



**Richpeace**<sup>®</sup>

# 多色绗绣机维护保养手册

Multi color Quilting machine Maintenance  
manual V1.0

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## Solution

## 1.1 No start-up of main shaft motor when machine start-up

## 1.1 启动开车时主轴电机不启动

故障原因 Reason	排除方法 Solution
1) 停车位置不对 Stop at the wrong position.	手摇主轴到 100° Rotate the main shaft to 100° manually.
2) 鞍架限位停车 Saddletree limit stop	调整限位开关位置, 反向移动鞍架 Adjust the limit switch position, move the saddletree in opposite direction.
3) 机械卡死 Machine was locked.	找到卡点, 排除 Find out the locked point, and eliminate it.
4) 有关保险熔断 Relevant fuse wire is burn out.	更换 Change fused wire.

## 1.2 Pattern distortion or joint unevenness

## 1.2 花样走形, 拼接不齐

故障原因 Reason	排除方法 Solution
1) 罗拉导布不对, 装布不正确 Roller guide fabric is not correct, and fabric loading is not correct too.	重新装布 Reload the fabric.
2) 花型走法不对, 或重叠过多 Design mode is not correct or design overlap too much.	重新制版 Remake the design.
3) 布边松紧不一致, 布料歪斜 Loose and tight degree of two sides of fabric are not same, and fabric is loaded in deflection.	将布料两边拉直 Keep the two sides of fabric straight.
4) 布料弹性过大 The fabric elasticity is too much.	更换布料 Change the fabric.
5) 布料张紧不当 Fabric tension is not correct.	重新调整张力 Readjust the tension of fabric.
6) 机器不稳 Machine instability	调整地脚螺栓 Adjust bolts

## 1.3 Failed thread breakage inspection: including no inspection and error inspection

## 1.3 断线检测不良: 包括不检测和误检测

故障原因 Reason	排除方法 Solution
1) 挑线簧与断线检测片接触不良，挑线簧过松，不检测；过紧误检测或引起断线 Take-up spring does not touch the thread breakage detecting contact point, take-up spring is too loose, no inspection; or too tight causes the thread broken.	调整挑线簧的位置、擦扫、更换。调整方法：逆时针转中心螺丝，使挑线簧离开断线检测片，再顺时针转中心螺丝至挑线簧接触断线检测片后再转 15°左右 Adjust the position of take-up spring, clean up, and change the take-up spring. The method is: turn the screw in counterclockwise direction to make the spring not to contact thread breakage detecting point, and turn the screw in clockwise direction to touch the thread breakage detecting point and then turn about 15°.
2) 绣线离开线道跑位 The thread leaves the thread course.	重新整理线道 Rearrange the thread course.
3) 绣线张力太松或太紧 The thread tension is too loose or too tight.	调整三个旋转轮使线张力合适，挑线杆挑线时，挑线簧接触断线检测片，放线时簧离开触断线检测片 Adjust three rotating wheel to let the thread tension is suitable, when the take-up lever takes up the thread, the take-up spring touches the thread breakage detecting contact point, when takes down the thread, it does not touch the thread breakage detecting contact point.
4) 相应保险，断线检测板插接件坏或松动 Pc board connector was broken or loosed.	参考电器部分故障及排除 Refer to the trouble and its solutions of the machine electric parts..
5) 底线检测故障 Bobbin thread detection fault	参考电器部分故障及排除 Refer to the trouble and its solutions of the machine electric parts.

#### 1.4 Faults of color changing system

Color changing not in place or no color changing, Phenomenon of color switching:

#### 1.4 换色系统故障:

换色不到位或不换色

故障原因 Reason	排除方法 Solution
1) 停车位置异常 Stop position is wrong.	手摇主轴到 100° 100°Rotate the main shaft to100°manually.
2) 无针位信号 No needle position signal.	用呆扳手旋转要求针位 Rotate the needle position to the suitable position by use of spanner.
3) 换色凸轮位置变动 Color change cam position was changed.	消除凸轮轴向间隙，固紧螺钉 Eliminate the axial clearance of the cam shaft, tighten the screw.
4) 挑线杆位置变动 The position of take-up lever was changed.	检查挑线杆位置是否变化、松动、磨损，调整挑线杆高低，磨损则更换 Check if the position of take-up lever is changed, loosen, worn and torn, adjust the take-up lever position, if it is worn or torn, change it at once.
5) 机械卡死 Mechanic is jammed.	检查 D10、D06、D07 配合部件 Check D10、D06、D07 parts.
6) 针杆箱位置变动 The position of needle bar case was changed.	检查针位对针板孔的位置 Check the position of needle and needle plate hole.
7) 驱动滑块位置变动 The position of reciprocator was changed.	检查驱动滑块与针杆配合位置 Check if the position of reciprocator and needle bar is suitable for machine.
8) 电器原因 Electric reason	参考电器部分故障排除 Refer to trouble and its solution of the machine electric parts.

