Manual Number: MKCLKO01
Edition (ECN): 2021172

Operator Guide

Side-loaded, Barrier MilTouch™ Washer-extractor

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

Contents

Figures

Tables

1 Preface

1.1 About This Operator Guide and This MilTouch™ Washer-extractor

This operator guide applies to the following machine model(s):

- MWB26Z
- MWB45Z
- MWB70Z
- MWB90Z

This operator guide explains routine operation. It is for the operator and for supervisory personnel responsible for operator training. The machine must be fully commissioned and ready before you attempt to operate it. A separate controller reference manual is available from Milnor for use by technicians involved in the commissioning, programming, and servicing of the machine.

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.

▶ Do not attempt to service the machine or reach into normally-guarded areas unless you are a qualified service technician.

This MilTouch™ industrial washer-extractor has one or more physical switches and buttons (electromechanical controls), as well as a touch-sensitive display screen with virtual controls. Use the electromechanical controls to apply power, unlock the door, stop the machine immediately (if necessary), and load and unload the machine. Use the touch-actuated controls on the MilTouch™ display screen to select, run, and monitor formulas.

2 Controls

BNCLKO06 / 2020403 BNCLKO06 0000254486 C.2 9/29/20 2:09 PM Released

2.1 Physical Controls

BNCLKO05.R01 0000254487 E.3 C.2 D.4 9/29/20 8:59 AM Released

On side-loaded, barrier washer-extractors, the virtual controls on the MilTouch™ touchscreen control all machine functions needed on the soil side of the machine (see Section 2.3 : How to Use the MilTouch™ Controller, page 7). The buttons on the control panel shown in Figure 1 control all machine functions needed on the clean side of the machine.

Figure 1. Clean-Side Control Panel

Legend

A . . . Emergency stop switch
B . . . Clean-side buzzer (H2)
C . . . Clean-side light (H3)
D . . . Reposition button (S4)
E . . . Control on soil side button (S5)

Main Controls

Master power switch (⊘ / ⊕) — This switch energizes and removes power from the control system.

⊘ Remove power from the control system.
⊕ Energize the control system.

Touchscreen for the MilTouch™ controller — This is a touch-sensitive display screen that you use for most machine functions.

Flush Button (Optional)

This optional button rinses the detergent box with cold water, to manually flush dry chemicals into the machine. This button can also be used to fill the machine with cold water, to increase the water level in the machine.

Figure 2. Flush Button

Heating Switch (Optional)

This button selects the type of heating on machines with optional combined heating (steam and electric heaters).

E the machine uses the electric heater
S the machine uses the steam heater

Figure 3. Heating Switch

Clean-Side Controls

Clean-side buzzer (H2) — This buzzer (item B in Figure 1) sounds at the end of a formula while the cylinder turns to the clean-side position (the discharge position).

Clean-side light (H3) — This light (item C in Figure 1) illuminates to indicate the clean-side door is unlocked and the machine is ready to be unloaded.

Reposition button (S4) — This button (item D in Figure 1) rotates the drum (cylinder) to the clean-side position, or rotates the drum to the next pocket on the clean side if the drum is already on the clean side. This button can be used to align the inner and outer doors if they are misaligned.

Control on soil side button (S5) — This button (item E in Figure 1) rotates the drum (cylinder) to the soil-side position.

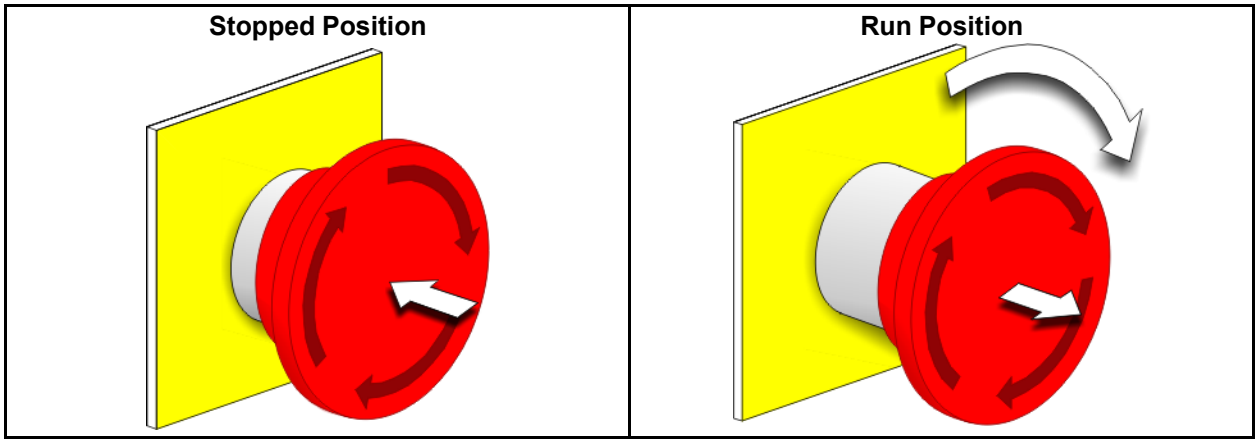
BNVLUO01 / 2018513 BNVLUO01 0000189558 B.4 1/2/20 2:17 PM Released

2.2 Emergency Stop Switch (locking push button)

BNVLUO01.C01 0000189557 E.3 B.4 F.2 12/9/20 9:19 AM Released

One or more **emergency stop** switches (pictured below) may be 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 4. Emergency Stop Switch



NOTICE: Press the **emergency stop** switch immediately in an emergency situation.

Display or Action	Explanation
	This symbol represents the **emergency stop** switch in Milnor® documents other than electrical wiring diagrams.

BNCLJO10 / 2021172 BNCLJO10 0000212821 D.4 4/19/21 11:46 AM Released

2.3 How to Use the MilTouch™ Controller

BNCLJO10.C01 0000212820 E.3 D.4 C.3 9/11/20 8:32 AM Released

The Milnor® MilTouch™ washer-extractor controller uses a touch-sensitive display screen to operate the machine. All the functions and information you need to process goods appear on this screen.

CAUTION: **Excessive pressure —** can damage the display screen.

- Do not push hard on the glass.
- Use only a finger to touch the glass. Do not touch the screen with a tool.

Turn the **master switch** on (⏲) to apply power to the control system. The **Home** display appears on the touchscreen.

2.3.1 The Home Display

BNCLJO09.C01 0000211248 E.3 D.4 D.2 12/9/20 4:22 PM Released

The display pictured in the following figure, subsequently referred to as the **Home** display, is used to access all the other displays. Buttons labelled with an asterisk (*) are not used during routine operation. For additional information on those buttons and the displays they access, see the separate controller reference manual.

From the **Home** display, and with a load of goods in the machine, you can select and run wash formulas.

Figure 5. The Home Display

Legend

A.	Use the AutoSpot™ feature to transfer control to the clean side, or rotate the cylinder (drum)
Fn.	The wash formula names
M.	Run a formula from the Milda-ta® computer (currently unavailable)
P.	Turn machine power OFF
S.	Run a formula
Sc.	Scroll between pages
Se.	Search for a formula
***C.**	Access the **Configuration** display
***D.**	Access the **Diagnostics** displays
***Dc.**	Display the dealer contact information
***Dt.**	Access the **Data Transfer** display
***F#.**	The wash formula numbers
***L.**	Access the **Data Log** displays
***V.**	The version data
***Vd.**	View the version details for your controller software
***W.**	Access the **Wash Formula Maintenance** display

2.3.2 About the Start Button

BNCLJO10.C02 0000336421 E.3 D.4 A.5 3/5/21 10:37 AM Released

On machines without any optional features, the selected formula immediately starts when you press the start button ( ) on the **Home** display.

