PHASE 7.2.2 NON-COIN USER'S MANUAL (S.A.F.E.)

American Dryer Corporation
88 Currant Road
Fall River, MA 02720-4781
Telephone: (508) 678-9000 / Fax: (508) 678-9447
E-mail: techsupport@amdry.com

www.amdry.com

050503JMORALES/mcronan

ADC Part No. 113188

Retain This Manual In A Safe Place For Future Reference

Please read this manual carefully to thoroughly familiarize yourself with the Phase 7 non-coin microprocessor controller (computer) system features, operational instructions, and programming characteristics. This manual contains important information on how to employ **ALL** the features of your new **ADC** dryer in the safest and most economical way.

American Dryer Corporation products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble free operation.

We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

NOTE: If power to the dryer is off, the Sensor Activated Fire Extinguishing (S.A.F.E.) system is disabled.

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SECTION I
INTRODUCTION

Phase 7 Non-Coin Microprocessor Controller (Computer) Drying System

The Phase 7 Non-Coin Microprocessor Controller (Computer) Drying System has been designed with super performance in mind to provide for better temperature regulation, efficiency, performance, consistency, and faster drying times.

Among its many amenities, the Phase 7 Non-Coin Microprocessor Controller (Computer) Drying System has a true Automatic Drying Cycle. The Phase 7 Non-Coin Microprocessor Controller (Computer) Automatic Drying Cycle **(Patent No. 4,827,627)** principle is based on one (1) of the most fundamental laws of thermodynamics, which governs the flow of heat in thermal systems.

Utilizing this Phase 7 non-coin microprocessor controller (computer) technology, the user simply has to place the load in the dryer and push one (1) single button to start the drying cycle. The Phase 7 non-coin microprocessor controller (computer) will directly monitor the moisture content in the load and stop the drying cycle automatically when the selected dryness level is reached.

The Phase 7 Non-Coin Microprocessor Controller (Computer) Automatic Drying Cycle **(Patent No. 4,827,627)** virtually eliminates **ALL** guesswork. The Phase 7 non-coin microprocessor controller (computer) determines how much drying time is needed and compensates for various types of fabrics and load sizes, therefore, avoiding damage to fabrics by overdrying, as well as avoiding wasted time and energy for any given load. Once the Phase 7 non-coin microprocessor controller (computer) determines that the load is dry, the Phase 7 non-coin microprocessor controller (computer) will go into the Cool Down Cycle until the preprogrammed time or temperature is reached, and then will shut the dryer off automatically.

SECTION II

FEATURES

A. **Dependable Phase 7 Non-Coin Microprocessor Controller (Computer) Solid State Integrated Circuitry** – Eliminates as many moving parts as possible.

B. **Sensor Activated Fire Extinguishing (S.A.F.E.) System** – A standard feature, which continually monitors the basket (tumbler) for fires. In the event of a fire, the water supply to the basket (tumbler) will suppress the fire. The Phase 7 non-coin microprocessor controller (computer) will also notify the user that a fire has occurred.

C. **Program Changes Are Easily Made At The Keyboard (Touch Pad)** – Actual programs are viewed at the light emitting diode (L.E.D.) display for verification.

D. **Automatic Drying Cycle (Patent No. 4,827,627)** – Computerized monitoring of load dryness for precise, fast, and efficient drying.

E. **Timed (Manual) Drying Cycle** – For special loads, programming allows for a specific amount of time in minutes, for both drying and Cool Down Cycles.

F. **Preprogrammed Cycles** – The Phase 7 non-coin microprocessor controller (computer) can store in its memory six (6) preprogrammed cycles in either the Automatic Drying Mode **(Patent No. 4,827,627)** or Manual Drying Mode in the "A-F" keys, and an additional 41 in the numerical memory of "0-40".

G. **Manually Loaded Cycles** – For occasional special loads, the user can set a specific program in either the Automatic Drying Cycle (**Patent No. 4,827,627)** or the Manual Timed Drying Cycle.

H. **Variable (Programmable) Fabric/Temperature Selections** – Accommodates the type of fabric to be dried.

I. **Cool Down/Controlled Cool Down Program** – Cool down lowers the temperature of the exhaust to make the material cool enough to handle. Controlled cool down slowly lowers the temperature over 10 minutes for materials sensitive to shrinking.

J. **L.E.D. Display** – Informs user of cycle status, programs, and displays important diagnostic and fault codes.

K. **Wrinkle Guard Program** – Helps keep items wrinkle-free when they are not removed from the dryer promptly at the end of the drying and cooling cycles.

L. **Diagnostics** – Major circuits, including the door switch(es), Phase 7 non-coin microprocessor controller (computer) temperature sensor, and heat output circuits, are individually monitored, providing precise messages for the particular failure.

M. **Audio Alert Signal** – The tone will sound at the end of a complete drying cycle, at a 1-second rate for the duration programmed. It will also sound for any fault conditions at a quarter second rate for 4-beeps. Finally, there is a 3-beep warning at the beginning of every "Wrinkle Guard On Cycle"; a continuous rapid pulse is used for the entire duration of S.A.F.E. system activation. A connection is also available to install an external 24Vdc (volts direct current) buzzer or relay with a maximum power consumption of 250 mA (milliamperes).

N. **Temperature Conversion Status** – Temperature-related programs can be set in either Fahrenheit (°F) or Celsius (°C). **ALL** temperatures will automatically convert to the corresponding values (+/- 1°) when changes are made.

O. **High Temperature Protection** – If the Phase 7 non-coin microprocessor controller (computer) senses that the temperature in the basket (tumbler) has exceeded 180° F (82° C) for axial airflow, or 220° F (104° C) for radial airflow, it will end the drying cycle and a fault code will be displayed, indicating an overheating problem.

P. **Cycle Preview** – Entire dryer parameters (programs), or the preprogrammed cycles, are displayed for verification upon a coded entry to the keyboard (touch pad).

Q. **Reversing Option** – Helps reduce the balling up or tangling of large items. A cycle can be set to have the reversing option, so that the basket (tumbler) will turn in the forward direction for 30- to 120-seconds, stop for 5- to 10-seconds, and then proceed in the reverse direction for the same time. This process is repeated throughout the drying and cooling cycles.

R. **Rotation Sensor** – The Phase 7 non-coin microprocessor controller (computer) also displays basket (tumbler) rotations per minute (RPM) by pressing and holding the "DOWN ARROW" ▼ key while the basket (tumbler) is on. (The basket [tumbler] **must be** rotating for approximately 30-seconds before getting a true RPM reading).

S. **Clean Lint** – This feature monitors the value of the "Lint Cleaning Frequency" timer. The timer keeps track of how long the dryer's blower/fan has been on, and compares it to the Lint Cleaning Frequency Setting. Once the timer equals the Lint Cleaning Frequency Setting, the Phase 7 non-coin microprocessor controller (computer) will begin to prompt the user to "CLEAN LINT". The Phase 7 non-coin microprocessor controller (computer) will allow two (2) additional hours of run time before the Phase 7 non-coin microprocessor controller (computer) is locked-out in a "CLEAN LINT" state. The dryer will not be cleared from this state until the lint drawer has been cleaned. When the lint drawer is opened, the display will read "Lint Access Open", and when the lint drawer is closed, the display will read "READY".

T. **Language Selection** – The Phase 7 non-coin microprocessor controller (computer) has the ability to display five (5) different languages: English, French, Spanish, Italian, and German.

U. **Model Selection** – The Phase 7 non-coin microprocessor controller (computer) can be programmed to be used on three (3) modes of heat: gas, steam, and electric. It can also be configured for reversing and non-reversing dryers.

V. **Default Factory Settings** – This feature will set **ALL** programmed parameters to their default values.

W. **Keyboard (Touch Pad) Symbols** –

 = "STOP/CLEAR" key

 = "START/ENTER" key

 = "UP ARROW" key (scroll up)

 = "DOWN ARROW" key (scroll down)

X. **Steam Injection Option** – The Phase 7 non-coin microprocessor controller (computer) has the ability to program up to five (5) steam injection intervals, for a programmed amount of time, at different points of a cycle including cool down.

SECTION III
PROGRAM SELECTIONS

A. PREPROGRAMMED CYCLES

"A-F" CYCLES

The Phase 7 non-coin microprocessor controller (computer) can store in its memory six (6) preprogrammed cycles (keys "A-F" on the keyboard [touch pad]). This allows the user to have the six (6) most commonly used cycles readily available, requiring only the push of a single keyboard (touch pad) entry to start the dryer.

"0-40" CYCLES

The Phase 7 non-coin microprocessor controller (computer) can store 41 preprogrammed cycles in its numerical memory. (Use keys "0-9" on the keyboard [touch pad]). This allows the user to have up to 41 customized programmed cycles that may not be as commonly used as the six (6) "A-F". These are not one-touch entries to start the dryer like "A-F". They are selected by entering the number, which represents the cycle desired, and by pressing the "START/ENTER" key to start the cycle.

Both types of preprogrammed cycles can be set in either the Automatic Drying Mode **(Patent 4,827,627)**, in which the drying cycle will end when the selected dryness level has been reached, or the drying time out time has expired, or in the Manual Timed Drying Mode, in which the dryer will operate for the specific drying time programmed. These cycles can be programmed in any combination.

Once the heating cycle is completed, the Phase 7 non-coin microprocessor controller (computer) then goes into the Cool Down Cycle in which the articles are tumbled at room temperature or a controlled cool down in which the dryer goes into a slow Cool Down Mode for 10 minutes sloping the temperature 10° F (5.5° C) every minute.

When the cooling cycle is completed, the dryer will go into the Wrinkle Guard Cycle. For the first 15 minutes of "WRINKLE GUARD", the Phase 7 non-coin microprocessor controller (computer) will remain idle with the display reading "CYCLE DONE". After the 15 minutes have elapsed, the Phase 7 non-coin microprocessor controller (computer) will beep three (3) times and will activate the basket (tumbler) for 15-seconds without heat. At this point, the display will read "WRINKLE GUARD". Once the 15-seconds are over, the Phase 7 non-coin microprocessor controller (computer) will display "CYCLE DONE" and will remain idle for 5 minutes, at which point the Phase 7 non-coin microprocessor controller (computer) will reactivate the basket (tumbler) for 15-seconds while displaying "Wrinkle Guard". The Phase 7 non-coin microprocessor controller (computer) will continue with the process of 15-seconds "ON", 5 minutes "OFF", until either the doors are opened, the "STOP/CLEAR" key is pressed, or 99 minutes have elapsed, whichever comes first. Once the Wrinkle Guard routine has ended, the display will read "CYCLE DONE". At this point, the dryer is locked out from drying again until the doors are opened. This will ensure that if a cycle has been completed, the operator will attend to it before starting another heat cycle.

NOTE: To enter program mode, press "STOP/CLEAR" and "UP ARROW" .

PREPROGRAMMED CYCLE MENU SELECTIONS (CYCLES "A-F" or "0-40"):

1. Automatic Drying Cycle **(Patent No. 4,827,627)**

   a. The Phase 7 non-coin microprocessor controller (computer) can be programmed to reverse or not reverse. This is done in the "DRYER SETUP" parameter.

b. Drying Temperature – Programmable from 160° F to 200° F (71° C to 93° C,), in one-degree increments, and preset at 160° F (71° C) for axial dryers.

c. Dryness Level – Programmable for FINISHING, DRY, AND EXTRA DRY.

d. Cool Down Time – Programmable from 0 to 99 minutes, in 1 minute increments.

e. Cool Down Temperature – Programmable from 70° F to 100° F (21° C to 38° C), in one-degree increments.

f. Cycle Adjustment – Programmable from 0 to 99.

2. Timed (Manual) Cycle

a. The Phase 7 non-coin microprocessor controller (computer) can be programmed to reverse or not reverse. This is done in the "DRYER SETUP" parameter.

b. Drying Time – Programmable from 0 to 99 minutes, in 1 minute increments.

c. Drying Temperature – Programmable from 100° F to 200° F (38° C to 93° C) in one-degree increments for a radial dryer, and 100° F to 160° F (38° C to 71° C) in one-degree increments for an axial dryer.

d. Cool Down Time – Programmable from 0 to 99 minutes, in 1 minute increments.

e. Cool Down Temperature – Programmable from 70° F to 100° F (21° C to 38° C), in one-degree increments.

f. The Spin Time can be programmed from 30-seconds to 120-seconds, in 1-second increments.

g. The Dwell (Stop) Time can be programmed from 5-seconds to 10-seconds, in 1-second increments.

h. Steam Injection (Optional) – Programmable 0-5 intervals.

ALL six (6) "A-F" preprogrammed cycles, along with cycles "0-40", have been programmed by the factory as outlined in **Section VII**. However, even though cycles "A-F" are the most common cycles used, they **should be** reviewed to ensure they meet the location application or needs. Should changes become necessary, refer to the Programming Section of this manual.

B. MANUALLY LOADED CYCLES

For occasional or onetime special loads, the operator must enter the specific program features needed. This cycle is not stored within the Phase 7 non-coin microprocessor controller (computer) and **must be** entered each time.

The Manually Loaded Cycle can be set in either the Automatic Drying Mode **(Patent No. 4,827,627)** or the Timed (Manual) Drying Mode. These modes are selected by pressing the "AUTO" or "MAN" key on the keyboard (touch pad).

C. AUTOMATIC DRYING CYCLE **(PATENT NO. 4,827,627)** OPERATIONS

In this mode, the Phase 7 non-coin microprocessor controller (computer) determines how much drying time is needed and compensates for various types of fabrics and load sizes, **ALL** automatically. The Phase 7 non-coin microprocessor controller (computer) accomplishes this by calculating the dryness level (percentage of extraction), using the temperature selected, as well as the dryness level preset by the factory.

The Phase 7 non-coin microprocessor controller (computer) monitors the first three (3) heat peaks (slopes), at which time it calculates the dryness level (heat loss), along with the percentage of extraction selected. When the Phase 7 non-coin microprocessor controller (computer) determines that **ALL** the factors are met, the drying cycle will end and the dryer will go into the Cool Down Cycle. The Phase 7 non-coin microprocessor controller (computer) also has a drying time out setting, which will control the maximum time an auto cycle will run.

D. TIMED (MANUAL) DRYING CYCLE OPERATION

This drying cycle is intended for special loads in which a specific amount of drying time and cooling time is needed. It is especially intended for fine, delicate items that require very low temperatures and long drying and/or Cool Down Time periods.

ALL parameters set in the "COOL DOWN SETUP" pertain to the Manually Loaded Manual and Auto Cycles. The "A-F" and "0-40" cycles that have been selected to be manual, have separate settings for **ALL** the parameters contained in the "COOL DOWN SETUP" menu.

The program limitation is the same as in **Section III, A2**.

NOTE: The Cool Down Cycle will either run until the Cool Down Temperature is reached or until the Cool Down Time has expired, whichever comes first.

NOTE: If no Drying Time has been selected, the Cool Down Cycle will ignore the Cool Down Temperature and will use the Cool Down Time only.

E. LIGHT EMITTING DIODE (L.E.D.) DOT MATRIX DISPLAY

The L.E.D. display informs the user of cycle status, program verification, and displays important diagnostic and fault information. A complete listing of the various display messages and their meanings is shown in **Section V** of this manual.

CYCLE IN PROGRESS DISPLAY STATUS

During the Drying Cycle, the display will indicate the type of cycle in progress by presenting either one (1) of the following:

1. "AUTO DRYING CYCLE" – Manually Loaded Auto Cycle.
2. "AUTO DRYING CYCLE #" – The "#" is replaced with "A-F" or "0-40".
3. "MANUAL DRYING CYCLE" – Manually Loaded Manual Cycle.
4. "MANUAL DRYING CYCLE #" – The "#" is replaced with "A-F" or "0-40".

F. CYCLE IN PROGRESS TEMPERATURE DISPLAY

While the dryer cycle is in progress, the temperature in the basket (tumbler) can be displayed by pressing and holding the "UP ARROW" ▲ key. The temperature will be displayed in either Fahrenheit (°F) or Celsius (°C), depending on which temperature system has been set in the "DRYER SETUP".

G. TEMPERATURE CONVERSION STATUS

Temperature related programs are programmable to be operated in either Fahrenheit (°F) or Celsius (°C). The temperature selection is made in "SYSTEM TEMP". The programs affected are as follows:

1. Temperature Display Mode
2. Drying Temperatures
3. Cool Down Temperatures

IMPORTANT: When changing the temperature conversion status from Fahrenheit to Celsius, or vice versa, **ALL** of the Temperature Selections and Cool Down Temperatures **will be** changed accordingly. The Phase 7 non-coin microprocessor controller (computer) automatically calculates and converts the temperatures in these programs to the previously set value. For example, if the preprogrammed Cycle "A" drying temperature was set for 160° F, when converting from °F to °C, the Phase 7 non-coin microprocessor controller (computer) will change to 71° C (+/- 1° Celsius).

H. WRINKLE GUARD PROGRAM

This program keeps items wrinkle-free when they are not removed from the dryer promptly at the end of the drying and/or cooling cycles.

When the drying and cooling cycles are completed, the dryer will shut off, the tone will sound, and the light emitting diode (L.E.D.) display will read "CYCLE DONE". If the door is not opened or the cycled stopped, the Phase 7 non-coin microprocessor controller (computer) will wait an initial 15 minutes delay time. Once the initial 15 minutes of delay time have expired, the fan will start and the basket (tumbler) will rotate (without heat) for an "ON" time of 15-seconds. When the fan and basket (tumbler) start, the display will read "WRINKLE GUARD". Immediately following the 15-second "ON" time, the Phase 7 non-coin microprocessor controller (computer) will go into a 5 minute "OFF" time, at which point it will display "CYCLE DONE". The Phase 7 non-coin microprocessor controller (computer) will repeat this process of 15-seconds "ON" and 5 minutes "OFF" until either the doors are opened, the "STOP/CLEAR" ◎ key is pressed, or 99 minutes has elapsed, whichever comes first. Prior to each "ON" time, there is a 3-beep warning that the fan and basket (tumbler) rotation are about to start. The beeps at the end of the Wrinkle Guard Cycle can be programmed to be "ON/OFF". This is done in the "WRINKLE GUARD SETUP".

WRINKLE GUARD PROGRAM SELECTION:

Wrinkle Guard Audio Alert On/Off

The operator can select to turn the beeps on or off at the end of each Wrinkle Guard Cycle. The number of beeps is programmed in "AUDIO ALERT ON TIMES".

I. AUDIO ALERT ON TIMES 0 TO 10

The tone will sound at the end of the Cool Down Cycle to indicate that the cycle is complete. Programming allows for the elimination of the tone during the Wrinkle Guard Cycle. This is done in the "WRINKLE GUARD SETUP". Programming also allows the beeps to be set from 0 to 10 beeps in increments of one (1). This is done in "DRYER SETUP".

J. PREPROGRAMMED CYCLE PREVIEW

The parameters of the preprogrammed cycles can be displayed for verification. To view an "A-F" preset program (parameter), simply press the "START/ENTER" key and the desired preset program "A-F". The light emitting diode (L.E.D.) display will read the program parameter settings, then return to the "READY" display mode. To view a "0-40" preset program parameter, simply press the "START/ENTER" key and the desired preset program number "0-40" followed by the "START/ENTER" key again. The L.E.D. display will read the program parameter settings, and then return to the "READY" display mode.

K. REVERSING OPTION

This feature helps reduce balling-up or tangling of large items.

REVERSING OPTION SELECTIONS:

1. Reverse On or Reverse Off
2. This option can be set to "ON" or "OFF" for each cycle individually.
3. Basket (Tumbler) Spin Time and Dwell (Stop) Time
    a. Fixed in the Automatic "AUTO" Mode and **cannot** be changed.
        1) Spin Time – 2 minutes forward and 2 minutes reverse.
        2) Dwell (Stop) Time – 5-seconds.
    b. Programmable in the Manual Mode.
        1) Spin Time – Programmable from 30-seconds to 120-seconds, in 1-second increments.
        2) Dwell (Stop) Time – Programmable from 5-seconds to 10-seconds, in 1-second increments.

L. DIAGNOSTICS

The Phase 7 non-coin microprocessor controller (computer) monitors the "Drying Functions", which include temperatures, burners, sail switches, blower, basket (tumbler), and lint drawer.

M. PROGRAM LOCATIONS

System parameters are programmed in Program Locations (PL). Access to this location is acquired by pressing the "STOP/CLEAR" and the "UP ARROW" together. To exit the Programming Location, simply press the "STOP/CLEAR" key. If you are several menu layers deep, continue to press the "STOP/CLEAR" key to back up the menu until you are **ALL** the way out of the programming mode.

0. SELECT LANGUAGE – This menu allows the selection of five (5) different languages to operate the dryer. The language that is selected will be used for every displayed message as well as for faults and menus.

ENGLISH
FRANCAIS
ESPANOL
ITALIANO
DEUTSCH

1. SELECT SYSTEM PARAMETERS – This menu level has four (4) sections. **ALL** programmable parameters, other than preprogrammed cycles, are done here.

   0. DRYER SETUP – **ALL** parameters that pertain to drying are in this menu level.

      0. SELECT MODEL – This allows the selection of the heat source applied to the dryer, and whether the dryer is reversing or non-reversing.

GAS REVERSING	GAS NON-REVERSING
STEAM REVERSING	STEAM NON-REVERSING
ELECTRIC REVERSING	ELECTRIC NON-REVERSING

      1. SYSTEM TEMP – This selection controls whether the temperature related programs will be operated in Fahrenheit (°F) or Celsius (°C). The programs affected are as follows:

         1) Temperature Display Mode

         2) Drying Temperatures

         3) Cool Down Temperatures

IMPORTANT: The Phase 7 non-coin microprocessor controller (computer) automatically calculates and converts the temperatures in these programs to the previously set value. For example, when changing from °F to °C, if the preprogrammed Cycle "A" drying temperature was set for 160° F, the Phase 7 non-coin microprocessor controller (computer) will change to 71° C (+/- 1° Celsius).

      2. ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS – This selection sets how long the lint cleaning timer will run before prompting the user to "CLEAN LINT". Once the user is prompted to "CLEAN LINT", the Phase 7 non-coin microprocessor controller (computer) will allow an additional 2 hours of run time before the dryer is placed into a locked-out state, waiting for the lint drawer to be cleaned.

3. ENTER AUDIO ALERT ON TIMES 0 TO 10 – This selection allows the operator to adjust the amount of signal tones. This parameter (program) affects the tone at the end of the Cool Down Cycle, as well as at the end of the Wrinkle Guard On Time.

4. ROTATION SENSOR – This selection is used to turn the rotational sensor on or off.

5. BOARD ADDRESS 00 TO ZZ – This location is where the board address is defined. This is only used when the Phase 7 non-coin microprocessor controller (computer) is interfaced to a network.

6. AUTO CYCLE TIME OUT 0 TO 99 MINUTES – This selection allows the user to set a maximum time that the auto cycle will run before timing out.

1. REVERSING SETUP – The parameters that pertain to the reversing mode are in this menu level.

   0. ENTER SPIN TIME 30 TO 120 SECONDS – This parameter (program) is fixed at 2 minutes in the forward direction and 2 minutes in the reverse direction for the Automatic Mode. In the Manual Mode, it is programmable. This Spin Time is programmed here for the Manually Loaded Manual Cycle only.

   1. ENTER STOP TIME 5 TO 10 SECONDS – This parameter (program) is fixed at 5-seconds in the Automatic Mode and programmable in the Manual Mode. This Dwell (Stop) Time is programmed here for the Manually Loaded Manual Cycle only.

   2. WRINKLE GUARD SETUP – The parameters that pertain to the Wrinkle Guard are in this menu level.

      0. WRINKLE GUARD AUDIO ALERT – This parameter (program) allows the operator to turn the Audio Alert tone on or off at the end of each Wrinkle Guard Cycle.

         AUDIO ALERT ON
         AUDIO ALERT OFF

   3. STEAM INJECTION SETUP (Optional) – This parameter is used to inject steam into the basket (tumbler) up to 5 times. 0-5 ON time is first entered MM:SS (minutes:seconds), and then the OFF time is entered MM:SS (minutes:seconds).

2. PROGRAM A-F CYCLES – This menu allows the programming of cycles “A-F”. The parameters selected in this menu for each letter will be stored in memory for that key. This will allow the operator to utilize one-touch drying through keys “A-F”.

3. PROGRAM 0-40 CYCLES – This menu allows the programming of cycles “0-40”. The parameters selected in this menu for each number will be stored in memory for that number key(s). This will allow the operator to utilize preprogrammed drying cycles stored in memory under a numerical location.

NOTE: BOTH THE “A-F” and “0-40” CYCLES ALLOW FOR A TOTAL OF 47 PREPROGRAMMED LOCATIONS FOR CUSTOM DRYING.

4. DEFAULT SETTINGS – This menu allows the operator to set **ALL** programmable parameters to default settings. This option has a password selection of 1 2 3. It will then ask to confirm settings. It will default to “NO”. Use the arrow keys to select “YES”.

CAUTION: Once the settings have been set to their default settings, there is no way to retrieve the old settings. Use caution when using this feature.

SECTION IV
OPERATING INSTRUCTIONS

The Phase 7 non-coin microprocessor controller (computer) allows the operator to choose from six (6) preprogrammed cycles (keys "A-F"). These have been preprogrammed by the factory with the parameters (programs) shown in **Section VII**. There are also additional ("0-40") cycles that are preprogrammed by the factory with the parameters (programs) shown in **Section VII**. For occasional or onetime special loads, the operator must set the specific programs needed, utilizing the manually loaded cycles.

NOTE: Refer to **Section III** of this manual for a complete explanation of the various cycles/selections available.

After the load is put into the basket (tumbler) and the dryer is ready to dry, determine which cycle will best suit the application (type of load). We recommend using the Automatic Drying Cycle **(Patent No. 4,827,627)** for most loads. This cycle provides for the best drying in the shortest time, automatically.

A. OPERATING SEQUENCE

1. Preprogrammed Cycles

   a. Automatic Drying Cycle **(Patent No. 4,827,627)**

      1) Light emitting diode (L.E.D.) display reads "READY" (no cycle in progress).

      2) Press the letter on the keyboard (touch pad) corresponding to the cycle desired (i.e., key "A").

NOTE: "0-40" will require the "START/ENTER" key to be pressed after the number is selected, in order to accept the selection and start drying.

      3) The dryer will then start. (I.E., blower, basket [tumbler], and heat).

      4) At the start of a cycle, the L.E.D. display will initially display the cycle parameters of the selected cycle, AUTO DRYING CYCLE A, TEMP 180, DRYNESS LEVEL EX DRY. Then the display will read AUTO CYCLE A, ELAPSED TIME 00:00 MINUTES. The L.E.D. display will continue to show AUTO CYCLE A, ELAPSED TIME XX:XX MINUTES until the load is dried to the appropriate dryness level or the auto cycle time out time has expired.

NOTE: Press and hold the "UP ARROW" to view the basket (tumbler) temperature at any time.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key; at this time, the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the "READY" state.

5) Once the preprogrammed percentage of extraction (dryness level) is reached, the drying cycle will end and the Cool Down Cycle will begin.

6) Once the Cool Down Cycle begins at the end of the heat cycle, the light emitting diode (L.E.D.) display will read COOL DOWN TEMP ___/___ MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

7) Once the Cool Down Cycle is completed, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Wrinkle Guard Cycle. The Audio Alert tone will sound (for the amount set in Audio Alert On Time). The L.E.D. display will read "CYCLE DONE". The dryer will wait an initial 15 minutes delay before going into a 15-seconds ON, 5 minutes OFF cycle. These times are fixed and are not programmable. During the ON time, the blower (fan) and the basket (tumbler) will start to rotate without heat for 15-seconds; during this time, the display will read "WRINKLE GUARD". After the 15-seconds are completed, the display will read "CYCLE DONE" and the dryer will go into a 5 minute OFF cycle. The Phase 7 non-coin microprocessor controller (computer) will repeat this process of 15-seconds "ON" and 5 minutes "OFF" until either the doors are opened, the "STOP/CLEAR" key is pressed, or 99 minutes have elapsed, whichever comes first. Once the 99 minutes have elapsed, the L.E.D. display will then read "CYCLE DONE" and the Phase 7 non-coin microprocessor controller (computer) will lock out the dryer functions until the doors are opened. The Phase 7 non-coin microprocessor controller (computer) will then return to "READY".

b. Timed (Manual) Drying Cycle

1) L.E.D. display reads "READY" (no cycle in progress).

2) Press the letter on the keyboard (touch pad) corresponding to the cycle desired (i.e., key "D").

NOTE: "0-40" WILL REQUIRE THE "START/ENTER" KEY TO BE PRESSED AFTER THE NUMBER IS SELECTED IN ORDER TO ACCEPT THE SELECTION and START DRYING.

3) The dryer will then start. (I.E., blower, basket [tumbler], and heat).

4) The L.E.D. display will read MANUAL DRYING CYCLE D, 00:00 MIN REMAIN.

NOTE: Press and hold the "UP ARROW" to view the basket (tumbler) temperature at any time.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key, at this time the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the "READY" state.

NOTE: Press and hold the "DOWN ARROW" to view the basket (tumbler) RPM.

5) When the programmed drying time has expired, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Cool Down Cycle.

6) Once the Cool Down Cycle begins at the end of the heat cycle, the L.E.D. display will read COOL DOWN TEMP ___/___ MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

7) Once the Cool Down Cycle is completed, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Wrinkle Guard Cycle. The Audio Alert tone will sound (for the amount set in Audio Alert On Time). The light emitting diode (L.E.D.) display will read "CYCLE DONE". The dryer will wait an initial 15 minute delay before going into a 15-seconds ON, 5 minutes OFF cycle. These times are fixed and are not programmable. During the ON time, the blower (fan) and the basket (tumbler) will start to rotate without heat for 15-seconds; during this time, the display will read "WRINKLE GUARD". After the 15-seconds are completed, the display will read "CYCLE DONE" and the dryer will go into a 5 minute OFF cycle. The Phase 7 non-coin microprocessor controller (computer) will repeat this process of 15-seconds "ON" and 5 minutes "OFF" until either the doors are opened, the "STOP/CLEAR" key is pressed, or 99 minutes have elapsed, whichever comes first. Once the 99 minutes have elapsed, the L.E.D. display will then read "CYCLE DONE" and the Phase 7 non-coin microprocessor controller (computer) will lock out the dryer functions until the doors are opened. The L.E.D. display will then return to "READY".

2. Manually Loaded Cycles

a. Automatic Drying Cycle **(Patent No. 4,827,627)**

1) L.E.D. display reads "READY" (no cycle in progress).

2) Press AUTO key.

3) L.E.D. display will now read ENTER DRY TEMP 160 TO 200. (Defaults to 160° F [71° C]). Enter the temperature desired (from 160° F to 200° F [71° C to 93° C] in one-degree increments). I.E., for 180° F (82° C), press key "1", key "8", key "0", and then press the "START/ENTER" key to accept the value.

4) L.E.D. display will now read ENTER DRY LEVEL: finishing, dry, and extra dry. Enter the amount of extraction (dryness level) desired. Finishing has the most moisture content, dry has less moisture content, and extra dry has little or no moisture content.

5) L.E.D. display will now read "REVERSE MODE" (defaults to ON). The ON/OFF selection can be toggled with the "UP ARROW" and "DOWN ARROW" . Once selected, press the "START/ENTER" key to accept selection.

NOTE: In addition to entering a value by pressing the number keys, the "UP ARROW" and "DOWN ARROW" can be used to scroll to the number desired, or to toggle between selections.

6) At the start of a cycle, the L.E.D. display will initially display the cycle parameters of the selected cycle: AUTO DRYING CYCLE, TEMP 180, DRYNESS LEVEL EX DRY. Then the display will read: AUTO CYCLE, ELAPSED TIME 00:00 MINUTES. The L.E.D. display will continue to show AUTO CYCLE, ELAPSED TIME XX:XX MINUTES, until the load is dried to the appropriate dryness level or the auto cycle time out time has expired.

NOTE: Press and hold the "UP ARROW" to view the basket (tumbler) temperature at any time.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key; at this time, the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the "READY" state.

NOTE: Press and hold the "DOWN ARROW" ▼ to view the basket (tumbler) RPM.

7) Once the preprogrammed percentage of extraction (dryness level) is reached, the drying cycle will end and the Cool Down Cycle will begin.

8) Once the Cool Down Cycle begins at the end of the heat cycle, the light emitting diode (L.E.D.) display will read COOL DOWN TEMP ___/___MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

9) Once the Cool Down Cycle is completed, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Wrinkle Guard Cycle. The Audio Alert tone will sound (for the amount set in Audio Alert On Time). The L.E.D. display will read "CYCLE DONE". The dryer will wait an initial 15 minutes delay before going into a 15-seconds ON, 5 minutes OFF cycle. These times are fixed and are not programmable. During the ON time, the blower (fan) and the basket (tumbler) will start to rotate without heat for 15-seconds; during this time the display will read "WRINKLE GUARD". After the 15-seconds are completed, the display will read "CYCLE DONE" and the dryer will go into a 5 minute OFF cycle. The Phase 7 non-coin microprocessor controller (computer) will repeat this process of 15-seconds "ON" and 5 minutes "OFF" until either the doors are opened, the "STOP/CLEAR" ⊙ key is pressed, or 99 minutes have elapsed, whichever comes first. Once the 99 minutes have elapsed, the L.E.D. display will then read "CYCLE DONE" and the Phase 7 non-coin microprocessor controller (computer) will lock out the dryer functions until the doors are opened. The L.E.D. display will then return to "READY".

b. Timed (Manual) Drying Cycle

1) L.E.D. display reads "READY" (no cycle in progress).