### 1.5 Needle broken

### 1.5 断针

故障原因 Reason	排除方法 Solution
1) 针与针板孔未对正 Needle and pinhole position was incorrect.	转主轴到 140°调整针位 Rotate the main shaft to140°,then adjust needle position.
2) 换色机构位置变动 The position of color switching system is changed.	调整换色机构位置 Adjust the position of color switching system.
3) 针的质量差针尖钝 Bad needle quality, or needle is pointless	换优质针 Change the high quality needle.
4) 下轴相位变，针碰到旋梭、梭壳上 The position of lower shaft is changed, needle will bump the rotary hook , bobbin case.	检查 202°时相位，检查旋梭是否松动，梭壳是否放到位 Inspect phase position at 202°, check if the rotary hook is loose and bobbin case is in place.

### 1.6 Skipping stitch

### 1.6 跳针

故障原因 Reason	排除方法 Solution
1) 针的质量差, 针不直、针尖钝 Bad thread quality, needle bent, needle pointless	换优质针 Change high quality needle.
2) 针号与线径不配套 Needle model and the path of thread are not well cooperated.	换针或线 Change needle or thread.
3) 针尖与梭尖位置变动 The positions of needle point and bobbin point are changed.	检查调整 202°参数 Check parameter and adjust 202° parameter.
4) 针杆高低变化动 The position of needle bar is changed.	检查调整 178°参数 Check and adjust 178° parameter.
5) 上线与下线张力配合不对 The tension of upper thread and bobbin thread are not well cooperated.	调整上下线张力 Adjust the tension of upper thread and bobbin thread.
6) 绣布未紧固、较松 Fabric is not tightened up and it is too loose.	调整 Adjust
7) 跳跃电磁铁有时不回弹 The jump solenoid was not resilience.	调整 Adjust
8) 扭簧回弹无力 RP000-D06-34 torque spring is lack of resilience	更换 change

### 1.7 Thread loose (thread muddled)

### 1.7 收线不紧 (堆线)

故障原因 Reason	排除方法 Solution
1) 上线张力小 Lack of upper thread tension	调整 Adjust
2) 底线张力小 Lack of bobbin thread tension	调整 Adjust
3) 线的质量差 The quality of the line is poor	换优质线 Change high quality thread
4) 底线张力不稳 Bobbin thread tension is not steady.	清扫梭壳 Clean up bobbin case.
5) 旋梭润滑不良 Rotary hook lubrication is not enough.	加油 Lubricate
6) 线的张力与绣品面料不配套 The tension of thread and embroidery fabric is not well cooperated.	调整张力 Adjust tension.
7) 梭壳变形 Bobbin case deformed.	换好梭壳 Change good bobbin case.
8) 定位手指有毛刺 Burr on rotary hook support.	打磨毛刺 Polish to deburring.
9) 定位手指与旋梭间隙过小 The clearance between rotary hook support and rotary hook is too small.	调大间隙 Adjust to have proper clearance.

### 1.8 Needle bar fallen

A certain needle bar was fallen because of out of control when the machine was stopping.

### 1.8 落杆

当停车时某一个针杆失去控制下落

故障原因 Reason	排除方法 Solution
1) 跳跃电磁铁无动作 Jump solenoid does not operate.	查线、查插头、查是否坏 Check wire, plug and make sure if any damage.
2) 跳跃电磁铁有动作而位置变 Jump solenoid operates but its position is changed.	查是否松动, 调整位置, 向前, 向右方向调整 Adjust the position of jump solenoid and make sure if it is loose, toward front, right direction to adjust.
3) 针杆上连接销变左右移动 The connecting pin on needle bar moves right or left.	查档板与连接销的间隙是否大, 更换 Check if the gap between baffle plate and connecting pin is proper, if it is not proper, change them.
4) 驱动滑块位置变磨损或卡死 The position of reciprocator is changed or reciprocator is broken.	查驱动滑块轴与套, 找卡点, 调位置, 更换 Inspect shaft and bush of the reciprocator, find out broken point and adjust the position, change the broken parts.
5) 电器原因 Reason of the machine electric parts	参考电器部分 Refer to electric parts of the machine.

