



AD-830
Microprocessor
Operator's / User's Manual
1995 / 1996

American Dispensing Company
88 Currant Road
Fall River MA 02720-4781
Telephone: (508) 678-9000 / Fax: (508) 678-9447

Retain This Manual In A Safe Place For Future Reference

American Dispensing Company 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.

ONLY properly licensed technicians should service this equipment.

Observe all safety precautions displayed on the equipment or specified in the installation/operator's manual included with the water vending machine.

UNDER NO CIRCUMSTANCES should the pressure switch(s) or other safety devices ever be disabled.

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.

Important

For your convenience, log the following information:

Date of Purchase _____ Model No. AD-830

Serial Number(s) _____
Door Key Number(s) _____
Coin Vault Number(s) _____

Replacement parts can be obtained 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) 678-9010. Please specify the water vending machine **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

IMPORTANT

YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC 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.

CAUTION

LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING AD-830. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION.

FOR YOUR SAFETY

THE SYSTEM IS SHIPPED WITH A PRESERVATIVE SOLUTION MADE OF SODIUM BISULFITE AND (IN THE WINTER MONTHS) GLYCERINE. MAKE SURE THE SYSTEM IS THOROUGHLY PURGED BEFORE LETTING ANYONE DRINK THE DISPENSED WATER.

REFER TO THE INSTALLATION SECTION ON PURGING PROCEDURE.

CAUTION

Never look directly into the unprotected parts of the U.V. chamber when there is power to the sterilizer. Serious burns to the eyes and the skin may result. Always unplug power to the sterilizer before working on it.

IMPORTANT

Please observe all safety precautions displayed on the equipment and/or specified in the installation / operators manual included with the AD-830.

IMPORTANT

The wiring diagram for the water vending machine is located behind the coin control door.

Water vending machine(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	
INTRODUCTION/FEATURES	2
SECTION II	
USER/VENDING OPERATING INSTRUCTIONS	4
SECTION III	
L.E.D. DISPLAY CODES	6
SECTION IV	
PROGRAMMING INSTRUCTIONS	8
A. INTRODUCTION TO PROGRAMMING	8
B. EXPLANATION OF PROGRAMMING FLOW CHARTS	11
C. ENTERING and EXITING PROGRAM MODE (Quick Reference)	12
SECTION V	
REVIEWING (DISPLAY) COUNTS	13
A. CASH BOX TOTALS	13
B. DOLLAR BILLS COUNT	14
C. LEFT BAY GALLON COUNT	15
D. RIGHT BAY GALLON COUNT	16
SECTION VI	
PROGRAMMING/FLOW CHARTS	17
A. PROGRAM LOCATION 00 (PL00)	17
B. PROGRAM LOCATION 01 (PL01)	19
C. PROGRAM LOCATION 02 (PL02)	21
D. PROGRAM LOCATION 03 (PL03)	23
E. PROGRAM LOCATION 04 (PL04)	25
F. PROGRAM LOCATION 05 (PL05)	27
G. PROGRAM LOCATION 06 (PL06)	29
H. PROGRAM LOCATION 07 (PL07)	31
I. PROGRAM LOCATION 08 (PL08)	33
J. PROGRAM LOCATION 09 (PL09)	35
K. PROGRAM LOCATION 10 (PL10)	37
L. PROGRAM LOCATION 11 (PL11)	39
M. PROGRAM LOCATION 12 (PL12)	40
N. TEACH MODE	42
SECTION VII	
FACTORY PRESET PROGRAMS/PARAMETERS	43
SECTION VIII	
PROGRAMMING LIMITS	44
SECTION IX	
PROGRAMMING ERROR CODES	45

SECTION I

INTRODUCTION/FEATURES

The microprocessor (computer) controller used in the model AD-830 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 of machine status;

- "USE" "EXACT" "CHANGE" is displayed if coin changer has been depleted.
- "CHANGE" "ONLY" is displayed if bill validator is jammed or temporarily out of order

1. Amount Per Gallon is displayed while in standby.

- "INSERT" "\$.25" "PER" "GALLON".

- The Amount of Credit is displayed while the coins are inserted.

2. Easy troubleshooting with display diagnostics.

3. Right bay and left bay update information is displayed independently. The display prompts the user to use other bay if one (1) is in use or if one (1) is out of order.

PROGRAMMABLE

Changes in the programs are made at the selection keypad. Just enter the access code 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.

GALLON OR LITER SELECTION

The microprocessor (computer) can be programmed for gallon or liter units.

PURCHASE AMOUNT PER GALLON

The amount of money needed to vend per gallon is programmable from ".05 to 2.00". Once this amount has been programmed, the microprocessor (computer) controller will automatically calculate the necessary amount needed for multi-gallon selections and refund change as required.

- As an example, if the amount per gallon is set for .25 cents and .50 cents is inserted, the L.E.D. display will show a .50 cent credit. After a selection is made the microprocessor will automatically deduct the value of the selection from the available credit and return your change.

CONTAINER SIZE SELECTION KEYS

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

AUDIBLE TONE (bUZZ)

A tone will sound for every key stroke, except while in the process of vending. At the end of the fill cycle, the tone / bUZZ can be eliminated if desired with a slight program change.

CASH BOX TOTAL & DOLLAR BILL COUNT

The microprocessor (computer) keeps a running total of all coins diverted into the cash box. For a machine equipped with a bill validator option, the microprocessor (computer) will also keep a count of dollar bills accepted into the machine.

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 by the microprocessor (computer). Should a failure occur in the monitored circuits, the L.E.D. display will show a failure error message.

ACCESS NUMBER

Every machine has an individual access number which allows the owner to quickly enter the program mode from the keypad. This number can be changed for security reasons if necessary.

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

NOTE: If display(s) read "USE" "EXACT" "CHANGE" the exact change for the desired vend MUST BE used.

1. Both the displays read the amount required per gallon ...
i.e., "INSERT" "\$.25" "PER" "GALLON"
2. Place containers to be filled in the appropriate vend bay (i.e., left or right).
3. For single or multiple gallon purchase:
 - a. User inserts coin(s)
 - b. The display will inform user the amount of credit accumulated.
 - c. The user selects the appropriate side and makes container size selection.

NOTE: If the credit inserted exceeded the actual cash value of user selection, change would be returned to the user after a selection is made.

- d. The displays will read the following if the Left Side were selected;

Left Side Display

Right Side Display

"FILL X"

"INSERT" "\$.25" "PER" "GALLON"

("X" is the amount of gallons selected)

- e. The right side is available for vending while the left bay fills.

- f. When the vend is completed, the left side display will read ...

"DONE" "THANK" "YOU"

- g. The Left Side will then be ready for the next vend, the L.E.D. displays will read...

"INSERT" "\$.25" "PER" "GALLON"

NOTES

1. CREDITS ...

A. If too much money is inserted or the gallons selected is less than the amount of money inserted, the microprocessor (computer) controller will return the credit balance.

2. 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 safety routine, use the following key combinations within a 3 second time period.
[6GAL] left, [6GAL] right, [5GAL] left, [5GAL] right, [1/2GAL] left.

NOTE: At the time of installation of the machine, the displays will read the above mentioned codes. Refer to the Electrical Troubleshooting Manual (ADC P/N: 182713) included with the unit

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

3. If one side of the vend bay is inoperative, one display will read "USE" "OTHER" "SIDE" and the other side will display the credit.

If both bays are inoperative, the two displays will read "OUT" "OF" "ORDER".

NOTE: "OUT" "OF" "ORDER" errors are cleared by entering the reset code 6L6R5L5R 1/2L.

NOTE: For explanations of error messages, refer to the Electrical Troubleshooting Booklet (ADC P/N: 182713) included with the unit.

4. 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 Manual (ADC P/N: 182713) included with the unit.

ERROR CODES	
"OUT OF" "ORDER"	A system error occurred. Upon resetting this code, one of the following error messages will appear describing what caused the system error.
"CHNGER" "UNPLUG"	The microprocessor (computer) controller does not detect a coin changer.
"FLOW" "METERS"	Microprocessor (computer) controller detects a flow error (dispensing problem). With both vending bays
"FILTER" "ERROR"	Dirty carbon filter or sediment filter...may also be caused by low pressure.
"R.O." "FILTER"	R.O. Membrane needs cleaning or replacement or the R.O. Comparator has failed
"OVER" "FLOW"	This is an indication that the base and or tank switches have been triggered. Over flow of water within the containment tank or water filling within the cabinet has occurred or the switch circuit is open or is disconnected, and / or Vend bay tank is full of water..indication of possible clogged drain, drain pump failure, or switch circuit is open or is disconnected.

GENERAL CODES	
"SYSTEM" "REFILL" "PLEASE" "WAIT"	Low water level in the containment tank ... will reset when water level recovers.
"SYSTEM" "PURGE" "DO" "NOT" "DRINK"	SYSTEM INSTALLATION SAFEGUARD. This code appears when power is first applied to the machine... after initial installation, if there is a power interruption (and the unit does not have battery back-up) this display code will appear.

PROGRAM CODES	
"TEACH" "MODE"	Calibrates the flow meters.
"bUZZ"	This program setting tells the (microprocessor) computer to sound the (buzzer) at the end of each fill cycle.
"NbUZZ"	This program setting turns off the audible tone at the end of each fill cycle.
"PL .."	Program Location ... there are a total of 13 locations.
"COIN"	Sets the machine for coin operation.
"FREE"	Sets the machine for free vending.
"GALLON"	Vending units are set to gallons.
"LITER"	Vending units are set to liters.
"BILLS"	Allows the machine to accept dollar bills with optional bill validator.
"NBILLS"	Does not allow the machine to accept dollar bills.
"FLUSH"	Completely flushes the containment tank.
"NFLUSH"	Does not flush containment tank.
"CHNGER"	This program location will display any error messages describing a problem that occurred with the coin changer.
"bILVAL"	This program location will display any error messages describing a problem that occurred with the bill validator.

SECTION IV

PROGRAMMING INSTRUCTIONS

A. Introduction To Programming

The microprocessor (computer) controller can be preprogrammed to operate for different applications. The various program selection 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 43 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, cash box totals, dispensing information, and coin denomination.

All programming is done through the keypad. Obtaining access to the program locations can be accomplished two different ways.

1. The following method of accessing program locations must be used in order to change flow meter calibration.

Rotate the keyed program switch clockwise to the horizontal positions as shown in illustration # 1 below.

