



GASBOY

SERIES 1000

FUEL MANAGEMENT SYSTEM

OPERATION MANUAL

C08923

GASBOY INTERNATIONAL LLC

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FUEL MANAGEMENT SYSTEM

OPERATION MANUAL

Software Version 10

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GASBOY INTERNATIONAL LLC
LANSDALE, PA

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INTRODUCTION

This manual provides descriptions and operating procedures for your GASBOY Series 1000 Fuel Management System. It also contains information for users of the Commercial Fueling Network (CFN). These users have differences in their Series 1000 systems that are documented in Appendix A of this book. This CFN is not to be confused with the GASBOY CFN system.

You should review this manual *before* your system start-up and reference it as you operate the system.

OVERVIEW

The GASBOY Series 1000 Fuel Management System is a card-activated, microprocessor-based fuel control and data acquisition system.

The Series 1000 System is designed to gather and record specific information about your fuel management operation. You set up the Series 1000 by defining your configuration (tanks, pumps, etc.). See **Documentation/Getting Started** later in this section.

Once your Series 1000 is operational, a typical scenario might be: A valid user drives his vehicle into the fueling area. He places his card into the Series 1000, which reads and validates it. If a second card is required, he then inserts it and the system validates that card. Then, the system requests various pieces of information depending on the coding on the card (i.e., personal identification numbers, odometer readings, etc.) Then it asks which pump he will be using. If everything checks out within the system, the pump is activated and the fueling process begins. When the fueling process ends and the user replaces the pump nozzle in its holder, the Series 1000 records transaction information in memory, and prints it out at the data terminal or logger, if setup permits. Based on the transaction information, the Series 1000 decrements the tank inventory and increments the pump totalizers.

SYSTEM FEATURES

Using a data terminal, or computer with interface, connected to one of two communications ports, you can issue commands and retrieve information from the Series 1000.

Standard Features

The standard features of this system include:

- 24-hour, unattended, controlled access to your fuel dispensing equipment.
- Standard Series 1000 simultaneously controls two hose outlets and can be expanded in two hose increments to control up to eight. Supports pulsing rates of dollar (one penny per pulse); or quantity (1, 10, 100, 250, 500, or 1000 pulses per unit of product). The pulse rate selection switch is located in an area sealable by weights and measures for retail applications.
- Visual prompting messages displayed on an eye-level 20-character liquid crystal display (LCD) to guide the user through the fueling sequence.
- Access to the system restricted individually by card number or, optionally, by an additional 4-digit field. CFN systems users are restricted via a 7-digit card number and no additional fields.
- Controlled access to product type, using nine loadable authorization codes, card encoded.
- Limits on amount of fuel dispensed in a transaction, using 10 loadable limit codes, card encoded.
- Automatic, immediate, transaction printing for hard copy backup or audit trail. Printing includes: transaction number, date, time, card number, identification field #1 (e.g., employee number), identification field #2 (e.g., vehicle number), pump used, fuel type and quantity dispensed, price data (unit and total, if configured), odometer reading, and a transaction status message.
- Automatic recording and storage of all transactions in system memory for later recall.
- Transaction printing in a variety of formats to meet your information requirements.
- Printing and storage of pricing data. Available options depend on pulser type. With dollar pulsers, the system can print unit price only or both unit and total price. With quantity pulsers, the system can print only unit and total price.
- Two asynchronous ports (both configurable to RS-232 or RS-422) for terminal and/or computer communications.
- For additional report processing, the ability to interface with communications and report software for IBM, and compatible, personal computers. Software is extra.
- A perpetual fuel inventory, maintained for up to eight tanks. Inventory adjustments are automatically made with each transaction and can be adjusted at the data terminal to ensure maximum inventory accuracy.
- Maintains up to eight resettable pump totalizers.

- A magnetic stripe insertion reader or an optional optical card reader. Optical readers are not supported for CFN systems.
- A Disable Pumps button on the cabinet face to quickly shut down dispensing equipment in case of emergency.
- Built-in AC and RS-422 transient protection reduces problems caused by power surges.
- To safeguard the system in a power failure, AC and DC power fail detect, deadman timer, and pump control fail-safe circuits ensure an orderly shutdown so the system can return to normal operation upon restoration. The system clock and memory are backed by batteries to maintain the time and transaction data during power failures.

Optional Features

In addition to the standard features, your Series 1000 may have one or a combination of these available options:

- **Activate Pump (AP) Data Entry Option** - allows you to enter card data (Card, ID Field 1, and ID Field 2) and an odometer/hours reading at the data terminal before activating a pump.
- **Dual Lockout Option** - allows you to restrict system access by locking out a second 4-digit field of your choice (in addition to card number). Dual lockout is not supported for Commercial Fueling Network (CFN) systems.
- **Extended Pump Timeouts Option** - allows you to extend the standard maximum timeout from 180 seconds to 3600 seconds (1 hour).
- **Fuel Allocation Option** - allows you to allocate predetermined amounts of fuel to a set number of users.
- **Fuel Delivery and Dipstick Option** - enables you to accept and record fuel delivery and dipstick reading data using special cards at the Series 1000.
- **Gate Controller Option** - enables you to use a dedicated Series 1000 to control a gate.
- **Hours Option** - Provides prompts at the LCD for users who record fuel consumption by an hour meter instead of an odometer.
- **Loadable Base Pump Option** - allows you to assign different starting pump numbers for sites having more than one Series 1000.
- **Manual Keypad Entry Option** - provides an additional field that allows you to request specific input from the Series 1000 user. This option is a standard feature for Commercial Fueling Network (CFN) systems.
- **MPG/HPG Option** - calculates and maintains miles-per-gallon tallies for a set number of your vehicles. This option can also be ordered to calculate hours per gallon for users' equipment operating on an hour meter.

- **Multi-Level Password Option** - allows two levels of password access: super user, which can access all commands; and standard user, which can access only commands authorized by the super user.
- **Pump Switch Timer Option** - allows you to prevent fueling at a pump when the handle has been left on from a previous transaction.
- **Reasonable Odometer/Hours Check Option** - provides an odometer validity check for a set number of your vehicles. This option can also be ordered to provide a reasonable hours check for users' equipment operating on an hour meter.
- **Receipt Printer Option** - allows you to obtain a fueling transaction receipt.
- **Supervisor Card Option** - allows you to use a specially encoded supervisor card to manually enter card information at the Series 1000 keypad.
- **Tank Monitor Interface** - enables you to communicate with a GASBOY TMS 500 or a Veeder-Root TLS, or an EBW AutoStik tank monitoring system using the Series 1000 as an interface.

If problems arise or if you need assistance or information on options, call your authorized service representative or GASBOY customer service at 1-800-444-5529.

DOCUMENTATION/GETTING STARTED

The following documentation is provided with the Series 1000 Fuel Management System:

- *Installation Manual, C08922*
- *Card Encoding Manual, C08924*
- *Card Encoding Manual for Commercial Fueling Networks, C08370*
- *Operation Manual, C08923*
- *Diagnostic Manual, C08925*

In addition, your authorized service representative (ASR) is provided with the following manual:

- *Start-up Manual, C08921*

When you get to this point, we assume:

- your system has been installed and tested (Reference: *Installation Manual*).
- your ASR has started up your system, and helped you perform necessary tests (Reference: *Start-up Manual*).
- your ASR has helped you with your initial configuration (Reference: *Start-up Manual* and *Operation Manual*)

When you configure your system you need to know:

- number of pumps (outlets)
- number of tanks
- pulser type
- pulses per gallon or dollar (penny pulsing)
- fuels and fuel codes
- fuel code authorizations and limitations
- communications port settings
- site shutdown start and end times
- the type of lockout file you wish to create

Your ASR will help you perform these commands:

SC	configure your system
MO	allows you to view data one screen at a time on your CRT (if desired)
RT	initialize transaction file
LN	load starting transaction number
LD	load system date and time
LK	load 4-digit PIN key (assigned on card layout)
SD	load shutdown start and end times
LI	load initial inventory for each tank
LR	load an inventory reorder point for each tank
LP	assign specific fuels, tanks, totalizer readings, and timeouts to your pumps
LL	assign maximum fuel quantities to limitation codes
LF	assign fuel codes to authorization codes
VA or IA	validate or invalidate all cards depending on the type of card file you've chosen (negative or positive)

- Your cards should be encoded (Reference: *Card Encoding Manual* or *Card Encoding Manual for Commercial Fueling Networks, C08370*).

HOW TO USE THIS BOOK

This book is written in first person aimed at the system operator. Reviewing these items will help you as you use this book:

- We use the term, *the system* to describe the Series 1000.
- When procedures say *you*, we infer that you are the system operator at the data terminal.
- When we say *the user*, we infer that the user is the person currently at the Series 1000 card system.
- Nearly all of the procedures in this book are initiated and entered from the data terminal.
- When we say *on the Series 1000 keypad*, we mean you enter data at the card reader.
- When we say, *the system displays*, we are generally referring to the data terminal display. When we refer to display messages on the Series 1000, we usually say *on the LCD display*.
- When we tell you to press keys, either on the data terminal or on the Series 1000 keypad, we use the key name (i.e., RETURN, ENTER, etc.). The control key (CTRL) is always pressed with another key. When you see a sequence like CTRL C, it means press the CTRL and C keys together.
- Data you enter in examples is shown in bold type. All examples shown in this manual are for the standard Series 1000. See Appendix A for CFN system examples.
- When you see the symbol ↵ in examples it means to press RETURN after the entry of data.
- Appendix A in this manual covers information and system differences for members of the Commercial Fueling Network (CFN) using this system in their network. CFN, in this case, should not be confused with GASBOY's CFN System.

The Commercial Fueling Network logo appears throughout this manual to indicate when a standard Series 1000 command or procedure is handled differently for Commercial Fueling Network users. When you see the Commercial Fueling Network logo (shown at right) on a page, refer to the appropriate subheading in the Appendix for more information.



Section 2

FUELING WITH THE SERIES 1000

The GASBOY Series 1000 System is designed to guide even untrained users effortlessly through the operation of the system. A series of prompts, which appear on the Liquid Crystal Display (LCD), guides the user through the fueling transaction. For additional reference, operating instructions are printed on the cabinet face.

A typical fueling using a Series 1000 (magnetic or optical card) is accomplished as follows:

1. Position your vehicle adjacent to the fuel dispensing equipment. Be sure to note the odometer reading (if your system uses this feature).

In its idle state, the Series 1000 LCD display alternates between an **ENTER CARD** message and a personalized system message.

2. If you are using a two-card optical system, place the two optical cards on top of each other (order does not matter) with the cut corner to the left and towards the reader and insert them into the reader as one card. Skip to Step 6.

If you are using magnetic cards, insert your card fully into the card reader with the magnetic stripe facing down and to the left. The LCD displays: **REMOVE CARD**

3. Remove the card. If you leave a card in the reader for more than five seconds, an alarm sounds to remind you to remove it. If you are using a one-card system, skip to Step 7.

4. If you are using a two-card system, the LCD displays: **ENTER SECOND CARD.**

5. Insert the second card fully into the card reader with the magnetic stripe facing down and to the left. The LCD displays: **REMOVE CARD.**

6. Remove the card(s) from the reader.

7. If your system uses the receipt printer option, go to Step 8.
If your system uses PINs, go to Step 9.
If your system uses odometer readings only, go to Step 10.
If your system uses none of these, go to Step 11.

8. If you have the receipt printer option and a prior transaction (with quantity) receipt is available, the LCD displays: **RECEIPT? 1=YES 0=NO.**

To print a transaction receipt, press **1** and ENTER. The LCD displays: **RECEIPT IS PRINTING.** If you have requested multiple receipts, they print out one after the other. The system goes to idle and you must reinsert your card(s) to begin a fueling transaction.

If you do not want a receipt, press **0** and ENTER. Skip to Step 9. For more on receipt printing, see Section 23.

9. If you are required to enter a Personal Identification Number (PIN), the LCD displays: **ENTER P.I.N.**

Using the keypad, enter your PIN number and press ENTER. To ensure security, an asterisk (*) appears for each digit you press. If you make a mistake while entering your PIN, press CLEAR and enter it again.

You have three tries to enter the correct PIN. After the third unsuccessful try, the display returns to **ENTER CARD** and you must start again at Step 2.

If your system uses the Auto Pin Lockout feature, the card is automatically locked out (invalidated) after the third unsuccessful PIN entry.

10. If you are required to enter an odometer reading, the LCD displays: **ENTER ODOMETER** or **ENTER HOURS.**

Use the keypad to enter the mileage/time that appears on your vehicle's odometer or hour meter (up to six digits, no tenths). The digits appear as they are entered. If you make a mistake, press CLEAR and enter the reading again. When you enter the correct reading, press ENTER. The LCD prompts: **SELECT PUMP**

11. Enter the desired pump number and press ENTER.

If the pump is available and you are authorized to use it, the LCD displays: **PUMP #x IS READY** and you may proceed to dispense fuel.

If **PUMP #x IS READY** is not displayed, one of the following messages appears:

**NO SUCH PUMP
PUMP IN USE!
PUMP DISABLED
INVALID FUEL**

You have three tries to select a correct pump. If, after three attempts, the system does not display **PUMP #x IS READY**, the display returns to **ENTER CARD** and you must begin again at Step 2.

12. When you finish fueling your vehicle, turn off the fuel dispenser handle and return the nozzle to its holder. The transaction information is automatically recorded in the system's memory for later recall. If you are using the Direct Printout feature, the transaction information is also printed on the data terminal or logger.

Transaction information includes transaction number, card number, identification field 1, identification field 2, date, time, pump number, product type, quantity dispensed, unit price and/or unit and total price (if configured), odometer/hours reading, and transaction message.

13. If you have the receipt printer option and you wish to have a receipt, insert and remove your card. The LCD displays: **RECEIPT? 1=YES 0=NO.**

To print a transaction receipt, press **1** and ENTER. The LCD displays: **RECEIPT IS PRINTING.** Multiple receipts print out one after the other. The system goes to idle.

COMMUNICATING WITH THE SERIES 1000

COMMUNICATION PORTS

The GASBOY Series 1000 has two asynchronous communication ports (Port 1 and Port 2) for connecting with a data terminal and/or computer. The connection can be made by a direct cable, via a short haul modem, or via a telephone modem. An optional auxiliary port PCB is also available. It contains two additional ports and is used for connecting to a tank monitoring system and/or a receipt printer.

Ports 1 and 2 of the MPU PCB can be set to the following baud rates: 300, 600, 1200, 2400, 4800, or 9600. The auxiliary ports can be set to 300, 1200, or 9600 baud depending on the equipment being connected (the receipt printer requires 9600 baud; the tank monitoring system can be set for 300, 1200, or 9600). When sending data to the Series 1000 system from a computer or tank monitoring system, do not exceed 1200 baud because data may be lost when sent at higher rates.

- Port 1 is normally used for direct connection of a data terminal located at the site. This port allows access to the system's Direct Printout Mode and Command Mode. See **System Modes** in Section 4 for explanations of these modes. See Appendix B for information on installation and setup of data terminals.
- Port 2 is commonly used to connect to a remote data terminal or computer. Port 2 allows access only to the Command Mode.
- The auxiliary port PCB is used to connect to a receipt printer and/or tank monitoring system. If you ordered your system with a receipt printer and/or tank monitoring system, these ports are already present. No additional wiring is required for the receipt printer. See the *Series 1000 Installation Manual* for installation wiring for a tank monitoring system.

Each port can be set individually for either RS-232 or RS-422 communications. RS-232 communication allows for the direct connection to RS-232 devices (e.g. data terminal, computer, phone modem). The cable length is limited to 100 feet.

RS-422 communications allow for a cable length of up to 1500 feet. A GASBOY Short Haul Modem, part number C05618, is needed to convert the RS-422 signal to RS-232 for the connection of RS-232 devices. See the *GASBOY Series 1000 Installation Manual* for more detail on RS-232 and RS-422 wiring.

COMMUNICATION PROTOCOL

Devices that communicate with the Series 1000 must be able to transmit and receive full duplex, ASCII asynchronous data via an EIA-RS-232 connection.

The Series 1000 uses a simple terminal protocol; no special characters are transmitted to designate the beginning or end of the data blocks. Data is transmitted in serial bit format per character as follows: one start bit, eight data bits, one stop bit.

Each character is echoed back to the transmitting device. This checks the integrity and enables CRT operators to display transmitted data.

COMMUNICATION TERMINATIONS

The wiring terminations for the various communication options are indicated below:

	System TB	Signal	System I/O	Notes
RS-232	1	TXD	output	Transmitted data out of system
	2	DTR	output	Data terminal ready out of system
	3	RXD	input	Received data into system
	4	DCD	input	Data carrier detect into system
	5	GND	ground	Signal ground reference
RS-422	1	TX+	output	Transmitted data out of system
	2	TX-	output	
	3	RX+	input	Received data into system
	4	RX-	input	
	5	N/A	--	

Pinout of GASBOY Short Haul Modem RS-232 Connector

Pin	Signal	SHM I/O	Notes
2	TXD	input	Transmitted data into modem
3	RXD	output	Received data out of modem
7	GND	ground	Signal ground reference
8	DCD	output	Data carrier detect out of SHM
20	DTR	input	Data terminal ready into SHM

NOTE: Pins 5 and 6 are tied to Pin 8 internally.

TB=Terminal block PIN=PIN connection on RS-232 connector I/O=input/output

INITIATING COMMUNICATION

Once your data terminal is connected directly to the Series 1000, or your phone modems are in place, you can communicate with your system. To guard against unauthorized access, the system requires a sign-on password before you can enter commands to change or print reports on the system.

1. Turn on the power to your data terminal.
2. If you are using phone modems, dial and make connection with the site modem. If you are using a computer, follow the instructions of your interface program.
3. Press CTRL F, or press RETURN. The system displays: **SIGN ON:**.
4. Type the 1- to 10-character password and press RETURN. The password does not display as you type it. When the correct password is entered, an asterisk (*) prompt appears and you can enter commands.

If you are signing on for the first time, the password is **GASBOY**. You must type it in all capital letters.

To change the password, use the **LS** (load sign-on password) command.

If you enter the password incorrectly, press RETURN to redisplay the **SIGN ON:** prompt. Repeat Step 4.

LS - LOAD SIGN-ON PASSWORD

Use the **LS** command to change the password from the preset value of **GASBOY** to one of your choice. Passwords can be one to ten alphanumeric characters.

1. If you are signed on (at the asterisk prompt), skip to Step 4.
2. If you are not signed on, press CTRL F or press RETURN. The system displays: **SIGN ON:**
3. Type **GASBOY** and press RETURN. The * prompt appears.
4. Type **LS**. The system responds: **PASSWORD:**
5. Type a new 1- to 10-character password and press RETURN. The * prompt reappears.

Example:

```
*LS
PASSWORD: PASSWORD_
*
```

LOST OR FORGOTTEN PASSWORD

If you forget your password or cannot access the system because of a system memory failure, you may use the special code card to change the password back to **GASBOY**.

1. Insert the code card into the Series 1000 card reader.
2. Remove the card.
3. The LCD displays: **PASSWORD CHANGED**.
4. A transaction is generated with the message **CODE CARD** and all data fields are filled with zeroes.
5. You may now sign on to the data terminal using the **GASBOY** password.
6. If desired, use the **LS** command to reload your own password.

You can also use diagnostic test number one to change the password back to GASBOY. See the *Series 1000 Diagnostic Manual* for details.

SERIES 1000 OPERATING MODES

SYSTEM MODES

The Series 1000 system has two modes:

- Direct Printout Mode
- Command Mode

In *Direct Printout Mode*, the Series 1000 prints transactions on the data terminal as they are completed. No commands are accepted from the keyboard except CTRL F, RETURN, or CTRL B.

In *Command Mode*, you enter two-letter commands to input data, change data, or print reports on the system. Unless otherwise specified, all commands are entered at the asterisk prompt.

The Series 1000 includes a help feature for referencing the available commands. An expanded help feature provides the two-letter commands and brief descriptions of their functions. The **HE** (help) command is described later in this section.

When you are in Command Mode, transactions do not print as they occur; instead they are stored in memory and printed when the system returns to Direct Printout Mode.

ENTERING AND EXITING COMMAND MODE

Enter Command Mode - CTRL F

You can access Command Mode through either port, but not through both simultaneously. (See Section 3, **Communication Ports**).

1. Press RETURN or CTRL F. The system displays **SIGN ON:**.

*NOTE: If you receive a **BUSY** prompt instead of **SIGN ON:**, the system is in use through the other communication port. Access is not allowed until the user of the other port signs off, or until the system receives an override (CTRL B) command.*

2. Type your password and press RETURN. The * prompt appears.

Exit Command Mode - EX Command

Direct Printout Mode is accessible only through Port 1. If no communications occur between you and the system for one minute, the system automatically exits Command Mode and enters Direct Printout Mode. Also, when you turn on a data terminal that is connected to Port 1, you are automatically in Direct Printout Mode. If your data terminal is connected to Port 2, it remains idle until you enter Command Mode.

If you are currently in Command Mode, type **EX** to exit and enter Direct Printout Mode on Port 1. A transaction heading prints through Port 1, along with all transactions that occurred while you were in Command Mode.

Override Other Port - CTRL B

When you press CTRL B, you override the user on the other port, and establish communications on your port. The system displays the **SIGN ON:** prompt and waits for the password before allowing you to enter Command Mode. Use CTRL B with care as it can cause disruption of another user's data.

ENTERING COMMANDS AND OTHER SYSTEM INPUT

Commands are always entered at the asterisk (*) prompt in uppercase (all capital) letters. If you make an error when you are entering a command and the system recognizes your entry as an error, it displays either an asterisk (*) or several question marks (????). An asterisk displays when you have incorrectly typed a command. Question marks usually occur when you enter unacceptable data (i.e., quantities over the specified system limitations).

If the system does not recognize your error, (for example, if you wanted to enter the **LP** command, but typed **LF** (which is a valid command), you can cancel the command by pressing CTRL C.

You don't need to press RETURN after typing a command; however, you must press RETURN, as noted in procedures, after entering data.

When entering numeric data, you need not include leading zeroes.

To accept existing field data, such as in system configuration, press RETURN without typing anything at the field.

If you make an entry error and you want to delete it, press the DELETE key on your data terminal. The system repeats the character you are trying to delete and you can enter the correct character. If are trying to type **GASBOY** and type **GASBP**, press DELETE to delete the **P**. Your system shows **GASBPP**, indicating that the **P** is being deleted. Now you can complete your typing. The display appears: **GASBPPOY**, but is understood as **GASBOY**.

You can do this for each character you wish to delete. For example:

If you type: **GASVP**

Press DELETE once to eliminate the P (**GASVPP**)

Press DELETE again to delete the V (**GASVPPV**)

Type the correct letters **BOY**.

Your entry looks like this: **GASVPPVBOY**, but is understood as **GASBOY**.

You can stop and resume command output by pressing CTRL S and CTRL Q. CTRL S stops command output; CTRL Q will resume output.



HE - HELP COMMAND

The **HELP** command displays a list of the two-letter system commands either in short form or expanded. If you elect to view the commands in the expanded version, you get the command and a brief description of its function. Because the Series 1000 has optional software, all systems may not have the same commands.

1. At the * prompt, type **HE**. The system displays: **EXPANDED HELP LIST? <Y OR N>**.
2. Type **N** to view a list of the two-letter commands; type **Y** to list each command and its function. The listing displays.

If you chose expanded mode and are using a CRT, commands will scroll by faster than you can read them. Use the **MO (MORE)** command to control screen output. When the more command is set to **YES**, commands are listed by the screenfull followed by the message **PRESS ANY KEY TO CONTINUE**.

3. Press any key to display the next group of commands.

Example: Short Help List

```
*HE
EXPANDED HELP LIST? <Y OR N> N␣

COMMANDS ARE :

LS VA VC IA IC CC PV PI LI AI
SI TI LR LP PP EP DP AP IP ZP
XP PT ST SS PC PH RP RT LN LF
PF LL PL LK LC SC PS LD PD SD
PR MO HE EX

*
```



Example: Expanded Help List

```

*HE
EXPANDED HELP LIST? <Y OR N> Y.↓

LS - Load sign-on code
VA - Validate all cards
VC - Validate a card
IA - Invalidate all cards
IC - Invalidate a card
CC - Check card validation
PV - Print valid card list
PI - Print invalid card list
LI - Load tank inventory
AI - Add to tank inventory
SI - Sub from tank inventory
TI - Print tank inventory
LR - Load inv. reorder point
LP - Load pump data
PP - Print pump data
EP - Enable pump
DP - Disable pump
AP - Activate pump
IP - Inactivate pump

Press any key to continue...

ZP - Zero pump totalizers
XP - Print timeouts & pulsers
PT - Print trans
ST - Print sorted trans
SS - Print trans for a specified
    no. within a field
PC - Print compacted transactions
PH - Print compacted transactions
    with host interaction
RP - Reset trans pointer
RT - Reset trans file
LN - Load trans no.
LF - Load fuel authorizations
PF - Print fuel authorizations
LL - Load fuel limits
PL - Print fuel limits
LK - Load PIN key
LC - Print last card read
SC - Load system config
PS - Print system config
LD - Load date and time

Press any key to continue...

PD - Print date and time
SD - Load site down time
PR - Print program rev and date
MO - Display one screen at a time
EX - Exit command mode
HE - HELP

*

```

These commands are discussed in detail in the following sections of this manual.

SYSTEM MAINTENANCE COMMANDS

DESCRIPTION

The commands in this section allow you to load or change your system configuration and enter or display values for various system options.

If you followed the sequence outlined in **Getting Started**, you have already (with the help of your ASR) performed the initial loading of these commands. If you haven't, do so now.

The following section describes each of the system configuration parameters. If you have additional options on your Series 1000, see the chapters on those options for additional parameters to the system configuration process.

The commands in this section are:

- **SC** load or change your system configuration
- **PS** print your system configuration parameters
- **LD** load the current date and time
- **PD** print the current date and time
- **SD** load the time for system shutdown and restart
- **PR** print the program's revision level and date
- **LK** load PIN key
- **LC** print last cards read
- **MO** display one screen at a time



SYSTEM CONFIGURATION PARAMETERS

System configuration requests the following:

- **Site number**
Four numeric digits that identify your site number. This number appears at the beginning of each transaction listing and as the first four digits when you print compacted transactions.
- **Idle message**
One to 20 character message that alternates with the **ENTER CARD** prompt when the Series 1000 is not in use.
- **Number of pumps**
One digit (1 to 8) indicating the number of pumps served by the Series 1000.
- **Number of pulses per gallon**
The Series 1000 can handle pulse rates of dollar (one penny per pulse); or quantity (1:1, 10:1, 100:1, 250:1, 500:1, and 1000:1 ratios). You must enter a pulse rate for each pump as they may differ.
- **Number of tanks**
One digit (1 to 8) indicating the number of tanks served by the Series 1000.
- **Price Data Format**
Sets an option by which price data is included for your pumps and transactions. The type of price data you can obtain depends upon how your unit is pulsing (a value you set in the **Number of Pulses Per Gallon** parameter).

If you are pulsing by dollar (penny pulse), you can select any of the options. **0** gives you no pricing data; **1** gives you unit price only; **2** gives you unit and total price.

*NOTE: Selecting 1 to store unit price as part of the transaction is recommended even if you do not wish to have full price data. See the **LP** command for more on unit price selection.*

If you are pulsing by quantity, you can select **0** for no pricing data or **2** for unit and total price. The setting you choose for this parameter affects the performance of these commands: **LP**, **PP**, **PC**, **PH**, **PT**, **ST**, **SS**. See the descriptions for these commands to see how the output is affected.

- **System identification**
Four digits that identify your system. This number is unique to your system, assigned at the factory, and is encoded onto your access cards. It guards against users of other systems accessing your system.

For GASBOY "A" System optical cards, the system ID may be 1- to 6-digits.

- **Number of zero quantity transactions for automatic pump disable**
A number (1-99) to indicate the number of consecutive zero quantity transactions (no fuel dispensed) that must occur to disable the pump. Usually configured to 3 or 5. See the **DP** command for more details.



- **Number of lines per page**
If you are using a Link MC₅ terminal with an Okidata 184 printer attached, you must specify the number of lines to be printed on each page (usually 62). If you are not using the terminal and printer, set the lines per page to 0 (zero).
- **Card expiration date**
For mag card systems only. Cards can be encoded with an expiration date (year and month). Once the date is reached, the user is denied further access and a **CARD EXPIRED** message appears on the LCD display. This parameter allows you to disable the feature (cards will not be denied access).
- **Auto PIN lockout**
When enabled, this feature locks out (invalidates) the card from system access after three consecutive unsuccessful PIN entries. You must validate the card for it to be active again. When this feature is disabled, you still get three tries to enter a correct PIN, but the **ENTER CARD** message reappears and the card is not invalidated.
- **Auto site shut down**
This parameter allows you to enable or disable the automatic site shut down time indicated in the **SD** command. When this feature is enabled, the site shuts down at the entered time and a **SITE IS DOWN** message appears on the LCD display. You can still access other software features and can activate a pump for one transaction through the **AP** command. When this feature is disabled, shutdown does not occur.

You may receive other system configuration prompts depending on the options you have on your system. These differences are noted in the section describing the option.



SC - LOAD OR CHANGE SYSTEM CONFIGURATION

Use the **SC** command to enter or change your system configuration data.

1. At the * prompt, type **SC**. The system displays **ARE YOU SURE? <Y OR N>**
2. To cancel and return to the * prompt, type **N** and press RETURN.

