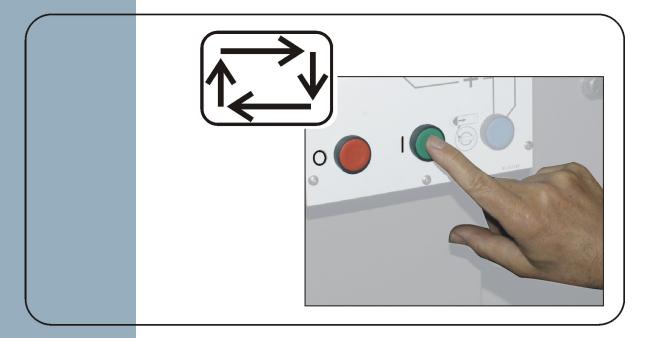
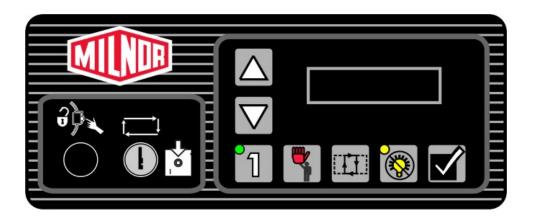


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Access date: 08/10/2015
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# E-P Plus®, E-P Express®





#### MQCJVO01U3/15332A

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# English





Specified Date: 20090831As-of Date: 20090831Access Date: 20091001

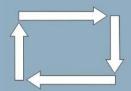
Depth: DetailCustom: n/a

Applicability: CJV CJH CJF CJX

• Language Code: ENG01, Purpose: publication, Format: 1colA

# **Operator Guide—**

Washer-extractor
Models with E-P Plus<sup>®</sup>
and E-P Express<sup>®</sup>
Controls





PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063 - 0400, U.S.A.

## Applicable Milnor® products by model number:

30015T5X	30015V7J	30022H8J	30022T5X	30022V6J	30022VRJ	30022X8J
36021V5J	36021V7J	36026V5J	36026V7J	36026X8J	42026V6J	42026X7J
42030V6J	42032X7J	48040F7B	48040F7J	MWR12J5	MWR12X5	MWR16J5
MWR16X5	MWR18.T4	MWR18.T6	MWR18X4			

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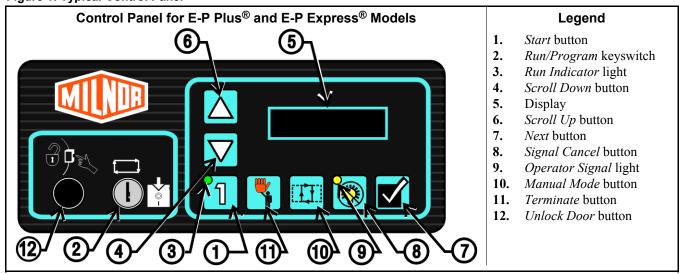
Supplement 1: The Power-up Safety Delay

# **Chapter 1 Description of Controls**

BICJHF01 (Published) Book specs- Dates: 20090831 / 20090831 / 20091105 Lang: ENG01 Applic: CJV CJH CJF CJX

**1.1. Operator Controls on E-P Plus® and E-P Express® Models**This document describes the user controls during normal machine operation. For additional information on other controls shown in Figure 1, see the reference manual.

**Figure 1: Typical Control Panel** 



#### **Display or Action**

#### **Explanation**

- When the display says *Run Formula*, press this button to start the formula.
- During normal operation, the Run/Program keyswitch must be set to  $\Box$ . This is the automatic position.
- Use the *Scroll Up* and *Scroll Down* buttons to select the desired formula.
  - The *Next* button is not used during normal operation.
  - The Signal Cancel button silences the operator signal that sounds when a formula completes normally. Also, if an operator signal is programmed with a chemical injection, add the chemical and press this button to resume operation.
  - The *Manual* button is not used during normal operation.
  - The *Terminate* button cancels all remaining steps in the current formula and starts the shutdown procedure for the machine. The formula can not be resumed.
  - The *Unlock Door* button allows you to open the door if all other safety conditions are met.

