器时,安全装置必须安装齐全;

3. 当拆换机器部件(如:机针、压脚、针板、送料牙和梭心等)、穿线、岗位上无操作人员或维修工时,必须关闭电源开关或拔下电源插头;

4. 机器的维修、调整等工作必须由专业技术人员进行;

5. 电气设备的使用必须由电工或专业技术人员进行。

1) The operator should be retained, and understand this manual very well before operating.

2) All security equipments should be fixed very well while running the machine.

3) Turn off the power or draw the power off, while unfixing sew accessories (like needle, presser foot, needle plate, feed dog and bobbin case), winding thread and no operator is at the workplace maintaining the machine.

4) Maintenance and adjustment of the machine should be carried by professional technician.

5) The electricity equipment should be managed by wireman or professional technician.

三、操作前的注意事项

3. CAUTION BEFORE OPERATION

为避免机器损坏,必须彻底注意下列事项:

1. 首次使用机器时,必须彻底清洗、充分加油;

2. 检查电机电压是否正常,连接相位是否正常;

3. 上轮一定要朝操作者方向运转。

To avoid the damage of machine, do care of the following:

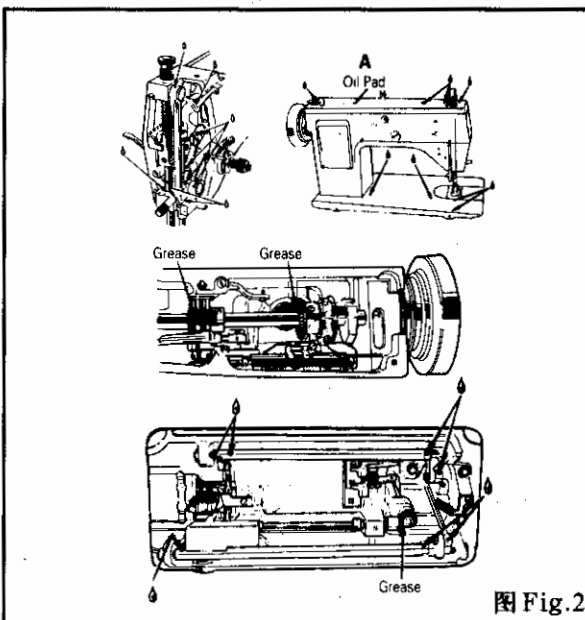
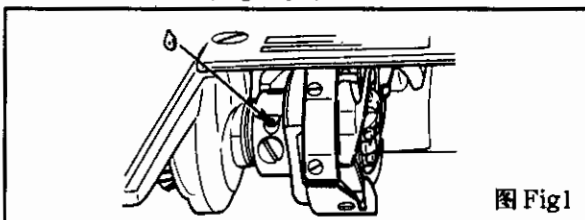
1) Please clean the machine thoroughly, add enough oil before first usage.

2) Check the normalcy of voltage connecting oil before first usage.

3) The upper wheel should rotate in the direction facing the operator.

四、机器的润滑(图1、2)

4. LUBRICATION(Fig.1,2)



1. 盘动上轮至加油孔“D”,加1~2滴油;
2. 对标油“D”符号处,均加1~2滴油;
3. 对齿轮轮齿上“B处”加少量油;
4. 对机头上盖标有“A”处充分加油至饱和;
5. 建议使用2号缝纫机动油或HT-T机械油做润滑油。

1). Rotate the upper wheel to the oil hole “D”, add one or two drops of oil.

2). The sign “D” is expected to add one or two drops of oil.

3). Add a little oil to the sign “B” on the gear.

4). Add enough oil at the sing “A” on the upper cover.

5). The suggested lubrication oil is No.2 sewing machine white oil or HT-T machinery oil.

五、针线的选用

5. SELECTION OF NEEDLE AND THREAD

根据不同缝料, 应选用相应合适的机针及缝线, 推荐参阅表 1:

表 1

适用类型	薄料	中厚料	厚 料
最粗针线	120	60	30
机针大于 (1/100mm)	#10	#12-#16 (80-100)	#18-#19 (110-120)
机针类型	1910-05(135x9)		
可用其他类型相当的针线			

Select the appropriate thread and needle according to the different sewing material as following:

Applicable kind of material	Thin	Medium heavy material	Heavy material
Max size of thread	120	60	30
Needle size (1/100mm)	#10	#12-#16 (80-100)	#18-#19 (110-120)
Needle type	1910-05(135x9)		
Other equal suitable size thread usable.			

六、机针的安装(图 3)

6. INSERTING OF NEEDLE(Fig.3)

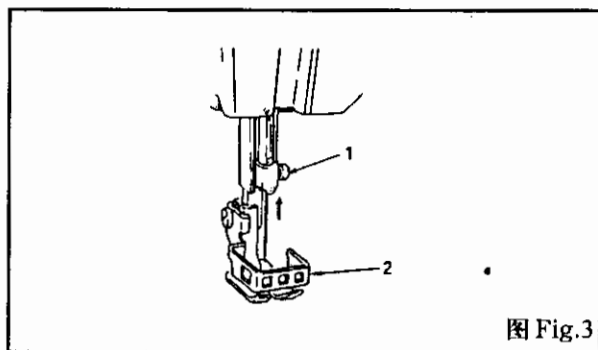


图 Fig.3

盘动上轮使针杆上升到最高位置, 松开机针紧固螺钉 1, 将机针柄插到顶, 长槽面向操作者, 然后, 拧紧紧固螺钉 1。

Turning the hand wheel and raise the needle bar to the highest position, then loose the needle rightening screw 1. Insert the needle in the needle bar and push it up as far as it will go.

Make sure its long groove faces toward the front. Tighten needle set screw 1 securely.