To continue, type **Y** and press RETURN. The system displays **SITE NO.:**

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

3. Type your site number and press RETURN. The system displays **IDLE MESSAGE: <20 CHARS>**.
4. Type an idle message of up to 20 characters and press RETURN. The system displays: **NO. OF PUMPS: <1-8>**

*NOTE: If you try to change the number of pumps while a pump is active, the message **TRAN IN PROGRESS!** appears. Wait until the transaction is complete before changing pump assignments.*

5. Type the number of pumps in your configuration and press RETURN. The system displays:

PUMP #1
\$ OR QTY PULSES? <\$ OR Q>

*NOTE: Your system displays the pulse configuration parameters only if the pulse rate change switch on the Series 1000 MPU board is enabled for changing of pulse rates. If you do not receive pulse indicator and rate indicators (Steps 5 through 8), the next prompt that appears is **NO. OF TANKS**. Skip to Step 9.*

6. Type a dollar sign **\$** if you have a penny pulsing pump and skip to Step 8. Type a **Q**, for quantity pulses. The system displays:

PULSES PER GAL. <1000,500,250,100,10,1>

7. Type the number of pulses for your pump and press RETURN. The system displays the next pump number.

*NOTE: If you try to change the pulse rate for a pump while that pump is active, the message **TRAN IN PROGRESS!** appears. Change assignments for another pump or wait until the transaction is complete before changing pulse assignments.*



8. Repeat this procedure from Step 6 until all your pumps pulse rates are defined. The system displays: **NO. OF TANKS: <1-8>**
9. Type the number of tanks in your configuration and press RETURN. The system displays: **SYSTEM ID: <xxxx>**
10. Type the unique number for your system and press RETURN. The system displays:

PRICE DATA FORMAT
0 = NO PRICE DATA
1 = UNIT PRICE
2 = UNIT & TOTAL PRICE
ENTER FORMAT: <0,1,2>

11. Type a number from 0 to 2 and press RETURN to set a price data format for your pumps and transactions. The system displays:

AUTO PUMP DISABLE
NO. OF ZERO QTY. TRANS. <1-99>

12. Type the number of consecutive zero quantity transactions to trigger automatic pump disable and press RETURN. Usual values are 3 or 5. The system displays:

LINES PER PAGE: <0-62>

13. Type the number of lines to print on each page. If you are using a terminal/printer combination, type 62, otherwise, type zero.

The system displays:

CARD EXPIRATION DATE
ENABLE OR DISABLE <E OR D>

14. To disable the card expiration date feature, type **D** and press RETURN. The system accepts all dated cards as valid regardless of their expiration date.

To enable the card expiration date feature, type **E** and press RETURN. The system checks expiration dates and denies access to those cards with past dates.

The system displays:

AUTO PIN LOCKOUT
ENABLE OR DISABLE <E OR D>

15. To enable automatic PIN lockout (card locked out after three unsuccessful PIN entries), type **E** and press RETURN.

To disable automatic PIN lockout, type **D** and press RETURN.

The system displays:

AUTO SITE SHUT DOWN
ENABLE OR DISABLE <E OR D>

16. Type **E** and press RETURN to enable the shutdown feature (site shuts down based on the time entered in the **SD** command).

Type **D** and press RETURN to disable the shutdown feature.

The system returns to the * prompt.

17. You have now completed the system configuration process. You can proceed with processing.

Changing the System Configuration

Later, when you make changes to the system configuration, you need not fill in data for every prompt. Press RETURN for each prompt until you reach the one you wish to change. Type your changed data and press RETURN. You can continue this process until the system configuration prompts end and the * prompt reappears. Pressing RETURN at a prompt without entering data preserves the original entry for that field. To exit the configuration process at any time, without going through all the prompts, press CTRL C.

Example:

```
*sc
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

NUMBER OF PUMPS: <1-8> 4␣

PUMP #1
  $ OR QTY PULSES? <$ OR Q>$␣

PUMP #2
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>100␣

PUMP #3
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

PUMP #4
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0␣

SYSTEM ID:<XXXX> 5745␣
```

```
AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5↓

LINES PER PAGE <0-62>: 62↓

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E↓           (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E↓

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D↓
*
```

PS - PRINT SYSTEM CONFIGURATION

Use the **PS** command to print a listing of your system configuration parameters and the current values.

1. At the * prompt, type **PS**. The listing prints.

*NOTE: For security reasons, **SYSTEM ID** is not printed.*

2. If you are using a CRT and chose **Y** (yes) at the **MO** command, your output is listed by the screenfull followed by the message **PRESS ANY KEY TO CONTINUE**.
3. Press any key to display the next group of commands.

Example:

```
*PS
*** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:           GASBOY SERIES 1000

PUMP #01  PULSES PER GAL.:  $
PUMP #02  PULSES PER GAL.:  0100
PUMP #03  PULSES PER GAL.:  0010
PUMP #04  PULSES PER GAL.:  0010

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.: 05

LINES PER PAGE:         62

CARD EXPIRATION DATE:   ENABLED           (Mag Card Only)

PRESS ANY KEY TO CONTINUE...

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED

*
```

LD - LOAD DATE AND TIME

Use the **LD** command to load the current date and time into the system.

1. At the * prompt, type **LD**. The **YEAR:** prompt appears.
2. Type the current 2-digit year and press RETURN. The **MONTH:** prompt appears.
3. Type the number of the current month and press RETURN. The **DAY:** prompt appears.
4. Type the current day of the month and press RETURN. The **HOURS:** prompt appears.
5. Type the hour using 24-hour military time (00-23) and press RETURN. The **MINS:** prompt appears.
6. Type the minutes (0-59) and press RETURN. The * prompt reappears.

Example:

If today's date is January 23, 1992 and the time is 9:30 PM, you would enter:

```
*LD
YEAR: 92.
MONTH: 1.
DAY: 23.
HOUR: 21.
MINS: 30.
*
```

NOTE: The Series 1000 uses a battery backed-up clock; date and time will be retained after a power failure.

PD - PRINT DATE AND TIME

Use the **PD** command to print the current date and time. In addition, these values also print: the first transaction to print (**TRAN PTR**), the last completed transaction (**LAST TRAN**), the site shutdown time (**SITE DOWN TIME**), the site restart time (**SITE UP TIME**). The shutdown parameters print only if the **AUTO SITE SHUTDOWN** parameter was enabled during the **SC** command.

If you run the **RP** command to set the transaction pointer to the last transaction plus 1, and then run the **PD** command before a new transaction is generated, the data in **TRANS PTR** will not reflect the new number entered during the **RP** command. **TRANS PTR** will correct itself as soon as a new transaction is generated.

1. At the * prompt, type **PD**. The listing prints and the * prompt reappears.

Example:

```
*PD
DATE=01/23/92  TIME= 9:30  TRAN PTR=0001  LAST TRAN=0750
SITE DOWN TIME=23:00  SITE UP TIME= 7:00
*
```

SD - LOAD SITE DOWN TIME

Use the **SD** command to set a daily time when the site is automatically shut down and users cannot access the fuel dispensing equipment. A ****SITE IS DOWN**** message appears on the LCD display. You can still access other software features and can activate a pump for one transaction through the **AP** command. Type the time entries using 24-hour military time.

1. At the * prompt, type **SD**. The system displays:

SITE SHUT DOWN START TIME:
HOURS:

2. Type the hour (0-23) for the start shutdown time and press RETURN. The system displays:
MINS:
3. Type the minutes (0-59) and press RETURN. The system displays:

SITE SHUT DOWN END TIME:
HOURS:

4. Type the hour (0-23) for the end shutdown time and press RETURN. The system displays:
MINS:
5. Type the minutes (0-59) and press RETURN. The * prompt reappears.

If you type the **SD** command when the auto site shutdown feature is disabled, this message appears: **AUTO SITE SHUT DOWN OPTION MUST BE ENABLED!** Use the **SC** command to enable this feature.

Example:

```
*SD
SITE SHUT DOWN START TIME:
HOURS: 23↓
MINS: 00↓

SITE SHUT DOWN END TIME:
HOURS: 7↓
MINS: 00↓

*
```

PR - PRINT PROGRAM REVISION AND DATE

Use the **PR** command to print the name of the program that is in your system along with its revision level and date. You may need to view this information if you have a problem with your system and need to contact your distributor or GASBOY for help. The data appears in the format: program revision, program name, and program date.

1. At the * prompt, type **PR**. The information prints.

Example:

```
*PR
V8.1 A213981 07-01-92
*
```

LK - LOAD PIN KEY



Use the **LK** command to load a unique 4-digit key for PIN (personal identification number) calculations. You can require your cardholders to enter a PIN for each transaction. This protects the system from unauthorized use should a card be lost or stolen. You can set up the system to automatically lock out the card after three unsuccessful PIN entries (see **SC** command, auto PIN lockout feature).

The system generates PINs by taking this 4-digit number and the card information, and using an algorithm to calculate a PIN number for each card. In this manner, all PIN numbers will be different.

The 4-digit number you use in this command is assigned when you order your system. Your assigned PIN key is indicated on the card layout provided with your *Series 1000 Card Encoding Manual*. **Do not** change this PIN key number unless directed by an authorized service representative (ASR).

1. At the * prompt, type **LK**. The system displays **PIN KEY NO.**
2. Type the 4-digit PIN key number and press RETURN. The * prompt reappears.

Example:

```
*LK
PIN KEY NO. 0015.↓
*
```

You can view the PIN number associated with a card by putting the system in diagnostic mode and running test 0. See the *Series 1000 Diagnostic Manual* for details.

NOTE: If you are matching "A" System optical cards, you may not have this command.



LC - PRINT LAST CARD(S) READ

Use the **LC** command to print the encoded information from the last card used at the reader.

1. At the * prompt, type **LC**. The system prints as shown in one of the following examples.

The following are examples of card information as it appears in a system using magnetic cards.

Example: Two-card system:

```
*LC
FIRST CARD DATA = --9999-----7312-----801
SECOND CARD DATA = --9999-79422138-----9107--0
*
```

Example: One-card System:

The **SECOND CARD DATA** section contains dashes.

```
*LC
FIRST CARD DATA = -9999-024328137596-9212010
SECOND CARD DATA = -----
*
```

Example: Optical Card System

The first five digits, consisting of ones or zeros, represent the actual holes that are punched in each row on the card (1 = hole punched; 0 = no hole punched). The last digit, under the heading **DATA** is the number represented by the punched holes.



```
*LC
R0R1R2R3R4DATA
1 0 0 1 0 1
1 0 0 0 1 9
0 1 0 0 1 8
0 1 0 1 0 0
0 0 1 0 1 6
1 1 0 0 0 7
1 0 1 0 0 5
1 0 0 0 1 9
0 1 1 0 0 4
0 1 1 0 0 4
0 1 0 1 0 0
0 0 0 1 1 2
1 0 0 1 0 1
1 0 1 0 0 5
0 0 1 0 1 6
1 1 0 0 0 7
0 1 0 0 1 8
1 0 0 1 0 1
0 1 0 1 0 0
*
```

MO - DISPLAY OUTPUT BY SCREEN (MORE)

Use the **MO** (more) command to control screen output when you are using a CRT terminal. Normally, when output longer than one screen is sent from the Series 1000 to the CRT terminal, it scrolls by faster than you can read it. The **MO** command enables you to display the output one screenfull at a time, then press a key to display the next screenfull.

When you reply **Y** (yes) to the **MO** command prompt, the next time you request data output, the first screenfull appears followed by the message **Press any key to continue...** When you press a key, the next screenfull appears and so on until the entire output is displayed.

1. At the * prompt, type **MO**. The system prompts: **DISPLAY OUTPUT ONE SCREEN AT A TIME? <Y OR N>**.
2. Type **Y** to display output one screen at a time; type **N** to scroll the output to the end of the command.

Example:

```
*MO.␣
DISPLAY OUTPUT ONE SCREEN AT A TIME? <Y OR N> Y.␣
*
```

CARD VALIDATION COMMANDS



OVERVIEW

Card validation commands allow you to control access to your system (perform lockout) by validating/invalidating a user's card(s). There are three possible lockout scenarios you can use:

- Standard lockout, which provides lockout by the **CARD NUMBER**.
- Dual Lockout option, which provides lockout by the **CARD NUMBER** or an additional 4-digit field (**ID FIELD 1** or **ID FIELD 2**) that you designate.
- Dual Lockout and Manual Keypad Entry option with manual entry lockout, which provides lockout by **CARD NUMBER** or 4-digit manual entry.

The files in which valid and invalid card numbers are stored are called the lockout files. Systems using standard lockout have one file; systems using dual lockout have two (one for card numbers and another for the second field).

There are two lockout file arrangements:

- a negative card file, where you validate all cards and invalidate individual cards, or
- a positive card file, where you invalidate all cards and validate individual card numbers.

For example, suppose you choose a negative card file where all cards are valid and you have users who don't pay their bills or no longer have privileges at your site. To deny these users access to the system, you would use the **IC** command and invalidate all their card numbers (or additional lockout field values). These users are then **LOCKED OUT** and will receive this message the next time they attempt to fuel.

Conversely, suppose you choose a positive card file, where all cards are invalid. In order to allow access to users on your system, you would use the **VC** command for each card number (or additional lockout field value) to be made active.

Users' cards can be validated/invalidated individually, in strings of up to twenty assorted card numbers (or additional lockout field values), or by ranges of consecutive card numbers (or additional lockout field values). If desired the system can lock out or allow access to the entire file of 10,000 users. The system can also be configured to lock out a card when a user tries to enter a PIN number unsuccessfully three consecutive times.

Card Validation Commands

The card validation commands are:

- | | | | |
|-------------|----------------------|-------------|-------------------------|
| • VA | validate all cards | • CC | check card validation |
| • VC | validate a card | • PV | print valid card list |
| • IA | invalidate all cards | • PI | print invalid card list |
| • IC | invalidate a card | | |

VA - VALIDATE ALL CARDS

Use the **VA** command to validate all cards in the lockout file. This creates a negative card file, where you must invalidate cards individually to control access to the system.

1. At the * prompt, type **VA**. The system displays: **VALIDATE ALL CARDS? <Y OR N>**.
2. Type **Y** to validate all cards (negative) or **N** for the lockout file to remain unchanged.

Example:

```
*VA
VALIDATE ALL CARDS? <Y OR N> Y.↓
*
```

VC - VALIDATE A CARD

Use the **VC** command to validate specific cards in the lockout file. You may need to do this when a card has been invalidated by the auto PIN lockout feature. You can validate a single card, a string of up to 20 assorted cards, or a range of card numbers.

Validate a Single Card

1. At the * prompt, type **VC**. The system displays: **ENTER NO.:**
2. Type the card number to be validated and press RETURN. If the card was previously invalid and made valid, the system displays **VALIDATED**, followed by *. If the card was previously valid, the system displays **NO. IS VALID**, followed by *.

Example:

```
*vc
ENTER NO. : 1034↵
VALIDATED
*
```

Validate a String of Assorted Cards

1. At the * prompt, type **VC**. The system displays: **ENTER NO.:**
2. Type the card number to be validated followed by a comma.
3. Repeat Step 2 for up to 20 card numbers.
4. When you enter your last card number or you reach 20, press RETURN. If at least one card was previously invalid, the system displays: **VALIDATED**, followed by *. If all of the entered cards were previously valid, the system responds **NO. IS VALID**, followed by *.

Example:

```
*vc
ENTER NO. : 1234,2653,28,278↵
VALIDATED
*
```

Validate a Range of Cards

1. At the * prompt, type **VC**. The system displays: **ENTER NO.:**
2. Type the first card number in the range to be validated, followed by a hyphen.
3. Type the last card number of the range to be validated and press RETURN. If at least one card was previously invalid, the system displays: **VALIDATED**, followed by *. If all of the entered cards were previously valid, the system responds **NO. IS VALID** , followed by *.

NOTE: If the last number in the range entry is less than the first number, the command is not executed.

Example:

```
*vc
ENTER NO. : 1250-1275↵
VALIDATED
*
```

IA - INVALIDATE ALL CARDS

Use the **IA** command to invalidate all cards in the lockout file. This creates a positive card file, where you must validate cards individually to control access to the system..

1. At the * prompt, type **IA**. The system displays: **INVALIDATE ALL CARDS? <Y OR N>**.
2. Type **Y** to invalidate all cards (positive) or **N** for the lockout file to remain unchanged.

Example:

```
* IA
INVALIDATE ALL CARDS? <Y OR N> Y
*
```

IC - INVALIDATE A CARD

Use the **IC** command to invalidate specific cards in the lockout file . You can invalidate a single card, a string of up to 20 assorted cards, or a range of card numbers.

Invalidate a Single Card

1. At the * prompt, type **IC**. The system displays: **ENTER NO.:**
2. Type the card number to be invalidated and press RETURN. If the card was valid, the system displays **INVALIDATED**, followed by *. If the card was previously invalid, the system displays **NO. IS INVALID**, followed by *.

Example:

```
* IC
ENTER NO. : 1210␣
INVALIDATED
*
```

Invalidate a String of Assorted Cards

1. At the * prompt, type **IC**. The system displays: **ENTER NO.:**
2. Type the card number to be invalidated followed by a comma.
3. Repeat Step 2 for up to 20 card numbers.
4. When you enter your last card number or you reach 20, press RETURN. If at least one card was previously valid, the system displays: **INVALIDATED**, followed by *. If all of the entered cards were previously invalid, the system responds **NO. IS INVALID**, followed by *.

Example:

```
* IC
ENTER NO. : 1234,2653,28,278␣
INVALIDATED
*
```

Invalidate a Range of Cards

1. At the * prompt, type **IC**. The system displays: **ENTER NO.:**
2. Type the first card number in the range to be invalidated, followed by a hyphen.
3. Type the last card number of the range to be invalidated and press RETURN. If at least one card was previously valid, the system displays: **INVALIDATED**, followed by *. If all of the entered cards were previously invalid, the system responds **NO. IS INVALID**, followed by *.

NOTE: If the last number in the range entry is less than the first number, the command is not executed.

Example:

```
*IC
ENTER NO. : 1250-1275↵
INVALIDATED
*
```

CC - CHECK CARD VALIDATION

Use the **CC** command to check on a card's validation status.

1. At the * prompt, type **CC**. The system displays: **ENTER NO.:**
2. Type the card number you wish to check and press RETURN. The system displays: **NO. IS VALID** or **NO. IS INVALID**, followed by *.

NOTE: The CC command accepts only single entries; you cannot check a string or a range.

Example:

```
*cc
ENTER NO. : 1234↵
NO. IS VALID
*
```

PV - PRINT VALID CARD LIST

Use the **PV** command to print a list of all valid cards.

1. At the * prompt, type, **PV**. The system displays a list of all valid card numbers followed by *.

Example:

```
*PV
VALID LIST
2334 2599 6414 6415 6416 6417 6418 6419 6420 6421
7210 7215 7216 7217 7218 7219 7220 7221 7550 7600
*
```

PI - PRINT INVALID CARD LIST

Use the **PI** command to print a list of all invalid card numbers.

1. At the * prompt, type **PI**. The system prints a list of all invalid card numbers followed by *.

Example:

```
*PI  
  
INVALID LIST  
  
1222 3345 4999  
  
*
```

CARD VALIDATION/INVALIDATION ERROR MESSAGES

This section contains an alphabetic listing of card validation error messages. In most cases, the message appears immediately after the erroneous number is detected. Some errors cause several messages to appear. Check all appropriate messages.

ALL OTHER ENTRIES (IN)VALIDATED

You entered an out of range number or invalid character in a string of numbers. The system validates or invalidates all other legal numbers within the string.

ENTRY TERMINATED - INVALID CHARACTER ENTERED

For **IC** or **VC** commands, you entered an illegal character either in a single entry or as part of a string or range. For single or range entries, entry is terminated at the error. For string entries, all entries before the illegal one are acted upon.

For the **CC** command, you tried to enter a comma (for string) or a hyphen (for range). The **CC** command can check only a single number.

ENTRY TERMINATED-TOO MANY DIGITS

You entered a number over 9999, the maximum number in the lockout file. No action is taken for this entry.

INVALID RANGE!

You entered either an end of range number less than the start of range number or a number greater than 9999, the maximum number in the lockout file.

OUT OF RANGE!

You entered a number over 9999, the maximum number in the lockout file.

TANK INVENTORY COMMANDS

DESCRIPTION

The Series 1000 System maintains inventory for up to eight tanks. When you start up your Series 1000 system, you load a starting tank inventory and the point (in gallons) at which you want to reorder fuel for that tank.

When you get deliveries of fuel, you use the **AI** command to add the amount to the existing inventory. You can also use the **SI** command to subtract inventory from a tank. You might need to do this to keep inventory amounts accurate (such as if the Series 1000 was down and fuel was being accessed manually). It is important to keep your inventory current by recording fuel deliveries. If you don't record deliveries and the tank's inventory reading reaches zero (all 0's), transactions with quantity will no longer decrement the tank's inventory.

If you have the Fuel Delivery and Dipstick Card option, a person possessing a delivery card (i.e., your supplier) can enter delivery amounts right at the Series 1000 card reader as soon as the delivery is complete. This automatically increments your tank inventory and generates a transaction noted **DELIVERY** (See Section 15, **Fuel Delivery and Dipstick Card Option**).

At any time, you can print an inventory listing for all your tanks.

Tank Inventory Commands

Tank Inventory Commands are:

- **LI** load initial inventory
- **AI** add to tank inventory
- **SI** subtract from tank inventory
- **TI** print an inventory listing
- **LR** establish a reorder point level.

LI - LOAD TANK INVENTORY

Use the **LI** command to assign the initial amount of fuel (inventory) for each tank.

1. At the * prompt, type **LI**. The system displays: **TANK #**
2. Type the tank number and press RETURN. The system displays: **AMOUNT:**
Amount is a 10-digit field with 7-digits to the left of the decimal point and 3-digits to the right.
3. Type up to seven digits, a decimal point, then up to three more digits and press RETURN.
*NOTE: If you type seven digits, the system adds the decimal point for you. If you type three decimal places, the system automatically returns to **TANK #**.*
4. The system prompts you for each tank; repeat Steps 2 and 3. To stop entering inventory data, press RETURN at the **TANK #** prompt. The * prompt appears.

Example:

If Tank 2 currently contains 700 gallons, the entries are:

```
*LI
TANK #2↵
AMOUNT: 700.000
TANK #↵
*
```

AI - ADD TO TANK INVENTORY

Use the **AI** command to record the amount of fuel (inventory) added for a specific tank or tanks.

1. At the * prompt, type **AI**. The system displays: **TANK #**

2. Type the tank number and press RETURN. The system displays: **AMOUNT:**

Amount is a 10-digit field with seven digits to the left of the decimal point and three digits to the right.

3. Type up to seven digits, a decimal point, then up to three more digits and press RETURN.

*NOTE: If you type seven digits, the system adds the decimal point for you. If you type three decimal places, the system automatically returns to **TANK #**.*

4. The system prompts you for each tank; repeat Steps 2 and 3. To stop entering additional inventory data, press RETURN at the **TANK #** prompt. The * prompt appears.

Example:

If you add 2,000 gallons of diesel fuel to tank 4, the entries are:

```
*AI
TANK #4↵
AMOUNT: 2000.↵

TANK #↵
*
```

SI - SUBTRACT FROM TANK INVENTORY

Use the **SI** command to subtract inventory from a tank or tanks. You may need to do this when a tank is accessed manually over a period of time.

1. At the * prompt, type **SI**. The system displays: **TANK #**

2. Type the tank number and press RETURN. The system displays: **AMOUNT:**

Amount is a 10-digit field with seven digits to the left of the decimal point and three digits to the right.

3. Type up to seven digits, a decimal point, then up to three more digits and press RETURN.

*NOTE: If you type seven digits, the system adds the decimal point for you. If you type three decimal places, the system automatically returns to **TANK #**.*

4. The system prompts you for each tank; repeat Steps 2 and 3. To stop entering subtracted inventory data, press RETURN at the **TANK #** prompt. The * prompt appears.

Example:

Tank 1, containing unleaded regular, was accessed manually for a period of three hours. At the end of that time, you received a report that 33.567 gallons were dispensed. Enter the information as follows:

```
*SI
TANK #1↵
AMOUNT: 33.567
TANK #↵
*
```

TI - PRINT TANK INVENTORY

Use the **TI** command to print the current inventory totalizers and their reorder points.

1. At the * prompt, type **TI**. The system prints the current tank inventory totalizers and their reorder points.

*NOTE: Your tank inventory totalizers are adjusted automatically as transactions are completed, however, you can adjust your tank inventory to reflect additions or deletions by using the **AI** or **SI** commands.*

Example:

```
*TI
TANK #1 INVENTORY:    1236.000 REORDER 2000
TANK #2 INVENTORY:    9119.646 REORDER 2000
TANK #3 INVENTORY:    3913.536 REORDER 2000
*
```

LR - LOAD INVENTORY REORDER POINT

Use the **LR** command to assign an inventory reorder point for each tank. The reorder point is printed as a reminder when the current tank totalizers are printed. When the tank totalizer drops below the reorder level, **REORDER FUEL** appears in the error message field of all transactions drawing from that tank until the inventory is adjusted above the reorder level.

1. At the * prompt, type **LR**. The system displays: **TANK #**
2. Type the tank number and press RETURN. The system displays: **REORDER:**
Reorder is a four-digit number in whole gallons.
3. Type the reorder point number and press RETURN.
4. The system prompts you for each tank; repeat Steps 2 and 3. To stop entering inventory reorder data, press RETURN at the **TANK #** prompt. The * prompt appears.

Example:

```
*LR  
  
TANK #2␣  
REORDER: 700␣  
  
TANK #␣  
  
*
```

PUMP COMMANDS

DESCRIPTION

When you start up your Series 1000 system, you use the **LP** (load pump) command to describe all relevant pump information, such as the number of each pump, fuel codes, fuel names, tank numbers, current totalizer readings, and pump timeout values (safeguards against unattended active pumps). Once you describe your pumps, you can print a listing of each pump's assignments.

Other pump commands allow you to enable or disable a pump from the data terminal. You may need to enable a pump if it was disabled, such as for servicing, or after it was aut disabled due to a number of no quantity transactions. You may need to disable a pump if it is being serviced, or operational problems are detected. You can set a system configuration parameter to automatically disable a pump after a set number of consecutive no quantity transactions. This protects your system in the event of defective pulse transmitters in the pumps or Series 1000 failure.

You can also activate or inactivate a pump for one transaction from the data terminal. You might need to do this when a user needs to fuel but has lost or forgotten his card.

Other pump commands allow you to reset the Series 1000 pump totalizers and print the timeouts and pulses associated with each pump.

Pump Commands

The pump commands are:

- **LP** load pump data
- **PP** print pump data
- **DP** disable a pump
- **EP** enable a pump
- **AP** activate a pump
- **IP** inactivate a pump
- **ZP** zero pump totalizers
- **XP** print timeouts and pulses

LP - LOAD PUMP DATA

Use the **LP** command to assign specific fuels, prices, tanks, quantities, and timeout values to your pumps. Each pump must be assigned to a tank and more than one pump can be assigned to the same tank.

Defining Unit Price

The **LP** command solicits unit price data (in Steps 4 and 5) depending on the setting you chose in the Price Data Format configuration parameter (**SC** command). When pulsing by quantity, you may have selected **0** for no data or **2** for unit and total price. If you selected **2**, you will be prompted for unit price.

When pulsing in dollars (penny pulsing), you may have selected any of the options (**0**, no data, **1**, unit price, or **2**, unit and total price). If you selected **0**, **1** or **2**, you will be prompted for unit price.

When pulsing by dollars, you must enter unit price even if you elect not to display the price data (**0**, no data) because the quantity is calculated based on the unit price. For example, assume you have a unit price on both the pump and the Series 1000 of one dollar (100 pulses per gallon). A person fuels his vehicle and the pump says he received 12.5 gallons. The pump sends 1250 pulses to the Series 1000. The Series 1000 divides the number of pulses by the unit price loaded (\$1.00), and correctly records the quantity of 12.5 gallons. However, if the unit price loaded into the Series 1000 is \$1.25 and the unit price at the pump is \$1.00, the person at the pump withdraws the 12.5 gallons, the pump sends 1250 pulses to the Series 1000 and the Series 1000 divides the number of pulses by the unit price loaded (\$1.25). It then records an incorrect gallon quantity of 10.0. This can cause numerous problems such as incorrect inventory readings, incorrect limit cutoffs, and billing problems.

Assigning Timeout Values

Timeout values are assigned to ensure that the pumps are not activated and left unattended. There are two timeout periods:

- Before Pump Activation - Interval in which the pump is activated by the system and the first pulse is received.
- After Pump Activation - Interval between turning off the nozzle (last pulse received) and turning off the pump handle. This timeout is reset if additional pulses are received.

Timeout periods range from 1 to 180 seconds and can be set individually for each pump. A typical timeout is 80 seconds. If either timeout period is exceeded during a transaction, the transaction ends automatically, and a **TIMED OUT** message appears in the transaction error field.

If you have the extended pump timeouts option, the timeout value can be extended up to 3600 seconds (1 hour).

Loading the Data

1. At the * prompt, type **LP**. The system displays: **PUMP NO.**
2. Type the pump number and press RETURN. The system displays: **FUEL CODE:**
3. Type the fuel code and press RETURN. This code denotes a specific type of fuel. You assign fuel codes and describe your fuel types before you perform card encoding. For more information on fuel type assignment, see the Product Code Table in your *Series 1000 Card Encoding Manual*. The system displays: **FUEL NAME:**
4. Type a 1- to 12-character fuel name and press RETURN.

If you are pulsing in dollars (penny per pulse) and selected **0**, **1**, or **2** for the Price Data Format configuration parameter, the system prompts you for unit price (**PRICE \$**).

NOTE: The unit price you enter at the Series 1000 must match the unit price set on the pump. If it does not, your recorded gallon totals will be incorrect.

If you are pulsing in quantity and selected **0** for price data format, the **TANK #** prompt appears. Skip to Step 6. If you selected **2**, the system prompts you for unit price (**PRICES**). (**1** is only for penny pulsing pumps).

