



**PHASE 3
OPL
USER'S
MANUAL**

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

080194
061197JEV/tf
110999JEV/tilly

ADC Part No. 450146

Retain This Manual In A Safe Place For Future Reference

Please read this manual carefully to thoroughly familiarize yourself with the Phase 3 OPL 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 at any time.

Replacement parts can be ordered from your distributor or the **ADC** factory. When ordering replacement parts from the factory, you can FAX your order to **ADC** at (508) 678-9447 or telephone your orders directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the description and part number, so that your order is processed accurately and promptly.

“IMPORTANT NOTE TO PURCHASER”

Information must be obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions must be posted in a prominent location near the dryer.

IMPORTANT

YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC SUPPLY and THE GAS SUPPLY or THE 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.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOR AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

DO NOT DRY MOP HEADS IN THE DRYER.

DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.

WARNING

CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR IN THE DRYER(S).

CHILDREN SHOULD BE SUPERVISED IF NEAR DRYER(S) IN OPERATION.

CAUTION

DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

IMPORTANT

PLEASE OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment and/or specified in the installation/operator's manual included with the dryer.

Dryer(s) must not be installed or stored in an area where it will be exposed to water and/or weather.

Table of Contents

SECTION I

INSTRUCTION TO PHASE 3	3
------------------------------	---

SECTION II

L.E.D. DISPLAY CODES	5
----------------------------	---

SECTION III

OPERATING INSTRUCTIONS	8
------------------------------	---

A. Operating Sequence	8
-----------------------------	---

B. Operating Notes	12
--------------------------	----

SECTION IV

INTRODUCTION TO PROGRAMMING	13
-----------------------------------	----

Description of Basic System Parameters	14
--	----

Programming of Pre-Programmed Cycles	16
--	----

Manually Entered Programs	16
---------------------------------	----

Description of Parameters for Pre-Programmed and Manually Loaded Cycles	17
---	----

SECTION V

FLOW CHARTS	18
-------------------	----

Pre-Programmed Cycle Programs	19
-------------------------------------	----

Example of a Pre-Programmed Cycle	21
---	----

Program Location 1	23
--------------------------	----

Program Location 2	24
--------------------------	----

Program Location 3	26
Program Location 4	27
Manually Entered Automatic Cycle	28
Manually Entered Manual Cycle	29

SECTION VI

FACTORY PRESET PARAMETERS (PROGRAMS).....	30
Phase 3 OPL Parameters (Pre-set by the factory for REVERSING DRYERS)	30
System Parameters	30
Phase 3 OPL Parameters (Pre-set by the factory for NON-REVERSING DRYERS)	31
System Parameters	31
Phase 3 OPL Programming Limits	32

SECTION I

INSTRUCTION TO PHASE 3

PROGRAMMABLE

ALL programming for the Phase 3 OPL computer is done through the computer keyboard and the programs are displayed for verification. Dip switches are eliminated to avoid the possibility of switch failure, due to an accumulation of lint or moisture. To enter the programs, a security code is entered into the computer through the keyboard. The security code prevents unauthorized entry.

MANUALLY LOADED CYCLES

These cycles are not stored in the computer memory. They are entered by the operator when the cycle is needed.

- A. ***AUTOMATIC MODE*** - This program will cycle the dryer off when the preprogrammed dryness levels have been reached. The operator will enter the dryness level (1 - 225 peaks) and the drying temperature. At the end of the drying cycle, the dryer will begin an automatic preprogrammed cooling cycle.
- B. ***MANUAL MODE*** - In this program, the operator will enter the dry time (0-99 minutes), the cool down time (0-99 minutes) and drying temperature.

DRYING TEMPERATURE

Operating temperature can be programmed from a minimum of 110° F to 200° F (44° C to 94° C) in one-degree increments.

PREPROGRAMMED CYCLES

The Phase 3 OPL computer can store in its memory six (6) preprogrammed cycles (A through F on the keyboard) which are entered complete into the computer prior to operation. Any of these programs can be started by pressing one button. These preprogrammed cycles can best be set in either the automatic or manual mode and are displayed at the beginning of each cycle start up.

SYSTEM PARAMETERS

The function of the dip switches in our previous computers has been to set the basic system parameters. With the elimination of the dip switches, these parameters are now entered through the keyboard and stored in four program locations. These programs are entered only once and are called up to each cycle selection when required.

PREPROGRAMMED CYCLE CHECK

To check the parameters of the preprogrammed cycles, without entering the program mode, the operator can open the tumbler door and press any of the preprogram keys (A through F on keyboard). The cycle parameters will be displayed for verification only, a cycle will not begin with the door open.

TEMPERATURE CONVERSION STATUS

Temperature-related circuits are programmable, to be operated in Fahrenheit or Celsius. Programs affected are:

- a. Temperature Display Mode
- b. Temperature Selection
- c. Cool Down Temperature

L.E.D. FLASH DISPLAY

The display is programmed to allow the L.E.D. (light emitting diode) readout to display while a cycle is in progress, a choice of cycle time or temperature. Programming also allows the L.E.D. readout to flash back and forth from cycle to temperature, which can be set from 1 - 15 seconds.

If the temperature display program is not used, the temperature can be viewed through the L.E.D. display by pressing the enter/start button at any time while a cycle is in progress.

ANTI-WRINKLE CYCLE

This program helps keep permanent press items, wrinkle free, when they are not removed from the dryer promptly at the end of the drying and cooling cycle. Programming allows the dryer to automatically restart in the cool down cycle, if the clothes are not removed in a preprogrammed amount of time. Anti-Wrinkle program settings:

- a. Guard Delay Time: 15 - 4095 seconds in one-second increments.
- b. Guard On Time: 10 - 63 seconds in one-second increments.
- c. Maximum Guard Time: 1 - 127 minutes in one-minute increments.

AUDIBLE TONE

A tone will sound each program entry. In addition, programming allows the tone to sound from 1 - 15 seconds at the end of the drying and cooling cycle to indicate that the cycle is complete.

REVERSING OPTION

Program allows:

- a. Select reverse or always reverse or, in the case of the preprogrammed cycle, Reverse or No Reverse.
- b. Stop Time: 4 - 19 seconds in one-second increments.
- c. Spin Time: 30 - 93 seconds in one-second increments.

BATTERY BACK-UP

This feature allows the computer to maintain its operating status, should a momentary power interruption occur, while the dryer cycle is in progress.

DIAGNOSTICS

ALL major circuits, including door, microprocessor, temperature sensor, heat, and motor circuit, are monitored.

SECTION II

L.E.D. DISPLAY CODES

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

A. DISPLAY OPERATING STATUS

1. Cycle in Progress - while the dryer is operating the display will read which cycle is in progress. For example, in the Drying Cycle (Mode), the display will read “dr,” and in the Cool Down Cycle (Mode), the display will read “CL.”
2. Cycle Status - while a cycle is in progress the display will show the progress (in time) of the cycle (load) that is being processed.
 - a. Automatic Drying Cycle - Cycle Status portion of the display will show the elapsed time in minutes and will continue to count upward (i.e. “00,” “01,” etc.) until the dryness level selected/preprogrammed is reached.
 - b. Timed (manual) Drying Cycle - Cycle Status portion of the display will show the drying or cool down time and will count down (in minutes) until the selected/programmed drying and cool down time has expired.
3. Temperature Display - While a cycle is in progress the temperature in the tumbler (basket) can be viewed at any time by pressing (and holding in) the “ENTER/STOP” key.
4. Alternate Display Programs - Programming allows for the display to read just the basket (tumbler) temperature or flash back and forth from cycle in progress or tumbler (basket) temperature while the dryer cycle is in progress. The Phase 3 OPL microprocessor (computer) controller is programmed by the factory not to flash and to read the cycle in progress.

NOTE: Refer to the illustration on the following page (page 6) for details.

5. Indicator Dots - Located at the top of the display is a series of dots which indicate the various Phase 3 OPL microprocessor controller output functions while a cycle is in progress.
 - a. Illustration No. 3 - On indicator - this indicator dot is on whenever a cycle is in progress. In the case of a non-reversing dryer this dot would indicate that the drive/fan motor should be on. For a reversing dryer, this dot would indicate that the blower (impeller/fan) motor **should be on**.

Additionally, when the Anti-Wrinkle Program is active, this indicator dot will be on whenever the Phase 3 OPL microprocessor controller is in the Guard On Time Program.

- b. Illustration No. 4 - Heat Indicator - this indicator dot is on whenever the microprocessor controller (computer) is calling for the heating unit (gas burner, electric oven or steam heating unit) to be active (on).

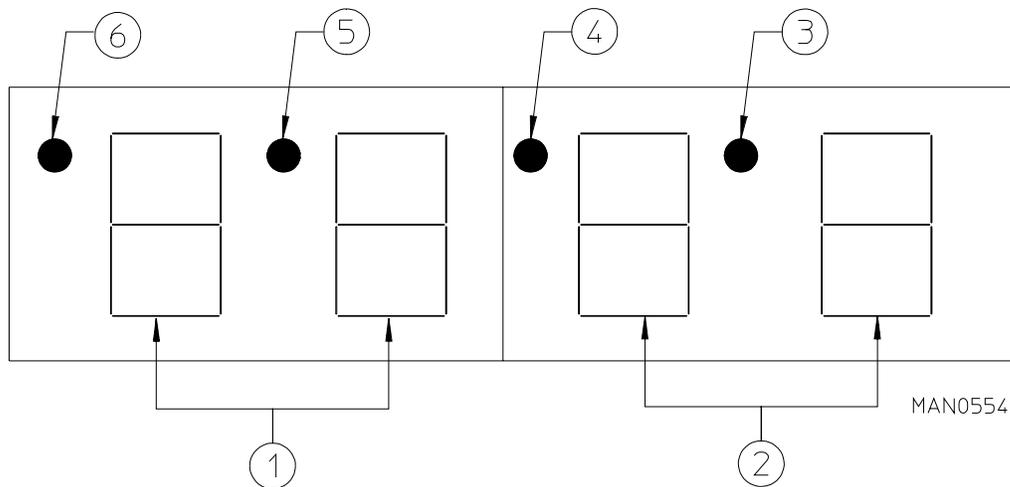
- c. Illustration No. 5 - Hi/Lo Gas Valve circuit - this indicator is functional for gas dryers with the optional Hi/Lo gas valve system. When both indicator dot No. 5 and indicator dot No. 4 are on, the burner is in Hi fire. When only No. 4 is on the burner is in low fire.

For non Hi/Lo gas, electrically and steam heated dryers, even though this indicator dot may go on and off throughout the drying cycle; it serves no purpose and should be ignored.

- d. Illustration No. 6 - Tumbler (Basket) Rotation Indicator - this indicator dot is functional for your dryer models with Reversing Action Option ONLY. When this is on, it's indicating that the basket (tumbler) is rotating (either in the forward or reverse direction).

Additionally, when the Anti-Wrinkle Program is active, this indicator dot will be on whenever the Phase 3 OPL microprocessor controller (computer) is in the Guard On Time Program (Mode).

