



Richpeace®

电脑无梭多针绗缝机

COMPUTERIZED CHAIN STITCH QUILTER

V33W 版说明书

MANUAL



天津宝盈电脑机械有限公司

Tianjin Richpeace Computer & Machinery Co., Ltd.

地址：中国天津宝坻经济开发区宝中道 6 号

TEL: 0086-22-2253 3456 FAX: 0086-22-022-2253 0079

Address: No.6, Baozhong Road, Baodi economic development zone, Tianjin, China

Web: www.richpeace.com E-mail: quiltservice@richpeace.com

©2005 Copyright **COMPUTERIZED CHAIN STITCH QUILTER**. All right reserved.

Printed in the People Republic of P.R.China

声明 Disclaimer

未经**天津宝盈电脑机械有限公司**的书面允许，本书的任何部分不允许被复制、储存，或者以电子、机械、影印、记录方式传播。由于此书在准备过程中已经十分谨慎，出版者声明，不对书中的错误和遗漏及此中包含的信息的使用过程中造成的损失承担责任。No part of this book shall be reproduced, stored in retrieval, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise without the written permission of **Richpeace Computer & Machinery Co., Ltd.** While every precaution has been in the preparation of this book, the publisher assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of information contained herein.

本书中的信息归**天津宝盈电脑机械有限公司**所有，仅供客户使用。没有书面允许，不得转作他用。This document is the proprietary information of **Richpeace Computer & Machinery Co., Ltd.**, furnished for customer use only. No other uses are authorized without written permission from **RICHPEACE**.

天津宝盈电脑机械有限公司保留变更的权利，不必另外通知。对于这个文件以及它描述的产品，宝盈电脑机械有限公司不必对技术上和编辑上的错误和遗漏负责，也不必对使用这个文件而造成的事故和损失负责。**Richpeace Computer & Machinery Co., Ltd.** reserves the right to make changes, without notice, to this document and the products it describes. **Richpeace Computer & Machinery Co., Ltd.** shall not be liable for technique or editorial errors or omissions made herein; no for incidental or consequential damages resulting from the furnishing performances, or use of this document.

这个手册是**天津宝盈电脑机械有限公司**竭尽所能做出来的，它只是个参考。因为我们无法预测所有可能出现的情况，所以本手册没有汇集所有的技术、安全信息。如果在安装配置和使用过程中有任何疑问，请联系我们。This manual contains information that is correct to the best of **Richpeace Computer & Machinery Co., Ltd.**'s knowledge. It is intended to be a guide and should no be considered as a sole source of technique instruction, replace good technique judgment, since all possible situation can't be anticipated. If there is any doubt as to exact installation, configuration, and/or use, calls **Richpeace Computer & Machinery Co., Ltd.**

系统组成的选择是买方的责任，它们如何使用与**宝盈电脑机械厂**无关。不过，我公司的销售人员和产品应用工程师随时可以帮助您作出决定。The choice of system component is the responsibility of the buyer, and how they are used cannot be liability of **Richpeace Computer & Machinery Co., Ltd.** However, **Richpeace Computer & Machinery Co., Ltd.**'s sale team and application engineers are always available to assist you in making your decision.

目 录

Contents

重要信息 Important Information	1
1. 安全信息 Safety Information	1
2. 安全要求 Safety requirements	1
3. 危险情况 Hazards	2
4. 一般的安全说明 Basic Safety Instructions	2
5. 安全指导 Safety Instructions	3
6. 防护罩图 Drawing of machine safety guards	5
7. 急停开关位置图 EMS(Emergency Switch) location	5
8. 机器使用材料的安全性 Safety for material used in the machine	6
9. 高危险部件 Parts with high hazards.	6
10. 禁止的危险行为 Prohibited Dangerous Actions	6
10.1 高电压 High Voltage	7
10.2 与高电压相关的区域(电源箱,电气箱)	8
10.3 螺母和螺栓 Nuts and Bolts	8
10.4 环境污染 Environmental Pollution	9
10.5 上锁/解锁程序 Lock-out and Tag-out Procedure (LO/TO)	9
11. 环境条件 Environmental conditions	10
12. 生产线的基本条件 Fundamental conditions for the line	11
13. 标准符合性 Compliance with standards	11
第一章 概 述	1
Chapter1 Introduction	1
1.1.电脑绗缝机的用途: The function of computerized quilting machine	1
1.2.绗缝机的结构特点: Structure of the machine	1
1.3.机器结构 Machine construction	2
1.3.1 机械结构 Machine construction	2
1.3.2 电气结构 Electrics contruction	3
1.4.型号说明 Model explanations	5
1.5.机器铭牌 Name Plate	6
1.6.主要技术参数 The main technological parameters	6
第二章 安装与调试	8
Chpter 2 Installation and commissioning	8
2.1. 运输吊装的说明 Instruction for hoisting and transport	8

2.2. 安装 Place for installation	9
2.2.1. 安装位置 Place for installation	9
2.2.2. 安装电源线 Grounding line	9
2.2.3. 电箱与机身电气连接 The wire connects machine box with machine body	10
2.2.4. 电脑安装 Computer installation	12
2.2.5. 电箱电器介绍 Electrical instructions	13
2.2.5. 电箱内部电器 Electrical device in the cabinet	19
2.2.6. 试运转 Testing	22
2.2.7. 电脑中继板 CRB	25
2.2.8. 断线自停装置 Thread break testing	28
2.3. 电脑绗缝机的操作 Operation figure for computerized quilting machine	30
2.3.1 装针 Needle loading	30
2.3.2 上布 Feed-in figure is as follows figure	31
2.3.3 钩仔安装图 Looper installation figure as below figure	31
2.3.4 串线与线的张紧度调整 Adjustment of thread jumping and its tensility	32
2.3.5 选线要求: The requirements of selecting thread	33
2.3.6 压板高度调整 The height adjustment of pressure plate	34
第三章 电器说明	36
Chapter3 Electrical device details	36
3.1..磁敏开关介绍 : Magnetic switch introduction	36
3.1.1. 断线磁敏开关 Magnetical switch for thread cutting	36
3.1.2. 高位磁敏开关 High position magnetic switch	36
3.1.3 出布磁敏开关 Feed out magnetic switch	36
3.1.4 复位磁敏开关 Reset magnetic switch	37
3.1.5 剪线磁敏开关 Thread cutting magnetic switch	38
Remark: Magnetic switch is equal to sensor.	38
3.2. V3.0 电脑箱介绍 Explanations to computer chip	39
3.2.1 插槽说明 Slot explanations	39
3.2.2 电脑说明 Inner structure	39
3.4.升级 V3.0 安装说明 Installation explanation to update V3.0:	41
3.5.传感器的检测方法 The detecting method of sensor	42
第四章 V3.0 打版系统概述	44
Chapter4 V3.0 typeset system survey	45
4.1.加工界面 Processing interface	45
4.2.选择界面 Selecting interface	46
4.3.绘图界面 Drawing interface	47
4.4.排针界面 Showing interface of needle positions	49
第五章 加工界面	51
Chapter5 Processing interface	51
5.1.界面认识 Interface Introduction	51

5.2.花模参数 Parameters for pattern	52
5.4.图元参数 Parameters for object	56
5.5.传感器检测 Sensor detecting	59
第六章 选择界面	60
Chapter 6 Pattern-selecting interface	60
6.1 界面认识 Interface Introduction	60
X	60
6.2 功能按钮操作 Functions of buttons	61
6.3 读磁盘 Load B	62
6.4 写磁盘 Save B	63
6.5 绘图工具介绍 Drawing tool introductions	64
第七章 绘图界面	66
Chapter 7 Drawing interface	66
7.1 界面认识 Interface Introduction	66
7.2 绘制命令操作 Drawing command operation	70
7.2.1 确定单花起点 Specify starting point of single design	70
7.2.2 绘制直线 Draw line	71
7.2.3 绘制圆弧 Drawing arc	72
7.3 编辑命令操作 Edit command operation	75
7.3.1 端点拉伸 Stretch points	75
7.3.2 图元复制 Copy object	75
7.3.3 图元旋转复制 Rotate and copy object	76
7.3.4 图元镜像复制 Mirror and copy object	77
7.3.5 图元镜像 Mirror object	78
7.3.6 图元旋转 Rotate object	79
7.3.7 删除最后一个图元 Delete the last object	80
7.3.8 删除所有图元 Erase all the objects	81
7.3.9 局部修改 Partial modification	81
7.3.10 单花 X 轴对称复制 X-axis symmetrical copy of single design	84
7.3.11 单花中心对称复制 Central symmetrical copy of single design	85
7.3.12 单花平移复制 Moving copy of single design	85
7.3.13 单花旋转复制 Rotary copy of single design	85
7.4 单花整体编辑 Integral edit for single design	86
7.4.1 单花整体复制 Integral copy of single design	87
7.4.2 单花整体移动 Integral moving of single design	88
7.4.3 单花整体旋转 Integral rotation of single design	88
7.4.4 单花整体对称 Integral symmetry of single design	89
7.4.5 单花位置交换 Position exchange for single design	91
7.4.6 单花按位置插入 Insert single design according to position	92
7.4.7 单花删除 Erase single design	93

7.5 图元数据描述 Description for object data	94
7.6 实例讲解 Example	96
第八章 排针界面	99
Chapter 8 Interface for showing needle position	99
8.1 界面认识 Interface Introduction	99
8.2 工具按钮操作 Instructions to tool buttons	101
第九章 故障排除与机器保养	102
Chapter9 Troubleshooting and machine maintenance	102
9.1 简单故障原因及排除方法 Causes and remedies for the faults	102
9.2 机器的保养 Mmachine maintenance	106
附件 A：主板参数设置项 AppendixA： Parameters setting on main boar	108
附件 B：零件对照表 Appendix B： parts list	109
附件 C：尺寸图 AppendixC: outline illustration	111
附件 D：人员操作位置图 AppendixD: survey of the machine.	114
附件 E：外部动力(电源) 连结照片 AppendixE: input power illustration	115
1.主电源进线 main power input	115
2.主机动力电源线 Main power supply connection	116
3. X、Y、Z 轴动力电源 X、Y、Z shaft power	117

重要信息 Important Information

1. 安全信息 Safety Information

手册中使用的危险符号 Hazard Symbols Used in the Manuals

此手册介绍了在操作或维修时有潜在危险的危险标志。这些标志描述了工作时设备的危险等级以及相应的预防措施。This manual includes the hazardous symbols defined below when the operations or maintenance job involves a potential danger. These symbols describe the level of danger involved in performing a job on the tool and the precautions to take to avoid the hazard.

Term	Sign	description
危险标志 Danger Label		危险标志表示紧急危险情况，如果不能避免的话，将会引起死亡或严重伤害。Danger Labels indicate an imminently hazardous situation that if not avoided, WILL result in death or serious injury.
警告标志 Warning Label		警告标志表示有潜在的危险情况，如果不能避免的话，可能会引起死亡或严重伤害。Warning Labels indicate a potentially hazardous situation, which if not avoided, COULD result in death or serious injury.
小心标志 Caution Label		小心标志表示有潜在危险情况，如果不能避免的话，也许会造成轻微或中度伤害。Caution Labels indicate a potentially hazardous situation, which if not avoided, MAY result in minor or moderate injury.
注释 Note	NOTE:	注释是附加的信息短句，为了增加或强调文章中的重点部分。 Short piece of additional information with the purpose of adding or emphasizing important points in the text.

2. 安全要求 Safety requirements

1. 重点 IMPORTANT

在操作和维护，安装设备之前，请阅读并严格遵守安全相关的信息 Make sure to read, understand, and strictly follow all safety related instructions before operation or maintenance of this equipment.

2. 使用者 Intended Users

此手册适用于所有安装，组装或维护设备以及从事其他相关操作的人员。

This manual is to be made available to all persons who are required to install, configure or service equipment described herein, or any other associated operation.

3. 人员 Personnel

应该由专业人员来安装。操作和维修设备。专业人员具有技术能力强, 熟悉安全信息和安全实施: 熟悉设备的安装加工、操作和维护; 熟悉处理所有的危险情况。

Installation, operation and maintenance of the equipment should be carried out by qualified personnel. A qualified person is someone who is technically competent and familiar with all safety information and established safety practices with the installation process, operation and maintenance of this equipment; and with all the hazards involved.

3. 危险情况 Hazards

警告



人员的安全是最重要的事情。在维修或检测之前, 要阅读此操作手册来了解正确的程序。

Personnel safety must have top priority. Thoroughly read the operation manuals to completely understand proper procedures before maintenance or inspection work.

4. 一般的安全说明 Basic Safety Instructions

危险



以下行为的出入会引起严重伤亡

Failure to comply with the following could result in serious injury or death.

1. 由两个或两个以上人员来完成定期的检测或维护工作。Periodic inspections or maintenance work must be carried out by two or more persons.
2. 阅读并理解安全手册。Read and understand the safety manual.
3. 阅读并理解所有的相关手册。Read and understand all the attached manuals.
4. 在做定期的检测或维护之前, 要参加培训。Attend the training provided by Richpeace MACHINERY FACTORY or the person who took the training specified by RICHPEACE MACHINERY FACTORY before performing periodic inspections or maintenance work.
5. 在设备上标上记号, 以便人们能够认出和懂得正在对设备进行检测或维护。断路器箱上的记号要非常明显, 以防止机器意外开通电源。Attach visible signs on the equipment so that anyone recognizes and understands that maintenance or inspection is on going. The sign to be affixed on a breaker box must be particularly visible to prevent the machine from being accidentally powered.
6. 在工作区域附近贴上急救电话号码 Post a list with emergency phone numbers nearby the working area.

7. 发生紧急情况时，按下 EMS 按钮。Press the EMO button on the machine in case of an emergency.
8. 发生紧急情况时，要知道急救箱的位置以及灭火器的位置。还要知道如何使用灭火器。Be aware of what to do in case of an emergency (refer to the Procedures for Emergency Situations), know the location of the first-aid-kit, and the location of the fire extinguisher. Also learn how to use a fire extinguisher.
9. 在检测和维修机器时，机器要处在无电状态下。但是，有时维修人员需要对有电的设备进行维修。在检测或维修设备时，要时时遵守设备手册。The machine must NOT BE POWERED during the maintenance or inspection work. However, in some cases, the service person will be required to maintain the machine powered. Always follow the equipment manuals whenever performing inspections or maintenance work.
10. 在维护和检查时，实时提醒周围的人你要进行的工作。Alert anyone around the Tool whenever planning to operate it during maintenance or inspection work.
11. 在检测或维修设备时，要使用合适的手用工具和夹具。在运行设备之前，一定要检查工具和夹具是不是留在设备里。为了自身的安全，千万不能在机器运行时，将工具从机器里拿走。注意安全 Always use proper hand tools and jigs during maintenance or inspections. Before operating the machine, check for any hand tools or jigs left inside it. For your own safety, NEVER try to remove them with the machine under operation. Consider SAFETY FIRST.
12. 为了防止身体受伤，在搬运重部件（或装置）时，一定要由两个或两个以上的人搬运 To prevent back injury, heavy parts (or units), must be moved by two persons or more.
13. 高空作业人员（在梯子上或不在梯子上），要带好头盔、系好安全带或绳子。并且还应该有扶住梯子 Whenever working in elevated locations (on a stepladder or not), be sure to wear a helmet and a safety belt or harness. Also, always have someone holding the stepladder if working on it.
14. 在检测或维修设备时，要警告工装设备周围的人 Before powering the machine, alert the persons around it.
15. 当在有化学品的场所工作时，一定要佩戴适当的个人防护装置（眼镜 耐化学品手套或防护服，避免直接接触化学品。Whenever working in locations with chemical hazards, make sure to wear the appropriate safety apparel (such as goggles, chemical resistant gloves, apron, others) to avoid direct contact with chemicals.
16. 当不小心接触到化学品时，或假如化学品进入眼睛，用大量的水冲洗，并看医生。In case of an accidental skin contact with chemicals, wash the affected location with abundant water and immediately consult a doctor. In case of chemical spill over eyes, wash the eyeballs with abundant water and immediately consult a doctor.
17. 无论何时要进行维护和检查，实时提醒周围的人 Alert anyone around the Tool whenever starting maintenance or inspection work.
18. 小心不要被移动部件夹住以及不要碰热的部件。Be careful not to be pinched by motion parts and not to touch hot parts.
19. 要使用指定的搬运器，将其放在正确的位置上。Use ONLY CARRIER specified for the Tool, and set it in a correct position.
20. 集中注意力在所从事的工作上，以免事故发生。To avoid accidents, always be aware of any on-going work on the machine. Also, always stay focused on the job to be done.

5. 安全指导 Safety Instructions

设备上的运转或高电压部件会危及生命。当机器运行时，会产生强外力，高压以及高温下，为安全起见，必须要注意以下内容：The equipments can endanger life through rotating machinery and high voltages.

When the machine is running, heavy force, high hydraulic pressure and higher temperature are generated, You must pay attention to the following information for safety reason.



1. 由于高地漏电流的缘故，设备一定要一直接地。电机必须要和安全地极连接起来。The equipments MUST be permanently earthed due to the high earth leakage current. The motors MUST be connected to an appropriate safety earth.
2. 在维护具有压力的装置时，应先释放压力装置的压力,然后才能进行维护。在释放压力时，应避免直接对人，并在压力完全释放前，不要敲打，挤压，移动承压装置。Before maintenance pressured parts in the machine , you MUST release the pressure in the pressured system. at the same time, DO NOT stand in the direction facing the charger, the operator should on the opposite side and remember DO NOT strike, press or transfer untill it is discharged.
3. 在机器运行时，手不可触碰旋转部件。不可用螺丝起子或其他金属杆触碰缠绕盘，因为这些物品可能会绞进机器里，造成机器损坏或人员伤害。During machine running, DO NOT touch any rotational parts with hand. DO NOT touch the extrusion wheel with the screwdriver or the other metal rod because these objects may be dragged into the machine and result in machine damage or human hurt.

注释：如果运作不正确的话，要立即停止运行设备。维修时，要与权威技术支持工程师联系。没有经过权威技术支持工程师的同意不能运行此设备。

NOTE: Immediately stop operating the equipment if not working properly. Contact a certified technical support engineers for repair. The equipment must not be operated without approval from the certified technical support engineer.

注意



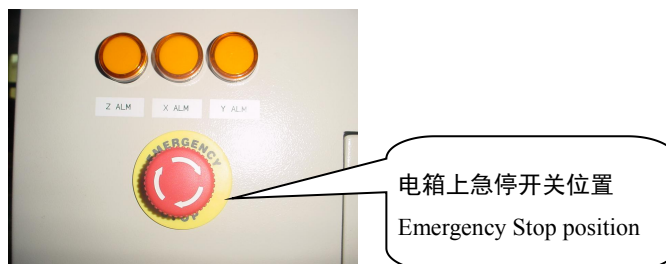
- 当主开关打开时，不要打开主电气柜，因为柜内有带电部件。请注意小心标志。Don't open main cabinet because there are live parts inside when main switch is OFF. Please notice the caution label.
- 当接近小心标志时，要小心。Be careful when you are near the caution signs.

6. 防护罩图 Drawing of machine safety guards



防护罩图 drawing of machine safety guards

7. 急停开关位置图 EMS(Emergency Switch) location



8. 机器使用材料的安全性 Safety for material used in the machine

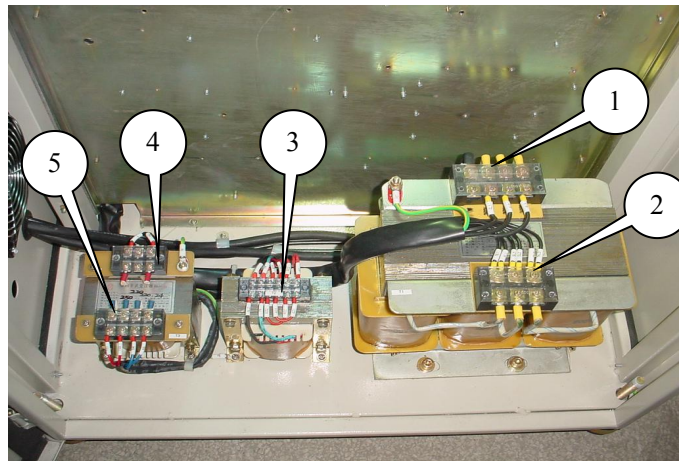
由供货商提供的润滑油 MSDS（材料安全数据表）信息文件应该放在容易拿到的地方。

The MSDS (material safety Data Sheet) information document of lubricant oils offered by supplier should be placed at the convenient place.

9. 高危险部件 Parts with high hazards.

1. AC400 和 230V 的电路都负荷了高电流。The AC400 and 230V circuits are charged with the high electricity.

2. 关闭电源，使用合适的工具将端子与电缆连接好。拧好螺丝将线夹紧，并在其上标上记号，将端子板罩在上面。（如下图 showed as follows: ①、②、③、④、⑤）Be sure to shut down the power, use the proper tools, and then tighten screws with the fixed torque value in connecting cables. Mark the tightened screws and put the terminal block covers on them.



3. 超过标准值的电流穿过胸腔会产生危险。此设备带有 AC400V 和 230V 的高电流电路。维修和检测机器时要关闭电源。不可用湿手维修或检测机器。Electricity above the standard value running through the chest is dangerous. This equipment is equipped with the high current circuits of AC400V and 230V. Shut down the power in maintaining and checking the equipment. Do not maintain and check the equipment with wet hands.

4. 关闭电源，待五分钟之后，电容器放完电之后，才可修理高电流部件。在维修之前，要先和售后服务工程师联系。Turn off the power and wait for five minutes until the condenser discharges in repairing the high current parts. Contact Richpeace MACHINERY FACTORY service engineers before repairing them.

10. 禁止的危险行为 Prohibited Dangerous Actions

本章介绍了设备运行、维修和检测时的危险行为的例子。为了避免事故的发生，在维修和检测之前，要阅读和理解以下设备的危险说明。This section describes examples of dangerous actions not only

during equipment operation, but also during maintenance and inspections. To avoid accidents, thoroughly read and understand the instructions below regarding dangers related to each mechanism prior to any maintenance or inspection work.

10.1 高电压 High Voltage

机器中有高压装置，如：电气柜，存在电危险。因此，在此装置位置上的检测和维修要特别小心。本章介绍了与高压危险相关的危险行为。

The machine has high-voltage devices installed such as the electrical Box, which represents electrical hazards. Therefore, special care is required during the maintenance or inspection work in locations where such devices are installed. This section describes dangerous actions related to the high-voltage hazards.



- 设备上有高压，不可触碰带电的端子板。High voltage present on the machine. Do not touch powered terminal blocks.
- 启动设备时，对于正在设备上维护人员是非常危险的。因此，关闭设备，并用锁将主开关锁定，这样会防止人们在没有经过正在作业人同意的情况下启动设备。Powering the Tool with people working around is extremely dangerous. Therefore, shut it down and apply a lockout device. This action prevents anyone of powering the Tool without the agreement of people working around it (shown as following figures). (如下图 fig 1)



图 fig 1

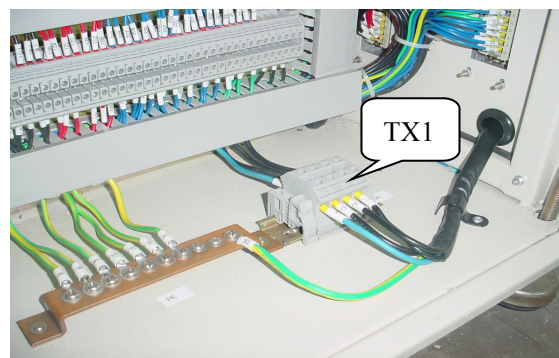


图 fig 2

注意：虽然电源开关 POWER 从 ON 转到了 OFF 位置，并且也上了锁，也不能保证电路中的线上完全没有可以危及人的生命和安全的电流或电压（如：电容放电，开关失效等）。为了避免事故的发生，在对线路进行维修时，必须等待电容放电和进行线路验电。确认电路中没有危险存在后方可进行维修作业。

 Cautions: although the power is from on to off position and locked, it can be assured that there is not current or voltage (such as capacitance releae, or ineffective switch) left in the wirings. To avoid accidents, check the wiring service after the capacitance release is ended and no current in them.

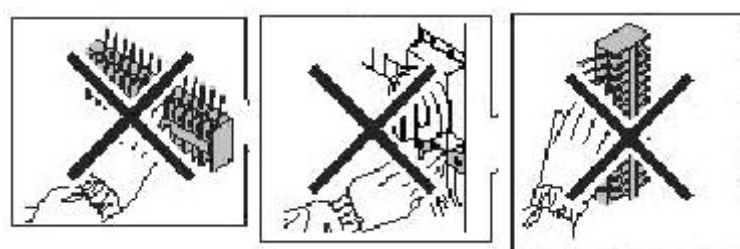
注意：电源开关 POWER 从 ON 转到了 OFF 位置，电源指示灯熄灭，用户在没有断开进线电源时，进线端子（TX1）和 POWER（QF1）开关上以及 TX1 和 QF1 之间的连线仍然有危险存在，不能触及相应的接线端子，以免受到伤害和危及生命。

CAUTION Cautions: the power is disconnected, the power indicator is off. Don't touch the according connection terminals to avoid hurt and life exhaustion because there is dangerous on input terminal TX1 and power switch QF1 and between connections of them.

（如上图 fig 1、图 fig 2）

10.2 与高电压相关的区域(电源箱,电气箱)

（图 fig3）High Voltage-Related Dangerous Area (AC Power Box, Electrical Box)



电气箱的端子排

图 Fig 3 AC Power Box Terminal Block

- 小心不可触碰交流电力箱中的带电端子板以及确定维修之前要关闭电源。（如下图 4）
- below figure show terminal with electric hazard) Be careful not to touch power terminals blocks of AC power box and make sure to shut the power off before any maintenance or inspection work. (fig 4)

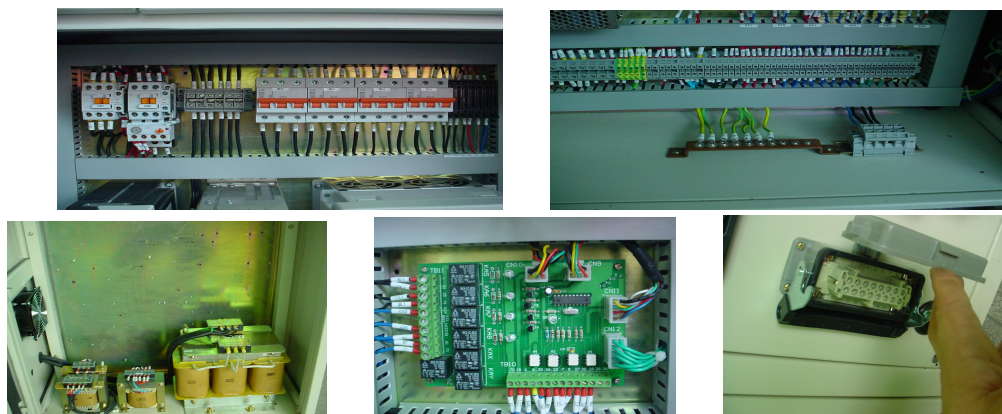


图 fig 4

10.3 螺母和螺栓 Nuts and Bolts

设备里的一些部件，由变频电机、交流伺服电机和气动部分运行。象这样的动力会对手和脸造成严重的伤害。在系统运行时，手和脸要与这样的部件保持一定的距离。Some parts within the equipment operate with strong power caused by motor, air pressure valve. Such power may injure seriously the face or

hands. Keep your face and hands away from such parts while the system is working.



如果你的身体接触或进入了驱动部件里,或者你的头发、衣服和手套缠进了高速旋转的驱动部件里,你很可能会受伤。You may be injured if your body touches or is caught in the driving part; or if your hair, clothes and gloves are entangled in the high speed rotating driving part.

10.4 环境污染 Environmental Pollution

如果你使用的物质与环境污染的法令有冲突的话,遵照法令的规定去除这样的物质。如果你委托工业废料公司来处理废料的话,应该确认这些物质的最终加工途径。If the substances you use come under the ordinances concerning environmental pollution, follow the ordinances to discharge and dispose of such substances. If you commission industrial waste companies, you should confirm the way of final processing.

10.5 上锁/解锁程序 Lock-out and Tag-out Procedure (LO/TO)

这节对上锁/解锁程序作解释。This section provides an explanation on the LO/TO procedures for electrical systems in the equipment.

设置上锁/解锁程序目的是为了防止设备意外启动带给正在维护人员的可能致命的危险,因此,在多能源时,或防护罩需要摘掉,存在受伤危险,或维护必须进行,上锁/解锁程序是必须的。LO/TO refers to a method of protecting personnel during maintenance and service activities from the unexpected start up of a machine, or release of energy that could cause injury or death. Therefore, the LO/TO procedure is required when there are multiple sources of hazardous energy, when a guard must be removed and there is risk of injury, or when maintenance or service activity must be performed at the point of operation.

在这个程序中的锁应该配是唯一的,只为锁危险电源用,不应该作为它用。同时其它的锁不应用作此用。The locks referred in this procedure MUST be uniquely keyed, and SHALL NOT BE used for any purposed other than locking out a hazardous energy source. Also, no other lock shall be used for this purpose.



启动设备时,周围有人,是非常危险的。因此,要关闭设备,使用锁定装置。这样会防止人们在没有经过周围人同意的情况下启动设备。Powering the Tool with people working around is extremely dangerous. Therefore, shut it down and apply a lockout device. This action prevents anyone of powering the Tool without the agreement of people working around it.

警告

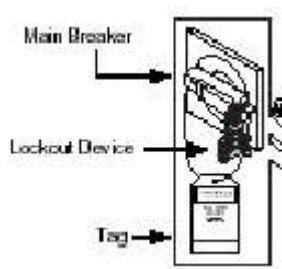


拆除锁定装置之后，启动设备之前，要检查设备周围的人员的安全。After removing the lockout device, check for the security of people working around the Tool, before powering it back.

每个人都有自己的挂锁，在维修时，用它来锁住设备。这样会防止人们在没有经过正在进行维护工作的人员同意的情况下启动设备。Each person must have his own padlock and use it to lock the Tool whenever performing maintenance. This action prevents anyone of powering the Tool without the agreement of the people working around it.

在主开关上挂锁的样子如下图 1-1 所示

Attach a lockout device on the main breaker as shown in Fig. 1-1.



主开关的位置 图 Fig1-1. Location of Main Breaker

11. 环境条件 Environmental conditions

操作温度 Operating Temperatur	+5°C to +40°C
储存温度 Storage Temperature	-25°C to +55°C
运输温度 Shipping Temperature	-25°C to +70°C
海拔 Altitude	设备应该安装在海拔小于 1000m 的地方运行。如果大于海平面 1000 米，电机的额定功率就以每 100 米降低 1% 的速度下降，最大值为 4000 米。If >1000 meters above sea level, derate Motor Power rating by 1% per 100 meters to a maximum of 4000 meters
湿度 Humidity	在 40°C 非冷凝的温度下，最大为 85% 的相对温度。Maximum 85% relative humidity at 40°C non-condensing
环境 Atmosphere	无可易燃物、腐蚀性物质以及灰尘 Non-flammable, corrosive and dust free
电磁兼容性 Electromagnetic compatibility (EMC)	设备符合电磁兼容性的要求。The equipment is manufactured with conformity to Electromagnetic compatibility (EMC);
照明 Ambient light	大于 300 朗明斯。>300LUX

12. 生产线的基本条件 Fundamental conditions for the line

- 电源 Electric Power supply : 3~/AC380-400V/50Hz:
- 气压: 气压大于 0.5Mpa Compress air supply: pressure more than 0.5MPa;
- 环境温度不应该超过 40℃, 24 小时的平均温度不应该超过 35℃。ambient Temperature should not exceed 40℃, and average temperature in 24 hours should not exceed 35℃
- 24 小时的连续工作, 所有设备和电气元件的温度不应该超温。例如: 运行温度不能超温。
When continuous working for 24 hours, temperature of all the equipments and electric components should not overheated. i.e. not exceed it operating temperature.

13. 标准符合性 Compliance with standards

欧盟指令 European community Directive	制造商担保 Manufacturer's Assurance	符合标准 Harmonized Standards
机器指令 Machinery Directive 98/37/EEC	公司声明 Declaration of incorporation	EN1050, EN294, EN292-1, EN563, EN982, EN1088, EN954-1, EN953, ISO3744. EN349
低电压指令 Low Voltage Directive(LVD) 2006/95/EC	公司声明 Declaration of incorporation	EN60204-1: 2006

第一章 概 述

Chapter1 Introduction

1.1.电脑绗缝机的用途: The function of computerized quilting machine

本机最适用于生产床垫、家具面料、床罩、酒楼及家居装饰、床上用品。

This machine is suitable for producing mattress, quilted covers, bedspreads, household & hotel embellishment, handbags, beddings.

1.2.绗缝机的结构特点: Structure of the machine

机器在设计上采用先进的无梭绗缝机构配合电脑控制系统,免除工作中经常更换线梭的麻烦,织物线步均匀而且拉得结实,织物的立体感强,更换花模快捷方便,电脑里面储存 160 个花模,共有 1000 个窗口供客户使用。用户可以方便自如地修改花模或自编花模,这些优点是普通无梭绗缝机所无法比拟的。

The machine utilizes the combinations of advanced chain stitch quilting construction and computerized control system to avoid the troubles to frequently replace the shuttle during working. The quilted fabrics are of even stitch and firm construction and have a strong stereo vision. The quilting patterns are easy and convenient to be changed. There are 160 patterns stored in computer and 1000 windows available for the user. The user is able to change the patterns or edit their desired patterns on their own will. All the above features is excellent compared to the common model of chain stitch quilting machine.

1.3.机器结构 Machine construction

1.3.1 机械结构 Machine construction (图 fig 1.1)

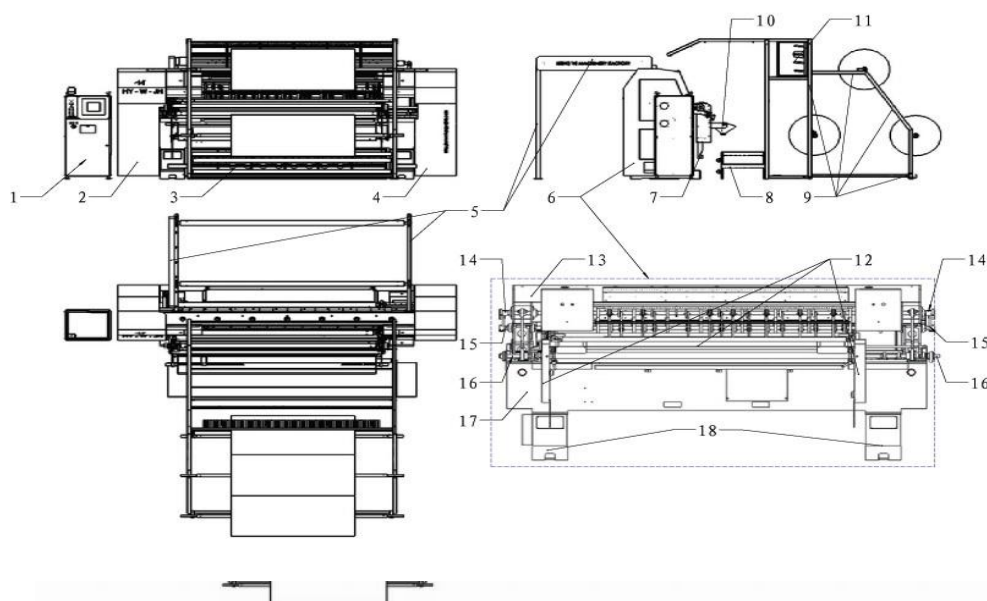
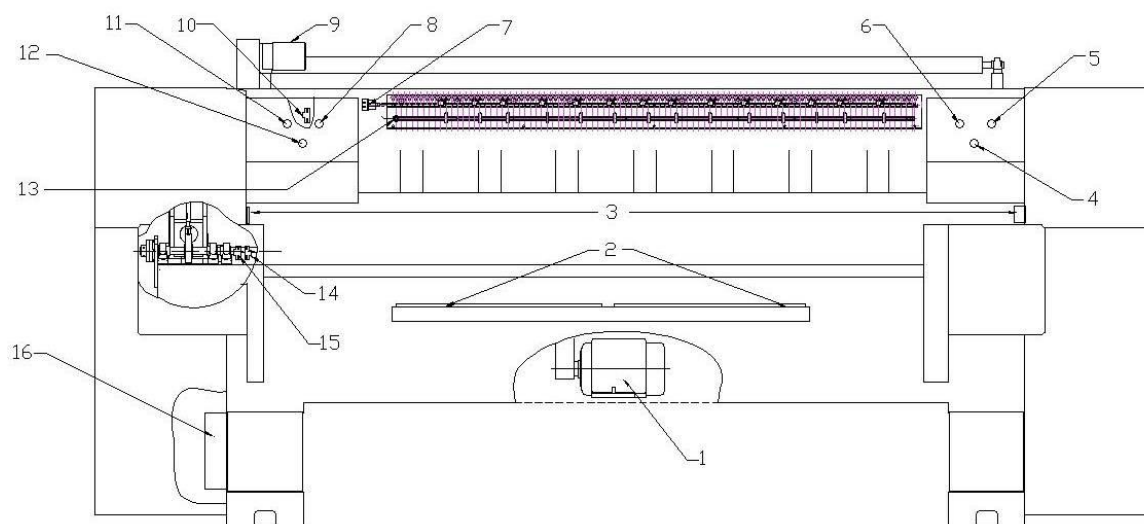


图 fig 1.1

机械名称表 Machine Items List (图 fig 1.1)

编号 NO.	中文名称 CHINESE NAME	英文名称 ENGLISH NAME	编号 NO.	中文名称 CHINESE NAME	英文名称 ENGLISH NAME
1	电箱	electrical cabinet	2	左罩	Left cover
3	底线线架	Bottom thread creel	4	右罩	Right cover
5	出料部分	Feed out	6	主机部分	mainframe
7	底布	Base material	8	脚凳	stand
9	后置式线架部分	Rear thread creel	10	面料	Top thread
11	面线线架	Top thread creel	12	移动架部分	Moving frame set
13	横梁	beam	14	针杆传动轴	Driving shaft
15	压杆传动轴	Drving shaft	16	主轴	Main shaft
17	机身	Machine body	18	机脚	Machine bottom

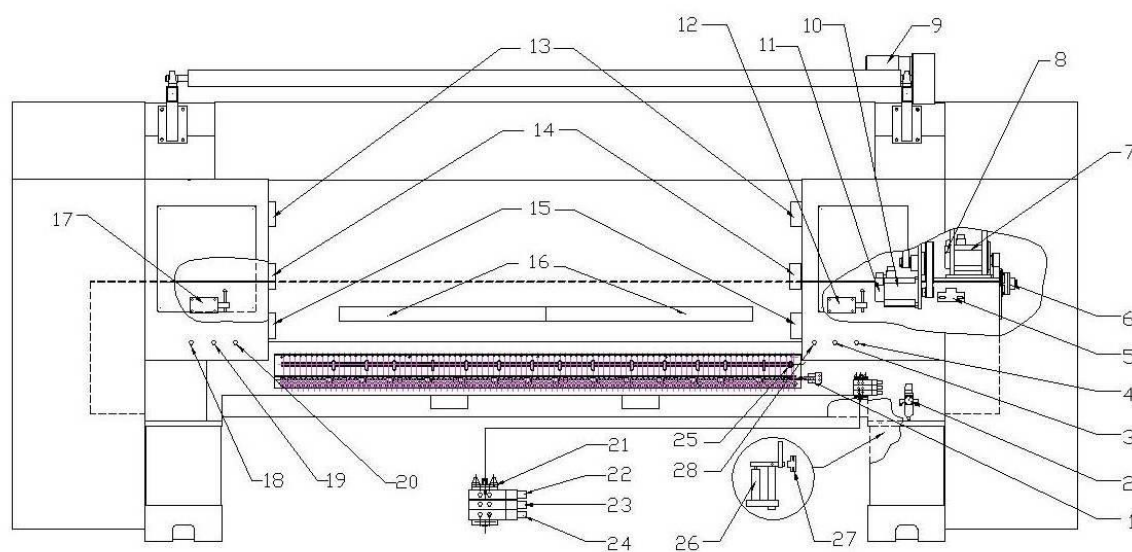
1.3.2 电气结构 Electrics construction



正面 front(图 fig 1.2)

正面电器名称表 Front Electrics Items List (如图 fig 1.2 图 fig 1.3)

编号 NO.	符号 SIGNAL	中文名称 CHINESE NAME	英文名称 ENGLISH NAME	编号 NO.	符号 SIGNAL	中文名称 CHINESE NAME	英文名称 ENGLISH NAME
1	M1	Z 轴电机	Z MOTOR	2		日光灯	LIGHTING
3	IR3 IR4	光电保护开关	PROTECTION TESTING	4	SE3	急停按钮	EME SOTOP
5	SB4	启动按钮	START	6	SS3	停止按钮	SOTOP
7		上松线气缸	CYLINDER	8	SS2	停止按钮	SOTOP
9	M2	出布电机	MOMENT MOTOR	10	B5	断线磁敏开关	BRAKE THREAD
11	SB3	启动按钮	START	12	SE2	急停按钮	EME SOTOP
13	IR1	上断线检测光电 开关	UP BREAKAGE	14	B4	高位磁敏开关	HIGH THREAD
15	B1	出布磁敏开关	FEED OUT THREAD	16		机身电器接线箱	The fuselage of airplane electricity connects line box



后面 back(图 fig 1.3)

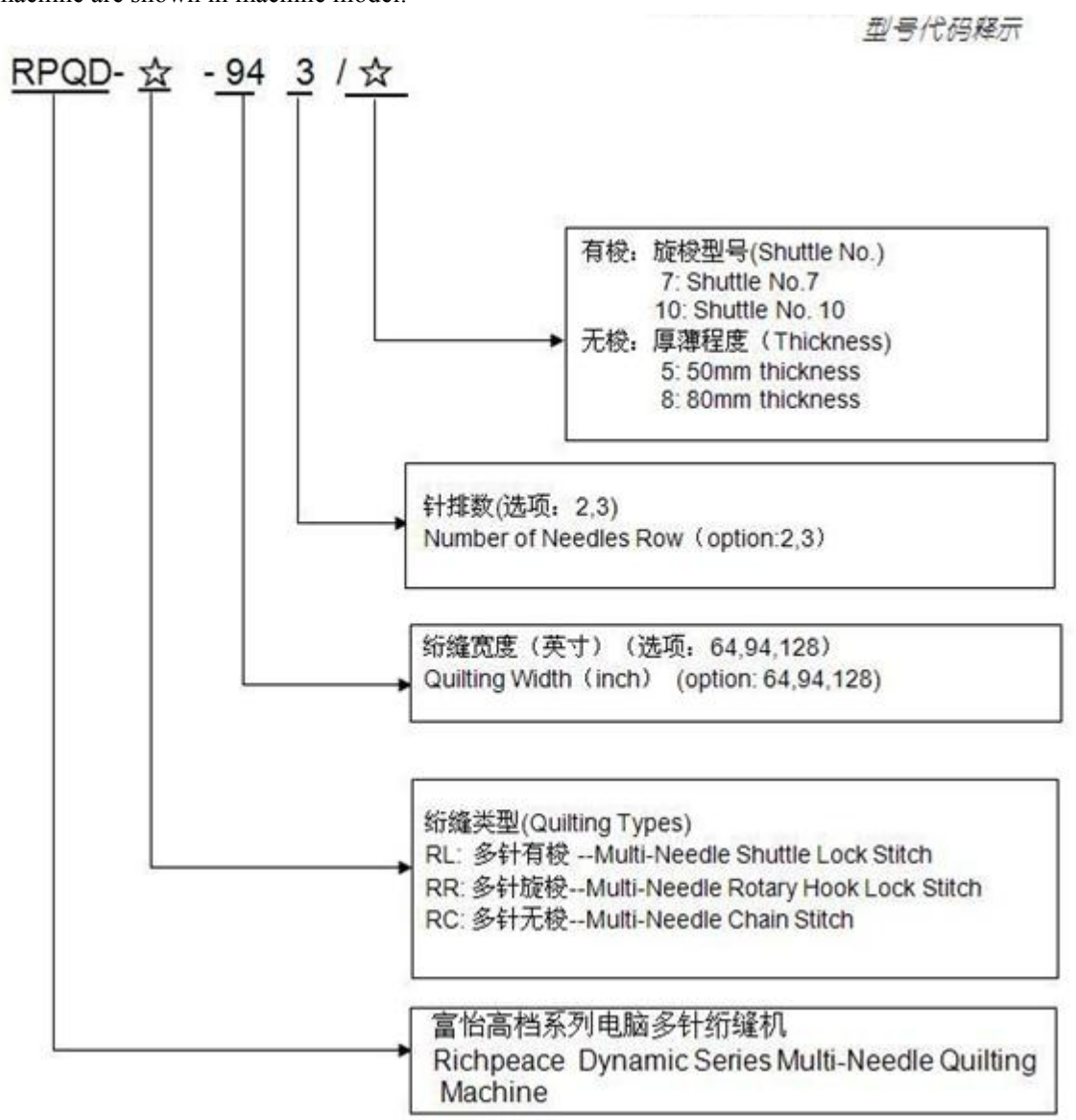
后面电器名称表 Back Electrics Items List (图 fig 1.3)

编号 No.	符号 Signal	中 文 Chinese	英 文 English	编号 No.	符号 Signal	中 文 Chinese	英 文 English
1		下松线气缸	CYLINDER	2		调压阀组件	AIR PRESSURE VALVE
3	SS5	停止按钮	STOP	4	SE5	急停按钮	EMERGENCY STOP
5	B2	复位磁敏开关	RESET	6	YC	Z 轴刹车离合器	Z RAKE ELECTROMAGNET
7	SM1	X 轴伺服电机	X SERVO MOTOR	8	PG1	X 轴伺服电机编码器	X SERVO ENCODER
9	M2	出布电机	MOMENT MOTOR	10	SM2	Y 轴伺服电机	Y SERVO MOTOR
11	PG2	X 轴伺服电机编码器	Y SERVO ENCODER	12	SL2	X 轴限位行程开关	X LIMIT
13	IR5	保护光电开关	PROTECTION TESTING	14	IR6	保护光电开关	PROTECTION TESTING
15	IR7	保护光电开关	PROTECTION TESTING	16		日光灯	LIGHTING
17	SL1	X 轴限位行程开关	X LIMIT	18	SE4	急停开关	EMERGENCY STOP
19	SS4	停止开关	STOP	20	SB6	Z 轴刹车开关 2	Z BRAKE SWITCH
21		气阀座		22	YV3	上松线电磁阀	UP THREAD-LOOSENING ELECTROMAGNETIC VALVE

编号 No.	符号 Signal	中 文 Chinese	英 文 English	编号 No.	符号 Signal	中 文 Chinese	英 文 English
23	YV2	剪线电磁阀	THREAD-LOOSENING ELECTROMAGNETIC VALVE	24	YV1	下松线电磁阀	DOWN THREAD-LOOSENING ELECTROMAGNETIC VALVE
25	IR2	下断线检测光电开关	DOWN BREAK	26		剪线气缸	THREAD-LOOSENING CYLINDER
27	B3	剪线磁敏开关	THREAD CUTTING	28		日光灯开关	LIGHTING SWITCH

1.4.型号说明 Model explanations

机器型号的主要参数如下:The machine can be supplied in several designs. The main parameters of the machine are shown in machine model.