5. Type the unit price of your product and press RETURN. The system displays: **TANK #**
6. Type the tank number to be accessed by this pump and press RETURN. The system displays: **AMOUNT:**
7. Type the quantity shown on the pump totalizer (or reset to zero, if desired) and press RETURN.

NOTE: There are two ways to use pump totalizers: as periodic totalizers (reset to zero after specified periods) or matched to the pump's mechanical totalizer.

The amount field accepts 10 digits for a totalizer value (7 digits to the left of the decimal point and three digits to the right). If seven digits are entered, the system automatically inserts the decimal point. If three decimal places are entered, the system automatically displays: **BEFORE PUMP ACTIVATION TIME:**

8. Enter the duration of the timeout period (in seconds) and press RETURN. (Timeout refers to the amount of time between selecting a pump and sending the first pulse of fuel by turning on the nozzle.) The system displays: **AFTER PUMP ACTIVATION TIME:**
9. Enter the duration of the timeout period (in seconds) and press RETURN. (Timeout refers to the amount of time between turning off the nozzle and turning off the pump handle).

NOTE: The time may range from 1 to 180 seconds. A commonly used time is 80 seconds. If you have the extended pump timeouts option, the timeout period can be extended to 3600 seconds (1 hour).

10. The system prompts you for each pump; repeat this procedure from Step 2. To stop entering pump data, press RETURN at the **PUMP NO.** prompt. The * prompt reappears.

Example:

```
*LP
PUMP NO. 1.
FUEL CODE: 1.
FUEL NAME: REGULAR.
PRICE $1.189.
TANK #1.
AMOUNT: 0.
BEFORE PUMP ACTIVATION TIME = 80.
AFTER PUMP ACTIVATION TIME = 80.

PUMP NO..
*
```

Changing Pump Data

Later, when you make changes to the load pump values, you need not fill in data for every prompt. Press RETURN for each prompt until you reach the one you wish to change. Type your changed data and press RETURN. You can continue this process until the load pump prompts end and the * prompt reappears. Pressing RETURN at a prompt without entering data preserves the original entry for that field. To exit the load pump process at any time, without going through all the prompts, press CTRL C.

PP - PRINT PUMP DATA

Use the **PP** command to print pump information such as pump number, tank, fuel number, fuel name, unit price (see note), and number of gallons dispensed through the pump.

NOTE: *Whether or not your unit price prints depends on the setting of the Price Data Format configuration parameter (**SC** command). If the setting is 0 or 1, the unit price heading (**PRICE**) and price data prints only if you have a penny pulsing pump. If your setting is 2, the heading and data prints for every pump regardless of pulser type.*

1. At the * prompt, type **PP**. A listing similar to the following prints.

Example:

```
*PP
P#  TANK  FUEL#  FUEL NAME  PRICE  GALLONS
1    1     01  REGULAR    $1.189  21569.020
2    2     02  UNLEADED           66544.300
3    3     03  DIESEL           1223.300
4    4     04  SUPER UNLEAD    51100.654
*
```

EP - ENABLE A PUMP

1. At the * prompt, type **EP**. The system displays **PUMP NO.**
2. Type the number of the pump to be enabled and press RETURN. This allows access to the pump.
3. The system prompts you for more pumps; repeat this procedure from Step 2. To stop enabling pumps, press RETURN at the **PUMP NO.** prompt. The * prompt reappears.

Example:

```
*EP
PUMP NO. 2↵
PUMP NO. ↵
*
```

DP - DISABLE A PUMP

1. At the * prompt, type **DP**. The system displays: **PUMP NO.**
2. Type the number of the pump to be disabled and press RETURN. This prohibits access to the pump.
3. You are prompted for more pumps; repeat this procedure from Step 2. To stop disabling pumps, press RETURN at the **PUMP NO.** prompt. The * prompt reappears.

Example:

```
*DP
PUMP NO. 2↵
PUMP NO. ↵
*
```

The status of each pump is indicated with the **PP** command.

```
*PP
P#  TANK  FUEL#  FUEL NAME    PRICE    GALLONS
1   1      01     REGULAR      $1.189   122.500
2   2      02     UNLEADED          61.100  PUMP DISABLED
3   3      03     DIESEL          45.900
4   4      04     SUPER UNLEAD    30.800
*
```

If the disabled pump is selected for fueling the **PUMP DISABLED** message appears in the **ERROR** field. The pump remains disabled until you enable it using the **EP** command.

```
*PT
SITE 1234

TRAN CARD EMP  VEH  DATE    TIME  P#  PR  QUANTITY  ODOM  ERROR
1023 0543 2813 7596 03/01/92 09:33 02 02    0.0    045287 PUMP DISABLED
```

Sometimes, when a pump is not operating properly, fuel can be dispensed but not recorded. This is known as a no quantity transaction. You can set a system configuration parameter to automatically disable a pump after a set number of consecutive no quantity transactions. Typically, the number of no quantity transactions is configured to 3 or 5 but values can range from 1-99. If a pump becomes disabled in this manner, the **PUMP # _ DISABLED** message appears on the direct printout as shown below. The pump remains disabled until you enable the pump using the **EP** command.

```
TRAN CARD EMP VEH DATE      TIME P# PR QUANTITY ODOM  ERROR
0930 0543 2813 7596 03/05/92 15:35 03 03    10.3  005421
0931 8877 1122 3344 03/05/92 15:35 01 01     0.0  000000
PUMP #01 DISABLED
0932 8877 1122 3344 03/05/92 15:35 04 02    10.611 000000
```

AP - ACTIVATE A PUMP

Use the **AP** command to activate a pump, for one transaction, from the data terminal. This transaction is recorded as a normal card entry transaction except that the information which is normally read from the card (card number, employee number, vehicle number, and odometer) appears as all 9s. The limit cutoff for an **AP** transaction is determined by the quantity entered for limit code 9 (see Section 10, **LL- Load Fuel Limitations**).

1. At the * prompt, type **AP**. The system displays: **PUMP NO.**
2. Type the pump number and press RETURN. The * prompt reappears.

NOTES: *If you attempt to turn on a pump already in use, the system responds **PUMP IN USE!***

*If you attempt to activate a pump but the pulse rate switch (SW2) is set to enabled, the message **REMOTE CONFIGURATION** appears. Wait until pulse rate changes are complete before activating a pump.*

Example:

```
*AP
PUMP NO. 1↵
*
```

The data normally read from the card and the odometer field is filled with nines. The message **TERM ACTIVATE** appears in the **ERROR** field.

Example:

```
SITE 1234

TRAN CARD EMP VEH DATE      TIME P# PR QUANTITY ODOM  ERROR
0874 9999 9999 9999 05/20/92 09:17 01 01      22.21 999999 TERM ACTIVATE
```

At the completion of fueling, the **TERM ACTIVATE** message may be overwritten by one of these messages: **EMERG. STOP** or **PWR FAIL**.

Example:

```
SITE 1234

TRAN CARD EMP VEH DATE      TIME P# PR QUANTITY ODOM  ERROR
1904 9999 9999 9999 12/07/92 13:12 03 06      15.1 999999 PWR FAIL
```

IP - INACTIVATE A PUMP

Use the **IP** command to turn off any pump currently in use, from a data terminal. The pump is inactivated for that transaction only and the message **TTY CMD** appears in the error field for that transaction.

1. At the * prompt, type **IP**. The system displays **PUMP NO.**
2. Type the pump number to inactivate and press RETURN. The * prompt reappears.

*NOTE: If you attempt to inactivate a pump which is not in use, the system responds **PUMP NOT ON!***

Example:

```
* IP
PUMP NO. 1↵
*
```

Example:

```
SITE 1234
TRAN CARD EMP VEH DATE TIME P# PR QUANTITY ODOM ERROR
0021 0543 2813 7596 05/21/92 15:42 01 01 16.33 054786 TTY CMD
```

If the pump was activated with the **AP** command and then turned off with the **IP** command, the message **TERM ACTIVATE** overrides **TTY CMD**.

ZP - ZERO PUMP TOTALIZERS

Use the **ZP** command to reset the pump totalizers to zero. The pump totalizers on the Series 1000 are incrementing totalizers. They can be set back to zero using this command or set individually to match the corresponding pump totalizer (using the **AMOUNT** prompt in the **LP** command).

1. At the * prompt, type **ZP**. The system displays **RESET PUMP TOTALIZERS? <Y OR N>**
2. Type **Y** and press RETURN to reset the totalizers to zero. Type **N** and press RETURN to leave the totalizers as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example:

```
*ZP
RESET PUMP TOTALIZERS? <Y OR N> Y.↓
*
```

XP - PRINT TIMEOUTS AND PULSES

Use the **XP** command to print, for each pump, the timeouts assigned with the **LP** command and the pulses per gallon assigned with the **SC** command. Pulse values are penny, 1, 10, 100, 250, 500, and 1000. If you are pulsing in dollars, a dollar sign (\$) appears in the pulses per gallon field.

1. At the * prompt, type **XP**. The system prints the data. The * prompt reappears.

Example:

```
*XP
                                     -PUMP TIMEOUTS-
                                     IN SECONDS
P#    PULSES PER GALLON    BEFORE PULSES    AFTER PULSES
--    -
01      $                080        060
02     0010                080        080
03     0010                120        120
04     1000                120        080
*
```

TRANSACTION COMMANDS

TRANSACTION PRINTING OPTIONS

Transactions can be recalled from the system memory in a variety of formats:

- transaction number sequence, transactions are printed as they occur
- sorted, by fields you specify
- sorted by a specified number within a field (for example, card number 9381)
- compacted, string of numeric data, no headings
- compacted with host interaction, the system waits for host confirmation before sending another transaction

Transaction Commands

The transaction commands are:

- **PT** print transactions
- **ST** print sorted transactions
- **SS** print transactions sorted by a specific number
- **PC** print compacted transactions
- **PH** print compacted transactions with host interaction
- **RT** reset transaction file
- **RP** reset pointer to obtain transactions in memory
- **LN** load starting transaction number



TRANSACTION HEADINGS

No matter what type of transaction printing you choose, you always get the same fields. The only difference is with the **PT**, **ST**, and **SS** commands, you get a formatted report and with the **PC** and **PH** commands, you get a string of unformatted data. Additionally, the **PC** and **PH** formats include a 3-digit checksum at the end of each transaction.

All formatted transaction printouts contain abbreviated headings. Some headings apply only if you have a specific option. The headings and their related fields are:

SITE	- site number
TRAN	- transaction number
CARD	- card number
ID field 1**	- usually employee number (EMP)*
ID field 2**	- usually vehicle number (VEH)* "A" Systems may have up to 4 ID fields.
man. entry**	- manual entry field, Manual Keypad Entry option* "A" Systems may have mandatory manual entry.
DATE	- Gregorian date
TIME	- 24-hour (military) time
P#	- pump number
PR	- product type
QUANTITY	- quantity of product dispensed
PRICE	- unit price of product (depends on Price Data Format setting)
\$TOTAL	- total calculated transaction price (depends on Price Data Format setting)
ODOM/C HOURS	- odometer mileage entry or current hours entry. "A" Systems may not have odometer.
MILES/TIME E	- miles travelled, hours elapsed, MPG/HPG option only
MPG/HPG	- miles/hours-per-gallon calculation, MPG/HPG option only
ERROR	- transaction message

* You designate the names for ID field 1 and 2 (**EMP** and **VEH**) and (if you have the option) the manual entry field (**DEPT**) at the time of order. Your field names may vary from the ones shown.

** Series 1000 systems matching "A" System optical cards will have the transaction headings as specified on the existing cards.

Price Data Format Effect on Headings

When you set your system configuration parameters, the choice you make for Price Data Format affects which headings are displayed on transaction printouts. You may get unit price (**PRICE**) and total transaction price (**\$TOTAL**) headings and data.

If you choose regular (**PT**) or sorted (**ST** or **SS**) transaction printing and your setting is **0**, you get no headings for unit and total price and no pricing data. If you have a penny pulsing pump and your setting is **1**, you get the unit price (**PRICE**) heading and the unit price. For quantity pulsing pumps, only the unit price heading is shown. If your setting is **2**, you get unit price (**PRICE**) and total price (**\$TOTAL**) headings and price data for all transactions regardless of pulse rate.

If you choose compacted format (**PC** or **PH**), unit price and total price are always shown.

Transaction Printing with the Link Terminal and Okidata Printer

If you are using the Link data terminal/Okidata printer combination, you can configure your system to put page breaks between pages of transaction output by setting up the lines per page with the **SC** command. The page breaks are used when printing transactions through direct printout or with the **PT**, **ST**, and **SS** commands. The system sends a form feed to the printer at the start of transaction printing so that your printout always begins at the top of a page. See Appendix B for information on setting up your system to use the printer.



PT - PRINT TRANSACTIONS

Use the **PT** command to print a list of completed transactions in numeric sequence by transaction number.

1. At the * prompt, type **PT**. Completed transactions print as shown in the following example. The * prompt reappears.

Example:

```
*PT
SITE 1234

TRAN CARD EMP  VEH  DATE      TIME  P# PR QUANTITY  ODOM  ERROR
0221 1328 5967 2430 05/20/92 15:30 01 01    8.28 054880
0222 1234 5678 9012 05/20/92 15:37 03 03   13.6 010222
0223 3024 8132 9675 05/20/92 15:39 02 02   11.6 000000
0224 3024 8132 9675 05/20/92 16:23 01 01    0.0 000000 PUMP IN USE
0225 0147 8523 6541 05/20/92 16:24 01 01    5.02 082311 LIMIT CUTOFF
0226 3024 8132 9675 05/20/92 16:25 02 02    7.1 000000
*
```

ST - PRINT SORTED TRANSACTIONS

Use the **ST** command to print sorted transactions. You can specify a sort and subsort by any of your transaction fields except \$TOTAL and MPG/HPG.

Total gallons are provided for each sort and subsort. Total price is shown when certain price data format options are configured.

1. At the * prompt, type **ST**. The system displays **FIRST SORT**:
2. Type the field name for the first sort and press RETURN. You must specify the field name *exactly* as it appears in the listing. The system displays **SECOND SORT**:
3. If you do not wish to sort by two fields, press RETURN at the **SECOND SORT** prompt.

If you wish to sort by another field, type the field name for the second sort and press RETURN. You must specify the field name *exactly* as it appears in the listing.

The transactions are sorted by the **FIRST SORT** field and within that sort by the **SECOND SORT** field. The * prompt reappears.

Example:

```
*ST
FIRST SORT: EMP.
SECOND SORT: PR.

TRAN CARD EMP VEH DATE TIME P# PR QUANTITY PRICE $TOTAL ODOM ERROR
0022 8877 1122 3344 05/21/92 16:28 01 01 11.71 1.000 11.71 000000
0023 8877 1122 3344 05/21/92 16:28 01 01 9.64 1.000 9.64 000000

TOT GALS: 21.350 TOT PRICE: $ 21.35

0025 8877 1122 3344 05/21/92 16:29 04 02 15.011 1.000 15.01 000000 LIMIT CUTOFF

TOT GALS: 15.011 TOT PRICE: $ 15.01

TRAN CARD EMP VEH DATE TIME P# PR QUANTITY PRICE $TOTAL ODOM ERROR
0021 0543 2813 7596 05/21/92 15:42 01 01 16.33 1.000 16.33 054786 TTY CMD

TOT GALS: 16.330 TOT PRICE: $ 16.33

0024 0543 2813 7596 05/21/92 16:28 02 02 12.3 1.000 12.30 087462

TOT GALS: 12.300 TOT PRICE: $ 12.30
*
```

SS - PRINT TRANSACTIONS FOR SPECIFIED NUMBER WITHIN A FIELD

Use the **SS** command to print transactions for a specific value within a field (for example, card number 9381). If you choose to sort by date or time, type the digits without the punctuation. If you choose to sort by **QUANTITY** or **PRICE**, type the quantity with the decimal point. If you choose to sort by **ERROR**, type the two-digit error code associated with the message that you wish to sort by.

1. At the * prompt, type **SS**. The system displays **FIRST SORT:**
2. Type the field name for the first sort and press RETURN. You must specify the field name *exactly* as it appears in the listing. The system displays **ENTER NO.:**
3. Type the value for transactions you wish to sort and press RETURN. The system displays **SECOND SORT:**
4. If you do not wish to sort by two fields, press RETURN at the **SECOND SORT** prompt.

If you wish to sort by another field, type the field name for the second sort and press RETURN. You must specify the field name *exactly* as it appears in the listing.

The transactions are sorted by the **FIRST SORT** field and within that sort by the **SECOND SORT** field.

The * prompt reappears.

Example:

```
*SS
FIRST SORT: CARD␣
ENTER NO. : 9381␣
SECOND SORT: PR␣

TRAN CARD EMP  VEH  DATE      TIME  P# PR QUANTITY  ODOM  ERROR
0022 9381 1122 3344 05/21/92 16:28 01 01   11.71  000000
0023 9381 1122 3344 05/21/92 16:28 01 01    9.64  000000

  TOT GALS: 21.350

0025 9381 1122 3344 05/21/92 16:29 04 02   15.011 000000 LIMIT CUTOFF

  TOT GALS: 15.011

*
```



PH - PRINT COMPACTED TRANSACTIONS WITH HOST INTERACTION

Use the **PH** command to output compacted transactions (without spaces, headings, or punctuation). With the **PH** command, the microprocessor sends one transaction and waits for a response from the host computer. If the computer acknowledges the check sum of the last transaction (received check sum agrees with received transaction characters), it transmits an **A**. The microprocessor responds with the next transaction. If no more transactions are available, the Series 1000 displays an asterisk in response to the last **A** command. If the computer does not acknowledge the check sum of the last transaction (received check sum does not agree with received transaction characters), it transmits an **X**. The microprocessor responds with the same transaction. If the computer desires to terminate the **PH** command before all transactions are sent, it transmits an **E**.

Example:

```
*PH
05890001675943021328033092125901010008760010190000892600000009175A
05890002123456789012033092130002020001114012590000140323512309154A
0589000399999999999999990330921830040400020060116900002345999999932268A
0589000412345678921203309218300500000000000000000000005856819152A
05890005000100020003040292082303030011740010590001243300452301125A
05890006675943021328040292120602020008126012590001023100000009158A
*
```

The compacted or packed format can be broken down into the following fields.

```
*PH
0589|0001|6759|4302|1328|033092|1259|01|01|00087600|1019|00008926|000000|09|175|A
0589|0002|1234|5678|9012|033092|1300|02|02|00011140|1259|00001403|235123|09|154|A
0589|0003|9999|9999|9999|033092|1830|04|04|00020060|1169|00002345|999999|32|268|A
0589|0004|1234|5678|9212|033092|1830|05|00|00000000|0000|00000000|058568|19|152|A
0589|0005|0001|0002|0003|040292|0823|03|03|00117400|1059|00012433|004523|01|125|A
0589|0006|6759|4302|1328|040292|1206|02|02|00081260|1259|00010231|000000|09|158|A
*
  A      B      C      D      E      F      G      H      I      J      K      L      M      N      O      P
```

A is a 4-digit site number

B is a 4-digit transaction number

C is a 4-digit card number

D is a 4-digit employee number

E is a 4-digit vehicle number

F is a 6-digit Gregorian date

G is a 4-digit 24 hour time

H is a 2-digit pump number

I is a 2-digit product code

J is a 8-digit quantity

K is a 4-digit unit price

L is an 8-digit total price

M is a 6-digit odometer reading

N is a 2-digit error message code *

O is a 3-digit check sum

P is the host response character

* See the next page for a listing of message codes and their meanings. See **Transaction Messages** later in this section for an explanation of the message.

Message codes and their meanings are:

- 01 - TIMED OUT
- 02 - LOCKED OUT
- 03 - INVALID FUEL
- 04 - PUMP IN USE
- 05 - INV SYS ID
- 06 - LIMIT CUTOFF
- 07 - READ ERROR
- 08 - TTY CMD
- 09 - COMPLETED TRANSACTION
- 11 - GATE ENTRY (Gate Controller option only)
- 13 - INVALID ODOM (MPG & Reasonable Odometer options only)
- 13 - INVALID HOURS (HPG & Reasonable Hours options only)
- 14 - PIN ERROR
- 15 - ALLOC LIMIT (Fuel Allocation Option only)
- 16 - NO ALLOC (Fuel Allocation Option only)
- 17 - PUMP DISABLED
- 18 - CODE CARD
- 19 - INVALID PUMP
- 22 - INV CARD FMT (Mag Card Only)
- 23 - EMERG. STOP
- 24 - CARD EXPIRED (Mag Card Only)
- 29 - REORDER FUEL
- 30 - WRG CARD ENTER (Mag Card Only)
- 31 - PWR FAIL
- 32 - TERM ACTIVATE
- 34 - INVALID TANK (Fuel Delivery and Dipstick Option Only)
- 35 - DIPSTICK (Fuel Delivery and Dipstick Option Only)
- 51 - PMP SW ERROR (Pump Switch Timer Option Only)
- 55 - DELIVERY (Fuel Delivery and Dipstick Option Only)

PC - PRINT COMPACTED TRANSACTIONS



Use the **PC** command to output compacted transaction data. This format is generally used to dump transactions in a group to a computer. This command should be used only when you are reasonably sure that you will have error-free transmission. Error messages are represented by a two-digit code, and the last three digits of each line indicate the check sum, a total of characters within the transaction.

1. At the * prompt, type **PC**. The output appears as shown in the following example.

Example:

```
*PC
05890001675943021328033092125901010008760010190000892600000009175
05890002123456789012033092130002020001114012590000140323512309154
0589000399999999999999033092183004040002006011690000234599999932268
058900041234567890120330921830050000000000000000000005856819150
05890005000100020003040292082303030011740010590001243300452301125
05890006675943021328040292120602020008126012590001023100000009158
*
```

RT - RESET TRANSACTION FILE

Use this command only at initial start-up. The **RT** command resets the transaction file and transactions in your system's memory cannot be retrieved.

1. At the * prompt, type **RT**. The system displays **RESET TRANS FILE? <Y OR N>**.
2. Type **Y** and press RETURN to reset the transaction file. Type **N** and press RETURN to leave the transaction file as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example:

```
*RT
RESET TRANS FILE ? <Y OR N> Y
*
```

RP - RESET TRANSACTION POINTER

Use the **RP** command to:

- set the transaction pointer to a specific number, such as when accessing transactions still available in memory, but not normally obtainable with the **PT** command.
- "free up" memory after a polling where you set the transaction pointer to the last transaction plus 1.

The **RP** command moves your transaction pointer and transaction printouts begin at the number entered. Before using the **RP** command to move your pointer, use the **PD** command to determine the location of your transaction pointer (**TRANS PTR**) so you can restore it later.

1. At the * prompt, type **RP**. The system displays **ENTER NO.:**
2. Type the transaction number where you wish to move the pointer and press RETURN. The * prompt reappears.

WARNING:

Do not leave your transaction pointer ahead of transactions not yet printed in your regular polling session, or transactions will eventually be overwritten and lost.

Example:

```
*RP
ENTER NO. : 0124↵
*
```

For an example using the **RP** command, see **Obtaining a Printout of Specific Transactions** later in this section.

LN - LOAD TRANSACTION NUMBER

Use the **LN** command **only** at initial start-up to load the starting transaction number into the system. Transaction sequencing begins with the number immediately following the one loaded in the **LN** command.

1. At the * prompt, type **LN**. The system displays **ENTER NO.:**
2. Enter **0000** for the initial transaction and press RETURN.

Example:

```
*LN
ENTER NO. : 0000␣
*
```

OBTAINING A PRINTOUT OF SPECIFIC TRANSACTIONS

The transaction file uses a circular memory storage technique that always keeps accessible the previous transactions. The number may vary depending on your system specifications. 1121 transactions is typical for systems with field sizes of 4-digits each for **ID Fields 1** and **2** and no optional software features.

Use the **RP** command to locate transactions still available in memory, but not normally obtainable with the **PT** command. The **RP** command moves your transaction pointer, or record keeper, and transaction printouts begin at the number entered. Before using the **RP** command, determine the location of your transaction pointer (the field labeled **TRANS PTR**), by using the **PD** (print date) command. The **TRANS PTR** field is also printed when you power on your system.

WARNING:

Do not leave your transaction pointer ahead of transactions not yet printed in your regular polling session, or transactions will eventually be overwritten and lost.

1. At the * prompt, type **PD**.
2. Make a note of the transaction number in the **TRANS PTR** field.
3. Type **RP**. The system displays **ENTER NO.:**
4. Type the transaction number you wish to research and press RETURN. The * prompt reappears.
5. Type **PT**. The system begins printing transactions. When the first transaction finishes printing, press CTRL C to stop printing so you can review the transaction. The * prompt reappears.

Remember, when you use the **RP** command, you set the number to the transaction you want, therefore, it is the first one printed.

6. Type **RP** to reset your transaction pointer back to its original position. The system displays **ENTER NO.:**
7. Type the transaction number you noted in Step 2 and press RETURN. Your transaction pointer is now back to its original position.

TRANSACTION MESSAGES

The following is a list of transaction messages that may appear in the **ERROR** column. If no message appears, fueling was completed within the coded limitation range with authorized fuel, by an authorized user. In compacted transaction format, these messages appear as two-digit codes. See the **PC** command for a list of codes and messages.

ALLOC LIMIT

Allocation option only. A fueling transaction was terminated because the user ran out of his allocated amount of fuel.

CARD EXPIRED

Mag card only. The card has expired; no access permitted.

CODE CARD

A code card was entered, changing the sign-on password to GASBOY.

DELIVERY

Fuel Delivery and Dipstick Card Option only. A fuel delivery card was used to enter a fuel delivery and update the inventory totalizer.

DIPSTICK

Fuel Delivery and Dipstick Card Option only. A dipstick card was used to enter a dipstick reading.

EMERG. STOP

The Emergency Stop button was pressed.

GATE ENTRY

Gate Controller only. The gate controller was activated through card reader.

INVALID FUEL

User attempted access to fuel product not authorized on his card; no access permitted.

INVALID HOURS

HPG option only. Appears in transaction listings. An incorrect hours reading was entered. Product may be dispensed in the next transaction.

INVALID ODOM

MPG option only. Appears in transaction listings. An incorrect odometer reading was entered. Product may be dispensed in the next transaction.

INVALID PUMP

User selected a pump that does not exist.

INVALID TANK

Fuel Delivery and Dipstick Card Option only. An invalid tank number was selected when using a fuel delivery or dipstick card.

INV CARD FMT

Mag card only. Necessary card data is missing. In a single card system, appears when field separators are found instead of card data. In a dual card system, appears when the combined data from both cards does not provide all necessary information.

INV SYS ID

Invalid system identification on card used to access system; no access permitted. (Unauthorized access may have been attempted.)

LIMIT CUTOFF

Limitation was reached, pump was turned off.

LOCKED OUT

Card invalidated; no access permitted.

NO ALLOC

Allocation option only. A user with no allocation attempted to obtain fuel. No access was permitted.

PIN ERROR

Incorrect PIN entered; no access permitted.

PMP SW ERROR

Pump switch timer option only. The pump handle was turned on before the timeout period was completed.

PUMP DISABLED

User selected a pump that is disabled.

PUMP IN USE

User selected a pump already in use.

PWR FAIL

The system lost power and was restarted.

READ ERROR

Card was improperly coded, damaged or improperly inserted into the card reader. (Could also indicate card reader malfunction.)

REORDER FUEL

The tank totalizer dropped below the reorder point; fuel should be ordered. This message replaces the original transaction message in all succeeding transactions that pump fuel from this tank. The message disappears when the tank inventory exceeds the reorder point (i.e., a delivery is made).

TERM ACTIVATE

A pump was activated through the terminal (using the **AP** command).

TIMED OUT

The pump was not accessed (or turned off) within the timeout period.

TTY CMD

Pump was inactivated from the data terminal (using the **IP** command).

WRG CARD ENTER

Mag card. In a two-card system, a single card was entered as the second card of a dual card entry.

Mag or Optical with gate controller option. Card entered does not contain a card number.

FUELING RESTRICTION COMMANDS



DESCRIPTION

You use fueling restriction commands to load into the system, values that correspond to encoded indicators on the cards. For example, when you encode cards, you assign a fuel authorization number from one to nine. You use the **LF** command to load allowable fuels for each number. The user can access only the fuels that correspond to his authorization number.

Likewise, you assign a limitation number from one to nine when you encode cards. Then you use the **LL** command to assign limitation values to each of those nine digits. The user is restricted to the amount assigned to his limitation number.

Fueling Restriction Commands

The card information commands are:

- **LF** load fuel authorizations
- **PF** print fuel authorizations
- **LL** load fuel limitations
- **PL** print fuel limitations



LF - LOAD FUEL AUTHORIZATIONS

Use the **LF** command to assign fuel types to the product authorization codes. There are ten product authorization codes (0 to 9). Code zero is preset to allow all fuel types. You load codes 1 through 9 with up to nine fuel types per code.

When you encode the cards for your system, you decide which fuel types will go with which authorization code. You load these fuel types into the system when you use the **LP** command. Then you encode the authorization code (0 to 9) onto each user's card. They can access only the fuel types assigned to that code.

1. At the * prompt, type **LF**. The system displays **AUTH NO.:**
2. Type an authorization code number from 1 to 9 and press RETURN. The system displays **ALLOW:** followed by the first of the nine present fuel codes.
3. To add a new fuel code, type the 2-digit code and press RETURN. These 2-digit codes must match the ones you entered in the **LP** (load pump data) command.

To keep the existing fuel code value, press RETURN.

The next currently assigned fuel code is listed.