— End of BICJHF01 —

# Chapter 2 Normal Operation

BICJVO03 (Published) Book specs- Dates: 20090831 / 20090831 / 20091105 Lang: ENG01 Applic: CJV CJH CJF CJX

#### 2.1. Normal Machine Operation

#### 2.1.1. Start Here for Safety

This document is designed to remind the person operating this washer-extractor what is required to operate this machine. Do not attempt to operate this machine before a trained operator has explained the details to you.



**DANGER** 1: Multiple Hazards—Careless operator actions can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.



**CAUTION** 2: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

- Do not unlock or open electric box doors.
- Know the location of the main machine disconnect and use it in an emergency to remove all electric power from the machine.
- Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.

#### 2.1.2. Check Switch Settings

Display or Action		Explanation
	,⇔,	Check that the <i>run/program</i> keyswitch is at ;:
		Check that any <i>emergency stop</i> switches are in the <i>out</i> position.
	<b>⊗</b> 1/3⊕	Check that the master switch, if provided, is at $\odot$ .

#### Supplement 1

#### The Power-up Safety Delay

Some Milnor® washer extractors do not use a speed sensing device to verify that the basket has stopped rotating. Therefore, when power is first applied to the machine, at least 80 seconds must elapse before any further operations can be attempted. This provides sufficient time for the basket to coast to a complete stop if power was lost while the machine was in a high speed extract and restored before the basket stopped.

#### 2.1.3. Load the Machine

Load the machine to the rated capacity and securely close the loading door.

#### 2.1.4. Select and Start a Formula

#### **Display or Action**

#### RUN FORMULA 00 OK TO POWER OFF

#### **Explanation**

This is the *Run Formula* display. From this display, you can disconnect power from the machine without risking damage to electronic parts, or you can select a formula to run.



indexes forward/backward through the 30 formulas.



Example display: Formula 07 selected for running



starts the machine with the selected formula.

RUN FORMULA DOES NOT EXIST indicates that the formula selected for running has not been programmed. This display appears for three seconds.

#### 2.1.5. Monitor Operation

#### **Display or Action**

#### 23:04 F02S01 02:37 TEMP A168/D170 LEV 1

#### 23:04 STEP 01 02:37 TEMP A168/D170 SPD 0

23:04 F02S01 02:37

TEMP A168/D170 LEV 1

### SPD 0 LEV 2

#### **Explanation**

These two displays alternate during normal operation on some E-P Plus<sup>®</sup> models. E-P Express<sup>®</sup> models display other data about the step, but not bath temperature data.

STEP01 is the current step.

EXTRACT indicates that the machine is extracting the goods.

TIMEHALT indicates that the timer is stopped for a chemical injection. The chemical supply equipment must be properly installed for this feature to work.

Temperature in this E-P Plus® machine is measured in degrees Fahrenheit or Celsius, according to machine configuration.

A168 indicates that the current achieved temperature is 168 degrees. Temperature is displayed only if machine is equipped with and configured for temperature control.

D170 indicates that the desired temperature for this step is 170 degrees. Temperature is displayed only if the machine is equipped with and configured for temperature control.

LEV 2 indicates that the bath level achieved is Level 2.

SPD 0 indicates the bath speed for this step.

WAIT FOR LEVEL 2 H indicates that Level 2 is programmed for this step, but is not yet achieved. The H indicates that the hot water valve is open; C indicates cold water, and 3 indicates extra water.

CHEM 03 is displayed when Chemical 03 is being injected. The number for each chemical (up to five may be connected) is displayed as the chemical is injected.

FINAL EXTRACT indicates that the step in progress is the final step of the wash formula.

#### 2.1.6. How to Terminate a Running Formula

**Display or Action** 

#### Explanation

Cancels the current formula and returns the machine to the *Run Formula* display (see Section 2.1.4 "Select and Start a Formula").

#### 2.1.7. How to Restart after Losing Power

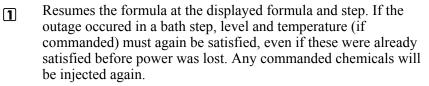
The control remembers the formula and step it was executing if power fails or if the wall disconnect is turned off while the machine is operating in automatic mode.

#### **Display or Action**

#### PRESS START TO RUN STEP xx - FORMULA yy

#### **Explanation**

On most machine models, this display appears when power is restored. The formula and step which were in progress when power was interrupted are shown.



