INSTALLATION
Wayne 2400/Plus™
Management Control System

Wayne ⬭DRESSER⬭

Wayne 2400/Plus™
Management Control System
Installation Manual

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1. INTRODUCTION

1.1. PURPOSE OF THIS MANUAL

1.1.1.   The purpose of this document is to describe the installation of a Wayne 2400/Plus™ Management Control System (MCS).

1.1.2.   The information in this document is intended to be used by personnel that install the systems, maintenance personnel and by system users.

1.1.3.   Other documents may be useful when installing the Wayne 2400/Plus MCS. The following is a list of related publications:

1. *Installation and Programming, Wayne® 2400 Peripheral Interface Board (PIB/PLUS)* manual, part number 917404.

2. *Wayne 2400/Plus Management Control System Operation Quick Guide (Cash/Credit/Blending Software I.D. 49)* manual, part number 917440.

3. *Operation and Programming, Wayne 2400/Plus Management Control System Cash/Credit/Blending Software I.D. 49)* manual, part number 917434.

4. *Owner's Manual Wayne® 1000 Electronic Cash Register* manual, part number 917324.

5. *Wayne 2400 Receipt/Totals Printer (RTP)* manual, part number 917328.

1.2. SYSTEM DESCRIPTION

The Wayne 2400/Plus MCS Console takes up less than 1 square foot of counter space. It is designed to control dispensers and can be connected to a 1000 Electronic Cash Register (ECR), or a 2400 Receipt Totals Printer (RTP).

The Wayne 2400/Plus MCS combines the features of the Wayne 2400 Cash/Credit System and the Wayne 2400 Blending System. It controls the dispensing of fuel using dual pricing, where each fuel product has a credit and a cash unit price. It also controls the dispensing of blended fuel grades. The Wayne 2400/Plus MCS can also be programmed to operate without dual pricing.

The Wayne 2400/Plus MCS can handle up to nine fuel grades that are divided into five stored grades and four blended grades. Grades four and five are classified by the system as the low and high feedstock grades for all blending fueling points in the system.

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1.2. SYSTEM DESCRIPTION, continued

The following list presents an overview of Wayne 2400/Plus MCS features:

- Two Tier-Two Level Unit Pricing

- Programmable Ration Limits

- Declining Balance Inventory System

- Built-In Clock and Calendar

- Programmable Receipt Headings

- Self-Test Diagnostics and Error Reporting

- Programmable Mode Access Restrictions

- Password Protected Blend Ratios

- Non-Resettable Totals

- Simultaneous Cash and Volume Display

- Grade and Fueling Point Number Display

- Previous Sale Recall, Paid and Unpaid

- Three Status Indicator Lamps Per Fueling Point

- All Fueling Point Stop and Start

- Individual Fueling Point Stop and Start

- Battery Protected Data Memory

- Separate Cash and Credit Display

- Data and Mode Number Display

- Totalization by Shift

- Fueling Point Totalizers

- Attended Sales

- Postpay Sales
  (Optional - System Programmable)

1.2. SYSTEM DESCRIPTION, continued

- Prepay Sales
  (Optional - System Programmable)

- Preset Sales For Cash and Volume
  (Optional - System Programmable)

1.3. OVERVIEW OF THE WAYNE 2400/PLUS MCS

The major assemblies of the Wayne 2400 Plus MCS consist of a Site Controller (previously called the Electronic Central), Data Distribution Cabinets, Pump Relay Cabinets, and Consoles. For more details refer to the Engineering Drawings in Appendix B of of this manual.

The following list shows the major assemblies of the Wayne 2400 Plus MCS. Features and components are also shown as appropriate.

- Site Controller Cabinet

  - Mother board and power supply
  - Wayne 2400/Plus Main CPU
  - Companion board
  - Card cage with expansion slots
  - Wiring provision (Terminal strips)

- Data Distribution Cabinet (available with 8 or 16 Fueling Points)

  - **NOTE:** The system must have at least one 8 fueling point Data Distribution box. Alternatively it may use one 16 point Data Distribution box, or one each 8 fueling point, and 16 fueling point Data Distribution boxes.

- Pump Relay Cabinet

  - Relay cabinet is used to operate submersible pumps (optional)

- Wayne 2400/Plus Consoles (maximum of 2) with optional interface to the RTP or the 1000 ECR (Figure 1-1).

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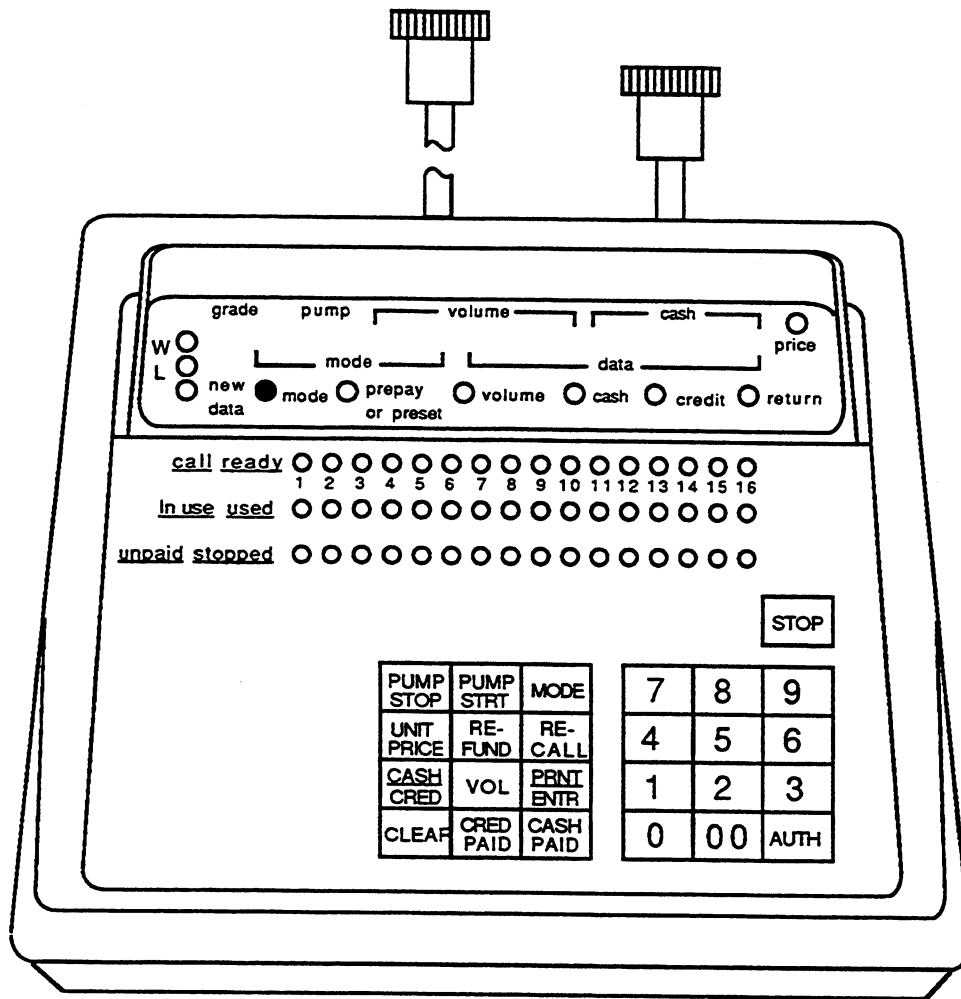
FIGURE 1-1. WAYNE 2400/PLUS CONSOLE

2. SITE PREPARATION

2.1. LOCATION CONSIDERATIONS

Wayne 2400/Plus MCS equipment components may be installed in a varity of locations. The console, cabinets, and any required wireways must be located in a non-hazardous area of an enclosed weather protected building. However, the console may be located above a hazardous area, in an island kiosk for example, and should be convenient to the cashier and within clear view of the dispensers. Table 2-1 lists the preferred locations for components.

TABLE 2-1. PREFERRED LOCATIONS FOR COMPONENTS

Component	Preferred Location	Notes
Site Controller	Back room; on wall	AC Power input required
Data Distribution	Back room; on wall	
Pump Relay Cabinet	Back room; on wall	AC Power input required
Console	Front counter or kiosk	

2.1.1. Cables and Maximum Distance

The console is connected to the Site Controller cabinet with manufacturer supplied cables and can be located a maximum of 100 ft. from the Site Controller Cabinet. The standard cable length is 10 ft. Optional extension cables are available. The Site Controller Cabinet is connected to a Data Distribution Cabinet with four #18 minimum AWG conductors run in a separate conduit. The maximum length of this conduit is 150 ft.

2.2. POWER REQUIREMENTS

Confirm that there are AC power outlets available for the system. The 2400/Plus MCS requires a standard 120VAC duplex receptacle for the RTP or the 1000 ECR. System component power requirements are given in Table 2-2.

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2.2.1. Power Circuit Breakers

Verify that a separate switched neutral circuit breaker is installed in each circuit for safety in servicing and to meet the requirements for the National Electrical Code. Please refer to the appropriate Engineering drawings supplied in Appendix A of this manual.

2.2.2. Control Power

Verify that Control Power to the Site Controller Cabinet, Pump Relay Cabinet and all Fueling Points is connected to a separate switched neutral circuit breaker as shown on the applicable interconnection wiring diagrams in Appendix A. The connection to the Site Controller Cabinet is via the junction box provided on the upper left hand side. The connection to the Fueling Points may be made in a customer supplied wireway.

NOTE: A standard 120 VAC duplex receptacle is required at the counter for the printer or cash register.

The power requirements for the system components are listed in the Table 2-2.

TABLE 2-2. UNIT POWER REQUIREMENTS

System Component	Nominal Voltage	Amperes	
		A	Condition
Site Controller	120 VAC 60 Hz	2	Hard Wired
Receipt/Totals Printer	115 VAC 60 Hz	2	NEMA 5-15R**
Wayne 1000 Elect. Cash Reg.	115 VAC 60 Hz	2	NEMA 5-15R**
Pump Relay Cabinet	115/230 VAC 60 Hz	*	Hard Wired
*Depends on pumps used. ** NEMA 5-15R is a standard duplex grounded receptacle.			

2.2.3. Dispenser Lights Power

Verify that wiring for dispenser lights is complete from the circuit breaker panel to the dispensers via customer supplied wireway.

2.2.4. Submersible Pump Motor Power

Verify that wiring for submersible pump motor power is complete as shown on the installation wiring diagrams in Appendix A.

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2.2.5. Dispenser

Verify that UL listed Wayne Dresser electronic computing dispensers, which are equipped for prepay operation, are being used.

2.2.6. Dispenser Conduit and Wiring Requirements

Verify that 3/4 in. conduit is used and that the length of each conduit does not exceed 150 feet from the Data Distribution Cabinet to the Dispenser. Verify that approved wireways and threaded metallic conduit with tight connections are used, that #14 AWG 600 Volt oil and gasoline resistant AC power wires are used as a minimum (unless local codes require #12), and that Data Link wiring is #18 AWG 600 Volt oil and gasoline resistant as a minimum.

2.2.7. Pump Relay Selection (Remote)

Verify that for each product, one #14 AWG conductor is connected from the Relay Select Terminal in the dispenser, to the appropriate Relay Select Terminal in the Pump Relay Cabinet. Also verify that the Control Power neutral is wired to the Pump Relay Cabinet as shown on the Interconnection Wiring Diagrams in Appendix A.