If your machine has optional features— such as a barcode scanner, load cells, or liquor ratio control, the displays that allow you to use these features (ex. the **Barcode** display, the **Weighing System** display, **Load Weight** window, etc.) appear when you touch . This manual refers to these displays as "feature displays." The formula starts when you finish using all the feature displays and touch . If your machine has multiple features, you may have to progress through several feature displays (and press several times) before the selected formula starts.

NOTE: The availability of the aforementioned features varies by machine model.

3 Normal Operation

3.1 Safety and Best Practice When Loading and Unloading

If you are responsible to load and unload the machine:

- Put safety first.
- Use correct load sizes.

3.1.1 Loading and Unloading Safety

Loading and unloading activities have associated risks that are addressed by safety placards on the machine. Before you use your Milnor® washer-extractor for the first time, read the safety placards. If there is anything you do not understand, get clarification from your supervisor or laundry management.

There can also be other risks associated with the type of laundry facility and the allied (non-Milnor®) equipment you use, such as laundry carts, sling systems, chemicals and chemical systems. Milnor® advises you to obtain and read the safety literature provided for your facility and for all equipment you use.

Examples of possible risks related to the type of laundry facility or to allied equipment are:

- goods handling:
  - sharp objects such as scalpels and syringes left in OR gowns
  - biological contamination in patient gowns and diapers
  - just processed goods that are hot to the touch
  - poisonous or flammable chemicals in the soiled goods
- laundry carts of the wrong size that cause unnecessary effort in loading or unloading
- laundering chemicals:
  - leaks in supply lines
  - skin or eye irritation from contact with spilled chemicals or chemical containers

3.1.2 Load Size Best Practice

For your machine, there is a correct load size for each type of goods you process.

load size the dry weight (in pounds or kilograms) of a load of goods. Specific goods types can require specific load sizes and these can vary significantly.

capacity the load size rating for a washer-extractor, as stated in the specifications shown on the product brochure. This rating does not reflect factors such as goods type and soil content.

You will get the best performance from your machine if you use the correct load sizes. Under-loading can make it difficult for the machine to distribute (balance) the goods before extraction. This can cause excessive recycles (when the machine repeatedly tries to distribute the goods). Occasional small loads may be necessary, but keep these to a minimum. Over-loading can put increased stress on machine components and reduce wash quality.

CAUTION: **Incorrect load sizes —** can cause premature machine wear, excessive recycles (which extends formula time), and poor wash quality.

- Use a chart of goods types and load sizes from your supervisor or laundry management.
- Minimize the number of small loads.
- Use a scale to determine when a load is the correct size.
- On a divided-cylinder machine, put approximately the same weight of goods in each pocket.

When your machine was purchased, your Milnor® dealer worked with your laundry personnel to determine the optimum machine for your needs. This took into account factors such as the types of goods to be washed and the expected soil content of the goods, which can cause the correct load size to vary greatly among goods types. For example, the more bulky the goods, the smaller the permissible load size. The correct load sizes will be what was previously determined when the machine was purchased. If you do not already have a chart of the goods types to be processed and their correct load sizes, request one from your supervisor or laundry management.

3.1.2.1 Weighing Goods

BNWUUO02.C04 0000255516 E.3 E.2 11/19/20 10:15 AM Released

Build loads of the correct size for the best performance from your machine. The most accurate method to build loads of the correct size is to weigh each load as you assemble it.

If your machine is equipped with a flow meter, enter the weight of the load when you start the formula to use Liquor Ratio Control.

Alternatively, machines equipped with the optional weighing system (load cells) can weigh the goods automatically as you load them into the cylinder.

BNCLJO12 / 2020403 BNCLJO12 0000213992 B.20 9/29/20 9:47 AM Released

3.2 Apply control power.

BNCLJO12.T03 0000214800 E.3 B.20 B.9 9/11/20 9:00 AM Released

Set the **master power** switch (⊘ / ⏻) to ⏻. Control power must be on to use the electromechanical controls and the touchscreen controller.

BNWVUO01 / 2020403 BNWVUO01 0000254603 C.7 9/29/20 2:14 PM Released

3.3 About Outer and Inner Doors

BNCLJO12.C02 0000297074 E.3 C.7 A.13 9/17/20 9:19 AM Released

All side-loaded, barrier washer-extractors have one outer door (on the machine shell) and one to three inner doors (on the cylinder, one for each pocket) on each side of the barrier. The inner and outer doors must be aligned before it is safe to reach into the cylinder.

3.4 Open the outer door on the soil side.

BNWVUO02.C01 0000261892 E.3 C.7 C.3 9/2/20 10:41 AM Released

Side-loaded, barrier washer-extractors do not have buttons to unlock the door. The controller locks both of the outer doors during normal operation and automatically unlocks them when the machine is ready to receive a load and when the machine is ready to discharge.

When the outer door is unlocked, hold the handle at the bottom of the door and lift it to open the door.

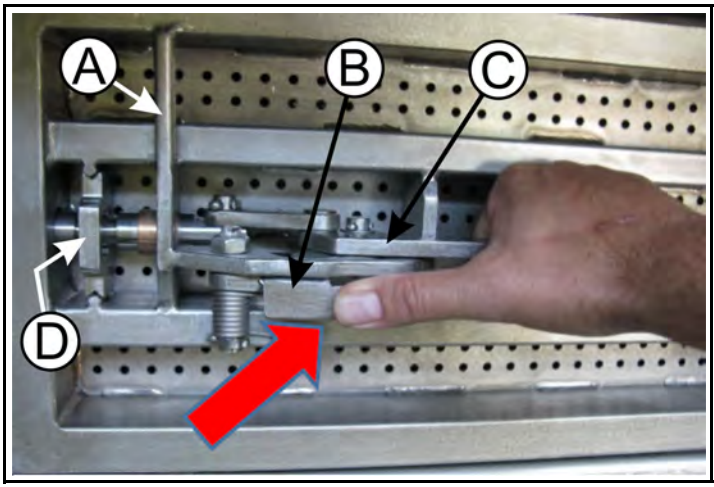
3.5 Open the inner door.

BNWVUO01.T01 0000254597 E.3 C.7 C.4 9/2/20 5:10 PM Released

If you open the outer door and the inner and outer doors are not aligned, close the outer door and use theAutoSpot™ feature ( ) to rotate the cylinder until the doors are aligned.

1. Hold the lever (item C in Figure 6) and press the lock panel (item B in Figure 6) with your thumb, as shown in the following figure.

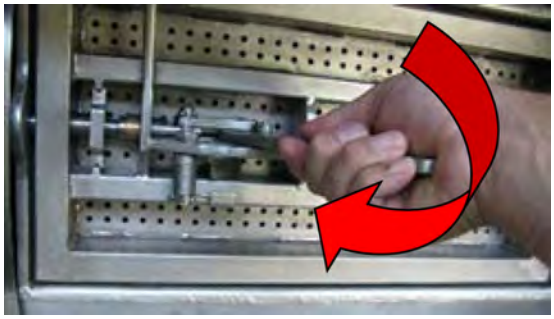
Figure 6. Inner (Cylinder) Door Lock Mechanism



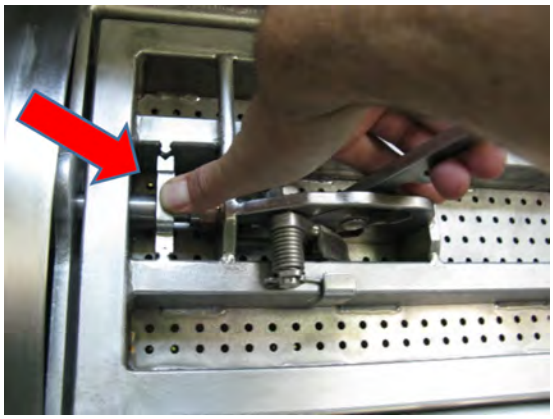
Legend

A . . . Door handle
B . . . Lock panel
C . . . Lever
D . . . Safety switch

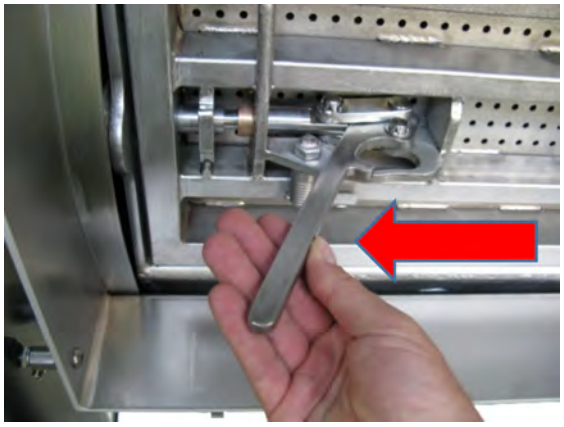
2. Pull the lever towards you.