If the outage occured during the drain part of a bath step, the bath step will be repeated, then followed by the next commanded step.

If the outage occured during an extract step, the previous bath will be repeated before the extract step begins.

#### 2.1.8. Unload the Machine

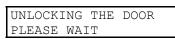


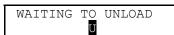
**DANGER** 3: Entangle and Sever Hazards—Contact with goods being processed can cause the goods to wrap around your body or limbs and dismember you. The goods are normally isolated by the locked cylinder door.

• Do not touch goods inside or hanging partially outside the turning cylinder.

When the formula ends or is terminated, the cylinder coasts for 25 seconds if the last step was a bath step. If the last step was an extract, the coast time may be as much as 180 seconds. Do not attempt to open the door early.

#### **Display or Action**





#### Explanation

display during the last 15 seconds of coast, or during the entire coast time if the formula was manually terminated.

At the end of the coast time, the operator alarm sounds.



Silences the operator alarm. The door unlocks so you can unload the machine.

— End of BICJVO03 —

# **Chapter 3 Correcting Errors**

BICJHT04 (Published) Book specs- Dates: 20090831 / 20090831 / 20091105 Lang: ENG01 Applic: CJV CJH CJF CJX

#### 3.1. Error Messages During Normal Operation

If an error message appears on the bottom line of the display while the machine is running, the timer shown on the top line will stop counting. When the error is corrected, the timer resumes counting down. To troubleshoot most errors, suspend the formula in progress and turn power off. Do not terminate the formula if it is to be resumed after the error is corrected. See the reference manual for more information.

#### **Display or Action**

LEVELS STILL MADE

TOO LONG TO FILL

TOO LONG TO STEAM

TOO LONG TO COOL

TOO LONG TO DRAIN

CHECK PROBE

EXTERNAL FAULT

#### **Explanation**

The microprocessor is still receiving information that a level is made just before or during an extract step, or immediately before the fill for a bath step. This error is self-clearing when level is lost.

Time to fill to level exceeded 10 minutes. Check the water valves, strainers, supply lines, and water pressure. The machine will continue to fill until level is reached, at which time the error will automatically clear and normal operation will resume.

**E-P Plus models only.** The configured maximum time to steam up to the desired temperature has been exceeded. Check the steam valve, strainer, main steam header and pressure, etc. Steaming will continue until temperature is achieved, when the error will automatically clear and normal operation will resume.

**E-P Plus models only.** The configured maximum time to cool down to the desired temperature has been exceeded. Check the cooldown valve and strainer if equipped, cold water pressure, and position of vernier valve on cooldown inlet. Cooldown will continue until the desired temperature is achieved, when the error will automatically clear.

The machine did not drain properly in the allotted drain time. This self-correcting error will clear when the water level in the basket is low enough to begin the next operation.

**E-P Plus models only.** This error message indicates that the resistance of the temperature probe is outside the specified range. Test the probe by disconnecting the probe leads from the processor board and checking the resistance with an accurate digital ohmmeter. Resistance between the two leads must be between 2K and 35K Ohms. Resistance between each lead and ground must be infinite.

On most machines, this error indicates that the programmed chemical injection failed, usually because the chemical supply system is empty. When chemicals are added and can be injected, this error clears automatically, allowing operation to resume.

On 48040F7J/F7B models, this error indicates that the bearing air pressure is below the minimum required to help protect the bearing from water contamination.

#### **Display or Action**

BRAKE PRESS. FAULT

THREE WIRE DISABLED

INVERTER FAULT

VIBRATION SW TRIPPED RECOVERY SEQUENCE

#### **Explanation**

This error appears only on machine models equipped with a cylinder brake. The message indicates that the brake is engaged when it should be disengaged. This is usually because the machine is not receiving sufficient air pressure to open the normally-closed brake. Check the plant compressed air supply.

The three-wire relay de-energized. This relay provides control circuit power to the machine. Once energized by momentarily depressing the Start button  $(\fill1)$ , it is held energized by its own normally open contacts, along with motor overloads, door interlocks, etc. Should any of these contacts open even momentarily, the machine stops and this display appears. This error can only be cleared by depressing the Start button  $(\fill1)$ , and only then if the error has been cleared.