七、换梭心套(图 4、5)

7.REPLACING BOBBIN CASE (Fig.4,5)

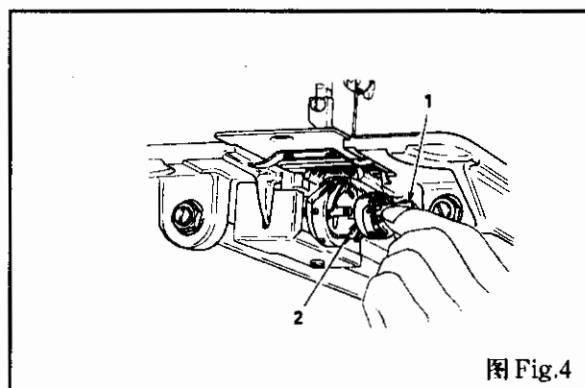


图 Fig.4

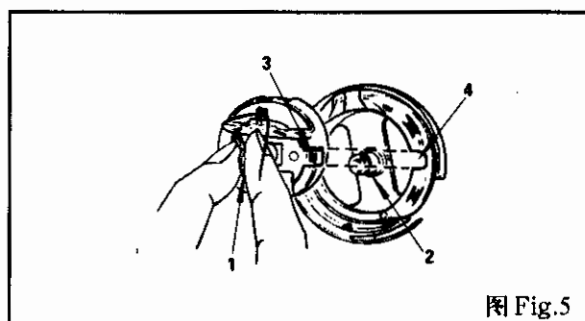


图 Fig.5

抬起梭门盖 1, 即可取出梭心套 2。

装上梭心套时, 要求先拉开梭门盖 1, 将梭心套插入梭床芯轴 2 上。使梭心套梭门 3 与梭床定位槽 4 相扣合, 然后放下梭门盖, 紧压在梭床上, 再合上推板。

Raise latch 1. then pick out the bobbin case 2.

Open bed slide 1 and lay the case on the case shaft 2, while the case hook 3 fit location channel 4, then down the bed slide and press the case and push the plate.

八、绕旋心线

8. THREAD THE BOBBIN CASE

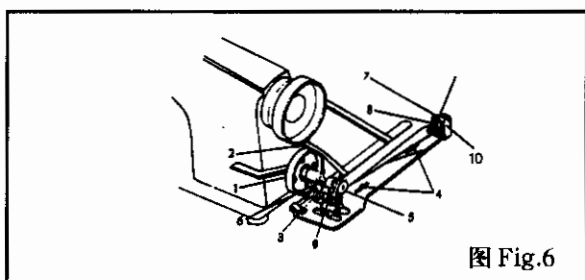


图 Fig.6

(1) 20U23/23D

1. 将梭心装入绕线器的绕线芯轴, 推下线量调节板 9 即可绕梭心线;

2. 梭心线松紧度可通过拧紧, 松夹线螺母 8 来实现

3. 梭心线左右均匀度可通过移动小过线座 10 来实现。

1). Put the shuttle core into the winding shaft, push the thread adjustment plate 9; and wind the shuttle thread.

2). Adjust the screw 8, to change the tendion of the winding thread.

3). Move the pre-tension 10 to adjust the thread evenness of the bobbin case.

(2) 20U33/43/53/63

1. 左手抓住上轮, 右手将离合螺钉①朝 A 方向转动松开。

2. 将梭心套入绕线器轴③, 尽可能地按下, 预调上夹线⑥的张力, 上夹线螺母朝 + 方向转动时, 张力将增大, 朝 - 方向转动时, 张力将减小。

3. 按箭头 C 方向推上绕线量调节压板②, 然后起动机绕线, 梭心将按 B 方向旋转。欲调节梭心上的绕线量, 先旋松调节压板螺钉④, 向操作者方向转动调节压板, 绕线量将减少, 反之, 绕线量将增加, 调整后, 旋紧调节压板螺钉。

4. 如果绕线不均匀, 旋松螺钉⑤, 上下移动上夹线⑥使绕线均匀, 然后旋紧螺钉⑤。

1) Stop motion of needle by loosening stop-motion screw (1) .Hold hand wheel with left hand and turn stop-motion screw toward you with right hand.

2) Place bobbin on bobbin winder spindle (3), pushing it on as far as it will go.

Pre-tension (1)

+.....More tension.

-.....Less tension.

3) Push latch (2) in the direction indicated by arrow (A), then start the machine.

Bobbin winder spindle (3) rotates in the direction indicated by arrow(B).

To adjust the amount If thread on bobbin, looen screw (4) on latch (2) and swing the latch (2) away from you of toward you, as required.

4) For more thread on bobbin, swing latch (2) away from you.

For less thread on bobbin, swing latch (2)

toward you, if thread winds unevenly on bobbin, loosen screw (5) and move pre-tension (6) up or down, as required, and tighten screw (5).

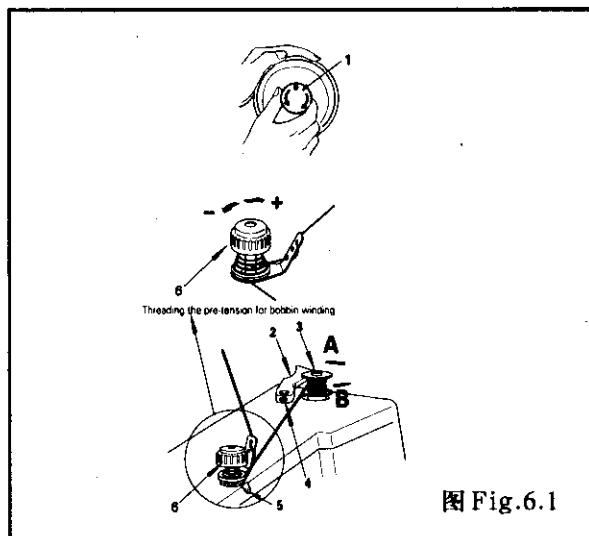


图 Fig.6.1

九、梭心的安装(图 7、8、9、10)