*NOTE: If you do not wish to enter additional fuel codes, type 0 (zero) at the **ALLOW:** prompt and press RETURN. This displays the next **AUTH NO.:** prompt. Skip to Step 5.*

4. Repeat Step 3 to change or retain the next fuel code.
5. When all desired fuel assignments are loaded, the **AUTH NO.:** prompt reappears. Repeat this procedure from Step 2 to define fuel types for additional authorization codes.

To stop entering authorization codes, press RETURN at the **AUTH NO.:** prompt. The * prompt reappears.

Example:

```
*LF
AUTH NO. : 3↓
ALLOW: 03 26↓
ALLOW: 00 13↓
ALLOW: 02↓
ALLOW: 16↓
ALLOW: 00 01↓

AUTH NO. : 4↓
ALLOW: 01↓
ALLOW: 00 0↓

AUTH NO. : ↓
*
```

PF - PRINT FUEL AUTHORIZATIONS



Use the **PF** command to print a listing of each authorization code and its corresponding fuel code assignments.

1. At the * prompt, type **PF**. The listing prints.

Example:

```
*PF
AUTH. CODE: 1  ALLOWS FUELS...04 03
AUTH. CODE: 2  ALLOWS FUELS...02
AUTH. CODE: 3  ALLOWS FUELS...26 13 69
AUTH. CODE: 4  ALLOWS FUELS...01
AUTH. CODE: 5  ALLOWS FUELS...01 02
AUTH. CODE: 6  ALLOWS FUELS...07
AUTH. CODE: 7  ALLOWS FUELS...12 23 34
AUTH. CODE: 8  ALLOWS FUELS...10 20 40 80
AUTH. CODE: 9  ALLOWS FUELS...01 02 04 08 10
*
```

LL - LOAD FUEL LIMITATIONS

Use the **LL** command to assign quantity limits to each product limitation code. There are ten product limitation codes (0 to 9). When you encode the cards for your system, you decide what quantity limits to impose and assign a limitation code to each quantity. Limitation codes can contain any quantity from 1 to 99999 gallons. Usually, the limitation assignment reflects the nearest quantity greater than the vehicle's tank size. It is especially important to keep your limitation amount reasonable if you use the Fuel Allocation option.

Then you encode the limitation code onto each user's card. When that user performs a transaction and reaches the limit assigned to the code on his card, the pump automatically shuts off and sends a **LIMIT CUTOFF** error message. When a pump is activated via the **AP** command, its limit cutoff is determined by the quantity entered in code 9.

For example, assume that user card number 9381 drives a vehicle with a 45-gallon tank. Your limitation values are 0=10, 1=20, 2=30, 3=40, 4=50, etc.. You would assign this user a limitation code of 4, which would be encoded onto his card.

1. At the * prompt, type **LL**. The system displays **CODE =**.
2. Type the limitation code number and press RETURN. The system displays **MAX =**
NOTE: At initial start-up, assign quantities to all codes, beginning with Code 0 and continuing through Code 9.
3. Type the maximum quantity of fuel (1 to 99999 gallons) to be dispensed per transaction and press RETURN. The **CODE =** prompt reappears.
4. Repeat Steps 2 and 3 until all limitation codes are defined.
5. To stop entering limitation codes, press RETURN at the **CODE=** prompt. The * prompt reappears.

Example:

```
*LL
CODE=1.
MAX =25.
CODE=.
*
```

PL - PRINT FUEL LIMITATIONS

Use the **PL** command to print a listing of each limitation code and its corresponding quantity assignment.

1. At the * prompt, type **PL**. The listing prints.

Example:

```
*PL
LIMITS :
0 = 250
1 = 10
2 = 20
3 = 30
4 = 50
5 = 70
6 = 100
7 = 120
8 = 150
9 = 200
*
```

POLLING TRANSACTION INFORMATION

METHODS OF POLLING

Polling means gathering transactions from your fueling sites for billing or recordkeeping. Polling should ideally be done regularly and at a time when the site has little or no activity. There are several methods of polling you can use and each one has slightly different requirements. Consult the appropriate section for your desired polling method.

Polling Using the PT Command

1. Press CTRL F or RETURN to establish communication with your GASBOY Series 1000 System. The system responds: **SIGN ON:**
2. Type your system password and press RETURN. The * prompt appears.
3. Type **PT**. The completed transaction file, since your last polling session, prints out. When printing completes, the * prompt reappears.
4. Type **PP** to print the pump totals since your last polling session. The * prompt reappears.
5. Type **TI** to print your tank inventories. The * prompt reappears.
6. If you are using totalizers for periodic totals rather than matching the totalizers on the pump, type **ZP** command to reset the pump totalizers to zero. The system displays: **RESET PUMP TOTALIZERS? <Y OR N>**
7. Type **Y** and press RETURN to zero the pump totalizers. The * prompt reappears.
8. Type **RP** to "free" memory space for more transactions. (See the **RP** command for more details.) The system displays: **ENTER NO.:**
9. Locate the number of the last transaction printed with the **PT** command in Step 4 and add 1. For example, if the last transaction printed was number 1227, you would type 1228 for the **RP** command. Type the number and press RETURN.

Polling Using the ST Command

When using the **ST** command, it is very important to perform polling when there is no activity at the site. If you wish, you may use the **SD** command to shut down the site during polling.

1. Press CTRL F or RETURN to establish communication with your GASBOY Series 1000 System. The system responds: **SIGN ON:**
2. Type your system password and press RETURN. The * prompt appears.
3. Type **PD**. The system prints the date, time, first transaction to print, and last completed transaction number. Then the * prompt appears.

4. Type **ST**. The sorted transaction file, since your last polling session, prints out. When printing completes, the * prompt reappears.
5. Type **PP** to print the pump totals since your last polling session. The * prompt reappears.
6. Type **TI** to print your tank inventories. The * prompt reappears.
7. If you are using totalizers for periodic totals rather than matching the totalizers on the pump, type **ZP** command to reset the pump totalizers to zero. The system displays: **RESET PUMP TOTALIZERS? <Y OR N>**
8. Type **Y** and press RETURN to zero the pump totalizers. The * prompt reappears.
9. Type **RP** to "free" memory space for more transactions. (See the **RP** command for more details.) The system displays: **ENTER NO.:**
10. Locate the last transaction number from your **PD** printout (Step 3) and add 1. For example, if the **LAST TRAN** entry contained 1227, you would add one to that and get 1228.

Polling Using a PC or Computer

When polling using a PC package or computer, follow the guidelines of the package you're using to establish communications and initiate polling with the Series 1000 system. Refer to the **PH** and **PC** commands described earlier in this manual for transmission format and acknowledgement. In addition to polling, you may also wish to run these commands:

- **PP** to obtain pump totals
- **TI** to obtain tank inventory totals
- **ZP** to reset the the pump totalizers to zero

You will also need to reset the pointer in memory for future polling. To do this, determine the last transaction received, add one to that value and use the **RP** command to set this new value as the next transaction number.

OPTIONAL FEATURES

THE FOLLOWING SECTIONS CONTAIN OPTIONAL
FEATURES WHICH MAY OR MAY NOT PERTAIN
TO FEATURES INCORPORATED IN YOUR SYSTEM.

ACTIVATE PUMP (AP) DATA ENTRY OPTION

DESCRIPTION

This option allows you to enter card data and an odometer/hours reading at the data terminal before activating a pump. The system prompts you for the card number, ID Field 1, ID Field 2, and odometer before allowing you to select a pump. The limit cutoff for an **AP** transaction is determined by the quantity entered in code 9 of the **LL** command.

When this transaction is recorded, the digits of information, which are usually read from the card, are replaced by those entered at the data terminal. If you do not need to enter data for a particular field, press RETURN at that field; it will be filled with nines (9).

1. At the * prompt, type **AP**. The system displays: **CARD :**

*NOTE: When a card number is entered, it is checked for validity against the lockout file. If the number is invalid, the message **LOCKED OUT** appears and the command is terminated.*

2. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **(FLD1) :**
3. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **(FLD2) :**
4. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **ODOM :**
5. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **PUMP NO.**
6. Type the number of the pump you wish to access. The * prompt reappears.

The data normally read from the card is filled with the data entered at the terminal. If no data is entered for a particular field, that field is filled with nines.

Example:

```
*AP
CARD :↓
EMP : 0156↓
VEH : 0057↓
ODOM : 56750↓

PUMP NO. 1↓
*
```

Example:

```
SITE 1234

TRAN CARD EMP VEH DATE      TIME P# PR  QTY    ODOM  ERROR
0874 9999 0156 0057 05/20/92 09:17 01 01    22.21 056750 TERM ACTIVATE
```

SOFTWARE OPTIONS AFFECTED BY ACTIVATE PUMP WITH DATA ENTRIES

Some optional software features affect the way this command functions. These options are described below.

- **Dual Lockout Option**

When the second lockout field is entered, it is checked for validity against the appropriate lockout file. If the number is invalid, the message **LOCKED OUT** appears and the command is terminated.

- **Manual Keypad Entry Option**

After the card data fields are entered, the system prompts for the manual entry field.

- **Fuel Allocation Option**

When the allocation field is entered, if there is a totalizer for that number, it is checked to see if the allocation limit has been reached. If it has, the message **NO ALLOC** appears and the command is terminated. If limit is not reached, the totalizer is decremented by the amount pumped when the transaction completes.

- **Miles-Per-Gallon Option**

If a vehicle number is entered, it is checked against the MPG vehicle file. If the vehicle is in the file, the odometer entry is checked against the last odometer reading entered. If the difference is greater than the maximum miles between fueling range (**LM** command) or less than the recorded odometer, the entry is considered invalid. If the vehicle number is in the vehicle file and you press RETURN at the **ODOM** prompt, it is considered an invalid odometer and treated as described below. The odometer is recorded as 000000.

If a valid odometer is entered, you are prompted for the pump number and fueling is permitted. At the end of the fueling transaction, the **MILES** and **MPG** fields in the transaction, show the miles traveled and the calculated MPG. The vehicle record in the vehicle file is updated. The **E ODOM** field shows the latest odometer entry, the **MILES** field shows the new accumulated miles, the **GALLONS** field increases by the number of gallons pumped, and a new MPG is calculated. Status flags may change based on this new data.

If the odometer is invalid, the user is reprompted up to the number of times specified in the **NO. OF RETRIES** system configuration entry (**SC** command). The system accepts the next odometer entered and generates a transaction.

- If the entry is valid or invalid but greater than the last recorded odometer, the **MILES** and the **MPG** fields show the miles traveled and the calculated MPG.
- If the entry is invalid but less than the last recorded odometer, the **MILES** and **MPG** fields contain question marks.

The system updates the vehicle and transaction files as follows:

- In the vehicle file, if the odometer entry is valid or invalid but greater than the beginning odometer, the system updates the following fields, **E ODOM**, to show the odometer entry; **MILES** to show the new, accumulated miles; **GALLONS**, to show the accumulated number of gallons pumped, and **MPG**, to show the new calculation. Status flags may also change.

If the odometer entry is invalid but less than the beginning odometer, the **E ODOM** field is not updated (this would result in negative miles). **MILES** does not change, **GALLONS** increases by the number of gallons pumped, and **MPG** is recalculated. The status flag is updated to >> to indicate that fueling occurred but the last odometer was not recorded.

- In the transaction file, if the odometer entry is valid or greater than the last recorded odometer, the **MILES** and **MPG** fields are updated. If the odometer entry is less than the last recorded odometer, the **MILES** and **MPG** fields contain question marks.

- **Hours-Per-Gallon Option**

If a vehicle number is entered, it is checked against the HPG vehicle file. If the vehicle is in the file, the hours entry is checked against the last hours reading entered. If the difference is greater than the maximum hours between fueling range (**LM** command) or less than the recorded hours, the entry is considered invalid. If the vehicle number is in the vehicle file and you press RETURN at the **HOURS** prompt, it is considered an invalid hours and treated as described below. The hours are recorded as 000000.

If a valid hours is entered, you are prompted for the pump number and fueling is permitted. At the end of the fueling transaction, the **TIME E** and **HPG** fields in the transaction show the time elapsed and the calculated HPG. The vehicle record in the vehicle file is updated. The **E HOURS** field shows the latest hours entry, the **A HOURS** field shows the new accumulated hours, the **GALLONS** field increases by the number of gallons pumped, and a new HPG is calculated. Status flags may change based on this new data.

If the hours is invalid, the user is reprompted up to the number of times specified in the **NO. OF RETRIES** system configuration entry (**SC** command). The system accepts the next hours entered and generates a transaction.

- If the entry is valid or invalid but greater than the last recorded hours, the **TIME E** and the **HPG** fields show the time elapsed and the calculated HPG.
- If the entry is invalid but less than the last recorded odometer, the **TIME E** and **HPG** fields contain question marks.

The system updates the vehicle and transaction files as follows:

- In the vehicle file, if the hours entry is valid or invalid but greater than the beginning hours, the system updates the following fields, **E HOURS**, to show the hours entry; **A HOURS** to show the new, accumulated hours; **GALLONS**, to show the accumulated number of gallons pumped, and **HPG**, to show the new calculation. Status flags may also change.

If the hours entry is invalid but less than the beginning hours, the **E HOURS** field is not updated (this would result in negative hours). **A HOURS** does not change, **GALLONS** increases by the number of gallons pumped, and **HPG** is recalculated. The status flag is updated to >> to indicate that fueling occurred but the last hours were not recorded.

- In the transaction file, if the hours entry is valid or greater than the last recorded hours, the **TIME E** and **HPG** fields are updated. If the hours entry is less than the last recorded hours, the **TIME E** and **HPG** fields contain question marks.

- **Reasonable Odometer Option**

When the system detects an odometer entry, the vehicle number is checked to see if it is in the vehicle file. If it is, the odometer entry is checked for validity against the last odometer reading entered. It also considers the maximum miles between fuelings value (**LM** command). If the vehicle number is in the vehicle file, and RETURN is pressed at the **ODOM** prompt, it is recorded as 000000 and considered an invalid odometer.

If the odometer is valid, fueling is allowed. When the transaction completes, the system updates the **ODOM** field in the vehicle record to show the latest odometer entry. The status flag may also change.

If the odometer is invalid, the user is re-prompted. (You can indicate the number of entry retries allowed using the **SC** command.) If the maximum number of retries is exceeded, the system accepts the next odometer entered and fueling is allowed. When fueling is complete, a transaction is generated as usual. The vehicle record in the vehicle file is updated at this time. The odometer entry is recorded in the **ODOM** field. The status flag may change based on this new data.

- **Reasonable Hours Option**

When the system detects an hours entry, the vehicle number is checked to see if it is in the vehicle file. If it is, the hours entry is checked for validity against the last hours reading entered. It also considers the maximum hours between fuelings value (**LM** command). If the vehicle number is in the vehicle file, and RETURN is pressed at the **HOURS** prompt, it is recorded as 000000 and considered an invalid hours.

If the hours is valid, fueling is allowed. When the transaction completes, the system updates the **E HOURS** field in the vehicle record to show the latest hours entry. The status flag may also change.

If the hours is invalid, the user is re-prompted. (You can indicate the number of entry retries allowed using the **SC** command.) If the maximum number of retries is exceeded, the system accepts the next hours entered and fueling is allowed. When fueling is complete, a transaction is generated as usual. The vehicle record in the vehicle file is updated at this time. The hours entry is recorded in the **E HOURS** field. The status flag may change based on this new data.



DUAL LOCKOUT OPTION

DESCRIPTION

The dual lockout option allows you to lock out a second field, in addition to the standard card number lockout. You designate the desired field name at the time of order. This field must be 4-digits and can be ID field 1, ID field 2, or a manual entry field (if available). With dual lockout, there are two lockout fields (one for card numbers and one for the other field). The two lockout files are completely independent from each other (for example, locking out card number 2348 will not lock out number 2348 in the second lockout file).

CHANGES IN STANDARD COMMANDS

All operator commands are the same except for the card validation commands **VA**, **VC**, **IA**, **PI**, **PV**, **IC** and **CC**. When you use these commands, the system prompts you for the lockout file you wish to access. The following examples assume the standard lockout field of Card Number and an additional lockout field of Vehicle Number. When the system prompts you for the lockout file (**CARD OR VEHICLE? <C OR V>**), type a **C** or a **V** and press RETURN. No other entries are accepted. If you choose a field other than Vehicle, type the first letter of the chosen field name as prompted.

Example: **VA** Command

```
*VA
CARD OR VEHICLE? <C OR V> C␣
VALIDATE ALL CARDS? <Y OR N> Y␣
*
```

Example: **PI** Command

```
*PI
CARD OR VEHICLE? <C OR V> C␣

1222 3345 4999
*
```

Example of **IC** Command

```
*IC
CARD OR VEHICLE? <C OR V> V␣

ENTER NO. : 1034␣

INVALIDATED
*
```

The additional lockout field for matching "A" Systems can be any field of four or more digits. The field name must have been specified at the time of order. If the lockout fields are both 4-digits, there are two independent lockout files. If lockout fields are 5 or more digits, both the primary and additional lockout fields share the same lockout file which is not independent.

FUEL ALLOCATION OPTION

DESCRIPTION

The Fuel Allocation option allows you to allocate, over a period of time, predetermined amounts of fuel to users. This option works effectively only in a single site operation. As fuel is withdrawn from the system, the appropriate allocation totalizer is decremented. When the totalizer reaches zero, the user is denied fuel until you load a new allocation amount.

If you ordered this option, you indicated the field (**Card, ID Field 1 or ID Field 2**) to be assigned the allocation totalizers and the number of totalizers. Then you must assign an allocation offset (starting number) for the totalizers. For example, if you choose the vehicle number field, have 500 totalizers, and specify 1250 in the **AO** command, the totalizers are assigned to vehicle numbers 1250 through 1749.

You can add to, or subtract from, individual totalizers or ranges of totalizers at one time. An allocation table, showing the allocation numbers and their current totalizer values, may be printed on demand. A total of all totalizer values is also provided.

Allocation Commands

The Fuel Allocation commands are:

- **AO** load a starting point for allocations (allocation offset)
- **LA** load single allocation value
- **ML** load allocations for multiple users
- **AA** add to single allocation
- **MA** add to allocation for multiple users
- **SA** subtract from single allocation
- **MS** subtract from allocation for multiple users
- **CA** check single allocation
- **AT** configure to print all totalizers
- **NZ** configure to print non-zero totalizers
- **PA** print allocation table
- **MP** print range of allocation

FUEL ALLOCATION EXAMPLES

The allocation option works in conjunction with the limits you set up for each user with the **LL** command. Be sure that you have assigned reasonable fuel limitations; unrealistic limits can cause system tie-ups when used with the allocation option. Consider these two examples: the first describes standard operation of the allocation option; the second, what happens when two users with the same allocation number attempt to fuel at the same time.

Example 1:

Assume user A has a limit of 40 gallons per transaction and an allocation limit of 400 gallons a month. When user A attempts to fuel his vehicle, the Series 1000 sets aside 40 of these 400 gallons. If user A pumps 40 gallons, 40 are decremented from the allocation totalizer. If only 35 gallons are pumped, 35 are decremented and the unused 5 are returned to the allocation totalizer.

If user A has less than his limitation amount remaining in his allocation totalizer, the lesser amount is authorized.

Example 2:

When two users that have the same allocation number try to get gas at the same time, the second card to be authorized can only get the amount in the allocation totalizer minus what the first card is authorized for. This is why it is important to keep the limitation amounts reasonable. In an extreme example, assume that individuals A and B, (who share the same allocation number) have limits of 400 gallons each. The allocation totalizer for these individuals is currently 400. When user A runs his card, his encoded 400 gallon limit is decremented from the totalizer leaving a balance of zero. If user B attempts to run a transaction at the same time, he cannot get his fuel until user A is finished. If user A takes all 400 gallons, user B cannot fuel until a new allocation amount is set. If users A and B had been assigned reasonable limits (i.e., maybe 100 gallons), they could have fueled simultaneously and had allocation left over.

AO - ALLOCATION OFFSET

Use the **AO** command to load a starting point, or offset, for the allocation table. For example, if your system is configured for 200 allocation totalizers and the allocation offset is 1275, the allocation table ranges from 1275 to 1474.

You cannot execute the **AO** command if any transactions are in progress. If you try, the system displays this message: **TRAN IN PROGRESS**; the allocation offset remains unchanged.

1. At the * prompt, type **AO**. The system displays: **ALLOC OFFSET: XXXX**

XXXX is the existing allocation offset.

2. Type a new allocation offset and press RETURN.

To keep the existing allocation offset, press RETURN.

If the new allocation offset is acceptable, the * prompt reappears. If the allocation offset is unacceptable, the system responds with question marks.

Example:

```
*AO
ALLOC OFFSET: 0001 1275.
*
```

LA - LOAD ALLOCATION

Use the **LA** command to load an allocation amount into a totalizer.

1. At the * prompt, type **LA**. The system displays: **ALLOCATION NO. :**
2. Type the number of the totalizer where you want to load an allocation amount and press RETURN. (This number must be within the range of numbers specified through the **AO** command). The system displays: **AMOUNT:**
3. Type the totalizer amount and press RETURN. The system displays the next **ALLOCATION NO.** prompt. Repeat this procedure from Step 2 to load additional allocation amounts.
4. To stop loading amounts, press RETURN at the **ALLOCATION NO.:** prompt. The * prompt reappears.

Example:

```
*LA
ALLOCATION NO. : 0025 ↵
AMOUNT: 1200↵
ALLOCATION NO. : ↵
*
```

ML - MULTIPLE LOAD OF ALLOCATION

Use the **ML** command to assign the same amount to a block of allocation totalizers. The second allocation number must be greater than the first.

1. At the * prompt, type **ML**. The system displays: **ALLOCATION NO. :**
2. Type the beginning totalizer number of the block and press RETURN. The system displays: **TO ALLOCATION NO.:**
3. Type the ending totalizer number of the block and press RETURN. The system displays: **AMOUNT:**
4. Type the totalizer amount and press RETURN. The * prompt reappears.

Example:

```
*ML
ALLOCATION NO. : 0030↵
      TO
ALLOCATION NO. : 0045↵
AMOUNT: 250 ↵
```

AA - ADD TO ALLOCATION

Use the **AA** command to add an additional amount to a totalizer.

1. At the * prompt, type **AA**. The system displays: **ALLOCATION NO .:**
2. Type the totalizer number where you want to add an amount and press RETURN. The system displays: **AMOUNT:**
3. Type the amount to be added and press RETURN. The **ALLOCATION NO.:** prompt reappears.
4. To continue adding amounts to other totalizers, repeat this procedure from Step 2.

To stop adding amounts, press RETURN at the **ALLOCATION NO.:** prompt. The * prompt reappears.

Example:

```
*AA
ALLOCATION NO . : 0030.↓
AMOUNT: 100.0.↓
ALLOCATION NO . : ↓
*
```

MA - MULTIPLE ADD TO ALLOCATION

Use the **MA** command to add the same value to multiple allocation totalizers. The second allocation number must be greater than the first. The parameters are inclusive.

1. At the * prompt, type **MA**. The system displays: **ALLOCATION NO. :**
2. Type the beginning totalizer number of the block and press RETURN. The system displays: **TO ALLOCATION NO. :**
3. Type the ending totalizer number of the block and press RETURN. The system displays: **AMOUNT:**
4. Type the amount to be added to the block of totalizers and press RETURN. The * prompt reappears.

Example:

```
*MA
ALLOCATION NO. : 0030␣
      TO:
ALLOCATION NO. : 0045␣
AMOUNT: 050␣
*
```

SA - SUBTRACT FROM ALLOCATION

Use the **SA** command to subtract an amount from a previously loaded totalizer.

1. At the * prompt, type **SA**. The system displays: **ALLOCATION NO. :**
2. Type the number of the totalizer where you want to subtract an amount and press RETURN. The system displays: **AMOUNT:**
3. Type the amount to be subtracted and press RETURN. The **ALLOCATION NO:** prompt appears.
4. To continue subtracting amounts from other totalizers, repeat this procedure from Step 2.

To stop subtracting amounts, press RETURN at the **ALLOCATION NO.:** prompt. The * prompt reappears.

Example:

```
*SA
ALLOCATION NO. : 0030␣
AMOUNT: 100.000␣
ALLOCATION NO. :␣
*
```

MS - MULTIPLE SUBTRACT FROM ALLOCATION

Use the **MS** command to subtract a value from multiple allocation totalizers. The second allocation number must be greater than the first. The parameters are inclusive.

1. At the * prompt, type **MS**. The system displays: **ALLOCATION NO. :**
2. Type the beginning totalizer of the block and press RETURN. The system displays: **TO ALLOCATION NO. :**
3. Type the ending totalizer of the block and press RETURN. The system displays: **AMOUNT:**
4. Type the totalizer amount and press RETURN. The * prompt reappears.

Example:

```
*MS
ALLOCATION NO. : 0030␣
TO:
ALLOCATION NO. : 0045␣
AMOUNT: 020.000␣
*
```

CA - CHECK ALLOCATION

Use the **CA** command to print the totalizer amount for an individual allocation number.

1. At the * prompt, type **CA**. The system displays: **ALLOCATION NO. :**
2. Type the number of the allocation totalizer and press RETURN. The system displays the total allocation for the entered number and the **ALLOCATION NO.:** prompt reappears.
3. To continue checking other totalizers, repeat this procedure from Step 2.

To stop checking totalizers, press RETURN at the **ALLOCATION NO.:** prompt. The * prompt reappears.

Example:

```
*CA
ALLOCATION NO. : 0030↵
ALLOCATION      97.000
ALLOCATION NO. : ↵
*
```

AT - CONFIGURE TO PRINT ALL TOTALIZERS

Use the **AT** command to configure the system to print all allocation totalizers, including those with zero allocation. (See **PA - Print Allocation Table** later in this section).

1. At the * prompt, type **AT** command. The * prompt appears.

Example:

```
* AT
*
```

NZ - CONFIGURE TO PRINT NON-ZERO TOTALIZERS

Use the **NZ** command to configure the system to print only the allocation totalizers that have allocation (non-zero). (See **PA - Print Allocation Table** later in this section). This command is especially helpful for systems where only a small percentage of the totalizers contain non-zero values.

1. At the * prompt, type **NZ**. The * prompt appears.

Example:

```
*NZ  
*
```

PA - PRINT ALLOCATION TABLE

Use the **PA** command to print the allocation table. The totalizers that are printed depend on your use of the **AT** or **NZ** commands. The grand total of all printed totalizers will be printed at the end.

1. At the * prompt, type **PA**. The listing prints.

Example (with **NZ** selected):

```
*PA
ALLOCATION TABLE
0000= 150.000 0002= 50.000 0003= 10.100 0007= 5.050
0010= 153.090 0035= 100.000 0052= 50.000 0053= 10.100
0095= 21.000 0096= 9.990 0097= 100.000 0098= 50.000
0099= 125.000
TOTAL: 834.330
*
```

MP - PRINT RANGE OF ALLOCATION

Use the **MP** command to print a block of allocation totalizers. The second allocation number must be greater than the first. The parameters are inclusive.

1. At the * prompt, type **MP**. The system displays: **ALLOCATION NO. :**
2. Type the beginning totalizer number of the block and press RETURN. The system displays: **TO ALLOCATION NO. :**
3. Type the ending totalizer number of the block and press RETURN. The listing prints.

Example:

```
*MP
ALLOCATION NO. : 0095.
TO:
ALLOCATION NO. : 0099.
ALLOCATION TABLE
0095= 21.000 0096= 9.990 0097= 100.000 0098= 50.000 0099= 125.000
TOTAL: 305.990
*
```

TRANSACTION HEADINGS WITH THE FUEL ALLOCATION OPTION

The Fuel Allocation option does not change the transaction printout.

FUEL DELIVERY AND DIPSTICK CARD OPTION



DESCRIPTION

Using special cards, the Series 1000 can accept and record fuel delivery and dipstick reading data. With this option, any card with a card number in the range 9980-9989 initiates a fuel delivery transaction and any card with a card number in the range 9990-9999 initiates a dipstick reading transaction. Fuel deliveries update the inventory totalizer for the designated tank and create a transaction. Dipstick readings only generate a transaction, inventory totalizers are not affected.

When you are using an "A" System card that does not use card number and you have the delivery and dipstick option, the field you are using for lockout is also used to identify the delivery and dipstick cards. Ranges for these types of cards have the following digits at the end of the field (delivery 80-89, dipstick 90-99). These ranges are preceded by 9's to the length of the field. For example, the range for a delivery card if the field is five digits is 99980-99989.

FUEL DELIVERIES

To enter a fuel delivery at the Series 1000 card reader:

1. At the **ENTER CARD** prompt, insert the fuel delivery card into the card reader. The LCD displays: **REMOVE CARD**
2. Remove the card from the reader. If you are required to enter a Personal Identification Number (PIN), the LCD displays: **ENTER P.I.N.**
3. Type your PIN digits on the keypad and press ENTER. If the PIN is correct, the LCD displays: **ENTER TANK #**
4. Type the number of the tank that received a fuel delivery and press ENTER.

You have three tries to select a valid tank. If after three attempts, you have not selected a valid tank, the **ENTER CARD** message reappears and you must begin again at Step 1.

If you select a tank that is not available, this message appears: **NO SUCH TANK!**

If you select a valid tank, the LCD displays: **ENTER QUANTITY.**

5. Type the quantity of fuel that was delivered (up to 5 digits, in whole gallons only) and press ENTER.

The quantity is added to the appropriate inventory totalizer, and the message **QUANTITY RECORDED!** appears on the display.

A transaction is recorded with the tank number appearing in the **P#** field and the quantity entered appearing in the **QUANTITY** field. The **PR** and **ODOM** fields contain zeros. The transaction message in the **ERROR** field is **DELIVERY** for a completed transaction and **INVALID TANK** for an error transaction.

