



Coster Water

**4-SELECTION SERIES 200
WINDOW MOUNT
MODEL CTV-200
WATER VENDING MACHINE
(FLANGE FRONT)**

OPERATOR'S & PARTS MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

PART NUMBER 62502080 Rev. G

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62502080RevG

6/22

Coster/62502080RevG

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TO THE PURCHASER

This product is designed and manufactured to give years of dependable service when properly maintained and used for the purpose for which it was intended. Never allow anyone to operate this equipment until they fully understand the complete contents of this manual. For owners who do not operate this equipment, it is their responsibility to ensure that the operator has been properly instructed and is fully aware of the contents of this manual. The owner is also responsible to ensure that the operator is physically and mentally capable of operating this equipment. Information contained in this manual is important in the safe handling of this equipment, and also achieving an efficient operation. If there are any questions about information in this manual, it is important to contact your dealer for clarification.

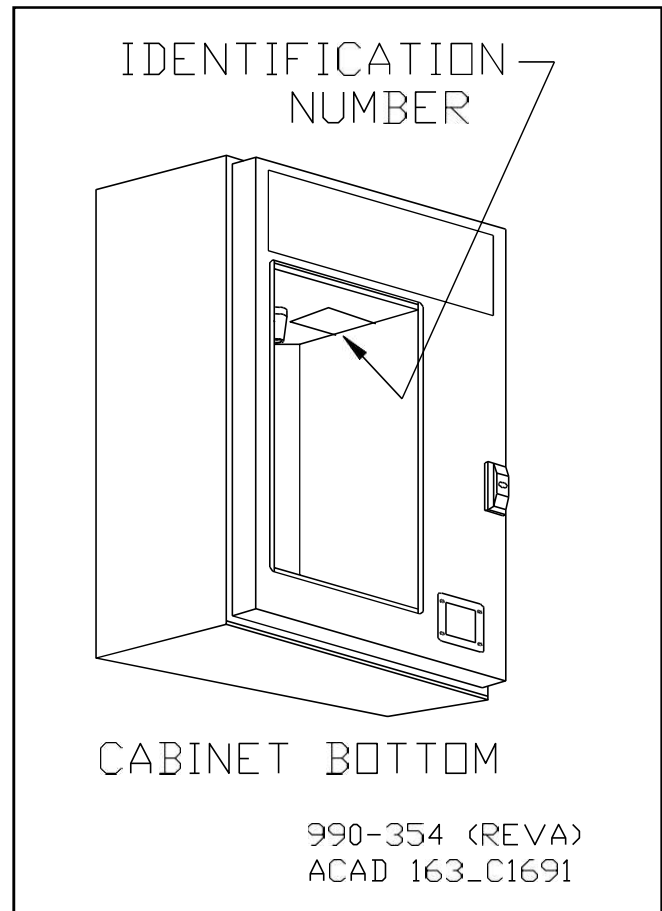


This is the safety alert symbol, it is used to alert the operator to instructions concerning the personal safety and risk factor of this equipment. Always observe and heed these very important instructions to promote a safe operation with good preventive maintenance habits.

Always obtain original equipment service parts from Coster Engineering. Never accept any type of substitute items, as this could affect the equipment performance.

Product registration: The purchaser and/or owner need to complete product/warranty registration by going to Coster Engineering web page "costereng.com". Under the "warranty registration" drop down menu, complete all required fields and click on "submit" button

The location of the identification number plate on this equipment is as shown.



Please fill in the following information for your records:

DATE OF PURCHASE _____

OWNER'S NAME _____

DEALER'S NAME _____

IDENTIFICATION NUMBER _____

IMPORTANT: Never operate this machine until the user fully understands the complete contents of the owners instruction manual. For owners who do not operate this equipment, it is their responsibility that the user has been properly instructed and fully aware

of the manual contents. This is important in the safe handling and in obtaining an efficient operation of the machine.

Please retain this manual for future reference.

Please read this manual in its entirety before using this machine.

SERVICE INFORMATION

A label listing a local and/or toll free phone number for service or refund must be affixed to the unit. The label supplied by the owner/operator, must be in a location visible to customers; and comply with all federal, state and local regulations.

DISCLAIMER

The information contained in this document is subject to change without notice.

Coster Engineering shall not be liable for technical or editorial omissions made herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

SAFETY



TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

This symbol means **ATTENTION: BECOME ALERT, YOUR SAFETY AND OTHERS IS INVOLVED.**

SAFETY SIGNAL WORDS

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



WARNING: Read and understand operator's manual prior to making any repair, adjustments, or performing any maintenance on this machine.



WARNING: Use only sanitary FDA approved piping and filters in this machine. Failure to do so may result in illness, injury, or death to users of this machine.



WARNING: Install and operate this machine only in accordance with all applicable labeling, licensing, testing and inspection, installation, electrical, plumbing, health safety, food water and vending machine codes.



WARNING: Flush system before use to remove all chemicals present.



WARNING: Never allow unauthorized or improperly supervised personnel to operate or service this machine. They must be responsible, properly trained and qualified.

The preservative, sodium bisulfite (SBS), is used to prevent microbiological growth during storage and shipment. Some individuals may experience a severe allergic reaction if machine is not flushed before placing in service.



WARNING: Unplug this machine prior to making any repairs. Failure to take proper precautions may result in electrical shock and death.



WARNING: Do not look directly into the ultraviolet light or eye damage may result. Always wear UV safety goggles and cover all exposed skin when securing UV bulb.



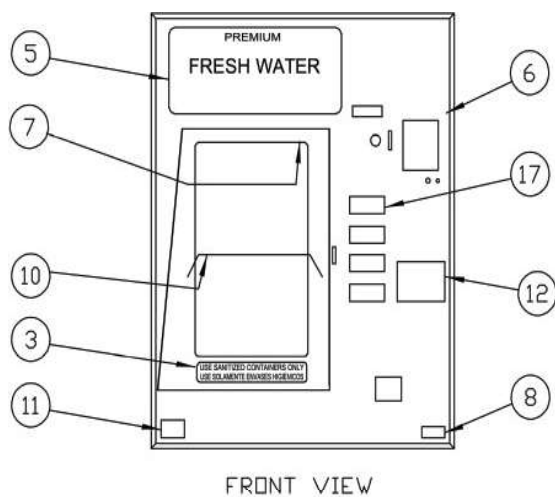
WARNING: Do not make any alteration or modification in the wiring or plumbing of this machine. Such alterations can result in damage to your machine, and/or cause injury, illness, or death to maintenance personnel, operators, and users of this machine.



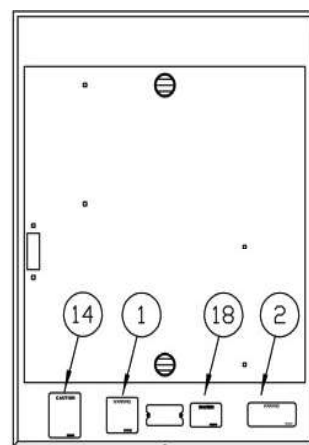
WARNING: This machine must be connected to an inspected, approved, potable water system only containing 500 parts per million (PPM) of total dissolved solids (TDS) or less.



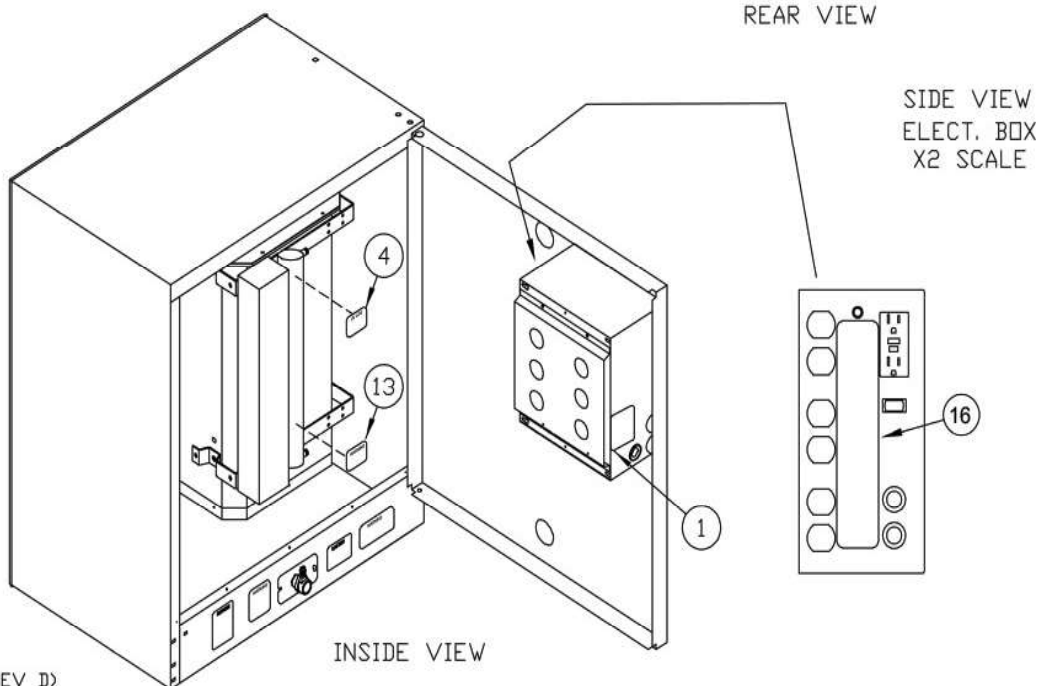
WARNING: To prevent accidental tipping, the unit must be secured to the wall or base. The wall or base must be capable of safely holding the weight of the unit.



FRONT VIEW



REAR VIEW



INSIDE VIEW

SIDE VIEW
ELECT. BOX
X2 SCALE

62502012 (REV D)

FIGURE 1

Decal Locations



1. Decal 62502954 located on inside and on rear (Figure 1).



2. Decal 625-002-084 located on inside and on rear (Figure 1).



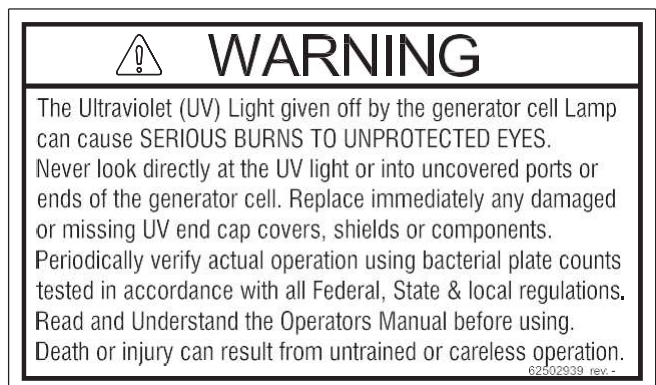
3. Decal 62501730 located on front of dispenser door.

SERVICE LOG Ultraviolet Lamp

DATE LAMP INSTALLED	DATE LAMP TESTED	DATE LAMP INSTALLED	DATE LAMP TESTED

a. Replace UV Lamp Every 6 Months of use or:
 b. Test at 6 Months for Minimum intensity of 16,000 microwatt seconds per square centimeter at 254 nanometers and Replace every 12 Months of use. For Replacement log order 62502938.

4. Decal 62502938 service log decal located by ultraviolet light (Figure 1).
5. 62501923 Decal, "Premium Fresh Water," located on front.
6. 62502075 Decal, "Instructions," located on front.
7. 625-004-475 Serial Plate, located on rear.
8. 625-001-025 Decal, Coster Address, located on lower door front.
9. Not used.
10. 625-004-044 Decal, "Lower This Shelf," located in dispenser housing.
11. 625-004-045 Decal, "NAMA approved units only," located on front.
12. 625-004-555 Decal, "Filtration Instructions," located on front.



13. Decal 62502939 U.V. Warning Located by U.V. light.

14. 625-005-844 Decal, "Read Instructions," located on rear.
15. Not used.
16. 62502534 Electrical box decal, located on side of electrical box.
17. 62500687, Button Tags, Gallons, located on front.
62500689, Button Tags, Purified, located on front.
62500688, Button Tags, Liters, located on front.
18. 625-004-488, Decal, 120 VAC 60 HZ, located on rear door.

625-005-313, Decal, 100 VAC 50 HZ, located on rear door.
62500372, Decal, 100 VAC 60 HZ, located on rear door.

SAFETY FEATURES

The dispensing machine provides the needed safety shut offs should certain conditions exist.

The machine will not dispense if:

- 1, The ultraviolet light is burned out.
2. Water supply is below 10 psi.
3. The sump float switch on the cabinet floor has been activated as a result of a leak.

The machine incorporates a ground fault circuit interrupter (GFCI) device, and (2) 5 amp replaceable fuses.

A safety shut off on the vend cycle is also incorporated to safe guard against gross overfilling caused by metering device failures.

TECHNICAL SPECIFICATIONS

DIMENSIONS:

Main Cabinet:
Height: (Flange) 37 Inches
Depth: 20 Inches
Width : (Flange) 29 Inches

ROUGH OPENING: See Figure 2

WEIGHT:

Dry Shipping:
Painted Unit 200 Lbs

CAPACITY:

Dispensing Flow 5 GPM Max.

FEED PRESSURE:

Min..... psi
Max: 100 psi

PLUMBING CONNECTIONS:

Feed 1/2 Inch FNPT
Drain..... 1 Inch FNPT
(1" I.D. Min. Hose)

ELECTRICAL:

2-1/2 amp, 110 VAC Grounded 60 HZ GFCI
Circuit.

GENERAL INFORMATION

CABINET CONSTRUCTION

The units have a sheet metal construction with a durable polyurethane epoxy finish. The dispenser housing and front cabinet face are made of stain- less steel to provide an easy to clean rust-free dispensing area. All wetted parts are NSF or FDA approved.

PROCESS DESCRIPTION

The dispensing machine is designed to vend drinking water from an approved potable water supply containing 500 ppm of TDS or less. The potable water is treated with two steps before dispensing...

A. Carbon Filtration

A carbon cartridge filters the water reducing or removing any odors, tastes, or decolorization.

B. Ultraviolet Sterilization

The final water treatment process is ultraviolet sterilization. While the product water is being dispensed, it passes through a chamber which irradiates the flow with ultraviolet light.

The machine **will not** dispense water if the UV bulb is burned out.

Water is flushed through the UV light for approximately 3 seconds every hour **only** when the unit **has not** dispensed water. This reduces the peak temperature experienced after the unit has set idle for an extended time, such as the first vend of the morning.

CONTROL SYSTEM

At the heart of the Coster 4-select control system is a Programmable Logic Controller (PLC) which stores an electronic program inside it much like a computer.

This PLC, along with Coster's own relay board and the vending machine control (VMC) board (for the coin mechanism and bill validator, if equipped) provide many features and options including four (4)

individually priced volumes of water that can be easily field calibrated. The control system is also equipped with many safety features which are listed in the "Safety" section of this manual.

FEATURES

- State of the art "Mult-Drop Bus" (MDB) coin mechanism operating platform. With data exchange (DEX) capability.
- Automatic shut off when the ultraviolet lamp fails.
- UV temp. flush. (Water is flushed to drain through UV light 3 seconds every hour if unit has not dispensed with in that hour to keep UV light cool.)
- Lighted dispenser housing.
- Small size.
- Gravity drain.
- Ease of component access and repair.
- Accepts 5 gallon round insulated coolers.
- Four (4) volume adjustable and individually priced selection buttons.
- Customer vend interrupt (pause button).
- "Free vend" mode on coin mechanism.
- Cash accountability meter.
- Gallon meter totalizer.

OPTIONS

- Dollar bill and coupon validators.
- Card readers.
- Wireless remote monitoring.
- Wireless cashless payment system.

INSTALLATION AND SETUP

PRELIMINARY SITE INSPECTION

WATER SERVICE

The machine can only be connected to an approved potable water source that will contain 500 PPM of TDS or less and provide a 3 GPM feed minimum. (See Measuring TDS).

ELECTRICAL

A 15 AMP, 110 VAC, 60 HZ grounded power supply will be required.

PLUMBING

The machine should not exceed 100 feet from access to the nearest water source and drain connection.



WARNING: USE ONLY SANITARY APPROVED FDA MATERIALS FOR PLUMBING CONNECTIONS.



CAUTION: Under no circumstances allow your machine to freeze. Freezing may cause permanent damage to your plumbing or other wetted parts.

SERVICE INFORMATION

A label listing a local and/or toll free phone number for service or refund must be affixed to the unit. The label supplied by the owner/operator, must be in a location visible to customers; and comply with all federal, state and local regulations.

SET-UP

SERVICE CONNECTIONS

1. Water feed line - 1/2 inch FNPT connection (see figure 3).
2. Plumbing connections should be a minimum of 1/2 I.D. for 100 feet or less, or 5/8 I.D. if distances greater than 100 feet are needed.
3. Drain line - 1 inch FNPT, 1 inch I.D. hose minimum.
4. Electrical service will be a 15 AMP minimum, 110 VAC, 60 HZ grounded supply.



IMPORTANT: The drain line must be capable of flowing a minimum of 5 GPM from the unit. This will guard against flooding should a machine malfunction occur.

MACHINE SETUP



CAUTION: Do not plug machine in or, apply power until all of the required installation procedures have been completed.



WARNING: Be sure that installation of this machine complies with all federal, state and local electrical and plumbing codes and with all applicable federal, state, county and local standards for food and drinking water installations. The machine must be installed in a location free of dust and debris.