Program/Calibrate Mode
Keyed Program switch is in the horizontal position

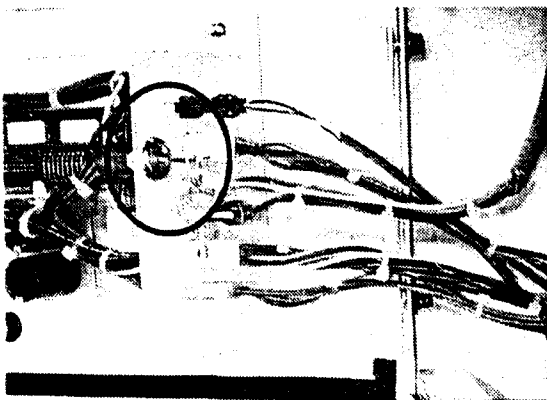


Illustration #1

Operation Mode
Keyed Program switch is in the vertical position

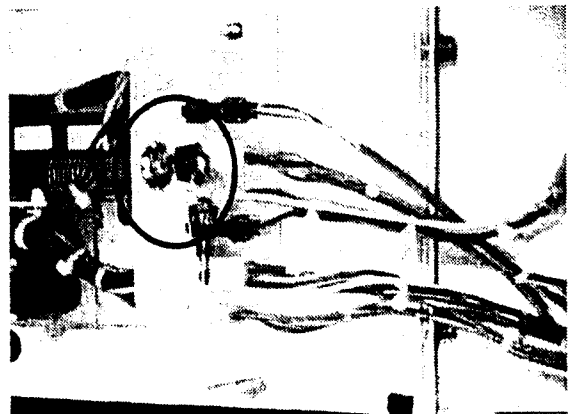


Illustration #2

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:

Key	Numeric Value
1/2 GAL. LEFT	0
1 GAL. LEFT	1
2 GAL. LEFT	2
3 GAL. LEFT	3
5 GAL. LEFT	4
6 GAL. LEFT	5
1/2 GAL. RIGHT	6
1 GAL. RIGHT	7
2 GAL. RIGHT	8
3 GAL. RIGHT	9
5 GAL. RIGHT	—
6 GAL. RIGHT	—

To make a program change, first make sure that there is no vend in progress. Enter your machines access code or place the keyed program switch in the program mode (switch in the horizontal position) as shown in illustration #1 on the previous page (page 8). 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. The next step is to increment or decrement the program to the location you wish to change. Pressing the left [2GAL] selection key will increment to the next program location (i.e., "PL 01", "PL 02", "PL 03", etc.). The left [1/2 GAL.] selection key will decrement to the previous program location (i.e.) "PL02", "PL01", "PL00", etc.). 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 (3) functions:

1. Allows access into a program location.
2. Enters the changed Data.
3. Advances to the next location.

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

The left [2 GAL.] and [1/2 GAL.] selection keys provide the following functions:

1. Change numeric values ... [2 GAL.] increases [1/2 GAL.] decreases.
2. Toggle for status changes such as ... "CASH" "BOX" "TOTAL" ...
[1/2 GAL.] toggle = "Clear" "Cash" "Box" "Total"

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 desired changes are made, exiting the program mode is as follows: Rotate the keyed program switch to the run mode (vertical position). If the user entered the program mode using the machines access code, press [6 GAL.] on the left three (3) times.

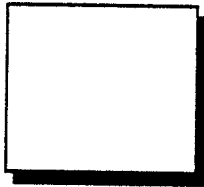
NOTE: When the user enters the Program Mode the user must exit the same way.

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 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)



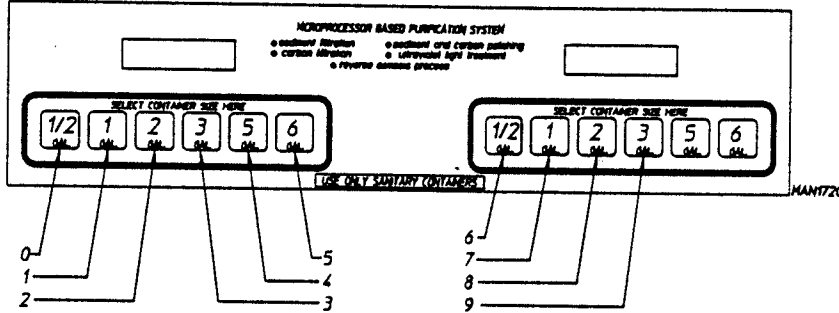
L.E.D. displays read the amount required per gallon.

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

OR

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

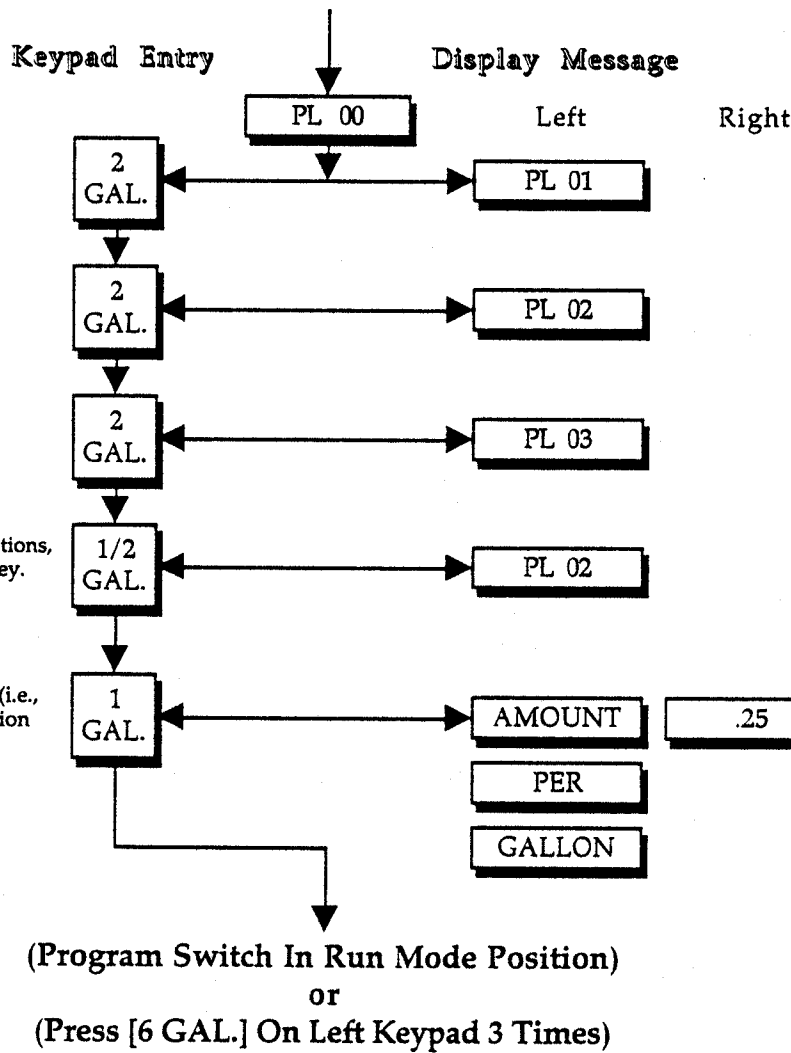


Left Keypad Values:

- 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)



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.

(Program Switch In Run Mode Position)

or

(Press [6 GAL.] On Left Keypad 3 Times)



SECTION V

REVIEWING (DISPLAY) COUNTS

A. CASH BOX TOTALS

(No Vend In Progress)



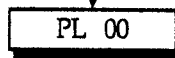
L.E.D. displays read the amount required per gallon.

(Lock Switch In Calibration/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.



Left Display reads

Right Display will read actual cash value derived from the mixture of coins.

Or

(To Retain Cash Box Total)

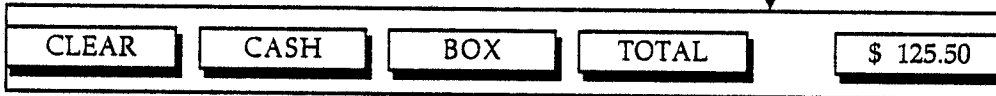
(To Clear Cash Box Total)

To retain cash amount, press left [1 GAL.] selection key once.

(Left Display)



To clear or delete cash box total press left side [2 GAL.] selection key.



(Right Display)



(Left Display)



(Right Display)

Or

TO EXIT REVIEW MODE,
 put lock switch in the run mode or press the left [6 GAL.] selection key (3) times

TO REVIEW DOLLAR BILLS COUNT,
 proceed to Section B.

B. DOLLAR BILLS COUNT

(No Vend In Progress)



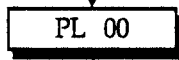
L.E.D. displays read the amount required per gallon.

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod.

or

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



Left Display reads



Press left [1 GAL.] selection key two (2) times in quick succession.



Left Display reads



Right Display will read actual dollar bills count.

Or

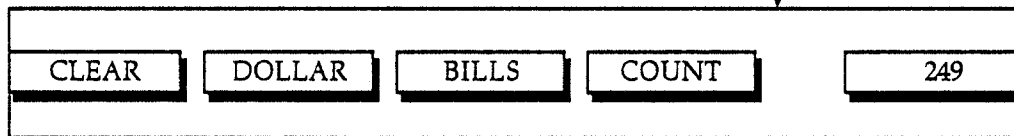
(To Retain Dollar Bills Count)

(To Clear Dollar Bills Count)



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

(Left Display)



(Right Display)

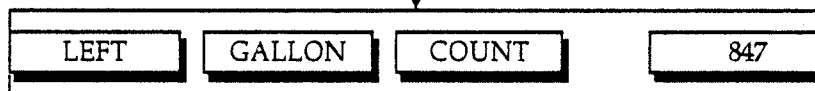
To retain dollar bills count, press left [1 GAL.] selection key once.



Press left [1 GAL.] selection key twice.



(Left Display)



(Right Display)

Or

TO EXIT REVIEW MODE,
put lock switch in the run mode or press the left [6 GAL.] selection key (3) times

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.

(Lock Switch In Calibration/Program Mode Position)
or
(Enter Access Number From Keypad - only when in coin mode)

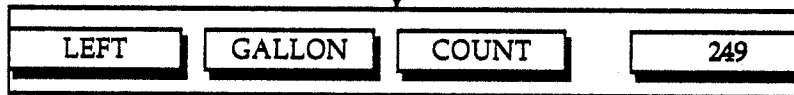
To Enter Program Mod



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



Left Display reads



Right Display will read actual gallons vended.

