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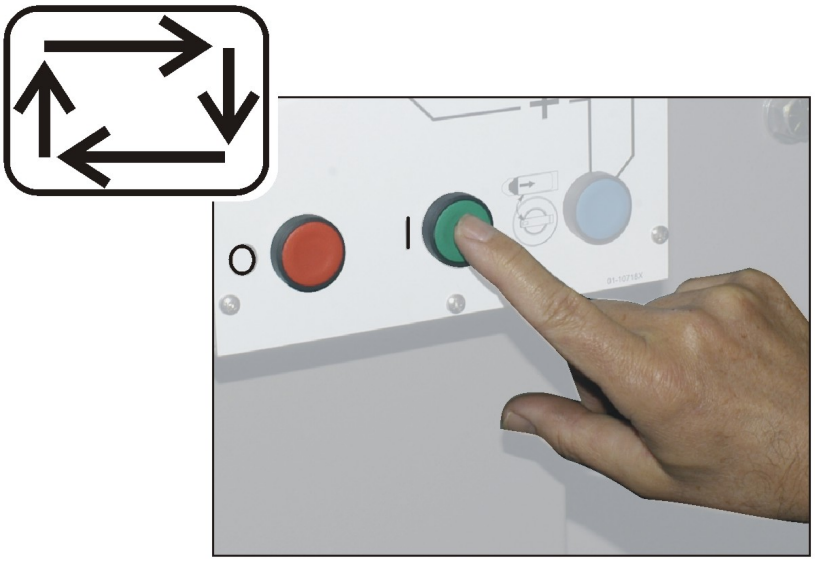

PELLERIN MILNOR CORPORATION **POST OFFICE BOX 400, KENNER, LOUISIANA 70063-0400, U.S.A.**

MMP1VO01U1/23413A

1. English

Operator Guide - Mark VI Single-Stage Press MMP1VO01EN/2023413A

English 1

Manual Number: MMP1VO01EN
Edition (ECN): 2023413A

Operator Guide

Mark VI Single-Stage Press

PELLERIN MILNOR CORPORATION Post Office Box 400, Kenner, Louisiana 70063–0400, U.S.A.

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1.1 Single Stage Press Controls and Switches

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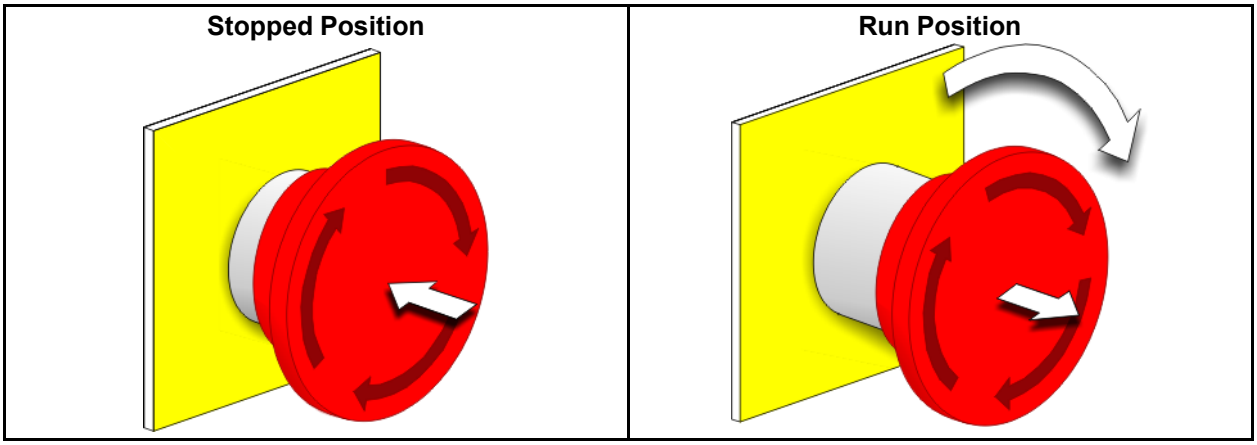
1.1.1 Emergency Stop Switch (Locking Push Button)

BNPUUO01.C02 0000579451 A.2 A.6 A.4 7/13/23, 2:37 PM Released

One or more **emergency stop** switches (Figure 1: Emergency Stop Switch, page 4) are provided on the device. When pressed, any emergency stop switch removes power from the machine controls, stops the machine and locks in the depressed (switch actuated, machine stopped) position. When safe to do so, turn the button clockwise to unlock the switch. To resume operation, perform the device's normal startup procedure.

Figure 1. Emergency Stop Switch



NOTICE: Press the **emergency stop** switch immediately in an emergency situation. This disables the 3-wire circuit while maintaining power to the microprocessor controller.

Display or Action	Explanation
	This symbol represents the emergency stop switch in Milnor® documents other than electrical wiring diagrams.
SHES	This notation in wiring diagrams refers to the **emergency stop** switch on the main switch panel.
SHESR	This notation in wiring diagrams refers to **remote emergency stop** switches (those not located on the main switch panel).

1.1.2 Main Switch Panel Controls for All Presses

BNPUUO01.C03 0000579448 A.2 A.6 7/6/23, 4:40 PM Released

The main switch panel (Figure 2: Main Switch Panel with 12-button Keypad, page 5) contains all controls necessary to operate the machine and monitor automatic operation.

Figure 2. Main Switch Panel with 12-button Keypad

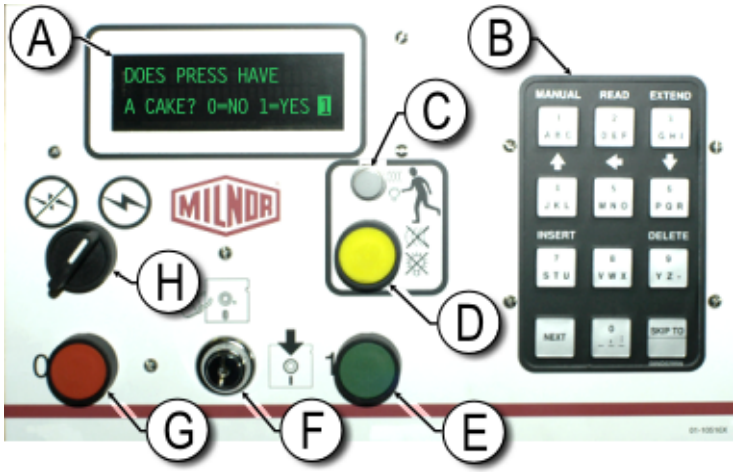
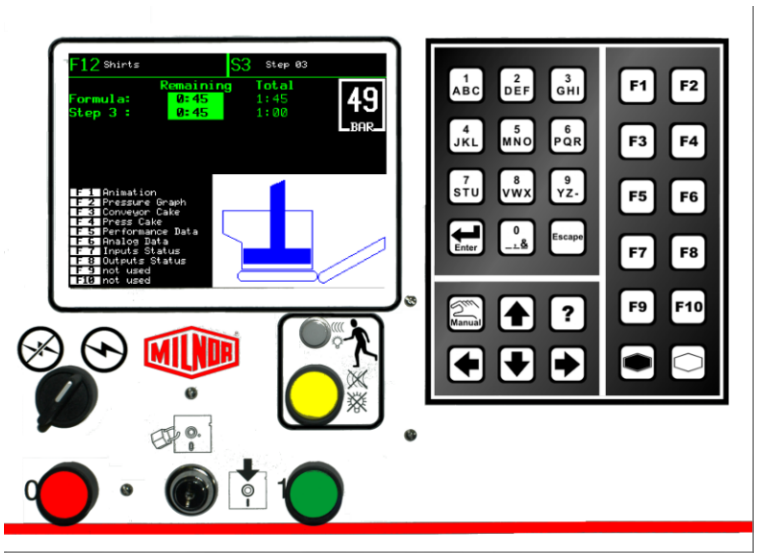
Switch Panel	Legend
	**A . . .** Display **B . . .** Keypad **C . . . Operator Signal** lamp **D . . . Signal Cancel** button **E . . . Start** button **F . . . Run/Program** keyswitch **G . . . Emergency Stop** button **H . . . Master** switch

Figure 3. Main Switch Panel with 30-button Keypad

Switch Panel	Legend
	**A . . .** Display **B . . .** Keypad **C . . . Operator Signal** lamp **D . . . Signal Cancel** button **E . . . Start** button **F . . . Run/Program** keyswitch **G . . . Emergency Stop** button **H . . . Master** switch

1.1.2.1 Display

BNPUUO01.C04 0000579445 A.2 A.6 A.3 7/10/23, 11:19 AM Released

The press display is an alphanumeric vacuum fluorescent display of two lines with up to 20 characters per line, as shown in Figure 2, page 5. On some models a graphic display panel replaces the alphanumeric display.