3. With the lever still towards you, press the safety switch (item D in Figure 6). This action releases the door lock.



4. Pull the lever to its fullest position.



5. Open the inner door.

BNCLKO05 / 2020512 BNCLKO05 0000254492 F.2 12/14/20 11:55 AM Released

3.6 Load the machine.

BNCLKO05.C01 0000278855 E.3 F.2 C.3 10/12/20 4:57 PM Released

The loading instructions for your machine depend on the method you use to weigh goods. There are two methods:

- with the optional weighing system (load cells)
- with a separate laundry scale

3.6.1 To Load the Machine (Optional Weighing System)

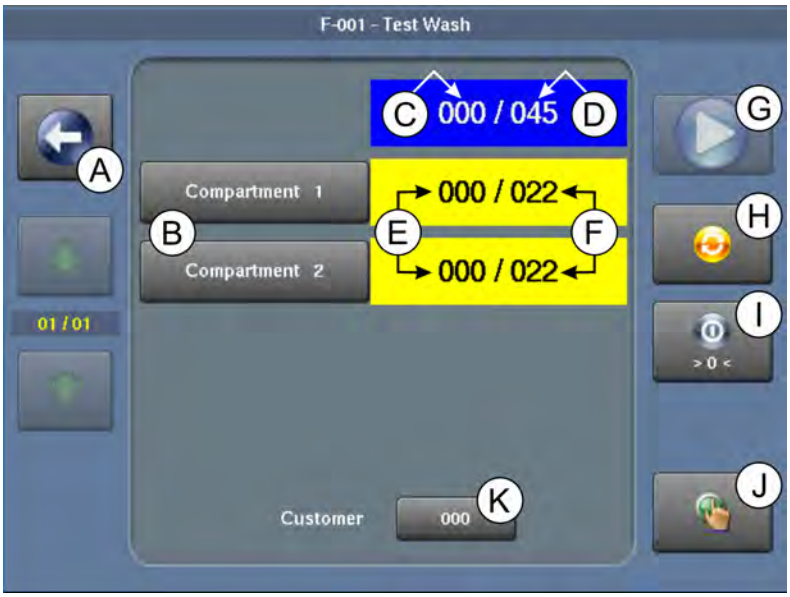
BNCLKO05.T03 0000255623 E.3 F.2 3/5/21 10:34 AM Released

Use the following instructions to load your machine if it is equipped with the optional weighing system. If your machine is not equipped with a weighing system, see Section 3.6.2

1. On the **Home** display, select a formula. If you are using a flow meter, select the formula that your chemical supplier or laundry specialist set to use Liquor Ratio Control (see Section 3.10.1.1 : About the Liquor Ratio Control Feature, page 18).

2. Touch  . The **Weighing System** display appears, shown in the following figure.

Figure 7. Weighing System Display



Legend

A . . . Cancel the formula and return to the **Home** display

B . . . Select a pocket to load

C . . . The total weight of goods in the machine

D . . . The maximum machine capacity

E . . . The weight of goods in each pocket

F . . . The maximum capacity for each pocket (max capacity/# of pockets)

G . . . Start the formula

H . . . Rotate the cylinder with the AutoSpot™ feature to access the next pocket on divided-cylinder machines

I . . . Tares the scale back to zero for the selected compartment (pocket). The total weight and locked-in weights (in red) do not tare.

J . . . Enter the weight manually for this load.

K . . . The customer (commercial laundry) or department (institutional laundry) the batch (goods) belongs to

3. On the **Weighing System** display, touch the button labeled “Compartment 1” to activate the load cell (scale) in the cylinder, or the load cell in the first pocket if you have a divided-cylinder machine (the machine in Figure 7 has 2 pockets).

   The scale tares to zero and the weight value turns green, as shown below.

CAUTION: **People or objects leaning on the machine** — can cause inaccurate weight readings.

- Do not lean on the machine.
- Do not rest heavy objects against the machine.
- Do not push objects such as laundry carts against the machine.

4. Load the cylinder, or the first pocket, according to the recommended load size for your goods type. The load cell weighs the goods as you load the machine, and the controller displays the current weight, as indicated by item E in Figure 7 .

TIP: If you accidentally load the machine before you activate the load cell (Step 3), remove the goods from the machine, then touch  . This tares the scale back to zero.

5. When you finish loading the cylinder or pocket, touch the button labeled “Compartment 1” again to confirm the weight.

   The weight value turns red, as shown below, and the weight can no longer be adjusted.

Continue to Section 3.7 : Close the inner door., page 15

3.6.2 To Load the Machine (Separate Laundry Scale)

BNCLKO05.T01 0000254491 E.3 F.2 10/12/20 5:00 PM Released

Use the following instructions to load your machine if it is not equipped with the optional weighing system. If your machine is equipped with a weighing system, see Section 3.6.1 .

1. Weigh the goods in the batch with a laundry scale.
2. If your machine is a divided-cylinder machine, divide the batch. If your machine is an open-pocket machine (not a divided-cylinder machine), continue to Step 3.
   - Divide the batch into 2 equal parts if you have a two-pocket machine.
   - Divide the batch into 3 equal parts if you have a three-pocket machine.

   The individual weight of each part should be as close as possible to

   batch weight/# of pockets

where the batch weight is as close as possible to the recommended load size for the type of goods.

Ex. The recommended load size is 100 kg. If the batch weight is 98 kg, and there are 3 pockets:

98/3 = 32.67

Therefore each pocket should hold approximately 32.67 kg.

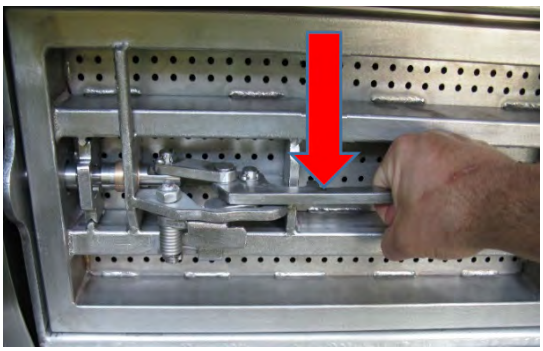
3. Load the machine.
   - If your machine is a divided-cylinder machine, load the first pocket.
   - If your machine is an open-pocket machine, load the cylinder.

BNWUUO04 / 2020403 BNWUUO04 0000279498 A.18 9/29/20 9:53 AM Released

3.7 Close the inner door.

BNWVUO01.T02 0000254675 E.3 A.18 C.3 9/2/20 11:52 AM Released

1. Push the door to the closed position.
2. Push the lever (item C in Figure 6: Inner (Cylinder) Door Lock Mechanism, page 11) to the locked position until it clicks, as shown.
3. Pull the handle in your direction to test the lock. If the door does not open, it is fully closed and locked.



3.8 Close the outer door.

BNWUUO04.T02 0000289837 E.3 A.18 A.12 9/22/20 11:42 AM Released

To close the door, swing it closed with sufficient force to latch it.