INSTALLATION

1. Move the vending machine to desired setup location. Cut the banding and remove cardboard shell; inspect the machine for any damages that may have occurred in transit.
2. Attach the unit securely to the wall at 4 places minimum. (Typical installation illustrated below, Figure 2). Hardware is customer supplied.



WARNING: The wall must be capable of safely holding the weight of the unit.

3. Connect plumbing inlet and outlet lines and remote pump. Use guidelines specified in: "Service Connection," Figure 3.
4. Install filter. (See Filter Maintenance Section).
5. Plug in machine. Press vend button to purge all air from line.



WARNING: The cord connected Ground Fault Circuit Interrupter (GFCI) must be readily accessible and be capable of being reached quickly for operation.

6. Check for leaks.

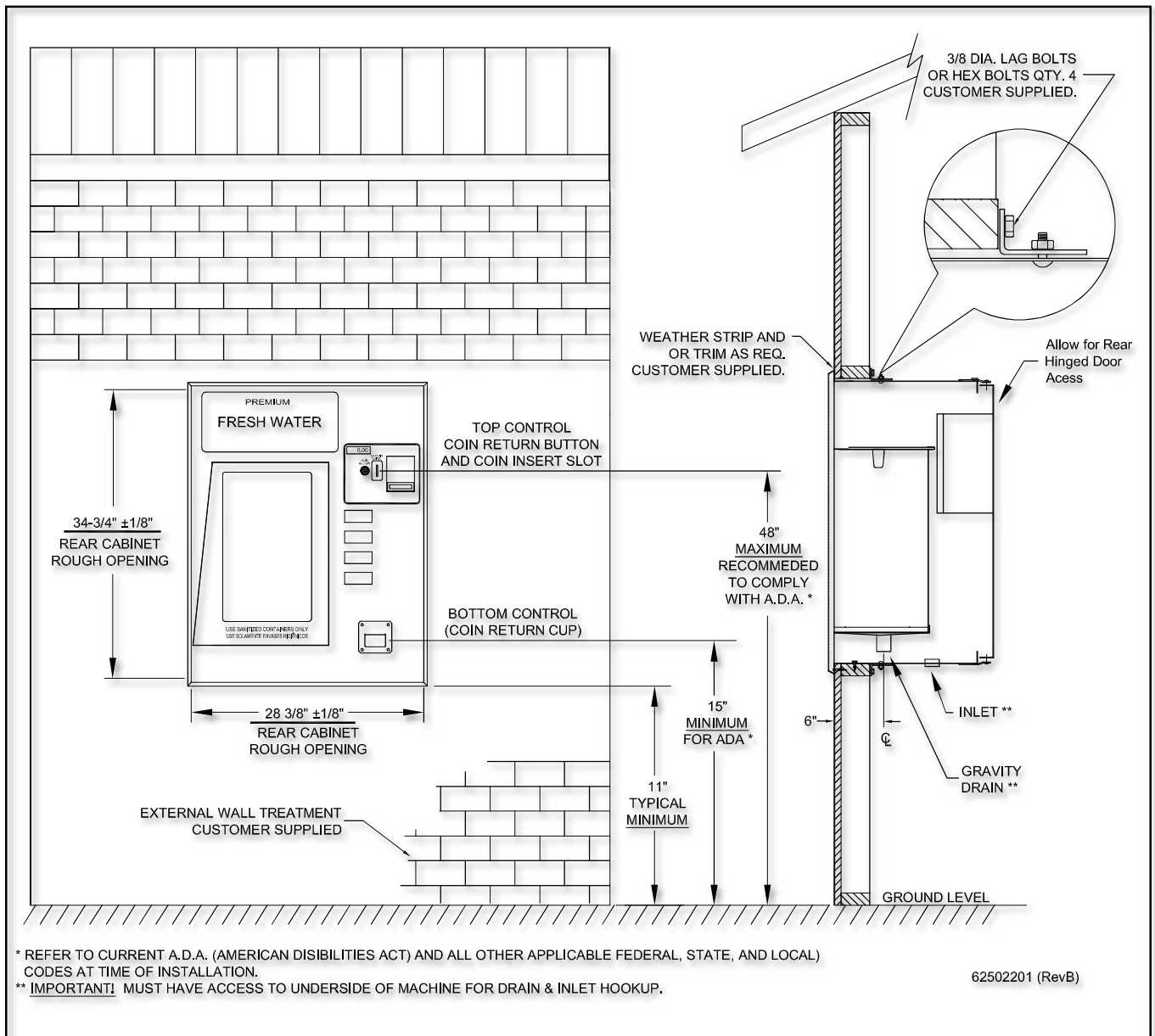
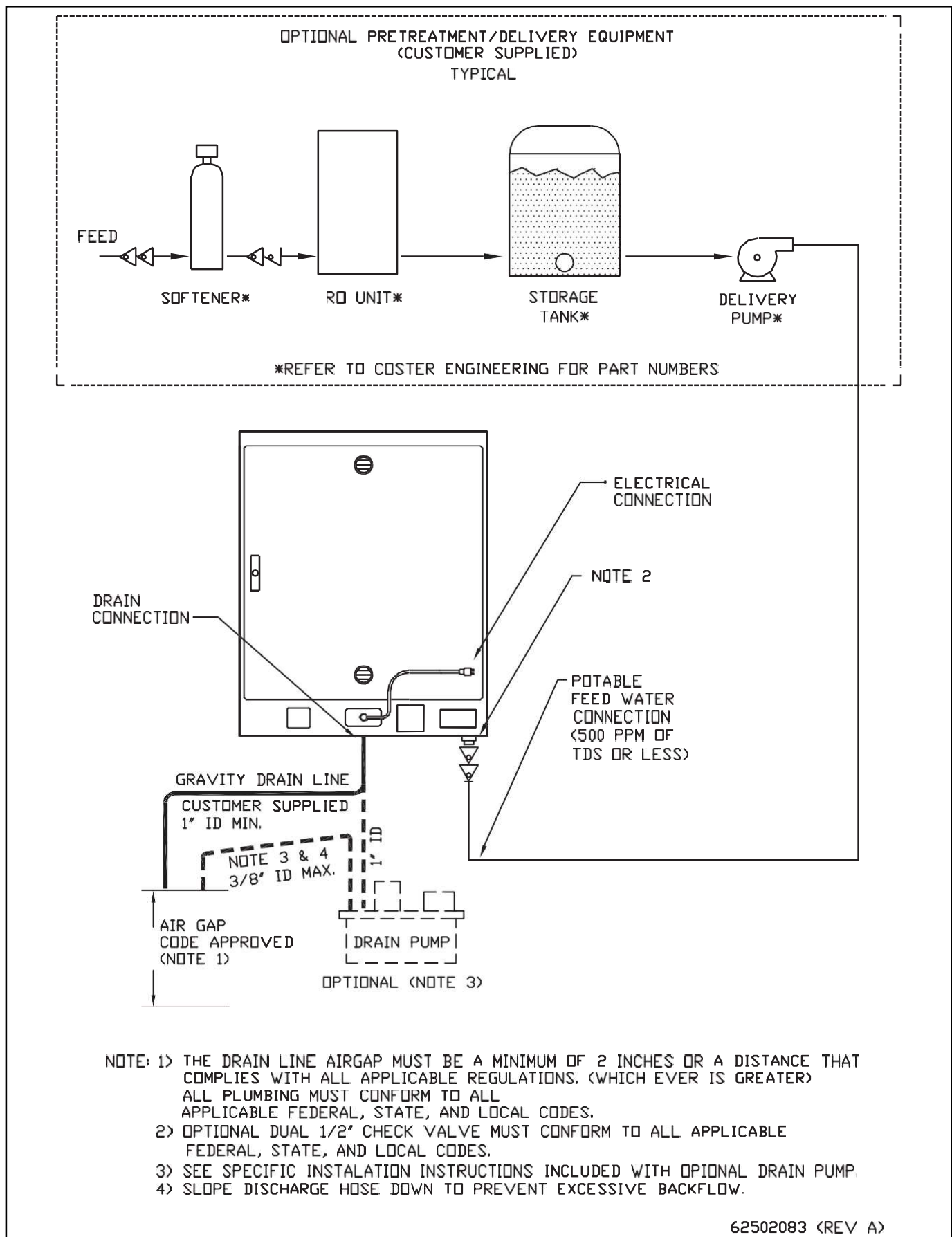


FIGURE 2



THE REAR VIEW OF THE SERIES 200 WATER VENDING FLANGE MOUNT MACHINES SHOWING THE SERVICE CONNECTIONS.

FIGURE 3

Before vending, verify that the following switches are set properly: (Refer to Figure 4)

- Switch, "A" (Coin/Manual Mode) "Coin" position (Red Showing)
- Switch, "B" (Run/Calibrate Mode) "Run" position (Red Showing)

Volumes are factory preprogrammed as follows:

Top Button: One (1) gallon.

2nd Button: Two (2) gallons.

3rd Button: Three (3) gallons.

4th Button: Five (5) gallons.

IMPORTANT: All factory calibrated volumes are nominal only. They must be verified onsite when the unit is put into service. Use the calibration procedure to adjust volumes as required. Seal electrical box after calibration, if required by local or state regulations.

NOTE: When operating in Coin Mode, the red "pause" button, on front of cabinet, may be pressed to interrupt a vend. The vend will continue after eighteen (18) seconds or when the pause button is pressed a second time. This allows several smaller containers to be used for a larger selection volume.

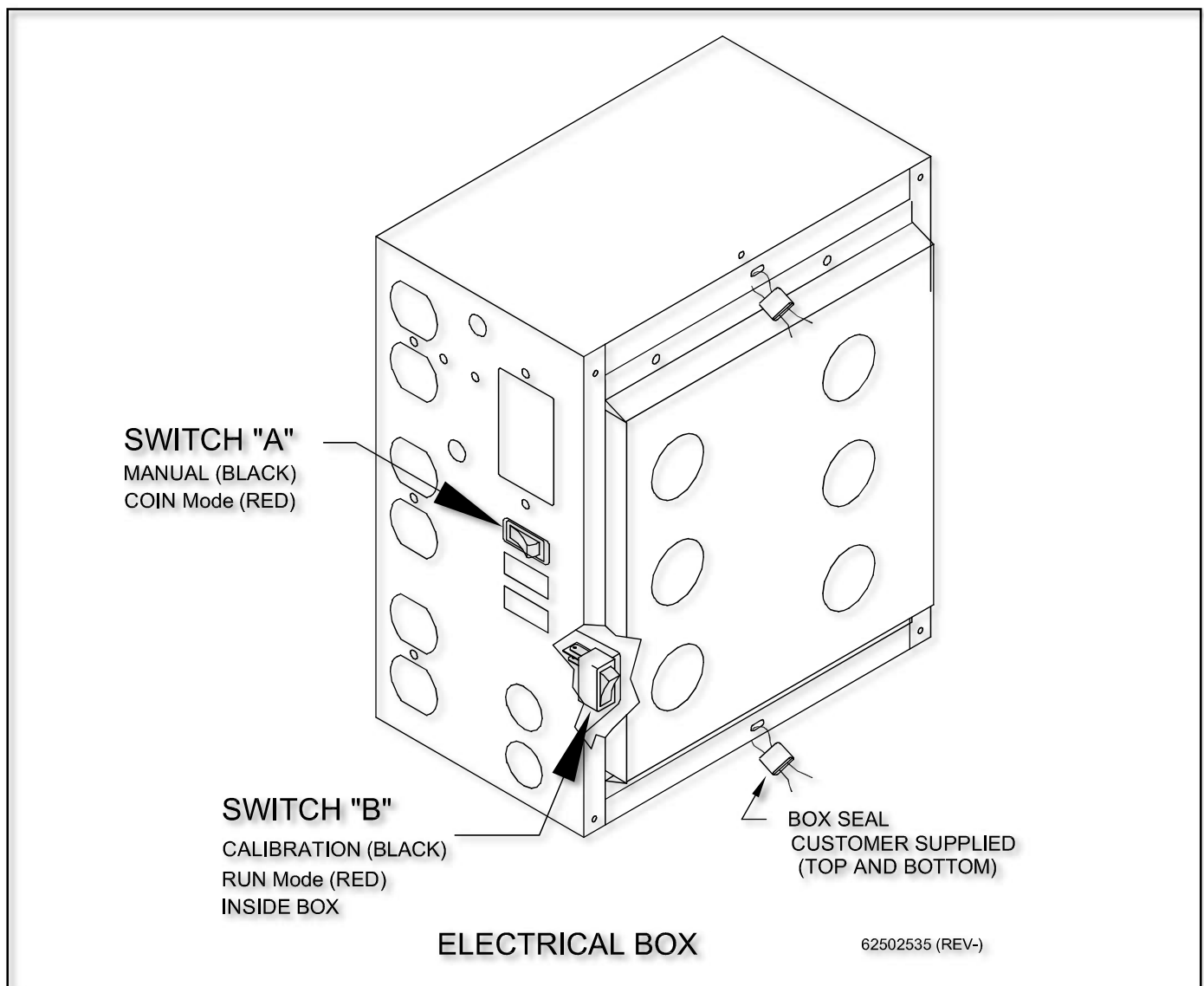


FIGURE 4

CALIBRATION

(Refer to Figure 4)

IMPORTANT: Vending in the “calibration” mode will cause the existing volume calibration of that button to be changed. All button volumes should be verified after returning the internal calibration switch “B” left to the “RUN” position. All buttons are “Hold to Vend” in calibration mode.



WARNING: Turn off electrical power before removing electrical box cover. Replace electrical box cover before restoring electrical power in all steps.

(Refer to Figure 4)

TO CALIBRATE A DESIRED VOLUME:

1. Place switch “A” in the “Manual Vend” position.
2. Place internal switch “B” in “Calibrate” position.
3. Press and hold the red “Pause Vend” button and simultaneously push the desired selection button to reset the respective internal counter. Release both buttons.
4. Position empty container of the correct desired volume under spout.
5. Press and hold individual selection button until container holds the desired volume of water. **(Note: The selection button can be pressed and released as many times as it takes to fill the container, but once a container is over filled, the container must be emptied, and then steps 3, 4 and 5 repeated.)**
6. Repeat steps 3, 4, and 5 for other selections.
7. Return calibration switch “B” to “Run” position.
8. Return switch “A” to “Coin Vend” position.
9. Verify all calibrated volumes by filling a container for each selection button.

TO INCREASE THE VOLUME OF A CALIBRATED SELECTION:

1. Leave partially filled container under spout.
2. Place switch “A” in Manual Vend” position.
3. Place internal switch B” in “Calibrate” position.
4. Press and hold individual selection button until container holds desired amount of water.
5. Return internal calibration slide switch ‘B” to “Run” position.
6. Return switch “A” down to “Coin Vend” position.
7. Verify correct volumes by filling a container for each selection button.

TO DECREASE VOLUME:

Once a container is overfilled, the calibration process must be restarted from the beginning. (See "To calibrate to a desired volume").

**TO RETURN CALIBRATION TO PRESET,
NOMINAL VOLUMES (1, 2, 3 AND 5
GALLONS):**

1. Place switch "A" in "Manual Vend" position.
2. Place internal switch "B" in "Calibrate" position.
3. Press and hold the red "Pause Vend" button and simultaneously push all selection buttons one at a time to reset the respective internal counters. Release "Pause Button" last.
4. Return switch "B" to "Run" position and switch "A" to "Coin Vend".
5. Turn off power to machine.

IMPORTANT: Selection buttons must not be pushed before power is turned off.

6. Return power to unit.
7. Verify all calibrated volumes by filling a container for each selection button.

SELECTION BUTTON TAGS

The Coster 4-select machines are designed to be able to accept standard or custom selection/ price tags. When the machine is new, the customer must remove the existing tags and fill in the desired selling price. Additional sets of tags can be stored in the literature/manual rack located on the front of the electrical box.

Instructions to change or initialize selection button tags:

1. On Window units, the coin mech must be swung aside by unscrewing the thumb screw.
2. Grab hold of the tab sticking out of the back side of the button and remove.
3. Using a permanent type marking pen or device, write or type the selling price on each tag.
4. Insert tags back into selector buttons.
5. Replacement tags are available from Coster. Refer to the safety/decal location section in front of manual for part numbers.

COIN MECHANISM

COIN MECHANISM OPERATING FEATURES

NOTE: The coin control board supports 24 volt standard multi-drop bus (MDB) changers with a six (6) pin connector. Contact Coster Engineering for a correct list of MDB peripherals which have been tested and found to work in conjunction with the Coster 4-Select Electronics Package.

CREDIT ACCUMULATION

Credit acceptance will be disabled when the accumulated credit equals or exceeds the high-est price item. Bill acceptance is enabled when the coinage currently held in the changers coin tubes is greater than the bill to be accepted and the correct change light is off.

EXACT CHANGE

"Please Use Exact Change" is displayed when Coin Changer tubes fall below a minimum level. Bill acceptance is not allowed when "Please Use Exact Change" is displayed.

SERVICE MODE

Various Features and Options are accessed through the Service Mode of the Vending Machine Controller, (VMC). The Service Mode is comprised of three functional areas or "Menus":

- System Errors Menu
- Main Menu
- Help Menu (accessed through Main Menu)

ENTERING THE SERVICE MODE:

1. Vending machine must be in "Coin Mode" with the power on.
2. Press the round yellow push button on the VMC (See figure 5). An audible "beep" signals the service mode has been accessed. Either the System Errors Menu (If system errors are present) or the Main Menu (if no errors are present) will be displayed.

