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General—

The Dryer Programmer for Windows Computers

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

Applicable Milnor® products by model number:

CTLDRSPC

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Chapter 1
The Dryer Programmer Menus

BICDSC02 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

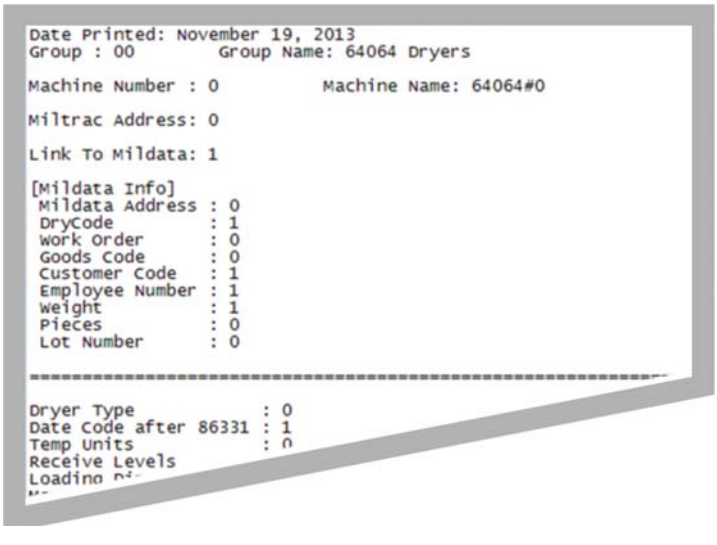
1.1. The File Menu

1.1.1. The *Export to a File* Menu Item [Document BICDSC03]

Use the *Export to a File* menu item to create text files from the specified data.

1.1.1.1. Dryer Configurations—The *Dryer Configurations* item writes the configuration data of all dryers to a file named `C:\Dryconf.txt`.

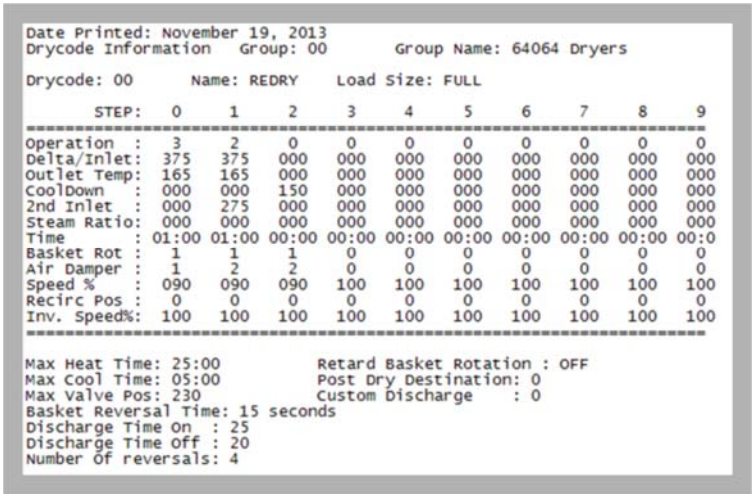
Figure 1: Example Dryer Configuration File



```
Date Printed: November 19, 2013
Group : 00        Group Name: 64064 Dryers

Machine Number : 0          Machine Name: 64064#0

Miltrac Address: 0

Link To Mildata: 1

[Mildata Info]
 Mildata Address : 0
 DryCode         : 1
 Work Order      : 0
 Goods Code      : 0
 Customer Code   : 1
 Employee Number : 1
 Weight          : 1
 Pieces          : 0
 Lot Number      : 0

============================================================

Dryer Type            : 0
Date Code after 86331 : 1
Temp Units            : 0
Receive Levels
Loading Di
```

1.1.1.2. Drycodes—The *Drycodes* item writes the parameters of all drycodes to a file named `C:\Drycodes.txt`.

Figure 2: Example Drycode File



```
Date Printed: November 19, 2013
Drycode Information   Group: 00       Group Name: 64064 Dryers

Drycode: 00      Name: REDRY    Load Size: FULL

       STEP:   0     1     2     3     4     5     6     7     8     9
================================================================================
Operation  :   3     2     0     0     0     0     0     0     0     0
Delta/Inlet:  375   375   000   000   000   000   000   000   000   000
Outlet Temp:  165   165   000   000   000   000   000   000   000   000
CoolDown   :  000   000   150   000   000   000   000   000   000   000
2nd Inlet  :  000   275   000   000   000   000   000   000   000   000
Steam Ratio:  000   000   000   000   000   000   000   000   000   000
Time       : 01:00 01:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:0
Basket Rot :    1     1     1     0     0     0     0     0     0     0
Air Damper :    1     2     2     0     0     0     0     0     0     0
Speed %    :  090   090   090   100   100   100   100   100   100   100
Recirc Pos :    0     0     0     0     0     0     0     0     0     0
Inv. Speed%:  100   100   100   100   100   100   100   100   100   100
================================================================================

Max Heat Time: 25:00          Retard Basket Rotation : OFF
Max Cool Time: 05:00          Post Dry Destination: 0
Max Valve Pos: 230            Custom Discharge     : 0
Basket Reversal Time: 15 seconds
Discharge Time On  : 25
Discharge Time Off : 20
Number of reversals: 4
```

1.1.2. *Backup Configuration* and *Restore Configuration* Menu Items

[Document BICDSC04]

If the Dryer Programmer software is used without Drynet software, use these backup and restore functions to make copies of how the dryers are configured. If the Dryer Programmer software is used as part of the Drynet software, use the backup and restoration functions of the Drynet software.

1.1.2.1. Backup Configuration Menu Item—Click on the *Backup Configuration* item to create a copy of the configuration data for all dryers that are addressed by the Dryer Programmer software.

1.1.2.2. Restore Configuration Menu Item—Click on the *Restore Configuration* item to restore a previous copy of the configuration data to the dryers.

1.1.3. Exit Programmer Menu Item

Click the *Exit Programmer* menu item to close the Dryer Programmer software.

— End of BICDSC02 —

BICDSP01 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

1.2. The *Admin Logon / Logout* Menu Item

1.2.1. Admin Logon

Click on the *Admin Logon* menu item to make changes and perform other actions:

- manage the programmer password and set the language
- set dryer configurations and manage groups of dryers
- manage the drycodes

1.2.2. Admin Logout

Click on the *Admin Logout* menu item to disable the administrative functions.

— End of BICDSP01 —

BICDSC09 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

1.3. *Admin Tools* (Administrative Tools) Menu

1.3.1. *Create New Password* Menu Item [Document BICDSC05]

The *Create New Password* menu item is disabled in this version of the Dryer Programmer software.

1.3.2. *Change Password* Menu Item [Document BICDSC06]

Click on the *Change Password* menu item to change the required password. The password must be at least 3 characters. Longer passwords are more secure.

1.3.3. *Decode Password* Menu Item [Document BICDSC07]

This menu item is not used.

1.3.4. *Language* Menu Item [Document BICDSC08]

Click the *Language* menu item, then choose your language.