9. THE INSTALLATION OF THE BOBBIN (Fig.7,8,9,10)

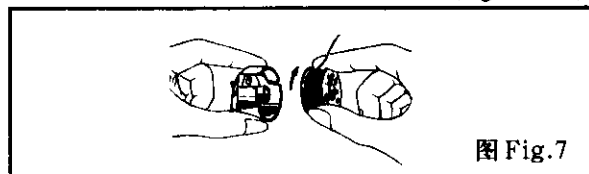


图 Fig.7

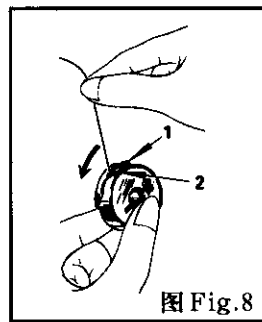


图 Fig.8

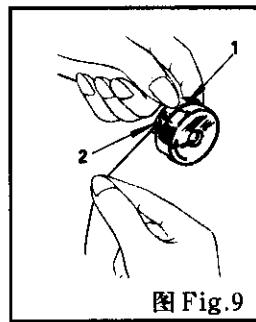


图 Fig.9

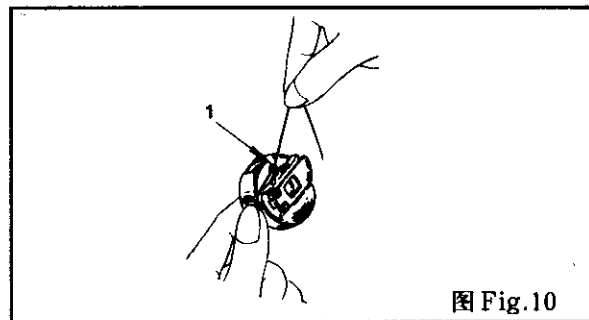


图 Fig.10

1. 梭心装入梭心套 (图 7), 将线从长槽 2 及橡皮 1 拉出(图 8)

2. 将线拉出梭皮末端和孔 2 (图 9)

3. 把线穿过过线孔 1, 留出 60 毫米长的线头 (图 10)。

1). Put the bobbin into bobbin case. Pull thread into notch 1 and draw it under tension spring 2.(Fig.7)

2). Draw thread out from slot 2 on end of spring 1.(Fig.9)

3). Pass it through bobbin case thread guide (1), allow about 60mm of thread out of the bobbin. (Fig.10)

十、穿面线(图 11、12、13、14)

10. THREAD SURFACE STITCHES (Fig.11,12,13,14)

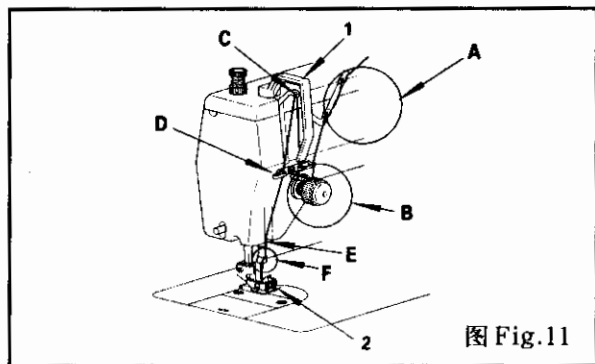


图 Fig.11

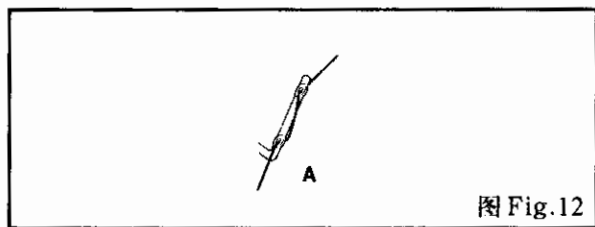


图 Fig.12

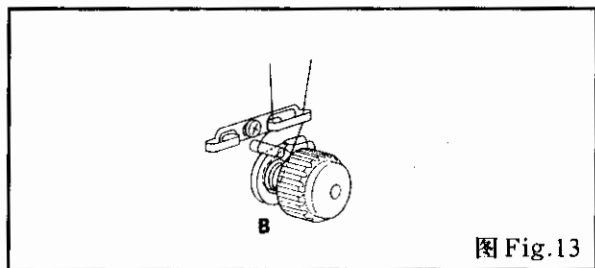


图 Fig.13

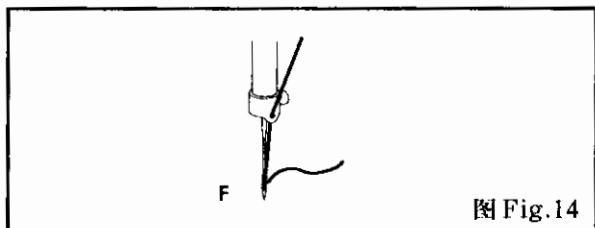


图 Fig.14

1. 针杆调到最高位置, 然后从线架上引出线头, 依次穿过 A、B、C、D、E 和 F。

2. 如图 14 由前向后穿线。

3. 引出长 100 毫米左右的线头。

1). Raise needle bar to the highest position, then pull the thread out and through A,B,C,D,E and F.

2). As Fig.14, thread from forward to back.

3). Pull about 100mm of thread out.

