



AD-820  
(Water Machine)  
Microprocessor User's Manual  
Phase II

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## **Retain This Manual In A Safe Place For Future Reference**

Please read this manual carefully to thoroughly familiarize yourself with the ADC model AD-820 Water Machine Microprocessor (Computer) System features, operational instructions, and programming characteristics.

ADC products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe 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, material, and to change or discontinue models.

Replacement parts can be ordered from your distributor or the ADC factory.

When ordering replacement parts from the factory, you can FAX your orders to ADC at (508) 678-9447 or telephone your orders directly to the ADC Parts Department at (508) 678-9010. Please specify the machine **model number** and **serial number** so that your order is processed accurately and promptly.

**IMPORTANT:** Please observe **ALL** safety precautions displayed on the equipment and/or specified in the **AD-820 Installation/Owner's Manual** (ADC P/N 182705) included with the unit.

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# SECTION I

## INTRODUCTION/FEATURES

The microprocessor (computer) controller used in the model AD-820 Water Vending Machine is a fully programmable, highly sophisticated controller system which performs a variety of self checks automatically to ensure high product water quality.

### USER FRIENDLY

The L.E.D. display informs the user/purchaser of machine status;

1. Amount (cents) or quantity of coins needed to be inserted per gallon.
2. If a selection is made and more money is needed, the L.E.D display will prompt the user/purchaser to add the additional amount required.
3. Amount of Gallons purchased and if credit is due after the container size selection is made.
4. Right Bay and Left Bay update information displayed simultaneously. Prompts the user/purchaser to use other bay if one (1) is in use or if one (1) is out of order.
5. L.E.D. Display will inform user/purchaser (reads "SPILL") if container is not aligned under nozzle properly and water is missing container or the container has overflowed.

### PROGRAMMABLE

Changes in the programs are made at the selection keypad and the actual programs are displayed for verification.

### COIN or FREE VEND

The microprocessor (computer) controller can be programmed for coins to start, or for promotions, programming allows for "FREE" vend by making a container selection.

### PURCHASE AMOUNT PER GALLON

The amount of money needed to vend per gallon is programmable from ".05 to 9.95". Once this amount has been programmed, the microprocessor (computer) controller will automatically calculate the necessary amount needed for multi-gallon selections.

As an example, if the amount per gallon is set for .25 and 50 cents is inserted, the L.E.D. display will prompt the user/purchaser to select up to 2 gallons. The user/purchaser can make either a one 2 gallon selection, a two 1 gallon selection, or 4 half gallon selections.

## **CONTAINER SIZE SELECTION KEYS**

The container size selection keys can each be programmed from ".5 to 6 Gallons" in .5 (1/2) gallon increments.

## **AUDIBLE TONE (bUZZ)**

A tone will sound for each coin inserted, program entry, or the end of the fill cycle. End of fill cycle tone/bUZZ can be eliminated if desired.

## **COIN COUNT**

The number of coins inserted (up to 65,327) for each coin slot can be viewed through the computer's (microprocessor controller) L.E.D. display.

## **GALLON COUNT**

The number of gallons vended (up to 65,327) for both the left side and the right side can be viewed through the computer's (microprocessor controller) L.E.D. display. The computer keeps a running count of each gallon dispensed (vended) until the limit is rolled over or until each limit is cleared manually.

## **DIAGNOSTICS**

**ALL** major circuits are monitored. Should a failure occur in the monitored circuits, the L.E.D. display will show a failure error message.

# SECTION II

## USER/VENDING OPERATING INSTRUCTIONS

The microprocessor (computer) controller will interact with the user throughout the vending process. The following is an example of a typical water machine vending process:

| NOTE: Value amounts and gallon quantities noted below are shown as examples ONLY.

| NOTE: MINIMUM PURCHASE IS ONE (1) GALLON.

1. Display(s) read the amount required per gallon ...  
i.e., "INSERT" "\$ .25" "PER" "GALLON"
2. Put properly sized container(s) to be filled in the appropriate vend bay (i.e., left or right).
3. For single gallon purchase:
  - a. User inserts .25 cents ...
  - b. Display(s) will read...  
i.e., "SELECT" "UP TO" "1 GAL"
  - c. User selects appropriate side (left side where container is in bay) and makes container size choice.
    - 1) Press left [1 GAL.] selection key.
  - d. Display(s) will read...

Left Side Display	Right Side Display
"FILL 1"	"INSERT" "\$ .25" "PER" "GALLON"
  - e. When vend is completed, the display will read...  
"DONE" "THANK" "YOU"
  - f. The microprocessor (computer) controller will then be ready for the next vend selection ... and the L.E.D. displays will read...  
  
"INSERT" "\$ .25" "PER" "GALLON"
4. For multi gallon/container purchase:
  - a. User inserts coins necessary for quantity of gallons/containers required ...  
i.e., user inserts .75 cents for a total of 3 gallons in two (2) containers.
  - b. Display(s) read quantity of gallons ...  
i.e., "SELECT" "UP TO" "3 GAL"
  - c. User selects appropriate bay side (i.e., left side) and gallon/container size.
    - 1) Press left [1 GAL.] selection key.

- d. Display(s) will read...
- |                   |                    |
|-------------------|--------------------|
| Left Side Display | Right Side Display |
| "FILL 1"          | "2 GAL" "REMAIN"   |
- e. The left vend size will now fill the container. Selection **must now be made** on the right side ...
- 1) Press right [2 GAL.] selection key.
- f. Display(s) will read...
- |          |          |
|----------|----------|
| "FILL 1" | "FILL 2" |
|----------|----------|
- g. When vends are completed, the L.E.D. display(s) will read...
- "DONE" "THANK" "YOU"
- h. The microprocessor (computer) controller will then be ready for the next vend selection ... and the L.E.D. display(s) will read...
- "INSERT" "\$ .25" "PER" "GALLON"

## **NOTES**

1. If multiple coins are required (i.e., 1.00 for 1 gallon), the L.E.D. display(s) will prompt the user to add coins until the amount required to vend is satisfied.  
i.e., if \$1.00 is required and only 50 cents is inserted, the display(s) will read "Add .50" etc., until the correct amount is inserted.
2. Credits ...
  - 1) If too much money is inserted or the gallons selected is less than the amount of money inserted, the microprocessor (computer) controller will retain the credit balance (either amount of money or gallons) for five (5) minutes. If, after the five (5) minutes has elapsed no selection is made, the credit will be cancelled (lost).
3. If there is a power outage or interruption and the unit is not equipped with a battery back-up (or if the battery is dead), when the microprocessor (computer) controller power is reestablished, the L.E.D. displays will read "PURGE" "SYSTEM" "DO NOT" "DRINK". To reset/bypass this condition, close the program switch (program mode) and open program switch (run mode). It can also be "RESET" from the keypad by pressing 6L, 6R, 5L, 5R, and 1/2L.

**NOTE:** At the time of installation of the machine the displays will read the above mentioned codes. Refer to the Electrical Troubleshooting Booklet (ADC P/N 182706) included with the unit.

**IMPORTANT: DO NOT OVERRIDE THE SAFETY ROUTINE FOR THE INSTALLATION.**

4. If one side of the vend bay is inoperative, the display will read "USE" "OTHER" "SIDE" and the other display will prompt the user for selection.

If both bays are inoperative, display(s) will show an error message and the display(s) will read "OUT" "OF" "ORDER".

**NOTE:** For explanations of error messages, refer to the Electrical Troubleshooting Booklet (ADC P/N 182706) included with the unit.

5. Minimum purchase is one (1) gallon, however, vend is available in .5 (1/2) gallon increments.

# SECTION III

## L.E.D. DISPLAY CODES

**NOTE:** For a complete explanation of error messages refer to the Electrical Troubleshooting Booklet (ADC P/N 182706) included with the unit.

<p><b>"OVER" "FLOW" "ERROR"</b></p>	<p>Indication that the base switch/tank switch has tripped...water filling within the cabinet or the switch circuit is open or is disconnected, and/or Vend bay catch basin is full of water...indication of possible clogged drain, drain pump failure, or switch circuit is open or is disconnected.</p>
<p><b>"bUZZ"</b></p>	<p>Audible tone (buzzer) which sounds at each keyboard entry and at the end of the fill cycle.</p>
<p><b>"FLOW" "METER" "ERROR"</b></p>	<p>Microprocessor (computer) controller detects a flow error (dispensing problem).</p>
<p><b>"OUT" "OF" "ORDER"</b></p>	<p>Machine/bay is inoperative...could be one of several failures ... refer to the <u>Electrical Troubleshooting Booklet</u> (ADC P/N 182706) included with machine.</p>
<p><b>"PL .."</b></p>	<p>Program Location ... there are a total of 10 locations.</p>
<p><b>"TEACH" "MODE"</b></p>	<p>Measurement used in calibration of vending bay(s) for gallon vend.</p>
<p><b>"FILTER" "ERROR"</b></p>	<p>R.O. membrane needs cleaning or replacement or the R.O. Comparator has failed..</p>



<p>"SPILL"</p>	<p>Excessive water is detected in bay drain...possibly the container is <b>not</b> positioned properly or there is an overflow of the container ... system will reset after a few seconds and try again.</p>
<p>"SYSTEM" "PURGE" "DO" "NOT" "DRINK"</p>	<p><b>SYSTEM INSTALLATION SAFEGUARD.</b> This code appears when power is first applied to the machine...after initial installation, if there is a power interruption (and the unit <u>does not</u> have battery back-up) this display code will appear ... reset by program switch or keypad.</p>
<p>"SYSTEM" "REFILL" "PLEASE" "WAIT"</p>	<p>Low water level in the containment tank ... will reset when water level recovers.</p>
<p>"USE" "OTHER" "SIDE"</p>	<p>Bay is <b>not</b> operative...use other bay.</p>

# SECTION IV

## PROGRAMMING INSTRUCTIONS

### A. Introduction To Programming

The microprocessor (computer) controller can be programmed to operate for different applications. The various program selections or parameters are stored in the computer (microprocessor controller) memory and are cataloged as "Program Locations." There are a total of 13 program locations which are cataloged as "PL 00" through "PL 12". These parameters have been preprogrammed by the factory as noted on page 44 of this manual.

These "Program Locations" contain various registers that can be manipulated for various operations. The registers also contain information about the machine such as gallon counts, coin counts and dispensing information, and coin denomination.