B. PHASE 3 OPL L.E.D. (LIGHT EMITTING DIODE) DISPLAYS



1. CYCLE IN PROGRESS

- a. dr - Drying Cycle
- b. CL - Cooling Down Cycle

2. CYCLE STATUS

- a. Automatic mode - displays drying or cool down time in elapsed minutes.
- b. Timed (manual) cycle - displays drying and cool down time (counts downward).

3. ON INDICATOR - dryer is in the operating mode.

4. HEAT ON INDICATOR - heating unit **should be** active (ON).

5. HI/LO GAS VALVE CIRCUIT INDICATOR - refer to **item 5c** on previous page (**page 5**) for explanation.

6. BASKET ROTATION INDICATOR - for reversing models only. Indicates basket (tumbler) **should be** turning.

C. L.E.D. DISPLAY CODES

AUtO	Automatic Mode	FILL	No Cycle In Progress
ArEv	Always Reverse	FLS	Flash Display Active
bUZ	Buzzer (tone)	GdLY	Anti-Wrinkle Delay Time
bUZ--tinE	Buz Time	G on--tinE	Anti-Wrinkle On Time
°CEL	Degree in Celsius	Grd	Anti-Wrinkle Program Active
CL	Cool Down Cycle in Progress	LC	Load Cool Down Time
COOL--tinE	Cool Down Time	Ld	Load Drying Time
COOL-tEnP	Cool Down Temperature	nAnU	Manual Mode/Timed Cycle
CY A	Pre-programmed Cycle A	nGrd	No Guard
CY b	Pre-programmed Cycle b	nbUZ	No Buzzer (tone)
CY C	Pre-programmed Cycle C	nFLS	No Flash Display
CYd	Pre-programmed Cycle d	nGrd	No Anti-Wrinkle Cycle
CY E	Pre-programmed Cycle E	nrEv	No Reverse
CY F	Pre-programmed Cycle F	ProG	Program Mode
CYCL--tinE	Cycle Display Time	rEv	Reverse
d	Dryness Level (auto peak)	SPin--tinE	Spin Time
donE	Drying or Cooling Cycles Complete or Dryer is in Anti-Wrinkle Cycle	SrEv	Select Reverse
door	Door Circuit is open	StOP--tinE	Stop Time
dr	Drying cycle in progress	tEnP	Temperature
drY--LEvL	Dryness Level (auto peak)	tEnP--tinE	Temperature Display Time
drY--tEnP	Drying Temperature	tinE	Time
dSFL	Dryer Sensor Circuit Failure		
F	Fabric (temperature)		
°FAr	Degree in Fahrenheit		

D. FAULT CODES:

1. “dSFL” - indicates that there is a fault somewhere in the heat microprocessor controller’s heat sensing circuit;
 - a. Failed microprocessor temperature sensor.
 - b. Blown microprocessor controller (computer) 1/8-amp fuse.
 - c. Failed microprocessor controller (computer).
 - d. Open circuit or loose connection in wires between the microprocessor controller (computer) and microprocessor temperature sensor.
2. “door” - indicates that there is a fault in the D.C. portion of the door switch circuit;
 - a. Attempt was made to restart a cycle with the main door open.
 - b. Failed door switch.
 - c. Main door switch is not adjusted properly.
 - d. Open circuit in D.C. door switch wiring.

SECTION III

OPERATING INSTRUCTIONS

The Phase 3 OPL (On Premise Laundry) computer system allows the operator to choose from six (6) preprogrammed cycles (keys “A” through “F”) which have been preprogrammed by the factory with the parameters shown on **page 30 and page 31**.

Additionally, for occasional one-time special loads, the manually loaded cycles can be used where the operator must set the specific program(s) needed.

NOTE: Refer to Sections I or III of this manual for a complete explanation of the various program cycles/selections available.

After the load is put into the basket (tumbler) and the main door is closed, determine which cycle will suit the application (type of load). We recommend using the automatic drying cycles.

A. OPERATING SEQUENCE

1. Preprogrammed Cycles

a. Automatic drying cycle ...

1) Display reads “FILL” (no cycle in progress).

2) Press the letter on the keyboard corresponding to the cycle desired (i.e., Key “A”)

a) The L.E.D. (light emitting diode) display will quickly preview the parameters (programs) set ;

190° F (88° C) - drying temperature
d 09 (Automatic dryness level)

b) The dryer will then start (rotate).

3) The L.E.D. display will now show the Cycle in progress and the Cycle status (i.e., “dr00”) meaning that the dryer is in the Drying Cycle (Mode). During the drying cycle, the Phase 3 OPL microprocessor controller (computer) is monitoring the amount of moisture in the load which is achieved by counting the amount of times the heat cycles on and off (Peaks). The cycle status portion will show the elapsed time in minutes (i.e. 01, 02, etc.). The cycle status of the display will continue to count upward until the dryness level programmed is reached.

NOTE: To stop the dryer at any time, open the main door. To continue the cycle, close the main door and press the “ENTER/START” Key. The dryer will now continue from where it left off, or, the dryer may also be stopped by pressing the “CLEAR/STOP” key. However, the cycle that was in progress will be cancelled, and the display will return to the “FILL” (no cycle in progress) mode.

- 4) Once the preprogrammed dryness level is reached, the drying cycle will end, and the Cycle in Progress portion of the L.E.D. (light emitting diode) display will read “CL” meaning that the dryer is now in the Cool Down Cycle (mode). The cycle status portion of the display will show the elapsed time in minutes (i.e., 01, 02, etc.). The cycle status portion of the display will continue to count upward until the programmed cool down time or cool down temperature is reached. Whichever comes first.
- 5) Once the Cool Down cycle is completed, the dryer will shut off, the tone (buzzer) will sound (i.e., 7 seconds) and the display will read “donE.” The display will read “donE” until the main door is opened.
- 6) If the Anti-Wrinkle program is active, once the drying and cooling cycles are completed and the display reads “donE”, the Phase 3 OPL microprocessor controller will then proceed into the Anti-Wrinkle program. If the main door is not opened within the Anti-Wrinkle delay time (i.e., 90 seconds), the basket (tumbler) will rotate (without heat) for the programmed Anti-Wrinkle On time (i.e., 20 seconds). The Phase 3 OPL microprocessor controller (computer) will repeat this process until the programmed Maximum Anti-Wrinkle On Time has expired (i.e., 10 minutes) or until the main door is opened, whichever comes first. The display will read “FILL” no cycle in progress).

b. Timed (Manual) Drying Cycle

- 1) Display reads “FILL” (no cycle in progress)
- 2) Press the letter on the keyboard corresponding to the cycle desired (i.e., Key “D”).
 - a) The L.E.D. display will quickly preview the parameters (programs) set;
 - “Ld40” (drying time)
 - “LC 6” (cool down time)
 - “F190” (drying temperature)
- 3) The dryer will then start (rotate).
- 4) L.E.D. display will now show Cycle In Progress and Cycle status (i.e., “dr40”), meaning that the dryer is in the Drying Cycle (Mode) for 40 minutes. During the Drying Cycle, the Cycle Status time will count downward until the drying time programmed has expired.

NOTE: To stop the dryer at any time, open the main door. To continue the cycle, close the main door and press the “ENTER/START” key. The dryer will now continue from where it left off, or, the dryer may also be stopped by pressing the “CLEAR/STOP” key. However, the cycle that was in progress will be canceled, and the L.E.D. display will return to the “FILL” (no cycle in progress) mode.

- 5) When the programmed drying time has expired, the Phase 3 OPL microprocessor controller (computer) will proceed into the Cool Down Cycle (Mode), and the Cycle in Progress portion of the L.E.D. display will read the programmed Cool Down Time (i.e., 06 minutes) and count downward until this time has expired.
- 6) Once the Cool Down Cycle is completed, the dryer will shut off, and the L.E.D. display will read “donE.” The L.E.D. display will read “donE” until the main door is opened.

- 7) If the Anti-Wrinkle Program is active, once the drying and cooling cycles are complete and the display reads “donE,” the Phase 3 OPL microprocessor controller (computer) will proceed into the Anti-Wrinkle Program. If the main door is not opened within the Anti-Wrinkle Delay Time (i.e., 90 seconds) the basket (tumbler) will rotate (without heat) for the programmed Anti-Wrinkle On Time (i.e., 20 seconds). The Phase 3 OPL microprocessor controller will repeat this process until the programmed Maximum Anti-Wrinkle Time has expired (i.e., 10 minutes) or until the main door is opened, whichever comes first. The L.E.D. display will continue to read “donE” until either the main door is opened or the Maximum Anti-Wrinkle Time has expired, at which time, the L.E.D. (light emitting diode) display will read “FILL” (no cycle in progress).

2. Manually Loaded Cycles

a. Automatic drying cycle

- 1) Display reads “FILL” (no cycle in progress).
- 2) Press Key “2.”
- 3) The L.E.D. display will now read “F,” meaning select Fabric (temperature) desired. Enter the temperature desired (from 110° F to 200° F [40° C to 95° C] in one degree increments). For example, for 190° F (88° C), press key “1,” key “9,” key “0” and then press the “ENTER/START” key.
- 4) L.E.D. display will now read “d” (dryness level). Enter the amount of dryness desired (1 to 225 in increments of 1).

IMPORTANT: For ALL models other than “GAS DRYERS” manufactured with the ADC Hi/Lo gas valve system, Automatic dryness level must not be set higher than 9 or 10. To do so will cause the dryer to run for an extended period of time and can result in damage to items being dried.

For example, for a dryness of 9, press key “0,” key “9,” and then press the “ENTER/START” key.

- 5) For optional reversing models, if the system parameters are set for Select Reverse, the L.E.D. display will now read “Sr,” meaning Select Reverse. If reversing basket (tumbler) actions is desired, press the “ENTER/START” key. If No Reverse is desired, press “0” key.
- 6) The dryer will now start, and the display will show the Cycle In Progress and Cycle Status (i.e., “dr00”), meaning that the dryer is in the Drying Cycle (mode). During the Drying Cycle, the Phase 3 OPL microprocessor controller (computer) is monitoring the amount of moisture in the load which is achieved by the amount of times the heat cycles on and off (peaks).

The Cycle status portion of the L.E.D. display will show the elapsed time in minutes (i.e., 01, 02, etc.) and will count upward in time until the dryness level selected is reached.

NOTE: To stop the dryer at any time, open the main door. To continue the cycle, close the main door and press the “ENTER/START” key. The dryer will now continue from where it left off, or, the dryer may also be stopped by pressing the “CLEAR/STOP” key. However, the cycle that was in progress will be cancelled, and the L.E.D. (light emitting diode) display will return to the “FILL” (no cycle in progress) mode.