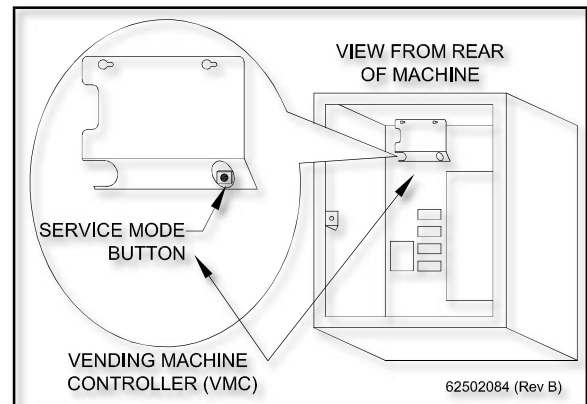


FIGURE 5

SERVICE MODE NAVIGATION

The front push buttons are used to navigate (or scroll) through the service mode.

PB-1 (Selection Push Button #1) = KEY 1 = "Scroll UP" in screen menu

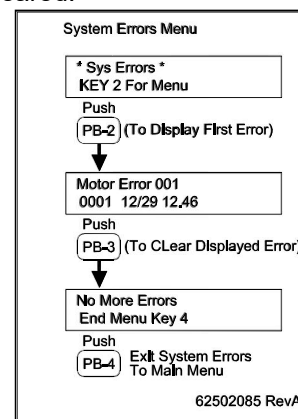
PB-2 (Selection Push Button #2) = KEY 2 = "Scroll DOWN" in screen menu

PB-3 (Selection Push Button #3) = KEY 3 = "Execute" Function

PB-4 (Selection Push Button #4) = KEY 4 = "Cancel" / exit service mode

SYSTEM ERRORS MENU:

1. System errors menu is displayed only if system errors are present.
2. Displayed errors will list error type, and date and time the error occurred.
3. Record all displayed errors for troubleshooting reference.
4. When error is displayed, push PB-3 to clear the displayed error. Continue pushing PB-3 until all errors are cleared.



1. Enter The Service Mode (1 Audible Beep).
2. Press PB-2 Eighteen Times (18 Audible Beeps).
3. Press PB-3 One Time (1 Audible Beep).
4. Press PB-1 To Increase Contrast (Lighter Display) or PB-2 to Decrease Contrast (Darker Display) as required.

1. **Note:** The VMC has a battery backup and retains the correct time when power is removed. If correct time is not retained, replace battery.
2. **Important:** Correct time setting is required for accurate DEX function reports.

ACCOUNTABILITY

1. Enter Service Mode.
2. Scroll through Main Menu to desired accounting parameter
 - a. Historical Vends: Total Number of paid vends.
 - b. Historical Value: Total Value of paid vends.
 - c. Resettable Vends: Number of paid vends since "Clear Audit" was last used.
 - d. Resettable Value: Value of paid vends since "Clear Audit" was last used.
 - e. Clear Audit: Clears Resettable Vends and Resettable Value simultaneously
3. Push "PB-3".
4. VCM will;
 - a. Display Vend or Value Count, or
 - b. Clear Resettable Vends and Resettable Value.

VEND OPTIONS

FORCE VEND OPTION

Default Setting: Off

When "Off", (disabled) this option allows the customer to return coins using the coin return button without first attempting a vend selection.

Note: When the "force vend" option is "Off", (disabled) it will allow your machine to be used as a bill changer (i.e. customer inserts bills into acceptor, presses the "coin return button", and gets coins in return with out making a selection.) This may cause your coin tubes to be prematurely depleted.

When "Force Vend" is "On" (enabled) the customer must attempt a selection before coins will be returned. Force vend does not apply to credit from card reader.

MULTI-VEND OPTION

Default Setting: Off

Prevents automatic credit return following a successful vend. Remaining credit is shown on the display, and the customer can add credit, make a selection, or return credit using Coin Return button.

Note: Credit will not be returned until coin return button is pressed.

FREE VEND OPTION

Default Setting: Off

Free Vend Option Default Setting: Off When "Free Vend" is "On", (enabled) all selection buttons will vend without the customer establishing credit. "Free Make Selection" will be displayed, and all credit acceptance will be disabled.

Note: Setting an individual selection button price to "0" (Zero), will enable that selection button to vend without establishing credit (Free).

CHANGE BILL OPTION

Default Setting: Off

When "Change Bill" is "On", Bill credit will be returned as coins.

Note: This allows the unit to be used as a Bill Changer, which may deplete coin tube inventory below minimum levels, causing "Please Use Exact Change" to be displayed

DEX SUPPORT OPTION

Default Setting: V5 Or V6

This option not used at this time, and has no effect on VMC operation.

12/24 FORMAT

Default Setting: 12

This option changes the Clock Setting between 12 and 24 hour formats.

DAYLIGHT SAVINGS TIME

Default Setting: Off

When "Daylight Savings Time" is "On", automatic USA Daylight Savings Time correction is enabled.

Vending Machine Controller Error Codes

ERROR NAME	ORIGIN	RESOLUTION
BV Check Sum	Bill Validator: Internal problem has occurred in the firmware.	Repair or replace bill validator.
BV Communication	Bill Validator, VMC, or cabling: communications between VMC and validator stopped unexpectedly.	Ensure cabling between VMC and validator is secure, with no broken wires. In unusual cases, bill validator or VMC may need to be replaced.
BV Jammed Bill	Bill Validator: A bill has jammed in the acceptance path.	Remove the jammed bill.
BV Motor	Bill Validator: One of the motors has failed.	Repair or replace bill validator.
BV Open Box	Bill Validator: Cash box was removed while the machine door was closed.	Ensure that the cash box is firmly seated on the validator. Check that the main door switch is connected properly to the VMC. Ensure that the machine door switch is not stuck closed.
BV Sensor	Bill Validator: One of the sensors has failed.	Repair or replace bill validator.
BV Stalker Full	Bill Validator: Cash box is full.	Empty the cash box.
CC Check Sum	Coin Mech: Internal problem has occurred in the firmware.	Repair or replace coin mech.
CC Communication	Coin Mech, VMC, or cabling: Communications between VMC and coin mech stopped unexpectedly. Opening coin cassette will also set error.	Ensure cabling between VMC and coin mech is secure, with no broken wires. In unusual cases, coin mech or VMC may need to be replaced.
CC Jammed Tube	Coin Mech: A payout tube has jammed.	Check for coin jams. On mechs with removable cassettes, ensure that the cassette is seated properly.
CC Sensor	Coin Mech: One of the payout tube sensors is behaving abnormally.	Repair or replace coin mech.
CC Unplugged	Coin Mech: The acceptor module seems to be missing.	Repair or replace coin mech.
CR Card Error	Card Reader: The payment media is defective.	This is an informational message; the problem may be limited to one particular card.
CR Communication	Card Reader, VMC, or cabling: Communications between VMC and card reader stopped unexpectedly.	Ensure cabling between VMC and card reader is secure, with no broken wires. In unusual cases, card reader or VMC may need to be replaced.
CR Invalid Card	Card Reader: Payment media problem.	This is an informational message; the problem may be limited to one particular card.
CR Jammed Card	Card Reader: Payment media has jammed inside the reader.	Clear the jam.
CR Service Soon	Card Reader: Reader device requires maintenance.	Perform maintenance as recommended by reader's manufacturer.
CR Tamper	Card Reader: A security breach has been detected.	This is an informational message.
Motor Error (s)	VMC: A selection button problem detected, disabling button. Defective or miss adjusted input pressure switch. PLC inside electrical box maybe defective	Clear (Reset) motor error (Use PB-3 in Service Mode) Use "Test Vend" to verify and test operation.
Stuck Key	VMC: A selection button or keypad key has been depressed for an abnormally long time.	Repair or replace selection button or machine keypad.

MAINTENANCE

General maintenance depends upon the feed water quality and use of the machine. To build a proper maintenance schedule, a log sheet, as shown in the rear of this manual, should be prepared for each machine. The log sheet will contain information about feedwater and drinking water. Periodic analysis of water quality and system parameters will help track the performance of the machine and indicate if any replacement parts are needed. Additionally, the log sheet will track replacement dates of any components, system repairs, or comments concerning operation.

The following schedule is a “Rule-of-Thumb” guide to performing general maintenance and service on the water vending machines. For additional maintenance information addressed in the schedule below, please refer to the appropriate sections in the manual.

TESTING GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DUPLEX RECEPTACLE AND POWER CORD

Push in test button reset button will pop out and machine power is shut OFF. Push reset button firmly in to latch and reset power.

If GFCI fails to trip out or reset properly, **DO Not USE**. Call a qualified electrician.

MAINTENANCE SCHEDULE

Daily

- Clean and disinfect the customer contact surfaces.
- Clean exterior of cabinet.
- Check the machine for good working order.

Weekly Or Bimonthly

- Measure and record the TDS of the feed water. (See Measuring TDS Section).
- Check machine for leaks or damage.

- Test ground fault interrupter (GFCI) duplex receptacle.
- Check carbon filter. Replace if necessary.

3 Months

- Coliform test.

NOTE: Must conform to all state and local regulations.

6 Months

- Test UV bulb intensity or replace bulb.
- Check Quartz Sleeve and clean if necessary.

Yearly

- Sterilization as required.
- Replace UV bulb
- Clean UV Quartz Sleeve

NOTE: Must conform to all state and local regulations.



CAUTION: Your actual maintenance schedule may vary according to water quality, machine usage, and must conform to all state and local requirements. Please adjust the maintenance schedule to best suit your needs. However, for any filter replacement please do not exceed the maximum period of time or volume of water recommended for their respective replacement.

FILTER MAINTENANCE

The following points should be observed when changing filters.

1. Filter housings are to be screwed on only hand tight.
2. Close isolation valve.
3. Relieve line pressure before attempting to unscrew filter housing by vending water.

SOLENOID VALVE

4. Unscrew filter cartridge housing (counter-clockwise) by hand.
5. Discard old filter.
6. Clean filter housing and rinse with clean water.

NOTE: If the interior of the filter housing is dirty, a cleaning and disinfection will be required. (See Sterilization Section).

7. Insert new cartridge. To prevent contamination, do not touch the new cartridge or the inside of the housing with unclean hands. Make sure cartridge filter is lined up on top and bottom posts before screwing cartridge housing tight.

FILTER CHANGE SCHEDULE

	<u>Check/Test</u>	<u>Replacement*</u>	<u>Max Time*</u>
Carbon	1-2 weeks	As required/Approx. 3,000 Gallons	1 month

8. Replace housing. Check to make sure o-ring is clean, properly seated and lubricated before assembling. Tighten hand tight only, check for leaks.
9. Open isolation valve. Allow water to run a few seconds to clear air from the system.

NOTE: Use only food grade grease for lubrication.

***NOTE: Filter replacement schedule listed below is maximum amount of time period and volume. Actual replacement must be tailored to specific feed water quality.**

INLET STRAINER AND DUAL CHECK VALVES

Inspect annually or more frequently if required by local, state, or federal codes or other conditions.

Clean inlet strainer by back flushing with clean potable water. Dual check back flow preventers must maintain a minimum of 28" (1.0 psi) water column.

1. The solenoid valve contains no field replaceable internal components.
2. The solenoid valve inlet screen protects it from particles. This screen can be removed and cleaned by flushing with clean water.
3. The solenoid valve will be inoperative if the coil is defective or if no power is reaching the valve.
4. Any dripping fittings should be immediately tightened to avoid a potentially serious leak.

MEASURING TDS

NOTE: You will need a TDS meter to complete this test. They are available commercially or from Coster Engineering.

The TDS (total dissolved solids) of your water should be measured periodically to ensure its quality and recorded on the log sheet located in the back of this manual.

The TDS of your water should not exceed 500 ppm.

When taking a TDS reading, follow the instructions included with your meter.

UV LIGHT MAINTENANCE

WARNING: Ultraviolet light given off by the UV lamp can cause serious burns to unprotected eyes. Do not operate the UV Lamp when it is removed from the UV chamber. Unintended use or damage of the system may result in the exposure of dangerous UV radiation. UV radiation may, even in little doses, cause harm to the eyes and skin.



WARNING: When testing UV intensity, always wear UV safety goggles (available from Coster Engineering). Exposure may result in irreversible eye damage.



WARNING: Cover all exposed skin surfaces or skin damage may result. Perform test during closed or quiet times. Keep all unprotected persons away from direct view of the UV lamp.



IMPORTANT: A dirty quartz sleeve will reduce UV light transmission to the water and reduce disinfection performance of the UV light. When feeding a UV light with water containing higher mineral content than RO water, such as alkaline water, the Quartz Sleeve coating buildup is accelerated and requires more frequent cleaning. Initially, check sleeve monthly or bimonthly and adjust cleaning procedure to suit the type of water that you are vending. Refer to vending machine operators manual and UV light manufacturer operators manual quartz sleeve cleaning instructions.

TESTING LAMP INTENSITY/REPLACEMENT

Option 1. Replace UV Lamp every 6 months of use.

Option 2. Test at 6 months and replace every 12 months of use. A minimum intensity level of 16,000 UWs/cm² at 254 nm wave length shall be maintained for the life of the lamp.

Readings are obtained with a commercially available portable UV intensity meter. Consult Coster Engineering for recommended meter type. Follow all instructions and safety procedures included with meter.

An LED monitor located on the side of the UV assembly will indicate whether the UV bulb is lit. If this monitor light is not on, it will prevent the machine from dispensing water.

If the LED monitor goes out, shut off water supply to sterilizer immediately and disconnect power supply. Replace UV lamp with a new one by following installation directions. Regularly inspect the unit to ensure that the monitor light is still glowing.

QUARTZ JACKET CLEANING/REPLACEMENT

1. Disconnect power to vending machine.
2. Shut off the water supply.
3. Remove UV chamber from mounting clamps.
4. Disconnect the lamp connector at the end of the UV chamber and remove lamp from chamber.
5. Remove Quartz Sleeve as follows:
 - a. Unscrew retaining nuts, remove floating spring, and carefully slide sleeve out of UV chamber.
 - b. Clean sleeve with vinegar or some other mild acidic solution, then rinse with water.
 - c. Clean and lubricate O-rings with food grade lubricant or replace with new O-rings.
6. Reinstall Quartz Sleeve in UV chamber as follows. **NOTE:** Be sure no marks or fingerprints are on sleeve or lamp.
 - a. Position sleeve in chamber allowing sleeve to protrude an equal distance at both ends of chamber.
 - b. Slide O-rings onto each end of sleeve.
 - c. Reinstall retaining nuts and floating spring.



IMPORTANT: Glass Quartz Sleeve is fragile, hand tighten nuts only.

7. Install UV lamp, lamp connector, and secure UV chamber in mounting clamps.
8. Test the unit by plugging it into the electrical outlet. The indicator light on the side of the housing should glow steadily within a few seconds. If the light does not come on or continue to glow steadily, check lamp electrical connection. Replace lamp if necessary.

9. Turn on water supply and check all connections for leaks. Allow the water to run for a few minutes to clear out any air or dust that may be in the cell.

CLEANING - STERILIZATION

CUSTOMER CONTACT SURFACES

Cleaning and disinfecting of the customer contact surfaces must conform to state and local codes. However, it is recommended that daily cleaning and disinfecting of the customer contact surfaces be performed.

The customer contact surfaces of the machine are the dispenser housing and nozzle. The following steps outline their cleaning and disinfection procedure.

1. Wash off any dirt or debris in or around the dispenser housing and dispensing nozzle with a mild detergent solution. Rinse with clean water.
2. Spray a chlorine based disinfecting solution at 100 ppm onto the dispenser housing and nozzle. Allow to air dry.

NOTE: Prepare 100 ppm chlorine based cleaning solution as follows:

- Mix one (1) Tablespoon standard household bleach containing 5.25% sodium hypochlorite with one (1) gallon clean R.O. water (or other low TDS water).

NOTE: Stronger more concentrated solutions of chlorine may cause rusting and damage to stainless steel and other components.

PLUMBING

This procedure should be used if a bacterial contamination is suspected in the machine. Bacteria may grow in the machine if it is taken out of service and stored. This growth can sometimes occur in a one to two week period depending upon the conditions. No matter the cause, if you suspect bacterial contamination of a vending machine, this contamination should be eliminated through the following sanitization procedure.

1. The following materials will be needed for the disinfection of the plumbing system.
 - Two (2) 5 gallon pails.
 - 6 to 9 pints of 3% hydrogen peroxide.
2. Obtain potable drinking water in two (2) five gallon pails.
3. Add 3 pints of a 3% hydrogen peroxide solution to the water in each pail.
4. Discard all filters.
5. Disconnect water inlet on rear of unit.
6. Fill all plumbing, filter housings and UV light with disinfection solution by use of gravity or a portable feed pump.
7. Allow the sterilization solution to set for 3 to 12 hours. The longer the time, the greater the killing effectiveness of the sterilization solution.
8. Flush all sterilization solution from machine by reconnecting inlet and holding vend button.



CAUTION: Run sufficient water to ensure total flushing of unit.

