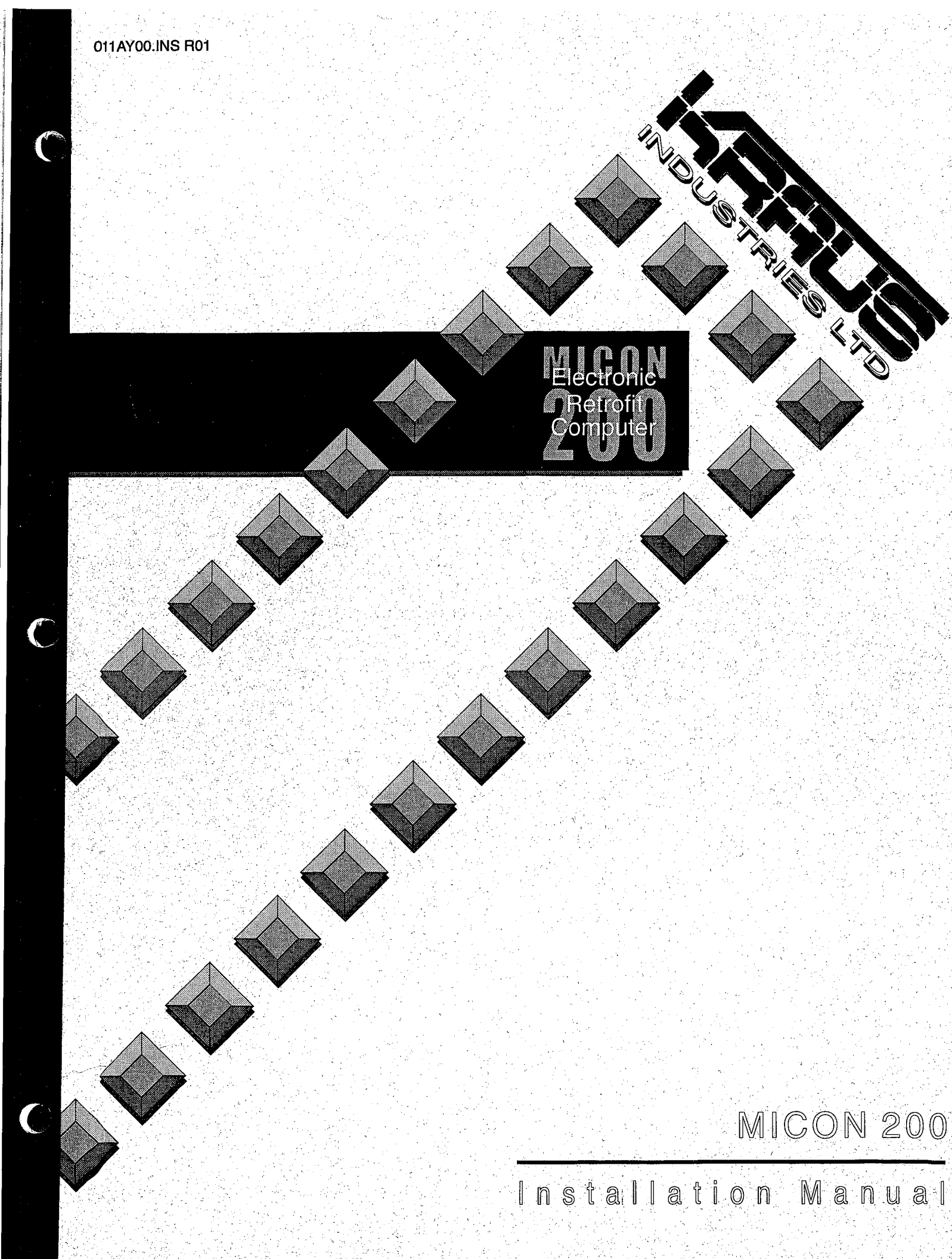
011AY00.INS R01



MICON 200

Installation Manual

ADDENDUM TO THE MICON 200 INSTALLATION MANUAL

For MICON 200's supplied with 011SW04 (M2-4) software please replace section 6.1.1 of the MICON 200 INSTALLATION MANUAL with the following:

6.1.1 - READING TOTALIZERS

The MICON 200 supplied with 011SW04 (M2-4) software maintains accumulating sales totals for the dollar sales amount, the compensated (net) volume sales amount and the uncompensated (gross) sales amount. The following steps describe how to retrieve these totals.

1) Ensure the pump handle is in the off position.
2) Aim the communicator's transmitters (located on the top of the unit) at the optical sensor located to the right of the price display. Press and hold the "SEL" key on the communicator. The red indicator to the left of the price display will flash as the MICON 200 receives the communicator's signal.
3) Hold the "SEL" key until the dollar sales total is displayed. The dollar sales total uses 10 digits of the dollar and volume displays preceded by the symbol "$_{1}$". Refer to figure 6.1.
4) To display compensated (net) volume, press and hold the "SEL" key until the display shows "$_{1}$" followed by the ten digit volume total.
5) To display uncompensated (gross) volume press and hold the "SEL" key again until the display shows "$_{1}$" . Pressing the "SEL" key repeatedly and holding it down will cause the display to switch back to the total dollar sales display and then repeat the sequence described in steps 2 through 5.

Addendum to the MICON 200 Installation Instructions 011AY00.INS R01

The following revisions must be made since the battery-off switch has been removed from the MICON 200 assembly.

SECTION 2.0 PRE-INSTALLATION CHECK should read:

After carefully unpacking the MICON 200 inspect the computer for shipping damage.
A preliminary electrical check should be performed in the following manner:

(1)The MICON 200 computer is shipped with the pump handle in the off position. This position of the shaft is denoted by the flat surface on the end of the shaft facing up. Rotate the coupler assembly 90 degrees so that it snaps over against the opposite stop pin.
(2)Observe that the display shows the option configuration display and the software version number, then slowly flashing zeros on the dollar and volume displays only.

The configuration display consists of a 6 digit configuration indicator in the dollar display. The price display shows the software version number. In standard configuration the configuration display shows as follows:

```
1 B E 4 4 4


  V 1.0 5
```

On the MICON display the "B" is displayed as an upside down "A" since a "B" can not be uniquely defined. This display indicates the settings made with the INFO-PAC.

The MICON 200 configuration, consisting of display decimal points, output pulse frequency etc. can be set with the MICON INFO-PAC. (See the INFO-PAC PROGRAMMING MICON CONFIGURATION MANUAL for further details).

 Printed in Canada.

(3)Enter the price as described in Section 6.2

(4)Note the reading of the mechanical counter. Rotate the input shaft on the bottom of the MICON 200 in one direction until the mechanical counter has incremented by 1.00 units. On the MICON 200 the volume display should indicate 1.000 units. If the gallon to litre conversion option is used with the MICON 200 the display should indicate 3.780 units. With a MICON 200 using ATC the volume display should indicate the multiplication factor ("MF") of the ATC (e.g. if the ATC has an MF of 4 the display should indicate 4.00 units).

(5)Rotate the coupler assembly back to the original handle off position.

If any faults are detected during this preliminary check, consult factory or service representative.

FIGURE 2.1 should be removed.

Switch S3 in **FIGURE 4.1A** and **FIGURE 4.1B** does not exist.

SECTION 5.0 POST INSTALLATION CHECK - Step 1 should be removed.

MICON 200 INSTALLATION INSTRUCTIONS

011AY00.INS R01

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Issue date : January 25, 1994

Printed in Canada.

1.0 IMPORTANT NOTICES

1) All wiring must be installed in accordance with National and local electrical codes.

2) **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. **AVERTISSEMENT:** LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE.

3) When this unit is used in retail trade, Industry Canada, Legal Metrology Branch, must be notified of the installation or service of this unit. This unit is subject to inspection upon installation and at such other times as the regulations may state.

4) When ATC is used, a thermal well must be provided. In addition to the thermal well and probe fitting, new installations will require two BC-256 labels ("CORRECTED TO 15° C"). These labels must be attached to each faceplate of the dispenser and be visible to the customer. These labels are provided with the MICON 200, gasoline and diesel versions, and additional labels are available upon request. (see section 7.0)

2.0 PRE-INSTALLATION CHECK

After carefully unpacking the MICON 200 inspect the computer for shipping damage.

Refer to the options label(s) on the MICON 200 nameplate(s) to ensure the MICON 200 is properly configured for the intended application.

A preliminary electrical check should be performed in the following manner:

(1) The MICON 200 computer is shipped with the pump handle actuator shaft in the battery-off position. The position of this shaft is denoted by the flat surface on the end of the shaft facing down. Rotate the coupler assembly 90 degrees so that it snaps over against the opposite stop pin. (Refer to Figure 2.1).

(2) Observe that the displays sequence through the digits 1 through 9, the option configuration display and the software version number, then show slowly flashing zeros on the dollars and volume displays only.

The configuration display consists of a 6 digit configuation indicator in the dollar display. The price display shows the software version number.

In standard configuration the configuration display shows as follows:

```
1 B E 4 4 4

V 1.0 5
```

On the MICON display the "B" is displayed as an upside "A" since a "B" can not be uniquely defined. This displays indicate the settings made with the InfoPAC.

The MICON 200 configuration, consisting of display decimal points, output pulse frequency, sequencing timing etc., can be set with the MICON InfoPAC. (See the InfoPAC PROGRAMMING OF THE MICON CONFIGURATION MANUAL for further details.

(3) Enter a price as described in Section 6.2.

(4) Note the reading of the mechanical counter. Rotate the input shaft on the bottom of the MICON 200 in one direction until the mechanical counter has incremented by 1.00 units. On the MICON 200 the volume display should indicate 1.000 units. If the gallon to litre conversion option is used with the MICON 200 the display should indicate 3.780 units. With a MICON 200 using ATC, the volume display should indicate the multiplication factor ("MF") of the ATC (eg. if the ATC has a MF of four the display should indicate 4.000 units).

(5) Rotate the coupler assembly back to the original battery-off position.

If any faults are detected during this preliminary check, consult factory or service representative.

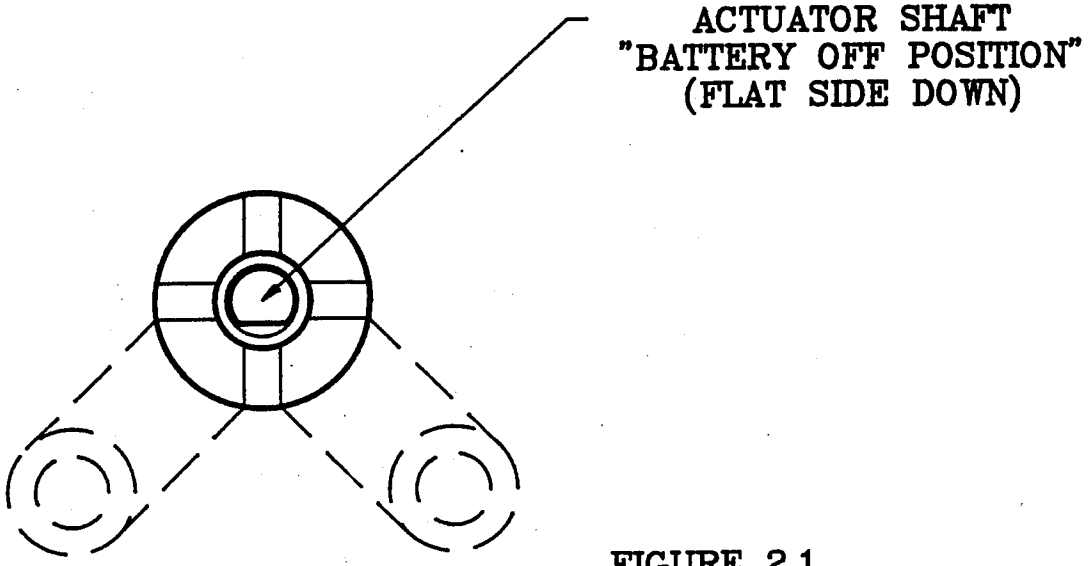


FIGURE 2.1

3.0 PHYSICAL MOUNTING CONSIDERATIONS

The MICON 200 retrofit electronic computer has been carefully designed to simulate the mechanical registers presently being used in many gasoline dispensers. Some physical differences however may exist which require some modification to the dispenser. Kraus Industries Ltd. is presently offering accessory parts to facilitate the field installation of the MICON 200 into various dispensers. These accessory parts must be ordered separately.

3.1 GENERAL

1) The input shaft of the MICON 200 must be driven four (4) turns per unit. Therefore, if the meter is not equipped with a metric gear kit, a metric conversion box is required.

2) The handle switch coupling on the side of the MICON 200 must be connected to the pump handle as shown in Figure 3.1. In most installations the pump handle can be coupled directly to the MICON 200. However, some dispensers require an adaptor kit. The MICON 200 handle switch can be turned to the "on" position by rotating the actuator shaft 90 degrees in either a clockwise or counterclockwise direction. Refer to Section 3.2.

3) The customer lead exit, located on the top of the explosion-proof housing must be connected to a suitable junction box or light canopy with rigid pipe. Refer to Figure 3.1.

4) Industry Canada, Legal Metrology Branch, requires that the MICON 200 have control of product flow so that the MICON 200 can stop product flow if a measurement fault is detected. Some dispensers in submersible systems incorporate a mechanically controlled valve which is not compatible with the MICON 200 installation. In such case an electrically controlled valve would have to be installed.

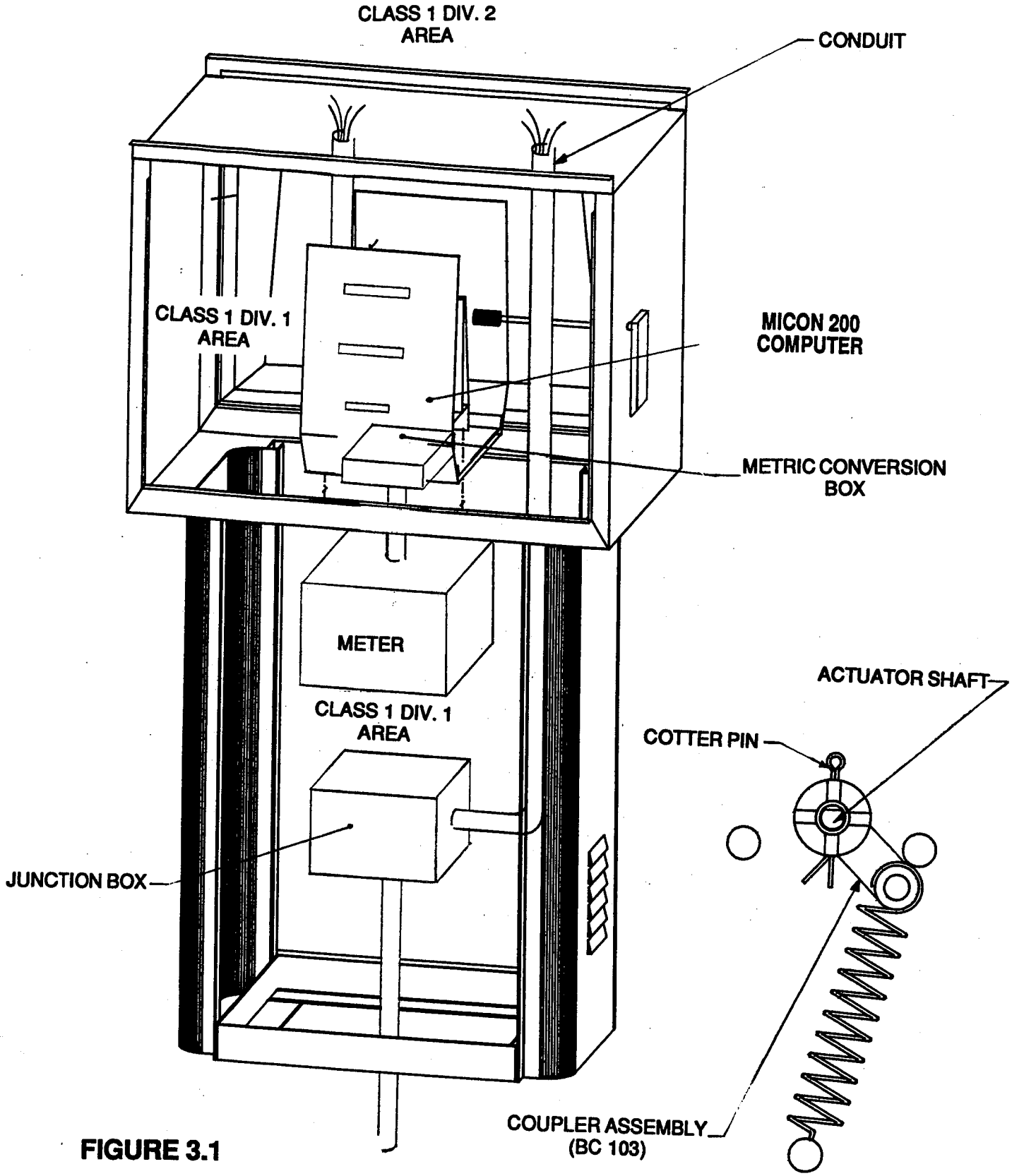


FIGURE 3.1

FIGURE 3.2

3.2 HANDLE SHAFT ACTUATION

The MICON 200 internal switches may be switched on by rotating the actuator shaft 90 degrees in either direction. As shipped from the factory, a counterclockwise rotation (as viewed from the coupler side) is required to switch the head on. If the installation requires a clockwise rotation to turn the head on, complete the following steps:

1) Turn the coupler assembly to the desired "off" position.