- 7) When the selected dryness level is reached, the drying cycle will end, and the Cycle In Progress portion of the display will read “CL” meaning that the dryer is now in the Cool Down Cycle (mode). The Cycle Status portion of the display will show the elapsed time in minutes (i.e., 01, 02, etc.). The Cycle Status portion of the display will continue to count upward until the programmed cool down time or cool down temperature is reached, whichever of the two comes first.
- 8) Once the Cool Down Cycle is completed, the dryer will shut off, the tone (buzzer) will sound (i.e., 7 seconds), and the display will read “donE.” The display will read “donE” until the main door is opened.
- 9) If the Anti-Wrinkle Program is active, once the drying and cooling cycles are completed and the L.E.D. display reads “donE,” the Phase 3 OPL microprocessor controller (computer) will then proceed into the Anti-Wrinkle Program. If the main door is not opened within the Anti-Wrinkle Delay Time (i.e., 90 seconds) the basket (tumbler) will rotate (without heat) for the programmed Anti-Wrinkle On Time (i.e., 20 seconds). The Phase 3 OPL microprocessor controller (computer) will repeat this process until the programmed Maximum Anti-Wrinkle Time has expired (i.e., 10 minutes) or until the main door is opened, whichever comes first. The L.E.D. display will continue to read “donE” until either the main door is opened or the Maximum Anti-Wrinkle Time has expired, at which time the L.E.D. display will read “FILL” (no cycle in progress).

b. Timed (manual) Drying Cycle

- 1) L.E.D. display reads “FILL” (no cycle in progress).
- 2) Press key “5.”
- 3) L.E.D. display reads “Ld” (Load Drying Time). Enter drying time desired (from 0 to 99 minutes in one minute increments). For example, for 40 minutes, press key “4,” key “0,” and then press the “ENTER/START” key.
- 4) L.E.D. display reads “LC” (Load Cool down Time). Enter cool down timer desired (from 0 to 99 minutes in one minute increments). For example, for 10 minutes, press key “1,” key “0,” and then press the “ENTER/START” key.
- 5) L.E.D. display reads “F” (Fabric .. drying temperature). Select temperature desired (from 110° F to 200° F [44° C to 94° C] in one (1) degree increments). For example, 182° F (83° C), press key “1,” key “8,” key “2,” and then press the “ENTER/START” key.
- 6) For optional reversing models, if the system parameters are set for Select Reverse, the L.E.D. display will now read “Sr,” meaning Select Reverse. If reversing basket (tumbler) action is desired, press the “ENTER/START” key. If No Reverse is desired, press “0” key.

- 7) The dryer will now start, and the display will show the Cycle In Progress and Cycle Status (i.e., “dr40”), meaning that the dryer is in the Drying Cycle (mode). During the Drying Cycle, the Cycle Status portion of the L.E.D. (light emitting diode) display will count downward in time until the drying time selected (i.e., 40 minutes) has expired.

NOTE: To stop the dryer at any time, open the main door. To continue the cycle, close the main door and press the “ENTER/START” key. The dryer will now continue from where it left off, or, the dryer may also be stopped by pressing the “CLEAR/STOP” key. However, the cycle that was in progress will be cancelled, and the L.E.D. display will return to the “FILL” (no cycle in progress) mode.

- 8) When the programmed drying time has expired, the Phase 3 OPL microprocessor controller (computer) will proceed into the Cool Down Cycle (mode), and the Cycle In Progress portion of the L.E.D. display will read the programmed Cool Down Time (i.e., 10 minutes) and count downward until this time has expired.
- 9) Once the Cool Down Cycle is completed, the dryer will shut off, the tone (buzzer) will sound (i.e., for 7 seconds), and the L.E.D. display will read “donE.” The L.E.D. display will read “donE” until the main door is opened.
- 10) If the Anti-Wrinkle Program is active, once the drying and cooling cycles are completed and the L.E.D. display reads “donE,” the Phase 3 OPL microprocessor controller (computer) will proceed into the Anti-Wrinkle Program (mode). If the main door is not opened within the Anti-Wrinkle Delay Time (i.e., 90 seconds) the basket (tumbler) will rotate (without heat) for the programmed Anti-Wrinkle On Time (i.e., 20 seconds). The Phase 3 OPL microprocessor controller (computer) will repeat this process until the programmed Maximum Anti-Wrinkle Time has expired (i.e., 10 minutes) or until the main door is opened, whichever comes first. The L.E.D. display will read “FILL” (no cycle in progress).

B. OPERATING NOTES

1. With no cycle in progress and the display reading “FILL,” if a preprogrammed cycle keyboard entry (keys A through F) is made while the main door is in the open position, the L.E.D. display will preview the basic parameters that the preprogrammed cycle is set for. For example, press key B and display will scroll ... “F 190” ... “d 08” and then return back to “FILL.”
2. If during a cycle the main door is opened (dryer shuts off) and a key board selection is made while the main door is still open, the display will read “door.” The display will continue to read “door” until the main door is closed and the “ENTER/START” key is pressed at which time the cycle will continue where it left off.
3. If the system parameters are not programmed for Flash Display or Temperature Display, the temperature in the basket (tumbler) can be viewed at the L.E.D. display while a cycle is in progress by pressing the “ENTER/START” key.
4. Preprogrammed Cycle “F” has been programmed by the factory as a “Touch-Up Cycle” (unless otherwise advised at the time of ordering). This “Touch-Up Cycle” is programmed to operate as a Timed Cycle for 10 minutes of drying time at 170° F (77° C) and a 2 minute cool down period.
5. When using the manual selection cycle and an error is made while making an entry, press the “CLEAR/STOP” key once, and the entry will be cancelled. Reenter selection.

SECTION IV

INTRODUCTION TO PROGRAMMING

In order to enter the program mode, to access the four program locations (basic system parameters) or the six preprogrammed cycles, the security code is as follows:

First, make sure no cycle is in progress and the display shows “FILL.” Then press the “ENTER/START” key once and the 0 key three (3) times. The three zeroes **must be** entered within 2 seconds after pressing “ENTER/START.” If this sequence is not entered correctly, the computer will deny access into the program mode. If the code is entered correctly, the computer will display “ProG.” From this point, any of the program locations or preprogrammed cycles can be accessed.

PROGRAMMING OF SYSTEM PARAMETERS

The four program locations, containing the system parameters (basic program information) are located at keys 2, 5, 8, and 0 on the touchpad (keyboard). By touching any of those keys when the display reads “ProG” will access that particular program.

The parameter stored in each location are listed below and a description of each parameter follows the chart. **ALL** of these parameters affect the manually loaded program cycles and some affect the preprogrammed cycles. The chart below also shows which parameters affect which programs.

To alter the programming of the system parameters, the operator will first locate the parameter he wishes to change. If the change is a numerical one (time or temperature), the operator will simply enter the numerical value desired. If the change is a status change, such as changing the temperature readout from °F (Fahrenheit) to °C (Celsius), the operator will press the 0 key. This zero key acts as a flip-flop switch to change the programming of a parameter.

The actual programming steps are covered in the flow charts in **SECTION V**.

These parameters will be preset at the factory and may suit your needs as is. The preset parameters are listed on **page 30 and page 31** and the limits for these parameters are listed on **page 32**.

PHASE 3 OPL PROGRAM LOCATIONS

Program Location 1 (Key 2)

	Program Affected
Temperature Conversion Status (°F or °C)	MLC & PPC
Select Reverse or Always Reverse	MLC ONLY
Reverse Stop Time (Dwell)	MLC ONLY
Reverse Spin Time	MLC ONLY

MLC = Manually Loaded Cycles

Program Location 2 (Key 5)

Flash or No Flash (Time or Temperature)	MLC & PPC
Cool Down Temperature	MLC ONLY
Cool Down Time	MLC ONLY
Flash Cycle Display Time	MLC & PPC
Flash Temperature Display Time	MLC & PPC

PPC = Preprogrammed Cycles

Program Location 3 (Key 8)

With or Without Anti-Wrinkle Features	MLC ONLY
With or Without Anti-Wrinklebuz (tone)	MLC & PPC
Maximum Anti-Wrinkle Time	MLC & PPC
Anti-Wrinkle On Time	MLC & PPC

MLC = Manually Loaded Cycles

Program Location 4 (Key 0)

Anti-Wrinkle Delay Time (Dwell)	MLC & PPC
Buz (Tone) Time	MLC & PPC

PPC = Programmed Cycles

DESCRIPTION OF BASIC SYSTEM PARAMETERS

PROGRAM LOCATION 1:

TEMPERATURE CONVERSION STATUS

This program controls whether the temperature-related programs will be operated in Fahrenheit or Celsius. Program affected are:

1. Temperature display mode.
2. Selection cycling temperature.
3. Cool down temperature.

SELECTION REVERSE (Sr) REVERSING DRYERS ONLY

When this parameter is chosen (Sr), the computer will prompt the operator to decide whether or not the Manually Loaded Cycle being entered is to be a reversing cycle. After loading the cycle the computer will display “Sr_.” At this point, if the operator presses the “ENTER/START” key a reversing cycle will begin. If however, the operator presses the 0 key a non-reversing cycle will begin.

ALWAYS REVERSE (ArEv) REVERSING DRYERS ONLY

When this parameter is chosen (ArEv) any Manually Loaded Cycle will be a reversing cycle.

REVERSING STOP TIME (StOP---tinE) REVERSING DRYERS ONLY

The computer will prompt the operator to enter the dwell time (time tumbler stops rotating before changing direction) for Manually Loaded cycles ONLY. This time is programmable from 4 to 19 seconds in one-second increments.

REVERSING SPIN TIME (SPin---tinE) REVERSING DRYER ONLY

The computer will prompt the operator to enter the spin time (time tumbler rotates in one direction before stopping to change direction) for Manually Loaded Cycles ONLY. This time is programmable from 30 to 93 seconds in one-second increments.

PROGRAM LOCATION 2:

FLASH DISPLAY (FLS)

When the Flash Display is chosen (FLS) the L.E.D. (light emitting diode) readout will alternate during the drying cycle between displaying the time remaining in the cycle when programmed in the time mode (or the time elapsed when programmed in the automatic mode) and the basket (tumbler) temperature.

NO FLASH DISPLAY (nFLS)

When the No Flash display is chosen (nFLS) the operator will choose whether the display will read the cycle time (tinE) or the tumbler temperature (tEnP) during the cycle. The L.E.D. display will not alternate between the two.

COOL DOWN TEMPERATURE (COOL---tEnP)

The operator will be prompted to enter the minimum Cool Down Temperature for Manually Loaded Cycles. This time is programmable from 70° F to 100° F (21° C to 38° C) in one-degree increments.

COOL DOWN TIME (COOL---tinE)

The operator will be prompted to enter the maximum Cool Down Time for Manually Loaded Cycles in the automatic mode. This time is programmable from 0 to 15 minutes in one-minute increments.

FLASH CYCLE DISPLAY TIME (FLS---tinE)

If the Flash Display (FLS) was chosen at the beginning of Program Location 2 (PL02), the operator will now be prompted to enter the time the L.E.D. (light emitting diode) display will read the cycle time (tinE) before flashing to the tumbler temperature (tEnP). The time is programmable from 1 to 15 seconds in one-second increments.

FLASH TEMPERATURE DISPLAY TIME (FLS---tEnP)

If the Flash Display (FLS) was chosen at the beginning of program location 2, the operator will now be prompted to enter the time the L.E.D. display will read the basket (tumbler) temperature (tEnP) before flashing to the cycle time (tinE). The time is programmable from 1 to 15 seconds in one-second increments.