2.2.8. Pump Motors (Suction)

Verify that Pump Motor wiring is connected to the circuit breaker panel or in a wireway as shown on the Interconnection Wiring Diagrams.

2.3. SPACE REQUIREMENTS (COUNTER TOP COMPONENTS)

Equipment dimensions of the Wayne 2400 Plus MCS counter top components are shown in Table 2-3.

TABLE 2-3. EQUIPMENT DIMENSIONS

Components	Width	Depth	Height
Wayne 1000 ECR	20	18	18
2400 Plus Console	10	10	4-1/2
2400 RTP	11	12-1/2	6-3/8
All dimensions in inches			

2.4. ENVIRONMENTAL REQUIREMENTS

Ensure that all cabinets are located in an area that offers easy access for service, and free air space for cooling.

Care should be taken to ensure that the temperature of the console, printer, and Site Controller does not exceed the operational ranges of 0° C to 40° C (32° F to 104° F).

2.5. PRELIMINARY WIRING

The site wiring must be completed before installation of a Wayne 2400/Plus MCS.

2.5.1. Data Link Wiring

One pair of data link wires must be installed from each Fueling Point to the location of the Data Distribution Cabinet.

2.5.2. Pump Relay Wiring (Remote Systems Only)

Relay select wires must be installed from each Fueling Point to the pump relay cabinet location. Pump power wires must be installed from the pump relay cabinet location to each submersible pump.

2.6. CONFORMITY WITH STANDARDS

Ensure that all National, State, and local standards and codes are observed in site preparation, wiring, and installation.

2.6.1. Power Wiring

Confirm that all 120VAC wiring for outdoor equipment (line, neutral, relay select, etc.), is 14 gauge minimum (unless local codes call for 12 gauge), stranded, oil and gasoline resistant.

2.6.2. Data Wiring

Confirm that all data wiring for outdoor equipment (communication lines) is 18 gauge (minimum) stranded, oil and gasoline resistant.

2.6.3. Codes

Confirm that all equipment is installed in accordance with the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A), and any other applicable State and local codes

3. INSTALLATION

3.1. INTRODUCTION

This Installation Section is designed as a guide for installing a Wayne 2400/Plus MCS. The boards required for running the Wayne 2400/Plus MCS consist of the Pump Control CPU board, and the Pump Control Companion board.

3.2. UNPACKING AND INSPECTION

Prior to opening any shipping cartons, a count of the cartons should be made and agree with the supplied packing list. Inspect the cartons for damage in transit and retain cartons suspected of damage for possible future claim purposes. Remove all equipment from the shipping cartons and carefully inspect for damage. Any damage should be brought to the attention of the carrier and claims made immediately. Return all equipment to the respective cartons for protection until actual installation is made. Save all cartons until it is certain that return shipments are not required.

3.3. RETURN OF COMPONENTS

Parts or components returned to the factory under warranty, or for repair, are subject to damage if not packaged properly. All electronic components must be placed in an anti-static bag once removed from the system and must remain in this bag during shipment.

CAUTION: When handling any circuit board, Installation and Service Personnel must wear a wrist strap, Part No. 916962 or equivalent, securely attached to an earth ground point to prevent damage to electronic components due to static electricity.

If available, return components in their original shipping cartons. In other cases, use a sturdy cardboard container and suitable packing materials such as antistatic polyethelyne foam or bubble pack. Make sure the component is firmly packed. Please include a Return Parts Tag with the defective component describing the particular problem with the part. Make sure that adequate insurance is provided when returning parts to the factory.

WARNING: If the parts or components arrive at our factory in a damaged condition and it is determined that the damage is a direct result of inadequate or improper packing, the damage will not be covered under the original warranty and the customer or distributor will be held responsible for the cost of repair necessary to correct or replace the damaged parts.

3.4. BACK ROOM INSTALLATION

CAUTION: When handling any circuit board, Installation and Service Personnel must wear a wrist strap, Part No. 916962 or equivalent, securely attached to an earth ground point to prevent damage to electronic components due to static electricity.

Prior to installation or updating of the Wayne 2400/Plus MCS system, cabinets, conduit, and wiring must be installed as indicated by the following paragraphs.

3.4.1. Mounting

The Site Controller, Data Distribution and Pump Relay cabinets are supplied with mounting lugs which allow attachment of the cabinet to a supporting wall or structure. Install the cabinets making sure that space is available for opening the doors. Install conduit as shown on Diagram 880064-01, which also shows minimum spacing. Use the knockouts provided on the bottom or sides of the cabinets for attaching the metallic conduit. Use accepted methods of attaching the conduit securely to the cabinet body or bushing for wireway mounting.

3.4.2. Wiring

See Appendix B and find the diagram for your dispenser. Connect the following wires as shown on the diagram:

Site Controller to Data Distribution

Data Distribution to Dispenser

Dispenser to Pump Relay

Pump Relay to Submersible Pump

Second Data Distribution Cabinet if applicable

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3.5. WAYNE 2400/PLUS COUNTER INSTALLATION

Unpack and install the following components as applicable:

- Unpack the 2400 Console (Maximum of 2), see Figure 1-1.

  - Place Console No.1 on counter and connect to Site Controller connector located on the left side panel toward cabinet rear (directly or via extension cable part number SXX-790349).

  - Place Console No.2 on counter (if this is a 2 Console system) and connect Console cable to Site Controller connector located on the left side panel toward cabinet front (directly or via extension cable part number SXX-790349).

- Unpack the 1000 ECR(s).

  - Place the ECR on the counter and connect to Console with cable supplied (part number S03-800078).

- Unpack the RTP(s).

  - Place the ECR on the counter and connect to Console using supplied cable.

- **NOTE:** Only one Wayne 1000 ECR or RTP can be connected to each Console.

3.6. CHECKOUT AND SYSTEM START-UP

Upon completion of the electrical and mechanical installation, a checkout of the dispensers and the control system is required.

3.6.1. Complete all Programming Mode Data Description Worksheets (pages 13 through 30). This should be done before applying power to the system. The Station Manager must be consulted to properly complete these worksheets.

3.6.2. Set all BYPASS/AUTO switches in the Data Distribution Cabinet to the "BYPASS" position.

3.6.3. Power up the system by turning ON the control power circuit breaker and the dispenser power circuit breakers.

3.6.4. Using a voltmeter with earth ground as reference, test each terminal (TB1 through TB4) in the Data Distribution Cabinet for AC voltage. While doing this, one handle of each product should be on to get as much line interference as possible. Ignore any reading of 50 volts AC or less. **If any high voltage readings do occur, correct all field wiring errors to eliminate this voltage before proceeding with the startup.**

3.6.5. Turn the system control power circuit breaker OFF.

3.6. CHECKOUT, continued

3.6.6. Insert the main CPU, Companion Board, and any option boards in the Electronic Central.

3.6.7. Power up the system again by turning ON the control power circuit breaker. The console should emit a short tone; the display will remain blank. Check to be sure the two Data Link indicators in the Data Distribution Cabinet are ON.

3.6.8. Perform all diagnostic tests on the console as follows:

- Press the **MODE** key.

- Enter Prime Mode Number 90, followed by Submode Number 1.

- Press the **PRNT/ENTR** key. All console displays and indicators will go blank, then all will light. Check to be sure that all digits, segments, decimal points, and LED indicators function.

3.6.9. Perform all diagnostic tests on the console as follows, continued:

- Press **RECALL**; display will increment to Mode 90-02; press **PRNT/ENTR**. Data is the Console Program revision number.

- Press **RECALL**; display will increment to Mode 90-03; press **PRNT/ENTR**. Data should be "000". The system is performing a console checksum, which means it goes through a series of adding and subtracting. The final result should be "000". Any other amount indicates there is a problem with the keyboard.

- Press **RECALL**; display will increment to Mode 90-04; press **PRNT/ENTR**. Data should be "000". This mode is for the console time-out counter.

- Press **RECALL**; display will increment to Mode 90-05; press **PRNT/ENTR**. Data should be "128". This is the console scratchpad RAM test.

- Press **RECALL**; display will increment to Mode 90-06; press **PRNT/ENTR**. Data is "32768" standard. This is a main CPU RAM test which indicates the memory capacity of the system and will change based on system configuration.

- Press **RECALL**; display will increment to Mode 90-07; press **PRNT/ENTR**. Data is "000". The system is performing a main CPU checksum, which means it goes through a series of adding and subtracting. The final result should be "000". Any other amount indicates there may be a problem. Contact Wayne Technical Service for specifics.

3.6. CHECKOUT, continued

- Press **RECALL**; display will increment to Mode 90-08; press **PRNT/ENTR**. Data is the Main CPU Program I.D. See Figure 3-1 for an example.

```
4 9 X X X X X X
```

Updates and Customer Applications

Date Code

Revision Number
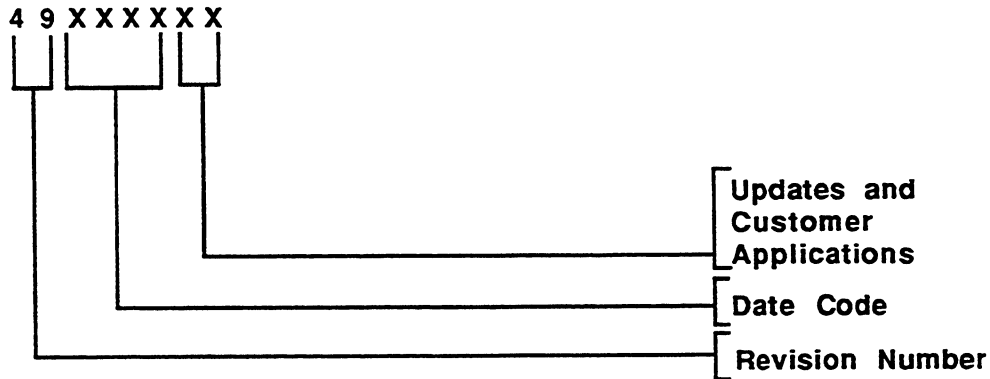
FIGURE 3-1. MAIN CPU PROGRAM I.D.

3.6.10. Move all Auto/Bypass switches to the Auto position.

NOTE: For servicing convenience, when performing a startup, you may want to identify which switch in the Data Distribution Cabinet controls each fueling point number.

3.6.11. Set the Fueling Point I.D. for each dispenser by following the procedures outlined in the installation manual for each model dispenser.

3.6.12. Check Data Link communications to each dispenser by the following:

- Press the **MODE** key.

- Enter Prime Mode Number 93 followed by Submode Number 01. This mode provides information as to whether the fueling point is communicating.

- (Mode 93-01) Data for Fueling Point 01 should be "000" or "001". "000" indicates Fueling Point 01 is on loop A, "001" indicates loop B. Any other numbers indicate a data link fault.

  Correct any faults before proceeding.

- Press **RECALL** for Fueling Point 02 (Mode 93-02). Ensure data is "000" or "001". Continue this procedure for all Fueling Points.

- Press **MODE** to return to pump control.

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3.6. CHECKOUT, continued

3.6.13. Clear the ALL STOP condition from the console (all dispensers should indicate a **stopped** status) by pressing **CLEAR** until display is completely blank, then press **PUMP STRT**. All red **stopped** indicators should go out.

3.6.14. Using programming worksheets, enter the station data into each of the appropriate modes. Refer to the *Operation and Programming Wayne 2400/Plus Management Control System* manual, part number 917434, for more detailed instructions. See the section entitled System Programming Guidelines, for the required startup programming. Mode Data Description Worksheets, used for noting the parameters programmed, are provided in the next section of this manual. After programming, remember to clear **MODE** and return to pump control.