2) Remove the cotter pin which secures the coupler assembly to the actuator shaft.

3) Rotate the actuating shaft until the flat surface on the end is facing upwards, and re-install the cotter pin.

4) Test for continuity between wires #14 and #15. When the actuator shaft is in the off position there should be no continuity between these leads. Switch to the on position. In the on position there should be continuity between wires #14 and #15. Return the actuator shaft to the off position.

3.3 ACCESSORY MOUNTING KITS

The installation of the MICON 200 in certain dispensers requires the use of accessory kits. Kits are available for a variety of Tokheim, Gilbarco, Wayne, Petroquip, Bennett and Schwelm dispensers.

Please refer to Section 9 of this manual for installation of the appropriate kit.

4.0 CUSTOMER HARNESS LEAD ELECTRICAL CONNECTIONS

4.1 GENERAL INFORMATION

READ CAREFULLY

1) All wiring must be installed in accordance with National and local electrical codes.

2) **WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.**

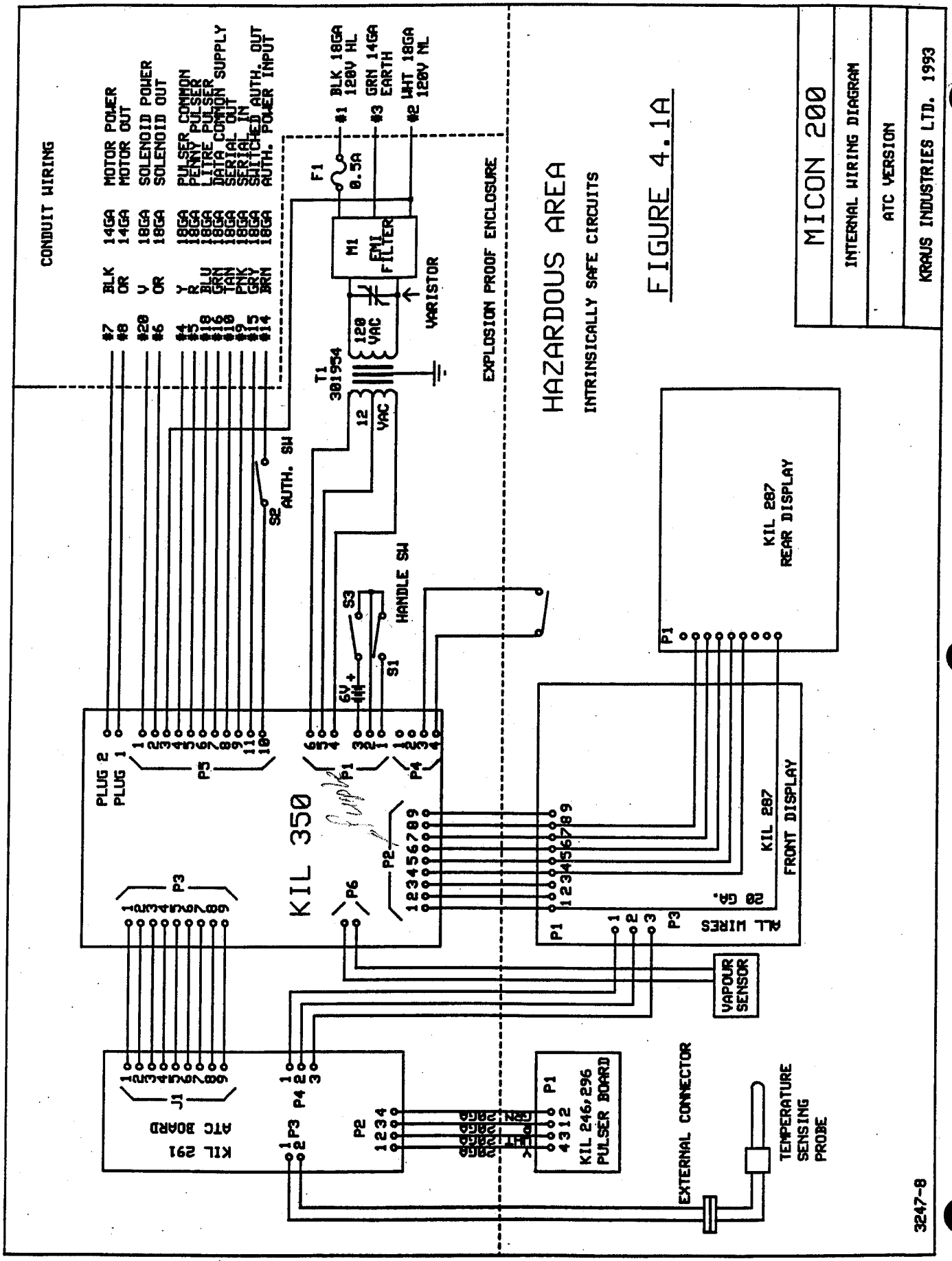
AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE.

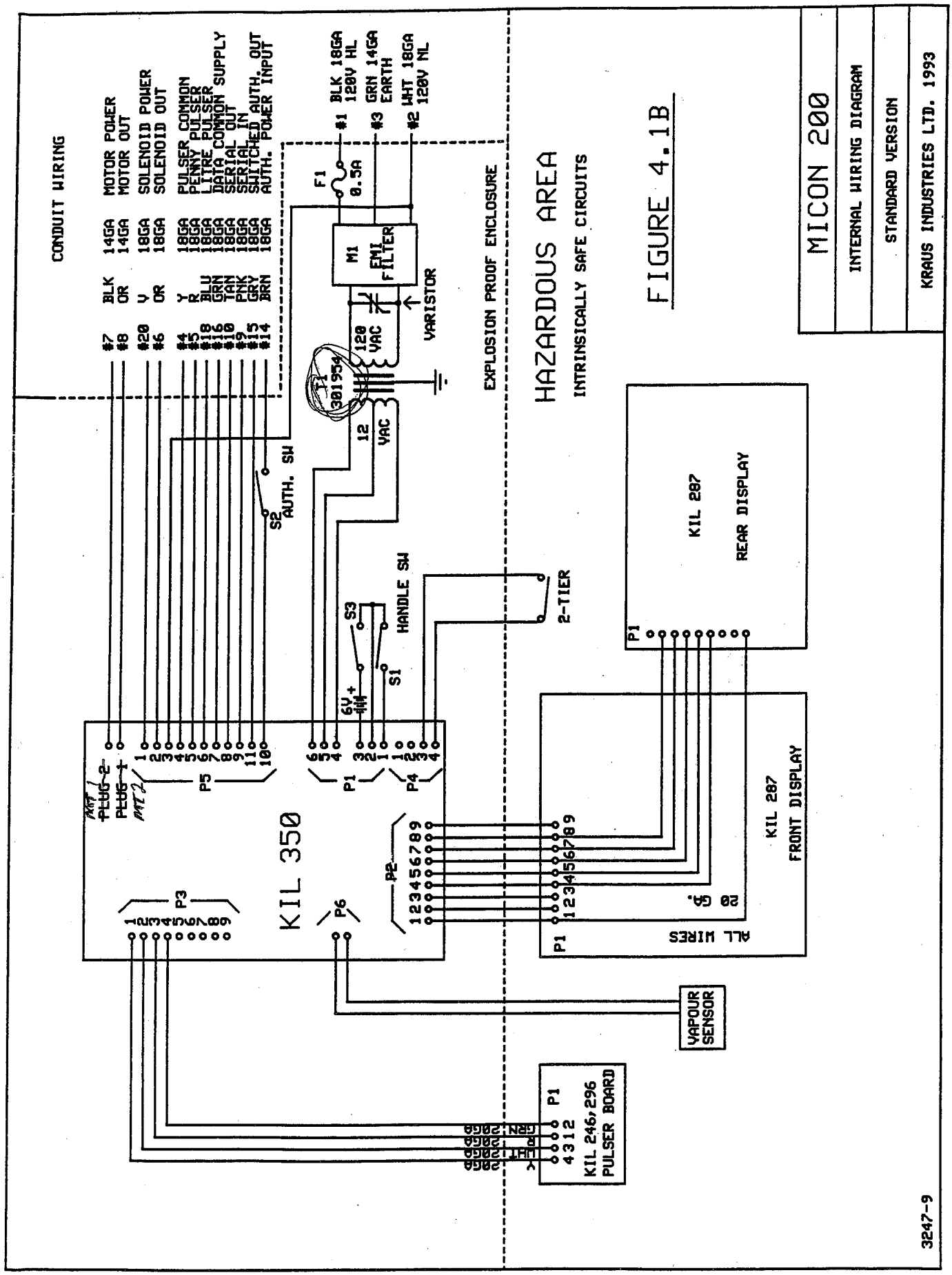
3) The customer lead exit, located in the top of the explosion-proof housing must be properly sealed when exiting into a Division 2 area. A suitable batting material must first be used to prevent the sealing compound from entering the housing. The seal must be a minimum depth of 5/8 inches or the inside diameter of the opening, whichever is the greater.

4) All unused wires must be capped or taped off.

WIRE COLOUR	WIRE NUMBER	DESCRIPTION
120 VAC Lines		
Black 18 AWG	1	120 VAC head power hot line. If power is interrupted on this line, the head will go into standby and power-fail modes.
White 18 AWG	2	Neutral for head power and main board authorize/authorize request circuit.
Green 14 AWG	CENELEC YEL/GRN NO NUMBER 3	Earth. This line is connected internally to the casting and must be connected to the service ground.
Brown 18 AWG	14	Authorize input. Application of 120 VAC will "authorize" the MICON 200 to dispense product. If 120 VAC is not present when the handle switch is turned on, the MICON 200 applies a 2.7 K ohm resistor between this line and wire #2 to serve as an authorize request load for Kraus Industries Self-Serve equipment.
Grey 18 AWG	CENELEC 15 3	Authorize output. When 120 VAC is applied to wire #14 and the handle switch is on, 120 VAC will be present on this line. (3 Amp. maximum load)
Orange 14 AWG	8	Pump motor output. When the MICON 200 is ready to dispense product, the power applied to wire #7 is switched to this line to operate the pump motor.
Black 14 AWG	7	Pump motor input. This line is connected to wire #8 when the MICON 200 is authorized and the handle switch is on. This circuit must be supplied through a circuit breaker and wiring adequate to power the pump motors.

WIRE COLOUR	WIRE NUMBER	DESCRIPTION
Orange 18 AWG	6	Solenoid power out. This line is used to supply power to a slow-flow or cut-off solenoid under MICON 200 control.
Purple 18 AWG	20 (11 CENELEC)	Solenoid power in. This line is switched to wire #6 by the MICON 200 to activate the solenoid valve.
Low Voltage Lines		
Yellow 18 AWG	4	Pulser common. This line is normally connected to the pulser power supply positive line (+30 volts maximum, DC only) and provides power to the penny and volume pulser lines.
Red 18 AWG	5	Penny pulser output. The MICON 200 will source a maximum of 100 mA from the pulser common (#4) to this line to form a pulse once for each penny of product dispensed. (Used with KRAUS MONITOR and MICRO consoles.)
Blue 18 AWG	18 (12 CENELEC)	Volume pulser output provides a pulse (as described above for penny pulser) for each specified fraction of a unit of volume. (Used for card or key systems.)
Micro 2, Concept 5000 & MCIU Data Communications Lines		
Green 18 AWG	16 (13 CENELEC)	Data Channel Common. This line is connected to the "DCC" terminal block of a Concept 5000 or MCIU control box or to the diode board of a Micro 2RP system.
Tan 18 AWG	10	Talk-To-Console. This line is connected to the "TTC" terminal block of a Concept 5000 or MCIU control box and carries messages from the pump to the console.
Pink 18 AWG	9	Talk-To-Pump. This line is connected to the appropriate terminal on the "TTP" terminal block of a Concept 5000 or MCIU control box or to the diode board of a Micro 2RP system and carries messages from the console to the pump.


MICON 200
INTERNAL WIRING DIAGRAM
ATC VERSION
KRAUS INDUSTRIES LTD. 1993
FIGURE 4.1A
HAZARDOUS AREA
INTRINSICALLY SAFE CIRCUITS
EXPLOSION PROOF ENCLOSURE
CONDUIT WIRING
#7 BLK 14GA MOTOR POWER
#8 OR 14GA MOTOR OUT
#20 V 18GA SOLENOID POWER
#6 OR 18GA SOLENOID OUT
#4 Y 18GA PULSER COMMON
#5 R 18GA PENNY PULSER
#18 BLU 18GA LITRE PULSER
#16 GRN 18GA DATA COMMON SUPPLY
#10 TAN 18GA SERIAL OUT
#9 PNK 18GA SERIAL IN
#15 GRY 18GA SWITCHED AUTH. OUT
#14 BRN 18GA AUTH. POWER INPUT
#1 BLK 18GA 120V HL
#3 GRN 14GA EARTH
#2 WHT 18GA 120V NL
F1 0.5A
M1 EMI FILTER
VARISTOR
T1 301954
120 VAC
12 VAC
S2 AUTH. SW
S3
S1
HANDLE SW
6V
KIL 350
PLUG 2
PLUG 1
P5
P1
P4
P2
P3
P6
KIL 287 REAR DISPLAY
KIL 287 FRONT DISPLAY
20 GA. ALL WIRES
VAPOUR SENSOR
KIL 291 ATC BOARD
J1
KIL 246,296 PULSER BOARD
EXTERNAL CONNECTOR
TEMPERATURE SENSING PROBE
3247-8


MICON 200
INTERNAL WIRING DIAGRAM
STANDARD VERSION
KRAUS INDUSTRIES LTD. 1993
FIGURE 4.1B
HAZARDOUS AREA
INTRINSICALLY SAFE CIRCUITS
EXPLOSION PROOF ENCLOSURE
CONDUIT WIRING
#7 BLK 14GA MOTOR POWER
#8 OR 14GA MOTOR OUT
#20 V 18GA SOLENOID POWER
#6 OR 18GA SOLENOID OUT
#4 Y 18GA PULSER COMMON
#5 R 18GA PENNY PULSER
#18 BLU 18GA LITRE PULSER
#16 GRN 18GA DATA COMMON SUPPLY
#10 TAN 18GA SERIAL OUT
#9 PNK 18GA SERIAL IN
#15 GRY 18GA SWITCHED AUTH. OUT
#14 BRN 18GA AUTH. POWER INPUT
#1 BLK 18GA 120V HL
#3 GRN 14GA EARTH
#2 WHT 18GA 120V NL
F1 8.5A
M1 EMI FILTER
VARISTOR
120 VAC
12 VAC
S2 AUTH. SW
S3
S1 HANDLE SW
2-TIER
KIL 287 REAR DISPLAY
KIL 287 FRONT DISPLAY
ALL WIRES
KIL 350
P1
P2
P3
P4
P5
P6
VAPOUR SENSOR
KIL 246,296 PULSER BOARD
3247-9