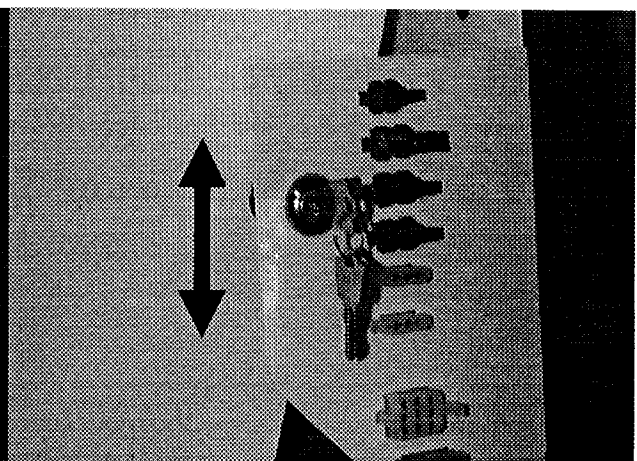
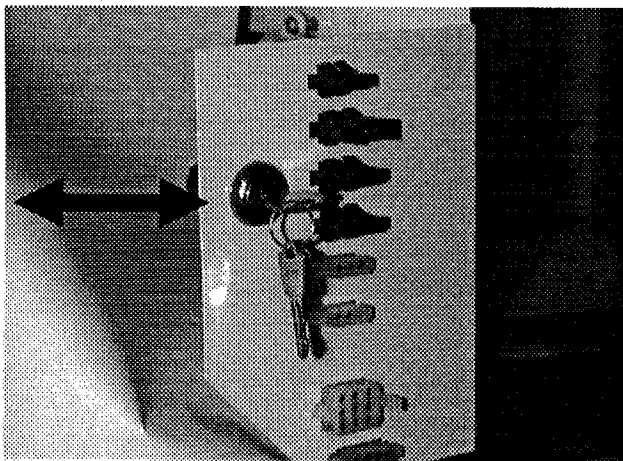
ALL programming is done through the keyboard selection buttons (keys) on the front of the control panel. To change programs or to put the computer (microprocessor controller) in the coin/gallon count display modes, the Lock (program) Switch **must be** put into the program mode (switch in the horizontal position) as shown in illustration #1 below.

#### **Lock Switch Program Mode**

#### **Lock Switch Operation Mode**

*Program Switch in the  
Horizontal (PROGRAM) Position*

*Program Switch in the  
Vertical (OPERATION) Position*



**Illustration #1**

**Illustration #2**

The program mode is also obtainable by entering the machines access number through the keypad (only when in the Coin Mode). When entering the access number (through the keypad) the keys will represent different values. These values are as follows:

Left Keypad values...	Right Keypad values...
1/2 Key = 0 (zero)	1/2 Key = 6 (six)
1 Key = 1 (one)	1 Key = 7 (seven)
2 Key = 2 (two)	2 Key = 8 (eight)
3 Key = 3 (three)	3 Key = 9 (nine)
5 Key = 4 (four)	
6 Key = 5 (five)	

To make a program change, first make sure that there is no vend/fill cycle in progress. Put the Lock (program) Switch (PS) in the program mode (switch in the horizontal position) as shown in **illustration #1** on the previous page (**page 8**) or enter the access number through the keypad. The left display will now read "PL 00" and the right display will be blank. From this point, any of the 13 program locations can be accessed by pressing the left [1 GAL.] selection key to enter a specific location. The left [1/2 GAL.] or [2 GAL.] selection keys can be pressed to increment or decrement the program locations.

To alter the programming, locate the specific program location or parameter to be changed. With the left display reading "PL 01", to increment program location, press the left [2 GAL.] selection key until the desired program location is displayed (i.e., "PL 01", "PL 02", "PL 03", etc.). The left [1/2 GAL.] selection key will increment the program locations. Once the correct program location is displayed and a change is desired, press the left [1 GAL.] selection key. The left [1 GAL.] selection key provides two (2) functions:

1. Allows access into a program location.
2. Advances to the next location while storing data if it has changed.

**IMPORTANT:** When in a program location and the left [1 GAL.] selection key is pressed, whatever parameter is shown in the display will be stored in the computer's memory and the programming is now advanced to the next step (bit) or program location.

The left [2 GAL.] selection key or the left [1/2 GAL.] selection key provide the following functions:

1. Change numeric values ... [2 GAL.] increases ... [1/2 GAL.] decreases.
2. Toggle for status changes such as... "RIGHT" "COIN" "COUNT" ...  
[1/2 GAL.] toggle = "CLEAR" "RIGHT" "COIN" "COUNT".

**Example:** If the change to be made is a status change (i.e., from "COIN" to "FREE") simply press the left [1/2 GAL.] selection key or the left [2 GAL.] selection key and the display will revert back and forth between status choices. Once the correct status is displayed, pressing the left [1 GAL.] selection key will store the change and advance you to the next step (bit) or program location.

If the change is numeric (i.e., "AMOUNT" "PER" "GALLON"), press the left [2 GAL.] selection key to increase the number value, or, press the left [1/2 GAL.] selection key to decrease the number. Pressing the left [1 GAL.] selection key will store the change and advance to the next step (bit) or program location.

**NOTE:** To accelerate increase/upward value, press and hold in the left [2 GAL.] selection key. To accelerate decrease/downward value, press and hold in the left [1/2 GAL.] selection key.

Once the change or changes desired are made, to exit the program mode put the program switch (PS) in the run mode (down position).

**NOTE:** You can exit the programming mode at any time (even if you are in the middle of a program location) by simply putting the program switch (PS) in the run mode (down position). However, if a change was made, be sure the left [1 GAL.] selection key is pressed before opening the program switch to insure that the change was stored in the computer's memory.

## B. Explanation of Programming 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 (computer) controller's L.E.D. display. For example, if the flow chart shows "PL 00" the computer display will read the same.



Represents the key on the label that is to be pressed. For example, if the flow chart shows [1/2 GAL.], you would press that key.



Represents the program path.

On the side of each flow chart is an explanation of the chart procedure, and in some cases, the programming limits.

### C. ENTERING and EXITING PROGRAM MODE (Quick Reference)

(No Vend In Progress)



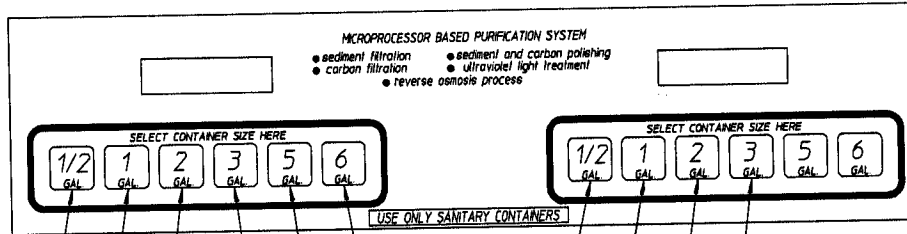
L.E.D. displays read the amount required per gallon.

(Program Switch In Program Mode Position)

To Enter Program Mode

or

(Enter Access Number From Keypad - only when in coin mode)

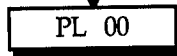


Left Keypad Values:

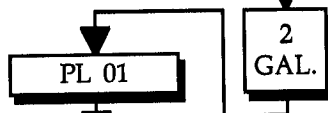
- 1/2 Key = 0 (zero)
- 1 Key = 1 (one)
- 2 Key = 2 (two)
- 3 Key = 3 (three)
- 5 Key = 4 (four)
- 6 Key = 5 (five)

Right Keypad Values:

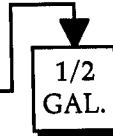
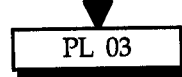
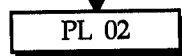
- 1/2 Key = 6 (six)
- 1 Key = 7 (seven)
- 2 Key = 8 (eight)
- 3 Key = 9 (nine)



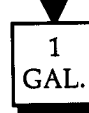
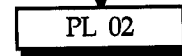
Left display reads



To advance to the next program location, press the left side [2 GAL.] selection key.



To revert back to lower program locations, press left side [1/2 GAL.] selection key.

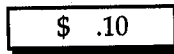


To enter a specific program location (i.e., PL 02), press left side [1 GAL.] selection key.

Left Display reads



Right Display reads



(i.e., actual coin slot value)

(Program Switch In Run Mode Position)

To exit program mode, put program switch in run mode position. L.E.D. displays return to run mode.

or

(Press 6 On Left Keypad 3 Times)

NOTE: If entered by program switch this will not work. You must put program switch back in run mode.



# SECTION V

## REVIEWING (DISPLAY) COUNTS

### A. LEFT COIN COUNT

(No Vend In Progress)



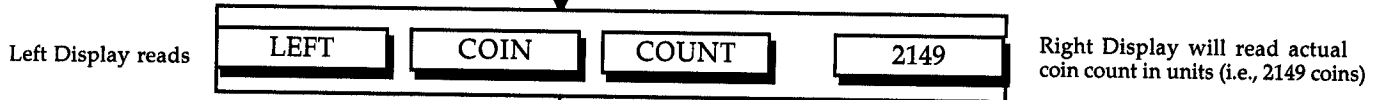
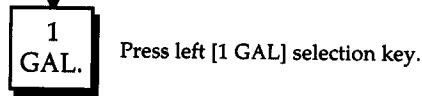
L.E.D. displays read the amount required per gallon.

(Program Switch In Program Mode Position)

To Enter Program Mode

or

(Enter Access Number From Keypad - only when in coin mode)

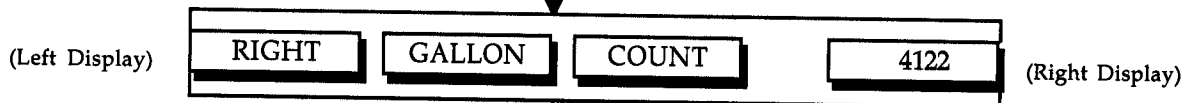
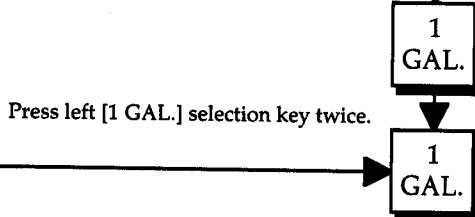
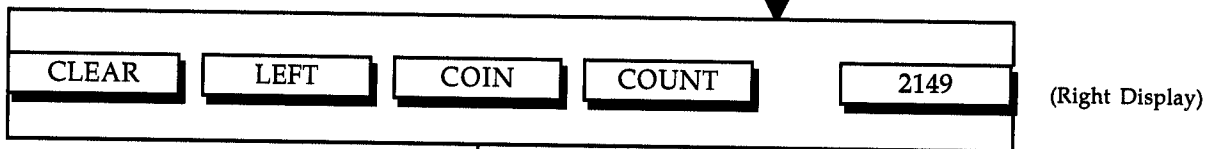
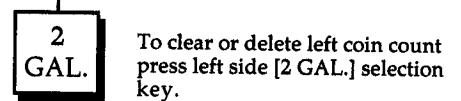


Or

(To Retain Coin Count)

(To Clear Coin Count)

To retain coin count, press left [1 GAL.] selection key once.