IMPORTANT: Prior to executing steps 3.6.15 and 3.6.16, the Authorize key switch will have to be turned clockwise, the Auto/Bypass switches must be put to Bypass, and the dispenser control power turned off then on. If this is not done, the dispenser will wait to be authorized from the control system.

3.6.15. Turn on the Submersible Suction Pump Motor Circuit Breakers. Set the Authorize key switch on the dispenser to the full service position (clockwise). On new remote dispenser installations, the air in the underground piping should be properly bled by loosening the strainer cover or loosening the pipe plug in the safety impact valve on each dispenser.

CAUTION: Discharging air through the nozzles could result in damage to the components of the dispenser.

3.6.16. Check all dispensers individually in manual operation. Dispenser should operate in a normal full service condition. Computer should reset, flow valve should activate, and the Submersible Suction Pump Motor should come on. Check to see that all functions of the dispensers are working correctly. If no problems occur, repeat checkout of remaining dispensers.

3.6.17. Turn on the lights circuit breaker and ensure that all dispenser lights are working.

3.6.18. Set all dispensers switches to the self-service position.

3.6.19. After programming the system, a postpay and prepay test must be executed on every nozzle in the system to ensure correct operation.

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3.7. POSTPAY OPERATION

3.7.1. Select a dispenser for use, beginning with pump 01. Press **AUTHORIZE** key.

3.7.2. Check that **Call/Ready** indicator is displayed and steady for that dispenser. Turn on dispenser and check that **In Use/Used** indicator is on and steady.

3.7.3. Dispense product and check sale agreement with display on dispenser.

3.7.4. Turn off dispenser. Compare final cash and volume amount. Turn on dispenser to determine if de-authorization has taken place.

3.7.5. Check that **In Use/Used** indicator is flashing.

3.7.6. Clear sale by selecting the dispenser and depressing **CASH PAID** or **CRED PAID** key.

3.7.7. Turn dispenser handle on, check that **Call/Ready** indicator is flashing and audible tone is heard (assuming this feature is being used; Mode 08). A double tone will be heard if two or more dispensers are calling.

3.7.8. Repeat steps 3.7.1 through 3.7.7, one dispenser at a time, with someone monitoring console status lamps to ensure all dispensers are functioning correctly.

3.8. PREPAY OPERATION

3.8.1. Select a dispenser for use. Enter cash sale prepay amount by using numerical keyboard ($20.00 is entered as 2000). You may select a grade by pressing **PRNT/ENTR**, then entering a valid grade.

3.8.2. Depress **CASH PAID** or **CRED PAID**.

3.8.3. Check that **Prepay** indicator in display panel is illuminated.

3.8.4. Observe prepay sale amount on the display.

3.8.5. Depress **CASH/CRED** key. Cash and Volume display is blank and **Cash** or **Credit** indicator is illuminated.

3.8.6. Activate dispenser and dispense product.

3.8.7. Observe correct indicator sequence as with postpay operation.

3.8.8. Observe count sequence of sale from zero amount upward.

3.8.9. Depress **REFUND** key to observe sale amount counting downward from preset amount.

3.8. PREPAY OPERATION,continued

3.8.10. Check cut off for fast and slow valves. This is best done by several small prepay sales (less than $1.00).

3.8.11. Make sure all flow stops at prepay amount.

3.8.12. Sale is automatically cleared when dispenser goes out of use if the prepay amount is reached. If prepay amount is not reached, the **In Use/Used** Light will be flashing fast. The sale is cleared by pressing **REFUND** key. Return light will be on and display will show amount of refund.

3.8.13. Repeat steps 3.8.1. through 3.8.12. for all hoses on all fueling points.

3.9. TOTALS CHECK

3.9.1. Select the current station shift totals (Mode 10-00) and record the cash, credit, and volume amounts entered into totals. All sales must be paid and prepay sales must be completed.

3.9.2. Select the current shift grade 1 totals (Mode 10-01) and record cash and volume.

3.9.3. Authorize a grade 1 dispenser and dispense $1.00 of product.

3.9.4. Pay the sale by pressing the **CASH PAID** key.

3.9.5. Check that the current shift station and cash and volume totals have incremented by the sale amount, and that the grade 1 totals have also incremented. The station credit totals should not change.

3.9.6. Authorize a grade 1 dispenser and deliver $1.00 of product. Pay the sale by pressing the **CRED PAID** key.

3.9.7. Check that the current station credit and volume totals have incremented by the sale amount. The cash total should not change. Check that the grade 1 cash and volume totals have also incremented.

3.9.8. Repeat the above using a grade 2 dispenser and grade 2 totals. Continue until all grades have been verified.

3.10. DECLINING BALANCE AND DROP VOLUME CHECK

3.10.1. Select the current declining balance for tank 1 (Mode 12-01) and record the value.

3.10.2. Select the current drop volume for tank 1 (Mode 11-01) and record the value.

3.10.3. Enter 100 gallons (100.00) in drop volume and press the **PRNT/ENTR** key. Check that the displayed drop volume has incremented by 100 gallons.

3.10.4. Check that the declining balance (Mode 12-01) has also incremented by 100 gallons.

3.10.5. Authorize a tank 1 dispenser and deliver $1.00 of product.

3.10.6. Check that the declining balance (Mode 12-01) has decreased by the sale **volume** amount. The drop volume should not change.

3.10.7. Repeat above for a dispenser connected to tank 2. Continue until all tanks have been verified.

3.11. SHIFT TOTALS

3.11.1. Record the current station totals (Mode 10-00), several grade totals (Mode 10-01, . .), several tank drop volumes (Mode 11-01, . .), and declining balances (12-01, . . .).

3.11.2. Execute a shift change, and compare the first previous shift values (Mode 20-10) and the recorded values. They should be the same. The current shift totals and drop volume should be zero, and the declining balance should not have changed.

3.11.3. Check that the time of the shift change is recorded in Mode 24-01. Depress double zero for date of shift change.

3.12. ALL STOP

When the **STOP** key is depressed, the system stops the flow of product for all dispensers.

In order to check operation of the stop feature perform the following steps:

3.12.1. Select a dispenser. Authorize a postpay sale. Turn dispenser on and dispense product slowly.

3.12.2. Depress **STOP** key on console.

3.12.3. Check that the **Unpaid/Stopped** indicators on the console are on steady or flashing fast.

3.12. ALL STOP, continued

3.12.4. Check that the dispenser has stopped the flow of product.

3.12.5. Check pump motor relay to determine that pump motor power has been cut off.

3.12.6. Clear **All Stop** by pressing the **CLEAR** key, then pressing the **PUMP STRT** key. Sale should continue from amount shown. Select the dispenser again and ensure sale amounts agree.

3.13. INDIVIDUAL PUMP STOP

If in use each dispenser may be stopped individually by selecting a dispenser and pressing the **PUMP STOP** key. The stop light will come on for the selected dispenser only. The dispenser can be restarted by pressing the **PUMP STRT** key.

3.14. MODE AUTHORIZATION ERROR CODES

In the event a pump cannot be authorized, refer to the Mode 30 Authorization Error Codes in Appendix A of this manual.

MODE DATA DESCRIPTION WORKSHEETS

The following mode data description worksheets are provided to assist in the initial start-up programming of the system. The worksheets that follow represent the minimum program data that is required to operate the system. Please complete the worksheets in cooperation with the station personnel prior to the actual program data entry. For detailed information pertaining to the specific programming modes, refer to the Operation and Programming Manual that is supplied with the system.

PRIME MODE 60. CLOCK SETTING

Prime Mode	Sub-Mode	Data	Description
60			Clock Setting Mode (Time and Date).
	00		12 (am/pm) or 24 hr. operation.
		0	12 hour mode (am).
		1	12 hour mode (pm).
		2	24 hour mode.
	01	_ _	Minutes (00 - 59).
	02	_ _	Hours (00 - 23).
	03	No Entry	Day of week (display only).
	04	_ _	Day of Month (01 - 31).
	05	_ _	Month of Year (01 - 12).
	06	_ _	Year (00 - 99).

PRIME MODE 09.   MAXIMUM NUMBER OF FUELING POINTS

Prime Mode	Sub-Mode	Data		Description
09		01 - 24		Maximum Number of Fueling Points.
		Enter Number of Fueling Points		
	00	___		
	01	___	0	Blank leading zero of Fueling PointNumbers.
		___	1	Two-Digit display of Fueling point numbers
	02	___	0	Console 2 status lamp display for Fueling Points 1 thru 16.
		___	1	Console 2 status lamp display for Fueling Points 9 thru 24.

PRIME MODE 01.   ASSIGNMENT OF UNIT PRICE TO TIER, LEVEL AND GRADE

Prime Mode	Sub-Mode	Data	Description
01	11	_._ _ _ _	CREDIT, TIER 1, LEVEL 1, GRADE 1
	12	_._ _ _ _	2
	13	_._ _ _ _	3
	14	_._ _ _ _	4
	15	_._ _ _ _	5
	16	_._ _ _ _	6
	17	_._ _ _ _	7
	18	_._ _ _ _	8
	19	_._ _ _ _	9
	21	_._ _ _ _	CREDIT, TIER 1, LEVEL 2, GRADE 1
	22	_._ _ _ _	2
	23	_._ _ _ _	3
	24	_._ _ _ _	4
	25	_._ _ _ _	5
	26	_._ _ _ _	6
	27	_._ _ _ _	7
	28	_._ _ _ _	8
	29	_._ _ _ _	9
	31	_._ _ _ _	CREDIT, TIER 2, LEVEL 1, GRADE 1
	32	_._ _ _ _	2
	33	_._ _ _ _	3
	34	_._ _ _ _	4
	35	_._ _ _ _	5
	36	_._ _ _ _	6
	37	_._ _ _ _	7
	38	_._ _ _ _	8
	39	_._ _ _ _	9
	41	_._ _ _ _	CREDIT, TIER 2, LEVEL 2, GRADE 1
	42	_._ _ _ _	2
	43	_._ _ _ _	3
	44	_._ _ _ _	4
	45	_._ _ _ _	5
	46	_._ _ _ _	6
	47	_._ _ _ _	7
	48	_._ _ _ _	8
	49	_._ _ _ _	9

Prime Mode	Sub-Mode	Data	Description
01	51	_._ _ _ _	CASH, TIER 1, LEVEL 1, GRADE 1
	52	_._ _ _ _	2
	53	_._ _ _ _	3
	54	_._ _ _ _	4
	55	_._ _ _ _	5
	56	_._ _ _ _	6
	57	_._ _ _ _	7
	58	_._ _ _ _	8
	59	_._ _ _ _	9
	61	_._ _ _ _	CASH, TIER 1, LEVEL 2, GRADE 1
	62	_._ _ _ _	2
	63	_._ _ _ _	3
	64	_._ _ _ _	4
	65	_._ _ _ _	5
	66	_._ _ _ _	6
	67	_._ _ _ _	7
	68	_._ _ _ _	8
	69	_._ _ _ _	9
	71	_._ _ _ _	CASH, TIER 2, LEVEL 1, GRADE 1
	72	_._ _ _ _	2
	73	_._ _ _ _	3
	74	_._ _ _ _	4
	75	_._ _ _ _	5
	76	_._ _ _ _	6
	77	_._ _ _ _	7
	78	_._ _ _ _	8
	79	_._ _ _ _	9
	81	_._ _ _ _	CASH, TIER 2, LEVEL 2, GRADE 1
	82	_._ _ _ _	2
	83	_._ _ _ _	3
	84	_._ _ _ _	4
	85	_._ _ _ _	5
	86	_._ _ _ _	6
	87	_._ _ _ _	7
	88	_._ _ _ _	8
	89	_._ _ _ _	9

PRIME MODE 02. ASSIGNMENT OF PRODUCT GRADE TO TANK NUMBER

Prime Mode	Sub-Mode	Data	Description		
			Tank	Grade Number	Product
		(1 -- 5)			
02	01	_ _ _ _	1	_ _ _ _	_ _ _ _
	02	_ _ _ _	2	_ _ _ _	_ _ _ _
	03	_ _ _ _	3	_ _ _ _	_ _ _ _
	04	_ _ _ _	4	_ _ _ _	_ _ _ _
	05	_ _ _ _	5	_ _ _ _	_ _ _ _
	06	_ _ _ _	6	_ _ _ _	_ _ _ _

└─ Same Number ─┘

PRIME MODE 17.   BLEND RATIO-TO-GRADE ASSIGNMENT

Prime Mode	Sub-Mode*	Data**	Description
17	06	_ _ _	Blend Ratio Values
	07	_ _ _	
	08	_ _ _	
	09	_ _ _	

*   Submode number is mixed product grade 6 through 9.
* * Data entry is blend ratio values 1 through 99. 0 is low feedstock, 100 is high
      feedstock, and 101 is grade not used.