2) Press [MAN] key.

3) L.E.D. display will now read "ENTER DRY TIME 0 TO 99 MINUTES" (defaults to 0). I.E., for 40 minutes, press key "4", key "0", and then press the "START/ENTER" ▮ key to accept the value.

4) L.E.D. display will now read "ENTER DRY TEMP __ TO __" (defaults to 100° F [38° C]). Enter the temperature desired (from 100° F to 200° F [38° C to 93° C] in one-degree increments). I.E., for 182° F (83° C), press key "1", key "8", key "2", and then press the "START/ENTER" ▮ key to accept the value.

5) L.E.D. display will now read "ENTER COOL DOWN TIME 0 TO 99 MINUTES". I.E., for 10 minutes, press key "1", key "0", and then press the "START/ENTER" ▮ key to accept the value.

6) L.E.D. display will now read "REVERSE MODE" (defaults to ON). The ON/OFF selection can be toggled with the "UP ARROW" ▲ and "DOWN ARROW" ▼ . Once selected, press the "START/ENTER" ▮ key to accept selection.

7) The dryer will now display "PRESS START". Press the "START/ENTER" key to start the dryer. The light emitting diode (L.E.D.) display will read MANUAL DRYING CYCLE, __MINUTES REMAIN.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key; at this time the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the "READY" state.

8) Once the programmed drying time has expired, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Cool Down Cycle (Mode).

9) Once the Cool Down Cycle begins at the end of the heat cycle, the L.E.D. display will read COOL DOWN TEMP ___/___ MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

10) Once the Cool Down Cycle is completed, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Wrinkle Guard Cycle. The Audio Alert tone will sound (for the amount set in Audio Alert On Time). The L.E.D. display will read "CYCLE DONE". The dryer will wait an initial 15 minutes delay before going into a 15-seconds ON, 5 minutes OFF cycle. These times are fixed and are not programmable. During the ON time, the blower (fan) and the basket (tumbler) will start to rotate without heat for 15-seconds, during this time the display will read "WRINKLE GUARD". After the 15-seconds are completed, the display will read "CYCLE DONE" and the dryer will go into a 5 minute OFF cycle. The Phase 7 non-coin microprocessor controller (computer) will repeat this process of 15-seconds "ON" and 5 minutes "OFF" until either the doors are opened, the "STOP/CLEAR" key is pressed, or 99 minutes have elapsed, whichever comes first. Once the 99 minutes have elapsed, the L.E.D. display will then read "CYCLE DONE" and will lock out the dryer functions until the doors are opened. The L.E.D. display will then return to "READY".

B. OPERATING NOTES

1. Steam injection will only operate when the dryer is running.

2. The RPM of the basket (tumbler) can be displayed by pressing and holding the "DOWN ARROW" key while a cycle is in progress. If a cycle has not been started, the display will read CPU Board Voltage Value. (23-26 Volts is normal).

3. The dryer can be stopped at any time by pressing the "STOP/CLEAR" key; at this time the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress will be cancelled and returned to the "READY" state.

4. When programming a Manually Loaded Cycle, if an error is made when making an entry, press the "STOP/CLEAR" key ONCE, and the entry will be cancelled. Reenter the selection. If the selection is entered and an error is made, the "STOP/CLEAR" key will cancel the program and return to "READY" state.

5. Use the "UP ARROW" and the "DOWN ARROW" to scroll through menus or to increase/decrease the number values, or to toggle between choices.

6. In the programming mode, the number keys can be used to jump to menu levels without scrolling through them **ALL**. I.E., from 0 select Model in "DRYER SETUP"; you can jump to menu level five (5). Enter Lint Cleaning Frequency under "DRYER SETUP" by pressing the five (5) key followed by the "START/ENTER" key to accept value. Light emitting diode (L.E.D.) display will read 5:LINT CLEANING FREQUENCY 1 TO 10 HOURS.

7. The basket (tumbler) temperature can be displayed by pressing and holding the "UP ARROW" key.

8. The programmed cycle parameter can be viewed by pressing the "START/ENTER" key followed by the "A-F" key. To view "0-40" cycles, press the "START/ENTER" key, followed by the number desired to view and then the "START/ENTER" key. The viewing can be stopped by pressing the "STOP/CLEAR" key at any time.

C. SENSOR ACTIVATED FIRE EXTINGUISHING (S.A.F.E.) SYSTEM THEORY OF OPERATION

While the dryer is in an idle state, or 20-seconds after the heat turns off, the Phase 7 non-coin microprocessor controller (computer) monitors the thermistor probe located in the top of the basket (tumbler) chamber and records the minimum temperature. If the minimum recorded thermistor probe temperature is greater than 120° F (48° C) and the Phase 7 non-coin microprocessor controller (computer) detects a 50° rise in temperature, this will be the trip point and the S.A.F.E. system routine will activate.

While a drying cycle is in process and the heat has turned on at least once, the Phase 7 non-coin microprocessor controller (computer) monitors the exhaust temperature transducer. If the drying cycle temperature set point is set greater than 160° F (71° C) and the Phase 7 non-coin microprocessor controller (computer) detects an exhaust temperature rise 25° F greater than set point, this will be the trip point and the S.A.F.E. system routine will activate. If set point is below 160° F (71° C) the trip point will be 185° F (85° C).

Once the S.A.F.E. system routine is activated, the Phase 7 non-coin microprocessor controller (computer) will display "S.A.F.E. SYSTEM ACTIVATED" and water will be injected into the basket (tumbler) chamber. Any time water is being injected into the basket (tumbler); the basket (tumbler) drive will turn the load for 1-second every 15-seconds. This process will continue for a minimum of 2 minutes. After the 2 minutes has elapsed, the Phase 7 non-coin microprocessor controller (computer) will check if the temperature remained above trip point, if so water will remain on. The Phase 7 non-coin microprocessor controller (computer) will continue to check if the temperature is above trip point every 30-seconds. If the water has been on for a constant 10 minutes, the water will be turned off regardless of the temperature and the Phase 7 non-coin microprocessor controller (computer) will display "S.A.F.E. SYSTEM WAS ACTIVATED". If the temperature has dropped below trip point, the Phase 7 non-coin microprocessor controller (computer) will turn off the water prior to 10 minutes.

SYSTEM RESET

After the Phase 7 non-coin microprocessor controller (computer) determines that the situation is under control and shuts the water being injected into the basket (tumbler) off, the Phase 7 non-coin microprocessor controller (computer) display will read "S.A.F.E. SYSTEM WAS ACTIVATED", and the horn/tone will sound until reset manually.

To reset the Phase 7 non-coin microprocessor controller (computer) once the Phase 7 non-coin microprocessor controller (computer) displays "S.A.F.E. SYSTEM WAS ACTIVATED", press the red "STOP/CLEAR" key on the keyboard (touch pad).

S.A.F.E. SYSTEM VALVE CHECK

The operation of the water solenoid valve can be tested to ensure that the water supply system and valve are functional. Before attempting a system check, be sure that **ALL** water supply shutoff valves to the dryer are in the OPEN position, and the dryer **must be** in the "READY" mode where no cycle is loaded or in progress.

The procedure is as follows:

1. Press and hold the red "STOP/CLEAR" key (while in "READY" mode and no cycle is in progress).

2. Press and hold the "A" key.

3. Water valve will open and water will be dispensed into basket (tumbler) area as long as both keys are held.

The Phase 7 non-coin microprocessor controller (computer) will prompt the user to perform a Sensor Activated Fire Extinguishing (S.A.F.E.) system valve check at every 4000 hours to ensure proper functionality. At the 4000 hour mark, the Phase 7 non-coin microprocessor controller (computer) will wait for end of the cycle and then will prompt the user to "PLEASE EMPTY TUMBLER, THEN PRESS THE 'STOP/CLEAR' AND 'A' KEYS TO TEST THE WATER VALVE". When the "STOP/CLEAR" and "A" keys are pressed, the Phase 7 non-coin microprocessor controller (computer) will activate the S.A.F.E. system water valve for 2-seconds, at which point the Phase 7 non-coin microprocessor controller (computer) will prompt the user with the following message "IF WATER DID NOT TURN ON, CALL FOR SERVICE. THANK YOU".

NOTE: The Phase 7 non-coin microprocessor controller (computer) **will not** let the user continue until the valve test has been completed.

S.A.F.E. SYSTEM DIAGNOSTICS MESSAGES

In the event that the Phase 7 non-coin microprocessor controller (computer) detects a fault in the S.A.F.E. system, the Phase 7 non-coin microprocessor controller (computer) will display the message "S.A.F.E. SYSTEM DISABLED…READY". To find out the reason for the S.A.F.E. system disabling, press and hold the red "STOP/CLEAR" and green "START/ENTER" keys. This will cause the Phase 7 non-coin microprocessor controller (computer) to display one (1) of the following diagnostic messages:

OPEN THERMISTOR PROBE – This message indicates that the S.A.F.E. system thermistor probe is either not connected or is damaged. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will immediately enter S.A.F.E. SYSTEM DISABLED Mode.

SHORTED THERMISTOR PROBE – This message indicates that the S.A.F.E. system thermistor probe is damaged or the wiring is shorted. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will immediately enter S.A.F.E. SYSTEM DISABLED Mode.

DISCONNECTED WATER VALVE – This indicates that the water valve is open or that it is not connected to the Phase 7 non-coin microprocessor controller (computer). If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

SHORTED WATER VALVE – This indicates the water valve is shorted or the wiring to the valve is shorted. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

WATER NOT CONNECTED – This indicates that there is no water pressure at the water valve. This will occur if water is not connected to the dryer or if there is low water pressure in the water line coming to the dryer. This could also be a defective pressure switch or wiring to the pressure switch. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

When the Sensor Activated Fire Extinguishing (S.A.F.E.) system is disabled, the user can still start a cycle, however when a cycle is started, the Phase 7 non-coin microprocessor controller (computer) will display the following message, "S.A.F.E. SYSTEM IS DISABLED. PRESS 'START' TO CONTINUE". This message will be displayed every time a cycle is started until the disabling condition has been corrected.

SECTION V

L.E.D. DISPLAY MESSAGES

The light emitting diode (L.E.D.) display informs the operator of cycle status and program verification, and also displays important diagnostic messages and fault information.

A. L.E.D. DISPLAY OPERATING STATUS

1. Cycles in Progress

   While the dryer is operating, the L.E.D. display will read which cycle is in progress. I.E., in a Manual Drying Cycle (Mode), the L.E.D. display will read "MANUAL DRYING CYCLE". In the Cool Down Cycle (Mode), the L.E.D. display will read "COOL DOWN TEMP __ , __ MINUTES REMAIN".

2. Cycle Status

   a. While a cycle is in progress, the L.E.D. display will show the progress of the cycle that is being processed.

      1) Automatic Drying Cycle

         a) While a cycle is in progress, the cycle status will display ELAPSED TIME __ MIN. During the Drying Cycle, the Phase 7 non-coin microprocessor controller (computer) monitors the moisture in the load.

      2) Timed (Manual) Drying Cycle

         a) While a cycle is in progress, the cycle status will display __ MINUTES REMAIN.

3. Alternate Display Programs

   a. The basket's (tumbler's) RPM can be displayed by pressing and holding the "DOWN ARROW" ▼ key while a cycle is in progress. If a cycle is not in progress, the board voltage is displayed.

   b. The basket (tumbler) temperature can be displayed by pressing and holding the "UP ARROW" ▲ key at any time.

SECTION VI

PROGRAMMING INSTRUCTIONS

A. INTRODUCTION TO PROGRAMMING

The various program selections are stored in the Phase 7 non-coin microprocessor controller (computer) and are broken down into five (5) categories:

0. Language (ENGLISH, FRANCAIS, ESPANOL, ITALIANO, and DEUTSCH).

1. System Parameters (Dryer Setup, Display Setup, Cool Down Setup, and Wrinkle Guard Setup).

2. Preprogrammed Cycles (Keys "A-F").

   This feature allows the operator to have the six (6) most commonly used cycle selections awaiting the push of a single keyboard (touch pad) entry, to start the dryer.

3. Preprogrammed Cycles ("0-40").

   This feature allows the operator to have an additional forty-one (41) preprogrammed cycle selections. These can be started by selecting the cycle number and pressing the "START/ENTER" key.

4. Default Settings (returns **ALL** programmable parameters to factory default settings).

Both the preprogrammed cycles and the system parameters (programs) have been preprogrammed by the factory with the parameters shown in **Section VII** of this manual. The various program selections for the preprogrammed cycles and system parameters are outlined in **Section III** of this manual.

ALL program changes for the preprogrammed cycles and system parameters (programs) are done through the keyboard (touch pad) selection keys on the front of the control panel.

ENTERING THE PROGRAMMING MODE:

First, make sure that no cycle is in progress and that the light emitting diode (L.E.D.) display reads "READY", and then press the "STOP/CLEAR" key and the "UP ARROW" key at the same time. This will put the Phase 7 non-coin microprocessor controller (computer) into the programming mode.

EXITING THE PROGRAMMING MODE:

The "STOP/CLEAR" key will return you to the previous menu level. Continue to press the "STOP/CLEAR" key until the Phase 7 non-coin microprocessor controller (computer) is completely out of the Programming Mode.

To alter the programming parameters, the operator will locate the parameter (program) that is to be changed. If the change is numerical (i.e., time and/or temperature), the operator will simply enter the numerical value desired. If an error is made, press the "STOP/CLEAR" key ONCE and the incorrect entry that was made will be cancelled. Once the entry is made and the parameter (program) set does not need to be changed, press the "START/ENTER" key, and the Phase 7 non-coin microprocessor controller (computer) will advance to the next program selected.

If the parameter (program) change is a feature change, such as changing the temperature conversion from degrees Fahrenheit (°F) to degrees Celsius (°C) or from "AUTO" (Automatic Drying Cycle – **[Patent No. 4,827,627]**) to "MANUAL" (Timed [Manual] Drying Cycle), the operator will press and hold the "UP ARROW" ▲ or "DOWN ARROW" ▼ key. This will toggle between choices. Once the entry is made, or if the parameter (program) does not need to be changed, press the "START/ENTER" I key and the Phase 7 non-coin microprocessor controller (computer) will advance to the next program selection.

When making numerical changes, please stay within the programming limits shown. If an erroneous entry is made, the Phase 7 non-coin microprocessor controller (computer) will display "ERROR" and ignore the entry made when the "START/ENTER" I key is pressed; it will return to the numerical value previously set.

The Phase 7 non-coin microprocessor controller (computer) allows the operator to scroll through the various parameters (programs) and select the parameter to be changed. At this point, the operator can go to the next Program Location (system parameter) to be changed. If no other programs (parameters) need to be changed, the user can exit the program mode by pressing the "STOP/CLEAR" ◎ key until the Phase 7 non-coin microprocessor controller (computer) is out of the programming mode. The Phase 7 non-coin microprocessor controller (computer) will be returned to the operating mode, and the light emitting diode (L.E.D.) display will read "READY".

PHASE 7.2.2 OPL
PROGRAMMING LOCATIONS

TO ENTER PROGRAMMING MODE PRESS [◎] & [▲] KEYS TOGETHER.

TO EXIT PROGRAMMING MODE PRESS [◎] MULTIPLE TIMES UNTIL DISPLAY RETURNS TO "READY".

0: SELECT LANGUAGE
1: SELECT SYSTEM PARAMETERS
  0: DRYER SETUP
    0: SELECT MODEL
    1: SYSTEM TEMP
    2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
    3: ENTER AUDIO ALERT ON TIMES 0 TO 10
    4: ROTATION SENSOR
    5: BOARD ADDRESS 00 TO ZZ
    6: AUTO CYCLE TIME OUT 0 TO 99 MINUTES
  1: REVERSING SETUP
    0: ENTER SPIN TIME 30 TO 120 SECONDS
    1: ENTER STOP TIME 5 TO 10 SECONDS
  2: WRINKLE GUARD SETUP
    0: WRINKLE GUARD AUDIO ALERT
  3: STEAM INJECTION SETUP
2: PROGRAM A - F CYCLES
  SELECT A - F KEY
  SELECT CYCLE TYPE
  AUTO
  0: REVERSE MODE
  1: ENTER DRY TEMP 160°F (71°C) TO 200°F (94°C) *
  2: ENTER DRYNESS LEVEL
  3: ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
  4: CONTROLLED COOL DOWN
  5: ENTER COOL DOWN TIME 0 TO 99 MINUTES
  6: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
  MANUAL
  0: REVERSE MODE
  1: ENTER DRY TIME 0 TO 99 MINUTES
  2: ENTER DRY TEMP 100°F (38°C) TO 200°F (94°C) *
  3: CONTROLLED COOL DOWN
  4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
  5: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
  6: STEAM INJECTION
3: PROGRAM 0 - 40 CYCLES
  ENTER 0 - 40
  SELECT CYCLE TYPE
  AUTO
  0: REVERSE MODE
  1: ENTER DRY TEMP 160°F (71°C) TO 200°F (94°C) *
  2: ENTER DRYNESS LEVEL
  3: ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
  4: CONTROLLED COOL DOWN
  5: ENTER COOL DOWN TIME 0 TO 99 MINUTES
  6: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
  MANUAL
  0: REVERSE MODE
  1: ENTER DRY TIME 0 TO 99 MINUTES
  2: ENTER DRY TEMP 100°F (38°C) TO 200°F (94°C) *
  3: CONTROLLED COOL DOWN
  4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
  5: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
  6: STEAM INJECTION
4: DEFAULT SETTINGS
  ENTER PASSWORD
  (PRESS "1" "2" "3")
    CONFIRM DEFAULTS

* 160°F (71°C) MAXIMUM TEMP ON AXIAL MODELS

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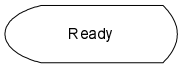
B. PROGRAMMING FLOWCHARTS

The following section of this manual explains the programming of the preprogrammed cycles and Program Locations (system parameters) through the use of flowcharts. A flowchart is a diagram of the programming process.

Four (4) different symbols will be used in the flowcharts:

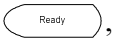
display symbol 

key symbol 


START/ENTER


STOP/CLEAR

Each display symbol will represent a readout on the Phase 7 non-coin microprocessor controller (computer) light emitting diode (L.E.D.) display, and each key symbol will represent a key that is pressed. For example:

1. If the flowchart shows the symbol 

, the Phase 7 non-coin microprocessor controller (computer) L.E.D. display will read the same.
2. If the flowchart shows the symbol  , press that specific key on the keyboard (touch pad) label.
3. This symbol  represents “STOP/CLEAR”.
4. This symbol  represents “START/ENTER”.
   a. The flowchart arrows (i.e., ⟶) represents the program path.
   b. On the sides of the flowcharts are explanations of the flowchart procedure, and in some cases, the programming limits.

Listed below is an index of the flowcharts on the following pages.

Flowchart Titles

PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) MENU PROGRAMMING PROCEDURE

EVERY INDENTED STEP REPRESENTS THE "START/ENTER" KEY BEING PRESSED TO SELECT A MENU ITEM. EVERY MESSAGE WITH A NUMBER BEFORE IT INDICATES THAT IT IS A MENU SELECTION CHOICE. EVERY MESSAGE WITHOUT A NUMBER BEFORE IT INDICATES THAT IT IS THE LAST MENU LEVEL.

I.E. MENU FLOW

FROM **("1: SELECT SYSTEM PARAMETERS")**
PRESSING **"START/ENTER"** PUTS YOU AT **(0: DRYER SETUP)**
PRESSING **"UP ARROW"** PUTS YOU AT **(1: COOL DOWN SETUP)**
PRESSING **"DOWN ARROW"** PUTS YOU BACK AT **(0: DRYER SETUP)**

PROGRAMMING MODE:

ENTERING:

MUST BE IN THE "READY" STATE.
PRESS "STOP/CLEAR" AND "UP ARROW" KEY SIMULTANEOUSLY.
(THIS WILL GET YOU INTO THE PROGRAMMING MODE.)

EXITING:

PRESS THE "STOP/CLEAR" KEY REPEATEDLY UNTIL THE PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) IS BACK TO THE "READY" DISPLAY. THE "STOP/CLEAR" KEY WILL BRING YOU BACK ONE MENU LEVEL AT A TIME. AT THE FIRST MENU LEVEL, IT WILL EXIT THE PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) FROM THE PROGRAMMING MODE AND RETURN TO THE "READY" STATE.

NOTES:

THE "UP ARROW" AND THE "DOWN ARROW" KEYS ARE USED TO SCROLL UP AND DOWN A MENU SELECTION.

THE NUMBER KEYS CAN ALSO BE USED TO BRING THE PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) DIRECTLY TO A KNOWN MENU ITEM. PRESS THE NUMBER OF THE DESIRED CYCLE, FOLLOWED BY THE "START/ENTER" KEY, TO ENTER THE MENU CHOICE ASSIGNED TO THE NUMBER SELECTED.

0: SELECT LANGUAGE
ENGLISH
FRANCAIS
ESPANOL
ITALIANO
DEUTSCH

1: SELECT SYSTEM PARAMETERS

0: DRYER SETUP

0: SELECT MODEL
GAS REVERSING
ELECTRIC REVERSING
STEAM REVERSING

GAS NON-REVERSING
ELECTRIC NON-REVERSING
STEAM NON-REVERSING

1: SYSTEM TEMP
DEG F
DEG C
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
3 (3 = DEFAULT VALUE)
3: ENTER AUDIO ALERT ON TIMES 0 TO 10
5 (5 = DEFAULT VALUE)
4: ENTER ROTATION SENSOR ON/OFF (ON = DEFAULT VALUE)

5: BOARD ADDRESS 00 TO ZZ.

6: AUTO CYCLE TIME OUT 0 TO 99 MINUTES 60 (60 = DEFAULT VALUE)

1: REVERSING SETUP

0: ENTER SPIN TIME 30 TO 120 SECONDS
60 SEC (60 = DEFAULT VALUE)
1: ENTER STOP TIME 5 TO 10 SECONDS
5 SEC (5 = DEFAULT VALUE)

2: WRINKLE GUARD SETUP

0: WRINKLE GUARD AUDIO ALERT
AUDIO ALERT ON
AUDIO ALERT OFF

3: STEAM INJECTION SETUP

0: ENTER ON TIME
10:00 = DEFAULT
1: ENTER OFF TIME
(1-SECOND ABOVE ON TIME – DEFAULT)

2: PROGRAM “A-F” CYCLE

SELECT “A-F” KEY
* (“*” DISPLAY THE LETTER CHOSEN. DEFAULTS TO “A”)
SELECT CYCLE TYPE
* (“*” DISPLAY THE CYCLE TYPE “AUTO” or “MANUAL”)

AUTO

0: REVERSE MODE
ON
OFF
1: ENTER DRY TEMP 160° F TO 200° F (71° C TO 93° C)
*** F (“***” = THE DEFAULT DRY TEMP FOR THAT CYCLE)
2: ENTER DRYNESS LEVEL FINISH, DRY, EXTRA DRY
*** % (“***” = THE DEFAULT DRY LEVEL FOR THAT CYCLE)
3: ENTER CYCLE ADJUSTMENT LEVEL 0 TO 99
(75 = DEFAULT)
4: ENTER CONTROLLED COOL DOWN
(OFF = DEFAULT VALUE)
5: ENTER COOL DOWN TIME 0 TO 90 MINUTES
(4 = DEFAULT VALUE)
6: ENTER COOL DOWN TEMPERATURE 70° F TO 100° F (21° C TO 38° C)
(80 = DEFAULT VALUE)

MANUAL

0: REVERSE MODE
ON
OFF
1: ENTER SPIN TIME 30 TO 120-SECONDS
*** SEC (60 = THE DEFAULT TIME FOR THAT CYCLE)
ENTER STOP TIME 5 TO 10-SECONDS
*** SEC (5 = THE DEFAULT TIME FOR THAT CYCLE)
2: ENTER DRY TEMP 100° F TO 200° F (38° C TO 93° C)
*** F (“***” = THE DEFAULT DRY TEMP FOR THAT CYCLE)
ENTER CONTROLLED COOL DOWN ON OR OFF
(OFF = DEFAULT)
3: ENTER DRY TIME 0 TO 99 MINUTES
** MIN (0 = THE DEFAULT MINUTES FOR THAT CYCLE)
4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
** MIN (4 = THE DEFAULT TIME FOR THAT CYCLE)
5: ENTER COOL DOWN TEMP 70° F TO 100° F (21° F TO 38° C)
*** F (100 = THE DEFAULT TEMP FOR THAT CYCLE)
6: ENTER STEAM INJECTION ON OR OFF
(OFF = DEFAULT VALUE)