### 1.9 Needle bar does not embroider

A certain needle bar does not embroider during the process of embroidery

### 1.9 针杆不刺绣

在刺绣过程中某一个针杆不刺绣

故障原因 Reason	排除方法 Solution
1) 针杆定位块位置低 The position of needle bar locating plate was too low.	松开螺钉将主轴转到 0° 时调整 Loose the screw to rotate the main shaft to 0° and then adjust.
2) 驱动滑块向右转动后不回弹 Reciprocator is not resilience after turning right.	查是否机械卡死, 扭力弹簧是否坏 Inspect if the machine was locked, torque spring was broken.

### 1.10 Needle bar jiggled

a certain needle bar was jiggling after it was locked during embroidery

### 1.10 针杆颤动

在刺绣时某个针杆锁住后还在微动

故障原因 Reason	排除方法 Solution
1) 针杆上定位块位置高 The position of needle bar locating plate was too high.	松开螺钉将主轴转到 0° 时调整 Loose the screw to rotate the main shaft to 0° and then adjust.

### 1.11 Thread muddled

during the process of embroidery, thread in a certain needle position was not broken but branched off, and only a jet of thread was embroidering in the needle hole

### 1.11 噜线

在刺绣过程中某个针位, 绣线未断而又开, 只有一股在针孔内绣

故障原因 Reason	排除方法 Solution
1) 线的质量差 Bad thread quality	换优质线 Change high quality thread.
2) 针杆偏高 The position of needle bar was too high.	调整 202°时参数 Adjust parameter at 202°.
3) 线道孔不光滑 The thread course was not smooth.	检查线道孔，并抛光线道孔 Inspect and burnish the thread course hole.

### 1.12 Thread broken

### 1.12 断线

断线因素 Relevant factors	断线原因 Reason	排除方法 Solution
1) 针 Needle	<p>A. 针质量不好，针槽，孔抛光不好针尖钝 Bad thread quality</p> <p>B. 针装的不对，不正安反或安装不到位 The position of the needle was wrong.</p> <p>C. 针孔中有附着物（如胶） In needle hole there is other things (such as glue).</p> <p>D. 针的固定螺钉位置不对 The position of the screw was wrong.</p>	<p>换优质针 Change high quality thread.</p> <p>重新安装，往上装到顶 Remount the needle.</p> <p>清理、换针 Clean up, change needle.</p> <p>调整到向右偏 30°-45° Adjust to left 30°-45° .</p>
2) 线 Thread	<p>A. 线的质量差 Bad thread quality</p> <p>B. 线与针的号不配套 Thread and needle was not well cooperated.</p> <p>C. 底线的张力大 The tension of upper thread and bobbin thread was too enough.</p> <p>D. 线脱离线道 Thread deviates from thread course.</p>	<p>换优质针 Change high quality thread.</p> <p>换针或线 Change needle or thread.</p> <p>调底线张力 Adjust the tension of upper thread and bobbin thread.</p> <p>整理线道 Adjust the thread course.</p>
3) 孔 Hole	<p>a. 针板孔有毛刺 Needle plate hole has burr.</p> <p>b. 线道孔有毛刺 Thread course hole has burr.</p> <p>c. 旋轮盘上有毛刺 Rotary disk has burr.</p>	<p>磨光或更换 Burnish or change.</p> <p>磨光或更换 Burnish or change.</p> <p>磨光或更换 Burnish or change.</p>
4) 梭壳 Rotary hook	<p>a. 旋梭上有划痕 Rotary hook has nick.</p> <p>b. 梭壳表面有划痕 Bobbin case surface has nick.</p> <p>c. 梭壳、旋梭变形 Bobbin case, rotary hook deformed.</p> <p>d. 定位杆上有划痕 Rotary Hook support has scratch.</p> <p>e. 润滑不良 lack of lubrication.</p>	<p>抛光或更换 Burnish or change.</p> <p>抛光或更换 Burnish or change.</p> <p>抛光或更换 Burnish or change.</p> <p>抛光或更换 Burnish or change.</p> <p>润滑 Lubricate.</p>
4) 参数 Parameter	202°时和 178°时位置变 At positions of 202°and 178°, the needle bar does not move.	调整参数，调整针杆高低 Adjust parameter and height of needle bar.
5) 花样 Patterns	花样过密 Patterns are too thick.	重新打版 Marking the patterns once more.