Or

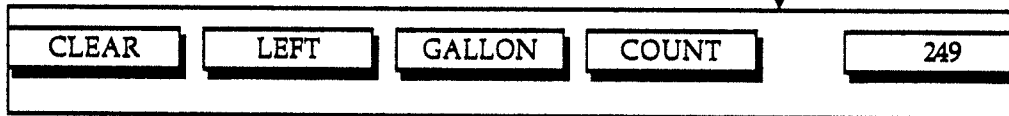
(To Retain Left Gallon Count)

(To Clear Left Gallon Count)

(Left Display)



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



(Right Display)

To retain left gallon 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 lock switch in the run mode or press the left [6 GAL.] selection key (3) times

TO REVIEW RIGHT BAY GALLON COUNT,
proceed to SECTION D

D. RIGHT BAY GALLON COUNT

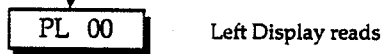
(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)
or
(Enter Access Number From Keypad - only when in coin mode)

To Enter Program Mode



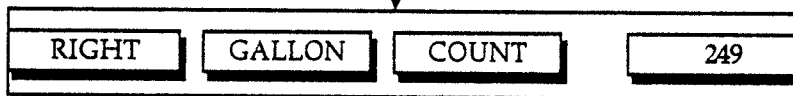
Left Display reads



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



Left Display reads



Right display will read actual gallons vended

Or

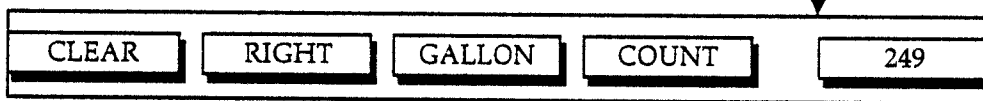
(To Retain Right Gallon Count)

(To Clear Right Gallon Count)



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

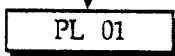
(Left Display)



Right Display

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

Press left [1 GAL.] selection key twice.



Or

TO EXIT REVIEW MODE,
put lock switch in the run mode or press the left [6 GAL.] selection key (3) times

PROCEED TO NEXT PROGRAM LOCATION

SECTION VI

PROGRAMMING/FLOW CHARTS

A. PROGRAM LOCATION 00 (PL00)

(No Vend In Progress)



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

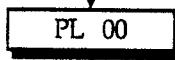
(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

or

(Enter Access Number From Keypad)

Left Display reads



Press left [1 GAL.] selection key. Left display will read "CASH" "BOX" "TOTAL". Right display will show cash amount.

Or

Press left [1 GAL.] selection key to continue without clearing the numeric amount. Left display will read "DOLLAR" "BILLS" "COUNT".



Press left [2 GAL.] selection key to clear total. Left display will read "CLEAR" "CASH" "BOX" "TOTAL". Right display will show cash amount.



Press left [1 GAL.] selection key to finalize clearing the register.



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



Press left [2 GAL.] selection key to clear dollar bills count. Left display will read "CLEAR" "DOLLAR" "BILLS" "COUNT". Right display will show numeric count.



Press left [1 GAL.] selection key to finalize clearing the register.



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



Press left [1 GAL.] selection key to continue without clearing the numeric amount. Left display will read "LEFT" "GALLON" "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 left 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 the register.

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.

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

PL 01

Or

TO EXIT REVIEW MODE,
put lock switch in the run
mode or press the left [6 GAL.]
selection key (3) times

**PROCEED TO NEXT
PROGRAM LOCATION**

B. PROGRAM LOCATION 01 (PL 01)

(No Vend In Progress)



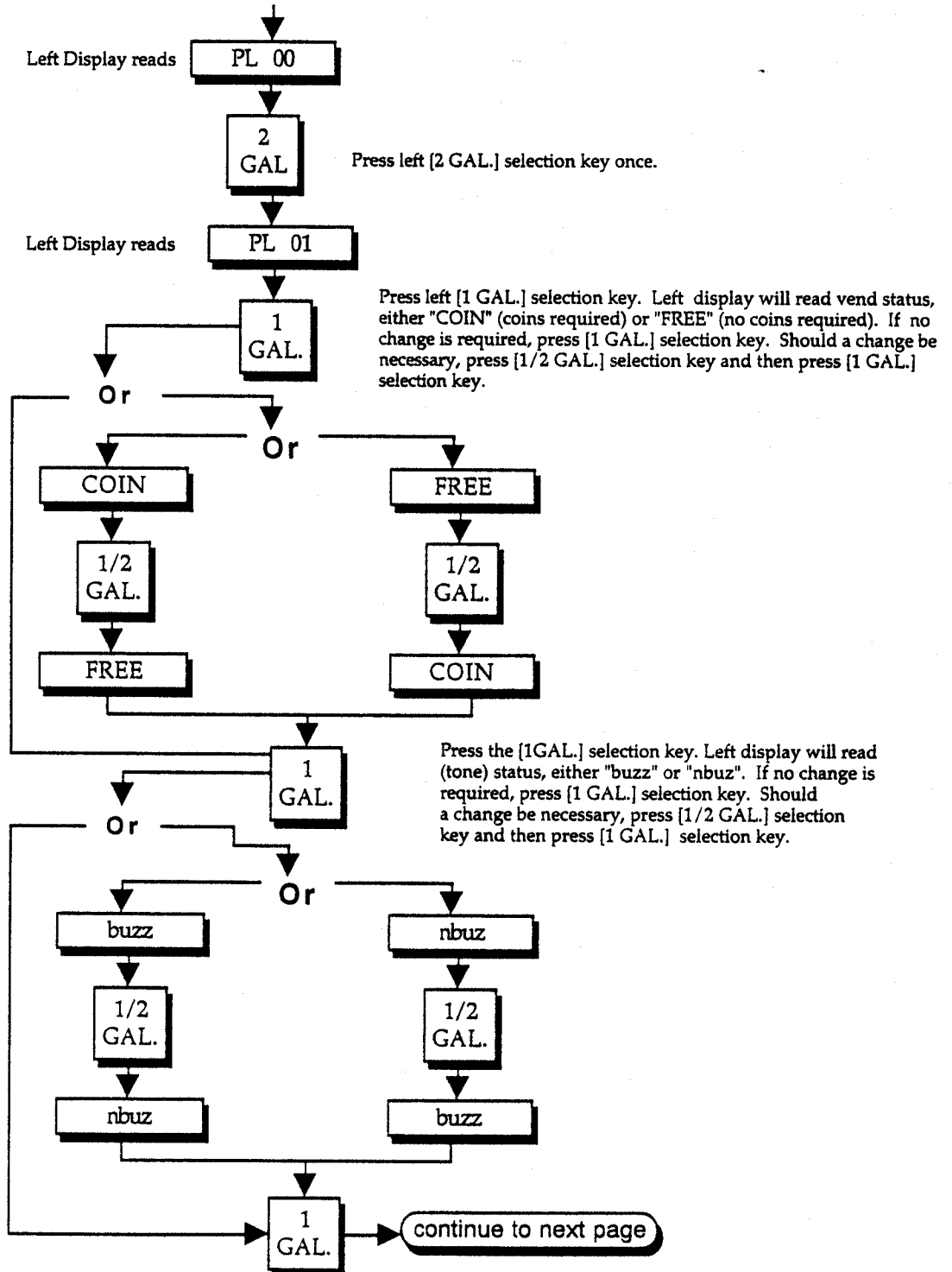
L.E.D. displays read the amount required per gallon.

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod

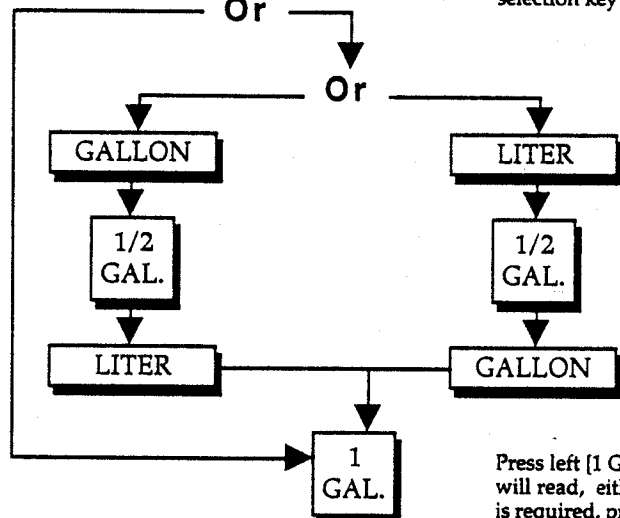
or

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

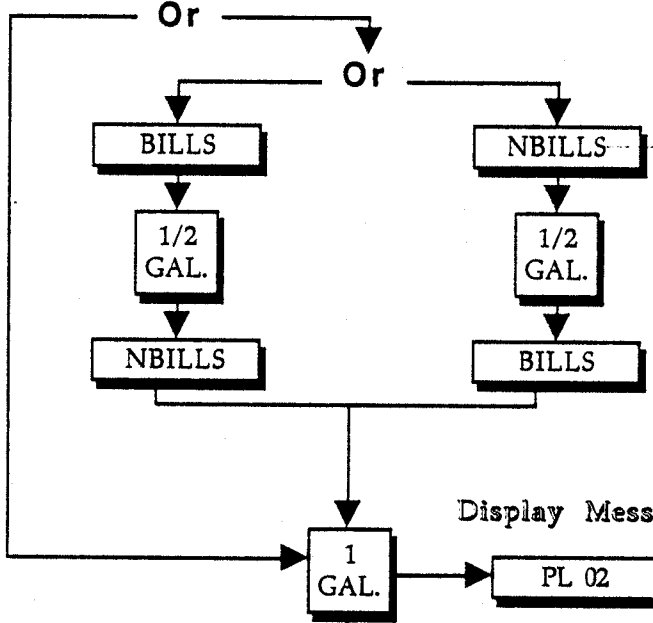


continued from previous page

Press left [1 GAL.] selection key. Left display will read, either "GALLON" or "LITER". If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press left [1/2 GAL.] selection key and then press left [1 GAL.] selection key.



Press left [1 GAL.] selection key. Left display will read, either "BILLS" or "NBILLS". If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press left [1/2 GAL.] selection key and then press left [1 GAL.] selection key.



Keypad Entry

TO EXIT REVIEW MODE,
put lock switch in the run
mode or press the left [6 GAL.]
selection key (3) times

**PROCEED TO NEXT
PROGRAM LOCATION**

C. PROGRAM LOCATION 02 (PL 02)

AMOUNT PER GALLON

(No Vend In Progress)



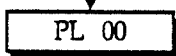
L.E.D. displays read the amount required per gallon.

