WCS

Water Conservation Services

WCS CashMaster Systems I, II and III Coin Operated Shower Systems

Installation and Programming Guide

WCS Customer Service
888 872-4975
805 963-5511
www.watercon.com

WCS doc 110002r9
revised Nov., 2003

TABLE OF CONTENTS

IMPORTANT NOTICE:

INSTALLATION INSTRUCTIONS CONTAINED IN THIS MANUAL ARE RECOMMENDATIONS ONLY AND DO NOT SUPERCEDE OR NECESSARILY MEET LOCAL, STATE OR FEDERAL REQUIREMENTS FOR SAFETY, BUILDING CONSTRUCTION, OR OTHER APPLICABLE INSTALLATION STANDARDS. REFER TO ARCHITECT'S SPECIFICATIONS AND ALL APPLICABLE CODES AND LEGAL REQUIREMENTS TO ASSURE COMPLIANCE OF YOUR INSTALLATION.

1. UNPACKING YOUR NEW CASHMASTER SYSTEM

IMPORTANT: Upon receipt of your new CashMaster Metered Shower System please examine the shipment for damage and completeness. Poor condition of shipping boxes is an indication of rough handling and possible problems. Immediately notify the shipping company and Water Conservation Services if you suspect any of the CashMaster components have been damaged in shipment. As standard procedure, it is recommended that you inspect shipment contents before signing the waybill and accepting the shipment from the shipping company.

Your CashMaster System has been carefully tested at the factory. We want it to provide years of reliable operation. See our preventive maintenance section for tips on how to keep it in top condition.

Please inspect the shipment and packing slip for completeness.

Each CashMaster System includes:

System Controller(s): (qty will vary with system specifications) Includes System Timer, Control Distribution Board, Power Supply Module and Circuit Safety Protector (GFCI)

Meter Boxes (1 per shower): Components include coin acceptor, cash vault lockset, face plate lockset. (Flush Mount Rear Access Meter Box supplied with cash vault lockset only).

Solenoid Valves: (1 per shower)

Key Sets (2 per controller)

Mounting Hardware (for Flush Mount Rear Access Meter Boxes, only; 1 set per shower): Includes: Mounting brackets (two per meterbox), mounting bolt assemblies consisting of two sections of 3/8" threaded rod, 2ea 3/8" nuts, 2ea 3/8" flat washers. (note: surface mount meterboxes are mounted using method appropriate to wall type –see meter box mounting section)

MeterBox Labels (1 set per shower) Note: Please contact WCS if you did not receive your labels. Please let us know the cost and time per shower that you will set your system for and we will gladly send your label sets.

Thank you for choosing CASHMASTER! We at WCS believe it to be the best product on the market with the highest quality, most stringent safety features and most advanced engineering to give you years of reliable, resource efficient service.

Water Conservation Services

2. PLANNING YOUR INSTALLATION

⚠ The Cashmaster Series Metered Shower Systems should be installed by qualified plumbing and electrical technicians.

Although not technically difficult, a reasonable knowledge of plumbing, electrical wiring and Uniform Building Code standards is necessary to assure a safe and legal installation and reliable long term operation. These instructions assume the installer has adequate skills to competently carry out the plumbing and electrical installation without additional explanation.

PLANNING YOUR INSTALLATION - LOCATION:

Control Box Location: The Cashmaster Controller must be mounted in a dry environment away from direct water spray and surface condensation. Ambient temperature range for the location should be between 35*F and 95*F. If mounted in a closet or cabinet, allow adequate ventilation as the Controller itself generates heat. Locate the controller away from public access so that it may not be tampered with or inadvertently modified. Optional Controller box security locksets are available from WCS. The Controller requires a protected 110VAC 20 amp service. Do not install a power cord on the controller for use with a wall outlet.

Meterbox Location: Meterboxes should be located where controller wiring can be routed to them without being exposed to the public, unless run in conduit. Assure that rear access to flush mount meterboxes are not impeded by pipes, electrical conduit etc. Meterboxes and coin acceptors are waterproof and bather-safe in wet environments when installed correctly. However, it is recommended that meterboxes be located away from water spray in the actual shower area (dressing room is better) to reduce clogging with soaps and other hair/body care products. This will reduce preventive maintenance and the potential for vandalism.

Wire Run Location: All secondary circuit wiring (i.e. to solenoid valves and coin acceptors in meterboxes) for Cashmaster Series products is Class 2 and does not require hard conduit to pass electrical inspection or conform to Uniform Building Codes. However, wires/cables should be routed away from public access where they will not be disturbed. It is highly recommended that wires be installed in surface mounted hard conduit from controller to meterboxes and solenoid valves if they cannot be routed inside a wall or plumbing alley.

Solenoid Valve Location: Several alternative locations are appropriate for solenoid valve installation, depending upon available space, type of mixing and diverter valves (if any) and plumbing layout. If solenoid valves cannot be installed in a plumbing chase or alley, they should be installed behind an access panel. Do not mount solenoid valves in the open in shower rooms where bathers can disturb or vandalize them.