BNWVUO05 / 2020512 BNWVUO05 0000289691 C.2 12/14/20 12:01 PM Released

3.9 Align and load the second pocket, or the second and third pockets.

BNWVUO05.C01 0000306806 E.3 C.2 12/10/20 4:46 PM Released

If your machine is a divided-cylinder machine, use the following instructions to load the second pocket and (if your machine is a three-pocket machine) third pocket. The procedure is different depending on the method you use to weigh goods.

If your machine is an open-pocket machine (not a divided-cylinder machine), go to Section 3.10 : Start the wash formula., page 18.

3.9.1 To Load the Pocket(s) with a Weighing System

BNWVUO05.T02 0000306805 E.3 C.2 12/10/20 5:00 PM Released

Use the following instructions to load the remaining pocket or pockets if you have a divided-cylinder machine and your machine is equipped with the optional weighing system (load cells). If your machine is not equipped with the optional weighing system (load cells), see Section 3.9.2 .

CAUTION: Ensure the inner and outer doors are fully closed before you attempt to rotate the cylinder.

1. In the **Weighing System** window, touch  to rotate the cylinder (drum) with the Auto-Spot™ feature to access the next pocket.

   DANGER: **Contact with the turning cylinder** — can crush your limbs. The turning cylinder and goods are normally isolated by the locked cylinder door.

   - Always close the inner and outer doors before you rotate the cylinder.
   - Do not attempt to open the door or reach into the cylinder while it rotates.
   - Do not operate the machine with malfunctioning two-hand manual controls.
2. Open the outer door.
3. Open the inner door.
4. Touch the button labeled “Compartment 2” to activate the load cell (scale) in the second pocket.

   The scale tares to zero and the weight value turns green.

5. Load the second pocket according to the recommended load size for your goods type. The load cell weighs the goods as you load the pocket, and the controller displays the current weight.

   TIP: Put approximately the same weight of goods in each pocket.
6. When you finish loading the second pocket, touch the button labeled “Compartment 2” again to confirm the weight.

   The weight value turns red, and the weight can no longer be adjusted.

7. Close the inner door.
8. Close the outer door.
9. If your machine is a three-pocket machine, repeat steps 1–8 to load the third pocket.

NOTICE: You must load every pocket on your machine.

Continue to Section 3.10 : Start the wash formula., page 18.

3.9.2 To Load the Pocket(s) with a Separate Laundry Scale

BNWVUO05.T03 0000306859 E.3 C.2 B.4 10/15/20 4:49 PM Released

Use the following instructions to load the remaining pocket(s) if you have a divided-cylinder machine and your machine is not equipped with the optional weighing system (load cells). If your machine is equipped with the optional weighing system (load cells), see Section 3.9.1 .

CAUTION: Ensure the inner and outer doors are fully closed before you attempt to rotate the cylinder.

1. Touch on the **Home** screen. A dialogue box appears (shown in the following figure), which prompts you to transfer control to the clean side or the soil side.

Figure 8. Confirmation Dialogue Box

2. Touch the button labeled **Soil**. The basket rotates so that you can access the next pocket on the soil side.

DANGER: **Contact with the turning cylinder —** can crush your limbs. The turning cylinder and goods are normally isolated by the locked cylinder door.

- Always close the inner and outer doors before you rotate the cylinder.
- Do not attempt to open the door or reach into the cylinder while it rotates.
- Do not operate the machine with malfunctioning two-hand manual controls.

3. Open the outer door.
4. Open the inner door.
5. Load the second pocket.
6. Close the inner door.
7. Close the outer door.
8. If your machine is a three-pocket machine, repeat steps 1–7 to load the third pocket.

NOTICE: You must load every pocket on your machine.

BNWKUO01 / 2020512 BNWKUO01 0000327284 A.6 12/14/20 1:13 PM Released

3.10 Start the wash formula.

BNWKUO01.C01 0000327283 E.3 A.6 A.2 11/19/20 4:20 PM Released

MilTouch™ machines run local formulas, or the formulas from the machine's local memory. Use the following instructions to run local wash formulas. If your machine is configured to use the Liquor Ratio Control feature and/or equipped with the optional weighing system (load cells), the procedure for running local formulas varies slightly for your machine. See Section 3.10.1.1 : About the Liquor Ratio Control Feature, page 18 and Section 3.10.1.3 : To Start a Local Wash Formula with the Optional Weighing System, page 20, respectively.

3.10.1 To Run a Wash Formula Locally

BNCLJO06.T04 0000194243 E.3 A.6 F.6 4/12/21 1:45 PM Released

1. Select the formula for your goods type, if you have not done so already.
   a. Use  and  on the **Home** display to scroll between pages and locate the formula for your goods type, or use  to search for the wash formula based on its formula number.
   b. Touch the button that displays the wash formula name. The button text turns green to show that the formula is selected.
2. Touch  from the **Home** display, or from a feature display if you used one (such as the **Weighing System** display or **Barcode** display), to start the formula.

The **Run** display appears and the door to the washer-extractor locks.

3.10.1.1 About the Liquor Ratio Control Feature

BNCLJO14.C01 0000278658 E.3 A.6 C.2 3/8/21 4:04 PM Released

The Liquor Ratio Control feature uses the weight of the goods in the machine to determine how much water to use to wash the goods. To start a wash formula with Liquor Ratio Control, you must select a formula that a specialist programmed to use Liquor Ratio Control, and enter the actual weight of the batch of goods before you start the formula.

If you used the optional weighing system to load your machine, the controller automatically weighs the goods in the batch. If your machine is not equipped with the optional weighing system, or if an error prevents the use of your weighing system, you must input the weight manually.

See the reference manual for more information on how to configure your machine and program formulas to use Liquor Ratio Control.

3.10.1.2 To Start a Local Wash Formula with Liquor Ratio Control

BNCLJO14.T01 0000265582 E.3 A.6 F.5 4/12/21 1:48 PM Released

Use the following instructions to run local wash formulas with Liquor Ratio Control if your machine is not equipped with the optional weighing system, or if an error prevents the use of your weighing system.

1. On the **Home** display, select the formula for your goods type that your chemical supplier or laundry specialist set to use Liquor Ratio Control.
2. Touch  . The **Load Weight** window appears, as shown in the following figure.

Figure 9. Load Weight Window

Legend

A . . . The formula that will be used to wash the goods

B . . . The customer (commercial laundry) or department (institutional laundry) the batch (goods) belongs to.

C . . . The weight of goods in the machine, divided into pockets. Weight 2 and Weight 3 are only used on divided-cylinder machines.

D . . . Start the formula

E . . . Close the window and return to the **Home** display

3. Enter the customer code.
   a. Touch the value labelled “Customer.”
   b. Use the keypad to enter a customer code number.
4. Enter the actual weight of the goods in the cylinder. A machine can have up to 3 pockets.
   a. Touch the value labelled “Weight 1.”
   b. Use the keypad to enter the weight of the goods. If you have a divided-cylinder machine, enter the weight of the goods in pocket 1.

      NOTE: Ensure that you measure and enter the actual weight of goods in the same unit (pounds or kilograms) as the configured machine capacity.

   c. If your machine has more than one pocket, touch the values labelled “Weight 2” and “Weight 3” to enter the weight of the goods in pocket 2 and pocket 3, respectively.
5. Touch  to save all the data entered in the window and start the formula.

The **Run** display appears and the door to the washer-extractor locks.

3.10.1.3 To Start a Local Wash Formula with the Optional Weighing System

BNCLJO14.T02 0000279558 E.3 A.6 C.2 3/3/21 2:13 PM Released

If you are using the optional weighing system (load cells), from the **Weighing System** window:

1. Enter the customer code, if applicable.
2. Touch  to start the formula.

   The **Run** display appears and the door to the washer-extractor locks.

BNCLJO11 / 2020403 BNCLJO11 0000212819 C.5 9/29/20 9:58 AM Released

3.11 Monitor the wash formula.

BNCLJO11.C01 0000212818 E.3 C.5 C.4 9/11/20 10:27 AM Released

3.11.1 The Run Display

BNCLJO11.C02 0000213317 E.3 C.5 C.2 9/11/20 10:28 AM Released

The **Run** display appears when you run a formula.