Display or Action	Explanation
DOES PRESS HAVE A CAKE? 0=NO 1=YES 1	This is how a typical display prompt is depicted in this manual.
BDVFD	This notation in wiring diagrams refers to the display.

1.1.2.2 Keypad

BNPUUO01.C05 0000579464 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The press keypad is 12 or 30 keys, depending on the model and the date of manufacture. All presses with 30-button keypads also employ the graphic display in place of the alphanumeric one.

Figure 4. 30-button Keypad

Display or Action	Explanation
2 SKIP TO F	This is how keypad entries are depicted. See the related section in document BICPUK01 for a more detailed explanation.
KBMP	This notation in wiring diagrams refers to the keypad.

1.1.2.3 Operator Signal Lamp

BNPUUO01.C06 0000579462 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The **operator signal** lamp illuminates when the press needs the attention of an operator. This light may be accompanied by a flashing beacon near the top of the press and an audible horn.

Display or Action	Explanation
	In this manual, this symbol represents the **operator signal** lamp, flashing beacon, and audible horn.

ELSG	This notation in wiring diagrams refers to the **operator signal** lamp on the main switch panel.
ELSGF	This notation in wiring diagrams refers to the **operator signal** beacon mounted on top of the control box.
EBSG	This notation in wiring diagrams refers to the **operator signal** horn.

1.1.2.4 Signal Cancel Switch

BNPUUO01.C07 0000579461 A.2 A.6 A.4 7/13/23, 2:37 PM Released

The **signal cancel** switch is a momentary push-button switch which makes an input to the microprocessor controller to end the **operator signal**.

Display or Action	Explanation
	This symbol represents the **signal cancel** switch in this manual.
SHSC	This notation in wiring diagrams refers to the **signal cancel** switch.

1.1.2.5 Start Switch

BNPUUO01.C08 0000579460 A.2 A.6 A.4 7/19/23, 7:40 AM Released

When power is enabled through the master switch and all safety conditions are met for the machine to run, this momentary push-button switch allows machine operation. Pressing this switch closes contacts in relay CRS+, which remain closed as long as the three-wire circuit is intact.

Display or Action	Explanation
①	This symbol represents the **start** switch in this manual.
SHS+	This notation in wiring diagrams refers to the **start** switch.
SHS+R	This notation in wiring diagrams refers to the **remote start** switch, which serves the same purpose as SHS+. **Remote start** switches may be mounted on the side of the machine opposite the main switch panel, and/or on auxiliary switch panels at other locations on the machine.

1.1.2.6 Run/Program Keyswitch

BNPUUO01.C09 0000579459 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The **run/program** keyswitch helps prevent unauthorized programming by removing a microprocessor input required to modify the contents of the memory on the microprocessor controller.

Display or Action	Explanation
	This symbol represents the **run/program** keyswitch in the **Run** position, as during normal operation. The key can only be removed from the switch in this position.

	This symbol represents the **run/program** keyswitch in the **Program** position.
SKPRO	This notation in wiring diagrams refers to the **run/program** keyswitch.

1.1.2.7 Stop Switch

BNPUUO01.C10 0000579458 A.2 A.6 A.4 7/13/23, 2:37 PM Released

The **stop** switch disables the 3-wire circuit and stops operation, but does not remove power from the control system. This is the same function as the **emergency stop** switch, but the **stop** switch resets immediately when the button is released. Operation of the **emergency stop** switch is described more completely in Section 1.1.1 , page 4.

Display or Action	Explanation
	This symbol represents the **low air pressure indicator** lamp in this manual.
SHSO	This notation in wiring diagrams refers to the **stop** keyswitch.

1.1.2.8 Master Switch

BNPUUO01.C11 0000579481 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The **master** switch controls power to the machine control circuit. When the **master** switch is off, the entire control circuit is disabled, i.e., the microprocessor controller is not powered.

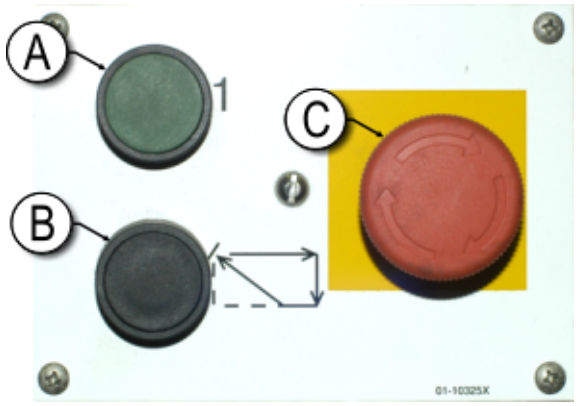
Display or Action	Explanation
	This symbol represents the OFF position of the **master** switch in Milnor® documents other than electrical wiring diagrams.
	This symbol represents the ON position of the **master** switch in Milnor® documents other than electrical wiring diagrams.
SHSMA	In wiring diagrams the **master** switch is item SHSMA.

1.1.3 Stop/Fault Recovery Controls

BNPUUO01.C12 0000579480 A.2 A.6 A.3 7/10/23, 11:19 AM Released

This control plate contains a **start** switch, a **fault recovery** switch, and an **emergency stop** switch.

Figure 5. Stop/Fault Recovery Controls

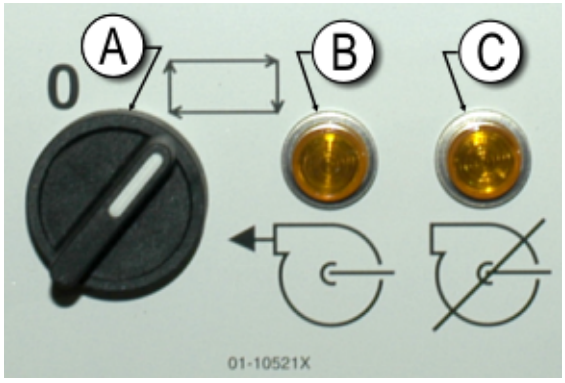
Control Panel	Legend
	**A . . . Start** switch (see Section 1.1.2.5 , page 7) **B . . . Fault Recovery** switch (see Section 1.1.5.2 , page 11) **C . . . Emergency Stop** switch (see Section 1.1.1 , page 4)

1.1.4 Reuse Pump Controls

BNPUUO01.C13 0000579478 A.2 A.6 7/6/23, 4:40 PM Released

The reuse pump sends water extracted by the press back to the washer, where the water is used to flush goods down the load scoop and to fill the first module. The press microprocessor control turns this pump on and off as necessary to move the water and minimize the time the pump runs dry. The two-position switch allows a person to disable the pump, and the two indicator lamps help determine if the pump is running, or not running when it should run.

Figure 6. Reuse Pump Controls

Control Panel	Legend
	**A . . . Pump Off/Automatic** switch **B . . . Pump Running** lamp **C . . . Pump Disabled** lamp

1.1.4.1 Reuse Pump Off/Automatic Switch

BNPUUO01.C14 0000579491 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The pump off/automatic switch allows the operator to disable the reuse pump, primarily for maintenance.

Display or Action	Explanation
0	This symbol represents the **Off**—or disabled—switch position.

	This symbol represents the **Automatic operation** switch position. In this position, the controlled component operates under the control of another component, usually the microprocessor.
SHPRP	In wiring diagrams the **Reuse Pump Off/Automatic** switch is item SHPRP.

1.1.4.2 Pump Running Lamp

BNPUUO01.C15 0000579490 A.2 A.6 A.3 7/13/23, 2:37 PM Released

Display or Action	Explanation
	This symbol represents the **Pump Running** lamp in this manual. The lamp is illuminated when the reuse pump is running.
ELPRP	This symbol represents the **Pump Running** lamp in the wiring diagrams.