## Chapter 2 Daily maintenance, clean

## 第二章 日常维护、清理、保养、检查

### and inspection

#### 2.1 Daily maintenance

#### 2.1 日常维护

##### 2.1.1 Inspection before the machine start-up

##### 2.1.1 开机前检查

Check the machine to make sure that whether there is tool and sundries near the x-axis linear rail, whether the rubber sheet of roller is loose or damaged; and inspect fabric loading system and fabric support system.

检查机器 X 向直线导轨、滚珠丝杆处是否有工具、杂物存放；检查机器罗拉辊胶皮是否松动、破损；检查托布装置和出布装置。

##### 2.1.2 Daily maintenance

##### 2.1.2 日常维护

清理部件 Cleaning parts	清理部位 Cleaning position	间隔时间 Interval	清理方法 Cleaning method
旋梭机构 (D04 机构) Rotary hook mechanism (D04 mechanism)	旋梭、梭壳、梭芯、定位手指 rotary hook, bobbin case, bobbin, rotary hook support system	天 Once a day	用毛刷清理线头，除杂物，切忌用尖硬工具去清除 Clean up by use of thread residue, brush, do not use ironbound tool to clean.
挑线机构 (D07 机构) Take-up mechanism (D07 mechanism)	挑线杆、线道、毛毡处 Take-up lever, thread course, wick	天 Once a day	同上 清除杂物、线头 The same as above. Clean up sundries, thread.
鞍架机构 (D20 部件) Saddletree module (D20 parts)	滚珠丝杆、直线导轨 Ball-screw, thread-shaft, linear rail	天 Once a day	清除杂物、线头 Clean up sundries, thread.
引线机构 (D10 部件) Individual tension base (D10 parts)	夹线片、旋转轮、挑线簧、断线检测片、线道 tension flake, rotary wheel, take-up spring、thread breakage detecting contact point, thread course	经常 Often	清理杂物 Clean up sundries.
操作箱表面 Surface of operation box	表面和通风扇 Surface and exhaust fan	经常 Often	清扫 Clean up

电控箱 Power supply control box	表面和通风扇 Surface and exhaust fan	经常 Often	清扫 Clean up
驱动器 Drivers	表面和通风扇 Surface and exhaust fan	经常 Often	清扫 Clean up

## 2.2 Routing lubrication

Lubrication of the machine moving parts is very important, and it is necessary to lubricate them frequently. (White oil: 1# sewing machine oil; Grease: 2# calcium base lubrication)

## 2.2 日常保养

电脑绉绣机在高速、连续条件下工作，对其运动部位进行润滑是很重要的。(黄油：2#钙基润滑油，白油：1#缝纫机油。)

保养部位 Component	保养部位 Parts	油类 Kind	间隔时间 Interval	方法 Method
主轴变速箱 Main shaft speed change box (D02 部件) (D02 parts)	轴承 ball bearing	黄油 grease	半年 Half a year	打开盖板 Open the cover plate
旋梭机构 Rotary hook (D04 部件) (D04 parts)	旋梭轴 rotary shaft, hook	白油 white oil,	天 Once a day	自动供油系统 Automatic oiling system,
	旋梭、锥形齿轮 rotary hook, bevel gear	白油 white oil, 黄油 grease	天 Once a day 月 Once a week	打开针板 Open the needle palte
换色机构 Color switching system (D05 部件) (D05 parts)	凸轮槽、啮合齿轮 cam path, meshing gear	黄油 grease	半年 Half a year	打开面板 Open the panel
刺布机构 Needle driving and individual tension mechanism (D06 部件) (D06 parts)	竖轴、挑线杆、连杆、轴承 Needle bar driving shaft, take-up lever, connecting bar, ball bearing	白油 white oil, 黄油 grease	天 Once a day 半年 Half a year	将针位移至末针位从油槽及上盖板油孔注油 The needle position was moved to the end of the needle, and lubricate from the oil groove.
挑线机构 Needle bar case (D07 部件) (D07 parts)	挑线轴、针杆 take-up shaft, needle bar	白油 white oil	天 Once a day	打开上盖板用针头在导向板上竖槽上注油 Open the face plate, and lubricate from the vertical groove by use of the needle head.
鞍架机构 Saddletree mechanism (D20 部件) (D20 parts)	滚珠丝杆 Ball screw	黄油 grease	周 Once a week	
	直线导轨 linear rail	黄油 grease	60 小时 60 hours	

剪线机构 Thread cutting mechanism ( D11 部 件 ) (D11parts)	滑块 Reciprocator or slide block	黄油 grease	半年 Half a year	打开盖板 Open the cover plate.
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### 2.3 Attentions of routine maintenance

Routine maintenance:

Because the machine operates continuously in high speed, this causes the screw, the nut, the gasket and some of moving parts to become loose, so it is necessary to inspect the parts and moving parts to prevent the parts from breakdown or damage as far as possible.