PROGRAM LOCATION 3:

ANTI-WRINKLE ACTIVE (Grd)

When this feature is chosen (Grd) the Anti-Wrinkle program will be active in the Manually Loaded Cycles. In this program, when the drying and cooling cycles are completed, the dryer will shut off, the toner will sound, and the L.E.D. display will read “donE.” If the door is not opened, the computer will wait until the Anti-Wrinkle Delay Time (Program Location 4) has expired, at which time the clothes will be tumbled (without heat) for the programmed Anti-Wrinkle On Time (Program Location 3). The computer will repeat this process until the programmed maximum Anti-Wrinkle Time (Program Location 3 [PL03]) has expired or until the dryer door is opened, at which time the L.E.D. display will read “FILL.” The operator may also choose to activate this feature in each preprogrammed cycle.

BUZ/TONE (buz)

When in the Anti-Wrinkle program, the option is available to have the tone sound at the end of each Anti-Wrinkle On Time cycle.

MAXIMUM ANTI-WRINKLE TIME (nGrd---tinE)

This parameter controls the maximum time that Anti-Wrinkle Cycle will be in progress is programmable from 1 to 127 minutes in one-minute increments.

ANTI-WRINKLE ON TIME (G on---tinE)

This parameter controls the amount of time that the tumbler will turn without heat when anti-wrinkle is selected. The on time is programmable from 10 to 63 seconds in one-second increments.

PROGRAM LOCATION 4:

ANTI-WRINKLE DELAY TIME (GdLY---tinE)

This parameter control the dwell (stop) time and activation of the Anti-Wrinkle On Time. The dwell time can be programmed from 15 to 4095 seconds in one-second increments.

BUZ TIME (bUZ---tinE)

This parameter allows the operator to adjust the time the signal tone sounds from 1 to 15 seconds in one-second increments.

PROGRAMMING OF PREPROGRAMMED CYCLES

The six (6) preprogrammed cycles are located at keys A through F on the touchpad (keyboard). By touching any of those keys when the display reads “ProG” will access that particular cycle. The actual programming steps are covered in flow chart A, in **SECTION V**.

The following chart lists the parameters which are programmed in each preprogrammed cycle.

Preprogrammed PARAMETERS (KEYS A THROUGH F)

Cycle Status (manual or automatic)

Anti-Wrinkle features status (active or off)

Cycle drying temperature

Number of dryness levels (automatic cycles Only)

Cycle drying time (manual cycles Only)

Cycle cool down time

Minimum cool down temperature (automatic cycles Only)

Reversing status (reversing dryers Only)

After programming a preprogrammed cycle, the operator then has the choice of entering any of the preprogrammed cycles or program locations or, by pressing “CLEAR/STOP” on the keyboard, exiting the program mode.

Once the program has been stored in the memory, and the computer is out of program mode, the operator can begin that cycle by pressing the corresponding letter on the keyboard.

The actual programming steps are covered in flow chart A in **SECTION V**.

An example for programming a preprogrammed cycle is shown on **page 21**.

The preprogrammed cycles are preset at the factory and may already suit your needs without having to reprogram. The preset parameters are listed on **page 30 and page 31**.

The limitations of the preprogrammed cycles are listed on **page 32**.

MANUALLY ENTERED PROGRAMS

There may be times when the six (6) preprogrammed cycles will not suit the needs of the operator. At that time, a manually entered cycle can be used. This cycle can be set to run in the automatic mode or manual mode and will not be stored in the computer memory.

ALL the basic system parameters have already been entered into the four program locations and the dryer will operate from them. The only parameters that now have to be entered to begin a cycle are certain specifics, such as drying time and temperatures. The exact parameters are listed as follows:

MANUALLY ENTERED AUTOMATIC CYCLES (KEY 2)

Cycle drying temperature

Number of dryness levels

Reversing Status (reversing dryers set in select, reverse mode Only)

MANUALLY ENTERED MANUAL CYCLES (KEY 5)

Cycle drying time

Cycle cool down time

Cycle drying temperature

Reversing Status (reversing dryers set in select, reverse mode Only)

DESCRIPTION OF PARAMETERS FOR PREPROGRAMMED AND MANUALLY LOADED CYCLES

TIMED OR MANUAL MODE (nAnU)

When this parameter is selected (nAnU) the cycle has been set to run on time only. The dryer will continue to run until the preset time including the cool down period has elapsed, at which time the dryer will cycle off or go into optional Anti-Wrinkle program.

AUTOMATIC MODE (AUtO)

When this parameter is selected (AUtO) the cycle has been set to run for a preset level of dryness. At the end of the drying cycle, the dryer will go into the cool down cycle for the time period programmed or until the temperature has dropped to the programmed cool down temperature.

CYCLE DRYING TEMPERATURE (drY---tEnP)

The cycle Drying Temperature (drY---tEnP) is programmable from 110° F to 200° F (44° C to 94° C) in one-degree increments.

DRYNESS LEVEL (drY---LEvL)

When in the automatic mode, the dryer will run until the preset level of dryness (number of auto peaks) has been reached. The dryness level is programmable from a minimum of 1 to 127 peaks for **ALL** pre-programs and from 1 to 255 in **ALL** Manually Loaded Cycles.

CYCLE DRYING TIME (drY---tinE)

When in the manual (timed) mode, the dryer will run until the preset time has been reached. The Cycle Drying Time is programmable from 0 to 127 minutes for **ALL** pre-programs and from 0 to 99 minutes for **ALL** Manually Loaded Cycles.

CYCLE COOL DOWN TIME (COOL---tinE)

For **ALL** preprogrammed and Manually Loaded Cycles in the manual mode the operator will enter the desired Cycle Cool Down Time which will be activated when the drying time has expired. The time is programmable from 0 to 31 minutes for manual pre-programs and 0 to 99 minutes for Manually Loaded Cycles.

For preprogrammed in the automatic mode the operator will enter the maximum cool down time programmable from 0 to 14 minutes in two-minute increments.

REVERSING STATUS (rEv or nrEu)

When programming a preprogrammed cycle or entering a Manually Loaded Cycle in the select reverse mode, the choice is available to begin a reversing cycle (rEv) or a non-reversing cycle (nrEv).

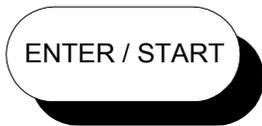
SECTION V

FLOW CHARTS

This section explains the programming through the use of flow charts. A flow chart is nothing more than a diagram of the programming process.



Represents the microprocessor L.E.D. (light emitting diode) display. For example, if the flow chart shows the symbol “FILL,” the computer L.E.D. display will read the same.



Represents the key on the label that is to be pressed. For example, if the flow chart shows “ENTER/START,” you would press that key on the label.



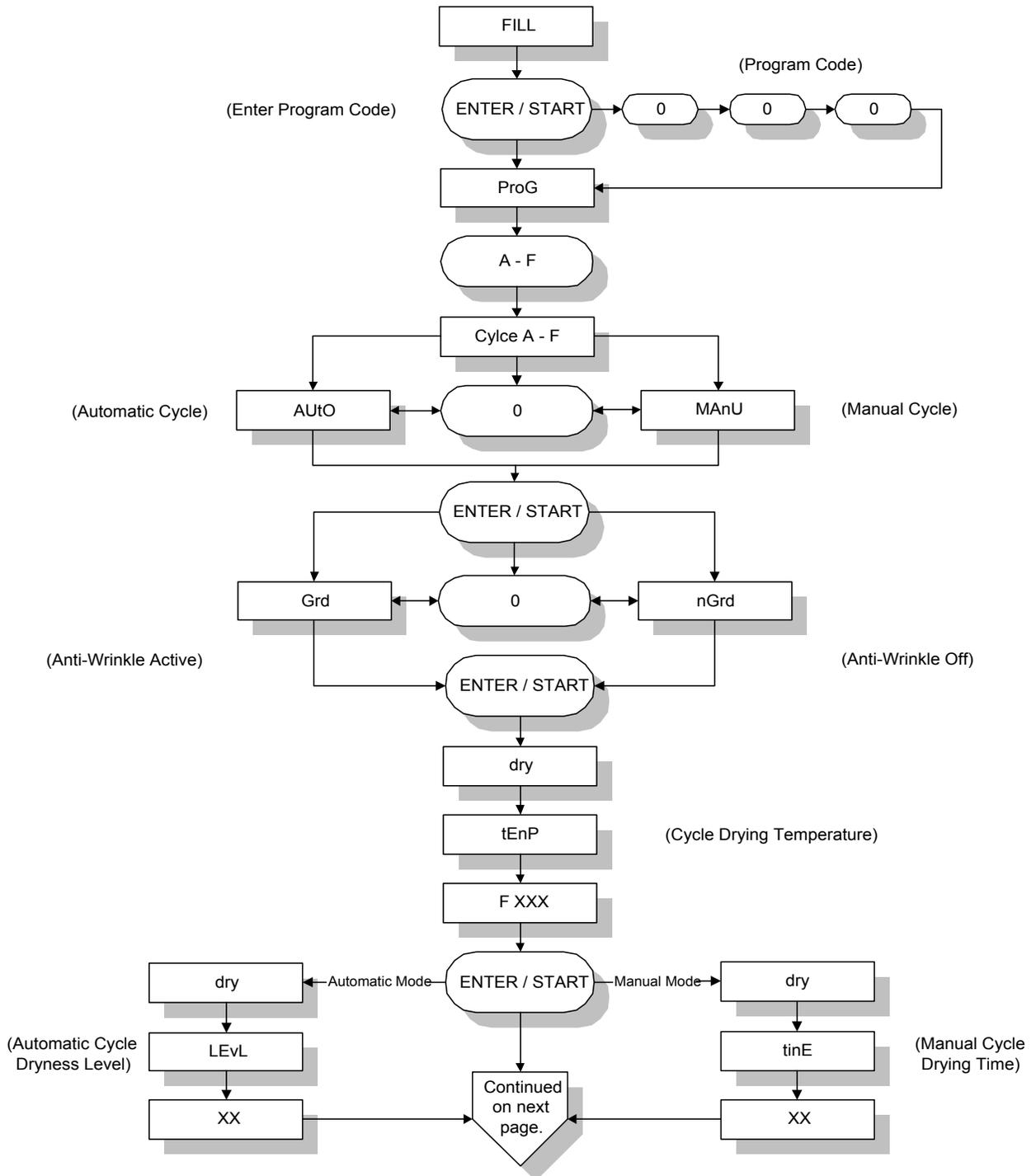
Represents the program path.