1.1.4.3 Pump Disabled Lamp

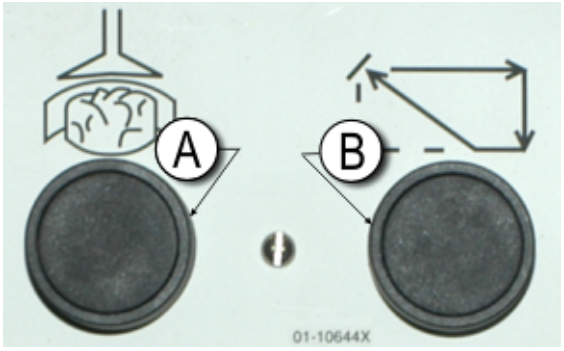
BNPUUO01.C16 0000579489 A.2 A.6 A.3 7/13/23, 2:37 PM Released

Display or Action	Explanation
	This symbol represents the **Pump Disabled** lamp in this manual. The lamp is illuminated when the reuse pump did not run after operation was commanded, which is an error condition. The most common cause of this error is a tripped reuse pump motor overload.
ELPTT	This symbol represents the **Pump Disabled** lamp in the wiring diagrams.

1.1.5 Press is Loaded/Fault Recovery controls

BNPUUO01.C17 0000579488 A.2 A.6 A.3 7/10/23, 11:19 AM Released

Figure 7. Press Loaded/Fault Recovery Controls

Control Panel	Legend
	**A . . . Press is Loaded** switch **B . . . Fault Recovery** switch

1.1.5.1 Press is Loaded Switch

BNPUUO01.C18 0000579886 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The **press is loaded** switch provides an input to the microprocessor controller to indicate that the press contains a load and should prompt for cake data.

Display or Action	Explanation
	This symbol indicates the **press is loaded** switch in this manual.
SHPL	This notation in wiring diagrams refers to the **press is loaded** switch.

1.1.5.2 Fault Recovery Switch

BNPUUO01.C19 0000579885 A.2 A.6 A.3 7/13/23, 2:37 PM Released

The **fault recovery** switch makes a momentary input to the microprocessor controller to indicate that the cause of the previous fault has been cleared. This microprocessor input signals the microprocessor that it is safe to resume operating when the operator presses the **start** switch.

Display or Action	Explanation
	This symbol represents the **fault recovery** switch in this manual.
SHRF	This notation in wiring diagrams refers to the **fault recovery** switch.

1.1.6 Lamp Test Switch (Optional)

BNPUUO01.C20 0000579884 A.2 A.6 7/6/23, 4:40 PM Released

Certain equipment standards require this momentary push-button switch. When it is provided, it is mounted near the main switch panel. When this switch is pressed, all indicator lamps on the switch panel are illuminated, allowing the operator to check for malfunctioning bulbs.

Figure 8. Lamp Test Switch

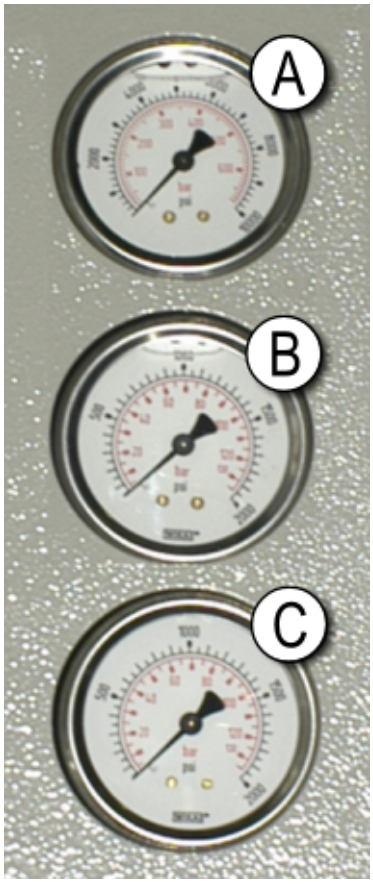
1.1.7 Gauge Cluster

BNPUUO01.C21 0000579915 A.2 A.6 A.3 7/10/23, 11:19 AM Released

The Milnor® single stage press is equipped with three gauges for monitoring pressures in the hydraulic system. The arrangement of these gauges is shown in Figure 9: Gauge Cluster, page 12 .

The gauges described here are for maintenance purposes only. See the service manual for more details.

Figure 9. Gauge Cluster

Gauges	Legend
	**A . . . System** pressure gauge **B . . . Ram Relief** pressure gauge **C . . . Can Relief** pressure gauge

1.1.7.1 System Pressure Gauge

BNPUUO01.C22 0000579913 A.2 A.6 7/10/23, 11:19 AM Released

The top gauge is used for setting the idle pressure, pump compensation pressure, first and second stage motor horsepower, proportional valve maximum pressure, and system relief pressure.

1.1.7.2 Ram Relief Pressure Gauge

BNPUUO01.C23 0000579912 A.2 A.6 7/10/23, 11:19 AM Released

The middle gauge is used to set the ram relief pressure and second stage motor horsepower.

1.1.7.3 Can Relief Pressure Gauge

BNPUUO01.C24 0000579911 A.2 A.6 7/10/23, 11:19 AM Released

The lower gauge is used to set the can relief pressure.

2 Normal Operation

2.1 Mark VI Press Operation for Plant Personnel

The normal operating mode of this machine is fully automatic. After the machine is set for automatic operation, a new load and corresponding batch codes pass from the loading device to the press each time the loading device (usually a CBW® tunnel washer) is ready to discharge and the press is ready to receive. Before a new load is received, the cake of processed goods is discharged to a storage belt or the receiving shuttle, freeing the machine for the next load.

2.1.1 Start Here for Safety

This document is meant to remind you, the machine operator, of what is required to run this machine safely and efficiently. Do not attempt to operate this machine before an experienced and trained operator explains the procedure to you.

WARNING: Careless use — can cause death or serious injury and property damage.

- Read the machine manuals before you install, operate, service, or clean the machine.

DANGER: 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 run/program keyswitch is at 

All emergency stop buttons must be unlatched and in the **ready** position to allow machine operation.

Check that the machine master switch is at .

2.1.3 Starting the Press

BNP1VO01.C04 0000579937 A.2 A.6 A.5 7/13/23, 7:23 AM Released

Display or Action	Explanation
	Energizes the press control circuit and silences the **operator alarm**. **Initialization begins.**
Waiting for Can Full Down	Initialization begins with the controller driving the can to the **full down** position.
Waiting for Ram Full Up	With the can fully down, the controller lifts the ram to the **full up** position.
Waiting for Load Chute Down	If the machine is so equipped, the controller lowers the load chute.
Waiting for Load Door Down	If the machine is equipped with a load door, the controller lowers the load door.
Waiting for Discharge Door Down	The controller lowers the discharge door.

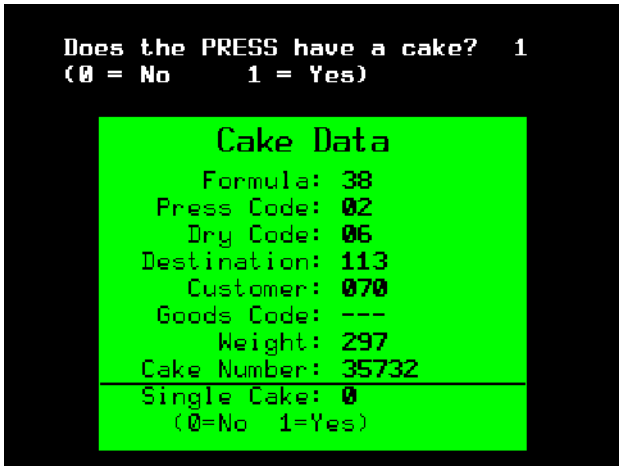
After the press initializes, the operator must confirm whether the press is loaded.

Does the PRESS have a cake?

0 Enter **0** (No) if the press can is empty. The press control waits for a signal from the Miltrac™ system that a load is in the press.

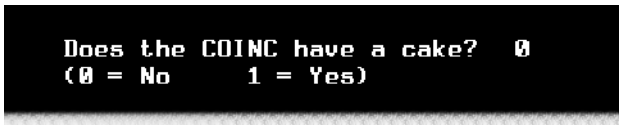
1 Enter **1** (Yes) if power to the press was interrupted with a load in the can. The press control will prompt for the correct Miltrac™ data for the goods, as shown in Figure 10: Cake Data Entry Window for Press, page 14

Figure 10. Cake Data Entry Window for Press



If the COINC conveyor has a cake (**1=Yes**), the controller may prompt the operator to confirm cake data. The COINC conveyor returns to automatic operation after cake data is verified. If the COINC is not loaded, the normal run display appears.