Or

**TO EXIT REVIEW MODE,**  
 put program switch in the run mode.

**TO REVIEW LEFT BAY GALLON COUNT,**  
 proceed to **Flow Chart B.**

**B. RIGHT COIN COUNT**

**(No Vend In Progress)**



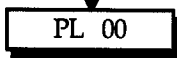
L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

**or**  
**(Enter Access Number From Keypad - only when in coin mode)**

Continuation from  
**LEFT COIN COUNT**  
**(Flow Chart A)**



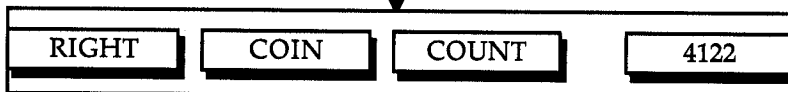
Left Display reads



Press left [1 GAL.] selection key twice in quick succession.



Left Display reads



Right Display will read actual coin count in units (i.e., 4122 coins)

**Or**

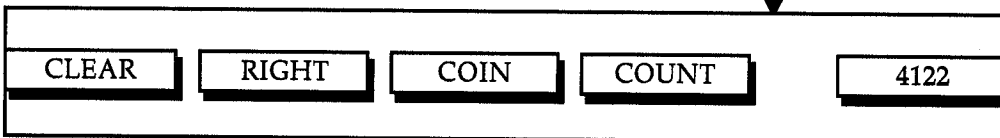
**(To Retain Coin Count)**

**(To Clear Coin Count)**



To clear or delete right coin count, press left side [2 GAL.] selection key.

(Left Display)



(Right Display)

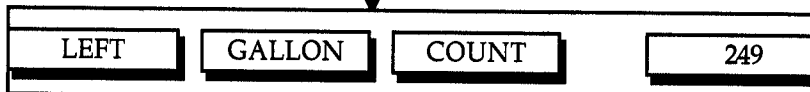
To retain coin count, press left [1 GAL.] selection key once.



Press left [1 GAL.] selection key twice.



(Left Display)



(Right Display)

**Or**

**TO EXIT REVIEW MODE,**  
put program switch in  
the run mode.

**TO REVIEW LEFT BAY  
GALLON COUNT,**  
proceed to  
**Flow Chart C.**



**C. LEFT BAY GALLON COUNT**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

Continuation from  
**RIGHT COIN COUNT**  
(Flow Chart B)



Left Display reads



Press left [1 GAL.] selection key three (3) times in quick succession.



Left Display reads



Right Display will read actual gallons vended.

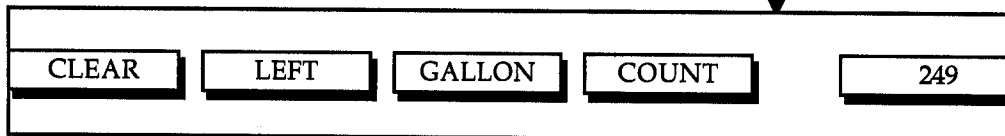
Or

**(To Retain Gallon Count)**

**(To Clear Left Gallon Count)**

To retain gallon count, press left [1 GAL.] selection key once.

(Left Display)



(Right Display)



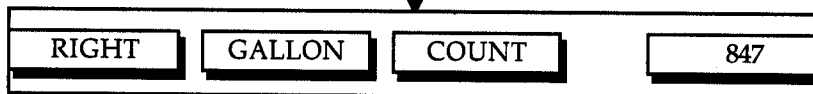
To clear or delete gallon count, press [2 GAL.] selection key.



Press left [1 GAL.] selection key twice.



(Left Display)



(Right Display)

**TO EXIT REVIEW MODE,**  
put program switch in  
the run mode.

Or

**TO REVIEW RIGHT BAY  
GALLON COUNT,**  
proceed to  
**Flow Chart D.**

# D. RIGHT BAY GALLON COUNT

(No Vend In Progress)

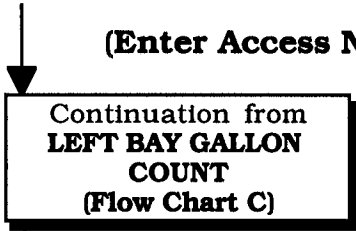


L.E.D. displays read the amount required per gallon.

(Program Switch In Program Mode Position)

To Enter Program Mode

OR  
(Enter Access Number From Keypad - only when in coin mode)



Left Display reads



Press left [1 GAL.] selection key four (4) times in quick succession.



Left Display reads



Right Display will read actual gallons vended.

Or

(To Retain Gallon Count)

(To Clear Right Gallon Count)



To clear or delete gallon count, press [2 GAL.] selection key.

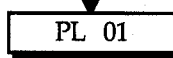
(Left Display)



Right Display

To retain gallon count, press left [1 GAL.] selection key once.

Press left [1 GAL.] selection key twice.



TO EXIT REVIEW MODE,  
put program switch in  
the run mode.

Or

PROCEED TO NEXT  
PROGRAM LOCATION

# SECTION VI

## PROGRAMMING / FLOW CHARTS

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**A. PROGRAM LOCATION 00 (PL00)**

**(No Vend In Progress)**

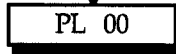


L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)  
or  
(Enter Access Number From Keypad)**

To Enter Program Mode

Left Display reads



Press left [1 GAL.] selection key. Left display will read "LEFT" "COIN" "COUNT". Right display will show numeric count.

**Or**



Press left [1 GAL.] selection key to continue without clearing the numeric coin count. Left display will read "RIGHT" "COIN" "COUNT". Right display will show numeric count.



Press left [2 GAL.] selection key to clear coin count. Left display will read "CLEAR" "LEFT" "COIN" "COUNT". Right display will show numeric count.



Press left [1 GAL.] selection key to finalize clearing coin count.



Press left [1 GAL.] selection key a second time to continue.



Press left [2 GAL.] selection key to clear coin count. Left display will read "CLEAR" "RIGHT" "COIN" "COUNT". Right display will show numeric count.



Press left [1 GAL.] selection key to finalize clearing coin count.



Press left [1 GAL.] selection key a second time to continue.

Press left [1 GAL.] selection key to continue without clearing the numeric coin count. Left display will read "RIGHT" "GALLON" "COUNT". Right display will show numeric count.

**continue to next page**

continued from previous page

Press left [1 GAL.] selection key to continue without clearing the numeric coin count. Left display will read "RIGHT" "GALLON" "COUNT". Right display will show numeric count.

1  
GAL.

2  
GAL.

Press left [2 GAL.] selection key to clear gallon count. Left display will read "CLEAR" "LEFT" "GALLON" "COUNT". Right display will show numeric count.

1  
GAL.

Press left [1 GAL.] selection key to finalize clearing gallon count.

1  
GAL.

Press left [1 GAL.] selection key a second time to continue.

2  
GAL.

Press left [2 GAL.] selection key to clear gallon count. Left display will read "CLEAR" "RIGHT" "GALLON" "COUNT". Right display will show numeric count.

1  
GAL.

Press left [1 GAL.] selection key to finalize clearing gallon count.

1  
GAL.

PL 01

Or

**TO EXIT REVIEW MODE,  
put program switch in  
the run mode.**

**PROCEED TO NEXT  
PROGRAM LOCATION**

**B. PROGRAM LOCATION 01 (PL 01)**

**(No Vend In Progress)**



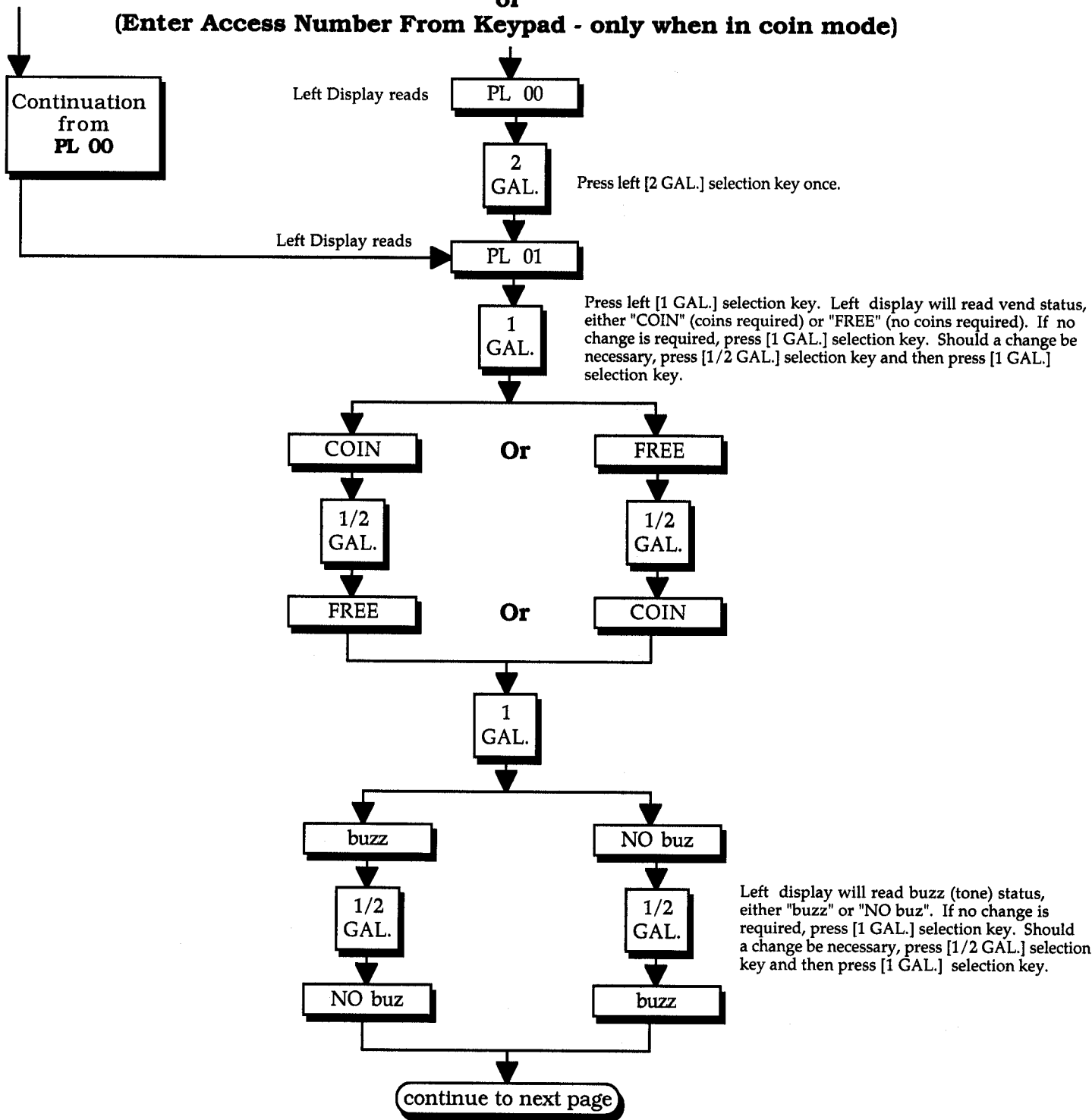
L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