十一、线迹长度的调节(图 15)

11. ADJUSTING STITCH LENGTH (Fig.15)

(1) 直线缝线迹长度 (即针距) 调节

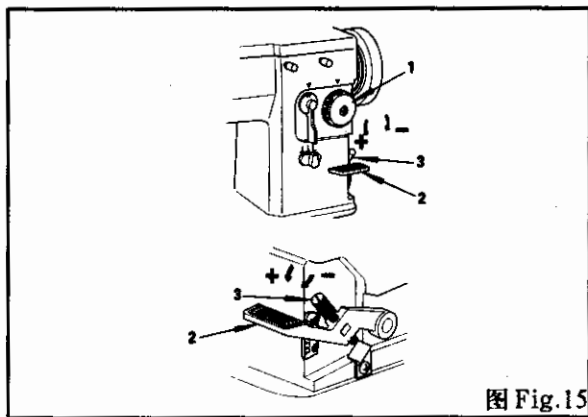


图 Fig.15

按顺时针或逆时针方向旋转针距旋钮 1。

+.....针距变长;

-.....针距变短。

(2) 倒顺送料的调节

当倒顺扳手 2 处于自由状态时, 机器处于顺进料的状态。

当按下倒顺扳手 2, 机器处于倒送料状态。

按顺时针或逆时针方向旋转止旋螺钉 3, 可调节倒送料的针距长度。

+.....针距变长;

-.....针距变短。

Regulating the stitch length

To regulate the stitch length, turn feed regulating dial 1 toward left right as required,

+.....to lengthen

-.....to shorten

Changing the reverse feed

Push lever 2, release for forward feed and down for reverse feed.

To regulate the reverse stitch length, turn thumb screw 3 toward left or right as required.

+.....to lengthen

-.....to shorten

十二、压脚压力的调节(见图 16)

12. ADJUSTING PRESSER FOOT PRESSURE (Fig.16)

顺时针旋转调压螺钉 1, 压力增大。

逆时针旋转调压螺钉 1, 压力减小。

To regulate the presser foot pressure, turn pressure regulating screw 1, toward left to strengthen or right to reduce pressure.

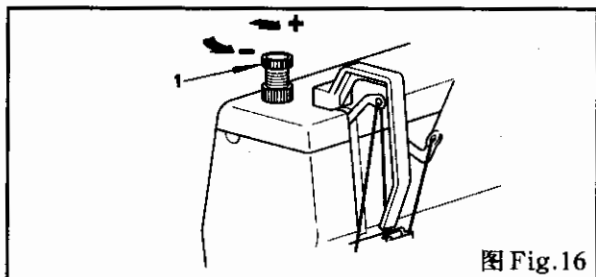


图 Fig.16

十三、面线张力的调节(图 17)

13. ADJUSTING NEEDLE THREAD TENSION (Fig.17)

顺时针旋转夹线螺母 1, 张力增大。

逆时针旋转夹线螺母 1, 张力减小。

+.....张力增大

-.....张力减小

Regulate needle thread tension with tension regulating knob 1. toward left to strengthen or right to reduce pressure.

+.....more tension

-.....less tension

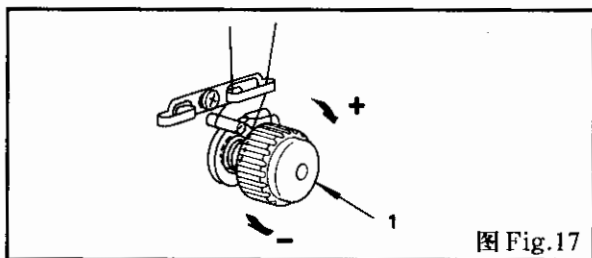


图 Fig.17

十四、挑线簧张力及行程的调节(图 18)

14. REGULATE THE LENGTH AND TENSION OF TAKE-UP SPRING (Fig.18)

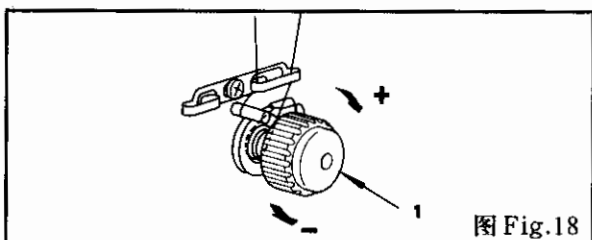


图 Fig.18

1、挑线簧张力的调节

用螺丝刀旋转夹线螺钉 1, 调节挑线簧的张力

+.....张力增大

-.....张力减小

2、挑线簧行程的调节

用螺丝刀旋松夹线器紧定螺钉 2, 旋转夹线器组件

3, 调节挑线簧的位置合适, 再紧固螺钉 2。

1). Regulate the tension of take-up spring

Using a screwdriver in slot to regulate take-up spring tension by turning stud (1) as required.

+.....more tension

-.....less tension

2). Regulate the length of take-up spring

To adjust the amount of take-up spring movement, loosen screw 2 and set take-up spring height by turning the entire tension assembly 3 toward left or right. Then securely tighten screw 2.

十五、底线张力的调节(图 19)

15. ADJUST BOBBIN THREAD TENSION (Fig.19)

松开螺钉 2, 旋转底线梭皮螺钉 1, 调节底线张力。

+.....张力增大

-.....张力减小

Regulate bobbin thread tension regulating screw

1.

+.....more tension

-.....less tension

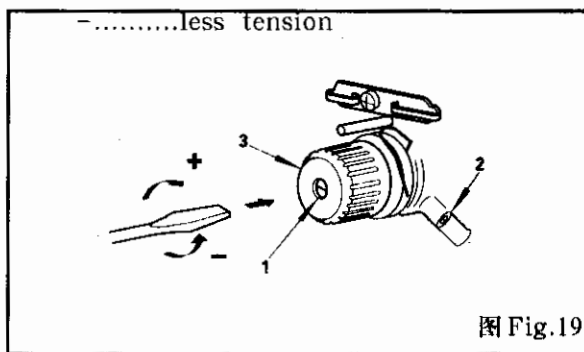


图 Fig.19

十六、针位的调节(图 20)

16. ADJUST NEEDLE POSITION (Fig.20)

(20U33/43/53/63)

此类机器机针左、中、右位置的调节法, 直缝与曲折缝均相同。只要将左、中、右定位于手柄移至想要的位置, 即可缝出相应的线迹。

注意: 机针下有缝料时, 不可调整针位。

Left, Center and Right needle position settings are available for placement of both straight and zigzag stitching. (Fig.20)

To position, push lever in and move to desired setting.

Do not make any needle position adjustment while the needle is in the fabric.