Figure 11. COINC Loaded Prompt

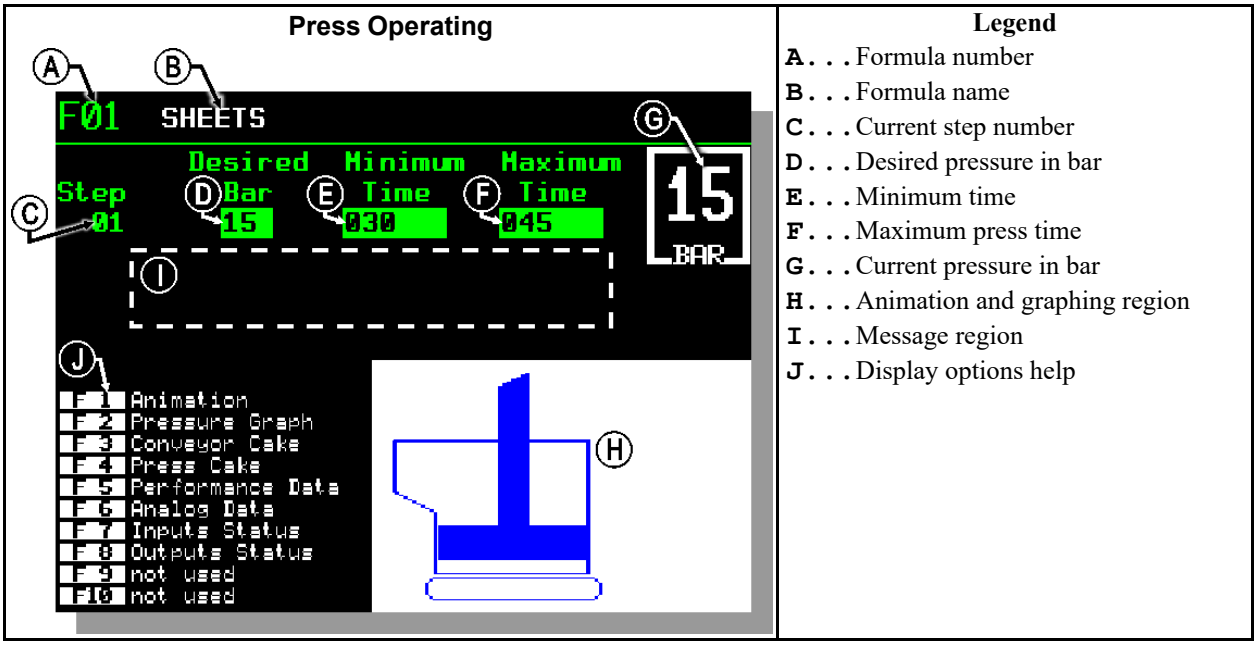


2.1.4 Using the Normal Run Display

BNP1VO01.C05 0000579934 A.2 A.6 A.4 7/13/23, 9:25 AM Released

In the normal automatic operating mode, the operator only needs to monitor the press for load errors and ensure that the desired pressure is achieved. Figure 12: Normal Run Display, page 15 illustrates the important elements of the display during normal operation, which are described in Section 2.1.4.1 : Formula Number, page 15 through Section 2.1.4.10 : Display Options Help, page 17.

Figure 12. Normal Run Display



2.1.4.1 Formula Number

BNP1VO01.C06 0000579932 A.2 A.6 A.1 7/11/23, 3:07 PM Released

Valid formula numbers are 00 through 15. When the press receives a batch, the Miltrac™ controller sends the press a formula number, along with other batch data. The press executes the local formula that corresponds to the number it receives from the Miltrac™ controller.

2.1.4.2 Formula Name

BNP1VO01.C07 0000579931 A.2 A.6 7/11/23, 4:12 PM Released

The formula name is stored in the press controller and corresponds to the formula number.

2.1.4.3 Current Step Number

BNP1VO01.C08 0000579995 A.2 A.6 7/13/23, 7:23 AM Released

Press formulas usually include multiple steps, as when pressure is gradually increased. The step number increments at the beginning of each step.

2.1.4.4 Desired Pressure in Bar

BNP1VO01.C09 0000579994 A.2 A.6 A.3 7/13/23, 9:25 AM Released

This field displays the programmed membrane pressure for this step, as measured in bar.

1 bar = 0.9872 atmosphere = 1 x 10^5 N/m^2 = 14.504 PSI

2.1.4.5 Minimum Time

BNP1VO01.C10 0000579993 A.2 A.6 7/13/23, 7:23 AM Released

This timer begins counting down when the programmed membrane pressure is achieved. The step ends when this timer reaches 0 unless the maximum press time is achieved first.

2.1.4.6 Maximum Press Time

BNP1VO01.C11 0000579992 A.2 A.6 7/13/23, 7:23 AM Released

This timer begins counting down when membrane pressurization begins. The step ends when this timer expires, even if the desired pressure has not been achieved.

2.1.4.7 Current Pressure in Bar

BNP1VO01.C12 0000579991 A.2 A.6 7/13/23, 7:23 AM Released

This field displays the current membrane pressure.

2.1.4.8 Animation and Graphing Region

BNP1VO01.C13 0000579990 A.2 A.6 7/13/23, 7:23 AM Released

This display region shows an animation of the press in operation or a line graph of the membrane pressure.

- Press F1 to display a graphic representation of the major press components. Each component is outlined when the component is stationary, or solid blue when the component is moving under power.
- Press F2 to display a graph of membrane pressure. The graph always begins when the operator presses F2 and ends when the graph is replaced by the animation (when the operator presses F1). The graph displays a maximum of two minutes before older values scroll off the left side of the window. A new pressure reading is plotted about every half second.

2.1.4.9 Message Region

BNP1VO01.C14 0000579989 A.2 A.6 7/13/23, 7:23 AM Released

During normal operation, text messages such as machine states and error conditions are displayed in this area.

2.1.4.10 Display Options Help

BNP1VO01.C15 0000579988 A.2 A.6 A.3 7/13/23, 9:25 AM Released

This part of the screen normally contains the list of optional display data. Some elements of display data, especially the machine data and status displays, replace the help text temporarily. Press ESCAPE to restore the help information.

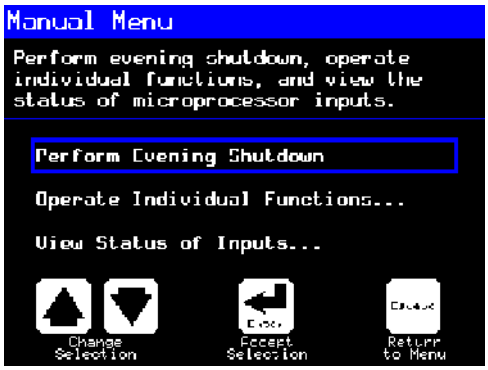
3 Manual Operation

3.1 Manual Operation

BNP1VO02.C01 0000580465 A.2 A.11 A.4 7/27/23, 11:03 AM Released

The press normally powers up in **Manual** mode (Figure 13: Manual Menu Display, page 18).

Figure 13. Manual Menu Display



Display or Action	Explanation
Manual	accesses **Manual** mode from **Automatic** mode at any time

From the **Manual** menu, select **Perform Evening Shutdown**, **Operate Individual Functions**, or **View Status of Inputs** as desired.

Escape	exits **Manual** mode and returns to **Automatic** mode

3.1.1 How to Adjust Display Brightness

BNP1VO02.C02 0000580481 A.2 A.11 7/21/23, 11:12 AM Released

Display or Action	Explanation
F1	From the **Manual Menu** display (Figure 13, page 18), this key-stroke increases the brightness of the display. Press repeatedly to make the display progressively brighter.
F2	This keystroke decreases the brightness of the display, making it darker. Press repeatedly to make the display progressively darker.

3.1.2 How to Manually Download Display Firmware

BNP1VO02.C03 0000580480 A.2 A.11 A.3 7/27/23, 11:03 AM Released

Display or Action	Explanation
F4	From the **Manual Menu** display (Figure 13, page 18), this keystroke forces an update of the display firmware.