9. Install new filters.

TROUBLE SHOOTING GUIDE

ELECTRICAL CONTROL BOX SIDE PANEL

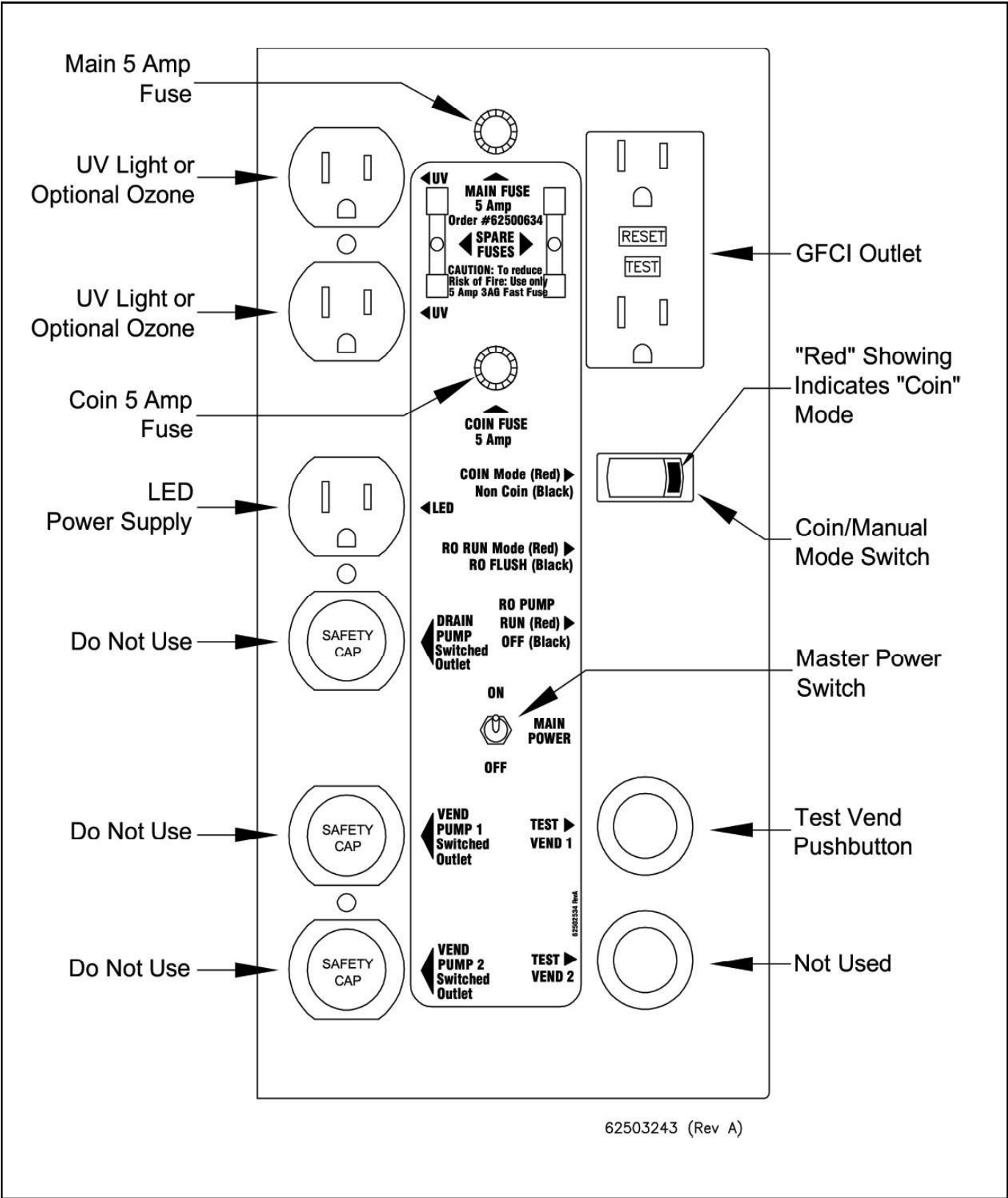


FIGURE 6

TROUBLE SHOOTING GUIDE **PLC INDICATOR LED'S**

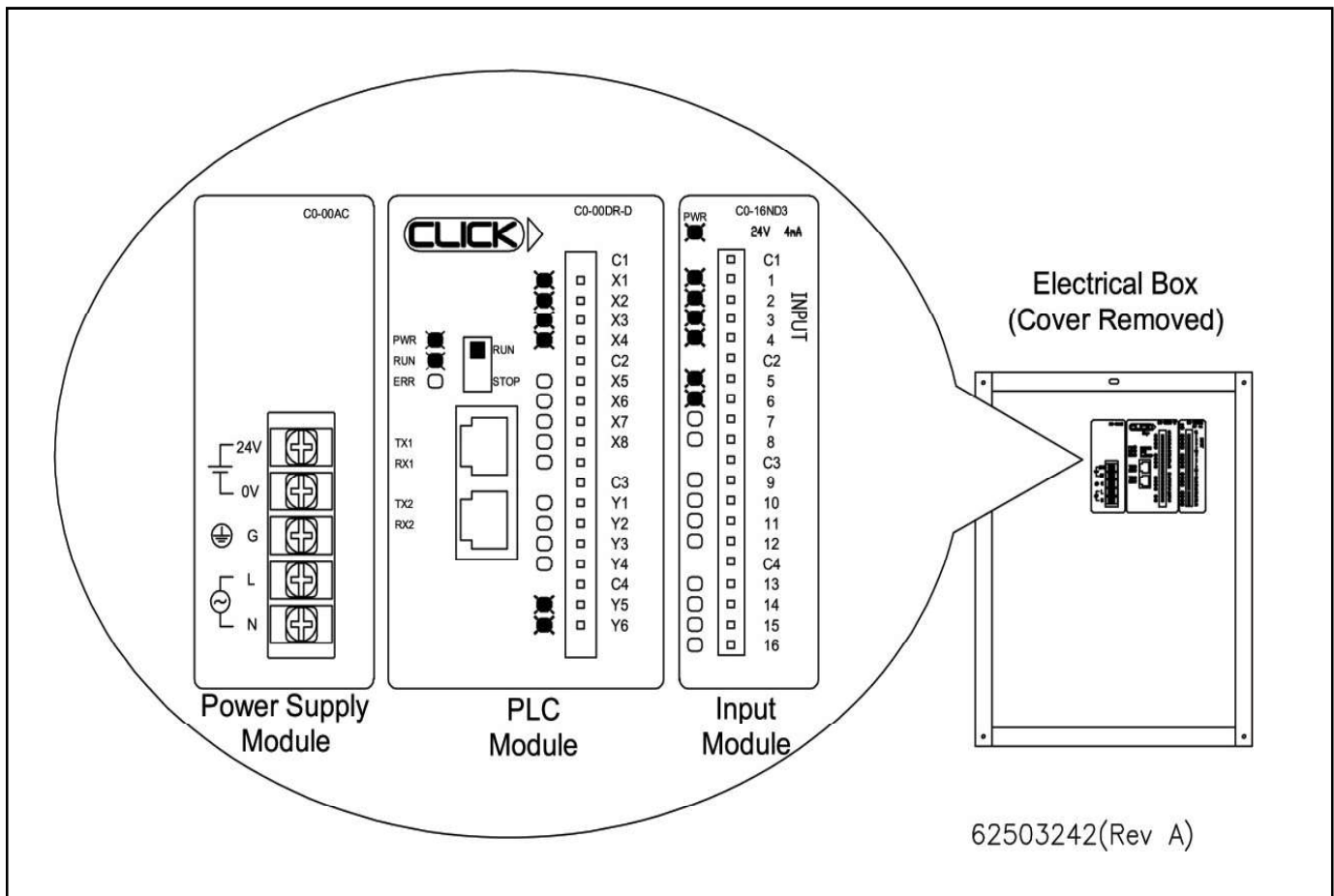


FIGURE 7

PLC LED Status

Note: Normal status of LED's when machine is, NOT vending, and in "Run" mode.

PLC Module

PWR "On"= Power to PLC Module
Run "On" PLC In "Run Mode"
ERR "Off"= No Faults In PLC

X1 "On" = PB-1 Selection Button
X2 "On" = PB-2 Selection Button
X3 "On" = PB-3 Selection Button
X4 "On" = PB-4 Selection Button

X5 "Off" = Not Used
X6 "Off" = Not Used
X7 "Off" = Not Used
X8 "Off" = Not Used

Y1 "Off" = S-2 Solenoid Valve (Left Dispenser)
Y2 "Off" = Not Used
Y3 "Off" = L-11 Sold Out Light (Left Dispenser)
Y4 "Off" = Not Used

Y5 "On" = Coin Mech Reset PB-1 Thru 4 (Coin Mode)
Y6 "Off" = Not Used

Input Module

PWR "On" = Power To Input Module

1 "On" = Coin Mode (Off = Manual Mode)
2 "On" = Run Mode (Off = Calibration Mode)
3 "On" = Leak Level Switch
4 "On" = UV #1 Lamp Out (Left Dispenser)

5 "Off" = Not Used
6 "On" = PS-3 Feed Pressure Switch (Left Dispenser)
7 "Off" = Not Used
8 "Off" = Coin Vend Authorization

9 "On or Off" = Water Meter Sensor #1 (Left Dispenser)
10 "Off" = Not Used
11 "Off" = PB-13 Pause Button (Left Dispenser)
12 "Off" = Not Used

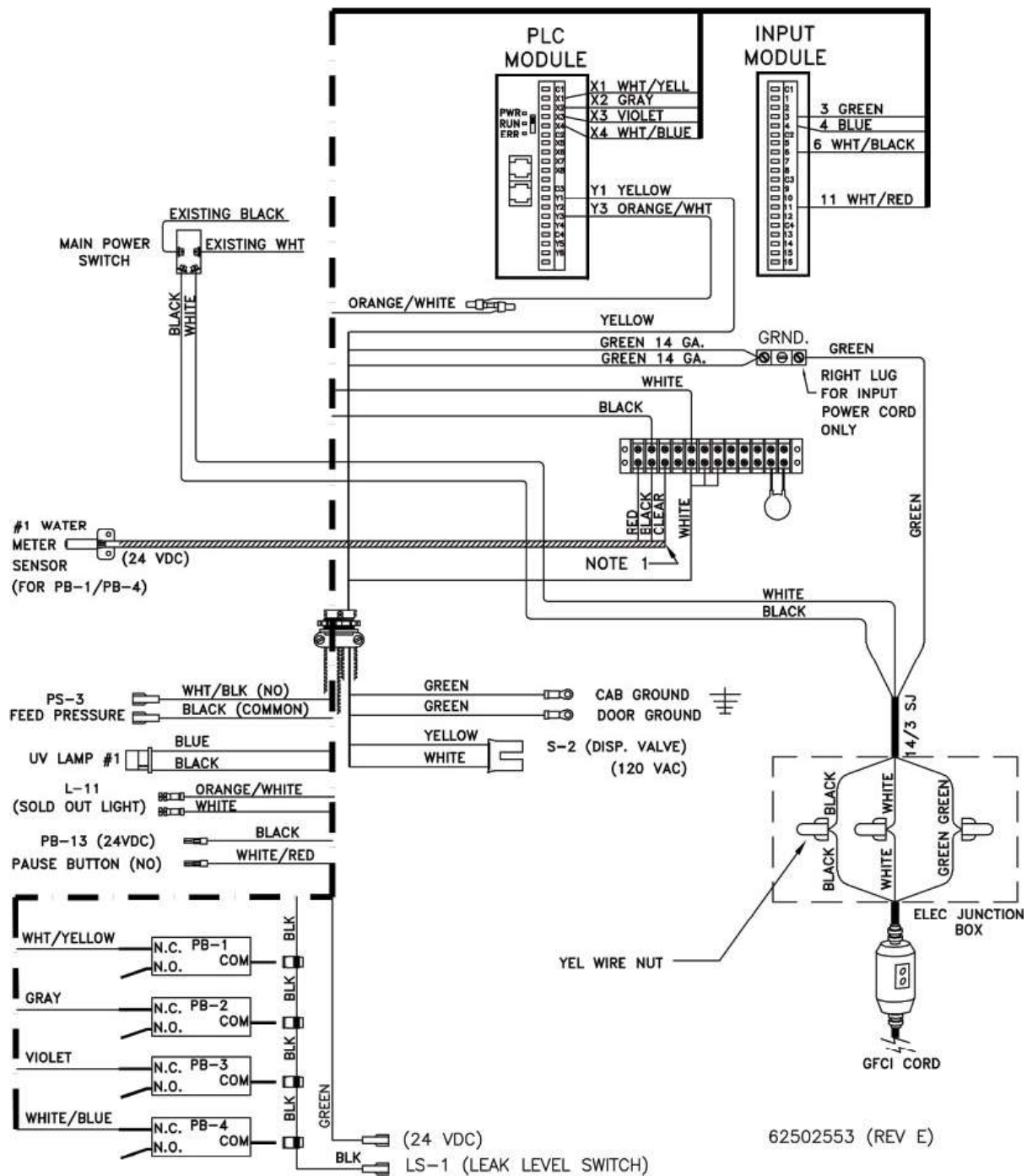
13 "Off" = Not Used
14 "Off" = Test Vend #1 (Left Dispenser)
15 "Off" = Not Used
16 "Off" = Not Used

PLC INDICATOR LIGHTS
(Refer to Figure 7)

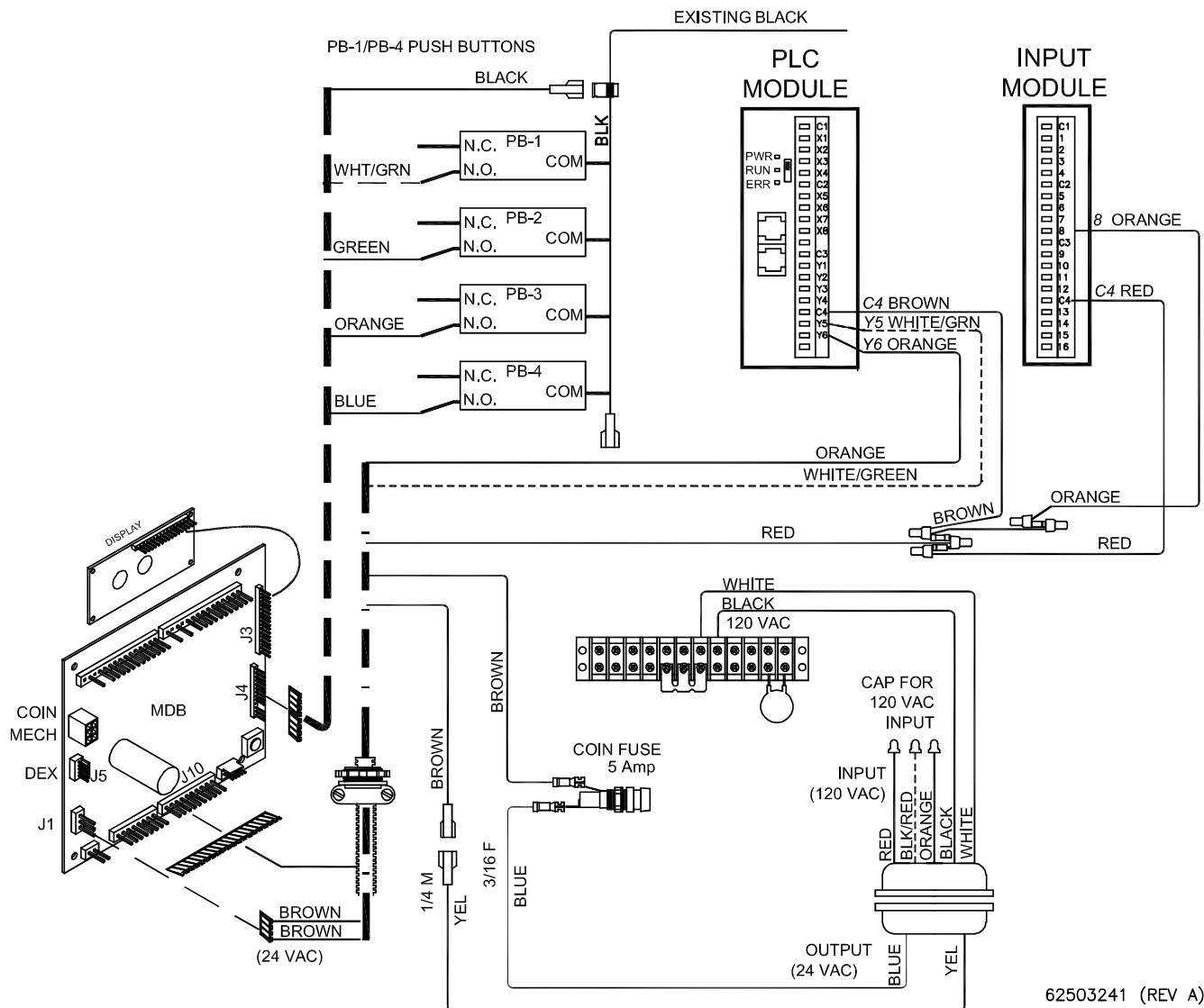
DESCRIPTION	"ON" INDICATES	"OFF INDICATES	PROBLEM CORRECTION
PLC Module "PWR"	No problem Power on	Problem Unit unplugged Main 5 amp Fuse blown PLC 1 amp Fuse blown Tripped Elec Box GFCI Tripped Power Cord GFCI	---- Plug in Replace fuses, check for loose wires. Reset, check for ground faults and loose wires.
PLC Module "RUN"	No problem PLC is in "RUN" Mode	Problem Faulty PLC	---- Cycle power to machine Replace PLC
PLC Module "ERR"	Problem Faulty PLC	No problem As long as PLC "RUN" LED is "ON"	Cycle power to machine Replace PLC
PLC Module "Y3"	Sold Out Condition for left dispenser. Sold Out Light (L-11), should be on	No Problem	Check UV #1, feed water pressure, supply leak level switch
Input Module "3"	No problem Sump dry	Problem Machine flooded Bad level switch	Check for leaks, fix, remove water. Replace leak level switch
Input Module "4"	No problem UV #1 Working	Problem UV #1 not working	Check UV #1 cord/plug connections, replace bulb, ballast if needed.
Input Module "6"	No problem Sufficient water supply pressure to left dispenser	Problem Insufficient water supply pressure Bad pressure switch (PS-3)	Open supply valve, fix supply line restriction, repair or replace supply pump Replace PS-3 pressure switch