1.5.机器铭牌 Name Plate

富怡电脑无梭多针绗缝机	
Richpeace Computerized Multi-needle Chainstitch Quilting Machine	
型号/Model No :	RPQD-RC-943
电源/Power Supply(V) :	380
功率/Rate Power(KW) :	7
出厂日期/Production Date :	2011.11.11
重量/Total Weight(Kg) :	4500
尺寸/Size (L/W/H) :	4800x1600x2000
出厂编号/Serial No. :	1111110009
地址/Address:	天津市宝坻经济开发区宝中道 6 号
电话/Tel:	022-22535969

1.6.主要技术参数 The main technological parameters

(长度单位 unit: mm)

功能 function	参数 parameter	机型 model	RPQD-RC-943
			电脑无梭多针绗缝机（多次跨步独立图案） computerized chain stitch multi-needle quilting machine(multi-span independent pattern)
主机尺寸（长×宽×高） Dimension(l*w*h)			4800×1600×2000
全机重量 Weight			4500kg
运转速度 speed			200-980rpm
绗缝宽度 Quilting width			2485
生产速度 output			60-230m/h
车针型号 Needle type			24/180
针 排 距 Space between needle rows			50.8, 76.2, 127（5”） ； 76.2, 76.2 152.4（6”）
X 行程 X movement distance			450mm
针间距 Space between needles			25.4
电压 voltage			220V ， 380V
步长 Length of stitch step			3-8
功 率 power capacity			7 kW
绗缝厚度 Thickness of quilting			≤80mm

- 电源 Power capacity 3~/AC380-400V/50Hz/xx kW
- 外形尺寸见工艺布置图 Dimension: See workprocess drawing
- 噪音 Noise level <78dB(A)

第二章 安装与调试

Chapter 2 Installation and commissioning

2.1. 运输吊装的说明 Instruction for hoisting and transport

Transport instruction

尺寸及重量 Dimensions and weight

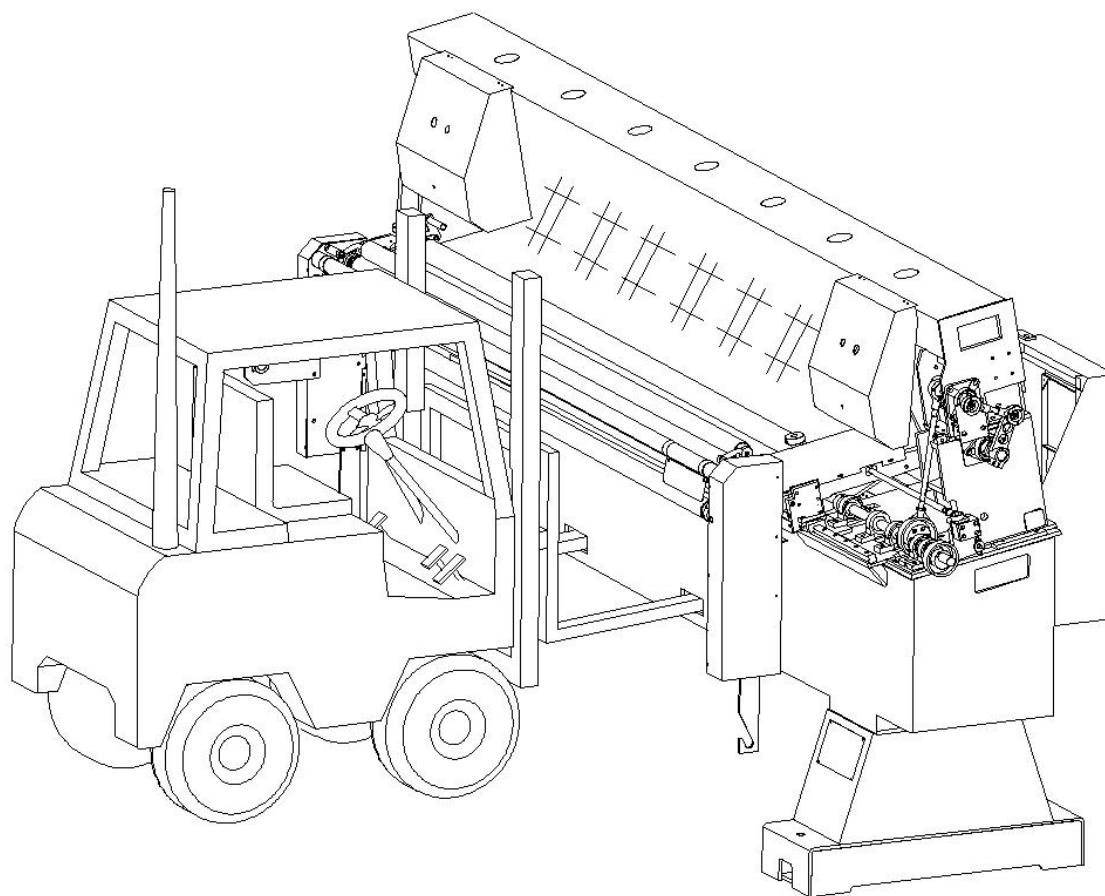
应根据设备的重量选择合适的运输及吊装设备, 在相关的技术的材料中, 查寻相关的重量。

The units are generally too heavy to be moved by hand. Therefore, use the correct transport and lifting equipment. The weight of this machine(unit) is shown on the label in the front of this manual. For dimensions of the machine (unit) see relative documents.

吊装 Hoisting

当吊装时, 应按下图起吊。

When hoisting machine (units) the straps must be fixed in accordance with as figures below./



2.2. 安装 Place for installation

2.2.1. 安装位置 Place for installation

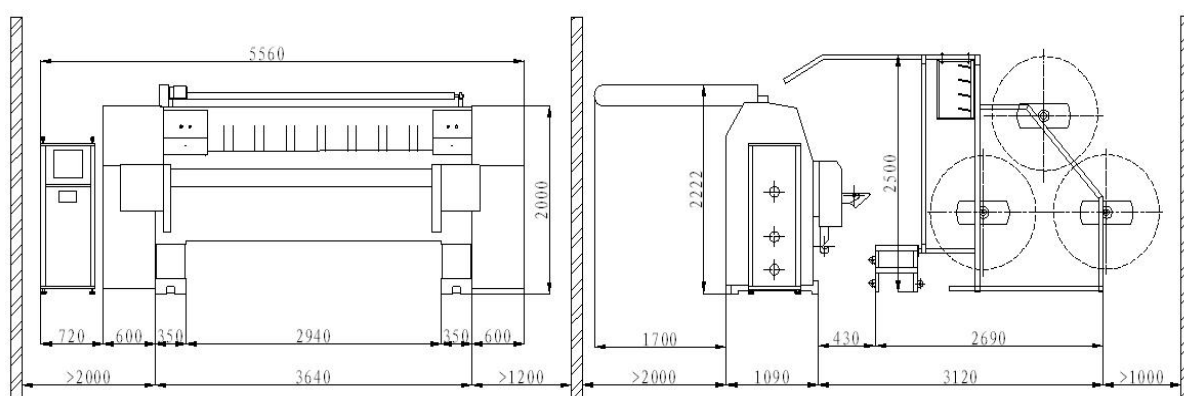
用户应预先按（安装平面图）要求选择好机器安装位置，机墩基础平台必须用九公分厚以上的水泥钢筋混凝土建造，机器放置调整水平后用水泥填补机脚座与机墩之间的空隙，待水泥干透后方可试机。

the user is required to choose a place for installation preliminarily according to the installation plan. The platform for placing machine should be built by reinforced concrete with thickness 9cm or more. Commissioning will begin after the concrete, used to fill the gap between the machine base and the built platform, is dry.

Dimensions and weight/尺寸及重量

主机尺寸 (M 米): 4.8 x 1.6 x 2.0

主机重量(T 吨): 4.2



RPQD-RC-943 安装平面图 installation plan

2.2.2. 安装电源线 Grounding line

如果你使用该设备的地区提供的电源电压是 400VAC 或 380VAC，请用三相五线制供电，其中三条（黑色）为相线（L1/L2/L3）；一条（浅蓝色）为中性线（也叫做零线 N）；一条（黄绿色）为地线（PE）。地线（PE）的电阻不得大于 4Ω。If it is 400VAC, 380VAC power source, 3-phase with neutral line and PE line shall be choosed, there is three phase wires in black marked with L1, L2, L3; the neutral wire is in light blue, the PE wire is in yellow-green. The resistance of PE shall be no more than 4Ω

将有五条电源线电缆从电控箱的进线孔引入，分别接到电箱的主电源接线端子（TX1）和地线端子（PE）上。（如图 2.1）there will be 5 wires connected to main power terminal TX1 and PE terminal through the input hole of electrical cainet, shown in figure 2.1.

如果你使用该设备的地区提供的电源电压是 230VAC，请用三相四线制供电，其中三条（黑色）为相线（L1/L2/L3）；一条（黄绿色）为地线（PE）。地线（PE）的电阻不得大于 4Ω。If it is 230VAC, 3-phase with neutral line shal be used, there is three phase wires in black marked L1, L2, L3; the PE wire is in green-yellow. The resistance of PE shall be not more than 4Ω

将有四条电源线电缆从电控箱的进线孔引入，分别接到电箱的主电源接线端子（TX1）和地线端子（PE）上。（如图 2.2）there will be 4 wires connected to main power terminal TX1 and PE terminal through the input hole of electrical cabinet, shown as figure 2.2.

主电源线接好后请用压线扣将电缆线扣紧，以免受外力拉松或拉脱接线端。After the wires are connected with main power supply, fasten the wires by a buckle to avoid looseing.

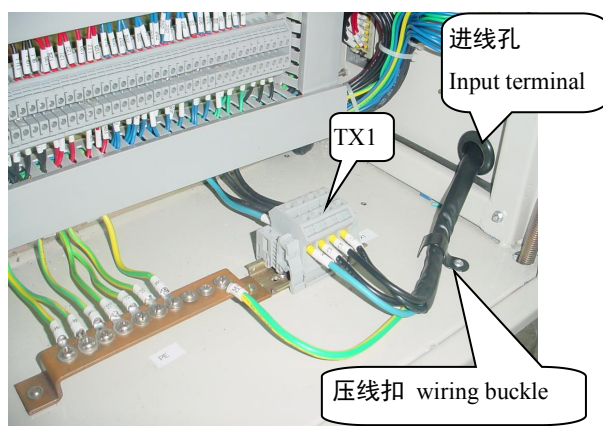


图 2.1 Figure 2.1

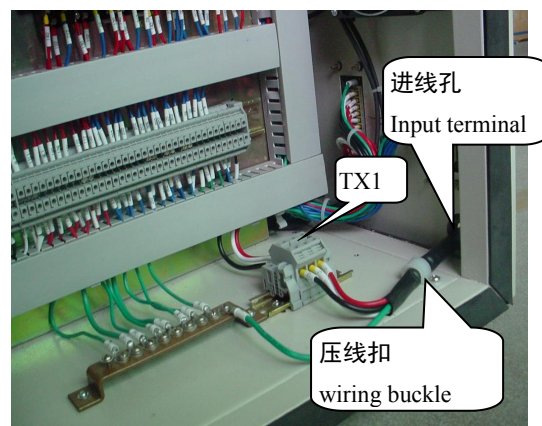


图 Figure2.2

如果你的供电电网中没有地线，请与当地供电公司联系安装。如果无法安装电网地线，请按下述方法加装临时地线。If there is no grounding/earth wire in local power supply, connect you power station as below mothod or install termperary grouding wire.



为了您的安全，请一定使用电网地线。For your safety, make sure the ground wire is connected.

在电箱旁插一根 1000mm 长角钢（规格：1000×400×60），入地深度不少于 1000mm，用不少于 4mm² 铜芯电缆线把角钢与机身金属连接，同时也应与电控箱内的地线（PE）端子连接。⏏ 接地线符号。

Grounding line: insert a one-meter long angle iron or water pipe (1000*400*60) with its grounding depth not less than 1000mm besides machine box. It shall be connected to connect both with machine body and corresponding PE terminal in wiring cabinet with 4sqmm(no less than 4sqmm) copper cable. The mark ⏏ is the signal for grounding wire

也可以使用随机配送的接地装置。The assembling grouding device is also option for you.

2.2.3.电箱与机身电气连接 The wire connects machine box with machine body

2.2.3.1 电箱的侧面有 2 个插座，与机械侧的 2 个插头对接，并卡紧。There is two sockets on the side of wiring cabinet, connecting to the two plugs on the side of machine body and fastened, showed as following figure.(图 fig 2.3)



接好后一定要将安全扣扣好，以免插头和插座之间的插针因安全扣问题接触不良烧坏。The buckles should be fastened to avoid burning due to bad connection caused by the loose pin between

sockets and plugs.



图 fig 2.3

2.2.3.2. 电箱有 2 组驱动器输出线与机身的 2 个伺服电机连接, 编号分别为: X 轴 J1、X 轴 J7; Y 轴 J2、Y 轴 J8 (J1 和 J2 分别为 X 轴和 Y 轴的编码器线; J7 和 J8 分别为 X 轴和 Y 轴的动力线) 接好后把线固定在机身侧。电箱与机身的接线接完后必须重新检查一遍, 确保连接编号完全相对应。

Meanwhile, there is 2 sets of driver output wire connecting with two servo motors with their corresponding code: X shaft J1, X shaft J7, Y shaft J2, Y shaft J8 (J1 and J2 is respectively the encoder's wire of X shaft and Y shaft; J7 and J8 is respectively the power wire of X shaft and Y shaft). Fasten the wirings beside the machine body. Recheck the connection of wiring cabinet and machine body after it is done to make sure the connection is correct according to correspondcode. (图 fig:2.4-2.9)

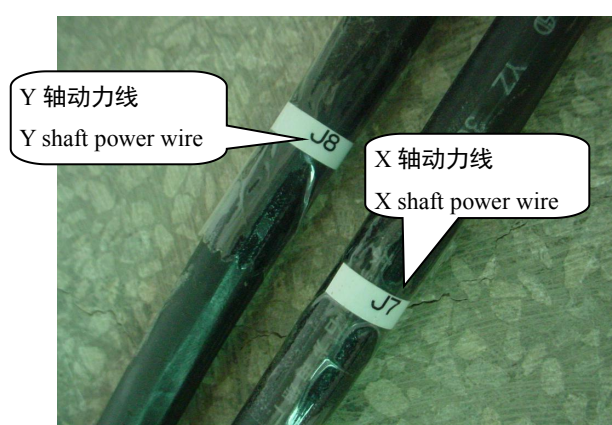


图 fig 2.4

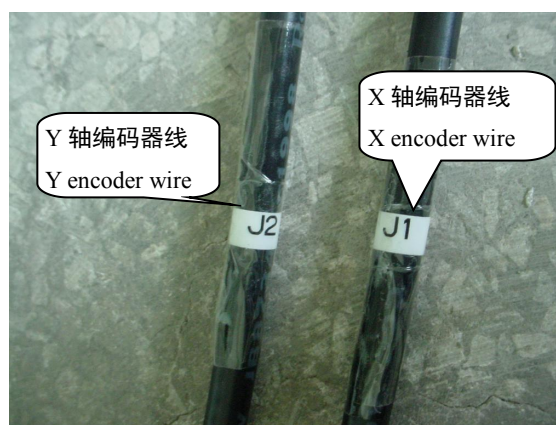


图 fig 2.5



图 fig 2.6



图 fig 2.7



图 fig 2.8



图 fig 2.9

2.2.4. 电脑安装 Computer installation(图 fig 2.10)

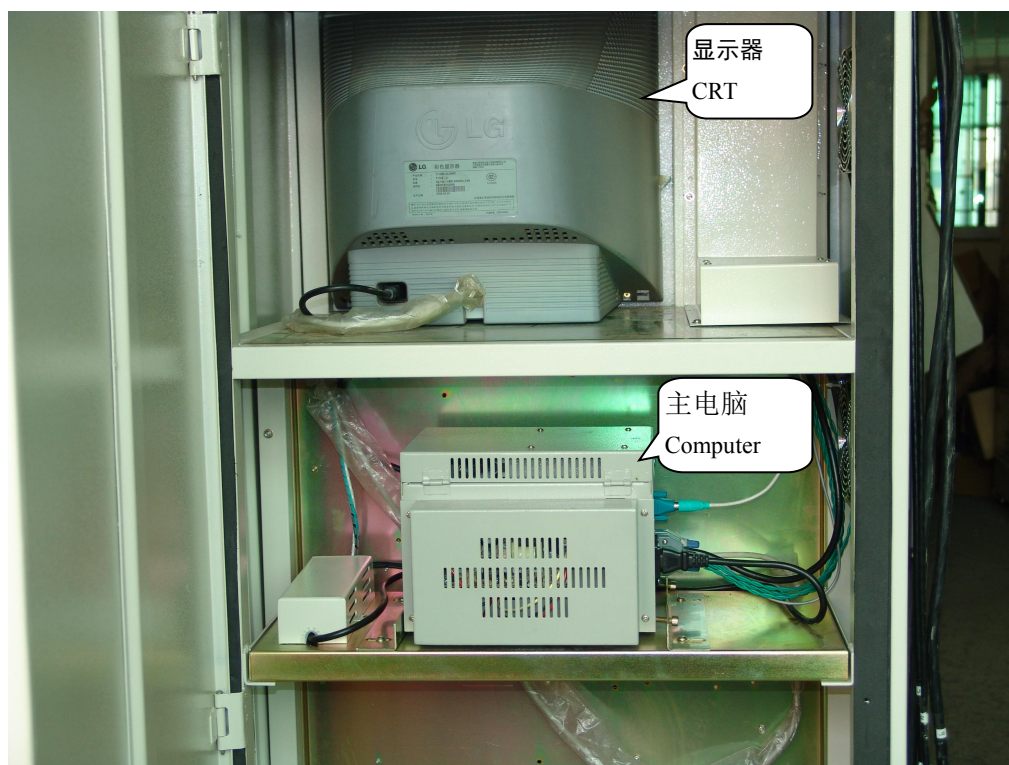


图 fig 2.10

最后安装主电脑与显示器, 主电脑的插槽与电箱上的插头是一一对应的, 不对应是不插进的。finally, install the computer and screenshall be correctly connected, the computer slot and the plugs of wiring cabinet is one by one corresponding, otherwise they can't be inserted. (图 fig 2.11)

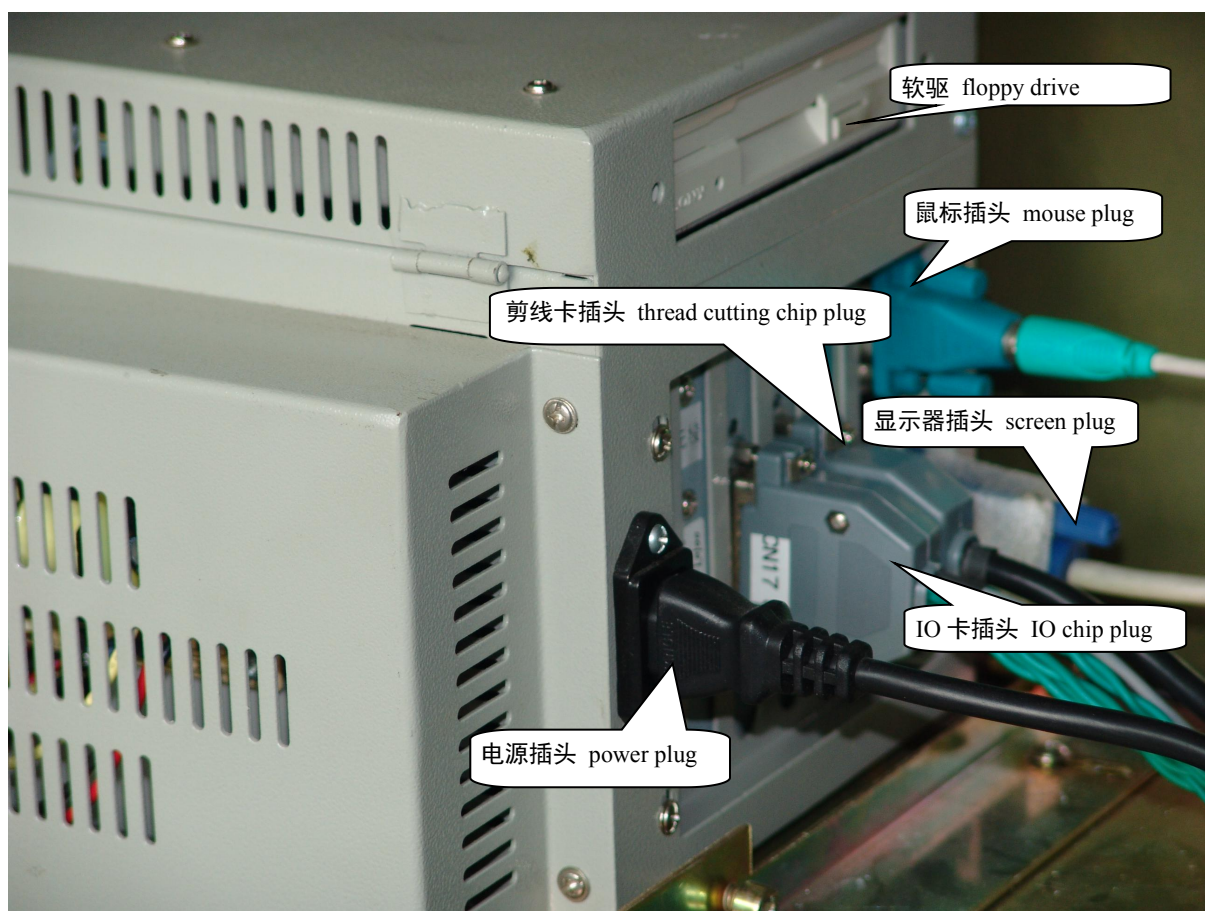


图 fig 2.1

2.2.5.电箱电器介绍 Electrical instructions

2.2.5.1. 电箱外围电器 Electrical device (图 fig 2.12 2.13 2.14)

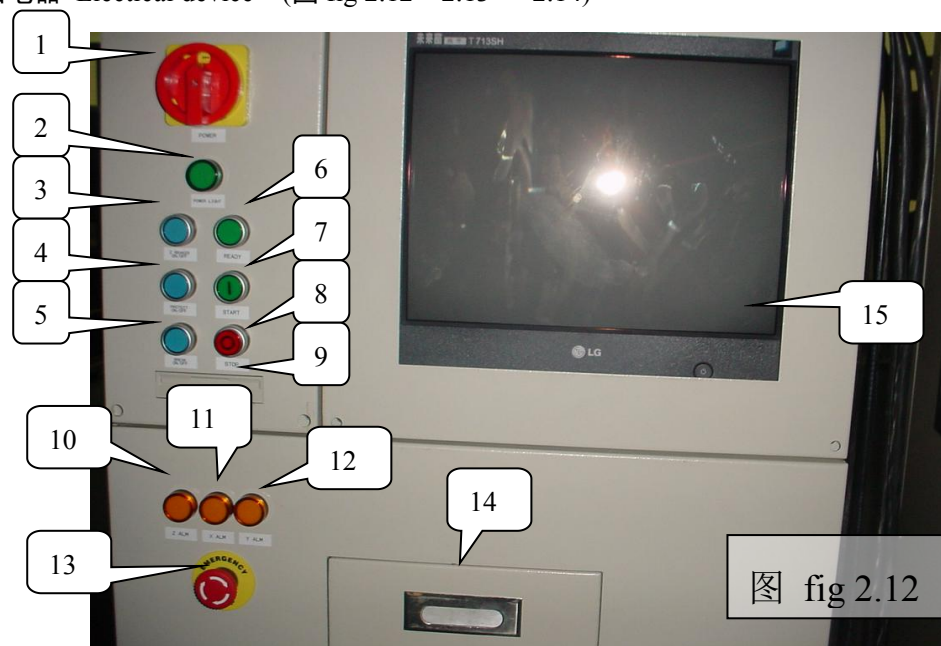


图 fig 2.12

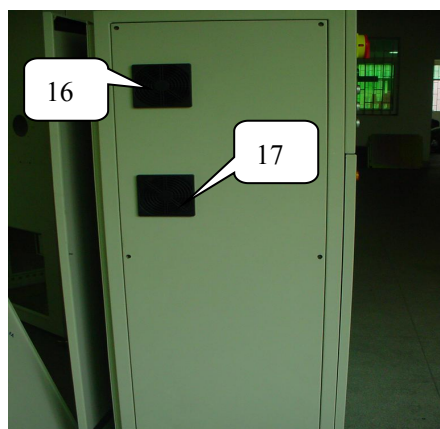


图 fig 2.13

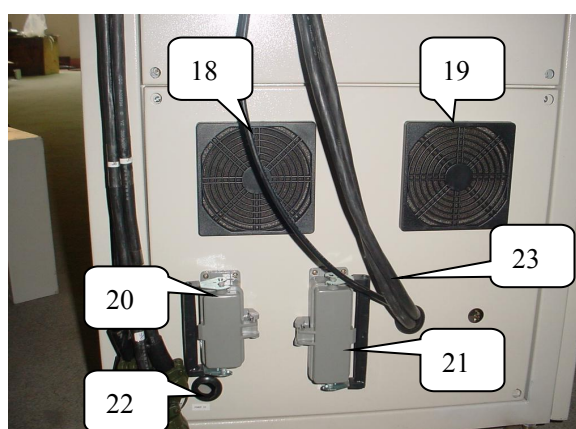


图 fig 2.14

A. (图 fig 2.12 2.13 2.14)电器编号说明如下表:

编号 code	代号 symbol	名称 Item name	编号 code	代号 symbol	名称 Item name
1	QF1	电源开关 power switch	2	HL1	电源指示灯 power indicator
3	SB5/HL4	主轴刹车按钮/主轴刹车指示灯 brake button of main shaft	4	SB7/HL6	安全保护按钮/安全保护指示灯 protective button/light
5	SB8/HL7	断线检测按钮/断线指示灯 Thread break detector/light	6	SB1	运转准备按钮 ready-run button
7	SB2	启动按钮 Start button	8	SS1/HL2	停止按钮/停止指示灯 Stop button/light
9		没用 Out of use	10	HL10	Z 轴报警指示灯 Z shaft alarm light
11	HL8	X 轴报警指示灯 X shaft alarm light	12	HL9	Y 轴报警指示灯 Y shaft alarm light
13	SE1	急停按钮 Emergency Stop button	14		鼠标窗 Mouse window
15	CRT	显示器 Screen	16	F3	散热风扇 Fan
17	F4	散热风扇 fan	18	F1	散热风扇 Fan
19	F2	散热风扇 Fan	20	XS2	16 针重载插座 16-pin reload socket
21	XS1	24 针重载插座 24-pin reload socket	22		主机电源进线孔 Main power input hole
23		伺服电机线 (编码线动力线) Servo motor wire (encoder power wire)			

B. 上述编号电器功能和用途 The functions of the above device.

1. 电源开关 (QF1): 主电源开关, 开启后控制变压器 (T2) 得电, 电源指示灯 (HL1) 亮。注

意：不得使用此开关来停止机器运行，关闭此开关前请先按下停止开关（SS1～SS6 任何一个都行）让机器停下来，再按下急停开关（SE1～SE6 任何一个都行）让机器主电源断开。Power switch QF1: the power indicating light HL1 is on after the main power switch is operated, by which, the control transformer get power. Note: don't use the switch to stop machine's running, before turning off this switch, press off any switch of SS1～SS6 so that the machine could stop, then press off any emergency switch SE1～SE6 to cut off the main power supply.

2. 电源指示灯（HL1）：主电源开关（QF1）开启后灯亮。Power indicating light HL1: it turns on when the main power switch QF1 starts.
3. 主轴刹车按钮（SB5）和主轴刹车指示灯（HL4）：当开启刹车按钮（SB5（电箱上）和 SB6（机身上）按钮未按下），机器处于停止状态时，主轴刹车指示灯（HL4（电箱上）和 HL3（机身上））同时点亮，继电器（KA3）工作，主轴刹车离合器（YC）工作（通电状态），主轴被刹住，不能转动。如果停止机器后不想主轴被刹住，只要按下刹车按钮（SB5 或 SB6），不论机器是运行或是停止，刹车指示灯（HL2 和 HL3）都不会点亮，离合器（YC）也不会工作。（参考电路图 WSC3-06-1A）Main shaft brake button SB5 and its indicating light HL4: start brake button SB5(on electrical cabinet) and SB6(on machine body), when the machine in the "stop" state, main shaft brake indicating light HL4(on electrical cabinet) and HL3(on machine body) turns on at the same time, relay KA3 works, main shaft brake clutch YC works, the main shaft is braked. If you don't need the main shaft is braked after the machine stops, merely press on brake button SB5 and SB6. whatever working or stop state of machine is at, the brake indicating light HL2 and HL3 would not turn on, clutch YC doesn't work. Please make a reference to Diagram circuit WSC3-06-1A.
4. 安全保护按钮（SB7）和安全保护指示灯（HL6）：在机身前后存在比较危险的地方，分别装有检测安全区域的红外线光电开关（IR3、IR4、IR5、IR6、IR7）。在安全保护按钮（SB7）开启时（按钮未按下），当人或其它物体进入受保护的区域内，安全保护指示灯（HL6）点亮，如果机器正在运行，会立即停止运行；如果机器在停止状态，按启动按钮，机器也无法开起来。设置此按钮开关的作用是：在初次上布时，须点动进布，人或织布有可能靠近或在检测区域内，引起机器因受保护而无法正常工作， 在正常开机时请一定启用此安全保护功能。如果你不想使用区域保护，可以按下此按钮，这样是比较危险的，请慎用。（参考电路图 WSC3-06-1A）Protective button SB7 and indicating light HL6: there are some dangerous place around machine where ultra-red photoelectrical switch IR3, IR4, IR5, IR6, IR7 for detecting the safety of people are installed.

When the safety button SB7 is on but it is not pressed on, people or some objects enter the protective field, the protective light HL6 turns on, machine will stop immediately. If the machine stops, press on this button, the ultra-red detection safety function will be by passed. The purpose of setting this switch button is: when the material is drawn in at the starting, click on it, which will by pass the safety function of the ultra-red detecting. Even people and the material would get close to the detecting field, the machine can still run, which brings convenience for operation.. Make sure you use this function when the machine runs in normal state. You may not want to use this function, press off this button, but it is dangerous, please make a reference to Diagram WSC3-06-1A.

5. 断线检测按钮（SB8）和断线指示灯（HL7）：当断线检测按钮（SB8）开启（按钮未按下），上断线检测光电开关（IR1）和下断线检测光电开关（IR2）上电，对缝纫的面线和底线的断线情况进行检查。机器运行时断线指示灯（HL7）不停地闪烁，表示底线和面线正处于检测状态，没有断线；如果断线指示灯（HL7）一直亮，则有断线的地方，运行的机器很快（2~4 秒）就停下来；停止时的机器按启动按钮后（2~4 秒）也会停下来。（注意：没开机前断线指示灯（HL3），会因线的状态而点亮，开机后也会因线的状态一直暗亮，此为正常）。（参考电路图 WSC3-06-1A）

Thread break detecting button SB8 and indicating light HL7: when the button SB8 turns on but isn't pressed on, both top and bottom detecting photoelectrical switch IR1 and IR2 get powered, and check the thread. The indicating light HL7 flashes constantly, which shows the top and bottom thread is detecting, and without breakage. If HL7 is constantly on, thread breaking happens, so the machine stops in 2-4 second, the machine will come to halt even it is restarted. Remarks: before starting the machine, the light HL3 turns on as well as after starting it due to the thread state. Both are normal.

6. 运转准备按钮（SB1）：当电源开关 QF1 开启后，电源指示灯（HL1）点亮，控制电路通电，主机电源并未接通。如果急停按钮（SE1~SE6）和限位开关（LS1、LS2）都没断开，按下运转准备按钮（SB1）交流接触器（KM1）得电，显示器、电脑、驱动器、变频器等上电，机器处于待机状态。（参考电路图 WSC3-05-1A）Run-ready button SB1: when power switch QF1 turns on, power indicating light HL1 is on, control circuit gets power, but the main power still hasn't been connected. If emergency button SE1~SE6 and position limit switch LS1, LS2 aren't actuated, press on run-ready button SB1 to give power to contactor KM1, screen, computer, driver, inductor and so on get power, the machine is ready for running, reference to the Disagram circuit WSC3-05-1A.

7. 启动按钮 (SB2) : 运转准备好后, 机身前面也装有启动按钮 (SB3、SB4), 按下启动按钮 (SB2 或 SB3 或 SB4) 机器正常运行。(参考电路图 WSC3-05-1A) Start button SB2: there are starting button SB3, SB4 installed in the front of the machine body, press on any SB2, SB3, SB4, the machine runs after it is ready, reference to the Disagram circuit WSC3-05-1A.
8. 停止按钮 (SS1) 和停止指示灯 (HL2) : 当需要停止机器运行时, 机身上也装有停止按钮 (SS2~SS6), 按下任何一个停止按钮 (SS1~SS6), 机器会停止下来。同时电控箱上的停止指示灯 (HL2) 点亮, 如果 (SS1~SS6) 停止按钮任何一个在自锁状态 (按钮按下), 停止指示灯都会点亮 (以便于检查停止按钮的工作状态)。此按钮按下后会自锁, 再次开启须打开它们。(参考电路图 WSC3-05-1A) Stop button SS1 and stop indicating light HL2: when the machine needs to stop, there are stop button SS2 ~ SS6 installed on the machine body, press on any stop button SS1~SS6, the machine stops, meanwhile, the stop indicating light HL2 on electrical cabinet turns on. The stop light will turn on if the any button of SS2~SS6 is pressed on.
10. Z 轴报警指示灯 (HL10) : 当变频器 (D3) 出现过载或故障停止工作引起停机此灯闪烁。Z shaft alarm indicating light HL10: when overload or failure in the inverter D3 appears, the light flashes, which brings about the machine halt.
11. X 轴报警指示灯 (HL8) : 当 X 轴驱动器 (D1) 出现过载或故障停止工作引起停机此灯闪烁。X shaft alarm indicating light HL8: when overload or failure in the driver D1 appears, the light flashes, which brings about the machine halt,.
12. Y 轴报警指示灯 (HL9) : 当 Y 轴驱动器 (D2) 出现过载或故障停止工作引起停机此灯闪烁。Y shaft alarm indicating light HL9: when overload or failure in the driver D2 appears, the light flashes, which brings about the machine halt.
13. 急停按钮 (SE1) : 当机器出现异常情况或有人受伤, 需要紧急停止机器运转, 可按下此按钮 (机身上有 SE2~SE6) 切断主机电源。此按钮按下后会自锁, 再次开机须要开启它们 (SE1~SE6)。此按钮非紧急情况慎用, 一般停机请使用停止按钮 (SS1~SS6)。(参考电路图 WSC3-05-1A) Emergency stop button SE1: press on the buton SE2~SE6 on the machine body to cut off the main power. Press on this button, it will keep in latch state, press off these button SE1~SE6 to release the machine. Use the button when it is urgent, or press on the stop button SS1 ~ SS6 to bring the machine to a halt in normal situation.

14. 鼠标窗：此窗装有磁铁，方便开闭，内放鼠标。Mouse window: there is a magnet installed in this window for opening and closing with mouse inside.
15. 显示器（CRT）：显示操作界面。Screen: operation interface between man and machine
16. 散热风扇（F3）：电箱内散热，风扇向电箱外吹风。上装有过滤网，每周至少一次清洁，如果环境恶劣，须缩短清洁周期。Fan F3: used for dispersing heat in the electrical cabinet. Clean the sieve every week.
17. 散热风扇（F4）：电箱内散热，风扇向电箱外吹风。上装有过滤网，每周至少一次清洁，如果环境恶劣，须缩短清洁周期。Fan F4: used for dispersing heat in the electrical cabinet. Clean the sieve every week.
18. 散热风扇（F1）：电箱内散热，风扇向电箱内吹风。上装有过滤网，每周至少一次清洁，如果环境恶劣，须缩短清洁周期。Fan F1: used for dispersing heat in the electrical cabinet. Clean the sieve every week.
19. 散热风扇（F2）：电箱内散热，风扇向电箱内吹风。上装有过滤网，每周至少一次清洁，如果环境恶劣，须缩短清洁周期。Fan F2: used for dispersing heat in the electrical cabinet. Clean the sieve every week.
20. 重载插座（XS2）：16 针重载插座，主要是直流控制线路。Heavy-load socket XS2: 16 pin heavy-load socket for DC control circuit
21. 重载插座（XS1）：24 针重载插座，主要是交流控制线路。Heavy-load socket XS1: 24 pin heavy-load socket for AC control circuit
22. 主机电源进线孔：供客户向电控箱引主电源用。Mainframe power input wiring hole: for main power connecting to electrical cabinet.
23. 伺服电机线：X 轴、Y 轴伺服电机的动力线（J7、J8）和编码器线（J1、J2）。（参考电路图 WSC3-08-1A）
Servo motor wire: drive wire J7, J8 for X shaft, Y shaft, encoder wire J1, J2 , reference to the diagram circuit WSC3-08-1A.

2.2.5.电箱内部电器 Electrical device in the cabinet

如下图 fig 2.15 2.16

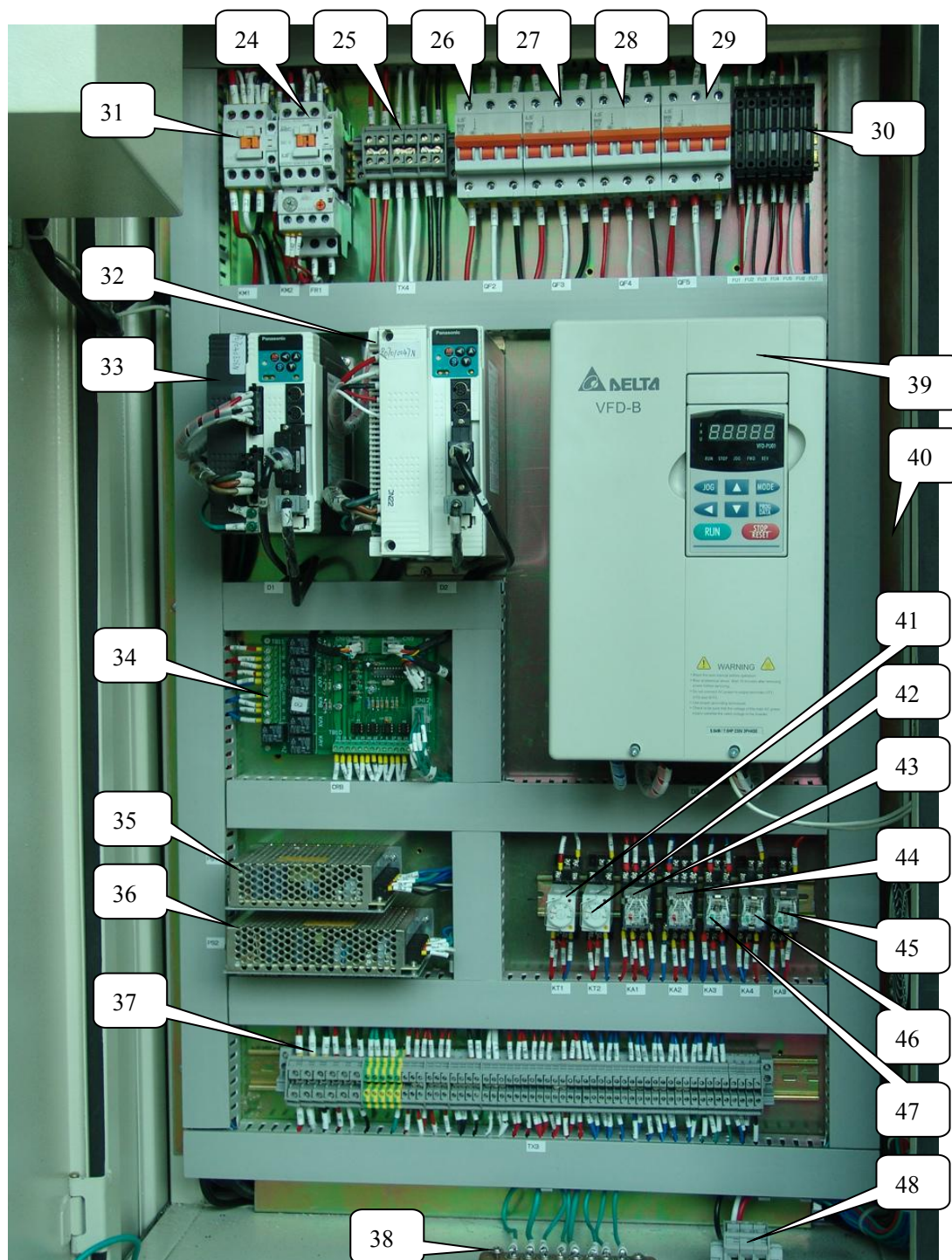


图 fig 2.1

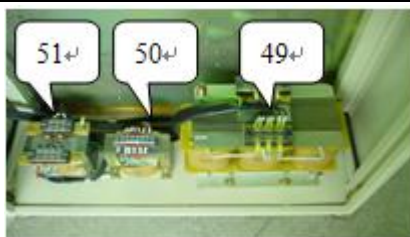


图 fig 2.16

A. (图 fig 2.15 2.16)电器编号说明如下表: Description as follows:

编号 NO.	代号 Symbol	名称 Item name	编号 NO.	代号 Symbol	名称 Item name
24	KM2	交流接触器 AC contactor	25	TX4	接线端子 connection terminal
26	QF2	断路器 breaker	27	QF3	断路器 breaker
28	QF4	断路器 breaker	29	QF5	断路器 breaker
30	FU1 ~ FU7	保险管 fuse	31	KM1	交流接触器 AC contactor
32	D2	Y 轴驱动器 Y shaft driver	33	D1	X 轴驱动器 X shaft driver
34	CRB	电脑中继板 computer relay board	35	PS2	开关电源 switch power
36	PS1	开关电源 switch power	37	TX3	接线端子 connection terminal
38	TX2	地线端子 PE terminal	39	D3	Z 轴变频器 Z shaft inductor
40	R	刹车电阻 brake resistance	41	KT1	时间继电器 time relay
42	KT2	时间继电器 time relay	43	KA1	继电器 relay
44	KA2	继电器 relay	45	KA9	继电器 relay
46	KA4	继电器 relay	47	KA3	继电器 relay
48	TX1	接线端子 connection terminal	49	T1	变压器 transformer
50	T3	变压器 transformer	51	T2	变压器 transformer

B. 上述编号电器功能和用途: The functions:

24. 交流接触器 (KM2): 控制出卷布电机电源通断。AC contator KM2: control the on-and-off of winding motor power

25. 接线端子 (TX4): 接线用。Connection terminal TX4: for connection

26. 断路器 (QF2): 变频器 (D3) 前级保护。Breaker QF2: inductor D3 primary protection

27. 断路器 (QF3): 变压器 (T1) 前级保护。Breaker QF3: inductor T1 primary protection

28. 断路器 (QF4) : 驱动器 (D1) 前级保护 (X 轴) 。 Breaker QF4: driver D1 primary protection for X shaft

29. 断路器 (QF5) : 驱动器 (D2) 前级保护 (Y 轴) 。 Breaker QF5: driver D2 primary protection for Y shaft

30. 保险管 (FU1~FU7) : FU1 电磁阀电路保护; FU2 电箱散热风扇电路、机身照明电路以及隔离变压器 (T3) 电路保护; FU3 控制变压器 (T2) 前级保护; FU4 开关电源 (PS1、PS2) 前级保护; FU5 控制变压器 (T2) 次级 220V 电路保护; FU6 电脑显示器电路保护; FU7 直流 24V 电路保护。

Fuse FU1~FU7: FU1 electromagnetic valve circuit protection; FU2 fan circuit for dispersing heat, machine lighting circuit, isolating transformer T3 circuit protection, FU3 transformer primary protection, FU4 switch power PS1, PS2 primary protection, FU5 transformer T2 secondary circuit protection, FU6 screen circuit protection, FU7 DC24V circuit protection

31. 交流接触器 (KM1) : 控制主机电源通断。 AC contactor KM1: control the power supply for the whole machine

32. Y 轴驱动器 (D2) : Y 轴电机控制。 Y shaft driver D2: Y shaft motor control

33. X 轴驱动器 (D1) : X 轴电机控制。 X shaft driver D1: X shaft motor control

34. 电脑中继板 (CRB) : 是电脑、驱动器、断线检测、上松线、下松线、剪线、报警信号的转接。 Computer Relay Board CRB: warning signal relay for computer, driver, thread break detecting, top thread loosening, bottom thread loosening, thread cutting,

35. 开关电源 (PS2) : 直流 24V 电源。 Switch power PS2: DC24V power supply

36. 开关电源 (PS1) : 直流 12V/5V 电源。 Switch power PS1: DC12V/5V power supply

37. 接线端子 (TX3) : 接线用。 Connection terminal TX3: for connection

38. 地线端子 (TX2) : 接地线用。 Connection terminal TX2: for connection

39. 变频器 (D3) : Z 轴电机控制。 Driver D3: Z shaft motor control

40. 刹车电阻 (R) : 变频器制动时能耗。 Brake resistance: energy consumption of driver brake

41. 时间继电器 (KT1) : 启动时报警 (HZ/HL6) 延时, 调节此时间继电器的时间, 可改变开机时警报灯的报警时间。出厂时设为 5 秒。(参考电路图 WSC3-05-1A)

Time relay KT1: the alarm HZ/HL6 delays, when the machine start. Regulate the relay's time to change the warning time of warning light when the machine starts. It is set at 5 second. reference to the circuit diagram WSC3-05-1A.