3. INSTALLING YOUR SYSTEM: SOLENOID VALVES

SOLENOID VALVE INSTALLATION

Depending upon available space, type of mixing and diverter valves (if any) and plumbing layout, several alternative locations are appropriate for solenoid valve installation. (see diagram 1)

A) Single Solenoid placed on riser after mixing valve. Typical installation.

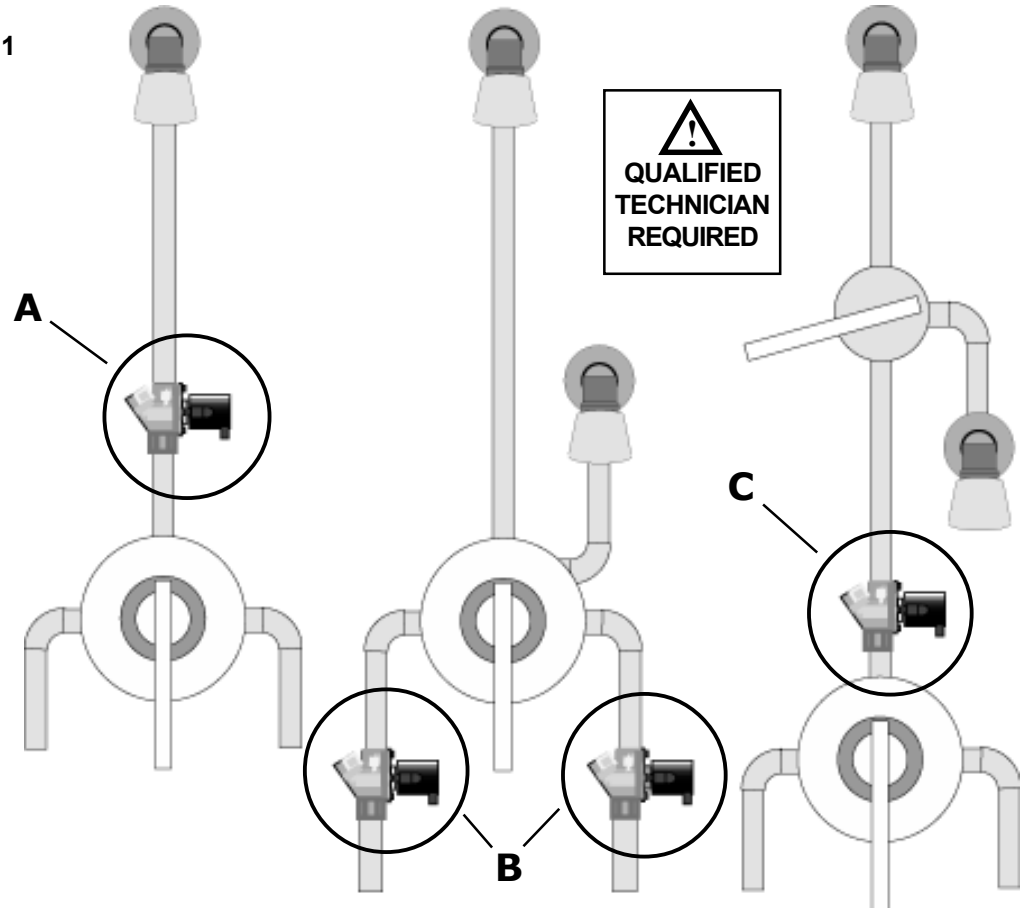
B) Dual Solenoids on hot and cold service before combination mixing/diverter valve. If access to riser pipe is restricted or typical 2 showerhead ADA installation. Up to 8 CMSV-221 Solenoid Valves (2 per channel) can be operated by the CashMaster Controller.

C) Single Solenoid valve placed after mixing valve before separate diverter valve. Typical 2 showerhead ADA installation.

Solenoids must be mounted in the proper orientation with water flowing in the direction of the arrow on the valve body. Plumb the valve after the mixing valve on the riser (before showerhead). If solenoid valves cannot be installed in a plumbing chase or alley, they should be installed behind an access panel. In multiple showerhead installations (i.e. for ADA compliant showers), without clearance for the solenoid valves before the diverter valve, two solenoid valves (WCS pn CMSV 221) may be installed (wired in parallel) on each shower head riser. Do not mount solenoid valves in the open in shower rooms where bathers can disturb or vandalize them. Do not wire more than two solenoid valves in parallel on any of the solenoid valve circuits.

WARNING: A scalding hazard may result if mixing valve is left open and solenoid is activated. Showers in public facilities should always use anti-scald devices.