The following is an index for the flow charts:

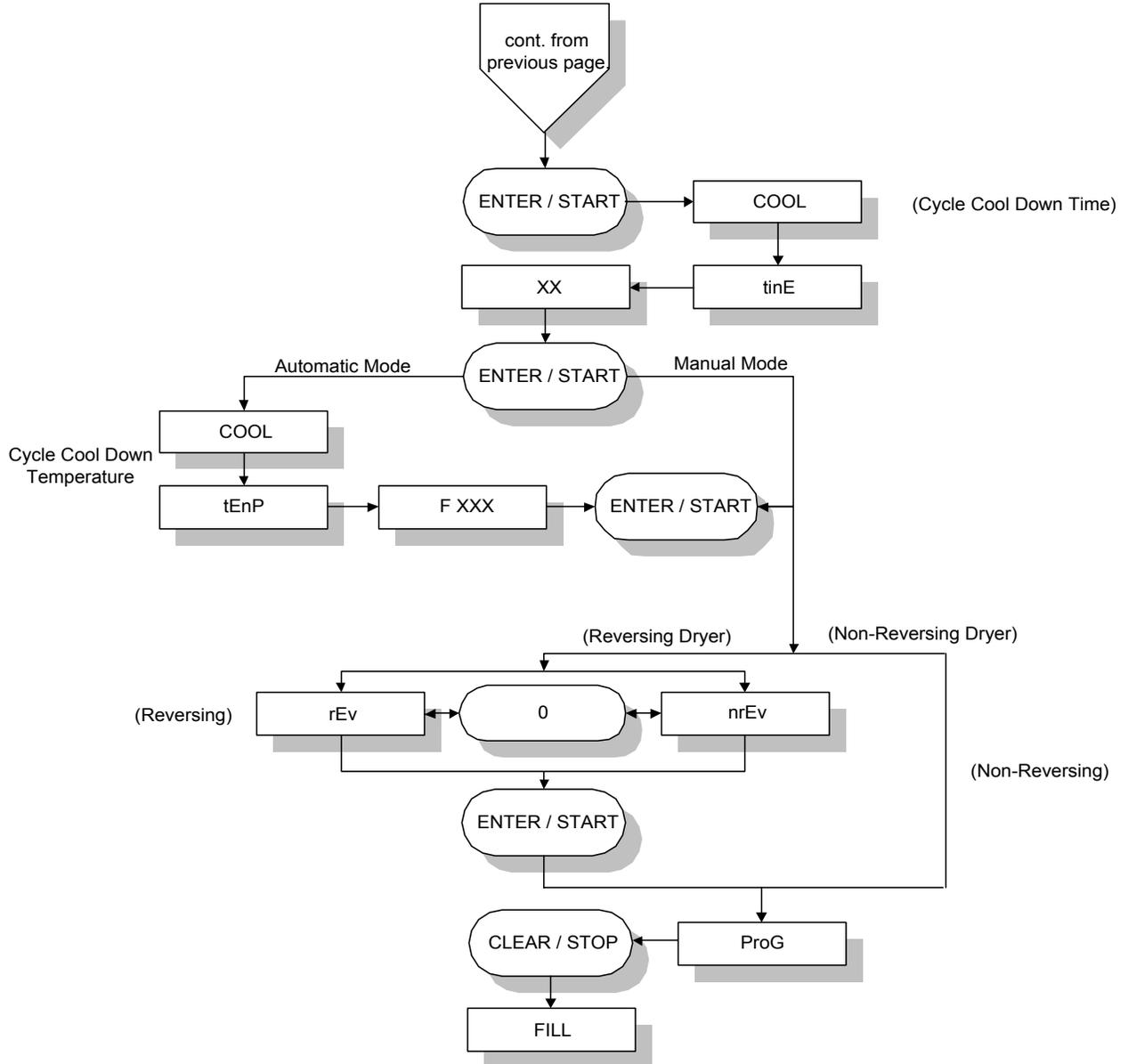
Program	Flow Chart	Page
Preprogrammed Cycle	A	19
Example of a Preprogrammed Cycle	B	21
Program Location 1	C	23
Program Location 2	D	24
Program Location 3	E	26
Program Location 4	F	27
Manually Entered Automatic Cycle	G	28
Manually Entered Manual Cycle	H	29

Pre-Programmed Cycle Programs

Flow Chart A



Flow Chart A
(continued)

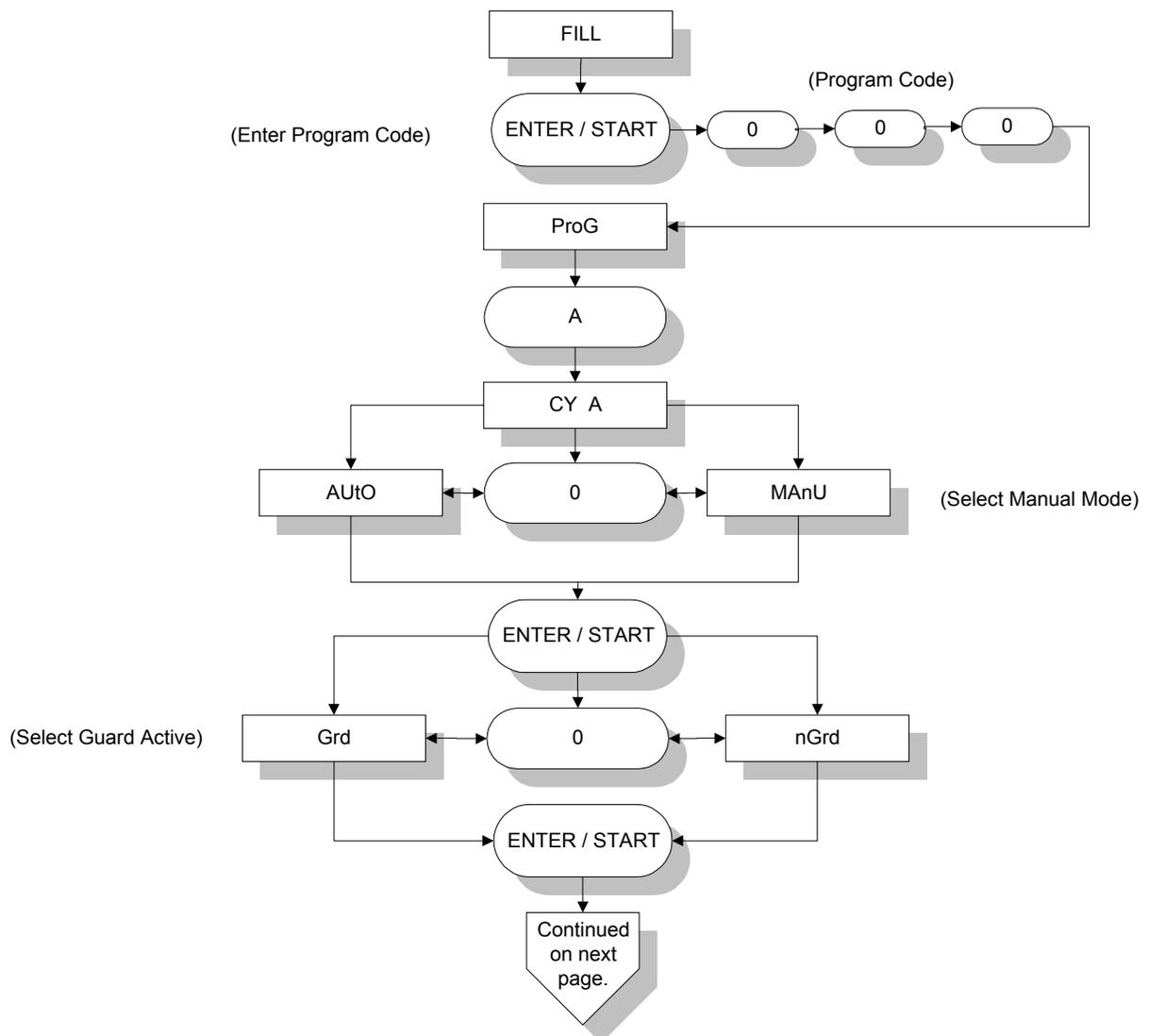


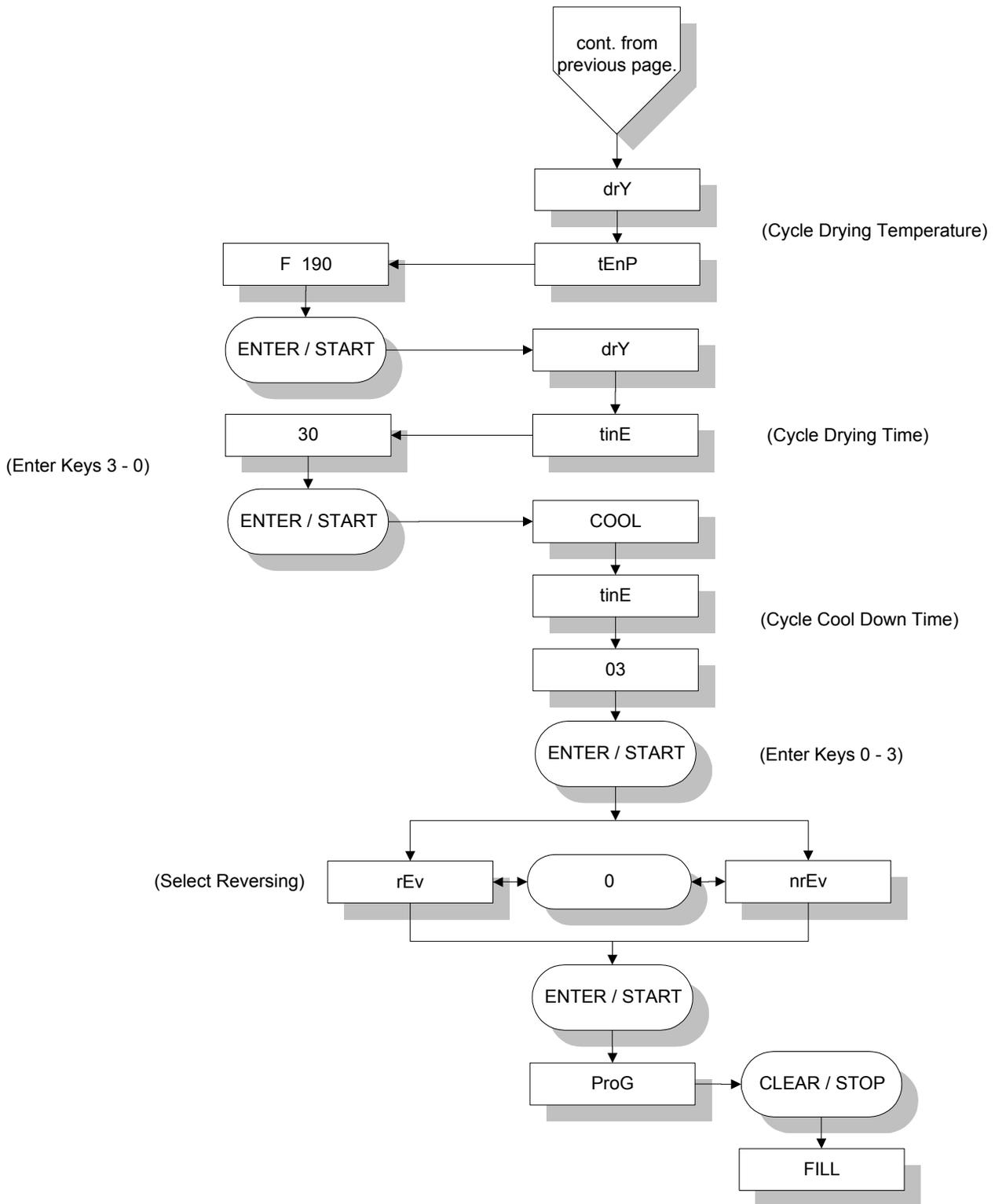
Example of a Pre-Programmed Cycle

Flow Chart B

Program a Cycle with the Following Parameters:

1. Enter cycle under program A.
2. Set a manual cycle.
3. Set Anti-Wrinkle active.
4. Set the drying temperature at 190°F.
5. Set the cycle drying time at 30 minutes.
6. Set the cycle cool down time at 3 minutes.
7. Set the dryer in the reversing mode.