42. 时间继电器 (KT2) : 变频器 (D3) 停止延时。当按下停止按钮的时候机器应按正常程序停止下来, 同时也接通此时间继电器, 如果机器因故障原因无法停止 Z 轴运转, 当到达设定的时间时由时间继电器控制 Z 轴变频器停机。出厂设定 5 秒。(参考电路图 WSC3-05-1A)

Time relay KT2: inverter D3 delays to stop. When press on stop button, the machine will stop programmatically. at the same time, the time relay is actuated. If the machine can't stop running of Z shaft due to some failures, the time relay will stop it when the set time is lapsed. The set time is about 5 second, reference to the circuit diagram WSC3-05-1A

43. 继电器（KA1）：停止控制用。按下停止按钮，此继电器断开。（参考电路图 WSC3-05-1A）

Relay KA1: control to stop. Press on the stop button, the relay is cut off. reference to the circuit diagram WSC3-05-1A

44. 继电器（KA2）：启动控制用。当警报时间到达后接通此继电器从而接通电脑上的运转指令，机器运行。（参考电路图 WSC3-05-1A/WSC3-06-1A）

Relay KA2: control machine's start. When the alarm time is up, the relay is actuated so that the machine starts to run after it gets running signal from the computer. With reference to the circuit diagram WSC3-05-1A/WSC3-06-1A

45. 继电器（KA9）：驱动器、变频器过载或故障报警和断线停机控制用。（参考电路图 WSC3-06-1A）

Relay KA9: for the purpose of driver or inverter's overload and failure warning, and control thread break to stop, reference to the circuit diagram WSC3-06-1A.

46. 继电器（KA4）：安全保护控制用。（参考电路图 WSC3-06-1A）

Relay KA4: control the protection. With reference to the circuit diagram WSC3-06-1A

47. 继电器（KA3）：Z 轴刹车控制用。（参考电路图 WSC3-06-1A）

Relay KA3: control Z shaft brake. With reference to the circuit diagram WSC3-05-1A.

48. 接线端子（TX1）：主电源接线。

Connection terminal TX1: main power supply connection

49. 变压器（T1）：驱动器（D1、D2）电源。（参考电路图 WSC3-03-1A）

Transformer T1: the power supply for driver D1, D2. With reference to the circuit diagram WSC3-03-1A.

50. 变压器（T3）：电脑、显示器电源。（参考电路图 WSC3-04-1A）

Transformer T3: the power supply for monitor. With reference to the circuit diagram WSC3-04-1A

51. 变压器（T2）：控制电路电源。（参考电路图 WSC3-05-1A）

Transformer T2: the power supply for circuit control. With reference to the circuit diagram WSC3-05-1A

2.2.6.试运转 Testing

本机的供电为三相五线制 400V 或 380V（230V 三相四线制，部份国家）电源。接电源处为电控箱的 TX1 端子（L1/L2/L3/N）和地线（PE）端子上（下图 fig2.17）（三相四线的接 L1/L2/L3 和 PE 上下图 fig2.18）。

The power is supplied with the 3-phase with N and PE of 400V or 380V (230V on 3-phase 4-wire basis for some countries). Terminal TX1 (L1/L2/L3/N) and terminal PE are used to connect power supply. (230V on 3-phase 4-wire basis, Terminal TX1 (L1/L2/L3) and terminal PE are connected with power supply)

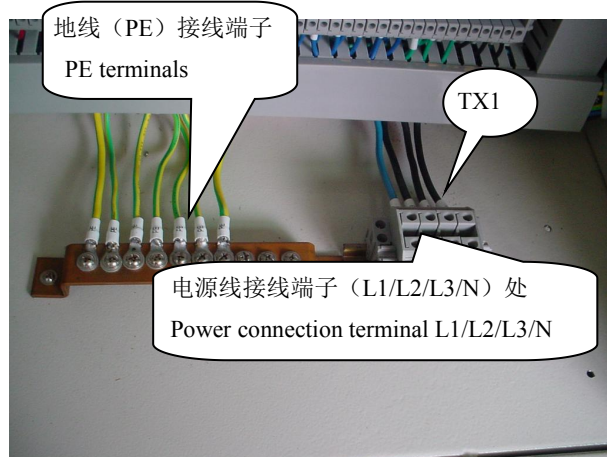


图 fig 2.17

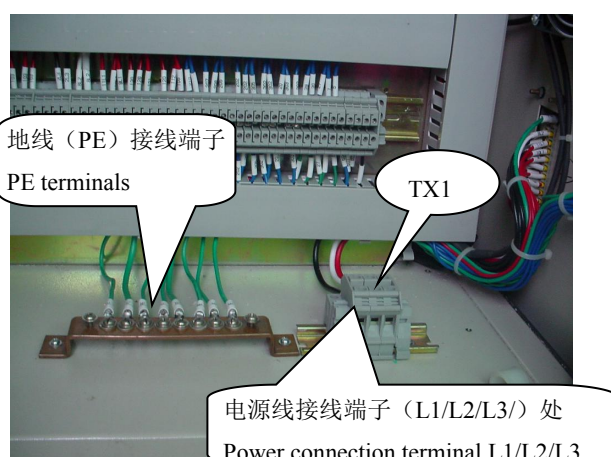


图 fig2.18

在完成上述单节的安装工作后，并仔细检查机械电器，确认全部工作完成，请在上图电源线接线端子（TX1）上接上电源，并在地线端子上接好地线，启动电源开关 QF1 从 OFF 转到 ON，这时电源指示灯 HL1 应亮，说明电源已接通，按下运转准备按钮 SB1 等待显示器出现彩色图象，用鼠标左键点击显示器画面中点动操作（参考第四章 4-1 加工界面，），出现系统提示，点 OK，进入点动画面，分别点击高位，机器应准确地高位处停止，点击 X 轴、Y 轴+ 或 -，X 轴、Y 轴伺服电机应运行正常，点确定退出点动画面，点选择花模（参考第四章 4-2 选择界面）进入花模选择画面，选好花模后，再点击退出窗口退出此画面（参考第四章 4-1 加工界面）。按启动按钮 SB2 启动机器（机身(图 fig2.19 2.20)左右上角各有 1 对启动(SB3 或 SB4)、停止按钮(SS2、SS3)，后面(图 fig1.3)左右各一个停止按钮(SS4、SS5)，如机器运转平稳、无异常响声及震动，方可进行编织。After finishing the above actions, check all the mechanical device to make sure all the work is finished. Supply TX1 with power, connect the PE terminal, turn QF1 from OFF to ON. The HL1 light should be on, the power is connected. Press on the run-ready button SB1, wait for the color window appears on the monitor, left click the mouse on Click operation(refer to Chapter 4-1 processing interface), there appears system hint, click OK to enter Click window, click HIGH POSITION respectively, the machine stops at accurate position of HIGH POSITION; click X shaft+ or - and Y shaft + or -, the servo motor of both shaft should work normally, click OK to quit the CLICK window; choose SELECT PATTERNS (refer to Chapter 4-2 processing interface) to enter pattern selecting window. After selecting a pattern, quit this window (refer to Chapter 4-1 processing interface). Press on Start button SB2 (SB3, SB4 on both corner sides of the machine body) to start the machine, STOP button SS2, SS3(SS4, SS5, at the back of the machine). Check whether the machine runs stably, there is no abnormal vibration, noise, so that the machine could do the quilting.(fig2.19 2.20 1.3)

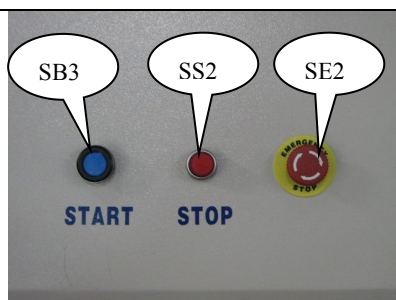


图 fig2.19

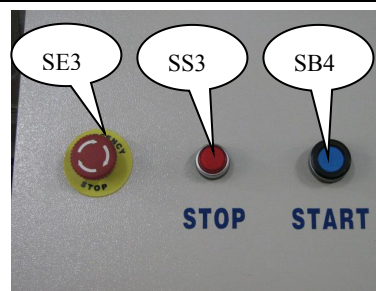
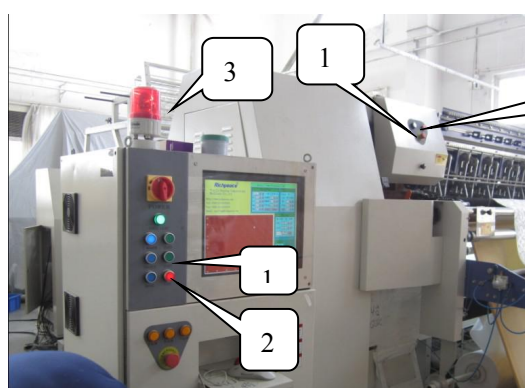


图 fig2.20

在按下启动按钮 1（下图 2.21），警报 3 响起，此时机器不会运行，在设定的警报时间（KT1 调节）到时，停止警报，同时机器开始运行。此警报主要是在开机前对机器周围和机器中工作的人进行警告，机器马上就要启动了，请离开机器，以免受到机械的、电气的伤害。

After you press on Start button, the alarm 3 sounds, the machine won't start working. After the setting alarm time KT1 finishes, the alarm 3 stops ringing, then the machine start working. This alarm is used to warn the people who is working around the machine that the machine is going to run and keep alert to it so that people would avoid to be mechanical or electrical hurt. (fig 2.21)



1. 启动按钮.Start
2. 停止按钮 stop
3. 警报铃灯 Alarm light

图 fig2.21

2.2.7.电脑中继板 CRB

如图 fig :2.22

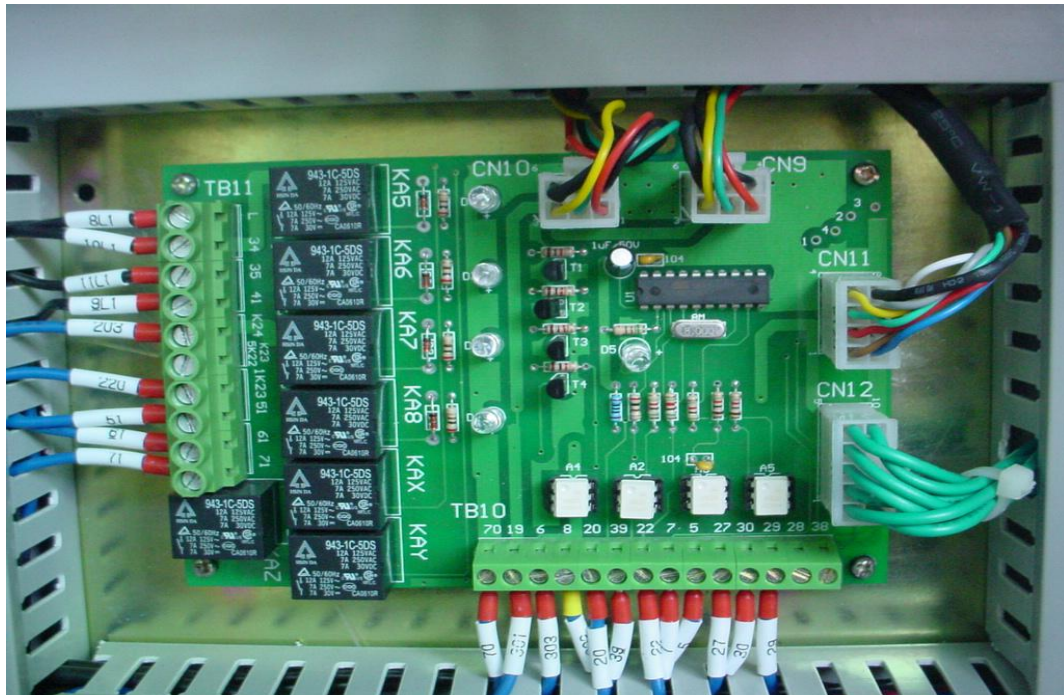


图 fig 2.22

2.2.7.1 主要元件名称列表 Elements list

序号 No.	代号 symbol	名称 Item name	用途 purpose
1	KA5	继电器 relay	下松线控制 bottom thread loosening control
2	KA6	继电器 relay	上松线控制 up thread loosening control
3	KA7	继电器 relay	剪线控制 thread cutting control
4	KA8	继电器 relay	断线控制 thread break control
5	KAX	继电器 relay	X 轴驱动器故障停机控制 X shaft driver failure stop control
6	KAY	继电器 relay	Y 轴驱动器故障停机控制 Y shaft driver failure stop control
7	KAZ	继电器 relay	Z 轴变频器故障停机控制 Z shaft driver failure stop control
8	CN9	插头 plug	Y 轴驱动器信号线插头 Y shaft driver signal plug
9	CN10	插头 plug	X 轴驱动器信号线插头 X shaft driver signal plug
10	CN11	插头 plug	IO 卡插头线插头 IO chip plug
11	CN12	插头 plug	剪线卡插头线插头 thread cutting plug
12	A2	光耦 photocoupler	断线检测光耦 thread break detecting photocoupler
13	A3	光耦 photocoupler	断线 0V 信号光耦 thread break 0V signal photocoupler
14	A4	光耦 photocoupler	断线控制光耦 thread break control photocoupler
15	A5	光耦 photocoupler	断线信号光耦 thread break signal photocoupler
16	U1	IC	断线控制 CPU thread break control CPU

2.2.7.2 中继板元件功能和控制流程 The function and control procedures of CRB

光耦控制过程:A4: 断线控制光耦, 控制 KA8; A2: 断线检测光耦, 受 (39 号线) 断线磁敏开关 (B5) 信号控制; A3: 断线 0V 信号光耦, 受继电器 (KA2) 控制 (22 号线); A5: 断线信号光耦, 受 (20 号线) 上 (IR1) 下 (IR2) 断线检测光电开关控制。

The control procedure of photocoupler: A4: thread break control photocoupler, control KA8; A2: thread break detecting photocoupler, controlled by signal from wire 39 thread magnetic switch B5; A3: thread break 0V signal photocoupler, controlled by relay KA2 which controls wire 22; A5: thread break signal photocoupler, controlled by detecting switch IR1(up), IR2(down) on wire 20;

断线控制流程: 按下启动按钮, 继电器 KA1 和时间继电器 KT1 通电, 警报响起, 经 KT1 延时 5 秒警报停止, 同时继电器 KA2 通电常开触电闭合, 29 号线通过 KA2 被接通 5VDC 电压, 电脑工作, 机器运行, 同时 22 号线通过 KA2 被接通 0VDC 电压, A3 光耦接通; 同时磁敏开关 (B5) 的信号传到 A2; 当有断线时, 20 号线信号 (12VDC) 控制 A5 导通, IC U1 输出一个电压控制 A4, A4 控制 KA8 断开, KA8 控制 KA9 断开, KA9 控制 KA1 断开, 实现断线停止机器运行。(参考电路图 WSC3-05-1A/WSC3-06-1A/WSC3-07-1A)

Thread break control procedure:: press on start button, relay KA1 and time relay KT1 gets power, the alarm rings and stops ringing after 5 seconds, meanwhile, relay KA2 opens, wire 29 get 5VDC voltage through KA2. The computer starts as well as the machine runs, wire 22 gets 0VDC through wire KA2, A3 photocoupler is connected. At the same time, B5 pass the signal to A2; when there is thread broken, wire 20 makes A5 conducted; IC U1 outputs to A4 to disconnect KA8, then KA8 disconnects KA9, KA9 disconnect KA1, finally the machine stops. With reference to the circuit diagram WSC3-05-1A/WSC3-06-1A/WSC3-07-1A

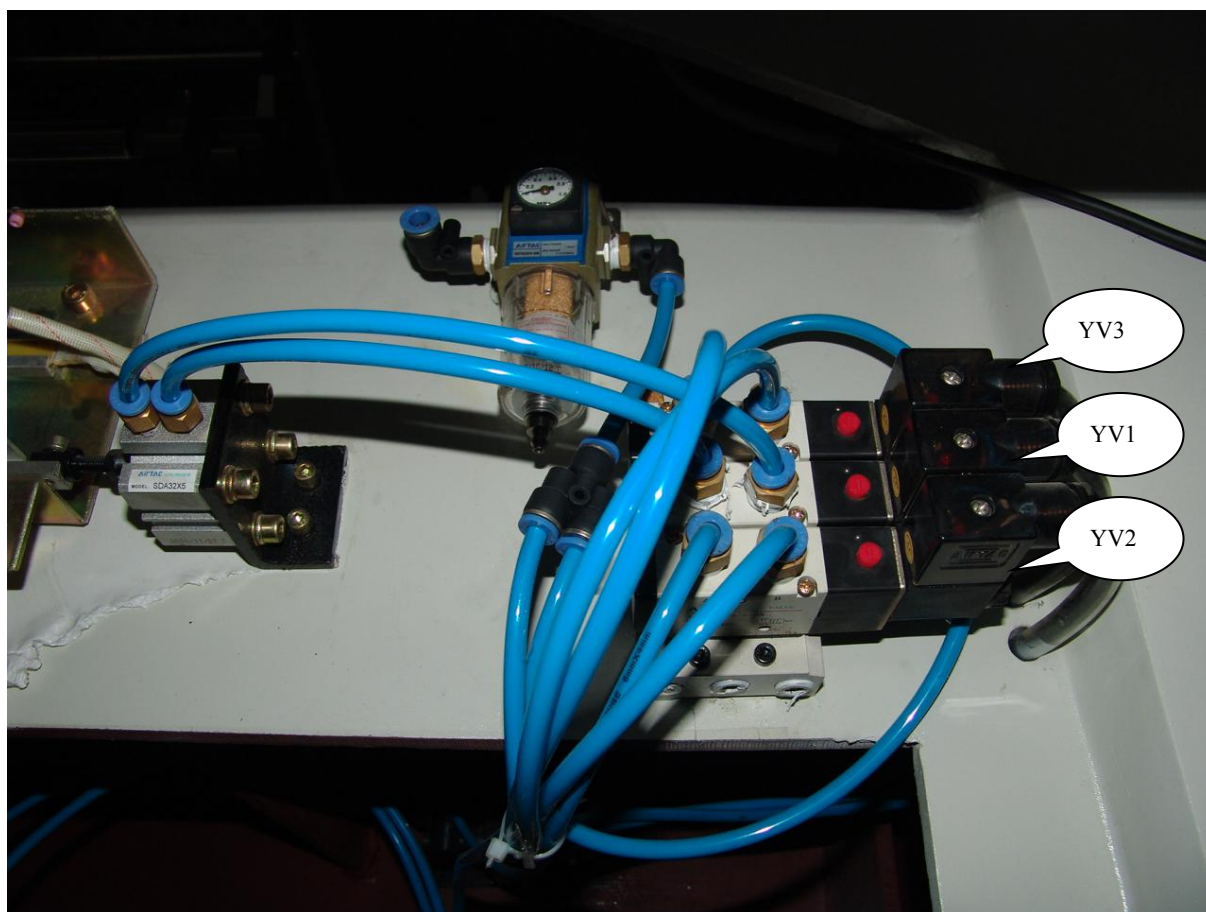
驱动器、变频器过载或故障停机流程: 机器运行中, 当驱动器 (D1、D2)、变频器 (D3) 某一个因负载过大或报警时, D1 通过 50 号线输出一个停止信号控制继电器 KAX, D2 通过 60 号线输出一个停止信号控制继电器 KAY, D3 通过 70 号线输出一个停止信号控制继电器 KAZ。KAX、KAY 和 KAZ 经 220 号线控制继电器 KA9 断开, 继电器 KA9 控制继电器 KA1 断开, 实现驱动器、变频器过载或故障停止机器运行。同时 KAX、KAY 和 KAZ 对应的指示灯 (HL7、HL8、HL9) 经 51 号线、61 号线、71 号线报警显示。在排除故障后, 须按下急停按钮 (SE1~SE6 任何一个按钮,) 断开主机电源让报警的驱动器或变频器复位, 然后打开刚按下的急停按钮, 再按运转准按钮 (SB1) 主机重新上电, 再没有报警时, 可开机运行。(参考电路图 WSC3-05-1A/WSC3-06-1A/WSC3-07-1A)

The running procedure of the overload and failure driver, inductor: in the process of machine's working, when the Driver D1, D2, inductor D3 is overloaded and gives out alarm, D1 passes on a stop signal to relay KAX through wire 50, while D2 passes on a stop signal to KAY through wire 60 as well as D3 passes on a stop signal to KAZ. KAX, KAY, KAZ let the relay KA9 disconnected through wire 220, KA9 control KA1 to disconnect, which leads to machine stop when the driver and inductor are overloaded or malfunction. The corresponding lights HL7, HL8, HL9 of KAX, KAY, KAZ turn on and gives out alarm through wire 51, wire 61, wire 71. After the failure is eliminated, press on any emergency stop button SE1 ~ SE6 to

disconnect main power to reset the driver and inductor, and then press off the emergency stop button, press on run-ready button SB1 to reconnet the machine, if there is no alarm, the machine can run again. With reference to the circuit diagram WSC3-05-1A/WSC3-06-1A/WSC3-07-1A

剪线、上松线和下松线控制流程：如果你生产的花形是跨步的，在跨步的时候，机器会自动地根据电脑发出的时序指令，对剪线、上松线和下松线进行控制。继电器 KA5 控制下松线电磁阀 YV1；继电器 KA6 控制上松线电磁阀 YV3；继电器 KA7 控制剪线电磁阀 YV2.(如下图 2.23)（参考电路图 WSC3-04-1A/WSC3-06-1A/WSC3-07-1A）

The procedure of cutting, up loosening, bottom loosening of thread: if you quilting tack and jump pattern, the machine will automatically control thread cutting, up loosening, bottom loosening according to the time sequence command in the process of tack and jump. Relay KA5 controls bottom loosening electromagnetic valve YV1; Relay KA6 controls up loosening electromagnetic valve YV3; Relay KA7 controls up loosening electromagnetic valve YV2. (shoed as following figure, with reference the circuit diagram WSC3-04-1A/WSC3-06-1A/WSC3-07-1A).(fig 2.23)



2.2.8.断线自停装置 Thread break testing

如下图 fig 2.24 2.25

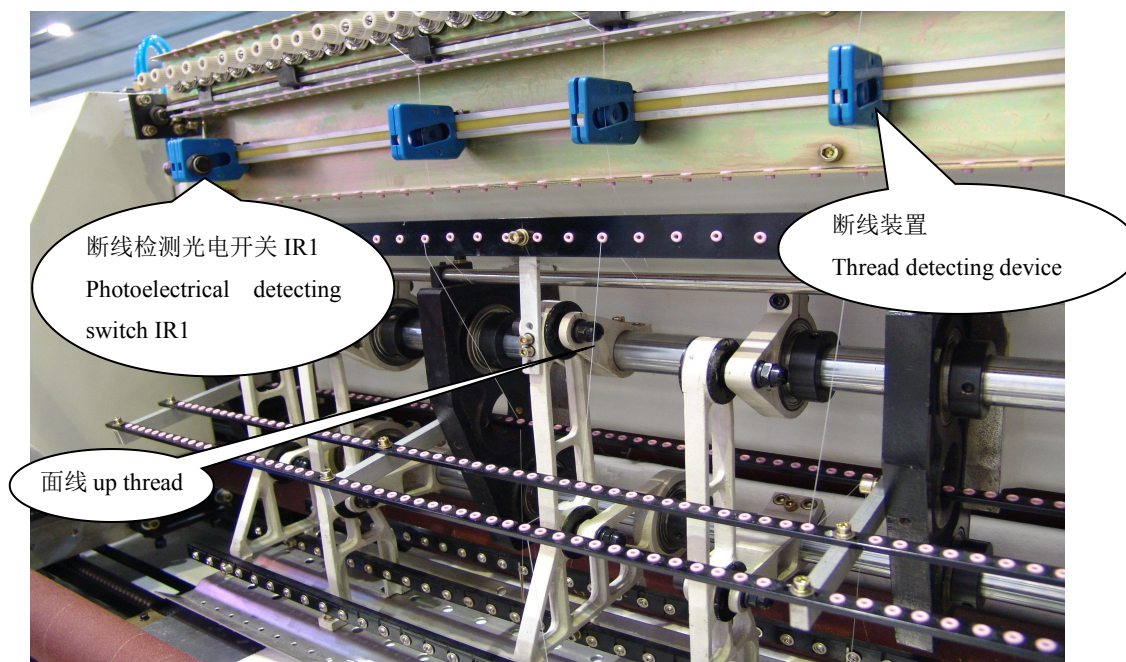


图 fig2.24

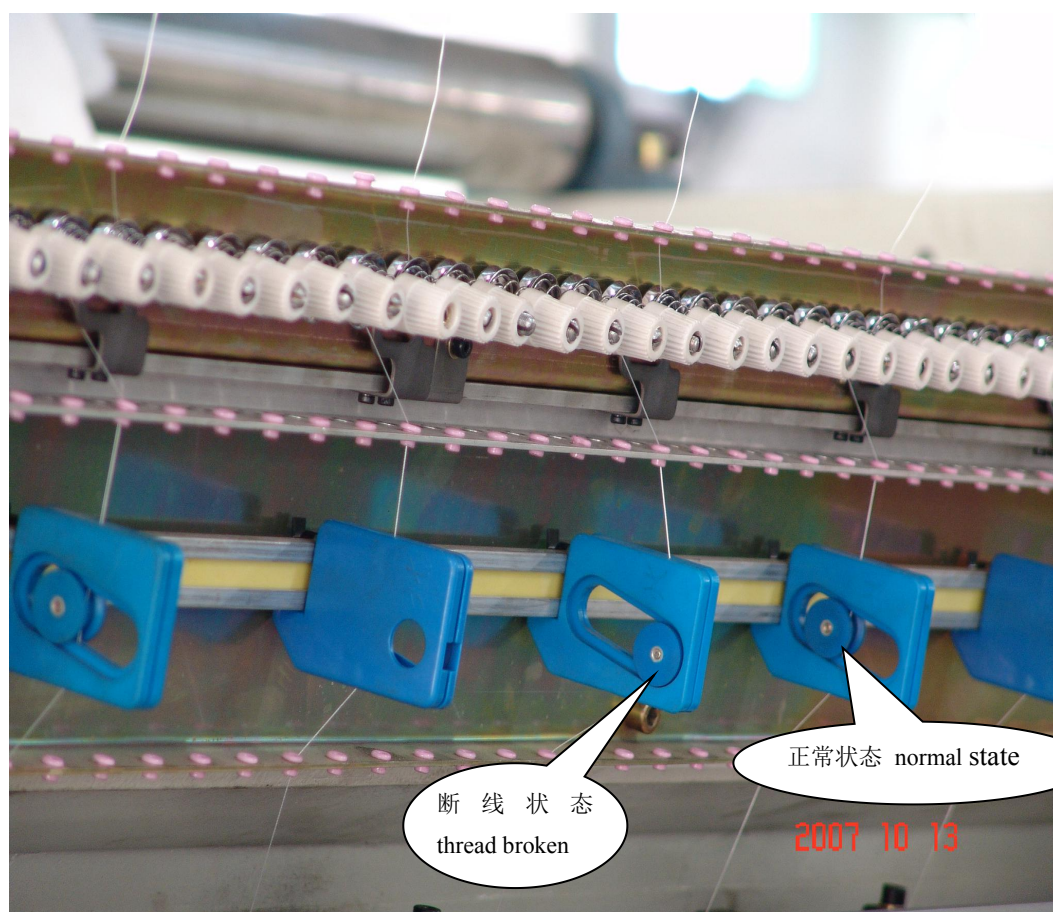


图 fig 2.25

机器在正常运转过程中，由于面线或底线断开，断线信号（20 线号）传到电脑中继板（CRB）的

A5 的光耦上，断线电路工作（KA8 得电常闭触点断开），使机器停止（主轴由于有惯性还要转动 7~9 圈才可以停下来）。在电控箱上有一个断线自停开关（SB8），不使用“断线自停”功能可以把开关按下。（如下图 2.26）

In the process of machine's running, due to the breakage of up thread or bottom thread, thread broken signal (wire 20) passes on to photocoupler of A5 on computer relay board (CRB), the thread break circuit works to stop the machine. There is a thread break detector switch SB8 in electrical cabinet, if you don't need it, close it.(fig 2.26)



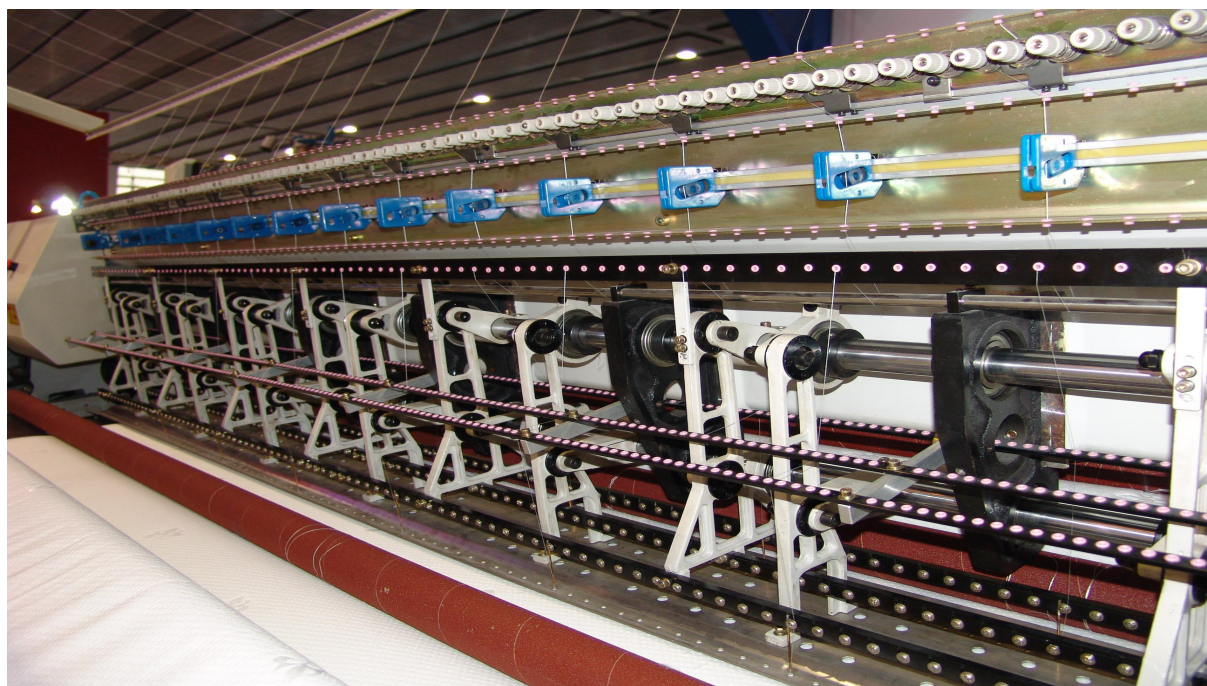
图 Fig2.26

2.3.电脑绗缝机的操作 Operation figure for computerized quilting machine

2.3.1 装针 Needle loading

当机器安装完成，并试运转后，便可穿线、上布、进行绗缝(图 2.27 2.28 2.29)

The quilting work is to begin after installation and commissioning are finished before such procedures as threading, feed. (fig 2.27 2.28 2.29)



装针示意图：Needle installation figure 图 fig 2.27

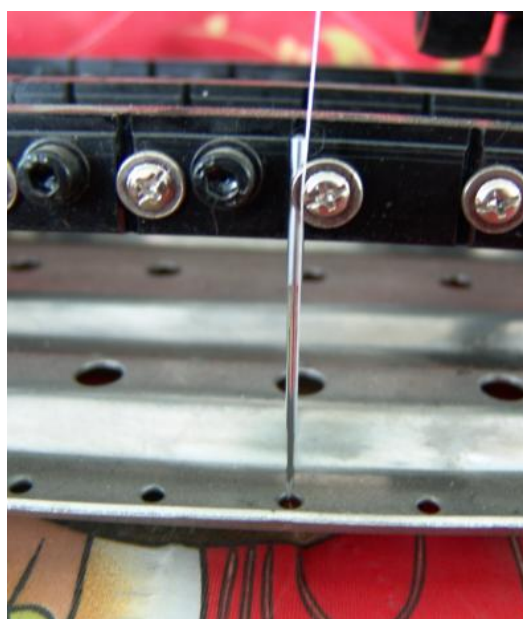


图 fig 2.28

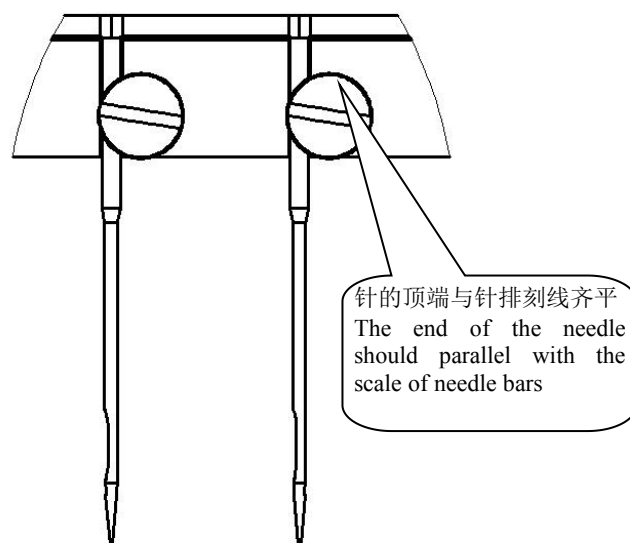


图 fig 2.29

2.3.2 上布 Feed-in figure is as follows figure

如下图 fig 2.30

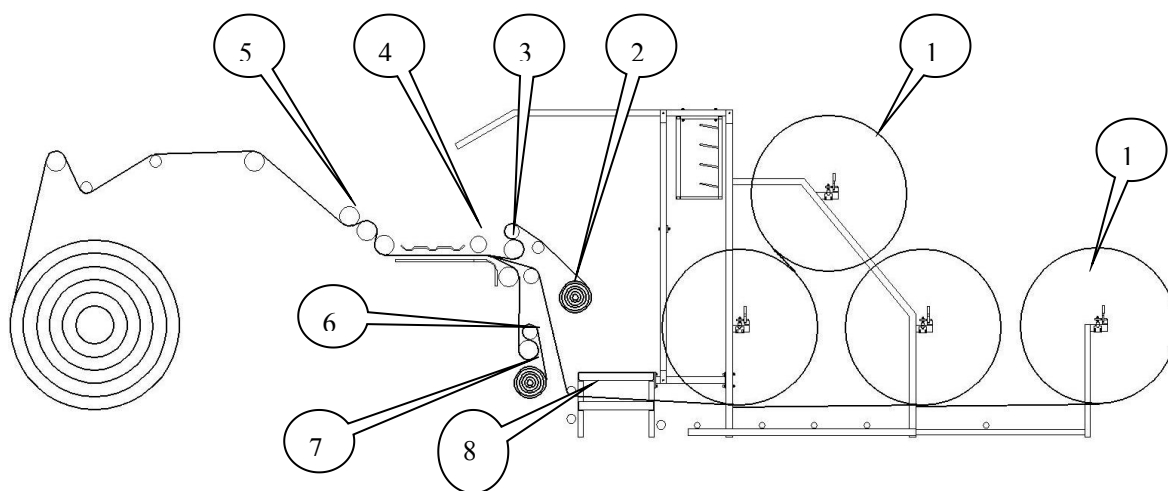
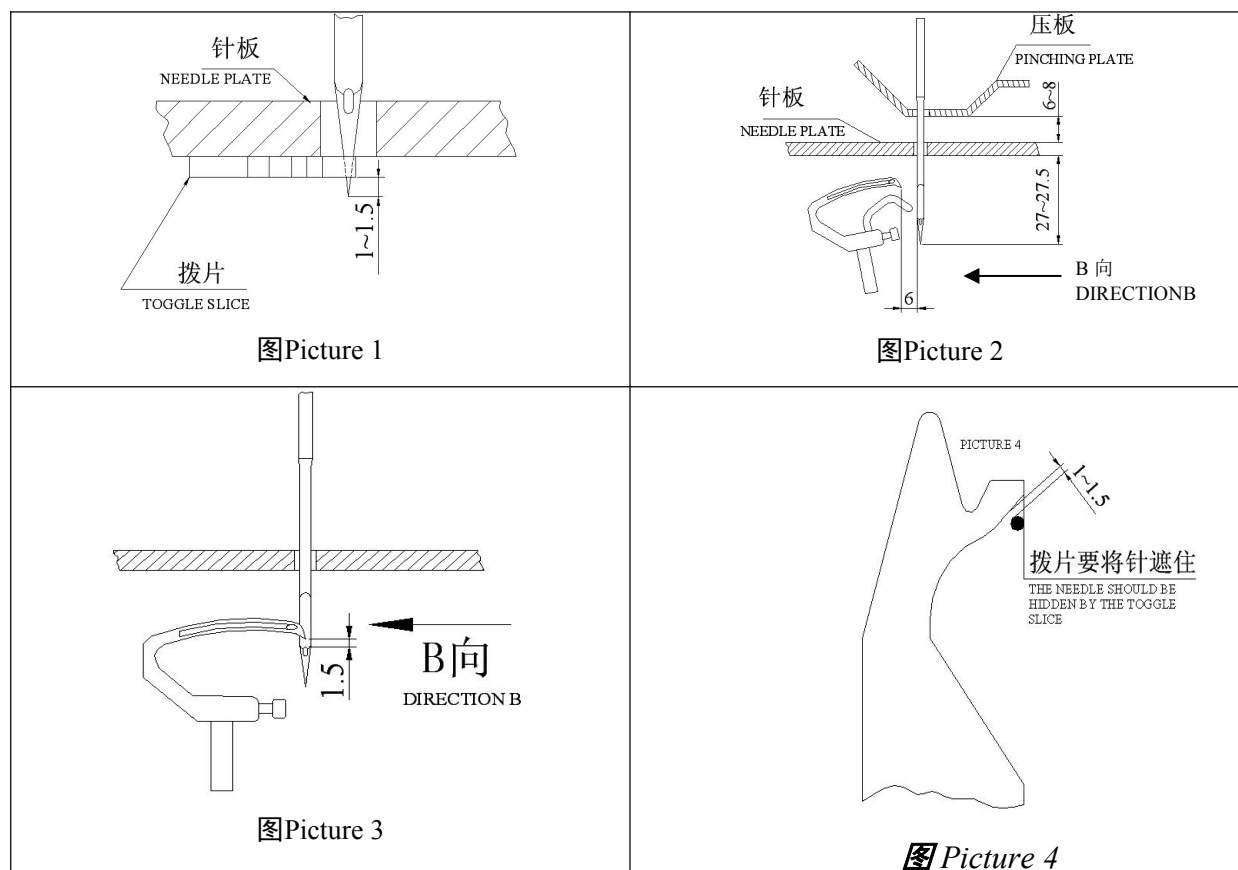
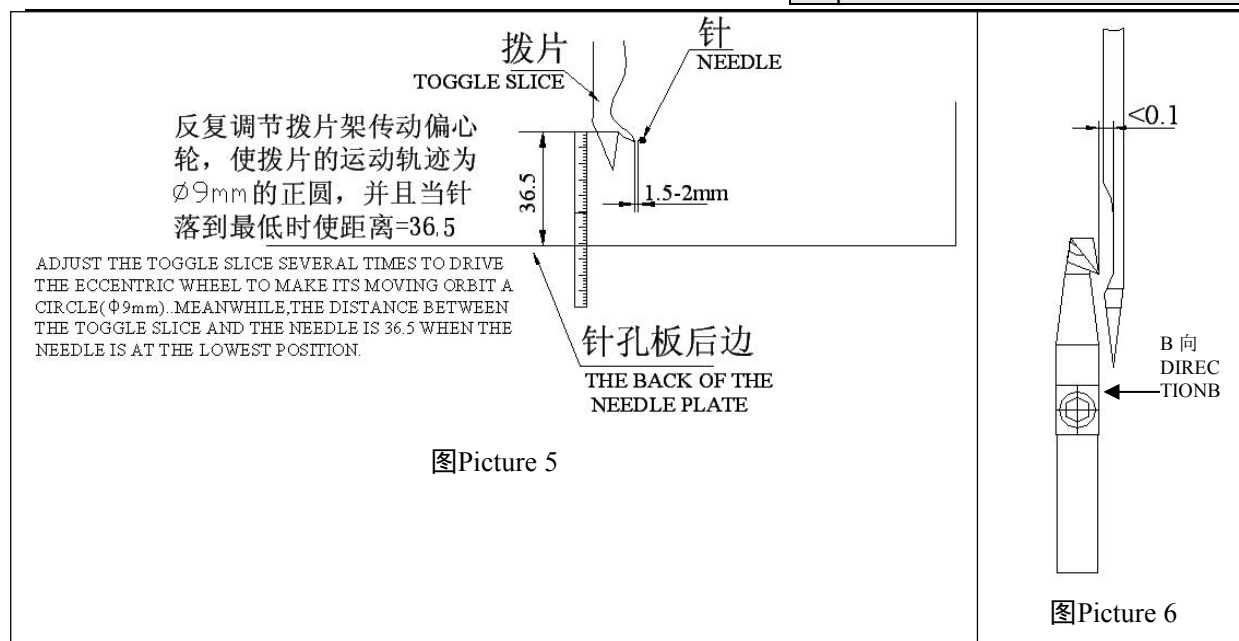


图 fig 2.30

1	海綿 sponge	2	面料 fabric	3	面料机前砂辊 front roller for fabric	4	压料辊 fabric-pressing roller
5	机后砂辊 back roller	6	底布机前砂辊 front roller	7	里布 Inner fabric	8	踏板台 working platform

2.3.3 钩仔安装图 Looper installation figure as below figure





图Picture 5

图Picture 6

1、当针由最高向下运动至如（图1）和（图5）所示位置时，调整拨片位置如（图4）所示。

When the needles move to the position shown as picture 1 and picture 5 from the highest position, please adjust the toggle slice to the position shown as picture 4.