PRIME MODE 03. ASSIGNMENT OF TANK NUMBER(S) TO FUELING POINTS

Prime Mode	Sub-Mode	Data				Description
		AA	Z	Y	X	
03						Tank No. assignment for each nozzle/ AA Z Y X position on the fueling point.**
	01	--	--	--	--	
	02	--	--	--	--	
	03	--	--	--	--	
	04	--	--	--	--	
	05	--	--	--	--	
	06	--	--	--	--	
	07	--	--	--	--	
	08	--	--	--	--	
	09	--	--	--	--	
	10	--	--	--	--	
	11	--	--	--	--	
	12	--	--	--	--	
	13	--	--	--	--	
	14	--	--	--	--	
	15	--	--	--	--	
	16	--	--	--	--	
	17	--	--	--	--	
	18	--	--	--	--	
	19	--	--	--	--	
	20	--	--	--	--	
	21	--	--	--	--	
	22	--	--	--	--	
	23	--	--	--	--	
	24	--	--	--	--	

*   Submode Number is Fueling Point Number.
** DL36X/37X Series -- entry only for position X.
     DL369/379 Series -- entry only for positions Y and X.
     DL390 MGD Series -- entry for positions Z, Y and X.
     DD490 MGD Series -- entry for positions AA, Z, Y, and X.
     DD590 Fixed Blender -- entry for positions Z, Y, and X.

PRIME MODE 04.   ASSIGNMENT OF FUELING POINT TO PRICE LEVEL

Prime Mode	Sub-Mode*	Data	Description Fueling Point**
04	01	—	
	02	—	
	03	—	
	04	—	
	05	—	
	06	—	
	07	—	
	08	—	
	09	—	
	10	—	
	11	—	
	12	—	
	13	—	
	14	—	
	15	—	
	16	—	
	17	—	
	18	—	
	19	—	
	20	—	
	21	—	
	22	—	
	23	—	
	24	—	

*   Submode Number is Fueling Point Number.
* *   For price level one, enter a "1"; for price level two, enter a "2".

PRIME MODE 18.   GRADE-TO-POSITION ASSIGNMENT

Prime Mode	Sub-Mode	Fueling Point Position	Data	Description
			0 -- 9	Assign grade to F.P. position
18	01	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		7	--	
	02	1	--	
		2	--	
		4	--	
		5	--	
		6	--	
		7	--	
	03	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	04	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	05	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	

PRIME MODE 18.   GRADE-TO-POSITION ASSIGNMENT, continued

Prime Mode	Sub-Mode	Fueling Point Position	Data	Description
			0 -- 9	Assign grade to F.P. position
18	06	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	07	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	08	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	09	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	10	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	

PRIME MODE 18. GRADE-TO-POSITION ASSIGNMENT, continued

Prime Mode	Sub-Mode	Fueling Point Position	Data	Description
			0 -- 9	Assign grade to F.P. position
18	11	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	12	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	13	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	14	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	
	15	1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		7	--	

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Prime Mode	Sub- Mode	Fueling Point Position	Data	Description
			0 -- 9	Assign grade to F.P. position
18	16	1	---	
		2	---	
		3	---	
		4	---	
		5	---	
		6	---	
		7	---	
	17	1	---	
		2	---	
		3	---	
		4	---	
		5	---	
		6	---	
		7	---	
	18	1	---	
		2	---	
		3	---	
		4	---	
		5	---	
		6	---	
		7	---	
	19	1	---	
		2	---	
		3	---	
		4	---	
		5	---	
		6	---	
		7	---	
	20	1	---	
		2	---	
		3	---	
		4	---	
		5	---	
		6	---	
		7	---	

PRIME MODE 18. GRADE-TO-POSITION ASSIGNMENT, continued

Prime Mode	Sub-Mode	Fueling Point Position	Data	Description
			0 -- 9	Assign grade to F.P. position
18	21	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	22	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	23	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	
	24	1	—	
		2	—	
		3	—	
		4	—	
		5	—	
		6	—	
		7	—	

PRIME MODE 33. SALE OPTIONS

Prime Mode	Sub-Mode	Data (Circle Choice)	Description
33	00		PREPAY/PRESET SALES
		0	Prepay/Preset Sales not allowed.
		1	Prepay/Preset Sales allowed.
	01		POSTPAY SALES
		0	Postpay Sales not allowed.
		1	Postpay Sales allowed.
	02		PRICING
		0	Single unit price
		1	Dual Pricing (Cash/Credit)
	03		LIMITED AUTHORIZATION
		0	Disable Limited Authorization.
		1	Limited Authorization in Effect.
	04		DATE OPTIONS
		0	All dates: Month/Day/Year.
		1	All dates: Day/Month/Year.
	05	0-24	Maximum number of FuelingPoints that can be authorized at once.
	06		MANDATORY GRADE ENTRY FOR MGD
		0	No grade required.
		1	Must enter a grade number.
	07		PREFERENTIAL CASH
		0	**AUTHORIZE** key assumes credit price.
		1	**AUTHORIZE** key assumes cash price.
	08		PRICE POSTING (DL1-DISPENSERS)
		0	Pump displays credit price.
		1	Pump displays cash price.

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Prime Mode	Sub-Mode	Data (Circle Choice)	Description
	09		PREPAY/PRESET AUTHORIZED DIFFERENT THAN PUMP
		0	Console will not allow override witl nozzle out
		1	Console will allow override of fueli point cash/credit selection
		2	Customer cash/credit selection can changed at the console. The select on the dispenser will change of the customer selects credit and prepay: with cash.
		3	Console will not allow override. Th selection must be changed before authorization will go through.

Use Submode 09 whenever the con: should override a selectio made at 1 fueling point.

Note: If the override is allowed, th price at the fueling point and at th console will be different but the volume amount delivered will be correct for the amount paid.

Prime Mode	Sub-Mode	Data (Circle Choice)	Description
33	10		UNIT PRICE RATIO
		0	Sale/unit price ratio = 10 to 1.
		1	Sale/unit price ratio = 1 to 1.
	11		PERIPHERAL FUELING POINT CONTROLLER INTERLOCK
		0	Interlock to recall sale.
		1	Interlock to current sale.
	12		CLEAR COMMAND TO F.P.
		0	No clear command to F.P.
		1	Clear command to F.P.
	13		BYPASS DATA CHANGE TALLY PRINTOUT
		0	No bypass to printout
		1	Bypasses data change printout

Prime Mode	Sub-Mode*	Data	Description
33	14		<u>OVERRIDE FUELING POINT GRADE SELECTION</u>
		0	Inhibits selected authorization of one grade when a different grade is on.
		1	Any grade may be authorized.
	15		<u>VOLUME UNITS SWITCH OVERRIDE</u>
		0	Use F.P. switch settings to determine units printed.
		1	Always print gallons
		2	Always print liters
	16		<u>ASCENDING ORDER OPTION</u>
		0	Ascending order not required
		1	Ascending order required*
	17		<u>EXPORT ROUNDING OPTION</u>
		0	Rounding not enforced
		1	Sale money rounded
	18		<u>BYPASS UNPAID RECALL BUFFER SALE</u>
		0	Authorization not allowed if the sale the recall buffer is not final.
		1	Authorization allowed if the recall buffer sale is not final and the curre buffer sale has been finalized.
	19		<u>DISPENSER REMOTE MODE CONTROL</u>
		0	Do not allow the peripheral controll to influence the dispenser mode.
		1	Allow remote control of dispenser mode.

* System doesn't accept blend ratios or unit price not in ascending order.

PRIME MODE 35. FUELING POINT AUTOMATIC AUTHORIZATION OPTIONS

35	01-Max. F.P. No.	X	Y
	01	--	--
	02	--	--
	03	--	--
	04	--	--
	05	--	--
	06	--	--
	07	--	--
	08	--	--
	09	--	--
	10	--	--
	11	--	--
	12	--	--
	13	--	--
	14	--	--
	15	--	--
	16	--	--
	17	--	--
	18	--	--
	19	--	--
	20	--	--
	21	--	--
	22	--	--
	23	--	--
	24	--	--

x y "x" position applies to Tier 2 control; "y" position applies to Tier 1 control.
0   No Auto Authorization.
1   Authorize if SS/Attend Key Switch **has been** on.
2   Authorize **only** if SS/Attend Key Switch is on now.
3   Auto Authorize when Fueling Point is ready (reauthorizes at nozzle off).

* Submode Number is Fueling Point Number.

PRIME MODE 36. FUELING POINT AUTOMATIC TOTALIZATION OPTIONS

Prime Mode	Sub-Mode*	Data		Description
		X	Y	
36	01-Max. F.P. No.			x y "x" position applies to Tier 2 control; "y" position applies to Tier 1 control.
	01	--	--	0 No Auto-Totalization.
	02	--	--	1 Auto-Totalize if **this** sale was Auto-Authorized.
	03	--	--	
	04	--	--	2 Unconditional Auto-Totalization (automatically pays out sale on console at nozzle switch off).
	05	--	--	
	06	--	--	
	07	--	--	
	08	--	--	
	09	--	--	
	10	--	--	
	11	--	--	
	12	--	--	
	13	--	--	
	14	--	--	
	15	--	--	
	16	--	--	
	17	--	--	
	18	--	--	
	19	--	--	
	20	--	--	
	21	--	--	
	22	--	--	
	23	--	--	
	24	--	--	

*   Submode Number is Fueling Point Number.

PRIME MODE 48.   FUELING POINT RATION LIMIT

Prime Mode	Sub-Mode*	Data	Description
48	01-Max. F.P. No.	0	Ration Limit not in effect (For Prepay Only)
		1	Ration Limit in effect (Mode 07, Submode 01 must be 0).
	01	--	
	02	--	
	03	--	
	04	--	
	05	--	
	06	--	
	07	--	
	08	--	
	09	--	
	10	--	
	11	--	
	12	--	
	13	--	
	14	--	
	15	--	
	16	--	
	17	--	
	18	--	
	19	--	
	20	--	
	21	--	
	22	--	
	23	--	
	24	--	

* Submode Number is Fueling Point Number.