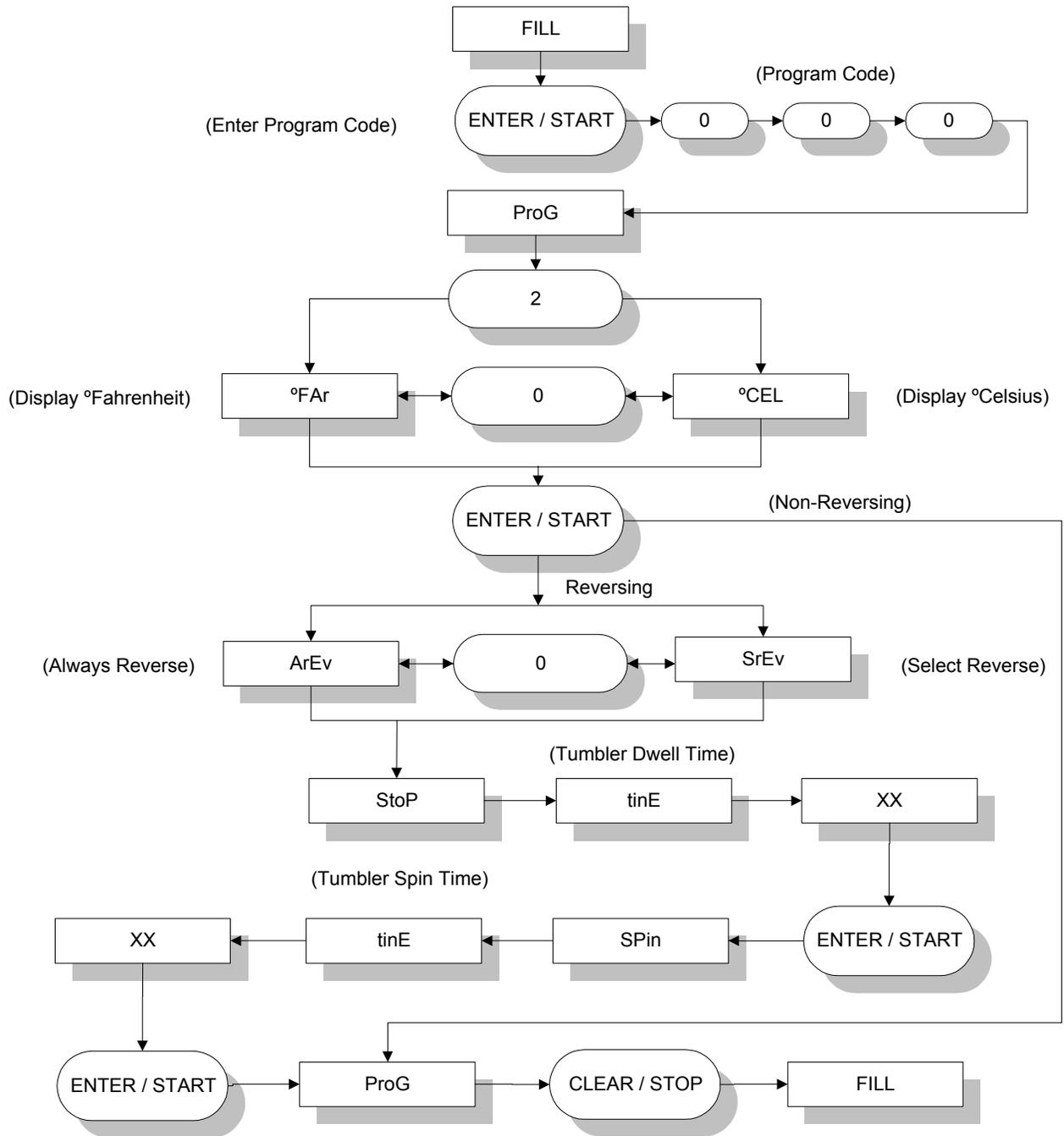




The cycle has now been entered and stored into the computer under key A. By pressing key A when the computer readout display “FILL” will begin this drying cycle.