From the **Run** display, you can monitor the wash formula progress and the machine status. You can also change the water temperature and level, the formula time, the drain type, and the basket speed for the formula in progress.

Three types of information are given on the **Run** display. These types are grouped into three areas of the display, as shown in Figure 10 .

Figure 10. The Three Information Areas of the Run Display

Legend

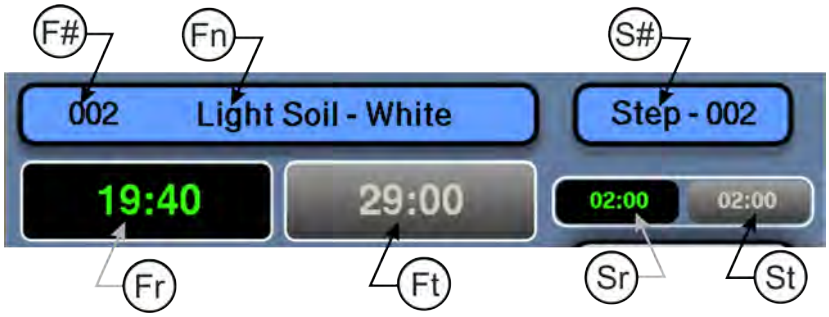
A. **Names and Timers** area
B. **Machine Status** area
C. **Manual Control and Diagnostics** area

3.11.1.1 The Names and Timers Area (A)

BNCLJO07.C02 0000187290 E.3 C.5 F.2 9/11/20 10:29 AM Released

This area displays the running formula's name and number, the current step number, the total time in the formula, and the time remaining in the formula and the current step.

Figure 11. The Names and the Timers Area



Legend

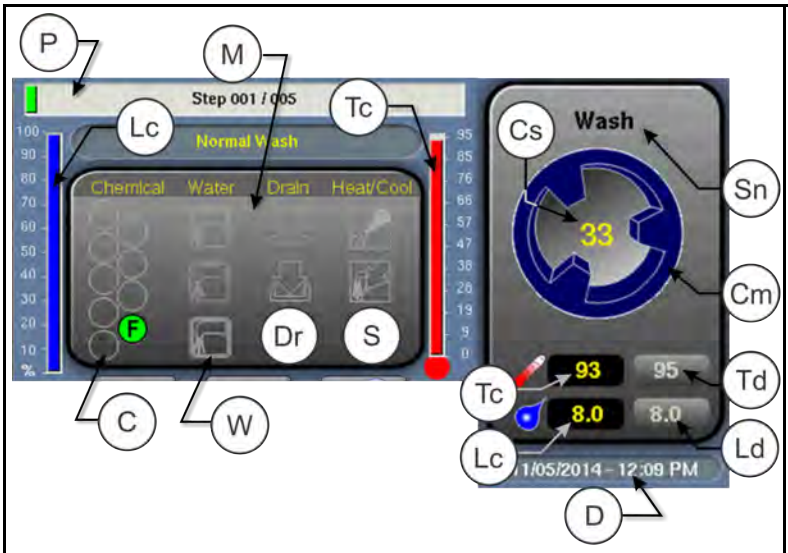
- **F#** . . Formula number
- **Fn** . . Formula name
- **Fr** . . Remaining formula time
- **Ft** . . Total formula time
- **S#** . . Step number
- **Sr** . . Remaining step time
- **St** . . Total step time

3.11.1.2 The Machine Status Area (B)

BNCLJO07.C05 0000187329 E.3 C.5 F.2 9/11/20 10:31 AM Released

This area displays the current and desired water level and temperature for the step in progress, the current cylinder motion, and the current state of each valve.

Figure 12. The Machine Status Area



Legend

- **C . . .** Chemical signals and chemical flush valve. Numbers 1–8 indicate a chemical is being injected. F indicates a chemical flush is occurring.
- **Cm . .** Cylinder motion
- **Cs . .** Cylinder speed, in rotations per minute. Displays "RS" during Rin-Save® extract deceleration.
- **D . . .** Date and time
- **Dr . .** Drain indicators
- **Lc . .** Current level (percentage)
- **Ld . .** Desired level
- **M . . .** Current machine status area
- **P . . .** Formula progress bar
- **S . . .** Steam and cooldown indicators
- **Sn . .** Step name
- **Tc . .** Current temperature
- **Td . .** Desired temperature
- **W . . .** Water valve indicators

3.11.1.2.1 How to Monitor Automatic Liquid-Chemical Injections

BNCLJO11.C04 0000214843 E.3 C.5 C.2 9/11/20 10:33 AM Released

If your machine controls a pumped chemical system, the controller automatically injects chemicals from the pump system while the formula runs.

You can monitor automatic liquid-chemical injections in the **Machine Status** area. As the controller injects a chemical into the machine, the chemical's valve number illuminates, as shown in Figure 13 , until the programmed injection time expires.

Figure 13. Chemicals from Valves 1 and 2 Injecting

3.11.1.3 Manual Control and Diagnostics Area (C)

BNCLJO11.C03 0000213316 E.3 C.5 C.3 9/11/20 10:35 AM Released

Use these buttons as explained in the following figure.

Figure 14. Standard Controls

	**Legend** C. Cancel the formula (see Section 4.1.4) M. Actuate manual controls (Section 4.1.3) D. Run diagnostics (see reference manual)

3.11.2 Respond to the end of the cycle.

BNWBUO02.T01 0000279617 E.3 C.5 A.7 9/11/20 10:37 AM Released

The operator signal will sound when the cycle ends.

BNWBUO04 / 2020403 BNWBUO04 0000279926 A.12 9/29/20 10:03 AM Released

3.12 Unload the machine.

BNCLKO05.T02 0000254489 E.3 A.12 C.5 9/9/20 4:39 PM Released

While the clean-side buzzer sounds, the cylinder automatically turns to the clean-side position (the discharge position). The green clean-side light illuminates to indicate the outer door on the clean side is unlocked and the machine is ready to discharge goods.

NOTE: If the cylinder does not turn to the clean-side position, or if the inner (cylinder) door and outer (shell) door are misaligned, press the **Reposition** button ( ). The cylinder rotates to the clean-side position, or rotates to the next pocket on the clean side if the cylinder is already on the clean side.

1. Open the outer door on the clean side.
2. Open the inner door.
3. Unload the goods from the cylinder, or unload the goods from the pocket if your machine is a divided-cylinder machine.
4. Close the inner door.

5. Close the outer door. If your machine is an open-pocket machine (not a divided-cylinder machine), skip to Step 9.
6. Press the **Reposition** button ( ). The cylinder rotates to access the next pocket.
7. Repeat Steps 1–6 until you unload each pocket.
8. When you have unloaded all the pockets, close the inner door and the outer door.
9. Press the **Control on Soil Side** button ( ) to rotate the drum (cylinder) to the soil-side position. The outer door on the clean side automatically locks. The green light on the soil side illuminates when the machine is ready to receive a new load.

4 Troubleshooting

BNCLJT06 / 2020403 BNCLJT06 0000214538 C.3 9/29/20 10:06 AM Released

4.1 Operator Intervention

BNCLJT06.C01 0000214537 E.3 C.3 C.6 9/11/20 11:12 AM Released

When a formula starts, the machine processes the goods automatically during normal operation.

However, it can be necessary for the operator to intervene to:

- add a chemical
- correct an error
- make a manual change to a wash formula, or cancel the formula

In most cases, the operator signal will sound when it is time for the operator to intervene.