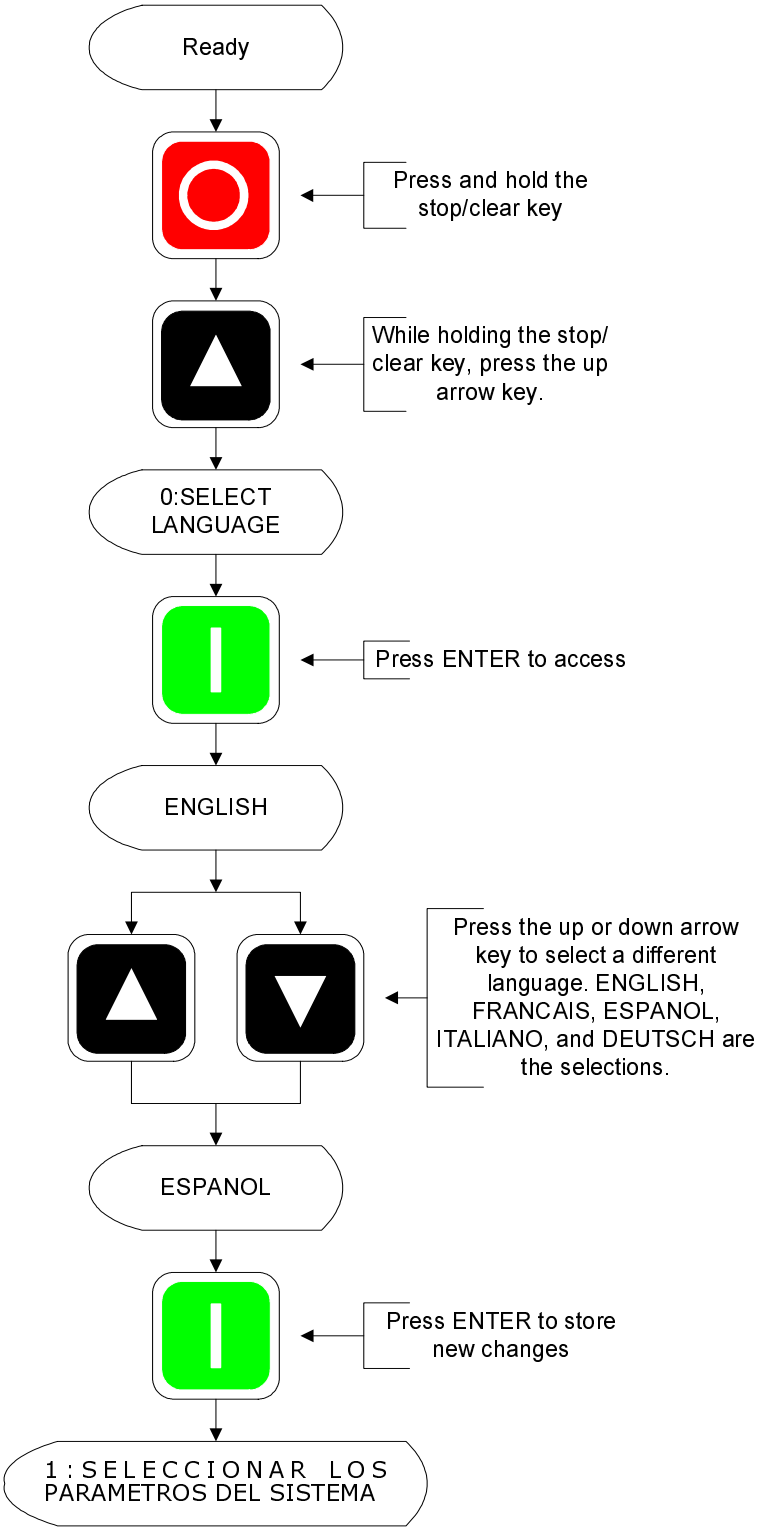
3: PROGRAM “0-40” CYCLE

1: SEE 2: PROGRAM “A-F” CYCLE

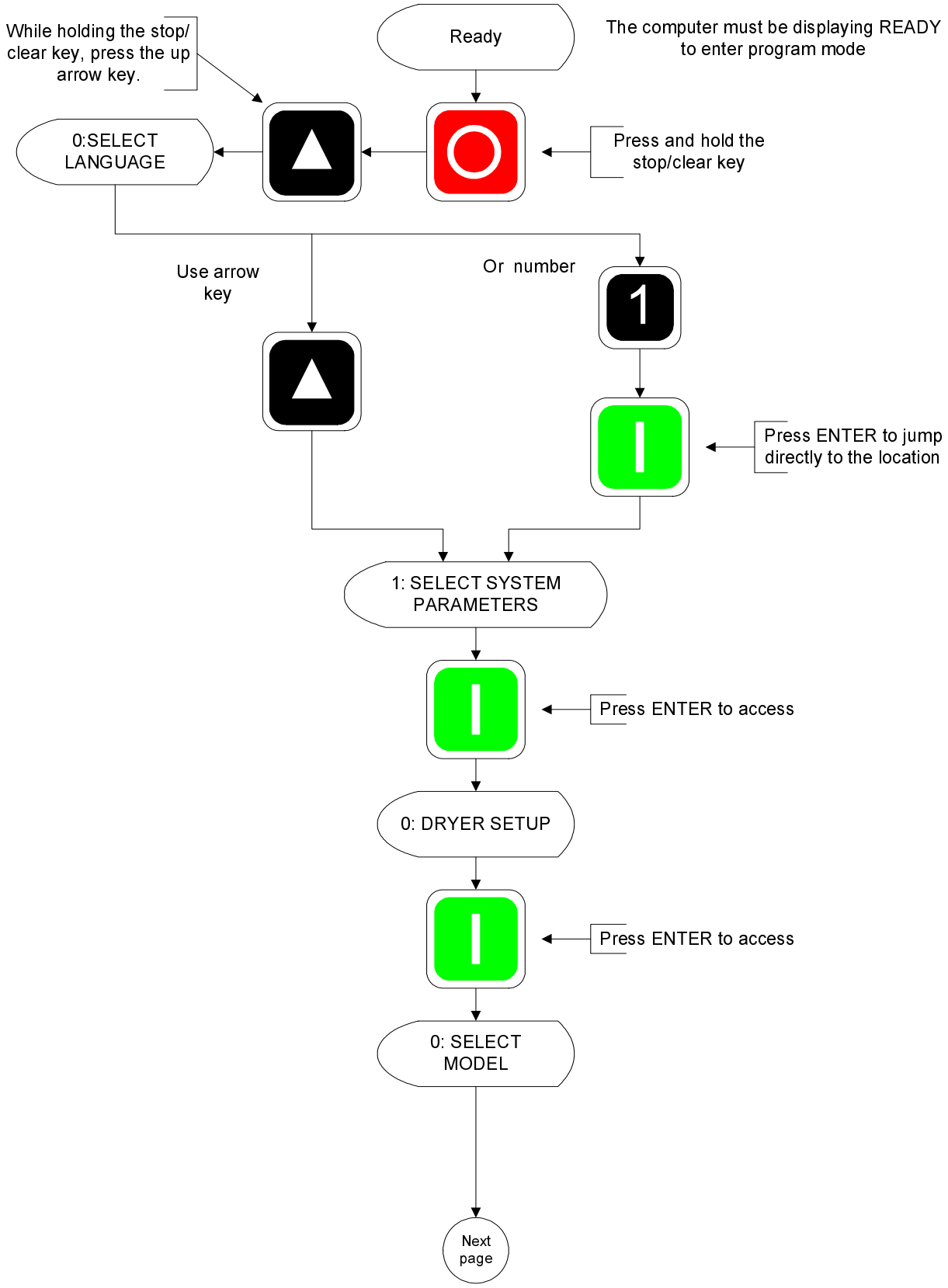
4: DEFAULT SETTINGS

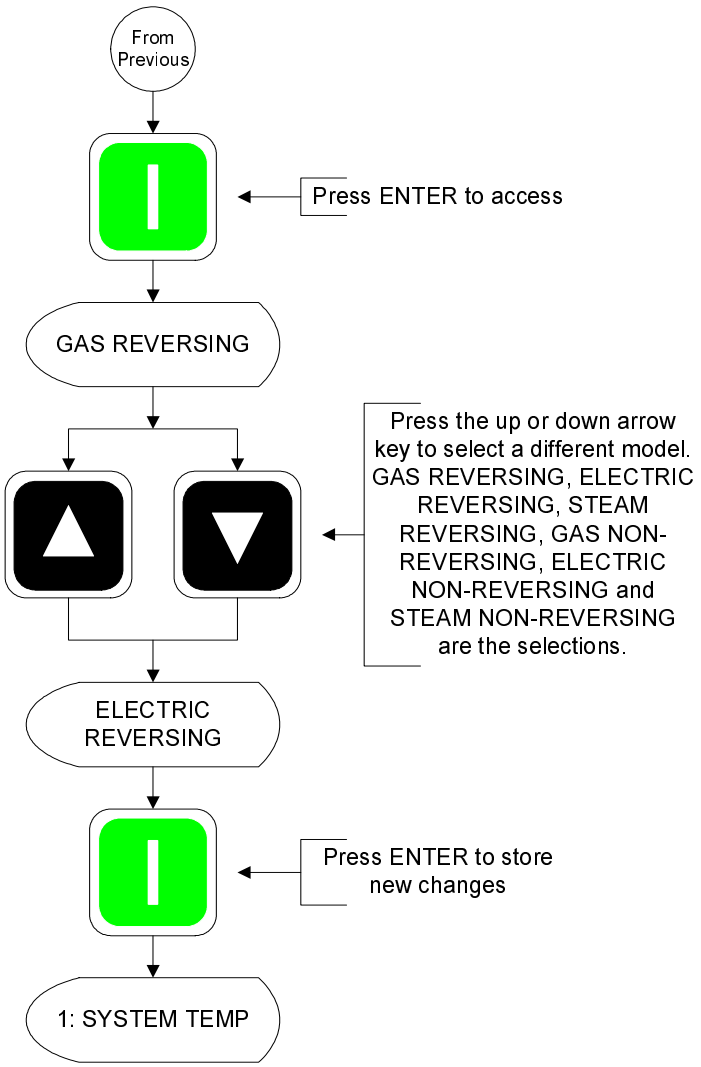
ENTER PASSWORD
(PRESS “1” “2” “3”)
CONFIRM DEFAULTS
NO (DEFAULT VALUE)
YES

Selecting Languages

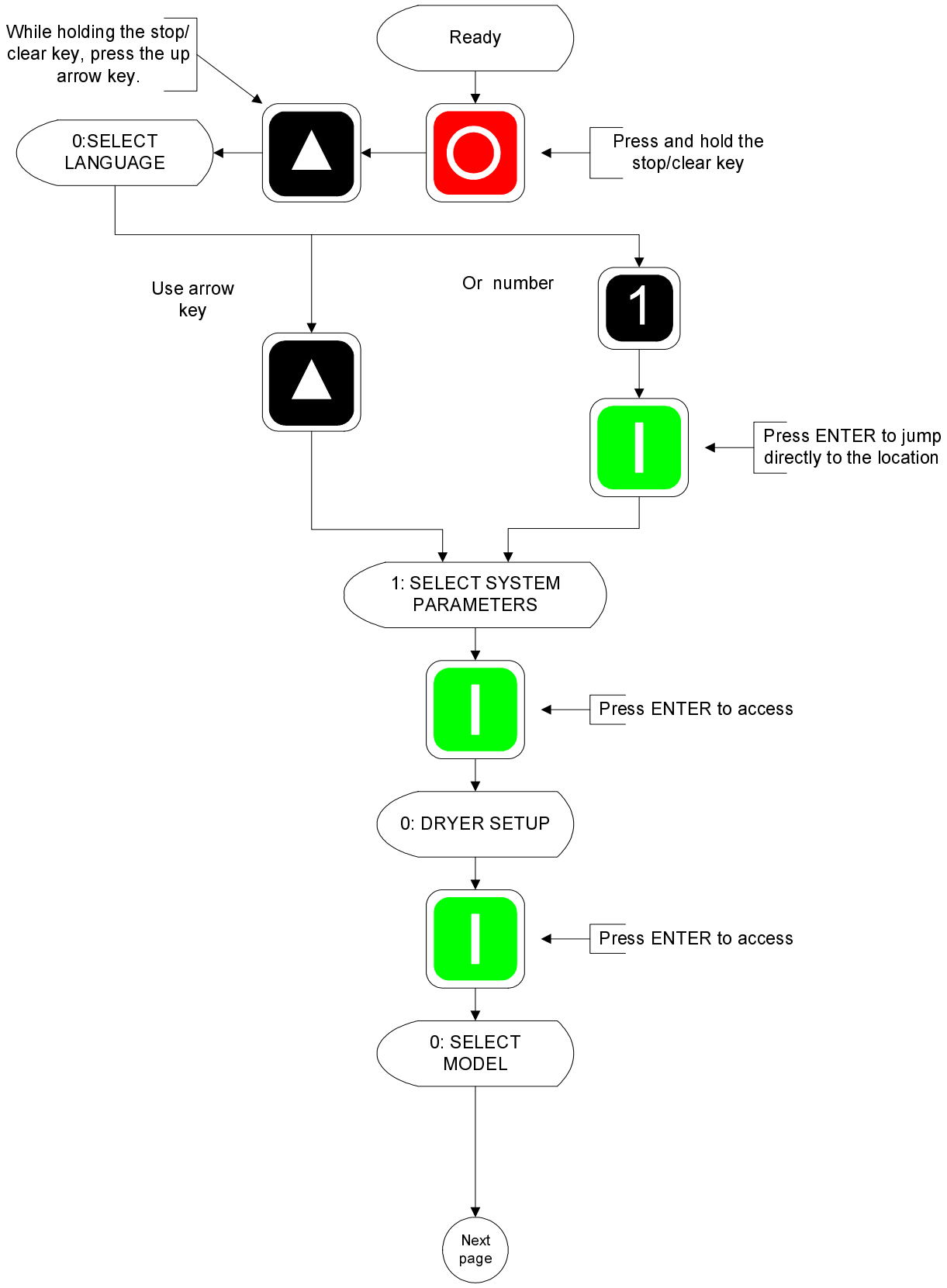


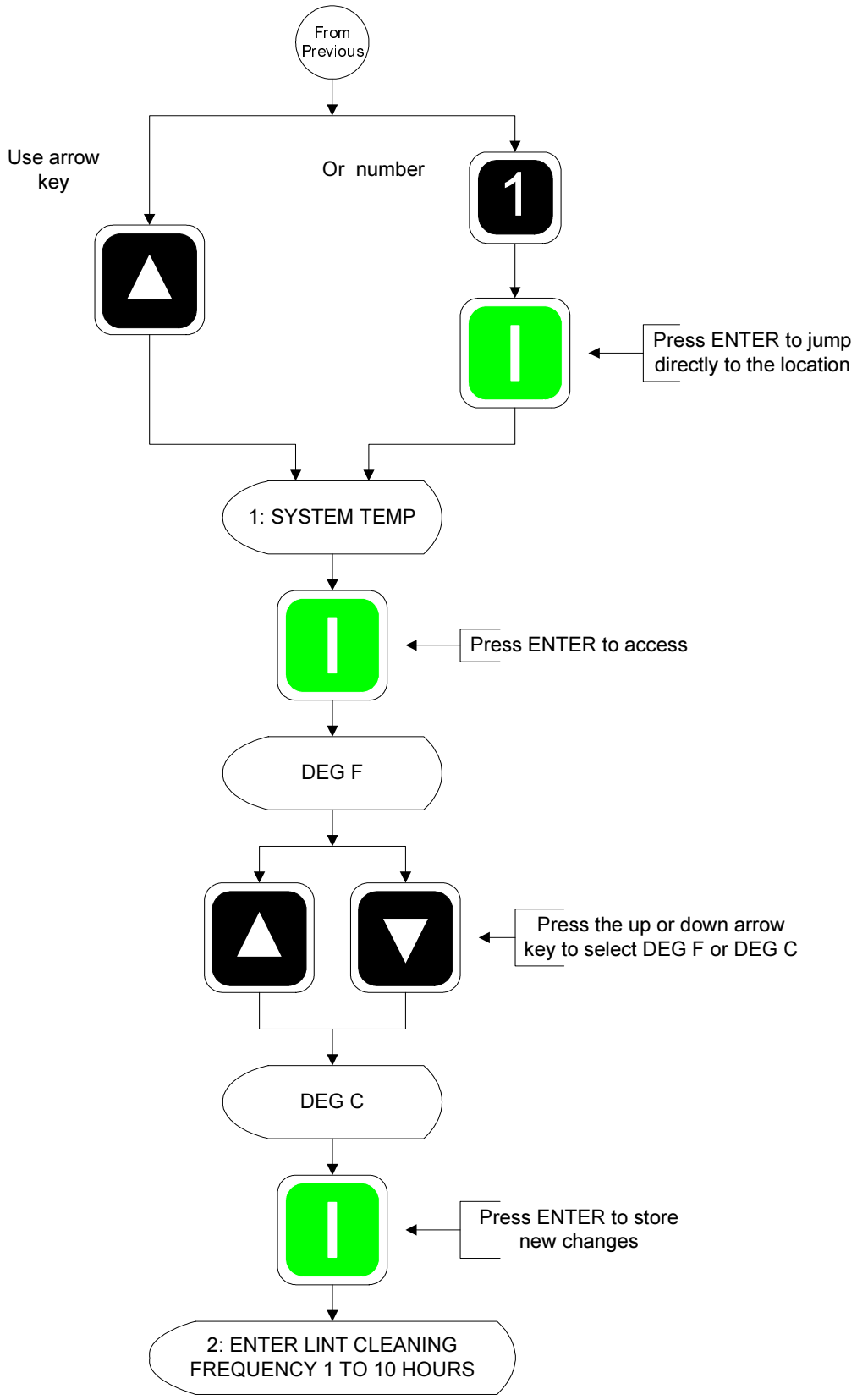
Selecting a Dryer Model



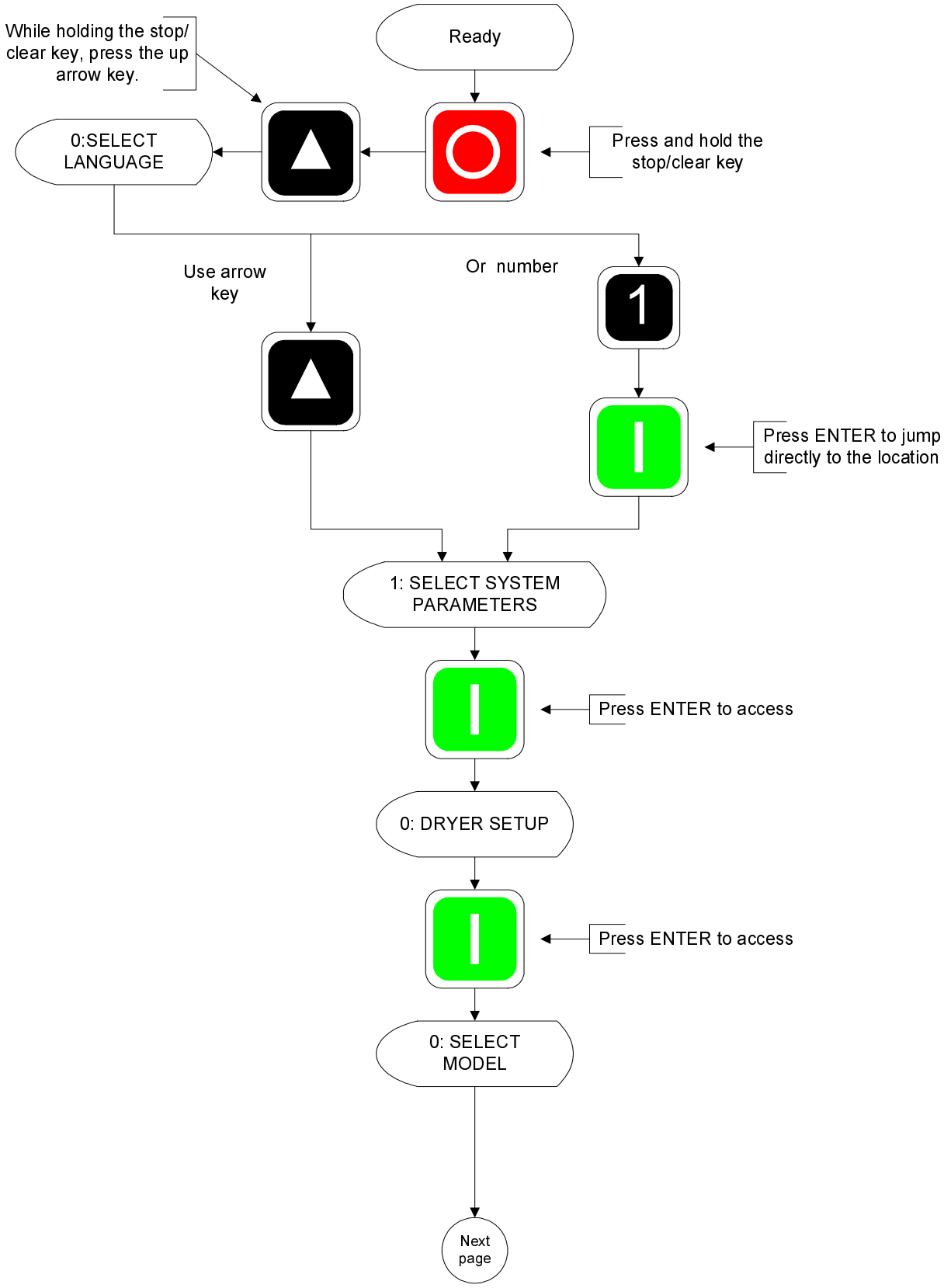

From Previous
Press ENTER to access
GAS REVERSING
Press the up or down arrow key to select a different model. GAS REVERSING, ELECTRIC REVERSING, STEAM REVERSING, GAS NON-REVERSING, ELECTRIC NON-REVERSING and STEAM NON-REVERSING are the selections.
ELECTRIC REVERSING
Press ENTER to store new changes
1: SYSTEM TEMP

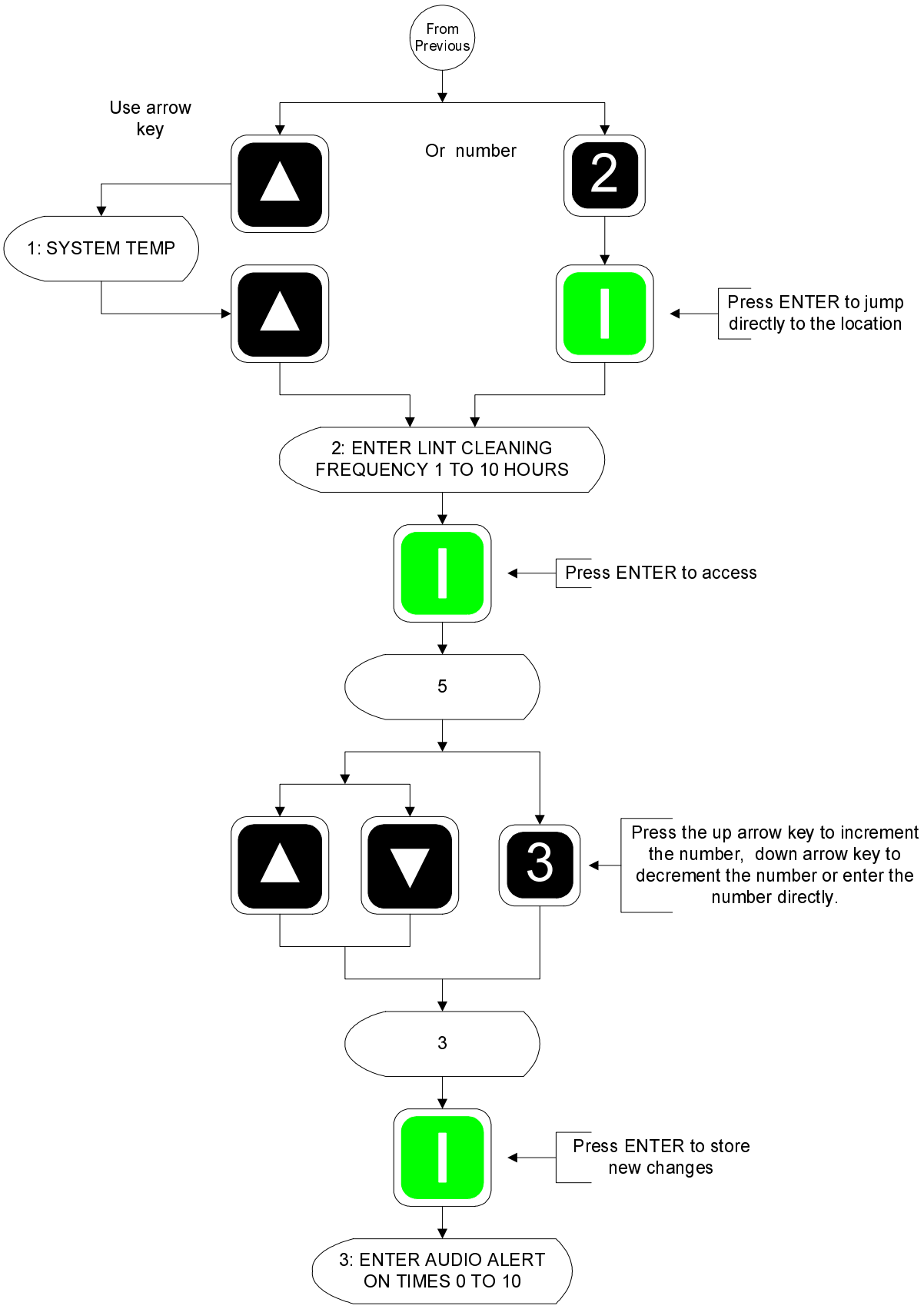
Selecting the System Temperature



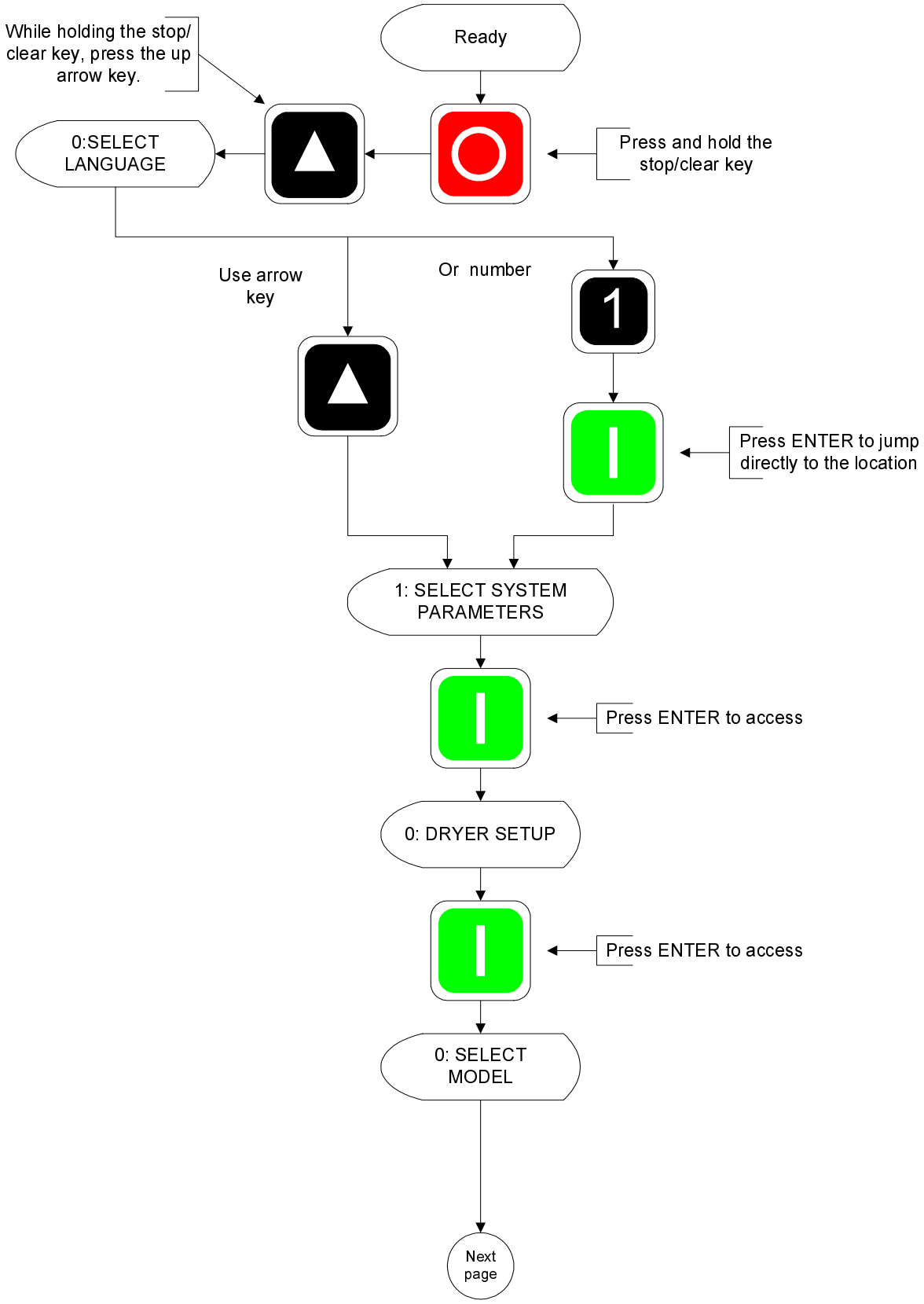

From Previous
Use arrow key
Or number
1
Press ENTER to jump directly to the location
1: SYSTEM TEMP
Press ENTER to access
DEG F
Press the up or down arrow key to select DEG F or DEG C
DEG C
Press ENTER to store new changes
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS

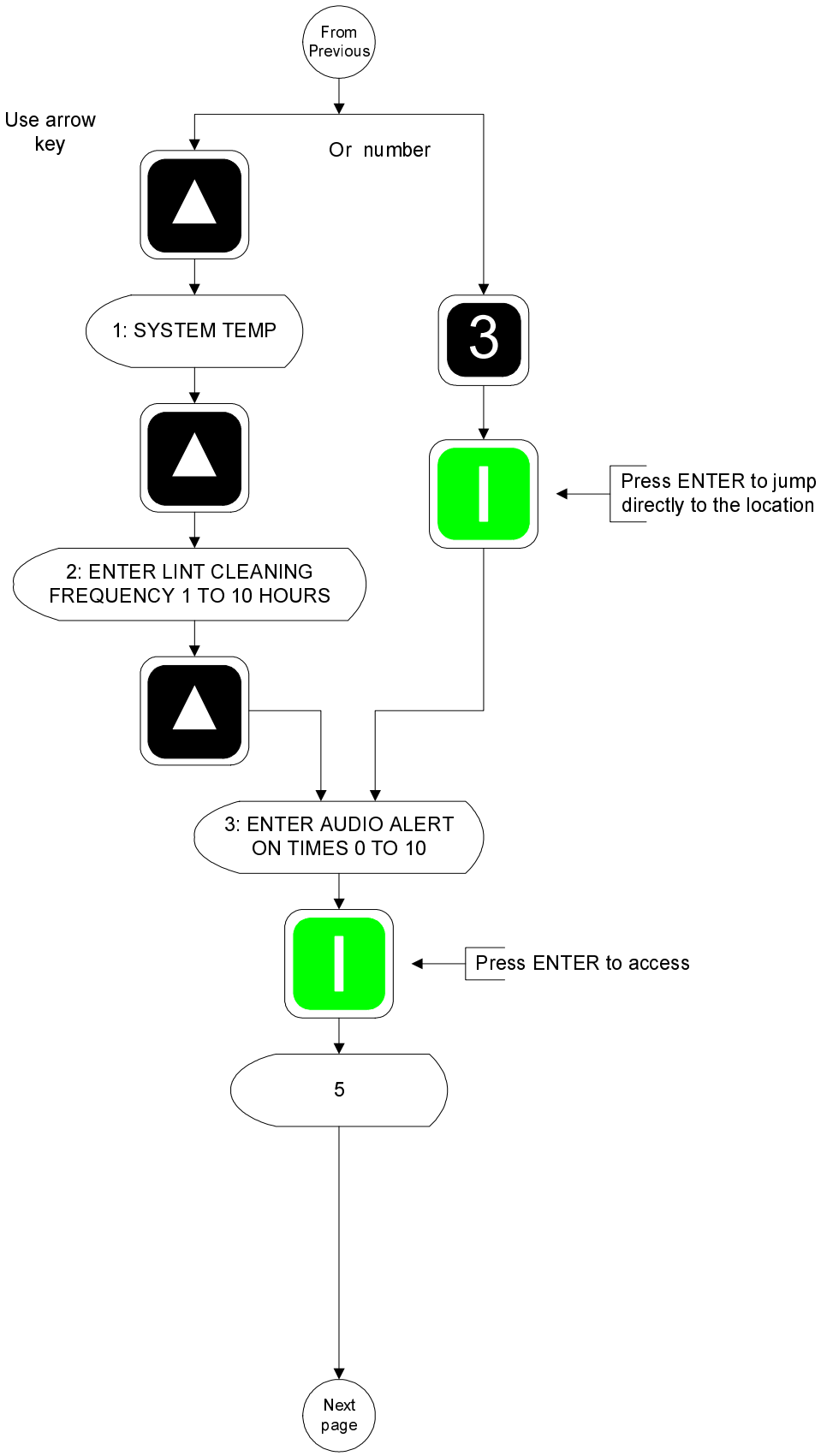
Setting the Lint Cleaning Frequency

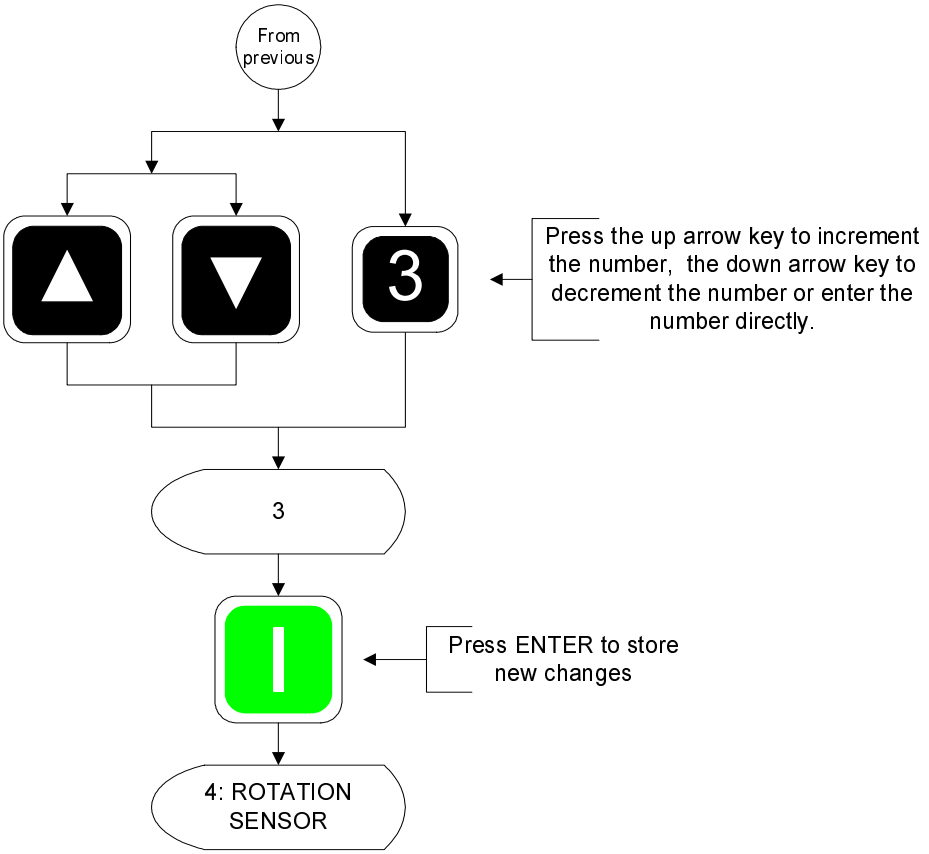



From Previous
Use arrow key
Or number
2
1: SYSTEM TEMP
Press ENTER to jump directly to the location
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
Press ENTER to access
5
3
Press the up arrow key to increment the number, down arrow key to decrement the number or enter the number directly.
3
Press ENTER to store new changes
3: ENTER AUDIO ALERT ON TIMES 0 TO 10