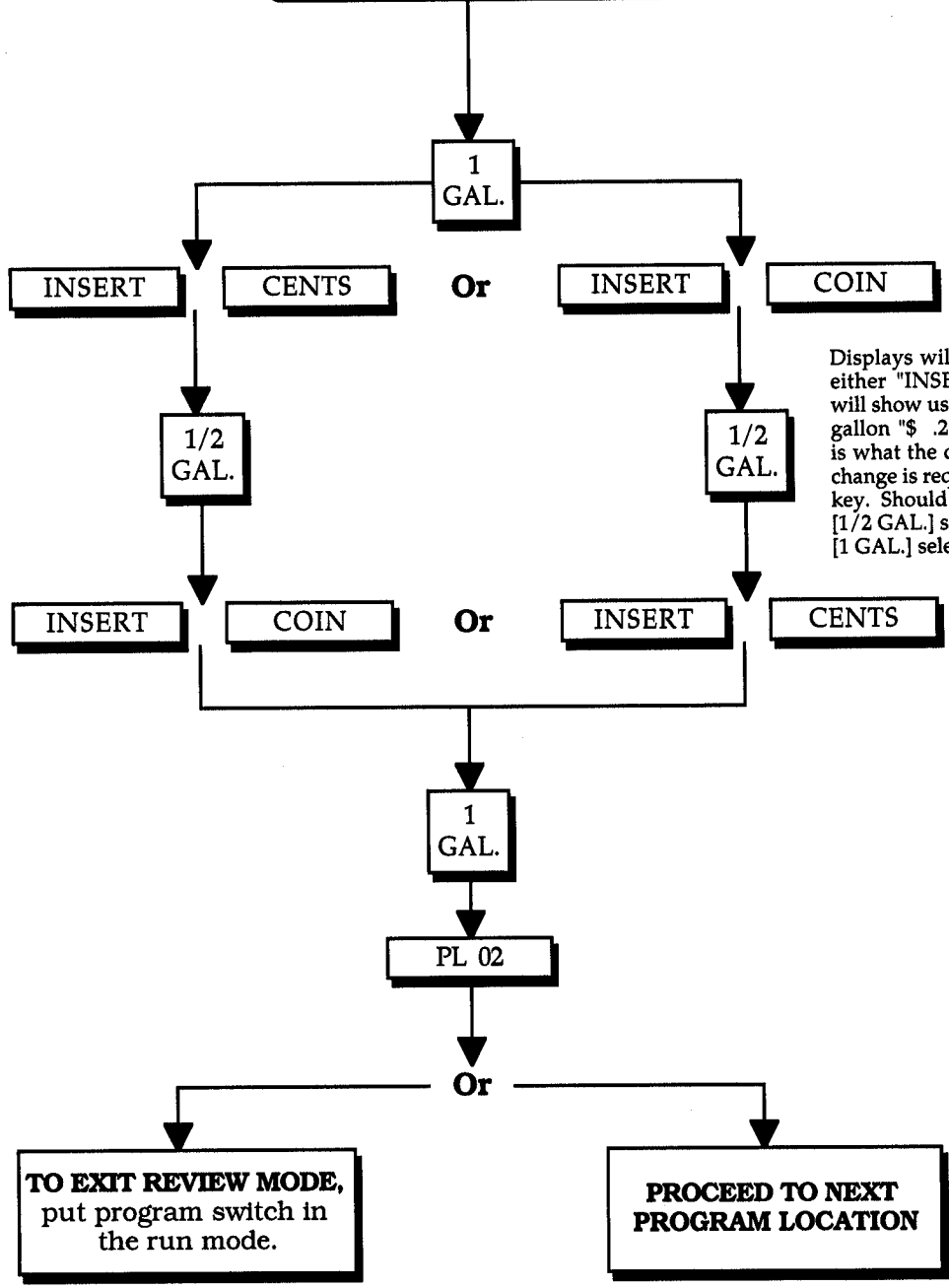
To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**



continued from previous page



**C. PROGRAM LOCATION 02 (PL 02)**

**LEFT COIN SLOT VALUE**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

Continuation from PL 01

PL 00

2 GAL.

Press left [2 GAL.] selection key twice.

2 GAL.

PL 01

Left display will read "PL 01" and then read "PL 02".

PL 02

1 GAL.

Press left [1GAL.] selection key once.



**(If No Change)**

**(To Change)**

1 GAL.

(To Decrease)

1/2 GAL.

(Hold In To Accelerate)

(To Increase)

2 GAL.

(Hold In To Accelerate)

1 GAL.

PL 03

Left display will read "LEFT" "COIN" "SLOT" "VALUE" and right display will read actual value of the coin slot denomination (i.e., 10¢). If no change is required, press [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

NOTE: Left Coin Slot value is programmable.  
0 - 1275 in increments of 5.

**TO EXIT REVIEW MODE, put program switch in the run mode.**

**PROCEED TO NEXT PROGRAM LOCATION**



**D. PROGRAM LOCATION 03 (PL 03)**

**RIGHT COIN SLOT VALUE**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

**or**  
**(Enter Access Number From Keypad - only when in coin mode)**

Continuation  
from  
PL 02

PL 00

2  
GAL.

2  
GAL.

Press left [2 GAL.] selection key three (3) times.

2  
GAL.

PL 01

PL 02

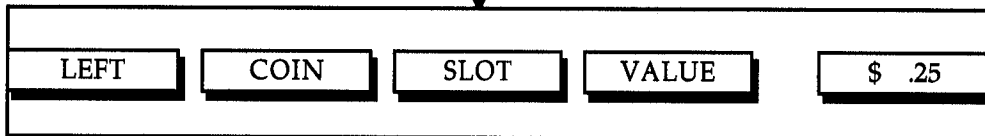
Left display will read "PL 01", "PL 02" and then read "PL 03".

PL 03

1  
GAL.

Press left [1GAL.] selection key once.

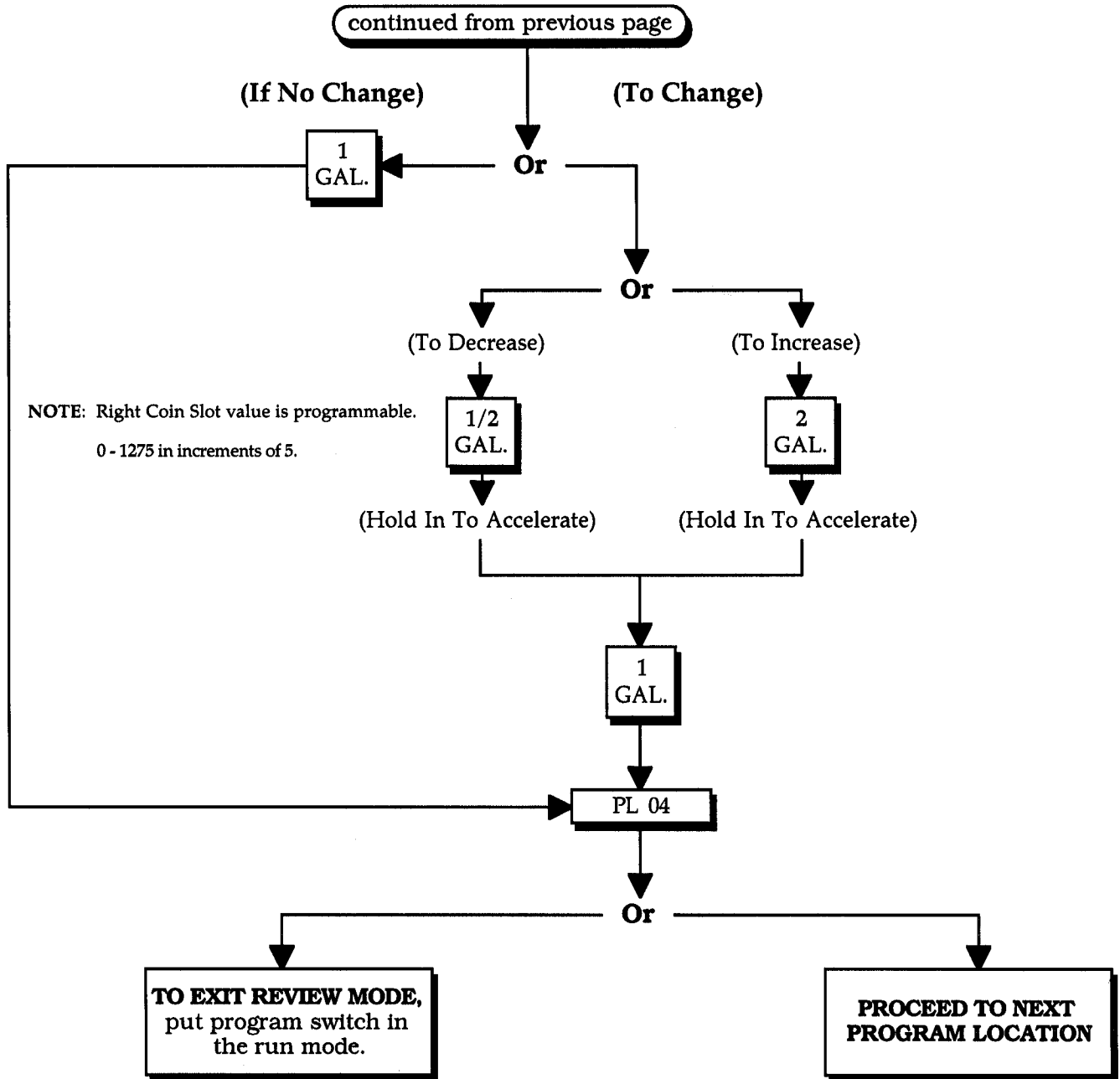
Left Display



Right Display

Left display will read "RIGHT" "COIN" "SLOT" "VALUE" and right display will read actual value of the coin slot denomination (i.e., 25¢). If no change is required, press [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

continue to next page



**E. PROGRAM LOCATION 04 (PL 04)**

**AMOUNT PER GALLON**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

Continuation from  
**PL 03**

PL 00

2  
GAL.

2  
GAL.

2  
GAL.

2  
GAL.

Press left [2 GAL.] selection key four (4) times.

PL 01

PL 02

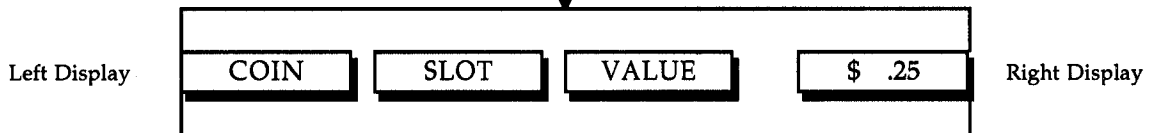
PL 03

Left display will read "PL 01", "PL 02", PL03, and then read "PL 04".