Example:

SITE 1234										
TRAN	CARD	EMP	VEH	DATE	TIME	P#	PR	QUANTITY	ODOM	ERROR
1209	9985	1123	8754	01/23/92	12:27	05 00		350.	000000	DELIVERY

DIPSTICK READINGS

To enter a dipstick reading at the Series 1000 card reader:

1. At the **ENTER CARD** prompt, insert the dipstick card into the card reader. The LCD displays: **REMOVE CARD**
2. Remove the card from the reader. If you are required to enter a Personal Identification Number (PIN), the LCD displays: **ENTER P.I.N.**
3. Type your PIN digits on the keypad and press ENTER (enter). If the PIN is correct, the LCD displays: **ENTER TANK #**
4. Type the number of the tank where you want to enter a dipstick reading and press ENTER.

You have three tries to select a valid tank. If after three attempts, you have not selected a valid tank, the **ENTER CARD** message reappears and you must begin again at Step 1.

If you select a tank that is not available, this message appears: **NO SUCH TANK!**

If you select a valid tank, the LCD displays: **ENTER QUANTITY.**

5. Type the dipstick reading (up to 5 digits, in whole gallons only) and press ENTER. The LCD displays **QUANTITY RECORDED!**

A transaction is recorded with the tank number appearing in the **P#** field and the quantity entered appearing in the **QUANTITY** field. The **PR** and **ODOM** fields contain zeros. The transaction message in the **ERROR** field is **DIPSTICK** for a completed transaction and **INVALID TANK** for an error transaction.

Example:

SITE 1234										
TRAN	CARD	EMP	VEH	DATE	TIME	P#	PR	QUANTITY	ODOM	ERROR
1209	9993	0058	7509	01/23/92	13:40	01 00		185.	000000	DIPSTICK

TRANSACTION HEADINGS WITH THE FUEL DELIVERY/DIPSTICK OPTION

The Fuel Delivery and Dipstick option does not change the transaction headings. The number in the pump number field is actually a tank number in a dipstick or delivery transaction.

GATE CONTROLLER OPTION

DESCRIPTION

The Gate Controller option enables you to control access to a gate using your Series 1000. Separate Series 1000 units are required to activate gates and pumps. When you insert your card(s), the gate controller verifies the card and activates the gate relay.

On a dual card system, access is granted after verification of the single card containing the card number field. Field separators that occupy account data positions on dual card systems are converted to zeros for printout purposes.

If you have the Gate Controller option, follow these steps:

1. Position your vehicle in front of the gate to be accessed.
2. On the Series 1000, the LCD alternates between **ENTER CARD** and a personalized system message. Insert your card fully into the Series 1000 card reader with the magnetic stripe facing down and to the left. The LCD displays: **REMOVE CARD**.
3. Remove the card from the card reader. If you leave a card in the reader for more than five seconds, an alarm sounds to remind you to remove it.
4. Remove the card from the reader. If you are required to enter a Personal Identification Number (PIN), the LCD displays: **ENTER P.I.N.**

Using the keypad, enter your PIN number and press ENTER. To ensure security, an asterisk (*) appears for each digit you press. If you make a mistake while entering your PIN, press CLR (clear) and enter it again.

You have three tries to enter the correct PIN. After the third unsuccessful try, the display returns to **ENTER CARD** and you must start again at Step 2.

If your system uses the Auto Pin Lockout feature, the card is automatically locked out after the third unsuccessful PIN entry.

5. When the card and optional PIN are verified, the Series 1000 activates the gate relay and the LCD shows **GATE ACTIVATED**. This message remains until the Series 1000 deactivates the gate controller relay.

Gate Controller Commands

The Gate Controller Option commands allow you to:

- **LG** load gate timeout
- **PG** print gate timeout
- **AG** activate gate from terminal

LG - LOAD GATE TIMEOUT

Use the **LG** command to load the timeout value for the gate relay. This value represents the number of seconds the Series 1000 energizes the gate relay (time depends on manufacturer specifications). This usually is not the amount of time the gate remains open. Most systems keep the gate open until the vehicle has driven through.

1. At the * prompt, type **LG**. The system displays: **ENTER GATE TIMEOUT:**
2. Type the desired number of seconds (1 to 255) for the Series 1000 to energize the gate relay and press RETURN. Most gate systems use 4 seconds. The * prompt reappears.

Example:

```
*LG
ENTER GATE TIMEOUT: 4↵
*
```

PG - PRINT GATE TIMEOUT

Use the **PG** command to print the timeout value you loaded for the gate relay using the **LG** command.

1. At the * prompt, type **PG**. The timeout value prints. The * prompt reappears.

Example:

```
*PG  
GATE TIMEOUT = 004 SECONDS  
*
```

AG - ACTIVATE GATE

Use the **AG** command to activate the gate relay from the data terminal. When you use this command, the transaction is recorded as a normal gate transaction but the data normally read from the card is filled with nines.

1. At the * prompt, type **AG**. The system activates the gate relay and displays **GATE ACTIVATED!** followed by *.

If you attempt to activate the gate when it is already activated, the system displays: **GATE ALREADY ACTIVATED!**.

Example:

```
*AG
GATE ACTIVATED!
*
```

Example: Gate Transaction Printout

```
SITE 1234
TRAN CARD EMP VEH DATE TIME ERROR
0874 9999 9999 9999 02/15/92 09:17 TERM ACTIVATE
```


CHANGES IN STANDARD COMMANDS

The following standard commands are not available with the Gate Controller.

LI - load tank inventory

SI - subtract from tank inventory

LR - load inventory reorder point

PP - print pump data

DP - disable pump

IP - inactivate pump

XP - print timeouts and pulse rates

PF - print fuel authorizations

PL - print fuel limits

AI - add to tank inventory

TI - print tank inventory

LP - load pump data

EP - enable pump

AP - activate pump

ZP - zero pump totalizers

LF - load fuel authorizations

LL - load fuel limits

All other operator commands are the same except **SC** and **PS**. When using the **SC** command the system will not prompt you for the following entries:

NUMBER OF PUMPS

PULSE RATE

NUMBER OF TANKS

AUTO PUMP DISABLE

SOFTWARE OPTIONS AFFECTED BY GATE CONTROLLER

Data Entries on Activate Gate (AG) Command Option

This option (the gate controller equivalent of Data Entries on Activate Pump Command) allows you to enter card data at the terminal before activating the gate. The system prompts you to enter data for card number, ID Field 1, and ID Field 2, before the gate is activated. When this transaction is recorded, the digits of information, which are usually read from the card, are replaced by those entered at the data terminal. If you do not need to enter data for a particular field, press RETURN at that field; it will be filled with nines (9). Lockout checks are performed on the card number and, if your system uses the dual lockout feature, the second lockout field is also checked.

1. At the * prompt, type **AG**. The system displays: **CARD :**
2. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **(FLD1) :**
3. Type any data for this field and press RETURN or just press RETURN to skip this field. The system displays: **(FLD2) :**
4. Type any data for this field and press RETURN or just press RETURN to skip this field. The system activates the gate relay and displays: **GATE ACTIVATED**. Then the * prompt reappears.

The data normally read from the card is filled with the data entered at the terminal. If no data is entered for a particular field, that field is filled with nines(9).

Example:

```
*AG
CARD :↵
EMP : 0156↵
VEH : 0057↵
GATE ACTIVATED!
*
```

Example: Transaction Printout

```
SITE 1234
TRAN CARD EMP VEH DATE TIME ERROR
0874 9999 0156 0057 02/15/92 09:17 TERM ACTIVATE
```


ADDITIONAL SOFTWARE OPTIONS FOR GATE CONTROLLER

Disable Memory Full Protection

You can order the Series 1000 Gate Controller with the memory full protection disabled. When memory full is disabled the system automatically writes over the oldest transactions when new transactions arrive and the memory is full. When memory full protection is disabled, you cannot retrieve transactions from the system memory. The only record of the transactions is the direct printout copy of the transaction as it occurs. When memory full protection is disabled, you cannot use the following commands:

PT - print transactions

ST - print sorted transactions

SS - print sorted transactions for a specified number

PC - print compacted transactions

PH - print compacted transactions with host interaction

RP - reset transaction pointer

LOADABLE BASE PUMP OPTION

DESCRIPTION

The Loadable Base Pump option allows you to assign different pump numbers at a site where you have more than one Series 1000. You can enter a base pump number that is used as the number of the first pump in a system. All pumps are numbered consecutively beginning with the base pump number. The maximum pump number is 99. Pump numbers that are less than the base pump number will not be available.

Example:

If the base pump number is loaded as 3, there will not be any pumps numbered 1 or 2 at that Series 1000. When pump number 3 is selected for fueling, the first relay in that system is activated.

CHANGES IN STANDARD COMMANDS

When using any command that requires a pump number as input, the pump number must be within the range defined by the loaded base pump number.

All operator commands are the same except for the **SC** and **PS** commands. The **SC** command displays the Base Pump Number prompt right after you enter the number of pumps in your system. You can only enter a base pump number that will allow all of the pumps to be accessed. If you change the number of pumps in your system, and the existing base pump number is no longer valid, you must enter a new base pump number. You are re-prompted until a valid base pump number is entered. If the existing base pump number is valid, you can skip the entry by pressing RETURN. If you attempt to leave the **SC** command with CTRL C and you have changed the number of pumps but not the base pump number, the new number of pumps you entered is not saved. If you try to change either the number of pumps or the base pump number while a transaction is in progress, this message appears: **TRANS IN PROGRESS!** Use the following guidelines to determine the valid base pump numbers for your system.

No. of Pumps in System	Highest Base Pump Number
1	99
2	98
3	97
4	96
5	95
6	94
7	93
8	92

Example: SC Command

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

NUMBER OF PUMPS: <1-8> 4␣

BASE PUMP NO.: <1-99> 5␣

PUMP #5
  $ OR QTY PULSES? <$ OR Q>$␣
PUMP #6
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>100␣
PUMP #7
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣
PUMP #8
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣
```

```

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0.

SYSTEM ID:<XXXX> 5745.

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5.

LINES PER PAGE <0-62>: 62.

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E. (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E.

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D.
  
```

The base pump number can be displayed with the **PS** command.

Example: PS Command

```

*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

BASE PUMP NUMBER:       5

PUMP #05   PULSES PER GAL.:  $
PUMP #06   PULSES PER GAL.:  0100
PUMP #07   PULSES PER GAL.:  0010
PUMP #08   PULSES PER GAL.:  0010

NUMBER OF TANKS:       4

PRICE DATA FORMAT:    NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.:  05

LINES PER PAGE:       62

CARD EXPIRATION DATE:  ENABLED (Mag Card Only)

AUTO P.I.N. LOCKOUT:   ENABLED

AUTO SITE SHUT DOWN:   DISABLED

*
  
```




MANUAL KEYPAD ENTRY OPTION

DESCRIPTION

The Manual Keypad Entry option provides an additional field that allows you to request input, from the Series 1000 user, during a card entry action. You can use this field to record anything from manual oil transactions, department numbers, trailer numbers, or even vehicle or employee numbers that are not card encoded.

The field name and size were specified at the time of order. The field may be up to six digits. The check digit, encoded on the card, controls whether the individual user is prompted to enter the manual entry (For more information, see **Manual Entry Check Digit** in the *Card Encoding Manual*). The manual entry appears under its own heading in the transaction printouts.

"A" Systems may have a manual entry regulated by a check digit or can specify a mandatory manual entry at the time of order.

Example: Transaction Printout with Dept. as the Optional Entry

```
*PT
SITE 1234

TRAN CARD VEH EMP DEPT DATE TIME P# PR QUANTITY ODOM ERROR
0008 0543 2813 7596 0032 05/20/92 13:38 01 01 11.91 045621
0009 8877 1122 3344 0011 05/20/92 13:38 03 03 10.0 000000
0010 8877 1122 3344 0011 05/21/92 13:39 02 02 15.2 000000
*
```

NOTE: The manual entry field you designate can be used for lockout provided your system also has the dual lockout option. See the **Dual Lockout Option** for more details.

MPG/HOURS-PER-GALLON OPTION

DESCRIPTION

The MPG/HPG option allows your Series 1000 system to calculate and maintain a cumulative miles-per-gallon or hours-per-gallon* tally for a set number of your vehicles (**NOTE: Hours-per-gallon is used when user equipment is monitored with an hour meter instead of an odometer*). The type of option, MPG or HPG, was determined when you ordered your system. Also, the exact number of vehicles supported depends upon the limit specified when you ordered your system. Vehicles in the system, but not in the vehicle file, are still permitted to fuel, however, odometer/hours entries are not checked and MPG/HPG is not calculated.

Each vehicle in the file may be configured as to whether or not the system will calculate MPG/HPG and execute a reasonable odometer/hours check on it. If this feature is disabled for a vehicle record, the system will continue to update the total gallons and odometer/hours entries, but MPG/HPG will not be calculated and a reasonable odometer/hours check will not be executed.

MPG/HPG software computes fuel efficiency two ways: per transaction and averaged over a period of time you determine (usually a month). To use the MPG/HPG option, you enter information on your vehicles/equipment into vehicle records. These records are stored in a vehicle file. The MPG/HPG option uses the vehicle data you enter plus calculated values to provide total MPG/HPG information. The vehicle information for MPG is different than that for HPG; both types are shown below.

The following information appears on vehicle file printouts for MPG:

- VEH 3- to 6-digit vehicle number
- B ODOM up to 6-digit beginning odometer reading
- E ODOM up to 6-digit ending odometer reading (last recorded)
- MILES 6-digit miles driven
- GALLONS up to 8-digits for total gallons for period
- MPG 3 digits before and one after the decimal point indicating MPG value
- STAT a record status code indicating MPG comments (for more on status flags, see the **VF** command)

The following information appears on vehicle file printouts for HPG:

- VEH 3- to 6-digit vehicle/equipment number
- B HOURS up to 6-digit beginning hours reading
- E HOURS up to 6-digit ending hours reading (last recorded)
- A HOURS up to 6-digit new, accumulated hours
- GALLONS up to 8-digits for total gallons for period
- HPG 3 digits before and one after the decimal point indicating HPG value
- STAT a record status code indicating HPG comments (for more on status flags, see the **VF** command)

For both types, you can print out the vehicle file to view the vehicle number, beginning and ending odometer/hours entries, the total number of miles/hours, the total number of gallons, the miles/hours per gallon calculation (if enabled), and the record status.

The transaction printout for MPG, in addition to standard transaction fields, lists the number of miles since the vehicle's last transaction, and the per transaction miles per gallon. A sample transaction printout is shown later in this section. See **MPG/HPG Transaction Processing** later in this section for a typical MPG transaction sequence.

The transaction printout for HPG, in addition to standard transaction fields, lists the number of hours since the vehicle's last transaction, and the per transaction hours per gallon. A sample transaction printout is shown later in this section. See **MPG/HPG Transaction Processing** later in this section for a typical HPG transaction sequence.

Vehicle File Commands

The commands in this section allow you to:

- **CV** clear vehicle file
- **LV** load/edit a vehicle record
- **RV** remove a vehicle record
- **LO** load odometer/hours
- **IV** initialize vehicle file
- **VF** print vehicle file
- **LM** load maximum miles/hours between fuelings
- **LE** load ending odometer/hours
- **CR** check vehicle record
- **EC** enable MPG/HPG calculation and reasonable odometer/hours check for all vehicles
- **DC** disable MPG/HPG calculation and reasonable odometer/hours check for all vehicles

CV - CLEAR VEHICLE FILE

Use the CV command only at initial start-up. This command erases any vehicles/equipment previously stored in the system; they cannot be retrieved.

1. At the * prompt, type **CV**. The system displays: **CLEAR VEHICLE FILE? <Y OR N>**
2. Type **Y** and press RETURN to reset (erase) the vehicle file. Type **N** and press RETURN to leave the vehicle file as is.

NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.

*If you attempt to clear the vehicle file while transactions are in progress, the system displays: **TRANS IN PROGRESS!** You must wait until there are no transactions active to use this command.*

The * prompt reappears.

Example:

```
*cv
CLEAR VEHICLE FILE? <Y OR N> Y↵
*
```

LV - LOAD/EDIT A VEHICLE RECORD

Use the **LV** command to enter a new vehicle record or enable/disable MPG/HPG calculation for that record. If you wish to enter just odometer/hours readings for an existing vehicle, use the **LO** or **LE** commands.

*NOTE: The prompts and procedure steps shown in this section are for MPG. If you have the hours-per-gallon option, your prompts will contain **HOURS** instead of **ODOM** and **HPG** instead of **MPG**. An example of HPG commands is shown at the end of this command procedure.*

Load a New Vehicle Record

1. At the * prompt, type **LV**. The system displays: **VEH. NO.**

*NOTE: If the vehicle record already exists, the system displays **RECORD EXISTS ALREADY! EDIT THIS VEHICLE RECORD? <Y OR N>**. Instructions on editing an existing vehicle record are provided on the next page.*

*If you attempt to load/edit the vehicle file while transactions are in progress, the system displays: **TRANS IN PROGRESS!** You must wait until there are no transactions active to use this command.*

2. Type up to a 6-digit vehicle number and press RETURN. The system displays: **BEGIN ODOM:**
3. Type the vehicle's present odometer reading (up to six digits) and press RETURN. The system displays: **ENABLE MPG CALCULATION? <Y OR N>**.
4. Type **Y** to enable MPG calculation and reasonable odometer check for this vehicle record or **N** to disable the feature. The **VEH. NO.** prompt reappears.
5. To define additional vehicle records, repeat this procedure from Step 2.

To stop entering vehicle information, press RETURN at the **VEH. NO.** prompt. The * prompt reappears.

Example for MPG:

```
*LV
VEH. NO. 0543↓
BEGIN ODOM: 12850↓
ENABLE MPG CALCULATION? <Y OR N>: Y↓

VEH. NO. ↓
*
```

Example for HPG:

```
*LV
VEH. NO. 2611.↓
BEGIN HOURS: 500.↓
ENABLE HPG CALCULATION? <Y OR N>: Y.↓

VEH. NO. ↓
*
```

Edit an Existing Vehicle Record

1. At the * prompt, type **LV**. The system displays: **VEH. NO.**
2. Enter the vehicle number and press RETURN. The system displays **RECORD EXISTS ALREADY EDIT THIS VEHICLE RECORD? <Y OR N>**.
3. Type **Y**. If the MPG calculation option was previously enabled, the system displays **DISABLE MPG CALCULATION? <Y OR N>**. Type **Y** to disable MPG calculation and reasonable odometer check for this vehicle. If you type **N** or press RETURN without an entry, the MPG calculation and reasonable odometer check option will remain enabled for this vehicle record. The **VEH. NO.** prompt reappears after receiving an entry. Proceed to Step 5.

If the MPG calculation was previously disabled, the system displays **ENABLE MPG CALCULATION? <Y OR N>**. Type **Y** to enable MPG calculation and reasonable odometer check for this vehicle. The system displays: **BEGIN ODOM:** and you may proceed to Step 4. If you type **N** or press RETURN without an entry, the MPG calculation and reasonable odometer check option remains disabled for this vehicle record. The **VEH. NO.** prompt reappears. Proceed to Step 5.

4. In response to the **BEGIN ODOM:** prompt, type the vehicle's present odometer reading (up to six digits) and press RETURN. The **VEH. NO.** prompt reappears.
5. To edit additional vehicle records, repeat this procedure from Step 2.

To stop editing existing vehicle records, press RETURN at the **VEH. NO.** prompt. The * prompt reappears.

Example for MPG:

```
*LV
VEH. NO. 0543.↓
RECORD EXISTS ALREADY!
EDIT THIS VEHICLE RECORD? <Y OR N>: Y.↓
ENABLE MPG CALCULATION? <Y OR N>: Y.↓
BEGIN ODOM: 42628.↓

VEH. NO. ↓
*
```

Example for HPG:

*LV

VEH. NO. 0543.]

RECORD EXISTS ALREADY!

EDIT THIS VEHICLE RECORD? <Y OR N>: Y.]

ENABLE HPG CALCULATION? <Y OR N> Y.]

BEGIN HOURS: 42628.]

VEH. NO.]

*

RV - REMOVE A VEHICLE RECORD

Use the **RV** command to remove a vehicle record from the system.

1. At the * prompt, type **RV**. The system displays: **VEH. NO.**
2. Type the vehicle number that you wish to remove and press RETURN. The **VEH. NO.** prompt reappears.

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

*If you attempt to delete from the vehicle file while transactions are in progress, the system displays: **TRANS IN PROGRESS!** You must wait until there are no transactions active to use this command.*

3. To remove additional vehicles from the vehicle file, repeat this procedure from Step 2.

To stop removing vehicles, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example:

```
*RV
VEH. NO. 0543↵
VEH. NO. ↵
*
```

LO - LOAD ODOMETER/HOURS

Use the **LO** command to update odometer/hours readings for an existing vehicle record. This command helps to maintain accurate odometer/hours readings (such as in cases where the selected vehicle may have fueled at another location, etc.)

*NOTE: The prompts and procedure steps shown in this section are for MPG. If you have the hours-per-gallon option, your prompts will contain **HOURS** instead of **ODOMETER** and **HPG** instead of **MPG**. An example of HPG commands is shown at the end of this command procedure.*

1. At the * prompt, type **LO**. The system displays: **VEH. NO.**
2. Type the vehicle number and press RETURN. The system displays: **BEGIN ODOM:**
3. Type the vehicle's present odometer reading and press RETURN.

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

4. To update additional odometer readings, repeat this procedure from Step 2.

To stop updating odometer readings, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

NOTE: Both the beginning and ending odometer field are loaded with the mileage entry. The gallon total field is reset to zero.

Example for MPG:

```
*LO
VEH. NO. 0543↵
BEGIN ODOM: 4580↵
VEH. NO. ↵
*
```

Example for HPG:

```
*LO
VEH. NO. 0543↵
BEGIN HOURS: 580↵
VEH. NO. ↵
*
```

IV - INITIALIZE VEHICLE FILE

Use the **IV** command to initialize the vehicle file. **Use this command only at initial start-up or at the beginning of a new month or MPG/HPG calculation period you set.** This command resets the entire vehicle file; data cannot be retrieved. When this command is executed, the ending odometer entry becomes the beginning entry and gallon totals are reset to zero.

1. At the * prompt, type **IV**. The system displays:

INIT VEHICLE FILE? <Y OR N>

2. Type **Y** and press RETURN to initialize (reset) the vehicle file. Type **N** and press RETURN to leave the vehicle file as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example:

```
* IV
INIT VEHICLE FILE? <Y OR N> Y
*
```

VF - PRINT VEHICLE FILE

Use the **VF** command to print the contents of the vehicle file. The vehicle file is different for MPG and HPG. Both are shown below.

1. At the * prompt, type **VF**. The listing prints.

For MPG, this listing includes: the maximum miles between fuelings, the vehicle number, beginning and ending odometer, total miles driven, total gallons used, the MPG calculation (for vehicles with the option enabled), and a status message.

Example for MPG:

```
*VF
      MAX MILES BETWEEN
      FUELINGS 0500

VEH  B ODOM E ODOM MILES  GALLONS  MPG      STAT
0543 031256 031554 000298   16.000  18.6
1342 043578 043957 000379    7.100  53.4  HIGH
4200 000100 000250 000150   28.100   5.3  <<
5196 000000 002735 002735    0.000   0.0  **

*
```

NOTE: The letters **N/A** will be displayed in the MPG field if the MPG calculation and reasonable odometer check option has been disabled for this vehicle.

The status messages appear in the last column of the report. Status messages and their meanings are:

HIGH The MPG calculation was above 50 MPG

LOW The MPG calculation was below 5 MPG

<< The last odometer entry was less than the beginning odometer and could not be recorded. Fueling was allowed.

%% The record has an initial value; no transactions occurred since it was initialized.

****** The ending odometer reading was entered via the data terminal

For HPG, this listing includes: the maximum hours between fuelings, the vehicle number, beginning and ending hours, accumulated hours, gallons used, the HPG calculation (for vehicles/equipment with the option enabled), and a status message.

Example for HPG:

```

*VF
      MAX HOURS BETWEEN
      FUELINGS 0200

VEH  B HOURS  E HOURS  A HOURS  GALLONS  HPG  STAT
0543 000000  000005  000005   10.000   0.5
1342 000150  000170  000020  100.000   0.2
1811 000205  000215  000010   10.000   1.0
*
```

NOTE: The letters **N/A** will be displayed in the HPG field if the HPG calculation and reasonable hours check option has been disabled for this vehicle.

The status messages appear in the last column of the report. Status messages and their meanings are:

- << The last hours entry was less than the beginning hours and could not be recorded. Fueling was allowed.
- %% The record has an initial value; no transactions occurred since it was initialized.
- ** The ending hours reading was entered via the data terminal

LM - LOAD MAXIMUM MILES/HOURS BETWEEN FUELINGS

Use the **LM** command to enter the maximum amount of miles or hours (1-9999) that are allowed between fuelings.

*NOTE: The prompts and procedure steps shown are for MPG. If you have the hours-per-gallon option, your prompts will contain **HOURS** instead of **MILES**. An example of HPG commands is shown at the end of this command procedure.*

1. At the * prompt, type **LM**. The system displays:

MAX. MILES

2. Type the maximum miles allowed between fuelings and press RETURN. The * prompt reappears.

Example for MPG:

```
*LM
MAX. MILES 500.
*
```

Example for HPG:

```
*LM
MAX. HOURS 500.
*
```

LE - LOAD ENDING ODOMETER/HOURS

Use the **LE** command to load an ending odometer or hours reading. This is useful if a vehicle was fueled off-site or an invalid odometer/hours entry was made.

*NOTE: The prompts and procedure steps shown are for MPG. If you have the hours-per-gallon option, your prompts will contain **HOURS** instead of **ODOM**. An example of HPG commands is shown at the end of this command procedure.*

1. At the * prompt, type **LE**. The system displays: **VEH. NO.**
2. Type the vehicle number and press RETURN. The system displays: **ENDING ODOM:**

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

3. Type the current ending odometer and press RETURN. The **VEH. NO.** prompt reappears.

*NOTE: The ending odometer reading must be greater than the beginning odometer reading or system displays the message **INVALID ENDING ODOM!** The **VEH. NO.** prompt reappears.*

4. To type additional odometer readings, repeat this procedure from Step 2.

To stop entering odometer readings, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example for MPG:

```
*LE
VEH. NO. 0543↵
ENDING ODOM: 3560↵
VEH. NO. ↵
*
```

Example for HPG:

```
*LE
VEH. NO. 0543↵
ENDING HOURS: 5↵
VEH. NO. ↵
*
```

CR - CHECK VEHICLE RECORD

Use the **CR** command to print a single vehicle file record.

1. At the * prompt, type **CR**. The system displays: **VEH. NO.**
2. Type the vehicle number that you wish to view and press RETURN. The listing prints and the **VEH. NO.** prompt reappears.

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

3. To view additional vehicle records, repeat this procedure from Step 2.

To stop viewing vehicle records, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example for MPG:

For MPG, the listing includes: beginning and ending odometer, total miles driven, total gallons used, the MPG calculation (for vehicles with the option enabled) and a status message.

```
*CR

VEH. NO. 0543

VEH B ODOM E ODOM MILES  GALLONS  MPG  STAT
0543 031256 031554 000298   16.000  18.6

VEH. NO.
*
```

Example for HPG:

For HPG, the listing includes: beginning and ending hours, accumulated hours, total gallons used, the HPG calculation (for vehicles/equipment with the option enabled) and a status message.