PROBLEM	CAUSE	CORRECTION
1. Machine will not vend	Check PLC indicator LED's (previous page). See #6 (this page)	---- ----
2. Slow vend time	Plugged filters Solenoid valve inlet screen plugged	Replace Remove screen and clean
3. Dispenser nozzle leak or drip	Dirt or worn seal in solenoid valve	Clean or replace solenoid valve
4. Long vends (overfilling)	Defective sensor in water meter Check for rapid, steady. Continual "on-off" signal to PLC while vending Input Module #9 = left dispenser Input Module #10 = right dispenser	Replace or adjust sensor if no "on-off" is detected
5. Short vends (underfilling)	Incorrect Calibration	See Calibration Section
6. Coin mechanism won't accept money	Check PLC indicator LED's (previous page) See "Service Mode, Error Codes" in Coin Mechanism Section	---- ----
7. "Make another selection" scrolls on LCD readout	See #1 (this page)	----
8. "Sold Out" scrolls on readout	See #1 (this page)	----
9. Bill acceptor (if equipped) won't take paper money	Not enough coins in coin changer tubes. See "Service Mode, Error Codes" in Coin Mechanism Section	Fill coin tubes to at least half way mark
10. Vending machine controller will not enter service mode	Jammed selection button Defective selection button switch	Repair jammed selection button and/or replace selection button switch
11. "System Errors" Displays when entering "Service Mode" yet unable to navigate "Menu"	Jammed selection button Defective selection button switch	Repair jammed selection button and/or replace selection button switch
12. Main 5 amp fuse blows as soon as power is applied to unit	Shorted transient voltage suppressor, located in electrical box (refer to "Wiring Diagram, Electrical Box" for location)	Replace transient voltage suppressor and then replace fuse (refer to "Wiring Diagram, Electrical Box" for location)

WIRING DIAGRAM MAIN HARNESS



WIRING DIAGRAM COIN MECHANISM HARNESS



SERVICE PARTS

It is the policy of Coster Engineering to constantly improve its products whenever it is practical to do so.

Coster Engineering must therefore reserve the right to redesign or change its equipment or component parts thereof without incurring the obligation to install or furnish such changes on equipment previously delivered.

INSTRUCTIONS FOR ORDERING PARTS

1. The reference numbers in the illustrations correspond to the numbers shown in the "Reference Number" column in the parts listing. The quantity in the "number required" column is the number of parts used in the accompanying illustration. The term "A/R" for number required indicates "as required" where the quantity may vary. Order all parts by their part number and description.
2. Always mention the identification number of the code and serial numbers found on the name plate of the unit on which the part is to be used. Much delay and confusion can be avoided when correct numbers are specified on parts order and correspondence.
3. Owner, order all parts through your local dealer.
4. Dealers must indicate how to ship; whether by truck, rail freight, express, or parcel post.
5. Collect phone calls are not accepted.
6. Address all orders for parts as follows:

INSTRUCTIONS FOR RETURNING PARTS FOR ADJUSTMENT

1. To assure prompt handling of claims, your dealers should follow standard claim and forward claim procedures within thirty (30) days, of any part failure or malfunction believed to be a warranty claim.
2. No returned part will be accepted unless they are transportation prepaid and accompanied by the packing list, copy of the returned goods authorization form, or the packing list copy of the warranty claim form.
3. Parts returned should have a tag attached with sender's name and address clearly printed.

DISCLAIMER

This supplement contains additional information that is specific to units. It is used in conjunction with the basic machine operator's manual which includes safety and operational information.

Retain all manuals for future reference. Read all and understand all manuals in their entirety before operation or service.

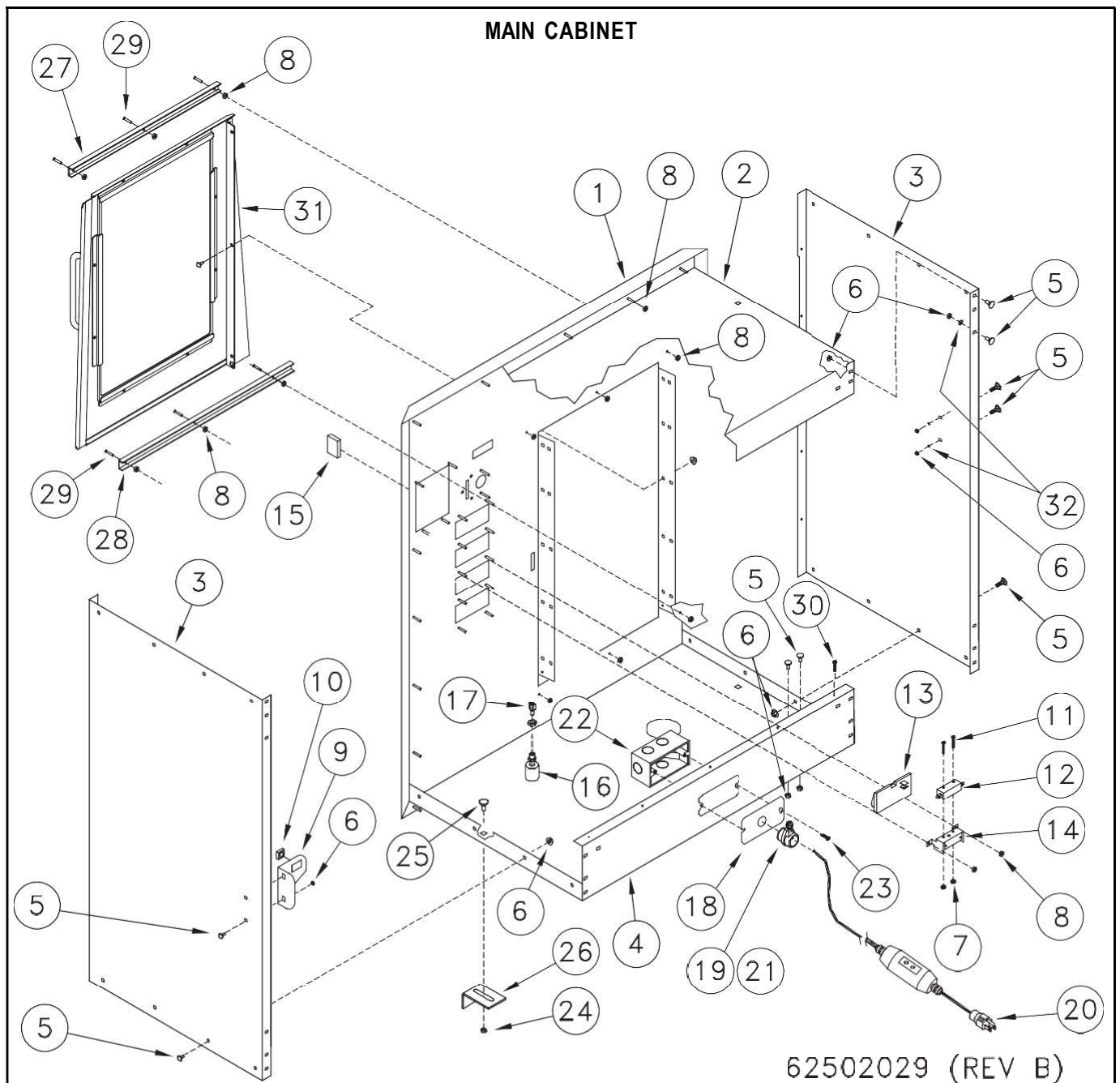
The information contained in this manual is subject to change without notice.

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COSTER WATER

217 E PLUM STREET

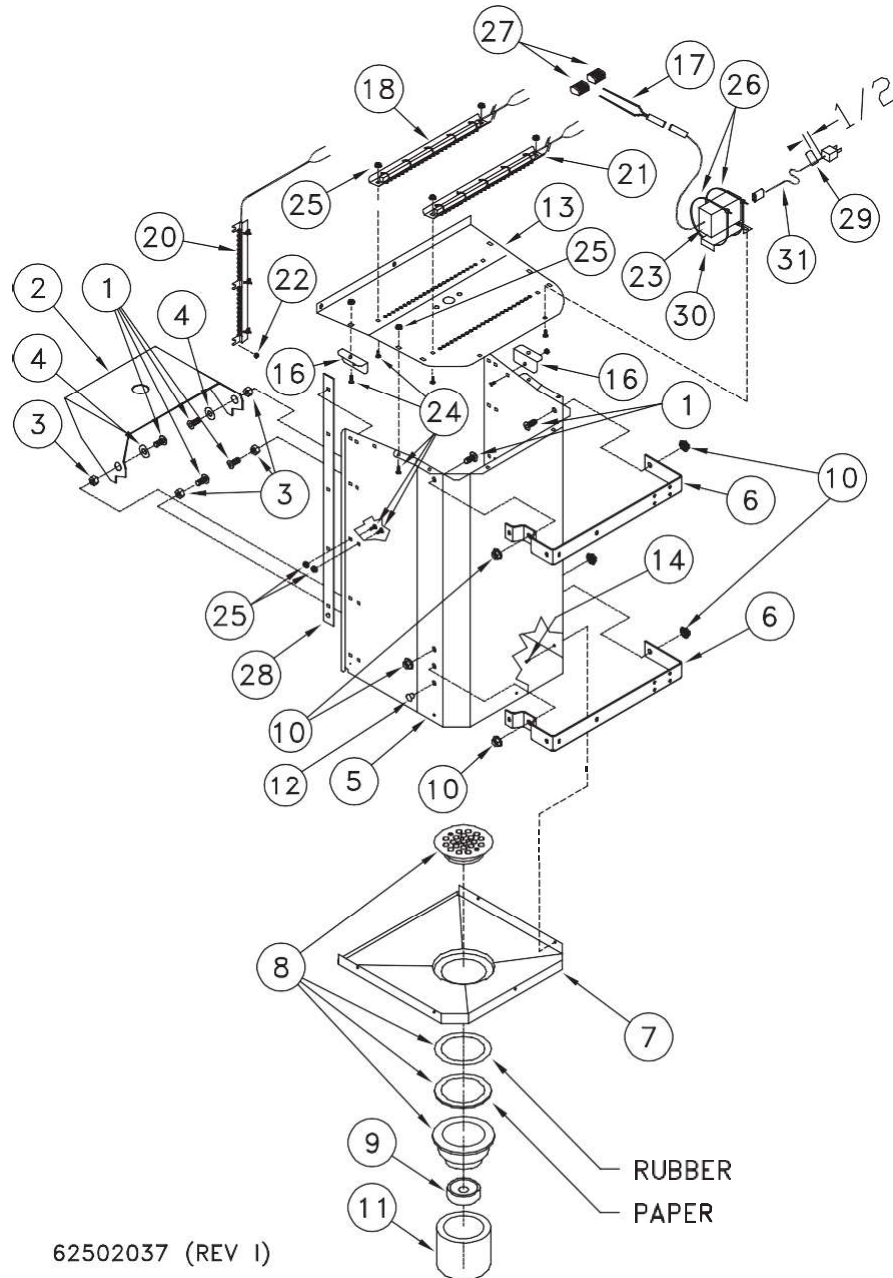
MANKATO, MN 56001



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502030	Cab, Face 200 Single	1	17	62500691	Sold. Term 1/4M 22-18 Full Ins	2
2	62502032	Top, Single 200	1	18	62502035	Cover, Electrical Cord	1
3	62502031	Panel Side	2	19	62500498	Strain Relief	1
4	62502033	Panel, Bottom Single 200	1	20	62502175	GFCI Corded Plug, 15A 110V Inline	1
5	950-003-071	Carriage Bolt, #10-24-1/2 SS	34	21	625-004-092	Wire Nut Yellow (Not Shown)	3
6	951-002-012	Hex Nut #10-24 Whiz Lock	34	22	62502036	Elec Box 2 1/8 x 4 x 1 7/8	1
7	951-001-001	Nut-Hex #6-32	8	23	950-005-014	Self Tapping Screw #6-32 x 1	2
8	951-001-012	Nut - Hex #8-32	42	24	951-002-002	Flanged Head Whiz Lock Nut 5/16-18	4
9	62502034	Bracket, Latch, Rear Door	1	25	950-003-002	Carriage Bolt 5/16-18 x 1/2 G5 SS	4
10	625-001-075	Vending Part, Nut 1/2-13	1	26	625-901-060	Bracket Cab Mount	4
11	700-10904	Machine Screw #6-32 x 1 Slotted Pan Head	8	27	62502049	Channel, Top	1
12*	62500615	Switch, SPST, Cherry Micro	4	28	62502050	Channel, Bottom	1
13*	62500617	Switch, Rect. Push Button	4	29	625-005-182	Stud, #8-32 x 3/4 SS	6
14	62500618	Bracket, Rect. Button Mount	5	30	392-010-028	Self Tapping Screw 8-18 x 1/2	1
15	62500753	Fastener, Magnetic Catch, Snap In	1	31	62502041	Door Assembly	1
16	625-001-325	Level Switch, N/C Float & Stem	1	32	952-004-068	Washer, #10 SS .2 x .44 x .05	6

* Recommended Spare Parts ** Additional Recommended Spare Parts

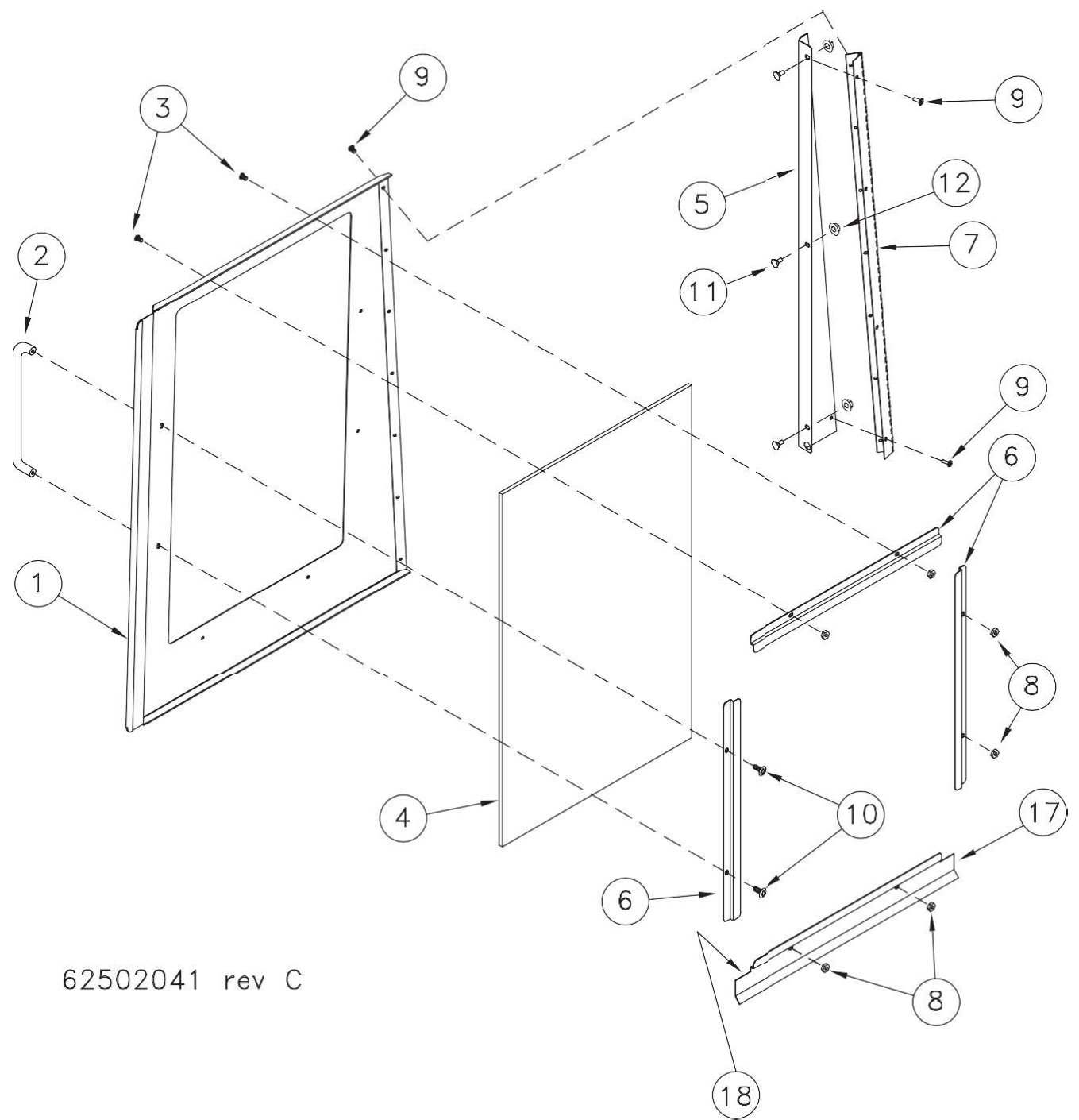
DISPENSER HOUSING



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	950-001-063	Socket Button Head Screw 3/8-16 x 3/4 SS	6	17	62502151	Harness, LED Power Supply	1
2	625-900-303	Shelf, Dispenser	1	18	62502152	Sec, LED Disp Light, White	1
3	061910	Hex Nut 3/8-16 SS	4	19	625-001-469	Tywrap, plastic	6
4	061916	3/8 Flat Washer SS	2	20	62502153	Sec, LED Selection Button Lights	1
5	62502038	Housing Flange Dispenser	1	21	62502154	Sec, LED Disp Light, Blue	1
6	625-900-300	Bracket, UV Light	2	22	951-001-012	Hex Nut #8-32	3
7	62500743	Drain Pan, Flare Side	1	23	62502950	Power Supply, LED Lights	1
8	625-001-741	Drain PVC Shower Stall	1	24	950-003-071	Carriage Bolt, #10-24-1/2 SS	29
9	62500770	FTG, RB 2" Slip x 1" Th	1	25	951-002-012	Hex Nut #10-24 Whiz Lock	29
10	951-002-003	Whiz Lock Nut 3/8-16	6	26	367-001-011	Cable Tie, 14"	2
11	625-901-062	Seal Drain	1	27	62502986	Connector, Lever Nut	2
12	62500922	Plug, 3/8 Locking Hole, Black Plastic	2	28	62502752	Bracket, Splash Guard	1
13	62502039	Top Dispenser Flange	1	29	62502931	Label, LED Cord	1
14	954-002-010	Rivet-Pop 1/8 x 1/8 SS	5	30	62502951	Bracket, Power Supply	1
15	N/A	N/A	N/A	31	62502949	Power Cord 6 Ft.	1
16	62502062	Bracket, Housing	2				