Attentions:

a. Listen: check whether there is a unusual sound, after listening a unusual sound, stop the machine to carry out shutdown check;

b. Feel: feel whether there is unusual movements of machine, after feel an unusual movement of machine, carry out the shutdown check;

b. Smell: smell whether there is a unusual smell, if there is the unusual smell, shutdown the machine and check the source of smell;

d. Check if lubrication is needed;

e. Watch if there is the unusual movement, if there is, stop the machine;

f. Check the machine ground wires at any moment to ensure safety of person and the machine;

g. Check the power supply, the high and low voltage and phase at any moment.

The lubrication of moving parts is extremely important

Please lubricate the machine as guided in this user manual.

### 2.3 日常维护注意事项

日常维护:

由于机器不停的高速运转, 会引起螺丝、螺母、垫片和一些活动件的松动。因此有必要检查零件以防由于松动引起的损毁。

注意:

a. 听: 当听到机器异常声响, 请停机检查;

b. 感: 当感觉到机器异常运动, 请停机检查;

c. 闻: 当闻到异常气味, 请停机检查气味来源;

d. 检查是否需要润滑油;

e. 假如看到机器异常运动, 停止机器;

f. 随时检查底线, 确保工作人员和机器; 安全

g. 随时检查电源: 高压、低压.

润滑活动件是非常重要的

请按照用户手册的说明润滑机器

## 2.4 Period of maintenance






## 2.4 日常维护周期

每天 Daily	清洁机器及机器周围环境 Clean the machine and environment. 检查机器状况 Check machine status. 润滑机器关键部件 Lubricate the key places of the machine.
每月 Monthly	检查机器的所有活动件 Check all moving parts of the machine. 润滑所有需要润滑的部件 Lubricate all places required to lubricate.

## Chapter 3 List of vulnerable parts

## 第三章 易损件清单

英文名称	中文名称	图号	图片	数量
Rotary Hook	旋梭	KHS20-RYP20FN (现用加 油旋梭)		1
Bobbin case	梭壳	SC35-LMS		1
Bobbin	梭芯	BDB-L		1
Rotary hook support	定位手指	DZ. 04000101		1
Fixed knife	定刀	DZ. 04000300		1
Movable knife	动刀	DZ. 04002400		1
Under thread presser	剪线簧片 0.1MM	DZ. 04003400		1

Thread take-up spring	挑线弹簧	RP000-D10-20	
Needle bar	针杆	RP000-D07-1	
Needle clamp	针夹	RP000-D07-30	
Needle set screw	针夹螺丝	RP000-D07-10	
Needle foot spring	压脚弹簧	RP000-D07-101	
Presser foot	可调压脚 (带压脚芯)	RP000-D07-93	

Jump solenoid	跳跃电磁铁 MCX01-18GB	RP000-D06-12	
Solenoid	扣线电磁铁	DZ.04001700	
Jump parts	针杆驱动滑块 组件	DZ.06000027 菱豪	
F89CA1 board	F89CA1板-面检 板		
C94FR board	C94FR板-底检 板	KZ.01030192	
speed controlling board	调速板 MPS V1.2		

## Chapter 4 The company promised

### 4.1 Warranty

The machine is provided with one year warranty, that is, within 12 months start from good delivered, in case of the machine has been proper used and maintained by user, Richpeace is responsible for all service parts and labor with free of charge.

Responsibility of customer: Overseas and local transportation and accommodation of Richpeace service engineer.

There is a response center in Richpeace headquarter, Richpeace has engineers with 24 hours on duty to support customer with free of charge, their services include: phone consulting, software upgrade, answer questions, receive and process parts order, dispatch engineer etc.

## 第四章 公司承诺

### 4.1 保修期

保修期一年（从交机之日算起）。在合理使用和维护情况下，富怡公司将承担所有服务和人工费用。

买方将承担富怡工程师前往修机的交通和食宿费用。

富怡总部设有服务中心，为客户提供 24 小时免费服务支持，服务内容包括：电话咨询，软件升级，答疑，接收/处理零件订单，派遣工程师现场修机等。



# Richpeace®