```
*CR

VEH. NO. 0543

VEH B HOURS  E HOURS  A HOURS  GALLONS  HPG  STAT
0543 000000   000005   000005   10.000   0.5

VEH. NO.
*
```

EC - ENABLE MPG/HPG CALCULATION AND REASONABLE ODOMETER/HOURS CHECK FOR ALL VEHICLES

Use the **EC** command to enable MPG/HPG calculation and reasonable odometer/hours check for all vehicle records contained in the vehicle file. This command resets the entire vehicle file; data cannot be retrieved. When this command is executed, the ending odometer/hours entry becomes the beginning entry and gallon totals are reset to zero.

*NOTE: The prompts and procedure steps shown are for MPG. If you have the hours-per-gallon option, your prompts will contain **HPG** instead of **MPG**. An example of HPG commands is shown at the end of this command procedure.*

1. At the * prompt, type **EC**. The system displays:

ENABLE MPG CALCULATION FOR ALL VEHICLES? <Y OR N>

2. Type **Y** and press RETURN to enable the MPG calculation and reasonable odometer check option for all vehicle records currently in the vehicle file. Type **N** and press RETURN to leave the vehicle file as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example for MPG:

```
*EC
ENABLE MPG CALCULATION FOR ALL VEHICLES? <Y OR N> Y
*
```

Example for HPG:

```
*EC
ENABLE HPG CALCULATION FOR ALL VEHICLES? <Y OR N> Y
*
```

DC - DISABLE MPG CALCULATION AND REASONABLE ODOMETER CHECK FOR ALL VEHICLES

Use the **DC** command to disable MPG/HPG calculation and reasonable odometer/hours check for all vehicle records contained in the vehicle file. Total gallon and odometer/hours data will continue to be updated for all vehicle records contained in the vehicle file, but the system will not calculate MPG/HPG or execute reasonable odometer/hours checks on these vehicles.

*NOTE: The prompts and procedure steps shown are for MPG. If you have the hours-per-gallon option, your prompts will contain **HPG** instead of **MPG**. An example of HPG commands is shown at the end of this command procedure.*

1. At the * prompt, type **DC**. The system displays:

DISABLE MPG CALCULATION FOR ALL VEHICLES? <Y OR N>

2. Type **Y** and press RETURN to disable the MPG calculation and reasonable odometer check option for all vehicle records currently in the vehicle file. Type **N** and press RETURN to leave the vehicle file as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example for MPG:

```
*DC
DISABLE MPG CALCULATION FOR ALL VEHICLES? <Y OR N> Y.J
*
```

Example for HPG:

```
*DC
DISABLE HPG CALCULATION FOR ALL VEHICLES? <Y OR N> Y.J
*
```

TRANSACTION PROCESSING

Transaction processing is essentially the same whether you have the MPG or HPG option. Because vehicle file field names are different depending on which option your system has, the transaction processing for each is described separately. You need read only the transaction processing description for your system option.

MPG Transaction Processing

When the system detects an odometer entry, the vehicle number is checked to see if it is in the vehicle file. If the vehicle is in the file and MPG calculation and reasonable odometer check is enabled, the system validates the odometer entry and updates the vehicle record when the transaction is completed. If MPG calculation and reasonable odometer entry is disabled, the system accepts the odometer entry without verification and updates the vehicle record when the transaction is completed. Transaction processing for each condition is as follows:

MPG Calculation Enabled

The odometer entry is checked against the last odometer reading entered. If the difference is greater than the maximum miles between fueling range (**LM** command) or less than the last recorded odometer, the entry is considered invalid.

If the odometer is valid, fueling is allowed. When the transaction completes, the system updates:

- the vehicle record fields: **E ODOM**, to show the last odometer entry; **MILES** to show the new, accumulated miles; **GALLONS**, to show the new accumulated number of gallons pumped; and **MPG**, to show the new calculation. Status flags may also change.
- the transaction fields, **MILES** and **MPG** to show the miles traveled and calculated MPG.

If the odometer is invalid for the reasons listed above, the user is reprompted up to the number of times specified in the **NO. OF RETRIES** system configuration entry (see **Changes in Standard Commands** later in this section). If a valid odometer is not entered, the transaction terminates. When this occurs, the system:

- makes no changes to the vehicle record
- stores an empty transaction (no fuel dispensed) with the message **INVALID ODOM** in the **ERROR** field. It also displays the following fields based on the value of the odometer entered:
 - If the entry is greater than the last recorded odometer, the value is recorded in the **MILES** field and the **MPG** field shows 0.
 - If the entry is less than the last recorded odometer, the **MILES** and **MPG** fields contain question marks.

After the termination of the first transaction (where the system takes the listed actions), the user is prompted to enter his card(s) again. The user can then enter any odometer reading and fueling is allowed. When fueling is complete, a normal transaction is recorded. The system updates the vehicle and transaction files as follows:

- In the vehicle file, if the odometer entry is valid or invalid but greater than the beginning odometer, the system updates the following fields, **E ODOM**, to show the odometer entry; **MILES** to show the new, accumulated miles; **GALLONS**, to show the number of gallons pumped, and **MPG**, to show the new calculation. Status flags may also change.

If the odometer entry is invalid but less than the beginning odometer, the **E ODOM** field is not updated (this would result in negative miles). **MILES** does not change, **GALLONS** increases by the number of gallons pumped, and **MPG** is recalculated. The status flag is updated to << to indicate that fueling occurred but the last odometer was not recorded.

- In the transaction file, if the odometer entry is valid or greater than the last recorded odometer, the **MILES** and **MPG** fields are updated. If the odometer entry is less than the last recorded odometer, the **MILES** and **MPG** fields contain question marks.

MPG Calculation Disabled

Any odometer entry is accepted. When the transaction completes, the system updates the vehicle and transaction files as follows:

- In the vehicle file, if the odometer entry is greater than the beginning odometer, the system updates the following fields, **E ODOM**, to show the odometer entry; **MILES** to show the new, accumulated miles; and **GALLONS**, to show the number of gallons pumped. The **MPG** field will contain the letters **N/A**, indicating MPG is not being calculated for this record. Status flags may also change.

If the odometer entry is less than the beginning odometer, the **E ODOM** field is not updated (this would result in negative miles). **MILES** does not change, and **GALLONS** increases by the number of gallons pumped. The **MPG** field will contain the letters **N/A** indicating MPG is not being calculated for this record. Status flags may also change.

- In the transaction file, the **MILES** and **MPG** fields are empty (filled with spaces).

HPG Transaction Processing

When the system detects an hours entry, the vehicle number is checked to see if it is in the vehicle file. If the vehicle is in the file and HPG calculation and reasonable hours check is enabled, the system validates the hours entry and updates the vehicle record when the transaction is completed. If HPG calculation and reasonable hours entry is disabled, the system accepts the hours entry without verification and updates the vehicle record when the transaction is completed. Transaction processing for each condition is as follows:

HPG Calculation Enabled

The hours entry is checked against the last hours reading entered. If the difference is greater than the maximum hours between fueling range (**LM** command) or less than the last recorded hours, the entry is considered invalid.

If the hours is valid, fueling is allowed. When the transaction completes, the system updates:

- the vehicle record fields: **E HOURS**, to show the last hours entry; **A HOURS** to show the new, accumulated hours; **GALLONS**, to show the new accumulated number of gallons pumped; and **HPG**, to show the new calculation. Status flags may also change.
- the transaction fields, **TIME E** and **HPG** to show the time elapsed and calculated HPG.

If the hours is invalid for the reasons listed above, the user is reprompted up to the number of times specified in the **NO. OF RETRIES** system configuration entry (see **Changes in Standard Commands** later in this section). If a valid hours is not entered, the transaction terminates. When this occurs, the system:

- makes no changes to the vehicle record
- stores an empty transaction (no fuel dispensed) with the message **INVALID HOURS** in the **ERROR** field. It also displays the following fields based on the value of the hours entered:
 - If the entry is greater than the last recorded hours, the value is recorded in the **TIME E** field and the **HPG** field shows 0.
 - If the entry is less than the last recorded hours, the **TIME E** and **HPG** fields contain question marks.

After the termination of the first transaction (where the system takes the listed actions), the user is prompted to enter his card(s) again. The user can then enter any hours reading and fueling is allowed. When fueling is complete, a normal transaction is recorded. The system updates the vehicle and transaction files as follows:

- In the vehicle file, if the hours entry is valid or invalid but greater than the beginning hours, the system updates the following fields, **E HOURS**, to show the hours entry; **A HOURS** to show the new, accumulated hours; **GALLONS**, to show the number of gallons pumped, and **HPG**, to show the new calculation. Status flags may also change.
 If the hours entry is invalid but less than the beginning hours, the **E HOURS** field is not updated (this would result in negative hours). **A HOURS** does not change, **GALLONS** increases by the number of gallons pumped, and **HPG** is recalculated. The status flag is updated to << to indicate that fueling occurred but the last hours was not recorded.
- In the transaction file, if the hours entry is valid or greater than the last recorded hours, the **TIME E** and **HPG** fields are updated. If the hours entry is less than the last recorded hours, the **TIME E** and **HPG** fields contain question marks.

HPG Calculation Disabled

Any hours entry is accepted. When the transaction completes, the system updates the vehicle and transaction files as follows:

- In the vehicle file, if the hours entry is greater than the beginning hours, the system updates the following fields, **E HOURS**, to show the hours entry; **A HOURS** to show the new, accumulated hours; and **GALLONS**, to show the number of gallons pumped. The **HPG** field will contain the letters **N/A**, indicating HPG is not being calculated for this record. Status flags may also change.

If the hours entry is less than the beginning hours, the **E HOURS** field is not updated (this would result in negative hours). **A HOURS** does not change, and **GALLONS** increases by the number of gallons pumped. The **HPG** field will contain the letters **N/A** indicating HPG is not being calculated for this record. Status flags may also change.

- In the transaction file, the **TIME E** and **HPG** fields are empty (filled with spaces).

TRANSACTION HEADINGS

MPG Option

When you have the MPG option, the transaction printout contains all of the standard fields, plus two additional fields: **MILES** and **MPG**. **MILES** is a four-digit field containing the difference between the current odometer reading and the previous odometer reading. **MPG** is the miles per gallon calculation for the transaction.

Example:

*PT														
TRAN	CARD	EMP	VEH	DATE	TIME	P#	PR	QUANTITY	ODOM	MILES	MPG	ERROR		
0004	3281	5967	2430	03/01/92	15:02	02	02	15.1	035025	0375	24.8	LIMIT	CUTOFF	
0005	0826	4627	1234	03/01/92	15:03	01	01	16.71	048546	0328	19.6			

HPG Option

When you have the HPG option, the transaction printout contains all of the standard fields, plus two additional fields: **TIME E** and **HPG**. **TIME E** is the amount of time elapsed since the last hours reading. **HPG** is the hours-per-gallon calculation for the transaction.

Example:

*PT														
TRAN	CARD	EMP	VEH	DATE	TIME	P#	PR	QUANTITY	C HOURS	TIME E	HPG	ERROR		
0004	3281	5967	2430	03/01/92	15:02	02	02	15.00	000200	0020	1.3			
0005	0826	4627	1234	03/01/92	15:03	01	01	16.00	000048	0015	0.9			

CHANGES IN STANDARD COMMANDS

All commands are the same for MPG/HPG except for the **SC** and **PS** commands. The **SC** command contains an additional prompt for the number of retries allowed when entering the odometer/hours reading. The response must be a number between 1 and 99. The **PS** command displays the number of retries currently selected. See the following examples.

Example: **SC** Command:

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

NUMBER OF PUMPS: <1-8> 4␣

PUMP #1
  $ OR QTY PULSES? <$ OR Q>$␣
PUMP #2
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>100␣
PUMP #3
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣
PUMP #4
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0␣

SYSTEM ID:<XXXX> 5745␣

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5␣

LINES PER PAGE <0-62>: 62␣

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E␣          (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E␣

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D␣

REASONABLE ODOMETER
  NO. OF RETRIES: <1-99> 3␣          (REASONABLE HOURS for HPG)
*
```

Example: **PS** Command:

```
*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

PUMP #01   PULSES PER GAL.:   $
PUMP #02   PULSES PER GAL.:  0100
PUMP #03   PULSES PER GAL.:  0010
PUMP #04   PULSES PER GAL.:  0010

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.:  05

LINES PER PAGE:        62

CARD EXPIRATION DATE:   ENABLED           (Mag Card Only)

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED

REASONABLE ODOMETER
  NO. OF RETRIES:       03                (REASONABLE HOURS for HPG)

*
```

MILES/HOURS-PER-GALLON MESSAGES

The following lists all MPG/HPG messages that may appear at the data terminal:

INVALID ENDING HOURS!

HPG only. Appears with the **LE** command. The ending hours reading must be greater than the beginning hours reading.

INVALID ENDING ODOM!

MPG only. Appears with the **LE** command. The ending odometer reading must be greater than the beginning odometer reading.

NO RECORD FOUND!

Appears with the **RV**, **LO**, **LE**, and **CR** commands. The vehicle record does not exist.

RECORD EXISTS ALREADY!

Appears with the **LV** command. You tried to enter a vehicle record that already exists.

MULTI-LEVEL PASSWORD OPTION

DESCRIPTION

The Multi-Level Password option provides two levels of passwords:

- super user
- standard user

When you use the code card to initialize the password, both passwords are set to **GASBOY**.

To change the super user password, sign on as **GASBOY** and use the **LS** command to change the password.

Use the **EX** (exit) command to exit command mode. You are now in standard user mode. To change the standard user password, sign on as **GASBOY** and use the **LS** command to change the password.

Example:

```
SIGN ON:
-GRANTED SUPER USER ACCESS-

*LS
PASSWORD: SUPER
*EX
EXIT

SIGN ON:
-GRANTED STANDARD USER ACCESS-

*LS
PASSWORD: STANDARD
*EX
EXIT
```

CP - SUPER USER AUTHORIZATION OF COMMANDS

Super user only. Use the **CP** command to authorize or unauthorize commands that the standard user can access. There are three authorization methods: **A**, for authorize all; **U**, for unauthorize all; and **P**, where you are prompted for each command and select its authorization.

When commands are printed out with the **HE** command, those that are available to the standard user are marked with an asterisk. If a standard user tries to use an unauthorized command, the message **UNAUTHORIZED COMMAND!** appears.

1. Sign on using the super user password.
2. At the * prompt, type **CP**. The system displays:

AUTHORIZE ALL/UNAUTHORIZE ALL/PROMPT EACH? <A/U/P> :

3. Type the desired letter for authorization (**A** for authorize all, **U** for unauthorize all, and **P**, to authorize individual commands).

If you select **A**, all commands except **CP** are authorized for the standard user.

Example: Selection **A**

```
SIGN ON:

-GRANTED SUPER USER ACCESS-

*CP
AUTHORIZE ALL/UNAUTHORIZE ALL/PROMPT EACH? <A/U/P> : A
*HE
EXPANDED HELP LIST? <Y OR N> N

COMMANDS ARE :

    * denotes Standard User access

LS* VA* VC* IA* IC* CC* PV* PI* LI* AI*
SI* TI* LR* LP* PP* EP* DP* AP* IP* ZP*
XP* PT* ST* SS* PC* PH* RP* RT* LN* LF*
PF* LL* PL* LK* LC* SC* PS* LD* PD* SD*
PR* MO* HE* EX* CP
```

If you select **U**, all commands except help (HE) and exit (EX) are unauthorized for the standard user.

Example: Selection U

```
SIGN ON:

-GRANTED SUPER USER ACCESS-

*CP
AUTHORIZE ALL/UNAUTHORIZE ALL/PROMPT EACH? <A/U/P> : U
*HE
EXPANDED HELP LIST? <Y OR N> N

COMMANDS ARE :

    * denotes Standard User access

LS  VA  VC  IA  IC  CC  PV  PI  LI  AI
SI  TI  LR  LP  PP  EP  DP  AP  IP  ZP
XP  PT  ST  SS  PC  PH  RP  RT  LN  LF
PF  LL  PL  LK  LC  SC  PS  LD  PD  SD
PR  MO* HE* EX* CP
```

If you select **P**, you are prompted for each command and you select **A** or **U** for each.

Example: Selection P

```
SIGN ON:

-GRANTED SUPER USER ACCESS-

*CP
AUTHORIZE ALL/UNAUTHORIZE ALL/PROMPT EACH? <A/U/P> : P
LS  AUTHORIZE/UNAUTHORIZE? <A/U> : A
VA  AUTHORIZE/UNAUTHORIZE? <A/U> : U
VC  AUTHORIZE/UNAUTHORIZE? <A/U> : U
IA  AUTHORIZE/UNAUTHORIZE? <A/U> : U
IC  AUTHORIZE/UNAUTHORIZE? <A/U> : U
CC  AUTHORIZE/UNAUTHORIZE? <A/U> : A
PV  AUTHORIZE/UNAUTHORIZE? <A/U> : A
PI  AUTHORIZE/UNAUTHORIZE? <A/U> : A
LI  AUTHORIZE/UNAUTHORIZE? <A/U> : U
AI  AUTHORIZE/UNAUTHORIZE? <A/U> : U
SI  AUTHORIZE/UNAUTHORIZE? <A/U> : U
TI  AUTHORIZE/UNAUTHORIZE? <A/U> : A
LR  AUTHORIZE/UNAUTHORIZE? <A/U> : U
LP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
PP  AUTHORIZE/UNAUTHORIZE? <A/U> : A
EP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
DP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
AP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
IP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
ZP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
XP  AUTHORIZE/UNAUTHORIZE? <A/U> : A
PT  AUTHORIZE/UNAUTHORIZE? <A/U> : A
ST  AUTHORIZE/UNAUTHORIZE? <A/U> : A
SS  AUTHORIZE/UNAUTHORIZE? <A/U> : A
```

```

PC  AUTHORIZE/UNAUTHORIZE? <A/U> : A
PH  AUTHORIZE/UNAUTHORIZE? <A/U> : A
RP  AUTHORIZE/UNAUTHORIZE? <A/U> : U
RT  AUTHORIZE/UNAUTHORIZE? <A/U> : U
LN  AUTHORIZE/UNAUTHORIZE? <A/U> : U
LF  AUTHORIZE/UNAUTHORIZE? <A/U> : U
PF  AUTHORIZE/UNAUTHORIZE? <A/U> : A
LL  AUTHORIZE/UNAUTHORIZE? <A/U> : U
PL  AUTHORIZE/UNAUTHORIZE? <A/U> : A
LK  AUTHORIZE/UNAUTHORIZE? <A/U> : U
LC  AUTHORIZE/UNAUTHORIZE? <A/U> : A
SC  AUTHORIZE/UNAUTHORIZE? <A/U> : U
PS  AUTHORIZE/UNAUTHORIZE? <A/U> : A
LD  AUTHORIZE/UNAUTHORIZE? <A/U> : A
PD  AUTHORIZE/UNAUTHORIZE? <A/U> : A
SD  AUTHORIZE/UNAUTHORIZE? <A/U> : U
PR  AUTHORIZE/UNAUTHORIZE? <A/U> : A
MO  AUTHORIZE/UNAUTHORIZE? <A/U> : A
*

```

When you select **P**, as shown previously, the Help List display appears as shown in the following example. The Expanded Help List appears as usual except an asterisk appears before the command for authorized standard user commands.

```

*HE
EXPANDED HELP LIST? <Y OR N> N

COMMANDS ARE :

    * denotes Standard User access

LS* VA  VC  IA  IC  CC* PV* PI* LI  AI
SI  TI* LR  LP  PP* EP  DP  AP  IP  ZP
XP* PT* ST* SS* PC* PH* RP  RT  LN  LF
PF* LL  PL* LK  LC* SC  PS* LD* PD* SD
PR* MO* HE* EX* CP

```

PUMP SWITCH TIMER OPTION

DESCRIPTION

The Pump Switch Timer option allows you to prevent fueling at a pump when the handle has been left on from a previous transaction.

In a normal transaction when you request a pump, the pump is activated, the user turns on the pump handle and fueling begins. Occasionally, the pump handle may have been left on from a previous transaction. When a new transaction is initiated, the pump cannot reset and, if pumping is allowed, the quantity shown at the pump includes the previous transaction quantity.

With the pump switch timer option, the handle is checked at the beginning of each transaction. If it is found to be on, the user will see the message **TURN OFF PUMP HANDLE** and the transaction will be terminated. A transaction will be generated with the message **PMP SW ERROR**. The user must turn off the pump handle and begin a new transaction in order to fuel.

In order to use this option, you must set a time period during which the pump is checked. This time period must be less than the time that it takes for your pump to reset and transmit a switch detect signal back to the fuel management system. Nearly all pumps take more than one second to reset and transmit switch detect, so the values for this option range from .1 to 1 second, in tenths of a second, with .5 being a commonly used value. This value may need to be adjusted for your pumps. A setting of zero disables this option.

When you have the pump switch timer option, the **SC** command provides a prompt for you to enter this time period. Values to enter are 0 to 10, with zero being disable, 1 being one-tenth of a second, 2 being two-tenths of a second and so on up to 10 which is one second) These values can be loaded only when the pulse rate change switch on the MPU board is enabled.

CHANGES IN STANDARD COMMANDS

All commands are the same with the pump switch timer option except for the **SC**, **PS**, and **XP** commands. The **SC** command contains an additional prompt for the time period to check the pump. The **PS** and **XP** commands display the pump switch timer values entered for each pump.

Example: **SC** Command:

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y↓

SITE NO.: <XXXX> 0003↓

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000↓

NUMBER OF PUMPS: <1-8> 4↓

PUMP #1
  $ OR QTY PULSES? <$ OR Q>$↓
  PUMP SWITCH TIMER: <0-10>: 5↓
PUMP #2
  $ OR QTY PULSES? <$ OR Q>Q↓
  PULSES PER GAL. <1000,500,250,100,10,1>100↓
  PUMP SWITCH TIMER: <0-10>: 5↓
PUMP #3
  $ OR QTY PULSES? <$ OR Q>Q↓
  PULSES PER GAL. <1000,500,250,100,10,1>10↓
  PUMP SWITCH TIMER: <0-10>: 5↓
PUMP #4
  $ OR QTY PULSES? <$ OR Q>Q↓
  PULSES PER GAL. <1000,500,250,100,10,1>10↓
  PUMP SWITCH TIMER: <0-10>: 0↓

NO. OF TANKS: <1-8> 4↓

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0↓

SYSTEM ID:<XXXX> 5745↓

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5↓

LINES PER PAGE <0-62>: 62↓

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E↓           (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E↓

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D↓

REASONABLE ODOMETER
  NO. OF RETRIES: <1-99> 3↓           (REASONABLE HOURS for HPG)
*
```

Example: PS Command:

```

*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

PUMP #01  PULSES PER GAL.:  $
           PUMP SWITCH TIMER: 05
PUMP #02  PULSES PER GAL.: 0100
           PUMP SWITCH TIMER: 05
PUMP #03  PULSES PER GAL.: 0010
           PUMP SWITCH TIMER: 05
PUMP #04  PULSES PER GAL.: 0010
           PUMP SWITCH TIMER: 00

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.: 05

LINES PER PAGE:        62

CARD EXPIRATION DATE:   ENABLED           (Mag Card Only)

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED

REASONABLE ODOMETER
  NO. OF RETRIES:       03                (REASONABLE HOURS for HPG)

*
    
```

Example: XP Command

```

*XP

          -PUMP TIMEOUTS-
          IN SECONDS

P#  PULSES PER  BEFORE  AFTER  PMP SW
    GALLON     PULSES  PULSES  TIMER
---  -
01   $         080    060    0.5
02  0100       080    080    0.5
03  0010       120    120    0.5
04  0010       120    080    0.0

*
    
```

REASONABLE ODOMETER/HOURS CHECK OPTION

DESCRIPTION

The Reasonable Odometer/Hours option provides an odometer or hours* validity check for a set number of your vehicles/equipment (**NOTE: Reasonable hours is used when user equipment is monitored with an hour meter instead of an odometer*). The type of option, reasonable odometer/hours, was determined when you ordered your system. Also, the exact number of vehicles supported depends upon the limit specified when you ordered your system. Vehicles in the system, but not in the vehicle file, are still permitted to fuel, however, odometer/hours entries are not checked.

The reasonable odometer/hours option is similar to the MPG/HPG option without the MPG/HPG features. To use the reasonable odometer/hours option, you enter information on each of your vehicles into a vehicle record. These records are stored in a vehicle file.

For reasonable odometer, the vehicle record contains:

- VEH 3- to 6-digit vehicle number
- ODOM up to 6-digit Odometer Entry
- STAT a special code indicating reasonable odometer comments

For reasonable hours, the vehicle record contains:

- VEH 3- to 6-digit vehicle number
- HOURS up to 6-digit hours Entry
- STAT a special code indicating reasonable hours comments

For both types, when the system detects an odometer/hours entry, the vehicle number is checked to see if it is in the vehicle file. If it is, the odometer/hours entry is checked for validity against the last odometer/hours reading entered. It also considers the maximum miles/hours between fuelings value (**LM** command). If an odometer/hours entry is out of range, the system prompts for another entry.

If the odometer/hours entry is valid, fueling is allowed. When the transaction completes, the system updates the **ODOM** or **HOURS** field in the vehicle record to show the latest odometer/hours entry. The status flag may also change.

If the odometer/hours is invalid, the user is re-prompted. (You can indicate the number of entry retries allowed using the **SC** command.) If the maximum number of retries is exceeded, the transaction terminates and the vehicle record is not changed. The transaction is stored as a zero quantity transaction (no fuel dispensed) and is tagged with an **INVALID ODOM** or **INVALID HOURS** message.

At the termination of the first transaction, the user is prompted to enter his card again. The user can enter any odometer/hours reading and fueling is allowed. When fueling is complete, a normal transaction is recorded. The system updates the vehicle record by storing the odometer/hours entry in the **ODOM** or **HOURS** field. The status flag may also change.

Vehicle File Commands

The commands in this section allow you to:

- **CV** clear vehicle file
- **LV** load a vehicle record
- **RV** remove a vehicle record
- **LO** load odometer/hours in vehicle record
- **VF** print vehicle file
- **LM** load maximum miles/hours between fuelings
- **CR** check vehicle record

CV - CLEAR VEHICLE FILE

Use the CV command only at initial start-up. This command erases any vehicles previously stored in the system; they cannot be retrieved.

1. At the * prompt, type **CV**. The system displays: **CLEAR VEHICLE FILE? <Y OR N>**
2. Type **Y** and press RETURN to reset (erase) the vehicle file. Type **N** and press RETURN to leave the vehicle file as is.

*NOTE: Only **Y** or **N** are valid responses; if you type anything else, the system re-prompts you until you enter a **Y** or **N**.*

The * prompt reappears.

Example:

```
*cv
CLEAR VEHICLE FILE? <Y OR N> Y↵
*
```

LV - LOAD A VEHICLE RECORD

Use the **LV** command to enter a new vehicle record (vehicle number and odometer/hours reading) into the system. If you wish to enter just odometer/hours readings for an existing vehicle, use the **LO** command.

*NOTE: The prompts and procedure steps shown in this section are for reasonable odometer. If you have the reasonable hours option, your prompts will contain **HOURS** instead of **ODOM** (odometer). An example of reasonable hours commands is shown at the end of this command procedure.*

1. At the * prompt, type **LV**. The system displays: **VEH. NO.**
2. Type up to a 6-digit vehicle number and press RETURN. The system displays: **BEGIN ODOM:**

*NOTE: If the vehicle record already exists, the system displays **RECORD EXISTS ALREADY!** The **VEH. NO.** prompt reappears.*

3. Type the vehicle's present odometer reading (up to six digits) and press RETURN. The **VEH. NO.** prompt reappears.
4. To define additional vehicles and odometer readings, repeat this procedure from Step 2.

To stop entering vehicle information, press RETURN at the **VEH. NO.** prompt. The * prompt reappears.

Example - Reasonable Odometer:

```
*LV
VEH. NO. 0543.
BEGIN ODOM: 2850.
VEH. NO.
*
```

Example - Reasonable Hours:

```
*LV
VEH. NO. 4321.
BEGIN HOURS: 0256.
VEH. NO.
*
```

RV - REMOVE A VEHICLE RECORD

Use the **RV** command to remove a vehicle record from the system.

1. At the * prompt, type **RV**. The system displays: **VEH. NO.**
2. Type the vehicle number that you wish to remove and press RETURN. The **VEH. NO.** prompt reappears.

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!**
The **VEH. NO.** prompt reappears.*

3. To remove additional vehicles from the vehicle file, repeat this procedure from Step 2.

To stop removing vehicles, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example:

```
*RV
VEH. NO. 0543↵
VEH. NO. ↵
*
```

LO - LOAD ODOMETER/HOURS

Use the **LO** command to update odometer/hours readings for an existing vehicle record. This command helps to maintain accurate odometer/hours readings (such as in cases where the selected vehicle may have fueled at another location, etc.)

*NOTE: The prompts and procedure steps shown in this section are for reasonable odometer. If you have the reasonable hours option, your prompts will contain **HOURS** instead of **ODOM** (odometer). An example of reasonable hours commands is shown at the end of this command procedure.*

1. At the * prompt, type **LO**. The system displays: **VEH. NO.**
2. Type the vehicle number and press RETURN. The system displays: **BEGIN ODOM:**

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

3. Type the vehicle's present odometer reading and press RETURN.
4. To update additional odometer readings, repeat this procedure from Step 2.

To stop updating odometer readings, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example for reasonable odometer:

```
*LO
VEH. NO. 0543.
BEGIN ODOM: 4580.
VEH. NO. 
*
```

Example for reasonable hours:

```
*LO
VEH. NO. 4321.
BEGIN HOURS: 0256.
VEH. NO. 
*
```

VF - PRINT VEHICLE FILE

Use the **VF** command to print the contents of the vehicle file. This listing includes: the maximum miles/hours between fuelings, the vehicle number, the odometer/hours reading, and a status message.

1. At the * prompt, type **VF**. The listing prints.

Example for reasonable odometer:

```
*VF
      MAX. MILES BETWEEN FUELINGS
      0500
VEH  ODOM      STAT
0012 031256
0018 043578    %%
0054 012967
0109 024644    %%
0508 000100
1008 000000
*
```

Example for reasonable hours:

```
*VF
      MAX. HOURS BETWEEN FUELINGS
      0100
VEH  HOURS     STAT
0012 000010
0018 000022    %%
0054 000015
0109 000013    %%
0508 000004
1008 000007
*
```

The status message appears in the last column of the report:

%% The record has an initial value; no transactions occurred since it was initialized.

LM - LOAD MAXIMUM MILES BETWEEN FUELINGS

Use the **LM** command to enter the maximum amount of miles/hours (1-9999) that are allowed between fueling.

*NOTE: The prompts and procedure steps shown in this section are for reasonable odometer. If you have the reasonable hours option, your prompts will contain **HOURS** instead of **ODOM** (odometer). An example of reasonable hours commands is shown at the end of this command procedure.*

1. At the * prompt, type **LM**. The system displays: **MAX. MILES**
2. Type the maximum miles allowed between fuelings and press RETURN. The * prompt reappears.

Example for reasonable odometer:

```
*LM
MAX. MILES 500J
*
```

Example for reasonable hours:

```
*LM
MAX. HOURS 100J
*
```

CR - CHECK VEHICLE RECORD

Use the **CR** command to print the odometer/hours and status for a specific vehicle record.

*NOTE: The prompts and procedure steps shown in this section are for reasonable odometer. If you have the reasonable hours option, your prompts will contain **HOURS** instead of **ODOM** (odometer). An example of reasonable hours commands is shown at the end of this command procedure.*

1. At the * prompt, type **CR**. The system displays: **VEH. NO.**
2. Type the vehicle number that you wish to view and press RETURN. The listing prints and the **VEH. NO.** prompt reappears.

*NOTE: If the vehicle record does not exist, the system displays **NO RECORD FOUND!** The **VEH. NO.** prompt reappears.*

3. To view additional vehicle records, repeat this procedure from Step 2.

To stop viewing vehicle records, press RETURN at the **VEH. NO.** prompt.

The * prompt reappears.

Example for reasonable odometer:

```
*CR
ENTER VEH. NO. 18.↓
ODOM 043578 %%
ENTER VEH. NO.↓
*
```

Example for reasonable hours:

```
*CR
ENTER VEH. NO. 18.↓
HOURS 000022
ENTER VEH. NO.↓
*
```

CHANGES IN STANDARD COMMANDS

All commands are the same for both reasonable odometer and hours, except for the **SC** and **PS** commands. The **SC** command contains an additional prompt for the number of retries allowed when entering the odometer/hours reading. The response must be a number between 1 and 99. The **PS** command displays the number of retries currently selected. See the following examples.

Example: SC Command

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

NUMBER OF PUMPS: <1-8> 4␣

PUMP #1
  $ OR QTY PULSES? <$ OR Q>$␣
PUMP #2
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>100␣
PUMP #3
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣
PUMP #4
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0␣

SYSTEM ID:<XXXX> 5745␣

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5␣

LINES PER PAGE <0-62>: 62␣

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E␣          (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E␣

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D␣

REASONABLE ODOMETER                               (or REASONABLE HOURS)
NO. OF RETRIES: <1-99> 3␣
*
```

Example: PS Command

```
*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

PUMP #01   PULSES PER GAL.:  $
PUMP #02   PULSES PER GAL.: 0100
PUMP #03   PULSES PER GAL.: 0010
PUMP #04   PULSES PER GAL.: 0010

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.: 05

LINES PER PAGE:        62

Press any key to continue...

CARD EXPIRATION DATE:   ENABLED           (Mag Card Only)

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED

REASONABLE ODOMETER                                (or REASONABLE HOURS)
  NO. OF RETRIES:       03

*
```

TRANSACTION HEADINGS WITH REASONABLE ODOMETER/HOURS CHECK

The Reasonable Odometer/Hours Check option does not change the transaction printout.