Diagram 1



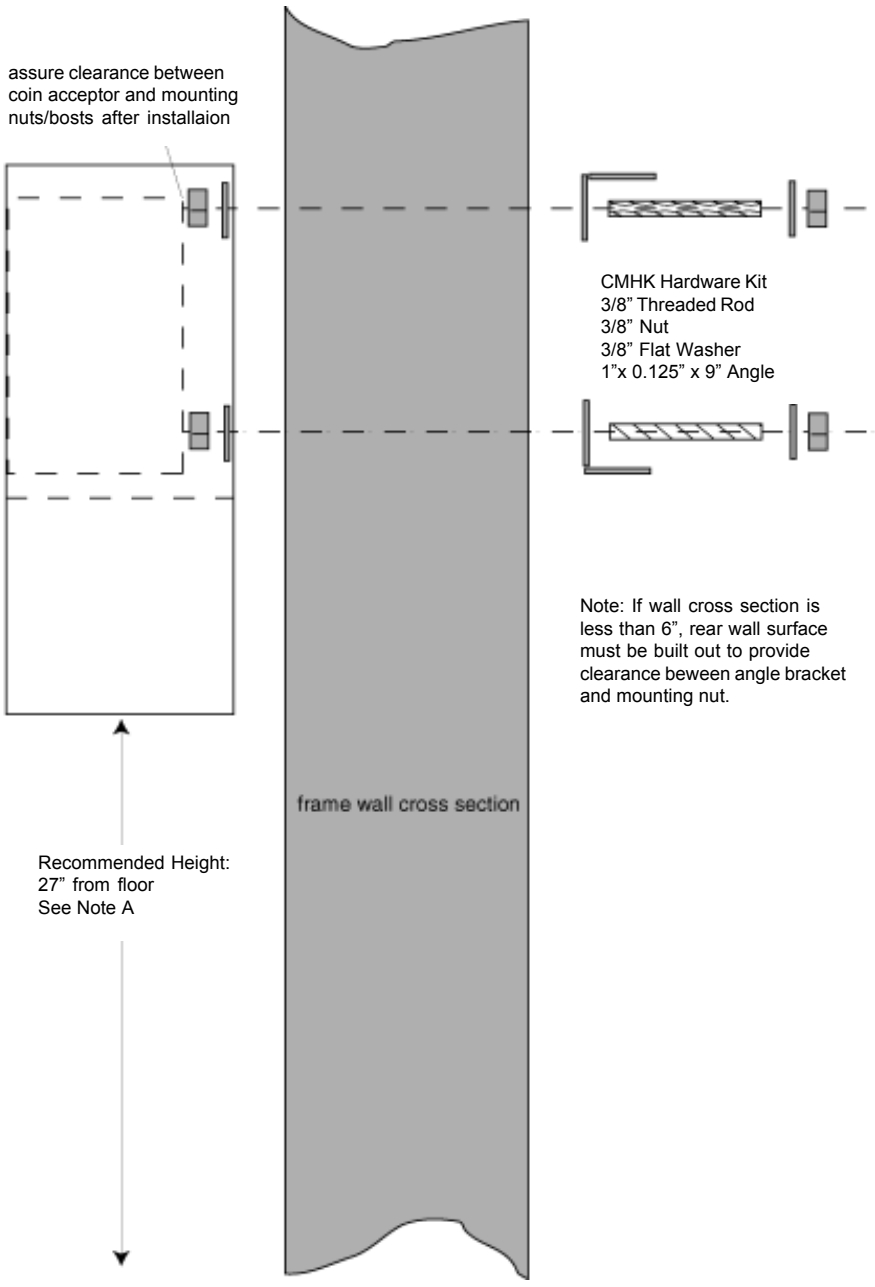
4. INSTALLING YOUR SYSTEM: CMMB-121 SURFACE MOUNT METERBOX IN FRAME WALL

MOUNTING SURFACE MOUNT METERBOXES:

The Surface Mount MeterBox is secured to the wall by appropriate fasteners (minimum recommended 7/16" stainless steel bolts/nuts/washers or lags/washers) through 2 holes located behind the coin acceptor on the rear surface of the meterbox (see diagram 4). When mounting on wood or steel frame wall, WCS Meterbox mounting hardware kit is recommended (as shown in diagram 2). Assure adequate clearance after installation between fasteners protruding into the meterbox and coin acceptors mounted on faceplates. Surface Mount Meterboxes must be anchored very securely to handle loads that may be placed on them and to protect from vandalism.

NOTE A: Refer to Architect's Specification for compliance to local, state and federal requirements.

Diagram 2 SIDE VIEW, SURFACE MOUNT METERBOX INSTALLATION IN FRAME WALL



5. INSTALLING YOUR SYSTEM: CMMB-121 SURFACE MOUNT METERBOX IN HOLLOW BLOCK OR SOLID MASONRY WALL

MOUNTING SURFACE MOUNT METERBOXES:

The Surface Mount MeterBox is secured to the wall by appropriate fasteners (minimum recommended 7/16" stainless steel bolts/nuts/washers or lags/washers) through 2 holes located behind the coin acceptor on the rear surface of the meterbox (see diagram 4). The HILTI HIT Injection Technique Anchor System is recommended (HILTI part no. HIT-HY 50) when mounting on CMU (cement block) or other hollow masonry building material Assure adequate clearance after installation between fasteners protruding into the meterbox and coin acceptors mounted on faceplates. Surface Mount Meterboxes must be anchored very securely to handle loads that may be placed on them and to protect from vandalism.