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod

or

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

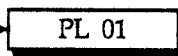


Keypad Entry

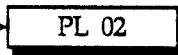
Display Message

LEFT

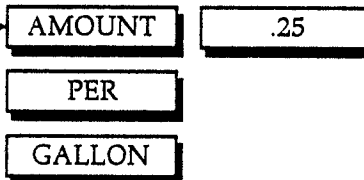
RIGHT



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

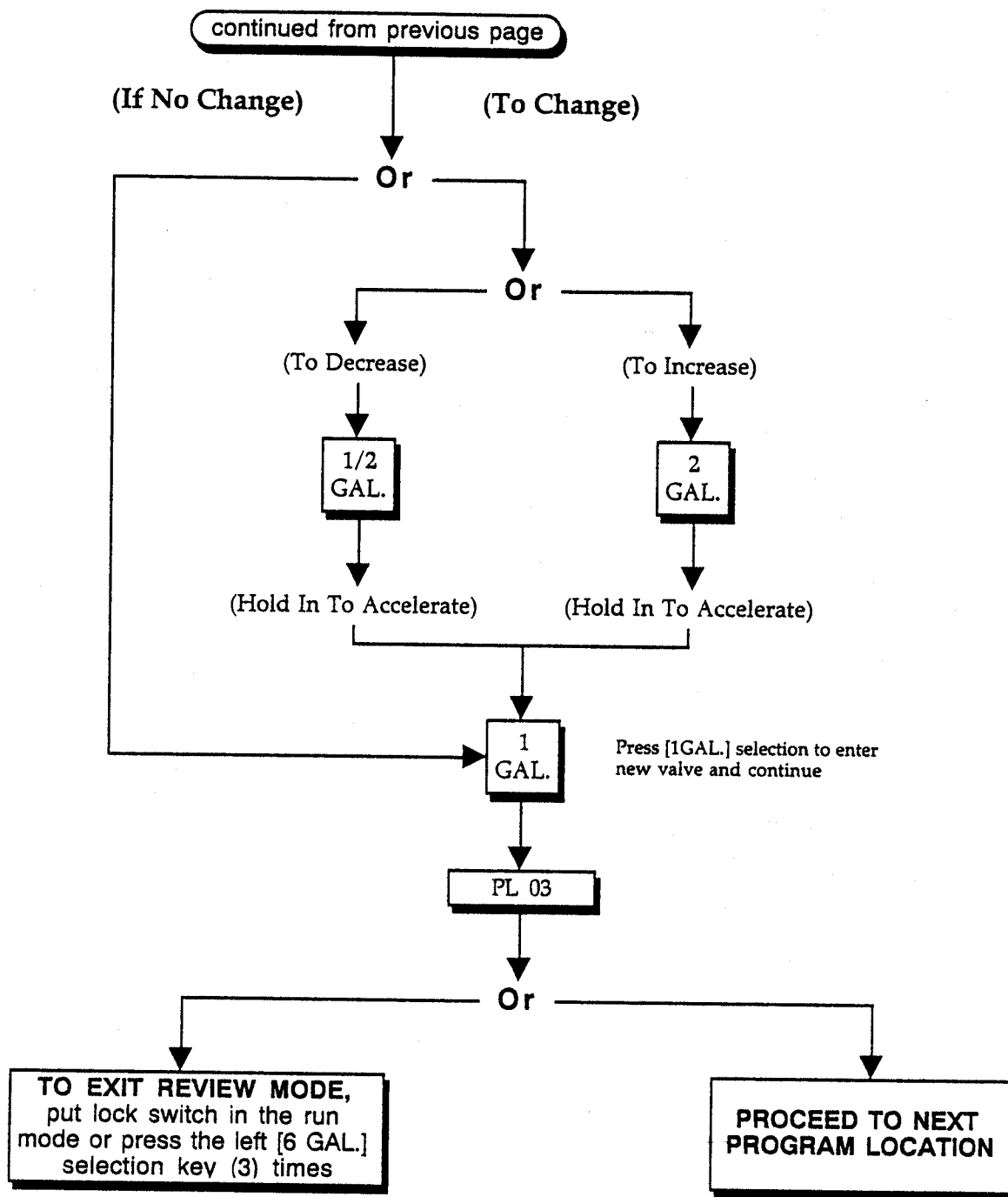


Press left [1 GAL.] selection key once.

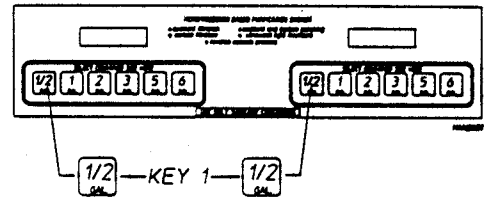


Left display will read "AMOUNT" "PER" "GALLON" and right display will read actual value required. If no change is required, press [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

continue to next page



D. PROGRAM LOCATION 03 (PL 03)



**Vend Amount For Key 1
(No Vend In Progress)**



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

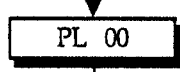
(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod

or

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

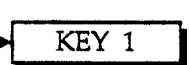
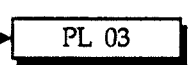
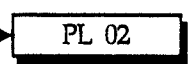
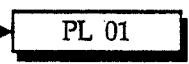
Keypad Entry



Display Messages

LEFT

RIGHT

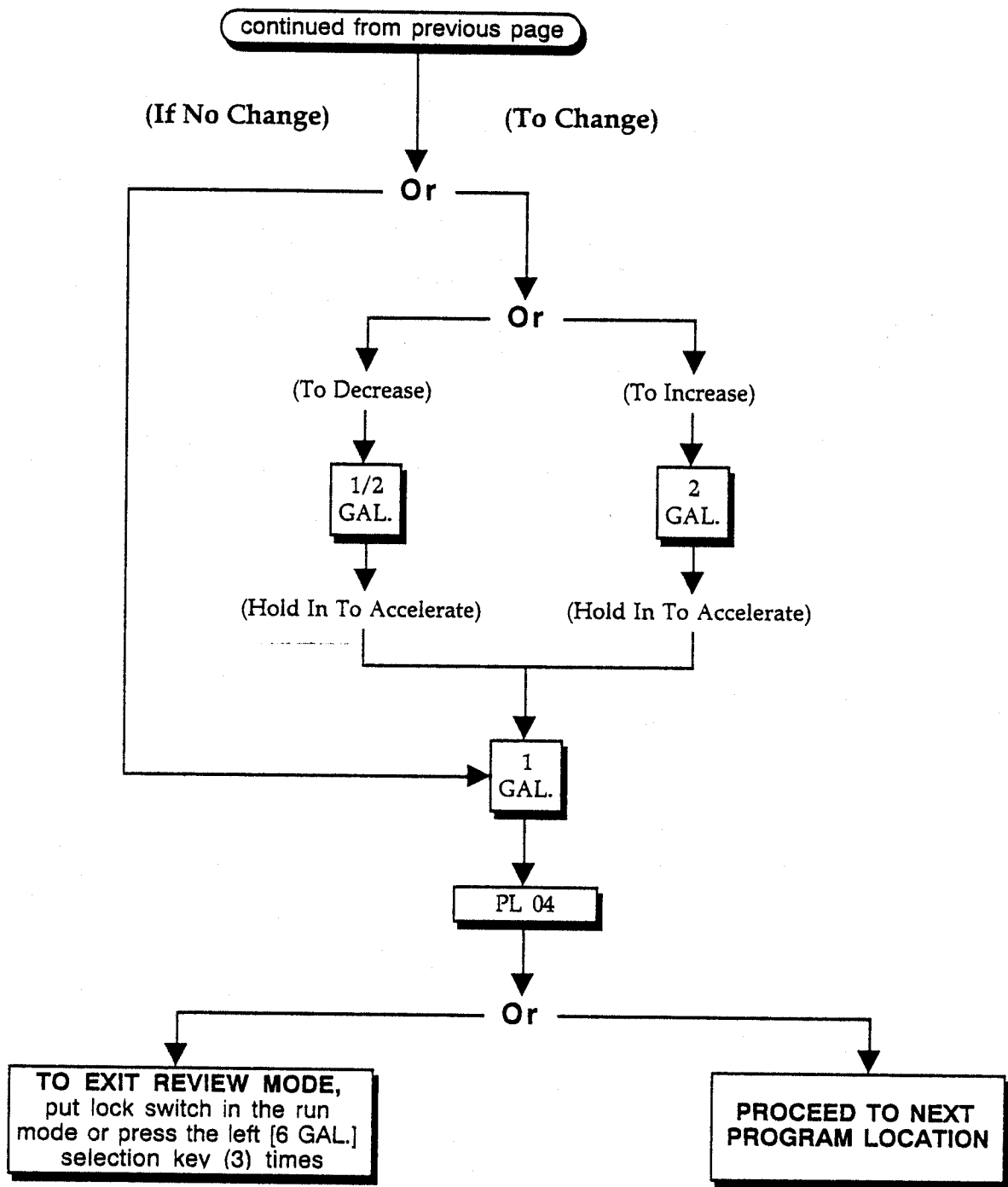


Press left [2 GAL.] selection key three (3) times.

Press left [1 GAL.] selection key once.

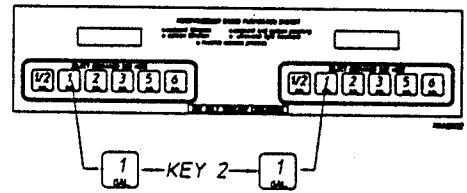
Left display will read "KEY 1" and right display will read actual amount that will be vended (i.e., .5 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

continue to next page



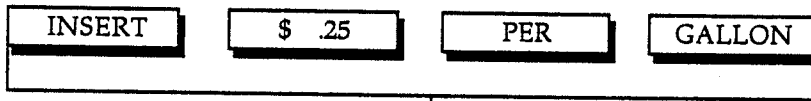
NOTE: Gallon vend value can be programmed from .5 GAL (1/2 gallon) to 6 gallons in .5 GAL. (1/2 gallon) increments.