PL 04

2  
GAL.

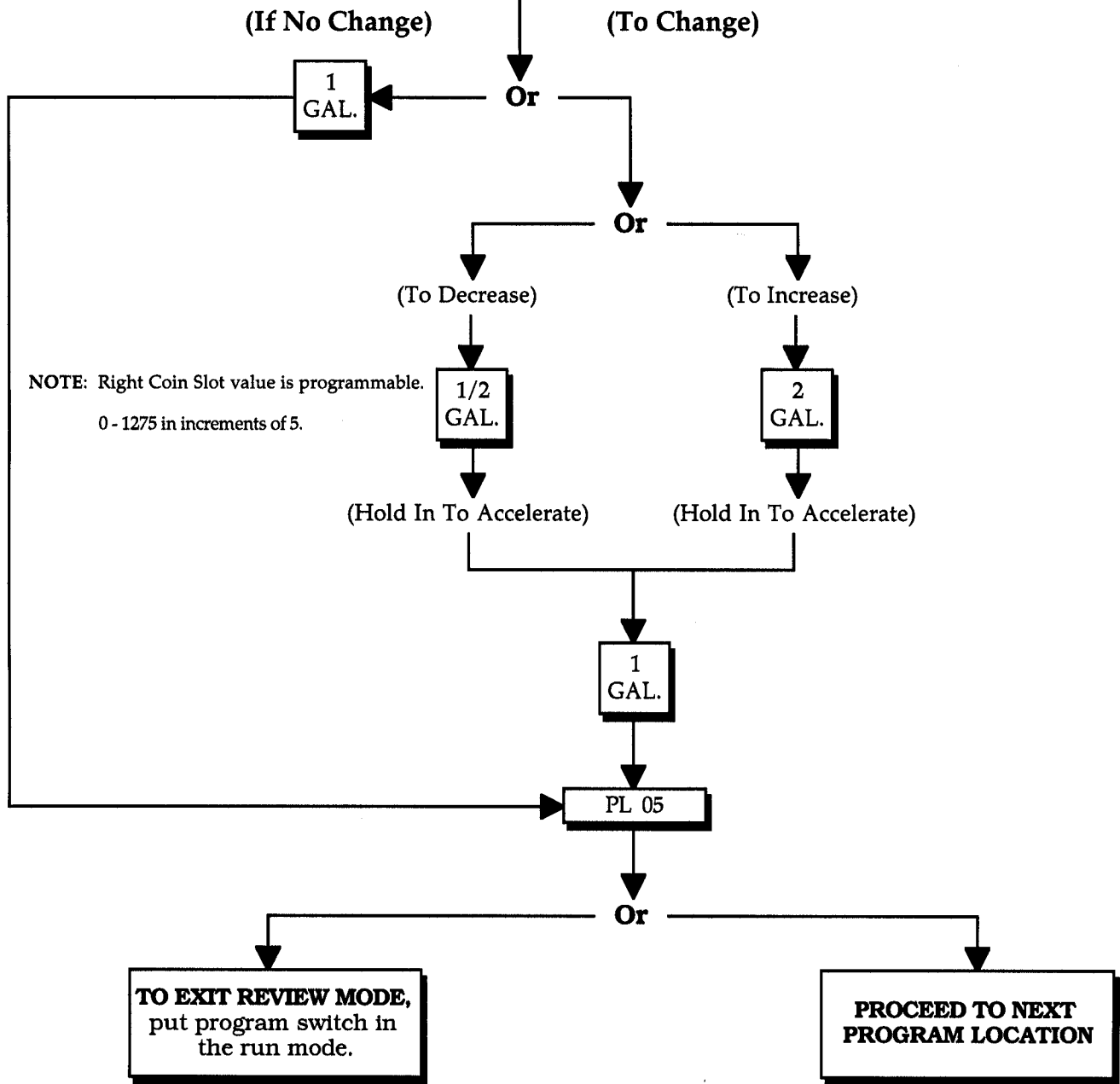
Press left [1GAL.] selection key once.



Left display will read "AMOUNT" "PER" "GALLON" and right display will read actual value required. If no change is required, press [1 GAL.]selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

continue to next page

continued from previous page



**F. PROGRAM LOCATION 05 (PL 05)**

**NO. 1 LEFT and RIGHT KEYS GALLON VEND VALUE  
(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

**or  
(Enter Access Number From Keypad - only when in coin mode)**

Continuation from PL 04

PL 00

2 GAL.

2 GAL.

2 GAL.

Press left [2 GAL.] selection key five (5) times.

2 GAL.

2 GAL.

PL 01

PL 02

PL 03

PL 04

Left display will read "PL 01", "PL 02", "PL 03", "PL 04", and then read "PL 05".

PL 05

1 GAL.

Press left [1GAL.] selection key once.

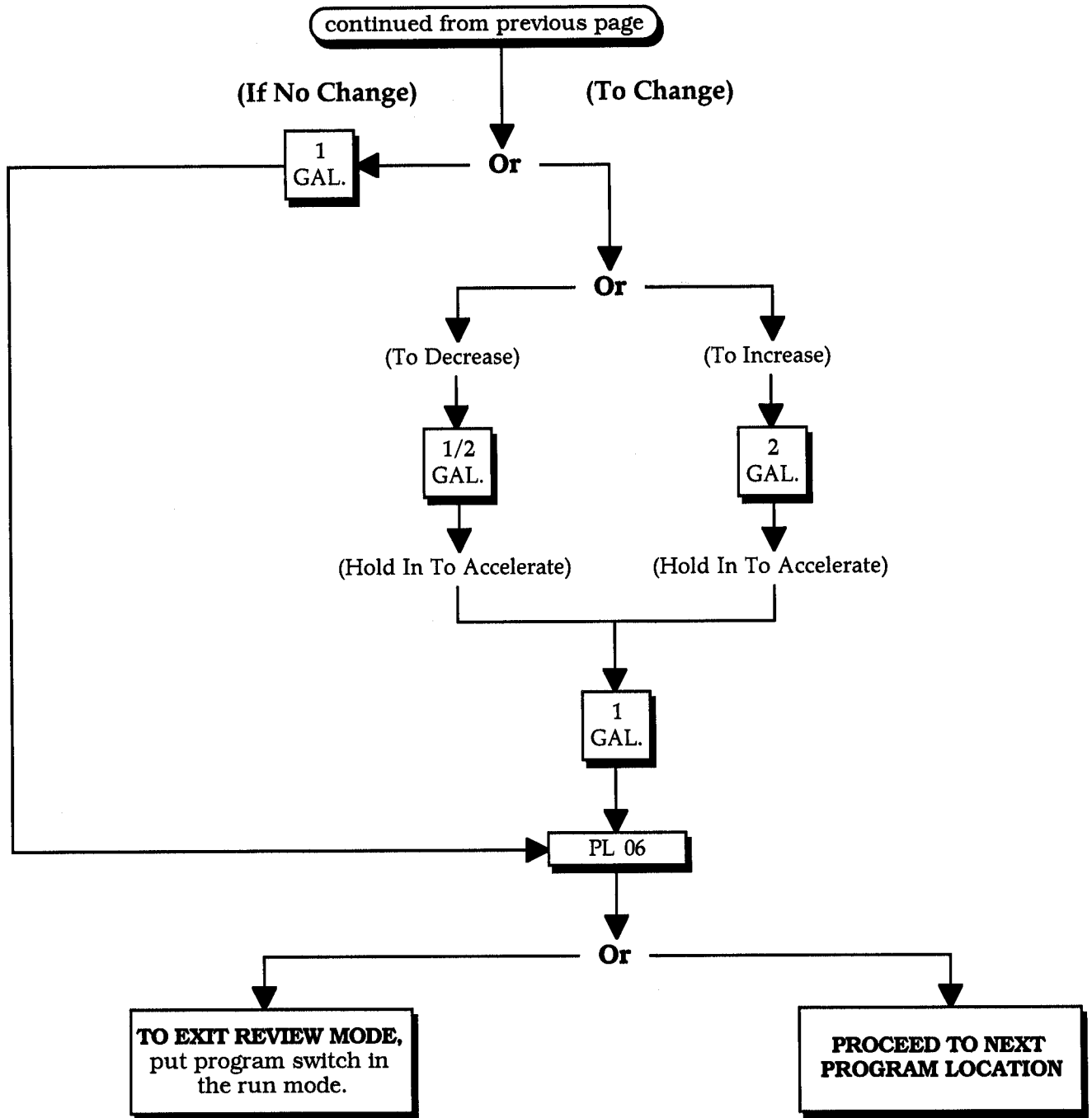
Left Display



Right Display

Left display will read "KEY 1" and right display will read actual gallon amount that will be vended (i.e., .5 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

continue to next page



NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.

**G. PROGRAM LOCATION 06 (PL 06)**

**NO. 2 LEFT and RIGHT KEYS GALLON VEND VALUE**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

**or**  
**(Enter Access Number From Keypad - only when in coin mode)**

Continuation  
from  
PL 05

PL 00

2  
GAL.

2  
GAL.

2  
GAL.

Press left [2 GAL.] selection key six (6) times.