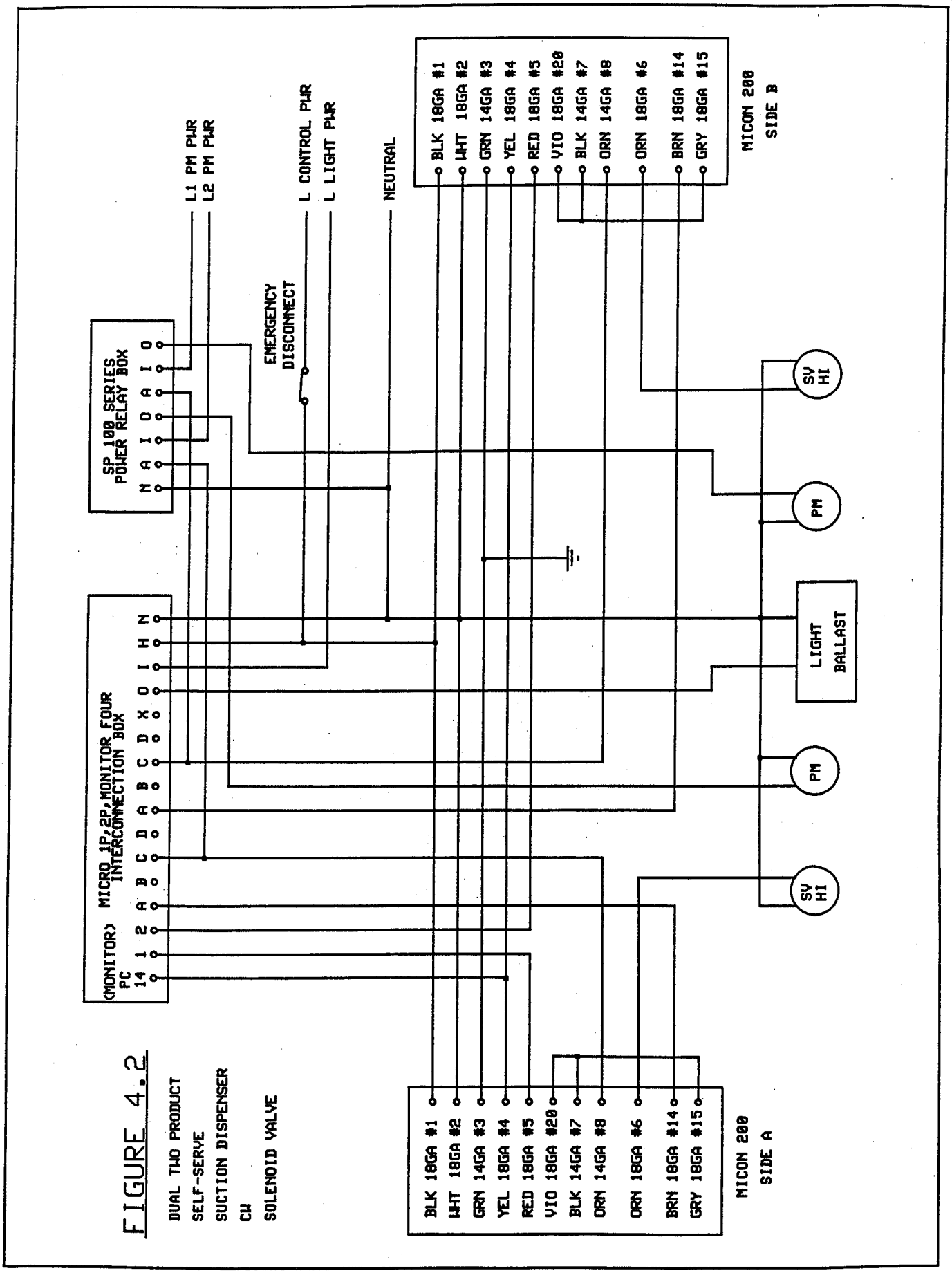


FIGURE 4.2

DUAL TWO PRODUCT
SELF-SERVE
SUCTION DISPENSER
CW
SOLENOID VALVE

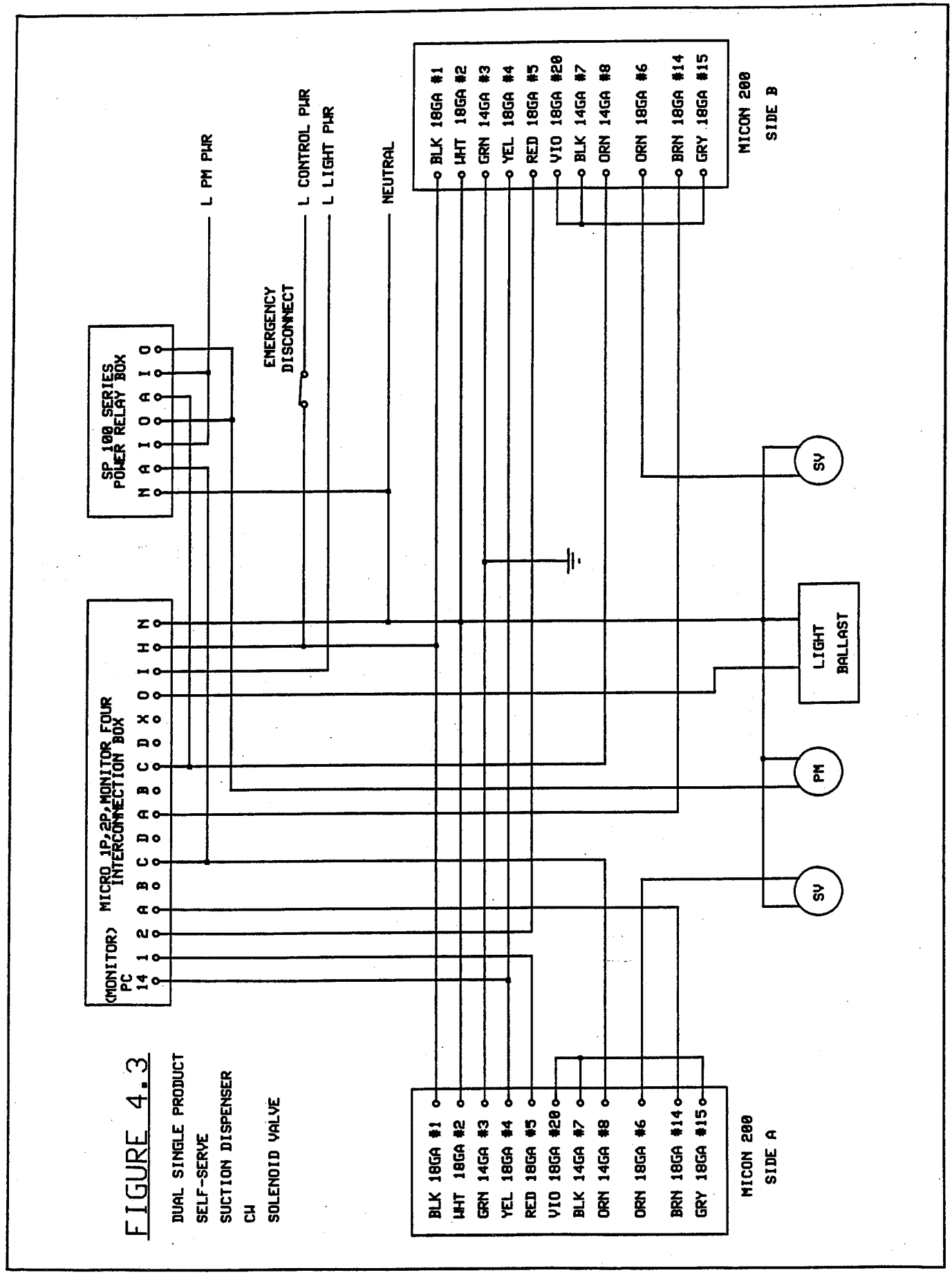


FIGURE 4.3

DUAL SINGLE PRODUCT
SELF-SERVE
SUCTION DISPENSER
CW
SOLENOID VALVE

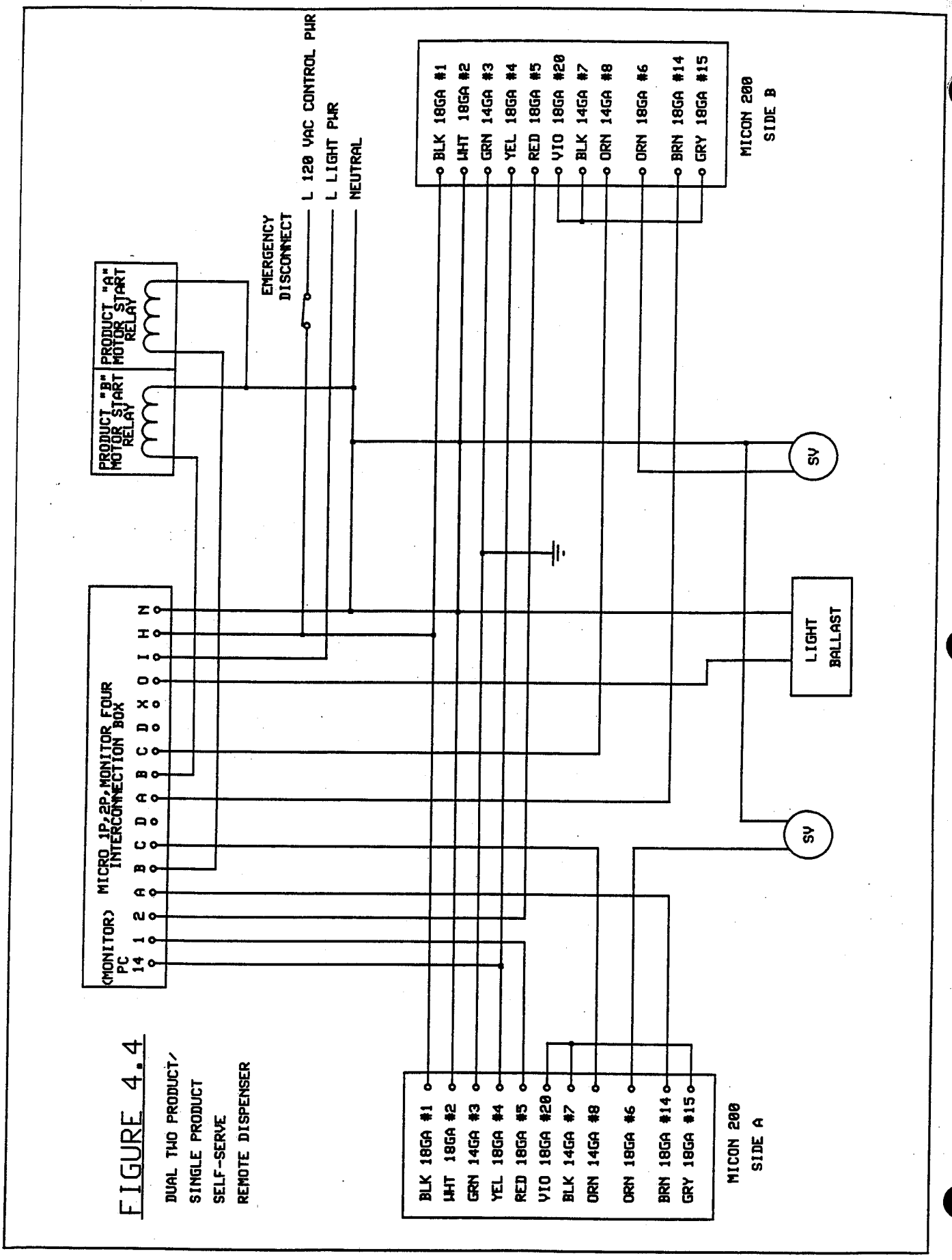


FIGURE 4.4

DUAL TWO PRODUCT/
SINGLE PRODUCT
SELF-SERVE
REMOTE DISPENSER

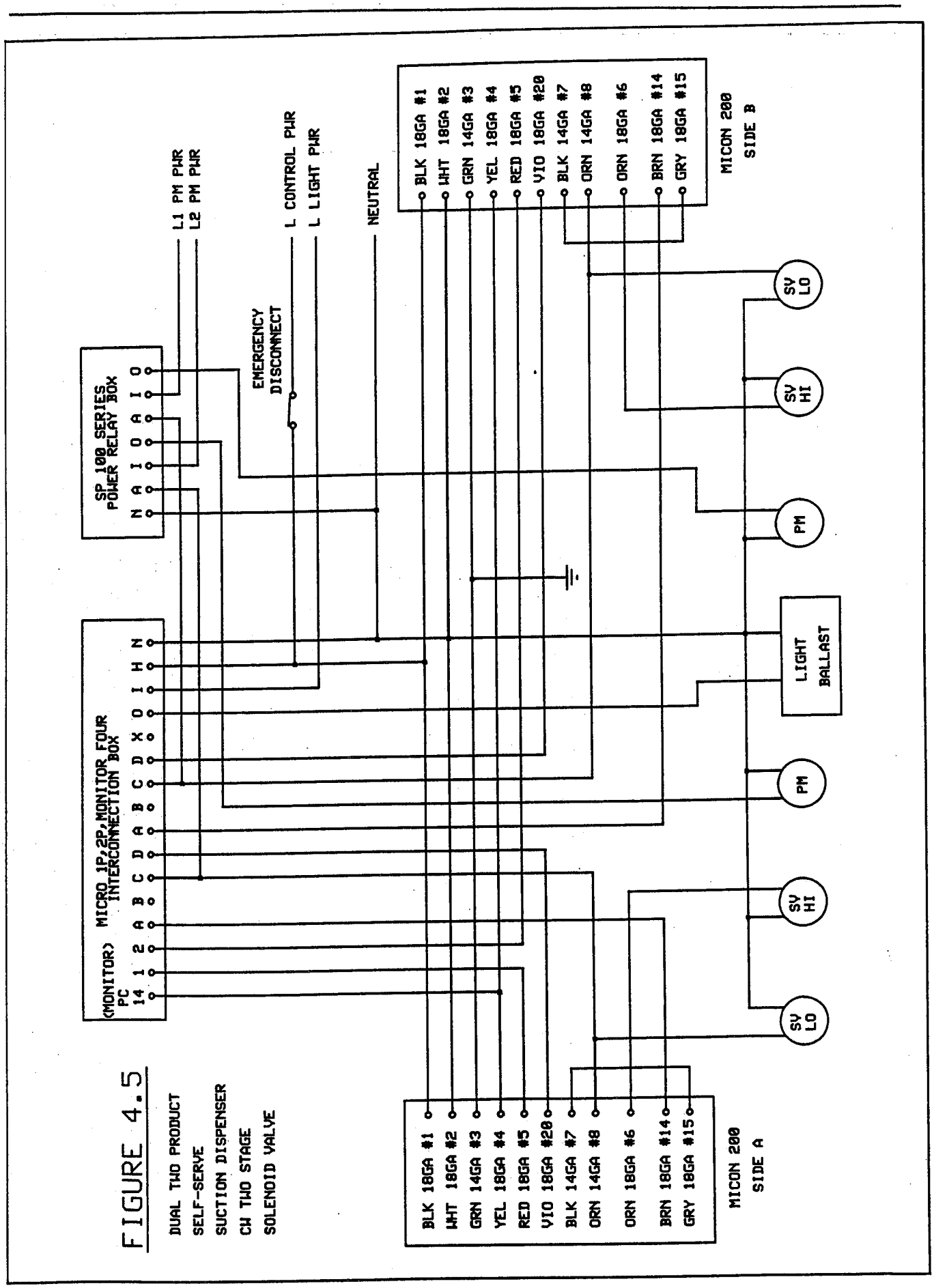


FIGURE 4.5

DUAL TWO PRODUCT
SELF-SERVE
SUCTION DISPENSER
CW TWO STAGE
SOLENOID VALVE

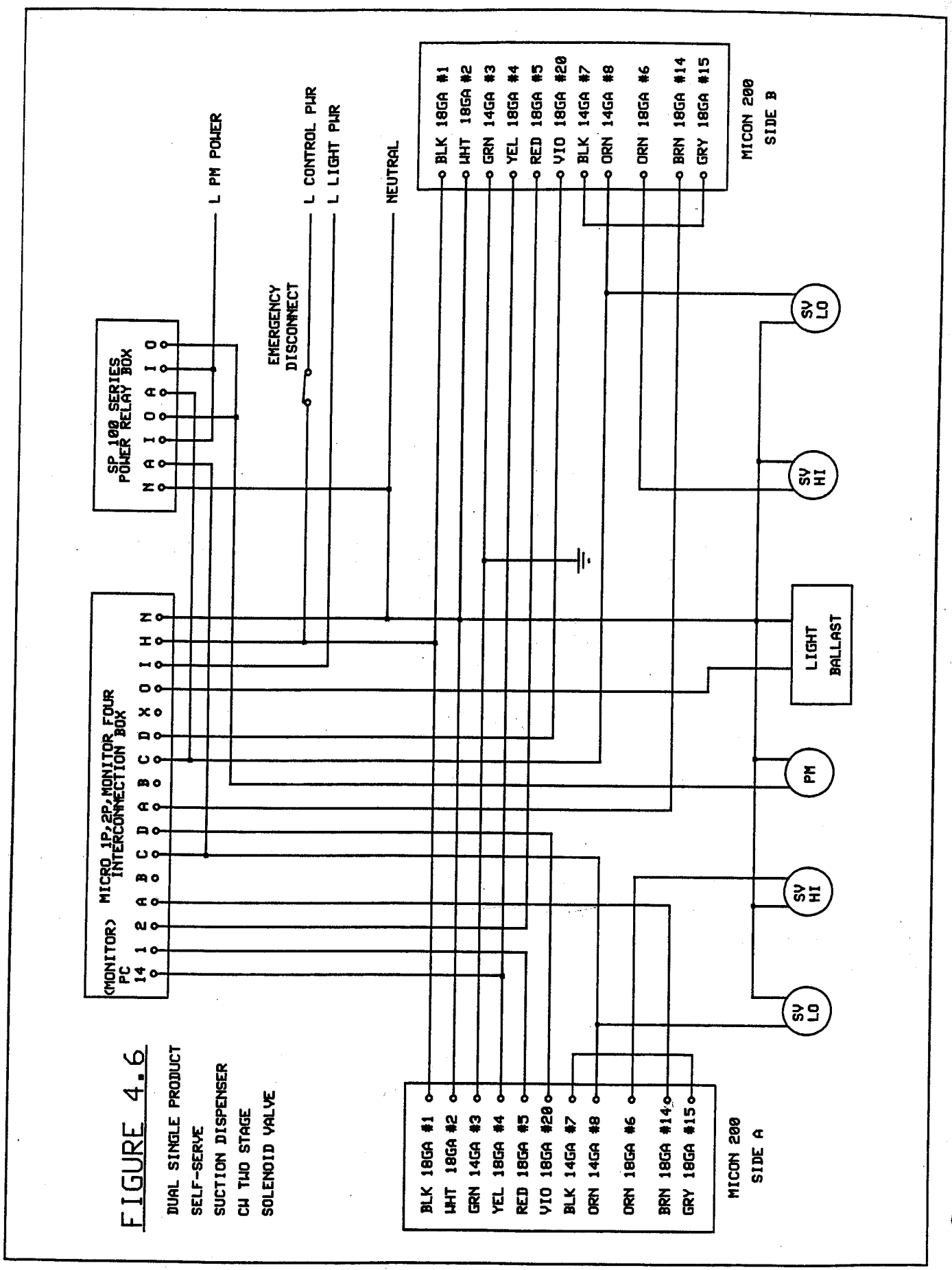


FIGURE 4.6

DUAL SINGLE PRODUCT
SELF-SERVE
SUCTION DISPENSER
CW TWO STAGE
SOLENOID VALVE

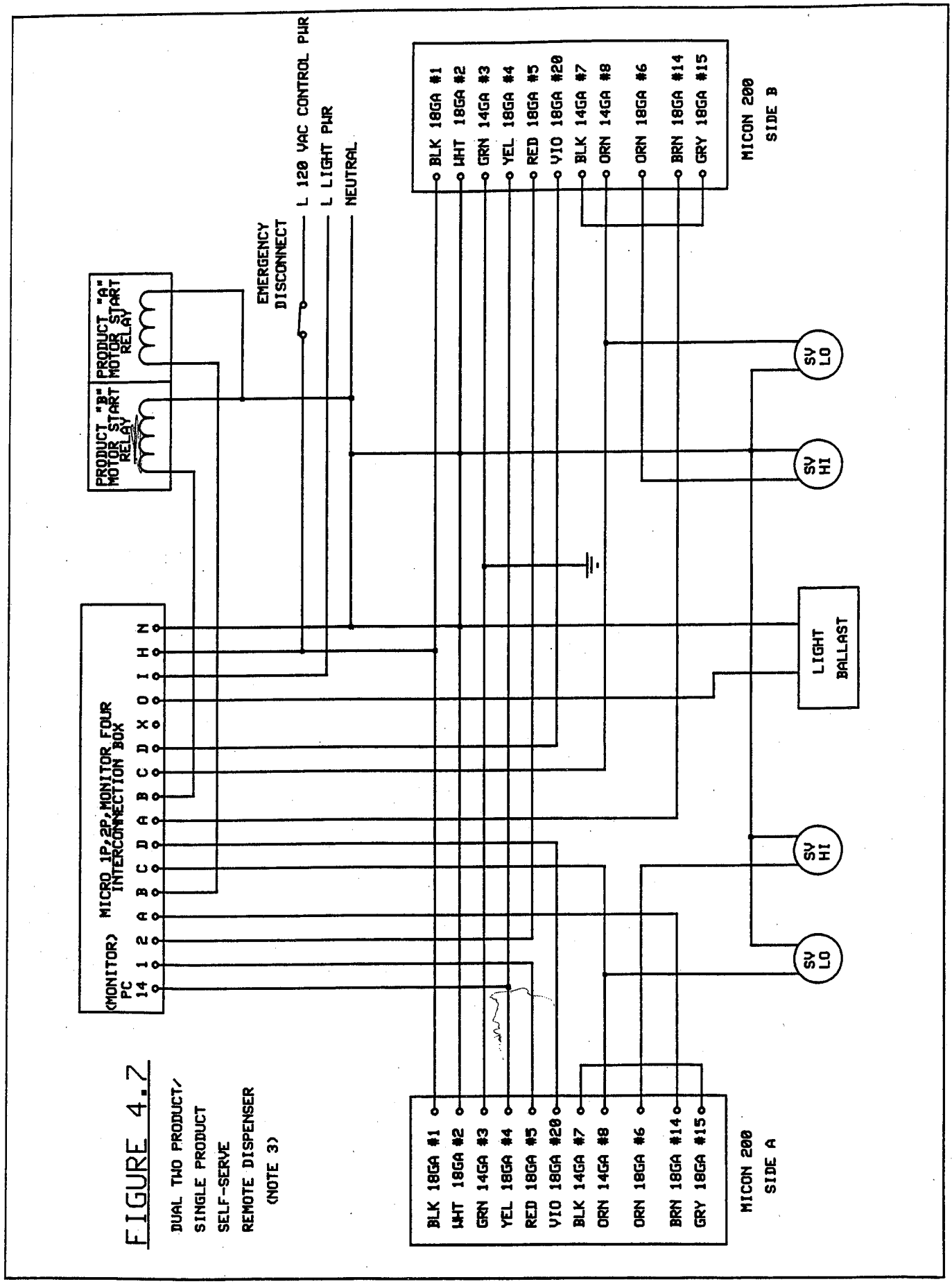


FIGURE 4.7

DUAL TWO PRODUCT/
SINGLE PRODUCT
SELF-SERVE
REMOTE DISPENSER
(NOTE 3)