NOTICE: Do Not Interrupt the Update Process—Do not press any key or turn off power to the machine after beginning the update process. If you interrupt the update process, special procedures (described in the related section in document BICWCM01) may be required to return the machine to service.

The controller automatically restarts when the firmware update process ends.

3.1.3 How to View the Firmware Version

BNP1VO02.C04 0000580864 A.2 A.11 7/21/23, 4:12 PM Released

Display or Action	Explanation
F7	From the **Manual Menu** display (Figure 13, page 18), this keystroke calls the **Firmware Version** display, shown in Figure 14: Firmware Version Display, page 19 .

Figure 14. Firmware Version Display

3.1.4 How to View the Software Version

BNP1VO02.C05 0000580863 A.2 A.11 A.3 7/21/23, 4:12 PM Released

Display or Action	Explanation
F8	From the **Manual Menu** display (Figure 13, page 18), this keystroke calls the **Copyright** display, shown in Figure 15: Copyright Display, page 20 .

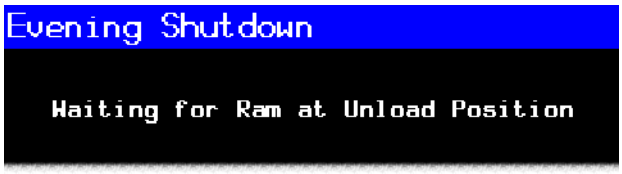
Figure 15. Copyright Display

3.1.5 How to Perform Evening Shutdown

BNP1VO02.C06 0000580861 A.2 A.11 A.3 7/24/23, 1:57 PM Released

The **Perform Evening Shutdown** selection from the **Manual** menu prepares the press for the operator to turn off power. The Evening Shutdown procedure is outlined below.

Figure 16. Typical Evening Shutdown Display



3.1.5.1 Evening Shutdown Procedure

BNP1VO02.T01 0000580859 A.2 A.11 A.6 7/24/23, 3:55 PM Released

1. The operator selects “Evening Shutdown” from the **Manual** menu.
2. The press checks if it is configured for a load door:
   - YES: Continue to step 3.
   - NO: Skip to step 5.
3. The press checks if the “Load Door Down” input is made:
   - NO: Continue to step 4.
   - YES: Skip to step 5.
4. The controller lowers the load door.

   The display shows “Waiting for Load Door Down.”
5. The press checks if the “Can Full Down” input is made:
   - YES: Continue to step 6.
   - NO: See Section 3.1.5.1.1 : To Remove Goods from the Belt, page 21.
6. The press checks if the “Discharge Door Down” input is made:
   - NO: Continue to step 7.
   - YES: Skip to step 8.

7. The controller lowers the discharge door.

   The display shows “Waiting for Discharge Door Down.”
8. The press checks if the “Ram Full Down” input is made:
   - NO: Continue to step 9.
   - YES: Skip to step 10.
9. The controller lowers the ram.

   The display shows “Waiting for Ram Down.”
10. Return to the **Manual** menu.
11. Turn the master switch to the OFF position (⊘) to power-down the press.

3.1.5.1.1 To Remove Goods from the Belt

BNP1VO02.T02 0000580907 A.2 A.11 A.3 7/24/23, 3:55 PM Released

This sequence only occurs if there are goods on the belt when the operator initiates “Evening Shutdown”, which prevents the can from fully lowering.

1. The press checks if the “Ram at Unload” input is made:
   - YES: Skip to step 3.
   - NO: Continue to step 2.
2. The controller raises the ram until the input is made.

   The display shows “Waiting for Ram at Unload Position.”
3. The press checks if the “Can Full Up” input is made:
   - YES: Skip to step 5.
   - NO: Continue to step 4.
4. The controller raises the can.

   The display shows “Waiting for Can Full Up.”
5. The press checks if the “Discharge Door Full Up” input is made:
   - YES: Skip to step 7.
   - NO: Continue to step 6.
6. The controller raises the discharge door.

   The display shows “Waiting for Discharge Door Full Up.”
7. The controller runs the belt for 15 seconds or until the photoeye is blocked.

   The display shows “Checking for Load on Belt.”
8. The press checks if the “Discharge Photoeye” input is made (if the eye is blocked):
   - YES: Continue to step 9.
   - NO: Skip to step 10.
9. Press **Escape** or **Signal Cancel** to clear the error and return to the **Manual** menu. Return to Section 3.1.5.1 : Evening Shutdown Procedure, page 20.

The display shows “Clear Belt Eye Before Proceeding.”

10. The controller lowers the discharge door.

    The display shows “Waiting for Discharge Door Down.”

11. The controller lowers the can.

    The display shows “Waiting for Can Full Down.”

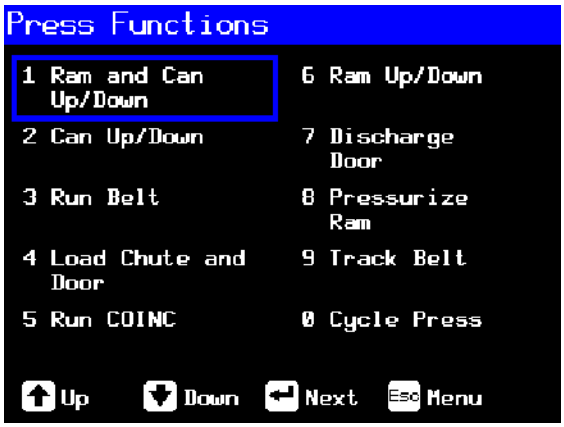
12. Return to step 8 in Section 3.1.5.1 : Evening Shutdown Procedure, page 20.

3.1.6 Operate Individual Press Functions

BNP1VO02.C07 0000580903 A.2 A.11 7/25/23, 4:54 PM Released

Use the **Press Functions** menu to manually operate the press and to perform maintenance tasks according to the service and maintenance manual.

Figure 17. Press Functions Menu Screen

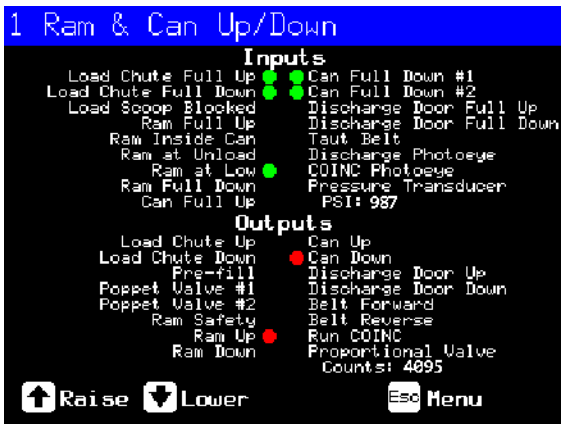


3.1.6.1 Operating the Ram and Can

BNP1VO02.C08 0000580955 A.2 A.11 A.3 7/27/23, 11:03 AM Released

This function raises or lowers the ram while forcing the can down. The belt and the scoop must both be clear of goods when lowering the ram. Pump pressure is not allowed to exceed 1500 psi while lowering the ram.

Figure 18. 1 Ram and Can Up/Down Screen



Display or Action	Explanation
	Raises the ram while driving the can down. The controller displays “Ram Full Up” when the **Ram Full Up** input is made.
	Lowers the ram while driving the can down. The controller displays “Ram Full Down” when the **Ram Full Down** input is made.

NOTE: The controller requires a delay of four seconds after commanding the ram down before the ram can be commanded up.

	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.2 Operating the Can

BNP1VO02.C09 0000580953 A.2 A.11 A.4 7/27/23, 11:03 AM Released

This function raises and lowers the can. The **belt** must be clear of goods when moving the can down, and the **scoop** must be clear of goods when moving the can up.

Figure 19. Can Up/Down Screen

Display or Action	Explanation
	Raises the can by actuating the **Can Up** output if all safety conditions are met. The controller displays “Can Full Up” when the **Can Full Up** input is made.
	Lowers the can by actuating the **Can Down** output if all safety conditions are met. The controller displays “Can Full Down” when the **Can Full Down** inputs are made.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.3 Running the Belt

BNP1VO02.C10 0000580952 A.2 A.11 A.3 7/27/23, 11:03 AM Released

This function opens the discharge door and runs the main belt forward and backward. The ram must be above the **Ram inside Can** position, the can must be raised fully. The COINC runs when the belt is commanded to run forward if the COINC eye is not blocked.