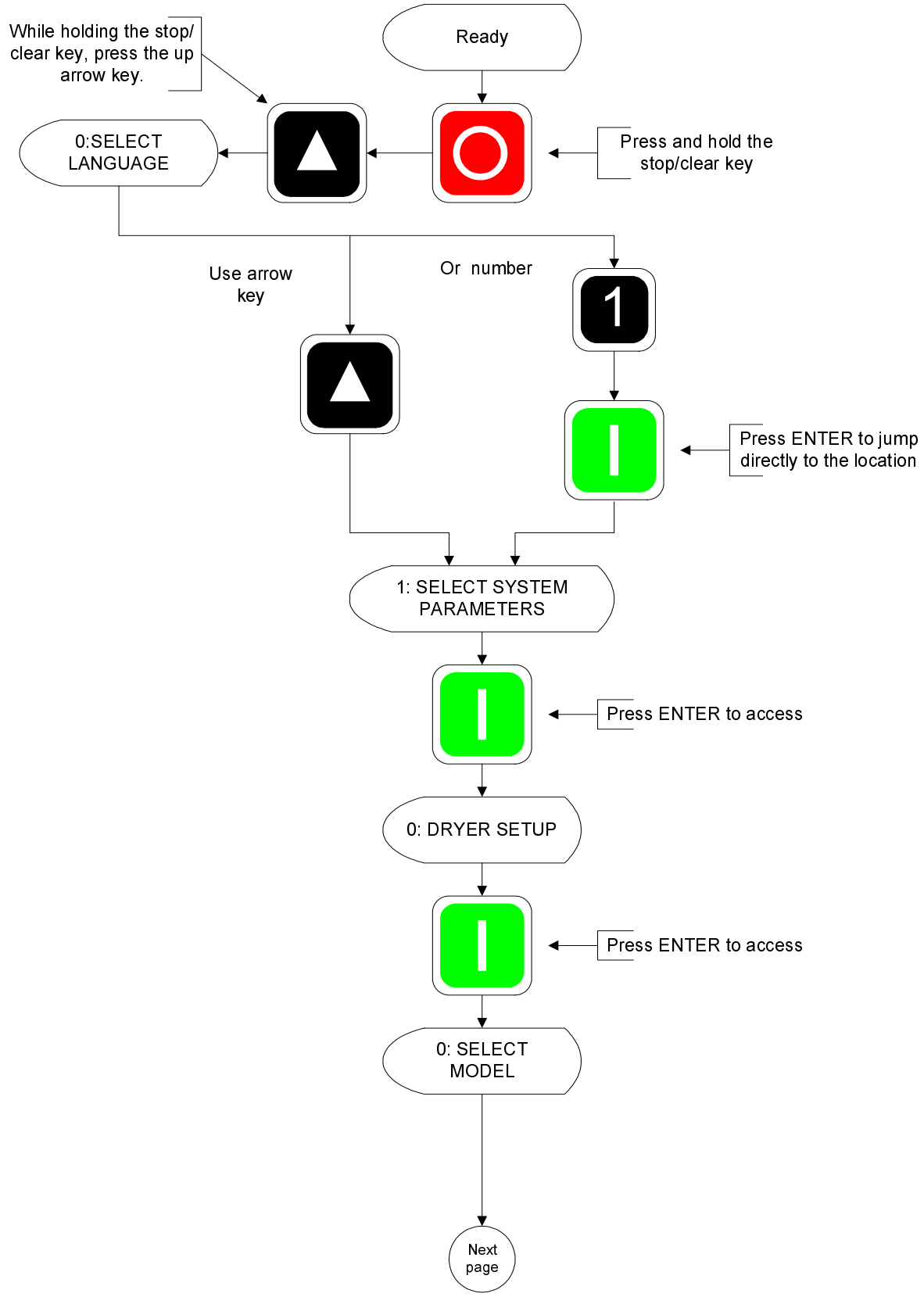
Adjusting the Audio Alert On times

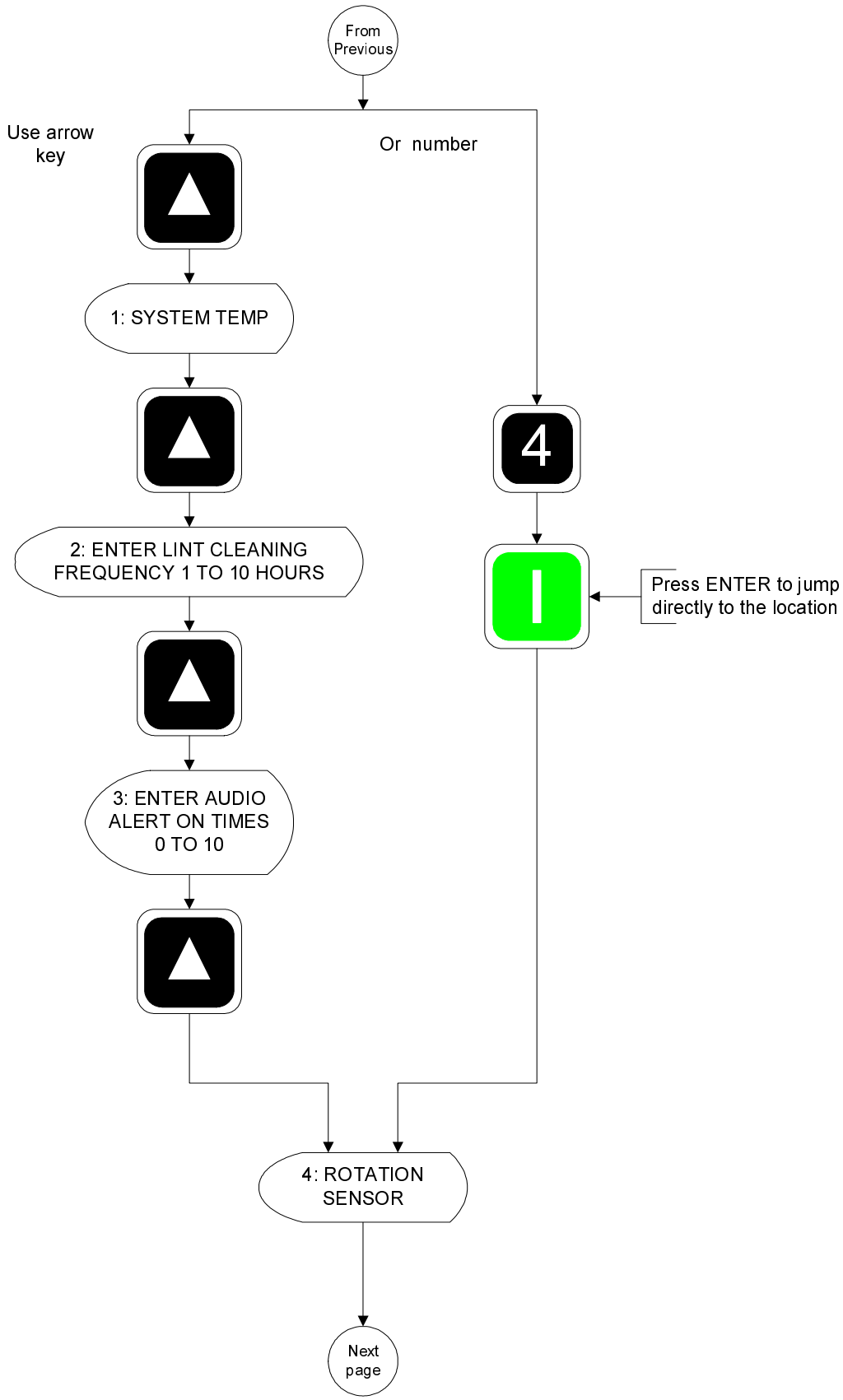


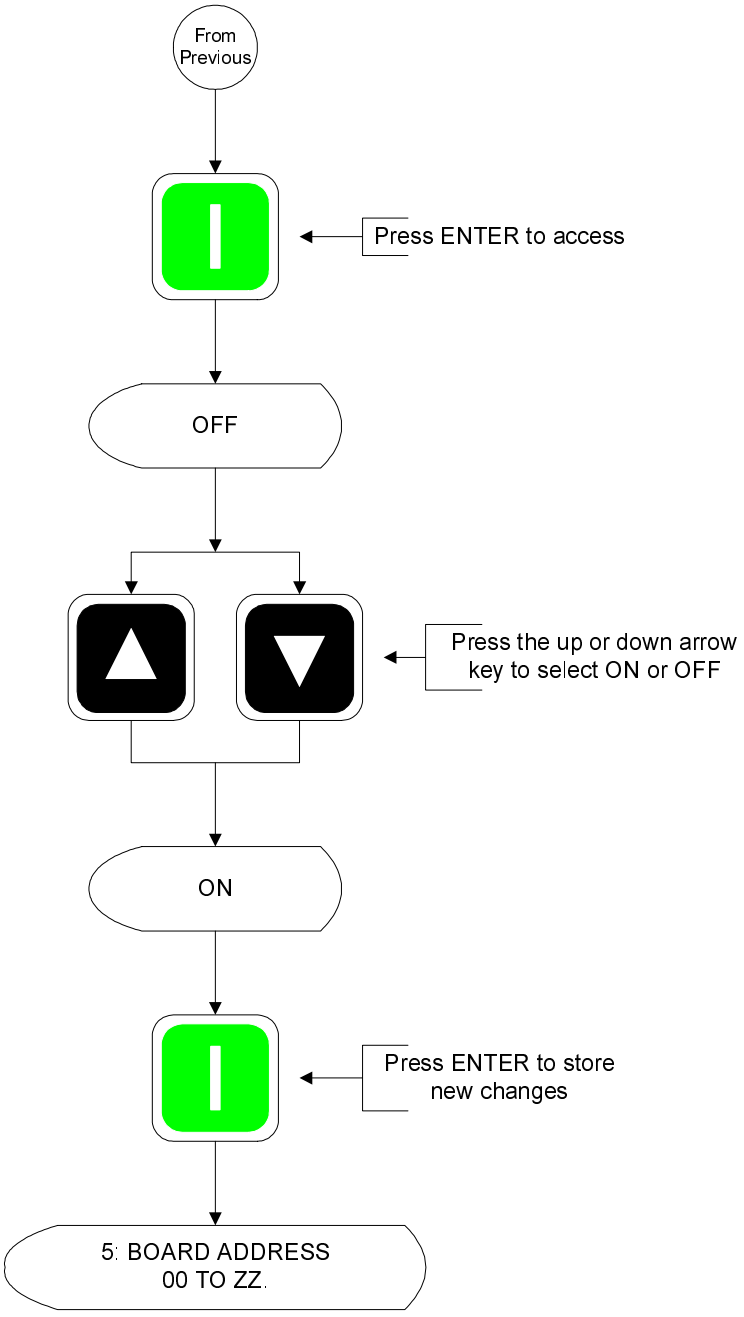

From Previous
Use arrow key
Or number
1: SYSTEM TEMP
3
Press ENTER to jump directly to the location
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
3: ENTER AUDIO ALERT ON TIMES 0 TO 10
Press ENTER to access
5
Next page


From previous
3
Press the up arrow key to increment the number, the down arrow key to decrement the number or enter the number directly.
3
Press ENTER to store new changes
4: ROTATION SENSOR

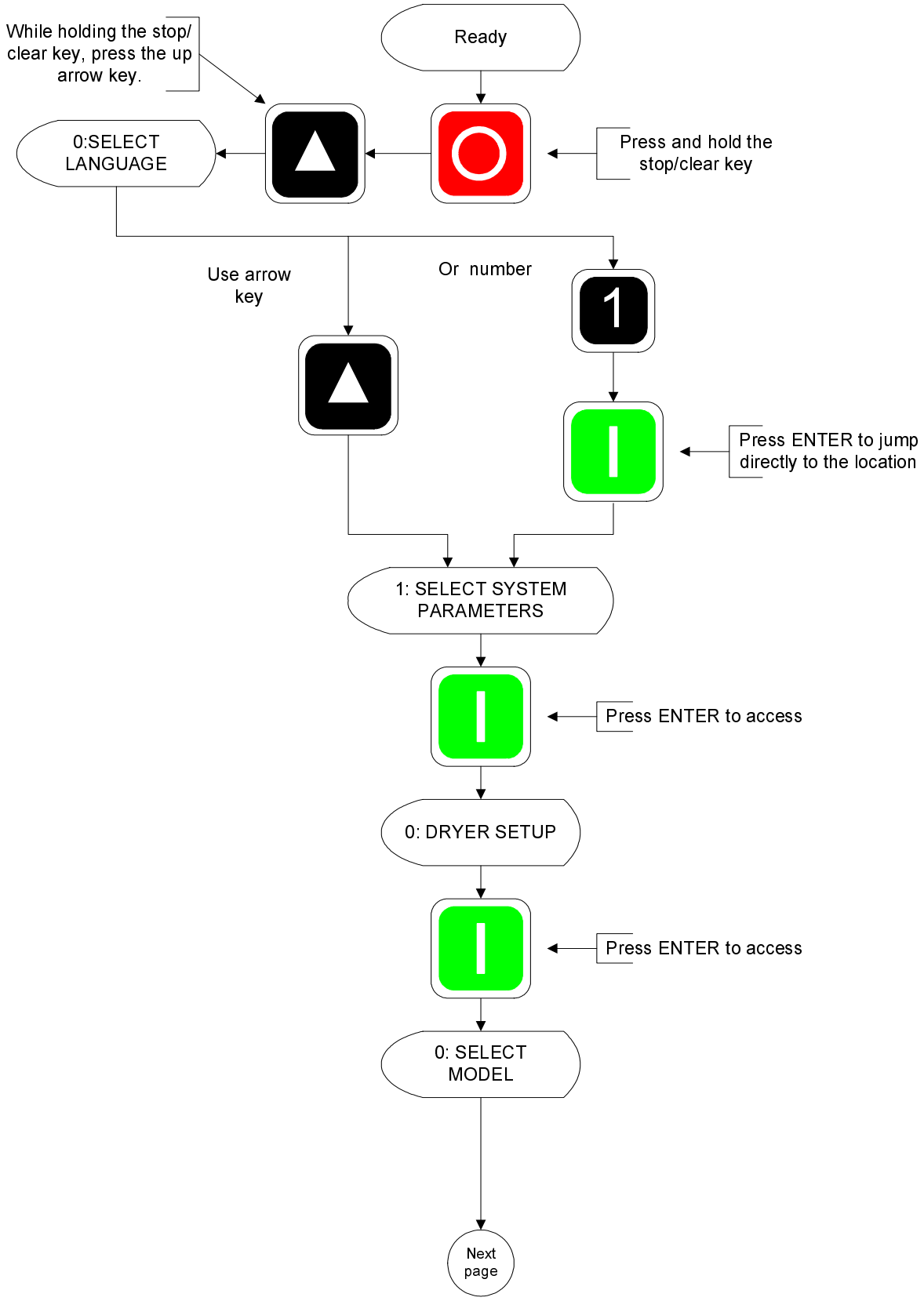
Rotation Sensor

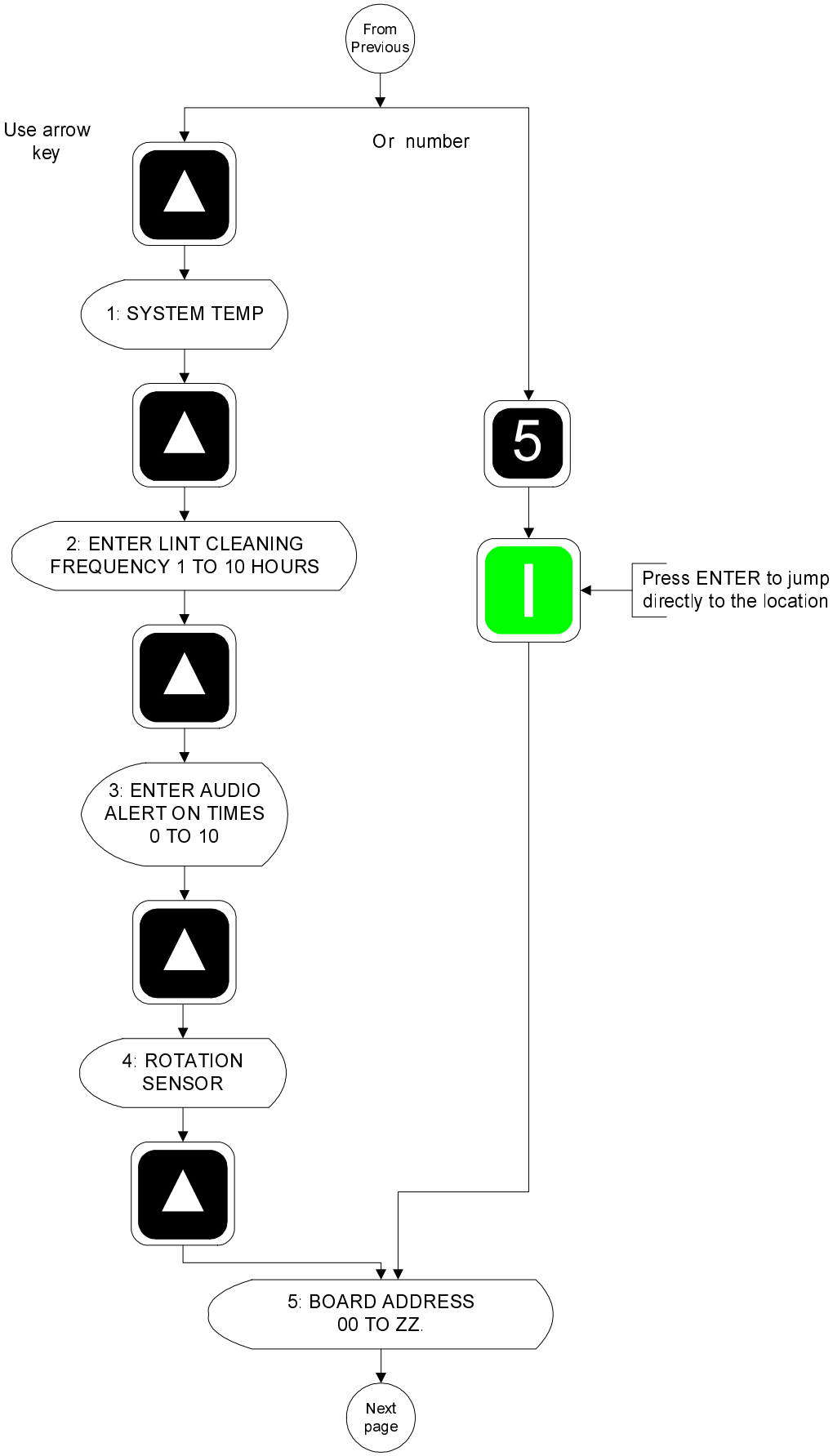


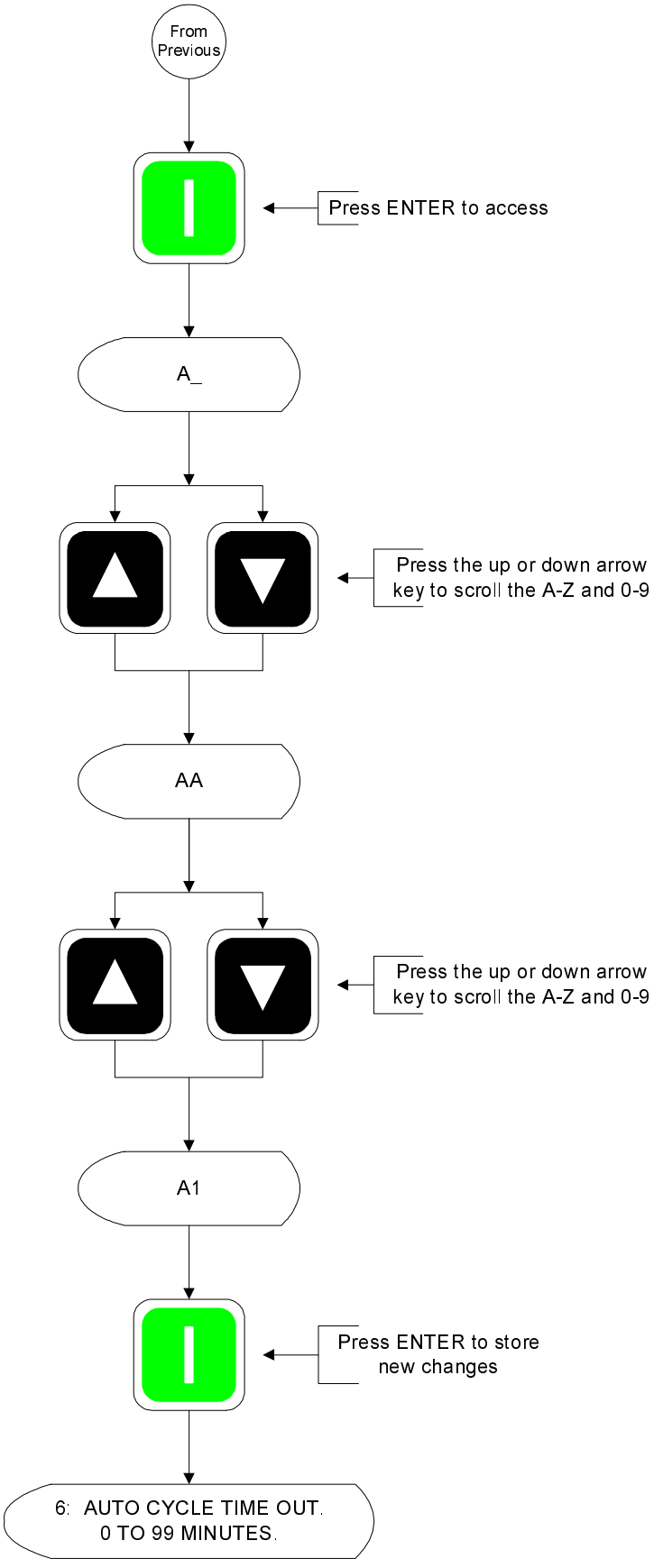

From Previous
Use arrow key
Or number
1: SYSTEM TEMP
4
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
Press ENTER to jump directly to the location
3: ENTER AUDIO ALERT ON TIMES 0 TO 10
4: ROTATION SENSOR
Next page


From Previous
Press ENTER to access
OFF
Press the up or down arrow key to select ON or OFF
ON
Press ENTER to store new changes
5: BOARD ADDRESS 00 TO ZZ.

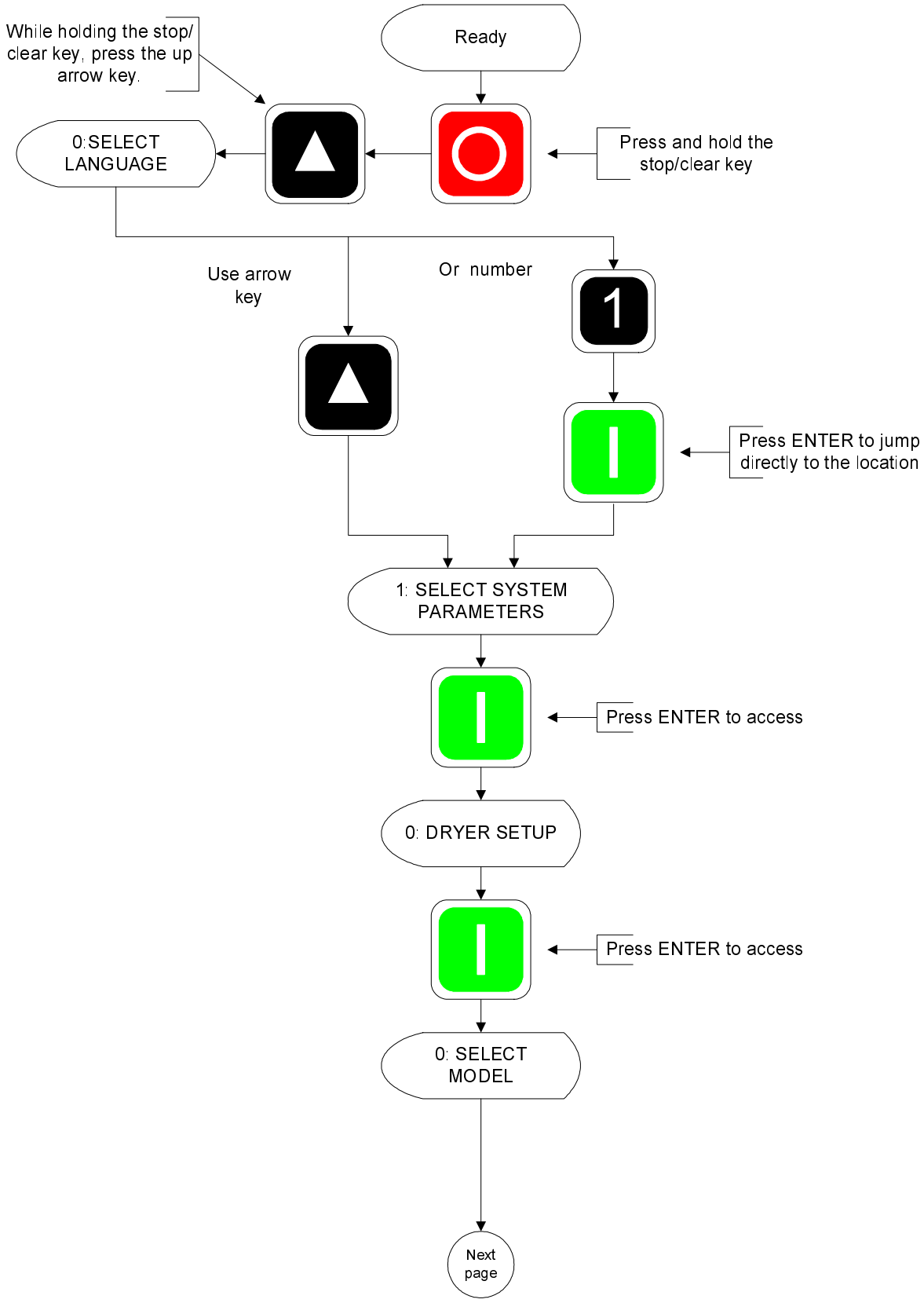
Dryer Address

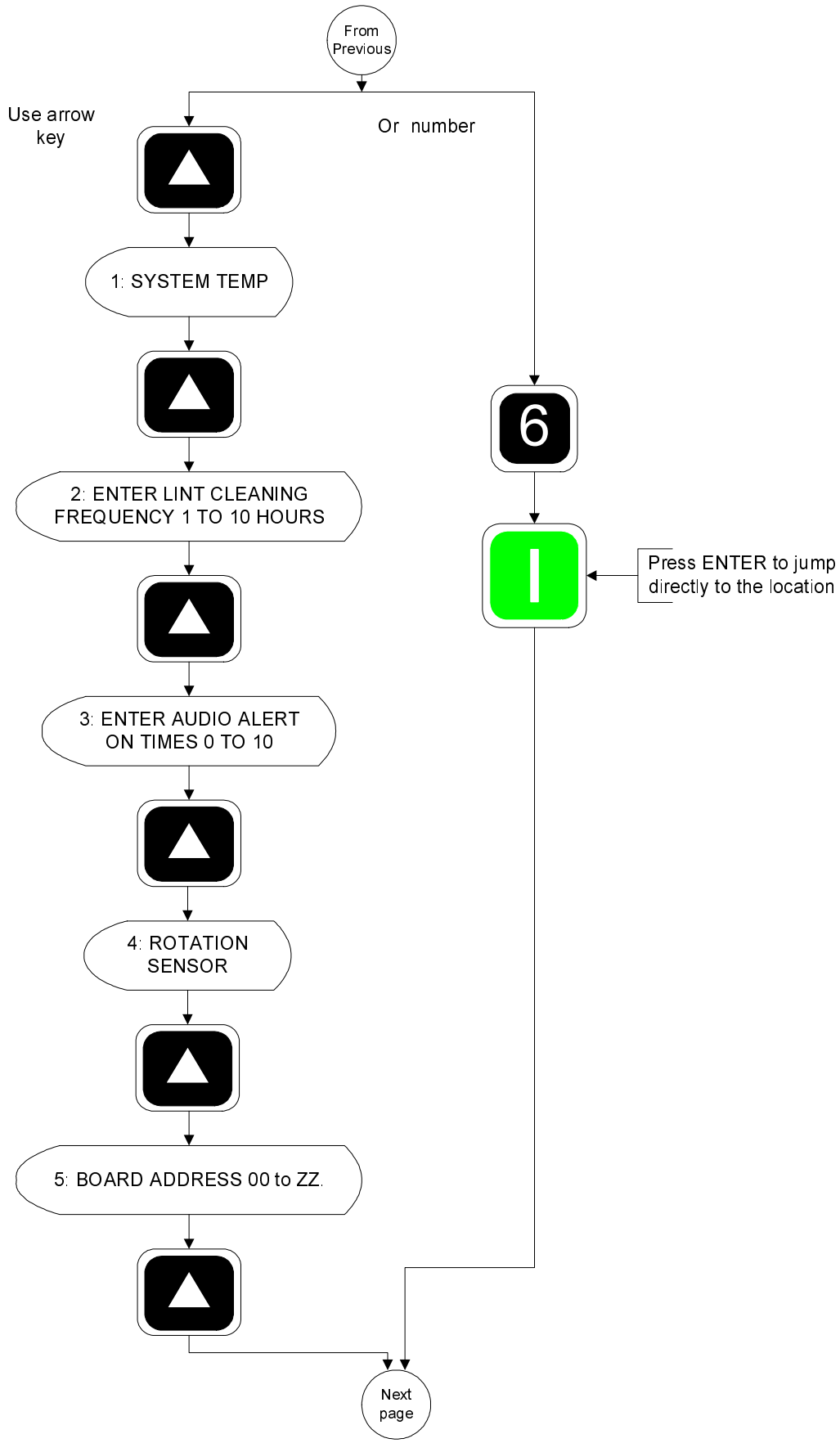


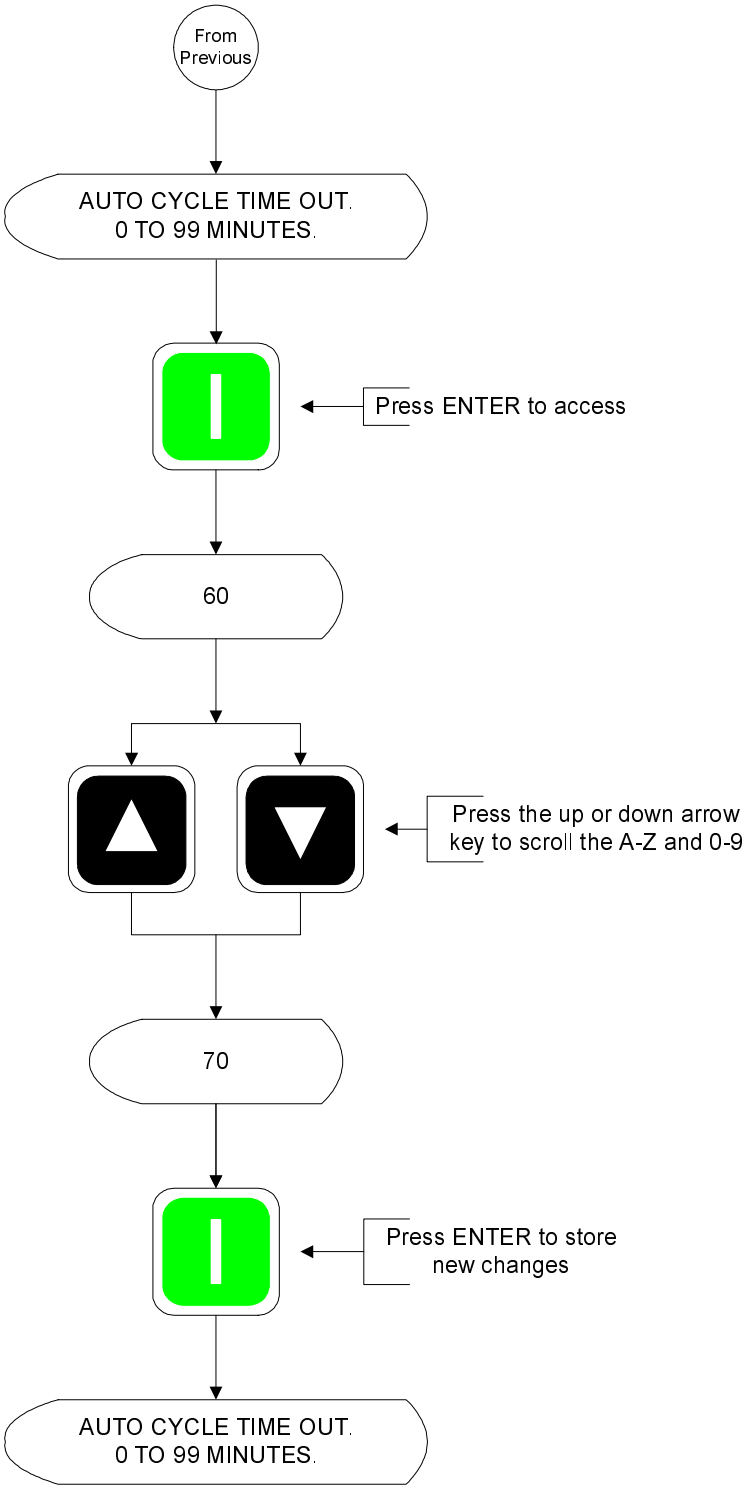

From Previous
Use arrow key
Or number
1: SYSTEM TEMP
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
3: ENTER AUDIO ALERT ON TIMES 0 TO 10
4: ROTATION SENSOR
5
Press ENTER to jump directly to the location
5: BOARD ADDRESS 00 TO ZZ.
Next page


From Previous
Press ENTER to access
A_
Press the up or down arrow key to scroll the A-Z and 0-9
AA
Press the up or down arrow key to scroll the A-Z and 0-9
A1
Press ENTER to store new changes
6: AUTO CYCLE TIME OUT. 0 TO 99 MINUTES.