— End of BICDSC09 —

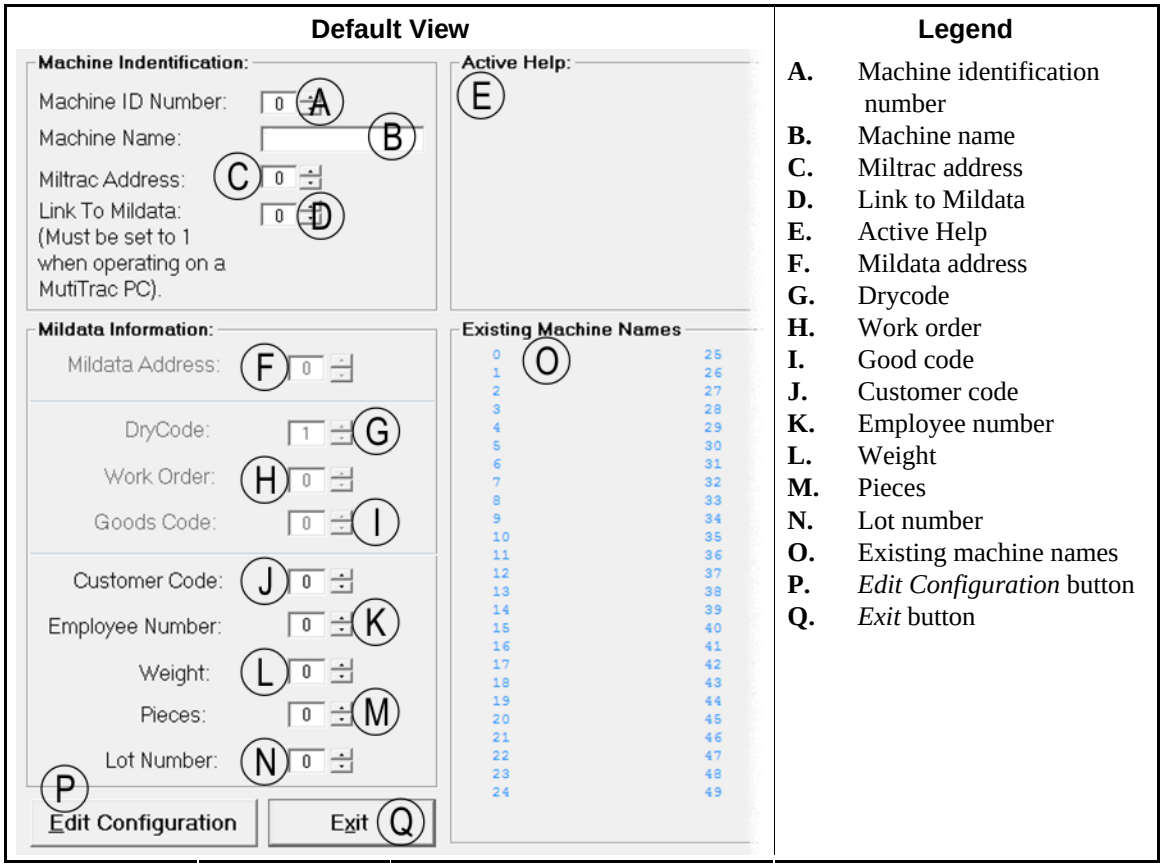
Chapter 2
Dryer Configuration

BICDSC10 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

2.1. *Configure New/Existing Dryer* Menu Item

Click the *Configure New/Existing Dryer* menu item to see the *Dryer Configure* screen. Use the *Dryer Configure* screen to define how the dryer is configured and to connect the dryer to the equipment network.

Figure 3: *Dryer Configure* Screen



Legend

- **A.** Machine identification number
- **B.** Machine name
- **C.** Miltrac address
- **D.** Link to Mildata
- **E.** Active Help
- **F.** Mildata address
- **G.** Drycode
- **H.** Work order
- **I.** Good code
- **J.** Customer code
- **K.** Employee number
- **L.** Weight
- **M.** Pieces
- **N.** Lot number
- **O.** Existing machine names
- **P.** *Edit Configuration* button
- **Q.** *Exit* button

2.1.1. Machine Identification

The decisions in this part of the display tell how the Miltrac and Mildata networks identify the dryer.

2.1.1.1. Machine ID (Identification) Number—Enter a number 0-49 to select the dryer that you want to configure.

2.1.1.2. Machine Name—Enter a name for the dryer. This value can be up to 20 letters and numbers.

2.1.1.3. Miltrac Address—Enter the number used for this dryer in the Miltrac network. The range of values is 0-254.

2.1.1.4. Link To Mildata—Select 1 if the dryer is part of a Mildata network or part of a Milnor MultiTrac system. Otherwise, select 0.

2.1.2. Active Help

This area displays information about the selected decision.

2.1.3. Mildata Information

The decisions in this part of the display tell how the Mildata network identifies the dryer. These decisions are available when the *Link to Mildata* value is 1.

2.1.3.1. Mildata Address—Enter the Mildata address for this dryer. The range of values is 0-254.

> **Note 1:** The value for this decision must be different from the address of any other machine on the Mildata or MultiTrac network.

If this dryer interfaces with a MultiTrac computer, enter the Devcomm address for the dryer here. If you enter another value, a Data Unlocatable error will appear during memory uploads and drycode retrievals.

2.1.3.2. Drycode—Select 1 if you will enter the drycode number for the Mildata controller to retrieve the correct remote drycode. Only one of *Drycode*, *Work Order*, and *Goods Code* can be selected.

2.1.3.3. Work Order—Select 1 if you will enter the drycode number for the Mildata controller to retrieve the correct remote drycode. Only one of *Drycode*, *Work Order*, and *Goods Code* can be selected.

2.1.3.4. Goods Code—Select 1 if you will enter the goods code number for the Mildata controller to retrieve the correct remote drycode. Only one of *Drycode*, *Work Order*, and *Goods Code* can be selected.

2.1.3.5. Customer Code—Select 1 if this dryer should pass the customer code to the Mildata controller for production reports.

2.1.3.6. Employee Number—Select 1 if the operator must enter his employee number to use the dryer. The number appears in productivity reports.

2.1.3.7. Weight—Enter 1 if weight data from the keypad or the MilTrac system should be processed by the Mildata controller.