* Recommended Spare Parts ** Additional Recommended Spare Parts

FRONT DOOR

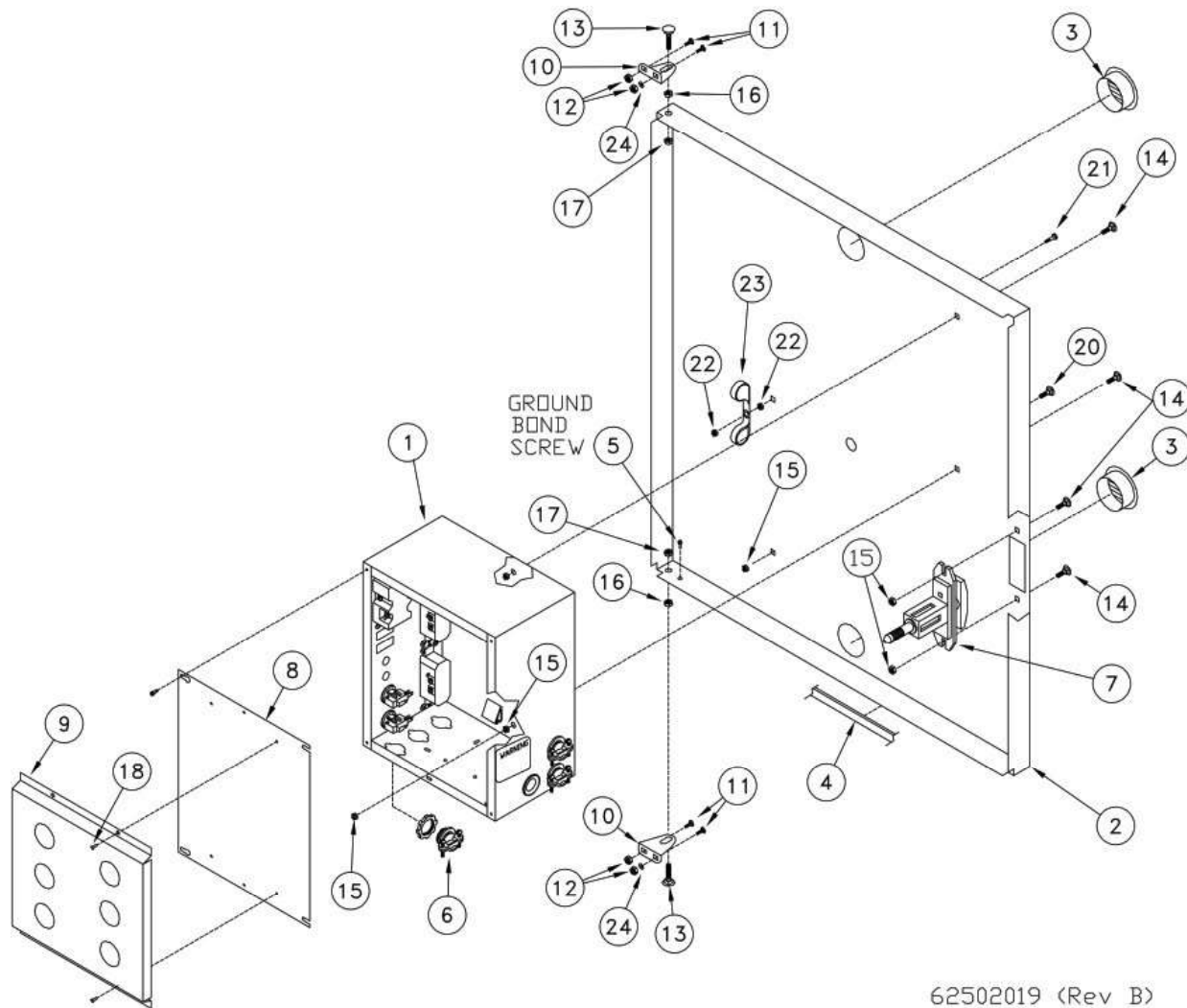


62502041 rev C

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502042	Door Front LH	1	10	950-011-056	Machine Screw #8-32 x 1/2 Round Head	2
2	62502043	Handle, Round Door	1	11	950-003-071	Carriage Bolt 10-24 SS	3
3	950-011-062	Tamper Resistant Screw #6-32 x 1/4	6	12	951-002-012	Hex Nut 10-24 Whiz Lock	3
4	62501928	Panel, Clear Acrylic Door	1	13	N/A	N/A	N/A
5	62502045	Bracket, Hinge LH	1	14	N/A	N/A	N/A
6	62502046	Bracket, Retainer	3	15	N/A	N/A	N/A
7	62502047	Hinge, Door	1	16	N/A	N/A	N/A
8	951-003-017	Lock Nut #6-32	6	17	62502751	Bracket, Splash Guard	1
9	954-002-010	Rivet-Pop 1/8 x 1/8 Stain OEDH	9	18	-----	Silicone Sealant	N/A

* Recommended Spare Parts ** Additional Recommended Spare Parts

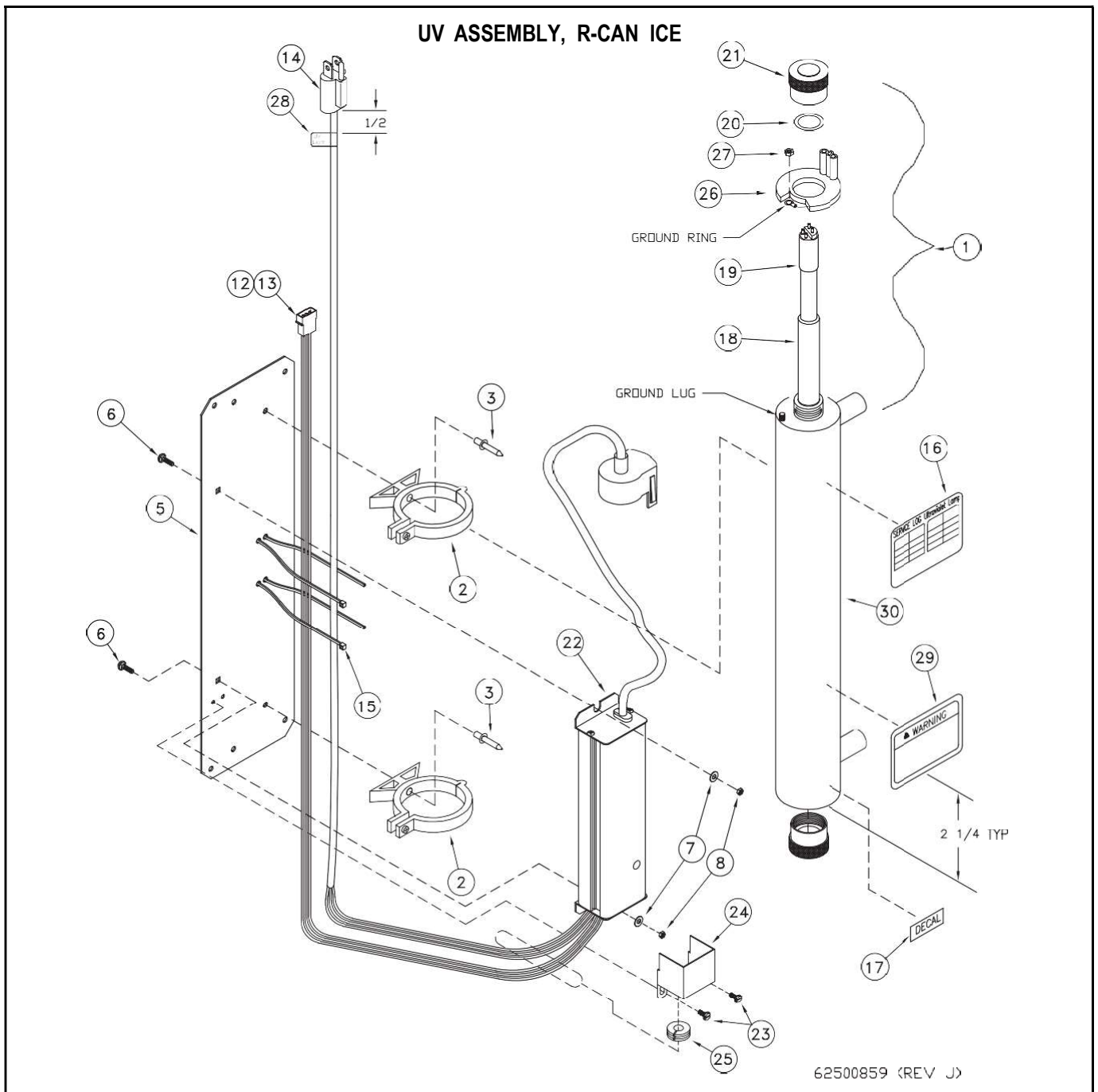
REAR DOOR



62502019 (Rev B)

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502514	Assembly, CLICK Electrical Box	1	13	950-003-039	Carriage Bolt, 5/16-18 x 1 Gr. 5 Short	2
2	62502020	Door Rear Cabinet	1	14	950-003-065	Carriage Bolt, 1/4-20 x 5/8 Gr. 5	4
3	625-001-965	Vent, 2" Dia Aluminum Louvered	2	15	951-002-001	Flanged Whiz Lock Nut 1/4-20	5
4	62501337	Trim, Edge Guard 1/8"	9'	16	951-002-002	Flanged Whiz Lock Nut 5-16-18	2
5	392-010-028	Self Tapping Screw 8-18 x 1/2	1	17	951-003-001	Nut-Nylon Insert 5/16-18	2
6	625-001-312	HeadRomex Connector, 3/4	1	18	954-002-010	Rivet-Pop 1/8 x 1/8 Stainless	4
7	625-005-166	T-Handle Lock Flush Mount	1	19	N/A	N/A	N/A
8	625-900-333	Cover, Electrical Box	1	20	950-004-002	Bolt, 1/4-20 x 3/8	1
9	625-900-774	Bracket, Literature	1	21	392-010-020	#8-32 x 3/4 Machine Screw	1
10	62502021	Bracket, Hinge	2	22	951-001-012	#8-32 Hex Nut	2
11	950-003-071	Carriage Bolt, #10-24-1/2 SS	4	23	62501394	Cable Clamp 3/4" Nylon	2
12	951-001-002	Hex Nut #10-24 SS	4	24	952-004-068	Washer, #10 SS .2 x .44 x .05	2

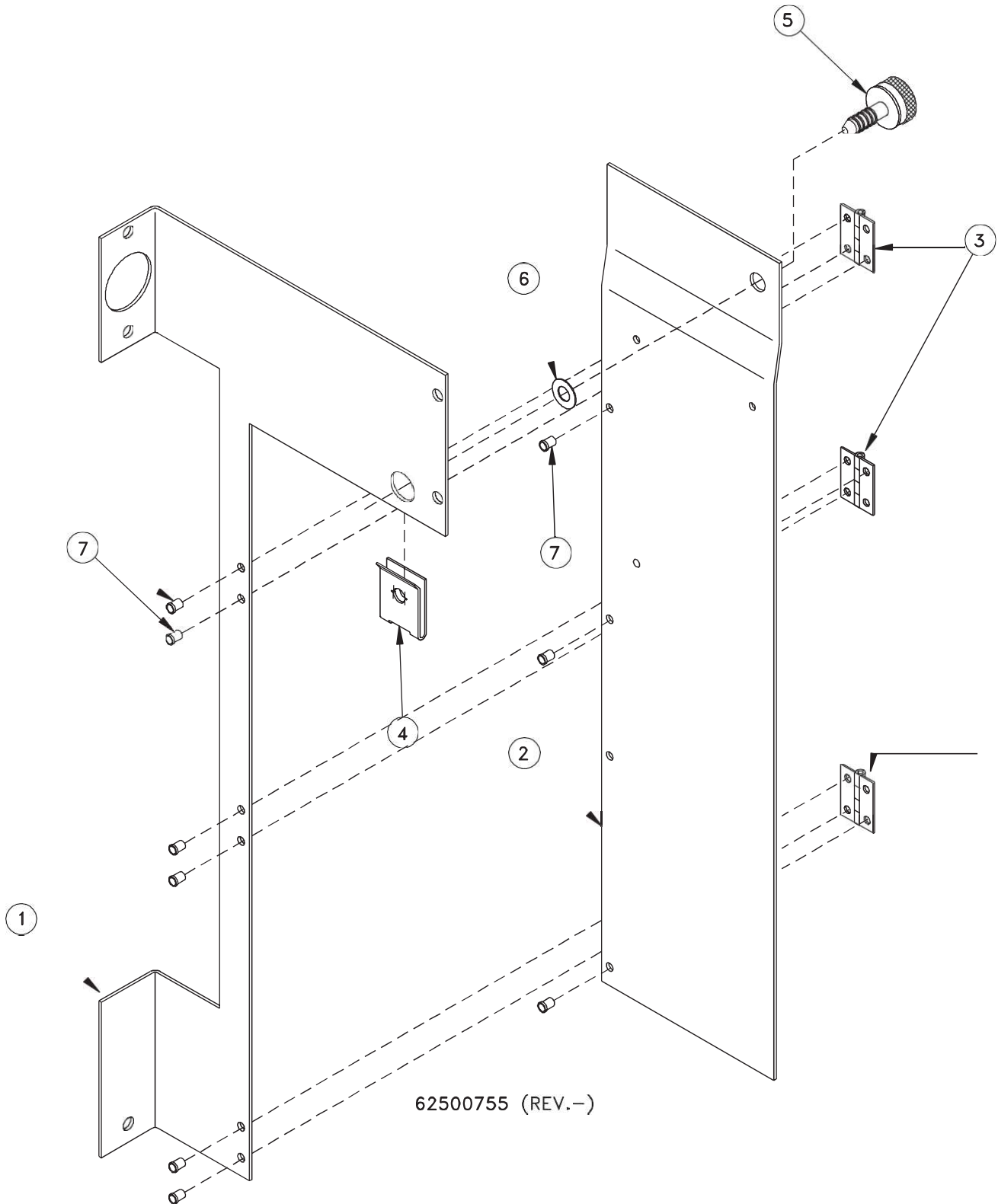
* Recommended Spare Parts ** Additional Recommended Spare Parts



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502822	Light, 5 GPM Uv R-Can (Includes 16 & 22)	1	16	62502938	Decal, Service Log (Included With 1)	1
2	-----	Clip Included W/Item 1	2	17	62500940	Decal, Bulb Replacement	1
3	954-002-003	Rivet-Pop 3/1 x 3/8 Stain OEDH	2	18*	62500855	Sleeve, Quartz UV QS-463	1
4	N/A	N/A	N/A	19*	62500854	Light, UV S463RL R-Can	1
5	625-901-072	Bracket 5 GPM Trojan MNT	1	20	62500853	O-Ring, 5 GPM UV OR-212	1
6	950-003-071	Bolt CGE #10-24 x 1/2 SS	2	21	62500857	Nut, UV AL Gland RN-001	2
7	952-004-062	Washer, 1/4 SS	2	22	62500856	Ballast Electronic BA-ICE-VI	1
8	951-001-002	Nut-Hex #10-24 SS	2	23	061034	Self Tapping Screw #6-32 x 3/16	2
9	625-004-026	Wire, Blue #18 (16/30) UI-1007	2	24	62501719	Electrical Cover	1
10	625-004-172	Wire, Black #18 (16/30) UI-1007	2	25	62501720	Grommet	1
11	625-004-028	Wire, Red 18 (16/30) UI-1007	2	26	-----	Ground Nut (Included With Item 1)	1
12	62500641	Pin, 24-18 AWG Mate-N-Lok	3	27	-----	Connector, (Included With Item 1)	1
13	62500682	Housing, 3 Pin Mate-N-Lok	1	28	62502930	Label, UV Cord	1
14	62500690	Plug, W/18-3 SJT 110V 59" Cord	1	29	62502939	Decal, Warning (Included With Item 1)	1
15	625-001-469	Tywrap, plastic	2	30	62503053	Canister (Includes Items 16 & 29)	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