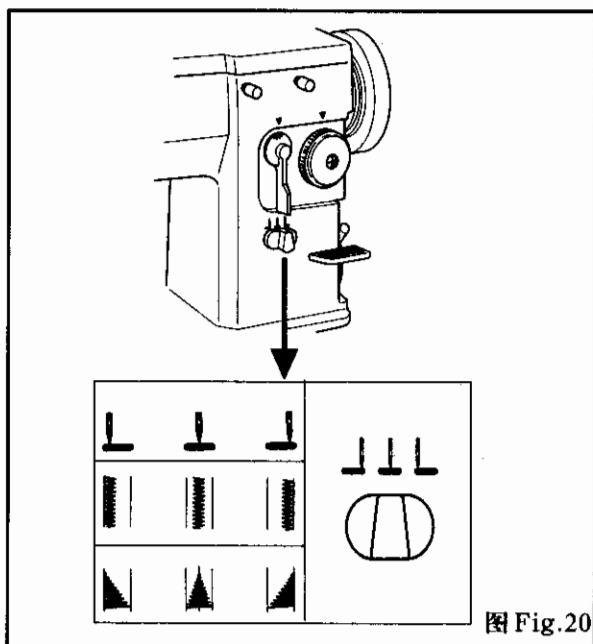


图 Fig.20

十七、横针距(即摆针宽度)的调节 (图 21)

17. THE ADJUSTMENT OF HORIZONTAL DISTANCE (Fig.21)

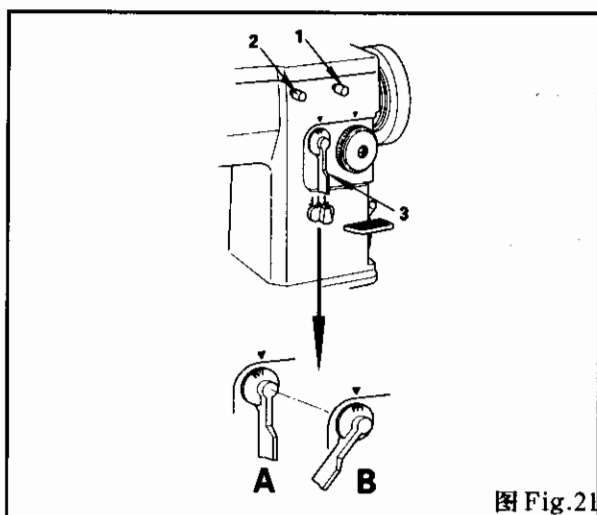


图 Fig.21

当需要调出曲折缝的横针距某一定值时, 可按下面方法进行:

- (1) 松开摆针扳手定位螺钉 2;

- (2) 将横针扳手 3 扳至 0 位 (即 A 位置);
- (3) 锁紧摆针定位螺钉 2;
- (4) 松开摆针定位螺钉 1;
- (5) 顺时针旋动横杆扳手 3 至 B 位置;
- (6) 再锁紧摆针定位螺钉 1。

If one fixed value between the min-max of curvilinear stitch is needed, the adjustment can be made as follows:

- 1). Release the horizontal needle set screw 2;
- 2). Turn the spanner 3 to Oposition (i.e. A position);
- 3). Lock the set screw 2;
- 4). Release the needle set screw 1;
- 5). Turn left the spanner 3 to B position;
- 6). Then lock the set screw 1.

十八、直缝的可靠锁紧(图 22)

18. LOCKING UNIT FOR LINEAR STITCHING (Fig.22)

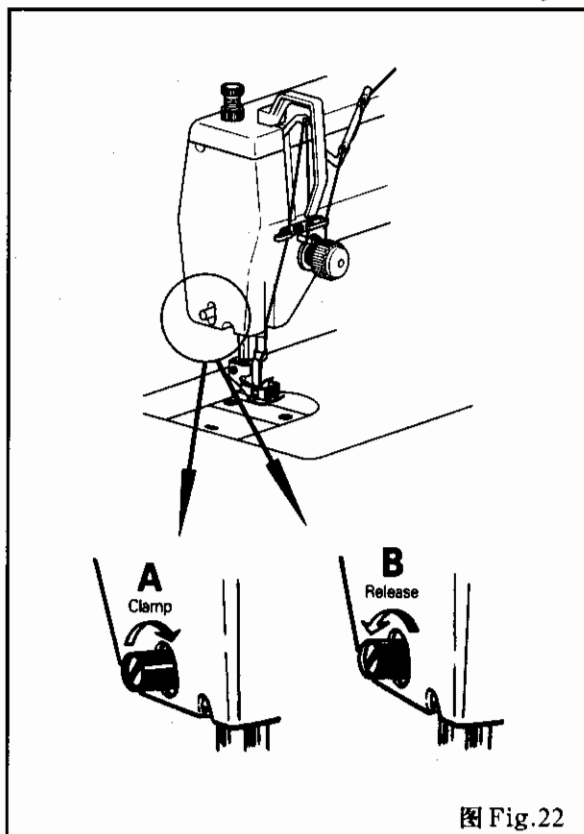


图 Fig.22

当要作直缝时, 应顺时针旋转直缝锁紧偏心套 “A” 向, 锁紧针杆摆动架;

当要用曲折缝时, 应逆时针旋转直缝锁紧偏心套 “B” 向, 使其锁紧在机壳上, 确保针杆摆动架松开。

When linear stitch, turn the linear to "A" direction and locking eccentric sleeve clockwise and secure the needle-bar swaying rack.

When the curvilinear stitching made, the eccentric sleeve should be turned counter-clockwise to "B" direction and locked securely onto the machine housing, the release the swaying rack of the needle bar.

十九、皮带罩的安装(图 23、24)

19. ASSEMBLAGE OF BELT COVER (Fig.23,24)

台板上: 使手轮 V 形皮带和皮带护罩成一直线, 然后拧紧螺钉。

台板下: 安装皮带罩后电机轮和皮带要旋转自如。
注意: 图 23 适用于 20U33/43/143/457A/457B/457C
图 24 适用于 20U53/53A/53B/63/53-5。

On the table: while the V type belt is line with belt cover, tighten the screw.