2.1.3.8. Pieces—Enter 1 if the number of pieces in the load will be entered at the keypad.

2.1.3.9. Lot Number—Enter 1 if the operator must enter a lot number.

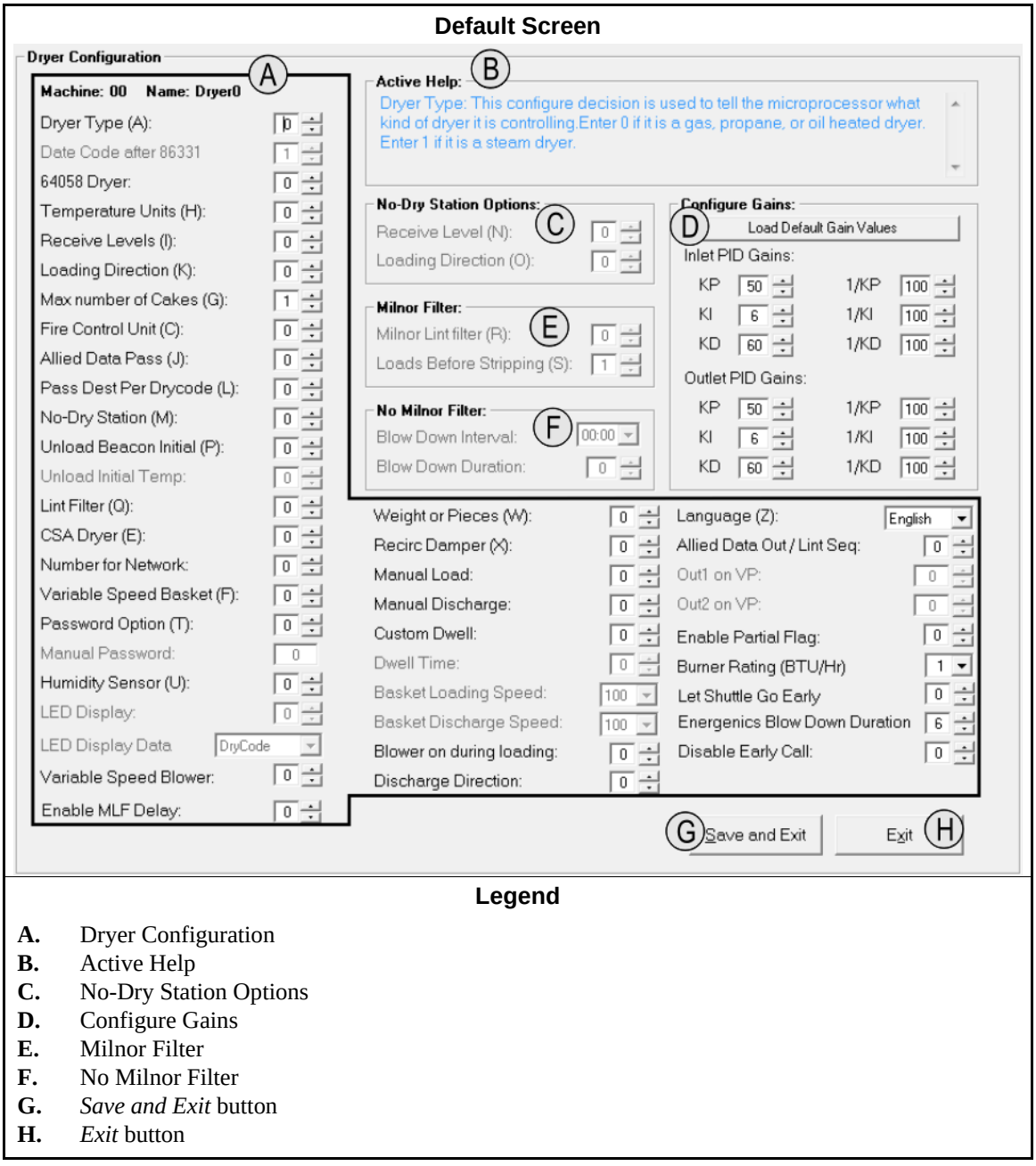
2.1.4. Existing Machine Names

This area displays the machine identification number and machine name for each machine.

2.1.5. *Edit Configuration* Button [Document BICDSC11]

The *Dryer Configuration* screen shows the decisions that define the build and options of the dryer.

Figure 4: Dryer Configuration Screen

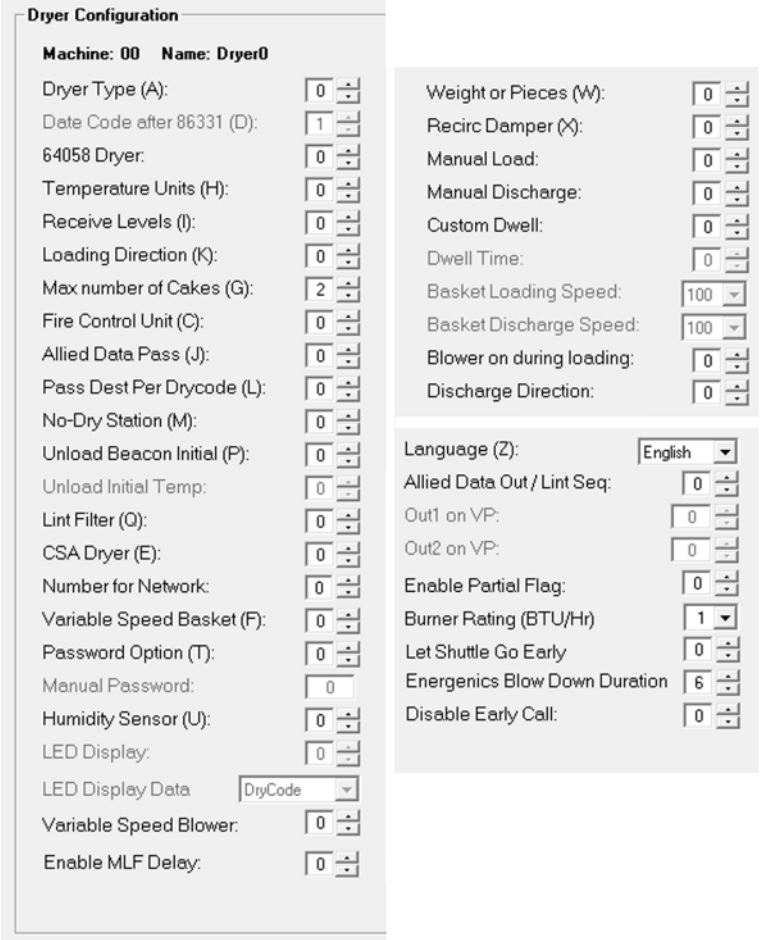


Legend

A. Dryer Configuration
B. Active Help
C. No-Dry Station Options
D. Configure Gains
E. Milnor Filter
F. No Milnor Filter
G. *Save and Exit* button
H. *Exit* button

2.1.5.1. Dryer Configuration [Document BICDSC12]

Figure 5: Dryer Configuration General Decisions



2.1.5.1.1. Dryer Type—This decision tells the microprocessor what type of dryer it controls.

0—gas, propane, or oil heated dryer

1—steam dryer

2.1.5.1.2. Date Code after 86331—This decision is not used.

2.1.5.1.3. Modulating Steam—This decision tells the microprocessor if it should control a modulating steam valve.

0—The dryer is not equipped with a modulating steam valve.

1—The dryer is equipped with a modulating steam valve.

2.1.5.1.4. 64058 Dryer—This decision tells the microprocessor if the dryer is a 64058 model, which uses different temperature limits and control features.

Notice 1: Contact your dealer or the Milnor factory if you are not sure about this decision.

0—The dryer is not a 64058 model.

1—The dryer is a 64058 model.

2.1.5.1.5. Temperature Units—This decision tells the microprocessor if temperatures are in Fahrenheit or Celsius.

0—Fahrenheit

1—Celsius

2.1.5.1.6. Receive Levels—Enter the receive level assigned to your system, as determined by the configuration. This decision does not apply to a stand-alone dryer.

0—minimum value

7—maximum value

2.1.5.1.7. Loading Direction—This decision tells the microprocessor to instruct the MilNet controller in what direction the loading device's belt must operate.

0—forward loading. Enter this value if the dryer is across the COSHA rail from the press.

1—backward loading. Enter this value if the dryer is on the same side of the COSHA rail as the press.

2.1.5.1.8. Max (maximum) number of Cakes

1—minimum valid entry. Enter this value if the dryer is loaded with one cake of goods from the extraction device.

7—maximum valid entry. Enter this value if the dryer is loaded with seven cakes of goods from the extraction device.