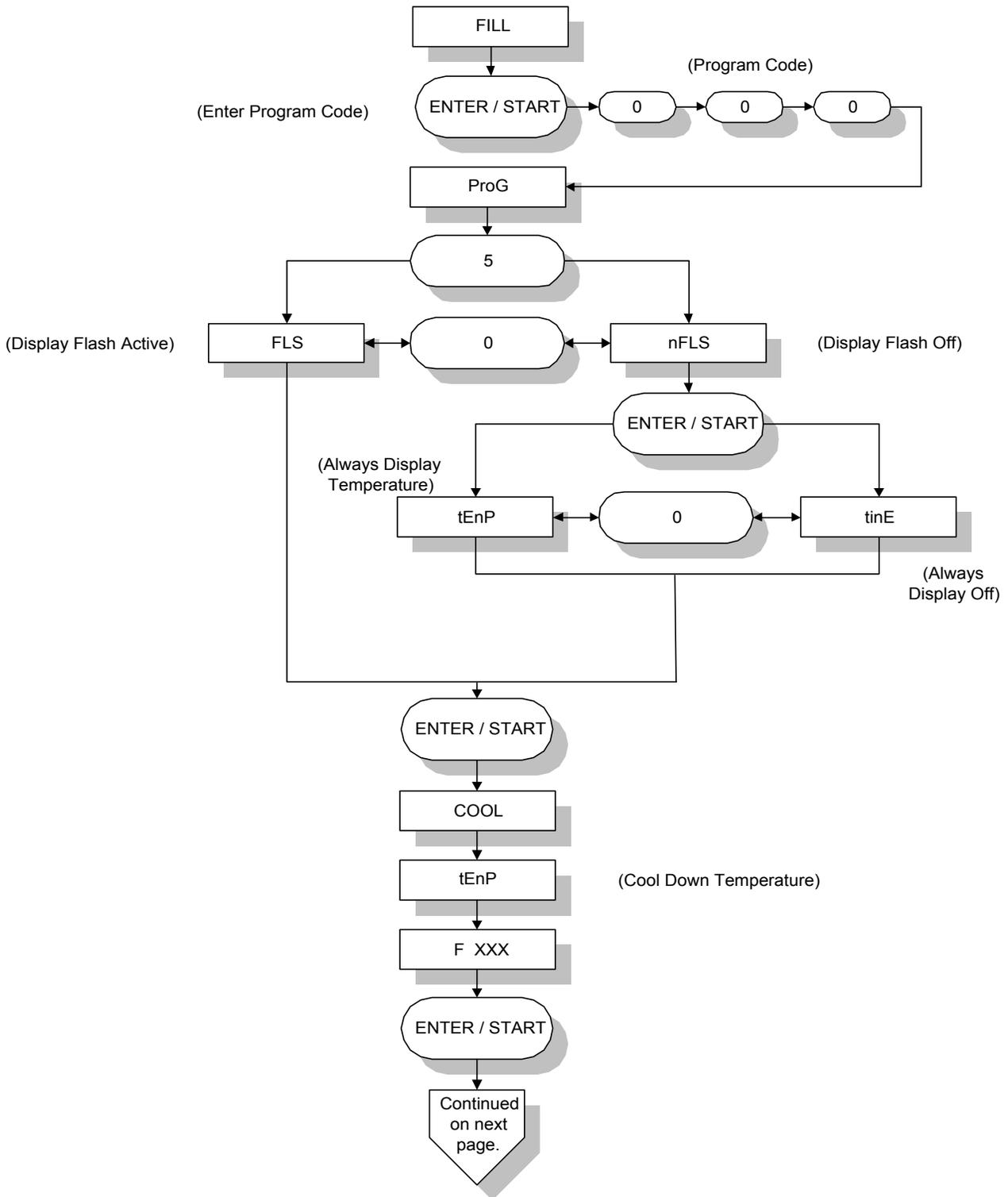
Program Location 1

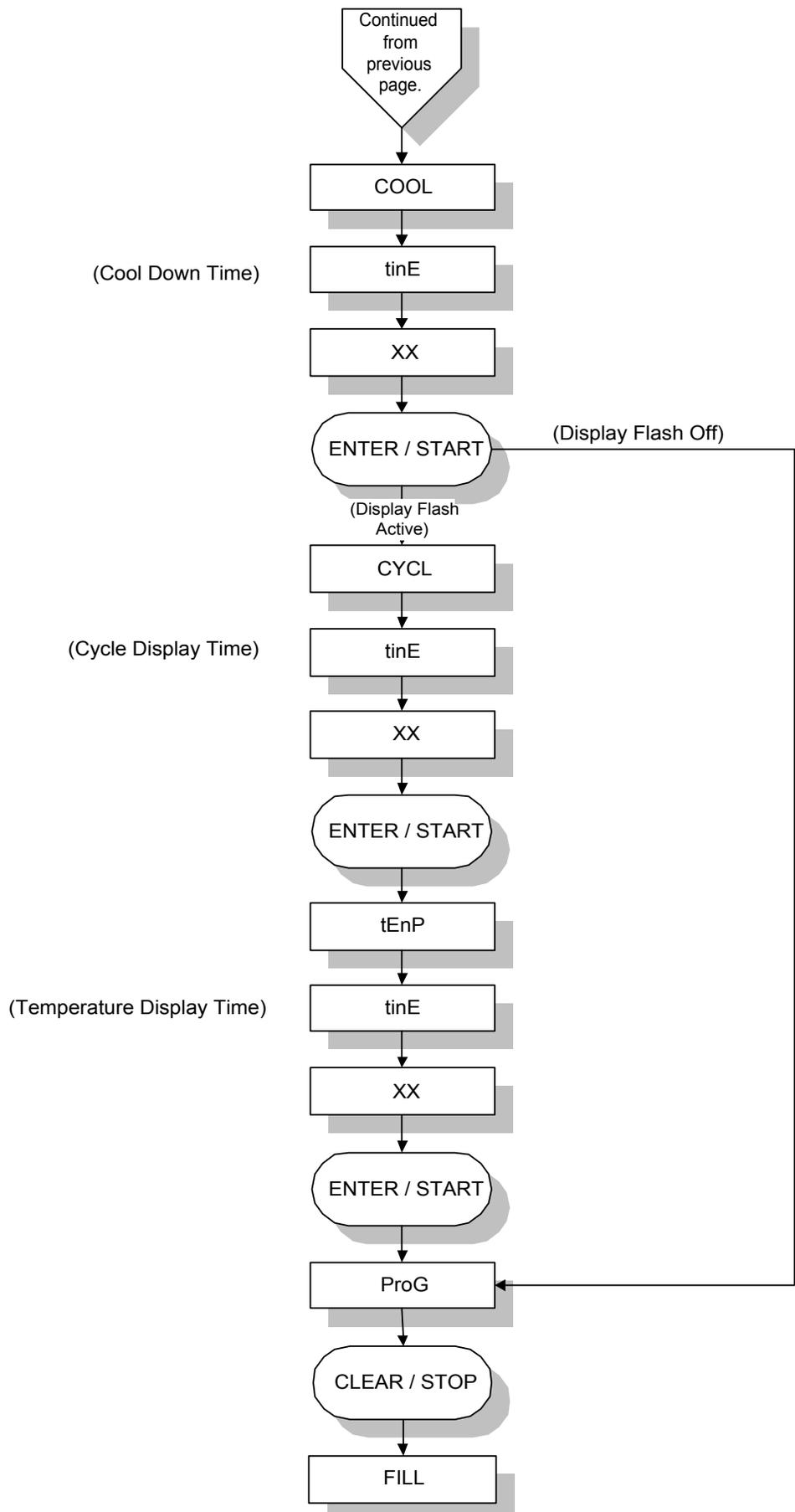
Flow Chart C



Program Location 2

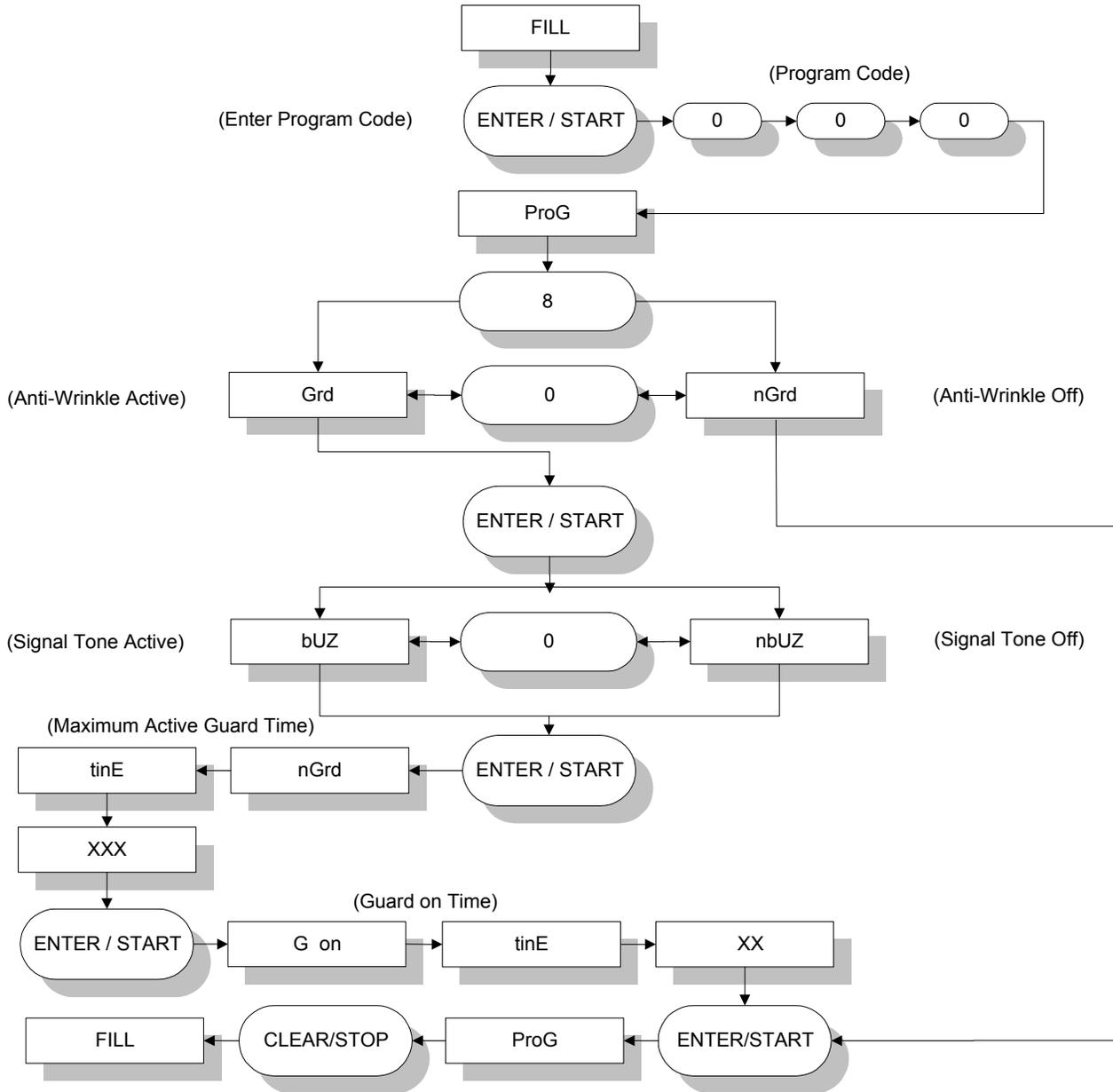
Flow Chart D





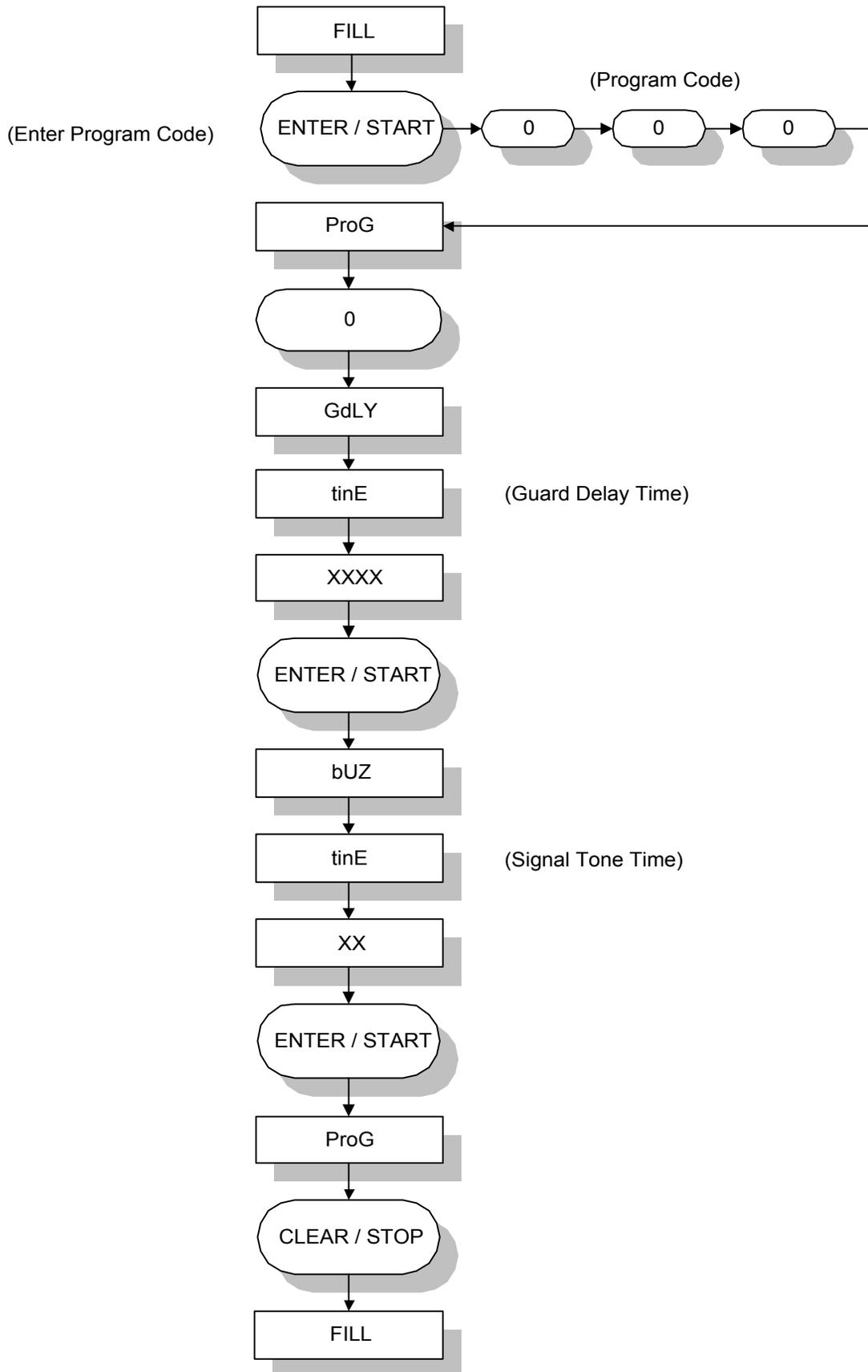
Program Location 3

Flow Chart E



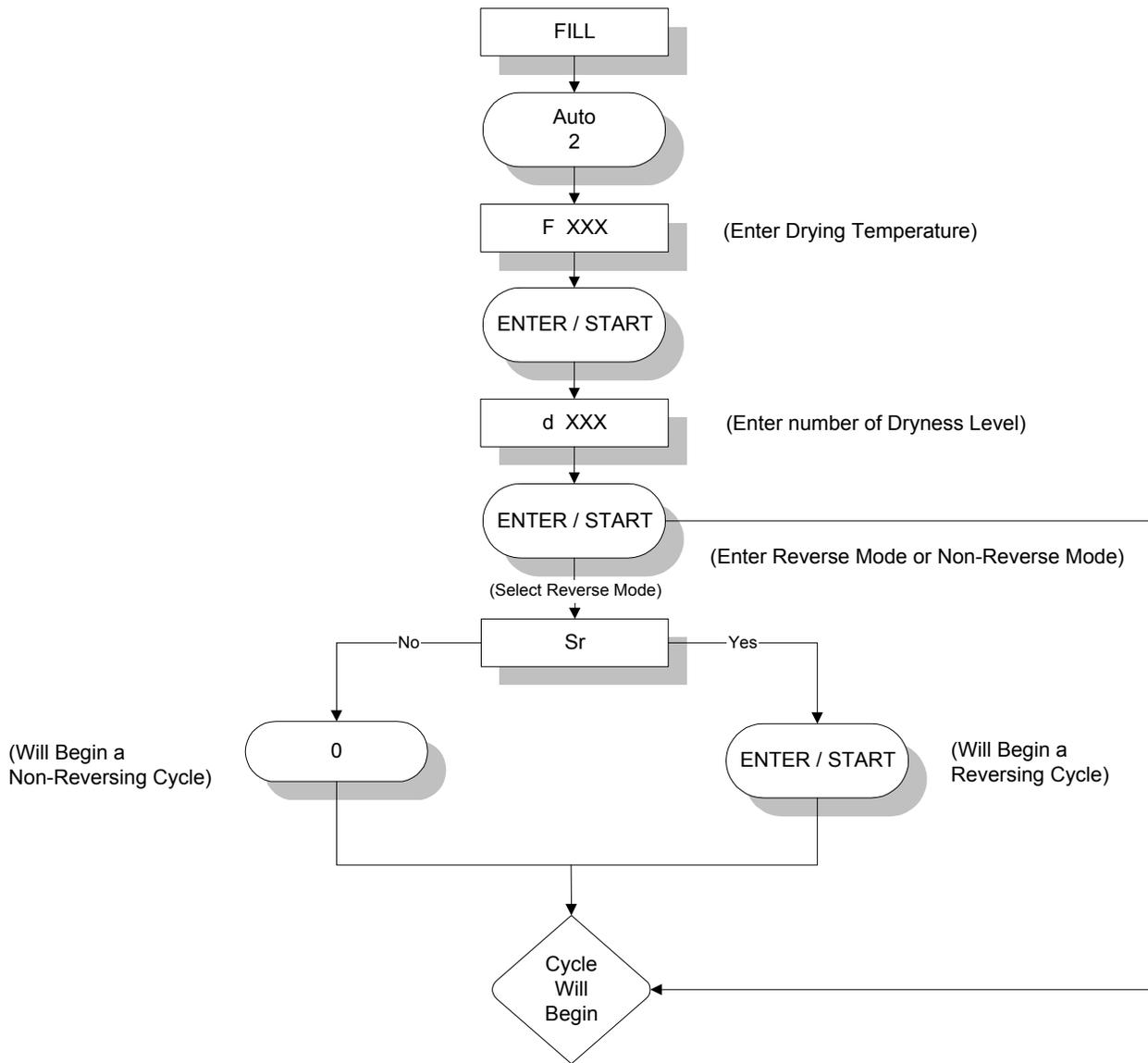
Program Location 4

Flow Chart F



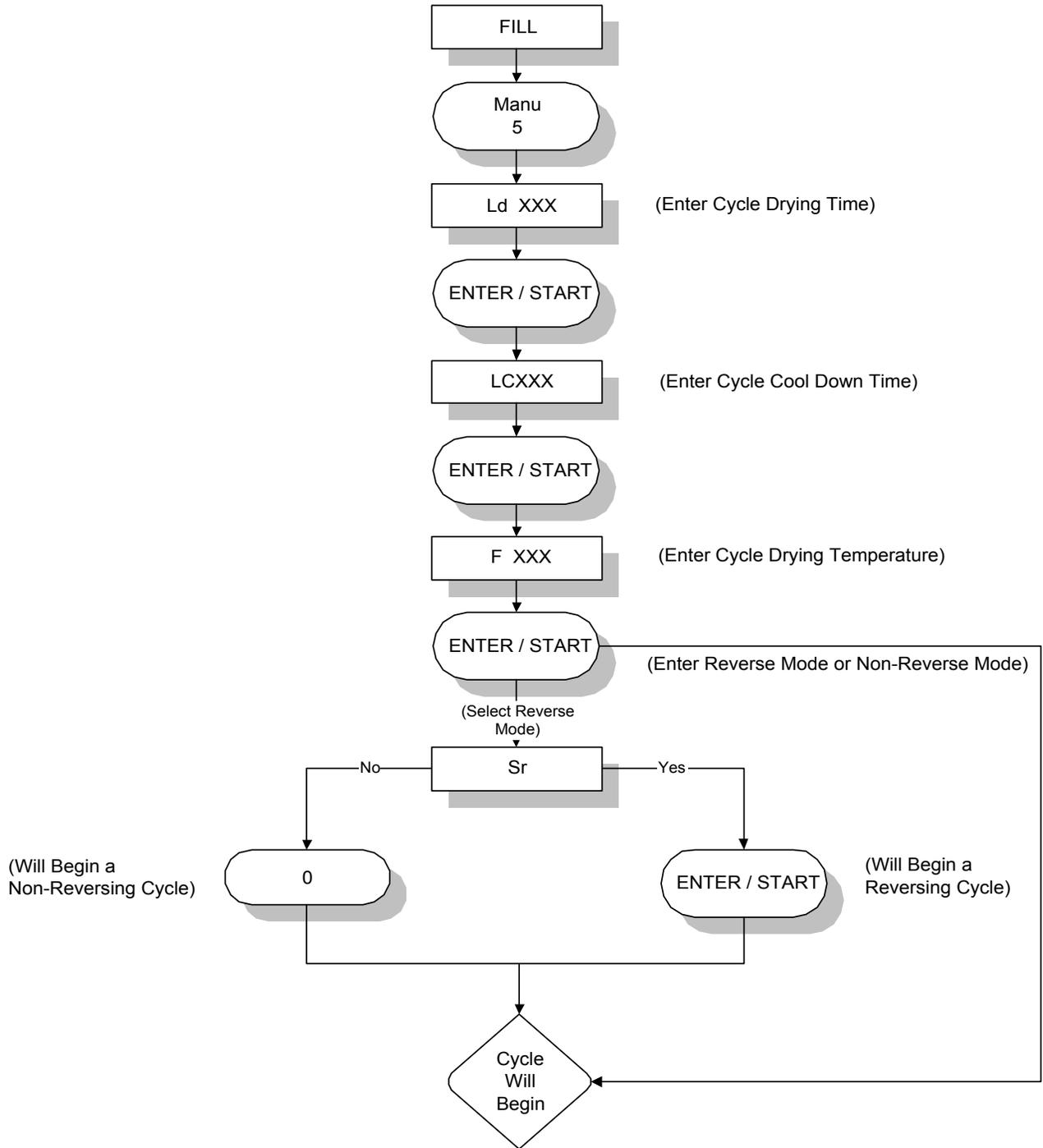
Manually Entered Automatic Cycle

Flow Chart G



Manually Entered Manual Cycle

Flow Chart H



SECTION VI

FACTORY PRESET PARAMETERS (PROGRAMS)

PHASE 3 OPL PARAMETERS **(Preset by Factory for Reversing Dryers)**

- Cycle A:** Automatic mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dryness level 09, cool down time 6 minutes, cool down temperature 100° F (38° C), reverse, spin time 90 seconds, stop time 5 seconds.
- Cycle b:** Automatic mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dryness level 08, cool down time 5 minutes, cool down temperature 100° F (38° C), reverse, spin time 90 seconds, stop time 5 seconds.
- Cycle C:** Automatic mode, Anti-Wrinkle active, dry temperature 160° F (71° C), dryness level 09, cool down time 4 minutes, cool down temperature 100° F (38° C), reverse, spin time 90 seconds, stop time 5 seconds.
- Cycle d:** Manual mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dry time 40 minutes, cool down time 6 minutes, no reverse.
- Cycle E:** Manual mode, Anti-Wrinkle active, dry temperature 180° F (82° C), dry time 30 minutes, cool down time 4 minutes, no reverse.
- Cycle F:** Manual mode, Anti-Wrinkle active, dry temperature 170° F (77° C), dry time 10 minutes, cool down time 2 minutes, no reverse.

SYSTEM PARAMETERS

- Program System 1:** Temperature conversion status set in Fahrenheit, reverse, stop time 5 seconds, spin time 90 seconds.
- Program System 2:** No Flash, display time, cool down temperature 100° F (38° C), cool down time 6 minutes, cycle display time 15 seconds, temperature display time 1 second.
- Program System 3:** Anti-Wrinkle active, buzzer (tone) active, maximum Anti-Wrinkle time 10 minutes, Anti-Wrinkle on time 20 minutes.
- Program System 4:** Anti-Wrinkle delay time 90 seconds, buz time 7 seconds.

PHASE 3 OPL PARAMETERS

(Preset by Factory for Non-Reversing Dryers)

- Cycle A:** Automatic mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dryness level 09, cool down time 6 minutes, cool down temperature 100° F (38° C).
- Cycle b:** Automatic mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dryness level 08, cool down time 5 minutes, cool down temperature 100° F (38° C).