Figure 20. Run Belt Screen

Display or Action	Explanation
	Automatically raises the discharge door and runs the main belt forward by actuating the **Belt Forward** output if all safety

conditions are met. If present, the discharge conveyor belt also runs forward.

Automatically raises the discharge door and runs the main belt backward by actuating the **Belt Reverse** output if all safety conditions are met. The discharge conveyor belt, if present, does not run when the main belt runs in reverse.

Escape — Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.4 Operating the Load Chute or Load Door

BNP1VO02.C11 0000580950 A.2 A.11 A.3 7/27/23, 11:03 AM Released

This function raises and lowers the load chute.

Figure 21. Load Chute and Door Screen

Display or Action	Explanation
	Raises the load chute by actuating the **Load Chute Up** output. The controller displays "Load Chute Full Up" when the **Load Chute Full Up** input is made.
	Lowers the load chute by actuating the **Load Chute Down** output. The controller displays "Load Chute Full Down" when the **Load Chute Full Down** input is made.
Escape	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.5 Running the Discharge Conveyor (COINC)

BNP1VO02.C12 0000580948 A.2 A.11 A.3 7/27/23, 11:03 AM Released

This function runs the inclined discharge conveyor belt in the **forward direction only**. This belt will not run in the reverse direction.

Figure 22. Run COINC Screen

Display or Action	Explanation
	Runs the discharge conveyor belt forward by actuating the **Run COINC** output.
Escape	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.6 Operating the Ram

BNP1VO02.C13 0000581040 A.2 A.11 7/27/23, 11:03 AM Released

This function raises and lowers the ram, and provides data used in testing and filling the press diaphragm. The belt and the scoop must both be clear of goods to lower the ram. Pump pressure is not allowed to exceed 1500 psi while lowering the ram.

Figure 23. Ram Up/Down Screen

Display or Action	Explanation
	Raises the ram by actuating the **Ram Up** output if all safety conditions are met. The controller displays “Ram Full Up” when the **Ram Full Up** input is made.
	Lowers the ram by actuating the **Ram Down** output if all safety conditions are met. The controller displays “Ram Full Down” when the **Ram Full Down** input is made.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.7 Operating the Discharge Door

BNP1VO02.C14 0000581038 A.2 A.11 7/27/23, 11:03 AM Released

This function raises and lowers the discharge door.

Figure 24. Discharge Door Screen

Display or Action	Explanation
	Opens the discharge door by actuating the **Discharge Door Up** output.
	Closes the discharge door by actuating the **Discharge Door Down** output. The controller displays “Discharge Door Full Down” when the **Discharge Door Down** input is made.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.8 Pressurizing the Ram

BNP1VO02.C15 0000581036 A.2 A.11 7/27/23, 11:03 AM Released

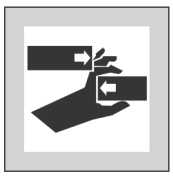
This function pressurizes the ram. The scoop must be clear of goods and the can must be fully down. Pump pressure is not allowed to exceed 1500 psi if the ram is above the **Ram Inside Can** position.

Figure 25. Pressurize Ram Screen

Display or Action	Explanation
	Drives the ram and can down.
Pressure Transducer PSI: xxxx	Value **xxxx** displays the hydraulic pump pressure in pounds per square inch.
Proportional Valve Counts: yyyy	Value **yyyy** displays the counts representing the opening of the proportional valve. This value is 4095 while the ram is pressurizing, indicating that the proportional valve is fully open.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.9 Tracking the Belt

BNP1VO02.C16 0000581034 A.2 A.11 A.3 7/27/23, 11:03 AM Released



WARNING: Closing gaps — can mutilate body parts.

- Keep hands and fingers away from gaps in and around the machine.

This function runs the belt forward to facilitate belt tracking and/or manual cake discharge. This function starts only if the **Can Full Up** input is made.

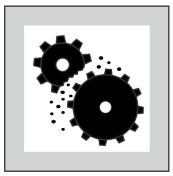
1. The controller raises the ram to the full up position.
2. The discharge door begins opening when the **Ram Inside Can** input is made.
3. The belt begins running when the **Ram Full Up** input is made.

Figure 26. Track Belt Screen

Display or Action	Explanation
	Starts the **Track Belt** function. The belt runs until commanded to stop.
	Stops the **Track Belt** function.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.6.10 Cycling the Press

BNP1VO02.C17 0000581031 A.2 A.11 7/27/23, 11:03 AM Released



CAUTION: Machine Damage Hazards — Operating the press without a load can cause unnecessary wear on machine components.

- Do not pressurize the ram without a load in the press unless necessary for troubleshooting.

This function operates the press through a complete pressing cycle. Before the cycle begins, the two **Can Full Down** inputs must be made and the load scoop must be clear of goods.

Figure 27. Cycle Press Screen

Display or Action	Explanation
	Starts the press cycle, as described below:

1. The ram descends past the **Ram at Unload** position, where it begins to pressurize.
2. The pump and proportional valves operate to pressurize the ram to the maximum pressure based on the machine model.
3. Pressure is released.
4. The ram is raised until the **Ram Full Up** input is made.
5. The cycle repeats.

	Stops the cycle.
	Prompts to enable **ram break-in**.

NOTE: In normal operation the prefill valve is enabled 1 second after the press controller commands the ram down. When **ram break-in** is enabled, this delay is extended to 20 seconds.

ENABLE RAM BREAK-IN? 0=N 1=Y	Enter 1 when the press is idle in this mode to enable **Ram Break-in**, or enter **0** to disable the break-in feature. If ram break-in is enabled, the user is prompted to re-enable **ram break-in** every time the press control returns to automatic operation. This prompt does not appear if **ram break-in** is disabled. **Ram break-in** is automatically disabled when press power is turned off.
	Exits this page and returns to the **Press Functions** menu screen (Figure 17, page 22).

3.1.7 View Status of Microprocessor Inputs

BNP1VO02.C18 0000581097 A.2 A.11 7/27/23, 11:03 AM Released

This selection allows the user to view the status of each microprocessor input. Each input is identified by name and MTA connection. A + indicates the input is grounded; a – indicates the input is open. Page 0 (Figure 28: Typical Inputs Display for Input/Output Board, page 28) displays the inputs for input/output board #1. Page 1 displays the inputs for input/output board #2. Page 2 (Figure 29: Inputs Display for Microprocessor Board, page 28) displays the direct inputs to the microprocessor board. Page 3 displays the inputs for input/output board #3 when the press is configured for Extra Data Pass. Page 4 displays the inputs for input/output board #4 when the press is configured for Allied Weight Inputs.

Figure 28. Typical Inputs Display for Input/Output Board

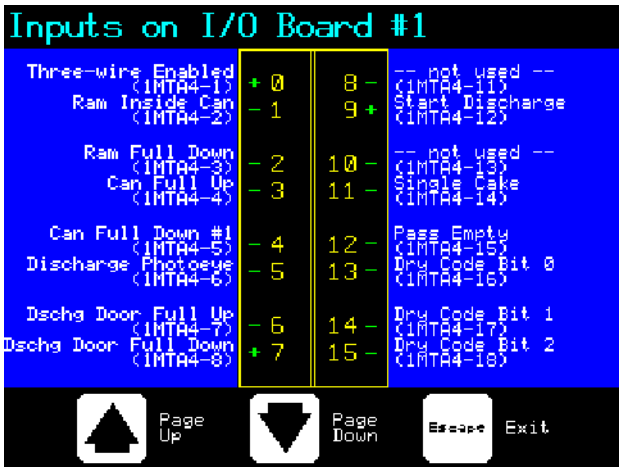
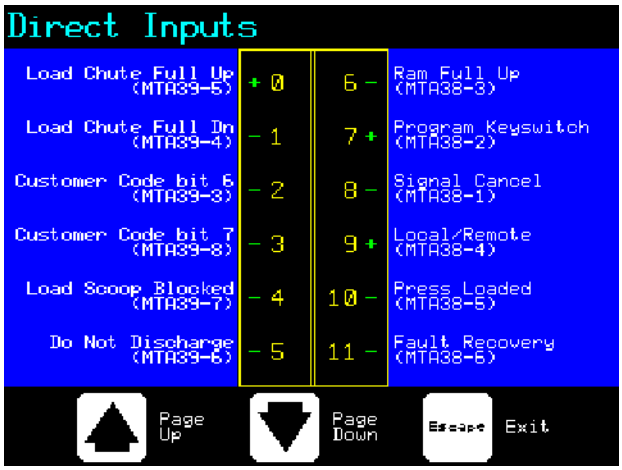


Figure 29. Inputs Display for Microprocessor Board



4 Correcting Errors

4.1 Mark V Single Stage Press Error Messages

DANGER: Crush Hazard — Descending press ram will strike and/or crush anyone under it. Ram can descend with power **on** or **off**.