2.1.5.1.9. Fire Control Unit—This decision tells the microprocessor what type of fire control unit the gas dryer uses.

0—fire control unit **NOT** made by Landis & Gyr

1—Landis & Gyr

2.1.5.1.10. Allied Data Pass

0—The dryer is a part of a MilNet network which passes data automatically.

1—When the operator loads the dryer, he will enter batch data to be passed to a device on the MilNet network.

2.1.5.1.11. Pass Dest (Destination) Per Drycode—This decision tells the microprocessor if the user will program a destination code for each drycode.The two standard potential free contacts allow up to four destinations.

0—Do **not** pass a destination with each drycode.

1—Pass a destination with each drycode.

2.1.5.1.12. No-Dry Station—The dryer can control a separate discharge location, called a "no-dry station." This station can receive goods that do not need to be dried, such as bed linens, without a seperate controller. This function is standard on Milnor dryers. See the dryer documentation or contact your dealer for more information.

0—The dryer does NOT control a no-dry station.

1—The dryer controls a no-dry station.

2.1.5.1.13. Unload Beacon Initial—This decision tells the microprocessor when the unload beacon should operate.

0—Turn on the unload beacon when the cooldown step starts.

1—Turn on the unload beacon when the cooldown step ends.

2—At "x" degrees hotter than the desired cooldown temperature. In the next decision, enter the number of degrees hotter than the cooldown temperature that should start the unload beacon.

2.1.5.1.14. Unload Initial Temp—This decision is used when the value of the *Unload Beacon Initial* decision (above) is "2."

0°F or 0°C—The minimum valid value. Start the unload beacon at the desired cooldown temperature. This setting is the same as *Unload Beacon Initial = 1*.

5—Start the unload beacon when the temperature is 5 degrees hotter than the desired cooldown temperature.

50°F or 27°C—The maximum valid value. Start the unload beacon when the temperature is 50 Fahrenheit degrees (27 Celsius degrees) hotter than the desired cooldown temperature.

2.1.5.1.15. Lint Filter—This decision tells the microprocessor that it will control a lint filter system, either MILNOR or Allied. If your dryer is connected to a lint filter that requires the dryer to initiate a stripping sequence, enter a 1.If your lint filter operates continuously, enter a 0.

0—The lint filter system operates continuously or is not present.

1—The lint filter system requires the dryer to start the sequence for stripping.

2.1.5.1.16. CSA Dryer—This decision is required for Milnor gas dryers to operate legally in Canada. CSA configuration changes these factors in the programming and operation of the gas dryer:

- The maximum programmable outlet temperature is 185°F (85°C).
- Damper position 3 (MIN AIR) is not a valid choice.
- The damper position automatically changes to 1 (MAX AIR - 1) when the valve position is lower than 49.
- The damper position automatically changes to 2 (MIN AIR + 1) when the valve position is lower than 19.

0—not required to meet CSA requirements for combustion

1—dryer adjusts automatically to meet CSA requirements for combustion

2.1.5.1.17. Number for Network

0—MilTrac systems with the new protocol (MilTrac version 89100 and later)

96, 97, 98, 99—high speed protocol available with dryer software 21000 and later and PC MilTrac 21000 and later. Use the largest number that allows reliable communication.

11, 13, 24, 30—number of bytes configured at the Milnet/MilTrac system. This value depends on the version of Milnet/MilTrac software used.

2.1.5.1.18. Variable Speed Basket—This configure decision tells the machine if it has a variable speed controller and thus allows you to program the basket speed for each step of the drycode.

0—one fixed basket speed

1—variable basket speeds

2.1.5.1.19. Password Option—A password can be required before manual intervention is allowed.

0—no password is required for manual intervention

1—require the operator to enter a password for manual intervention

2.1.5.1.20. Manual Password—Enter four numeric digits that will be required before manual intervention is allowed.

0000—minimum valid value

9999—maximum valid value

2.1.5.1.21. Humidity Sensor—Humidity sensing is an option that allows the microprocessor to monitor the humidity in the dryer and change values in the drycode accordingly.

0—no humidity sensor

1—optional humidity sensor is present

2.1.5.1.22. LED Display—This decision is not used.

2.1.5.1.23. LED Display Data—This decision is not used.

2.1.5.1.24. Variable Speed Blower—This decision tells the microprocessor if the dryer uses an inverter on the main air blower motor.

0—The main air blower operates at a single speed.

1—The main air blower motor is controlled by an inverter that allows the blower to operate at more than one speed.

2.1.5.1.25. Enable MLF Delay—This item adds 30 seconds to the end of the cooldown step to allow the main air blower time to coast before the lint stripping sequence starts.

0—Do not delay the lint stripping sequence on dryers with internal lint filters.

1—Delay to lint stripping sequence to make the sequence more effective.

2.1.5.1.26. Weight or Pieces—This decision tells the microprocessor whether to pass weight data or a count of pieces to the MilTrac controller.

0—The dryer controller passes weight data to the MilTrac controller.

1—The dryer controller passes the number of pieces to the MilTrac controller.

2.1.5.1.27. Recirc Damper—This decision tells the microprocessor if the dryer uses a recirculation damper.

0—no recirculation damper

1—dryer uses a recirculation damper

2.1.5.1.28. Manual Load—Enter a 1 to allow the operator to manually jog the basket during loading. Enter a 0 to disable this feature.

0—The operator **can not** jog the basket while the dryer is loading

1—The operator **can** jog the basket while the dryer is loading

2.1.5.1.29. Manual Discharge—This decision tells the microprocessor if the operator can manually jog the basket when the dryer is ready to discharge and the discharge door is open.

0—The operator **can not** jog the basket when discharge is allowed and the dryer door is open.

1—The operator **can** jog the basket when discharge is allowed and the dryer door is open.

2.1.5.1.30. Custom Dwell—Dwell time is the time that the basket coasts before the motor is engaged to

drive the basket in the other direction.

0—standard dwell time

1—allow a custom dwell time in the *Dwell Time* decision (below).

2.1.5.1.31. Dwell Time

00—no dwell time; minimum valid value

35—3.5 seconds of dwell time

99—9.9 seconds of dwell time; maximum valid value

2.1.5.1.32. Basket Loading Speed—This decision tells the microprocessor what basket speed to use while the dryer is loading. The value of this decision is a percentage relative to the standard basket speed.

50—50 percent of standard basket speed; minimum valid value

100—standard basket speed

120—120 percent of standard basket speed; maximum valid value

2.1.5.1.33. Basket Discharge Speed—This decision tells the microprocessor what basket speed to use while the dryer is discharging. The value of this decision is a percentage relative to the standard basket speed.

50—50 percent of standard basket speed; minimum valid value

100—standard basket speed

120—120 percent of standard basket speed; maximum valid value

2.1.5.1.34. Blower on during loading—This decision tells the microprocessor to run the main air blower when the dryer is receiving a load. This can help suck small pieces into the dryer.

0—do not run the main air blower while loading

1—run the main air blower while loading

2.1.5.1.35. Discharge Direction—This decision tells the MilTrac controller which direction to run the discharge belt when this dryer discharges.

Tells Miltrac what direction (backwards) to run the discharge belts behind the Dryer.

0—Run the discharge belt in the default direction when this dryer discharges.