2、当调整好每个拨片后，让针继续向下运动直至针在最低位置，钩仔也退到最后时，钩仔与针的关系如（图2）所示。

When all the toggle slice are adjusted well, let make the needle move to the lowest position ,and the hooks move to the hindmost,. then the hooks and the needles are shown as picture 2

3、针落至最低位置，然后向上开始运动时，钩仔亦向前运动。直到钩仔尖到达针中心时，针与钩仔的关系如（图3）及（图6）所示。

When the needles go back to the lowest position, then they move up while the hooks go front. when the hook tip to the middle of the needle, the needles and the hooks' positions are shown as Picture 3 and picture

2.3.4 串线与线的张紧度调整 Adjustment of thread jumping and its tensility

(fig 2.31 2.32)

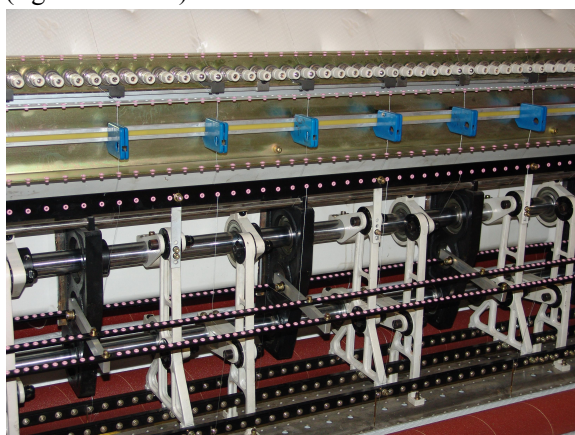
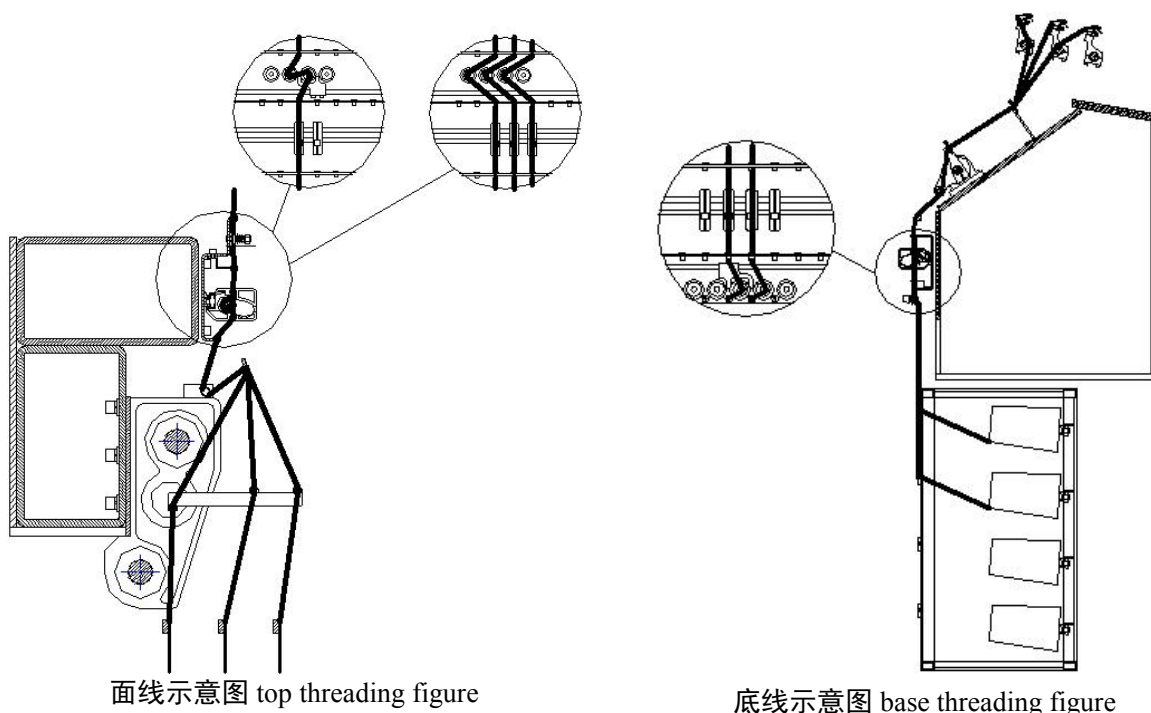


图 fig2.31



图 fig2.32

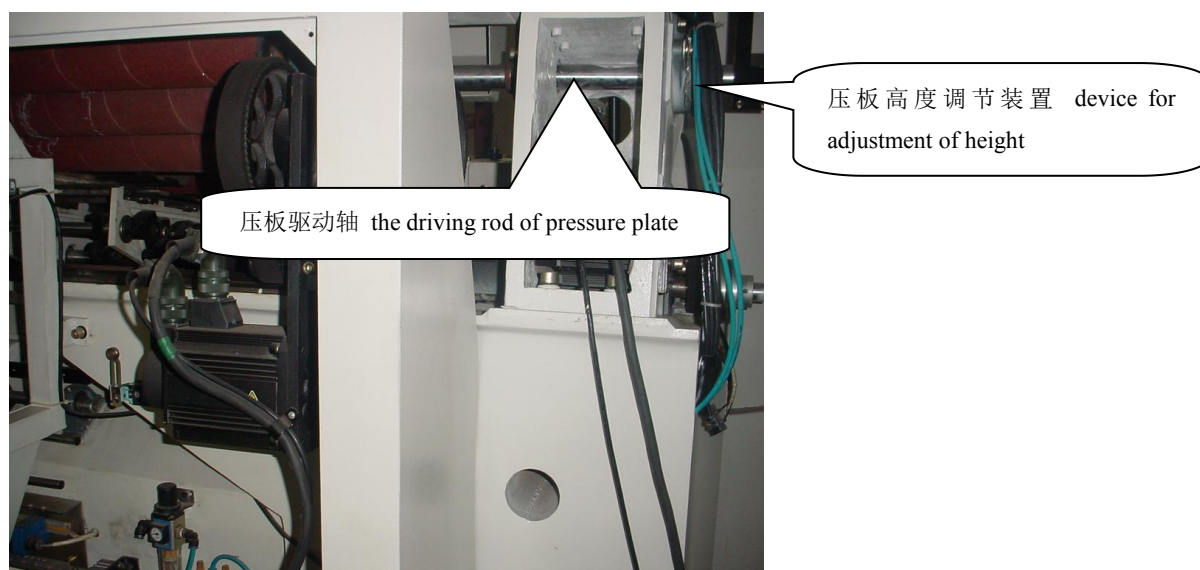


面线和底线要按正确的方法串过线夹，否则线会从线夹中脱出或卡死。线夹的压力要调节恰当，过紧会引起断线，过松会引起缝线漏步和松散。面线应选用抗拉强度大的涤纶线，易拉长的线会引起缝线漏步。Top thread and bottom thread should be pulled onto the thread clamp correctly, or the thread will get out of the clamp or get stuck. The tension of clamp should be adequately adjusted. Overtension will cause thread break, while over looseness will cause stitch leakage or thread looseness. It is preferable to choose thread made from terylene for top thread, or stitch leakage will happen often.

2.3.5 选线要求: The requirements of selecting thread

选线 thread-selecting	参`数 parameter
面线材料 material of top thread	尼龙线\涤纶线 nylon/terylene
面线直径 diameter of top thread	0.3mm
面线抗拉强度 tensility of top thread	>2.5kg/φ 0.3mm
面线拉断伸长值（线长 500mm） snap contractility (500mm in length)	<10mm
底线材料 material of base thread	混纺棉线\涤纶线 mixed cotton/terylene
底线直径 diameter of base thread	0.25mm
底线抗拉强度 tensility of base thread	>2kg/φ0.25mm
底线拉断伸长值（500mm） snap contractility(500mm in length)	<5mm

2.3.6 压板高度调整 The height adjustment of pressure plate



图fig 2.35

如上图2.35所示, 在横梁上压板驱动轴的两端, 各有一个压板高度调节偏心轴, 共有8个可调整位置(如下图2.36 2.37所示), 注意两端的偏心轴方向必须保持一致。As showed above, there is eccentric rod for adjusting the height of pressure plate on both side of the driving rod on the beam. There are altogether 8 places for adjusting showed as follows. Keep the direction of both eccentric rod matched.(fig2.35 2.36 2.37)

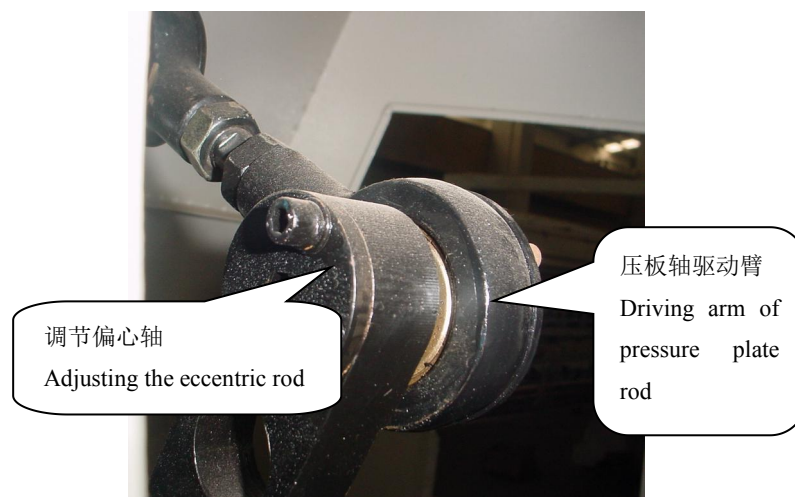


图 fig2.36

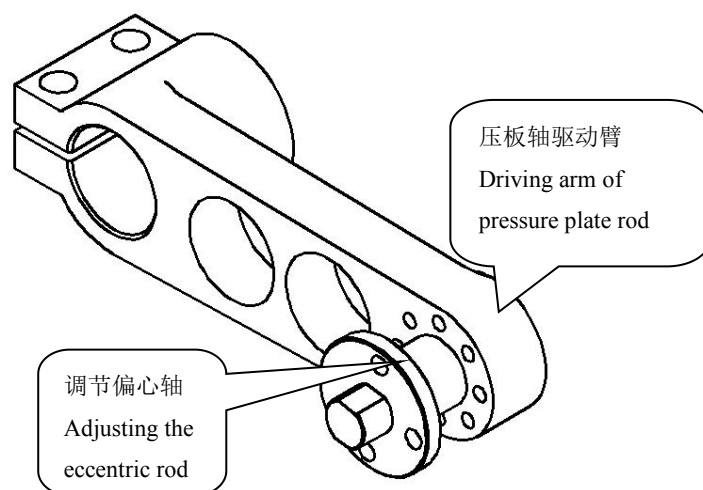


图 fig2.37

第三章 电器说明

Chapter3 Electrical device details

3.1.磁敏开关介绍 : Magnetic switch introduction

3.1.1.断线磁敏开关 Magnetical switch for thread cutting

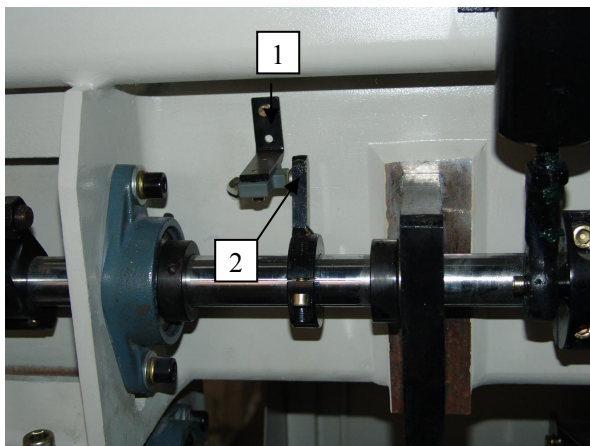


图 Fig3.1

1. 断线磁敏开关(B5)如左图: (图 Fig3.1)

Thread break magnetic switch

故障: 断线不停机

Fault: thread breaks but the machine is still working.

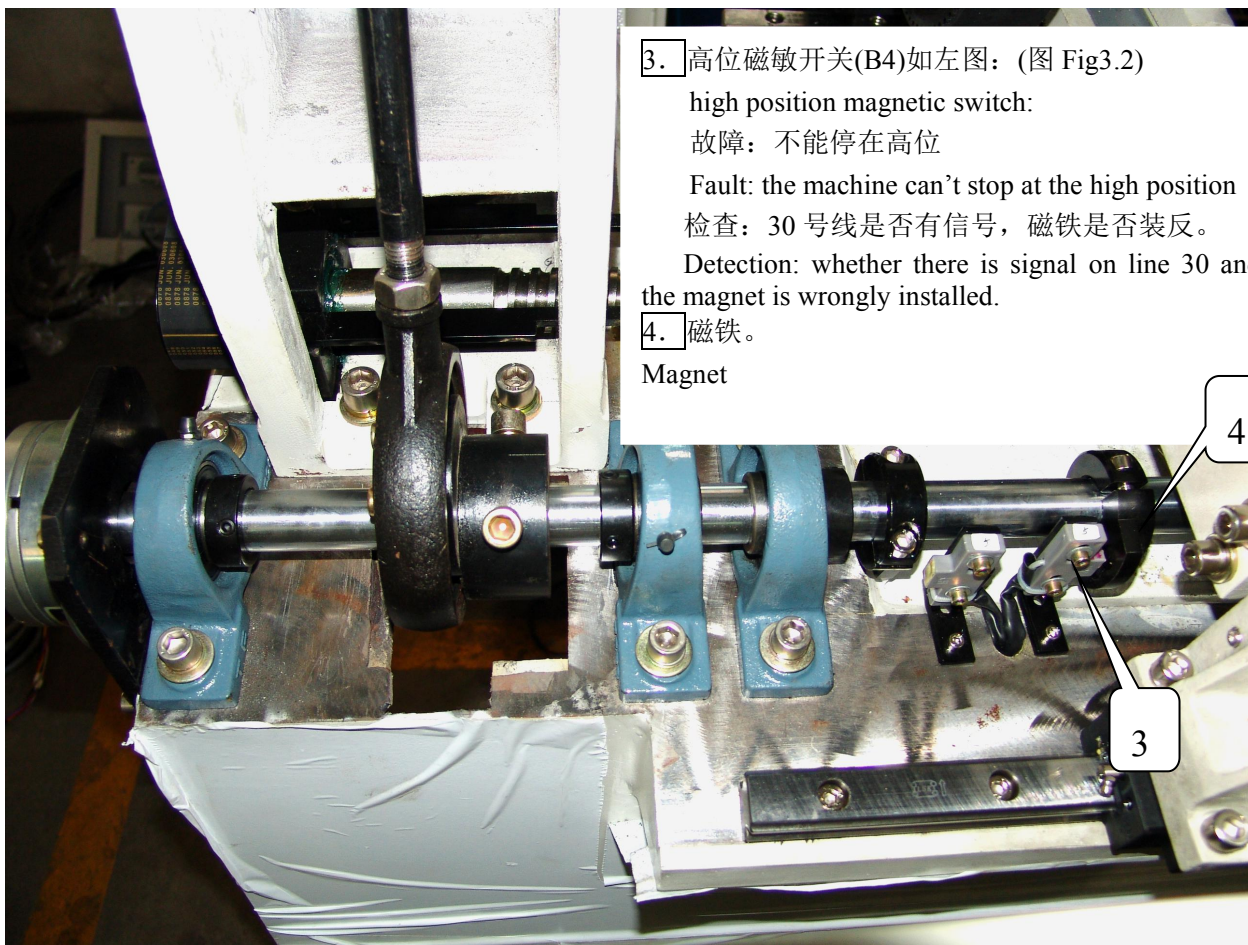
检查: 39 号线是否有信号, 磁铁是否装反。

Detection: whether there is signal on line 39 and the magnet is wrongly installed.

2. 磁铁。

Magnet

3.1.2.高位磁敏开关 High position magnetic switch



3. 高位磁敏开关(B4)如左图: (图 Fig3.2)

high position magnetic switch:

故障: 不能停在高位

Fault: the machine can't stop at the high position

检查: 30 号线是否有信号, 磁铁是否装反。

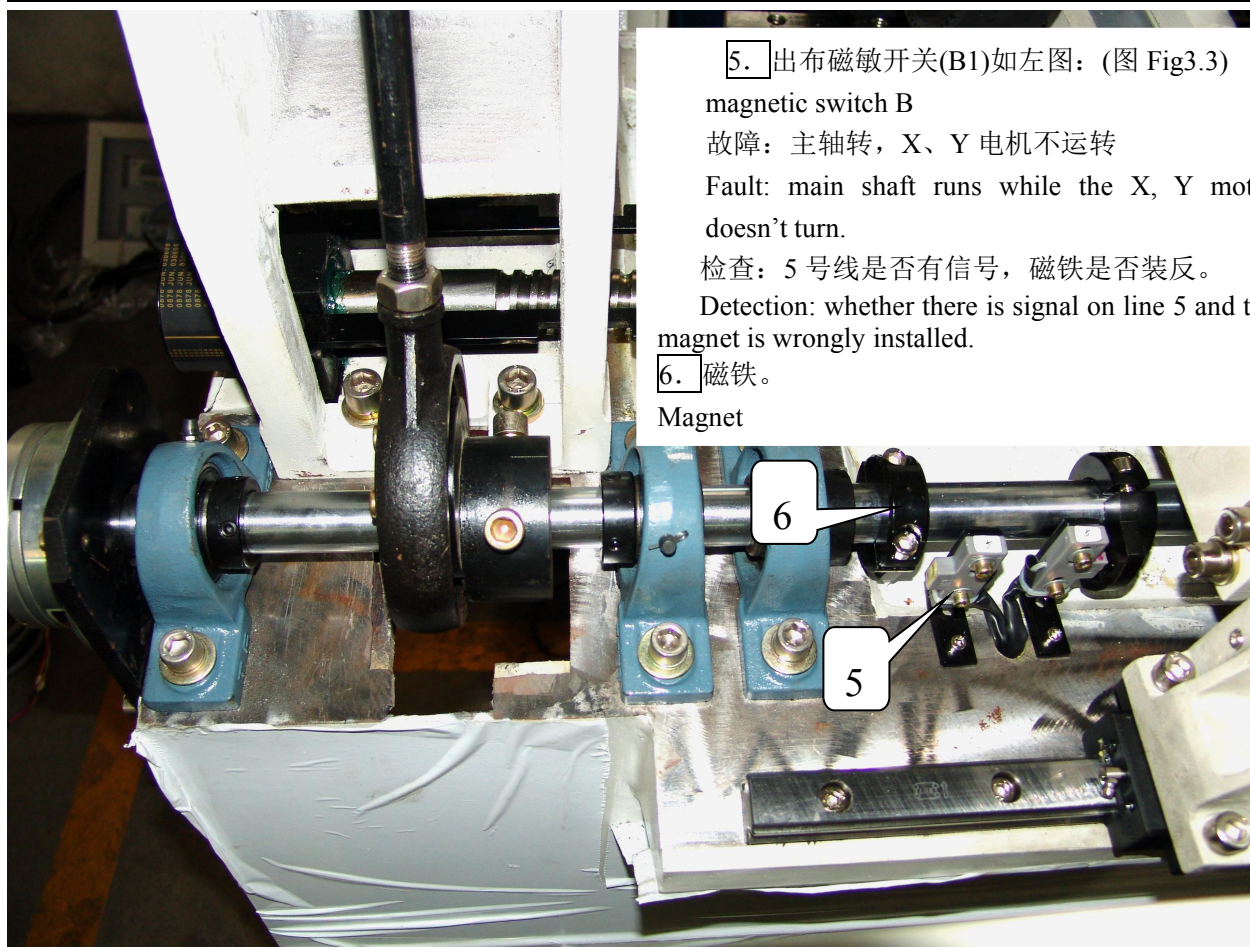
Detection: whether there is signal on line 30 and the magnet is wrongly installed.

4. 磁铁。

Magnet

图 Fig3.2

3.1.3 出布磁敏开关 Feed out magnetic switch



5. 出布磁敏开关(B1)如左图: (图 Fig3.3)

magnetic switch B

故障: 主轴转, X、Y 电机不运转

Fault: main shaft runs while the X, Y motor doesn't turn.

检查: 5 号线是否有信号, 磁铁是否装反。

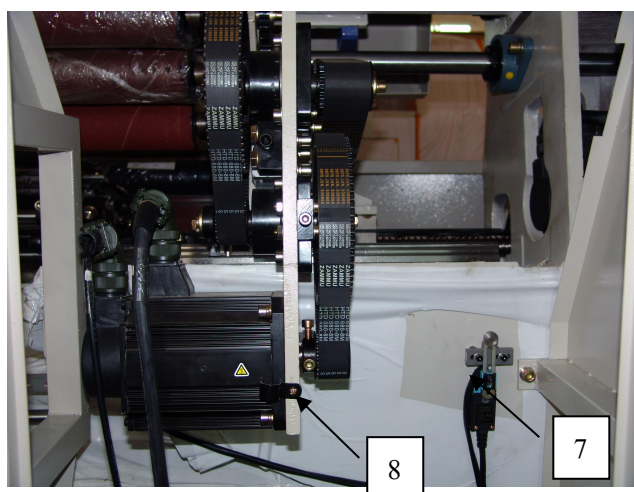
Detection: whether there is signal on line 5 and the magnet is wrongly installed.

6. 磁铁。

Magnet

图 Fig3.3

3.1.4 复位磁敏开关 Reset magnetic switch



7. 复位磁敏开关(B2)如左图: (图 Fig3.4)

Rest magnetic switch B2

故障: 重选花形后, X 轴移动架不复位。或只向电箱方向移动至机器断电。

Fault: re-select the patterns, the moving stroke of X shaft doesn't reset or move in the only direction of the electrical cabinet until the machine's power is cut off.

检查: 7 号线是否有信号, 磁铁是否装反。

Detection: whether there is signal on wire 7 and the magnet is wrongly installed.

8. 磁铁。

Magnet

图 Fig3.4

3.1.5 剪线磁敏开关 Thread cutting magnetic switch

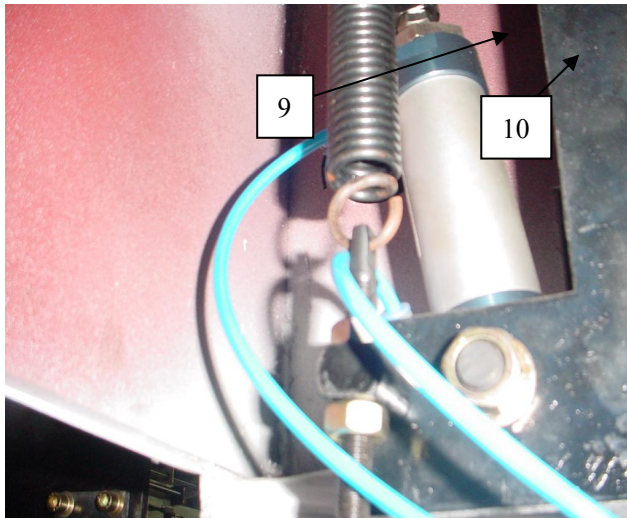


图 Fig3.5

9. 剪线磁敏开关(B3)如左图: (图 Fig3.5)

Thread cutting magnetic switch

故障: 没有剪线信号,开不了机。

Fault: no cutting signal, the machine can't be start.

检查: 27 号线是否有信号, 磁铁是否装反。

Detection: whether there is signal on line27 and the magnet is wrongly installed.

10. 磁铁。

Magnet

Remark: Magnetic switch is equal to sensor.

3.2. V3.0 电脑箱介绍 Explanations to computer chip

3.2.1 插槽说明 Slot explanations

如下图 Fig: 3.6

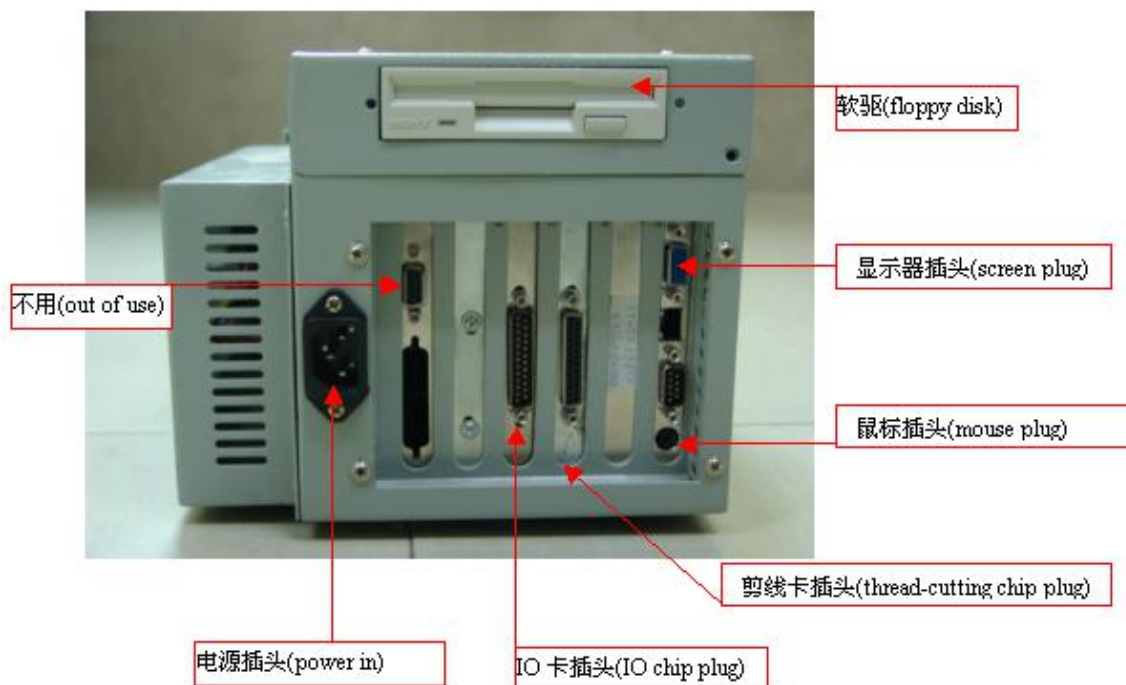


图 fig3.6

3.2.2 电脑说明 Inner structure

如下图 Fig :3.7



图 fig3.7

3.3.电脑卡介绍 Computer chip explanation

如下图 fig :3.8-3.12

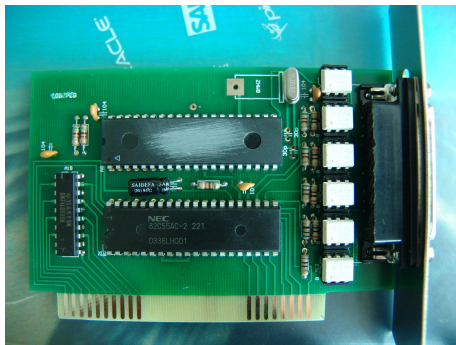


图 fig3.8

名称: IO 卡 [6]

Name: IO chip

端口编号: 1 2 3 4 5 6 7 8

Terminal NO: 1 2 3 4 5 6 7 8



图 fig3.9

名称: 硬卡 (存贮卡) [2]

Name: hard chip1(memory chip)

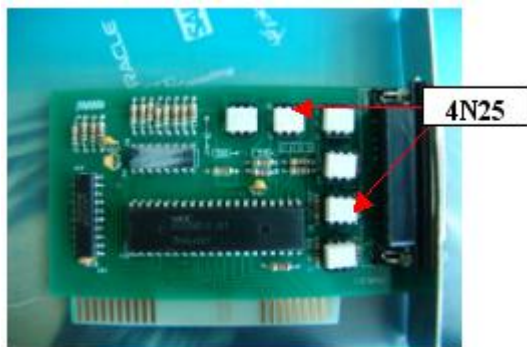


图 fig3.10

注明: 剪线卡

1. 卡上白色小方块是光藕。型号为 [4N25] 作用是保护元器件, 并且傍边印有编号。

2. 不需要插编码插头。

Note:

1. The white on the chip is photo coupler model [4N25] used to protect the parts with serial number beside.

2. needless to plug coding faucet.

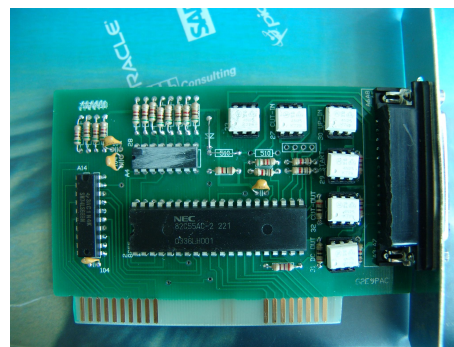


图 fig3.11

名称: 剪线卡

Name: thread-cutting chip

端口编号: 27 29 30 31 32 33

Terminal No.: 27 29 30 31 32 33



图 fig3.12

名称: 数据卡 [1]

Name: data chip

注明: 更换要输密码

Note: password needed if it is replaced.

3.4.升级 V3.0 安装说明 Installation explanation to update V3.0:

3.4.1.备件: ①数据卡 ②硬卡 ③加密狗 ④软驱(选装件) ⑤扎带 ⑥IO 卡

3.4.2.操作: 3.4.2.1 将原来的硬卡。编码卡拆下(无梭机也需要换 IO 卡

3.4.2.2 将数据卡。硬卡重新装上并拧紧螺丝

3.4.2.3 将加密狗扁线与软驱数据线插上主板。软驱并插上电源。

3.4.2.4 用扎带固定加密狗。如图 3.7 所示。

3.4.2.5 插上 IO 卡、剪线卡插头并拧紧螺丝

3.4.2.6 如出密码请输入分期密码(PW1 为第一期) 点击 **OK** 键

3.4.1. Parts: ①Data chip ②hard chip ③softdog ④floppy disk (optional) ⑤plastic bandage ⑥IO chip

3.4.2. Operation steps: 3.4.2.1. Remove the original hard chip and coding chip.

3.4.2.2. Install the new data chip and hard chip again and tighten the screws.

3.4.2.3. Connect the flat wire of soft dog and data wire of floppy disk with main board and

3.4.2.4 turn on the power, and then fasten the soft dog by bandage as showed in **Figure3.7**

3.4.2.5. Plug the faucets of IO chip and thread-cutting and tighten the screws.

3.4.2.6. Periodical password is needed if you want to input the password. (PW1 is the 1st period), click **OK** to finish your operation.

密码界面说明: Password interface(图 fig3.13)

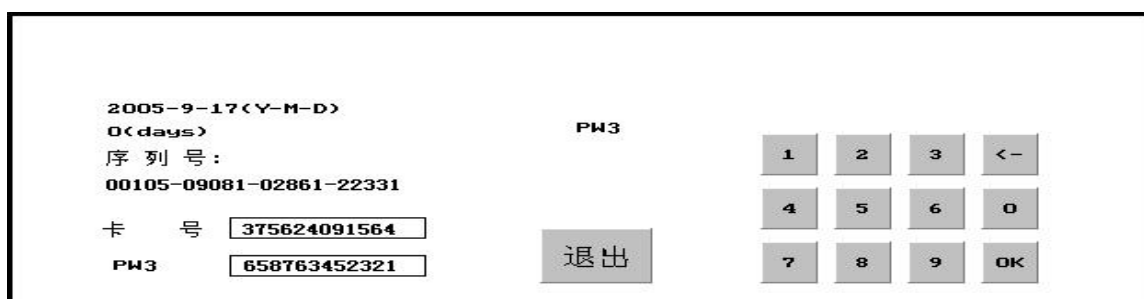


图 fig3.13

序列号----为加密狗的编号 serial number is the No. of soft dog.

卡 号----为存贮卡的编号 chip No. is the No. of saving chip

PW3-----为密码期数 **PW3** is one of the periodical password.

退出键-----退出界面 **quit** key is to quit the interface

情况处理: 1. 电脑出现 343 表示加密狗出错

2. 开机后出现这界面表示分期密码已到期---PW3 为第 3 期

3. 举例如上图输入 658763452321 **OK** **退出** 完成。

4. 如分期密码显示为 PWO,表示加密狗与数据表配对错误

Tips on how to deal with: 1. if there appear 343, the soft dog is mistaken.

2. If there appears the above interface, it shows the periodical code is out of date. PW3 is the 3rd period.

3. Take the above interface for example, you should put 658763452321 into it, and when it is finished, click **OK** and then click **quit** to quit.

4. PW0's appearance shows the wrong match of soft dog and datasheet.

3.5.传感器的检测方法 The detecting method of sensor

工作原理：传感器有三根线，红色 303 号线为电源+5V，黑色 302 号线为电源 0V，当感应到磁铁时白色线便有 0V--1.2V 的电压的变化，这 1.2V 的电压便是给电脑的信号。所以重点检测传感器白色信号线是否有 1.2V 电压的输出。(图 3.14)

Working principle: there are 3 lines on the sensor: line303 (red) indicates +5V power supply, line302 (black) 0V. When the sensor induces the magnet, the voltage to white line changes from 0V to 1.2V, which is the signal to the computer. So focus the key detection on the 1.2V voltage output from the white line on the sensor. (fig3.14)



图 fig3.14

方法一：万用表检测：通电后传感器应靠近磁铁。用红笔连接传感器的 303 号线，黑笔连接 302 号线应有 5V 电压。之后再用红笔连接白色信号线应有 0V—1.2V 电压变化，这为正常。

Method1: Multimeter detection: the sensor will get approach to the magnet after the power is turned on.

方法二：电脑与传感器之间的电路检测：在电脑里有项[检测]功能，通过检测的对应颜色指示（有信号圆点绿色、无信号圆点红色）便能判断各传感器及电路是否工作正常。如下图[检测]栏。

Method2: detection of circuit connected with computer and sensor: there is a [detect] function key in the computer. Judge whether the sensors and circuit is in good performance by the colour indication (green dot stands for “signal” while red dot “no signal”) as follows:

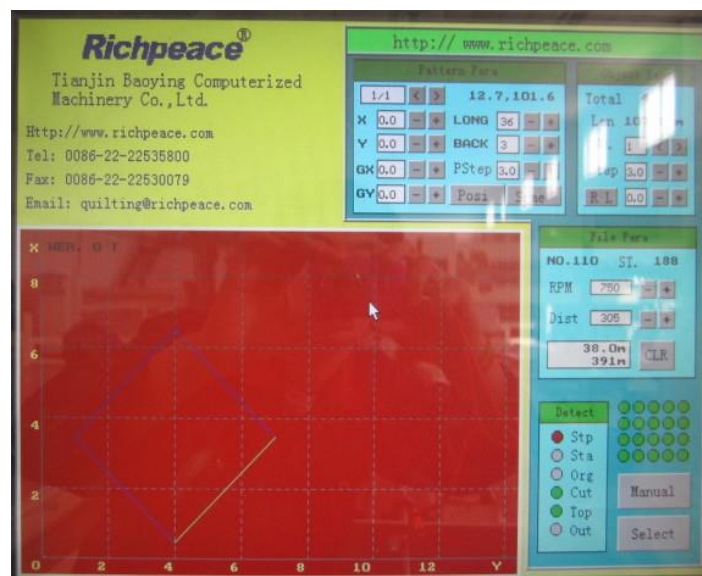


图 3.15 Fig3.15

○停止：机器停止工作时指示灯为红色。

Stop: the indicator light is red when the machine stops working.

○启动：按动机器启动按钮指示灯变绿色，否则应检查 a:29 号线及 KA2 接触器触头及相关电路。b: 启动、停止按钮及相关电路。c:IO 卡 29 号光电藕。

Start: the indicator light turns green when the “start” button is pressed, or the detection should be made below:

a: line 29 , the touching head of C2 contactor and the relating circuit, b: buttons of start& stop and the relating circuit, c: IO chip and photo coupler 29.

○原点：用手转动 X 伺服电机使磁铁到达复位感器，通电后指示灯应变绿色。否则应检查 a:磁铁与复位传感器距离过大或极性反装。b:与复位传感器相连接的 303 号线与 302 号线之间有无+5V 电压。c:用仪表测量与复位传感器相连接的 302 号线与 7 号线之间无 0V 与 1.2V 之电压变化，如果无电压变化更换磁敏开关（B2），如果有 0V 与+1.2V 之电压变化应检查 IO 卡接头或相关的 7 号光电藕。

The original point: manually turn X servo motor to make the magnet get close to reset sensor, the indicator light turns green after power on or check as follows: a: the distance between magnet and reset sensor is too large or they are wrongly installed, b: whether the voltage between line302 and line303 connected with reset sensor is +5V, c: whether there is a change of 0V-1.2V voltage between line302 and line7 connected with reset sensor., if not, change a new sensor, if there is, check the tie-in of IO chip and relating photo coupler 7.

○剪线：通电后指示灯应变绿色，否则机器不能启动。应检查 a: 磁铁与剪线传感器距离过大或极性反装。b: 与传感器相连接的 302 号线与 303 号线之间有无+5V 电压。c:用仪表测量与剪线传感器相连接的 302 号线与 27 号线之间无 0V 与 1.2 之电压变化，如果无电压变化更换磁敏开关（B3），如果有 0V 与+1.2V 之电压变化应检查剪线卡接头或相关的 27 号光电藕。

Thread-cutting: the indicator light turns green, or the machine will not run. Or check: a: the distance between magnet and reset sensor is too large or they are wrongly installed, b: whether the voltage between line302 and line303 connected with reset sensor is +5V, c: whether there is a change of 0V-1.2V voltage between line302 and line27 connected with thread-cutting sensor., if not, change for a new sensor, if there is, check the tie-in of IO chip and relating photo coupler 27.

○高位：高位定位磁敏开关（B4）。用手转动主轴手轮当针尺到达最高位置时指示灯应变绿色。否则应检查。a: 磁铁与高位传感器前后距离过大或极性反装。b:与高位传感器相连接的 302 号线与 303 号线之间有无+5V 电压。c:用仪表测量与高位传感器相连接的 302 号线与 39 号线之间无 0V 与 1.2 之电压变化，如果无电压变化更换传感器，如果有 0V 与+1.2V 之电压变化应检查剪线卡接头或相关的 39 号光电藕。

High position: the high position positioning sensor of needle loader. The indicator light turns green, if the hand wheel of main shaft is manually turned until the needle loader reaches the highest position. Or check: a: the distance between magnet and high position sensor is too large or they are incorrectly installed, b: whether the voltage between line302 and line303 connected with high position sensor is +5V, c: whether there is a change of 0V-1.2V voltage between line302 and line39 connected

with high position sensor., if not, change for a new sensor, if there is, check the tie-in of thread cutting chip and relating photo coupler 39.

- 出 布: X、Y 电机的工作信号。用手转动主轴手轮当针尺到达最低位置之前指示灯应变绿色。否则应检查。a: 磁铁与出布传感器的距离过大或极性反装;b:与出布传感器相连接的 302 号线与 303 号线之间有无+5V 电压;c:用直流电压表测量与出布传感器相连接的 302 号线和 5 号线之间有无 1.2V 电压变化, 如果无电压变化更换传感器, 如果有+1.2V 电压变化应检查 IO 卡接头是否有接触不良或者 IO 卡上与 5 号线相连的光藕。

Feed-out: the working signals of X, Y motor. The indicator light turns green, if the hand wheel of main shaft is manually turned until the needle loader reaches the nadir. Or check: a: the distance between magnet and feed out sensor is too large or they are improperly installed, b: whether the voltage between line302 and line303 connected with feed-out sensor is +5V, c: whether there is a change of 0V-1.2V voltage between line8 and line5 connected with feed-out sensor., if not, change a new sensor, if there is, check the tie-in of IO chip and relating photo coupler 5.

- 断 线: 不应用

Thread break: out of use

注明: 光电藕(4N25)的更换可参考第三章 3-3 电脑卡介绍。

Remark: refer to 3-3 in Chapter 3 **computer chip introduction** to change photo coupler 4N25.

第四章 V3.0 打版系统概述

Chapter4 V3.0 typeset system survey

富怡绗缝控制软件是集加工控制和花模打版于一体的现代专业软件，其主体由 4 个界面组成：加工界面、选择界面、绘图界面、排针界面。现分述如下：

Richpeace quilting software is a professional software application system which combines function of processing-control and pattern-making. The software contains four interfaces, that are, processing, pattern-selecting, drawing and showing of needle positions.

4.1.加工界面 Processing interface

机器进行绗缝加工时控制软件必须进入此界面，在此界面可以进行加工参数的调整，使加工效果达到理想的要求。(图 4.1)

The processing interface should be shown when the machine is quilting to get the desirable effect by adjusting parameters.(fig4.1)

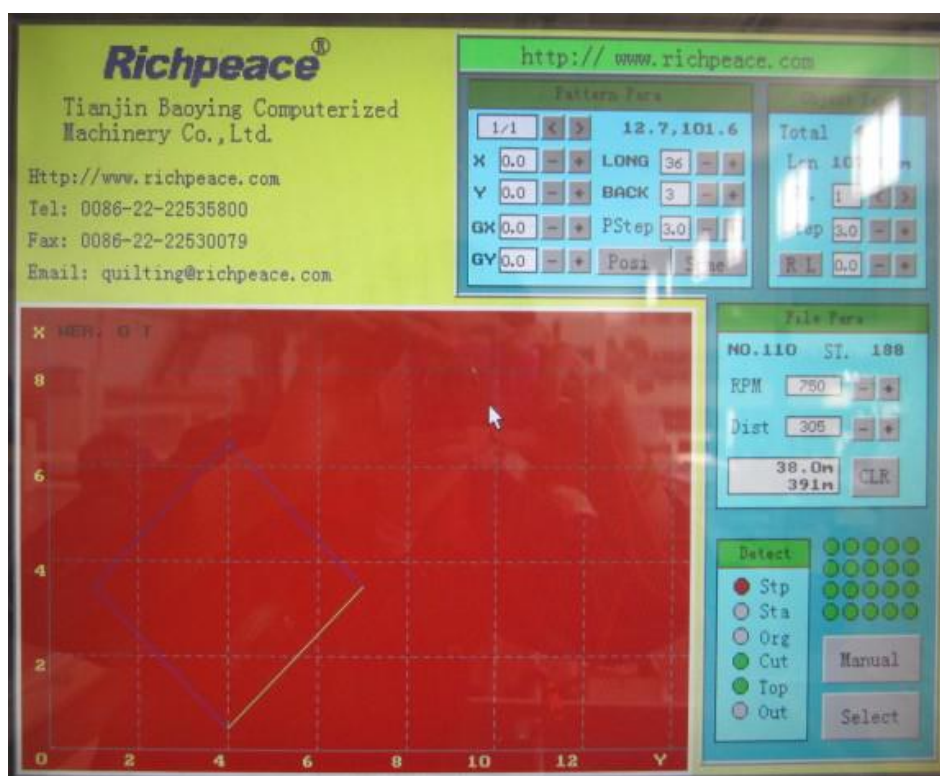


Fig4.1 图 4.1

4.2.选择界面 Selecting interface

用户需要改变绗缝图案时进入此界面可以选择用户所需图案，在此界面还可以通过磁盘与外界进行数据交换。(图 4.2)

If you need to quilt another pattern, you have to change to pattern-selecting interface to choose the pattern you are going to quilt. Also you can exchange the data through disk.(fig4.2)

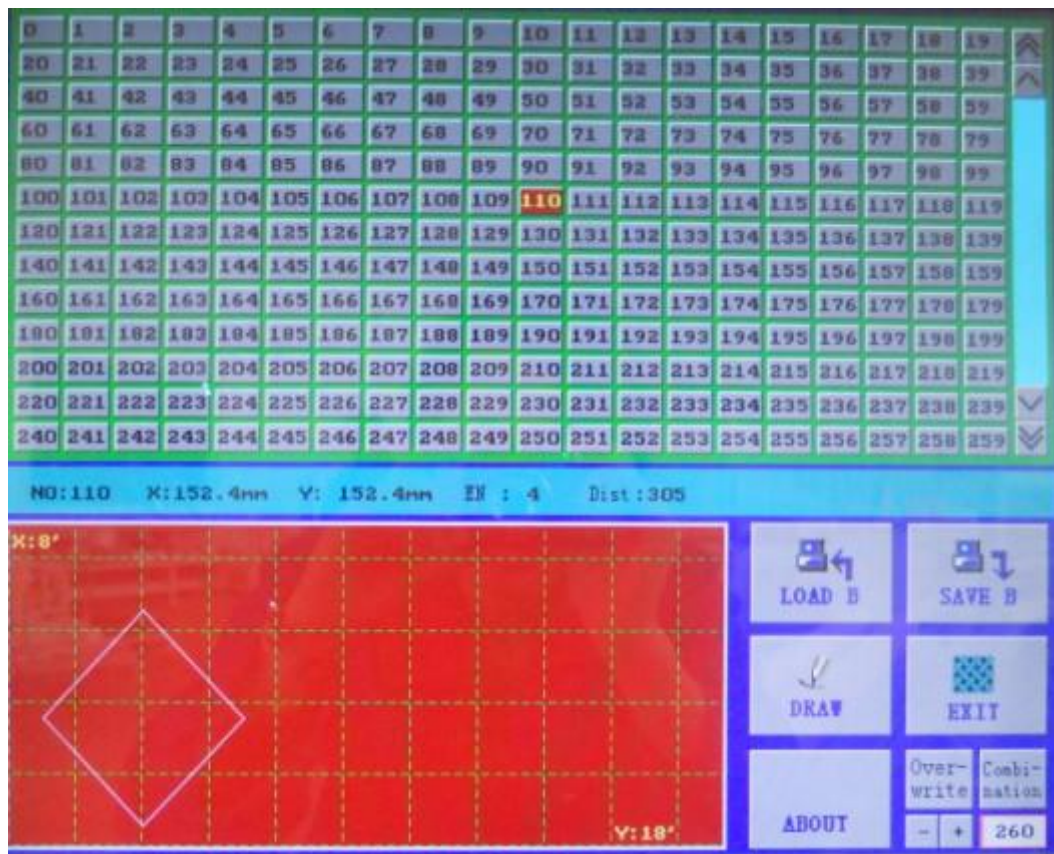


Fig4.2 图 4.2

4.3.绘图界面 Drawing interface

进入绘图界面用户可以创建新的花模和修改原有的花模，最终可以加工出满意的绗缝图案。
(图 4.3 4.4)

In this interface, you can create new patterns and modify the old one to quilt the satisfactory patterns.(fig4.3 4.4)