4.1.1 Chemical Supplies Intervention

BNCLJT06.C03 0000214535 E.3 C.3 C.2 9/11/20 11:21 AM Released

The operator should receive instruction from the chemical supplier for the type of chemical system provided. This can be:

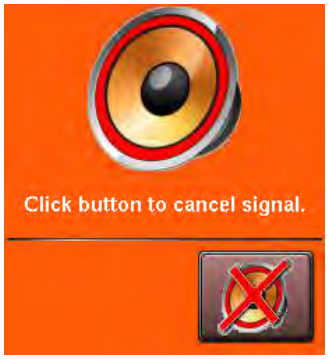
Pumped chemical system a system that injects liquid chemicals into the machine when called for by the formula. The only intervention normally required is to ensure that the chemical containers that supply the chemicals to the system remain at a safe level.

Optional 5-compartment supply injector a system in which the operator places a measured amount of chemical in each compartment before the start of each wash cycle. Each compartment is dedicated to a type of chemical (detergent, bleach, sour, softener, etc.). When the formula calls for a given chemical, the compartment for that chemical is injected with water to flush the chemical into the machine.

Although not common, it can be necessary to manually add a chemical that is not provided by the pumped chemical system, or to reload a supply injector compartment with a different chemical while a formula is in progress. In this case, the formula can be programmed to turn on the operator signal when operator intervention is required.

When the machine desires a chemical injection, the step timer pauses, the operator signal sounds, and a dialog box (shown in Figure 15) appears on the controller.

Figure 15. Chemical Injection Dialog Box



Add the chemical according to the chemical suppliers instructions, then touch  to cancel the operator signal and resume the formula.

4.1.2 Error Intervention

BNCLJT06.C02 0000214536 E.3 C.3 C.4 9/11/20 11:26 AM Released

The operator signal sounds if an error occurs. See Section 4.2 : Errors, page 30 for a list of possible error conditions. Contact a service technician or check the separate controller reference manual if you cannot correct the error.

4.1.3 Formula Intervention

BNCLJO07.R01 0000195434 E.3 C.3 G.2 10/9/20 12:06 PM Released

Formula intervention allows you to manually alter a wash formula in production (while it runs). You can adjust the:

- step timer
- water valves
- drain and reuse valves
- steam and cooldown controls
- cylinder speed
- bath temperature and level

The changes you make while in formula intervention mode do not alter the programming of the formula (the step decisions). Formulas proceed normally in formula intervention mode aside from the changes you make.

Chemical suppliers and service technicians can use formula intervention to test formulas and confirm proper operation of the machine components. For example, a service technician may want to turn the steam valve on to confirm proper operation.

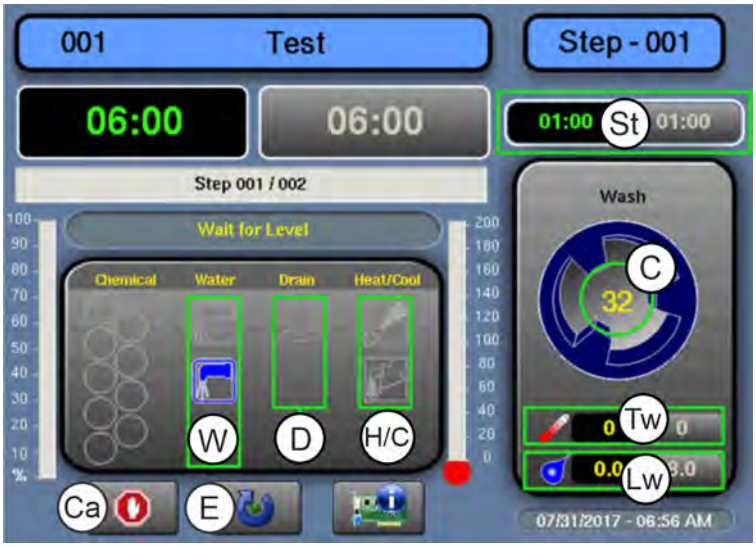
Operators might also use formula intervention if it is necessary to make a temporary, or one-time change to a wash formula. For example, the operator may want to stop the timer to slowly add a chemical through the soap chute.

Touch  on the **Run** display to start formula intervention. Controls in the **Names and Timers** area and the **Machine Status** area of the **Run** display become active so that you can change the formula in progress. Green boxes on the display identify the formula control areas, or the settings that can be changed, as shown in Figure 16 .

NOTE: A password may be required to use formula intervention.

In formula intervention mode, touch a box to display the pop-up controls for that setting. The pop-up controls available correspond with your machine's equipment and your configuration decisions.

Figure 16. Formula Control Areas



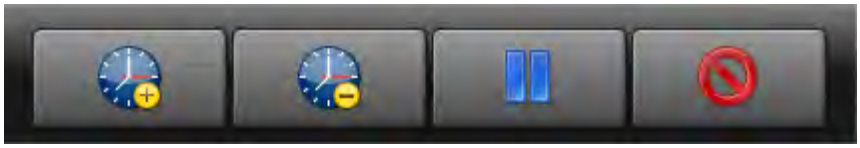
Legend

C.	Cylinder speed controls
Ca.	Cancel the formula
D.	Drain and reuse controls
E.	End formula intervention
H/C.	Heat and cool (steam and cooldown) controls
Lw.	Bath level controls
St.	Step timer controls
Tw.	Bath temperature controls
W.	Water valve controls

NOTICE: The MilTouch™ controller prevents the activation of certain controls when their activation would be inappropriate. For example, the controls for the water valves are not available when the bath water is at its maximum level.

Modify Step Timer — Touch the box identified by item St on Figure 16 .

Figure 17. Pop-up Controls for Step Timer



 Add 1 minute to the remaining step time.

 Subtract 1 minute from the remaining step time. If there is less than 1 minute remaining on the step timer, the timer is reduced to 00:00 and the controller moves on to the next phase in the current step, or the next step if there are no more phases.

 Pause the current step timer. The formula will remain on the current step, which prevents formula resumption, until this button is touched again.

 **NOTE:** Outputs that the controller actuates during a step remain actuated even when the step timer is paused (unless the actuation of the output is inappropriate). For example, if the cylinder is turning when you touch  , the cylinder will continue to turn even while the step timer is paused.

 Close the window.

Modify Water Valves — Touch the box labeled “Water” on the display.

Figure 18. Pop-up Controls for Water Valves

 Open the hot water inlet valve. If the hot water inlet valve is open, touch to close it.

 Open the cold water inlet valve. If the cold water inlet valve is open, touch to close it.

 Open the 3rd water inlet valve. If the 3rd water inlet valve is open, touch to close it.

 Close the window.

Modify Drain Valves — Touch the box labelled “Drain” on the display.

Figure 19. Pop-up Controls for Drain Valves

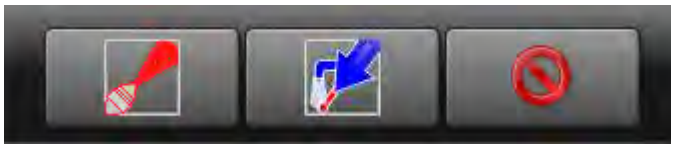
 Open the drain valve to the sewer. If the drain valve to the sewer is open, touch to close it.

 Open a secondary drain valve to a reuse tank. If the secondary drain valve is open, touch to close it.

 Close the window.

Modify Steam and Cooldown — Touch the box labelled “Heat/Cool” on the display.

Figure 20. Pop-up Controls for Steam and Cooldown Valves



 Inject steam to raise or maintain the bath temperature. If the steam inlet valve is open, touch to close it.

 Inject cool water to gradually lower the bath temperature (perform a cooldown). If the cooldown inlet valve is open, touch to close it.

 Close the window.

Modify Cylinder Speed — Touch the box identified by item C on Figure 16 .

Figure 21. Pop-up Controls for Cylinder Speed

 Increase the rotation speed of the cylinder by 1 RPM.

 Decrease the rotation speed of the cylinder by 1 RPM.

 Close the window.

Modify Water Temperature — Touch the box identified by item Tw on Figure 16 .