NOTE A: Refer to Architect's Specification for compliance to local, state and federal requirements.

Diagram 3 MOUNTING SURFACE MOUNT METERBOX IN HOLLOW BLOCK OR SOLID WALL

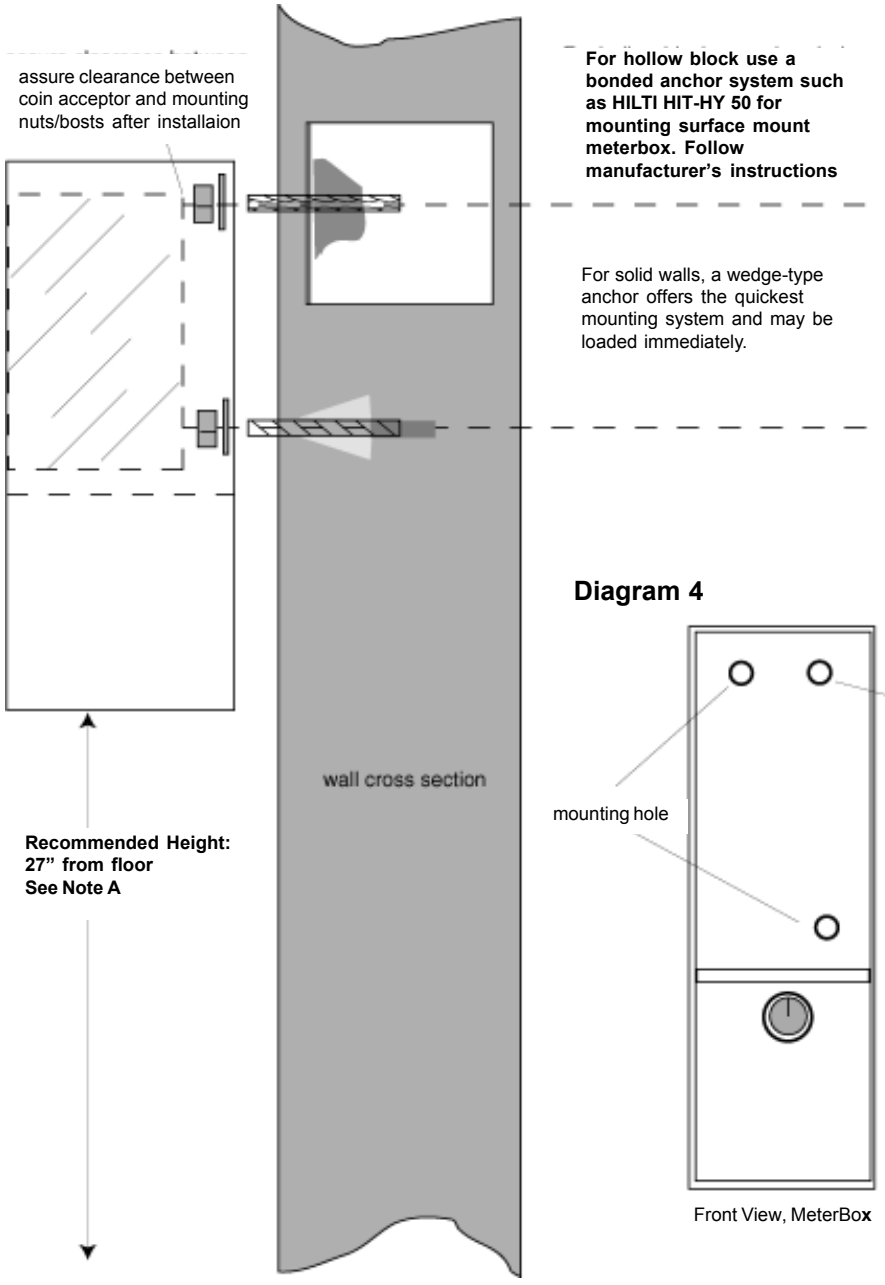


Diagram 4

Front View, MeterBox

6. INSTALLING YOUR SYSTEM: CMMB-221 FLUSH MOUNT REAR ACCESS METERBOX IN MASONRY OR FRAME WALL

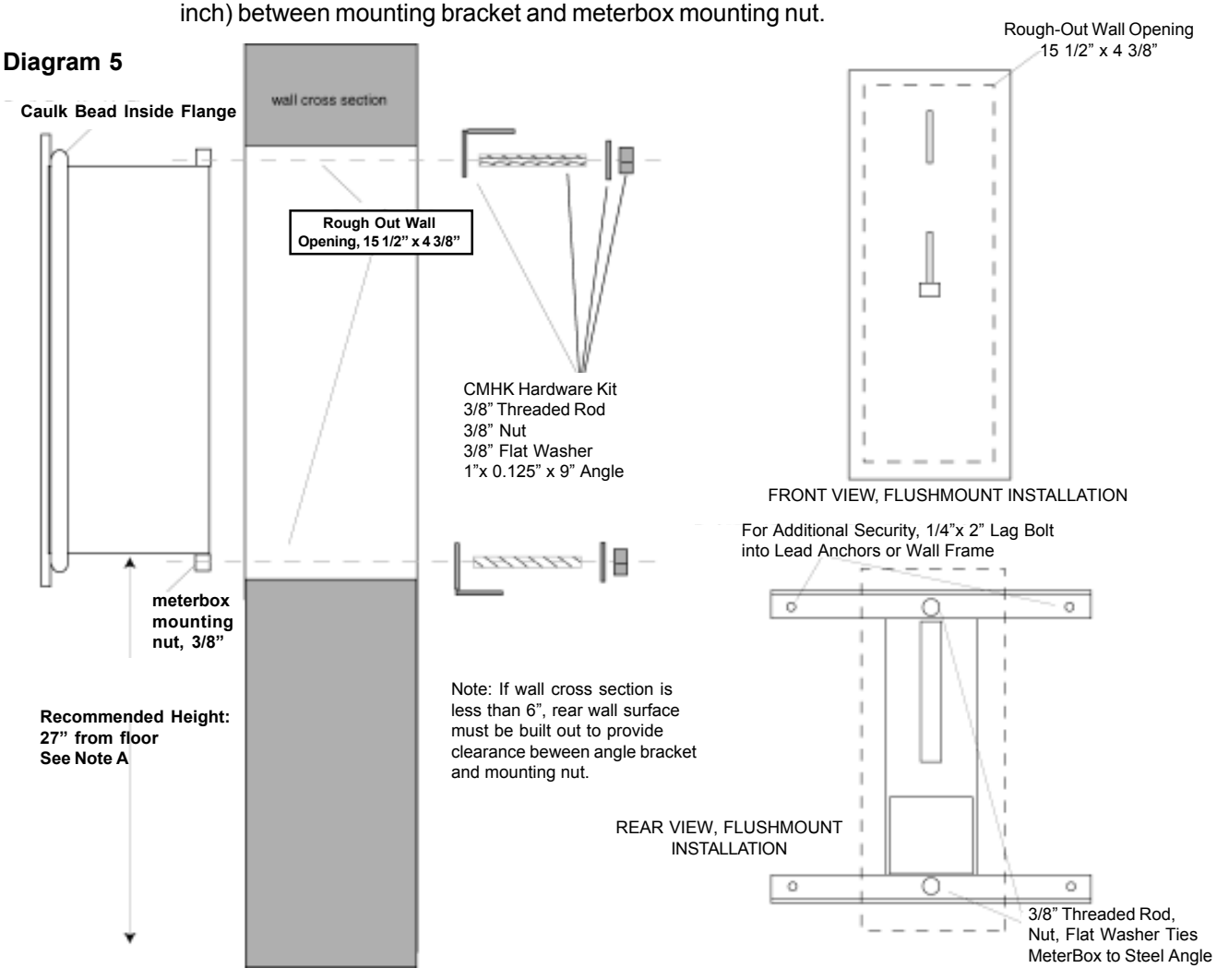
MOUNTING FLUSH MOUNT REAR ACCESS METERBOXES:

MeterBoxes are heavy and must be mounted very securely to support additional weight that may be placed on them and to protect them from vandalism. Cut and clear a hole approximately 15 1/2" by 4 3/8". It is important to make this opening as small as possible to maximize surface area contact between the outside wall surface and the inner surface of the meterbox flanges. As shown in diagram 5, a ¼" bead of high quality waterproof silicon caulk is applied to the inside surface of the meterbox flange where it contacts the wall. Allow adequate caulking to completely seal the space between the meterbox and the wall after installation: Excess may be wiped away after positioning. Each Flush Mount Rear Access Meterbox has 3/8" mounting nuts welded to its top and bottom rear surfaces. Hardware installation kits are included with Flush Mount Rear Access Meterboxes, which consist of two angle brackets, two 3/8"x9" threaded rods, bolts and washers for spanning the rear opening of the meterbox clearance hole (diagram 5) and attaching to the Meterbox mounting nuts. When installing in framed walls, additional framing may be necessary to adequately support the angle brackets and secure the boxes.

The following tips may be helpful:

- Dry fit the meterbox before applying caulking.
- When fitting the box in the opening, shim the bottom surface to center the meterbox vertically and make it plumb.
- If wall cross-section is less than 6" it must be built out to provide adequate clearance (at least 1/4 inch) between mounting bracket and meterbox mounting nut.