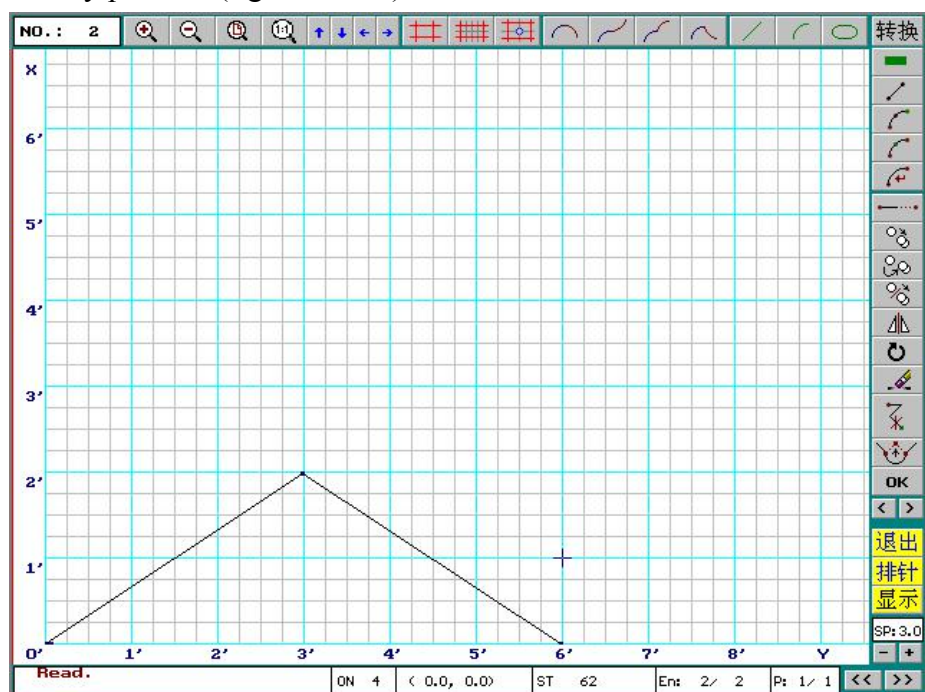


图 4.3

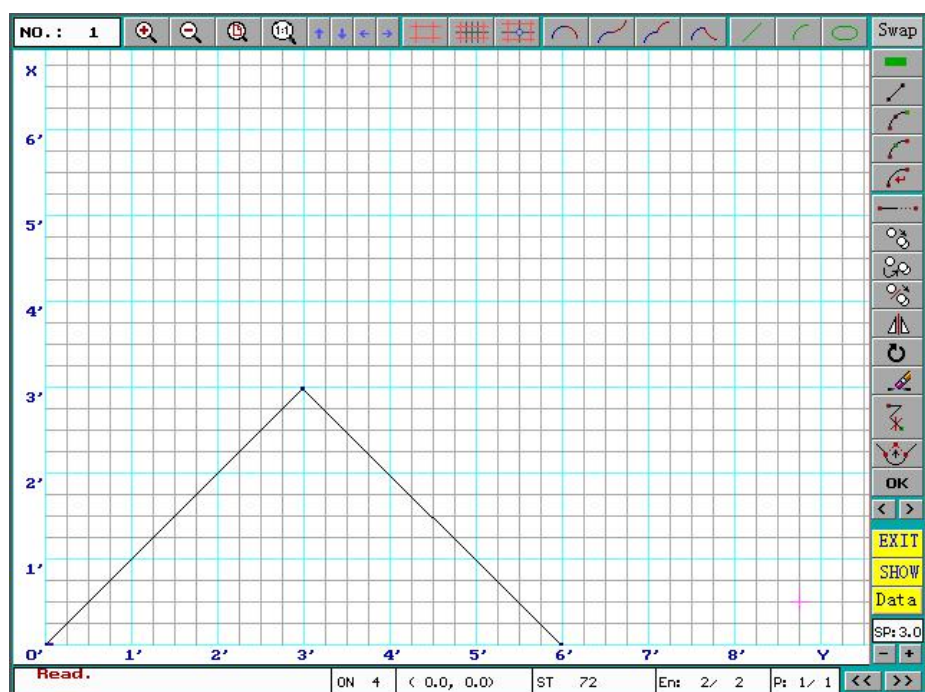


Fig4.3

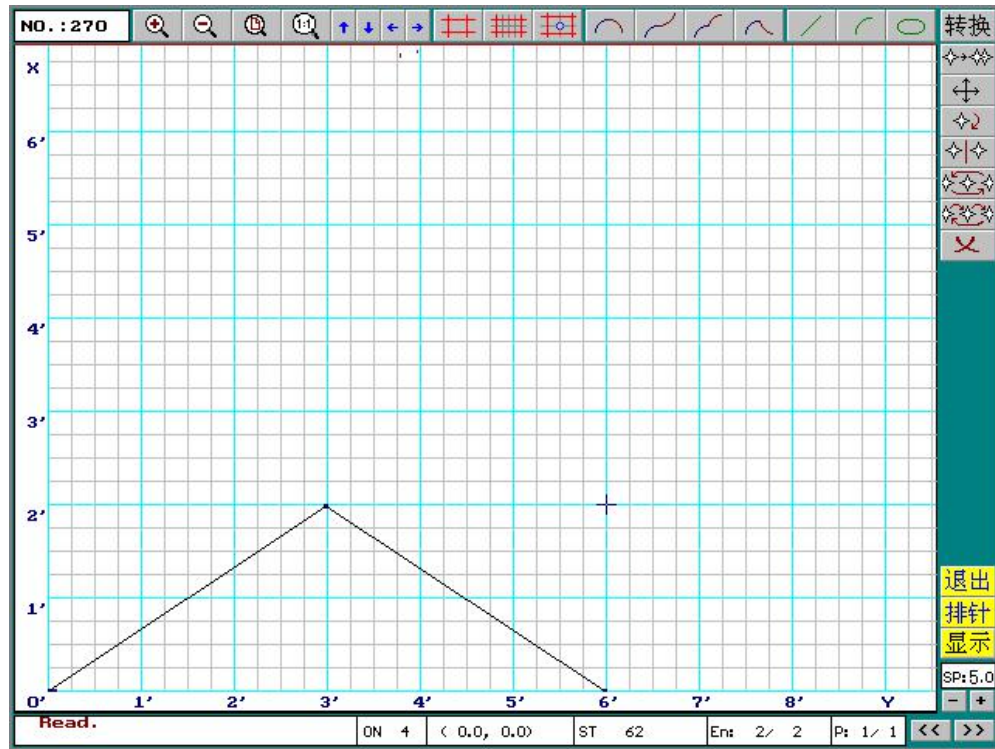


图 4.4

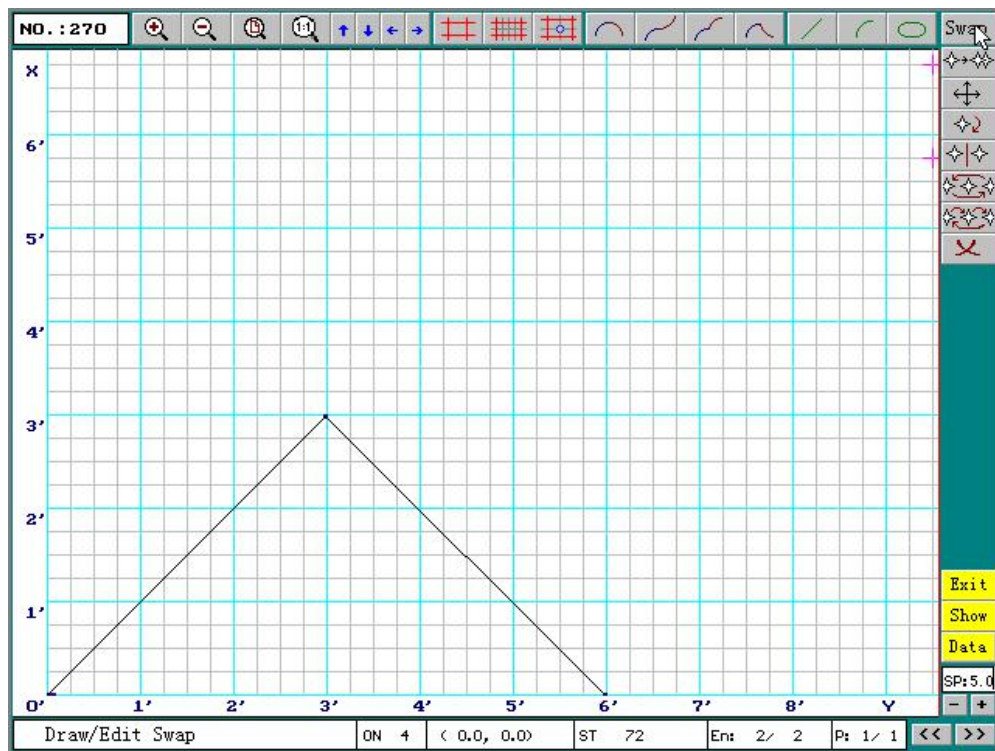


Fig4.4

4.4.排针界面 Showing interface of needle positions

进入排针界面用户可以预览机器绗缝出来的整体图案，并且在此界面设定独立花模花距（图 4.5 4.6）

In this interface, you can view the whole pattern that is to be quilted and set the distance between the independent ones.(fig4.5 4.6)

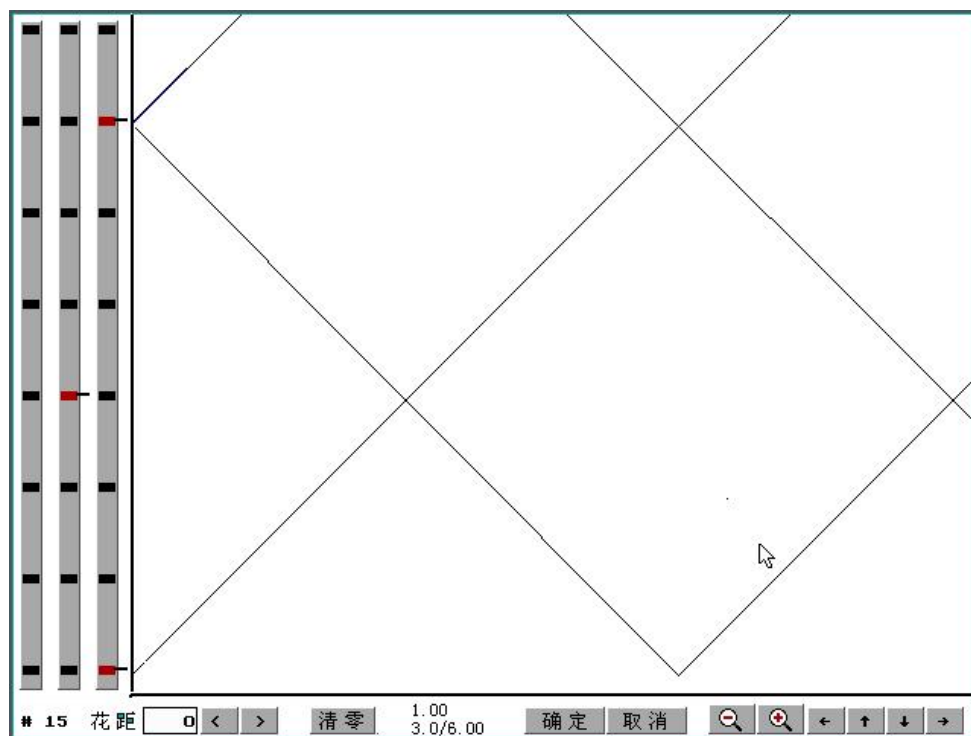


图 4.5

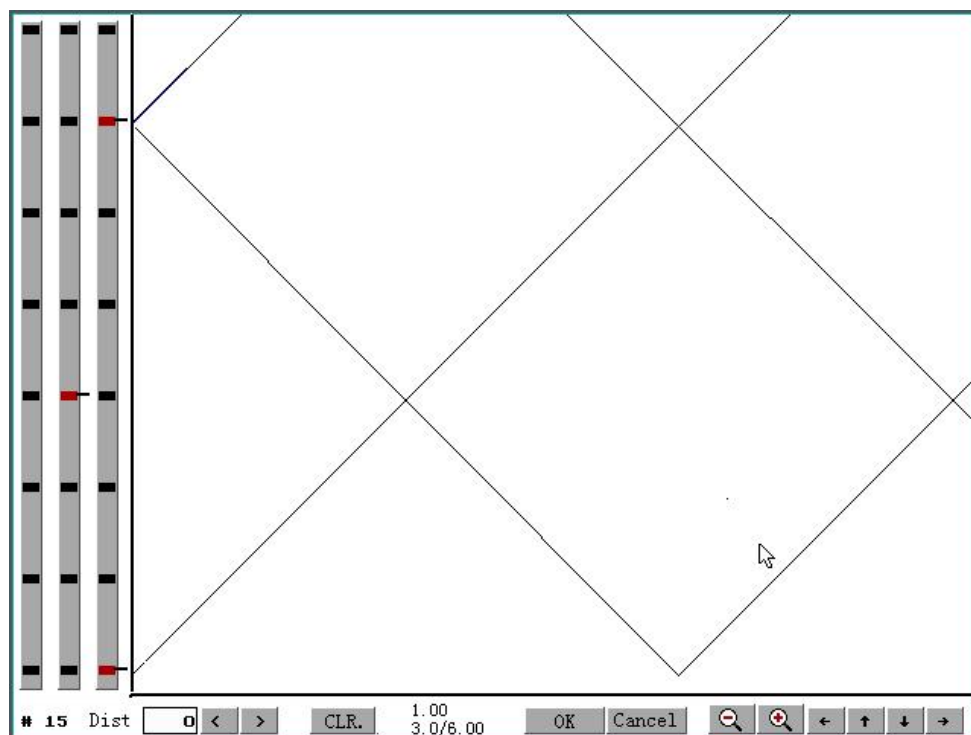


Fig4.5

附：Note:

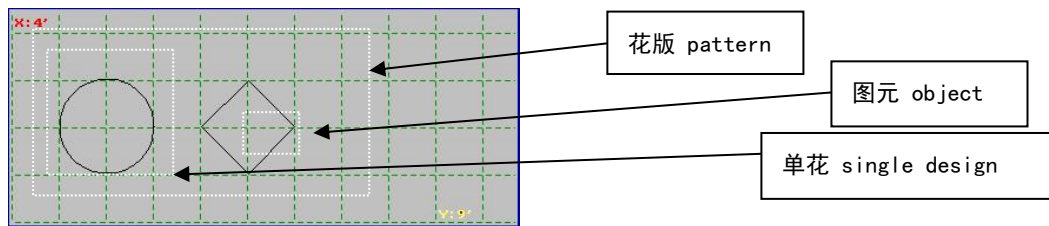


图 fig4.6

- ※ 说明：在某个花版号中，所有单花组成整体称为花版，1 个单花包括 N 个相关连图元（其中 N 为可以 1 ~ n 自然数）。例如上图 1-3 所示，该花版由 2 个单花组成，第一个单花由 2 个图元（其图元为圆弧）组成，第二个单花由 4 个图元（其图元为直线）组成。
- ※ Note: In one pattern , all the single designs compose a pattern and one single design includes N objects. (N stands for number from 1—n) As shown above, there are two single designs in this pattern. The first single design includes 2 objects (arcs) and there are four objects (straight line)in the second single design

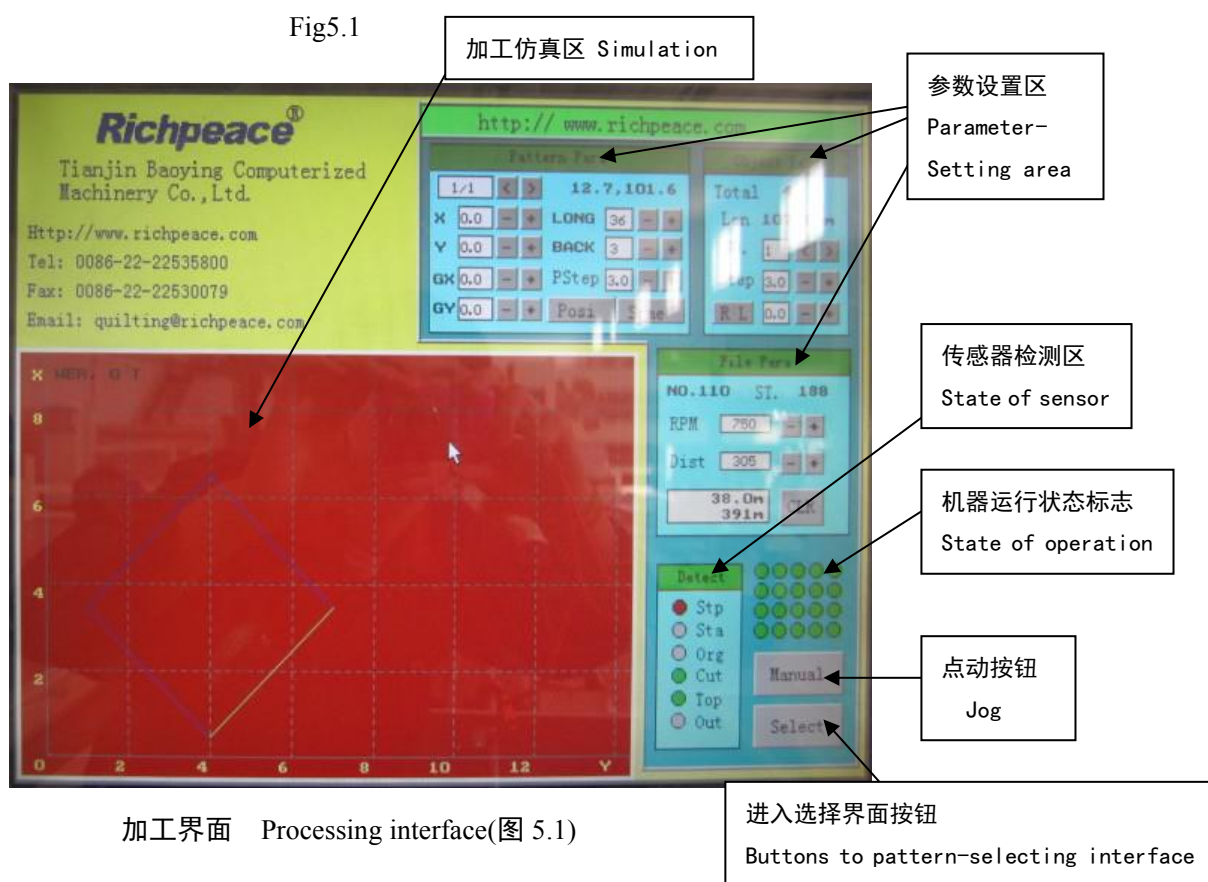
第五章 加工界面

Chapter5 Processing interface

5.1.界面认识 Interface Introduction

加工界面说明如图 5.1 所示:

Information about processing interface is as picture 5.1 below:



5.2.花模参数 Parameters for pattern

花模参数设置区域说明如图 5.2 所示：

Instructions on how to set parameters for a pattern are as follows:

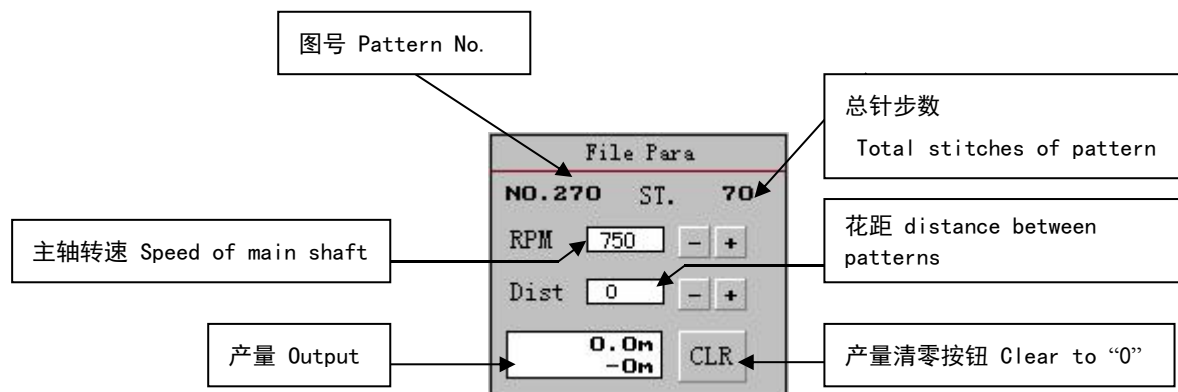


Fig5.2



图 5.2

5.2 花模参数设置区域 Parameter-setting area

产量显示框中上方数字为相对产量，下方数字为绝对产量。长按“清零”按钮 5 秒，相对产量可以清零。

The number above in output item is relative quantity, and number below is absolute value. Press **CLR** for 5 seconds, the relative value will be cleared, and become zero.

5.3. 单花参数 Parameters for single design

单花参数设置区域如图 5.3 所示：

Parameter-setting for single design is as shown in Picture 5.3 below:

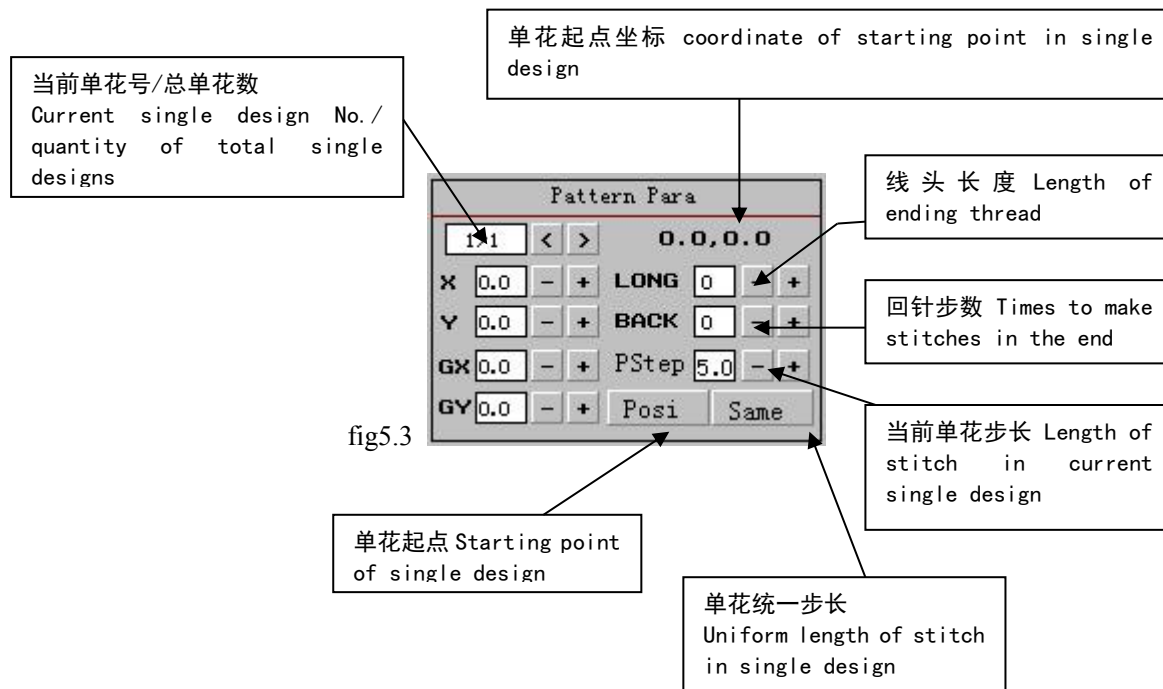


fig5.3

图 5.3

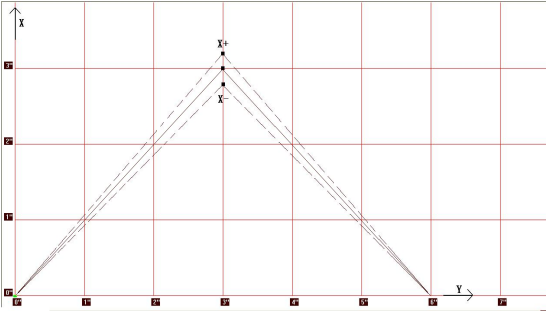
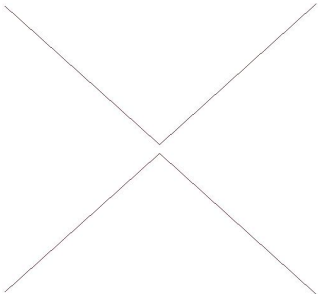
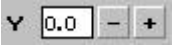
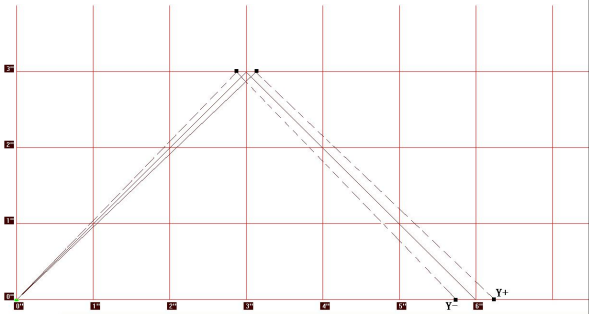
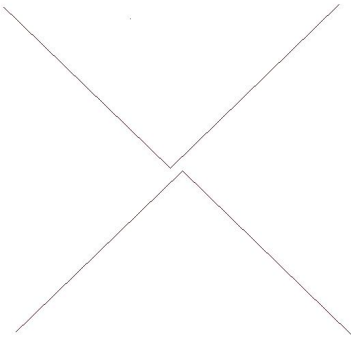


5-3 单花参数设置区域 Parameter-setting for single design

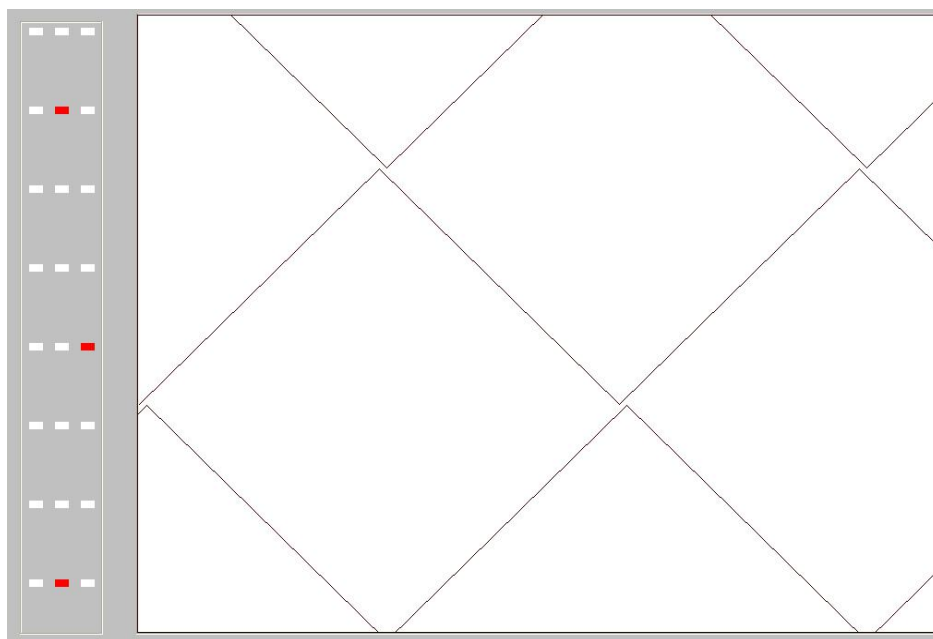
参数调整按键功能使用说明如下：

Functions of each button in parameter-adjusting area are as follows:

原理：将花版 X 方向的顶角（X 点）进行上下的调节，如下图虚线所示： Principle: Adjust top angle (point X) in X direction. The picture with dotted lines is followed:	作用：将如下图所示进行 X 0.0 - + 的调整，使图形对角靠在一起。 Function: Adjust X as follows to close two angles. 调节：对角分开调“+”、对角交过头调“—” Method: Adjust “+” if two angles are apart;
--	---

	adjust “-” if they are overlapped. 
 原理：保证花版 X 方向最顶点的 X 座标值不变的原则对 Y 方向终点的长度进行调节。 如下图 Y—、Y+点虚线所示： Principle: Adjust parameters in Y direction on the condition that all the parameters in X direction are unchanged. Do it as shown in Y-,Y+ below: 	作用：将如下组合图的对角错位进行修正 Function: Correct the wrong positions of different angles. 
 调节： 方法一测量。参考下图，用尺测量纺缝出来的花版起点与终点长度是否 6 英寸， 如少于 6 英寸调“+”、大于 6 英寸调“-” Solution one is to measure. Make a reference to the picture below please. Measure the distance between the starting point and finishing point to check whether it is 6 inches or not. If it is less than 6 inches, please adjust “+” and vice versa. 方法二目视。参考下图的排针效果，图形对角的错位，前排针迹对角在右边，后排针迹对角在左边的这种现象，表示 Y 方向过长，调 Y“-”，反之调 Y“+”。 Solution two is to check by eyes. Make a reference to the picture of needle position	

below. The phenomenon that angles in one object are on the right side of former line and angles in upper line are on the left side occurs; it indicates that it is too long in Y direction. Please adjust “-” and vice versa.

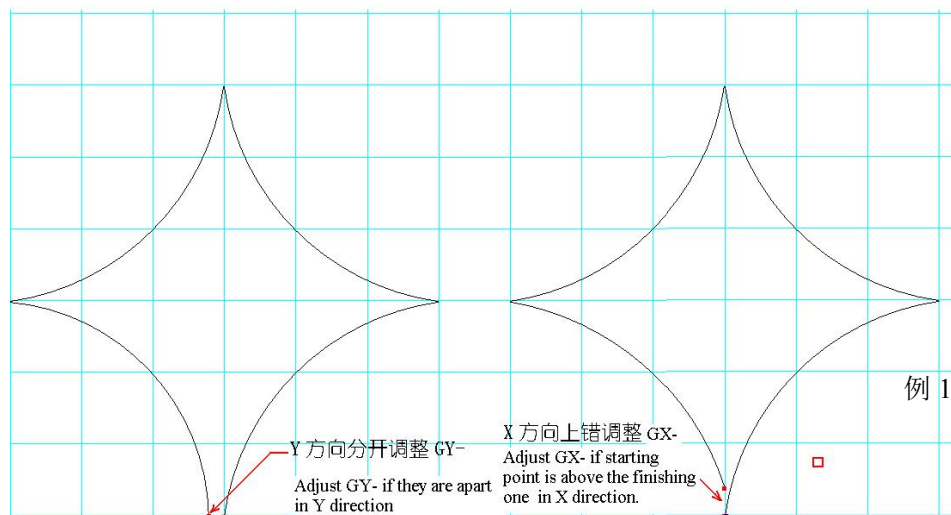


GX 0.0 - +

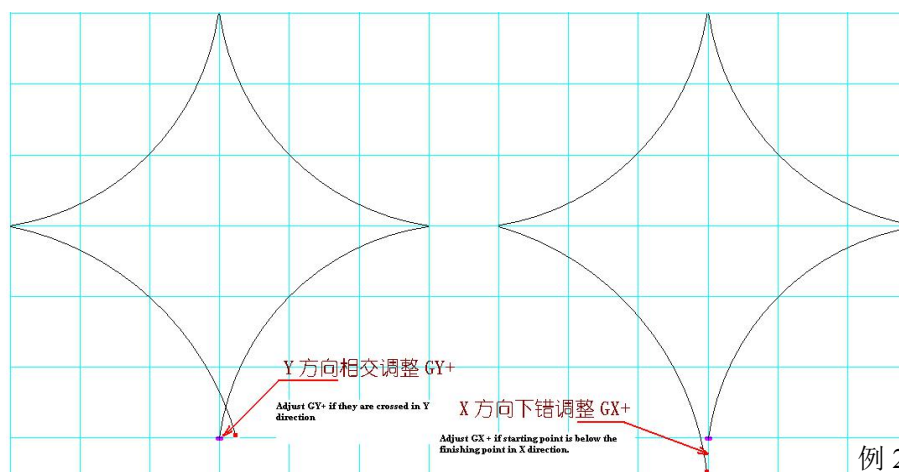
; GY 0.0 - +

原理：对单花末点进行位置调节，调节如下图例 1 所示：

Principle: Adjust finishing point as follows in picture 1.



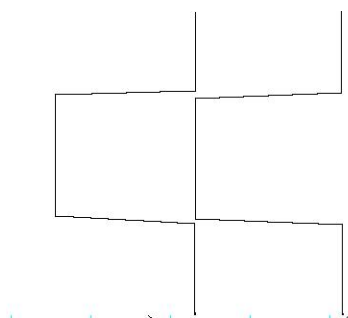
GX 0.0 - + ; GY 0.0 - + 调节如下图例 2 所示:



例 2

GY 0.0 - + : 绗缝方格对角成梯形调 GY-, 如图例 3 所示:

If angles on the cross form trapezoid, please adjust "GY-" as follown in picture 3.



例 3

5.4.图元参数 Parameters for object

图元参数设置区域说明如图 5.4 所示:

Instructions about parameter-setting area shown as picture5.4:

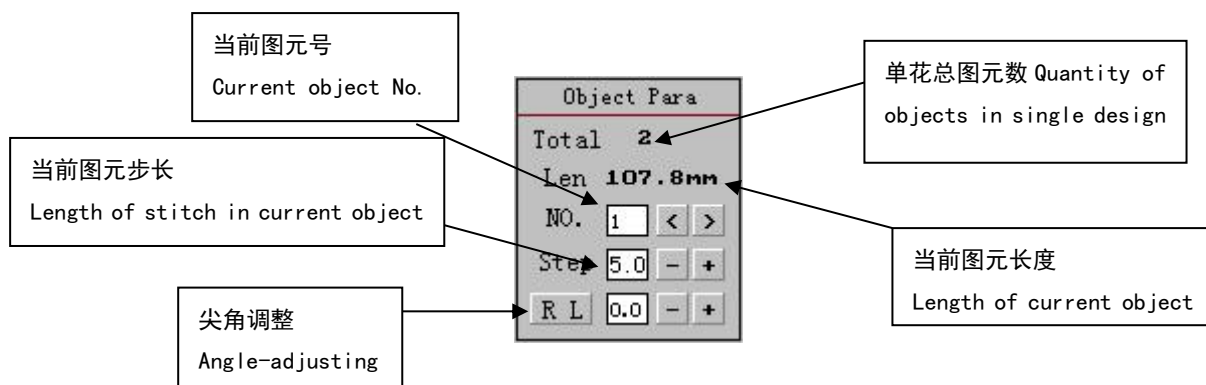


Fig5.4



图 5.4

图 5.4 图元参数设置区域 Setting parameters of object. (图 fig5.5)

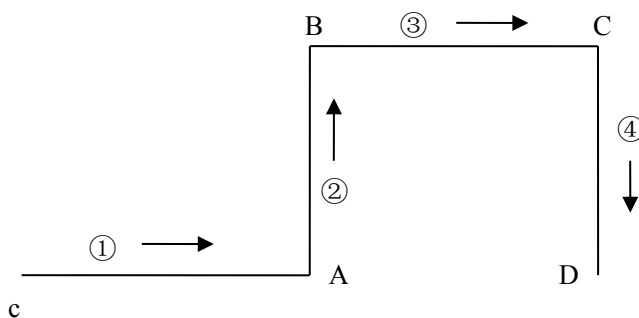


图 fig5.5 示范图例 Example



尖角调节: 以图 5.5 为例, 对图中 B、C 角进行拉尖, 操作步骤如图 5.5-1 所示:

Angle-adjusting: Take picture 5-5 as an example, modify angle B, C to ensure right angles. The steps to operate are as follown in picture 5.5-1



图 5.5-1 尖角调节
操作

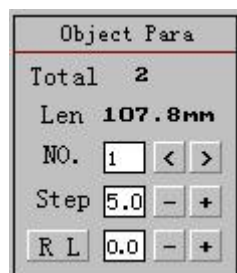


fig5.5-1 adjust the
angle

步骤 1. 点击 < 选择第二图元 NO. 2 (B 角)

Step 1: Click < to choose object No.2 NO. 2 (Angle B)

步骤 2. 点击 + 改变数值 R L 0.5 (B 角)

Step 2: Click + to change value R L 0.5 (Angle B)

步骤 3. 重复步骤 1, 点击 < 选择第三图元 NO. 3 (C 角)

Step 3: Repeat step I, click < to choose object No.3 NO. 3 (Angle C)

步骤 4. 重复步骤 2, 点击 + 改变数值 R L 0.5 (C 角)

Step 4: Repeat step 2, click + to change value R L 0.5 (Angle C)

Step - + 线段步长调节：以图 5.5 为例，对编号为②、③的线段进行步长调节,步骤如图 5.5-2 所示：

Adjust length of stitch in objects: Take picture 5.5-2 as an example, adjust length of stitch in objects ②,③. The steps are as follows:



图 5.5-2 步长调节操作

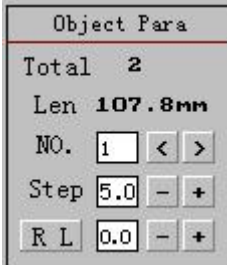


fig5.5-2 Operation on how to adjust length of stitch

步骤 1. 点击 选择第二图元 (图元②)

Step 1: Click to choose object No.2 (Object ②)

步骤 2. 点击 改变数值 (图元②)

Step 2: Click to change value (Object ②)

步骤 3. 重复步骤 1, 点击 选择第三图元 (图元③)

Step 3: Repeat step 1, Click to change object No.3 (Object ③)

步骤 4. 重复步骤 2, 点击 改变数值 (图元③)

Step4: Repeat step 2, click to change value (Object ③)

说明: 第一图元为默认值, 不需选择; 数值单位为 mm。

Note: Object No.1 is fixed value and there is no need for you to choose.
And the unit is mm.

5.5.传感器检测 Sensor detecting

传感器检测区域说明如图 5.6 所示: Instructions to sensor detecting area are as follows:(fig5.6)

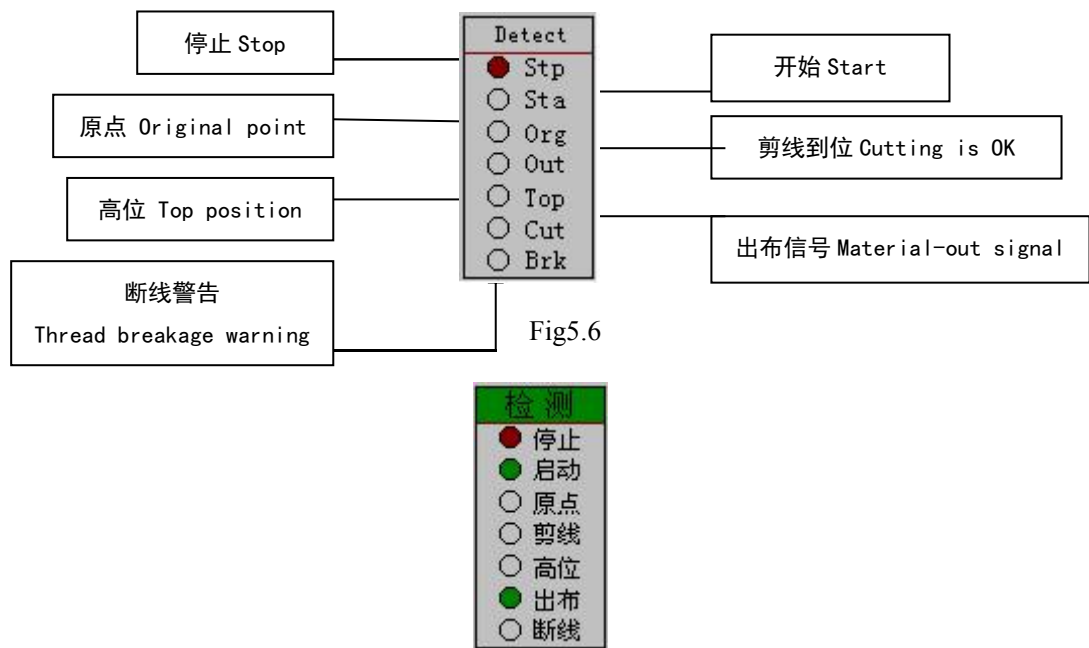


Fig5.6

图 5.6

图 2-8 传感器检测区域 Sensor detecting area

第六章 选择界面

Chapter 6 Pattern-selecting interface

6.1 界面认识 Interface Introduction

如下图 fig:6.1

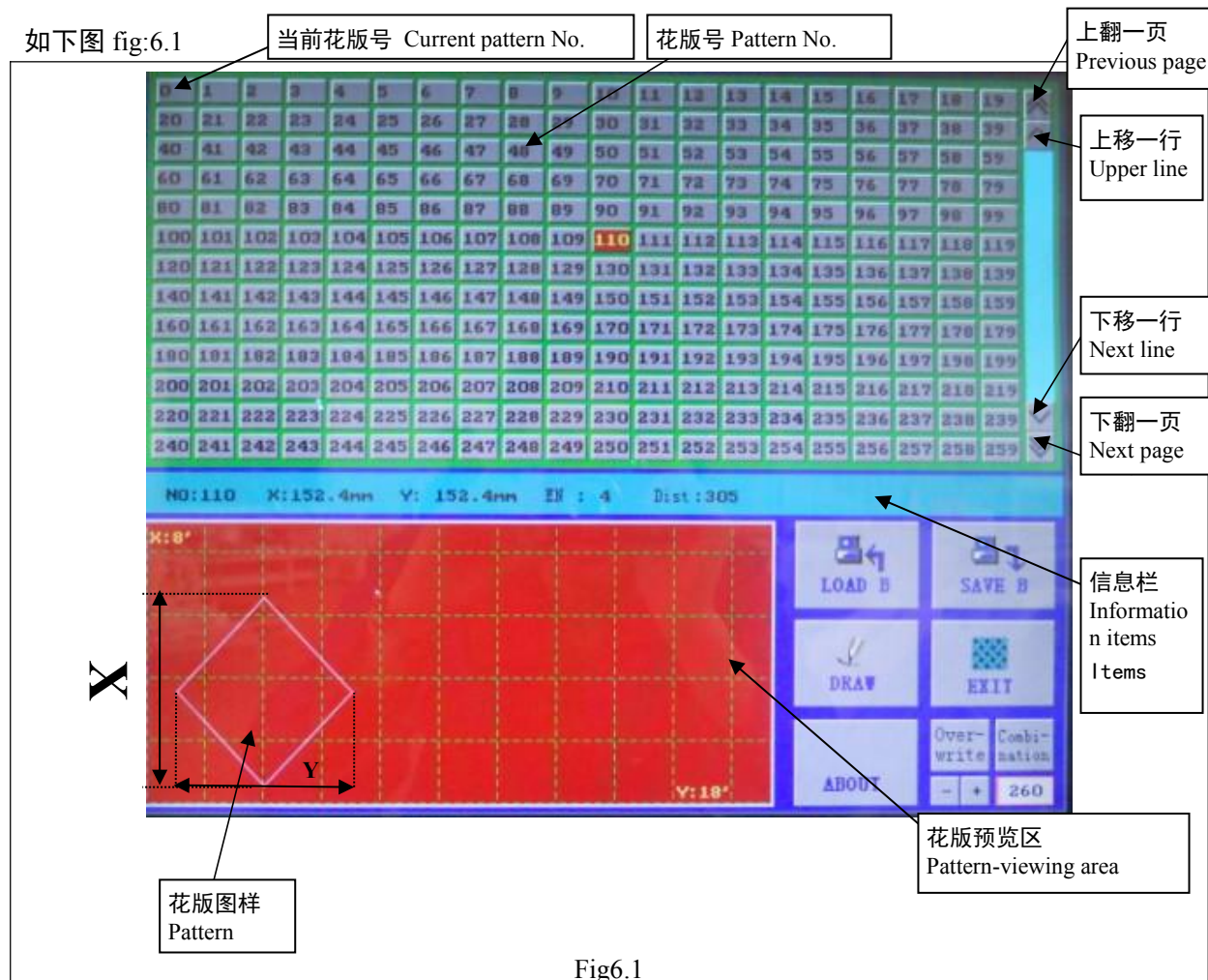


Fig6.1

1. 单击加工界面 **Select** 按钮，进入该花版选择界面，例如上图 6-1 所示，该界面共有 1000 个花版号按钮，每个花版号按钮均对应于一组花版图样，鼠标单击某个花版号按钮，该按钮颜色呈反色显示，即表示为当前花版号，并在花版预览区可见图样，若无图样显示，表示该花版号中没有存放数据。

例如上图中当前花版号为 1，其中存放图样可见花版预览区。

Click **Select** in processing interface to choose pattern as shown in the picture 3-1 above. There are 1000 patterns in this interface with one button saving one pattern. Click one of the buttons and then it will be in dark color, that is current pattern No. You can see the pattern in pattern-viewing area. If there is no pattern in this area, it indicates there is no data in it. For example, the pattern No. above is 1. The pattern can be viewed in the viewing area.

2. 中间一信息栏 **NO: 1 X: 76.2mm Y: 152.4mm EN: 2 Dis: 0** 为当前花版的信息，各项含义如下：

The information item includes some information about current pattern, and meaning of each item is following:

NO 表示当前花版号, X, Y 为能包围图样最小尺寸, EN 表示当前花版号中总图元数, DIS 表示加工当前花版间距

NO. is current pattern number. X,Y is the minimum size that covers the pattern. EN means the quantity of total objects in current pattern. DIS indicates the distance between two different patterns.

3. 其它各工具按钮说明如下 Instructions about other buttons are as follows:

按钮 Button	功能 Function
	上翻一页/上移一行/下翻一页/下移一行 Previous page/upper line/next page/next line
	读取磁盘数据 Read data from disk
	保存数据到磁盘中 Save data to disk
	绘图界面 Drawing interface
	加工界面 Processing interface
	关于信息 Information
	复制/合并花版 Copy/combine pattern

6.2 功能按钮操作 Functions of buttons

6.2.1.  单击按钮, 上翻一页, 上移动 200 个花版号

Click  to move to the previous page, that is, 200 patterns previously.

6.2.2.  单击按钮, 上移一行, 上移动 20 个花版号

Click  to move to the upper line, that is, 20 patterns previously.

6.2.3.  单击按钮，下翻一页，下移动 200 个花版号

Click  to move to the next page, that is, 200 patterns followed.

6.2.4.  单击按钮，下移一行，下移动 20 个花版号

Click  to move to the next line, that is, 20 patterns followed.

6.3 读磁盘 Load B

6.3.1  单击该按钮读取磁盘数据，出现如下图 6.2 所示选择框：

Click  for one time to read the data in the disk and the following item 6.2 will be shown.