1—Run the discharge belt in the reverse direction when this dryer discharges. Running the belt in reverse may reduce the chance of errors caused by a blocked photoeye.

2.1.5.1.36. Language—This decision tells the microprocessor to use English or the alternate language for all displays and user prompts.

0—English

1—alternate language

2.1.5.1.37. Allied Data Out / Lint Seq. (Sequencer)—Allows the dryer to interface to non-Milnor equipment on the discharge end. Also enables the use of an external lint sequencer. If set to a 1 the dryer requires a third 8/16 board. This board contains 4 bits of destination code, a DISCHARGE DESIRED output and a data valid output.

Notice 2: The dryer controller must contain a third 8-output/16-input board if the value for

this decision is *1*.

0—dryer does not interface with an external lint sequencer or allied (non-Milnor) devices for discharge

1—dryer interfaces with an external lint sequencer and/or an allied (non-Milnor) device for discharge

2.1.5.1.38. Out1 on VP—This decision is valid for CSA dryers (when *CSA Dryer* = 1). The OUT1 output controls the speed of the combustion air motor. The value for this decision is preset at the Milnor factory. Do not change this value.

2.1.5.1.39. Out2 on VP—This decision is valid for CSA dryers (when *CSA Dryer* = 1). The OUT2 output controls the speed of the combustion air motor. The value for this decision is preset at the Milnor factory. Do not change this value.

2.1.5.1.40. Enable Partial Flag— The dryer looks for Miltrac to tell it when it receives a partial load. It does not go by the number of cakes received.This software requires new Miltrac protocol and shuttle software 88506 or later.

2.1.5.1.41. Burner Rating (BTU/Hr)—This decision represents the capacity of the gas burner. The value selected here is used only to calculate gas consumption for MilData reports. Select the value closest to the value from the machine nameplate.

1—approximately 1 million BTUs

2—approximately 2 million BTUs

2.5—approximately 2.5 million BTUs

2.1.5.1.42. Let Shuttle Go Early

0—The shuttle can depart from the dryer when the dryer load door is closed.

1—The shuttle can depart from the dryer when the load blocks and unblocks the shuttle discharge-end photoeye.

2.1.5.1.43. Energenics Blow Down Duration—This value defines the time needed to blow the lint in an Energenics lint collector from the screen into the collecting bag.

6—minimum valid value

12—maximum valid value

2.1.5.1.44. Disable Early Call—The dryer will not request another load until the dryer has completely finished unloading.

0—Allow the dryer to call for a load before the previous load is completely discharged.

1—The dryer will call for a load only when the previous load is completely discharged from the dryer.

2.1.5.2. Active Help—The *Active Help* window shows information about the current decision.

2.1.5.3. No-Dry Station Options—These decisions are available when the dryer is configured to control a no-dry station.

2.1.5.3.1. Receive Level—Enter the receive level number assigned to this machine in your system, as

determined by the configuration. This decision does not apply to a stand-alone dryer. The receive level number is from 0 to 7.

0—smallest valid value

7—largest valid value

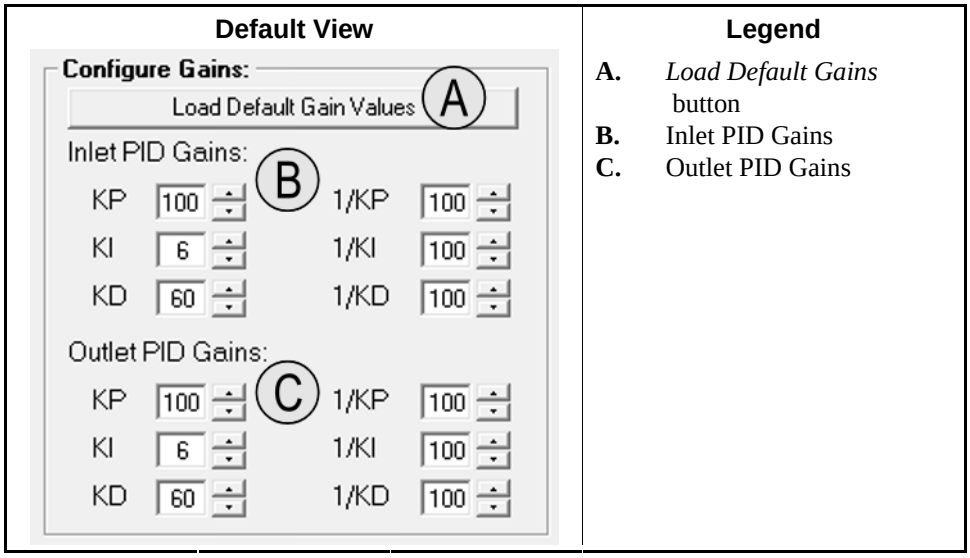
2.1.5.3.2. Loading Direction—This decision tells the microprocessor which direction the belt on the loading device must run to put a load into the dryer.

0—forward. The dryer is on the opposite side of the shuttle rail from the extract device.

1—backward. The dryer is on the same side of the shuttle rail as the extract device.

2.1.5.4. Configure Gains [Document BICDSC13]—The dryer controller uses gains values to adjust the modulating valve to achieve the set temperature.

Figure 6: Configure Gains



2.1.5.4.1. *Load Default Gain Values* button—Click the *Load Default Gain Values* button to fill the gains fields with the default values. Adjust these default values as needed to improve performance.

2.1.5.4.2. Inlet PID Gains

Table 1: Default Values

Field	Value	Field	Value
KP	100	1/KP	100
KI	6	1/KI	100
KD	60	1/KD	100

2.1.5.4.3. Outlet PID Gains

Table 2: Default Values

Field	Value	Field	Value
KP	100	1/KP	100
KI	6	1/KI	100
KD	60	1/KD	100

2.1.5.5. Milnor Filter

2.1.5.5.1. Milnor Lint filter—This decision tells the microprocessor if the dryer is equipped with a Milnor AutoLint lint filter.

0—Dryer is not equipped with a Milnor AutoLint lint filter.

1—Dryer is equipped with a Milnor AutoLint lint filter.

2.1.5.5.2. Loads Before Stripping—This decision tells the microprocessor how many loads the dryer must run before the microprocessor commands an AutoLint cycle. A 12-minute maximum dry time (time that the main blower is on) overrides the load count. For instance, if you enter 3 for this decision and the first load runs for longer than 12 minutes, the filter will cycle before the next load is run.

Notice 3:

- The microprocessor will override this decision and command an AutoLint cycle after 12 minutes of main blower operation.

1—minimum valid value; strip after every load

4—maximum valid value; strip after every four loads or 12 minutes of main blower operation, whichever occurs first

2.1.5.6. No Milnor Filter—These decisions tell the microprocessor when to blow down the screen on a non-Milnor lint filter. These decisions appear only if decision *Milnor Filter = 0*.

2.1.5.6.1. Blow Down Interval— This configure decision tells the microprocessor how often the user desires to initiate the lint stripping cycle.

00:00—minimum value.

06:00—maximum value; strip the lint filter screen every 6 minutes.

2.1.5.6.2. Blow Down Duration—This configure decision tells the microprocessor how long in seconds the user desires the lint stripping cycle to operate.

000—minimum value.

255—maximum value; 255 seconds

2.1.5.7. *Save and Exit* button—Click the *Save and Exit* button to save the current configuration values and exit to the main screen.