Diagram 5



7. INSTALLING YOUR SYSTEM: CMMB-321 FLUSH MOUNT FRONT ACCESS METERBOX IN MASONRY OR FRAME WALL

MOUNTING FLUSH MOUNT FRONT ACCESS METERBOXES:

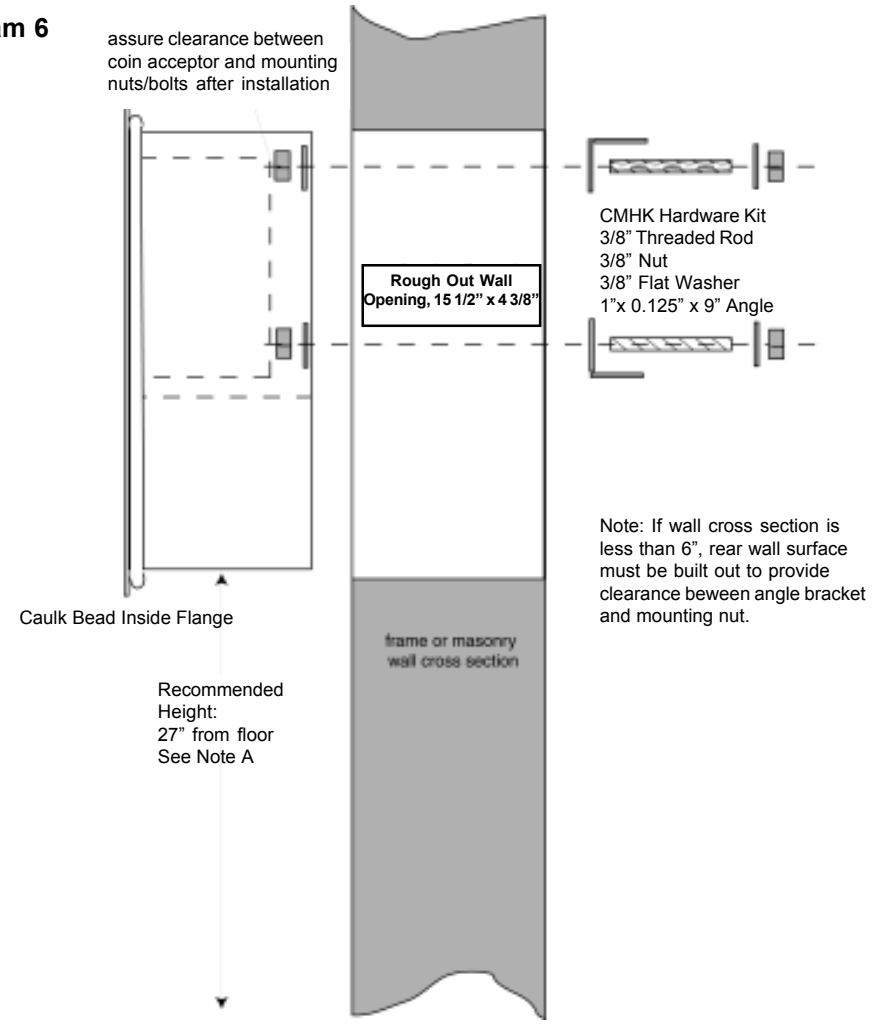
Meterboxes are heavy and must be mounted very securely to support additional weight that may be placed on them and to protect them from vandalism. Cut and clear a hole approximately 15 1/2" by 4 3/8". It is important to make this opening as small as possible to maximize surface area contact between the outside wall surface and the inner surface of the meterbox flanges. As shown in the diagram 6, a ¼" bead of high quality waterproof silicon caulk is applied to the inside surface of the meterbox flange where it contacts the wall. Allow adequate caulking to completely seal the space between the meterbox and the wall after installation: Excess may be wiped away after positioning.

The following tips may be helpful:

- Remove the faceplate and coin vault during installation
- Dry fit the meterbox before applying caulking.
- When fitting the box in the opening, shim the bottom surface to center the meterbox vertically and make it plumb.
- If wall cross-section is less than 6" it must be built out to provide adequate clearance (at least 1/4 inch) between mounting bracket and meterbox mounting nut.

NOTE A: Refer to Architect's Specification for compliance to local, state and federal requirements.