PRIME MODE 50. CONSOLE PERIPHERAL CONTROL (RTP/ECR)

Prime Mode	Sub-Mode	Data	Description
50	00	1 or 2	Display only - indicates which console is active/in use.
	XY		
	1 1	1--2	Console #1 Programming
	1 2	0-1-2	
	1 3	0-1-1	
	2 1	1--2	Console #2 Programming
	2 2	0-1-2	
	2 3	0-1-1	
	3 1	1--2	PPC #1 Programming
	3 2	0-1-2	
	3 3	0-1-1	
	4 1	1--2	PPC #2 Programming
	4 2	0-1-2	
	4 3	0-1-1	

The Submode parameters X and Y shown above are defined as follows:

X = 1: Console # 1   Y = 1: Data Destination   Y=3: Postpay Sale Xfer
X = 2: Console # 2   Console # 1, or   0 = Xfer on PRNT/ENTR
X = 3: PPC # 1   Console # 2   1 = Xfer on CASH PAID or
X = 4: PPC # 2   CREDIT PAID
                          Y = 2: Peripheral
                                  0 = none
                                  2 = ECR

Indicate selected data entry by circling the selected data entry parameter for each X Y submode combination.

PRIME MODE 51. SALE RECEIPT HEADING (RTP)

Prime Mode	Sub-Mode	Data	Description
51	01-60	0-127	This mode allows customized printer headings to be programmed in the field. There are a maximum of 60 entries that can be made including spaces, carriage returns. Each individual entry is a single Submode. See the Wayne 2400 Cash/Credit Operation Manual for a complete explanation and codes. Note: If an RTP is attached refer to Mode 31, Grade Description Code, of the operation manual supplied with the system.

PRIME MODE 08. CONSOLE CONTROL MODE*

Prime Mode	Sub-Mode	Data		Description
08	01			KEY BEEP
		----	0	Off.
		----	1	On.
	02			CALL ALERT
		----	0	On.
		----	1	Off.
	03			SALE END ALERT
		----	0	Off.
		----	1	On.
	04			AUTO CLEAR
		----	0	No auto clear of display.
		----	1	Auto clear of display after authorization, paid, or receipt printing.
	05			POST PAY
		----	0	Grade select; postpay sales allowed.
		----	1	Grade select; postpay sales not allowed.

* Program each console separately.

GLOSSARY

Term	Description
ASCII	American Standard Code for Information Interchange. A standardized code for communication and exchange of data.
Call Signal	An alert signal to a cashier that a customer desires to use a fueling location.
Companion Board	The Companion Board interconnects the Pump Control CPU board with the pumps.
CPU	Central Processing Unit. The basic computer board which has master control of the computer system.
Configuration	The arrangement and method of connection of pieces of equipment in a system.
Data	A number used for a sale transaction; a number used to identify the status of the system in specific mode functions; or an entry in a management function.
Data Link	A system that uses a data communications method to transmit sale information between the fueling points and the central control system.
Default Value	When more than once choice of operating condition is available, the "default" value is the mode which is originally set, or which is in effect when no choice is entered.
DDC	Data Distribution Cabinet. An interconnection box for the Data Lines of the Wayne 2400 system.
DL	Data Link
DLB	Data Link Blender
EC	Electronic Central. A cabinet which houses the main control boards of the 2400 MCS (also see SC Site Controller).
ECR	Wayne 1000 Electronic Cash Register. An acronym used to describe Wayne's cash register.

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Term	Description
EIA	Electronics Industries Association. A group of individuals and business concerns whose goal is to develop standards for the electronics industry
EMI	Electro-Magnetic Interference. Interference to data communications from electrical, electronic, or magnetic causes.
EPROM	Erasable Programmable Read Only Memory. A semi-permanent data storage device which can only be erased by special means.
Fueling Point Totals	The sale totals of individual fueling points. Includes total sales for all grades, and total volume for each separate grade.
Grade	General term for petroleum product; Hi, Lo, Regular, Premium, Super, Unleaded, 1, 2, 3, 4, etc.
Help Desk	1) A telephone service provided by Mobil for help with card processing problems. 2) A telephone service provided by Shell for help with card processing problems. 3) A similar service provided by Wayne Technical Services, for help with system technical problems.
MCS	Management Control System. Acronym for Wayne's 2400 MCS.
Mode	A term for the operation of the control system which allows access to management and programming functions.
Mode Code	A number which designates a specific management or programming function. A mode code may have two parts, a prime mode and a submode.

Term	Description
MPB	Multi-Processor Bus. A group of communication lines mounted on the 2400 MCS Mother Board. Its function is to transmit data between modules mounted in the Electronic Central.
PCB	Printed Circuit Board. A non-conductive material used to mount integrated circuits and provide connection between the chips.
Prime Mode	The first two numerical digits in a mode code. Used to identify a major group of similar information.
RTP	Acronym for Wayne® 2400 Receipt/Totals Printer. The RTP is optional, and connects to the 2400 console.
SC	Site Controller. A cabinet which houses the main control boards of the 2400 MCS (also see EC Electronic Central).
SRAM	Static Random Access Memory
Submode	A location within the prime mode which identifies the exact address where specific information is located.
Tier Pricing	Two (2) different sets of prices which enable the station manager to change the entire station's prices instantly, i.e., change tiers.
UL	Underwriter's Laboratories.
Volume Slow-Down Point	The point at which a slow-down valve is activated in a fueling point on a prepay sale to insure the fueling point stops at a specified amount. The pre-cutoff amount specified in Mode 06 is the amount short of the full amount of volume where the slow valve is activated.
Wayne 2400	Wayne's electronic fueling point control system.

APPENDIX A

AUTHORIZATION ERROR CODES

MODE 30. AUTHORIZATION ERROR CODES

Prime Mode	Sub-Mode	Data	Description
30	01-MAX. F.P. No.	0-99	AUTHORIZATION ERROR CODES

Allows operator to determine cause for authorization error. This applies to preset, prepay, and postpay authorization attempts. The submode indicates the fueling point number.

0 - No authorization error
1 - Disqualified due to unit prices
2 - Grade not in range 0 - 8
3 - Grade not in grade-to-position array
4 - Non-blender and grade is blend only
5 - Position grade doesn't equal tank grade
6 - Blender and grade blend ratio greater than 100
7 - Blender and single-product position has grade greater than 3.
8 - Blender with no single-product position and grade is 1 - 3
9 - Blender and feed stock grades not in feedstock tanks
10 - Mandatory grade entry
11 - Disallow recall
12 - Ready/in-use maximum exceeded
13 - One-time authorize exceeded
14 - Postpay disallowed*
15 - Prepay/preset disallowed*
16 - Pump is stopped**
17 - Pump has authorize reserved
18 - Pump is offline*
19 - Nozzle out at fueling point position and conflicting selection at fuelingpoint
20 - Volume prepay with no grade selected*
21 - Pump already authorized or has authorization pending**
22 - Unpaid sale in recall buffer**
23 - Current sale is incomplete prepay**
24 - Blender and sale pulse counts not received
99 - Any other reason

* = not implemented, 000 displayed
** = implemented for authorizations from auxiliary control points, but not from the console