- Cycle C:** Automatic mode, Anti-Wrinkle active, dry temperature 160° F (71° C), dryness level 09, cool down time 4 minutes, cool down temperature 100° F (38° C).
- Cycle d:** Manual mode, Anti-Wrinkle active, dry temperature 190° F (88° C), dry time 40 minutes, cool down time 6 minutes.
- Cycle E:** Manual mode, Anti-Wrinkle active, dry temperature 180° F (82° C), dry time 30 minutes, cool down time 4 minutes.
- Cycle F:** Manual mode, Anti-Wrinkle active, dry temperature 170° F (77° C), dry time 10 minutes, cool down time 2 minutes.

SYSTEM PARAMETERS

- Program System 1:** Temperature conversion status set in Fahrenheit.
- Program System 2:** No Flash, display time, cool down temperature 100° F (38° C), cool down time 6 minutes, cycle display time 15 seconds, temperature display time one-second.
- Program System 3:** Anti-Wrinkle active, buzzer (tone) active, maximum Anti-Wrinkle time 10 minutes, Anti-Wrinkle on time 20 minutes.
- Program System 4:** Anti-Wrinkle delay time 90 seconds, buz time 7 seconds.

Phase 3 OPL Programming Limits

SYSTEM PARAMETERS

Stop Time: 4 - 19 seconds in one-second increments.
Spin Time: 30 - 93 seconds in one-second increments.
Auto Cool Temperature: 70° F to 100° F in 10° F increments or 21° C to 38° C in 5° C increments.
Auto Cool Time: 0 - 15 minutes in one-minute increments.
Cycle Display Time: 1 - 15 seconds in one-second increments.
Temperature Display Time: 1 - 15 seconds in one-second increments.
Guard On Time: 10 - 63 seconds in one-second increments.
Guard Delay Time: 15 - 4095 seconds in one-second increments.
Maximum Guard Time: 1 - 27 minutes in one-minute increments.
Buz Time: 1 - 15 seconds in one-second increments.

PREPROGRAMMED CYCLES

Dry Temperature: 110° F to 200° F (44° C to 94° C) in one-degree increments.
Dry Time (manual): 0 - 127 minutes in one-minute increments.
Cool Temperature (auto): 70° F to 100° F in 10° F increments or 21° C to 38° C in 5° C increments.
Cool Time (manual): 0 - 31 minutes in one-minute increments.
Cool Time (auto): 0 - 14 minutes in one-minute increments.
Stop Time: 4 - 19 seconds in one-second increments.
Spin Time: 30 - 93 seconds in one-second increments.
Dryness Level: 1 - 127 peaks in one-peak increments.

MANUALLY LOADED CYCLES

Dry Temperature (auto): 110° F to 200° F (44° C to 94° C) in one-degree increments.
Dryness Level (auto): 0 - 255 peaks in one-peak increments.
Dry Time (manual): 0 - 99 minutes in one-minute increments.
Cool Time (manual): 0 - 99 minutes in one-minute increments.
Dry Temperature (manual): 110° F to 200° F (44° C to 94° C) in one-degree increments.

ADC 450146 1- 07/17/97-250 2- 11/03/97-250 3- 11/04/99-100
4* 11/11/99-25 5- 12/02/99-25 6- 08/21/00-20
7- 09/26/00-75