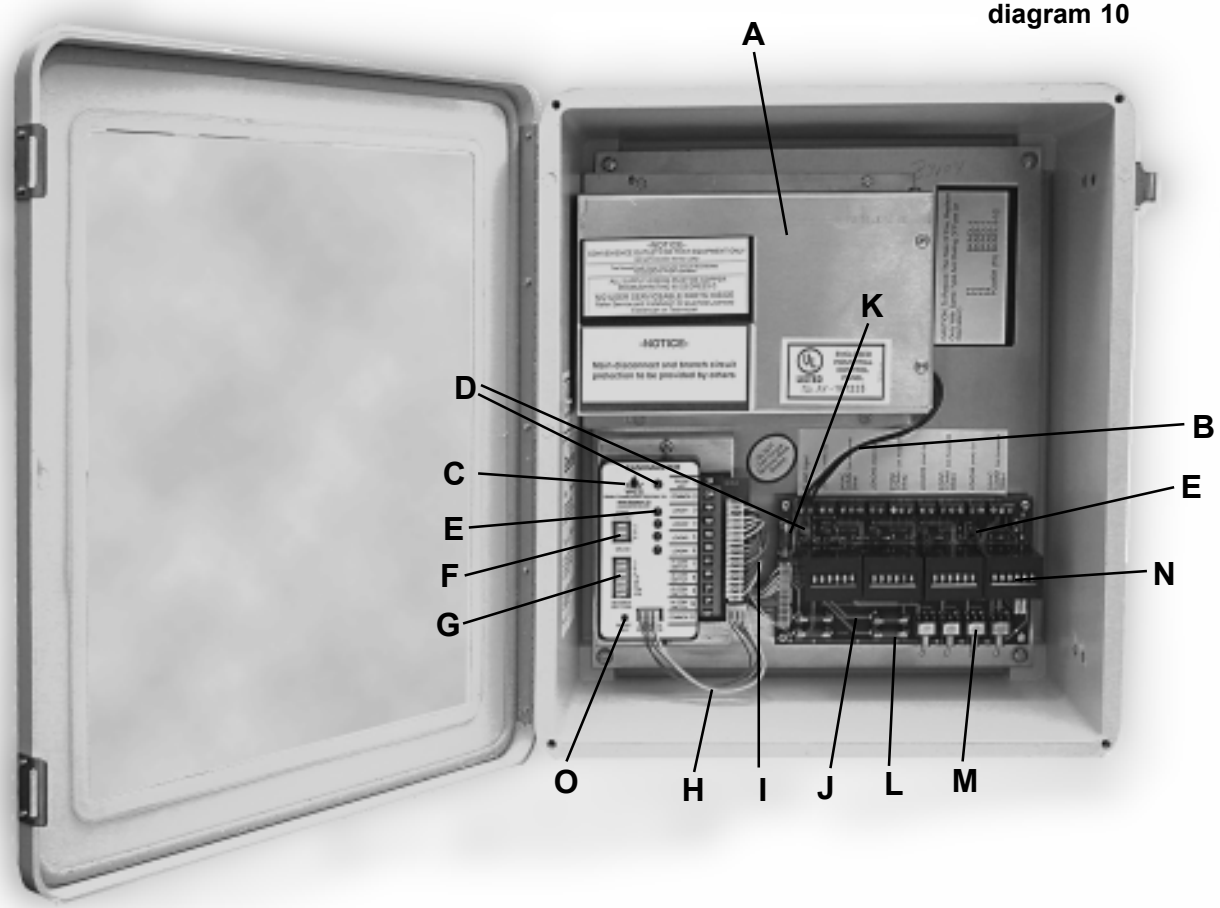
Diagram 6



8. INSTALLING YOUR SYSTEM: CMCM-221,321 CONTROLLER

MOUNTING THE CONTROLLER IN FRAME OR MASONRY WALL:
Mount the Controller between 48” and 60” from the floor, with the hinge to the left on a solid surface capable of carrying a 30 lb. load. Using the four mounting holes located on the top and bottom external flanges, secure the box to the wall using an appropriate fastening system. Where surfaces cannot support the Control Box adequately (sound board, drywall, plywood or particle board paneling) mount a ½ inch plywood backing board to studs or supports in the wall, and mount the Control Box to that. The controller requires a dedicated 20 Amp 120 VAC protected electrical service. Position the box in close proximity to an existing electrical panel.

diagram 10



CashMaster Controller Components

A	Primary Power Module. Contains: GFCI and 110-24VAC Transformer
B	24VAC Wires to Distributor Panel
C	CashMaster 4-in-1 Programmable Timer Module
D	System Power Indicator Lights
E	Load Indicator Lights (one per channel)
F	“Coins To Start” Programming Dip Switches
G	“Time Per Coin” Programming Dip Switches
H	Counter Interface Wire Harness (System 3, only)
I	Coin Switch and Load Wire Harness
J	Solid-State I/O Distributor Panel
K	Main Distributor Panel Protection Fuse
L	Individual Channel Protection Fuses (one per channel)
M	Override Switches
N	Non-Resettable Counters (System 3, Only)
O	Timer Reset Button

9. INSTALLING YOUR SYSTEM: SOLENOID VALVE AND COIN ACCEPTOR WIRING

⚠ QUALIFIED TECHNICIAN REQUIRED

Wire Runs: Your CashMaster System requires a 2-wire connection from each Solenoid Valve to the CashMaster System Controller and a 2- or 3-wire connection (depending on system type) from each Coin Acceptor to the CashMaster Controller.

Secondary Wiring For Solenoid Valves and Coin Acceptors: Secondary wiring is class II and does not require conduit. However, conduit is strongly recommended if secondary wiring can not be concealed within walls or run inside a limited access plumbing chase or alley. Conduit is the only way to protect wiring from inadvertent damage or tampering. Follow Controller wiring diagram 11 or 12 to determine correct connection points on the I/O control panel terminal blocks for coin acceptors and solenoid valves.

