

1、针距修改：轻按设置键，针距数字闪烁，按 + 或 - 修改针距，数字越大，针距越大
Needle spacing modification: Lightly press the setting button, the needle spacing number will flash, press + or - to modify the needle spacing, the larger the number, the larger the needle spacing

2、功能选择：长按设置键3秒后松开，屏幕会显示P 01等字样，按 + 或 - 选择功能，再次按设置键进入此功能设置模式。

Function selection: Press and hold the setting button for 3 seconds, then release it. The screen will display words such as P 01. Press+or - to select the function, and press the setting button again to enter this function setting mode.

参数项目 NO.	中文说明 Chinese description	范围 range	初始值 initial value	设定键 Setting key	内容值名称说明与备注 Description and Remarks of Content Value Names
P01	针距 needlepitch	10-500	100	 	针距，快速粗调 Needlepitch,quickandcoarseadjustment
P02	运行模式 operationalmode	F-1/F-2	F-1	 	普通和同步模式切换。Normaland synchronous mode switching F-1：普通模式 F-1：Normal mode F-2：同步模式(机针同步) F-2: Synchronous mode (needlesynchronization)
P03	针距限制 Needlespacinglimit	200-500	260	 	限制 P 01 可调的最大针距，默认 260。LimitthemaximadjustablestitchdistanceofP01,whichis300bydefault..
P05	测分辨率 Measuringresolution		FBL	轻踩踏板 Pedal lightly	测编码器分辨率，*只适用于同步模式 Measuretheencoderresolution,*onlyappliestosynchronousmode.
P06	停针原点 Stopneedleorigin	yd-1/yd-2	yd-1	轻踩踏板 Pedal lightly	设置同步模式停针原点，*只适用于同步模式 Setthetoporiginofsynchrousmode,*onlyappliestosynchronousmode.
P07	同步偏移 Synchronousoffset	-99-99	0	 	同步启停位置偏移脉冲数量，同步模式下。 The synchronous start-stop position is offset by the number of pulses. In synchronous mode, 4If the motor starts early,it will be adjusted to a negative number. 电机启动晚了，则调整为正数。 If the motor starts late, it will be adjusted to a positive number.
P08	同步比例 Synchronous proportion	30-80	55	 	调整同步轨迹百分比，小范围内可以调整按牙齿同步还是落针同步，*只适用于同步模式。Adjustthe percentageofsynchizationtrajectory.Forexample, inasmallrange,you can adjust whether to synchronize by teeth or drop the needle.* Onlyapplies tosynchizationmode.
P12	压脚延时 Foot pressing delay	OFF/ 5-200	OFF	 	剪线后压脚延时放下，默认OFF，延时范围5-200 针。*需要接入剪线和上停针信号 After thread cutting, the presser foot is put down in time delay, which is OFF by default,andthedelayrangeis5-200stitches.*Needtoconnectthreadcuttingand needlestopsignals.
P13	倒缝抬压脚 Liftpresserfootbyreversesewing.	OFF / ON	OFF	 	ONOFF为抬起。不抬，倒缝时抬压脚，默认 Lift the presser foot when sewing backwards. By default, OFF does not lift, and ON means lift.
P14	抬压脚间隔 Foot-lifting interval 电机正	OFF/ 0.2-5	OFF	 	两次抬压脚之间的间隔，默认OFF 关闭。 The interval between two presserfoot lifts is OFFby default.
P15	反转 Positiveand negativerotation of motor	OFF / ON	OFF	 	电机转动方向，默认 OFF 正转，ON为反转。 Motor rotati direction, default OFF forward rotation, ON reverse rotation.
P17	针距微调 Fine adjustment of needledistance	0.00-0.99	0.00	 	在P 01 的针距中加入99 格微调 Add 99 fine adjustments to the needle pitch of P 01.
P18	倒缝针距 Reverse stitch distance 同比倍率 Year-on-yearratio	OFF/0.1-4.0	OFF	 	倒缝时针距倍率，OFF 为关闭，可调范围0.1-4.0，1.0 时倒缝针距和正缝一致，2.0 时倒缝针距为正缝时的2 倍。TherationofstitchlengthinreversesewingisOFF,and the adjustable range is 0.1-4.0. At 1.0, the stitch length in reverse sewing is the same as that in forward sewing, and at 2.0, the stitch length in reverse sewing is twice that in forwardsewing.
P20	初始化 initialization	OFF / ON	OFF	 	按  键调整 ON，按设置键即可初始化参数。 Pressthe key to adjust ON, and pressthe set key to initialize the parameters.
P21	抬压脚时电机使能 Liftingthe presserfootMotorenable	OFF / ON	OFF	 	OFF，上抬压脚时，步进电视释放电流。ON，不释放电流。出厂默认 OFF OFF, when the presser foot is lifted up, the stepping TV releases current. ON, no current is released. Factory default OFF
P24	抬放压脚信号过滤 Lift the presser foot Signal filtering	OFF/0.1-2.0	OFF	 	默认为OFF，单位为秒，如改为0.5，即压脚提升后0.5 秒内不检测落下。 The default value is OFF, and the unit is seconds. If it is changed to 0.5, the fall will not be detected within 0.5 seconds after the presser foot is lifted.
P27	倒缝触发电平选择 ReverseseamtriggerLevelselection	0/1	0	 	电磁铁倒缝默认都为0，只有极个别电机倒缝的机型需要改为1，例如富士H9500A。一般无需更改，特殊需要更改的机型会有安装说明文档。 By default, the back seam of electromagnet is 0, and only a few motor models need to be changed to 1, such as Hikari H9500A. Generally, there is no need to change, and the models that need to be changed specially will have installation instructions.
P28	电机输出速度倍率 Motor output Speed ratio	OFF/0.1-4.0	OFF	 	电机输出速度倍率，OFF 为关闭，可调范围0.1-4.0。 Output speed ratio of the motor,OFF is off, and the adjustable range is 0.1-4.0.
P29	编码器模式选择 encoder Mode selection	OFF / 1-2	OFF	 	可以切换编码器模式，重新开机后生效。You can switch theen coder mode and it will take effect after restarting.此参数 P20,P30 初始化后不重置，需手工更改 These parameters P20 and P30 are not reset after initialization and need to be changed manually. OFF - 正常模式 OFF-normal mode 1 - 低频编码器模式 1-low frequency encoder mode 2 - 包缝机模式(霍尔信号) 2-Sewing machine mode (Hall signal)
P30	初始化 initialization	OFF / ON	OFF	 	等同于 P20 Equivalent to P20
P31	压脚高度 Height of presser foot	1-15	12	 	默认为 12.180 度对角最低 The default is 12,180 degrees diagonal lowest point 偏心轴旋转角度从70度-210度可调。The rotation angle of the eccentric shaft can be adjusted from 70 degrees to 210 degrees.
P38	速度限制 rate limitation, speed limit	1-9	6	 	缝切机运行速度 Sewing machine operating speed
P39	缝切机电控型号 Sewing machine electrical control model	0-9	1	 	默认1，琦星电控，更多型号请参考附录一。P20,P30,P40初始化时，此参数不改变。 Default: Model 1, Qixing Electronic Control; for more models, refer to Appendix 1. This parameter remains unchanged during initialization of P20, P30, and P40.