- Ensure personnel are clear of the press before operating it in **manual** or **automatic mode**. The ram may move automatically when certain controls are used, such as when ① is pressed or cake data is entered.
- Know how to use factory-supplied **emergency stop switches** and where they are located.
- **Lock out/tag out** power, lock ram up, and secure factory-supplied safety supports in place before crawling or reaching under the ram.

DANGER: Shock Hazard — Contact with high voltage electricity will kill or seriously injure you. High voltage electricity is present in electrical devices on this machine whenever external power is supplied, even if power switches are **off**.

- **Lock out/tag out** power at wall disconnect before opening any electrical control box or accessing any other electrical component.
- Always employ the services of a licensed, qualified electrician when troubleshooting the electrical system.

DANGER: Crush Hazard — Devices in and above the press move without warning and can entangle, crush or sever limbs on contact.

- Do not reach or lean into the press frame during operation.
- **Lock out/tag out** power before touching or reaching into assemblies in or above press frame during service or maintenance.
- Ensure personnel are clear of the press and receiving conveyor before operating either machine.
- Know how to operate factory-supplied **emergency stop switches** and where they are located.
- Close all press side doors and install guards before operating the press.

- Do not climb on press unless press power is **locked out/tagged out**.

4.1.1 Error Faults

BNP1VT01.C02 0000581139 A.2 A.6 A.4 8/16/23, 9:39 AM Released

Error faults are caused by mechanical or electrical malfunctions that cause inputs that should not occur or a lack of inputs that should occur during press operation. When an error occurs, the display alternates between the normal automatic display and a brief description of the malfunction.

Read the safety manual before trying to correct any error and refer to the schematic and parts drawings when necessary. These errors may be caused by failed input devices or output relays on an input/output board or output board. Determine if the appropriate inputs or outputs are being made using the instructions in the related section in document BICP1O01. If you are unable to correct an error or determine the cause of the error from the information in this section, call your dealer service technician or the Milnor® factory for assistance.

Display or Action	Explanation
E01 CAN NOT FULLY RAISED	Indicates the can is not completely up. The error clears automatically if the **can full up** input is made. Possible condition for this error is that the **can full up** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch.
2. Adjust or replace the switch if necessary.

E02 CAN NOT FULLY DOWN	Indicates the can is not all the way down. The error clears automatically if **both can full down** inputs are made. This error may be caused by the following conditions:

- Goods are under the can edge. Use the gaff hook to remove the goods or other obstruction from under the can after manually raising the can.
- Either or both **can full down** switches are malfunctioning or are out of adjustment.

1. Ensure the can is down.
2. Ensure proper actuation of the switches.
3. Adjust or replace the switches if necessary.

E03 RAM NOT FULLY RAISED	Indicates the ram is not all the way up. The error clears automatically if the **ram full up** input is made. This error may be caused by the following conditions:

- Hydraulic oil pressure is low.

1. Check oil pipes for leaks and repair or replace as needed.
2. Verify that the hydraulic pump is operating. Repair or replace as needed.

- **Ram full up** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the **ram full up** switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.

2. Adjust or replace the switch if necessary.

```
E04 RAM NOT DOWN
PRESS FAULT RECOVERY
```

Indicates the ram did not clear the **ram in can** proximity switch, suggesting that the ram did not move down. Pressing  once raises the ram. Press  again to lower the ram and return to automatic operation. This error may be caused by the following conditions:

- A double or especially large load is in the can. Remove some of the goods from under the ram using the gaff hook supplied by the factory.
- The **ram in can** switch (**ram half up** input) is malfunctioning or is out of adjustment.

1. Ensure the ram guide rod is below the **ram in can** proximity switch.
2. Ensure proper actuation of the switch per "Setting Single Stage Press Proximity Switch Positions" in the service manual.
3. Adjust or replace the switch if necessary.

```
E06 EYE BLOCKED
PRESS FAULT RECOVERY
```

Indicates that the discharge photoeye is blocked suggesting that there are goods on the belt. The press cannot bring the can down until this eye is cleared. Press  to return to automatic operation. This error may be caused by the following conditions:

- There are goods on the end of the belt. Use the gaff hook to clear the goods from the belt.
- The photoeye (**belt eye** input) is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the photoeye.
2. Adjust or replace the photoeye if necessary.

```
E08 RECEIVE FAULT
PRESS FAULT RECOVERY
```

This error applies to Miltrac™ loading only. Indicates Miltrac™ transfer was aborted by the loading device. This usually occurs when the operator powers off the tunnel after it has committed to transfer, but before the transfer has taken place. Pressing  or  clears the error and puts the press in **manual mode**.

```
E09 TRANSFER FAULT
PRESS FAULT RECOVERY
```

This error applies to Miltrac™ discharge only. Indicates the receiving device aborted the transfer. This usually happens when the receiving device loses the three-wire connection during operation (i.e., a safety plate is kicked, the Ⓞ is pressed, power failure, etc). Use the manual controls to move the shuttle back to the receive position. Pressing  or  clears the error and puts the press in **manual mode**. Manually discharge goods from the press. Return to **automatic mode** and verify cake data when prompted.

E10 SCOOP BLOCKED PRESS FAULT RECOVERY

Indicates goods are laying on the load scoop. This usually occurs when the goods are not wet enough to slide down the scoop. Use the gaff hook to clear the scoop and press  to return to automatic operation.

E11 NO GOODS IN CAN PRESS FAULT RECOVERY

Indicates the ram cleared the **ram full down** proximity switch suggesting that there is no load in the can when the loading device did not indicate an empty pocket. Pressing  clears the error and puts the press in **manual mode**. This error may be caused by the following conditions:

- The tunnel transferred an empty pocket which was not properly coded. Ensure that empty pockets are properly coded in the tunnel.
- Cake is undersized. Verify load size and adjust if necessary.
- The tunnel is jammed. See instructions for clearing an obstruction in the tunnel in the tunnel reference manual.
- The **ram full down** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the **ram full down** switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.
2. Adjust or replace the switch if necessary.

E12 RAM NOT AT UNLOAD POSITION

Indicates the ram did not pass the unload point when the press attempted to raise the ram. The error clears automatically if the **ram at unload** input is made. This error may be caused by the following conditions:

- Hydraulic oil pressure is low.

1. Check oil pipes for leaks and repair or replace as needed.
2. Verify that the hydraulic pump is working. Repair or replace as needed.

- **Ram at unload** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.
2. Adjust or replace the switch, if necessary.

E13 LOAD DOOR NOT FULLY OPEN

Applies only to machines equipped with a load door. Indicates the load door was not fully open after the press attempted to raise the load door. After correcting the problem, press  to return to automatic operation. This error may be caused by the following conditions:

- Load door obstruction. Remove the obstruction and restart the press
- **Load door full up** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch.

2. Adjust or replace the switch if necessary.

E14 LOAD DOOR NOT FULLY CLOSED

Applies only to machines equipped with a load door. Indicates the load door was not fully closed after the press attempted to lower the load door. After correcting the problem, press  to return to automatic operation. This error may be caused by the following conditions:

- Load door obstruction. Remove the obstruction and restart the press.
- **Load door full down** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch.
2. Adjust or replace the switch if necessary.

E16 EYE DID NOT BLOCK

Indicates the cake did not block the photoeye when the press attempted to discharge. The error clears automatically if the **belt eye** input is made. This error may be caused by the following conditions:

- Cake is missing or stuck in can.
- Belt is slipping or failed to run. Inspect the belt and repair as needed.
- Discharge photoeye is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the photoeye.
2. Adjust or replace the photoeye if necessary.