COIN MECHANISM BRACKET ASSEMBLY

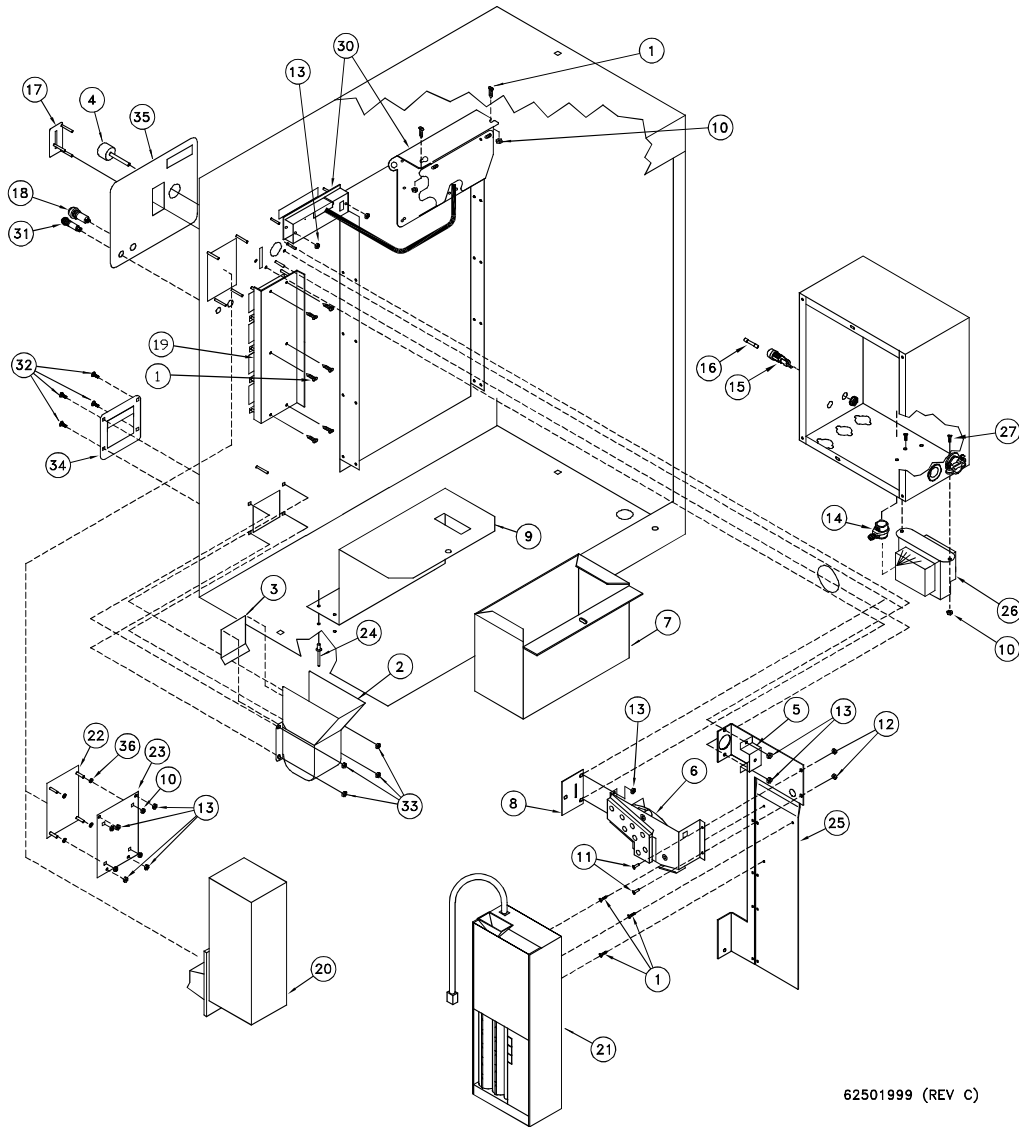


62500755 (REV.-)

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62500747	Bracket Coin Changer Hinge MT	1	5	106-002-028	Filter Cover Screw 17-13-204-11	1
2	625-901-057	Bracket Coin Changer MT	1	6	106-001-007	Filter Cover Washer 17-10014-12	1
3	62500763	Hinge, 1 x 3/4 x .035 Butt	3	7	954-002-010	Rivet-Pop 1/8 x 1/8 Stain OEDH	9
4	106-001-008	Clip On Receptacle 17-10017-11	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

COIN MECHANISM SECTION

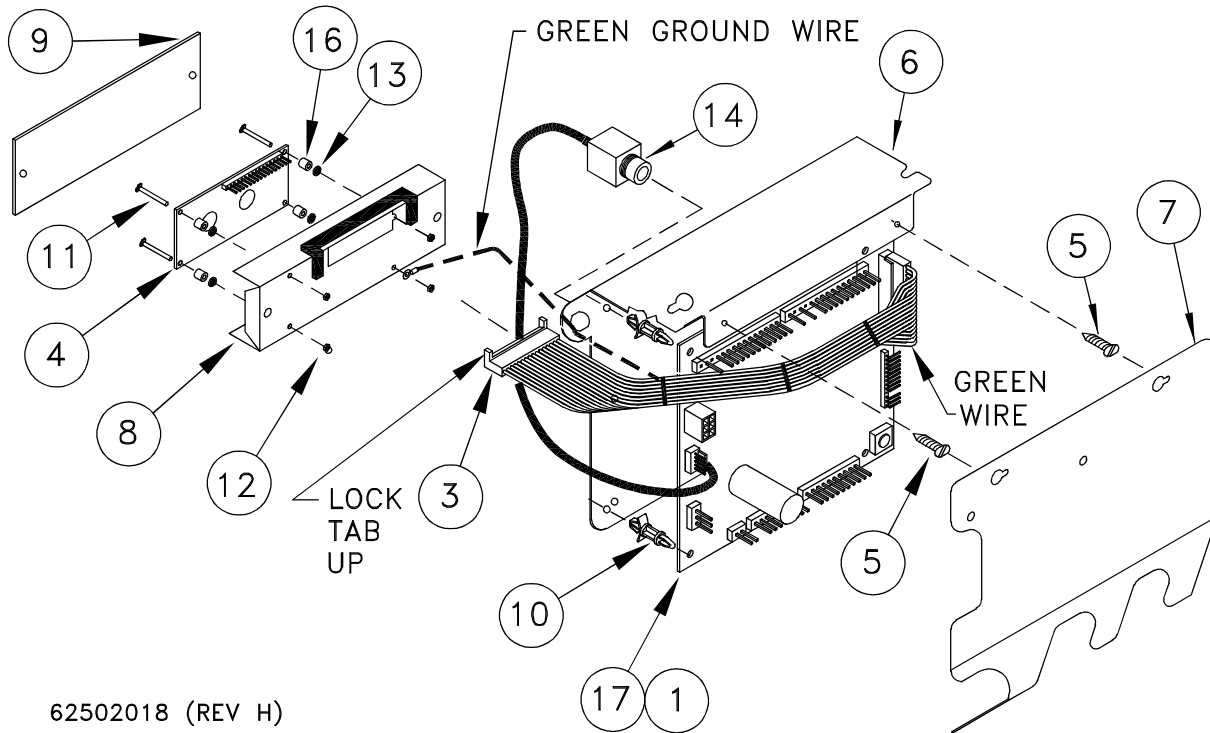


62501999 (REV C)

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	392-010-028	Self Tapping Screw #8-18 x 1/2 Shw Head	11	19	62500652	Guard, Coin Mech.	1
2	62501484	Coin Return, SS (Includes 3)	1	20	62501893	MDB Bill Validator List	0
3	625-004-766	Coin Return Door SS	1	21	62501892	MDB Coin Changer	0
4	625-004-768	Button, Coin Return	1	22	62502374	ListCover, \$ Bill Hole	1
5	625-004-769	Bracket, Coin Return Button	1	23	62501727	Plate, Bill Cover Backer	1
6	62501280	Bracket Assembly, Coin Return	1	24	109953	3/16 SS Rivet	4
7	625-900-777	Large Cash Box	1	25	62500755	Bracket, Hinged Coin Mech Mt 4-Sel	1
8	625-901-091	Coin Slot Guard	1	26	62503149	Transformer, Control 75Va	1
9	62501326	Bracket, Cash Box	1	27	950-004-061	#8-32 x 1/2 Pan Truss Head, SS	2
10	951-003-011	Nut Hex Lock 8-32	8	28	62500691	Terminal, 1/4M 22-18 (Not Shown)	1
11	950-004-024	Mach. Screw, #6 x 3/8	2	29	62500631	Terminal, 3/16 (Not Shown) See Page 40	1
12	951-001-001	Nut, Hex, #6-32	2	30	-----	-----	0
13	951-001-012	Nut, Hex, #8-32	11	31	62502538	Out of Service Light, Red 1/2 Dia	1
14	62500498	Strain Relief	1	32	950-003-081	Carriage Bolt, #10-24-3/4 SS	4
15	39207034	Fuse Holder	1	33	951-002-012	Hex Nut #10-24 Whiz Lock	4
16	62500634	Fuse 5 A 3 Ag	1	34	62502076	Plate, Coin Guard	1
17	62500647	Coin Slot, SS	1	35	62502075	Decal, Instr, Vend, Elec Coin	1
18	62502009	Switch SPST, Red Push Button	1	36	62502437	O-Ring, Rubber	4

* Recommended Spare Parts ** Additional Recommended Spare Parts

VENDING MACHINE CONTROLLER (VMC)

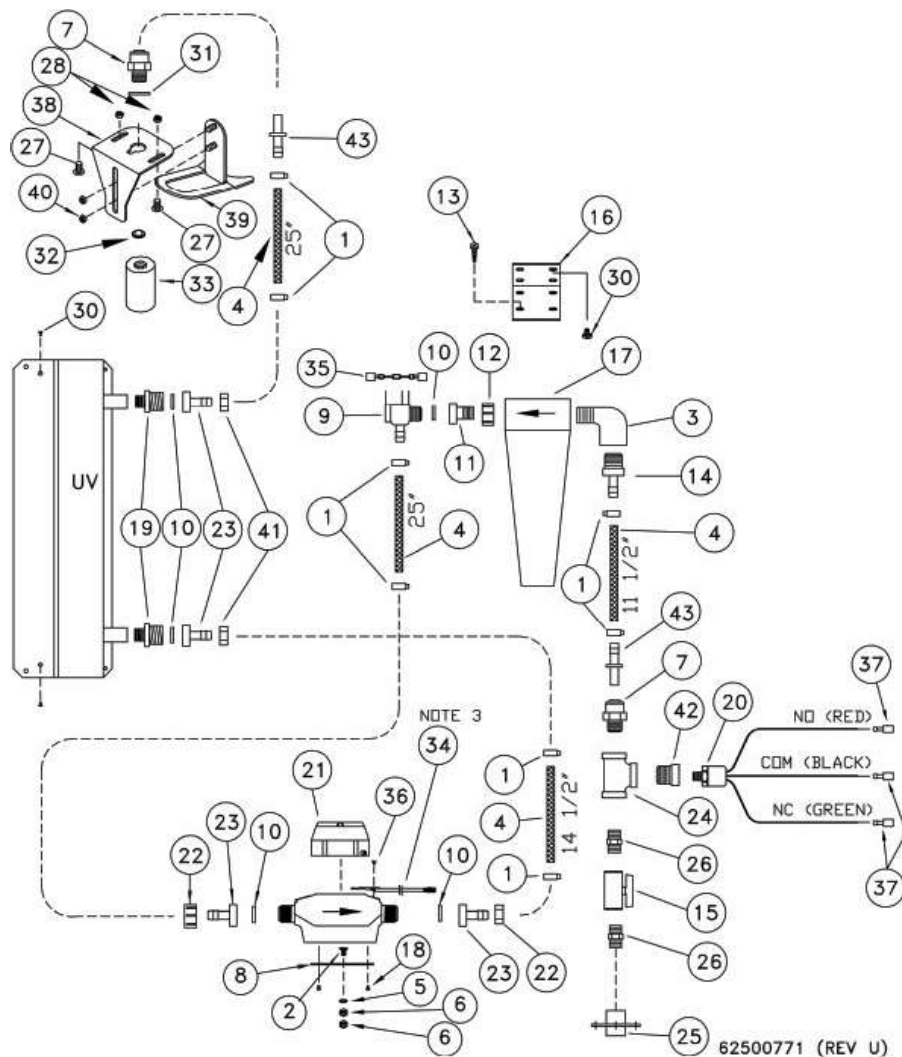


62502018 (REV H)

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502004	VMC Board, Cable & Display	1	10	39200014	Standoff, Circuit Board 1/4	4
2	N/A	N/A	N/A	11	950-004-116	Machine Screw #2-56 x 5/8 SS	4
3	62502006	Connector Cord, Only	1	12	951-001-033	Nut, Hex #2-56 SS	4
4	62502672	Display Only	1	13	62502203	Retainer #2 Nylon	4
5	392-010-028	Self Tapping Screw #8-18 x 1/2 Shw Head	2	14	62502120	Harness DEX Cable (Optional)	1
6	62502002	Bracket, 200W VMC	1	15	62502131	Harness MDB 12" Extender	1
7	62502003	Bracket, Cover 200W VMC	1	16	62502200	Spacer, Nylon 3/16 Long	4
8	62502204	Bracket, Display W/Weatherstrip	1	17*	62502678	VMC Board & Cable only	1
9	62502199	Window, 1/16 Clear U.V. Filter	1			(Display not included)	

** Additional Recommended Spare Parts

PLUMBING SECTION



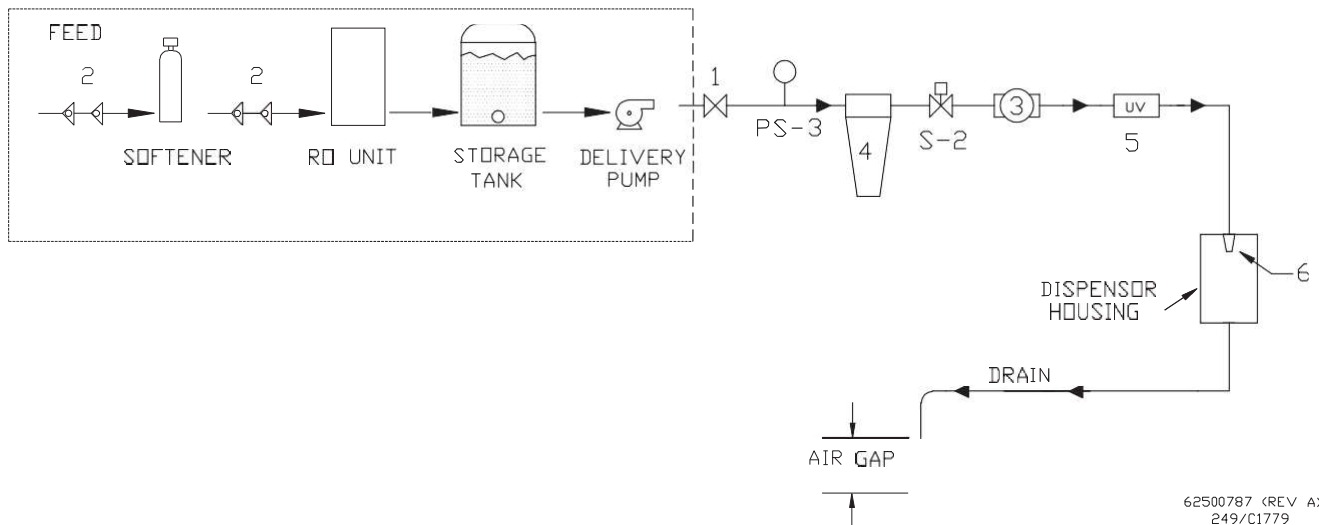
REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-002-881	Hose Clamp, .76-.89 SS	8	23	62500423	Barb-Swivel, 1/2H	4
2	950-003-065	Carriage Bolt 1/4-20 x 5/8 Gr. 5	1	24	62502606	Fitting, Stainless Steel Tee, 1/2	1
3	62501655	Fitting, Nylon 1/2 Street 90	1	25	62502608	Weldment, SS Bulkhead	1
4	625-001-929	Hose, 1/2 Dia Braided	6.5	26	62501169	Fitting, Nylon Nipple 1/2	2
5	033-12007	Flat Washer, SAE 5/16 PI	1	27	950-003-071	Carriage Bolt, 10-24 SS	2
6	060102	JAM NUT 1/4	1	28	951-002-012	Nut, Hex 10-24 Whiz Lock	2
7	625-001-672	Fitting, 1/2 x 1/2 JG	1	29	N/A	N/A	N/A
8	62500657	Bracket, Water Meter	1	30	392-010-028	Self Tapping Screw 8-18 x 1/2 Hex Head	6
9	62501392	Solenoid Valve, Plastic, 5 GPM	1	31	39212011	Seal Ring 1/2	1
10	625-004-467	Washer, GHT White. Rubber	5	32*	62501815	Screen, 1/2 Nozzle	1
11	62501814	Fitting, 1/2m x Swivel	1	33	62501818	Nozzle Assembly, W/Screen 1/2"	1
12	62501459	Nylon Nut Assembly W/Hose Clamp	1	34	62500661	Assembly, Water Meter Sensor	1
13	950-005-020	MS, #10-16 x 3/4 Hex Self Tap	4	35	62502132	TVS Surge Suppressor	1
14	62500417	Fitting, Nylon 1/2 x 1/2	2	36	392-010-019	Self Tapping Screw #6-20 x 3/8 Phillips Pan Head	2
15	62501652	Valve, 2 Way Ball PVC, 1/2	1	37	62500691	Terminal 1/4 Push On	3
16	62501823	Bracket, Filter Housing, 1/2	1	38	62501122	Bracket, Upper Guide	1
17	62501813	Filter Housing, 1/2 Slimline	1	39	62501121	Bracket, Lower Guide	1
18	950-005-027	Hex Head Self Tapping Screw 8-18 x 3/8 AB	4	40	061605	Nut, 1/4-20 SS Nylon Lock	2
19	62501793	Fitting, Nylon 3/8m x 3/4mgh	2	41	62500443	Nylon Nut, GHT	2
20	62502593	Press Switch 10-100 PSI SPDT	1	42	62502716	Fitting, Stainless Steel RB 1/2 x 1/4	1
21	62500658	Water Meter, Machined (Gallon)	1	43	62500522	Fitting, 1/2 Stem x 1/2 Hose Barb	1
22	625-002-955	Fitting, Swivel Nut Blk 3/4 Fps	2				