2.1.5.8. *Exit* button—Click the *Exit* button to abandon the most recent configuration changes and exit to the main screen. The controller requires confirmation to exit without saving.

2.1.6. *Exit* Button

Click the *Exit* button to close the *Dryer Configure* screen.

— End of BICDSC10 —

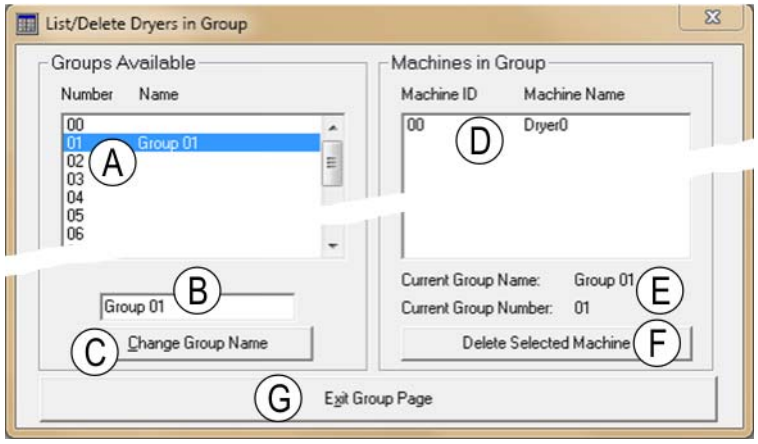
BICDSC14 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

2.2. List/Delete Dryers in Group

Dryer groups allow dryers to share drycodes if the dryers are similar. Each dryer must be a part of one dryer group.

Figure 7: Dryer Group window

Typical View

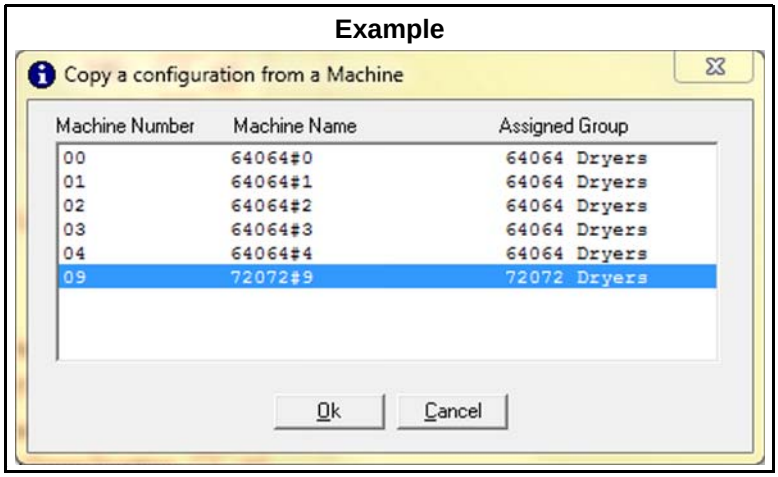


Legend

- **A.** Group numbers and available group names
- **B.** Selected group name for change
- **C.** *Change Group Name* button
- **D.** Machines in selected group
- **E.** Group information
- **F.** *Delete Selected Machine* button
- **G.** *Exit Group Page* button

1. Set the machine ID.
2. Set the machine name.
3. Set the MilTrac address for the machine.
4. Set the *Link to Mildata* for the machine.
5. Set the MilData address for the machine.
6. Set the data for the dryer to pass.
7. Click the *Edit Configuration* button.
8. Click the *Copy Configuration from another Machine* button near the top of the screen, just below the window title bar.
9. Click on a machine as a source of configuration data.

Figure 8: Copy Configuration window



10. Click on *OK* to confirm the source machine, then click the *Save and Exit* button.
11. Select one of the available configure groups, then click on *OK*.
12. Confirm the memory upload.

— End of BICDSC14 —

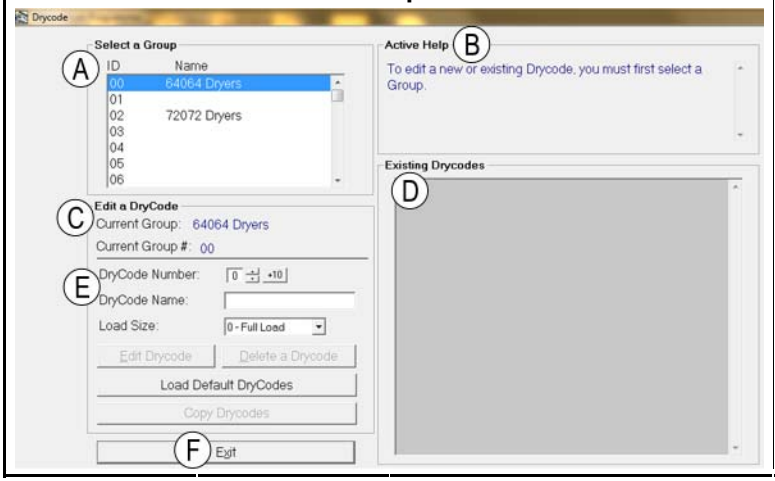
Chapter 3
DryCode Configuration

BICDSP02 (Published) Book specs- Dates: 20131120 / 20131120 / 20131120 Lang: ENG01 Applic: YDS

3.1. DryCode Configuration

Figure 9: DryCode Configuration Screen

Example



Legend

A. *Drycode Groups* list
B. *Active Help* area
C. *DryCode Editing* area
D. *Existing Drycodes* list
E. *Drycode Number and Name* fields
F. *Exit* button

3.1.1. Select a Group

Click on a dryer group to select the group.

3.1.2. Active Help

displays information about the selected decision or field

3.1.3. Edit a Drycode

3.1.3.1. Current Group—displays the selected group

3.1.3.2. Current Group # (Number)—displays the number for the selected group

3.1.3.3. DryCode Number—Click on the arrows to the right of the *DryCode Number* field to select a drycode number to change or create.

3.1.3.4. DryCode Name—This field displays the name of the drycode number selected above. If the drycode number is not associated with a drycode, type a name for the new drycode here.

3.1.3.5. Load Size

0 - Full Load—drycode used when the dryer is loaded at its normal full capacity, such as two 150-pound (68 kg) cakes loaded into a dryer rated for 200 to 350 pounds (91 to 158 kg)