REASONABLE ODOMETER/HOURS MESSAGES

The following messages may appear at the data terminal with the reasonable odometer/hours option:

NO RECORD FOUND!

Appears with the **RV**, **LO**, and **CR** commands. The vehicle record does not exist.

RECORD EXISTS ALREADY!

Appears with the **LV** command. You tried to enter a vehicle record that already exists.

RECEIPT PRINTER OPTION

DESCRIPTION

The Receipt Printer option allows you to obtain a transaction receipt for fuel dispensed through the Series 1000. Receipts are available only for those transactions where fuel is dispensed; error and other no quantity transactions cannot be printed.

After you fuel your vehicle in the normal fashion and want a receipt, go back to the Series 1000 and run your card through. The system asks if you want a receipt. If you reply **1** for yes, a receipt is printed for you and the transaction is finished.

If you do not choose to get a receipt (press **0** for no), the next time you attempt to fuel, the system checks through the last 16 transactions with quantity. If one of these matches your account data (i.e., card number, field 1, field 2, etc.), the system asks if you want a receipt for that transaction. If you say yes, the system prints a receipt. You must then run your cards again to begin your fueling transaction. If you say no, the system proceeds with a normal fueling operation.

Transaction receipts are not available if:

- There are no available receipt transactions in the system memory for your card.
- The receipt printer is in an error condition. (i.e., printer jammed, paper out, printer down).

You can issue a receipt printer command, **GR**, from the data terminal to obtain a receipt for a specific transaction number.

FUELING PROCEDURE

When you have the receipt printer option, use this procedure:

1. Fuel your vehicle as detailed in Section 2, **Fueling with the Series 1000**.
2. When fueling is complete and the pump nozzle is replaced, return to the Series 1000. The LCD alternates between **ENTER CARD** and a personalized system message. Insert your card fully into the Series 1000 card reader. The LCD displays: **REMOVE CARD**.
3. Remove the card from the card reader. If you leave a card in the reader for more than five seconds, an alarm sounds to remind you to remove it. If you are using a one-card system skip to Step 6.

If you are using a two-card system, the LCD displays: **ENTER SECOND CARD**.

4. Insert the second card fully into the card reader. The LCD displays: **REMOVE CARD**.
5. Remove the card from the reader. If a transaction receipt is available, the LCD displays: **RECEIPT? 1=YES 0=NO**
6. To print a transaction receipt, press **1** and ENTER (enter). The LCD displays: **RECEIPT IS PRINTING**. If you have requested multiple receipts, they print out one after the other.

If you do not want a receipt, press **0** and ENTER. The sequence for starting a new fueling transaction begins.

If you make a mistake while entering **1** or **0**, press CLR (clear) before pressing ENTER. You have three tries to enter a correct response to **RECEIPT? 1=YES 0=NO**. After the third unsuccessful try, the display returns to **ENTER CARD** and you must start again at Step 2. If a transaction receipt is not available, the sequence for starting a new fueling transaction begins.

7. When the printing completes, open the printer door and remove the receipt.

GR - GET RECEIPT COMMAND

Use the **GR** command at the data terminal to print a receipt at the Series 1000 card system for a transaction you specify. The system allows you to print a receipt for any transaction from the transaction pointer to the present.

Receipts may be printed only for transactions which contain quantity. If a receipt has been previously printed for the transaction entered, **DUPLICATE RECEIPT** is printed on the receipt.

1. At the * prompt, type **GR**. The system displays: **TRANS NO.:**
2. Type the number of the transaction for which you want a receipt and press RETURN. A receipt is printed for the transaction number entered.

The * prompt reappears.

Example:

```
*GR
TRANS NO. : 1
*
```

If a receipt is requested for a transaction which contains zero quantity the system displays **NO QUANTITY IN TRANS!!**.

Receipts are not printed if an error condition exists or the printer test is active. The system displays **CHECK THE PRINTER!!** or **PRINTER TEST ACTIVE!!**.

CHANGES IN STANDARD COMMANDS

All operator commands are the same except for the **SC** and **PS** commands. You use the **SC** command to load the receipt heading and trailing messages. Heading lines are those printed before the body of the receipt and trailing lines are those printed after the body of the receipt. There are four heading lines and two trailing lines of up to 30 characters each (See the example and sample text below).

For any of the heading and trailing prompts, you can enter text or press RETURN to leave the line unchanged. The system prompts you for the next line.

If you do not want to load the heading or trailing lines allowed, type the caret character (^) as the first character of the line and press RETURN. If you were entering heading lines, the system prompts you for trailing lines. If you were entering trailing lines it prompts you with **NUMBER OF PUMPS**.

When all desired heading and trailing lines are loaded, you may continue entering system configuration data or press CTRL C to exit. The * prompt reappears.

Example:

```
*SC
RESET SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

HEADING LINE #1 : <30 CHARS> GASBOY INTERNATIONAL LLC
HEADING LINE #2 : <30 CHARS> NORTH VALLEY FORGE ROAD
HEADING LINE #3 : <30 CHARS> LANSDALE, PA 19446
HEADING LINE #4 : <30 CHARS> TELE: 215-855-4631

TRAILING LINE #1 : <30 CHARS> THANK YOU!
TRAILING LINE #2 : <30 CHARS> PLEASE COME AGAIN.

NUMBER OF PUMPS: <1-8> 4␣

PUMP #1
  $ OR QTY PULSES? <$ OR Q>$␣
PUMP #2
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>100␣
PUMP #3
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣
PUMP #4
  $ OR QTY PULSES? <$ OR Q>Q␣
  PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0␣

SYSTEM ID:<XXXX> 5745␣
```

```

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5.↓

LINES PER PAGE <0-62>: 62.↓

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E.↓          (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E.↓

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D.↓

*

```

Example: The **PS** command shows the heading and trailing lines you have loaded.

```

*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

HEADING LINE #1:        GASBOY INTERNATIONAL LLC
HEADING LINE #2:        NORTH VALLEY FORGE ROAD
HEADING LINE #3:        LANSDALE, PA 19446
HEADING LINE #4:        TELE: 215-855-4631

TRAILING LINE #1:       THANK YOU!
TRAILING LINE #2:       PLEASE COME AGAIN.

PUMP #01  PULSES PER GAL.:  $
PUMP #02  PULSES PER GAL.:  0100
PUMP #03  PULSES PER GAL.:  0010
PUMP #04  PULSES PER GAL.:  0010

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.:  05

LINES PER PAGE:         62

CARD EXPIRATION DATE:   ENABLED          (Mag Card Only)

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED

```

ADDITIONAL RECEIPT PRINTER OPTION - MULTIPLE RECEIPTS

The Multiple Receipts option allows you to configure the number of receipts to be printed for each receipt request from the Series 1000 reader.

You load the number of multiple receipts using the **SC** command:

1. At the * prompt, type **SC**. The usual system configuration prompts appear. (See **SC - Load or Change System Configuration**)
2. Type any new configuration data or press RETURN at each prompt until the system displays: **RECEIPTS PER TRANS: <1-3>**:
3. Type the number of receipts (1-3) to be printed for each card-generated receipt request and press RETURN.

NOTE: This option affects only the card-generated receipt requests. Requests issued from the data terminal (GR command), generate single receipts.

4. If you wish to change additional system configuration parameters, continue to do so.

To exit from system configuration, press CTRL C.

Example:

```
*SC
RESET SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y␣

SITE NO.: <XXXX> 0003␣

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000␣

HEADING LINE #1 : <30 CHARS> GASBOY INTERNATIONAL LLC
HEADING LINE #2 : <30 CHARS> NORTH VALLEY FORGE ROAD
HEADING LINE #3 : <30 CHARS> LANSDALE, PA 19446
HEADING LINE #4 : <30 CHARS> TELE: 215-855-4631

TRAILING LINE #1 : <30 CHARS> THANK YOU!
TRAILING LINE #2 : <30 CHARS> PLEASE COME AGAIN.

RECEIPTS PER TRANS: <1-3> 2␣

NUMBER OF PUMPS: <1-8> 4␣

PUMP #1
$ OR QTY PULSES? <$ OR Q>$␣
PUMP #2
$ OR QTY PULSES? <$ OR Q>Q␣
PULSES PER GAL. <1000,500,250,100,10,1>100␣
PUMP #3
$ OR QTY PULSES? <$ OR Q>Q␣
PULSES PER GAL. <1000,500,250,100,10,1>10␣
PUMP #4
$ OR QTY PULSES? <$ OR Q>Q␣
PULSES PER GAL. <1000,500,250,100,10,1>10␣

NO. OF TANKS: <1-8> 4␣
```

```

PRICE DATA FORMAT
  0 = NO PRICE DATA
  1 = UNIT PRICE
  2 = UNIT & TOTAL PRICE
  ENTER FORMAT: <0,1,2>0.↓

SYSTEM ID:<XXXX> 5745.↓

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN. <1-99> 5.↓

LINES PER PAGE <0-62>: 62.↓

CARD EXPIRATION DATE
  ENABLE OR DISABLE? <E OR D> E.↓           (Mag Card Only)

AUTO P.I.N. LOCKOUT
  ENABLE OR DISABLE? <E OR D> E.↓

AUTO SITE SHUT DOWN
  ENABLE OR DISABLE? <E OR D> D.↓
*
```

Example: The **PS** command shows the selected number of receipts per transaction.

```

*PS
  *** SYSTEM CONFIGURATION ***

SITE NO.:                0003

IDLE MESSAGE:            GASBOY SERIES 1000

HEADING LINE #1:        GASBOY INTERNATIONAL LLC
HEADING LINE #2:        NORTH VALLEY FORGE ROAD
HEADING LINE #3:        LANSDALE, PA 19446
HEADING LINE #4:        TELE: 215-855-4631

TRAILING LINE #1:       THANK YOU!
TRAILING LINE #2:       PLEASE COME AGAIN.

RECEIPTS PER TRANS:     2

PUMP #01  PULSES PER GAL.:  $
PUMP #02  PULSES PER GAL.:  0100
PUMP #03  PULSES PER GAL.:  0010
PUMP #04  PULSES PER GAL.:  0010

NUMBER OF TANKS:        4

PRICE DATA FORMAT:     NO PRICE DATA

AUTO PUMP DISABLE
  NO. OF ZERO QTY. TRAN.:  05

LINES PER PAGE:         62

CARD EXPIRATION DATE:   ENABLED           (Mag Card Only)

AUTO P.I.N. LOCKOUT:    ENABLED

AUTO SITE SHUT DOWN:    DISABLED
```

RECEIPT PRINTER MESSAGES

The Series 1000 System continuously monitors the transaction receipt printer. Changes which occur in the printer status appear on the direct printout. The following messages may appear.

PAPER LOW!!
PAPER OUT!!
PAPER REFILLED!!
PRINTER JAMMED!!
PRINTER UNJAMMED!!

These messages alert the attendant that printer maintenance may be required. Maintenance procedures are detailed in Section 27, **Receipt Printer Maintenance**.



SUPERVISOR CARD OPTION

DESCRIPTION

This option allows you to use a specially encoded supervisor card to manually enter card information at the Series 1000 keypad. Supervisor cards are typically used when a card has been lost.

Mag Card Systems

A supervisor card can be encoded with special characters (**A** or **E**) that designate which fields (**CARD NUMBER**, **ID FIELD 1**, or **ID FIELD 2**) should be entered manually. The fields to be manually entered must be filled with either all **As** or all **Es**.

For example, assume that your system has the following card layout:

F	SYSTEM	F	CARD	FIELD1	FIELD2	F	EXP.	PROD	PROD	CHECK
S	I.D.	S	NO.	(EMP)	(VEH)	S	DATE	LIM.	AUTH.	DIGIT
-	XXXX	-	XXXX	XXXX	XXXX	-	YYMM	X	X	X

X = digit (0-9), FS = field separator

If you want to have the supervisor enter **CARD NUMBER**, **ID FIELD 1**, and **ID FIELD 2**, encode the following in those fields:

F	SYSTEM	F	CARD	FIELD1	FIELD2	F	EXP.	PROD	PROD	CHECK
S	I.D.	S	NO.	(EMP)	(VEH)	S	DATE	LIM.	AUTH.	DIGIT
-	XXXX	-	AAAA	EEEE	AAAA	-	YYMM	X	X	X

If you want to have the supervisor enter only **ID FIELD 1**, encode the card as follows:

F	SYSTEM	F	CARD	FIELD1	FIELD2	F	EXP.	PROD	PROD	CHECK
S	I.D.	S	NO.	(EMP)	(VEH)	S	DATE	LIM.	AUTH.	DIGIT
-	XXXX	-	XXXX	AAAA	XXXX	-	YYMM	X	X	X

Optical Card Systems

Any card with a card number in the range 9930-9979 is treated as a supervisor card. When a supervisor card is used, **ID FIELD 1** and **ID FIELD 2** may be entered through the keypad. The data entered at the keypad replaces any data that may have been on the card in those fields. If you do not enter any data and just press ENTER, the system uses the data from the card.

When you are using an "A" System card that does not use card number and the supervisor option is required, the field you are using for lockout is also used to identify the supervisor card. Ranges for this type of card have the digits 30 to 79 at the end of the field. These ranges are preceded by 9's to the length of the field (for example, if the field is five digits, the range for the supervisor card would be 99930-99979). When the supervisor card is used, data may be entered through the keypad into any ID field other than the one used for lockout.

FUELING WITH A SUPERVISOR CARD

To fuel with a supervisor card:

1. At the **ENTER CARD** prompt, insert the supervisor card into the card reader. The LCD displays: **REMOVE CARD**
2. Remove the card from the reader. If you are using a one card system, or an optical card system, the system prompts you to enter the required card data. Proceed to Step 6.
3. If you are using a two-card system, the LCD displays: **ENTER SECOND CARD**
4. Insert your second card into the reader. The LCD displays: **REMOVE CARD**
5. Remove the card from the reader. The LCD prompts you to enter the required card data fields.
6. Enter the appropriate data. Complete each entry by pressing ENTER.

*Example: If you are using a mag card that has **AAAA** encoded in the **CARD NUMBER** field, **EEEE** in the **EMPLOYEE NUMBER** field, and **AAAA** encoded in the **VEHICLE NUMBER** field, the prompts appear in the following sequence:*

ENTER CARD #
ENTER EMP
ENTER VEH

7. After you enter the appropriate card data, proceed with the fueling sequence as described in Section 2 (**Fueling with the Series 1000**) beginning at Step 7.

TANK MONITOR INTERFACE

DESCRIPTION

The Tank Monitor Interface option enables you to communicate with a GASBOY TMS 500, Veeder-Root TLS, or EBW AutoStik tank monitoring system using the Series 1000 as an interface. Once the communications link is established, commands issued from the Series 1000 data terminal are passed to the tank monitor and data output from the tank monitor appears at the Series 1000 data terminal. This interface is completely transparent except for the ENQ character which terminates the tank monitor interface. The ENQ character is generated by pressing CTRL E.

TM - TANK MONITOR LINK COMMAND

Use the **TM** command to establish a communications link for the tank monitoring system.

1. At the * prompt, type **TM**. The system displays: **TANK MONITOR LINK? <Y OR N>**
2. To establish the communications link, type **Y** and press RETURN.

To terminate the request, type **N** and press RETURN.

If the Series 1000 is successful in establishing a communications link with the tank monitoring system, it displays this character: **>**.

Example:

```
*TM
TANK MONITOR LINK? <Y OR N> Y ↵
>
```

3. What happens next depends on the protocol of the tank monitoring system you are using. The following example is for a Veeder-Root TLS-250. To request a report on this system, press CTRL A to send an SOH, then type the desired report code and tank number. In our example, we used **2A1**. This prints an alarm status report (code **2A**) for tank **1**.

```
*TM
TANK MONITOR LINK? <Y OR N> Y
>
(Press CTRL A here)
2A1
ALARM STATUS

FEB 27, 1992
9:38 AM

TANK  PRODUCT                LEAK  HIGH  OVER  LOW
      PRODUCT                WATER  WATER  FILL  LIMIT  THEFT

  1  SUPER UNLEADED          OFF   OFF   OFF   OFF   OFF

EXTERNAL INPUT STATUS: OPEN
```

NOTE: See the documentation supplied with your tank monitoring system for additional communications commands and report codes.

TERMINATE TANK MONITOR COMMUNICATIONS LINK

There are two ways to terminate the communications link between the Series 1000 and the tank monitoring system:

- ENQ (CTRL E) termination
- Timeout termination

ENQ (CTRL E) Termination

1. When you finish communicating with the tank monitoring system and wish to terminate the communications link, press CTRL E on the Series 1000 data terminal.

The Series 1000 intercepts the ENQ as a termination character and breaks the communications link. The * prompt reappears, indicating the Series 1000 is back in the standard command mode.

Example:

```
*TM
TANK MONITOR LINK? <Y OR N> Y
>(Press CTRL A here)
2A1
ALARM STATUS

FEB 27, 1992
 9:38 AM

TANK  PRODUCT                LEAK    HIGH    OVER    LOW
      PRODUCT                LEAK    WATER  FILL   LIMIT  THEFT
1    SUPER UNLEADED          OFF     OFF    OFF    OFF    OFF

EXTERNAL INPUT STATUS: OPEN
(Press CTRL E here)
*
```

Timeout Termination

If no data is transmitted or received for 60 seconds after the communications link is established, the Series 1000 times out and the link is terminated. At this time, the Series 1000 also exits the command mode. You must sign back on to the Series 1000 if you wish to execute any terminal commands.

Example:

```
*TM
TANK MONITOR LINK? <Y OR N> Y
>(Press CTRL A here)
2A1
ALARM STATUS
FEB 27, 1992
 9:38 AM
TANK  PRODUCT                LEAK    HIGH    OVER    LOW
      PRODUCT                WATER  WATER  FILL   LIMIT  THEFT
1    SUPER UNLEADED          OFF     OFF    OFF    OFF    OFF
EXTERNAL INPUT STATUS: OPEN
EXIT
```

TANK MONITOR ERROR MESSAGES

The following messages may be displayed at the Series 1000 data terminal when using the tank monitor interface option:

TANK MONITOR OFFLINE!

Either the Series 1000 could not connect to the tank monitoring system or the Series 1000 could not communicate with the tank monitoring system after the link was established.

TM BUFFER OVERFLOW!

Data was transmitted by the tank monitoring system at a higher rate than what could be displayed at the Series 1000 data terminal. This error terminates the communications link.

Section 26

PREVENTIVE MAINTENANCE

Cleaning the card reader at regular intervals will help to extend the life of the card reader and help to maintain trouble-free service in your Series 1000. To clean the card reader, follow these steps:

For Magnetic Card Readers:

1. Use a GASBOY cleaning card. The cards are available in boxes of 50 cards (P/N C08757 = 1 box). Each card is individually wrapped in foil packaging to keep the cleaning solvent from evaporating.
2. Insert the cleaning card into the mag card reader with the fuzzy side facing down. Insert and remove the card several times.
3. Turn the card around (fuzzy side still facing down) and insert and remove the card several times. By turning the card around you will utilize the entire cleaning area.
4. Clean the card reader once a week. Failure to do so could result in premature failure of the card reader.

For Optical Card Readers:

1. Wrap a lint free cloth (e.g. cheesecloth) around an access card.
2. Insert the card lengthwise and move it side to side.
3. The card reader should be cleaned once a week. Failure to do so could result in premature failure of the card reader.

Clean the clear face shield with a soft, clean, damp cloth as often as necessary. Avoid abrasive cleaners and rough paper towels for they may tend to scratch.

RECEIPT PRINTER MAINTENANCE

PRINTER DESCRIPTION

The optional receipt printer that is used in GASBOY Series 1000 Card Systems enables you to print receipts for fueling transactions right at your card system.

The printer is housed within the pedestal of your card system. A printer access door is located on the side of the pedestal. Inside, the printer is mounted on a sliding drawer that enables you to easily slide it out for servicing or maintenance and then replace it. A receipt door on the front of the pedestal provides customer access to receipts. Indicator lamps, on the pedestal above the receipt door, indicate **PAPER LOW** or **PAPER OUT** conditions.

Figure 27-1 highlights the location and features of a card reader with a receipt printer. The remainder of this section describes the printer, its internal switches and settings, and how to maintain it.

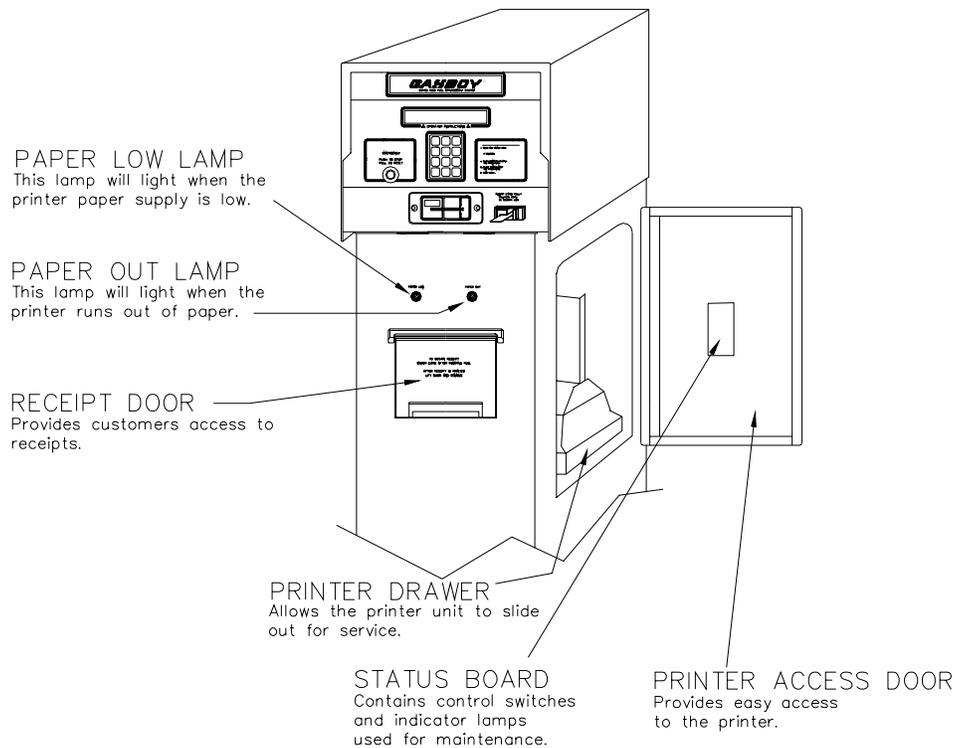


Figure 27-1. Card System with Receipt Printer

SWITCHES AND SETTINGS

Printer Status Board

The printer status board (Figure 27-2) is attached to the inside of the printer access door (See Figure 27-1) This location provides the site attendant easy access to the switches and indicator lamps needed to perform paper loading, self-tests, and simple troubleshooting.

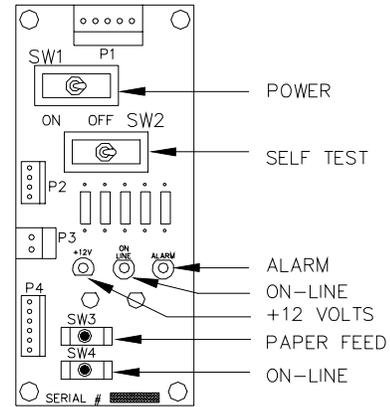


Figure 27-2. Printer Status Board

Status Board Switches

Table 27-1 summarizes switches and results for the printer status board.

Table 27-1. Status Board Switches

SW1	<p>POWER Switching SW1 to the left turns power on to the printer and the status board.</p> <p>Switching SW1 to the right removes power from the printer and status board</p>
SW2	<p>SELF-TEST Switching SW2 to the left starts a self-test of the printer. It will print a barber-pole pattern of all the characters that may be printed on a receipt.</p> <p>Switching SW2 to the right stops the printing and cuts the paper.</p> <p>A short self-test should be performed whenever the paper or ribbon is changed.</p>
SW3	<p>PAPER FEED Pressing SW3 causes a continuous paper feed. This is used while loading new paper.</p>
SW4	<p>ON LINE Pushing this switch alternately puts the printer in the online or offline mode. The printer must always be online (green lamp on) to print receipts or do a self-test.</p>

Status Board Lamps

Table 27-2. Status Board Lamps

D1	+12 VOLTS This lamp should be lit whenever SW1 (Power) is on.
D2	ON LINE This lamp must be on to print receipts or do a self-test. If it is not on, momentarily press SW4. <i>NOTE: This lamp does not have to be lit to feed paper (SW3).</i>
D3	ALARM This lamp will light when a mechanical failure occurs, or when the printer runs out of paper.

Controller Board DIP Switch Settings

The controller board DIP switches are set at the factory prior to shipment. For proper operation of the printer, set the controller board switch settings as shown in Table 27-3.

Table 27-3. DIP Switch Settings

DIP SW1		DIP SW2	
1-1	ON	2-1	ON
1-2	ON	2-2	ON
1-3	ON	2-3	ON
1-4	ON	2-4	OFF
1-5	OFF		
1-6	ON		
1-7	ON		
1-8	OFF		

NOTE: DIP switches are only read by the controller at power up. DIP switch changes should be made with the power off.

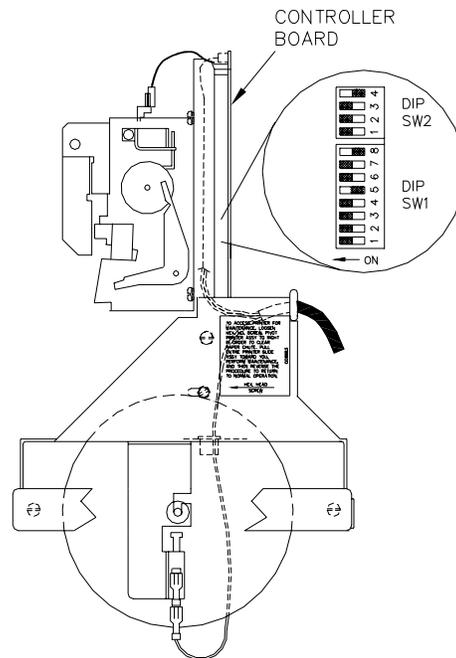


Figure 27-3. DIP Switches

ACCESSING THE PRINTER FOR MAINTENANCE OR SERVICE

Before beginning any of the following maintenance procedures, you must pull the printer out to a serviceable position. Follow these steps:

1. Open the printer access door and loosen the hex head screw.
2. Pivot the printer assembly to the right in order to clear the paper chute.
3. Pull the entire printer slide assembly toward you.
4. Perform any required maintenance or service. Reverse this procedure to return the printer to normal operation.

CHANGING THE PAPER

Removing the Paper

1. Follow the procedure for accessing the printer.
2. Cut the paper where it comes off of the roll.
3. Press the PAPER FEED switch on the printer status board until all of the paper is removed from the printer mechanism.
4. Remove the paper roll, being careful not to bend the PAPER LOW switch.