* Recommended Spare Parts ** Additional Recommended Spare Parts

FLOW DIAGRAM

FLOW DIAGRAM
CTV-200W 4-SELECT

OPTIONAL, EXTERNAL PRETREATMENT/DELIVERY EQUI
REFER TO COSTER ENGINEERING FOR PART NUMBERS

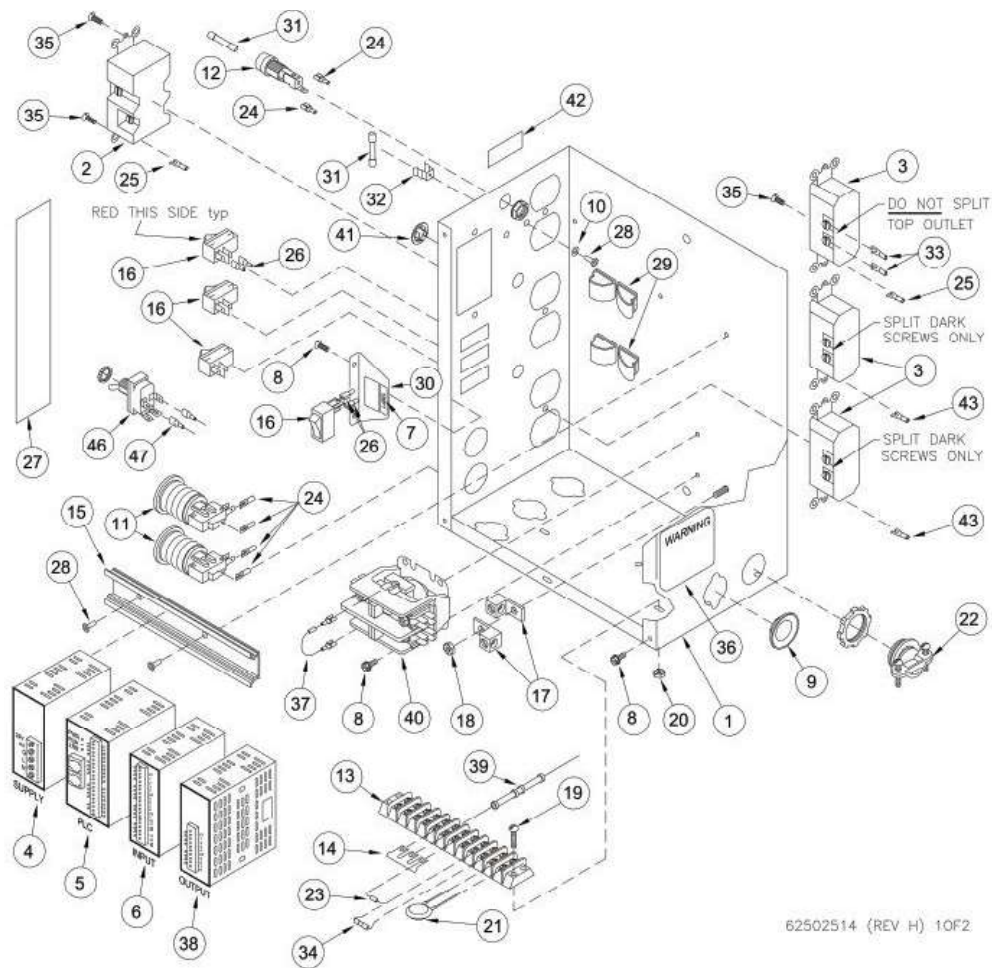


62500787 (REV A)
249/C1779

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
1	62501652	Valve, 1/2 Ball	5	62500859	UV Light (5 GPM R-CAN) Assembly
2	62502594	Dual Check	*	62500854	Bulb, UV S463RL, R-CAN
3	62500658	Water Meter Machined (Gallon)	6	62501818	Nozzle 1/2 SS With Screen
3	62500790	Water Meter Machined (Metric)	S-2*	62501392	Valve, Plastic W/Screen & Flow Control
4	625-001-560	Filter Housing 10"	PS-3*	62502593	Switch, Pressure SPDT
4*	625-001-574	Filter, Carbon 10"			

* Recommended Spare Parts ** Additional Recommended Spare Parts

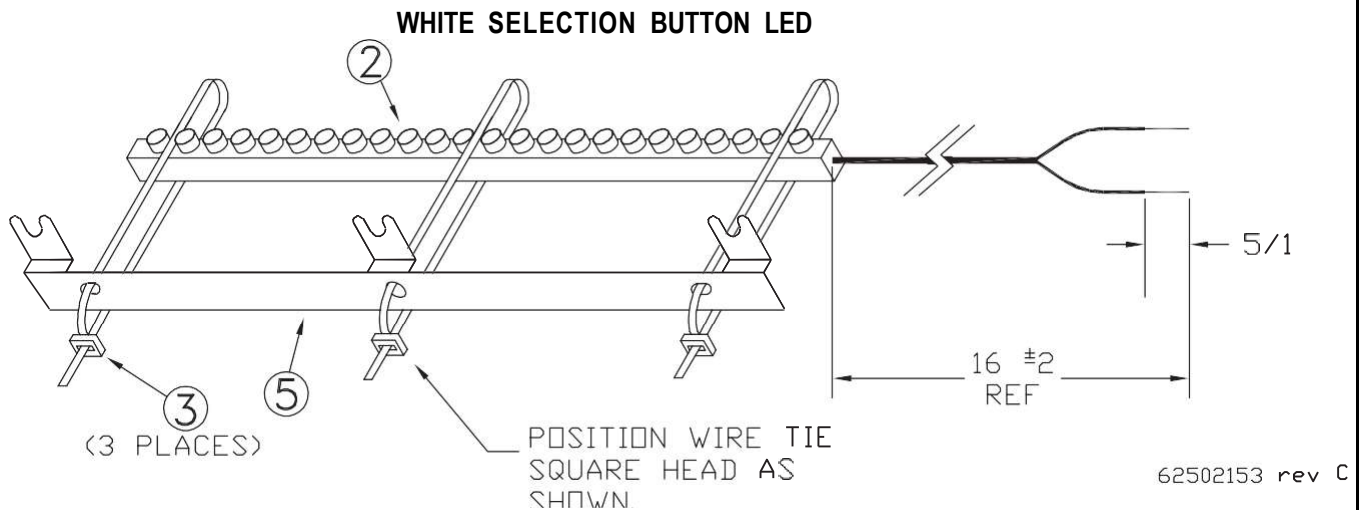
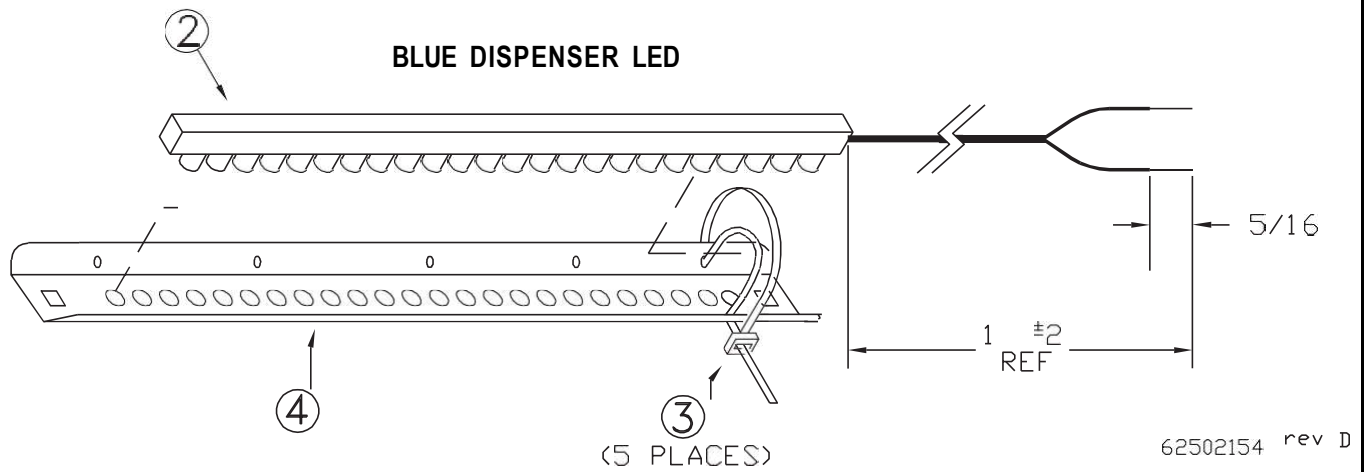
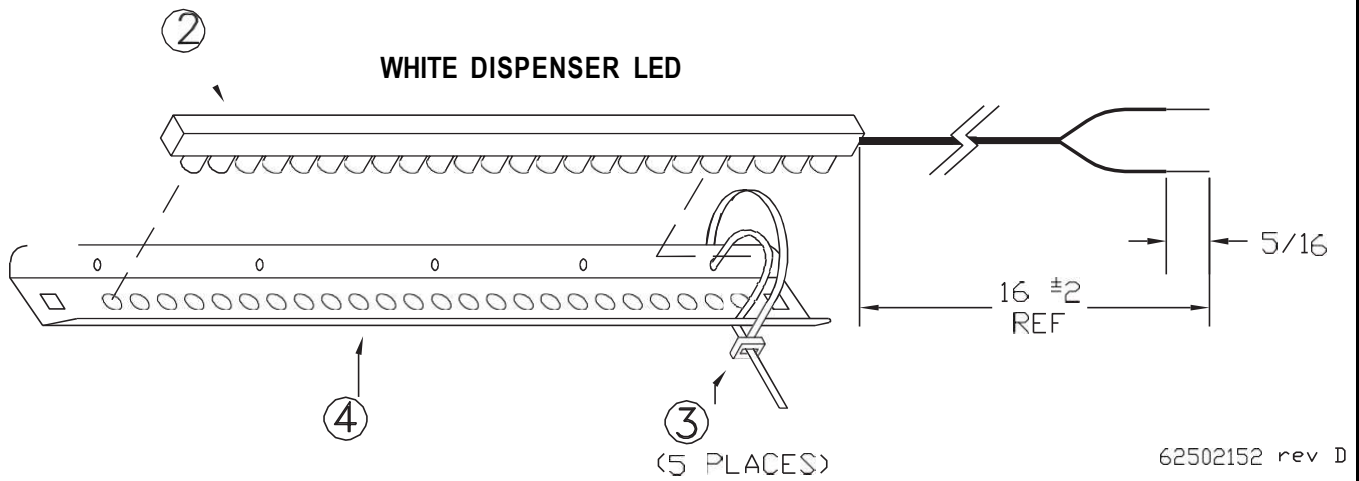
ELECTRICAL BOX



62502514 (REV H) 10F2

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502525	Assembly, Dual Electrical Box	1	25	62502962	Terminal, Spade #10 16-14 Ga.	2
2	625-004-068	GFCI Receptacle, 15 Amp	1	26	62500702	Terminal, 1/4 F Full Insulated 22-18	3
3	625-004-252	Receptacle, 15 Amp 110V	3	27	62502534	Decal, Dual Vend Operation	1
4	62502518	Module, 24 VDC Power Supply	1	28	954-002-010	Rivet 1/8 x 1/8 SS	3
5	62502522	PLC, 8/6 I/O W/Dual Program	1	29	62500156	Clamp, 3/4 Self Adhesive	4
6	62502523	Module, 16 Input 24 VDC	1	30	62502536	Bracket, Calibrate	1
7	62502537	Label, Run / Cal	1	31	62500634	Switch Fuse, 5A 3Ag 250V Fast	2
8	950-005-006	Self Tapping #8-36 x 3/8	6	32	62500635	Acting Fuse, Metal Clip 3Ag	1
9	625-004-073	Seal, Knockout 3/4 Steel	1	33	62502963	Terminal, Spade #10, 22-18 Ga.	2
10	952-004-068	Washer .2 x .44 SS	1	34	62501400	Fuse, 1A 2Ag Fast	1
11	62502780	Switch, SPST, Red Push Button	2	35	950-004-024	Machine Screw #6-32 x 3/8 Slotted Pan Head	5
12	39207034	Fuse Holder, 3Ag 1/4\" Q-Conn.	1	36	625-002-075	Decal, Warning Elect	1
13	625-001-265	Term Block, 12 Pole, Jumper,	1	37	N/A	N/A	N/A
14	625-004-051	Snap Off Strip Style Din Rail,	3	38	N/A	N/A	N/A
15	625-900-334	Electrical Box	1	39	N/A	N/A	N/A
16	62502526	Switch, Rocker SPST	2	40	N/A	N/A	N/A
17	625-001-266	Term Block, Ground Lug Al 4-14 Wire	2	41	625-004-189	Plug BPF 1/2 Black Plastic	1
18	951-001-002	Nut-Hex #10-24	1	42	62502944	Label, Upper Outlet	1
19	950-004-086	Machine Screw #8-32 X 5/8	2	43	62502964	Terminal, Spade #10 10-12 Ga.	2
20	951-001-012	Nut-Hex #8-32	2	44	62502972	Connector IDC 18-14 AWG	1
21	39207032	Varistor, Surge Absorber 6500A	1	45	62502133	Connector T-Tap 22-18 Ga.	1
22	625-001-312	Fitting Elec, Romex Connect 3/4	1	46	62501603	Switch, Main Power Toggle DPST 1/4 F	1
23	62501684	Suppressor, 200V TVS 1500W	1	47	625-002-278	Terminal, 1/4F 14-16 AWG Full Insulation	2
24	62500631	Terminal, 3/16 F	6				

* Recommended Spare Parts ** Additional Recommended Spare Parts



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	N/A	N/A	N/A	3	625-001-469	Tie Wrap, Nylon	5
2	62502071	Blue LED Strip 9.5 "	1	4	62502073	Bracket, Dispenser Light LED	1
	62502070	White LED Strip 9.5"	2	5	62502072	Bracket, Selection Button LED	1

NOTES: _____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

LOG SHEET

LOCATION:

DATE:					
TDS FEED (ppm)					
WATER METER READING (Gal.)					
GALLONS VENDED					
CHLORINE LEVEL					

MACHINE MAINTENANCE (check when serviced)

DATE:					
UV LIGHT CHANGED					
CARBON FILTER					
CHECK SUMP LEVEL SWITCH (LSI)					
OPERATORS INITIALS					

COSTER ENGINEERING WARRANTY

The only warranty Coster Engineering gives is as follows:

Coster Engineering warrants each product it manufactures to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing or replacing, at our option, within one year from the date of shipment, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any costs or any liability for direct, indirect or consequential damage or delay. If requested by Coster Engineering, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Coster Engineering, or any alteration or repair by others in such manner as in our judgment affects the product materially and adversely shall void this warranty. **NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

Coster Engineering reserves the right to make improvement changes, alter features, specifications, options and standard equipment on any of our products without notice and incurrence of obligation on prior manufactured machines.

WARRANTY DOES NOT APPLY to depreciation, parts replacement, maintenance, damage and service necessitated by **NORMAL WEAR**, misuse, lack of proper maintenance, accident, negligence or failure to follow specified operational instructions. Products not covered include, but are not limited to: filters, lamps, reverse osmosis membranes, and deionization resin which normally require periodic replacement or regeneration.

Products not manufactured by Coster Engineering may or may not be covered under warranties supplied by the original manufacture and shall be subject to their warranty limitations.

Repair or replacement of a product does not extend the original warranty.

No reimbursement will be made for labor for repair of any kind without prior authorization from Coster Engineering.

A DELIVERY REPORT FORM must be completed and received by Coster Engineering to initiate the warranty coverage.

COSTER WATER
217 E PLUM STREET
MANKATO, MN 56001