This error message appears if the microprocessor does not receive an input from the inverter within 14 seconds of the beginning of the formula. After 14 seconds without an inverter input, the timer stops, the basket is stationary, and the drain valve opens. To recover, press the *Next* key ( ).

When the vibration switch closes, the timer stops. After 45 to 85 seconds (120 seconds on 42032F7J models), the basket reverses at wash speed as the cylinder fills with water. When low level is achieved, the cylinder reverses for one additional minute at wash speed, then accelerates to extract speed.

- End of BICJHT04 -

# 中国的 2





Specified Date: 20090831
 As-of Date: 20090831
 Access Date: 20150717

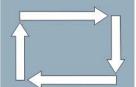
Depth: DetailCustom: n/a

Applicability: CJV CJH CJF

Language Code: CHI01, Purpose: publication, Format: 1colA

# 操作指南—

# E-P Plus控制的洗衣脱水机型号



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阅读安全说明书

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063 - 0400, U.S.A.

## 适用的 Milnor® 产品型号:

30015T5J	30015V7J	30022T5J	30022V6J	30022X8J	36021V5J	36021V7J
36026V5J	36026V7J	36026X8J	42026V6J	42026X7J	42030V6J	42032X7J
MWR18J4-	30022H7J	30022H8J	30022F8J	36030F8J	42032F7J	48040F7B
48040F7J	68036F5B					

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章节 图表及附件 1. 描述控制 1.1. E-P Plus®系列型号的操作员控制 (文件 BICJHF01) 图 1: 典型控制面板 2. 正常运行 2.1. 机器正常运行 (文件 BICJV003) 安全需知 2.1.1. 2.1.2. 检查开关设置 附件 1: 加电启动安全延时 2.1.3. 向机器装载布草 2.1.4. 选择并开始程序 2.1.5. 监控运行 2.1.6. 如何终止运行中的程序 2.1.7. 如何在断电后重启 2.1.8. 从机器中卸载布草

#### 3. 纠正错误

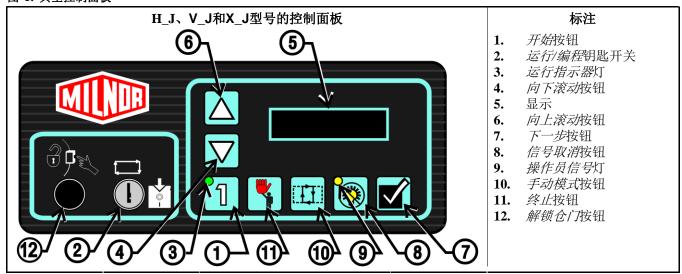
3.1. 正常运行时的错误信息 (文件 BICJHT04)

## 描述控制

BICJHF01 (Published) Book specs- Dates: 20090813 / 20090813 / 20150717 Lang: CHI01 Applic: CJV CJH CJF

**1.1. E-P Plus<sup>®</sup>系列型号的操作员控制** 本文件描述了机器正常运行时的用户控制方法。如需了解图 1中显示的其他控制,请参见 参考手册。

图 1: 典型控制面板



#### 显示或动作

#### 解释

- **1** 当屏幕显示*运行程序,*时按下本按钮启动洗涤程序。
- **△/★** 在正常运行时,*运行/编程*钥匙开关必须设为 **○**。这是自动运行的开关位置。
- ▲ **/**▼ 使用*向上滚动*和*向下滚动*按钮选择所需程序。
  - 正常运行时不使用 下一步按钮。
  - ⑥ 信号取消按钮可以禁止在洗涤程序正常完成时响起的操作员信号。同时,如果程序规定注入皂液时发出操作员信号,则应在加入皂液后按下本按钮恢复运行。
  - 正常运行时不使用手动按钮。
  - 多止按钮将取消当前程序中的所有剩余步骤,并启动关机程序。不能恢复当前洗涤程序。
  - **解锁仓门**按钮允许你在满足所有其他安全条件的前提下打开仓门。

一 完 BICJHF01 —

### 2

## 正常运行

BICJVO03 (Published) Book specs- Dates: 20090813 / 20090813 / 20150717 Lang: CHI01 Applic: CJV CJH CJF