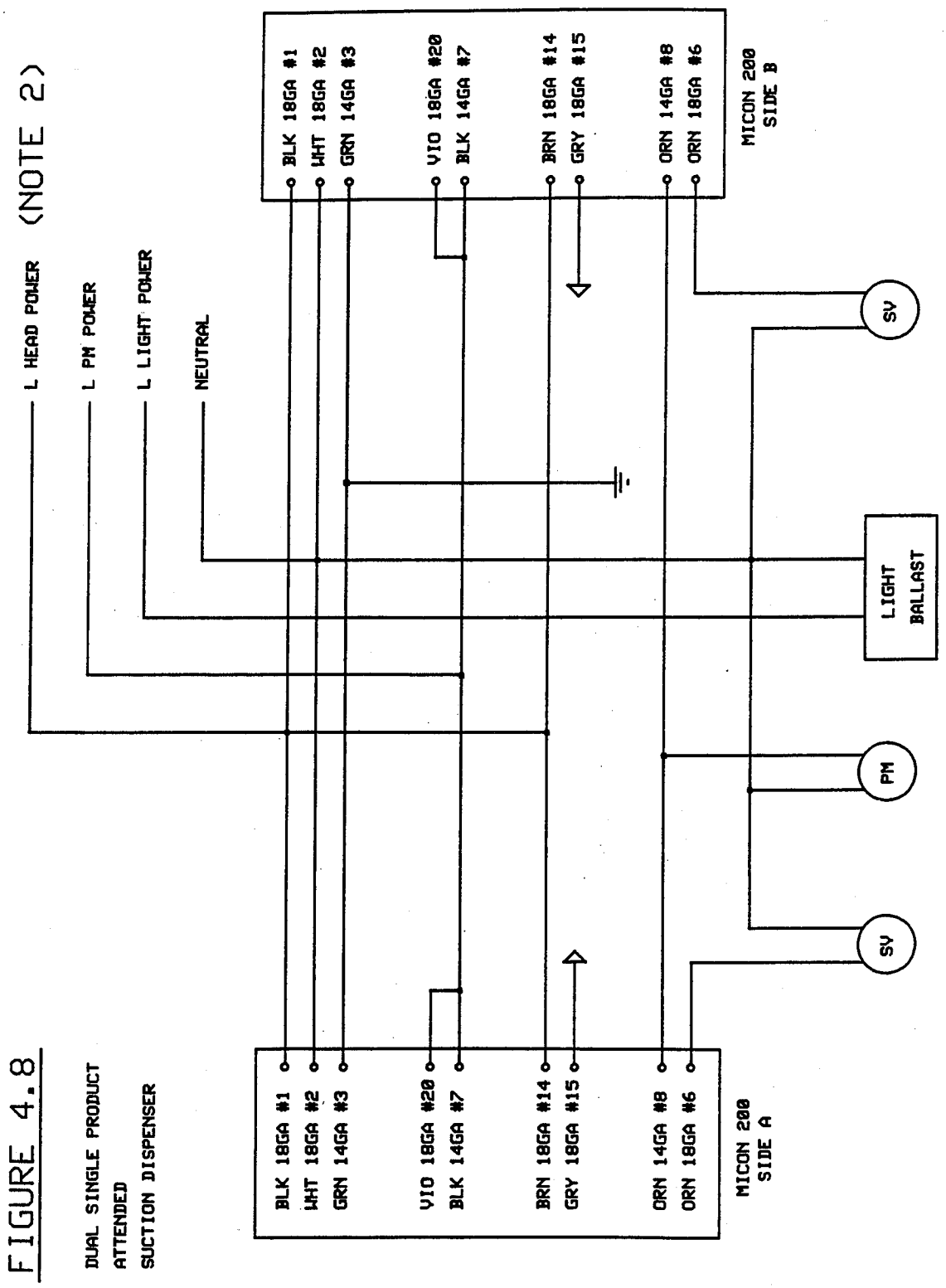


FIGURE 4.8

DUAL SINGLE PRODUCT
ATTENDED
SUCTION DISPENSER

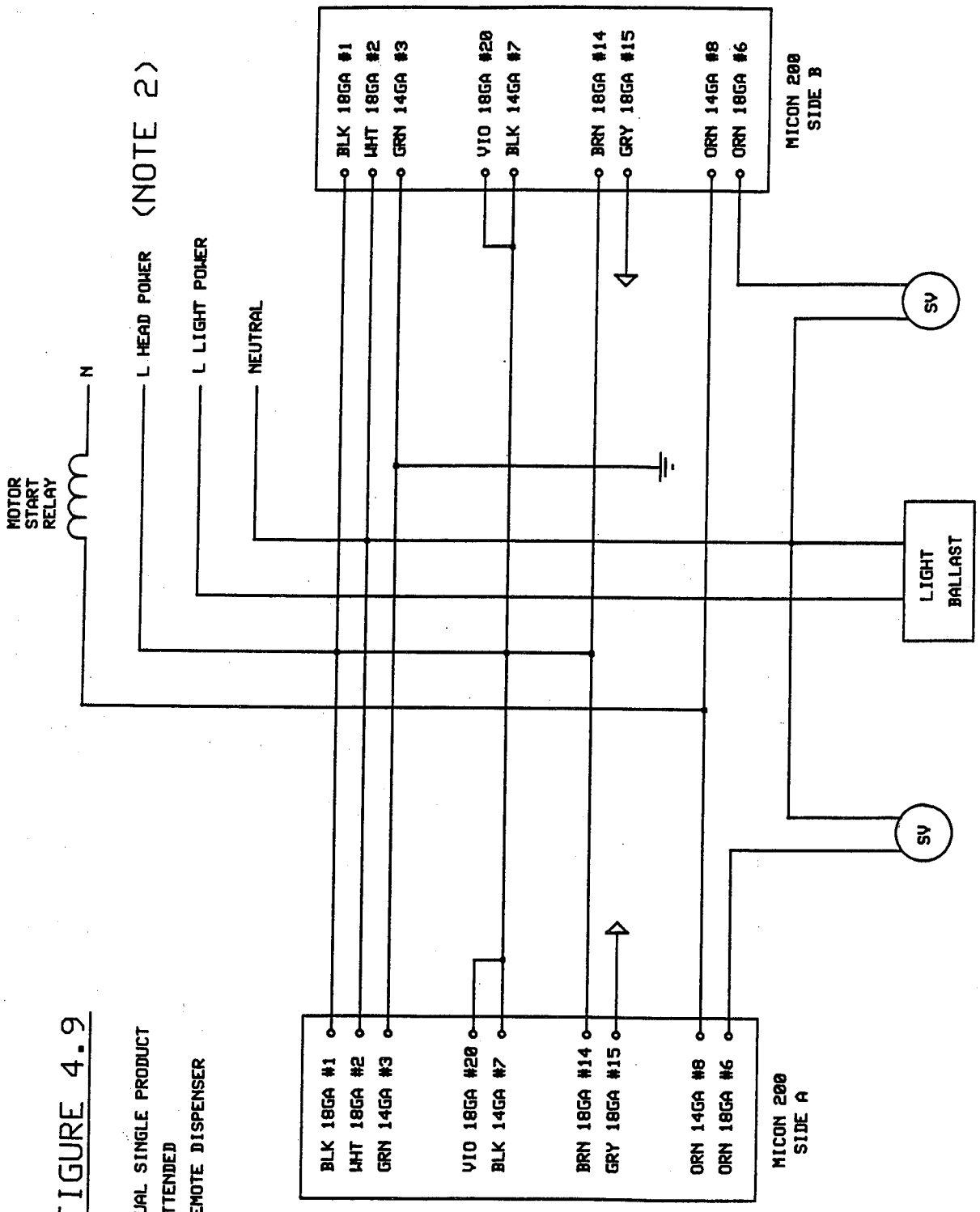


FIGURE 4.9

DUAL SINGLE PRODUCT
ATTENDED
REMOTE DISPENSER

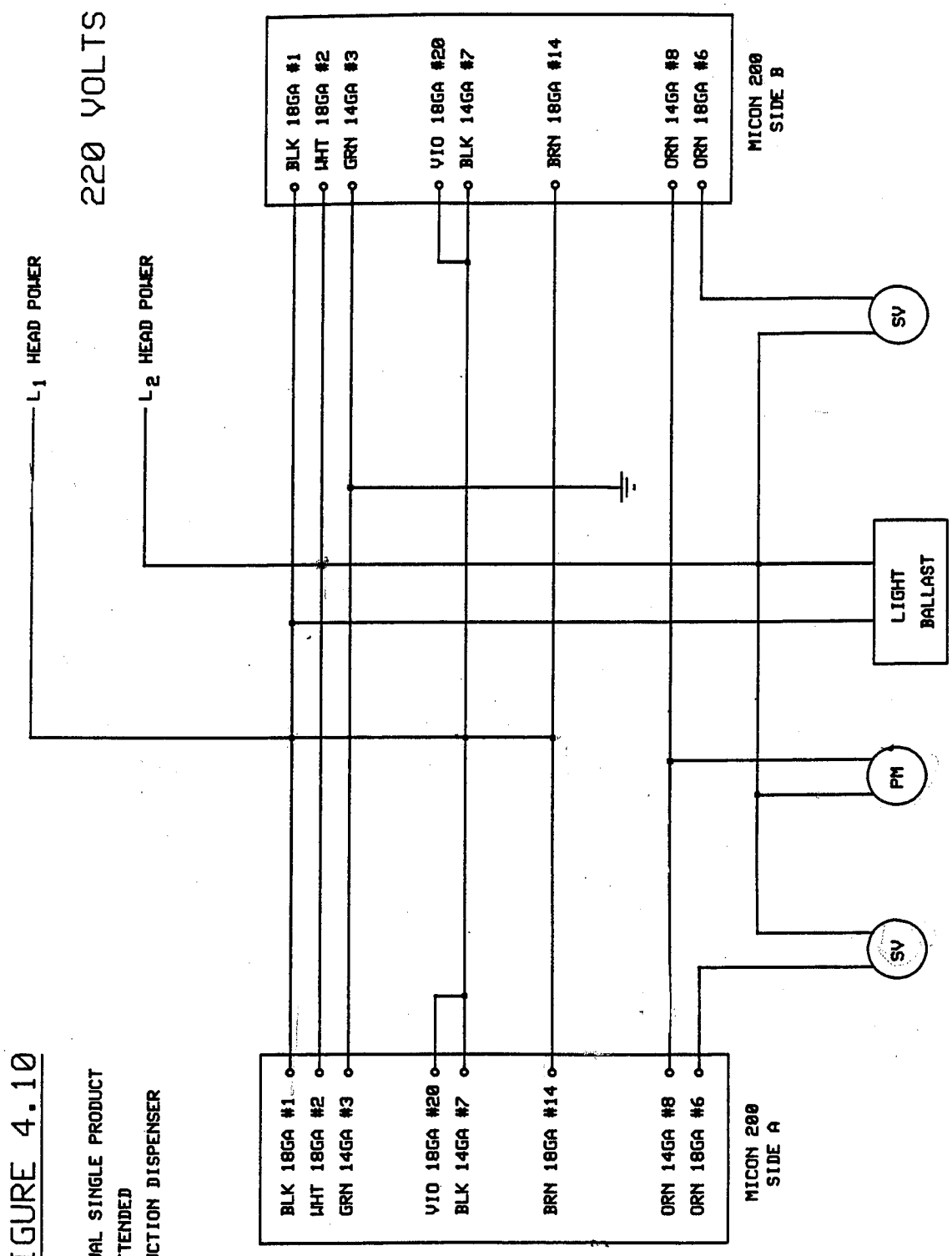


FIGURE 4.10

DUAL SINGLE PRODUCT
ATTENDED
SUCTION DISPENSER

5.0 - POST INSTALLATION CHECK

After completing the installation of the MICON 200 and checking all wiring connections, the correct operation of the MICON 200 should be verified as follows:

1) Remove the cotter pin which secures the coupler to the actuator shaft. Rotate the actuator shaft 180 degrees so that the flat side is facing up. This will activate a micro switch which will energize the battery.) (See Figure 5.1) Carefully install the split pin in place of the cotter pin.

2) Enter a price as described in Section 6.1.2.

3) After entering a price turn on the 115 volt head power.

4) Place the pump handle in the off position. Turn on pump motor power and ensure that the pump motor does not run and that no product can be dispensed.

5) If remote self serve equipment is being used, place the pump handle in the "on" position. Authorize the MICON 200 with the self serve equipment. The MICON 200 displays should flash to all 8's momentarily, then go blank and then return to zero. Now, the pump motor should run and/or the solenoid valve should be energized.

6) For stand alone operation, turn on the pump handle. The MICON 200 displays should flash to all 8's momentarily, then go blank and then return to zero. Now, the pump motor should run and/or the solenoid valve should be energized.

7) Dispense a convenient amount of product into a test can and check that the MICON 200 displays the proper volume and dollars amount. For testing the MICON 200 with ATC option refer to Section 7.

8) Place the pump handle in the off position and ensure that the pump motor and/or solenoid shuts off.

This completes the post installation check. If the unit does not function as described above contact your factory or service representative.

NOTICE:

WHEN THIS UNIT IS USED IN RETAIL TRADE, INDUSTRY CANADA, LEGAL METROLOGY BRANCH, MUST BE NOTIFIED OF THE INSTALLATION OR SERVICE OF THIS UNIT. THIS UNIT IS SUBJECT TO INSPECTION UPON INSTALLATION AND AT SUCH OTHER TIMES AS THE REGULATIONS MAY STATE.

WHEN ELECTRONIC CALIBRATION OR ATC IS USED, THE ENCLOSURE COVER MUST BE SEALED BY AN INSPECTOR AND THE UNIT MUST BE REINSPECTED IF THE SEAL IS BROKEN.

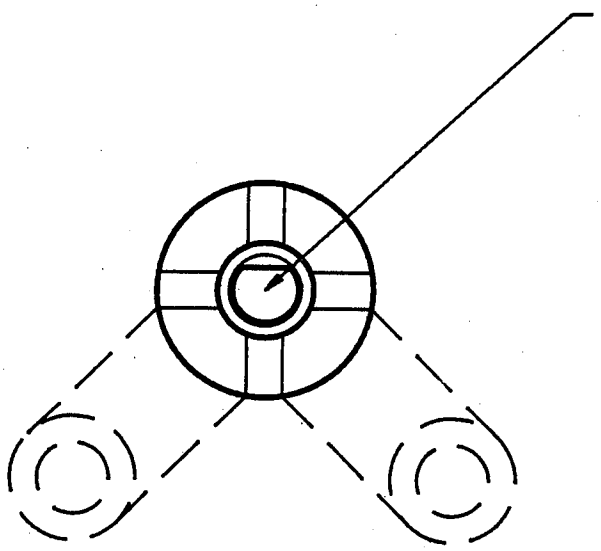


FIGURE 5.1

6.0 MICON 200 OPERATION

When the MICON 200 is used with self serve consoles other than the Concept 5000 Micro 2P with price change, or a console using the MCIU communication interface refer to Section 6.1 for information regarding price change and reading of totalizers.

When used with the Concept 5000, MCIU or Micro 2P with price change option, refer to Section 6.2. For Micro 2P with price change, totalizers must be accessed as described in Section 6.1.

6.1 - MICON 200 COMMUNICATOR OPERATION

The hand held communicator (available as an option) allows the reading of dollars and volumes totals and price setting as described below.

6.1.1 - READING TOTALIZERS

1) Ensure the pump handle is in the off position.

2) Aim the communicator's transmitters (located on the top of the unit) at the optical sensor located to the right of the price display. Depress and hold the "SEL" key on the communicator. The red indicator to the left of the price display will flash as the MICON 200 receives the communicator's signal.

3) Hold the "SEL" key until the dollar sales total is displayed. Dollars sale total uses ten digits of the dollars and volume displays preceded by the letters "D|". Refer to Figure 6.1.

4) To display volume total, depress and hold the "SEL" key until the display shows "V|" followed by the ten digit volume total. Pressing the "SEL" key repeatedly or holding it down will cause the display to switch back and forth between volume and dollars totals.

6.1.2 - PRICE SETTING

1) Place the pump handle in the on position.

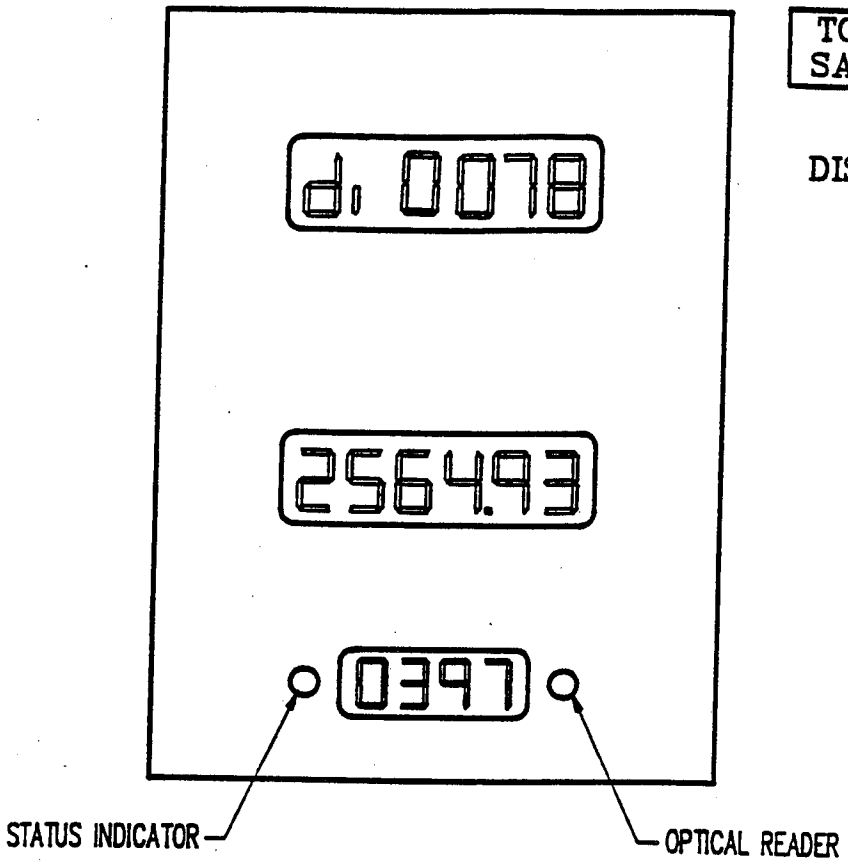
2) Switch off the head power to the MICON 200. The MICON 200 displays should now be flashing.

3) Aim the communicator at the optical sensor as described above and hold the "SEL" key until only the desired digit is being displayed. (If communication is properly established, only one digit of the price display will be shown at a time).

4) Depress and hold the "SET" key until the display increments to the desired number.

   The "SEL" key may be used to select the next digit to be changed and the "SET" key to change the selected digit to the desired value.