E. PROGRAM LOCATION 04 (PL 04)



Vend Amount For Key 2

(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod

or

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

Keypad Entry

Display Message

PL 00

LEFT

RIGHT

2
GAL.

PL 01

2
GAL.

PL 02

2
GAL.

PL 03

2
GAL.

PL 04

1
GAL.

KEY 2

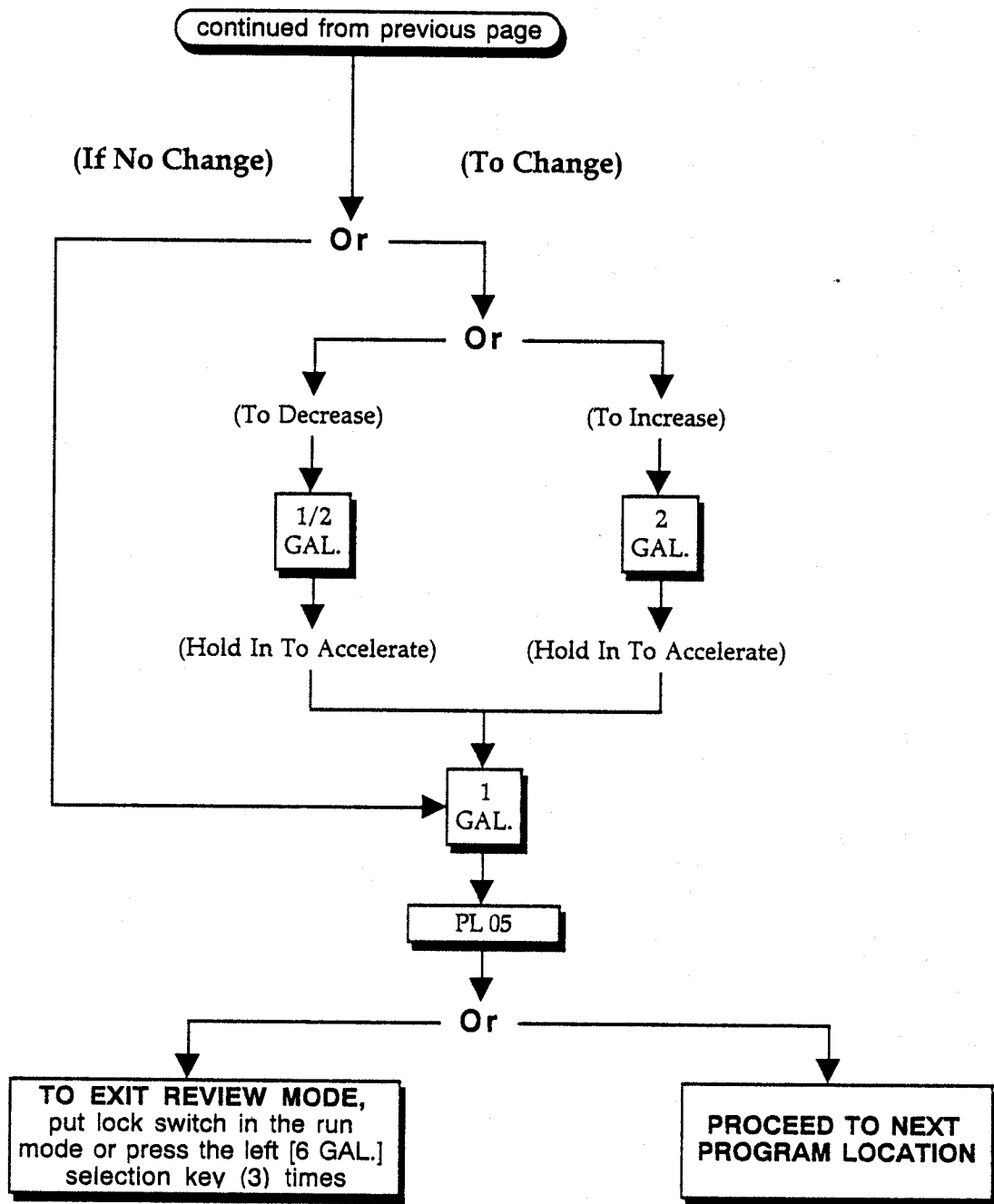
1 GAL.

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

Press left [1 GAL.] selection key once.

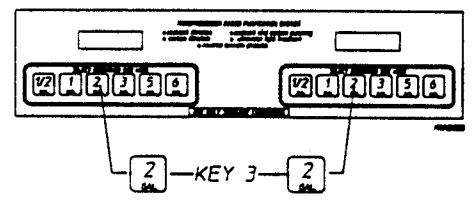
Left display will read "KEY 2" and right display will read actual amount that will be vended (i.e., 1 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

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.

E. PROGRAM LOCATION 05 (PL 05)



**Vend Amount For Key 3
(No Vend In Progress)**



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

(Lock Switch In Calibration/Program Mode Position)

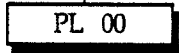
To Enter Program Mod

or

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

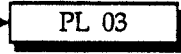
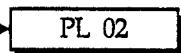
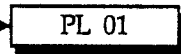
Keypad Entry

Display Message

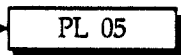
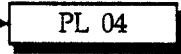


LEFT

RIGHT



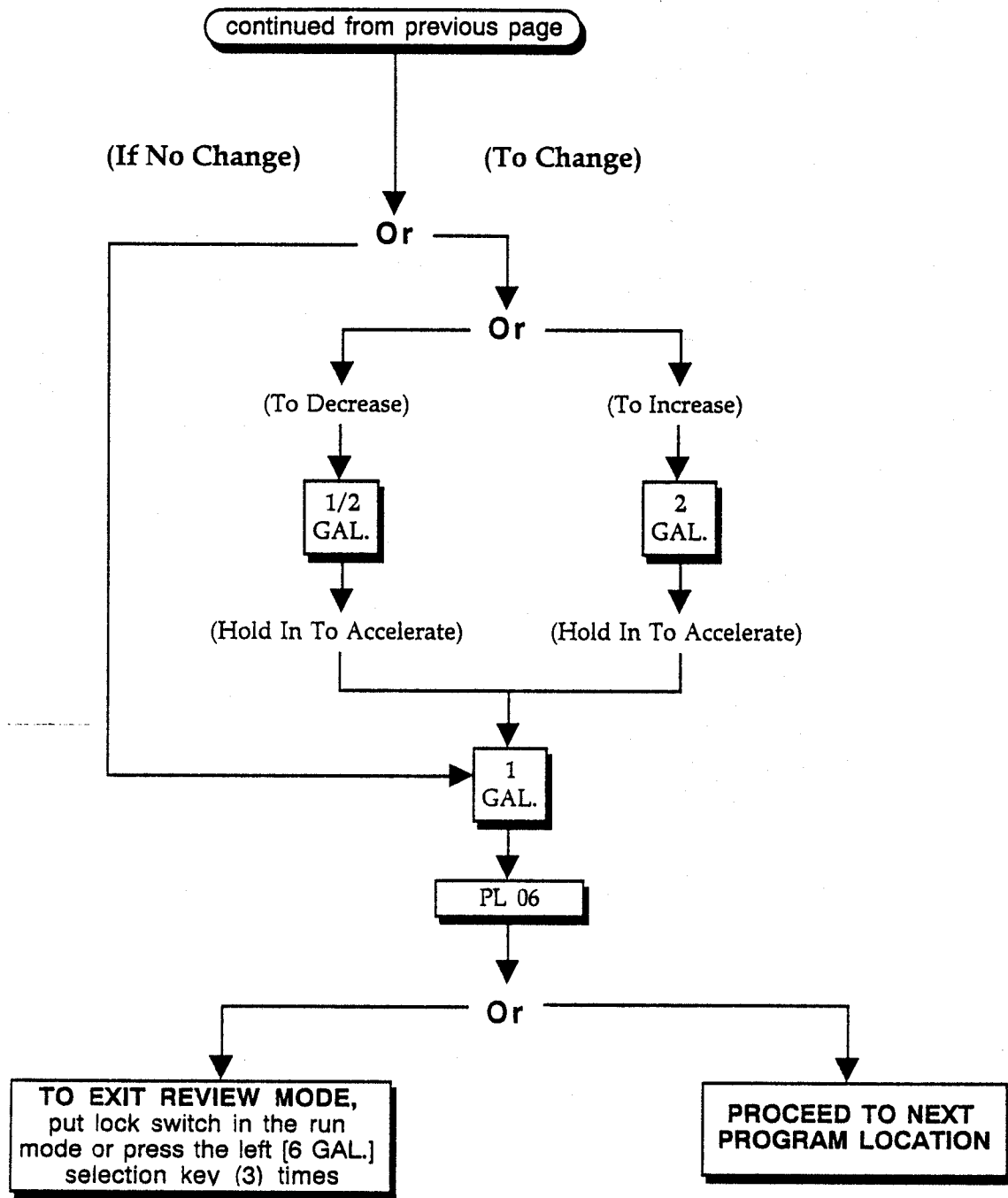
Press left [2 GAL.] selection key five (5) times.



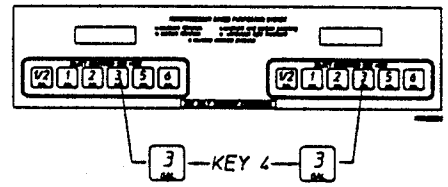
Press left [1 GAL.] selection key once.

Left display will read "KEY 3" and right display will read actual amount that will be vended (i.e., 2 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



G. PROGRAM LOCATION 06 (PL 06)



Vend Amount For Key 4

(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

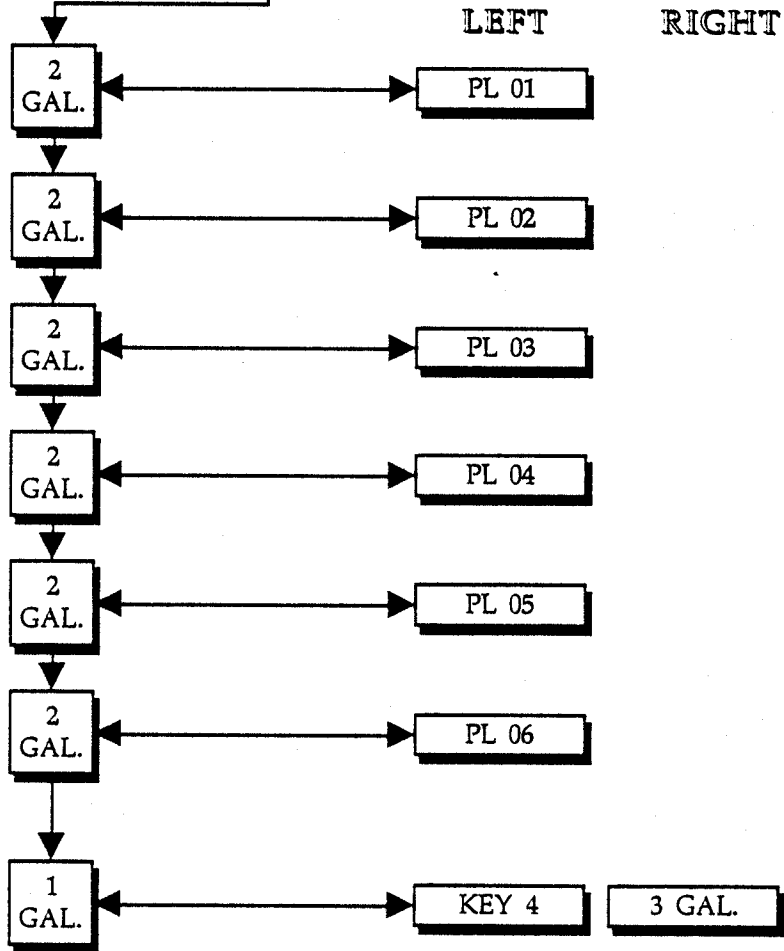
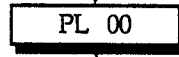
To Enter Program Mod