#### 2.1. 机器正常运行

#### 2.1.1. 安全需知

本文件用于提醒洗衣脱水机操作员在操作时需要注意的安全措施。除非有经过培训的操作员向你解释了详细操作方法,否则不得尝试操作本机器。



**危险 1**: **多样化危险**—由操作者的粗心行为可能导致人员死伤,损坏或损毁机器,破坏财物,和/或保修失效。



**警告 2**: **电死或电灼伤危险**—触电可致死或致重伤。如果机器总电源没有切断,电气箱内仍然有电。

- 不要打开电气箱的锁或门。
- 知道机器总电源的位置,以便遇到紧急情况时切断电源。
- 只有经过资格确认及授权的人员才可对机器进行维修。你必须清楚所有危险及懂得如何避免这些危险。

#### 2.1.2. 检查开关设置

显示或动作

#### 解释

检查运行/编程钥匙开关的位置是否处于□。

检查是否有任何*紧急停止*开关处于*关闭*位置。

❷/❸ 检查主开关,如提供了主开关,则位于❸。

#### 附件 1

#### 加电启动安全延时

一些Milnor®洗衣脱水机使用了E-P Plus®控制,因此不使用速度传感装置来确认滚筒是否已经停止旋转。因此,在第一次为机器加电启动时,必须至少等待80秒,才能尝试进行任何其他操作。这样,即使机器是在高速脱水程序中停止,并在滚筒停止前断电,也可以有充足的时间让滚筒达到完全停止。

#### 2.1.3. 向机器装载布草

向机器装入额定数量的布草,并牢固地关闭装载门。

PELLERIN MILNOR CORPORATION

#### 2.1.4. 选择并开始程序

#### 显示或动作

#### 解释

RUN FORMULA 00 OK TO POWER OFF 这是*运行程序*屏幕。通过本屏幕,你可以在不会对电子设备 造成损伤的情况下关机,或者你也可以选择一个需要运行的 洗涤程序。

**▲/**▼

向前/向后检索30个程序。

运行程序

07 程序编号 07

示例:选择运行程序07。

1

使用选定的程序启动机器。

运行程序 不存在 表示选择运行的程序尚未被编订。本屏幕将显示3秒。

#### 2.1.5. 监控运行

#### 显示或动作

#### 解释

23:04 F02S01 02:37 TEMP A168/D170 LEV 1

23:04 STEP 01 02:37 TEMP A168/D170 SPD 0

23:04 F02S01 02:37

这两个屏幕将在正常运行时交替显示。

STEP01是指当前步骤。

EXTRACT表示机器正在为布草脱水。

TIMEHALT表示计时器在注入皂液时停止。必须正确安装皂液供应设备,本功能才能正常运行。

TEMP A168/D170 LEV 1

根据机器配置,以华氏或摄氏温度显示本机器的温度。

A168表示当前温度已达到168度。只有在机器安装配置了温度控制功能时才会显示温度。

D170表示本步骤的理想温度为170度。只有在机器安装配置了温度控制功能时才会显示温度。

LEV 2表示漂洗水位已达到2档。

SPD 0表示本步骤的漂洗速度。

SPD 0 LEV 2

WAIT FOR LEVEL 2 H表示本步骤程序要求达到2档水位,但目前尚未达到。H表示热水阀已开启; C表示冷水; 3表示额外的水。

在注入03号皂液时,显示CHEM 03。在注入每一种皂液时,会显示其对应的编号(最多可以配置5种皂液)。

FINAL EXTRACT表示当前正在进行洗涤程序的最后一步。

#### 2.1.6. 如何终止运行中的程序

#### 显示或动作

#### 解释

取消当前程序,将机器返回至*运行程序*屏幕(参见章节 2.1.4 "选择并开始程序")。

#### 2.1.7. 如何在断电后重启

当机器在自动模式下运行时,控制台可以记住其在断电前或墙上开关断开前执行的程序和步骤。

#### 显示或动作

#### 解释

 $\square$ 

按下启动运行 步骤xx - 程序yy 大多数机器型号会在供电恢复时显示本屏幕。屏幕上会显示断电时正在进行的程序和步骤。

在屏幕显示的程序和步骤恢复运行。如果断电发生在漂洗步骤中,则必须重新满足水位和温度(如果规定了这些指标)条件,即使这些条件在断电前已经满足。所有程序规定的皂液将被再次注入。