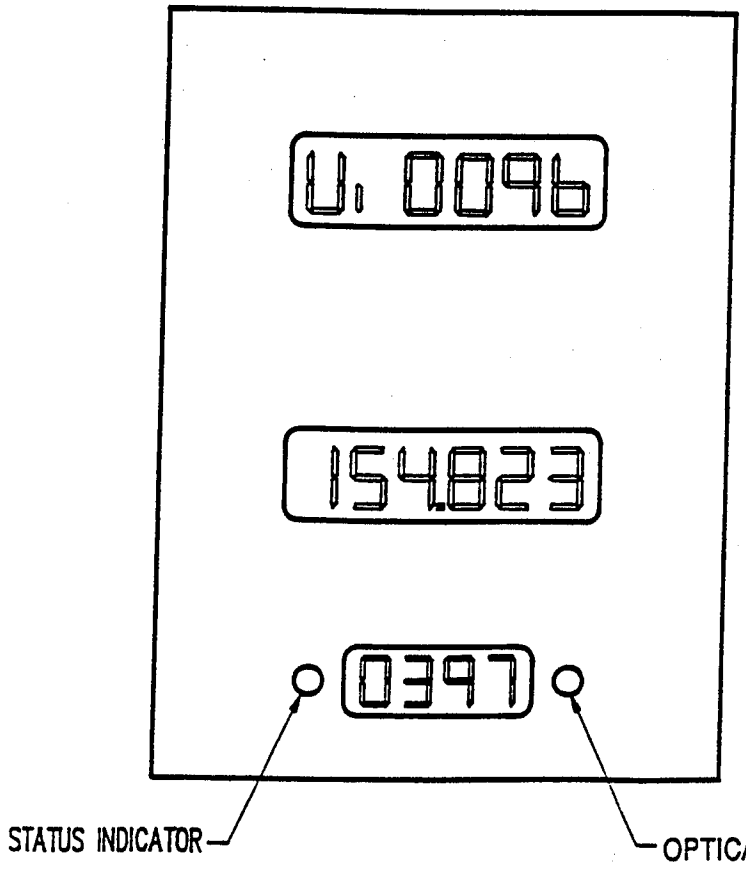
5) When the correct price per unit has been entered return the handle switch to the off position and restore head power.



TOTAL DOLLAR SALES DISPLAY

DISPLAY READS
$782564.93

FIGURE 6.1



TOTAL VOLUME SALES DISPLAY

DISPLAY READS
96154.823 UNITS

6.2 DATA CHANNEL OPERATION

6.2.1 MICRO 2P

When the MICON 200 is used with a Micro 2P console with price change option, pump prices may be changed from the console. Please refer to the console owner's manual for details.

6.2.2 CONCEPT 5000 & MCIU

When the MICON 200 is used with a Concept 5000 console or the MCIU communication box, MICON 200 totalizers and prices may be accessed through the console. Refer to the console owner's manual for details.

NOTE : If it is required to place the station in the manual mode of operation, all of the affected pumps must be "reset". Place the console Emergency switch in the Emergency position and wait for all MICON 200 registers to go blank. Return the Emergency switch to the normal position. The station may now be operated in the manual mode.

6.3 TWO TIER PRICE OPERATION

On MICON 200 units equipped with the two tier price option it is possible to make sales at two different prices. The unit maintains separate totalizers for each price of sales.

MAKING DISCOUNT PRICE SALES

To make a discount priced sale simply press the "DISCOUNT" push button located on the side of the pump before turning the pump handle on. When the button is pressed the display will blank and when the button is released the discount price will be displayed. The next sale will proceed at the discount price. When the discounted sale is completed by turning the pump handle to the "OFF" position the regular price will again be displayed and subsequent sales will occur at the regular price.

If the "DISCOUNT" button is pressed by mistake and you do not wish to make a discounted sale simply press the "DISCOUNT" button again and the pump will revert back to the regular price.

Pressing the "DISCOUNT" button while the pump handle is in the "ON" position has no effect on the pump.

SETTING PRICES

Setting prices on a two tier pump is the same as on single tier pumps except that pressing the "DISCOUNT" button will change which price is being set. To indicate which price is being set (REGULAR or DISCOUNT) the dollar display will display the dollar amount and "Prc 1" ("Prc 2") alternately. "Prc 1" indicates the regular price and "Prc 2" indicates the discounted price.

"Prc 1" or "Prc 2" will only display after the MICON 200 has received a signal from the communicator, however price setting will always start with the regular price.

READING TOTALIZERS

The pump contains two sets of totalizers. A set of volume and dollar totals for regular priced sales and a set of volume and dollar totals for the discount priced sales.

Follow the instructions in SECTION 6.1.1 to read the totalizers. To change between the totalizer display for regular or discounted priced sales press the "DISCOUNT" button. To indicate which dollar totals being displayed the display will show "d_I" or "d_{II}" for regular or discount priced dollar totals respectively. To indicate which volume totals are being displayed the display will show "V_I" or "V_{II}" for regular or discount priced volumes respectively.

Grand total volume and dollar sales are the sum of the regular and discount volume and dollar totals.

7.0 AUTOMATIC TEMPERATURE COMPENSATION

The MICON 200 contains an additional module which can provide both/either electronic calibration of the dispenser meter and/or automatic temperature compensation of the product dispensed.

To install the MICON 200, it will be necessary to install the temperature probe and a test well in the meter line. The probe fitting and test well are 1/8" NPT, male thread. The line must be drilled and tapped (drill size Q) to accept the fittings. These fittings are to be as close together as practical and the test well must be accessible to the inspector after installation and must also be within 45 degrees of vertical to facilitate filling the well with fluid. These fittings are supplied with the MICON 200. Additional fittings are available upon request.

In addition to the test well and probe fitting, new installations will require two BC-256 label ("CORRECTED TO 15° C"). These labels must be attached to each face-plate of the dispenser and be visible to the customer. These labels are provided with MICON 200, gasoline and diesel versions, and additional labels are available upon request.