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APPENDIX B

ENGINEERING DRAWINGS

D2400 DATA LINK OVERVIEW

880064-01   D2400 DATA LINK OVERVIEW

880062-31   SECOND DATA DISTRIBUTION CABINET WIRING DIAGRAM
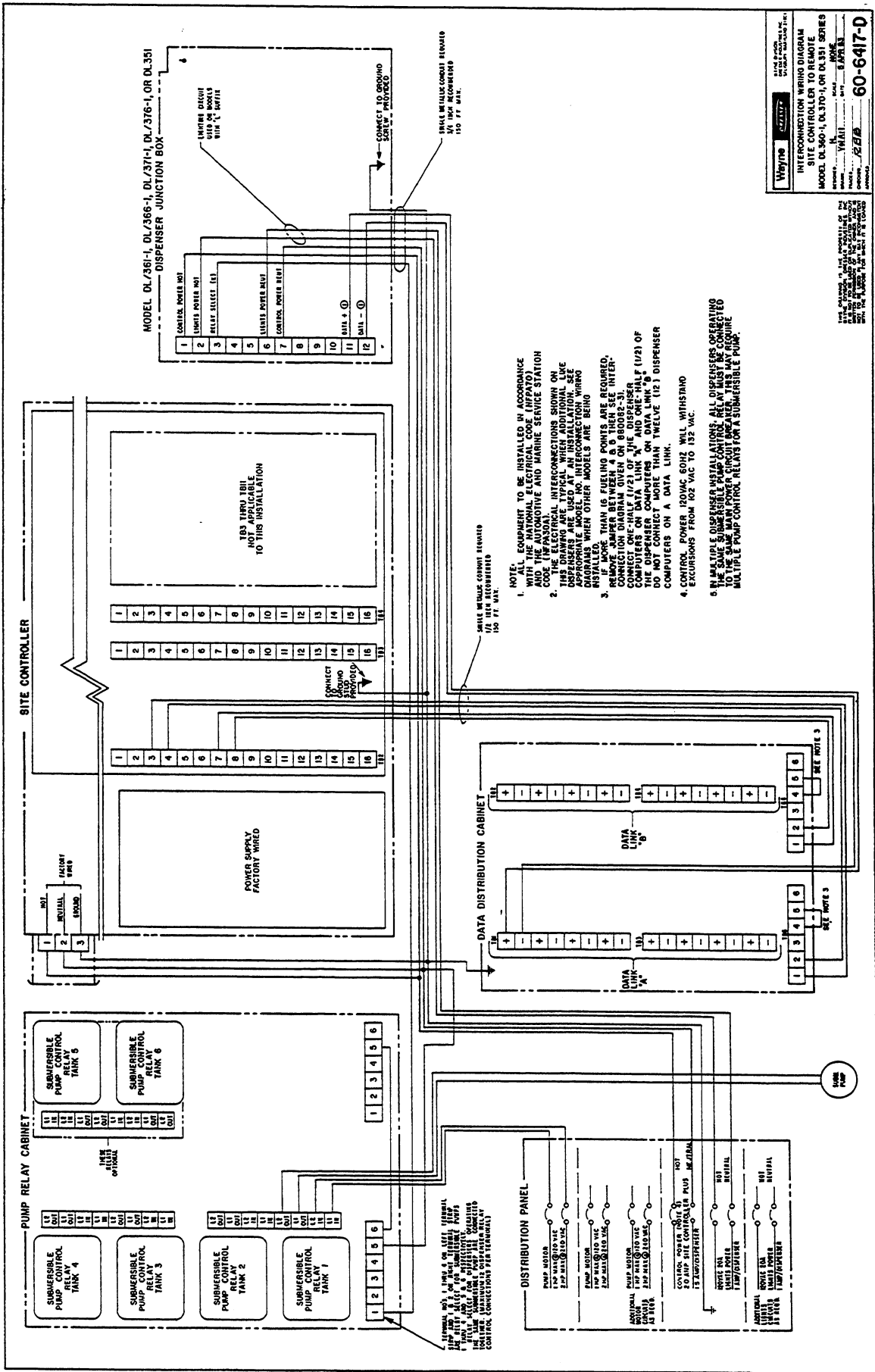
60-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE
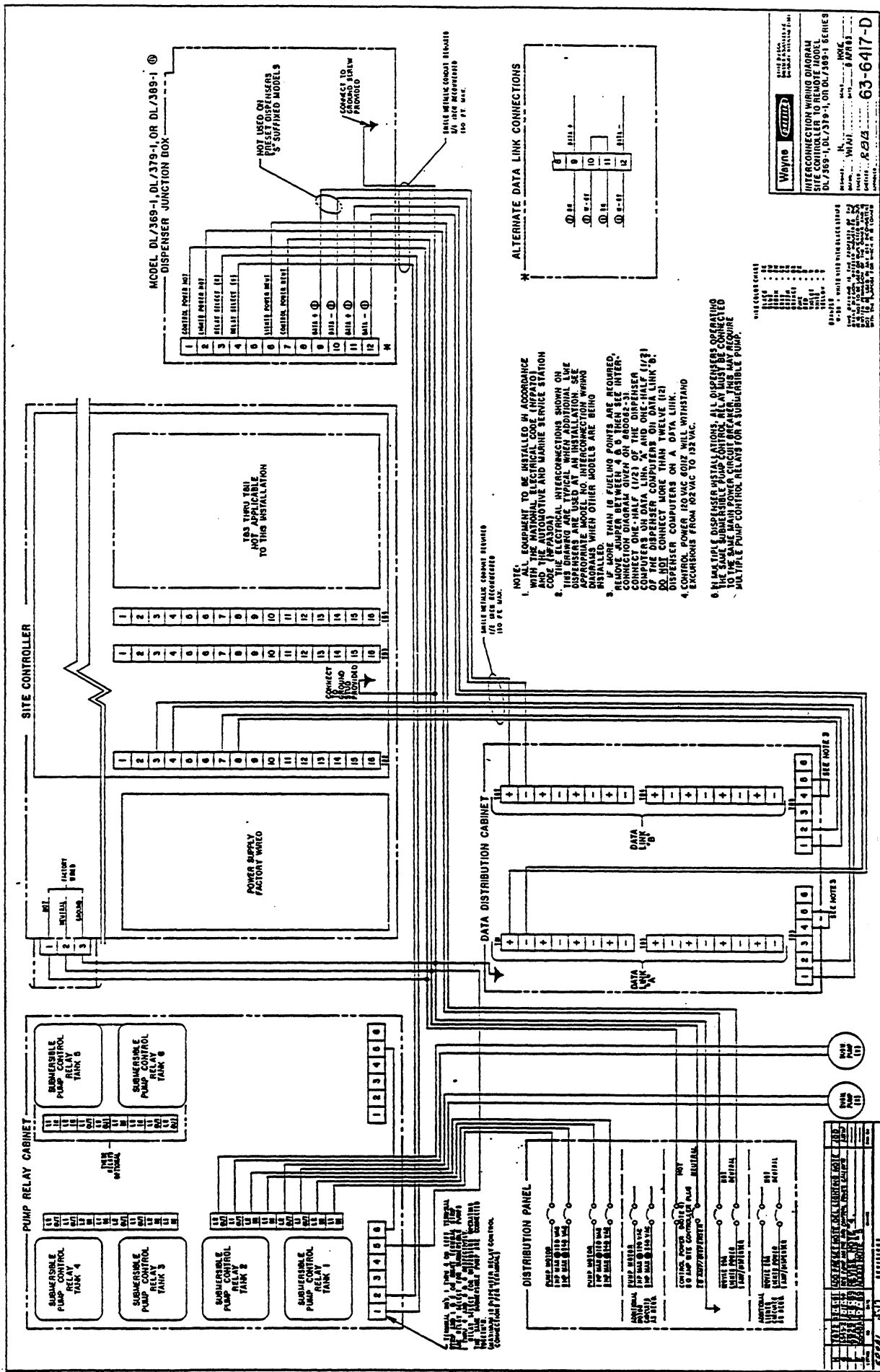MODEL DL360-1, DL370-1, AND DL351 SERIES (SINGLE REMOTE DISPENSER)
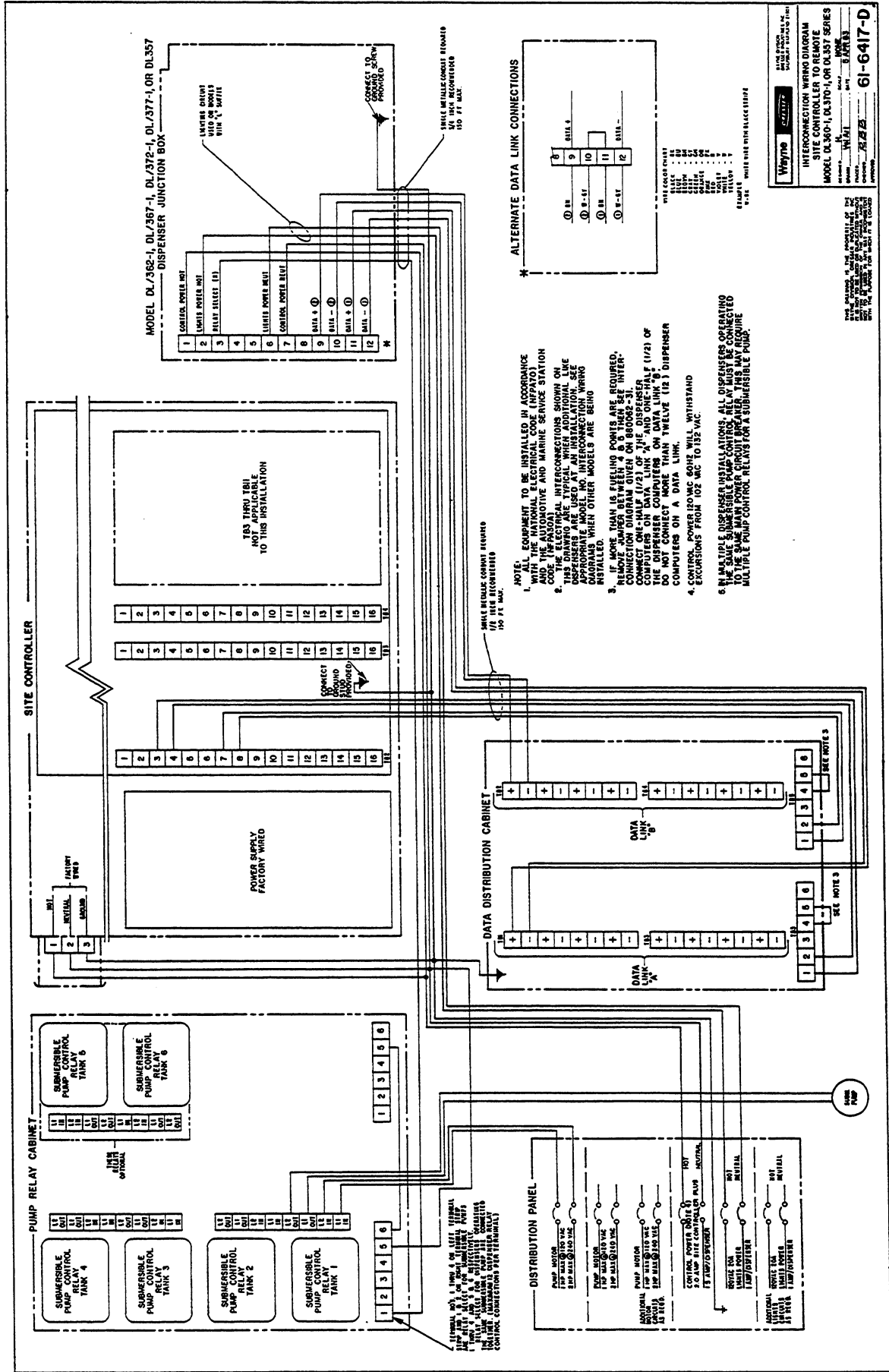
61-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE MODEL DL360-1, DL370-1, AND DL357 SERIES (DUO-1 REMOTE DISPENSER)