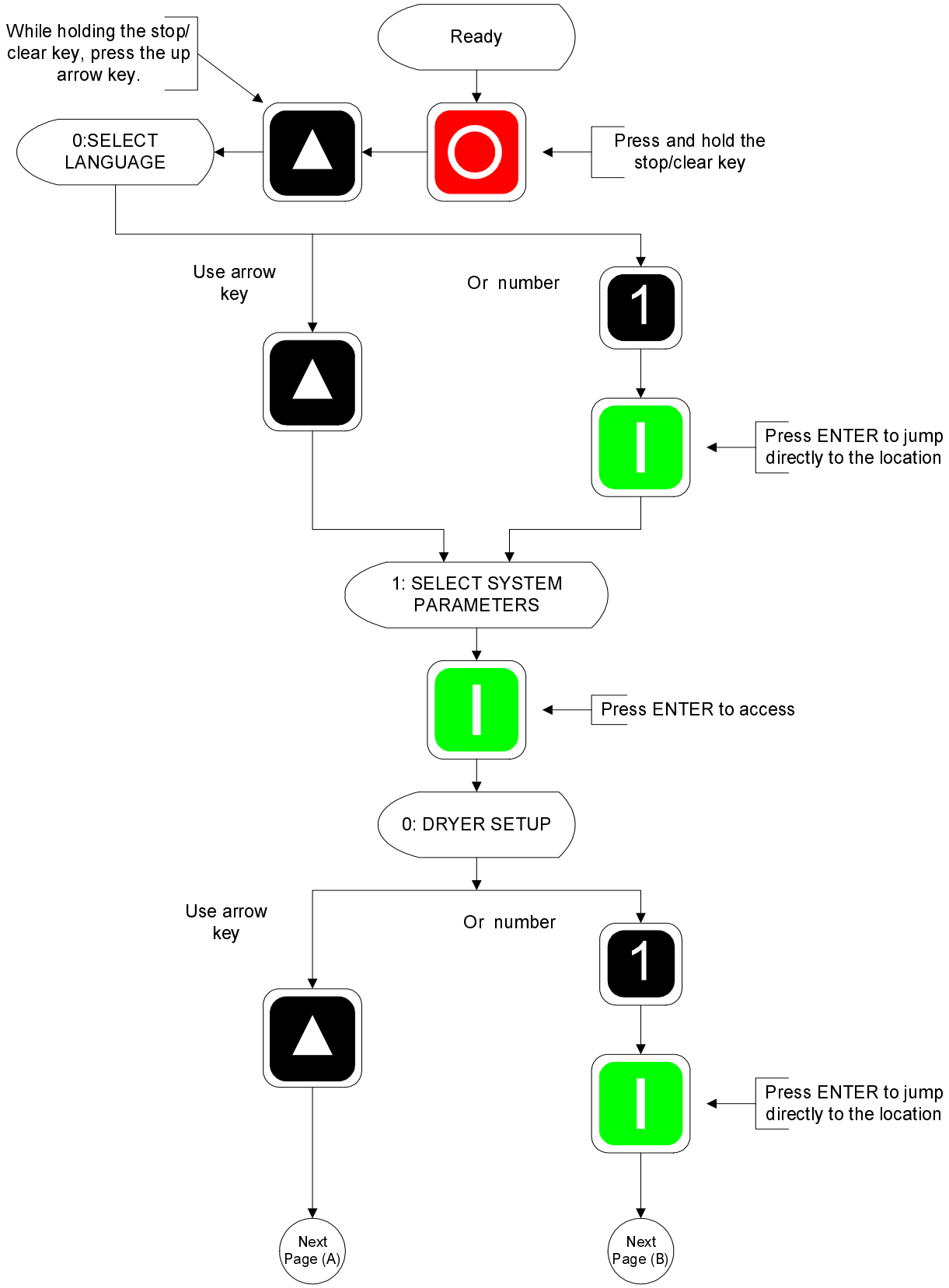
Auto Cycle Time Out

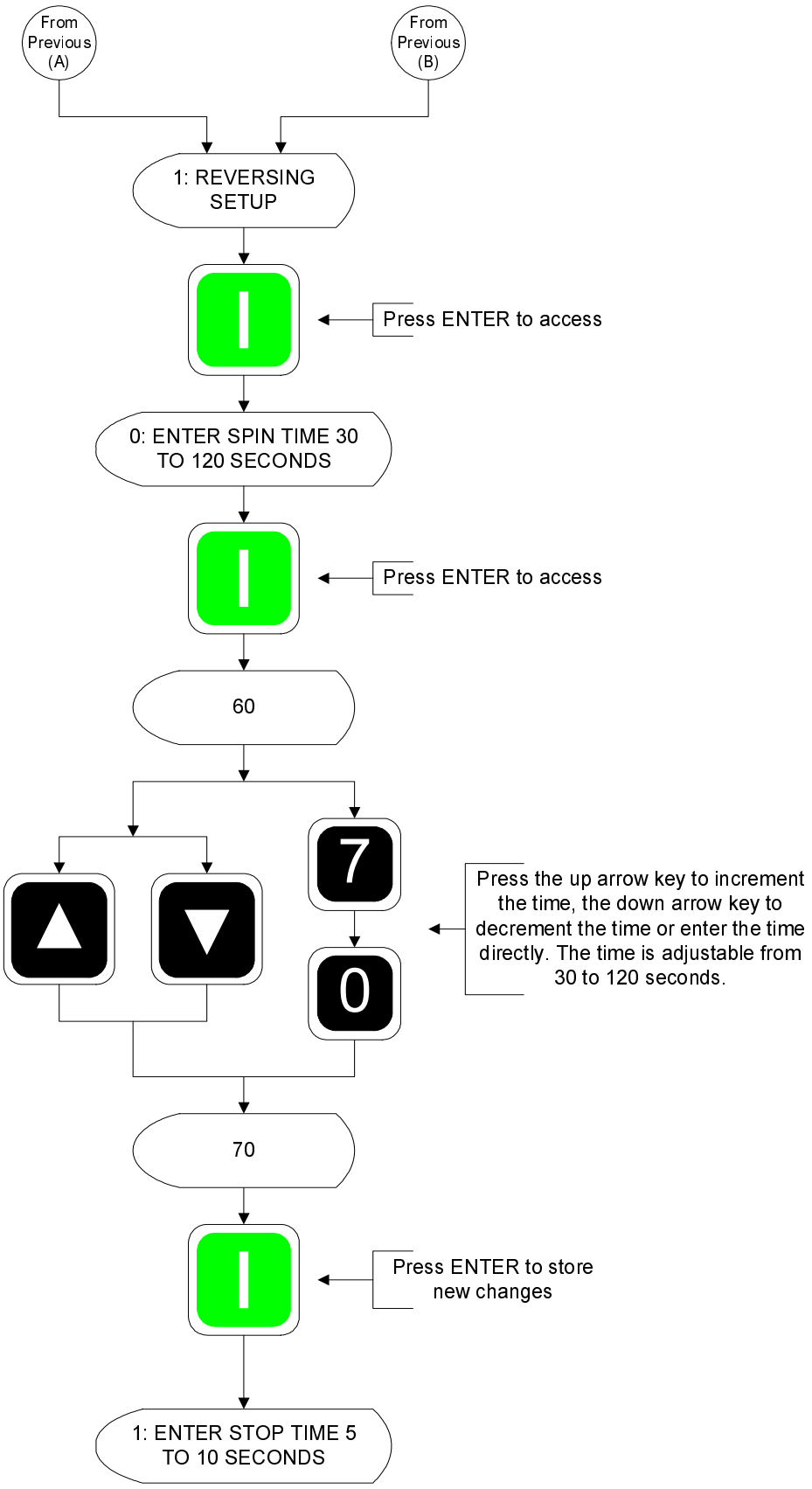


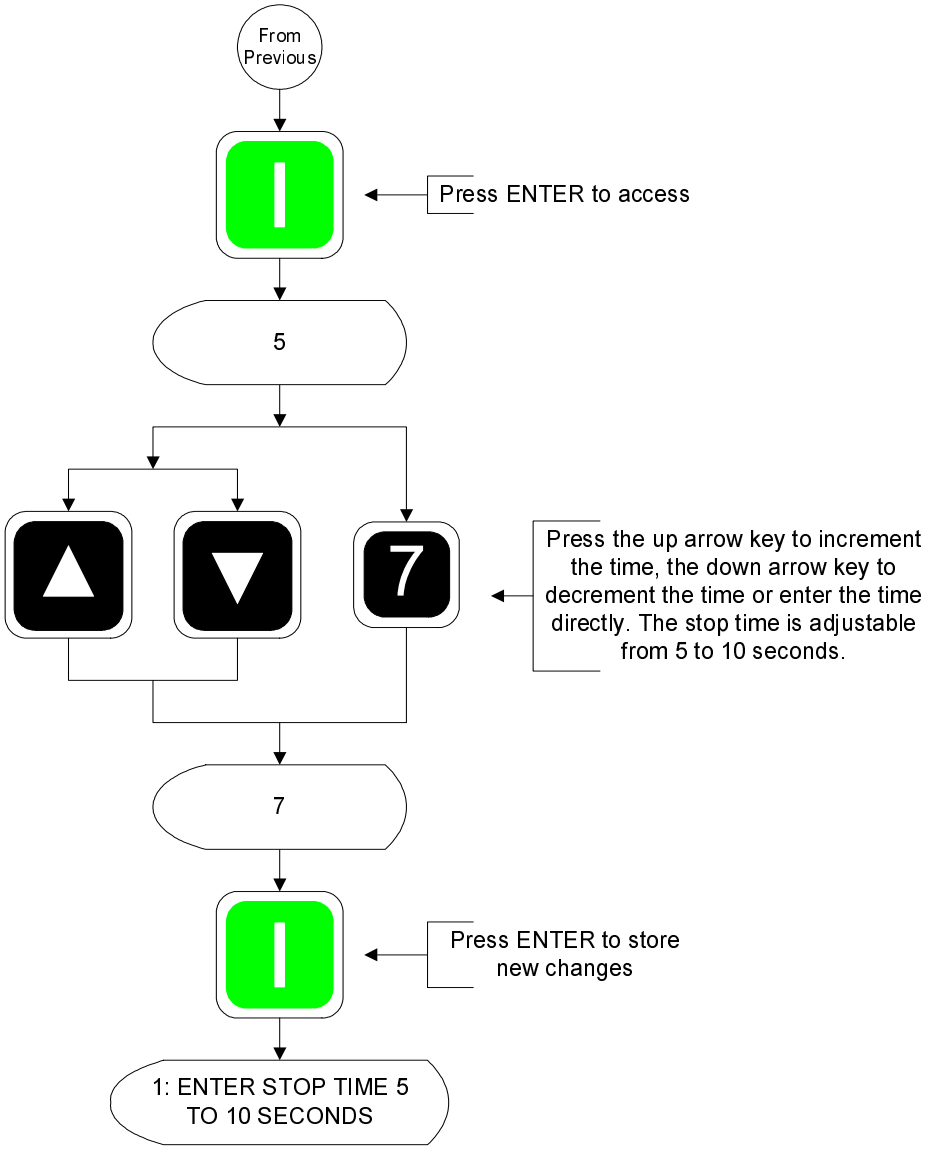

From Previous
Use arrow key
Or number
1: SYSTEM TEMP
2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
3: ENTER AUDIO ALERT ON TIMES 0 TO 10
4: ROTATION SENSOR
5: BOARD ADDRESS 00 to ZZ.
6
Press ENTER to jump directly to the location
Next page


From Previous
AUTO CYCLE TIME OUT.
0 TO 99 MINUTES.
Press ENTER to access
60
Press the up or down arrow key to scroll the A-Z and 0-9
70
Press ENTER to store new changes
AUTO CYCLE TIME OUT.
0 TO 99 MINUTES.

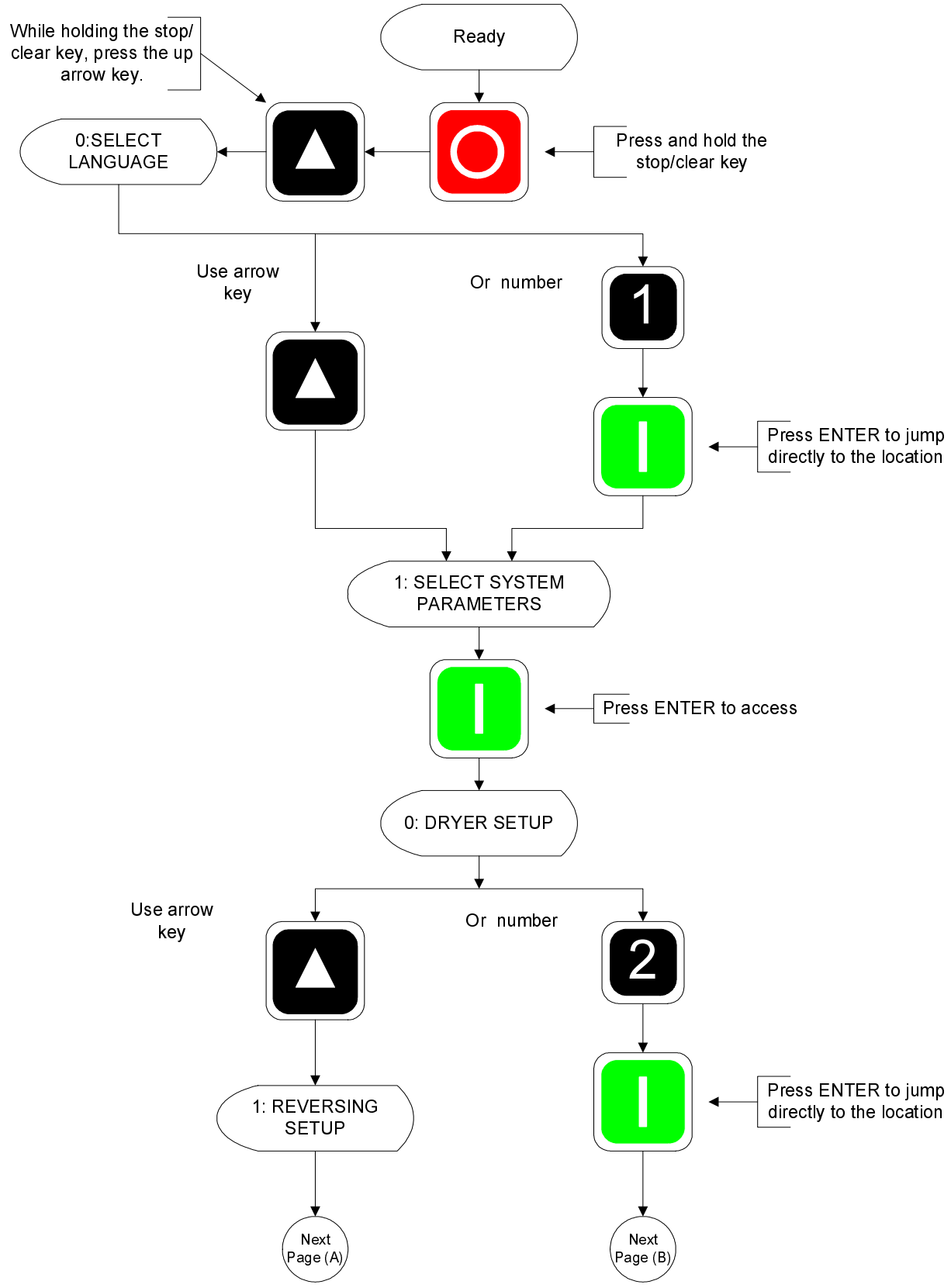
Adjusting Reversing Spin Time and Stop Time

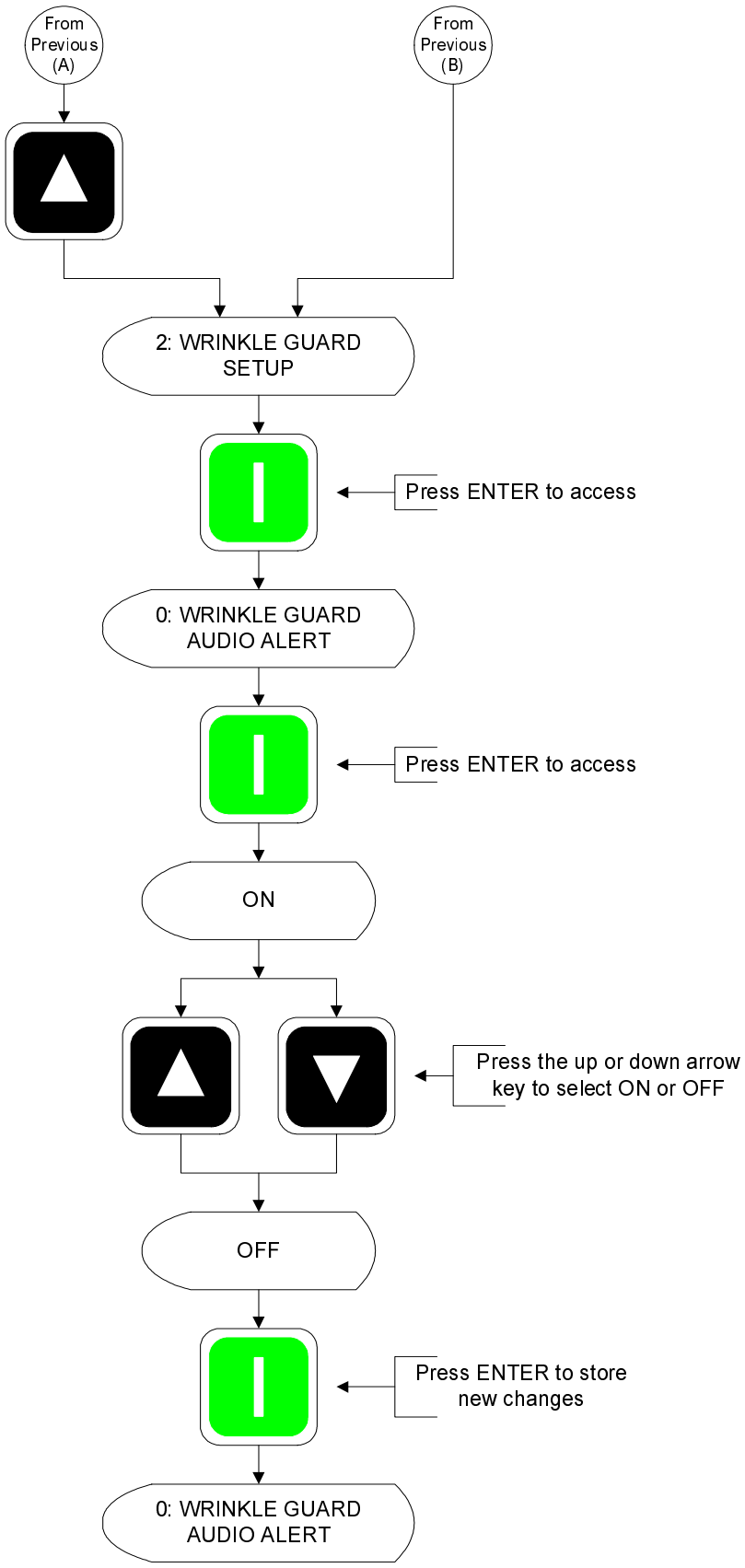



From Previous (A)
From Previous (B)
1: REVERSING SETUP
Press ENTER to access
0: ENTER SPIN TIME 30 TO 120 SECONDS
Press ENTER to access
60
7
0
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly. The time is adjustable from 30 to 120 seconds.
70
Press ENTER to store new changes
1: ENTER STOP TIME 5 TO 10 SECONDS

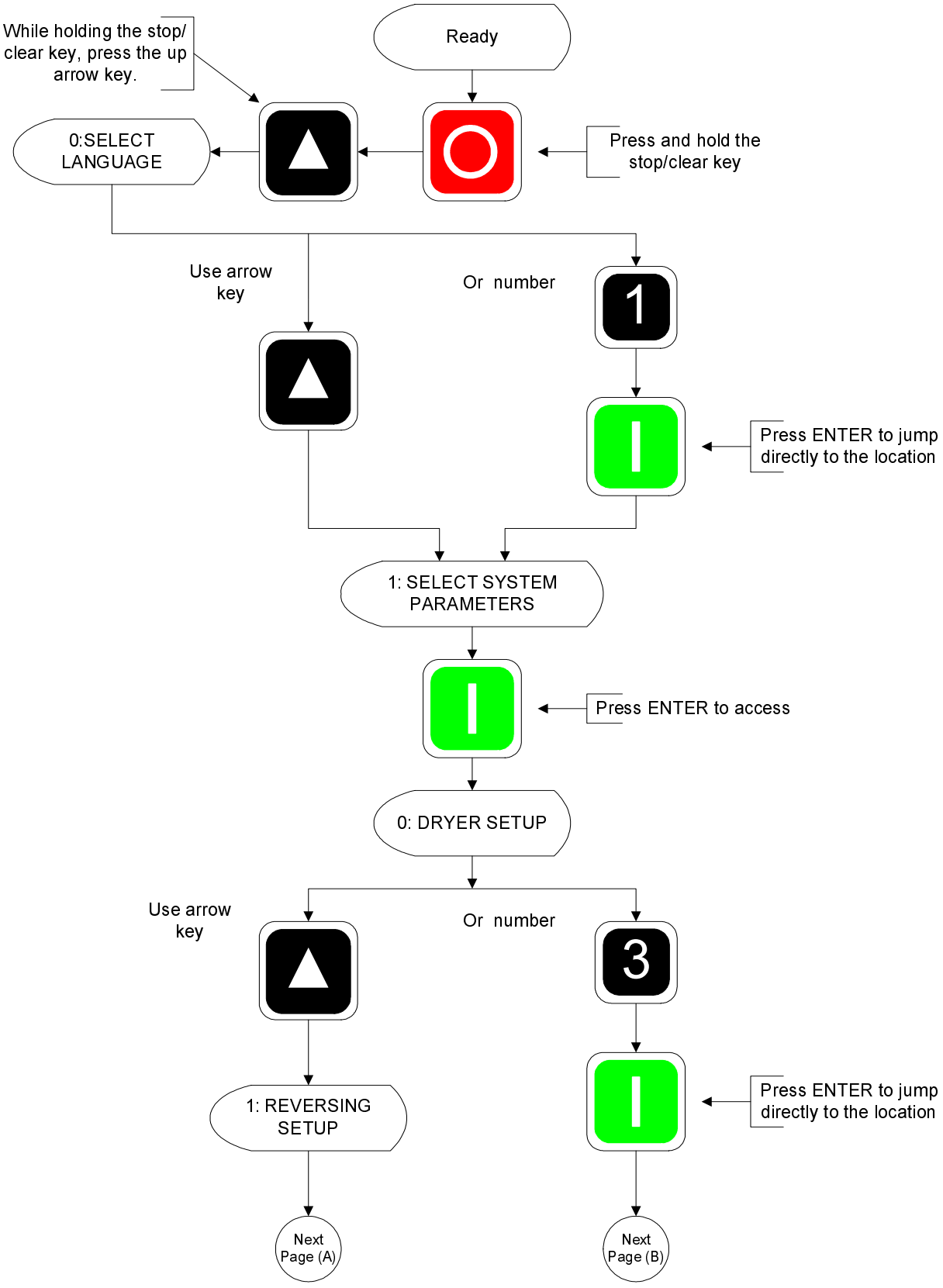

From Previous
Press ENTER to access
5
7
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly. The stop time is adjustable from 5 to 10 seconds.
7
Press ENTER to store new changes
1: ENTER STOP TIME 5 TO 10 SECONDS

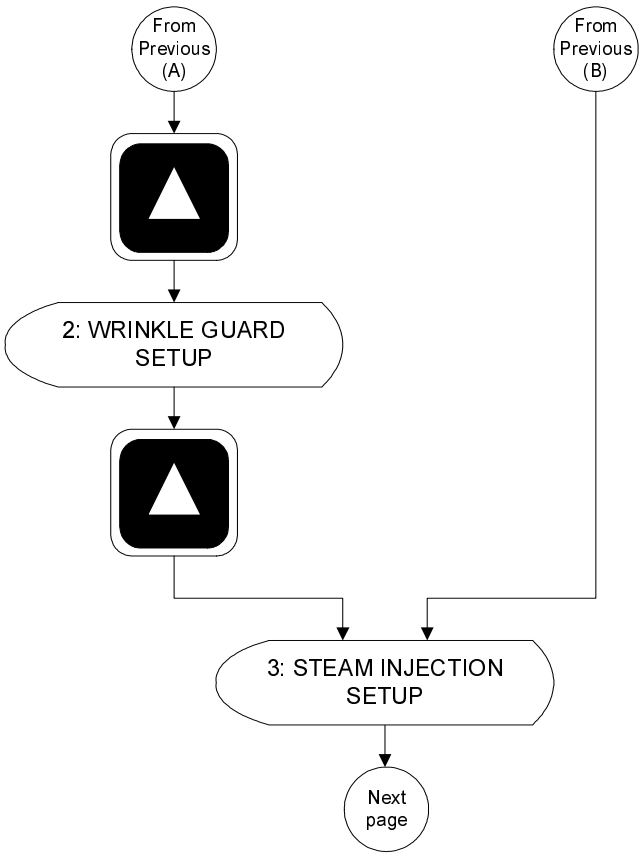
Wrinkle Guard Audio Alert

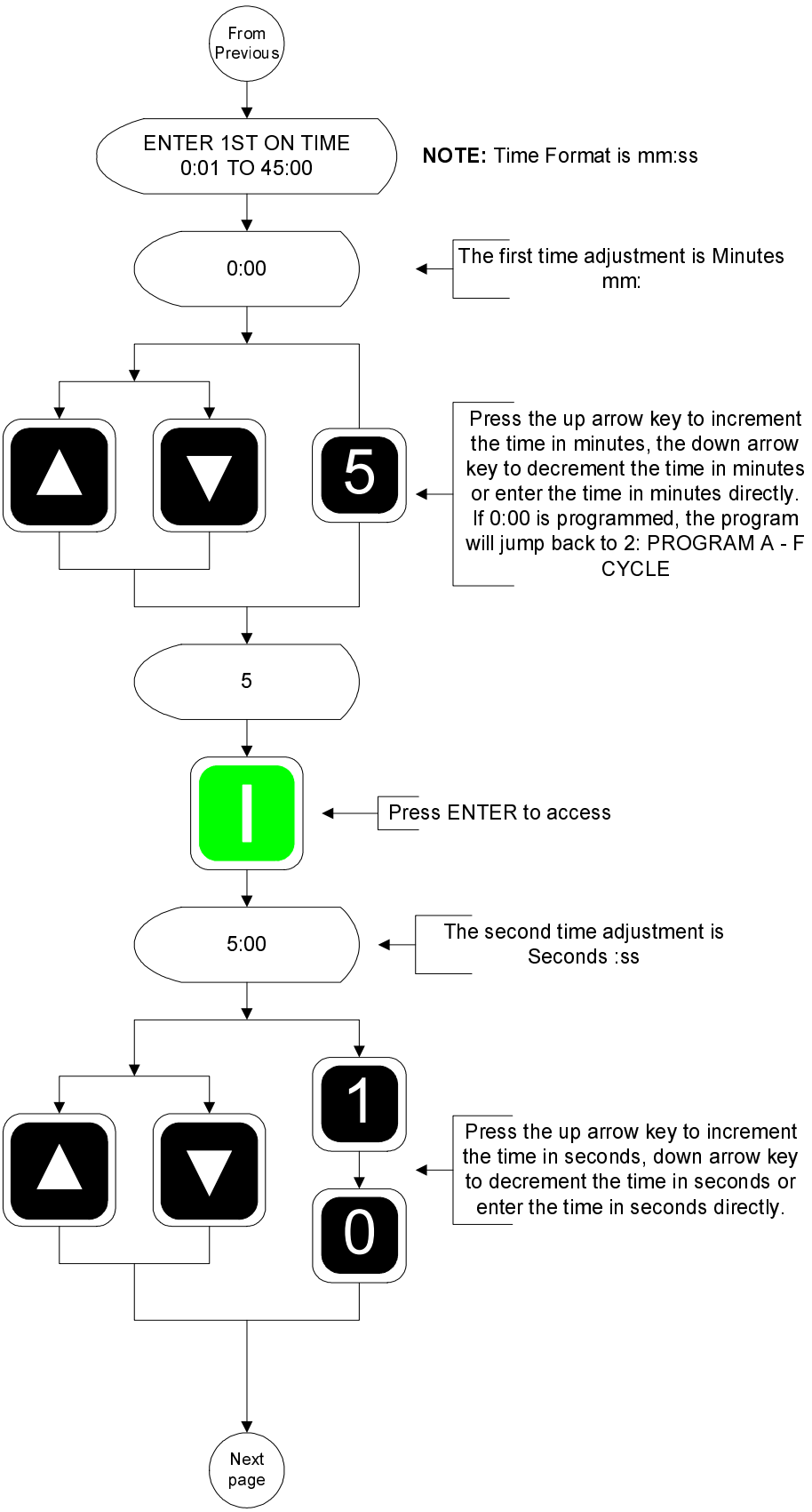


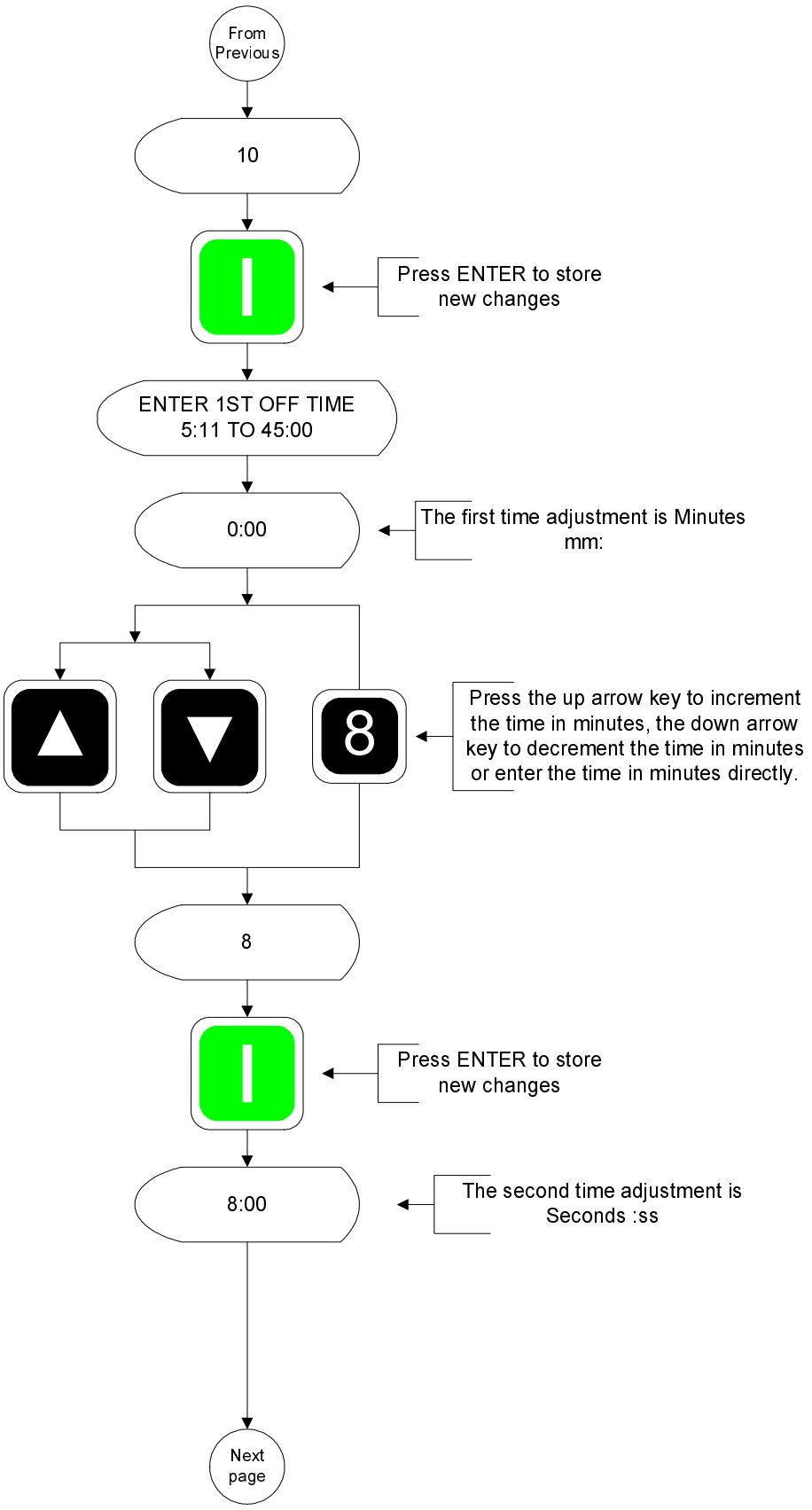

From Previous (A)
From Previous (B)
2: WRINKLE GUARD SETUP
Press ENTER to access
0: WRINKLE GUARD AUDIO ALERT
Press ENTER to access
ON
Press the up or down arrow key to select ON or OFF
OFF
Press ENTER to store new changes
0: WRINKLE GUARD AUDIO ALERT