7.1 ELECTRONIC CALIBRATOR ADJUSTMENT

The MICON 200 is equipped with an Automatic Temperature Compensator which also contains an electronic calibration feature. This feature provides the MICON 200 with the capability of electronically compensating for meter errors of +/-6.35% with the "Z" option, or +0 to +12.7% with the "P" option. Other ranges are available upon request. The required calibration error is programmed into the ATC via 8

switches located within the explosion-proof housing. These switches are factory set for 0% calibration error. If the meter is correctly calibrated, no further adjustment is necessary.

When the switch on the front display is in the ~~up~~ Down, or "ATC" position, The ATC readings are shown on the display. The display then indicates as follows:

TOP DISPLAY	% calibration (While sw 10 "on") temperature (While sw 10 "off")
CENTER DISPLAY	uncompensated vol.
BOTTOM DISPLAY	flow rate/status

for the first 5 seconds after reset a software ID message will be displayed on the bottom display as follows:

```
3 0 x x
      └── = multiplication factor (1 to 4)
    └──── = No flow time out of:
              0 = no flow time out
              1 = 15 second time out
              3 = 45 second time out
  └────── = revision number
└──────── = version number
```

After the first 5 seconds after reset and until/unless FLOW BEGINS or a shut down error occurs, the product compensation type will be displayed for one of the following products:

```
 GAS = gasoline
ProP = propane
dEsl = diesel fuel
```

If normal flow begins, the flow rate display will be displayed continuously until/unless an error occurs. If a pump shut down occurs, the reason code will replace the above message with one of:

```
bAd = temperature probe defect (valid only if ATC on)
FLO = If shut down due to no flow time out
Err = If pulser error caused shut down
```

If electronic calibration is required, the following method may be used to calibrate the system:

1) Remove the cover from the housing and place switch #10 on the ATC board in the ON position. Ensure all other switches are set for 0% calibration (factory setting -see tables in this section or observe calibration reading on display).

2) Place the handle switch in the ON position and observe that the MICON 200 dollars and volume displays reset to zero.

3) Dispense a known volume of product and record the reading on the volume display.

4) Use the formula below to calculate the percentage correction required:

$$\% \text{ CORRECTION} = \frac{(\text{ACTUAL VOLUME} - \text{REGISTER VOLUME})}{\text{REGISTER VOLUME}} \times 100$$

5) Refer to Table 7.1 on the next page for the closest correction value and set switches 1 through 8 as shown in the table.

Example:

Product dispensed	25.00	Litres
Register reading	26.360	Litres

$$\% \text{ CORRECTION} = \frac{(25.000 - 26.360)}{26.360} \times 100 = -5.159\%$$

C = ON
O = OFF

TABLE 7.1

SWITCH SETTINGS FOR 100% CENTER POINT CALIBRATION ("Z" Option)

Switch setting 87654321	Compensation	Switch setting 87654321	Compensation
OOOOOOOO	-6.40%	COOOOOOO	0.00%
OOOOOOOC	-6.35%	COOOOOOC	+0.05%
OOOOOOCO	-6.30%	COOOOOCO	+0.10%
OOOOOOCC	-6.25%	COOOOOCC	+0.15%
OOOOOCOO	-6.20%	COOOOCOO	+0.20%
OOOOOCOC	-6.15%	COOOOCOC	+0.25%
OOOOOCCO	-6.10%	COOOOCCO	+0.30%
OOOOOCCC	-6.05%	COOOOCCC	+0.35%
OOOOCOOO	-6.00%	COOOCOOO	+0.40%
OOOOCOOC	-5.95%	COOOCOOC	+0.45%
OOOOCOCO	-5.90%	COOOCOCO	+0.50%
OOOOCOCC	-5.85%	COOOCOCC	+0.55%
OOOOCCOO	-5.80%	COOOCCOO	+0.60%
OOOOCCOC	-5.75%	COOOCCOC	+0.65%
OOOOCCCO	-5.70%	COOOCCCO	+0.70%
OOOOCCCC	-5.65%	COOOCCCC	+0.75%
OOOCOOOO	-5.60%	COOCOOOO	+0.80%
OOOCOOOC	-5.55%	COOCOOOC	+0.85%
OOOCOOCO	-5.50%	COOCOOCO	+0.90%
OOOCOOCC	-5.45%	COOCOOCC	+0.95%
OOOCOCOO	-5.40%	COOCOCOO	+1.00%
OOOCOCOC	-5.35%	COOCOCOC	+1.05%
OOOCOCCO	-5.30%	COOCOCCO	+1.10%
OOOCOCCC	-5.25%	COOCOCCC	+1.15%
OOOCCOOO	-5.20%	COOCCOOO	+1.20%
OOOCCOOC	-5.15%	COOCCOOC	+1.25%
OOOCCOCO	-5.10%	COOCCOCO	+1.30%
OOOCCOCC	-5.05%	COOCCOCC	+1.35%
OOOCCCOO	-5.00%	COOCCCOO	+1.40%
OOOCCCOC	-4.95%	COOCCCOC	+1.45%
OOOCCCCO	-4.90%	COOCCCCO	+1.50%
OOOCCCCC	-4.85%	COOCCCCC	+1.55%
OOCOOOOO	-4.80%	COCOOOOO	+1.60%
OOCOOOOC	-4.75%	COCOOOOC	+1.65%
OOCOOOCO	-4.70%	COCOOOCO	+1.70%
OOCOOOCC	-4.65%	COCOOOCC	+1.75%
OOCOOCOO	-4.60%	COCOOCOO	+1.80%
OOCOOCOC	-4.55%	COCOOCOC	+1.85%
OOCOOCCO	-4.50%	COCOOCCO	+1.90%
OOCOOCCC	-4.45%	COCOOCCC	+1.95%
OOCOCOOO	-4.40%	COCOCOOO	+2.00%
OOCOCOOC	-4.35%	COCOCOOC	+2.05%
OOCOCOCO	-4.30%	COCOCOCO	+2.10%
OOCOCOCC	-4.25%	COCOCOCC	+2.15%
OOCOCCOO	-4.20%	COCOCCOO	+2.20%
OOCOCCOC	-4.15%	COCOCCOC	+2.25%
OOCOCCCO	-4.10%	COCOCCCO	+2.30%
OOCOCCCC	-4.05%	COCOCCCC	+2.35%
OOCCOOOO	-4.00%	COCCOOOO	+2.40%
OOCCOOOC	-3.95%	COCCOOOC	+2.45%
OOCCOOCO	-3.90%	COCCOOCO	+2.50%
OOCCOOCC	-3.85%	COCCOOCC	+2.55%
OOCCOCOO	-3.80%	COCCOCOO	+2.60%
OOCCOCOC	-3.75%	COCCOCOC	+2.65%
OOCCOCCO	-3.70%	COCCOCCO	+2.70%
OOCCOCCC	-3.65%	COCCOCCC	+2.75%
OOCCCOOO	-3.60%	COCCCOOO	+2.80%
OOCCCOOC	-3.55%	COCCCOOC	+2.85%
OOCCCOCO	-3.50%	COCCCOCO	+2.90%
OOCCCOCC	-3.45%	COCCCOCC	+2.95%
OOCCCCOO	-3.40%	COCCCCOO	+3.00%
OOCCCCOC	-3.35%	COCCCCOC	+3.05%
OOCCCCCO	-3.30%	COCCCCCO	+3.10%
OOCCCCCC	-3.25%	COCCCCCC	+3.15%
OCOOOOOO	-3.20%	CCOOOOOO	+3.20%

SWITCH SETTINGS FOR 100% CENTER POINT CALIBRATION ("Z" Option)

Switch setting 87654321	Compensation	Switch setting 87654321	Compensation
OCOOOOOC	-3.15%	CCOOOOOC	+3.25%
OCOOOOCO	-3.10%	CCOOOOCO	+3.30%
OCOOOOCC	-3.05%	CCOOOOCC	+3.35%
OCOOOCOO	-3.00%	CCOOOCOO	+3.40%
OCOOOCOC	-2.95%	CCOOOCOC	+3.45%
OCOOOCCO	-2.90%	CCOOOCCO	+3.50%
OCOOOCCC	-2.85%	CCOOOCCC	+3.55%
OCOOCOOO	-2.80%	CCOOCOOO	+3.60%
OCOOCOOC	-2.75%	CCOOCOOC	+3.65%
OCOOCOC0	-2.70%	CCOOCOCO	+3.70%
OCOOCOCC	-2.65%	CCOOCOCC	+3.75%
OCOOCCOO	-2.60%	CCOOCCOO	+3.80%
OCOOCCOC	-2.55%	CCOOCCOC	+3.85%
OCOOCCCO	-2.50%	CCOOCCCO	+3.90%
OCOOCCCC	-2.45%	CCOOCCCC	+3.95%
OCOCOOOO	-2.40%	CCOCOOOO	+4.00%
OCOCOOOC	-2.35%	CCOCOOOC	+4.05%
OCOCOOCO	-2.30%	CCOCOOCO	+4.10%
OCOCOOCC	-2.25%	CCOCOOCC	+4.15%
OCOCOCOO	-2.20%	CCOCOCOO	+4.20%
OCOCOCOC	-2.15%	CCOCOCOC	+4.25%
OCOCOCCO	-2.10%	CCOCOCCO	+4.30%
OCOCOCCC	-2.05%	CCOCOCCC	+4.35%
OCOCCOOO	-2.00%	CCOCCOOO	+4.40%
OCOCCOOC	-1.95%	CCOCCOOC	+4.45%
OCOCCOCO	-1.90%	CCOCCOCO	+4.50%
OCOCCOCC	-1.85%	CCOCCOCC	+4.55%
OCOCCCOO	-1.80%	CCOCCCOO	+4.60%
OCOCCCOC	-1.75%	CCOCCCOC	+4.65%
OCOCCCCO	-1.70%	CCOCCCCO	+4.70%
OCOCCCCC	-1.65%	CCOCCCCC	+4.75%
OCCOOOOO	-1.60%	CCCOOOOO	+4.80%
OCCOOOOC	-1.55%	CCCOOOOC	+4.85%
OCCOOOCO	-1.50%	CCCOOOCO	+4.90%
OCCOOOCC	-1.45%	CCCOOOCC	+4.95%
OCCOOCOO	-1.40%	CCCOOCOO	+5.00%
OCCOOCOC	-1.35%	CCCOOCOC	+5.05%
OCCOOCCO	-1.30%	CCCOOCCO	+5.10%
OCCOOCCC	-1.25%	CCCOOCCC	+5.15%
OCCOCOOO	-1.20%	CCCOCOOO	+5.20%
OCCOCOOC	-1.15%	CCCOCOOC	+5.25%
OCCOCOCO	-1.10%	CCCOCOCO	+5.30%
OCCOCOCC	-1.05%	CCCOCOCC	+5.35%
OCCOCCOO	-1.00%	CCCOCCOO	+5.40%
OCCOCCOC	-0.95%	CCCOCCOC	+5.45%
OCCOCCCO	-0.90%	CCCOCCCO	+5.50%
OCCOCCCC	-0.85%	CCCOCCCC	+5.55%
OCCCOOOO	-0.80%	CCCCOOOO	+5.60%
OCCCOOOC	-0.75%	CCCCOOOC	+5.65%
OCCCOOCO	-0.70%	CCCCOOCO	+5.70%
OCCCOOCC	-0.65%	CCCCOOCC	+5.75%
OCCCOCOO	-0.60%	CCCCOCOO	+5.80%
OCCCOCOC	-0.55%	CCCCOCOC	+5.85%
OCCCOCCO	-0.50%	CCCCOCCO	+5.90%
OCCCOCCC	-0.45%	CCCCOCCC	+5.95%
OCCCCOOO	-0.40%	CCCCCOOO	+6.00%
OCCCCOOC	-0.35%	CCCCCOOC	+6.05%
OCCCCOCO	-0.30%	CCCCCOCO	+6.10%
OCCCCOCC	-0.25%	CCCCCOCC	+6.15%
OCCCCCOO	-0.20%	CCCCCCOO	+6.20%
OCCCCCOC	-0.15%	CCCCCCOC	+6.25%
OCCCCCCO	-0.10%	CCCCCCCO	+6.30%
OCCCCCCC	-0.05%	CCCCCCCC	+6.35%

TABLE 7-2

SWITCH SETTINGS FOR 100% to +112.75% CALIBRATION ("P" Option)

Switch setting 87654321	Compensation	Switch setting 87654321	Compensation
OOOOOOOO	0.00%	COOOOOOO	+6.40%
OOOOOOOC	+0.05%	COOOOOOC	+6.45%
OOOOOOCO	+0.10%	COOOOOCO	+6.50%
OOOOOOCC	+0.15%	COOOOOCC	+6.55%
OOOOOCOO	+0.20%	COOOOCOO	+6.60%
OOOOOCOC	+0.25%	COOOOCOC	+6.65%
OOOOOCCO	+0.30%	COOOOCCO	+6.70%
OOOOOCCC	+0.35%	COOOOCCC	+6.75%
OOOOCOOO	+0.40%	COOOCOOO	+6.80%
OOOOCOOC	+0.45%	COOOCOOC	+6.85%
OOOOCOC0	+0.50%	COOOCOCO	+6.90%
OOOOCOCC	+0.55%	COOOCOCC	+6.95%
OOOOCCOO	+0.60%	COOOCCOO	+7.00%
OOOOCCOC	+0.65%	COOOCCOC	+7.05%
OOOOCCCO	+0.70%	COOOCCCO	+7.10%
OOOOCCCC	+0.75%	COOOCCCC	+7.15%
OOOCOOOO	+0.80%	COOCOOOO	+7.20%
OOOCOOOC	+0.85%	COOCOOOC	+7.25%
OOOCOOCO	+0.90%	COOCOOCO	+7.30%
OOOCOOCC	+0.95%	COOCOOCC	+7.35%
OOOCOCOO	+1.00%	COOCOCOO	+7.40%
OOOCOCOC	+1.05%	COOCOCOC	+7.45%
OOOCOCCO	+1.10%	COOCOCCO	+7.50%
OOOCOCCC	+1.15%	COOCOCCC	+7.55%
OOOCCOOO	+1.20%	COOCCOOO	+7.60%
OOOCCOOC	+1.25%	COOCCOOC	+7.65%
OOOCCOCO	+1.30%	COOCCOCO	+7.70%
OOOCCOCC	+1.35%	COOCCOCC	+7.75%
OOOCCCOO	+1.40%	COOCCCOO	+7.80%
OOOCCCOC	+1.45%	COOCCCOC	+7.85%
OOOCCCCO	+1.50%	COOCCCCO	+7.90%
OOOCCCCC	+1.55%	COOCCCCC	+7.95%
OOCOOOOO	+1.60%	COCOOOOO	+8.00%
OOCOOOOC	+1.65%	COCOOOOC	+8.05%
OOCOOOCO	+1.70%	COCOOOCO	+8.10%
OOCOOOCC	+1.75%	COCOOOCC	+8.15%
OOCOOCOO	+1.80%	COCOOCOO	+8.20%
OOCOOCOC	+1.85%	COCOOCOC	+8.25%
OOCOOCCO	+1.90%	COCOOCCO	+8.30%
OOCOOCCC	+1.95%	COCOOCCC	+8.35%
OOCOCOOO	+2.00%	COCOCOOO	+8.40%
OOCOCOOC	+2.05%	COCOCOOC	+8.45%
OOCOCOCO	+2.10%	COCOCOCO	+8.50%
OOCOCOCC	+2.15%	COCOCOCC	+8.55%
OOCOCCOO	+2.20%	COCOCCOO	+8.60%
OOCOCCOC	+2.25%	COCOCCOC	+8.65%
OOCOCCCO	+2.30%	COCOCCCO	+8.70%
OOCOCCCC	+2.35%	COCOCCCC	+8.75%
OOCCOOOO	+2.40%	COCCOOOO	+8.80%
OOCCOOOC	+2.45%	COCCOOOC	+8.85%
OOCCOOCO	+2.50%	COCCOOCO	+8.90%
OOCCOOCC	+2.55%	COCCOOCC	+8.95%
OOCCOCOO	+2.60%	COCCOCOO	+9.00%
OOCCOCOC	+2.65%	COCCOCOC	+9.05%
OOCCOCCO	+2.70%	COCCOCCO	+9.10%
OOCCOCCC	+2.75%	COCCOCCC	+9.15%
OOCCCOOO	+2.80%	COCCCOOO	+9.20%
OOCCCOOC	+2.85%	COCCCOOC	+9.25%
OOCCCOCO	+2.90%	COCCCOCO	+9.30%
OOCCCOCC	+2.95%	COCCCOCC	+9.35%
OOCCCCOO	+3.00%	COCCCCOO	+9.40%
OOCCCCOC	+3.05%	COCCCCOC	+9.45%
OOCCCCCO	+3.10%	COCCCCCO	+9.50%
OOCCCCCC	+3.15%	COCCCCCC	+9.55%
OCOOOOOO	+3.20%	CCOOOOOO	+9.60%