如果断电发生在漂洗步骤的放水阶段,则将重复漂洗步骤,然后进入规定的下一步骤。

如果断电发生在脱水步骤,则将重复之前的漂洗步骤,然后 再开始脱水。

#### 2.1.8. 从机器中卸载布草



**危险 3**: **肢体被缠住及切断的危险**—接触到这些在洗涤中的衣物,将可能导致你身体或四肢被卷住或分解。通常,衣物都会被筒体门隔离开来。

• 滚筒正在转动时,不要接触其里面的衣物,也不要将部分衣物悬挂在其外部 当程序结束或被终止时,如果最后一步是漂洗,则滚筒会旋转25秒。如果最后一步是脱水, 则旋转时间可能长达180秒。不要尝试提前打开仓门。

#### 显示或动作

#### 解释

舱门解锁中 请等待 如果程序被手动终止,在滚筒旋转的最后15秒或整个旋转期间显示。

等待卸载 U

在旋转时间结束时,会响起操作员警报。

停止操作员警报。仓门解锁,可以从机器中卸下布草。

一 完 BICJVO03 —

3 纠正错误 BICJHT04 (Published) Book specs- Dates: 20090813 / 20090813 / 20150717 Lang: CHI01 Applic: CJV CJH CJF

#### 3.1. 正常运行时的错误信息

如果机器在运行时,显示屏底部出现错误信息,则显示屏顶部的计时器将停止计数。当错误被纠正后,计数器将继续倒数。在检测大多数错误时,应暂停进行中的程序并关闭电源。如果需要在纠正错误后恢复程序运行,则不应终止程序。更多信息参见参考手册。

显示或动作	解释
仍在确定水位	微处理器仍在接收有关脱水步骤前或期间、或在漂洗步骤注 水前设定的水位信息。在排水后,将自动清除本错误信息。
注水时间过长	注水到液位的时间超过10分钟。检查水阀、过滤器、供应管 线和水压。机器将继续注水直至达到规定液位,此时将自动 清除错误并恢复正常运行。
蒸汽时间过长	已超过预设的蒸汽加温至预定温度的时间。检查蒸汽阀、过滤器、主蒸汽头和压力等等。机器将继续进行蒸汽加温直至达到规定温度,此时将自动清除错误并恢复正常运行。
冷却时间过长	已超过预设的冷却至预定温度的时间。检查冷却阀和过滤器 (如果安装了)、冷水水压、以及冷水入口的微调阀。机器 将继续进行冷却直至达到规定温度,此时将自动清除错误并 恢复正常运行。
排水时间过长	机器未能在规定的排水时间内完成排水。当滚筒内的液位低 到可以开始下一项操作是,将自动清除本项错误。
检查探头	本错误信息表示温度探头的电阻超过了规定范围。将探头引线从处理器主板上断开,用精确的数字电阻表测量电阻,对探头进行检测。两根引线之间的电阻必须为2千欧到35千欧。每根引线与地线间的电阻必须为无穷大。
外部故障	在大多数机器上,本错误表示程序规定的皂液注入操作失败,通常这是因为供应系统中的皂液已经用尽。在加入皂液并可以注入皂液后,本错误将自动清除,从而使机器恢复运行。
	在48040F7J/F7B两款型号上,本错误表示轴承空气压力低于保护轴承免受水污染所需的最低压力。
制动压力故障	本错误只会出现在配备了滚筒制动器的机型上。本信息表示制动器处于接触状态,但原本应该处于断开状态。这通常是因为机器没有足够的空气压力来打开通常闭合的制动器。请检查机器的压缩空气供应。
逆变器故障	如果微处理器在程序开始14秒内未收到逆变器的输入,则会显示本错误信息。在14秒内没有收到逆变器输入的情况下,计时器将会停止,滚筒停止移动并打开排水阀。如需恢复运行,请按下 <i>下一步</i> 按钮(☑)。
震动开关闭合 恢复程序	当震动开关闭合时,计时器会停止。在经过45到85秒后 (42032F7J型号为120秒),滚筒将以洗涤速度反向运行,同 时滚筒注水。在达到低水位后,滚筒再次以洗涤速度反向旋 转1分钟,然后加速到脱水速度。

一 完 BICJHT04—