2  
GAL.

2  
GAL.

2  
GAL.

PL 01

PL 02

PL 03

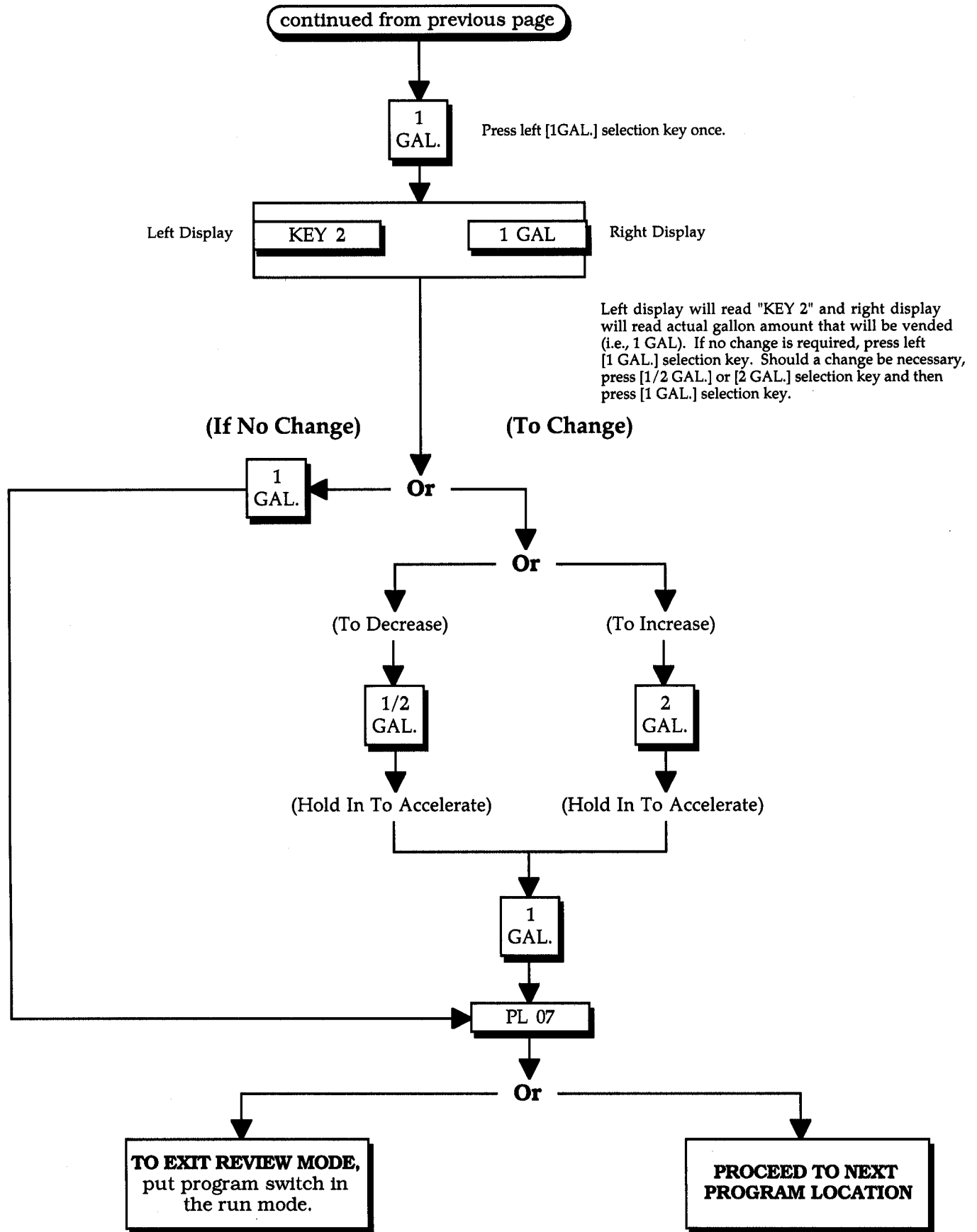
Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", and then read "PL 06".

PL 04

PL 05

PL 06

continue to next page



NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.



**H. PROGRAM LOCATION 07 (PL 07)**

**NO. 3 LEFT and RIGHT KEYS GALLON VEND VALUE**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

Continuation  
from  
PL 06



Press left [2 GAL.] selection key seven (7) times.



PL 01

PL 02

PL 03

PL 04

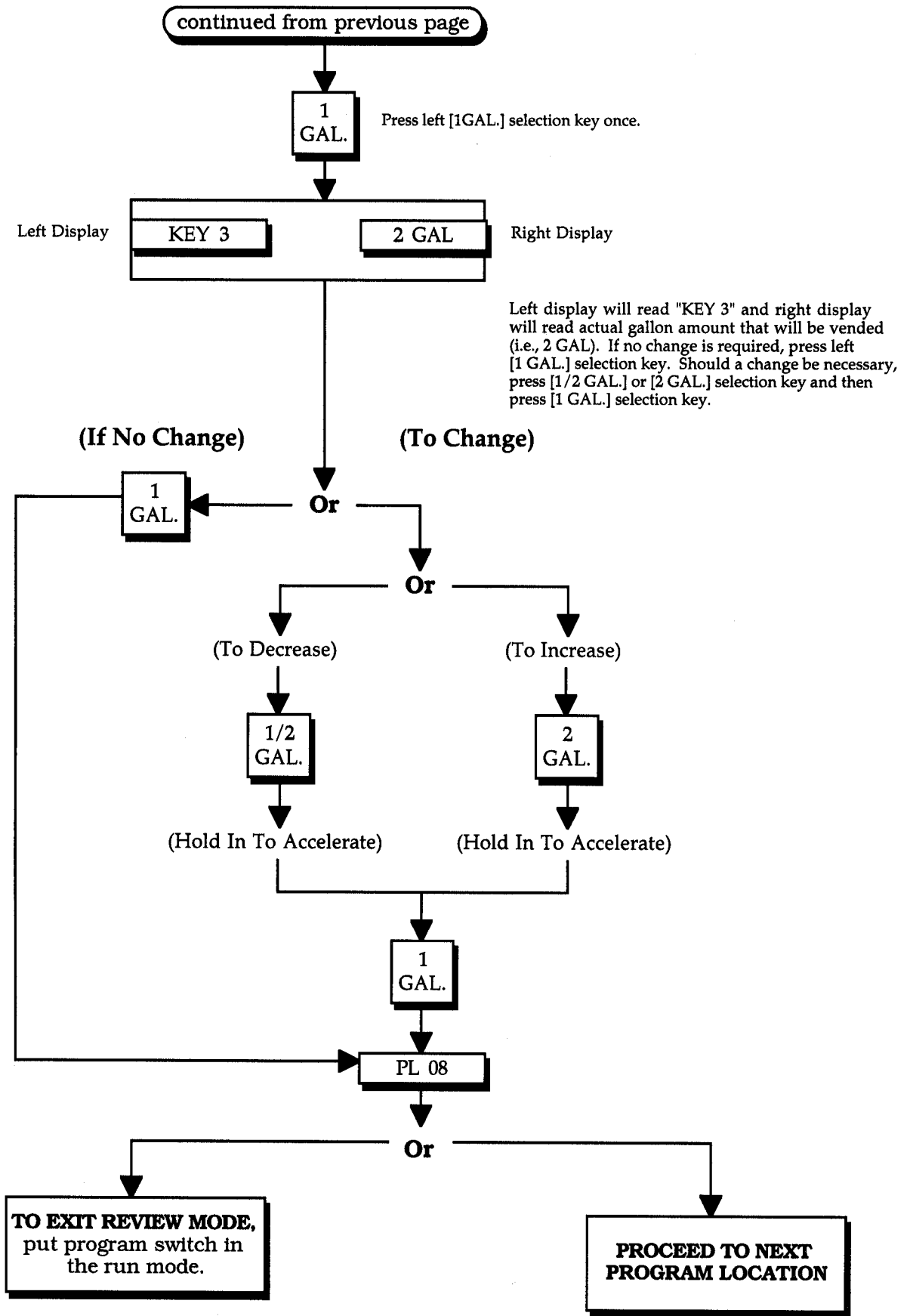
PL 05

PL 06

PL 07

Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", "PL 06", and then read "PL 07".

continue to next page

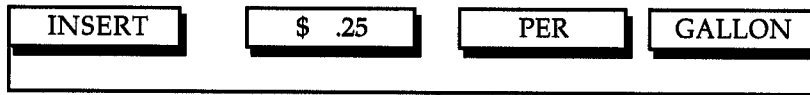


NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.

I. PROGRAM LOCATION 08 (PL 08)

**NO. 4 LEFT and RIGHT KEYS GALLON VEND VALUE**

**(No Vend In Progress)**



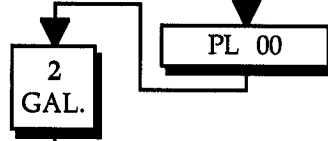
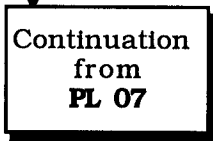
L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

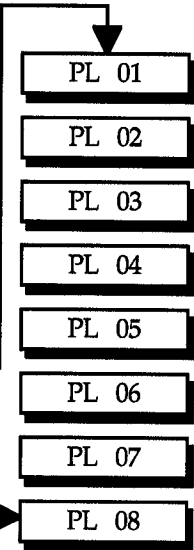
To Enter Program Mode

or

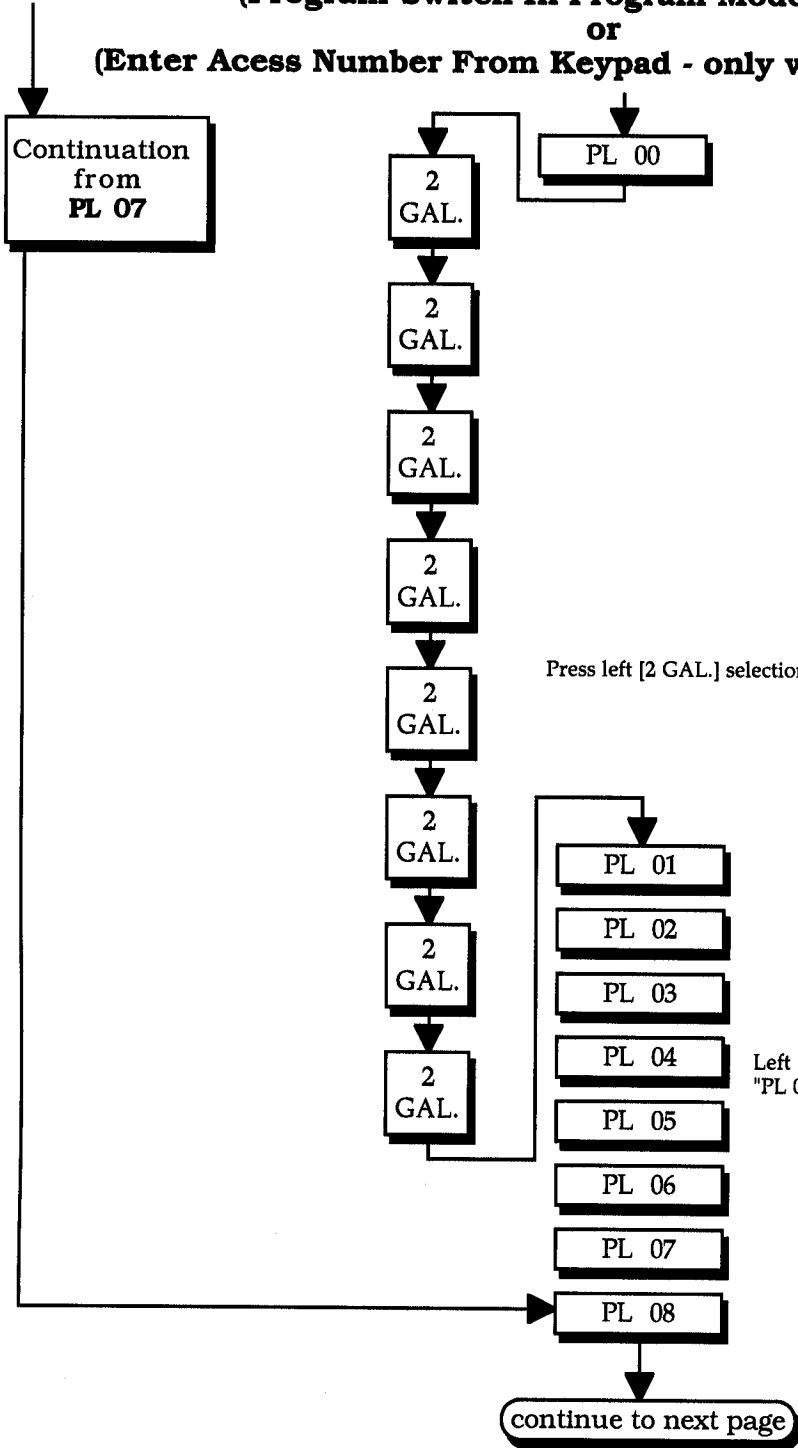
**(Enter Access Number From Keypad - only when in coin mode)**



Press left [2 GAL.] selection key eight (8) times.



Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", "PL 06", "PL 07", and then read "PL 08".



continued from previous page

1  
GAL.

Press left [1GAL.] selection key once.



Left display will read "KEY 4" and right display will read actual gallon amount that will be vended (i.e., 3 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

(If No Change)

(To Change)

Or

1  
GAL.

Or

(To Decrease)

(To Increase)

1/2  
GAL.

2  
GAL.

(Hold In To Accelerate)

(Hold In To Accelerate)

1  
GAL.

PL 09

Or

**TO EXIT REVIEW MODE,**  
put program switch in  
the run mode.

**PROCEED TO NEXT  
PROGRAM LOCATION**

NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.

**I. PROGRAM LOCATION 09 (PL 09)**

**NO. 5 LEFT and RIGHT KEYS GALLON VEND VALUE**

**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

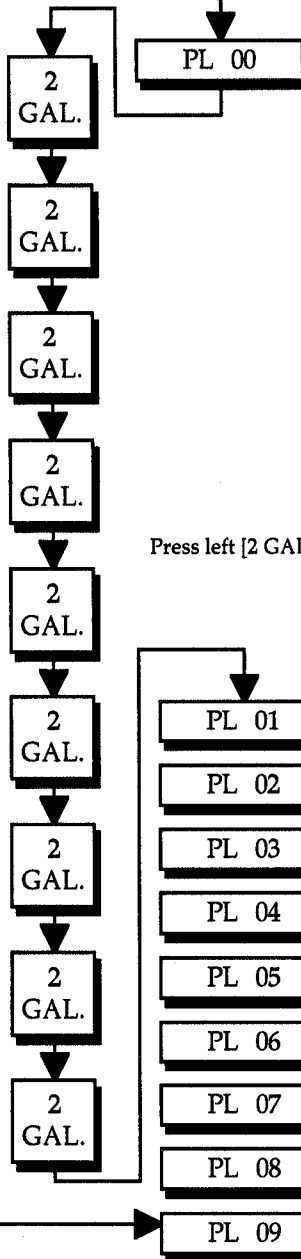
**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

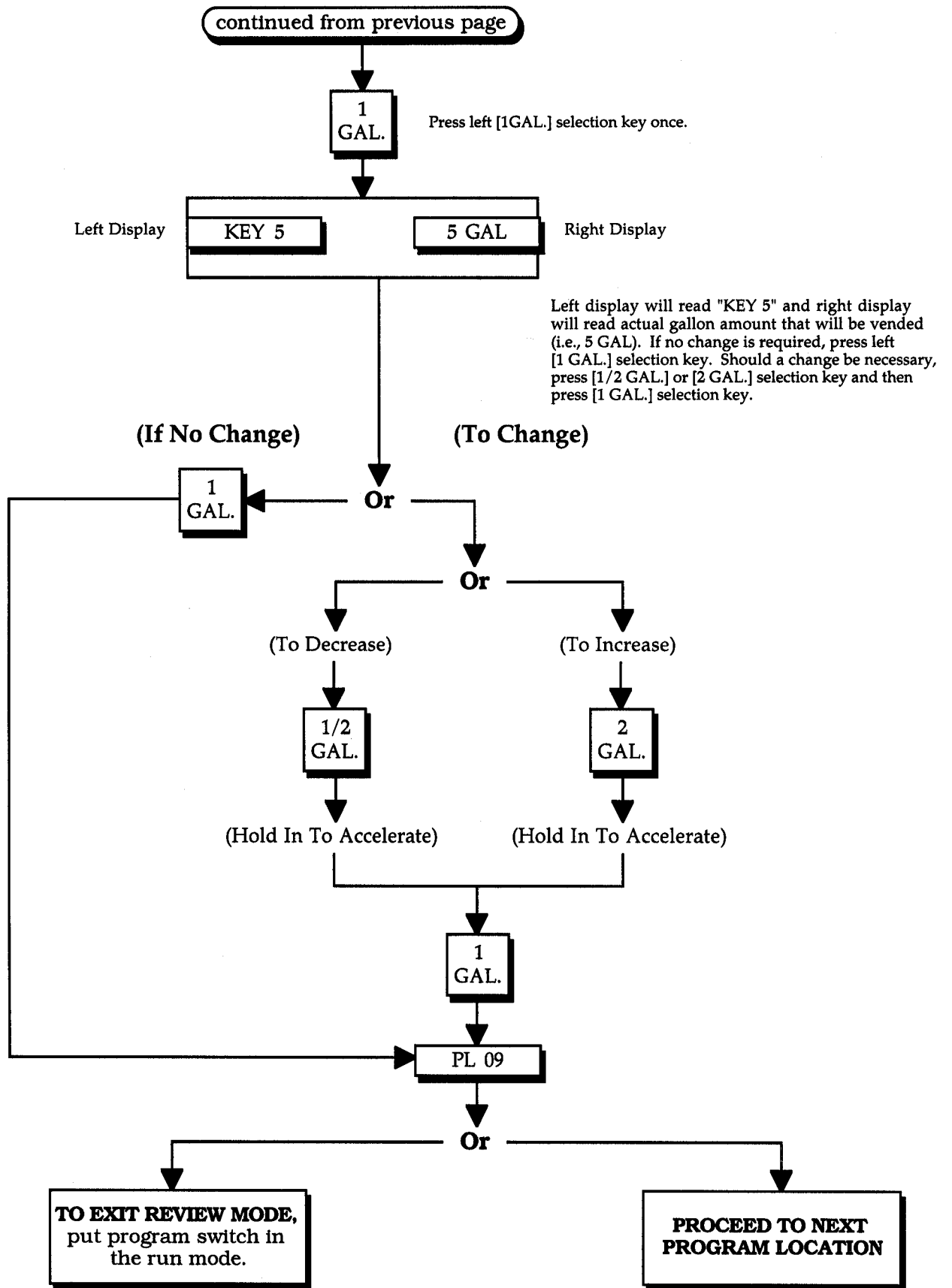
Continuation  
from  
PL 08



Press left [2 GAL.] selection key nine (9) times.

Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", "PL 06", "PL 07", "PL 08", and then read "PL 09".

continue to next page



**NOTE:** Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.

**K. PROGRAM LOCATION 10 (PL 10)**

**NO. 6 LEFT and RIGHT KEYS GALLON VEND VALUE (No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

**or**  
**(Enter Access Number From Keypad - only when in coin mode)**

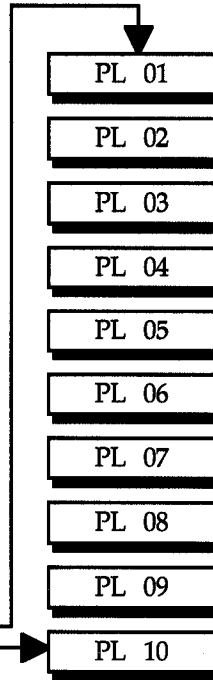
Continuation from  
**PL 09**



**PL 00**



Press left [2 GAL.] selection key ten (10) times.



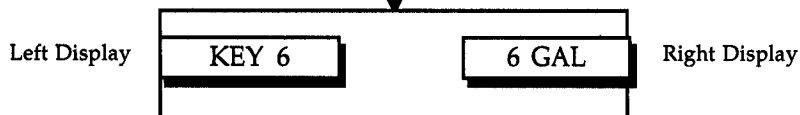
Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", "PL 06", "PL 07", "PL 08", "PL 09", and then read "PL 10".

continue to next page

continued from previous page

1  
GAL.

Press left [1GAL.] selection key once.



Left display will read "KEY 6" and right display will read actual gallon amount that will be vended (i.e., 6 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

(If No Change)

(To Change)

1  
GAL.

Or

Or

(To Decrease)

(To Increase)

1/2  
GAL.

2  
GAL.

(Hold In To Accelerate)

(Hold In To Accelerate)

1  
GAL.

PL 00

Or

**TO EXIT REVIEW MODE,**  
put program switch in  
the run mode.

**PROCEED TO NEXT  
PROGRAM LOCATION**

NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.



# L. PROGRAM LOCATION 11 (PL 11)

## **SYSTEM FLUSH (No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position)**

To Enter Program Mode

or

**(Enter Access Number From Keypad - only when in coin mode)**

Continuation from PL 10

2 GAL.

PL 00

2 GAL.

2 GAL.

2 GAL.

Press left [2 GAL.] selection key eleven (11) times.

2 GAL.

2 GAL.

PL 01

PL 02

PL 03

PL 04

PL 05

Left display will read "PL 01", "PL 02", "PL 03", "PL 04", "PL 05", "PL 06", "PL 07", "PL 08", "PL 09", "PL 10", and then read "PL 11".