Under the table: after the assemblage of belt cover the wheel and belt should rotate freely.

Remarks: Fig.23 is suitable for 20U33/43/143/457A/457B/457C.

Fig.24 is suitable for 20U53/53A/53B/63/53-5.

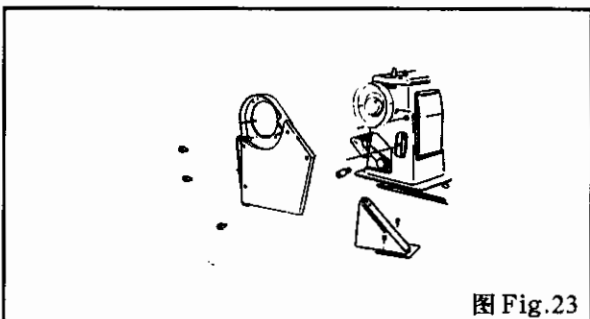


图 Fig.23

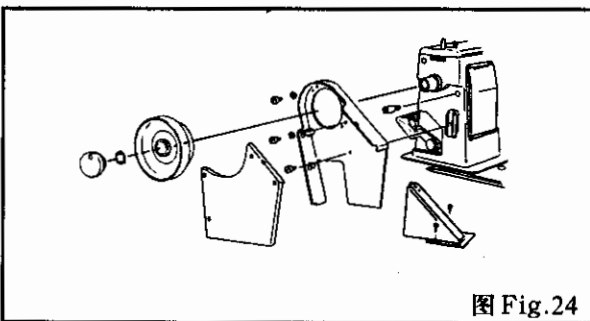


图 Fig.24

二十、膝控部件的安装(图 25、26、27)

20. MUNT KNEE LIFTER (Fig.25、26、27)

(1) 20U23/23D/33/43/143,457A/B/C/D 系列型膝控部件的安装。

①膝碰块 1 的位置应根据操作者的情况进行调节, 以保证操作方便。

②调节件 2 的位置, 当件 2 控制件 3 运动时, 则膝部可以控制机针的摆动; 当件 2 控制件 4 时, 则膝部可以控制压脚的提升。

(1) 20U23/23D/33/43/143,457A/B/C/D

1). To assure the convenience of operation, adjust the knee lifter knee plate.

2). In the position of No.2, while the No. 2 control the No.3, knee can control the sway of needle. While the No.2 control the No.4, knee can control the lift of press foot.

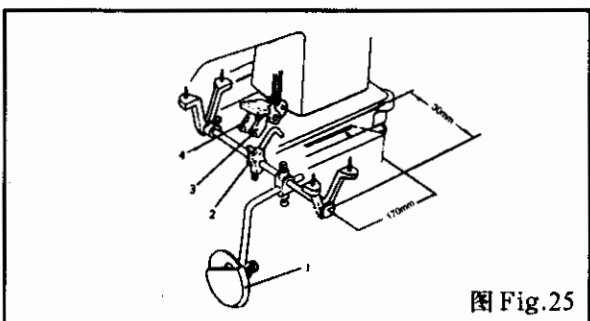


图 Fig.25

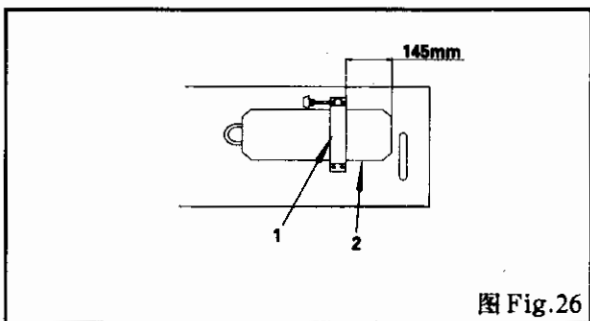


图 Fig.26

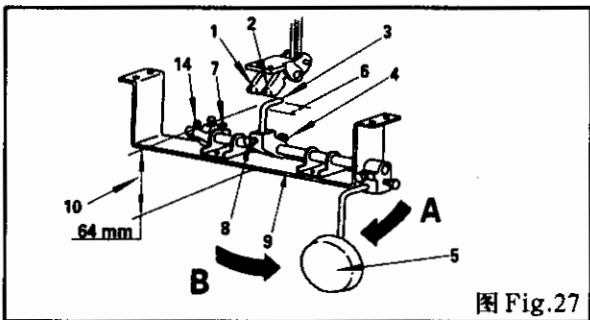


图 Fig.27

(2) 20U53/53A/53B/63/53-5 系列型膝控部件的安装

①把膝提前托架 1 固定在台板 2 下距台板缺口 145mm 处(图 25)。

②当调节到按图 26 所示, 膝控压脚升降。

③当调节到按图 27 所示, 膝控横针距。

(2) 20U53/53A/53B/63/53-5

1). Fix the knee lifter stand to the underside of the table 145mm away from the table channel. (Fig.25)

2). While turn to figure 26 shows, Knee controls the presser to lift or down.

3). While turn to figure 27 shows, Knee controls the stitch width.

二十一、几种缝纫方法和附件的使用

20. MODES OF SEWING STITCH AND APPLICATION OF ACCESSORY

(20U33/43/53/63)

1. 直缝

采用专用的直缝压脚, 针板与送料牙(图28), 比采用多功能压脚, 针板与送料牙进行直缝, 效果更佳。

进行直缝时, 横针距必须调至0, 采用直缝锁紧装置锁紧“针杆摆动架”, 并换上专用压脚、针板、送料牙。

1. Linear sewing

In case of linear sewing, using the linear sewing presser foot, needle and feeding dog is better than using multi-function ones.(Fig.28)

While do linear sewing, the horizontal width should be adjust to O position, the linear locking unit with swaying rack of locking needle shaft can be used in combination with swaying rack of locking needle shaft can be used in combination with special presser foot, needle plate and material feeding tooth.