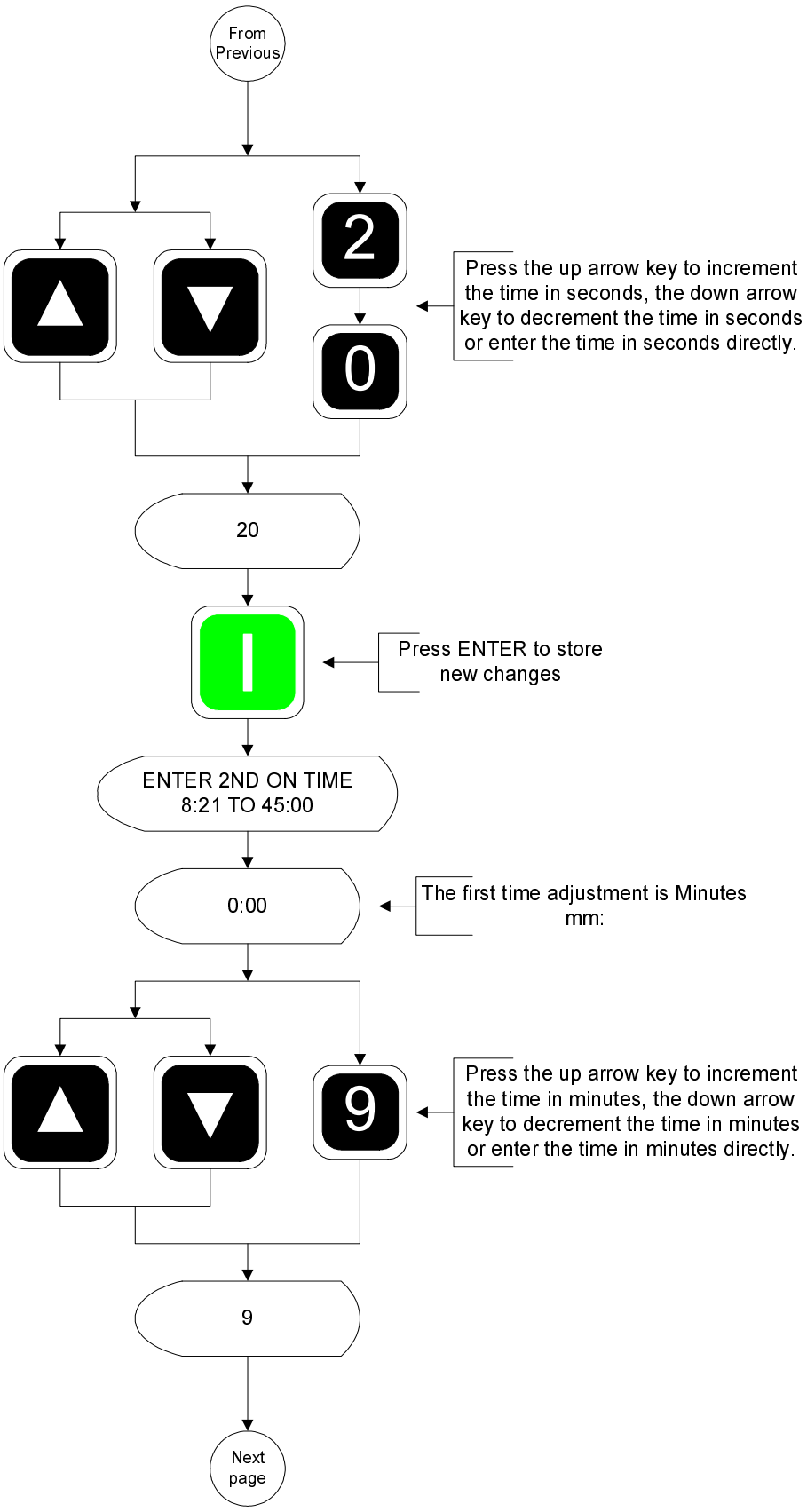
Steam Injection Setup

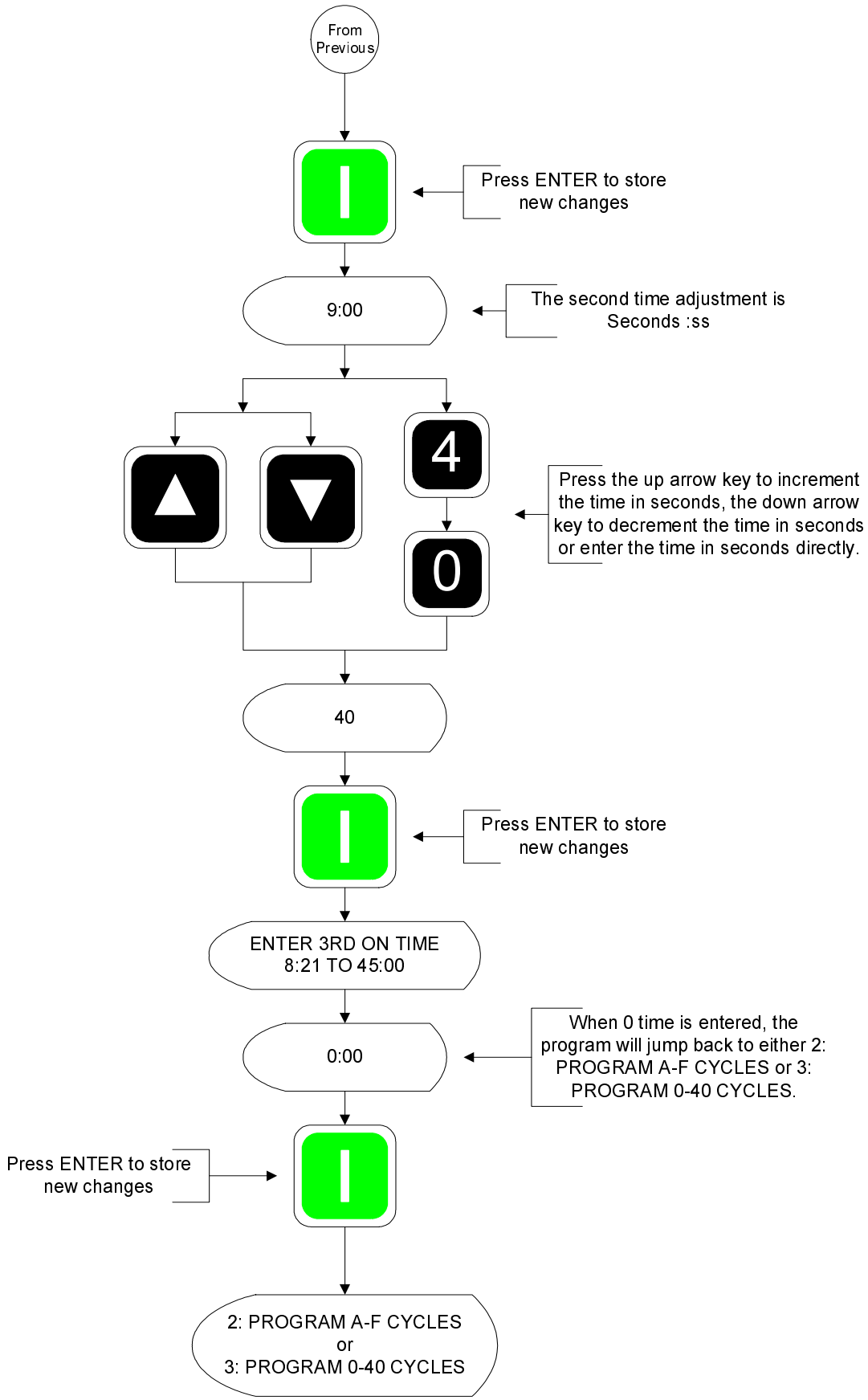



From Previous (A)
From Previous (B)
2: WRINKLE GUARD SETUP
3: STEAM INJECTION SETUP
Next page

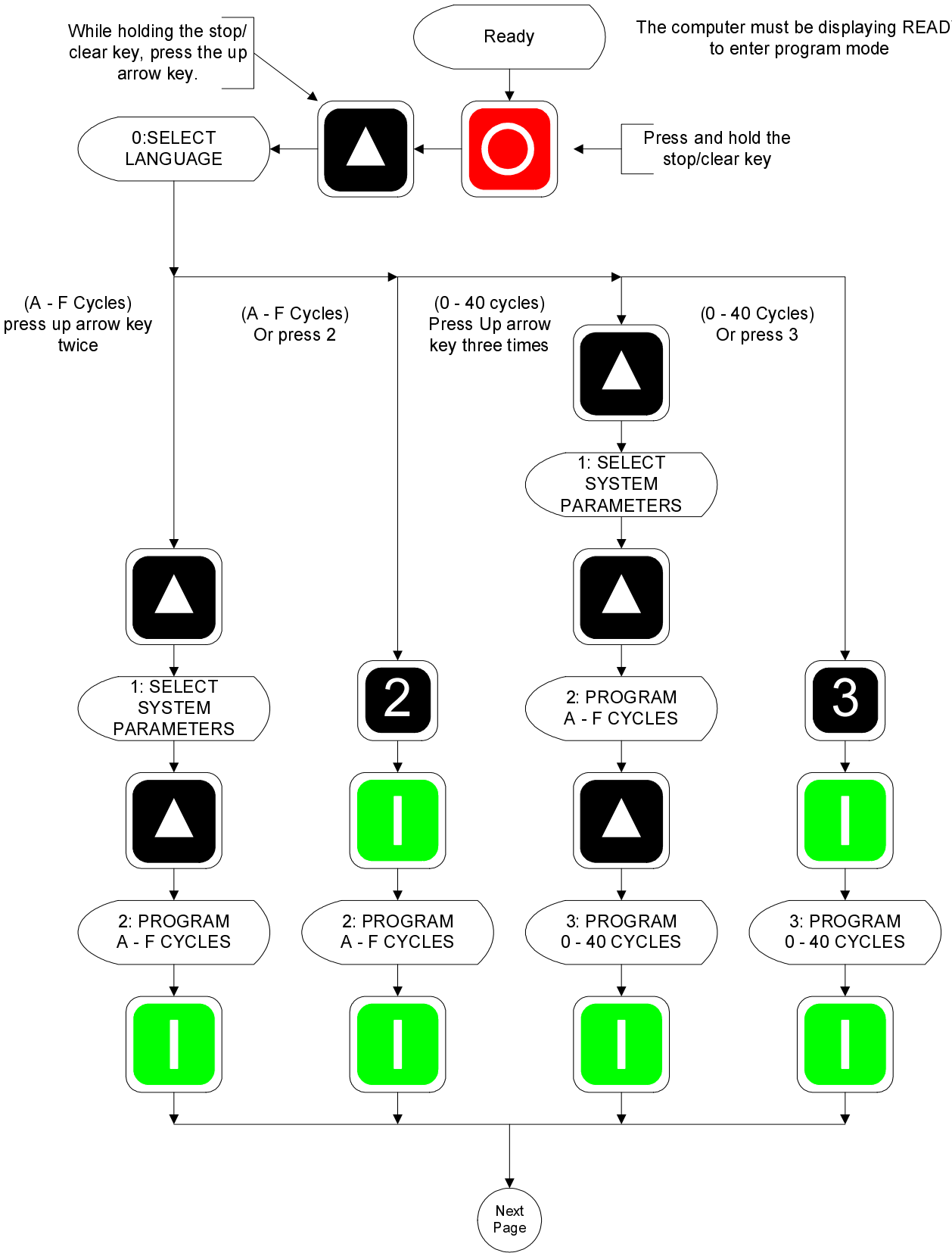

From Previous
ENTER 1ST ON TIME
0:01 TO 45:00
NOTE: Time Format is mm:ss
0:00
The first time adjustment is Minutes mm:
5
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly. If 0:00 is programmed, the program will jump back to 2: PROGRAM A - F CYCLE
5
Press ENTER to access
5:00
The second time adjustment is Seconds :ss
1
0
Press the up arrow key to increment the time in seconds, down arrow key to decrement the time in seconds or enter the time in seconds directly.
Next page

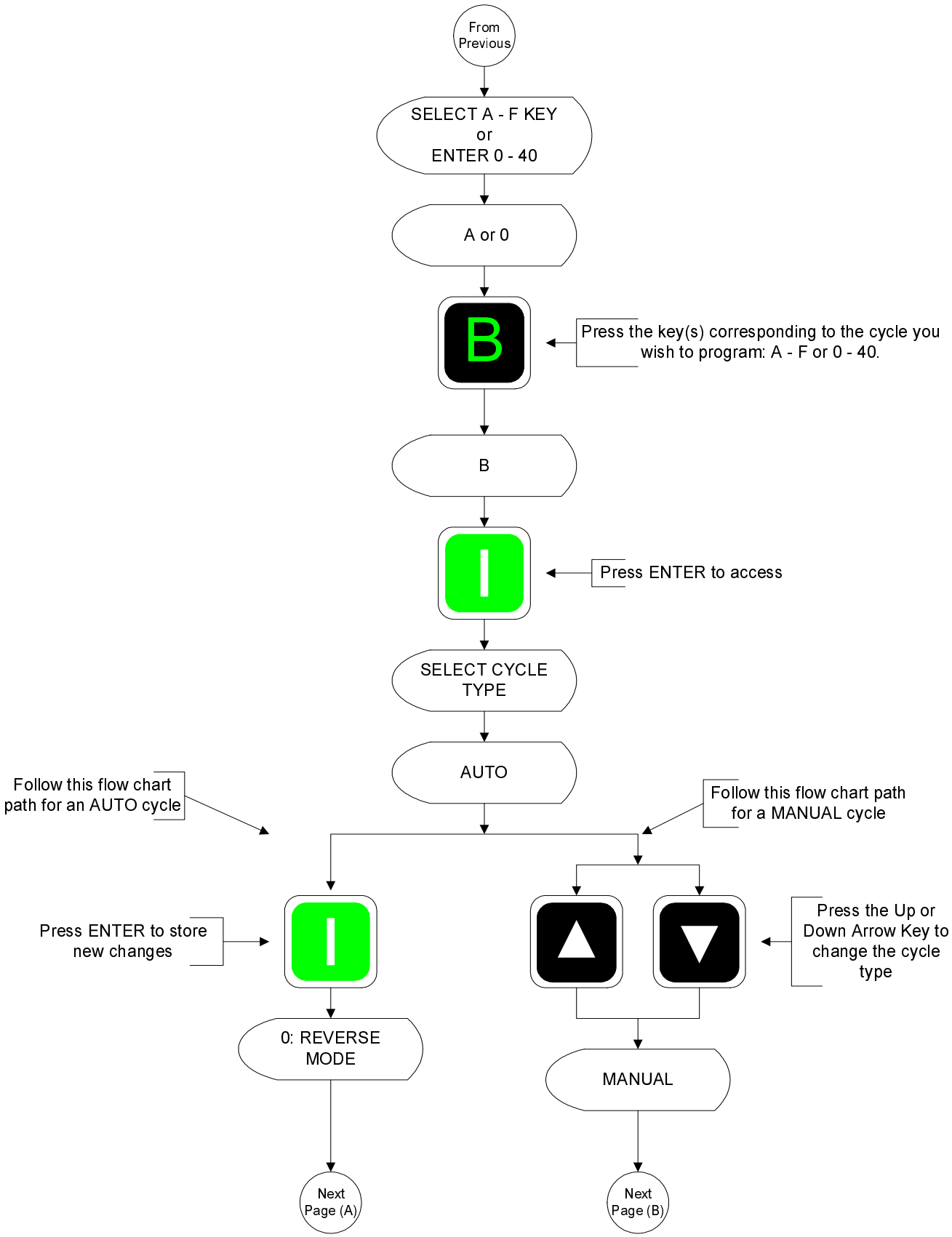

From Previous
10
Press ENTER to store new changes
ENTER 1ST OFF TIME 5:11 TO 45:00
0:00
The first time adjustment is Minutes mm:
8
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly.
8
Press ENTER to store new changes
8:00
The second time adjustment is Seconds :ss
Next page

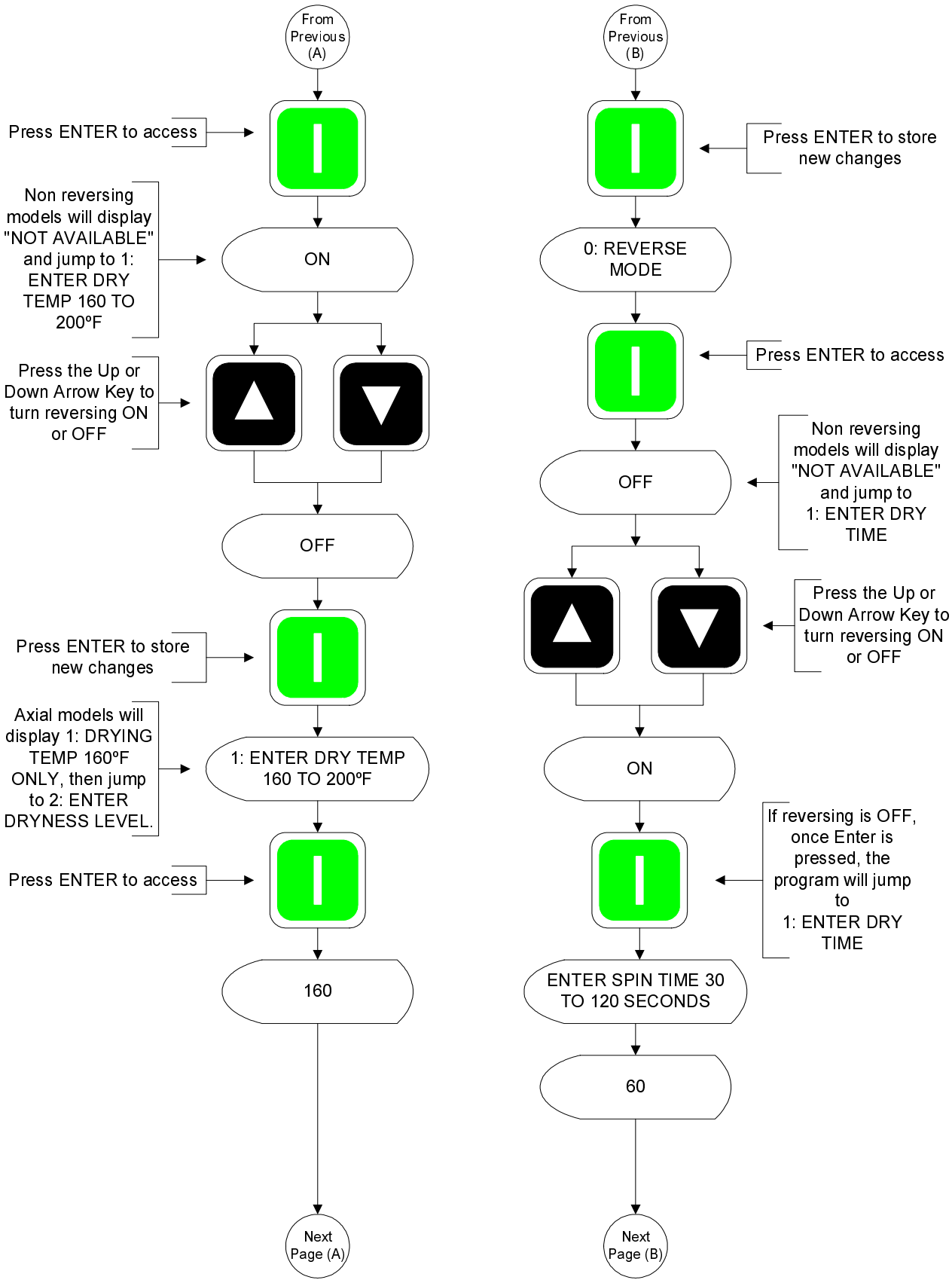

From Previous
2
0
Press the up arrow key to increment the time in seconds, the down arrow key to decrement the time in seconds or enter the time in seconds directly.
20
Press ENTER to store new changes
ENTER 2ND ON TIME 8:21 TO 45:00
0:00
The first time adjustment is Minutes mm:
9
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly.
9
Next page

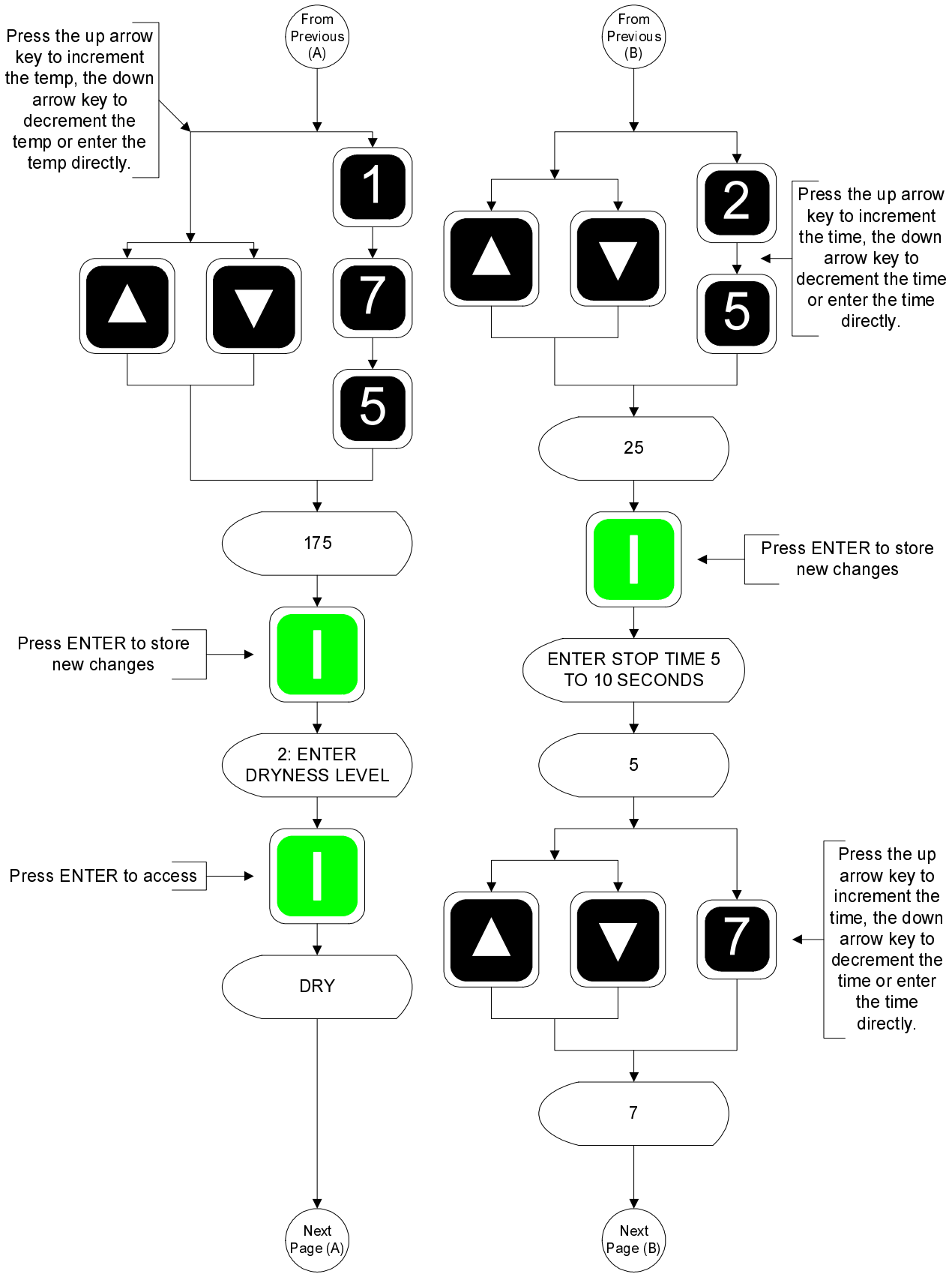

From Previous
Press ENTER to store new changes
9:00
The second time adjustment is Seconds :ss
4
0
Press the up arrow key to increment the time in seconds, the down arrow key to decrement the time in seconds or enter the time in seconds directly.
40
Press ENTER to store new changes
ENTER 3RD ON TIME 8:21 TO 45:00
0:00
When 0 time is entered, the program will jump back to either 2: PROGRAM A-F CYCLES or 3: PROGRAM 0-40 CYCLES.
Press ENTER to store new changes
2: PROGRAM A-F CYCLES or 3: PROGRAM 0-40 CYCLES

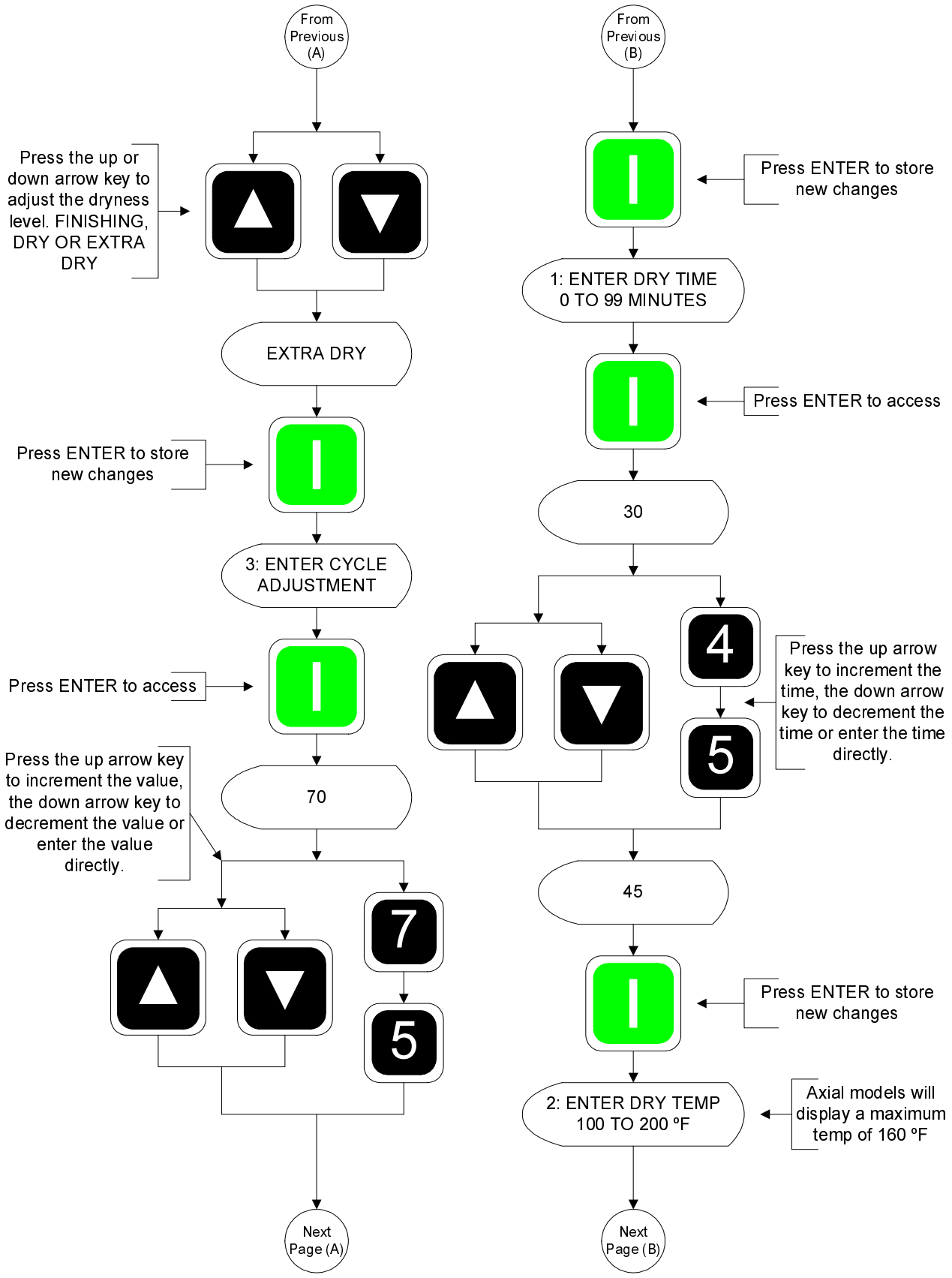
Programming A - F Cycles or 0 - 40 Cycles

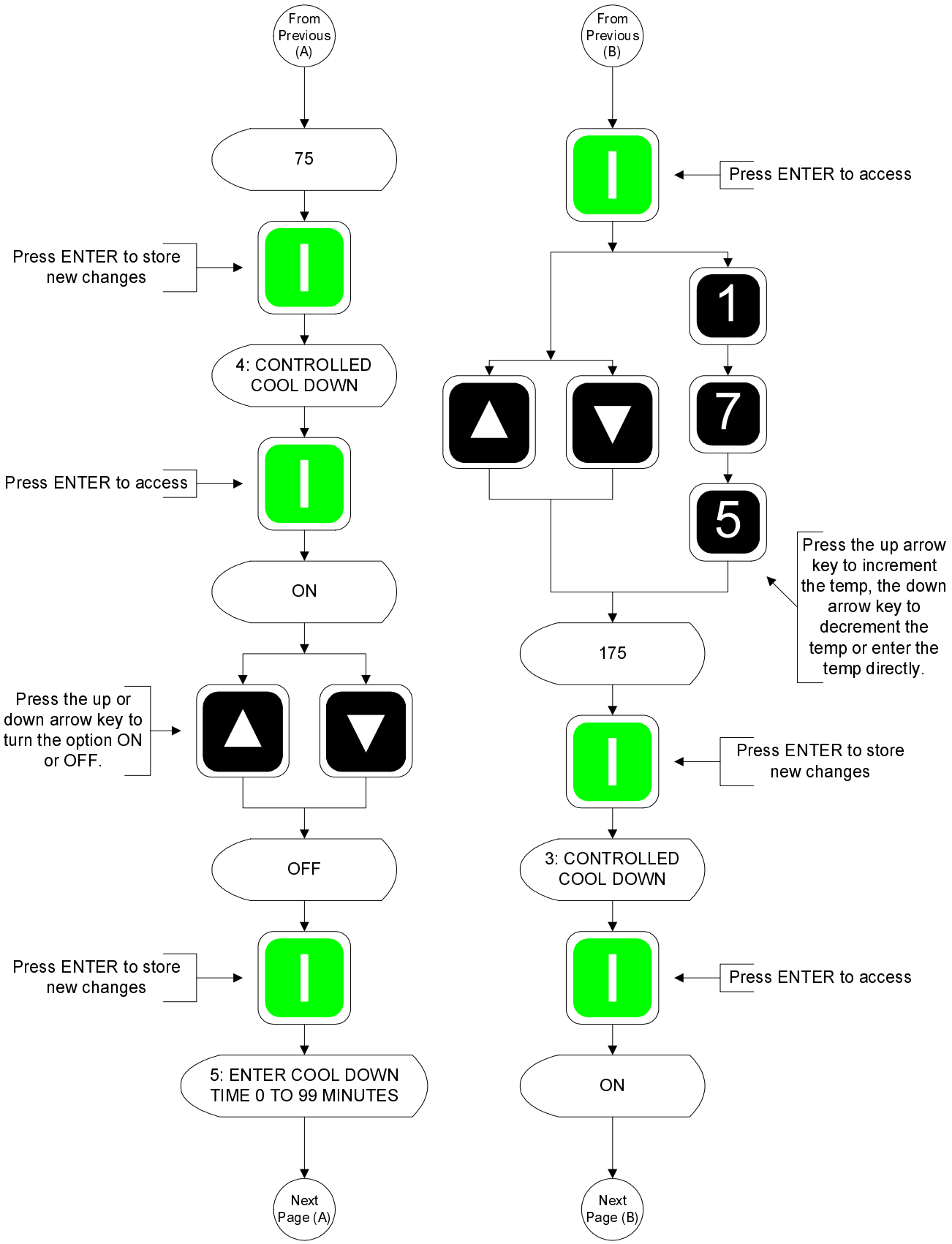


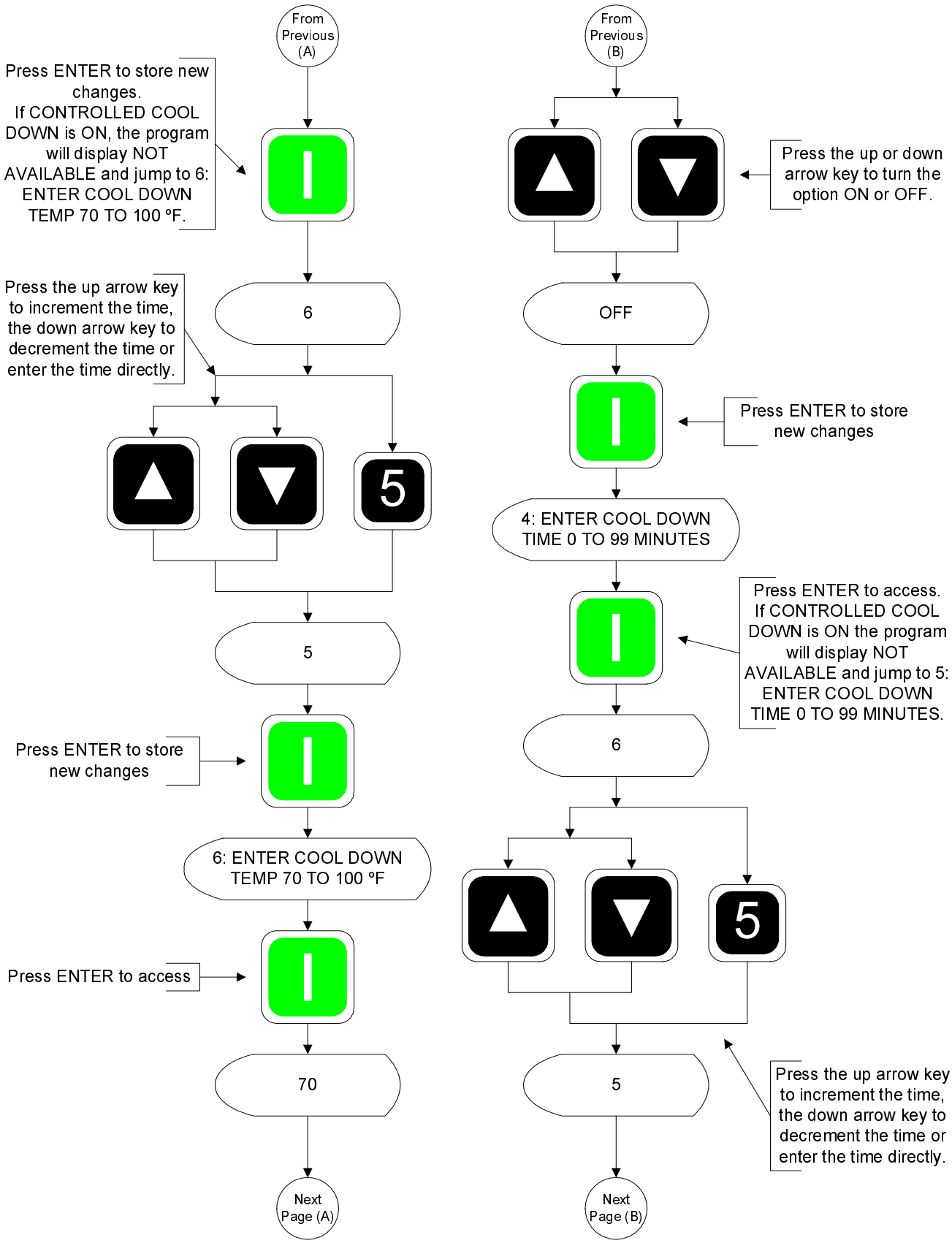

From Previous
SELECT A - F KEY or ENTER 0 - 40
A or 0
B
Press the key(s) corresponding to the cycle you wish to program: A - F or 0 - 40.
B
Press ENTER to access
SELECT CYCLE TYPE
AUTO
Follow this flow chart path for an AUTO cycle
Follow this flow chart path for a MANUAL cycle
Press ENTER to store new changes
Press the Up or Down Arrow Key to change the cycle type
0: REVERSE MODE
MANUAL
Next Page (A)
Next Page (B)