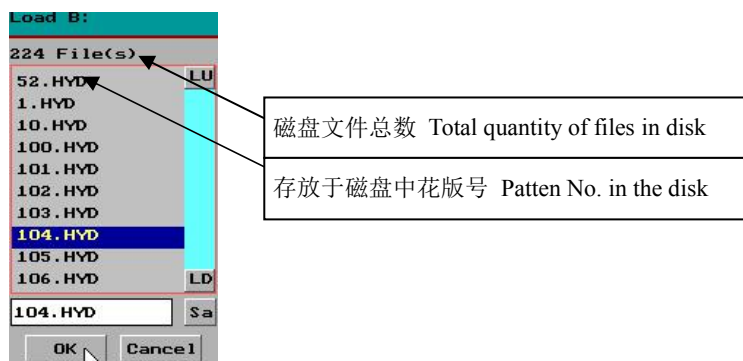


图 fig6.2

6.3.2 在选择框首栏显示该磁盘文件总数，在选择框右侧点击  按钮一次，上移一行，上移 1 个花版号。点击  按钮一次，下移一行，下移 1 个花版号，单击  按钮在磁盘中搜索当前图号之文件名。

The first item is the quantity of total files. Click  on the right side to select previous line, that is, previous pattern NO. Click  to move to the next line, that is, one pattern No. followed. Click  to search for the name of current pattern NO. 按上述方式查找需要花版号。

Search for the pattern No. you need according to the operations above.

6.3.3 将光标移至该花版号栏并单击，此时该花版号呈反色显示，同时下方空白栏则显示相应已选中花版号。

Move the cursor to pattern numbers item and then click. The selected pattern NO. will be in dark color, meanwhile, in the blanket item on the bottom there will be showing the selected pattern No.

6.3.4 单击“OK”按钮，确定，即将所选花版号中数据复制至当前花版号中，如果当前花版号中有数据，出现如下提示框：(图 6.3)

Click “OK” to confirm, that is, copy the selected pattern to the current pattern NO.

If there is some data in current pattern, the following notice is showing:(fig6.3)



图 6.3

fig6.3

6.3.5 如果选择“Yes”，则覆盖当前花版号中数据，选择“No”取消该操作。

If you choose “Yes”, you will replace all the data in current pattern; choose “No” to cancel the operation.

6.3.6 如未检测到磁盘时，系统提示如下：(图 6.4)

If there is no disk to be checked, the system notice is as follows(fig6.4)

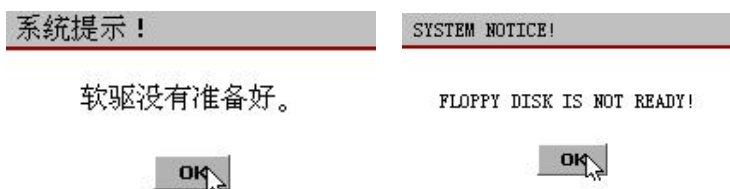


图 6.4

fig6.4

6.4 写磁盘 Save B



6.4.1 单击该按钮，将当前花版号中数据复制至磁盘，若磁盘存在与当前花版号相同花版号，出现如下提示框：(图 6.5)



Click to copy current pattern to disk. If the pattern No. is the same as that in disk, the notice will be as follows:(fig6.5)



图 6.5

fig6.5

6.4.2 如果选择“Yes”，则覆盖磁盘中相应花版号中数据，选择“No”取消该操作。如未检测到磁盘时，系统提示如下：(图 6.6)

If you choose “Yes”, all the data of corresponding pattern in the disk will be replaced. Choose “No” to cancel the operation. If there is no disk to be checked, the system notice is as follows:(fig6.6)

系统提示！

SYSTEM NOTICE!

软驱没有准备好。

FLOPPY DISK IS NOT READY!



图 6.6

fig6.6

6.5 绘图工具介绍 Drawing tool introductions



6.5.1 单击该按钮，进入当前花版号绘图界面。



Click to show drawing interface of current pattern.



6.5.2 单击该按钮，返回加工界面。



Click to return to the processing interface.



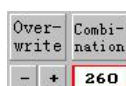
6.5.3 单击该按钮，进入本公司相关信息和输入机器授权号。



Click to know some information about our factory and input authorized No. of machine.



6.5.4 单击该按钮，将当前花版号中的数据复制到另一花版号（该按钮右下角为另一花版号）中。并出现如下框提示框：(图 6.7)



Click to copy all the data of current pattern to another one. (Another pattern No. is on the right bottom of this button) The following notice is as follows:(fig6.7)

系统提示！

SYSTEM NOTICE!

覆盖已存在文件？

COVER THE EXISTED FILE?

Yes

No

Yes

No

图 6.7

fig6.7

6.5.5 如果选择“Yes”，如果另一花版中没有数据，复制过去，如果有数据，则覆盖原花版号中数据，选择“No”取消该操作。

点击“—”按钮一次，该右下角空白栏花版号减 1，点击“+”按钮一次，该右下角空白栏花版号加 1。如果按住“—”或“+”按钮不放，其空白栏花版号连续递减或递增。

例如该按钮所示，此时单击该按钮，则将当前花版号 1 中的数据复制到花版号为 201 中。

If you choose “Yes”, copying is finished successfully in case that there is no data in another pattern. Replacement will be conducted if there is data. Choose “No” to cancel operation.

Click “-”, then the number in the right bottom will be decreased one by one; click “+” to increase the number one by one. If you press “-” or “+” continuously, the number will be increasing or decreasing continuously.

Take the button above as an example; if you click it, then the data in pattern No.1 will be copied to pattern No.201.

第七章 绘图界面

Chapter 7 Drawing interface

7.1 界面认识 Interface Introduction

如图 fig:7.1

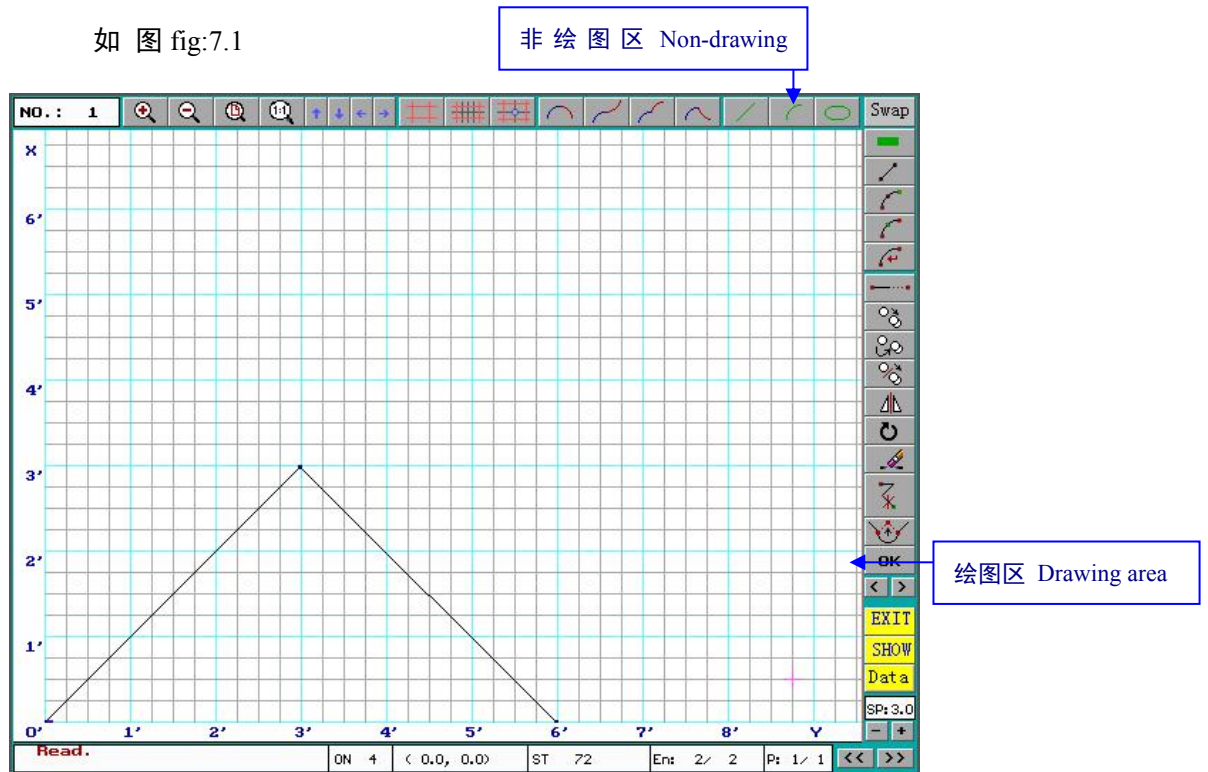


Fig7.1

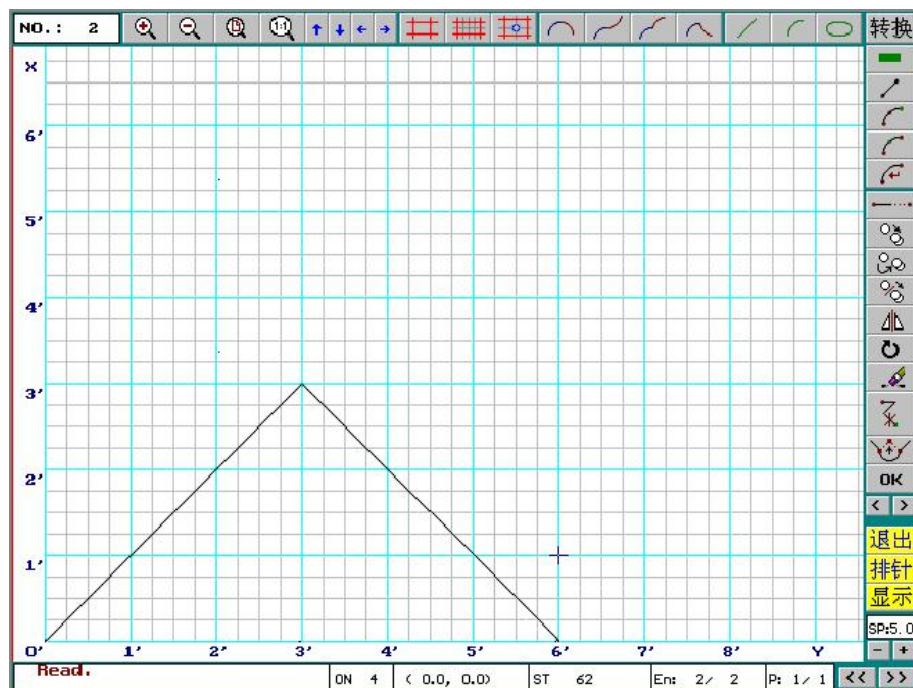


图 7.1

※ 该说明书中未作说明单击均默认单击左键

※ Without any special explanation in this manual. Clicking is referenced to click the left key of mouse.

7.1.1 单击选择界面  按钮进入当前花版号绘图界面，例如上 7-1 图所示，光标在绘图区呈十字光标形状，在非绘图区呈箭头形状，左上角显示  表示当前进入花版号为 1 号。

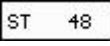
Click  to enter the drawing area of current pattern. Take picture 7-1 above as an example, the cursor will be showing as cross cursor in drawing area and as arrowhead in non-drawing area.  on the left top means that the current pattern number is No.1.

7.1.2 上图信息栏显示

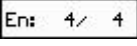
Read.	ON 3	(0.0, 0.0)	ST 48	Ent: 4 / 4	Pt: 1 / 1
-------	------	-------------	-------	------------	-----------

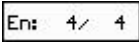
7.1.2.1 ，表示等待选取命令， ON 表示网格捕捉命令已开，OFF 表示网格捕捉命令已关，可单击  按钮来切换栅格捕捉开关，3 表示当前一英寸之间的栅格数为 3，可单击  按钮使栅格变疏，栅格数随之减少，反之改变栅格密，单击  按钮。

 means in command state.  “ON” means that the function of grid-snapping is activated. “OFF” means inactivated. You can click  to switch on/off. “3” means that there are three grids on each side in the square of one inch. Click  to scatter grids and the quantity of grids will be decreasing and click  to intensify grids.

7.1.2.2  表示花版总针数为 48 针，其值是随图元数变化以及针间距变化而变化。

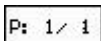
 means quantity of stitches is 48 and it will vary with different objects and length of stitch.

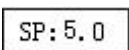
7.1.2.3  前一数表示当前单花的图元数为 4，后一数表示花版的总图元数为 4。

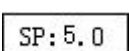
 the former number means that the quantity of objects in current single

design is 4 and the latter one means that the quantity of total objects in the pattern is 4.

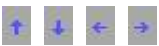
7.1.2.4 前一数表示当前单花的位置，后一数表示花版的单花总数，可单击  按钮当前单花位置改变至前一位置，单击  当前单花位置改变至后一位置。

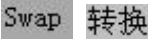
 the former number means the position of current single design and the latter one is quantity of total single designs in the pattern. Click  to move to the former single design and click  to the latter single design.

表示加工图元时针间距，单击  减小针间距，单击  增大针间距，此时针间距随之改变，相应所有花版总针数随之改变。

 means the length of stitch. Click  to reduce the length and click  to increase the length of stitch. As the length of stitch is adjustable, the quantity of total stitches is changing with the adjustment.

7.1.3 各工具按钮说明如下 Instructions to buttons are as follows:

按钮 Buttons	功能 Functions
	视窗放大 Zoom in
	视窗缩小 Zoom out
	整体显示花版 Show the whole pattern
	视图以 1: 1 尺寸显示 Show in 1:1
	视窗 上 / 下 / 左 / 右 移动 View up/down/left/right moving
	网格变疏 Scatter grids
	网格变密 Intensify grids
	网格捕捉 Grid-snapping
	单花 X 轴对称复制 X-axis symmetrical copy of single design
	单花中心对称复制 Central symmetrical copy of single design
	单花平移复制 Moving copy of single design
	单花旋转复制 Rotary copy of single design

	绘制辅助直线（没加工数据） Draw aid line (No data)
	绘制辅助圆弧（没加工数据） Draw aid arc (No data)
	绘制辅助椭圆（没加工数据） Draw aid ellipse (No data)
	图元编辑与单花整体编辑工具条切换 Conversion between object-editing and single design editing
	确定单花起点 Specify starting point of single design
	绘制直线 Draw line
	绘制圆弧（起点、中间点、未点） Draw arc (starting, middle, finishing point)
	绘制圆弧（起点、未点、中间点） Draw arc (starting, finishing, middle point)
	绘制相切圆弧 Draw an arc in tangent
	端点拉伸 Stretch point
	图元平移复制 Move & copy object
	图元旋转复制 Rotate & copy of object
	图元镜像复制 Mirror & copy object
	图元镜像剪切 Mirror without copy of object
	图元旋转剪切 Rotate without copy of object
	删除所有图元 Erase all the objects
	删除最后一个图元 delete the last object
	修改花版 Parttern modification
	完成/确定 Finish/ Confirm

	选择图元 Choose object
 	退出 (返回选择界面) Exit (Return to pattern-selecting interface)
 	排针显示 (进入排针界面) Needle showing(Enter showing interface)
 	数据显示开/关 Switch on/off data-showing
	针距 减 / 增 (详见上述 3.) Length of stitch decrease/increase (See 3.)
	单花位置 前移 / 后移 (详见上述 2.4) Position of single design forward/backward (See 2.4)
	单花整体复制 Integral copy of single design
	单花整体移动 Integral moving of single design
	单花整体旋转 Integral rotation of single design
	单花整体对称 Integral symmetry of single design
	单花位置交换 Exchange of single designs
	单花按位置插入 Insert single design according to position
	单花删除 delete single design

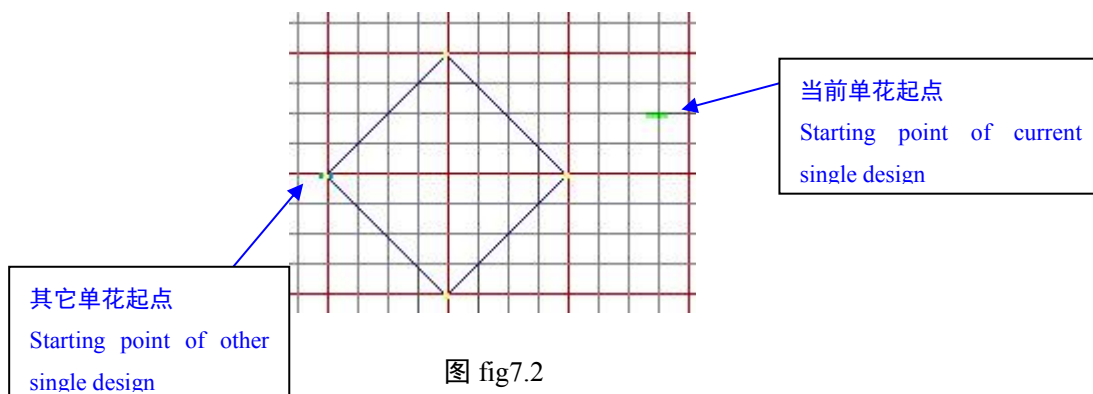
7.2 绘制命令操作 Drawing command operation

7.2.1 确定单花起点 Specify starting point of single design

光标移至非绘图区，单击  按钮，信息栏则出现“指定单花起点”提示，然后将光标移至绘图区，单击一点，此时该点为新一单花起点，同时亦是当前单花起点。此时可连续点击，至直确定好单花起点。例如下图 7.2：

Move the cursor to non-drawing area, and click  . Then item “**specify starting point of single design**” will appear. After that move the cursor to drawing area and click at any point, which will be the starting point of a new single design as well as of the

current design. You can click until the starting point is confirmed. Show in picture 7.2 below:



- ※ 说明：1.当前单花起点相对其它单花起点明亮，如上图 7.2
- ※ Note: 1.The starting point of current single design is brighter than that of others as shown in picture 7.2 above.
- ※ 2.进入绘图界面有图元时，则创建新的单花起点，若进入绘图界无图元时，初始单花起点默认为原点，此时可将该单花起点从原点搬移至其它处
- ※ 2. If there is object in drawing area, you can make new starting point. If not, the original point is expected to be the starting point, and starting point of single design can be moved to anywhere from the original point.
- ※ 3.若要准确移至某处，关闭捕捉开关，可观察信息栏上坐标值，移至该处。（捕捉开关未关，只能在栅格交叉点上移动。）
- ※ 3.If you want to move the point to the exact place, please make sure that the grid-catching is switched off. You can view the coordinate on the information item and move to that coordinate. (if the grid-catching is switching on, you can only move on the crossed point of grids)

7.2.2 绘制直线 Draw line

7.2.2.1 单击  按钮，信息栏则出现“指定直线终点”提示，在绘图区单击一点，该直线已确定，可连续点击下一点，依此如此。

7.2.2.1 Click  and notice “specify **finishing point of straight line**” will be coming up. If you click any point in drawing area, then the line is confirmed. Click next point to continue drawing more.

7.2.2.2 当在直线处于游动状态下，右键单击，即退出画该条直线状态，但要继续画直线，同样在绘图单击一点即可。

7.2.2.2 When the line is in the moving state, click with the right key of the mouse to quit. If you want to continue to draw lines, please click the left key in drawing area.

- ※ 说明：直线均以当前单花中前一图元的末点为起点，若无前一图元，则以当前单花起点为起点。
- ※ Note : The starting point of line is the finishing point of previous object in

current single design. If there is no previous object, it will be the starting point of current single design.

例如下图 For example:

单击  按钮, 将至直线末点确定至下, 如图 7.3

Click  to specify the finishing point of line as follows in picture 7.3

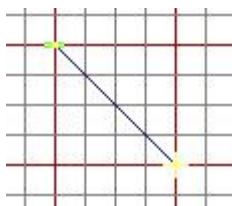


图 fig7.3

7.2.3 绘制圆弧 Drawing arc

7.2.3.1 画法一：起点，中间点，末点画圆弧

7.2.3.1 Method 1: Specify arc through starting point, middle point, and finishing point.

7.2.3.1.1 单击 , 信息栏则出现“指定圆弧上一点”提示, 即指定随机点, 在绘图区指定随机点后, 信息栏则出现“指定圆弧末点”提示, 再确定末点, 可连续画多段圆弧。

Click  and notice “specify a random point on the arc” will be coming up. After your confirmation in drawing area, another “specify finishing point of an arc” will be coming up, and please specify the finishing point. Click next point to continue drawing more.

7.2.3.1.2 当在圆弧处于游动状态下, 右键单击, 即退出画该条圆弧状态, 但要继续画圆弧, 同样在绘图单击一点即可。

When the arc is in the moving state, click the right key of the mouse to quit. If you want to continue to draw arcs, please click in drawing area.

※ 说明：圆弧起点以当前单花中前一图元末点作为起始点, 如果无图元时, 则以单花起点作起始点。

※ Note: The starting point of an arc is the finishing point of previous object in current single design. If there is no object, the starting point of the arc will be that of single design.

例如画下图 7.4 中的圆 Take drawing circle below 7.4 as an example:

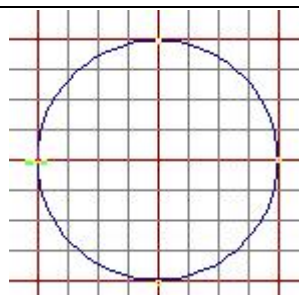


图 fig7.4

7.2.3.1.3 单击  按钮，确定随机点，再确定圆弧末点，再连续画下一段即可。

Click  to specify at random point and then specify the finishing point of the arc and then continue to draw the next one.

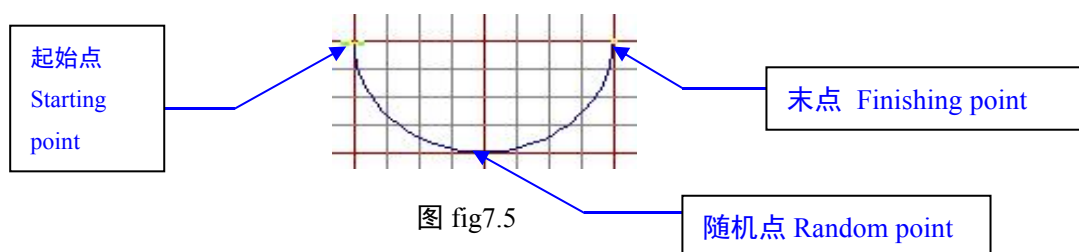


图 fig7.5

7.2.3.2 画法二： 起点，末点，中间点画圆弧

Method 2: Specify an arc through starting point, finishing point, middle point.

7.2.3.2.1. 单击 ，信息栏则出现“指定圆弧末点”提示，即指定随机点，在绘图区指定末点后，信息栏则出现“指定圆弧上一点”提示，再确定随机点，可连续画多段圆弧。

7.2.3.2.2 当在圆弧处于游动状态下，右键单击，即退出画该条圆弧状态，但要继续画圆弧，同样在绘图单击一点即可。

7.2.3.2.1 Click  and notice “**specify finishing point of an arc**” will be coming up. After your confirmation in drawing area, notice “**specify a point on the arc**” will be coming up. You can continue to draw more arcs if you repeat.

7.2.3.2.2 When the arc is in the moving state, click with the right key of the mouse to quilt. If you want to continue to draw arcs, please click the left key.

例如下图 7.6 所示：Show as picture 7.6 below



图 fig7.6

说明：圆弧起点以当前单花中前一图元末点作为起始点，若无图元，则以单花起点作为起始点

Note : The starting point of an arc will be the finishing point of previous object.

If there is no object, the starting point of single design will be that of arc.

7.2.3.3 画法三：相切圆弧（圆弧与上一图元相切）

Method 3: Arc in tangent (The arc touches previous object but not cross the object)

7.2.3.3.1 单击  按钮，信息栏则出现“指定圆弧末点”提示，确定末点，此时圆弧与上一图元相切，可连续画多段圆弧。

Click  and notice “specify finishing point of an arc” will be coming up.

Once you specify, the arc will be in tangent with the previous object.

7.2.3.3.2 当在圆弧处于游动状态下，右键单击，即退出画该条圆弧状态，但要继续画圆弧，同样在绘图单击一点即可。

When the arc is in the moving state, click the right key of the mouse to quilt. If you want to continue to draw arcs, please click the left key.

※ 说明：圆弧起点以当前单花中前一图元末点作为起始点，如果无图元时，则以单花起点作起始点，并与水平轴正方向相切。

※ Note: The starting point of an arc is the finishing point of previous object in current single design. If there is no object, the starting point of arc is that of single design. And the arc is in right tangent with horizontal axis.

例如下图：图 7.7（1、2）

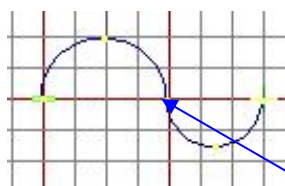


图 fig7.7-1

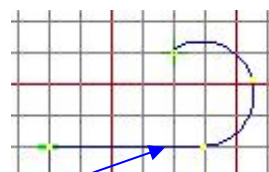


图 fig7.7- 2

相切 In tangent

图 7.7 说明：上面 1 图中前一段图元为圆弧，2 图中前一段图元为直线。

Note: In the first picture above, the previous object is an arc. And in the second picture, the previous object is a line.

7.3 编辑命令操作 Edit command operation

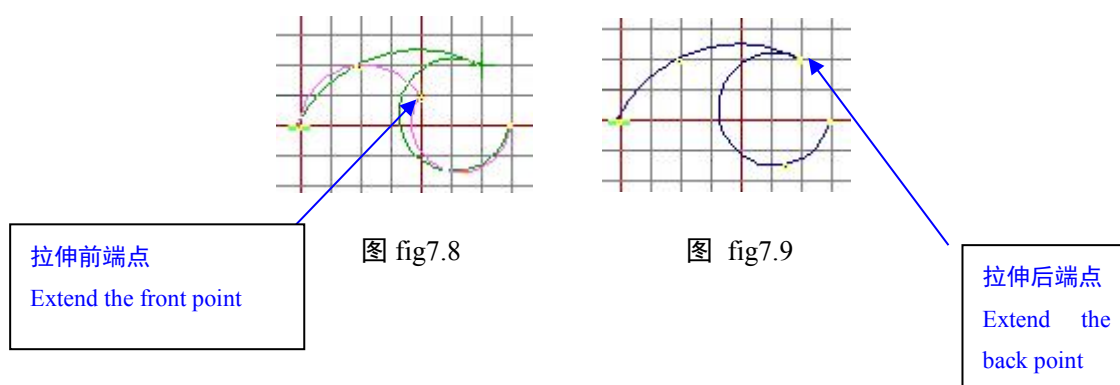
7.3.1 端点拉伸 Stretch points

7.3.1.1 光标移至非绘图区，单击  按钮，信息栏则出现“指定拉伸端点”提示，然后将光标移至绘图区，捕捉需拉伸端点，单击该点，此时信息栏则出“指定拉伸位置”提示，然后将光标移置某位置，单击即可。

Move the cursor to the non-drawing area and click . Then notice “**specify the point to be stretched**” will be coming up. After that, please move the cursor to the drawing area to catch the point to be extended and click there. Another notice “**specify position to be stretched to**” will be coming up and move cursor to somewhere to click.

7.3.1.2 单击退出正在处于游动拉伸状态，可重新捕捉需要拉伸端点。

Click to quit the state of moving and re-catch the point to be extended as shown below:例如下图：(图 fig7.8 7.9)



※说明(图 7.8): 拉伸端点为图元关键点，则与该端点相关图元随光标移动而变化。
(如果图元为直线，关键点为图元的首末两点，如果图元为圆弧，关键点为圆弧的起始点，随机点，末点。)

※Note(fig7.8): Stretched point is the key one of object; any object relevant to this stretched point is changing upon the movement of cursor. (The key points will be the starting point and finishing one if the object is line; if the object is an arc, the key points will be the starting point, random point and finishing point)

说明(图 7.9): 拉伸端点为花版中图元的关键点

Note(fig7.9): Points to be extended are the key ones in the objects of pattern.

7.3.2 图元复制 Copy object

7.3.2.1 单击  按钮，信息栏则出现“选取图元”提示，然后单击  按钮，选取图元呈蓝色状态，可连续选取多个图元（不超出当前单花中图元数）。选好图元之后，然后将光标移至绘图区，单击左键，即将所选图元进制复制，此时所复制得到的图元将连接至当前单花末尾。

Click  and notice “choose **object**” will be coming up and click  to choose

object which will be in blue. You can choose many objects (not exceeds the quantity of objects in current single design). Once you have chosen the object, please move the cursor to drawing area and click with left key. Then you can get the copy and at the same time, the copied object will be connected to the end of current single design.

7.3.2.2 在选中图元状态下,若取消复制所选图元中某个图元时,点击  按钮。可连续取消多个图元。若全部取消所选中图元,在绘图区右键单击,然后可重新选取图元进行复制。

In the state of being selected, if you want to erase any one of copied objects, click . You can quit many objects. If you want to quit all the selected objects, please click with right key in drawing area, then you can re-choose new object to copy.

例如下图: (图 fig7.10 7.11 7.12)



图 fig7.10

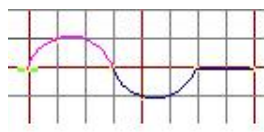


图 fig7.11

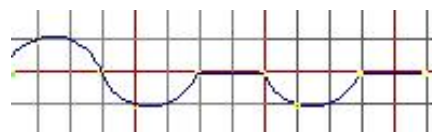


图 fig7.12

说明 Note: 图 7.10 选中需要进行复制图元

Picture 7.10 Choose object to be copied.

图 7.11 取消选中图元最后一个图元

Picture 7-11 Erase the last object of all the selected objects

图 7.12 复制选中的后两个图元

Picture 7.12 Copy the last two selected objects.

注意: 1.选取图元时,只能在当前单花选取图元。若无图元,此时操作无效。

Note : 1.You can only choose object in current single design.

If there is no object, the operation is void.

2. 选取图元时,只能从当前单花中最后一图元开始,倒序依次选取图元。

2.When you choose objects, you can only choose from the last one in current single design to the previous ones.

3.取消图元时,只能从所选中图元最后一图元开始,倒序依次取消图元。

3. When you quit objects, you can only do that from the last object in selected objects to the previous ones.

7.3.3 图元旋转复制 Rotate and copy object

7.3.3.1 单击  按钮,信息栏则出现“**选取图元**”提示,按上述方式选取图元,选好图元之后,信息栏出现“**指定旋转角度**”提示,将光标移至绘图区,单击即指定旋转角度。旋转复制后所得图元将连接至当前单花末尾。

Click  and then notice “choose **object**” will be coming up. Please choose object according to the instructions above. After that, notice “**specify rotary degree**” will be coming up. Move the cursor to drawing area and click to specify rotary degree. After rotary copy, new object will be connected to the end of current single design.

7.3.3.2 在指定旋转角度状态下，在绘图区会右键单击，退出当前状态，然后可重新选取图元进行旋转复制。

In the state of rotating, click with right key in drawing area to quit and then you can re-choose the object to have rotary copy.

例如下图：(图 fig7.13 7.14)

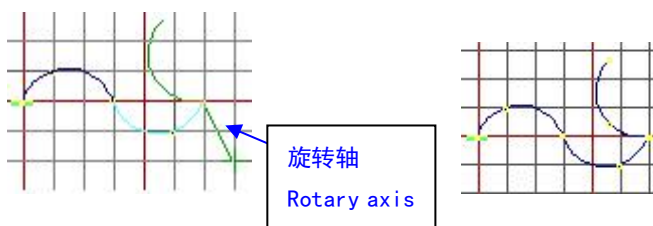


图 fig7.13

图 fig7.14

说明：图 7.13 将所选取最后一图元进行旋转复制，旋转角度未确定状态

图 7.14 旋转角度确定后

Note: fig7.13 Conduct rotary copy of the last object in state of uncertain rotary degree.

fig7.14 is after specifying the rotary degree.

注意：1. 旋转轴是当前单花中最后图元末点与当前光标构成的轴

Note:1. The rotary axis is formed by the finishing point of last object in current design and cursor.

2. 旋转角度是以水平正方向为起始角，当前转旋轴为终止角

2. Rotary degree is starting with the right horizontal level and finishing with rotary axis.

7.3.4 图元镜像复制 Mirror and copy object

7.3.4.1 单击  按钮，信息栏出现“**选取图元**”提示，按上述方式选取图元，选好图元后，将光标移至绘图区单击，信息栏出现“**指定旋转轴**”提示，此时游动状态图元与所选取图元关于旋转轴对称，再单击即指定旋转轴，对称复制后所得图元将连接至当前单花末尾。

Click  and the notice “**choose object**” is coming up and choose object according to the method above. After you have chosen the object, please move the cursor to drawing area and click. Another notice “**specify rotary axis**” is coming up. Then the object in moving state is in symmetry with the selected one and click, that is, specify rotary axis. After symmetry, the newly-created object will be connected to the end of current single design.

7.3.4.2 在指定旋转轴的状态下，在绘图区右键单击，退出该状态，可重新再选取图元进行镜

像复制。例如下图：(图 7.15 7.16)

In the fixed state of rotary axis, please click with right key in drawing area to exit. Then you can re-choose object to copy in mirror. (fig7.15 7.16)

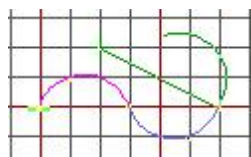


图 fig7.15

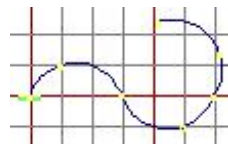


图 fig7.16

说明：7.15 旋转轴未确定时，所选取图元与复制得到图元关于旋转轴对称

Note: 7.15 the selected object and the copied object are symmetrical of rotary axis when the rotary axis is uncertain.

7.16 旋转轴确定后得到图元

7.16 the objects after the rotary is confirmed.

※ 旋转轴是当前单花中最后图元末点与当前光标构成的轴

※ Rotary axis is formed by the finishing point of current single design and the cursor.

7.3.5 图元镜像 Mirror object

7.3.5.1 单击  按钮，信息栏出现“**选取图元**”提示，按上述方式选取图元，选好图元后，将光标移至绘图区单击，信息栏出现“**指定旋转轴**”提示，此时游动状态图元与所选取图元关于旋转轴对称，再单击即指定旋转轴，此时所选取的图元将移至于旋转轴对称位置。

Click  and then notice “**choose object**” will be coming up. Once the object is specified, move the cursor to drawing area and click. Then notice “**specify rotary axis**” is coming up, and the moving object and selected object are symmetrical of rotary axis. Click again to specify rotary axis, then the selected object will be moved to the position where it is in symmetry with rotary axis.

7.3.5.2 在指定旋转轴的状态下，在绘图区右键单击，退出该状态，可重新再选取图元进行镜像。

例如下图：(图 7.17 7.18)

In the fixed state of rotary axis, please click with right key in drawing area to exit. Then you can re-choose object to mirror copy. (fig7.17 7.18)



图 fig7.17

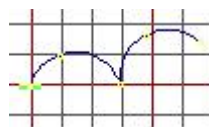


图 fig7.18

说明：图 7.17 旋转轴未确定

Note: fig7.17 in the state of unconfirmed rotary axis.

图 7.18 旋转轴确定后，所选图元搬移至关于旋转轴对称位置

fig7.18 after the rotary axis is confirmed, the selected object is moving to the place where it is in symmetry with rotary axis.

※ 旋转轴是当前单花中所选中图元中最后一个图元首点与当前光标构成的轴

※ Rotary axis is formed by the starting point of the last selected single design and the cursor.

7.3.6 图元旋转 Rotate object

7.3.6.1 单击  按钮，信息栏出现“**选取图元**”提示，按上述方式选取图元，选好图元后，将光标移至绘图区，信息栏出现“**指定旋转角度**”提示，再单击即指定旋转轴，此时所选取图元将移至旋转轴处。

Click  then notice “**choose object**” will be coming up. Once the object is confirmed, move the cursor to drawing area. Then notice “**specify rotary degree**” is coming up, and the rotary axis is confirmed if you click. After that, selected object will be moved to the place in which rotary axis is.

7.3.6.2 在指定旋转角度的状态下，在绘图区右键单击，退出该状态，可重新再选取图元进行旋转。例如下图：(图 7.19 7.20)

In the state of specific rotary degree, click with right key to exit and then you can re-choose object to rotate as shown below:(fig7.19 7.20)

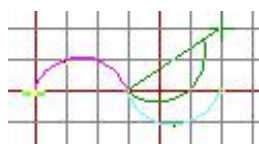


图 fig7.19

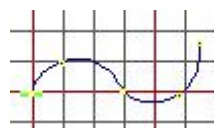


图 fig7.20

说明：图 7.19 旋转角度未指定时状态

Note: fig7.19 in the state of unconfirmed rotary degree.

图 7.20 旋转角度指定后，所选图元搬移至旋轴位置

fig7.20 after the rotary degree is confirmed, the selected object will be moved to the place in which the rotary axis is.

※ 旋转轴是当前单花中所选中图元中最后一个图元首点与当前光标构成的轴。

※ Rotary axis is formed by the starting point of the last selected object in current single design and the cursor.

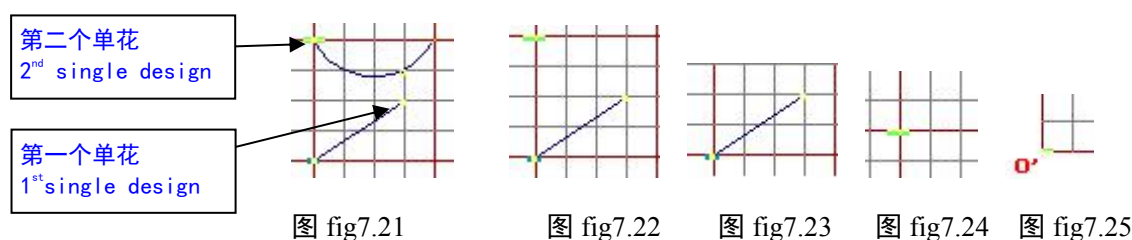
7.3.7 删除最后一个图元 Delete the last object

7.3.7.1 在非局部修改状态下, 点击  按钮一次, 则删除当前单花中最后一个图元, 如果当前单花中图元已删完, 则删除当前单花起点, 并且 下一个单花 变为当前单花 (如果没有下一个单花, 则将当前单花起点归于原点)。

In the state of non-partial modification, click  once, then you can erase the last object of current single design. If all the objects in the current single design are erased, then the starting point of single design is to be erased. After that, next single design will be the current single design (If there is no next single design, then the starting point of current single design is to be the original point)

※ 说明: 上面所指 下一个单花: 在依创建单花时顺序, 如果删除单花为最后单花 (倒数第一个单花), 下一个单花则为倒数第二个单花, 如果删除非最后一个单花, 则为当前单花的下一个单花。

※ Note: next single design mentioned above means: according to the turn to make designs, if you erase the last single design (the first design from the bottom), Next single design is the second single design from the bottom. If the design you erased is not the last single design from the bottom, Next single design is the next one to the current single design. 例如下图: For example:



说明: 图 7.21 未点击按钮时, 第二个单花为当前单花

Note: fig 7.21 without clicking, the second single design is current one.

图 7.22 点击按钮第一次, 删除一图元

fig 7.22 Click for the first time to erase one object.

图 7.23 点击按钮第二次, 此时当前单花无图元, 则删除当前单花起点, 第一个单花变为当前单花

fig 7.23 Clicks for the second time, there is no object in current single design; the starting point of current single design is to be erased. And the first single design will become current single design.

图 7.24 点击按钮第三次, 删除一图元

fig 7.24 Click for the third time to erase one object.

图 7.25 点击按钮第四次, 此时当前单花无图元, 删除当前单花起点, 且当前单花起点归位于原点

fig 7.25 Clicks for the forth time, there is no object in current single design; the starting point of current single design is to be erased. At the same time, the

starting point of current single design will be the original point.

7.3.7.2 在局部修改状态下, 点击  按钮一次, 则删除新生图元中最后一图元, 如果新生图元已删完, 则取消需要修改部份的首点, 如果修改部份的首点已取消, 则取消需要修改部份的末点, 如果末点已取消, 则系统出现如下提示框: (图 A)

In the state of partial modification, click  once to erase the last object in newly-created objects. If you have erased all the newly-created objects, it will cancel the starting point on the part to be modified. If starting point has already been cancelled, it will cancel the finishing point on the part to be modified. If it also has been cancelled, the notice below will be coming up:(figA)



图 A

figA

选择“**Yes**”, 则退出局部修改状态, 选择“**No**”取消该操作。

Choose “**Yes**” to exit from partial modification. Choose “**No**” to cancel.

7.3.8 删除所有图元 Erase all the objects

点击  按钮, 则系统出现如下提示框: (图 B)

Click , the following notice is coming up:(figB)

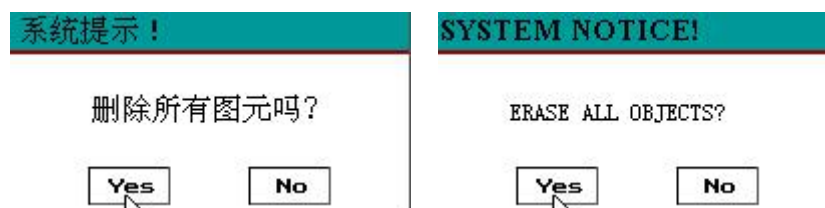


图 B

figB

选择“**Yes**”, 则删除所有图元, 并且当前单花起点归于原点, 如果没有图元, 当前单花起点归于原点, 选择“**No**”, 取消该操作。

Choose “**Yes**” to erase all the objects. Meanwhile, the starting point will become the original one. If there is no object, starting point is the original point. Choose “**No**” to cancel operation.

7.3.9 局部修改 Partial modification

3.9.1 单击  按钮, 则当前单花最后一图元末点出现一绿色亮点, 此时点击  按钮, 此时

将亮点移至需要修改部份的一个端点，单击 **OK** 按钮，即确定需修改部份的第一个端点，再点击 **<** 或 **>** 按钮，将亮点移至需要修改部份的另一个端点，单击 **OK** 按钮，即确定需要修改部份的第二个端点。两端点之间的图元即为需要修改的图元，呈蓝色显示。

Click  and the finishing point on the last object of current design will be green.

Then click **<** to move the green point to the place to be modified. After that, click **OK** then the first point to be modified is confirmed. In addition, click **<** or **>** to specify another point to be modified. Click **OK** again, the second point to be modified is confirmed. The object between these two points is the one to be modified and it is blue.

3.9.2 单击绘图工具开始修改，此时新生第一个图元首点将自动连至修改部份的首点，在绘制过程中将新生最后一图元末点移至修改部份的末点单击，然后单击 **OK** 按钮，即完成局部修改。

Click drawing tools to modify. The starting point of the first newly-created object will be connecting to the starting point on the part to be modified. During drawing, move the finishing point of last newly-created object to the finishing point of the part to be modified and click, then click **OK**, partial modification is finished.

3.9.3 如果最后一图元末点未连至修改部份的末点，单击 **OK** 按钮，则系统出现如下提示框：

(图 C)

In case of the finishing point of last newly-created object is not connected to the finishing point of the part to be modified, the system notice will be coming up if you click **OK** (figC)

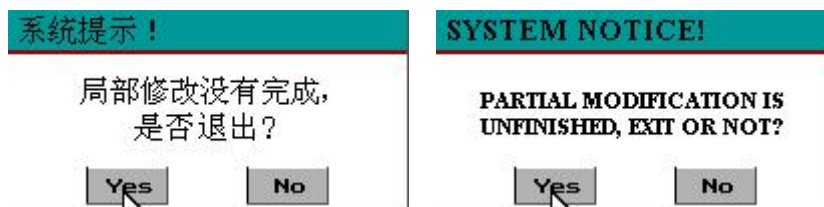


图 C

figC

选择“**Yes**”，则退出局部修改状态，选择“**No**”取消该操作。

Choose “**Yes**” to exit from partial modification and choose “**No**” to cancel.

例如 For example

若将下图中第二条直线改为一圆弧: Change 2nd straight line to an arc.



图 fig7.26

- ① 单击  按钮 Click 

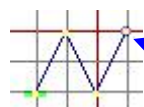


图 fig7.27

当前单花最后一图元末点出现一绿色亮点
There is a green shining point in the finishing point of
the last object in current single design

- ② 单击  按钮，直至将亮点移至第二条直线一个端点

Click  to move the shining point to another point in 2nd straight object



图 fig7.28

亮点移至第二条直线一端点
Move the shining point to another
point in the 2nd line

- ③ 单击  按钮 Click 



图 fig7.29

该端点已确定
Point is confirmed

- ④ 单击  按钮，将亮点移至第二条直线另一个端点

Click  to move the shining point to another point in 2nd line.

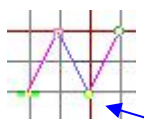


图 fig7.30

亮点移至第二条直线另一端点
Move the shining point to
Another point in 2nd line

- ⑤ 单击  按钮

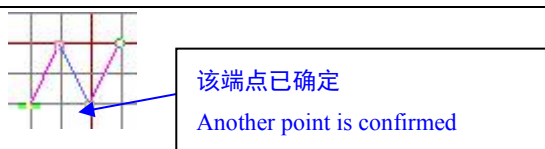


图 fig7.31

⑥ 单击  按钮，此时圆弧首点自动连至第二条直线前一个端点，确定圆弧随机点，然后末点确定于第二条直线后一个端点，即光标移至该端点处单击。

Click , then the starting point of arc will be automatically connected to the front point in 2nd line. Specify a random point of the arc, and then the finishing point will be the back point in 2nd line, that is, to move the cursor to that point and click specify/confirm.



图 fig7.32

⑦ 单击  按钮，完成局部修改

Click  to finish partial modification



图 fig7.33

※说明：如果进入了局部修改状态，若想退出该状态，详见上面 7.2。

※Note: If partial modification is activated, please make reference at 7.2 above if you want to exit from partial modification.