Part No. 917433 Rev C   June 1991
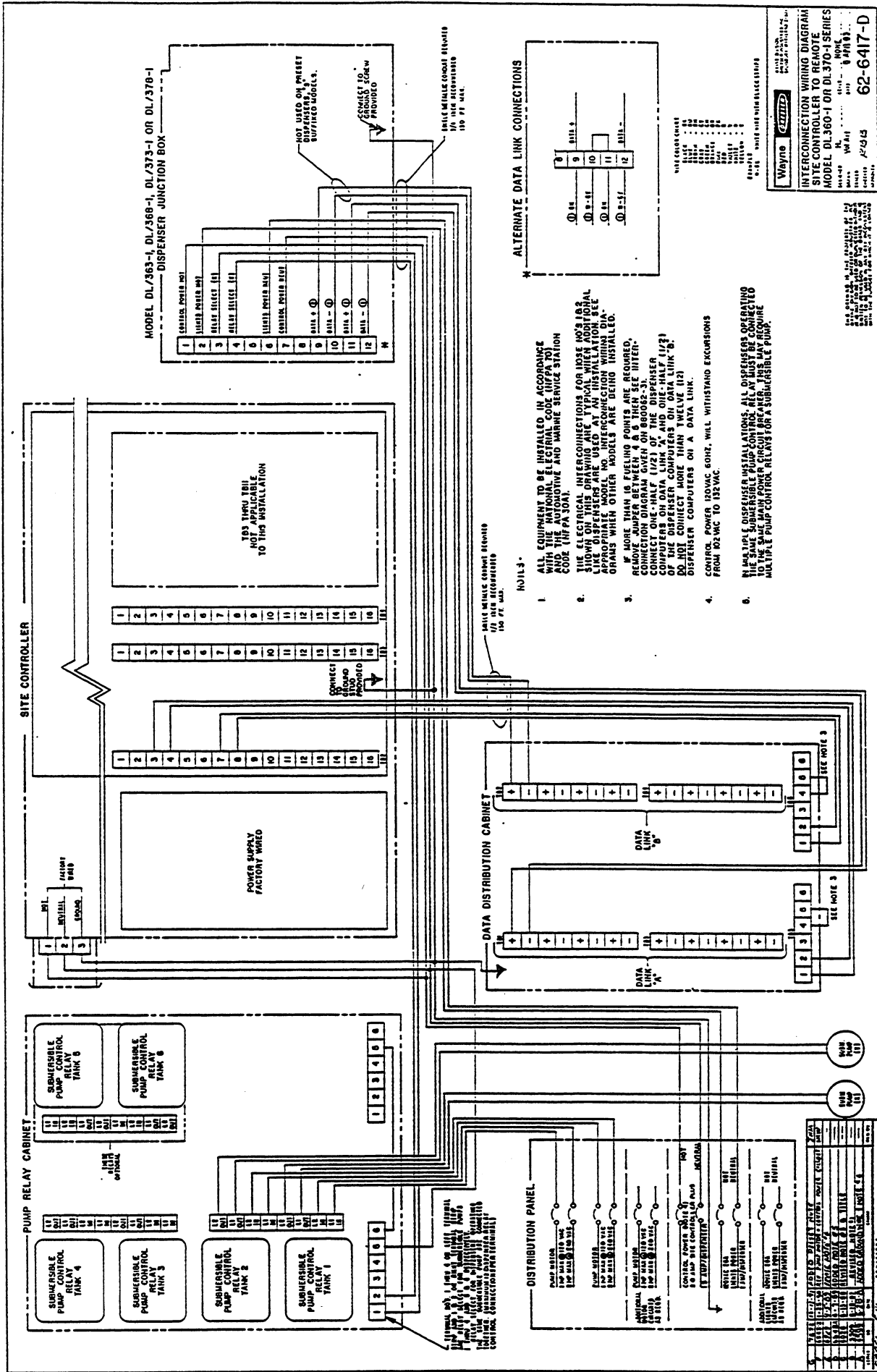
62-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE
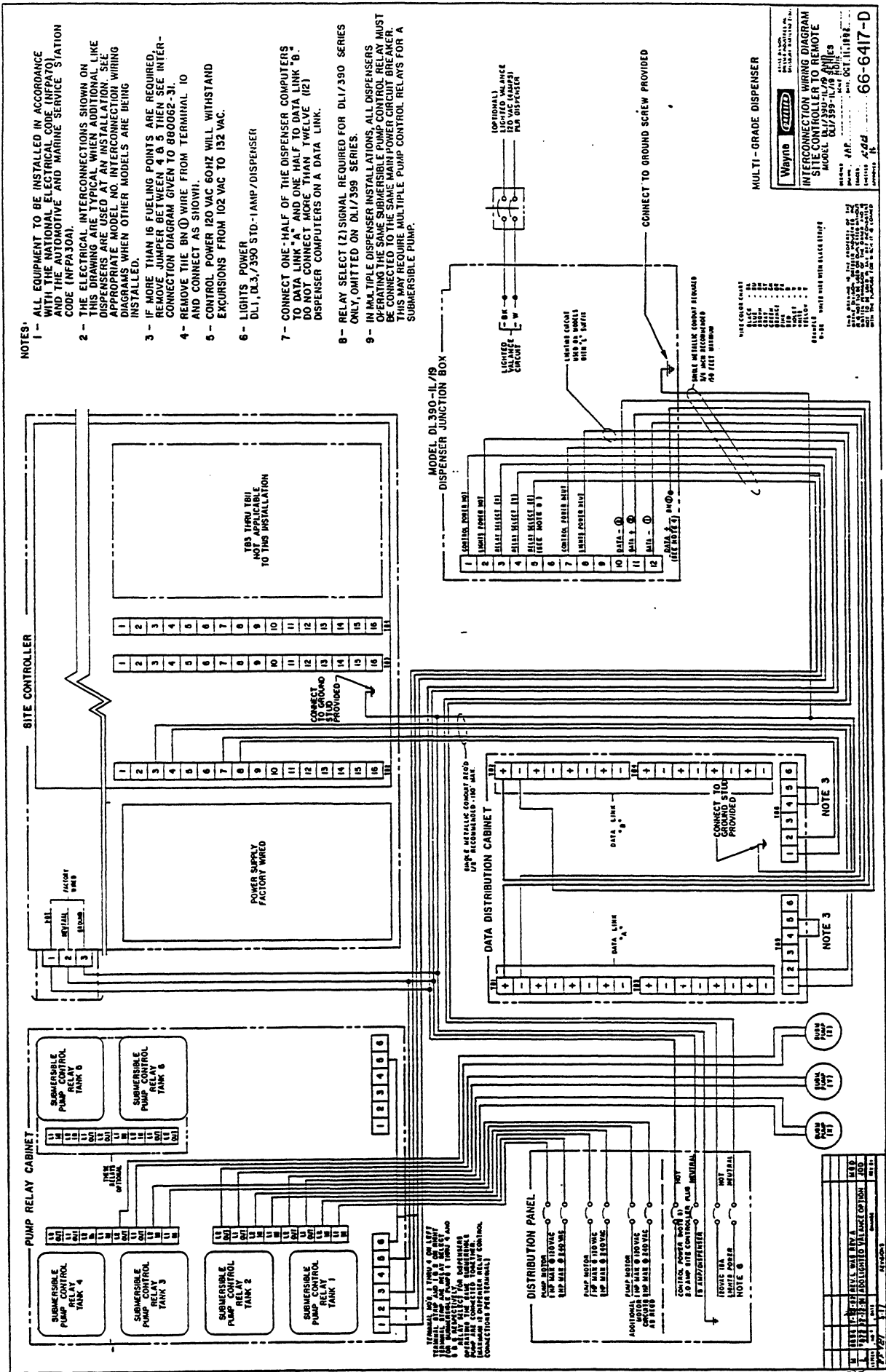**MODEL DL360-1 AND DL370-1 SERIES (DUO-2 REMOTE DISPENSER)**

63-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE MODEL DL369-1, DL379-1, AND DL389-1 SERIES (DOUBLE DUO-2 REMOTE DISPENSER)

NOTES:

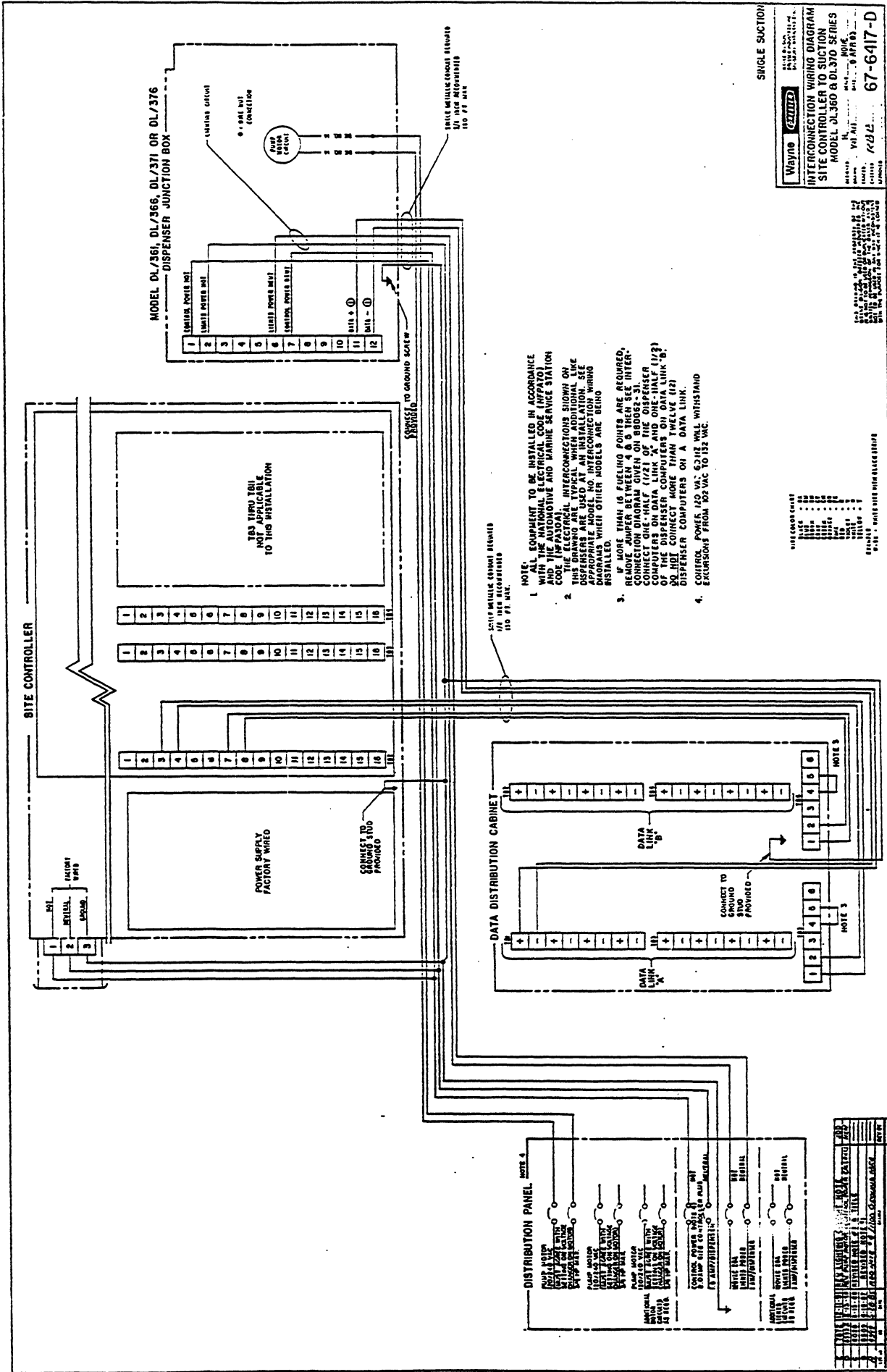1 — ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA70) AND THE AUTOMOTIVE AND MARINE SERVICE STATION CODE (NFPA30A).

2 — THE ELECTRICAL INTERCONNECTIONS SHOWN ON THIS DRAWING ARE TYPICAL WHEN ADDITIONAL LIKE DISPENSERS ARE USED AT AN INSTALLATION. SEE APPROPRIATE MODEL NO. INTERCONNECTION WIRING DIAGRAMS WHEN OTHER MODELS ARE BEING INSTALLED.

3 — IF MORE THAN 16 FUELING POINTS ARE REQUIRED, REMOVE JUMPER BETWEEN 4 & 5 THEN SEE INTERCONNECTION DIAGRAM GIVEN TO 880062-31.

4 — REMOVE THE BN① WIRE FROM TERMINAL 10 AND CONNECT AS SHOWN.

5 — CONTROL POWER 120 VAC 60Hz WILL WITHSTAND EXCURSIONS FROM 102 VAC TO 132 VAC.

6 — LIGHTS POWER DL1, DL3./390 STD.-1 AMP/DISPENSER

7 — CONNECT ONE-HALF OF THE DISPENSER COMPUTERS TO DATA LINK "A" AND ONE HALF TO DATA LINK "B". DO NOT CONNECT MORE THAN TWELVE (12) DISPENSER COMPUTERS ON A DATA LINK.

8 — RELAY SELECT (2) SIGNAL REQUIRED FOR DL1/390 SERIES ONLY, OMITTED ON DL1/399 SERIES.

9 — IN MULTIPLE DISPENSER INSTALLATIONS, ALL DISPENSERS OPERATING THE SAME SUBMERSIBLE PUMP CONTROL RELAY MUST BE CONNECTED TO THE SAME MAIN POWER CIRCUIT BREAKER. THIS MAY REQUIRE MULTIPLE PUMP CONTROL RELAYS FOR A SUBMERSIBLE PUMP.