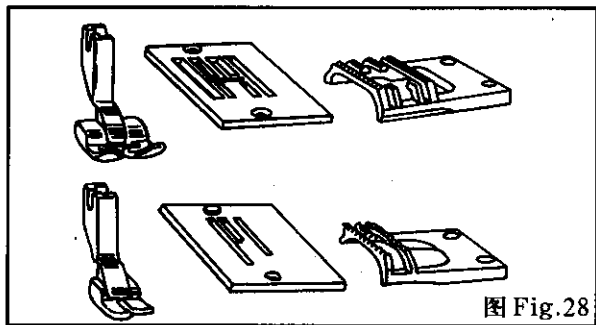


图 Fig.28

2. 刺绣

2. Embroidery

①必须使横针距在最小~最大之间任意调节, 把直针距调至0位, 并调整膝控部件(图27), 使膝部控制机针的摆动。

②卸下压脚、针板和送料牙, 换上绣花板。

③用左手捏紧面线线头, 用于朝自己方向转动上轮, 使底线从针板孔中拉出。

④确保内外绷架将缝料绷紧, 否则会引起跳针, 断线及缝料皱缩。(图29)

Preparation before embroidery

1). It should be noted that any free regulation can be made at the horizontal needle distance between min-max, set the vertical needle distance to O position and will adjust the knee-control parts to make the component control the movement of the sway of needle.(Fig.27)

2). Discharge the presser for and needle plate and feeding dog, then change if with embroidering plate.

3). Hold firmly the end of the surface stitches with your left hand, turn the out from the holes of the needle plate.

4). To make sure to stretch tightly the material between the internal and external embroidering frames, otherwise, maybe cause skipping and stitches breaking or material creased.(Fig.29)

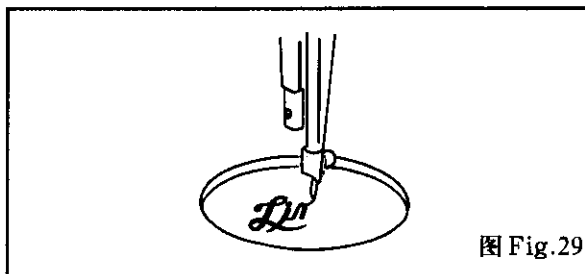


图 Fig.29

3. 拉链缝

3. ZIPPERED SEWING

该缝法采用拉链压脚(图30), 使于针迹接近突出的边, 并旋松螺钉B, 调节压脚, 使机针位于压脚的左、右边槽A处, 可适用于图31中几种情况。

This mode is preferable to make use of zippered presser foot (see Fig.32) in a bid to make the stitches more accessible to the projecting stitches, then release the screw B, regulate the presser foot and set the needle to the presser foot and set the needle to left and right grooves A of the presser foot. The mode is expected to suit for the following sewing.(Fig.30)

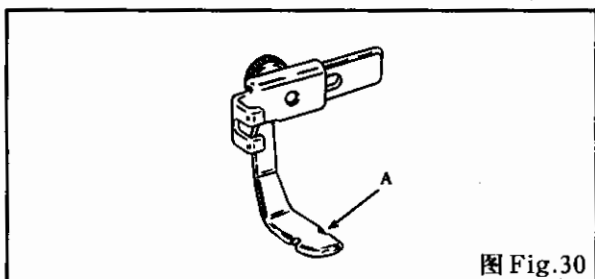


图 Fig.30

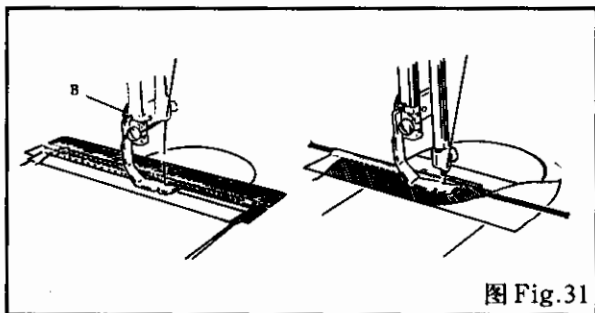


图 Fig.31

4. 卷边缝

4. HEM-WRAPPING MODE

卷边缝采用卷边压脚 (图 32)

拆掉多功能压脚, 换上卷边压脚, 采用直缝法, 针位选择中间, 就可以进行图 33 的卷边缝。

In this mode, the hem-wrapping presser foot can be used as we wish (fig.32)

Remove the multi-functional presser foot and replace it with the hem-wrapping one. This is also a mode of linear sewing with the needle set to the central position; the hem-wrapping operation can be effected.(Fig.33)

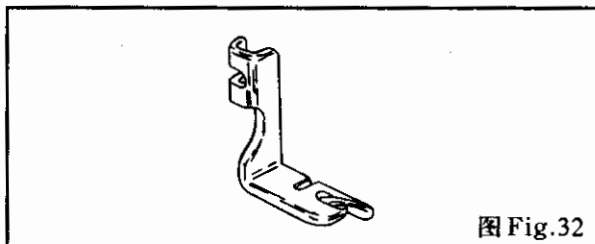


图 Fig.32

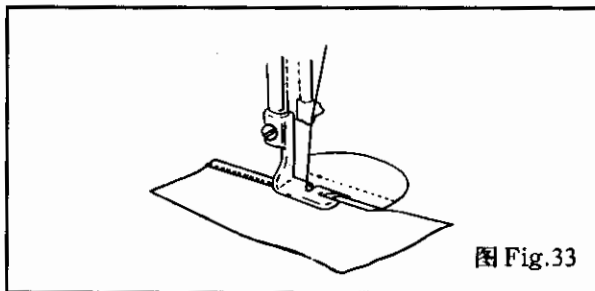


图 Fig.33

5. 包梗缝

5. STEM-WRAPPING MODE

进行包梗缝时, 要换上专用的包梗压脚、针板、送料牙 (图 34), 针位选择中间, 横针距调节至 3mm 之内, 把一条较粗的线绳穿过包梗压脚的水槽 A, 就可以进行包梗缝 (图 35)。