or

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

Keypad Entry

Display Message

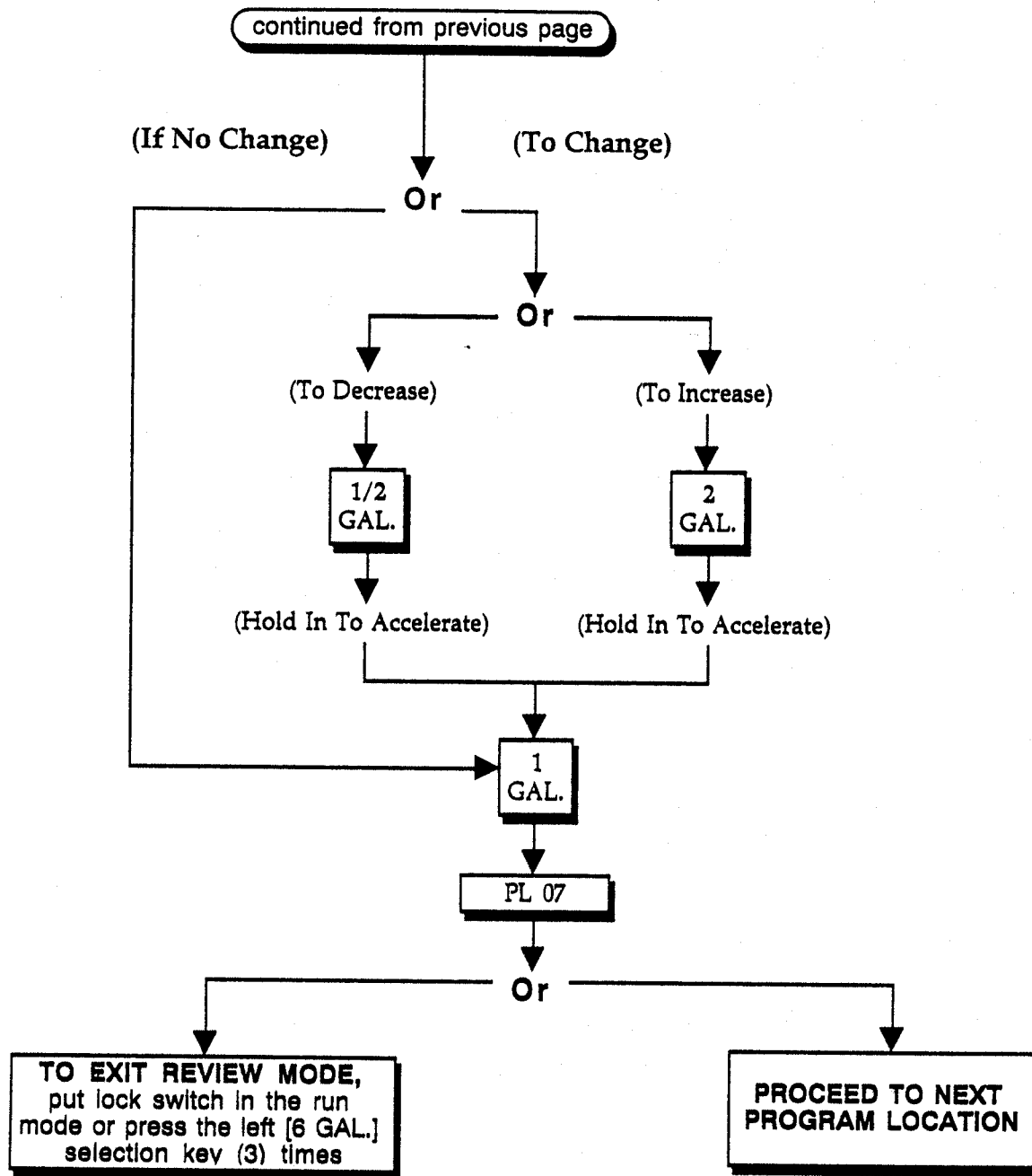


Press left [2 GAL.] selection key six (6) times.

Press left [1 GAL.] selection key once.

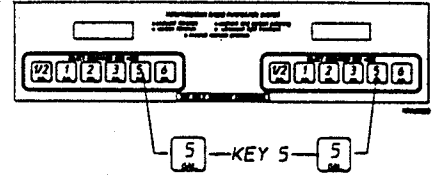
Left display will read "KEY 4" and right display will read actual amount that will be vended (i.e., 3 GAL). If no change is required, press left [1 GAL.] selection key. Should a change be necessary, press [1/2 GAL.] or [2 GAL.] selection key and then press [1 GAL.] selection key.

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)



Vend Amount For Key 5

(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

or

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

Keypad Entry

Display Message

PL 00

LEFT

RIGHT

2
GAL.

PL 01

2
GAL.

PL 02

2
GAL.

PL 03

2
GAL.

PL 04

2
GAL.

PL 05

2
GAL.

PL 06

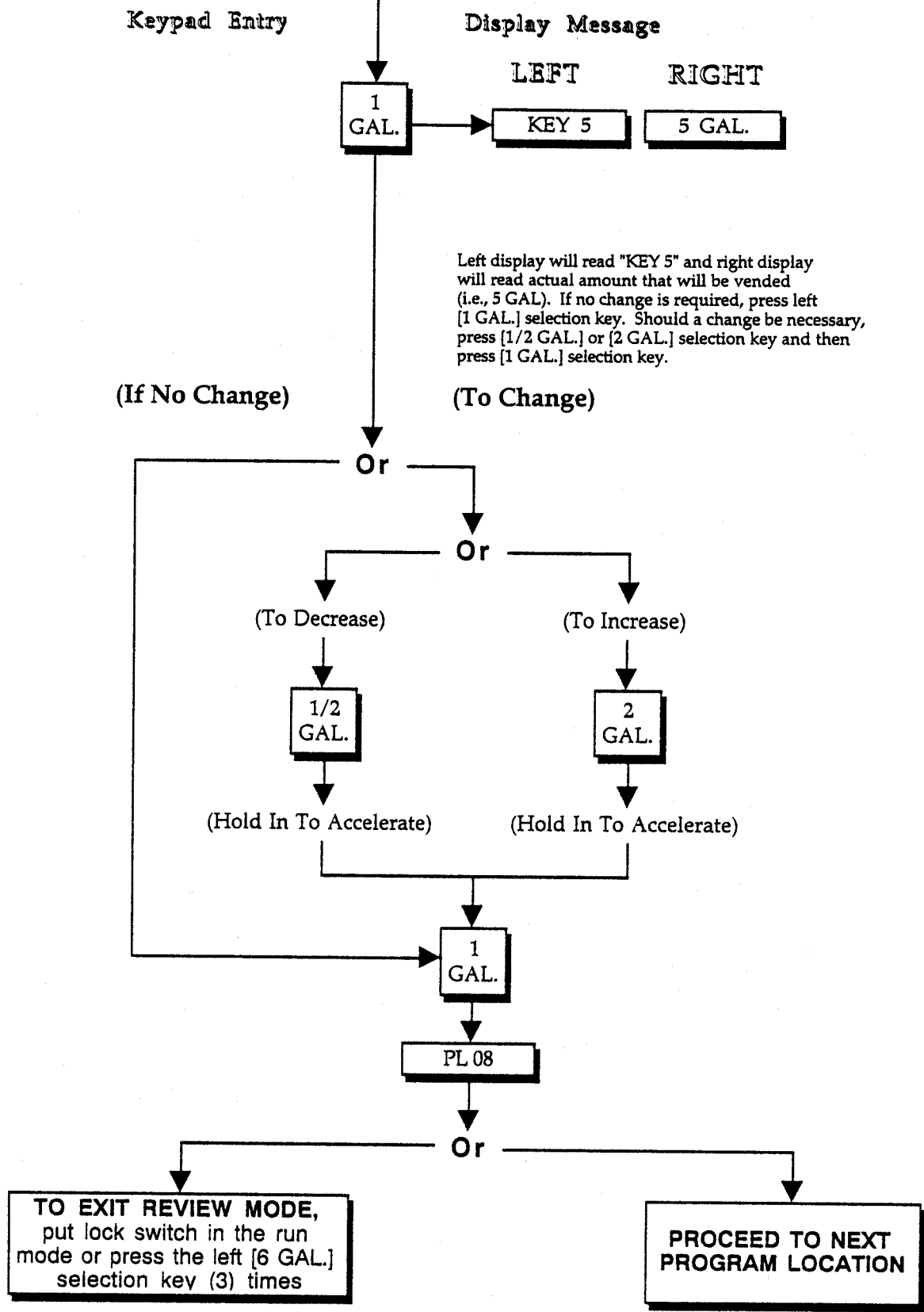
2
GAL.

PL 07

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

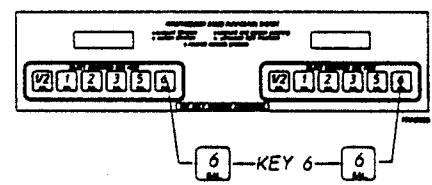
continue to next page

continued from previous 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)



Vend Amount For Key 6

(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mod

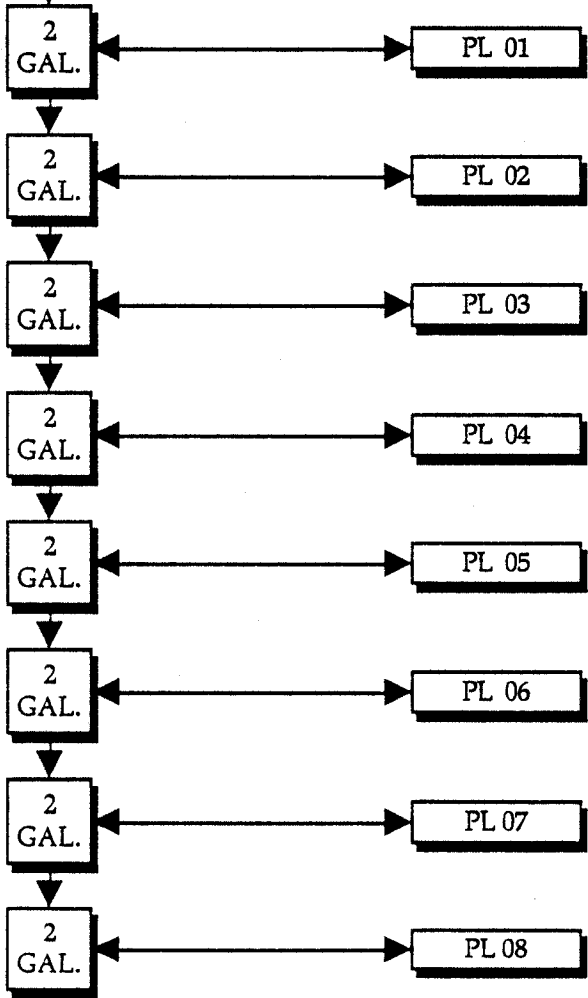
or

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

Keypad Entry Display Message

PL 00

LEFT



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

continue to next page

continued from previous page

Keypad Entry

Display Message

1
GAL.

LEFT

RIGHT

KEY 6

6 GAL.

Left display will read "KEY 6" and right display will read actual 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)