7.3.10 单花 X 轴对称复制 X-axis symmetrical copy of single design

单击  按钮，创建当前单花中所图元关于以该单花中最后一图元末点为坐标原点，Y 轴对称图元，创建图元连至当前单花末尾。

Click  to create symmetrical object in Y-axis by taking the finishing point as coordinate. The newly-created object will be connected to the end of current single design.

例如：For example:



图 fig7.34

图 fig7.35

说明 Note:图 7.34 单击按钮前 fig7.34 before clicking

图 7.35 单击按钮后 fig7.35 after clicking

7.3.11 单花中心对称复制 Central symmetrical copy of single design

单击  按钮，创建当前单花中所图元关于以该单花中最后一图元末点为坐标原点对称图元，创建图元连至当前单花末尾。

Click  to create central symmetrical copy by taking the finishing point of last objects coordinate. The newly-created object will be connected to the end of current single design.
例如 For example:



图 fig7.36

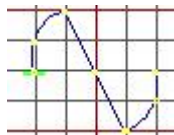


图 fig7.37

说明 Note:

图 7-36 单击按钮前 fig7-36 before clicking

图 7-37 单击按钮后 fig7-37 after clicking

7.3.12 单花平移复制 Moving copy of single design .

单击  按钮，复制当前单花中所有图元，连至当前单花末尾。

Click  to copy all the objects in current single design and connect to the end of current single design.

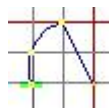


图 fig7.38

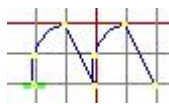


图 fig7.39

说明 Note: 图 7.38 单击按钮前 fig7.38 before clicking

图 7.39 单击按钮后 fig7.39 after clicking

7.3.13 单花旋转复制 Rotary copy of single design

单击  按钮，复制当前单花中所有图元，以该单花中最后一图元末点为旋转点，确保将复制得到图元进旋转至第一个图元首点,与当前单花第一个图元首点位于同一水平线上，连至当前单花末尾。(图 7.40 7.41)

Click  to copy all the objects in current single design by taking the finishing point of last object in that single design as rotary point. Make sure the copied object is rotated to the starting point of the first object. And it is on the same level with the starting point of 1st object in current single design. It is connected to the end of current single design.(fig7.40 7.41)

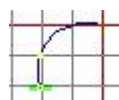


图 fig7.40

单击前 Before clicking

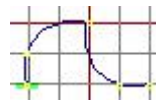


图 fig7.41

单击后 After clicking

7.4 单花整体编辑 Integral edit for single design

单击绘图界面中 **转换** 按钮，切换至单花整体编辑工具条，如下图 7.42 所示：

Click **Swap** in drawing area to get to integral edit tool are for single design as shown below:(fig7.42)

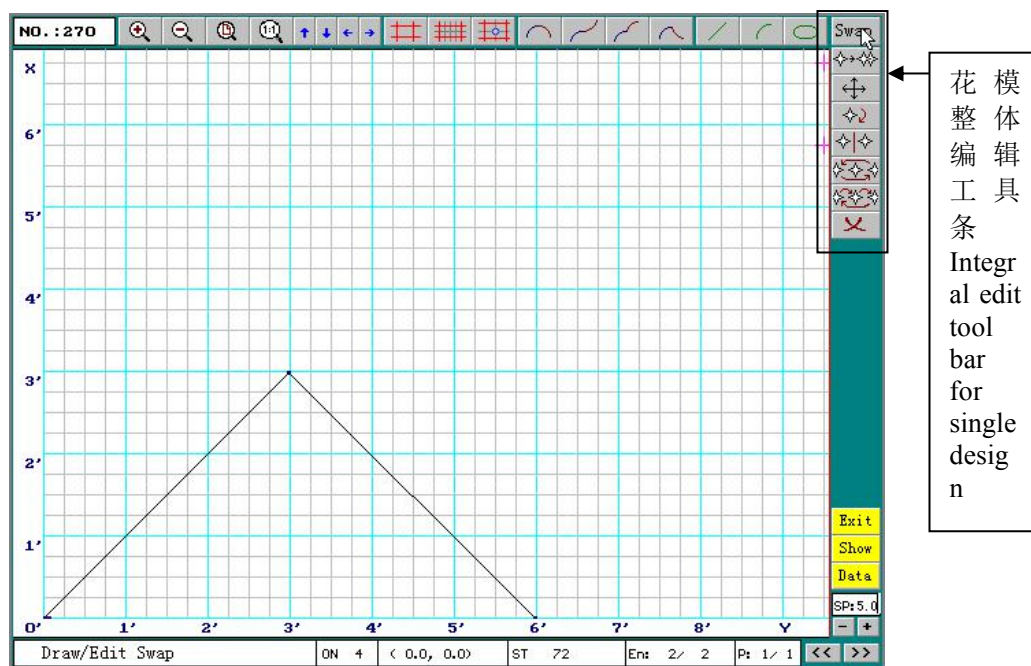


Fig7.42

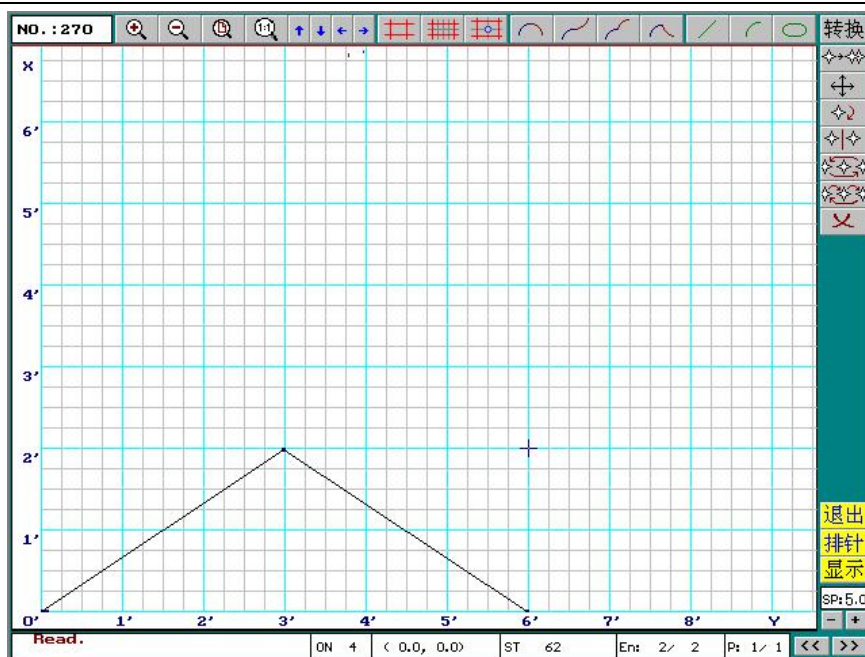


图 7.42

7.4.1 单花整体复制 Integral copy of single design

单击  按钮，信息栏出现“指定复制基点”提示，在绘图区确定一基点位置后单击，信息栏出现“指定放置点”提示，在绘图区确定一目标点后单击，则所复制的当前单花从原来当前单花位置移至距离为“基点至目标点距离”的位置。

Click  and “specify base point for copy” will be coming up. Click after specifying base point in drawing area. Then “specify point to be moved to” will be showing and click in drawing area once the aim point is fixed. After that the copied single design will be moved from the original position to a new position, that is, “distance between base point to aim point”如下图所示 Show as below:

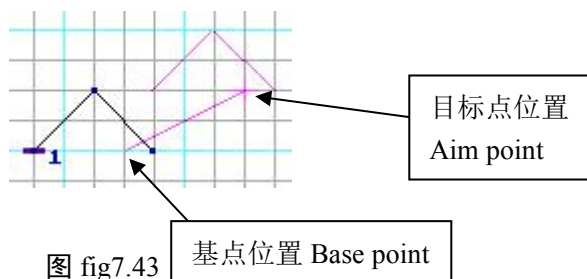


图 fig7.43

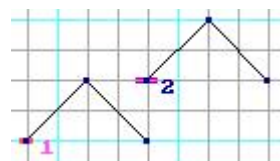


图 fig 7.45

图 fig7.43 在目标点处未单击时 Before clicking

图 fig7.45 在目标点处单击后 After clicking

说明：在指定目标点过程中，单击鼠标右键则取消复制当前单花

Note: In the process of setting up aim point, click with right key of mouse to cancel copying current single design.

7.4.2 单花整体移动 Integral moving of single design

单击  按钮，信息栏出现“指定移动基点”提示，在绘图区确定一基点位置后单击，信息栏出现“指定放置点”提示，在绘图区确定一目标点后单击，则所移动的当前单花从原来当前单花位置移至距离为“基点至目标点距离”的位置。

Click  and “specify base point for moving” will be coming up. Click after specifying base point in drawing area. Then “specify point to be moved to” will be showing and click in drawing area once the aim point is fixed. After that the moved single design will be moved from the original position to a new position, that is, “distance between base point to aim point”

如下图所示 Show as below:

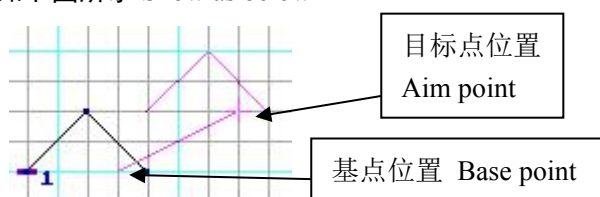


图 fig7.46 在目标点处未单击时 Before clicking

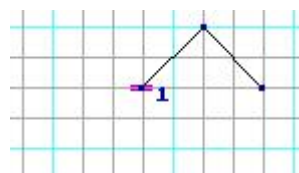


图 fig7.47 在目标点处单击后 After clicking

说明：在指定目标点过程中，单击鼠标右键则取消移动当前单花

Note: In the process of setting up aim point, click with right key of mouse to cancel moving current single design.

7.4.3 单花整体旋转 Integral rotation of single design

单击  按钮，信息栏出现“指定旋转基点”提示，在绘图区确定一基点位置后单击，信息栏出现“指定旋转角度”提示，在绘图区确定旋转角度后单击，则会出现如下图 7.47 所示一提示框：

Click  and “specify base point for rotating” will be coming up. Click in drawing area once the base point is confirmed. Then “specify rotary degree” will be coming up, click after specifying rotary degrees. After that reminder as 7.47 is followed:

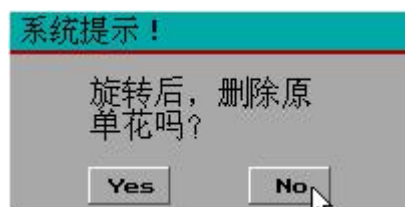


图 7.47



fig7.47

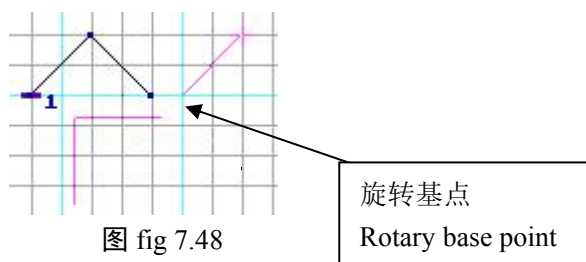
选择“Yes”，删除原位置所在单花，新的单花为原单花旋转指定角度后单花

Choose “Yes” to erase single design in original place. New single design will be the one with rotary degrees.

选择“No”，则不删除原位置所在单花，并新增一单花为复制了原单花并旋转指定角度后单花

Choose “No” to not to erase single design in original place. Besides that, new single design with rotary degrees is appearing.

如下图所示 Show as below: (图 fig 7.48)



在 45° 处未单击时 Before clicking (图 fig 7.49)

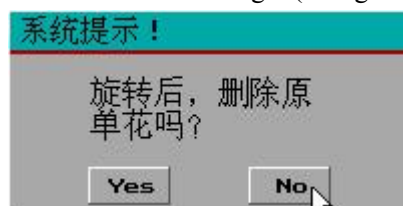


图 7.49



fig7.49

在 45° 处单击后 After clicking(图 fig 7.50)

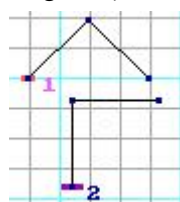
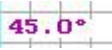
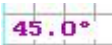


图 fig 7.50

选择提示框中“否” After choosing “No”

说明: 1.在指定旋转角度过程中, 左上角会显示当前所旋转角度,  如上图所指定 45°

Note: 1. In the process of setting rotary degrees, rotary degrees will be showing on the top left, just as  above.

2. 在指定旋转角度过程中, 单击鼠标右键则取消旋转当前单花

2. In the process of setting rotary degrees, click with right key to cancel rotating single design.

7.4.4 单花整体对称 Integral symmetry of single design

单击  按钮, 信息栏出现“指定对称轴上第一点”提示, 在绘图区确定第一点位置后单击, 信息栏出现“指定对称轴上第二点”提示, 在绘图区确定第二点位置后单击, 则会出现如下图 7.51 所示一提示框:

Click  and “specify the first point on symmetric axis” will be coming up. Click in drawing area once the first point is confirmed. Then “specify the second point on symmetric axis” will be coming up and click in drawing area once the second point is confirmed. Reminder 7.51 below is appearing afterwards:

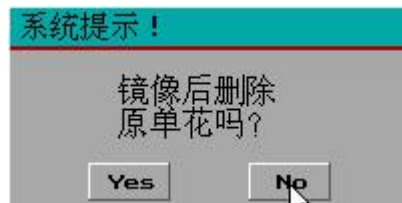


图 7.51



fig7.51

选择“**Yes**”，删除原位置所在单花，新的单花为原单花镜像后单花，

Choose “**Yes**” to erase single design in original place and the new one will be that in mirror.

选择“**No**”， 则不删除原位置所在单花，并新增一单花为复制了原单花并镜像后单花

Choose “**No**” to not to erase single design in original place. Besides that, a new single design in mirror is also appearing

如下图所示 Show as below: (图 fig 7.52)

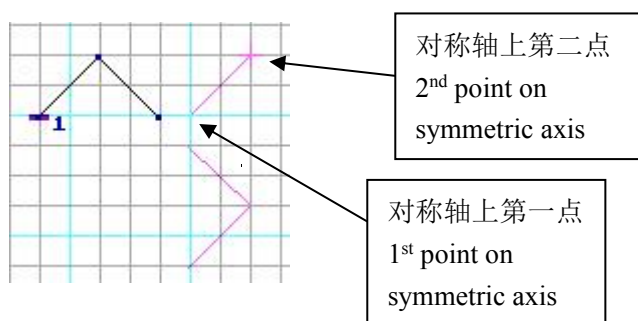


图 fig 7.52

在 45 °处未单击时 Before clicking at 45 ° (图 fig 7.53)

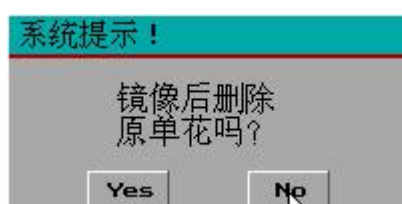


图 7.53

fig7.53

在 45° 处单击后 After clicking at 45° (图 fig 7.54)

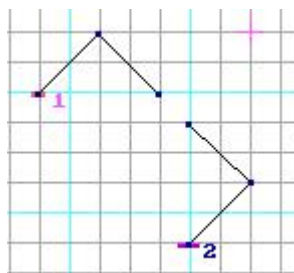
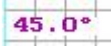
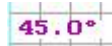


图 fig 7.54

选择提示框中“否”
After choosing “No”

说明：1.在指定对称轴上第二点过程中，左上角会显示当前对称轴所旋转角度， 如上图所指定 45°

Note: 1 In the process of specifying 2nd point on symmetric axis, rotary degrees will be showing on the

top left, just as  above.

2. 在指定对称轴上第二点过程中，单击鼠标右键则取消旋转当前单花

2. In the process of specifying 2nd point, click with right key of mouse to cancel rotating single design.

7.4.5 单花位置交换 Position exchange for single design

如 图 fig : 7.55 7.56

第一步：通过点击 << 或 >> 按钮，选择位置交换第一个单花位置，然后单击  按钮，则确定该位置

Step one: Choose the position of the first single design for exchanging through clicking << or >>. Then

click  to specify.

第二步：同样通过点击 << 或 >> 按钮，选择位置交换第二个单花位置，然后再单击  按钮，则交换

两单花位置

Step two: Choose the position of the second single design for exchanging through clicking << or >>. Then

click  to specify.

例下图 EXAMPLE:

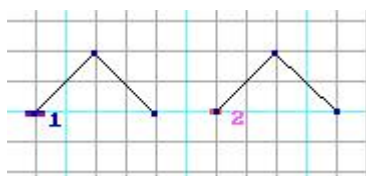


图 fig7.55

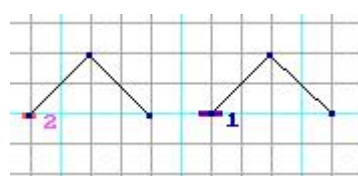


图 fig7.56

第一次点击  按钮, 确定了单花位置 1

移至单花位置 2, 第二次点击  按钮, 交换单花位置 1,

2

Click  for the first time to specify

Move to 2nd position of single design and click

1st position of single design



for the second time. Then exchange is

finished.

说明: 若执行了第一步, 如果想取消当前操作, 点击其它按钮即可

Note: Once the first step is finished, click anywhere to cancel.

7.4.6 单花按位置插入 Insert single design according to position

如图 fig : 7.57 7.58

第一步: 通过点击  或  按钮, 选择所要插入单花, 然后单击  按钮, 则确定该单花

Step one: Choose single design to be inserted through clicking  or  . Then click  to specify.

第二步: 同样通过点击  或  按钮, 选择所要插入单花位置, 然后再单击  按钮, 则将第一个所选单花插入第二个单花位置之前

Step two: Choose position of single design to be inserted through clicking  or  . Then click  again to specify. After that, the first selected single design will be inserted in front of the second one.

例下图: 将单花 3 插入 1 之前, 如图 7.57

Example: Insert the third one in front of the first one as shown below 7.57

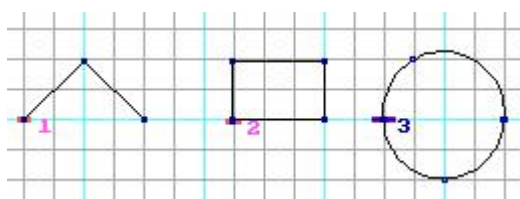


图 fig7.57

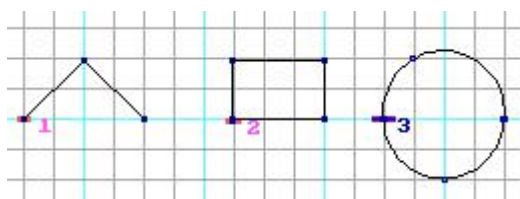


图 fig7.58

图 7.58 移至单花位置 3, 第一次点击  按钮, 选择了单花 3

fig7.58 Moves to the third position and click  for the first time, then the third single design is

chosen.

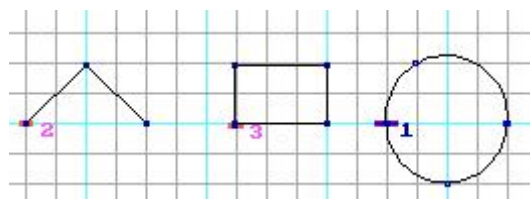


图 fig7.59

图 7.59 移至单花位置 1，第二次点击  按钮，单花 3 插入单花位置 1 前

fig7.59 Move to the position of 1st single design, click  for 2nd time. Then 3rd single design will be in front of 1st one.

说明：若执行了第一步，如果想取消当前操作，点击其它按钮即可

Note: Once the first step is finished, click anywhere to cancel.

7.4.7 单花删除 Erase single design

通过点击 << 或 >> 按钮，选择所要删除单花，单击  按钮，则会弹出系统提示对话框如下：(图 7.60)

Choose single design to be erased through clicking << or >>. Then click , a dialogue item of system notice will be appearing. (fig7.60)

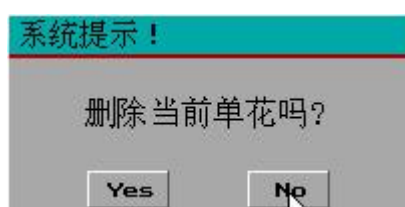


图 7.60

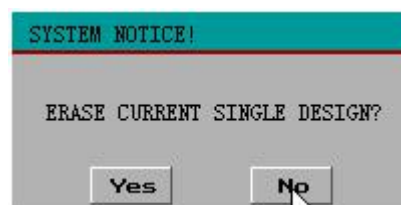


fig7.60

选择“Yes”，则删除当前单花 Choose “Yes” to erase current single design.

选择“No”，则取消该操作 Choose “No” to cancel.

例如删除如下图 7.61 中单花 3

Take erasing the 3rd single design in 7.61 below as an example:

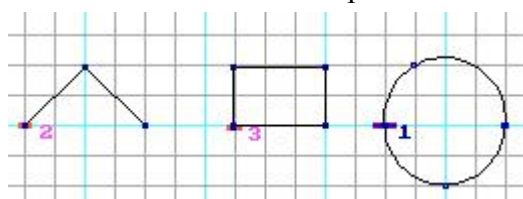


图 fig7.61

- ① 通过点击 << 或 >> 按钮，选择单花 3, 如下图 7.62

Choose 3rd single design through clicking << or >> fig7.62

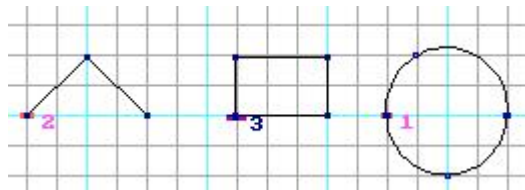


图 fig 7.62

- ② 点击  按钮，则会弹出对话框(图 7.36)

Click  and dialogue item will be coming up(fig7.36)

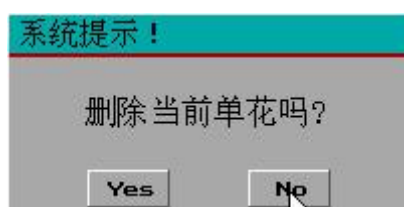


图 7.63

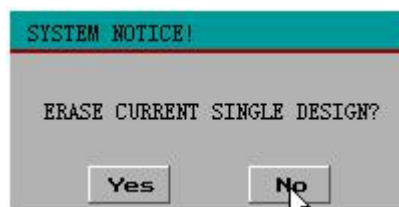


fig7.63

选择“Yes”, 则单花 3 被删除, 如下图 7.64:

Choose “Yes” to erase 3rd single design as picture 7.64 below:



图 fig 7.64

7.5 图元数据描述 Description for object data

单击  按钮，显示数据打开：对数据进行说明如下(图 fig7.65):

Click  to display data. The instructions to data are as follows:

5.1 单花起点为红色标志，并用尖括号包括，其数据格式由单花序号，单花起点坐标组成

5.1 Starting point of single design is red one and in tine bracket. And the data is consisted of single design No. & coordinate of starting point.

5.2 直线，用中括号包括，其数据格式为直线末点坐标

Straight line is showing in medium bracket and the data is the finishing point of straight line.

5-3 圆弧，用圆括号包括，其数据格式由圆弧上一点坐标与圆弧末点坐标组成

Arc is showing in circularity bracket and data is formed by coordinate of one point on the arc and that of finishing point of arc.

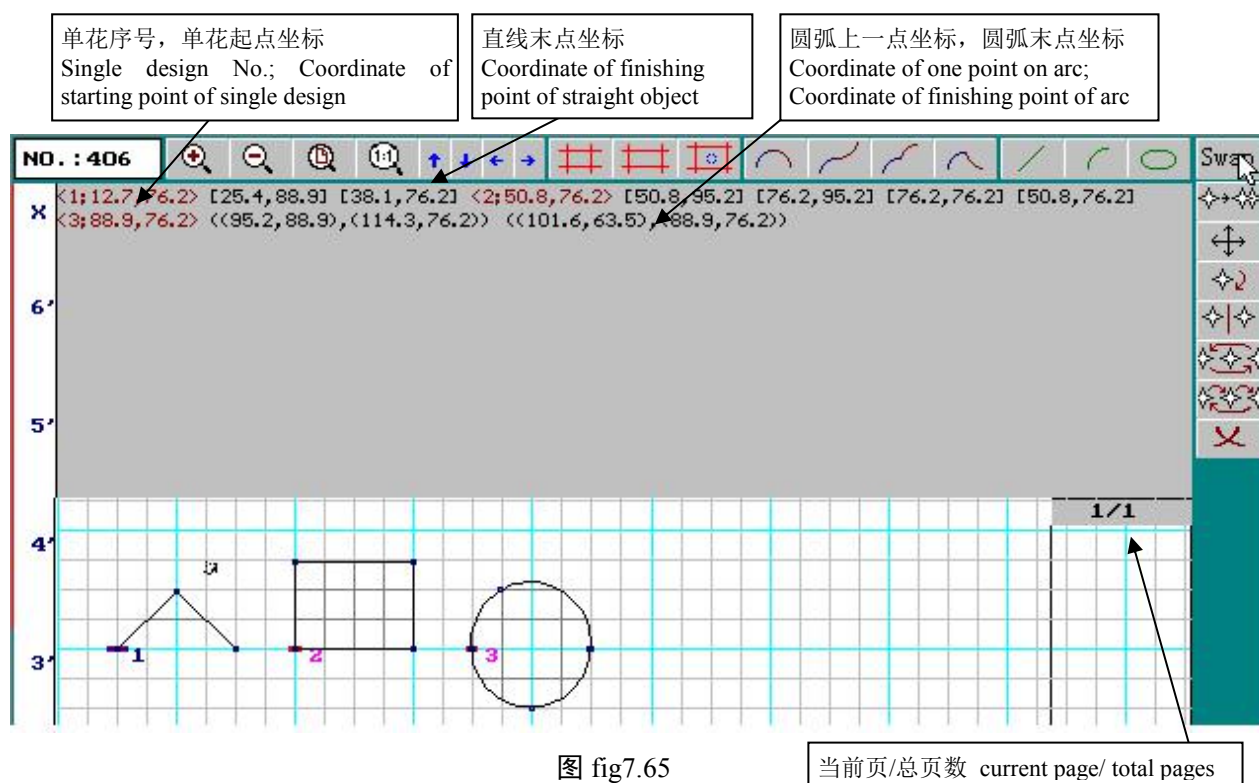


图 fig7.65

当前页/总页数 current page/ total pages

如果数据较多, 分多页存放. 此时需分页查看数据, 可通过单击 中一按钮

If there is a lot of data and they are saved in several different pages. Check data through clicking

其作用分别为: 上翻一页, 下翻一页, 回至首页, 回至末页. 若关闭数据显示, 再次单击 **显示** 按钮即可。

Functions of : previous page, following page, back to the first page, back to the last page. Click **DISPLAY** again to stop showing of data.

7.6 实例讲解 Example

1. 例如画下面图 7.66 Taking drawing the picture 7.66 below as an example

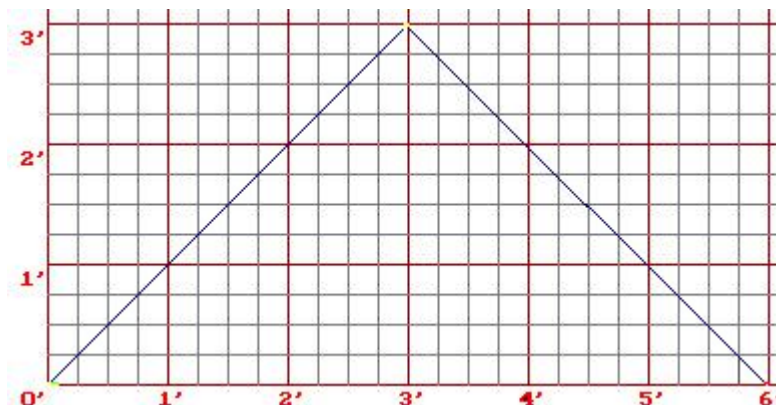
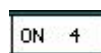


图 fig7.66

- ① 确定捕捉开关是否已打开，没有则单击  按钮

Check whether the catching switch is on or not. If not, please click 



- ② 单击  按钮，捕捉坐标为 $(3', 3')$ 点后单击，则画出下面直线，如图 7.67、图 7.68 所示：

Click  to catch coordinate $(3', 3')$ and click. Then a straight line is drawn as shown in picture 7.67、7.68

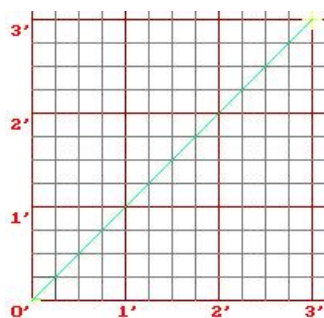


图 fig7.67

未单击时

Before clicking

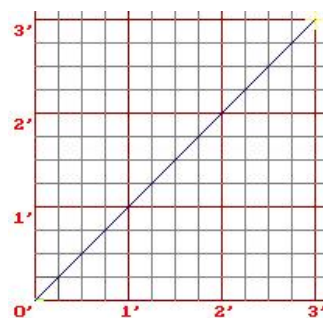


图 fig7.68

单击后

after clicking

- ③ 再捕捉坐标为 $(0', 6')$ 单击，如下图 7.69 所示

Catch coordinate (0',6') then click as shown in picture 7.69

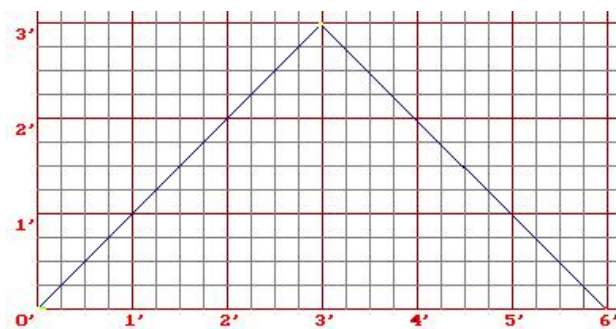


图 fig7.69

2. 例如画下面图 7.70 Take drawing picture below 7.70 as an example

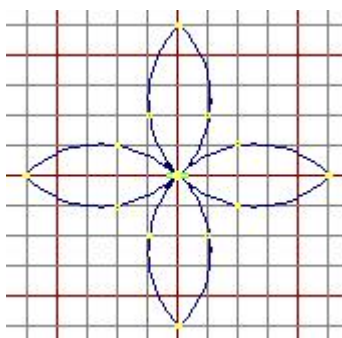


图 fig7.70

④ 确定捕捉开关是否已打开，没有则单击  按钮

Check whether the catching switch is on or not. If not, please click 



⑤ 单击  按钮，在绘图区确定将单花起点(图 7.71)

Click  to specify starting point of single design in drawing area.(fig7.71)



图 fig7.71

⑥ 单击  按钮，在绘图区连续画出下面两段圆弧(图 7.72)

Click  to draw two arcs below successively in drawing area. (fig7.72)



图 fig7.72

- ⑦ 单击  图元旋转复制按钮

Click  rotary copy of object

- ⑧ 连续点击  按钮，选取所有图元(图 7.73)

Click  successively to choose all objects(fig7.73)

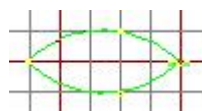


图 fig7.73

- ⑨ 将光标移至绘图区，逆时针方向旋转 90 度后单击(图 7.74 7.75)

Move the cursor to drawing area, and then turn 90 degrees anticlockwise and click. (fig7.74 7.75)

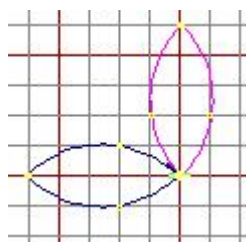


图 fig7.74

未单击时 Before clicking

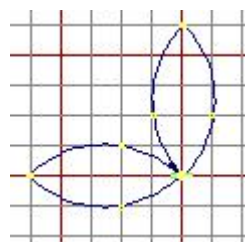


图 fig7.75

单击后 After clicking

- ⑩ 重复⑧，⑨(图 7.76)

- ⑪ Repeat ⑧，⑨(fig7.76)

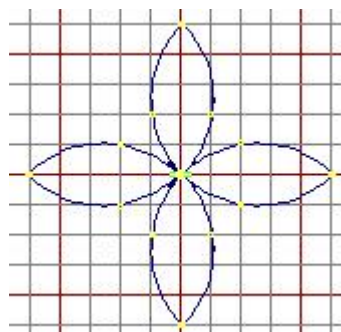


图 fig7.76

第八章 排针界面

Chapter 8 Interface for showing needle position

8.1 界面认识 Interface Introduction

如图 fig : 8.1

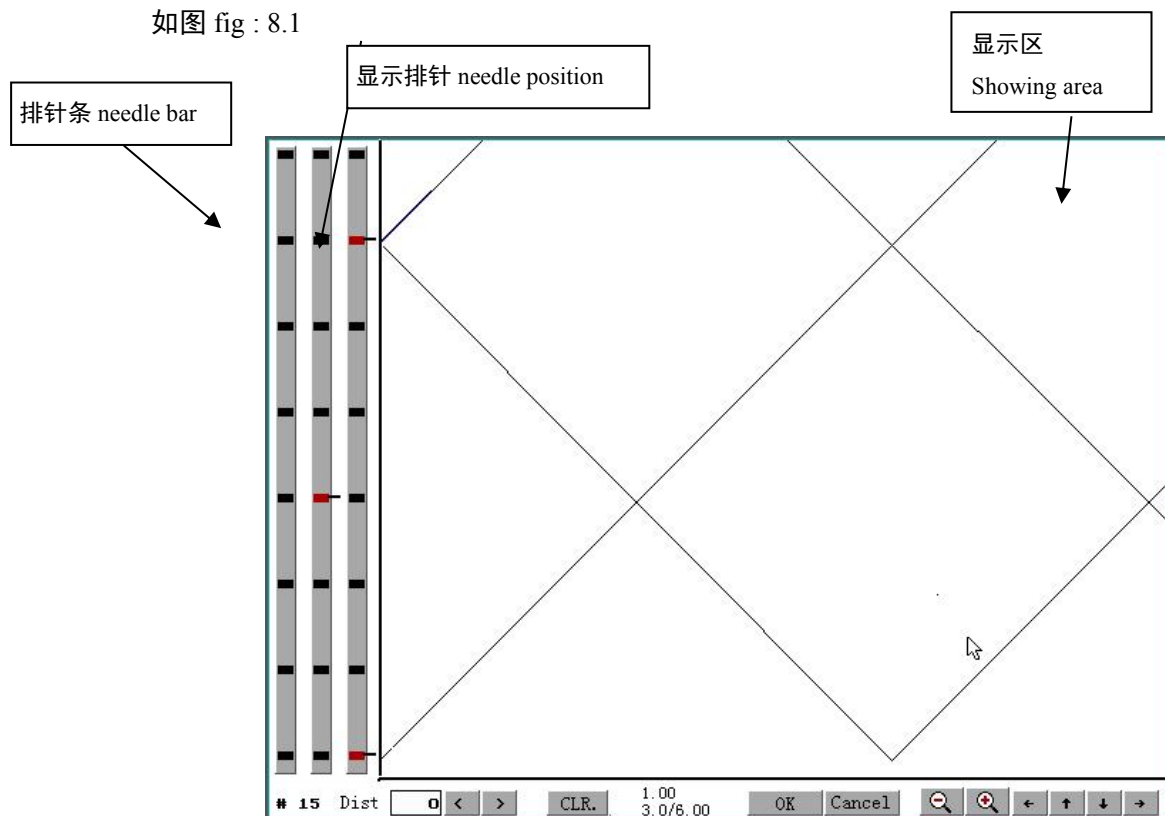


Fig8.1

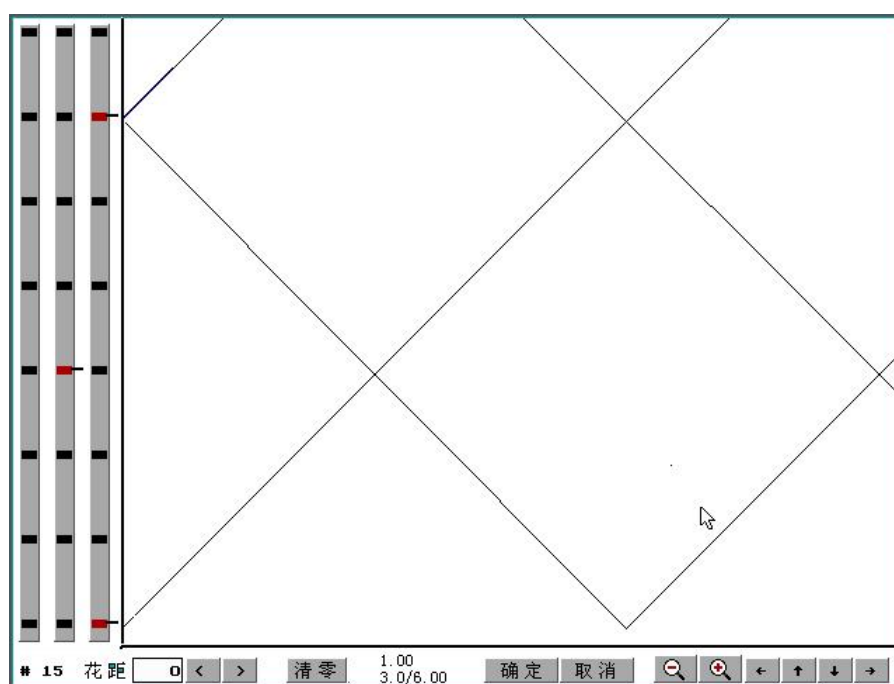
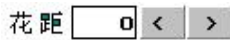


图 8.1

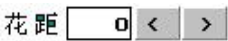
点击绘图界面中 **排针** 按钮，进入当前花版的排针界面，例如上图 5-1 所示：在显示区左侧有三条排针条，黄色标签表示隐藏该排针，红色针状表示显示该排针，通过鼠标单击该处按标签进行切换。若排针呈显示状态，则在显示区显示相应针迹。在显示区下侧为工具栏，介绍如下：

Click **SHOW** in drawing interface to enter the showing interface of needle positions just as picture 5-1 above. There are three needle bars on the left. The yellow one indicates to hide needles on the bar and the red ones indicate to show needles. Click red or yellow tag to change between showing and unshowing. You can see stitches in showing area. And instructions to buttons on the bottom are as follows:

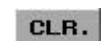
 	花距 减 / 增（只对跨步花版） Distance between two designs decrease/increase (only for tack & jump pattern)
1.00 3.0/6.00 (6 寸机 6inches machine)	1.00 表示针排两根针的距离 1 英寸 1.00means the space between two needles on one needle bar is 1inch. 3.00 表示第 1 针与第三针排距离为 3 英寸 3.00means the space between 1 st and 3 rd needle bars is 3inches. 6.00 表示第 1 针与第三针排距离为 6 英寸 6.00means the space between the 1 st and 3 rd needle bars is 6inches.
1.00 2.0/5.00 (5 寸机 5inches machine)	1.00 表示针排两根针的距离 1 英寸 1.00means the space between two needles on one needle bar is 1inch. 2.00 表示第 1 针与第三针排距离为 2 英寸 2.00means the space between 1 st and 3 rd needle bars is 2inches 5.00 表示第 1 针与第三针排距离为 5 英寸 5.00means the space between 1 st and 3 rd needle bars is 5inches
 	清空排针 Clear the showing
 	保存退出 Exit with saving
 	不保存退出 Exit without saving
 	视窗 缩 / 放 View Zoom out/ Zoom in

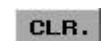
	视窗 左 / 上 / 下 / 右 移动 View Left/up/down/right moving
---	---

8.2 工具按钮操作 Instructions to tool buttons

8.2.1 : 显示跨步花版间距, 点击“<”按钮一次, 间距减 1, 点击“>”按钮一次, 间距加 1, 若按住“<”或“>”按钮不放, 间距递减或递增。

: Distance between tack & jump patter No. Click “<” for one time to decrease by one and click “>” for one time to increase by one. Press “<” or “>” all the time, then distance will be decreasing or increasing continuously.

8.2.2  单击该按钮, 清空排针, 相应显示区针迹消失。

Click  to clear needle showing and pattern in showing area will disappear.

8.2.3  单击该按钮, 保存当前针迹, 并退出该排针界面。

8.2.4  单击该按钮, 不保存当前针迹, 并退出该排针界面。

Click  to exit from showing interface without saving.

8.2.5  单击“-”按钮, 视窗缩小。单击“+”按钮, 视窗放大。

 Click “-” to reduce the window and click “+” to amplify.

8.2.6  单击“←”按钮视窗左移, 单击“↑”按钮视窗上移,, 单击“↓”按钮视窗下移, 单击“→”按钮视窗右移。

Click “←” to move the window to the left. “↑” is to move up, “↓” to move down and “→”to the right.