SITE CONTROLLER

POWER SUPPLY FACTORY WIRED

TB3 THRU TB16 NOT APPLICABLE TO THIS INSTALLATION

MODEL DL390-1L/19 DISPENSER JUNCTION BOX

DATA DISTRIBUTION CABINET

PUMP RELAY CABINET

SUBMERSIBLE PUMP CONTROL RELAY TANK 6
SUBMERSIBLE PUMP CONTROL RELAY TANK 5
SUBMERSIBLE PUMP CONTROL RELAY TANK 4
SUBMERSIBLE PUMP CONTROL RELAY TANK 3
SUBMERSIBLE PUMP CONTROL RELAY TANK 2
SUBMERSIBLE PUMP CONTROL RELAY TANK 1

DISTRIBUTION PANEL

CONNECT TO GROUND STUD PROVIDED

CONNECT TO GROUND SCREW PROVIDED

MULTI-GRADE DISPENSER

Wayne

66-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE
MODEL DL1/390-1L/19 AND DL1/399-1L/199 SERIES (MULTI-GRADE DISPENSER)

67-6417-D   INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE MODEL DL360 AND DL370 SERIES (SINGLE SUCTION DISPENSER)

**68-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE
MODEL DL360 AND DL370 SERIES (DUO-1 SUCTION DISPENSER)**

Part No. 917433 Rev C   June 1991
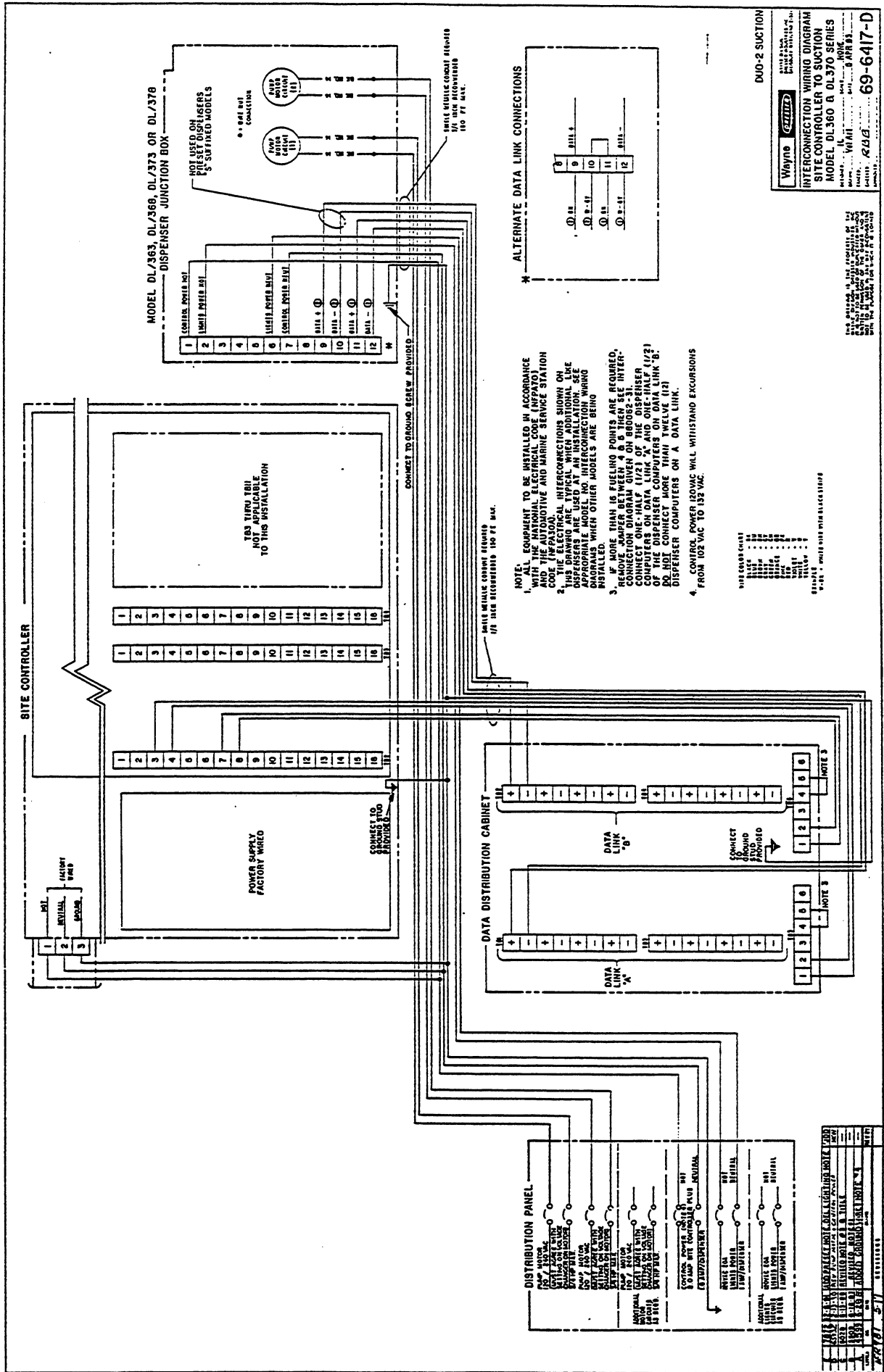
69-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE MODEL DL360 AND DL370 SERIES (DUO-2 SUCTION DISPENSER)
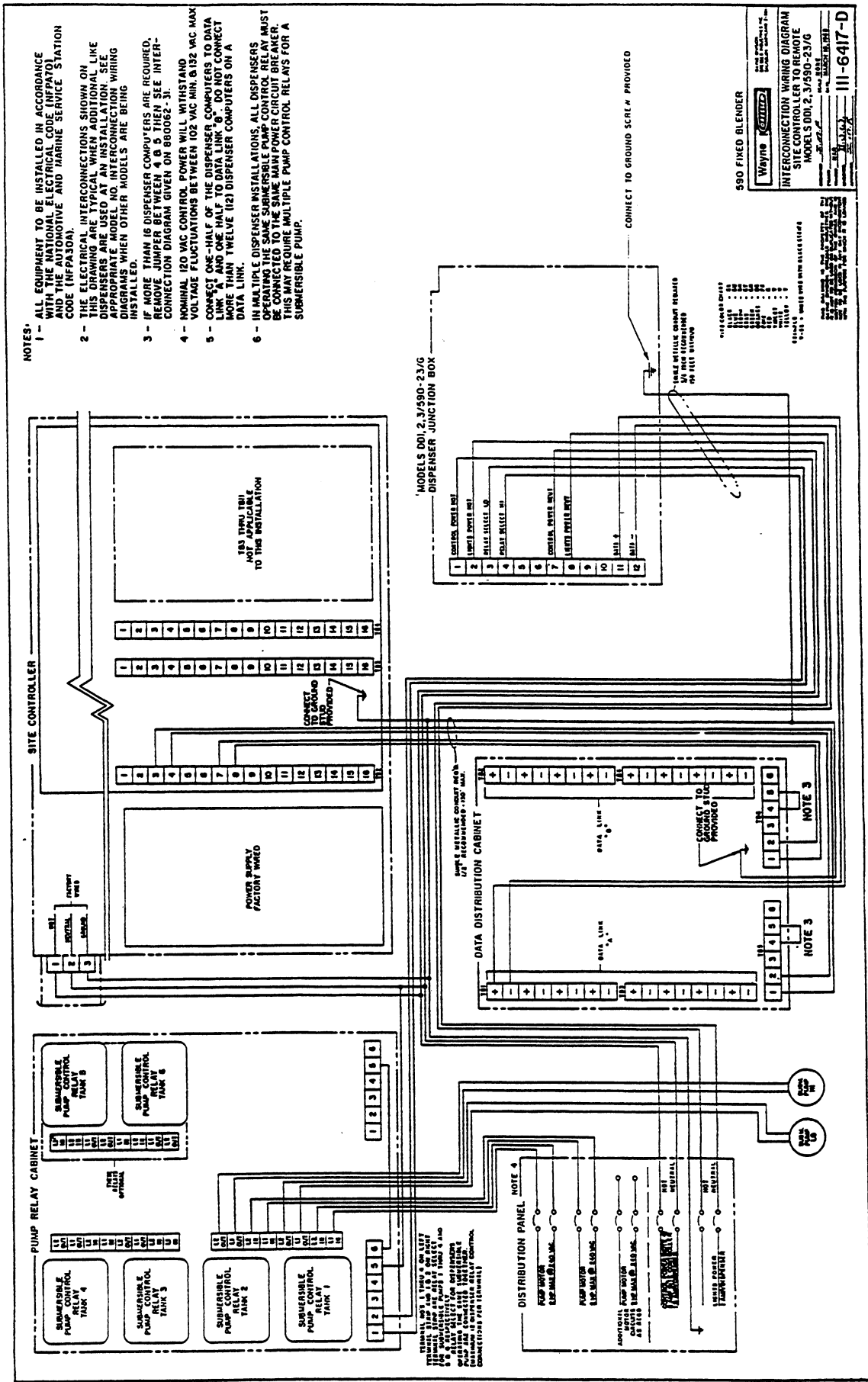
111-6417-D INTERCONNECTION WIRING DIAGRAM -- SITE CONTROLLER TO REMOTE MODEL DD1, 2, 3/590-23/G (590 FIXED BLENDER)

USER'S RESPONSE SHEET

Manual Title: <u>Installation Wayne 2400/Plus™ Management Control System</u>

Manual Revision: <u>917433 Rev C</u>   Date of This Letter: _____

User's Name: _____   Telephone: _____

Company: _____   Your Position: _____

Street Address: _____

City/State/Zip Code: _____

How would you rate the quality of this manual:

	Excellent	Good	Fair	Poor
Accuracy	____	____	____	____
Organization	____	____	____	____
Clarity	____	____	____	____
Completeness	____	____	____	____
Overall Design	____	____	____	____
Length	____	____	____	____
Illustrations	____	____	____	____
Examples	____	____	____	____
Index	____	____	____	____
Binding Method	____	____	____	____

Please list any discrepancy found in this manual by page, paragraph, figure, or table number in the following space. If there are any other suggestions that you wish to make, feel free to include them. Thank you.

Location in Manual   Comment/Suggestion/Discrepancy

_____   _____

_____   _____

_____   _____

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No postage necessary. Detach this form from manual, fold, seal with tape or staple and mail.

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Seller warrants that new products and parts of its own design and manufacture when shipped, will be of good quality and will be free from defects in material and workmanship and will conform to applicable specifications. Work, when performed by Seller, will meet applicable work requirements. No warranty is made with respect to used or rebuilt equipment and with respect to products not manufactured by Seller, Seller's only obligation shall be to assign to Buyer, at the time of sale, whatever warranty Seller has received from the manufacturer. Items such as but not limited to lamps, electric motors, hoses, nozzles, hose swivels and safety impact valves are included in the category referred to in the previous sentence. Seller's recommendations with respect to the operation of Seller's equipment are advisory only and are not warranted. All claims under this warranty must be made in writing immediately upon discovery and, in any event, within twelve (12) months from date of installation, if a product is involved, or from completion of the applicable work, if work is involved, or fifteen (15) months from date of invoice (whichever shall occur first). (Provided however, that with respect to the Decade 1000 electronic cash register, receipts/totals printers, and any other printers or printing mechanisms, all claims must be made in writing within ninety (90) days from date of installation.) Defective and nonconforming items must be held for Seller's inspection and returned to the original f.o.b. point upon request. Seller's warranty on service parts, whether new or reconditioned, is ninety (90) days from the date of installation, or twelve (12) months from date of invoice, whichever first occurs. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESSED, IMPLIED AND STATUTORY, INCLUDING WITHOUT LIMITATIONS, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall, at its option either (I) repair or replace its product or work at the original f.o.b. point or location of purchase products and/or parts or (II) refund an equitable portion of the purchase price.

THE FOREGOING IS SELLER'S ONLY OBLIGATION AND BUYER'S EXCLUSIVE REMEDY FOR BREACH OF WARRANTY AND, EXCEPT FOR GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, THE FOREGOING IS BUYER'S EXCLUSIVE REMEDY AGAINST SELLER FOR ALL CLAIMS ARISING HEREUNDER OR RELATING HERETO WHETHER SUCH CLAIMS ARE BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES. BUYER'S FAILURE TO SUBMIT A CLAIM AS PROVIDED ABOVE SHALL SPECIFICALLY WAIVE ALL CLAIMS FOR DAMAGES OR OTHER RELIEF, INCLUDING BUT NOT LIMITED TO CLAIMS BASED ON LATENT DEFECTS. IN NO EVENT SHALL BUYER BE ENTITLED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES. ANY ACTION BY BUYER ARISING HEREUNDER OR RELATING HERETO, WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES, MUST BE COMMENCED WITHIN ONE (1) YEAR AFTER THE CAUSE OF ACTION ACCRUES OR IT SHALL BE BARRED.

"NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."