Or

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 lock switch in the run
mode or press the left [6 GAL.]
selection key (3) times

**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)

SYSTEM FLUSH (No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

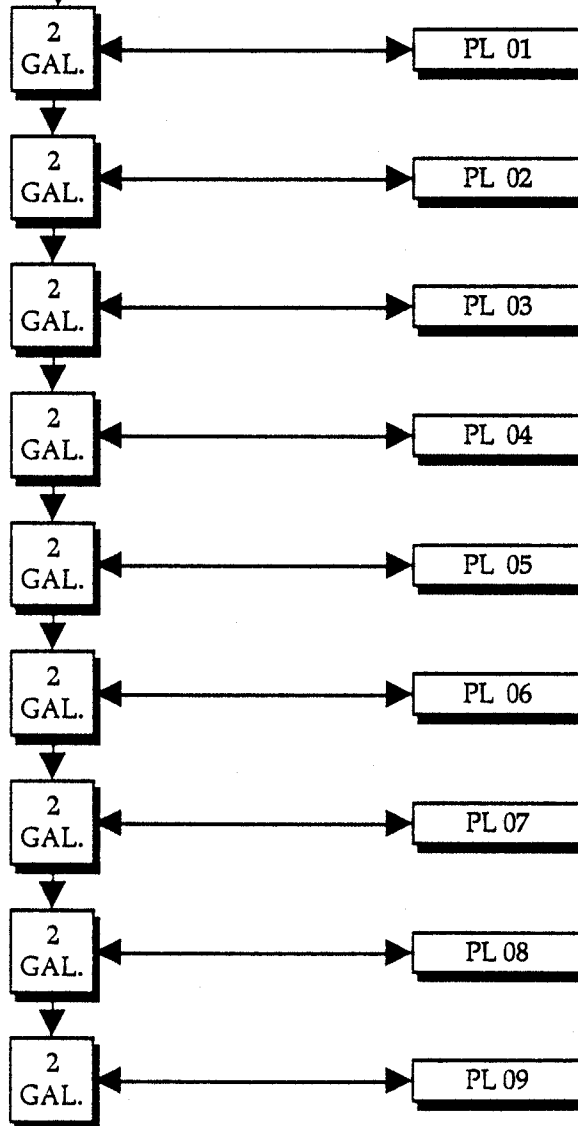
To Enter Program Mode

OR

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

Keypad Entry **PL 00** Display Message

LEFT

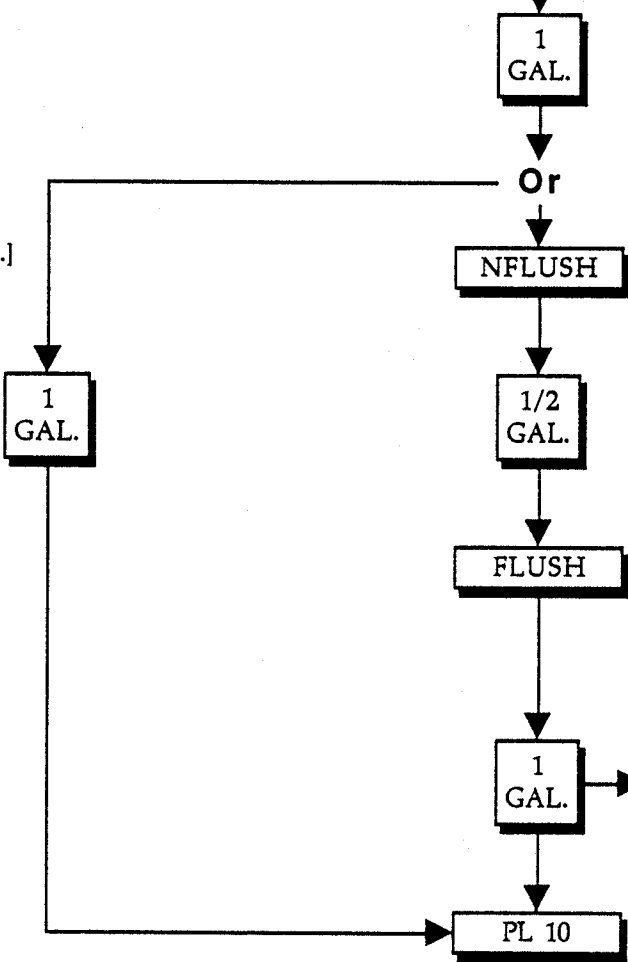


Press left [2 GAL.] selection key nine (9) times.

continue to next page

continued from previous page

If flushing the system is unnecessary press. [1GAL.] selection key once and PL10 will be displayed



The right display will remain blank until the low level switch is triggered. Once the low level switch is triggered the microprocessor will start counting the amount of gallons flushed. The display will read "0" and then increment as it counts.(0,1,2 etc.)

Display Message

Left

Right

FLUSH

0

Once the flush routine is complete, PL10 will be displayed

TO EXIT REVIEW MODE,
put lock switch in the run mode or press the left [6 GAL.] selection key (3) times

PROCEED TO NEXT PROGRAM LOCATION

K. PROGRAM LOCATION 10 (PL 10)

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



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

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

or

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

Keypad Entry

Display Message

PL 00

LEFT

2
GAL.

PL 01

2
GAL.

PL 02

2
GAL.

PL 03

2
GAL.

PL 04

2
GAL.

PL 05

2
GAL.

PL 06

2
GAL.

PL 07

2
GAL.

PL 08

2
GAL.

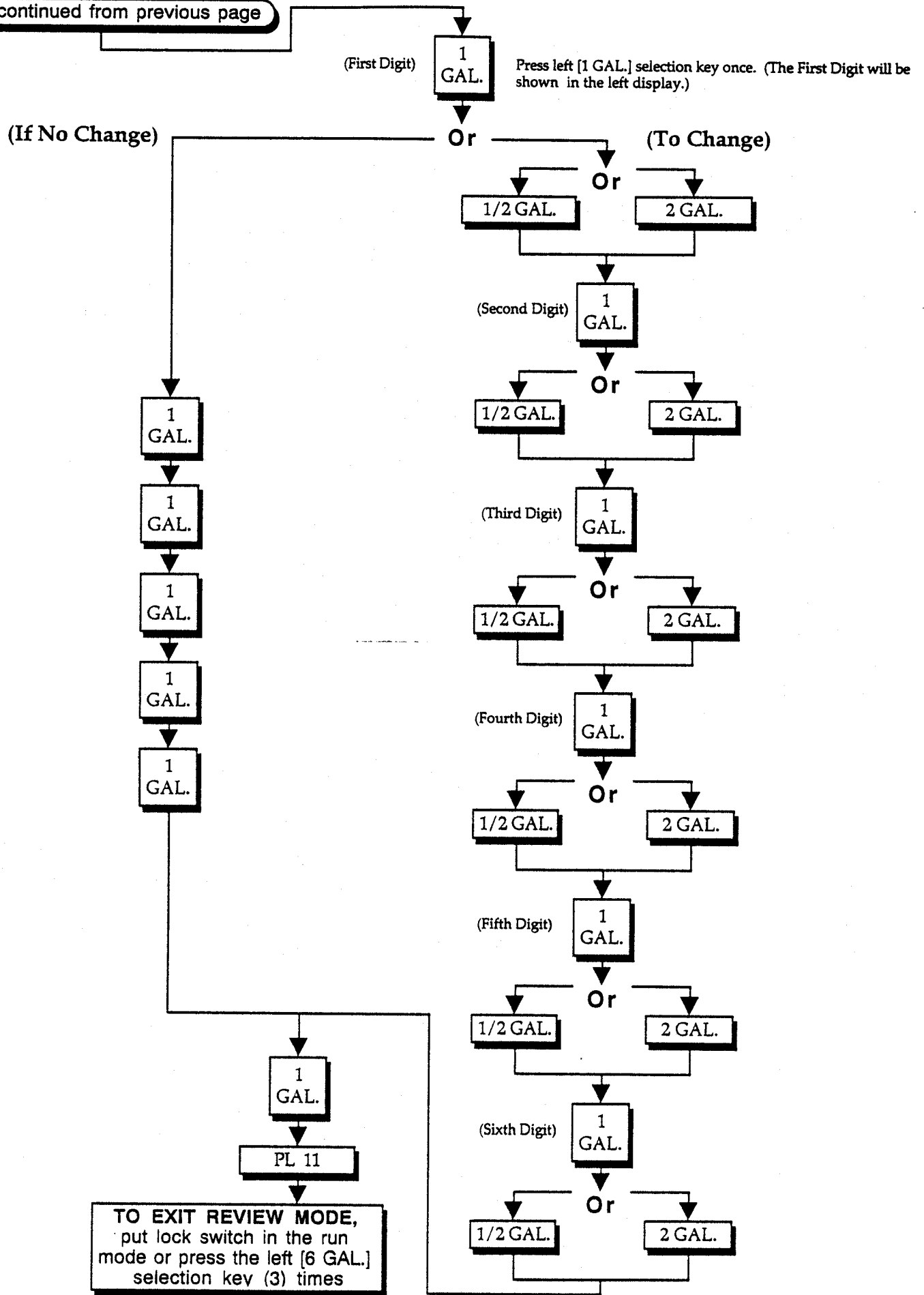
PL 09

2
GAL.

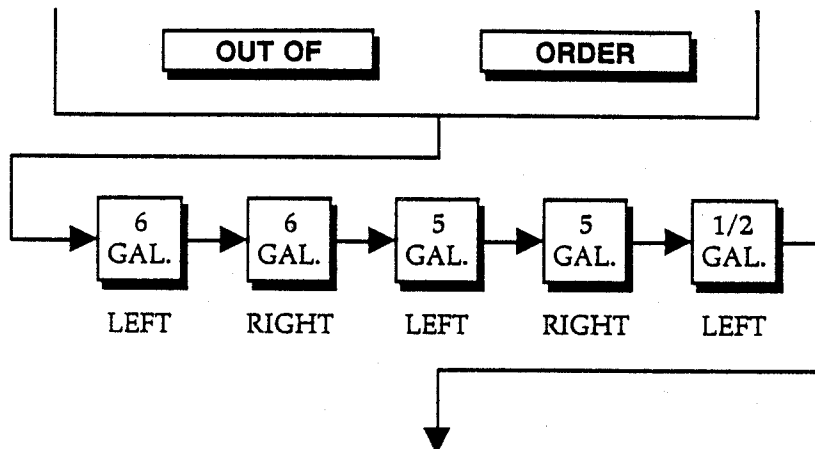
PL 10

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

continue to next page



L. PROGRAM LOCATION 11 (PL 11)

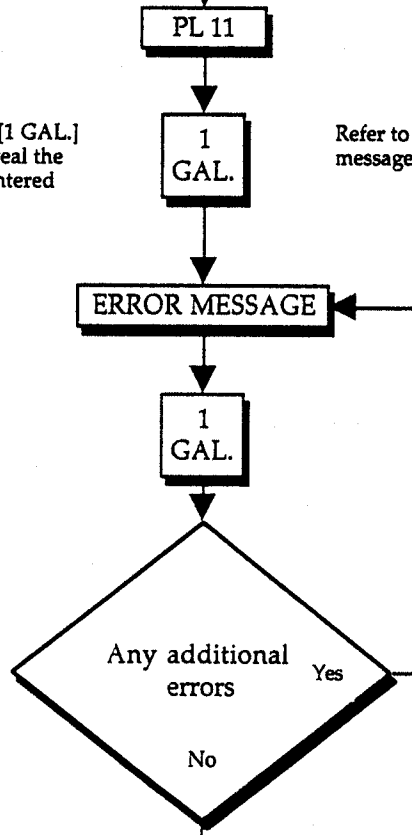


L.E.D. displays read on out of order condition due to a coin changer error.