第九章 故障排除与机器保养

Chapter9 Troubleshooting and machine maintenance

9.1 简单故障原因及排除方法 Causes and remedies for the faults

序号 NO.	故障 fault	原因 cause	排除方法 remedy
1	A. 打开电源开关 (QF1) 指示灯不亮 (HL1), Open the power switch QF1, the indicating light is not on. B. 按运转准备按钮 (SB1) 主机不上电, 电脑显示器不亮。The indicator light is still off when the general switch is on. The computer screen is not flashing and the general contactor is not in work.	A: 1. 机器外部无电源输入 there is no power source input. 2. 保险管 FU3 坏 fuse pipe FU3 is broken. 3. 控制变压器 T2 (或指示灯 HL1) 坏 control transformer T2 or the indicating light HL1 is broken. B: 1. 保险管 FU5 坏 The fuse pip FU5 is broken. 2. 保护行程开关 (LS1、LS2) 正被撞块压住 protective position switch (LS1, LS2) is bumped by a block.	A: 1. 检查外部电源) detection of power supply (L1/L2/L3/N 2. 更换保险管 change for a new one. 3. 更换 T2 (HL1)。Change for a new one. B: 1. 更换保险管 change for a new one. 2. 参考第三章 图 3-2 reference to figure3-2 in Chapter 3.
2	按运转准备按钮, 接触器(KM1)已吸合, 但电脑荧光灯不亮。The machine is ready to run and the contactor KM1 is press on, but the screen is not flashing.	1. 电脑无电源或电源保险管(FU6)损坏 there is no power supply or the fuse FU6 is burnt. 2. 主板插脚与插槽接触不良 there is bad connection between the main board plug and groove. 3. 主板损坏 the main board is broken. 4. 显示器电源开关是否打开。(在显示器前面) the screen is not open.	1. 检查电脑电源插头是否插紧到位及换保险管 good connection between the plug and groove 2. 把电脑卡重插 place the chip again. 3. 换主板 change for a new main board. 4. 打开显示器电源开关. Open it.
3	按运转准备按钮, 接触器(KM1)已吸合, 显示器无显示画面, 但按启动按钮(SB2 或 SB3、SB4)机器运转正常。The machine is ready to run and the contactor KM1 is press on. There doesn't appear the operation window on the screen while the machine gets started smoothly by pressing on SB2, SB3, SB4.	1. 显示器无电源 the screen is no power supply. 2. 显示器信号线接触不良 there is bad connection of signal wire with screen. 3. 显示器损坏 the screen is broken.	1. 显示器电源插头未插紧. The plug of screen should be well connected with power supply. 2. 显示器信号线重插 make a good connection of signal lines. 3. 更换显示器 change for a new screen.
4	开电脑后只出现英文字, 不能导引主程序:只显示出数字加减或 DISK BOOT FAILURE INSERT SYSTEM DISK AND PRESS ENTER There is only letter appearing after the computer is opened, which leads not to the main program.	1. 程序贮存卡插脚与插槽接触不良 the plug of programme saving chip is in incorrect connection with the groove. 2. 程序贮存卡损坏 the programme saving chip is broken. 3. 主板 BIOS 设置不当 the main board BIOS is improperly set.	1. 把所有电脑卡重插. Place all the chips again. 2. 换程序贮存卡. Change a new program saving chip. 3. 重新设置主板 BIOS 参数(见附件 1) reset the parameters of the main board BIOS(参考 BIOS 设置)refer to BIOS setting.(appendix1)
5	开电脑后无鼠标出现 there is no	1. 不良 is of the bad quality.	1. 重插鼠标器插头或换鼠标器

序号 NO.	故障 fault	原因 cause	排除方法 remedy
	mouse signal visualizing after opening the computer.	2.程序贮存卡损坏 the program saving chip is broken.	insert the plug of mouse again or change for new one. 2.重插电脑程序贮存卡 place the program saving chip again. 3.换程序贮存卡 change for a new chip.
6	电脑显示正常但按启动按钮(SB3、SB4、SB2)机器不运转 the computer is in a good state, but the machine would not work by pressing on SB2, SB3, SB4 button.	A. 如果按任何一个启动按钮都不能启动 a. 有一个或几个停止按钮未打开; b. 继电器 KA1 坏了; c. KA9 未工作; d. 安全保护已启动. A. press any start button, but the machine will not start. a. one or other button is not open. b. really KA1 is broken. c. KA9 doesn't work. d. the safety protection works. B. 并检查下列情况: check the following cases: 1. 启动按钮常闭触点断开 frequent closed touching point of "start" button is cut. 2. 启动按钮与起动继电器之间连接电路不良 there is a bad connection between the switch button and relay when it is activated. 3. 起动继电器损坏 KM1 The KM1 is broken while the relay is activated. 4. 起动继电器触头信号不能输入电脑 the signal of starting relay can not be carried to computer. 5. 剪线磁铁移位导致剪线传感器没信号 The thread-cutting magnet is displaced, which leads to the failure signal of thread-cutting sensor.	A. a. 打开所有停止按钮; b. 更换 KA1. c. 检查是否有断线或驱动器或变频器报警, 或更换 KA9. d. 检查安全保护电路. 受保护的区域是否有物, 挡住了光电开关. A. a. open all the stop button. b. change for a new KA1. c. check whether there is broken circuit or driver & inductor alarm. d. check the safety circuit, whether there is something in the protective field to cover the photoelectrical switch. 1. 检查启动按钮 detect the "start" button 检查启动按钮与起动继电器 KA1 之间连接电路 detect the connection between the switch and relay. 3. 换继电器 KM1 replace the old relay KM1 4. 换剪线卡上 29 号光偶(4N25) 或换剪线卡 change a new thread-cutting chip or the 29 th photo-coupler on it. 5. 把磁铁与剪线传感器对正及 27 号线连接良好. Correct the place of magnet and the sensor, make sure the 27 th line is well connected.
7	按启动按钮不能起动物器 the computer is in a good state, but the machine would not work pressing "start" button.	1. IO 卡插头接触不良 the plug on IO chip is badly connected. 2. IO 卡相关变频器的光电耦合器损坏 the relating photo-coupler on the IO chip is broken. 3. IO 卡损坏 IO chip is broken. 4. 变频器与 IO 卡之间电路断开或接触不良 the frequency transformer is out of or in bad connection with IO chip. 5. 变频器数据设置丢失 the set data of frequency transformer is lost. 6. 变频器损坏 the frequency	1. 重插 IO 卡 place the IO chip again. 2. 换 IO 卡上的光偶 (4N25) replace the photo-coupler. 3. 换 IO 卡 replace IO chip. 4. 检查 28 号、38 号线是否断开或接触不良 check the connection condition of 28 th and 38 th line. 5. 核对变频器数据设置. Check the data setting of frequency transformer. 6. 换变频器. Change for a new

序号 NO.	故障 fault	原因 cause	排除方法 remedy
		transformer is broken. 7.主电机损坏或电路不通 the motor is broken or the circuit is obstructed.	frequency transformer. 7.检查主机电源及主电机是否正常. Check the working condition of the motor and its power supply.
8	针尺正转正常, 移动架和沙布辊都不动或其中一个动。Needle bar clockwise revolution is in normal state, but both or either of movable bracket and roll in still state.	1. 电脑检测不到出布信号 the computer can not detect the feed-off signal. 2. IO 卡插头接触不良或损坏 the plug of IO chip is in bad condition or is broken. 3. IO 卡相关 X、Y 输出的光藕损坏 X, Y output photo-coupler relating with IO chip is broken. 4. 驱动器与 IO 卡之间电路断开或接触不良 the circuit of the driver and IO chip is cut or in bad connection. 5.驱动器与伺服电机之间电路断开或接触不良 the circuit of the driver and servo motor is cut or in bad connection. 6.驱动器数据设置丢失 the data setting of driver is lost. 7.驱动器损坏 the driver is broken. 8.驱动器显示故障信息 the driver visualizes the fault information. 9.驱动器显示正常但伺服电机损坏 the driver is in good condition but the servo motor is broken.	1. 检查 5 号线是否断开及换出布传感器 check the 5 th line or change for a new feed-off sensor. 2. 重插 IO 卡或换新 IO 卡 place or replace the IO chip. 3. 换新的光偶. Change for a new photo coupler. 4.检查 1,2,3,4 号线是否接触不良.check the connection condition of line1,2,3,4 5 把线重装一次 reinstall the lines. 6.核对驱动器参数设置 check the parameter setting of driver. 7.换新驱动器 change for a new driver. 8.查对故障信息. Check the fault information.
9	机器正常工作时, 突然停止, 又自动启动 a sudden stop of machine when it is working well, and restart automatically again.	1.KA2 中间继电器接触不良 KA2middle relay is in bad connection. 2.电压偏低引起变频器 OL 报警 low voltage causes OL alarm by frequency transformer.	1.换新的中间继电器 KA2 Change for a new middle relay KA2. 2.增设稳压电源. Enhance the voltage.
10	绗缝独立图时易断线 easy thread break when quilting independent patterns.	跨步时松线气缸不动作, Long 和 Back 数值过小 thread unloosing cylinder moves little when multi-span, and the numeric value of Long and Back is too small.	检查气缸,调大数值。Check the cylinder and increase the value.
11	图案变形 distorted pattern	1.X、Y、GX、GY 未选择最佳数值 no selecting of best value of X、Y、GX、GY 2.磨擦片手轮未调节恰当, 布料未拉紧 the hand wheel is improperly adjusted and the fabric is not strained. 3.压辊没有压平 the fabric is not planished by roll.	参考第五章 (5.3 单花参数)refer to Chapter5 (5.3 parameter for single design)

序号 NO.	故障 fault	原因 cause	排除方法 remedy
12	断了线不会自停机 the machine is still running when thread breaks	1.断线传感器(B5)连接板上无+12V电压 there is no +12V voltage on the connection board of thread break sensor B5.. 2.继电器 KA8 坏 the relay KA8 is broken 3.电脑中继板坏 the computer really board CRB is broken 4.断线自停控制板光藕损坏 photocoupler on control board (of auto-stop thread break) is broke	1.断线检测电源开关 SB8 按钮已按下 thread detecting power switch SB8 is pressed on. 2.更换继电器 KA8. chang for a new relay KA8. 3. 更换电脑中继板 (CRB) change for a new CRB. 4.更换电脑中继板上的坏的光藕.(A2、A3、A4、A5 任何一个坏了都不停机) replace the photocoupler on CRB(the break-down of any one of A2, A3, A4, A5 will make the machine continuous work and can't stop.)
13	开机只运转几圈就自动停机 auto-stop after running several cycles.	1 断线了. The thread is broken. 2.电脑中继板坏了. The CRB is broken. 3.断线检测光电开关之间长期有物挡住了光电开关或线太松. There is some objects in the way of photoelectrical detection or the thread is loose.	1. 接好所断的线. Replace the thread. 2.更换电脑中继板(CRB) replace the CRB. 3. 检查断线装置 check the thread detecting device.
14	绗缝独立图案不能剪断线 thread can not be cut when quilting independent patterns.	1.剪线气缸无动作、没气源或气压不足。The cylinder makes no actions due to no air supply or lackage of air pressure. 2.剪线气缸卡死不能工作. 3.面线太松 top thread is too loose 4.电磁阀损坏 electromagnetic valve is broken 5.剪线卡的光藕损坏 photo coupler on the thread-cutting chip is broken	1. 检查气压 check the air pressure 2. 用手动检查气缸剪线动作 manually check the cutting actions of cylinder 3. 把面线调紧 tighten the top thread 4. 换新的电磁阀 change for a new electromagnetic valve
15	行程撞块碰到行程开关，切断总电源 position block bumps into position switch, and the power supply is cut.	1.复位传感器损坏 reset sensor is broken 2.IO 卡损坏或相应的光藕损坏 3.画图末笔不在底线，引起误动作 IO chip and corresponding photo coupler in broken, the end stroke of drawing is not in the beginning line, which leads to fault actions	1. 检查复位传感器线路或换新的传感器。Check the circuit of the reset sensor or change for a new one 2. 更换 7 号线光偶(B2) change the photo coupler B2 on wire 7. 3. 检查画图末笔是否在底线 check whether the end stroke of drawing is in the beginning line.
16	绗缝时有两种或以上步长 There are two or more than two kinds of stitch length.	1.在电脑图元参数里设置了不同的线步长 different thread stitch length are set in " object parameter" 2.两个单花的两种花步长 two pattern	设置统一步长参考电脑加工界面. Refer to processing interface when "uniform stitch length" is set.

序号 NO.	故障 fault	原因 cause	排除方法 remedy
		stitch length in two single pattern.	
17	跳线 thread skipping	1.线弹性过大 over elasticity of threads. 面线线夹过紧 top thread clamp is over tense. 2.针的行程及针与拨片、钩子之间的相对运动位置不正确 the incorrect moving position of needle movement distance, needle, toggle, hook. 3.拨片的拨线口磨损 the toggle edge is wore. 4.钩子与针距离过大 the distance between hook and needle is too large. 5.针装不正 needles are incorrectly installed.	1.2.3.5 参看(第二章:2.2.2 钩子安装)图将针和钩子的位置调好 faults of 1.2.3.5 refer to Chapter2, 2.2.2 looper installation. 4.按选线表要求更换伸缩性小的线 select the thread of less tensility according to thread-selecting requirement. 6.参考正常的拨片调整 refer to the normal adjustment of retainer 7.更换钩子 change for a new looper. 8.请有经验的师傅校正传动机构 参考第二章: Ask the experienced worker to rectify the driving structure. (2.2.1 上布图) 2.2.1 feed figure (2.2.2 钩仔安装图) 2.2.2 looper installation
18	绗缝中易断线 easy thread break during quilting	1.线质量太差,抗拉强度不够. the low tensility of thread 2.线从线芯到线夹的送线途中受阻 thread is obstructed in its carriage from thread core to thread clamp. 3.线夹调节过紧 the clamp is over tense. 4.更换新钩子或拨片有毛刺 a new looper or burrs on the retainer..	1.按上述选线方法挑选合格的线 更换之 select the qualified thread. 2.参看(串线图)将线纠正。 Refer to thread jumping figure to adjust it. 3.调节压线螺母 regulate the nuts. 5.更换钩子 change for a new looper
19	做独立花时没有跨步 there is no span when independent patterns are quilted	没有调节花距 no adjustment of pattern distance	参考“第八章 排针界面”refer to Chapter8 interface for showing needle position
20	做连续花时有跨步 there is span when continuous patterns are quilted	调节了花距 adjustment of pattern distance	参考“第八章 排针界面” Refer to Chapter8 interface for showing needle position

9.2 机器的保养 Mmachine maintenance

9.2.1 必须防止过多灰尘进入电脑箱内,电脑放置的地方越清洁,电脑的寿命就越长,如果发现电路板有灰尘,请对电气有经验的师傅用清洁的压缩空气吹干净。Excess dusts should be prevented from entering the computer cabinet. The satisfactorily sanitary place should be beneficial to the service life of the computer. The experienced technician should be invited to clean the machine with the blast air if the dusts are found in the circuit board.

9.2.2 凡机器滑动地方如导柱、丝杠，操作人员每班应加少量的机油，凡标有黄油嘴的地方，操作人员应注意补充黄油。同时注意：所有润滑油应选用合格产品。Each shift operator should lubricate such sliding parts of the machine as guide rails and thread bars with butter in the place marked “butter nose”. Everyone should pay attention to select the qualified.

9.2.3 特别指出，拨片架支座等地方应每班加机油 4 次，该机构磨擦副共 18 处，每处每次加机油数滴（太多会流失）务必使之保持润滑良好。It is particularly pointed out that the toggle support base and the like need lubricating four times every shift. There are in the part structure 18 attrition subsidiaries which need some drops of machine oil in order to keep them well lubricated.

9.2.4 张紧机构的离合器磨擦片必须使用质地优良的黄油，使保持适当润滑。Qualified butter should be used to lubricate the attrition slice of the clutch in the tension mechanism.

9.2.5 要求操作工在每天下班前清洁机器上积下来的灰尘，灰尘太多会导致机器的磨损增加、磨擦增大、启动困难 The operator is required to remove everyday the accumulated dusts which lead to more abrasion and friction and hard activation of the machine.

9.2.6 为了减少灰尘对电控箱内电气元件的损坏和引起电气事故，我们对电控箱已做了防尘保护，所以不要随便将电控箱的门打开或将电控箱侧板拆下来。为了利于对电控箱内散热，在电控箱的右侧板上装有两个向外吹风的吸气风扇(F3、F4)；在电控箱的左侧板下方装有两个向电箱内吹风的风扇(F1、F2)。这四个风扇上都加有防尘网，防尘网上会积满灰尘，影响电控箱内电器散热，从而影响生产或缩短电器的使用寿命。为了避免此类事情的发生，请每周至少一次对防尘网进行清洁。由于使用的环景不同，有的可能环景灰尘较多，请缩短清洁周期。To reduce the damage by dust (which may cause the accident) to the electrical element in the electrical cabinet, we have made dustproof protection for the electrical cabinet, in this case, don't open the front door of the cabinet or remove the side door without authorization. In order to help to scatter the heat inside, we fix two ventilating fans on the top right side board(F3,F4), and another two blowing fans(F1,F2) on the down left side board, fix a dustproof net on each fan, and they will keep off the dust. The more dust on the fans, the worse they can scatter the heat, which shortens the service life. Clean them at least once a week or even less than week depending on the performance conditions.

附件 A：主板参数设置项 AppendixA：Parameters setting on main board**STANDA CMOS SETUP****INTEGRATEG PERIPHERALS****BIOS FEATURES SETUP**

如显示:Floppy disk(s) fail (40):需改 STANDA CMOS SETUP 里的最后一行,如下: If there appears Floppy disk(s) fail (40), the last line of STANDA CMOS SETUP should be changed as follows:

设置当前时间:Set present time

Drive A: 1.44M, 3.5in

Drive B: 1.44M3.5in

Halt On: No Errors

如通电后数字不停地计算,需改: It should be changed as follows if the number is counting on.

BIOS FEATURES SETUP

Quick Power on Self Test: Enabled

Swap Happy Drive: Enabled

屏幕变小需改 when screen is growing small, change as follows:

INTEGRATEG PERIPHERALS

Flat Panel Status: Disabled

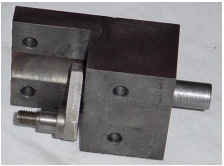
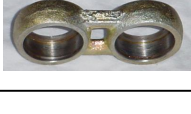
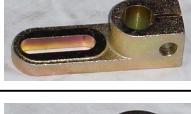
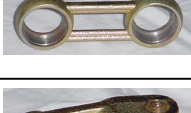
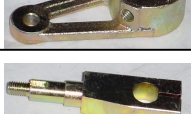
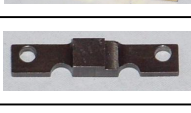
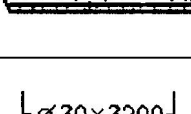
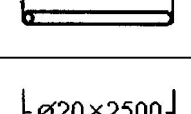
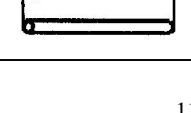
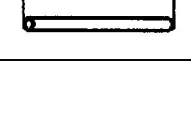
Flat Panel Resolution: 640 x 480

参数保存按 F10、选 Y 确定。Press F10 to keep parameter set and Y to confirm.

附件 B: 零件对照表 Appendix B: parts list

主要部件图 Main parts list

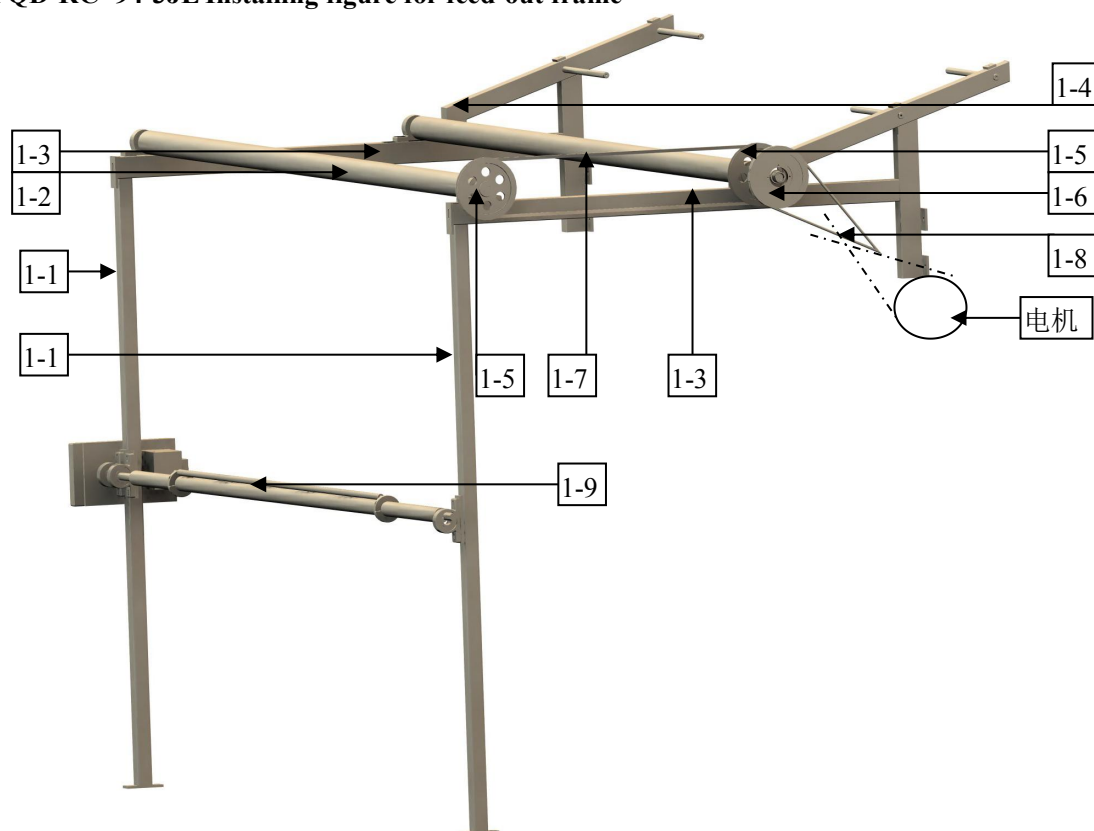
编号 Item No.	名称 Name of parts	形状 Shape	编号 Item No.	名称 Name of parts	形状 Shape
1	压板座 Pinching Base		2	拨线架摆杆 Swing Bar of the Thread Toggle Rack	
3	连杆 Connection Bar		4	摆杆 Swing Bar	
5	偏心轮壳（钩轴） Eccentric Wheel (hook axis)		6	偏心轮壳（拨片架） Eccentric Wheel (toggle slice axis)	
7	托板 Tray Plate		8	偏心轮（摆杆轴） Eccentric Wheel (swing axis)	
9	偏心轮（钩轴） Eccentric Wheel (hook axis)		10	偏心轮（拨片架） Eccentric Wheel (toggle support)	
11	拨片架耐磨铜片 Toggle Wear-resistive Copper Washer		12	托板耐磨铜片 Wear-resistive Copper Washer for Tray Plate	
13	UCFA 205 轴承 UCFA 205 Bearing		14	UCFI 205 轴承 UCFI 205 Bearing	
15	多轴连接块 Multi-axis Connection Block		16	NCPA 2041 轴承 NCPA 2041 Bearing	
17	NAP 206 轴承 NAP 206 Bearing		18	NAP 205 轴承 NAP 205 Bearing	
19	凸轮 Cam		20	凸轮盖 Cam Cover	
21	杆端关节轴承 Joint Bearing for Bar End		22	凸轮臂 Cam Arm	

编号 Item No.	名称 Name of parts	形状 Shape	编号 Item No.	名称 Name of parts	形状 Shape
23	钩子 Hook		24	钩子（独立机用） Hook (use for independent machine)	
25	导柱 260×M16 Guide Pole 260×M16		26	导柱 280×M14 Guide Pole 280×M14	
27	滚珠丝杠螺母、滚珠丝杠 Nut for Ball Bearing Thread Bar、Ball Bearing Thread Bar		28	拨片传动座 Toggle Driver	
29	偏心轮连杆 Eccentric Wheel Connection Bar		30	顶圈 Top Circle	
31	偏心轮壳（摆杆轴） Eccentric Wheel Case (Swing Bar Axis)		32	Φ16 含油轴承 Φ16 Oil Bearing	
33	三排针座 Three Row Needle Base		34	103B 关节轴承 103B Joint Bearing	
35	二寸连杆 Two-inch Connecting Bar		36	摆杆 2 Swinging Bar 2	
37	三寸连杆 Three -inch Connection Bar		38	关节轴承配 Joint Bearing Match	
39	钩轴摆杆 Swinging Bar of the Hook		40	关节轴承配 6303 Joint Bearing Match 6303	
41	凸轮滚子座 Cam Roller Support		42	摆杆 Swinging Bar	
43	连杆 Connection Bar		44	拨片摆块 Toggle Swing Block	
45	拨片 Toggle Slice		46	拨片架支座 Toggle Support	
47	针排 Needle Row		48	拨片架垫片 Toggle Washer	
49	拨片架铝条 Aluminum Bar for Toggle Slice		50	主轴Φ30×3600 Main AxisΦ30×3600	
51	摆杆轴Φ30×3200 Swinging AxisΦ30×3200		52	钩子轴Φ20×2500 Hook AxisΦ20×2500	

附件 C：尺寸图 AppendixC: outline illustration

RPQD-RC -94-3JL 出料架安装配件图

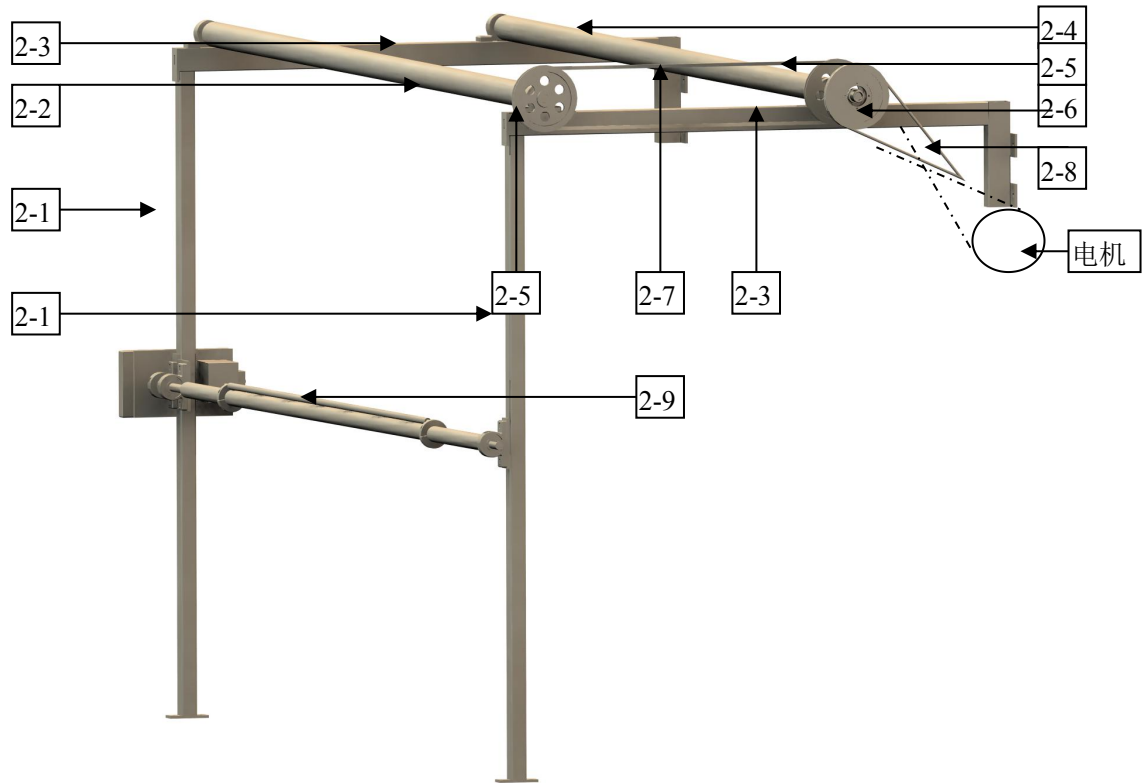
RPQD-RC -94-3JL Installing figure for feed-out frame



RPQD-RC-943 出料架安装配件图 RPQD-RC-943Installing figure for feed-out frame			
序号/No	名称/Name	数量/Quantity	备注/Note
1-1	出料辊架 Feedout roller frame	2	安装在横梁上 Connected to the beam
1-2	后出料辊 Back feedout roller	1	
1-3	94-3JL 出料辊架支柱 Feedout roller frame support	2	
1-4	前出料辊 Front feetout roller	1	
1-5	A 型皮带轮 Type-A strap wheel	2	
1-6	圆型皮带轮 Circle strap wheel	1	
1-7	A 型皮带 Type-A strap	1	
1-8	圆型皮带 Circle strap	1	通过电动机带动 Driven by motor
1-9	卷布辊 Fabric roller	1	卷布装置选购件 Selective for fabric rolling device

RPQD-RC-943 出口型出料架安装配件图

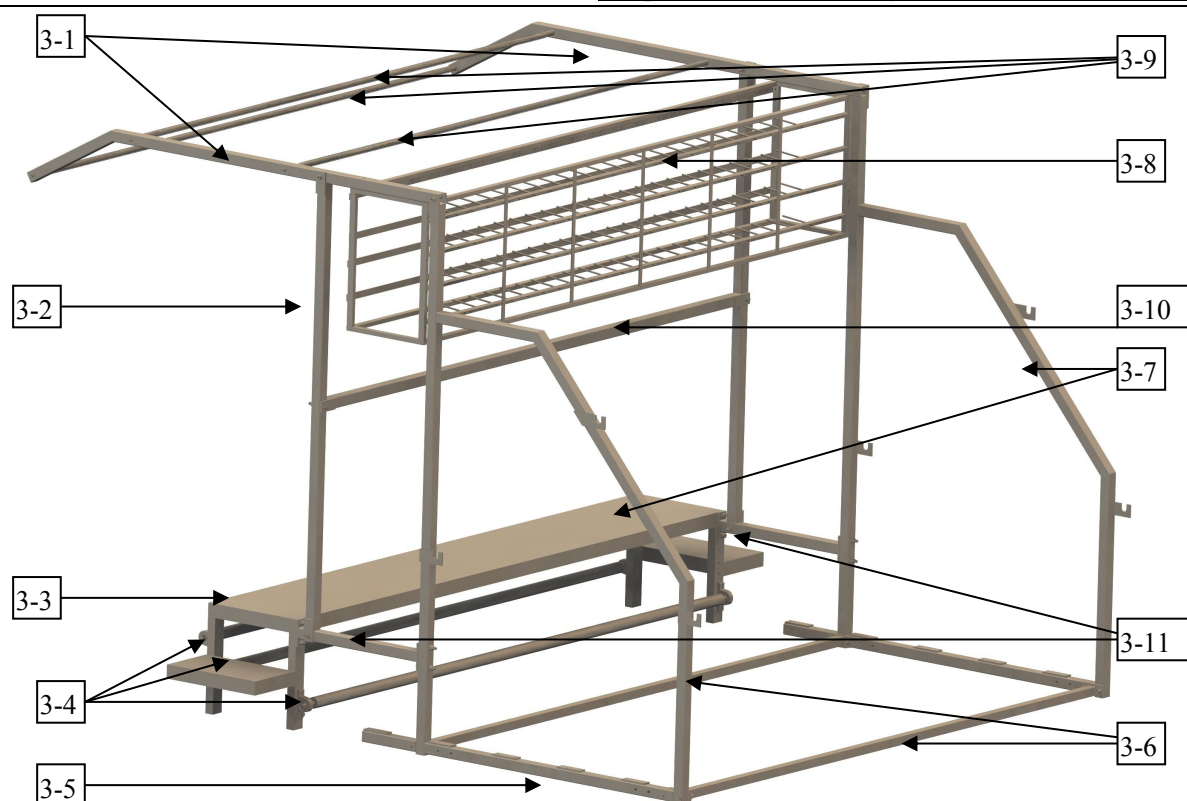
RPQD-RC-943Installing figure for feed-out frame (for export)



RPQD-RC-943 出口型出料架安装配件图 RPQD-RC-943 Installing figure for feed-out frame (for export)			
序号\No	名称\Name	数量 \Quantity	备注\Note
2-1	出料辊架 Feedout roller frame	2	安装在横梁上 Connected to the beam
2-2	后出料辊 Back feedout roller	1	
2-3	HY-94-3HLB 出料辊架支柱 Feedout roller frame support	2	
2-4	前出料辊 Front feedout roller	1	
2-5	A 型皮带轮 Type-A strap wheel	2	
2-6	圆型皮带轮 Circle strap wheel	1	
2-7	A 型皮带 Type-A strap	1	
2-8	圆型皮带 Circle strap	1	通过电动机带动 Driven by motor
2-9	卷布辊 Fabric roller	1	卷布装置选购件 Selective for fabric rolling device

RPQD-RC-943 出口型独立线架安装配件图

RPQD-RC-943 Installing figure for independent thread frame (for export)



注:

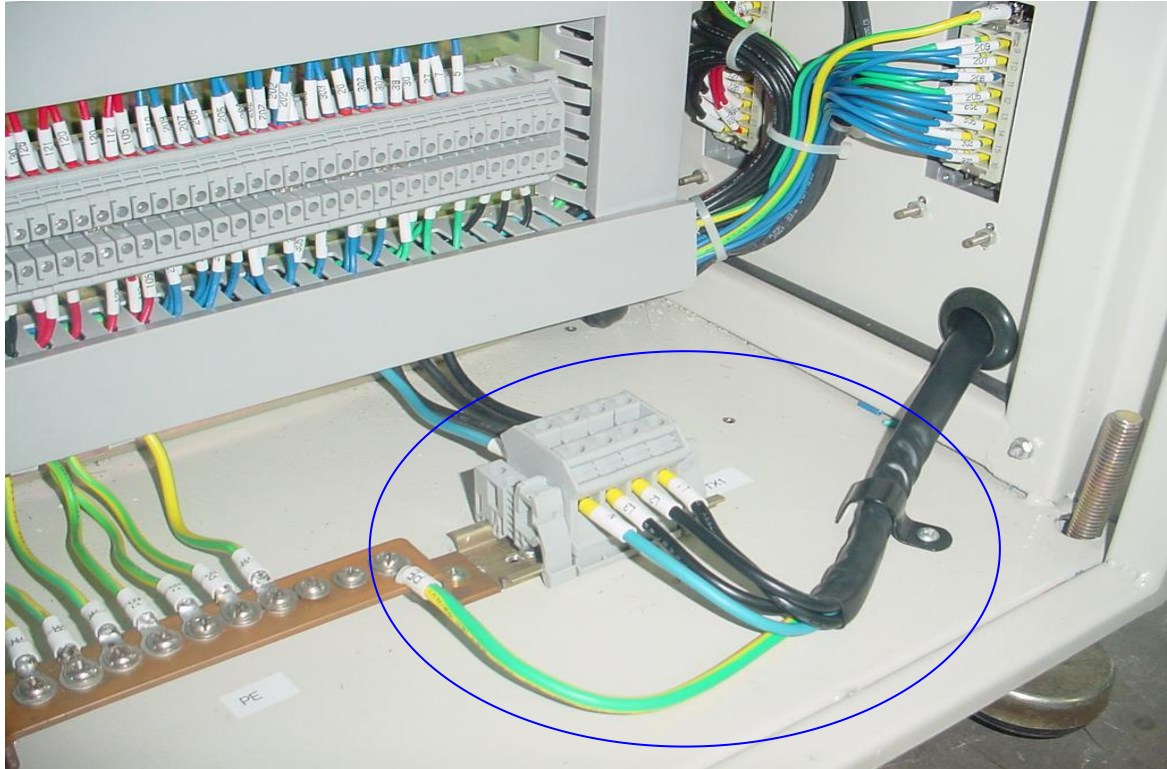
RPQD-RC-943 出口型独立线架安装配件图			
RPQD-RC-943 Installing figure for independent thread frame (for export)			
序号/No	名称/Name	数量/Quantity	备注/Note
3-1	前臂/Forearm	2	
3-2	前臂支撑/Forearm support	2	
3-3	脚踏板/Work platform	1	
3-4	导料辊/Feed-lead roller	3	
3-5	线架左框架/Left thread frame	1	
3-6	左右框架连杆/Connection bar of left &right frame	2	
3-7	线架右框架/Right thread frame	1	
3-8	面线线架/Top thread frame	1	
3-9	过线管/Thread-passing pipe	3	
3-10	栏 杆/Beam	1	
3-11	脚蹬连杆/Connection beam (Work plat from and left & right thread frame)	2	

附件 D：人员操作位置图 AppendixD: survey of the machine.



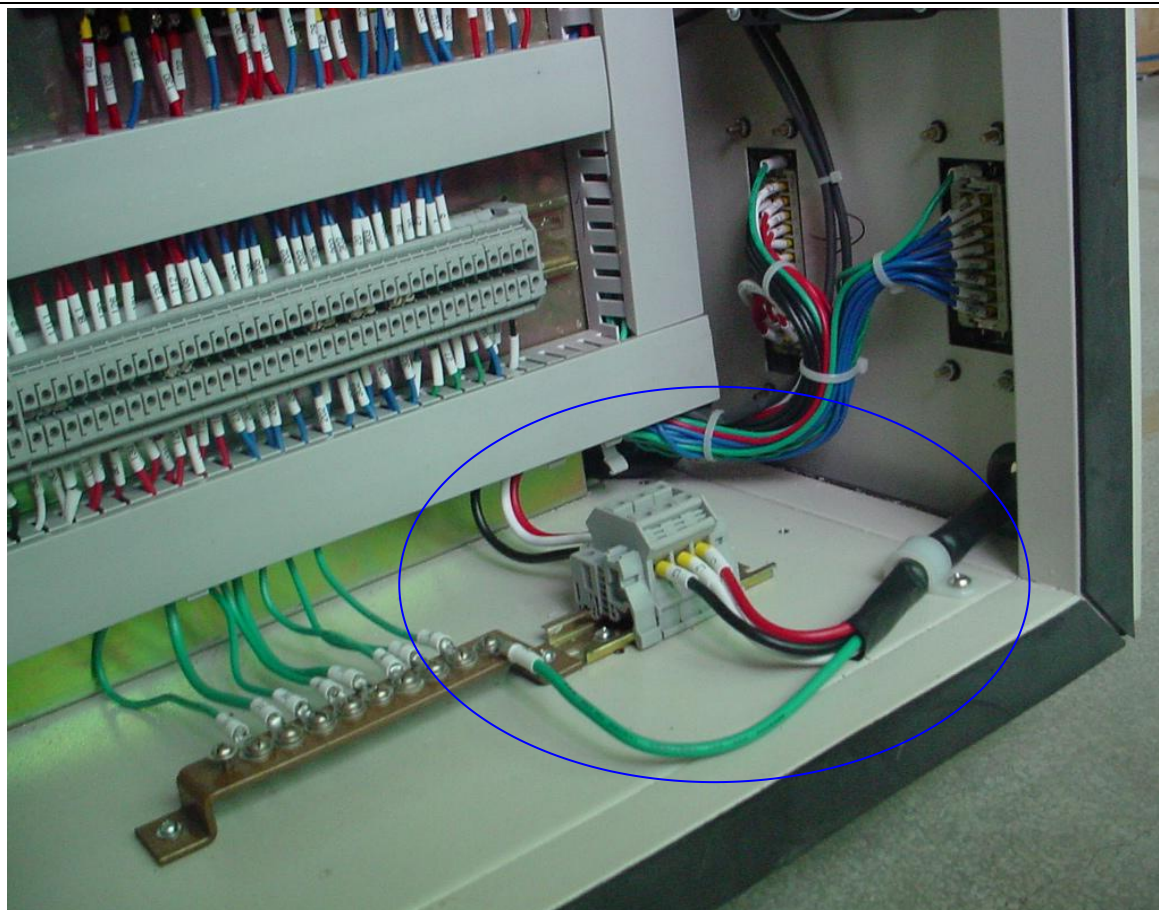
附件 E：外部动力(电源) 连结照片 AppendixE: input power illustration

1.主电源进线 main power input

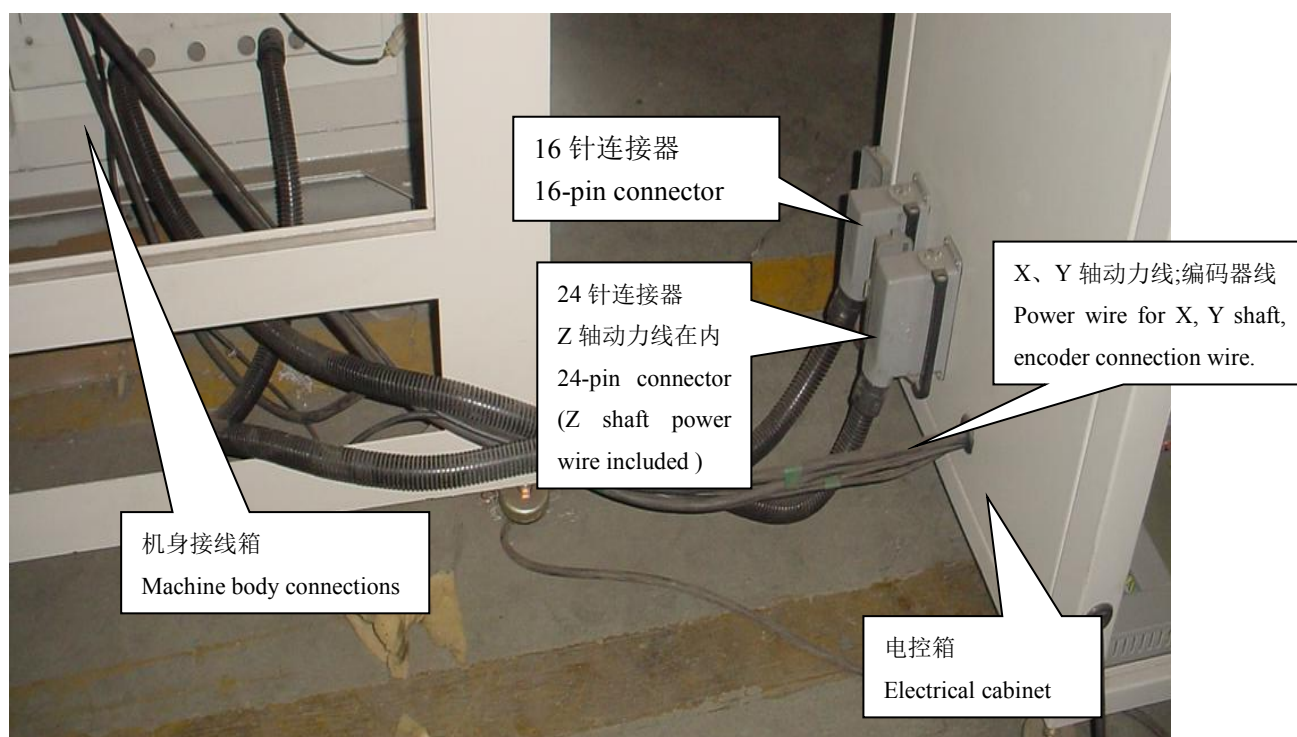


400VACor 380VAC 接线图 connection figure (上图圈中 the above one)

230VACconnection figure(下图圈中 the below one)



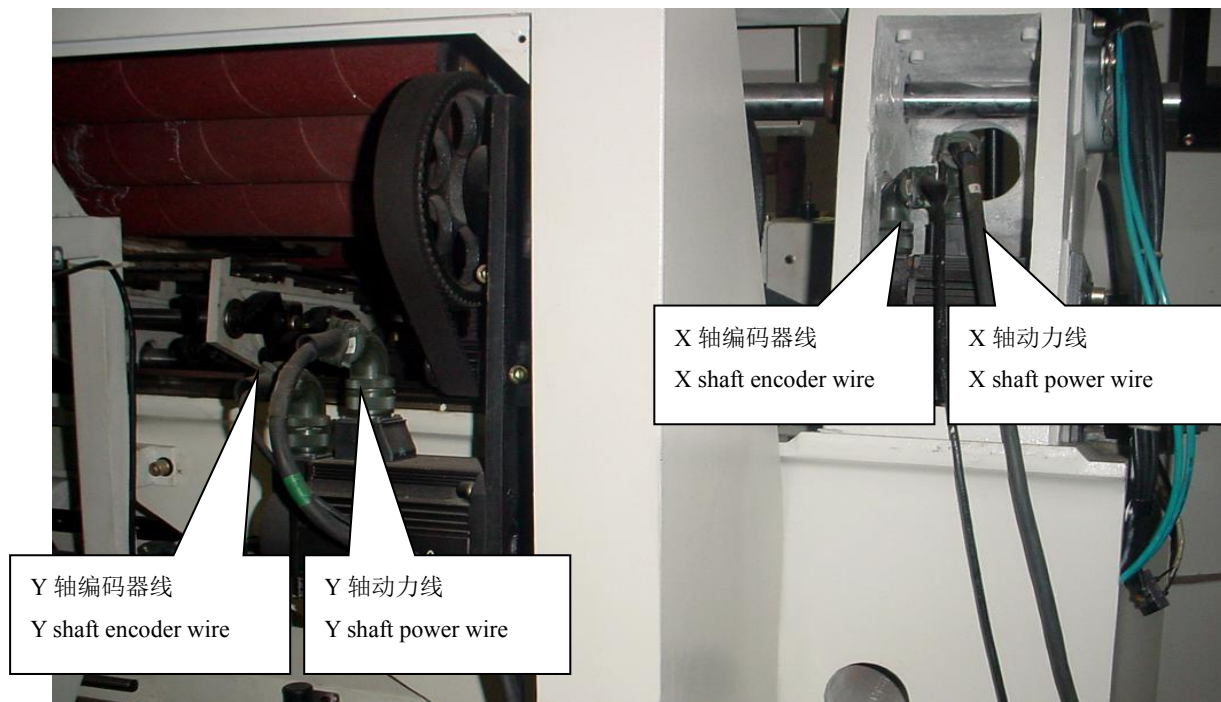
2.主机动力电源线 Main power supply connection



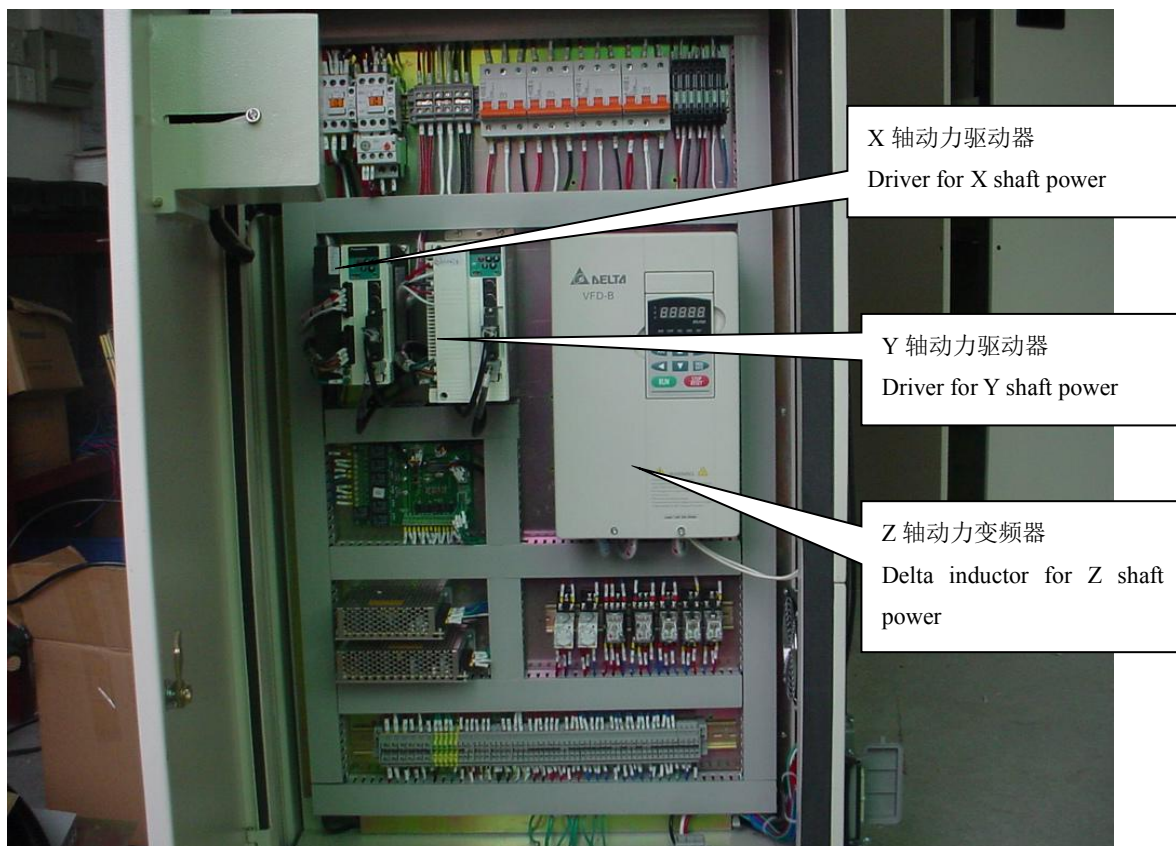
电控箱与机身连接(上图) Connect electrical cabinet with machine body(the above figure)

伺服电机动力线、编码器线与电机连接(下图) connect servo motor power wire, encoder wire and other

motor(the below figure)



3. X、Y、Z 轴动力电源 X、Y、Z shaft power



**EC Declaration of conformity
(Directive 98/37/ EC, Low Voltage Directive 2006/95/ EC)**

**Manufacturer:
Tianjin Richpeace Computer & machinery Co., Ltd.**

TEL: 0086-22-2253 3456

FAX: 0086-22-022-2253 0820

E-mail: sales@richpeace.com

Address: No.6,Baozhong Road, Baodi Economic zone, Tianjin, China, 301800.

Web: www.richpeace.com

**Hereby declares that the machine is in conformity with the provisions of
Directive 98/37/ EC (as altered most recently) and low voltage directive
2006/95/ EC.**

The applicable standards:

**EN ISO 12100 Part 1&2, EN1050, EN294, EN292-1, EN563, EN982, EN1088, EN954-1,
EN953, ISO3744, EN 60204-1, EN11111**

**The machine to which this declaration refers may only be put into operation
after it has been installed in the way prescribed by the manufacturer, and, as
the case may be, after the complete system of which this machine forms part,
has been made to fulfil the requirements of Directive 98/37/EC (as altered
most recently) and Low Voltage Directive 2006/95/EC.**

2008 Jan. 26