JTO自动模板电子拖轮安装使用说明书

JTO Automatic Template digital puller Installation and instruction manual



解决模板缝制针距不均，需要工人推动模板缝制效率低，劳动强度大等问题。用自动模板电子拖轮缝制无需编程、一键启动、自动缝制、自动停止，可实现生手制衣。

To address issues such as uneven stitch spacing in template sewing, low efficiency, and high labor intensity required for manual template sewing operations, the automated digital template puller sewing system eliminates the need for programming, featuring one-touch initiation, automatic sewing, and automatic stopping, enabling novice operators to perform garment manufacturing.

电子拖轮装置/Digital Puller Device

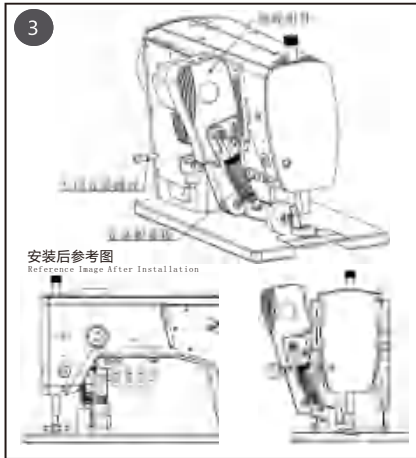
1 Installation order

安装顺序



- 第一步：更换专用模板压脚和针板
1、找出配件包里面的压脚和针板。
2、替换掉原来缝纫机上面的压脚和针板

Step 1: Replace the Dedicated Presser Foot and Needle Plate
• Locate the presser foot and needle plate from the accessory kit.
• Replace the original presser foot and needle plate on the sewing machine with the dedicated ones.



- 第三步：拖轮固定：
1、用M5*16内六角圆柱头螺丝将拖轮组件微微锁紧在安装板组件上（安装时加上弹垫平垫）
2、调整拖轮组件位置（左右位置以轮子外端面侧距离压脚中心20mm左右为准，前后位置轮子中心越靠近压脚中心越好，上下位置轮子最下端接触台面，弹簧压缩1mm左右记得要先通电，抬一下压脚）
3、锁紧螺丝(注意事项：如遇到角度不对，可以调整支架角度)
Step 3: Install the Digital Puller
Use M5*16 socket head cap screws to lightly secure the digital puller assembly onto the mounting plate assembly.
During installation, make sure to use both spring washers and flat washers.
Adjust the position of the digital puller assembly:
• Left/right position: the outer side of the wheel should be approximately 20 mm from the center of the presser foot.
• Front/rear position: the wheel center should be positioned as close as possible to the center of the presser foot.
• Up/down position: the bottom of the wheel should lightly touch the table surface, with the spring compressed by approximately 1 mm. Before adjustment, power on the machine and lift the presser foot once. Tighten all screws securely. (Note: If the angle is not correct, adjust the bracket angle accordingly.)