Figure 22. Pop-up Controls for Water Temperature

 Increase the desired bath temperature by 1 degree (Celsius or Fahrenheit).

 Decrease the desired bath water temperature by 1 degree (Celsius or Fahrenheit).

 Close the window.

Modify Water Level — Touch the box identified by item Lw on Figure 16 .

Figure 23. Pop-up Controls for Water Level

 Increase the desired bath water level by 1 unit (centimeters or inches).

 Decrease the desired bath water level by 1 unit (centimeters or inches).

 Close the window.

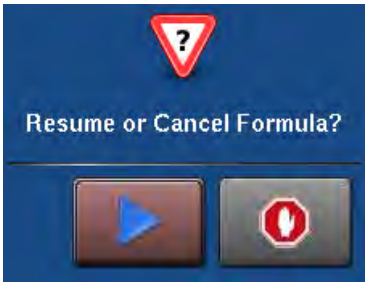
When you are finished making changes to the wash formula, touch  to end formula intervention.

4.1.4 To Cancel a Formula

BNCLJB01.T01 0000204083 E.3 C.3 9/11/20 12:09 PM Released

1. Touch  on the **Run** display to cancel a formula.
2. A dialog box appears (Figure 24) that prompts you to confirm your decision. On the dialog box, touch  to cancel the formula.
3. The controller disables all outputs, drains the bath water through the normally-open drain valve (usually the drain valve to the sewer), unlocks the door to the washer-extractor, and returns to the **Home** display.

Figure 24. Resume or Cancel the Formula



BNCLJT05 / 2020403 BNCLJT05 0000213864 B.14 9/29/20 10:09 AM Released

4.2 Errors

BNCLUT03.C28 0000204090 E.3 B.14 E.5 9/11/20 3:45 PM Released

If your machine encounters an error while it runs a formula, the formula halts, the operator signal sounds, and an error code dialog box (Figure 25) appears on the **Run** display.

See the next section for a list of all the error codes and the possible causes/solutions.

Figure 25. Sample Error Code Dialog Box

4.2.1 MilTouch™ Error Messages for Barrier Washer-extractors

BNCLKT05.R01 0000251061 E.3 B.14 B.4 9/8/20 11:49 AM Released

The following are error messages the controller can issue, possible causes, and solutions. Operation stops and cannot be resumed until the cause of the error is corrected. This can require a maintenance or chemical technician.

Soil Door Open — The controller cannot confirm that the outer door on the soil side is completely closed. The controller issues an error and prevents the machine from running formulas. If the controller issues this error while the door is closed, the switch may have malfunctioned.

Clean Door Open — The controller cannot confirm that the outer door on the clean side is completely closed. The controller issues an error and prevents the machine from running formulas. If the controller issues this error while the door is closed, the switch may have malfunctioned.

Soil Door Unlocked — The controller cannot confirm that the outer door on the soil side is locked. The controller issues an error and prevents the machine from running formulas. If the controller issues this error while the door is locked, the locking mechanism may have malfunctioned.

Clean Door Unlocked — The controller cannot confirm that the outer door on the clean side is locked. The controller issues an error and prevents the machine from running formulas. If the controller issues this error while the door is locked, the locking mechanism may have malfunctioned.

Fan Failure — The controller cannot confirm that the fan, which regulates the temperature inside the machine, is operational.

Inverter Tripped — The inverter that controls the motor had an error. The controller turns off all outputs, cancels the wash formula, and returns to the **Home** display.

Inverter error: The machine controller cannot tell about the specific error. See the inverter manual for details. The inverter manual was shipped in an electric box on your machine or with the packet of documentation inside the machine cylinder.

Pressure Switch Error — This error occurs if the pressure in the pressure regulator (used to lock and unlock the door and actuate the brake) falls below, or rises above, the target pressure.

AutoSpot™ Failure — This fault occurs if the controller cannot position the cylinder to the clean side at the end of a formula. The fault also occurs if the cylinder does not actuate the “Drum Clean Side” input, which indicates the position sensor may have malfunctioned. If the machine lost power while it was running a formula, you can use the  button on the **Home** display to transfer control to the soil side or the clean side.

Level Still Made — The water level in the cylinder is at or above the configured low water level at the start of the formula, before the first bath step. The controller issues an error but the drain remains open. If a slow drain caused the error, the error clears when the transducer senses that the water level in the cylinder is less than the configured low water level.

Drain Blocked: Do a check that the drain valve and drain outlet are clear of debris.

Transducer Tube Blocked: The tube from the shell to the pressure transducer may be blocked. Check the tube and remove lint or other obstructions.

Drain Valve Malfunctioned: The drain valve or drain valve solenoid may have malfunctioned. Electrical troubleshooting is required.

Check Temperature Probe — The temperature probe detected a temperature below 32° F (0° C) or above 230°F (110°C). The controller turns off all outputs, cancels the wash formula, and returns to the **Home** display.

The Probe is Disconnected: Electrical troubleshooting is required. Check for an open circuit.

The Probe Malfunctioned: If the probe connections are found good, disconnect the probe and measure the resistance between the leads. The resistance between the leads should be between 2K and 35K Ohms. The resistance between either lead and the ground should be infinite.

Too Long to Fill — The water in the machine did not reach the specified level within the configured **Fill Error Time**. The controller closes all water valves and turns off all chemical injections. The **Fill Error** timer resets after you correct the error.

Fill Time Configured too Short: Do a check of the configured fill time in your machine's configuration decisions. It may be necessary to increase the fill time.

Low Water Pressure: Do a check of the water pressure and volume to the machine.

Water Valve Malfunctioned: Use the electrical schematic manual to do a check of the water valves and the circuits that control the valves.

Too Long to Steam — The temperature in the machine did not reach the specified temperature within the configured **Steam Error** time. The controller issues an error but the steam valve remains open. If the temperature probe senses that the machine has reached its target temperature, the error clears and the formula resumes.

Low Steam Pressure: Do a check of the steam pressure from the boiler to the machine.

Steam Time Configured too Short: Do a check of the configured steam time in your machine's configuration decisions. This value represents the time required to apply steam to cold water at high level to achieve the hottest temperature used.

Steam Valve Malfunctioned: Use formula intervention to turn the steam valve on to confirm proper operation.

Too Long to Cool — The temperature in the machine did not drop to the specified temperature within the configured **Cooldown Error** time. The controller issues an error but continues to perform the cooldown. If the temperature probe senses that the machine has dropped to its target temperature, the error clears and the formula resumes.

Cooldown Time Configured too Short: Do a check of the configured cooldown time in your machine's configuration decisions. It may be necessary to increase the cooldown error time.

Low Water Pressure: Do a check of the cold water pressure and volume to the machine.

Cooldown Valve Malfunctioned: Do a check of the cooldown valve for proper operation.

Temperature Circuit Malfunctioned: Do a check of the temperature probe and the analog-to-digital board for proper operation.

Too Long to Drain — The controller issues an error but the drain remains open. If a slow drain caused the error, the error clears and the formula resumes when the transducer senses that the water level has dropped to the desired level.

Drain Blocked: The drain pipe from the machine to the sewer may be blocked. Check the drain pipe and remove any obstruction.

Transducer Tube Blocked: The tube from the shell to the pressure transducer (Figure 26) may be blocked. Check the tube and remove lint or other obstructions.

Drain Valve Malfunctioned: The drain valve or drain valve solenoid may have malfunctioned. Electrical troubleshooting is required (see Figure 27).