SWITCH SETTINGS FOR 100% to +112.75% CALIBRATION ("P" Option)

Switch setting 87654321	Compensation	Switch setting 87654321	Compensation
OCOOOOOC	+3.25%	CCOOOOOC	+9.65%
OCOOOOCO	+3.30%	CCOOOOCO	+9.70%
OCOOOOCC	+3.35%	CCOOOOCC	+9.75%
OCOOOCOO	+3.40%	CCOOOCOO	+9.80%
OCOOOCOC	+3.45%	CCOOOCOC	+9.85%
OCOOOCCO	+3.50%	CCOOOCCO	+9.90%
OCOOOCCC	+3.55%	CCOOOCCC	+9.95%
OCOOCOOO	+3.60%	CCOOCOOO	+10.00%
OCOOCOOC	+3.65%	CCOOCOOC	+10.05%
OCOOCOC0	+3.70%	CCOOCOCO	+10.10%
OCOOCOCC	+3.75%	CCOOCOCC	+10.15%
OCOOCCOO	+3.80%	CCOOCCOO	+10.20%
OCOOCCOC	+3.85%	CCOOCCOC	+10.25%
OCOOCCCO	+3.90%	CCOOCCCO	+10.30%
OCOOCCCC	+3.95%	CCOOCCCC	+10.35%
OCOCOOOO	+4.00%	CCOCOOOO	+10.40%
OCOCOOOC	+4.05%	CCOCOOOC	+10.45%
OCOCOOCO	+4.10%	CCOCOOCO	+10.50%
OCOCOOCC	+4.15%	CCOCOOCC	+10.55%
OCOCOCOO	+4.20%	CCOCOCOO	+10.60%
OCOCOCOC	+4.25%	CCOCOCOC	+10.65%
OCOCOCCO	+4.30%	CCOCOCCO	+10.70%
OCOCOCCC	+4.35%	CCOCOCCC	+10.75%
OCOCCOOO	+4.40%	CCOCCOOO	+10.80%
OCOCCOOC	+4.45%	CCOCCOOC	+10.85%
OCOCCOCO	+4.50%	CCOCCOCO	+10.90%
OCOCCOCC	+4.55%	CCOCCOCC	+10.95%
OCOCCCOO	+4.60%	CCOCCCOO	+11.00%
OCOCCCOC	+4.65%	CCOCCCOC	+11.05%
OCOCCCCO	+4.70%	CCOCCCCO	+11.10%
OCOCCCCC	+4.75%	CCOCCCCC	+11.15%
OCCOOOOO	+4.80%	CCCOOOOO	+11.20%
OCCOOOOC	+4.85%	CCCOOOOC	+11.25%
OCCOOOCO	+4.90%	CCCOOOCO	+11.30%
OCCOOOCC	+4.95%	CCCOOOCC	+11.35%
OCCOOCOO	+5.00%	CCCOOCOO	+11.40%
OCCOOCOC	+5.05%	CCCOOCOC	+11.45%
OCCOOCCO	+5.10%	CCCOOCCO	+11.50%
OCCOOCCC	+5.15%	CCCOOCCC	+11.55%
OCCOCOOO	+5.20%	CCCOCOOO	+11.60%
OCCOCOOC	+5.25%	CCCOCOOC	+11.65%
OCCOCOCO	+5.30%	CCCOCOCO	+11.70%
OCCOCOCC	+5.35%	CCCOCOCC	+11.75%
OCCOCCOO	+5.40%	CCCOCCOO	+11.80%
OCCOCCOC	+5.45%	CCCOCCOC	+11.85%
OCCOCCCO	+5.50%	CCCOCCCO	+11.90%
OCCOCCCC	+5.55%	CCCOCCCC	+11.95%
OCCCOOOO	+5.60%	CCCCOOOO	+12.00%
OCCCOOOC	+5.65%	CCCCOOOC	+12.05%
OCCCOOCO	+5.70%	CCCCOOCO	+12.10%
OCCCOOCC	+5.75%	CCCCOOCC	+12.15%
OCCCOCOO	+5.80%	CCCCOCOO	+12.20%
OCCCOCOC	+5.85%	CCCCOCOC	+12.25%
OCCCOCCO	+5.90%	CCCCOCCO	+12.30%
OCCCOCCC	+5.95%	CCCCOCCC	+12.35%
OCCCCOOO	+6.00%	CCCCCOOO	+12.40%
OCCCCOOC	+6.05%	CCCCCOOC	+12.45%
OCCCCOCO	+6.10%	CCCCCOCO	+12.50%
OCCCCOCC	+6.15%	CCCCCOCC	+12.55%
OCCCCCOO	+6.20%	CCCCCCOO	+12.60%
OCCCCCOC	+6.25%	CCCCCCOC	+12.65%
OCCCCCCO	+6.30%	CCCCCCCO	+12.70%
OCCCCCCC	+6.35%	CCCCCCCC	+12.75%

The closest value listed in Table 7.1 is -5.15% which calls for the switch settings:

8 OFF, 7 OFF, 6 OFF, 5 ON, 4 ON, 3 OFF, 2 OFF, 1 ON

6) Place switch 10 into the ON position.

7) Place the selector switch on the front display board in the ATC (down) position. The dollars display on the front display will now show the meter calibration error which you have programmed into the MICON 200. For the above example the display will show "-5.15". If the value shown is not correct, one or more of the switches was incorrectly set.

8) Repeat step 2 above to verify the calibration of the MICON 200.

9) Return switch 10 to the OFF position if the MICON 200 is to be used in the automatic temperature compensation mode. When the ATC feature is used, a temperature probe of the proper type must be connected.

If ATC is not going to be used (I.E. calibration only), leave switch 10 in the ON position.

10) Replace the cover of the explosion-proof housing and install a suitable (legal) seal through the two adjacent drilled cover bolts to ensure the cover can not be removed without breaking the seal.

11) Return the front display selector switch to the NORMAL (upwards) position.

7.2 - AUTOMATIC TEMPERATURE COMPENSATION

In addition to electronic calibration the Automatic Temperature Compensator will compensate the volume of product delivered to the equivalent volume at 15 degrees Celsius. In order to accurately sense the temperature of the product, the probe must be directly immersed into the product as close as possible to the meter. The use of a thermal well is NOT allowed. The following procedure should be used to verify the operation of the ATC:

1) Install and connect the temperature probe.

2) Place the selector switch located on the front display board in the ATC (downward) position.

3) Dispense a convenient volume of product into a test can and record the temperature and volume of the product in the can.

4) The volume indicated on the front display of the MICON 200 is the UNCOMPENSATED volume. This volume should agree directly with the volume measured in the test can. If it does not agree, the meter is out of calibration.

5) Calculate the compensated volume in the test can using the actual volume and the temperature of the product in the test can and the appropriate correction tables. The calculated compensated volume should agree with the compensated volume shown on the rear display of the MICON 200. If the values do not agree a problem exists in the

ATC or its installation.

6) Return the switch on the front display to the upwards position for "normal" display position.

This completes the testing of the ATC. If you encounter any difficulty please contact your service representative.

8.0 - TWO TIER OPTION INSTALLATION

See "MICON 200 Options and Ordering Information" to order the optional connector and pushbutton switch or keyswitch. To install the two tier option, connect the push button switch between the black and purple wires on the provided connector as shown in fig. 4.1. The push button switch can be mounted in a 7/8" hole in the side of the dispenser. An optional keyswitch is available, which can be used instead of, or together with the pushbutton in series.

9.0 - INSTALLATION KITS

Drawings referred to in the following kit installation instructions will be found at the end of this section.

9.1 - TOKHEIM DISPENSERS (DS1 through DS6)

1) Remove the existing register and faceplates.

2) Install the BC101 conversion shaft into the reset housing as shown in Figure 9.1.

3) Remove the MICON 200 faceplates and install the display standoff brackets (BC105) between the MICON 200 faceplates and the register base as shown in Figure 9.2.

4) Install the new faceplates supplied with the installation kit (BC115, BC114L & BC114R, or BC114).

5) Install the MICON 200 register using the handle link (BC183, or BC176) supplied with the kit.

NOTE : Some Tokheim models use a mechanically controlled valve. To adapt to the MICON 200, this valve must be replaced with a solenoid valve.

9.2 - GILBARCO (DS7 & DS8)

1) Remove the existing register and the electric reset housing from the dispenser.

2) On the MICON 200 register, remove the existing detent assembly and replace with the BC233 adapter. (The BC233 is similar to the assembly removed but does not have a handle switch coupling).

3) On the opposite side of the MICON 200 register, install the BC109

detent adapter. (The BC109 does not have a detent spring retaining post, as does the BC233).

4) Refer to Figure 9.3 and install the BC120 handle shaft plate under the two cover bolts as shown.

5) Refer to Figure 9.4 and install the handle switch parts as illustrated.

6) Install the MICON 200 register into the dispenser and connect the connecting rod as shown in Figure 9.3.

7) Install the dispenser faceplates supplied with the kit.

9.3 - WAYNE (DS9 thru DS11)

1) Remove the existing register. Save the existing handle linkage parts.

2) Refer to Figure 9.5 and install the BC145 support plate.

3) Install the original upper handle switch arm on the handle link (BC173, or BC146) and install the MICON 200 register into the dispenser. Figure 9.5 illustrates the handle switch linkage arrangement.

4) Install the faceplates supplied with the installation kit.

9.4 - ASTRO (DS12 & DS13)

9.5 - BENNETT (DS14, DS15, & DS17)

1) Remove the existing register.

2) Install the MICON 200 register using the handle shaft extender supplied with the installation kit.

9.6 - SCHWELM (DS16)

1) Remove the existing register.

2) Refer to Figure 9.6 and install the handle support bracket, handle shaft, pump handle detent, meter adapter, and MICON 200 mounting plate.

3) Install the MICON 200 register into the dispenser. Note the handle and detent positions shown in Figure 9.6.

4) Install the MICON 200 temperature probe in the air eliminator as shown in Figure 9.6.