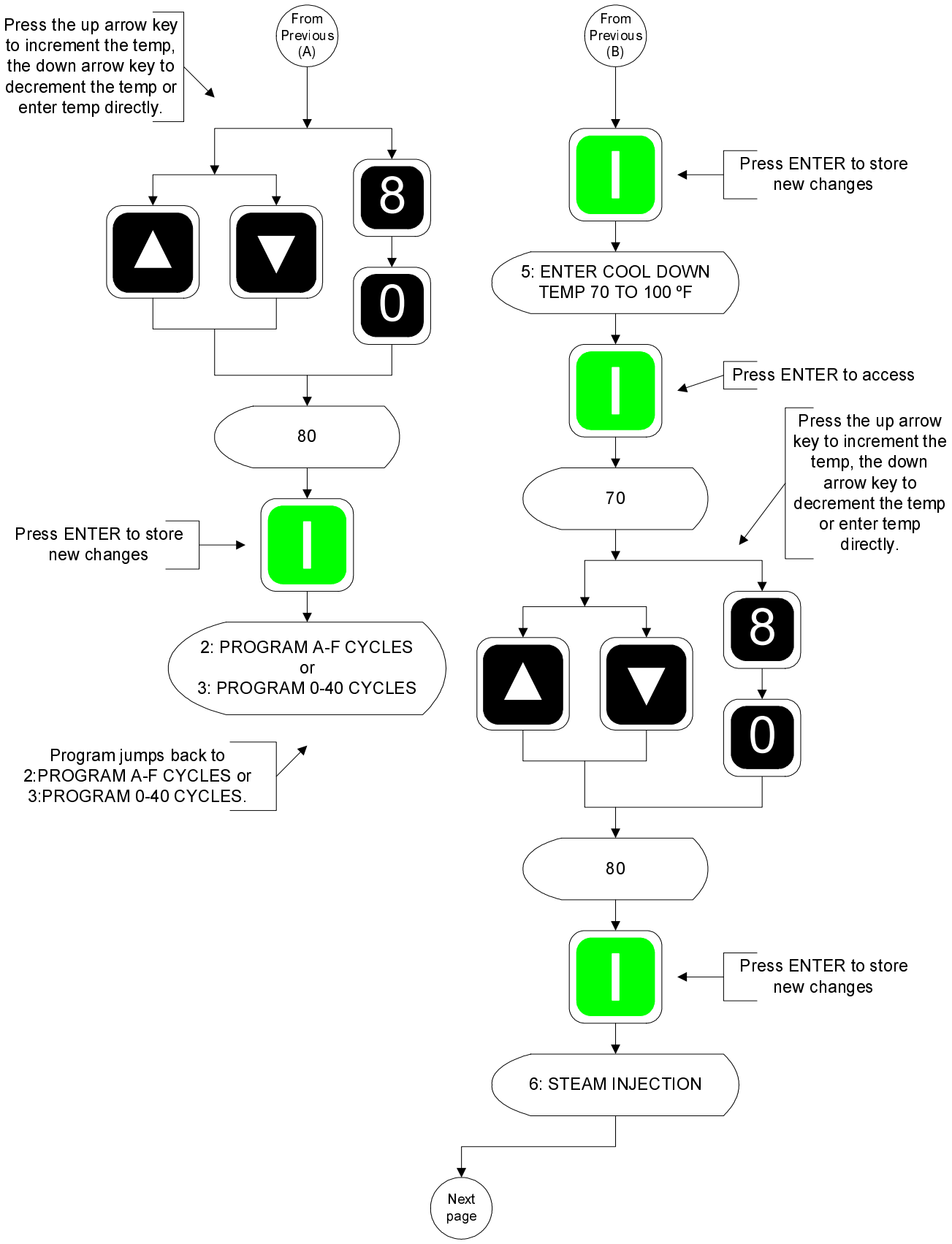

From Previous (A)
Press ENTER to access
Non reversing models will display "NOT AVAILABLE" and jump to 1: ENTER DRY TEMP 160 TO 200ºF
ON
Press the Up or Down Arrow Key to turn reversing ON or OFF
OFF
Press ENTER to store new changes
Axial models will display 1: DRYING TEMP 160ºF ONLY, then jump to 2: ENTER DRYNESS LEVEL.
1: ENTER DRY TEMP 160 TO 200ºF
Press ENTER to access
160
Next Page (A)
From Previous (B)
Press ENTER to store new changes
0: REVERSE MODE
Press ENTER to access
Non reversing models will display "NOT AVAILABLE" and jump to 1: ENTER DRY TIME
OFF
Press the Up or Down Arrow Key to turn reversing ON or OFF
ON
If reversing is OFF, once Enter is pressed, the program will jump to 1: ENTER DRY TIME
ENTER SPIN TIME 30 TO 120 SECONDS
60
Next Page (B)

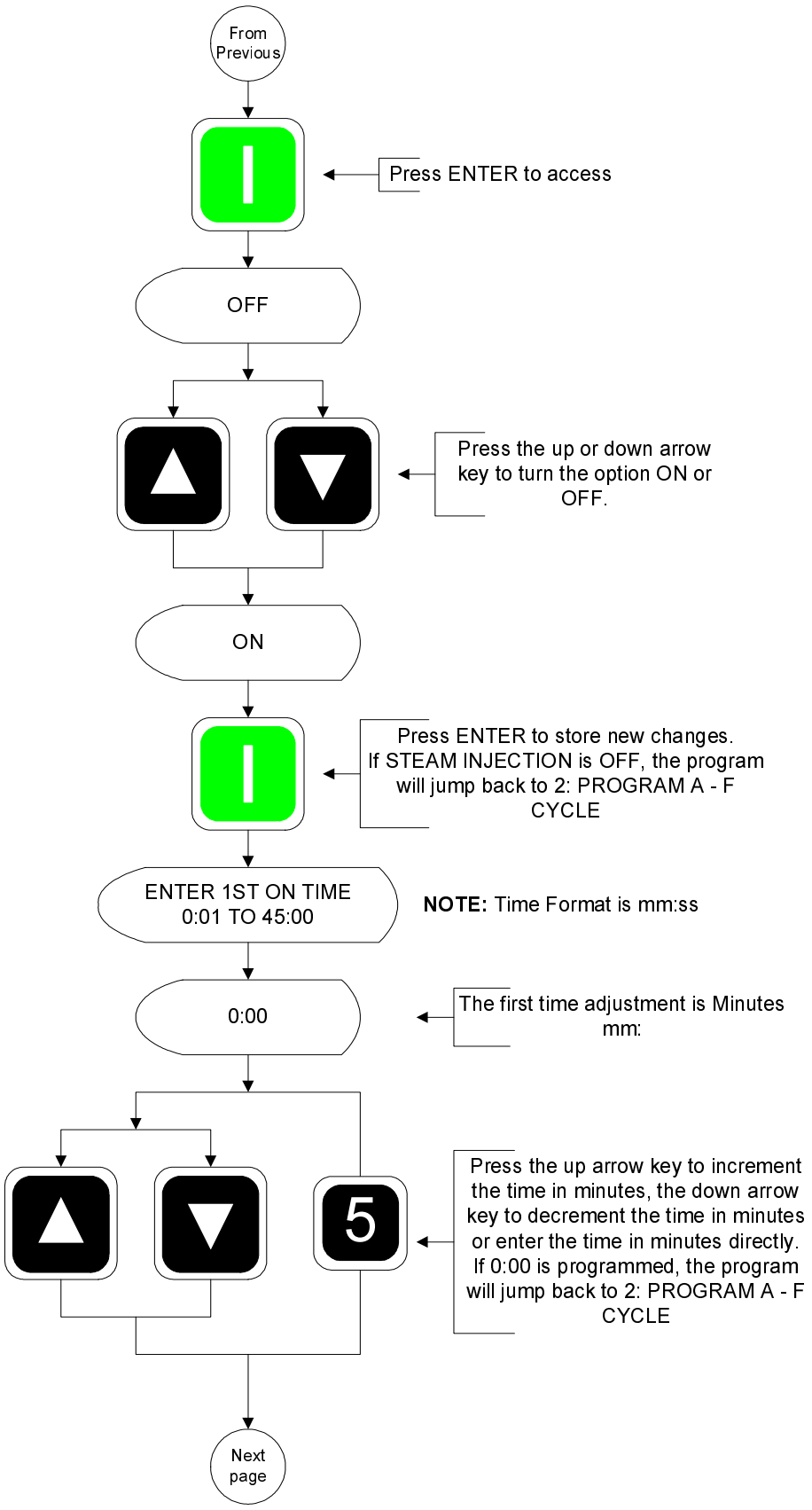

From Previous (A)
Press the up arrow key to increment the temp, the down arrow key to decrement the temp or enter the temp directly.
1
7
5
175
Press ENTER to store new changes
2: ENTER DRYNESS LEVEL
Press ENTER to access
DRY
Next Page (A)
From Previous (B)
2
5
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly.
25
Press ENTER to store new changes
ENTER STOP TIME 5 TO 10 SECONDS
5
7
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly.
7
Next Page (B)

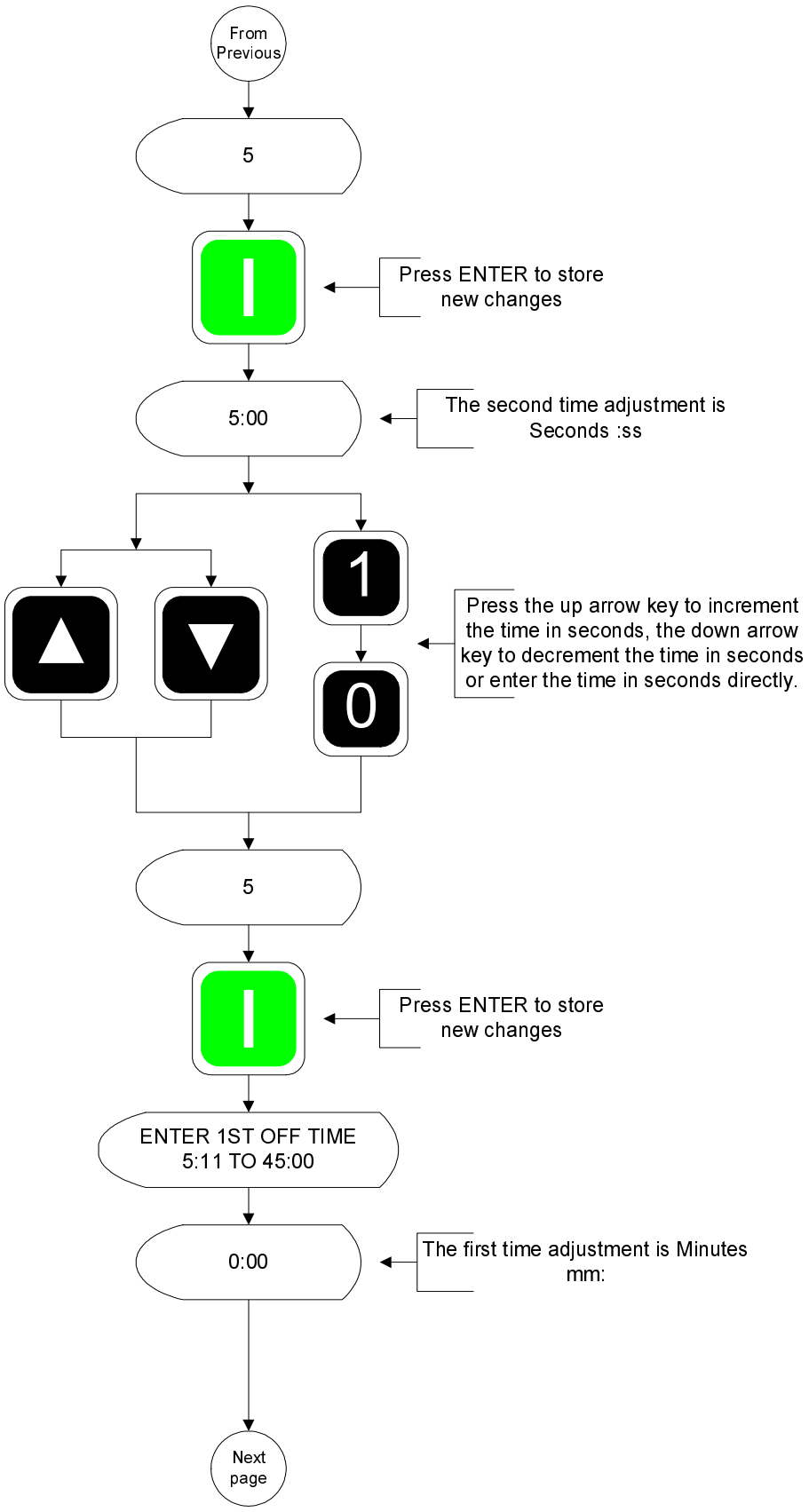

From Previous (A)
Press the up or down arrow key to adjust the dryness level. FINISHING, DRY OR EXTRA DRY
EXTRA DRY
Press ENTER to store new changes
3: ENTER CYCLE ADJUSTMENT
Press ENTER to access
Press the up arrow key to increment the value, the down arrow key to decrement the value or enter the value directly.
70
7
5
Next Page (A)
From Previous (B)
Press ENTER to store new changes
1: ENTER DRY TIME 0 TO 99 MINUTES
Press ENTER to access
30
4
5
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly.
45
Press ENTER to store new changes
2: ENTER DRY TEMP 100 TO 200 ºF
Axial models will display a maximum temp of 160 ºF
Next Page (B)

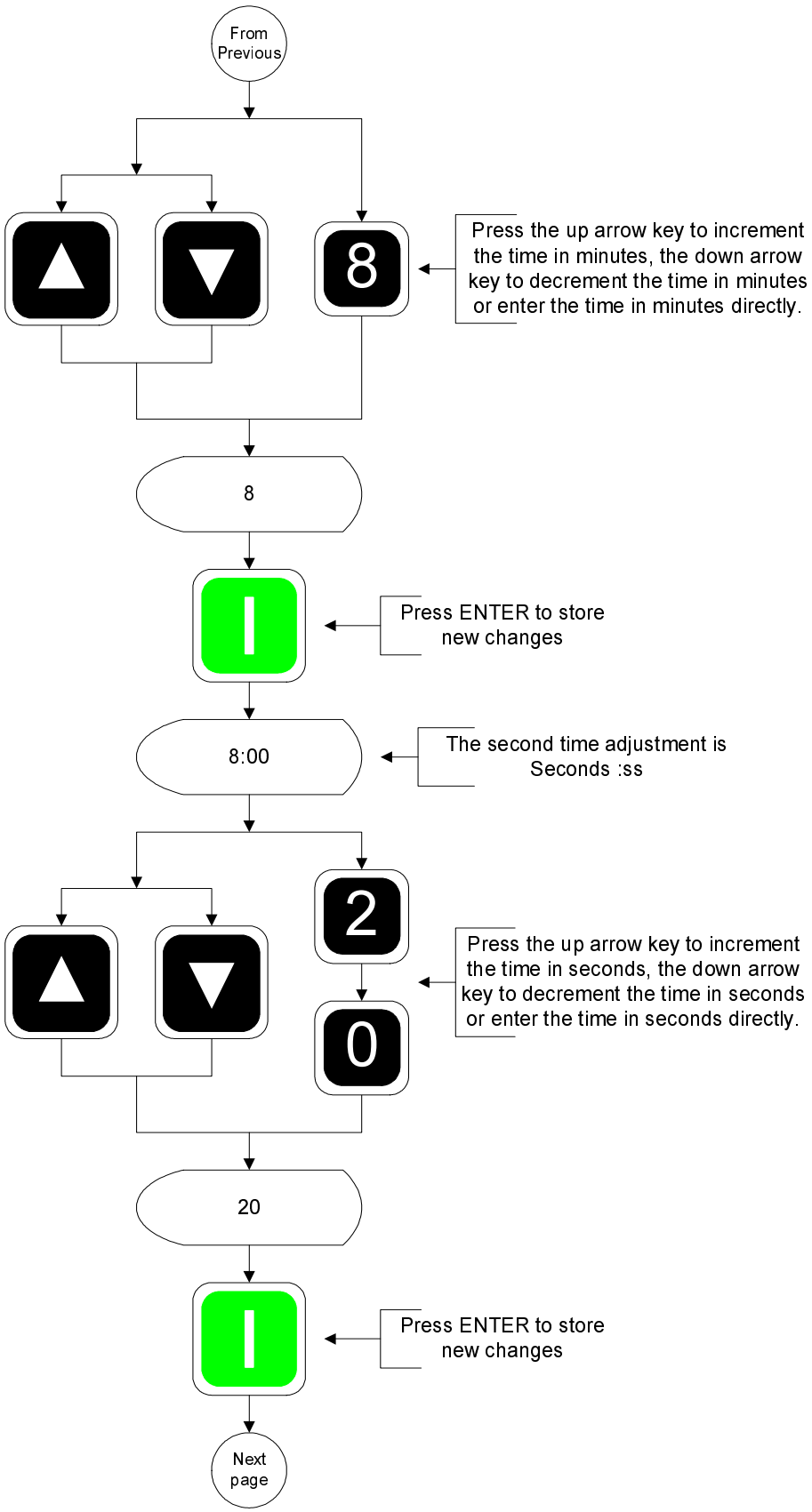

From Previous (A)
75
Press ENTER to store new changes
4: CONTROLLED COOL DOWN
Press ENTER to access
ON
Press the up or down arrow key to turn the option ON or OFF.
OFF
Press ENTER to store new changes
5: ENTER COOL DOWN TIME 0 TO 99 MINUTES
Next Page (A)
From Previous (B)
Press ENTER to access
1
7
5
Press the up arrow key to increment the temp, the down arrow key to decrement the temp or enter the temp directly.
175
Press ENTER to store new changes
3: CONTROLLED COOL DOWN
Press ENTER to access
ON
Next Page (B)

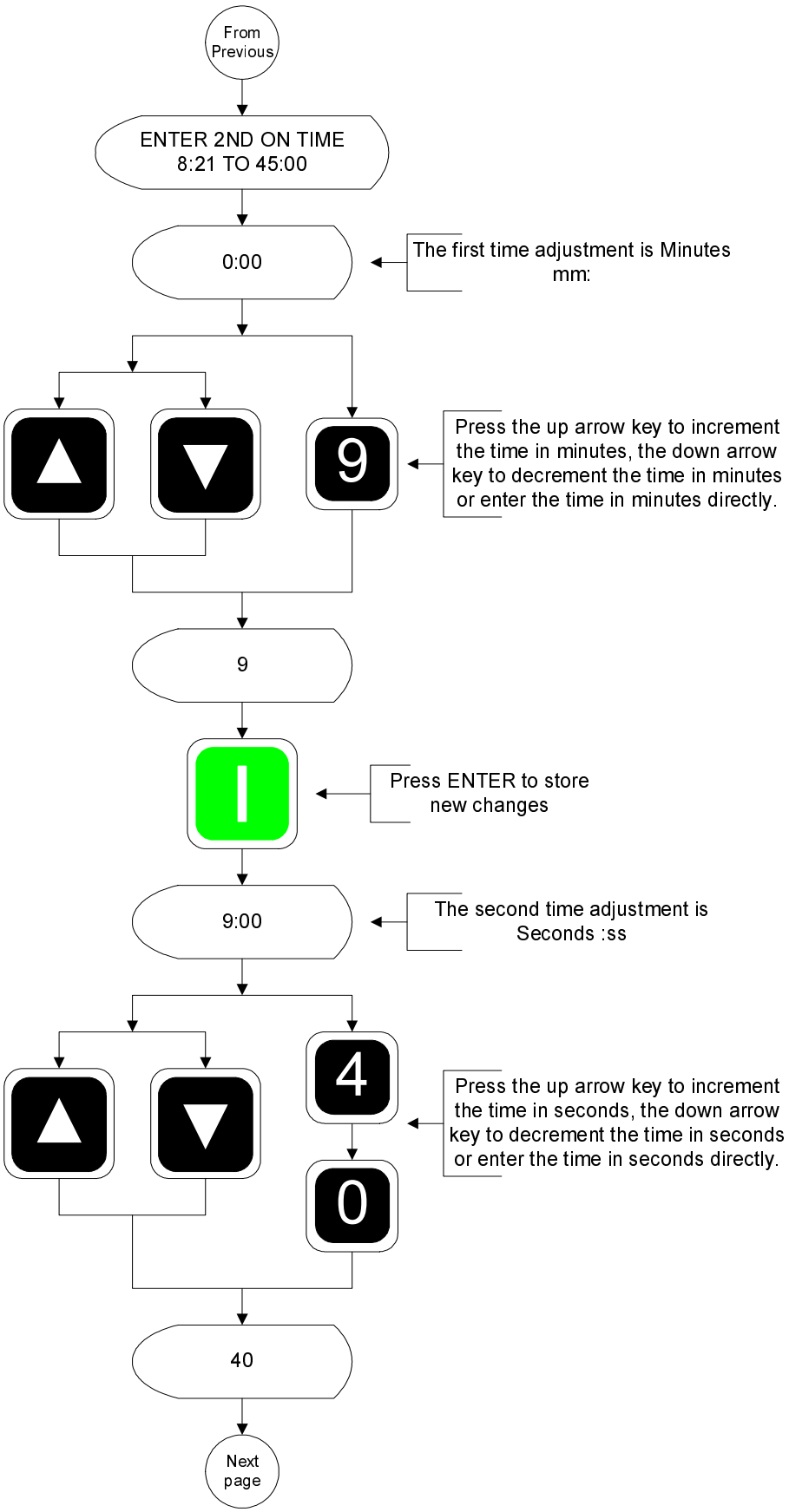

From Previous (A)
Press ENTER to store new changes. If CONTROLLED COOL DOWN is ON, the program will display NOT AVAILABLE and jump to 6: ENTER COOL DOWN TEMP 70 TO 100 ºF.
6
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly.
5
5
Press ENTER to store new changes
6: ENTER COOL DOWN TEMP 70 TO 100 ºF
Press ENTER to access
70
Next Page (A)
From Previous (B)
Press the up or down arrow key to turn the option ON or OFF.
OFF
Press ENTER to store new changes
4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
Press ENTER to access. If CONTROLLED COOL DOWN is ON the program will display NOT AVAILABLE and jump to 5: ENTER COOL DOWN TIME 0 TO 99 MINUTES.
6
5
5
Press the up arrow key to increment the time, the down arrow key to decrement the time or enter the time directly.
Next Page (B)

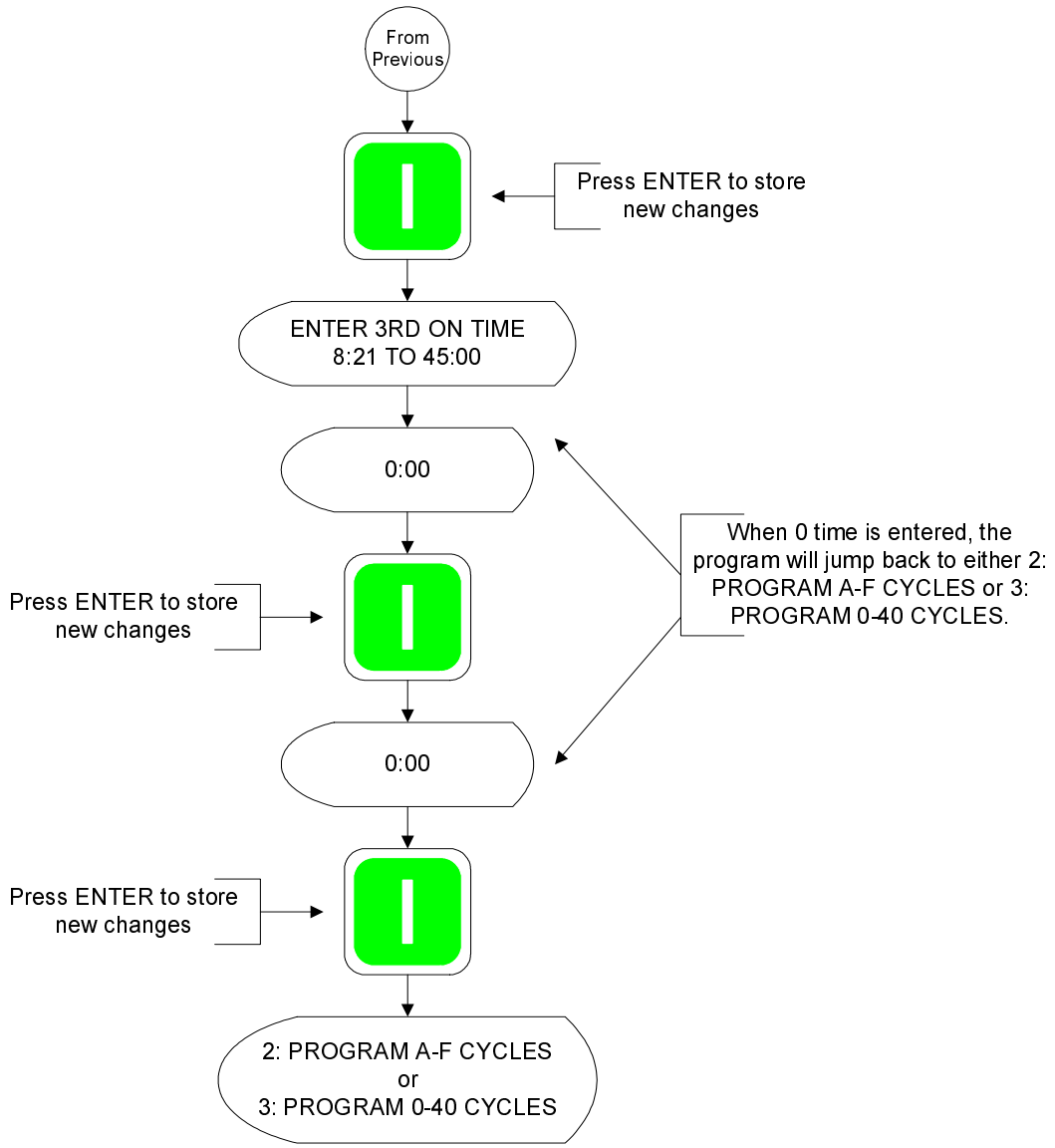

From Previous (A)
From Previous (B)
Press the up arrow key to increment the temp, the down arrow key to decrement the temp or enter temp directly.
8
0
80
Press ENTER to store new changes
2: PROGRAM A-F CYCLES
or
3: PROGRAM 0-40 CYCLES
Program jumps back to 2:PROGRAM A-F CYCLES or 3:PROGRAM 0-40 CYCLES.
Press ENTER to store new changes
5: ENTER COOL DOWN TEMP 70 TO 100 °F
Press ENTER to access
70
Press the up arrow key to increment the temp, the down arrow key to decrement the temp or enter temp directly.
8
0
80
Press ENTER to store new changes
6: STEAM INJECTION
Next page


From Previous
Press ENTER to access
OFF
Press the up or down arrow key to turn the option ON or OFF.
ON
Press ENTER to store new changes. If STEAM INJECTION is OFF, the program will jump back to 2: PROGRAM A - F CYCLE
ENTER 1ST ON TIME 0:01 TO 45:00
NOTE: Time Format is mm:ss
0:00
The first time adjustment is Minutes mm:
5
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly. If 0:00 is programmed, the program will jump back to 2: PROGRAM A - F CYCLE
Next page

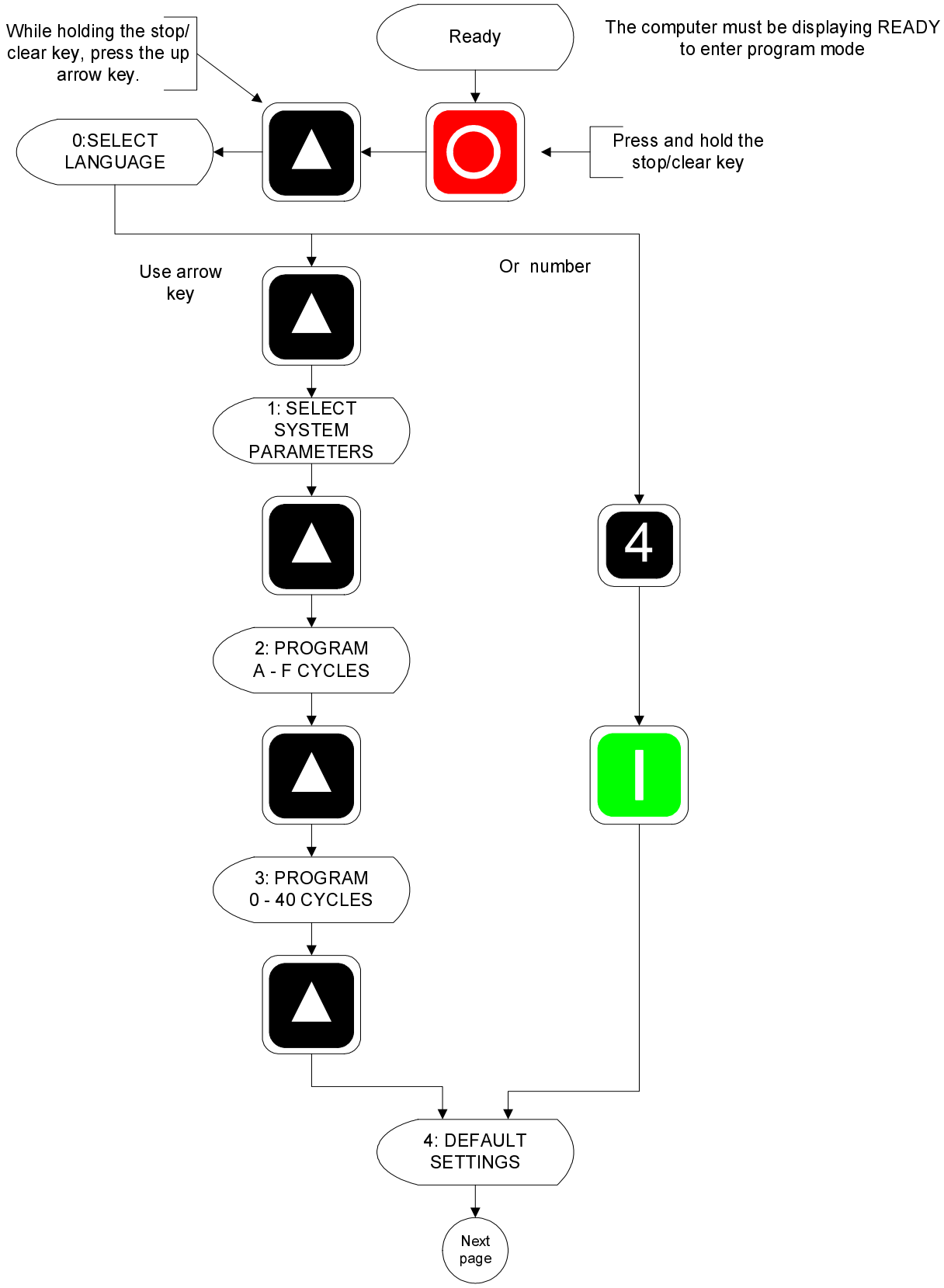

From Previous
5
Press ENTER to store new changes
5:00
The second time adjustment is Seconds :ss
1
0
Press the up arrow key to increment the time in seconds, the down arrow key to decrement the time in seconds or enter the time in seconds directly.
5
Press ENTER to store new changes
ENTER 1ST OFF TIME 5:11 TO 45:00
0:00
The first time adjustment is Minutes mm:
Next page

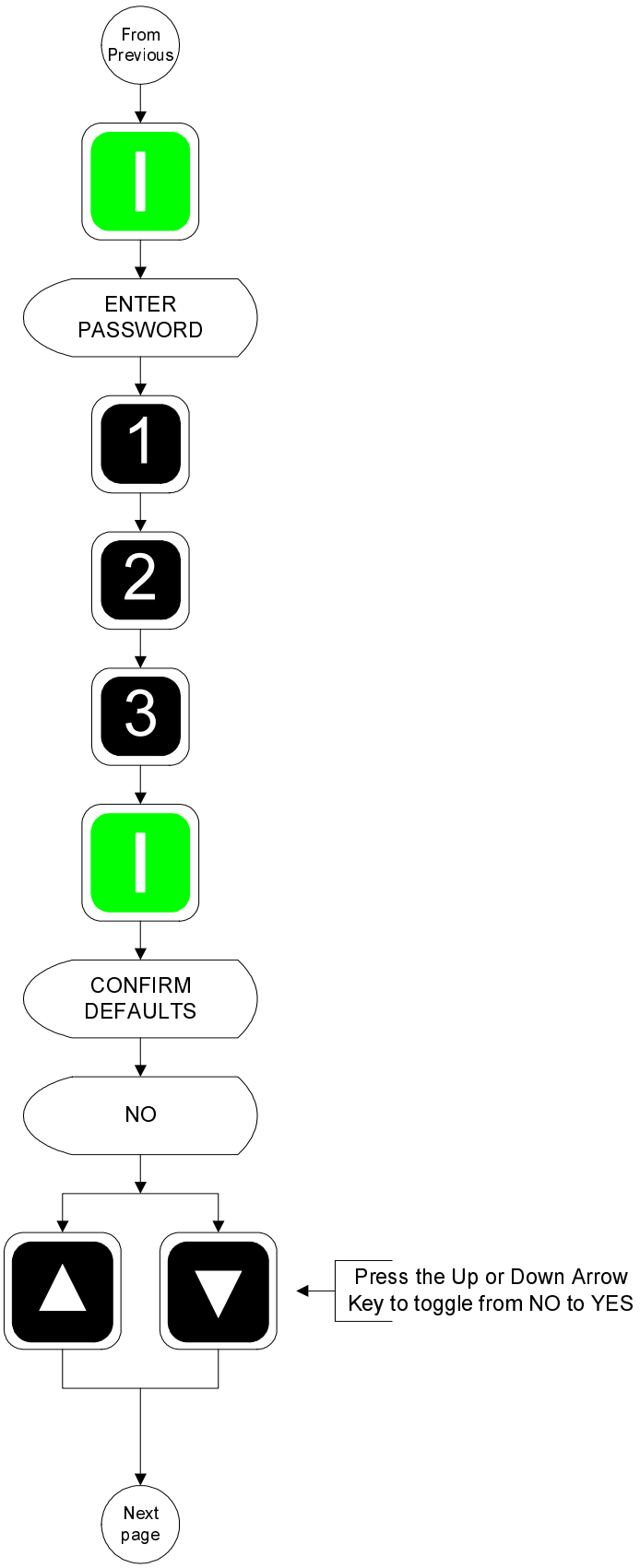

From Previous
8
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly.
8
Press ENTER to store new changes
8:00
The second time adjustment is Seconds :ss
2
0
Press the up arrow key to increment the time in seconds, the down arrow key to decrement the time in seconds or enter the time in seconds directly.
20
Press ENTER to store new changes
Next page

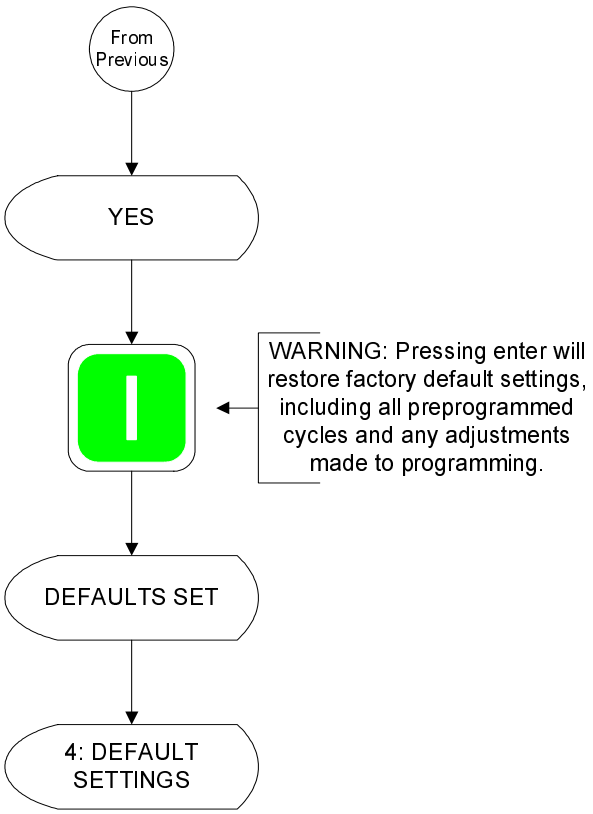

From Previous
ENTER 2ND ON TIME 8:21 TO 45:00
0:00
The first time adjustment is Minutes mm:
9
Press the up arrow key to increment the time in minutes, the down arrow key to decrement the time in minutes or enter the time in minutes directly.
9
I
Press ENTER to store new changes
9:00
The second time adjustment is Seconds :ss
4
0
Press the up arrow key to increment the time in seconds, the down arrow key to decrement the time in seconds or enter the time in seconds directly.
40
Next page


From Previous
Press ENTER to store new changes
ENTER 3RD ON TIME 8:21 TO 45:00
0:00
When 0 time is entered, the program will jump back to either 2: PROGRAM A-F CYCLES or 3: PROGRAM 0-40 CYCLES.
Press ENTER to store new changes
0:00
Press ENTER to store new changes
2: PROGRAM A-F CYCLES
or
3: PROGRAM 0-40 CYCLES

Restoring Factory Default Settings




From Previous
I
ENTER PASSWORD
1
2
3
I
CONFIRM DEFAULTS
NO
Press the Up or Down Arrow Key to toggle from NO to YES
Next page


From Previous
YES
WARNING: Pressing enter will restore factory default settings, including all preprogrammed cycles and any adjustments made to programming.
DEFAULTS SET
4: DEFAULT SETTINGS

SECTION VII

FACTORY PRESET PARAMETERS (PROGRAMS)

NOTE: To enter program mode, press and hold the "STOP/CLEAR" key and the "UP ARROW" key.