Figure 26. Transducer Tube

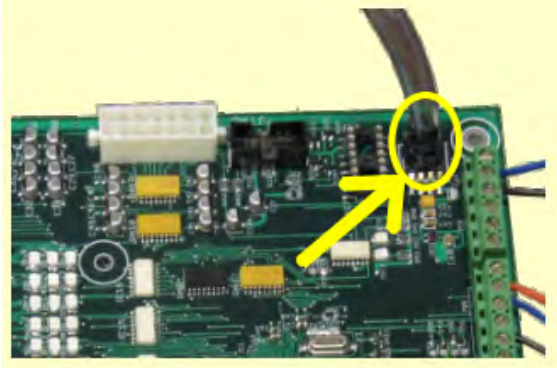
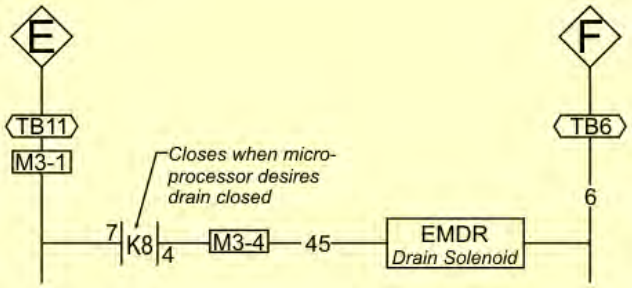


Figure 27. Schematic of Typical Drain Circuit



Serial Communication Failure — A peripheral board in the control box has lost communication with the processor board. The controller stops cylinder rotation and waits for serial communication to resume. This error dialog box closes when serial communication resumes.

Board Failure: A peripheral board in the control box cannot communicate with the processor board. Electrical troubleshooting is required.

External Fault Error — This message is triggered by a device external to the MilTouch™ machine. This error usually originates with the chemical supply system.

Emergency Stop Error — The emergency stop switch (locking push button) is locked. The controls are disabled and the machine remains idle until the switch is unlocked. To unlock the emergency stop switch, turn the switch clockwise.

Too Many Recycles — Due to an unbalanced load, the machine has performed the maximum of five extract cycles. The controller will skip to the next step in the formula. If the current (imbalanced) extract step is the final step in the formula, the formula will end.

Control on Clean Side — This message indicates the controls on the clean (discharge) side are enabled on barrier machines.

Loadcell Comm Failure — This error can occur on machines with the optional weighing system (load cells). The controller issues this error when it cannot receive data, or receives an unexpected data stream from the load cell controller.

Level Too Low — After the machine fills to the configured minimum (low) water level, the controller turns off all outputs and signals this error if the water level drops below half of the minimum water level and remains below half of the minimum water level for 30 continuous seconds.

4.2.2 Error Correction

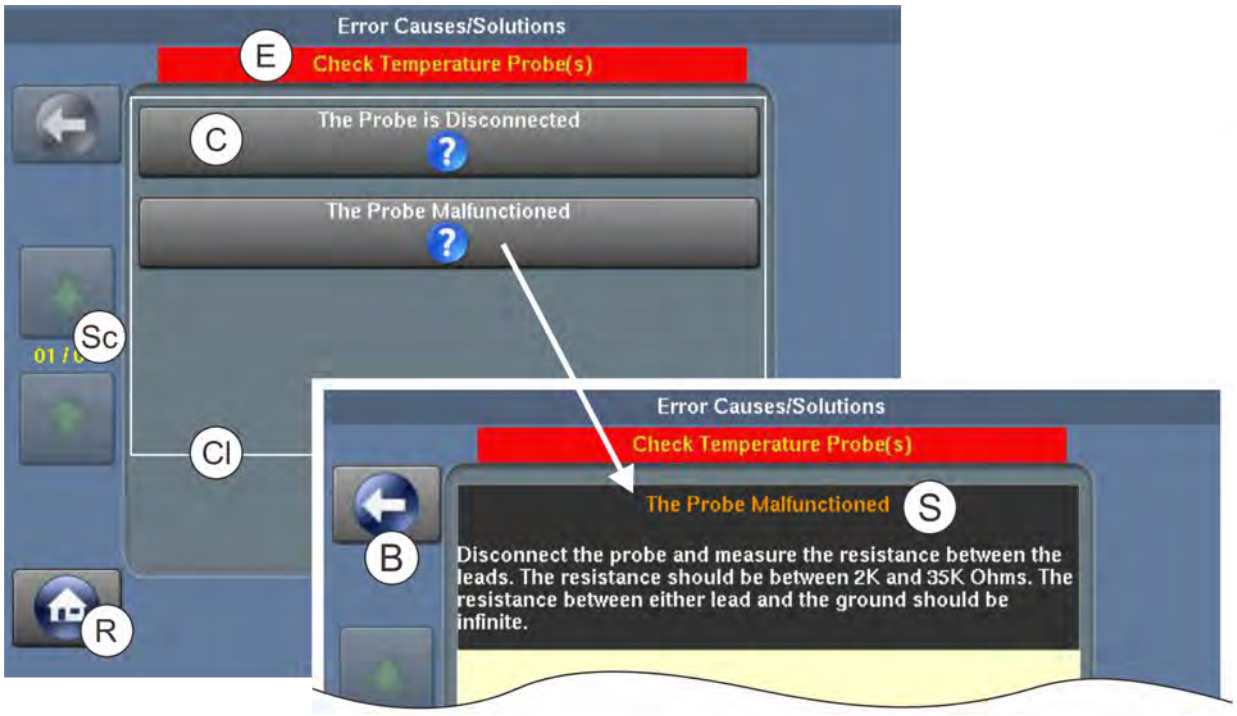
BNCLJT05.C01 0000304574 E.3 B.14 A.9 9/11/20 3:52 PM Released

Touch  (in the error code dialog box, Figure 25: Sample Error Code Dialog Box, page 30) to view the **Error Causes/Solutions** display (shown in the following figure).

The **Error Causes/Solutions** display gives a list of possible causes for the error. Touch one of the error causes in the list for an explanation of how to correct it.

Some errors do not have additional details on how to solve them.

Figure 28. Error Causes/Solutions Display



Legend

B . . . Return to the list of possible error causes
Cl . . A list of possible error causes
C . . . Touch to view the solution for this cause
E . . . The error description
R . . . Return to the **Run** display
S . . . A possible solution to the error
Sc . . Scroll pages if there is more than one page.

WARNING: High voltage and/or moving parts — are present inside the machine when troubleshooting.

- Qualified technicians only
- Use care to avoid contact with live or moving parts
- Keep bystanders away.

1. Follow the instructions on the **Error Causes/Solutions** display for how to correct the error.
2. Touch to return to the **Run** display.
3. In the error code dialog box, touch to silence the operator signal, close the error code dialog box, and resume the wash formula at the current step. Some error code dialog boxes close automatically when you resolve the error.

4.3 How to Contact Milnor®

BNUUUT01.C01 0000123012 E.3 B.3 1/2/20 2:14 PM Released

Your authorized Milnor® dealer can assist you with your Milnor® machine and knows about the local conditions that may be pertinent to the installation, use, or maintenance of the machine. Contact your dealer first. For assistance from the Milnor® factory, refer to Table 1 for contact information.

Table 1. Pellerin Milnor® Corporation Contact Information

Purpose	Department	Telephone	FAX	E-mail/Web site
Order or ask about replacement parts	Parts	504–712–7775 or 800–299–1500	504–469–9777	parts@milnor.com
Get advice on installing, servicing, or using	Customer Service/ Technical Support	504–712–7780	504–469–9777	service@milnor.com www.milnor.com (Customer Service)
Learn about, request, or enroll in Milnor® service seminars	Training	504–712–7716	504–469–9777	training@milnor.com
Determine warranty eligibility or claim status	Warranty Administration	504–712–7735	504–469–9777	service@milnor.com (Attention: Warranty)
Ask about, comment on, or report an error in equipment manuals	Technical Publications	504–712–7636	504–469–1849	techpub@milnor.com
European contacts	Milnor® International	+ 32 2 720 5822	—	milnor@milnor.be
Ask about the shipping weight of your machine before it arrives at your facility	Logistics Department	504–712–7686	504–471–0273	—

```
Pellerin Milnor Corporation
Post Office Box 400
Kenner, LA 70063-0400

Telephone: 504-467-9591
http://www.milnor.com
```