Pressing the following key combinations will bring you directly to program location [PL 11] [6 GAL.] left, [6 GAL.] right, [5 GAL.] left, [5 GAL.] right, [1/2 GAL.] left.

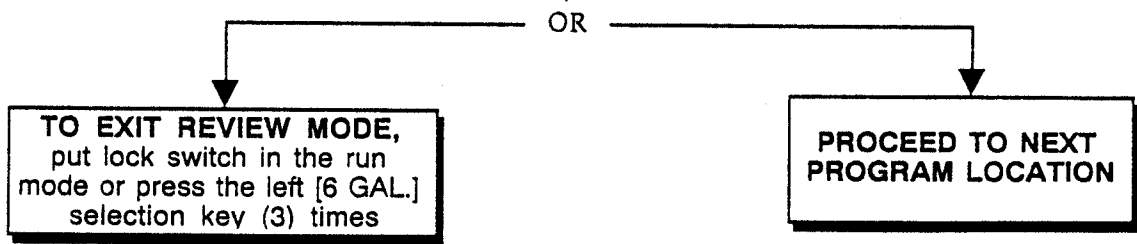
Pressing the left [1 GAL.] selection will reveal the first error encountered

Refer to coin changer error messages on page 45.

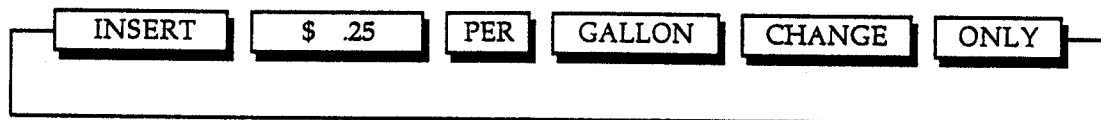


Refer to troubleshooting manual P/N:182713 for details. Pressing the left [1 GAL.] selection key will display any errors encountered. If there is more than one error message they will be displayed in order of the coin changer error message list on page 45

Once all messages have been displayed, the program location will be advanced to [PL 12].



M. PROGRAM LOCATION 12 (PL 12)



L.E.D. displays read the amount per gallon and change only. Change only signifies a problem with the bill validator

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

or

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

Keypad Entry

Display Message

PL 00

LEFT

2
GAL.

PL 01

2
GAL.

PL 02

2
GAL.

PL 03

2
GAL.

PL 04

2
GAL.

PL 05

2
GAL.

PL 06

2
GAL.

PL 07

2
GAL.

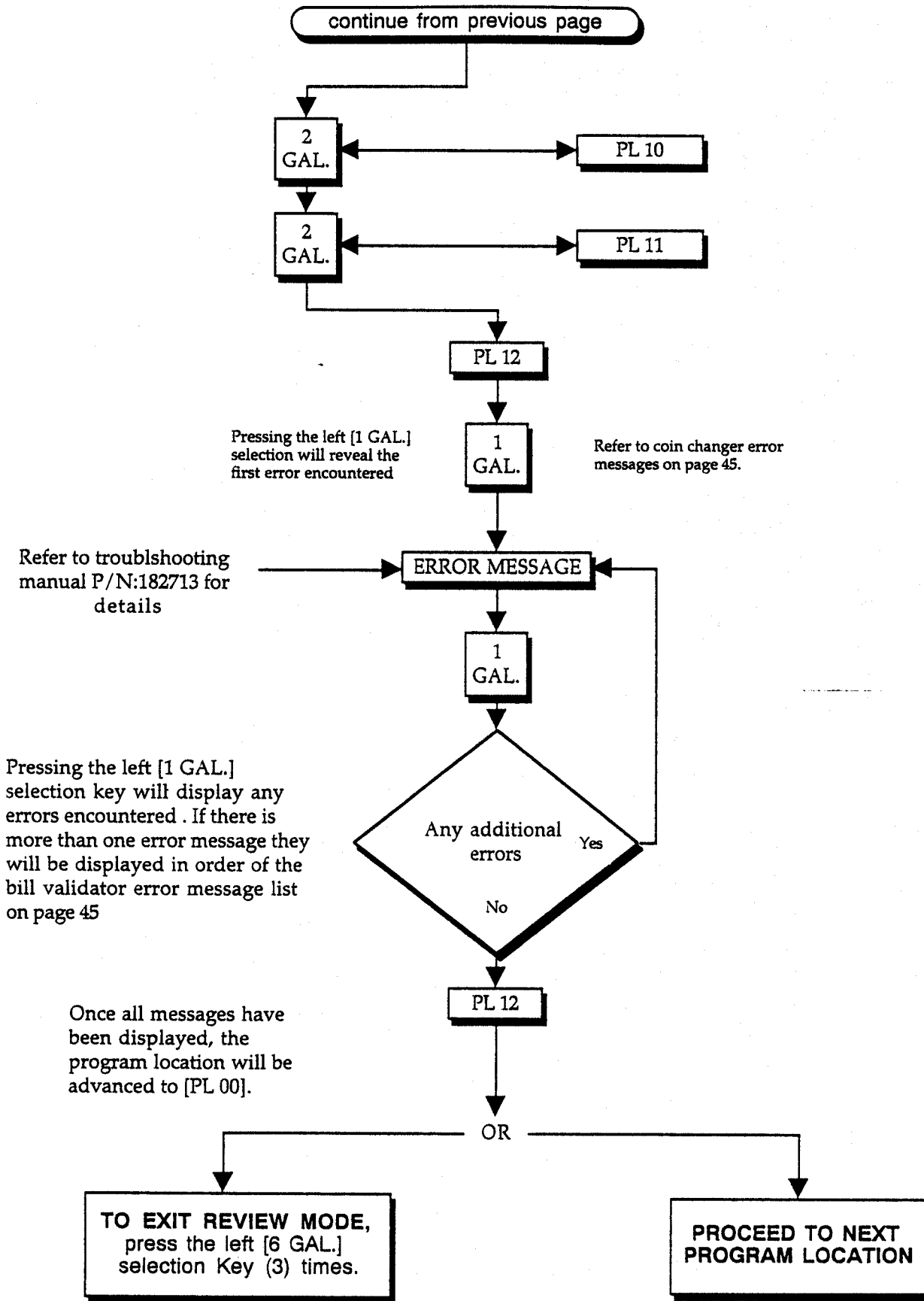
PL 08

2
GAL.

PL 09

continue to next page

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



N. TEACH MODE

(No Vend In Progress)



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

(Lock Switch In Calibration/Program Mode Position)

To Enter Program Mode

PL 00

1/2 GAL.

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

1/2 GAL.

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

TEACH

MODE

L.E.D. displays read TEACH MODE.

Or

1/2 GAL.

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

1 GAL.

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

2 GAL.

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

"Left"

1 GAL.

Press "Left" [1 GAL.] selection key then "Right" [1 GAL.] selection key to save.

"Right"

1 GAL.

1 GAL.

Press left [1 GAL.] selection key twice.

1 GAL.

PL 00

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.

Program Location	Display Code	Description
PL 01	COIN bUZZ GALLON/LITER BILLS/NBILLS	Coin(s) required to vend. Buzz at the end of the fill cycle. Vend is in gallon or liter units depending on the location. Bill validator is selected if the machine has option/ no bill validator is selected if the machine does not have option.
PL 02	AMOUNT PER GALLON \$.25	Purchase amount required for each gallon.
PL 03	KEY 15 GAL.	1/2 Gallon Vend
PL 04	KEY 2 1 GAL.	1 Gallon Vend
PL 05	KEY 3 2 GAL.	2 Gallon Vend
PL 06	KEY 4 3 GAL.	3 Gallon Vend
PL 07	KEY 5 5 GAL.	5 Gallon Vend
PL 08	KEY 6 6 GAL.	6 Gallon Vend
PL 09	NFLUSH	Containment Tank Draining
PL 10	YOUR MACHINES SERIAL NUMBER	Keypad Access Code

SECTION VIII

PROGRAMMING LIMITS

Program Location	Parameter	Range	Increments
PL 00	CASH BOX TOTAL	\$0 to \$65,327	.05
	DOLLAR BILLS COUNT	0 to 65,327	1
	LEFT GALLON COUNT	0 to 65,327	1
	RIGHT GALLON COUNT	0 to 65,327	1
PL 02	AMOUNT PER GALLON	\$.05 to \$2.00	.05
PL 03	KEY 1 Gallon Vend	.5 to 6 gallons	.5
PL 04	KEY 2 Gallon Vend	.5 to 6 gallons	.5
PL 05	KEY 3 Gallon Vend	.5 to 6 gallons	.5
PL 06	KEY 4 Gallon Vend	.5 to 6 gallons	.5
PL 07	KEY 5 Gallon Vend	.5 to 6 gallons	.5
PL 08	KEY 6 Gallon Vend	.5 to 6 gallons	.5
PL 10	ACCESSS NUMBER	000000 to 999999	1

SECTION IX

PROGRAMMING ERROR CODES

Coin Changer Error Messages Program Location 11 (PL22)

ERROR	DESCRIPTION
"COM" "ERROR"	Communications Failed
"TUBE" "SENSOR" "DEFECT"	One of the tubes has a Sensor Failure
"TUBE" "JAMMED"	A Coin Tube has jammed while paying out
"COIN" "JAMMED"	Coin Jammed in the acceptance path

Bill Validator Error Messages Program Location 12 (PL12)

ERROR	DESCRIPTION
"COM" "ERROR"	Communications Failed
"MOTOR" "FAILURE"	One of the Motors Failed
"SENSOR" "FAILURE"	One of the Sensors Failed
"BILL" "JAMMED"	A Bill is jammed in the acceptance path
"CASH" "BOX" "OUT OF" PLACE"	Cash box is opened or removed

ADC 182715 1 - 06/04/96-30 2 * 08/26/96-100