- 第二步：固定拖轮安装板
1、用配件包里面的专用英制螺丝将JTO专用安装板固定在缝纫机上（安装时加上弹垫和平垫，螺丝锁紧前要先将拖轮摆上去，确保安装板的位置够拖轮左右上下调节）
Step 2: Install the Digital Puller Mounting Plate
Use the dedicated imperial screws from the accessory kit to secure the JTO mounting plate onto the sewing machine. During installation, make sure to add both the spring washers and flat washers. Before fully tightening the screws, place the digital puller onto the mounting plate first to ensure there is enough adjustment range for left/right and up/down positioning.



- 第四步：按键显示屏组件安装
1、拧下缝纫机后盖上的2颗螺丝
2、用拧下来的螺丝把按键显示屏组件固定上去

Step 4: Install the Button Box and Display Assembly
• Remove the two screws from the rear cover of the sewing machine.
• Use the removed screws to secure the button box and display assembly in place.



- 第五步：传感器安装
1、拧松夹线器上面的那颗螺丝
2、把传感器组件套进去后，拧紧螺丝

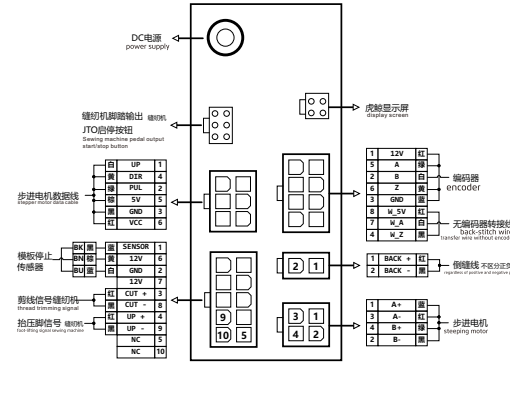
Step 5: Install the Sensor
• Loosen the screw on the thread tension assembly.
• Insert the sensor assembly into position and tighten the screw securely.

2

Wire-connect

接线原理

虎鲸系列 (JTO自动跑)



说明：通过自攻螺钉将电控箱安装在台板下底面，然后按照电控箱插孔依次插上相应插头。

Explain: Use self-tapping screw to install the control box under the table, and plug in correct position based on the control box socket.

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Caution

- 1、拖轮电控箱与拖轮主件安装时需轻拿轻放；
- 2、本机必须接交流96-230V；
- 3、拖轮主件安装固定好，需保证滚轮与台面的左右平整；
- 4、同步器与缝纫机连接尽可能同心，以减少晃动；

- 1、The control box and the main parts should be carried lightly while installing the main parts;
- 2、This machine is powered operates with an AC voltage of 96-230 V;
- 3、The main parts should be fixed well, and the left and right leveling of the roller and the countertop should be ensured;
- 4、encoder and sewing machine connection as concentric as possible to reduce sloshing;

同步模式设置 (同步编码器或部分无编码器转接线才有同步功能)

Synchronization mode setting (only synchronous encoders or partially encoder free adapter cables have synchronization function)

- 1、运行模式：设置P 02，调整至 F-2。
Operation mode: Set P 02 and adjust to F-2
- 2、测分辨率：设置P 05，出现FBL，轻踩踏板，直到FBL字样变为针距。
Resolution measurement: Set P 05, FBL appears, lightly press the pedal until the FBL text changes to needle pitch.
- 3、停针原点：设置P 06，出现yd-1，抬压脚，让针自动定位到上停针，也可以手轮拨动至上停针位置，按设置键，出现yd-2，然后轻踩踏板(或者匀速转动手轮)，直到yd-2字样变为针距。
Stop needle origin: Set P 06, yd-1 appears, press the lifting foot to automatically position the needle to the upper stop needle position, or turn the handwheel to the upper stop needle position, press the setting button, yd-2 appears, then lightly press the pedal (or rotate the handwheel at a constant speed) until the yd-2 symbol changes to needle spacing.
- 4、效果测试：拿模板夹白纸实际测试效果，同步效果满意，则结束，不满意可以微调同步偏移量。
Effect testing: Use a template to clip white paper and test the actual effect. If the synchronization effect is satisfactory, it ends. If not satisfied, you can adjust the synchronization offset.
- 5、同步偏移：设置 P 07，按可以调整偏移脉冲量，同步模式下，电机启动早了，则调整为负数。电机启动晚了，则调整为正数。
Synchronous offset: Set P 07 and press to adjust the offset pulse. In synchronous mode, if the motor starts early, adjust it to a negative value. If the motor starts late, adjust it to a positive number.