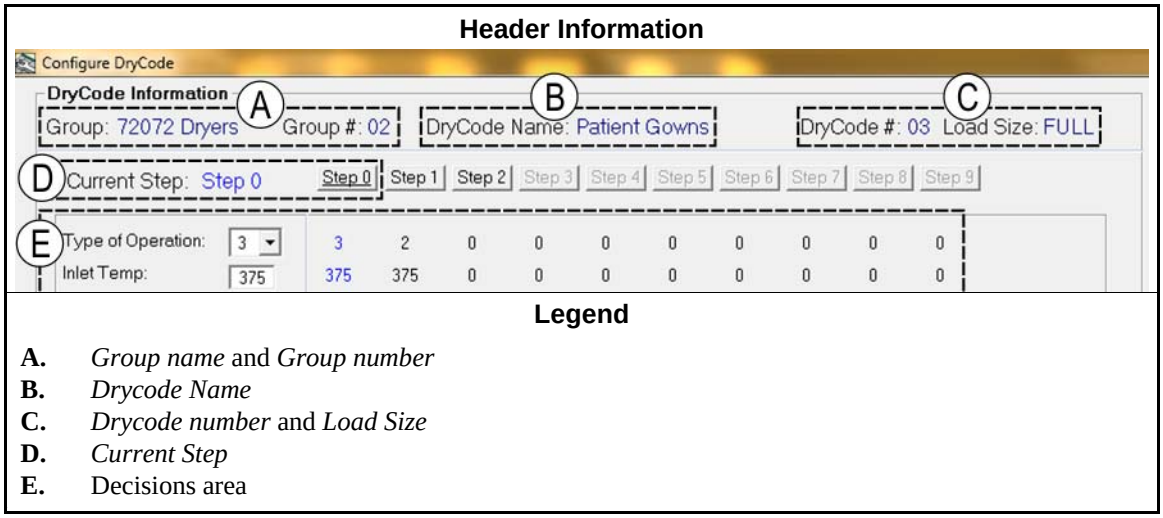
1 - Partial Load—drycode used when the dryer is loaded at less than its full capacity, such as one 150-pound (68 kg) cake loaded into a dryer rated for 200 to 350 pounds (91 to 158 kg)

3.1.3.6. Edit Drycode button—Click this button to view the *Drycode Information* display.

3.1.3.7. Drycode Parameters [Document BICDSP03]

3.1.3.7.1. Header Information

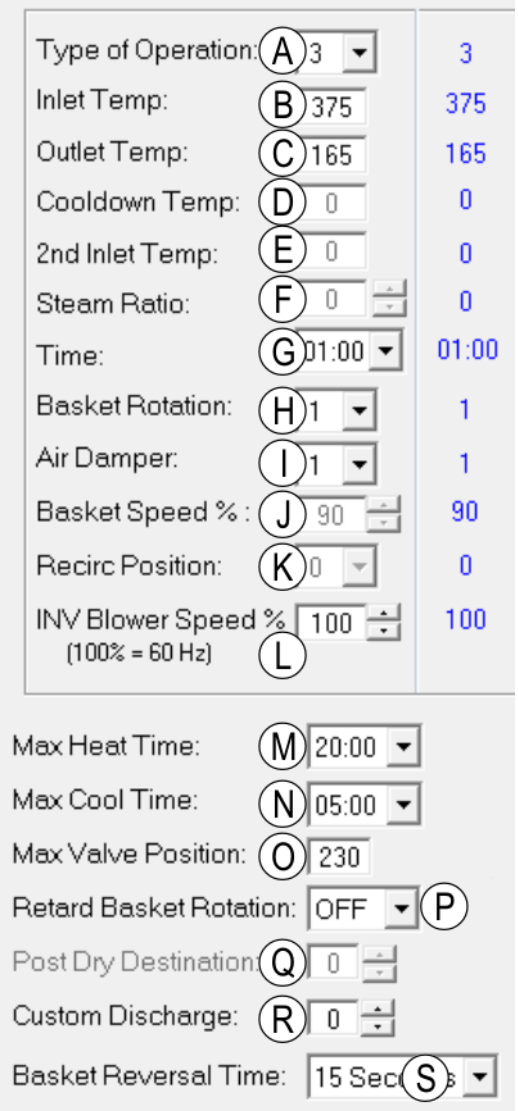
Figure 10: Drycode Configuration Display



3.1.3.7.2. Drycode Decisions

Figure 11: Drycode Configuration Decisions

Typical



Legend

- **A.** Type of Operation
- **B.** Inlet Temp (Temperature)
- **C.** Outlet Temp (Temperature)
- **D.** Cooldown Temp (Temperature)
- **E.** 2nd Inlet Temp (Temperature)
- **F.** Steam Ratio
- **G.** Time
- **H.** Basket Rotation
- **I.** Air Damper
- **J.** Basket Speed %
- **K.** Recirc (Recirculation) Position
- **L.** INV (Inverter) Blower Speed %
- **M.** Max (Maximum) Heat Time
- **N.** Max (Maximum) Cool Time
- **O.** Max (Maximum) Valve Position
- **P.** Retard Basket Rotation
- **Q.** Post Dry Destination
- **R.** Custom Discharge
- **S.** Basket Reversal Time

3.1.3.7.2.1. Type of Operation—

0 = Cooldown—The gas valve or steam valve closes. The programmed *Time* begins 15 seconds after the programmed *Cooldown Temperature* is achieved.

1 = Time—The microprocessor monitors the inlet temperature and the outlet temperature for the programmed time. The programmed *Outlet Temperature* limits the time. The next step begins when the programmed *Time* for this step expires.

2 = Inlet -—After the desired outlet temperature is achieved, the microprocessor compares the inlet temperature to the programmed *Second Inlet Temperature*.The timer starts after the programmed *Second Inlet Temperature* has been achieved for 15 seconds and the outlet temperature remains within 2° of the programmed *Outlet Temperature*.

3 = Outlet + (gas dryers only)—The timer starts running 15 seconds after the desired *Inlet Temperature* is achieved and when the measured outlet temperature is within 2° of the desired *Outlet Temperature*.

3 = On-Off (not for gas dryers)—The outlet temperature is monitored by the processor. The steam valve turns on when the measured outlet temperature falls below *Delta* degrees less than the programmed *Outlet Temperature*. The steam valve turns off when the measured outlet temperature rises *Delta* degrees above the programmed *Outlet Temperature*.

4 = Tumble—The gas valve shuts off and the basket rotates for the programmed time.

5 = Tumble + Air—The gas valve shuts off, the blower turns on, and the basket rotates for the programmed time.

6 = Steam Ratio—The microprocessor measures the inlet temperature and outlet temperature every 5 seconds. A proprietary algorithm determines a ratio of inlet to outlet temperatures. The timer starts when the calculated ratio is greater than or equal to the programmed *Steam Ratio*.

3.1.3.7.2.2. Inlet Temperature—Hotter inlet temperatures make the goods hotter. Very hot inlet temperatures can damage some goods.

200°F (93°C)—lower limit for all dryers

450°F (232°C)—upper limit for non-64058 dryers

500°F (260°C)—upper limit for 64058 dryers

3.1.3.7.2.3. Outlet Temperature

90°F (32°C)—lower limit for all dryers

185°F (85°C)—upper limit for non-64058 dryers and all CSA-certified dryers

195°F (90°C)—upper limit for 64058 dryers except CSA-certified models

3.1.3.7.2.4. Cooldown Temperature—This temperature determines when the goods are cool enough to discharge.

90°F (32°C)—lower limit

214°F (101°C)—upper limit

3.1.3.7.2.5. 2nd Inlet Temperature—After the desired outlet temperature is achieved, the microprocessor compares the inlet temperature to the programmed *Second Inlet Temperature*.The timer starts after the programmed *Second Inlet Temperature* has been achieved for 15 seconds and the outlet temperature remains within 2° of the programmed *Outlet Temperature*.

200°F (93°C)—lower limit for all dryers

450°F (232°C)—upper limit for non-64058 dryers

3.1.3.7.2.6. Steam Ratio—This value is used in steam dryers when the operation is a type 6 (Steam Ratio). A cooldown step usually follows a steam ratio step.