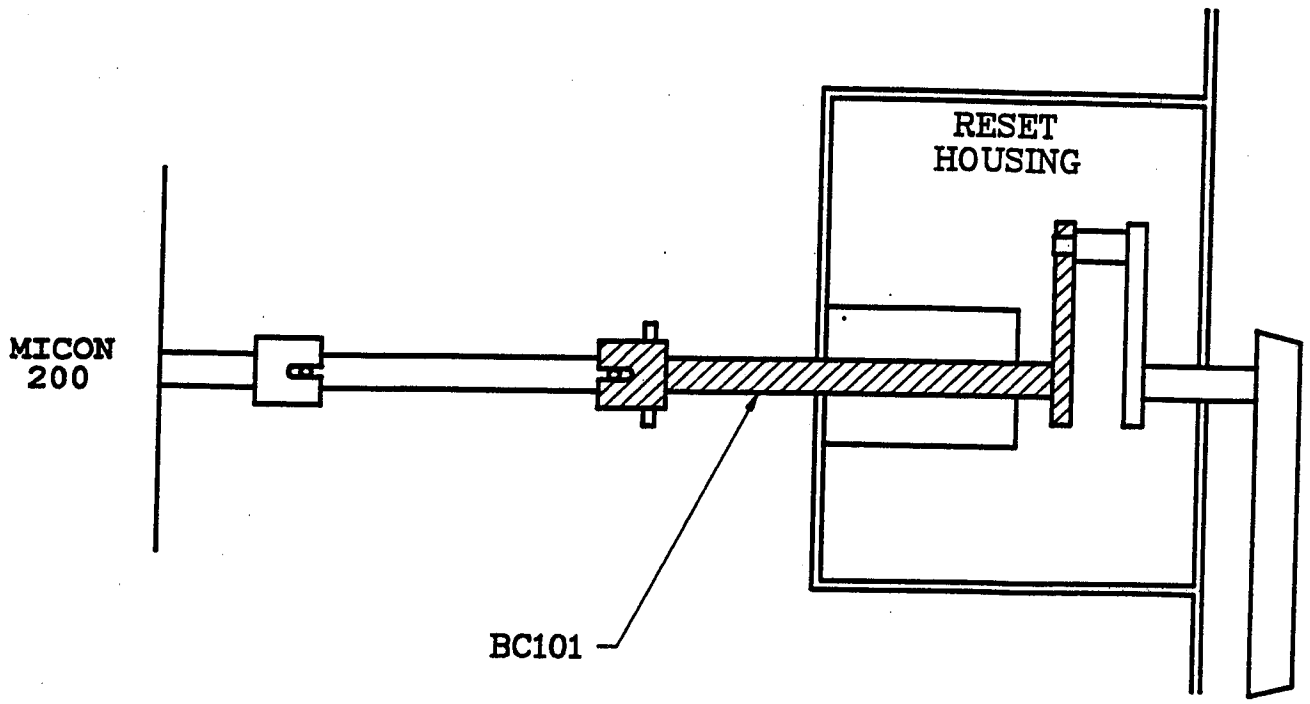


FIGURE 9.1

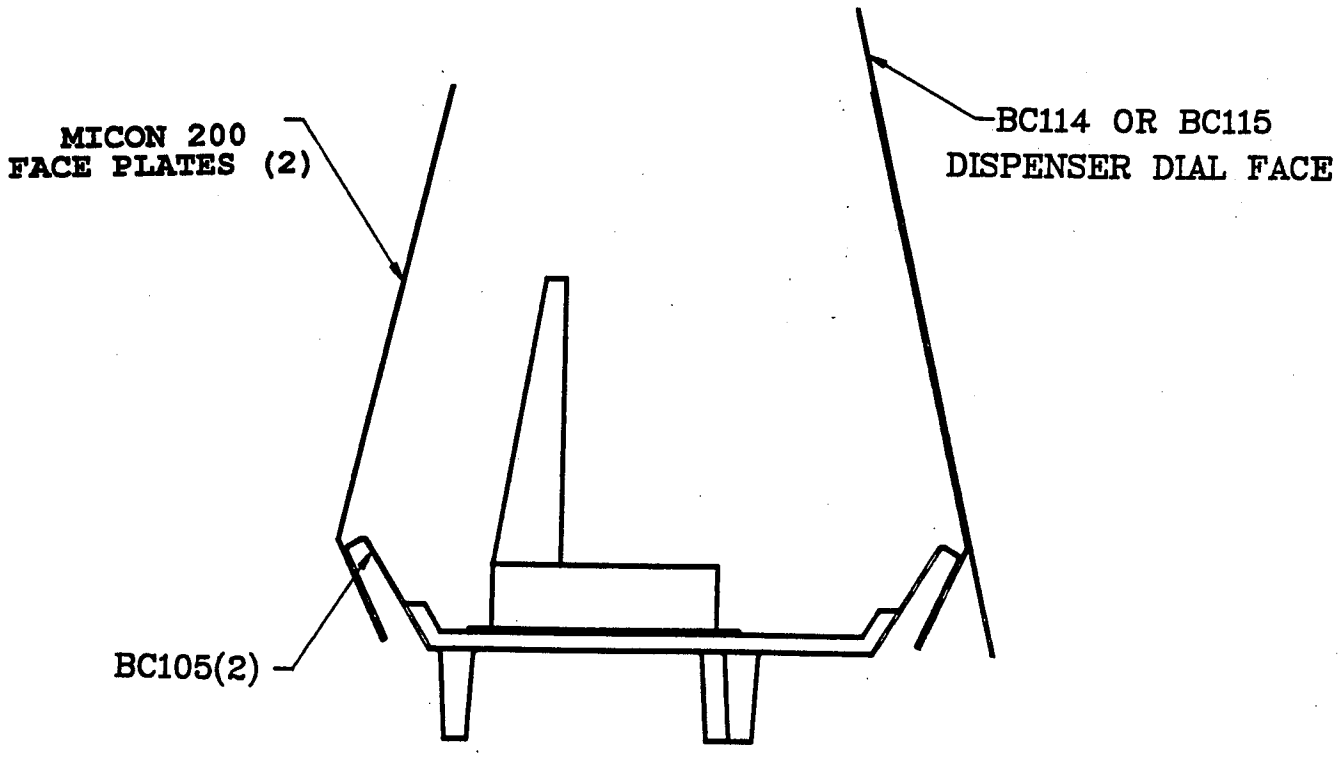


FIGURE 9.2

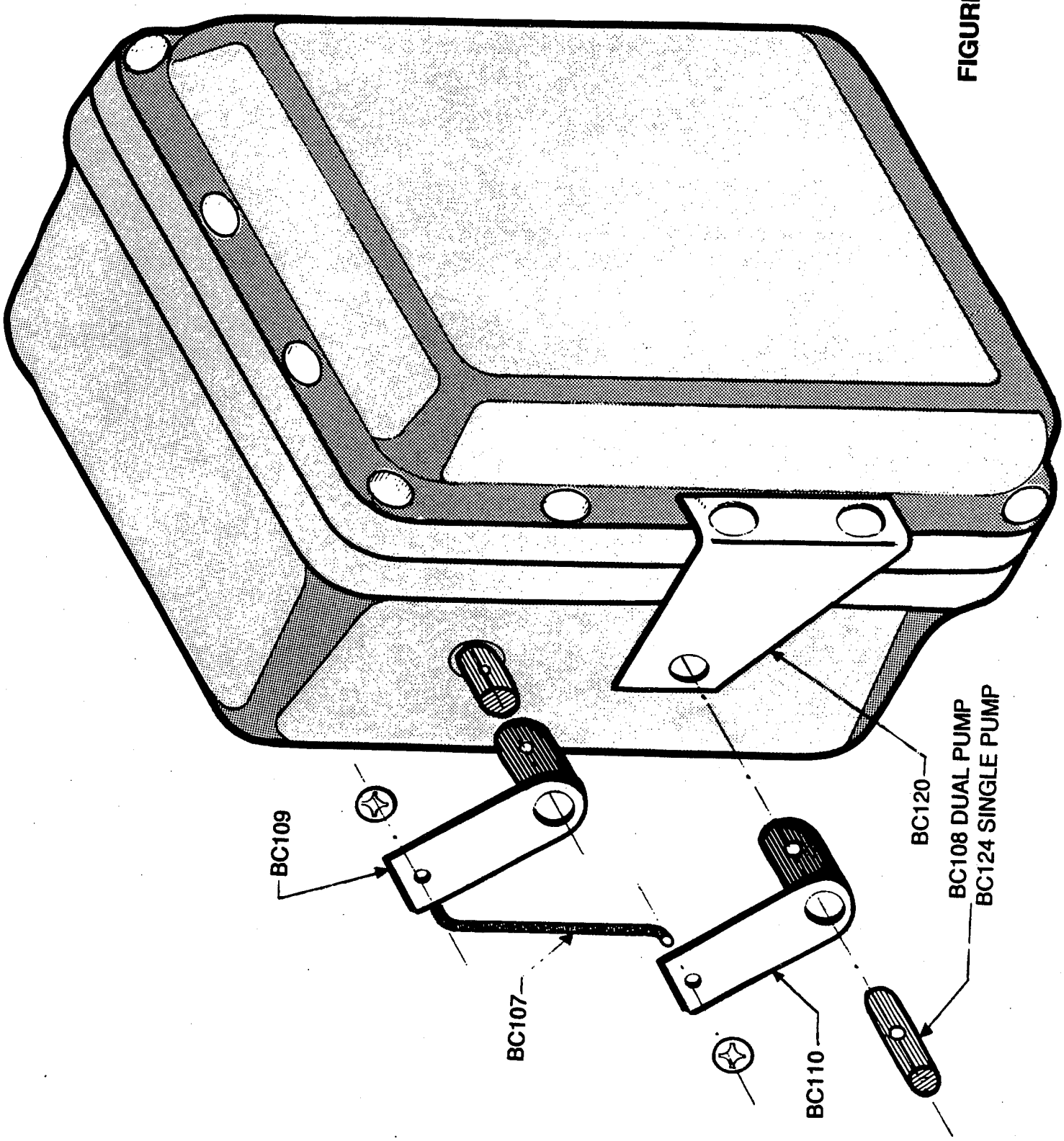


FIGURE 9.3

FIGURE 9.4

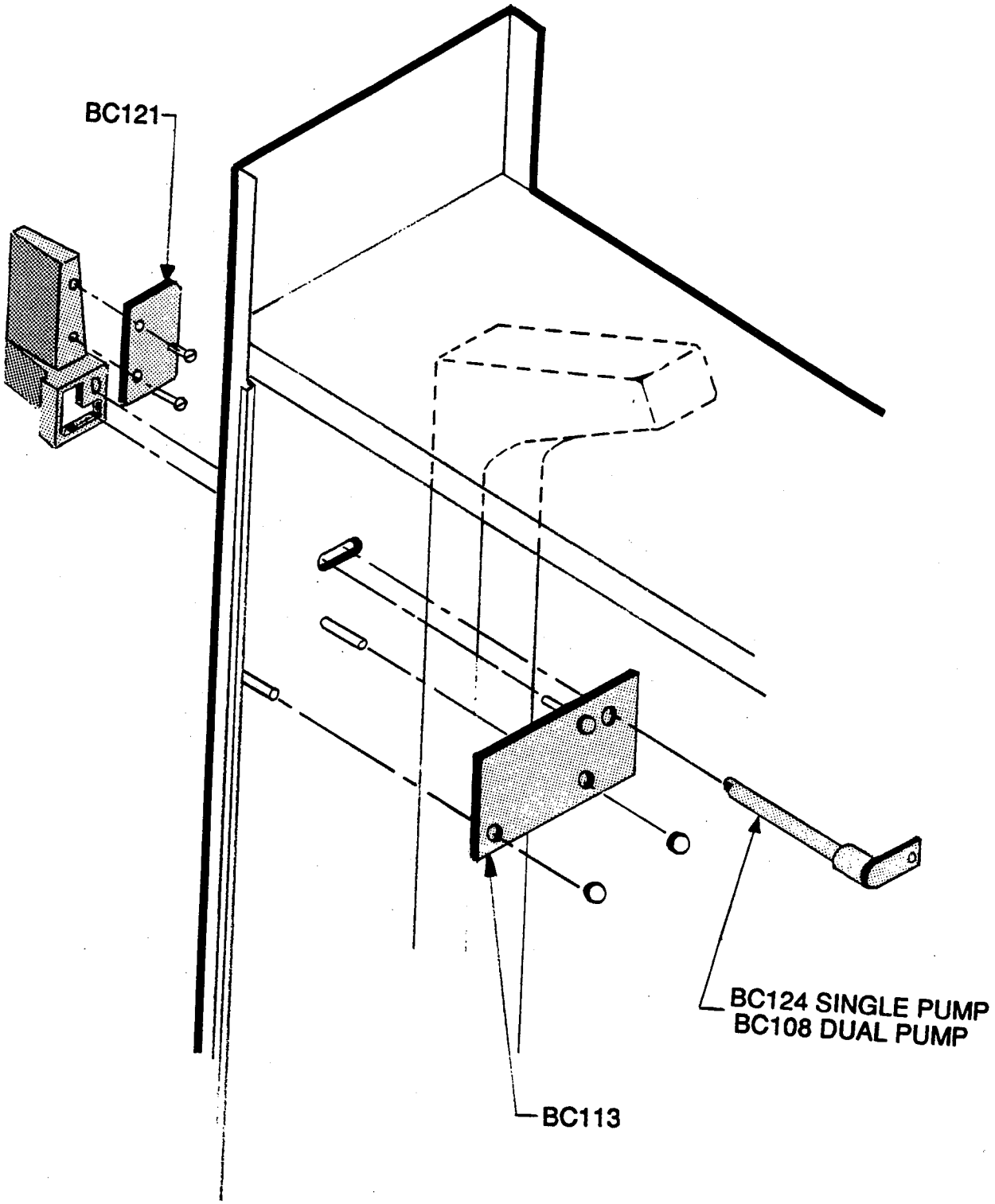
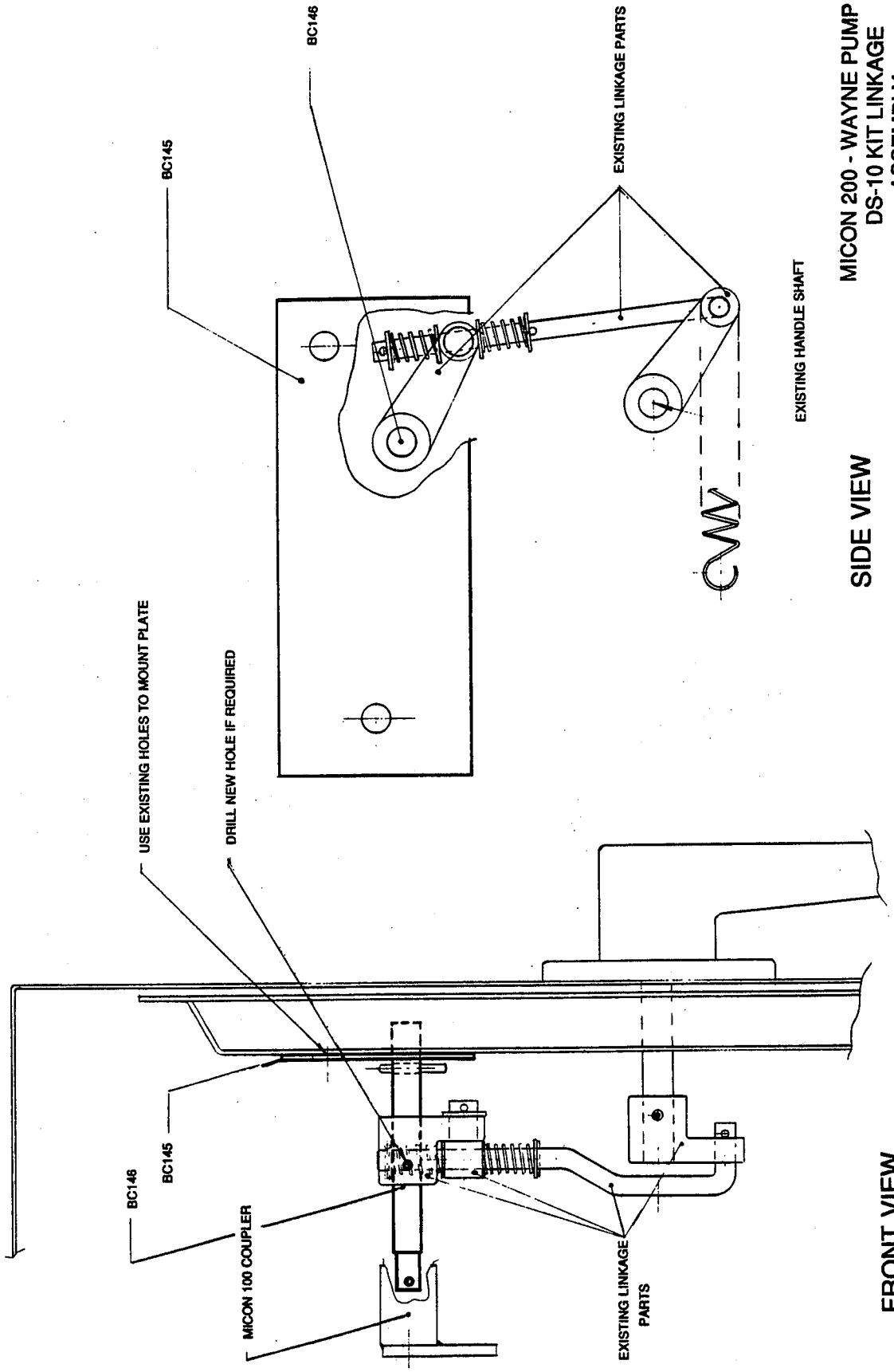
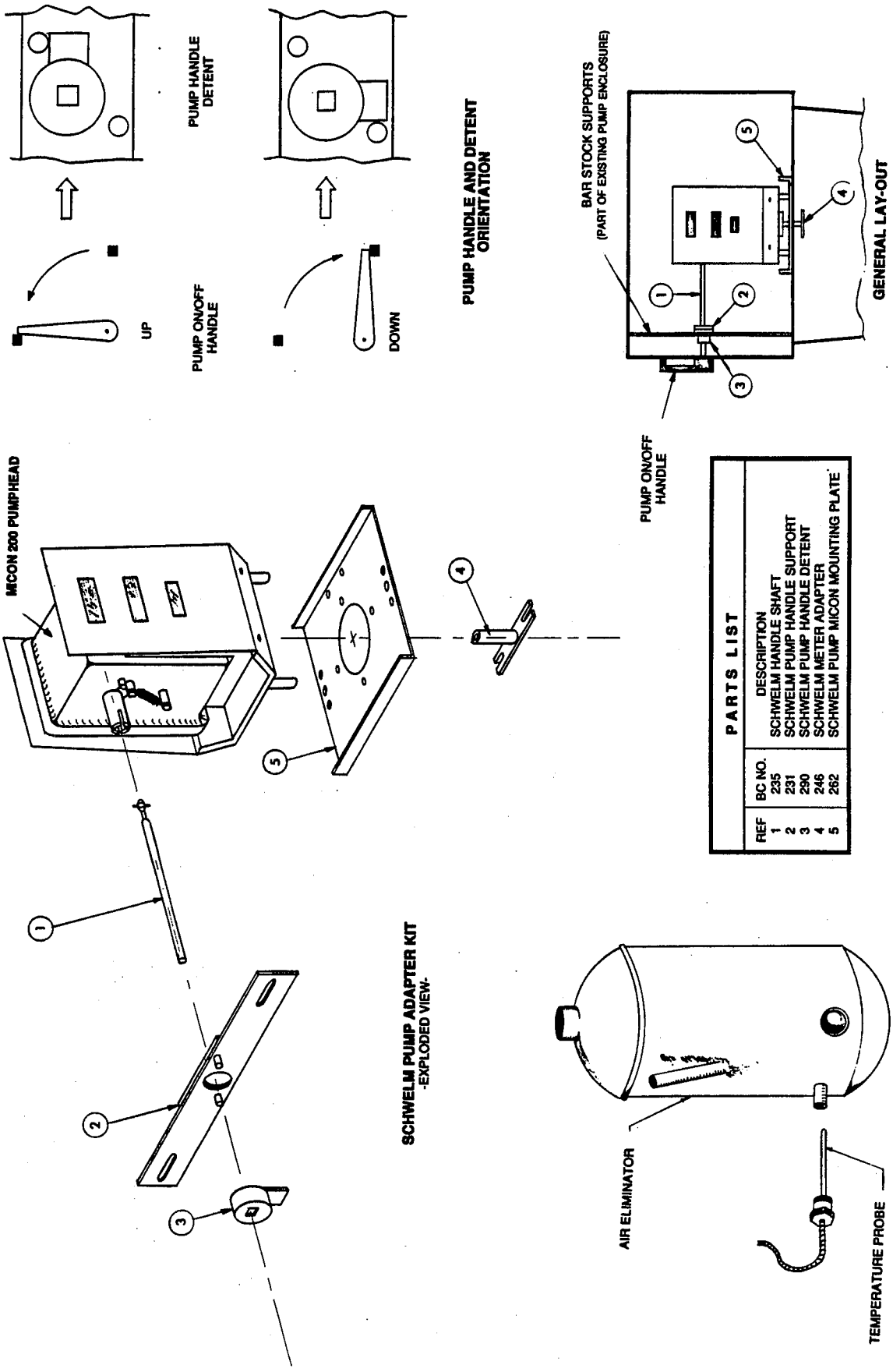


FIGURE 9.5



MICON 200 - WAYNE PUMP
DS-10 KIT LINKAGE
ASSEMBLY



MICON 200 PUMPHEAD
SCHWELM PUMP ADAPTER KIT
INSTALLATION REFERENCE

FIGURE 9.6