E17 DISCHARGE DOOR NOT FULLY OPEN

Indicates the discharge door did not fully open when the press attempted to raise the door. The error clears automatically if the **discharge door up** input is made. This error may be caused by the following conditions:

- Dicharge door obstruction. Remove the obstruction and restart the press.
- **Discharge door up** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch.
2. Adjust or replace the switch if necessary.

E18 DISCHARGE DOOR NOT FULLY CLOSED

Indicates the discharge door did not fully close when the press attempted to lower the door. Pressing  once raises the discharge door. Press  again to lower the door and return to **automatic** mode. The error also clears automatically if the **discharge door down** input is made. This error may be caused by the following conditions:

- Discharge door obstruction. Remove the obstruction and restart the press.
- **Discharge door down** switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch.

2. Adjust or replace the switch if necessary.

E19 WATER SENSOR DID NOT SENSE GOODS

The water sensor input was not made during loading and the load was not an empty. Press  to return to automatic operation.

E20 PRESS CODE XX IS INVALID

Indicates the press received a press code from the loading device for a non-existent formula. This is usually due to a data entry error. Pressing  clears the error and puts the press in **manual** mode. Return to **automatic** mode and verify the cake data.

E21 PRESS SHOULD BE EMPTY

Indicates the ram did not clear the **ram full down** proximity switch, suggesting that that there is a load in the can when the loading device indicated an empty pocket. Pressing  clears the error and puts the press in **manual** mode. This error may be caused by the following conditions:

- The tunnel transferred a cake which was improperly coded as an empty pocket. Check empty pocket programming in the tunnel and make the necessary corrections.
- The ram full down switch is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.
2. Adjust or replace the switch if necessary.

E22 COINC EYE BLOCKED

Applies only to machines equipped with a COINC. Indicates the COINC photoeye did not clear during discharge. This error is enabled only when the configure decision **Time for Cake to Clear COINC Eye** is set to a non-zero value. Pressing  clears the error and puts the press in **manual** mode. This error may be caused by the following conditions:

- There are goods on the end of the COINC belt blocking the photoeye. Clear the goods from the belt and restart the press.
- The COINC belt is slipping or failed to run. Inspect and repair the belt as necessary.
- The COINC photoeye (**COINC loaded** input) is malfunctioning or is out of adjustment.

1. Ensure proper actuation of the photoeye.
2. Adjust or replace the photoeye if necessary.

E23 RAM NOT FULLY IN CAN

Indicates the ram failed to clear the unload point when the press attempted to lower the ram, suggesting that the ram is not fully in the can. The press makes two attempts to lower the ram before signaling the error. Pressing  clears the error and puts the press in **manual** mode. This error may be caused by the following conditions:

- A double or oversized load is in the can. Remove some of the goods from under the ram using the gaff hook supplied by the factory.

- The **ram at unload** switch is malfunctioning or is out of adjustment.

1. Ensure the ram is below the unload point.
2. Ensure proper actuation of the switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.
3. Adjust or replace the switch as necessary.

```
E24 CAN STUCK DOWN
PRESS FAULT RECOVERY
```

Indicates one or both of the **can full down** switches was still made after the press attempted to raise the can. Pressing  clears the error and puts the press in **manual** mode. This error may be caused by the following conditions:

- Goods stuck in the can preventing the can from moving up. Remove the goods from the can using the gaff hook supplied by the factory.
- One or both of the **can full down** switches are malfunctioning or out of adjustment.

1. Ensure can is down.
2. Ensure proper actuation of the switches.
3. Adjust or replace the switches as necessary.

```
E25 UNEXPECTED
PRESSURE IN RAM
```

Indicates the press detected pressure in the ram before the ram cleared the **ram in can** proximity switch. Pressing  clears the error and puts the press in **manual** mode. This error may be caused by the following conditions:

- The ram encountered an obstruction while moving down. Clear the obstruction. Check the pre-fill valve for proper operation before returning the press to automatic operation.
- The pre-fill valve is malfunctioning. Repair or replace as necessary.
- The pressure transducer is malfunctioning. Check the transducer and replace as necessary.
- The **ram in can** proximity switch (**ram half up** input) is malfunctioning or is out of adjustment.

1. Check that the ram guide rod is above the **ram in can** proximity switch.
2. Ensure proper actuation of the switch per “Setting Single Stage Press Proximity Switch Positions” in the service manual.
3. Adjust or replace the switch if necessary.

```
E26 RAM NOT FULLY
DOWN
```

For a **Pass Empty** formula, indicates that the ram did not clear the **Ram Full Down** proximity switch within 20 seconds of passing the **Ram At Unload** proximity switch. This error may also occur if the ram doesn't clear the **Ram Full Down** switch before any programmed **Max Press Time** expires.

4.1.2 Board Failures

BNP1VT01.C03 0000581198 A.2 A.6 8/1/23, 10:55 AM Released

Display or Action	Explanation
XXXXXX BOARD FAILED PRESS SIGNAL CANCEL	Indicates a peripheral board is not communicating with the controller. Where <XXXXX> is either **I/O #x**, **OUT #x**, **D to A**, or **A to D**. This error may result from incorrectly configuring this machine, having improper address (see schematic) on the board identified, or having one or more loose wire connections to or from the board. Press . Verify that configure decision values match the equipment. Verify that the switches on the board referenced on the display are set to the correct address. Check the wires to and from the board. If the error persists, replace the board.

4.1.3 Switch Faults

BNP1VT01.C04 0000581208 A.2 A.6 8/1/23, 10:55 AM Released

The ram and can each have proximity switches at both ends of travel (some have one, others two or more in series). If the proximity switches on opposite ends of travel are made at the same time (i.e., there are contradicting indications), the microprocessor stops automatic operation and displays a switch fault (SF) error message. The error is usually caused by a proximity switch that was damaged when a moving device struck the face of the switch. Usually, the malfunctioning switch is opposite the current position of the moving device. Ensure proper operation of the switches involved, and replace the switches if necessary. Once the switch error is cleared, pressing puts the press in **manual** mode.

NOTE: Once a switch fault has been seen by the computer, it is "latched in" or remembered. Therefore, even a momentary switch malfunction will cause a switch fault.

Display or Action	Explanation
SF1 CAN UP AND DOWN	The **can full up** and one of the **can full down** inputs were made at the same time.
SF2 RAM AT UNLOAD & NOT RAM FULL DOWN	The **ram at unload** input was made while the **ram full down** was not made. The **ram at unload** input implies that the **ram full down** input should also be made.
SF3 RAM HALF UP & NOT RAM AT UNLOAD	The **ram half up** input was made while the **ram at unload** input was not made. The **ram half up** input implies that the **ram at unload** input should also be made.
SF4 RAM FULL UP & NOT RAM HALF UP	The **ram full up** input was made while the **ram half up** input was not made. The **ram full up** input implies that the **ram half up** input should also be made.
SF5 DISCHARGE DOOR UP AND DOWN	The **discharge door up** and **down** inputs were made at the same time.

4.1.4 Miscellaneous Faults

BNP1VT01.C05 0000581207 A.2 A.6 8/1/23, 10:32 AM Released

Display or Action	Explanation
*** TAUT BELT *** CHECK BELT ROLLERS	**NOTE:** This error message can appear only on machines with 8088 processor software 97038I and later, or 80186 processor software version 20006D and later. Goods are wrapped around the drive, tension, and/or tracking roller, between the roller and the underside of the belt. This results in an increased effective roller diameter and increased belt tension. Unless corrected, the increased belt tension can damage the belt or the bearings on either end of the the roller. Observing all safety precautions, remove the wrapped goods from the roller(s) as described in the service manual (see document BIPPMM12 “Clearing Taut Belt Errors”).
MAIN FILTER DIRTY	The main oil filter is dirty and needs to be replaced. Replace the filter and return the press to normal operation.
RECIRC FILTER DIRTY	The recirculation oil filter is dirty and needs to be replaced. Replace the filter and return the press to normal operation.
OIL TEMPERATURE HIGH	The hydraulic oil is too hot. This error shuts down the press. Press  to clear the error display. Wait for the oil to cool and return the press to normal operation.
OIL LEVEL LOW	The hydraulic oil level has dropped too low. This error shuts down the press. Press  to clear the error display. Add just enough oil to prevent the error. Start the press and raise the ram. Check oil level with the ram raised and add more oil as necessary.