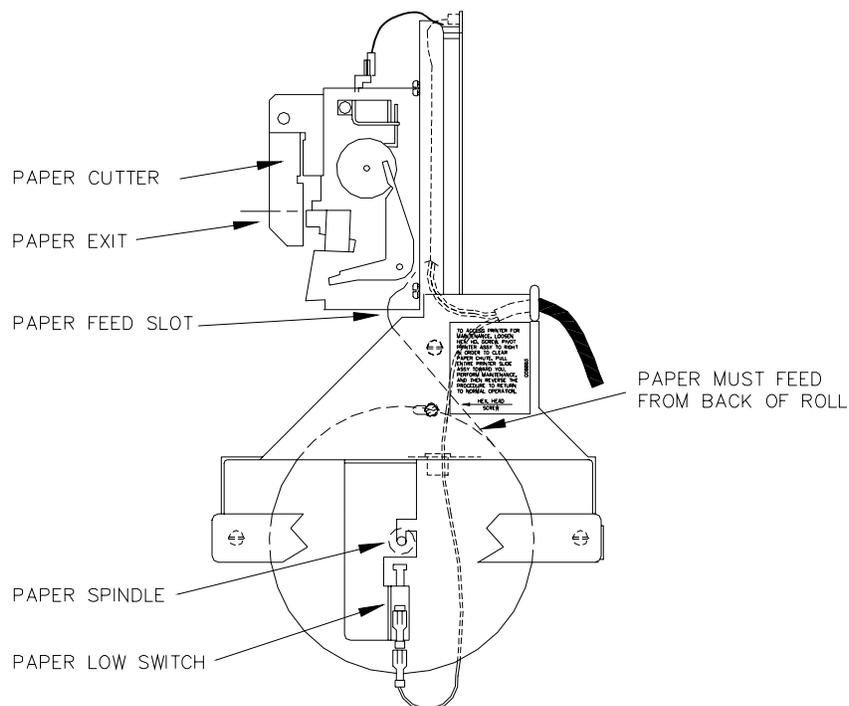


Figure 27-4. Printer Side View

Installing the Paper

1. Insert spindle into paper roll.
2. Insert roll into holder, being careful not to bend the PAPER LOW switch.
3. Make sure the paper feeds from the back of the roll.
4. Insert the paper into the paper feed slot while pressing the PAPER FEED switch on the printer status board.
5. Make sure the paper feeds easily out of the paper cutter. Figure 27-4 shows a side view of the paper path.
6. Perform a short self-test.
7. Return the printer slide assembly to its normal position and lock it in place with the hex head screw.
8. Close and lock the printer access door.

NOTE: Make sure the printer access door is drawn tight in order to insure a watertight seal.

CHANGING THE RIBBON

It is recommended, in most cases, that the ribbon be replaced every 4000-5000 receipts or 2 to 3 rolls of paper to ensure acceptable print quality. Environmental conditions, such as temperature and humidity, may affect the life of the ribbon.

Removing Old Ribbon Spools

1. Follow the procedure for accessing the printer.
2. Slide the cutter latch on the paper cutter unit to the right and swing the paper cutter up (Figure 27-5 A and B).
3. Rotate both spools to create some slack in the ribbon.
4. Pull one spool off of the shaft while pushing the ribbon detecting lever out of the way (Figure 27-5 C). Repeat for the other spool.

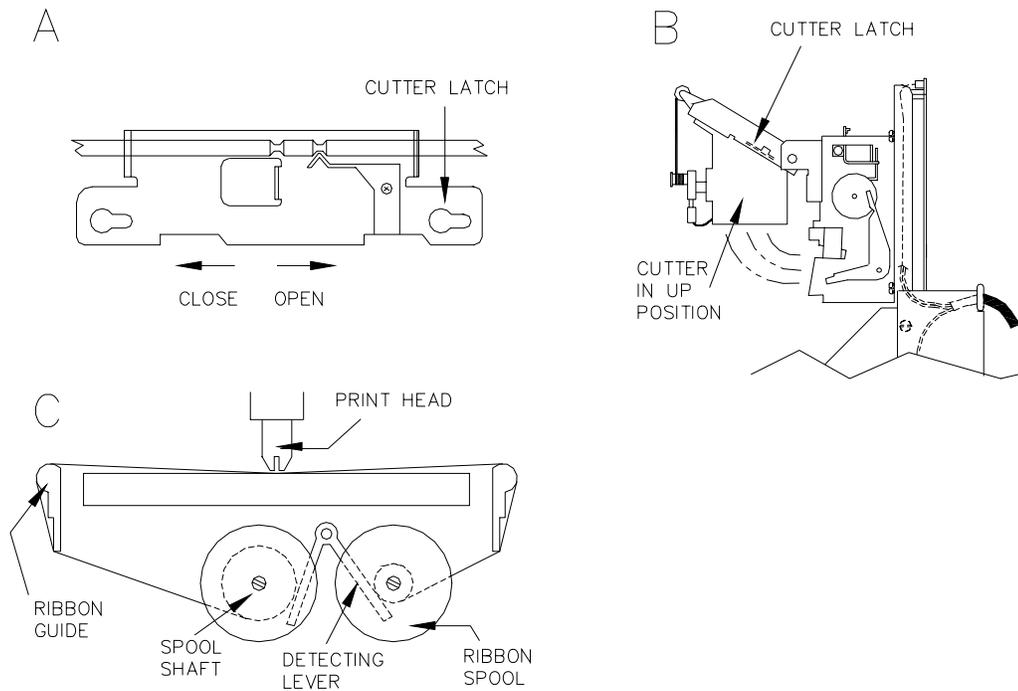


Figure 27-5. Ribbon Installation Sequence

Installing New Ribbon Spools

1. Place the ribbon spool onto the left shaft with the spool-driving pins pointing toward the printer (Figure 27-5 C).
2. Feed the ribbon over the left ribbon guide, under the print head, and over the right ribbon guide.
3. Repeat Step 1 for the right spool.
4. Rotate both spools to remove the slack from the ribbon.
5. Return the paper cutter unit to the normal position and slide the cutter latch to the left to lock (Figure 27-5 A).
6. Perform a short self-test
7. Return the printer slide assembly to its normal position and lock it in place with the hex head screw.
8. Close and lock the printer access door.

NOTE: Make sure the printer door lock is drawn tight in order to insure a watertight seal.

ADJUSTING CUTTER BLADES

Adjustment of the cutter blades may become necessary if the cutter fails to operate properly. This may be indicated by receipts not being completely cut or paper becoming jammed inside the printer. Cutter blades are sharp! Keep fingers away from sharp edge of blade when making adjustments.

Adjust After Incomplete Cuts

1. Follow the procedure for accessing the printer.
2. Loosen the hex adjusting screw (located on the lower left side of the cutter) using a 2.5 mm hex key. Do not use pliers as damage to the screw head may result. Pivot the bottom cutter blade upward. Tighten the hex screw to lock the blade in place.
3. Perform a few self-tests to make sure the cutter operates properly.
4. Return the printer slide assembly to its normal position and lock it in place with the hex head screw.
5. Close and lock the printer access door.

NOTE: Make sure the printer door lock is drawn tight in order to insure a watertight seal.

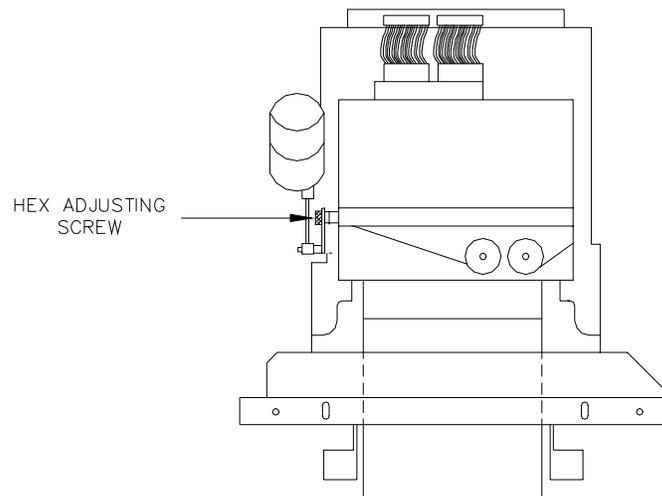


Figure 27-6. Cutter Bar Adjustment Screw

Adjust After Paper Jams

1. Follow the procedure for accessing the printer.
2. Carefully remove any paper that may be stuck inside the printer.
3. Loosen the hex adjusting screw (located on the lower left side of the cutter) using a 2.5 mm hex key. Do not use pliers as damage to the screw head may result. Pivot the bottom cutter blade down. Tighten the hex screw to lock the blade in place.

4. Perform a few self-tests to make sure the cutter operates properly.
5. Return the printer slide assembly to its normal position and lock it in place with the hex head screw.
6. Close and lock the printer access door.

NOTE: Make sure the printer door lock is drawn tight in order to insure a watertight seal.



INTRODUCTION

When the Series 1000 system is used as part of the Commercial Fueling Network (CFN), certain restrictions on commands exist and enhancements to the system have been made to accommodate the special cards and features used in this application. This Appendix documents the restrictions and enhancements that are highlighted throughout the rest of the manual by the symbol appearing in the upper righthand corner of this page. Whenever you see this symbol in the manual, you should reference this Appendix for the special considerations.

HELP COMMAND

In addition to the short help and expanded help screens shown for the standard Series 1000, the CFN systems have two additional commands: **IF**, and **RF** which appear in the Help screens as shown:

Example: Short Help

```
*HE
EXPANDED HELP LIST? <Y OR N> N,↓

COMMANDS ARE :

LS VA VC IA IC CC PV PI LI AI
SI TI LR LP PP EP DP AP IP ZP
XP PT ST SS PC PH RP RT LN LF
PF RF IF LL PL LC SC PS LD PD
SD PR MO HE EX

*
```



Example: Expanded Help List

```
*HE
EXPANDED HELP LIST? <Y OR N> Y␣

LS - Load sign-on code
VA - Validate all cards
VC - Validate a card
IA - Invalidate all cards
IC - Invalidate a card
CC - Check card validation
PV - Print valid card list
PI - Print invalid card list
LI - Load tank inventory
AI - Add to tank inventory
SI - Sub from tank inventory
TI - Print tank inventory
LR - Load inv. reorder point
LP - Load pump data
PP - Print pump data
EP - Enable pump
DP - Disable pump
AP - Activate pump
IP - Inactivate pump

Press any key to continue...

ZP - Zero pump totalizers
XP - Print timeouts & pulsers
PT - Print trans
ST - Print sorted trans
SS - Print trans for a specified
    no. within a field
PC - Print compacted transactions
PH - Print compacted transactions
    with host interaction
RP - Reset trans pointer
RT - Reset trans file
LN - Load trans no.
LF - Load fuel authorizations
PF - Print fuel authorizations
RF - Remove fuel authorizations
IF - Initialize fuel authorizations
LL - Load fuel limits
PL - Print fuel limits
LC - Print last card read
SC - Load system config

Press any key to continue...

PS - Print system config
LD - Load date and time
PD - Print date and time
SD - Load site down time
PR - Print program rev and date
MO - Display one screen at a time
HE - HELP
EX - Exit command mode
```

*



AUTO PIN LOCKOUT

Automatic Pin Lockout is not supported to the CFN systems.

SC - LOAD OR CHANGE SYSTEM CONFIGURATION

Step 9:

The CFN systems do not display a **SYSTEM ID** prompt unless your system was ordered with a dual system ID option. The standard CFN system has a fixed (in the program) system ID that cannot be changed. When you order the dual system ID option, you have a loadable system ID. You receive the **SYSTEM ID** prompt just as users of the standard Series 1000 do. This second ID is indicated at order time. If you try to input a system ID that is the same as the fixed system ID, you are re-prompted to enter another one.

Step 13:

Automatic PIN lockout is not supported for the CFN systems. If you have a CFN system, you will not receive this prompt.

LK - LOAD PIN KEY

The standard CFN system has a fixed PIN key (in the program) that cannot be changed. You will not be able to use the **LK** command to load a PIN key unless you have ordered the dual system ID option. This option provides a loadable PIN key and system ID in addition to the standard fixed system ID and PIN key. Unlike the standard Series 1000, CFN systems cannot set up the system to automatically lock out the card after three unsuccessful PIN entries (Auto PIN Lockout). If you try to input a PIN key that is the same as the fixed PIN key, you are re-prompted to enter another one.

LC - PRINT LAST CARD(S) READ

The following examples for the CFN system replace the examples for the standard system:

Example: One-card System:

The **SECOND CARD DATA** section contains dashes.

```
*LC
FIRST CARD DATA = -1220-0194462158554631271-9912920431
SECOND CARD DATA = -----
*
```

The CFN system does not support optical card reader applications.



CARD VALIDATION COMMANDS

Cards used by the CFN system have six of the seven digits for the card number encoded in the card field and an additional digit (which is the most significant) is encoded at the end of the card string. If this digit is omitted, the first digit on the card is assumed to be 0, otherwise, it is the value of the digit (for example, if the last digit is 7 and the card number field begins with 123456, the actual card number would be 7123456). Although encoded this way, when card numbers appear in transactions, the entire 7-digit number appears. CFN systems have limited lockout based on this 7-digit card number.

Card validation commands allow you to control access to your system by validating/invalidating cards by number. Card numbers can be validated/invalidated individually or in strings of up to 10 entries per line. Ranges are not supported. If desired, the system can lock out the entire file of users. This number can vary based on the number specified at order, but the standard is 550.

TRANSACTION HEADINGS

The transaction headings for transactions generated by the CFN systems have the first five fields in this order:

- TRAN** - transaction number (4 digits)
- CARD** - card number (7 digits)
- ACCT** - account field (9 digits)
- VEH** - vehicle number (4 digits)
- JOB#** - job number (8 digits) optional manual entry

The rest of the transaction headings are as shown for the standard Series 1000 system.

PT - PRINT TRANSACTIONS

The **PT** command for CFN systems produces the following printout of transactions.

```

*PT
SITE 1234

TRAN CARD    ACCT      VEH  JOB#    DATE      TIME    P# PR QUANTITY ODOM   ERROR
0001 1234567 123456789 1234 00000000 07/31/92 14:43 04 04 5.046 123456 LIMIT CUTOFF
0002 1019446 215855463 1271 12345678 07/31/92 14:47 07 03 0.    025743 LIMIT CUTOFF
0003 9999999 999999999 9999 99999999 07/31/92 14:48 02 02 4.979 999999 TERM ACTIVATE
0004 1234567 123456789 1234 00000000 07/31/92 14:49 03 03 4.29 123700
0005 1019446 215855463 1271 00043824 07/31/92 14:49 08 04 2.812 001300

*
    
```




LF - Load Fuel

Use the **LF** command to assign fuel types to the product authorization codes. Authorization codes are 2-digit codes, encoded on the user's card, that enable the user to access the fuels assigned to that code. Before you can assign authorization codes to products, you must make a list of all your products and assign numeric codes to each. At start-up time, you enter these fuel products into the system using the **LP** (Load Pump Data) command. Once you have your fuel products defined, you can assign them to two-digit authorization codes. You can use the numbers 01-99 to assign your fuel types. Code 00 is preset to allow all fuel types. Authorization codes do not need to be sequential, you can use any two digit number in the 01-99 range.

The number of authorization codes and the numbers of fuels is limited to 500. For example, you can have 100 authorization codes with 5 fuel types assigned to each, or 50 authorization codes with 10 assigned to each. Whichever combination you choose, the total of codes and fuel assignments cannot exceed 500.

1. At the * prompt, type **LF**. The system displays **AUTH NO.:**
2. Type an authorization code number from 01 to 99 and press RETURN. The system displays **FUEL CODE:**.
3. Type the 2-digit fuel type and press RETURN.
4. Repeat Step 3 to continue assigning fuel types to the authorization code.
5. To stop entering fuel types for this authorization code, press RETURN at the **FUEL CODE:** prompt. This displays the next **AUTH NO.:** prompt.
6. Repeat this procedure from Step 2 to define fuel types for additional authorization codes.

To stop entering authorization codes, press RETURN at the **AUTH NO.:** prompt. The * prompt reappears.

Example:

```
*LF
AUTH NO. : 1.↓
FUEL CODE: 4.↓
FUEL CODE: 12.↓
FUEL CODE: 3.↓
FUEL CODE: 31.↓
FUEL CODE: ↓

AUTH NO. : 53.↓
FUEL CODE: 1.↓
FUEL CODE: 9.↓
FUEL CODE: ↓

AUTH NO. : ↓
*
```



PF - Print Fuel

Use the **PF** command to print a listing of each authorization code and its corresponding fuel code assignments.

1. At the * prompt, type **PF**. The listing prints.

```
*PF
CODE   ALLOWED FUELS
  1     3  4 12 31
 53     1  9
*
```

RF - Remove Fuel

Use the **RF** command to remove one or more fuel type codes from an authorization code.

1. At the * prompt, type **RF**. The system displays: **AUTH. NO:**
2. Type the authorization code number from which you want to remove fuel types. The system displays **FUEL CODE:**.
3. Type the 2-digit fuel type to be removed and press RETURN.
4. To stop removing fuel types for this authorization code, press RETURN at the **FUEL CODE:** prompt. This displays the next **AUTH NO.:** prompt. Skip to Step 6.
5. Repeat Step 3 to continue removing fuel types from the authorization code.
6. Repeat this procedure from Step 2 to remove fuel types from additional authorization codes.

To stop removing authorization codes, press RETURN at the **AUTH NO.:** prompt. The * prompt reappears.

```
*RF
AUTH. NO.: 1.
FUEL CODE: 4.
FUEL CODE: .
*
```



The following **PF** command printout, shows the result of the **RF** command using the example data from the **LF** command.

```
*PF
CODE    ALLOWED FUELS
  1      3  12  31
 53      1   9
*
```

DUAL LOCKOUT OPTION

The Dual Lockout Option is not supported for the CFN systems. Lockout is by 7-digit card number only.

MANUAL KEYPAD ENTRY OPTION

The CFN systems use the additional manual entry field to contain a job number of up to eight digits.

FUEL DELIVERY AND DIPSTICK CARD OPTION

When cards are encoded for the CFN systems, six of the seven card number digits are encoded in the **CARD** field. The seventh is encoded at the end of the card string and is the most significant digit (MSD) for the **CARD** field (that is, when the card is read, that digit precedes all the others). If the card number is 123456 and the last digit is an 8, the card number is actually 8123456. If no digit is encoded at the end of the card, a zero is assumed. If you wish to use the fuel delivery and dipstick option, a number must be encoded at the end and it must be a nine. This is because fuel delivery and dipstick cards fall into a numeric range that begins with a nine (9).

Delivery cards: 9999980 - 9999989
 Dipstick cards: 9999990 - 9999999

SUPERVISOR CARD OPTION

If you use the Supervisor card option and you elect to use **CARD** as one of the manually entered fields, you must have the seventh card digit (MSD) encoded on the card and it must be either an **A** or an **E** to match the other six digits of the **CARD** field. If your layout appears:

```
FS SYS ID FS CARD    ACCOUNT    VEH FS EXP  LIMIT AUTH  PRICE  MAN ENT.  MSD
-  xxxxx -  xxxxxx  xxxxxxxxxx  xxxx -  xxxx  x   xx   x     x     x
```

You would encode the following to manually enter card, account and vehicle fields using the supervisor card option.

```
FS SYS ID FS CARD    ACCOUNT    VEH FS EXP  LIMIT AUTH  PRICE  MAN ENT.  MSD
-  xxxxx -  AAAAAA  EEEEEEEEE  AAAA -  xxxx  x   xx   x     x     A
```

SETUP OF PERIPHERAL EQUIPMENT

Some of the peripheral equipment that can be connected to the Series 1000 has special setup procedures that must be followed for proper operation. The following sections list some of the peripherals that may be connected to your system and the special requirements of each.

LINK MC5 TERMINAL SETUP

Install and complete the setup of the terminal as specified in the manufacturer's setup instructions. Then you'll need to enter the Setup Mode and change parameters on five screens. This enables the terminal to function properly with both the Okidata printer and the Series 1000 system. Be sure to set the **LINES PER PAGE** in the **SC** command (Section 5) to 62.

When setting up the terminal, use the following keys as needed.

SHIFT and SELECT	Used together to enter Setup Mode.
Up/Down Arrows	Move to a menu item.
Left/Right Arrows	Change values for parameter.
TAB	Move to next column.
PAGE DOWN/UP	Move to next or previous screen.
F1 to F8	Select specific screens from 1 to 8.
E or F9	Exit Setup Mode.
S	Save current values.
P	Toggle between Main and Aux ports.
D	Defaults all values.
R	Restores values to previously saved settings.

In the steps that follow, setup parameters shown in bold are non-critical and can be configured to your preference.

1. Press CAPS LOCK to activate the caps lock feature. **CAPS** will appear in the upper lefthand corner of the status line.
2. Enter Setup Mode by pressing SHIFT and SELECT. Be careful not to press CTRL and SELECT. Doing so switches terminal control to Aux. If you find yourself in Aux mode, CTRL and SELECT will return you to Main mode. The first Setup Screen, General Setup displays:

Important: Before you begin to change parameters, check to be sure the message **HOST IS ON MAIN PORT** is displayed. If the message reads **HOST IS ON AUX PORT**, press **P** to return to the Main port configuration.

General Setup			
Emulation	VT220-7	Auto Page	Off
Enhancements	Off	Warning Bell	On
Virtual Terminal	Off	Margin Bell	Off
Scroll Style	Jump	Bell Sound	1
Auto Scroll	On	Block Terminator	US/CR
Auto Wrap	On	Send ACK	Off
Received CR	CR	Monitor Mode	Off

3. Press F2 or PAGE DOWN to display the next Setup Screen, Communications Setup.

Communications Setup			
Main Baud	1200	Aux Baud	9600
Main Data/Parity	8/None	Aux Data/Parity	8/None
Main Stop Bits	1	Aux Stop Bits	1
Main Rcv Hndsk	XON/XOFF	Aux Rcv Hndsk	NONE
Main Xmt Hndsk	NONE	Aux Xmt Hndsk	XON/XOFF
Main Rcv Level	50%	Aux Rcv Level	50%
Ignore 8th Bit	Off	Aux Port	RS232
Comm Mode	Full Duplex	Aux Interface	RS232
Disconnect	2 Sec	Printer	Serial

NOTE: Series 1000 software prior to version 8.1 and FleetKey software prior to version 2.1 does not support XON/XOFF protocol. For these software versions, set the **Main Rcv Hndsk, Main Xmt Hndsk, Aux Rcv Hndsk** and **Aux Xmt Hndsk** parameters to **NONE** and set the **Main Baud** parameter to 1200 and **Aux Baud** parameter to 9600.

4. Press F3 or PAGE DOWN to display the next Setup Screen, Display Setup.

Display Setup			
Columns	132	Background	Dark
80/132 Clear	On	Attributes	Char
Lines	24	Wprt Intensity	Dim
Pages	1X Lines	Wprt Reverse	Off
Status Line	Ext	Wprt Underline	Off
Cursor Style	Blink Block	Refresh Rate	60Hz
Cursor	On	Pound Char	US
Screen Saver	15 Min	Auto Font Load	On

NOTE: The **Columns** setting of 132 may be changed to 80 if desired; however, this may cause transactions displayed on the screen (and on the Okidata printer) to wrap, hindering readability.

5. Press F4 or PAGE DOWN to display the next Setup Screen, Keyboard Setup.

Keyboard Setup			
Key Click	Off	Break	250 ms
Key Repeat	On	Xmt Limit	None
Key Lock	Caps	FKey Xmt Limit	None
Return Key	CR	Key Code	ASCII
Enter Key	CR	WP Keyboard Mode	Off
Back Space Key	DEL/BS	Lock Keyboard	Disable
Left Alt Key	Funct	Language	US
Delete Key	Normal		

6. Press F5 or PAGE DOWN to display the next Setup Screen, ANSI Setup.

ANSI Setup			
FKey Lock	Off	Send	All
Feature Lock	Off	Print	National
Keypad	Numeric	Send Area	Screen
Cursor Keys	Normal	Print Area	Screen
Xfer Term	EOS	Send Term	None
Char Mode	Multinational	Print Term	None
Char Set	DEC-MCS	Print Mode	Auto
Keys	Typewriter	Auto Answerback	Off
VT100 ID	VT 100		

7. Press **S** to save Setup changes.
8. Press F9 or **E** to exit Setup Mode.

OKIDATA 184 SETUP

To prepare the Okidata printer for operation with the LINK MC5 terminal and your GASBOY Fuel Management System, perform the following steps. Install and complete the setup of the printer as specified in the manufacturer's setup instructions. Then set up the switches as follows:

SW1

- SW1-1 ON Parity: Odd
- SW1-2 ON Parity: Without
- SW1-3 ON Data bits: 8
- SW1-4 OFF Protocol: XON/XOFF (Series 1000 V8.1 or higher)
- ON Ready/Busy (Series 1000 versions prior to V8.1)
- SW1-5 ON Test select: Circuit
- SW1-6 ON Mode select: Print
- SW1-7 ON Busy line selection: DTR - Pin 20
- SW1-8 ON Busy line selection: DTR - Pin 20

SW2

Baud Rate	SW2-1	SW2-2	SW2-3
9600	OFF	ON	ON
2400	OFF	OFF	ON
1200	ON	ON	OFF
300	ON	OFF	OFF

*NOTE: Any change made to the baud rate must also be changed on the Link terminal Communications Setup screen, **Aux Baud** parameter.*

- SW2-4 ON DSR output signal: Active
- SW2-5 ON Buffer threshold: 32 bytes
- SW2-6 OFF Busy signal timing: 1 sec (min.)
- SW2-7 ON DTR signal: Space after power on
- SW2-8 OFF Not used

1. Turn the printer offline by pressing SELECT. The SELECT light should go off.
2. Position the print head at the top of the paper and press the TOF SET button.
3. Put the printer back online by pressing SELECT. The SELECT light should go on.
4. Press the MODE button until the light next to **HSD** is lit.
5. Press the PITCH button until the light next to **17** is lit.

NOTE: Pitch may be set to a lower number (resulting in larger print) if transactions are less than 80 characters.

Veeder-Root TLS-250 or 250I

1. Inside the right hinged cover of the TLS-250, is the Option PCB. Locate the rotary baud rate switch in the lefthand corner of the PCB. Set the rotary baud switch to position 4 (1200 baud) or position 6 (300 baud).
2. On the Parity/Security Code dip switch on the upper lefthand side of the TLS Main PCB, set the switches as follows: 1, 2, 3, CLOSED; 4 and 5 OPEN. This sets the TLS for even parity and no security code.

Veeder-Root TLS-350

1. Inside the printer door on the lefthand side of the TLS, locate a four position dip switch labeled S1. Set position 2 of the switch to OPEN to disable the security code.
2. Following the instructions in your TLS-350 manual, set these parameters to the values shown:

Baud Rate: 1200 or 300	Stop Bits: 1
Parity: EVEN	Data Bits: 7

Series 1000 Setup

For any of the tank monitors, the setup on the Series 1000 is the same.

1. On the Auxiliary Communications PCB (This is the small PCB located at the upper right of the MPU PCB inside the Series 1000 head), locate the K1 jumper patch.
2. Set the baud rate on position 1 of the K1 jumper patch to match the baud rate being used on the tank monitor. Do not exceed 1200 baud.
3. Locate the P2 (RS-232) and P3 (RS-422) connectors on the Auxiliary Communications PCB. Connect the cable from the tank monitor to either P2 or P3 depending on the type of communication you are using.

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WARRANTY

General Statements:

Gasboy International LLC. warrants all new equipment manufactured by Gasboy against defective material and/or workmanship, for the warranty period specified below, when the equipment is installed in accordance with specifications prepared by Gasboy.

This warranty does not cover damage caused by accident, abuse, Acts of God, lack of surveillance of automatic recording systems, negligence, mis-application, faulty installation, improper or unauthorized maintenance, installation or use in violation of product manuals, instructions, or warnings. Under no circumstance shall Gasboy be liable for any indirect, special, or consequential damages, losses, or expenses to include, but not limited to, loss of product, loss of profits, litigation fees, or the use, or inability to use, our product for any for any purpose whatsoever.

Parts Only - During the warranty period, Gasboy will, at its option, repair or replace defective parts returned transportation prepaid to its factory.

On-Site Labor Included - Gasboy will also provide, within the Continental United States and during the warranty period, the services of an Authorized Service Representative (ASR) for on-site repair or replacement of defective parts.

Replacement Parts - Any system components that are not part of the original system order, including Island Card Readers, Pump Control Units, etc., are considered replacement parts.

Equipment	Term	Coverage
Commercial Pumps and Dispensers Full-Cabinet Consumer Pumps	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts and Labor.
Small Transfer Pumps, Meters, Pressure Regulators	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first. - Excepting the Model 2020 Hand Pump, which has a 90-day warranty from date of GASBOY International's invoice.	Parts Only.
Keytrol	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts and Labor.
Fuel Management Systems: - CFN/ Profit Point - Series 1000/Fleetkey - TopKAT - Fuel Point Readers (sold with new systems)	One year from date of start-up or 15 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first. - The basic warranty only applies to systems which have been started up by a Gasboy Authorized Service Representative (ASR).	Parts and Labor.
Additional Fuel Point Items: - Fuel Point Readers sold for retrofitting existing systems. - Fuel Point vehicle and dispenser components.	One year from date of start-up or 15 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts Only.
Encoders, Embossers, Modems, CRTs, and Logger Printers	Purchased with Fuel Management System (Encoders, Embossers only): 90 days from the date of start-up by a Gasboy ASR, or 180 days from date of Gasboy International's invoice, whichever occurs first. Purchased with Fuel Management System (Modems, CRTs, and Logger Printers only): Matches system warranty. Purchased Separately: 90 days from date of Gasboy International's invoice to the purchaser.	Purchased with System (Encoders, Embossers only): Parts only. Purchased with System (Modems, CRTs, Logger Printers only): Matches system warranty. Purchased Separately: Parts Only.
Air Diaphragm Pumps	Three years from date of purchase (for full warranty description, see Price List).	Parts Only.
Items not manufactured by Gasboy (ex. automatic nozzles, hoses, swivels, etc.)	Not warranted by Gasboy International (consult original manufacturer's warranty).	Not Applicable.
Replacement Parts	One year from date of Gasboy International's invoice to the purchaser.	Parts Only.

To the extent permitted by law, this warranty is made in lieu of all other warranties, expressed or implied, including warranties of freedom from patent infringement, or merchantability, or fitness for a particular purpose, or arising from a course of dealing or usage of trade. No one is authorized to vary the terms of the warranty nor may anyone make any warranty of representation, or assume any liability other than that herein stated, in connection with the sale described herein. The acceptance of any order by Gasboy International is expressly made subject to the purchaser's agreement to these conditions.



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