A. CYCLE "A-F" PARAMETERS (PROGRAMS) PRESET BY THE FACTORY

CYCLE A:
SELECT CYCLE TYPE = AUTO, 0:REVERSE MODE = ON, 1:ENTER DRY TEMP = 180°F, 2:ENTER DRYNESS LEVEL = EXTRA DRY, 3:ENTER CYCLE ADJUSTMENT VALUE = 70, 4:CONTROLLED COOL DOWN = OFF, 5:ENTER COOL DOWN TIME = 6 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F

CYCLE B:
SELECT CYCLE TYPE = AUTO, 0:REVERSE MODE = ON, 1:ENTER DRY TEMP = 180°F, 2:ENTER DRYNESS LEVEL = DRY, 3:ENTER CYCLE ADJUSTMENT VALUE = 70, 4:CONTROLLED COOL DOWN = OFF, 5:ENTER COOL DOWN TIME = 6 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F

CYCLE C:
SELECT CYCLE TYPE = AUTO, 0:REVERSE MODE = ON, 1:ENTER DRY TEMP = 160°F, 2:ENTER DRYNESS LEVEL = DRY, 3:ENTER CYCLE ADJUSTMENT VALUE = 70, 4:CONTROLLED COOL DOWN = OFF, 5:ENTER COOL DOWN TIME = 4 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F

CYCLE D:
SELECT CYCLE TYPE = MANUAL, 0:REVERSE MODE = ON, ENTER SPIN TIME = 60 SECONDS, ENTER STOP TIME = 5 SECONDS, 1:ENTER DRY TIME = 40 MINUTES, 2:ENTER DRY TEMP = 190°F, 3:CONTROLLED COOL DOWN = OFF, 4:ENTER COOL DOWN TIME = 6 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F, 6:STEAM INJECTION = OFF

CYCLE E:
SELECT CYCLE TYPE = MANUAL, 0:REVERSE MODE = ON, ENTER SPIN TIME = 60 SECONDS, ENTER STOP TIME = 5 SECONDS, 1:ENTER DRY TIME = 30 MINUTES, 2:ENTER DRY TEMP = 180°F, 3:CONTROLLED COOL DOWN = OFF, 4:ENTER COOL DOWN TIME = 4 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F, 6:STEAM INJECTION = OFF

CYCLE F:
SELECT CYCLE TYPE = MANUAL, 0:REVERSE MODE = ON, ENTER SPIN TIME = 60 SECONDS, ENTER STOP TIME = 5 SECONDS, 1:ENTER DRY TIME = 10 MINUTES, 2:ENTER DRY TEMP = 170°F, 3:CONTROLLED COOL DOWN = OFF, 4:ENTER COOL DOWN TIME = 2 MINUTES, 5:ENTER COOL DOWN TEMP = 80°F, 6:STEAM INJECTION = OFF

B. CYCLE "0-40" PARAMETERS (PROGRAMS) PRESET BY THE FACTORY

CYCLE "0-40":

Manual (Timed) Mode, Reverse, Dry Time = 0, Dry Temp = 100, Cool Down Time = 3 Minutes, Cool Down Temp = 100, Spin Time = 60, Dwell (Stop) Time = 7.

SECTION VIII

PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) PROGRAMMING LIMITS

A. PREPROGRAMMED CYCLES

1. Automatic Drying Cycle **(Patent No. 4,827,627)**

   a. Drying Temperature from 160° F to 200° F (71° C to 93° C) in one-degree increments for a radial dryer, and 100° F to 160° F (38° C to 71° C) in one-degree increments for an axial dryer.

   b. Cycle Adjustment Value from 0-99, in increments of one (1).

   c. Cool Down Time from 0 to 99 minutes, in 1 minute increments.

   d. Cool Down Temperature from 70° F to 100° F (21° C to 38° C), in one-degree increments.

2. Timed (Manual) Drying Cycle

   a. Drying Temperature from 100° F to 200° F (38° C to 93° C) in one-degree increments for a radial dryer, and 100° F to 160° F (38° C to 71° C) in one-degree increments for an axial dryer.

   b. Drying Time from 0 to 99 minutes, in 1 minute increments.

   c. Cool Down Time from 0 to 99 minutes in 1 minute increments for preprogrammed cycle.

   d. Cool Down Temperature from 70° F to 100° F (21° C to 38° C), in one-degree increments.

   e. Reversing Models

      1) Automatic Drying Cycle **(Patent No. 4,827,627)** Spin Time and Dwell (Stop) Time are not programmable. (Refer to **Fixed Parameters** on next page).

      2) Manual Timed Cycle

         a) Spin Time (**"SPIN TIME"**) from 30-seconds to 120-seconds, in 1-second increments.

         b) Dwell (Stop) Time (**"STOP TIME"**) from 5-seconds to 10-seconds, in 1-second increments.

B. SYSTEM PARAMETERS (PROGRAM LOCATIONS)

1. Cycle Adjustment Value from 0 to 99, in increments of one (1).
2. Manually Loaded Auto Cycle ("COOL DOWN TIME") from 0 to 99 minutes, in 1 minute increments.
3. Audio Alert 0-10.
4. Lint Cleaning Frequency 1 to 10 hours.

C. FIXED PARAMETERS

1. Spin Time (**"SPIN TIME"**) is fixed at 2 minutes in forward and 2 minutes in reverse drive.
2. Dwell (Stop) Time (**"STOP TIME"**) is fixed at 5-seconds (in the Auto Mode) and is not adjustable.

SECTION IX

PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) AUTO CYCLE **(PATENT NO. 4,827,627)** CYCLE ADJUSTMENT VALUES

Gas Model	Adjustment Value
ADG-15	78
ADG-24	65
ADG-25V	78
ADG-285	65
ADG-30	68
ADG-30V	68
ADG-50V	70
ADG-60	65
ADG-758V	60
ADG-75V	70
ADG-78	70
ADG-81	62
ADG-115ES	68
ADG-120ES	73
ADG-170SE	68

Electric Model	Adjustment Value
ADG-15	75
ADG-25V	75
ADG-30	75
ADG-30V	75
ADG-50V	75
ADG-60	75
ADG-758V	75
ADG-75V	75
ADG-115ES (60 kW)	60
ADG-115ES (72 kW)	70
ADG-120ES (72 kW)	78
ADG-170SE (126 kW)	70

Steam Model	Adjustment Value
ADG-15	70
ADG-25V	70
ADG-30	70
ADG-30V	70
ADG-50V	70
ADG-60	70
ADG-758V	70
ADG-75V	70
ADG-81	70
ADG-115ES	68
ADG-120ES	65

IMPORTANT: If your particular model/dryer dryness levels **are not** shown in the above charts, contact the Service Department for the appropriate factors for your particular dryer. When doing so, please have the dryer **model** and **serial numbers** available.

IMPORTANT: The adjustment values have been preprogrammed by the factory, but can be changed in the field. **IF THE PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) SHOULD FAIL AND IS BEING REPLACED, THE REPLACEMENT PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER)** ***MUST BE*** **REPROGRAMMED FOR THE SPECIFIC MODEL SHOWN IN THE ADJUSTMENT VALUE PARAMETERS CHARTS ABOVE. THE ADJUSTMENT VALUE LABEL IS LOCATED ON THE TOP CONTROL PANEL, BEHIND THE PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) KEYBOARD (TOUCH PAD) DISPLAY DOOR.**

NOTE: When fine-tuning the Auto Cycle for certain loads, if the clothes comes out wet ***decrease*** the adjustment value; if the material comes out too dry, ***increase*** the adjustment value.

SECTION X

PHASE 7 NON-COIN MICROPROCESSOR CONTROLLER (COMPUTER) SYSTEM DIAGNOSTICS

IMPORTANT: YOU MUST DISCONNECT AND LOCK OUT THE ELECTRIC SUPPLY AND THE GAS OR STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE, TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS.**

ALL major circuits, including the door, the Phase 7 non-coin microprocessor controller (computer) temperature sensor, and the heat and motor circuits are monitored. The Phase 7 non-coin microprocessor controller (computer) will inform the user, via the light emitting diode (L.E.D.) display of certain failure messages, along with L.E.D. indicators on the Input/Output (I/O) board on the back panel of the front right control door.

A. DIAGNOSTIC (L.E.D. DISPLAY) FAULT MESSAGES

BURNER CONTROL FAULT – This routine monitors the gas return valve signal and compares it with the Direct Spark Ignition (DSI) purge time setting. If the gas return valve signal does not turn on before the DSI purge time expires, or if it turns on for less than 200 ms, the Phase 7 non-coin microprocessor controller (computer) will turn off the heat output, increase a counter, and wait the interpurge time before reattempting to ignite the burner. Once this fault condition occurs five (5) consecutive times, the Phase 7 non-coin microprocessor controller (computer) will interrupt the cycle and will display "BURNER CONTROL FAULT" and will go into a Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C) at the time of the failure, the Phase 7 non-coin microprocessor controller (computer) will continue to display "BURNER CONTROL FAULT", while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). If the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

IGNITION FAULT – After the Phase 7 non-coin microprocessor controller (computer) receives a gas valve return for more than 200 ms signal within the DSI purge time, the Phase 7 non-coin microprocessor controller (computer) will begin a DSI proof time. The Phase 7 non-coin microprocessor controller (computer) will continue to recheck the gas valve return signal. If the signal is lost during the DSI proof time, the Phase 7 non-coin microprocessor controller (computer) will turn off the heat output and determine what the retry count is set at. If the retry count is greater than zero, the Phase 7 non-coin microprocessor controller (computer) will wait through the interpurge time and attempt to reignite the flame. If the failure condition occurs again, the Phase 7 non-coin microprocessor controller (computer) will retry until the retry count has been satisfied. Once the retry count has been satisfied, the Phase 7 non-coin microprocessor controller (computer) will interrupt the cycle and display "Ignition Fault" condition and go into a Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C), the Phase 7 non-coin microprocessor controller (computer) will continue to display "Ignition Fault", while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

FLAME FAULT – After the Phase 7 non-coin microprocessor controller (computer) has verified that the gas valve signal was present throughout the Direct Spark Ignition (DSI) purge time and the DSI proof time, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the gas valve return signal. In the event that the gas valve return signal is lost anytime after the DSI proof time, the Phase 7 non-coin microprocessor controller (computer) will turn off the heat output and increase a counter. Once this fault condition occurs five (5) consecutive times, the Phase 7 non-coin microprocessor controller (computer) will interrupt the cycle, display "Flame Fault" condition, and go into a Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C), the Phase 7 non-coin microprocessor controller (computer) will continue to display "Flame Fault", while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

BURNER PURGE FAULT – If the Phase 7 non-coin microprocessor controller (computer) detects the presence of the gas return signal before sending the heat signal out, the Phase 7 non-coin microprocessor controller (computer) will trigger a "Burner Purge Fault" condition and will go into Fault Mode with a brief audio indication. The dryer will run with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

BURNER HIGH-LIMIT FAULT – This routine monitors the burner high-limit switch. If the switch opens during the cycle while the heat is on, the dryer will display "Burner High-Limit Fault" and will go into Fault Mode with a brief audio indication. The Phase 7 non-coin microprocessor controller (computer) will check the basket (tumbler) temperature. If the exhaust probe temperature is above 100° F (38° C), the dryer will continue to display "Burner High Limit Fault", while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the exhaust probe temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

CHECK CONTROL BOARD FUSE #2 – This routine identifies the opening of the main fuse (fuse 2) on the Phase 7 non-coin microprocessor controller (computer) board. If the fuse has opened, the Phase 7 non-coin microprocessor controller (computer) will not allow a cycle to begin and will display a "Check Control Board Fuse #2" condition. If the fuse has opened after the cycle has begun, it will still trigger the check main fuse fault. The dryer will shut off **ALL** outputs and will go into Fault Mode with a brief audio indication.

CLEAN LINT – This routine monitors the opening of the lint drawer switch and compares the time between openings to the Lint Cleaning Frequency Setting. This routine will first prompt the user to clean lint before locking out the dryer. Once the time between cleanings is equal to the Lint Cleaning Frequency Setting, the display will prompt the user to clean lint. The Lint Cleaning Frequency limits the amount of time the dryer will run before the Phase 7 non-coin microprocessor controller (computer) locks the dryer out for further use. If the lint drawer is not cleaned within 2 hours of run time, the Phase 7 non-coin microprocessor controller (computer) will be locked out.

EE PROM FAULT ### – Error in memory location. The ### indicates the location of the fault.

EXHAUST HIGH-LIMIT FAULT – This routine monitors the basket (tumbler) safety over temperature switch. If the switch opens, the dryer will display "Exhaust High-Limit Fault" and will go into Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C) the dryer will continue to display "Exhaust High-Limit Fault", while the Phase 7 non-coin microprocessor controller (computer) cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

EXHAUST PROBE FAULT/AXIAL PROBE FAULT – This routine indicates a problem with the temperature sensor circuit. This error will trigger an "Exhaust Probe Fault or Axial Probe Fault" condition and will go into a Fault Mode with a brief audio indication. The dryer will run with no heat for 3 minutes. Once the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

EXHAUST HIGH TEMP FAULT – This error routine indicates a problem with overheating. This error will initiate an "Exhaust High Temp Fault" condition and will go into Fault Mode with a brief audio indication. The Phase 7 non-coin microprocessor controller (computer) determines this error by monitoring the temperature sensor input to have a steady gradual increase in temperature to a known upper limit (the limit typically is 20° over the maximum allowed programmable set point). The dryer will run with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and remain in Fault Mode until the dryer is addressed.

LINT ACCESS OPEN – Indicates the lint drawer is open and needs to be closed.

LOW VOLTAGE FAULT – Indicates power has dropped below the operating values and will shutdown.

MAIN DOOR OPENED – Indicates the main door is open when it **should be** closed.

MODEL ERROR, ENTER CORRECT MODEL – This routine monitors the inputs, such as the sail switch and gas valve. Steam dryers **DO NOT** use a sail switch or valve input, and an electric dryer will not use a gas valve input. These signals allow the Phase 7 non-coin microprocessor controller (computer) to interpret what type of dryer it is controlling. The Phase 7 non-coin microprocessor controller (computer) determines what the expected dryer responses **should be** for that specific heat type dryer. Anytime a model fault is detected, the Phase 7 non-coin microprocessor controller (computer) will interrupt the cycle and will display "Model Error, Enter Correct Model–" and go into Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C) at the time of the failure, the Phase 7 non-coin microprocessor controller (computer) will continue to display "Model Error, Enter Correct Model–" while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and will remain in Fault Mode until the dryer is addressed.

> **NOTE:** If a model error occurs, the Phase 7 non-coin microprocessor controller (computer) will always default to the "gas" type for safety reasons. Also, the dryer **will be** stopped and forced into a restart condition to reevaluate **ALL** the expected responses.

ROTATION SENSOR FAULT – This routine monitors the pulses from the rotational sensor input. It basically times the dwell between signals. If the time between the pulses exceeds 10-seconds, the Phase 7 non-coin microprocessor controller (computer) will trigger a "Rotation Sensor Fault" condition and will go into Fault Mode with a brief audio indication. Depending on the model type, the dryer will run the fan with no heat for 3 minutes or until the temperature drops below 100° F (38° C) for GAS REVERSING, ELECTRIC REVERSING and STEAM REVERSING models. Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and remain in Fault Mode until the dryer is addressed. If the dryer model is a GAS NON-REVERSING, ELECTRIC NON-REVERSING or STEAM NON-REVERSING model, the Phase 7 non-coin microprocessor controller (computer) will immediately shut off **ALL** outputs, regardless of the basket (tumbler) temperature, and remain in Fault Mode until the dryer is addressed.

SAIL SWITCH CLOSED FAULT – This routine prevents the start-up of the dryer unless the sail switch is in the open position. If the sail switch is in the closed position prior to starting, the Phase 7 non-coin microprocessor controller (computer) will display "PLEASE WAIT START UP IN PROCESS" and will allow the Phase 7 non-coin microprocessor controller (computer) 10-seconds for the sail switch to open before faulting out on a "Sail Switch Closed Fault". Once the dryer faults out on the "Sail Switch Closed Fault", the dryer will not be allowed to start. This routine is also monitored at every start-up, including a start-up after being in Pause Mode. If the sail switch is in the closed position prior to starting from a Pause Mode, the Phase 7 non-coin microprocessor controller (computer) will display, "PLEASE WAIT RESTART IN PROCESS" and allow the Phase 7 non-coin microprocessor controller (computer) 10-seconds for the sail switch to open before faulting out on a "Sail Switch Closed Fault". Again, once the dryer faults out on the "Sail Switch Closed Fault", the dryer will not be allowed to start. Anytime the fault occurs, there will be an audio indication and start/restart will be prevented.

SAIL SWITCH OPEN FAULT – If the sail switch does not close within 8-seconds of starting or restarting a cycle, the Phase 7 non-coin microprocessor controller (computer) will display "Sail Switch Open Fault" condition. Or, if the sail switch opens during a cycle, the Phase 7 non-coin microprocessor controller (computer) will immediately shut off the heat output and monitor how long the sail switch is open for. If the sail switch is open for more than 30-seconds, the Phase 7 non-coin microprocessor controller (computer) will display "Sail Switch Open Fault" condition and go into Fault Mode with a brief audio indication. If the basket (tumbler) temperature is above 100° F (38° C), the Phase 7 non-coin microprocessor controller (computer) will continue to display "Open Sail Switch Fault" while the dryer cools by running with no heat for 3 minutes or until the temperature drops below 100° F (38° C). Once the basket (tumbler) temperature is below 100° F (38° C), or the 3 minutes expire, the Phase 7 non-coin microprocessor controller (computer) will shut off **ALL** outputs and remain in Fault Mode until the dryer is addressed.

S.A.F.E. SYSTEM ACTIVATED – Indicates that the Phase 7 non-coin microprocessor controller (computer) has detected a fire and is currently extinguishing the flame.

S.A.F.E. SYSTEM WAS ACTIVATED – Indicates that the Phase 7 non-coin microprocessor controller (computer) detected a fire and has extinguished the flame.

B. S.A.F.E. SYSTEM DIAGNOSTIC CONDITIONS

In the event that the Phase 7 non-coin microprocessor controller (computer) detects a fault in the Sensor Activated Fire Extinguishing (S.A.F.E.) system, the Phase 7 non-coin microprocessor controller (computer) will display the message "S.A.F.E. SYSTEM DISABLED … READY". To find the reason for the S.A.F.E. system disabling, press and hold the red "STOP/CLEAR" and green "START/ENTER" keys. Doing so will cause the Phase 7 non-coin microprocessor controller (computer) to display one (1) of the following diagnostic messages:

OPEN THERMISTOR PROBE – This message indicates that the S.A.F.E. system thermistor probe is either not connected or is damaged. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will immediately enter S.A.F.E. SYSTEM DISABLED Mode.

SHORTED THERMISTOR PROBE – This message indicates that the S.A.F.E. system thermistor probe is damaged or the wiring is shorted. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will immediately enter S.A.F.E. SYSTEM DISABLED Mode.

DISCONNECTED WATER VALVE – This indicates that the water valve is open or that it is not connected to the Phase 7 non-coin microprocessor controller (computer). If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

SHORTED WATER VALVE – This indicates the water valve is shorted or the wiring to the valve is shorted. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

WATER NOT CONNECTED – This indicates that there is no water pressure at the water valve. This will occur if water is not connected to the dryer or if there is low water pressure in the water line coming to the dryer. This could also be a defective pressure switch or wiring to the pressure switch. If this condition is detected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED Mode. Once the condition is corrected, the Phase 7 non-coin microprocessor controller (computer) will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED Mode.

C. INPUT/OUTPUT (I/O) BOARD LIGHT EMITTING DIODE (L.E.D.) INDICATORS

1. Inputs

1. ESTOP – (RED L.E.D.) This L.E.D. will indicate the status of the E-STOP. If the E-STOP has been pressed, then the L.E.D. is ON.

2. GAS_V – (RED L.E.D.) This L.E.D. will indicate the status of the gas valve. If the gas valve is open (ON), then the L.E.D. is ON.

3. BRHL – (RED L.E.D.) This L.E.D. will indicate the status of the burner high limit disk. If the disk is closed (temperature below 330° F [166° C]), then the L.E.D. is ON.

4. SAIL – (RED L.E.D.) This L.E.D. will indicate the status of the sail switch. If the switch is closed, then the L.E.D. is ON.

5. EXHL – (RED L.E.D.) This L.E.D. will indicate the status of the exhaust high limit disk. If the disk is closed (temperature below 225° F [107° C]), then the L.E.D. is ON.

6. MAIN – (RED L.E.D.) This L.E.D. will indicate the status of the main door. If the door is closed, then the L.E.D. is ON.

7. LINT – (RED L.E.D.) This L.E.D. will indicate the status of the lint drawer. If the drawer is closed, then the L.E.D. is ON.

8. FUSE – (RED L.E.D.) This L.E.D. will indicate the status of the Phase 7 non-coin microprocessor controller (computer) voltage. If the POWER ON button is pressed (green button light is on), then the L.E.D. is ON.

9. H_2O – (RED L.E.D.) This L.E.D. will indicate the status of the water pressure switch on the Sensor Activated Fire Extinguishing (S.A.F.E.) system water line. If water pressure is present, then the L.E.D. is ON.

2. Outputs

10. F.S.S. – (GREEN L.E.D.) This L.E.D. will indicate that the Sensor Activated Fire Extinguishing (S.A.F.E.) system output is activated.

11. STEAM – (GREEN L.E.D.) This L.E.D. will indicate the status of the steam injection output. If the request to turn on the steam injection is made, then the L.E.D. is ON.

12. _HEAT – (GREEN L.E.D.) This L.E.D. will indicate the status of the heat output. If the request to turn on the heater is made, then the L.E.D. is ON.

13. AIR – (GREEN L.E.D.) This L.E.D. will indicate the status of the air jet output. If the request to turn on the air jet is made, then the L.E.D. is ON.

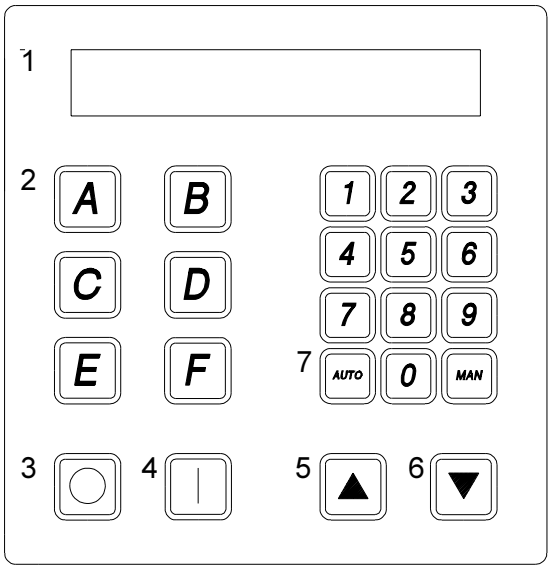
14. REV – (GREEN L.E.D.) This L.E.D. will indicate the status of the basket (tumbler) reverse direction output. If the request to tumble the drum in the reverse direction is made, then the L.E.D. is ON.

15. FWD – (GREEN L.E.D.) This L.E.D. will indicate the status of the basket (tumbler) forward direction output. If the request to tumble the drum in the forward direction is made, then the L.E.D. is ON.

16. FAN – (GREEN L.E.D.) This L.E.D. will indicate the status of the fan output. If the request to turn on the fan (blower) is made, then the L.E.D. is ON.

D. KEYBOARD (TOUCH PAD) LAYOUT

1. Dot Matrix Display
2. A-F Preprogrammed Cycles
3. Stop/Pause Button
4. Start Button
5. Increment Button
6. Decrement Button
7. One Time Auto (Dryness Level) and Manual (Timed) Cycle



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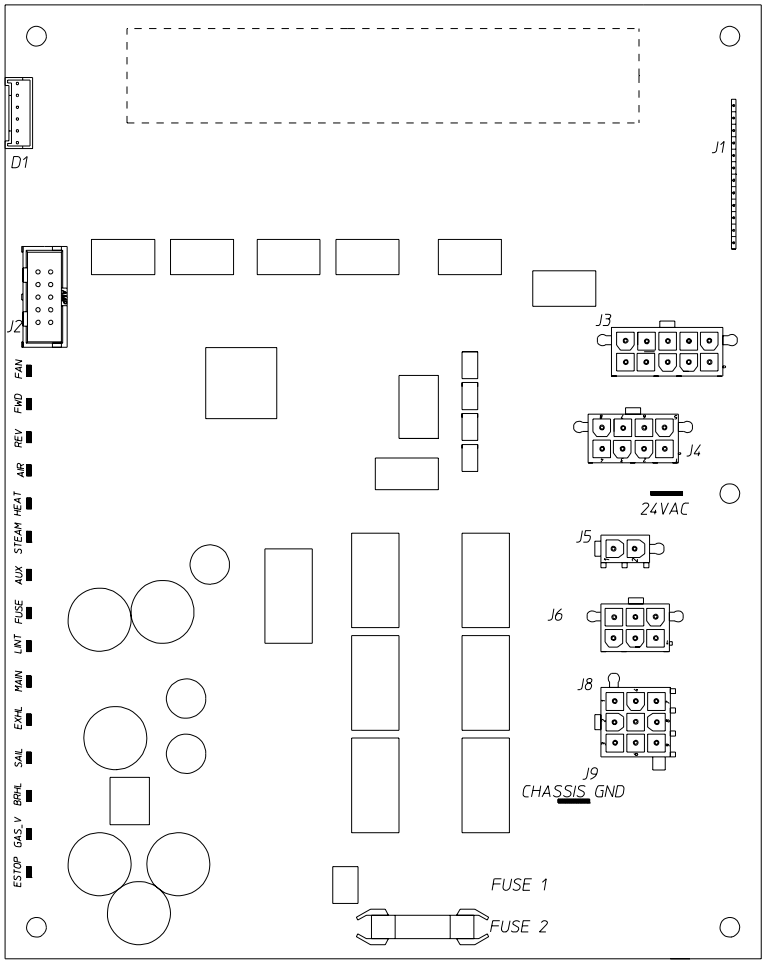
NOTE: Fuse 1 is for the Phase 7 non-coin microprocessor controller (computer) power rated at 1/2-amp. If the fuse blows, it is a computer board fault. Fuse 2 is for 24v control power rated at 5-amps. If fuse blows it is a 24v control fault.



SECTION XI

CUSTOMER CUSTOM PARAMETER SETTINGS

This section can be used to record/document parameters and settings, personally programmed in your dryer. It is suggested that any parameter changes or customer cycles be documented here for future reference.

CUSTOMER USE

LANGUAGE: _____

MODEL: _____

SYSTEM TEMP: _____

DRYNESS LEVEL: _____

LINT COUNT: _____

AUDIO ALERT: _____

SCROLL TYPE: _____

SCROLL SPEED: _____

SPIN TIME: _____

DWELL (STOP) TIME: _____

WRINKLE GUARD AUDIO ALERT: _____

STEAM INJECTION: (OPTION) _____

1ST ON TIME: _____

OFF TIME: _____

2ND ON TIME: _____

OFF TIME: _____

3RD ON TIME _____

OFF TIME: _____

4TH ON TIME: _____

OFF TIME: _____

5TH ON TIME: _____

OFF TIME: _____

PROGRAMMED CYCLE A-F:

Cycle: _____

Cycle Type: **AUTO**

Reverse Mode: _____ (Option)

Dry Temp: _____

Dry Level: _____

Cool Down Time: _____

Cool Down Temp: _____

Controlled Cool Down: _____

Cycle Type: **MANUAL**

Reverse Mode: _____ (Option)

Dry Time: _____

Dry Temp: _____

Cool Down Time: _____

Cool Down Temp: _____

Spin Time: _____

Dwell (Stop) Time: _____

Controlled Cool Down: _____

Steam Injection: _____ (Option)

1ST ON TIME: _____

OFF TIME: _____

2ND ON TIME: _____

OFF TIME: _____

3RD ON TIME _____

OFF TIME: _____

4TH ON TIME: _____

OFF TIME: _____

5TH ON TIME: _____

OFF TIME: _____

PROGRAMMED CYCLE 0-40:

Cycle: _____

Cycle Type: **AUTO**

Reverse Mode: _____ (Option)

Dry Temp: _____

Dry Level: _____

Cool Down Time: _____

Cool Down Temp: _____

Controlled Cool Down: _____

Cycle Type: **MANUAL**

Reverse Mode: _____ (Option)

Dry Time: _____

Dry Temp: _____

Cool Down Time: _____

Cool Down Temp: _____

Spin Time: _____

Dwell (Stop) Time: _____

Controlled Cool Down: _____

Steam Injection: _____ (Option)

1ST ON TIME: _____

OFF TIME: _____

2ND ON TIME: _____

OFF TIME: _____

3RD ON TIME _____

OFF TIME: _____

4TH ON TIME: _____

OFF TIME: _____

5TH ON TIME: _____

OFF TIME: _____

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