During the sewing with the stem-wrapping mode, the special stem-wrapping presser foot, needle plate and material feeding tooth should be put into use(fig.34), the needle is set to the central position and the horizontal needle distance set to 3mm, and then run the rougher thread through the small groove A on the stem-wrapping presser foot so that the sewing of this mode will be smoothly conducted.,

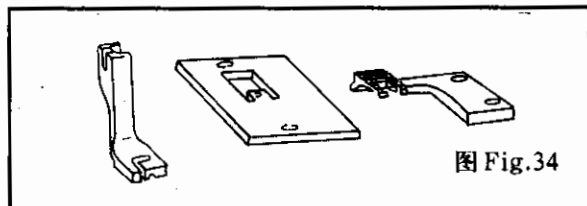


图 Fig.34

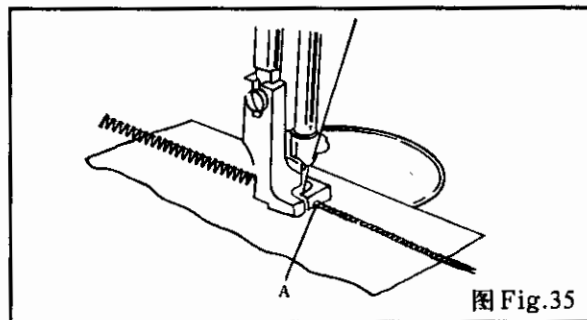


图 Fig.35

6. 装饰缝 (图 36)

6. DECORATION SEWING (Fig. 36)

只要变换左、中、右的针位及熟练控制横针距, 就可缝出如图 36 的图案。

If the left, central and right needle positions can be freely changeable and the horizontal needle distance skillfully controlled, the patterns of the decoration sewing will be well achieved.

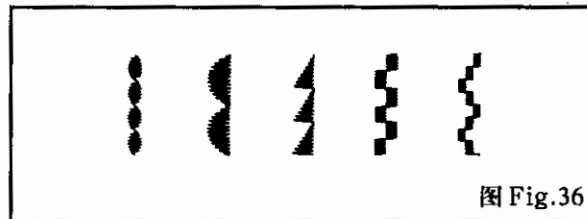


图 Fig.36

7. 其他一些实用缝法(图 37)

7. OTHER MODES OF PRACTICAL SEWING (Fig.37)

The machine should be cleaned periodically to remove lint and fluff, which may have accumulated around the working parts. A machine in continuous use should be oiled frequently.

The specification of needle: see upper figure
The height of hand lifter presser foot: 6.35mm
Upper wheel: model V belt wheel 74mm
The height of work: 130mm
The max of needle distance: see the enclosed
The highest sewing speed: see the enclosed

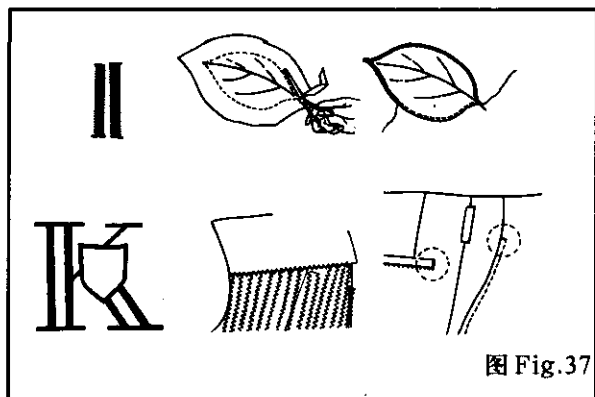


图 Fig.37

二十二、机器的维护

22. MAINTAIN OF MACHINE

请爱护你的生产设备, 务必每天尽一次清理, 除去压脚、针板、送料牙和旋梭上的多余缝屑、灰尘, 经常给机器清洁、润滑。

You should protect your machine, and clean it every day. Remove lint and fluff which may have accumulated around the working parts like presser foot, needle plate, feed dog and rotating hook. A machine in continuous use should be oiled and cleaned frequently.

二十三、主要技术规格

23. MAIN SPECIFICATION

针迹类型: 见附录

机器种类: 见附录

机针规格: 见表 1

手提压脚提升高度: 6.35mm

上轮: V 型带轮 74mm

工作空间宽度: 211mm(20U143:289mm)

工作空间高度: 130mm









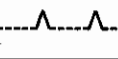


最大针距: 见附录

最高缝制速度: 见附录

The mode of stitches: see the enclosed

The mode of machine: see the enclosed

表一- ENCLOSED FIGURE:

种类 Model	针迹类型 Stitch modes	最高缝速 Max.of speed	最大横针距 Max.horizontal needle distance	最大线迹长度 Length of stitches	膝控压脚 提升高度 Height of lifter	备 注 Addition
20U23		2000 针 / 分	12mm	5mm	12mm	双针距 2.5、3.5、4.5 (可换 选购) Double needle width 2.5、3.5、 4.5 (changeable)
20U23D		2000.r.p.m	6mm			
20U33		2200 针 / 分 2200.r.p.m	8mm			
20U43		2000 针 / 分 2000.r.p.m	12mm			
20U53		2500 针 / 分 2500.r.p.m	9mm			
20U63		2000 针 / 分 2000.r.p.m	12mm			
20U53A		2500 针 / 分 2500.r.p.m	4mm		9mm	
20U53B			4.5mm			
20U143		2000 针 / 分 2000.r.p.m	12mm		12mm	
457A		2000 针 / 分 2000.r.p.m	8mm			
457B						
457C		1500 针 / 分 1500.r.p.m	6mm			
457D		2000 针 / 分 2000.r.p.m				
20U53-5		2500 针 / 分 2500.r.p.m	5mm		9mm	