2 GAL.

PL 06

PL 07

PL 08

2 GAL.

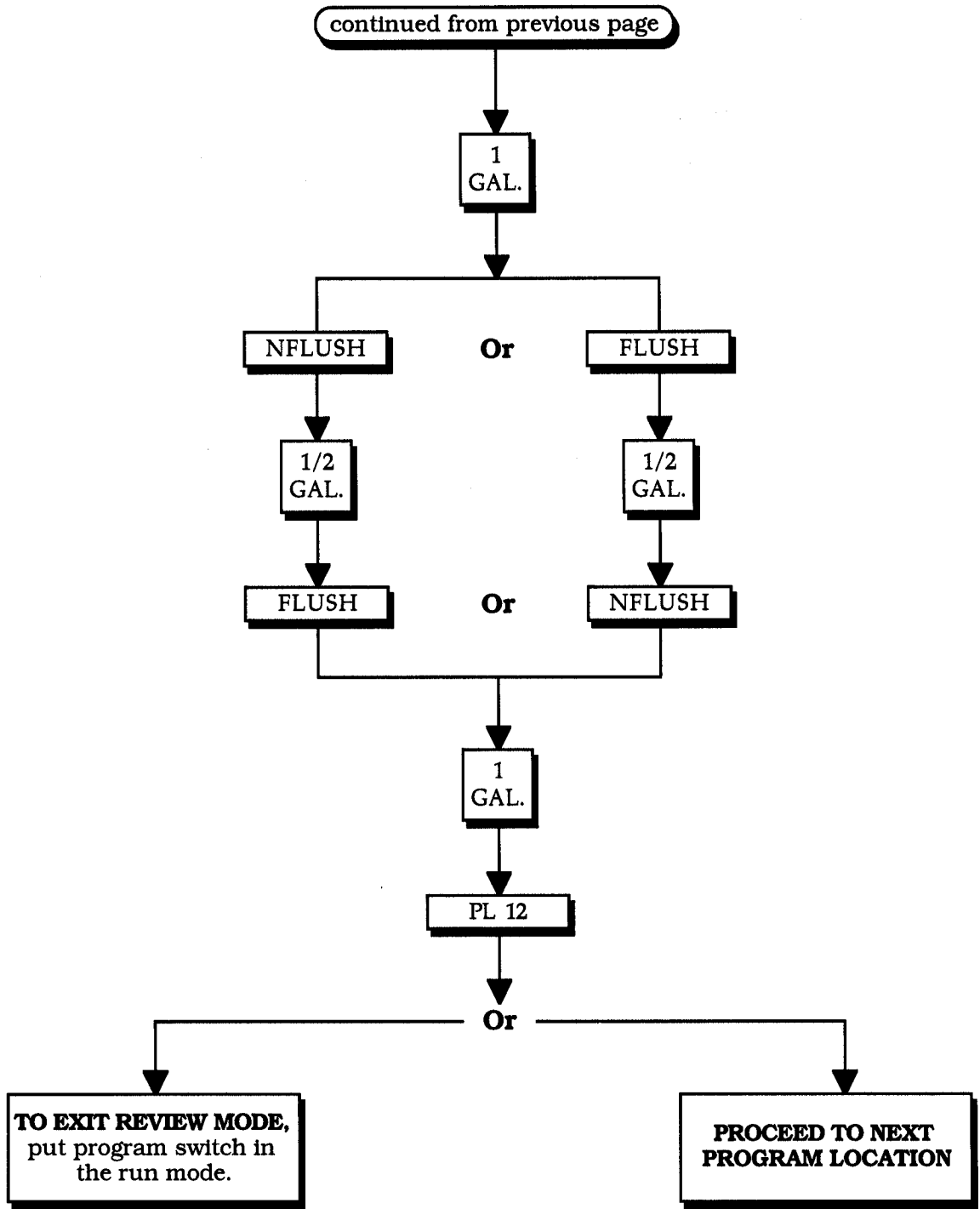
PL 09

PL 10

2 GAL.

PL 11

continue to next page



## M. PROGRAM LOCATION 12 (PL 12)

### TO VIEW or CHANGE PROGRAM ENTRY CODE (No Vend In Progress)

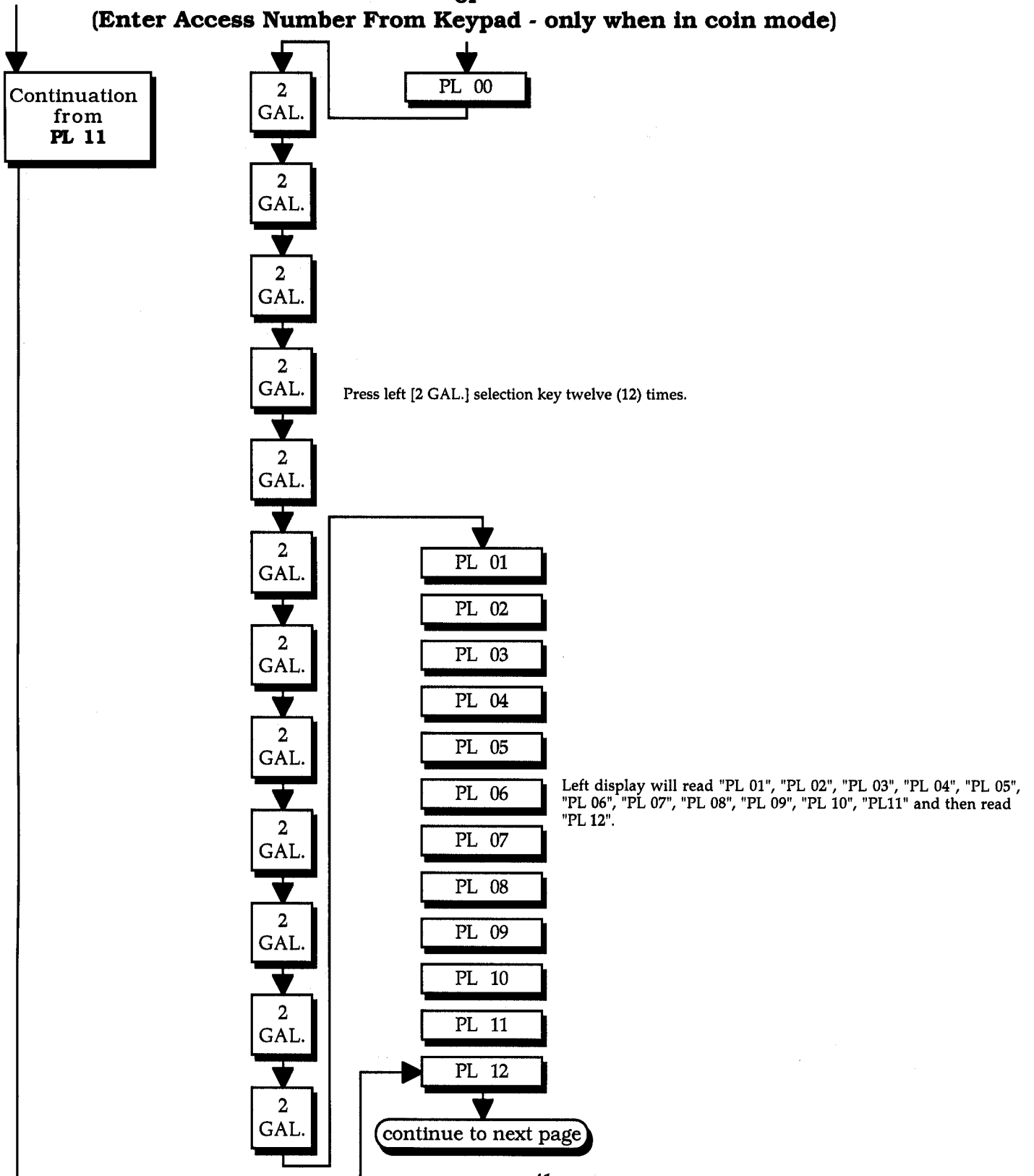


L.E.D. displays read the amount required per gallon.

(Program Switch In Program Mode Position)  
or

To Enter Program Mode

(Enter Access Number From Keypad - only when in coin mode)



continued from previous page

(First Digit)

1 GAL.

Press left [1 GAL.] selection key once. (The First Digit will be shown in the left display.)

(If No Change)

Or

(To Change)

1/2 GAL. Or 2 GAL.

The left display will read "0", "00", "000", "0000", "00000" "000000" where each zero ("0") represents a digit. By pressing the [2 GAL.] selection key you can increment the digit. By pressing the [1/2 GAL.] selection key you can decrement the digit.

(Second Digit)

1 GAL.

1/2 GAL. Or 2 GAL.

(Third Digit)

1 GAL.

1/2 GAL. Or 2 GAL.

(Fourth Digit)

1 GAL.

1/2 GAL. Or 2 GAL.

(Fifth Digit)

1 GAL.

1/2 GAL. Or 2 GAL.

(Sixth Digit)

1 GAL.

1/2 GAL. Or 2 GAL.

1 GAL.

1 GAL.

1 GAL.

1 GAL.

1 GAL.

1 GAL.

PL 00

TO EXIT REVIEW MODE, put program switch in the run mode.

# N. TEACH MODE

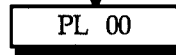
**(No Vend In Progress)**



L.E.D. displays read the amount required per gallon.

**(Program Switch In Program Mode Position**

To Enter Program Mode



Left side [1/2 GAL.] selection key.



Right side [1/2 GAL.] selection key.



L.E.D. displays read TEACH MODE.

Or

Right [1/2 GAL.] selection key will vend the Left Side ONLY.



Right [1 GAL.] selection key will vend the Both Sides Simultaneously.

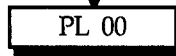
Right [2 GAL.] selection key will vend the Right Side ONLY.



Press left [1 GAL.] selection key then right [1 GAL.] selection key to save.



Press left [1 GAL.] selection key twice.



Or

**TO EXIT REVIEW MODE,**  
put program switch in the run mode.

**PROCEED TO NEXT PROGRAM LOCATION**

# SECTION VII

## FACTORY PRESET PROGRAMS/PARAMETERS

Unless otherwise stated at the time of ordering, the microprocessor (computer) controller has been preprogrammed by the factory with the programs/parameters shown in the chart below. Should changes be found necessary, please read this manual carefully to thoroughly familiarize yourself with the microprocessor (computer) controller's programming characteristics.

<u>Program Location</u>	<u>Display Code</u>	
PL 01	COIN .....	Coin(s) required to start.
	bUZZ .....	Buzz at the end of the fill cycle.
	INSERT APG .....	Display will read actual amount of money needed to be inserted for vend.
PL 02	LEFT COIN SLOT VALUE ..... \$ .10	Left side coin slot denomination.
PL 03	RIGHT COIN SLOT VALUE .... \$ .25	Right side coin slot denomination.
PL 04	AMOUNT PER GALLON ..... \$ .35	Purchase amount required for each gallon.
PL 05	KEY 1 ..... .5 GAL	1/2 Gallon
PL 06	KEY 2 ..... 1 GAL	
PL 07	KEY 3 ..... 2 GAL	
PL 08	KEY 4 ..... 3 GAL	
PL 09	KEY 5 ..... 5 GAL	
PL 10	KEY 6 ..... 6 GAL	
PL 11	NO FLUSH	
PL 12	YOUR MACHINE'S ACCESS NUMBER	

# SECTION VIII

## PROGRAMMING LIMITS

<u>Program Location</u>	<u>Parameter</u>	<u>Range</u>	<u>Increments</u>
PL 02	LEFT COIN SLOT VALUE	\$ 0 TO 12.75	.05
PL 03	RIGHT COIN SLOT VALUE	\$ 0 TO 12.75	.05
PL 04	AMOUNT PER GALLON	\$ 0 TO 12.75	.05
PL 05	KEY 1   Gallon Vend	0 to 6 GALLONS	.5
PL 06	KEY 2   Gallon Vend	0 to 6 GALLONS	.5
PL 07	KEY 3   Gallon Vend	0 to 6 GALLONS	.5
PL 08	KEY 4   Gallon Vend	0 to 6 GALLONS	.5
PL 09	KEY 5   Gallon Vend	0 to 6 GALLONS	.5
PL 10	KEY 6   Gallon Vend	0 to 6 GALLONS	.5

*Phase II*  
ADC 182708 1--08/06/94-15 2-09/19/94-25 3-01/17/95-10  
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