100—lower limit for all dryers

150—upper limit for all dryers

3.1.3.7.2.7. Time—duration for the current step

00:00—minimum value

28:15—maximum value

3.1.3.7.2.8. Basket Rotation—direction of basket rotation

0—one direction; basket rotates anti-clockwise only

1—two directions; basket alternates between clockwise and anti-clockwise rotation

3.1.3.7.2.9. Air Damper—the position of the main air damper

0—maximum air flow (100 percent open)

1—less than maximum air flow (approximately 75 percent open)

2—more than minimum air flow (approximately 60 percent open)

3.1.3.7.2.10. Basket Speed Percentage—basket speed during this step

50 percent—minimum value; approximately 17 revolutions per minute

100 percent—default value; approximately 33 revolutions per minute

120 percent—maximum value; approximately 40 revolutions per minute

3.1.3.7.2.11. Recirculation Position

0—disable recirculation

1—enable recirculation

3.1.3.7.2.12. Inverter Blower Speed Percentage—main blower speed Max 100% = 60 hz to a Min of 60% = 36 hz. For Milnor's defined 'Green' mode the blower should be set to 75% = 45Hz.

60 percent—minimum variable blower speed; 36 Hz

75 percent—Milnor "Green" mode speed; 45 Hz

100 percent—maximum variable blower speed; 60 Hz

3.1.3.7.2.13. Maximum Heat Time—maximum duration of the drycode, excluding cooldown

01:00—minimum value

60:00—maximum value

3.1.3.7.2.14. Maximum Cool Time—maximum duration of the cooldown step of this formula.

01:00—minimum value

10:00—maximum value

3.1.3.7.2.15. Maximum Valve Position—maximum valve position for modulating gas valve. Greater valve position values cause hotter inlet air temperatures.

50—minimum value; partially open

255—maximum value; fully open

3.1.3.7.2.16. Retard Basket Rotation—slows rotation in one direction to helps goods fall away from the basket; clockwise for left-side dryers and anti-clockwise for right-side dryers

OFF—basket rotates a programmed *Basket Speed Percentage* in both direction

9 percent—minimum non-zero value; basket rotates 9 percent slower than the programmed *Basket Speed Percentage* in the direction described above

17 percent—maximum value; basket rotates 17 percent slower than the programmed *Basket Speed Percentage* in the direction direction described above

3.1.3.7.2.17. Post-Dry Destination—used by stand alone dryers (manually loaded) which do not pass

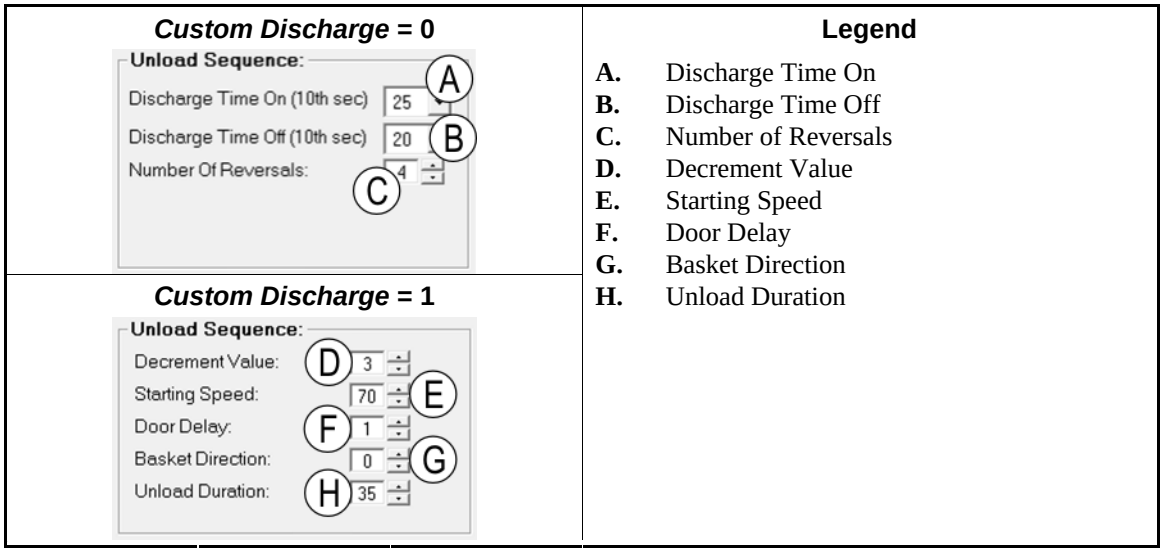
destination codes. Each drycode can have one destination code assigned.

0—minimum value for the destination

15—maximum value for the destination

3.1.3.7.2.18. Custom Discharge—In standard discharge (*Custom Discharge* = 0) the dryer jogs the basket to discharge the goods. In custom discharge (*Custom Discharge* = 1) the operator programs the parameters of the discharge sequence. Select custom discharge if goods clump together during the discharge operation.

Figure 12: Drycode Unload Sequence Decisions



3.1.3.7.2.18.1. Discharge Time On (10th second)—the time in 10ths of a second that the motor turns the basket in each direction before a reversal

5—minimum value; motor on for 1/2 second

99—maximum value; motor on for 9.9 seconds

3.1.3.7.2.18.2. Discharge Time Off (10th second)—the time in 10ths of a second that the basket coasts before a change of direction

5—minimum value; motor off for 1/2 second before reversing

99—maximum value; motor off for 9.9 seconds before reversing

3.1.3.7.2.18.3. Number of Reversals—the number of times the basket will change direction during the discharge sequence

2—minimum value for number of *Discharge Time On* cycles

19—maximum value for number of *Discharge Time On* cycles

3.1.3.7.2.18.4. Decrement Value—percent of *Starting Speed* RPMs subtracted from the basket after a minimum of 2 reversals. The basket gradually slows.

0—minimum percent to slow at each interval

15—maximum percent to slow at each interval

3.1.3.7.2.18.5. Starting Speed—percent of default speed (approximately 32 RPMs)

20—minimum value

120—maximum value

3.1.3.7.2.18.6. Door Delay—the time in seconds after the discharge sequence begins and before the discharge door opens; usually set to *0*

0—no delay

1—1 second

2—2 seconds

3.1.3.7.2.18.7. Basket Direction— basket rotation direction during the discharge sequence

0—clockwise

1—anti-clockwise

3.1.3.7.2.18.8. Unload Duration—the time in seconds from 0 to 255 (4 min and 15 sec), the discharge sequence is to last.

0—minimum value

35—typical value (35 seconds)

255—maximum value (4:15)

3.1.3.7.2.19. Basket Reversal Time—the time in seconds that the basket turns before an optional reversal

15—15 seconds

20—20 seconds

25—25 seconds

3.1.3.8. Delete a Drycode button—Click the *Delete a Drycode* button to open the *Delete a Drycode* display.

3.1.3.9. Load Default DryCodes—Click the *Load Default DryCodes* button to send the factory default drycodes to the dryer. This action is available when the *Existing Drycodes* area is empty.

3.1.3.10. Copy Drycodes—Click the *Copy Drycodes* button to open a window for copying a drycode within a group to an empty drycode number in the same group.

3.1.4. Existing Drycodes

The *Existing Drycodes* area displays the list of existing drycodes, corresponding drycode numbers, and the load size (full and/or partial) for each drycode.

3.1.5. *Exit* button

Click the *Exit* button to return to the main *Milnor Dryer Programmer* screen.

— End of BICDSP02 —