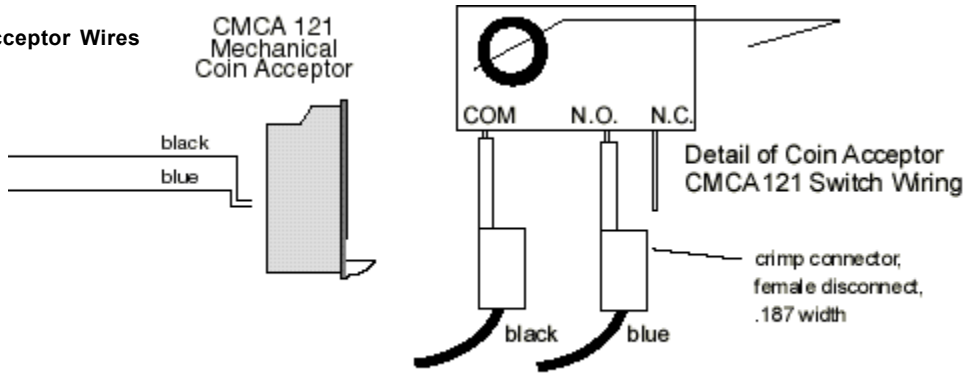
Wiring Specification, Secondary Circuits: All secondary circuit wiring must be stranded copper to accommodate current and service flexibility requirements. For runs up to 25 feet use minimum **20 gauge AWG wire**, for runs exceeding 25 feet use **18 Gauge AWG.** Run length should not exceed 100 feet. Under no circumstances is solid core wire to be used or are wire gauges to be smaller than recommended. Improper operation and/or damage to the Cashmaster System could result and may void your warranty.

diagram 8

CashMaster System 1
CMCA-121 Mechanical Coin Acceptor Wires

Wire mechanical coin acceptors directly to corresponding switch terminals in CashMaster Controller (see diagram 11).

Mechanical Coin Acceptors require a 2-wire connection for Common and Normally Open (switch) terminals on coin acceptor. Normally Closed is not connected.

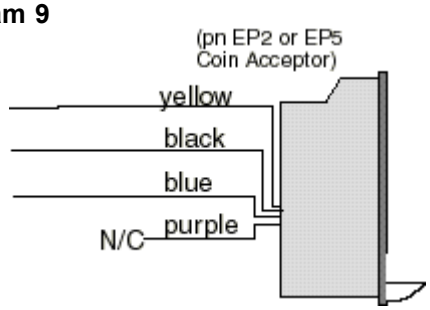


CashMaster System 2 and 3
EP2 and EP5 Coin Acceptor Wires

Wire electronic coin acceptors connections directly to corresponding switch terminals in CashMaster Controller (see diagram 12)

Electronic Coin Acceptors (pn EP2 and EP5) require 3-wire connection for yellow (24VAC Hot), black (common) and blue (24VDC switch). The purple wire (24VAC switch) is not connected. The purple wire should be secured or tied off to prevent interference with connected wires. Do not cut purple wire as it may limit your warranty coverage.

diagram 9



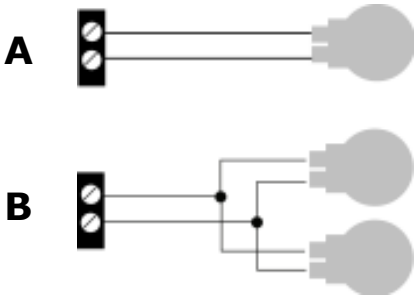
CMSV-221 Solenoid Valve Wires

A) Single Solenoid Installation: Wire solenoid connections directly to load terminals in Controller. (see diags 11& 12).

B) Dual Solenoid Installation: Run solenoid wire pair from controller to solenoid valves' location then connect dual solenoids in parallel. Wiring must be up-rated at least one size (i.e. 18 gauge to 16 gauge) depending on run length --the longer the run, the heavier the gauge. An electrician can make the calculations to determine correct wire gauge per load over distance. Use only CMSV-221 Solenoid Valves.

*NOTE: Solenoid connections are not polarized. Either solenoid tab can be connected to either load terminal

diagram 10



10. INSTALLING YOUR SYSTEM: SYSTEM WIRING, CASHMASTER SYSTEM 1

The diagram below shows primary and secondary wiring of the Cashmaster System 1, including the CMCA-121 Coin Acceptor and CMSV-221 Solenoid Valve.

Primary Wiring: The main disconnect and branch circuit wiring is provided by the purchaser or the purchaser's representative and must be installed properly to assure reliable and safe operation. If you are not familiar with electrical wiring or installing electrical equipment, refer installation to a qualified electrician or technician. Primary 120VAC wiring must be run in conduit from an electrical panel to the Controller using proper connectors. Connection to the Controller is made inside the panel junction box directly to the GFCI outlet lugs. An appropriate ground lug is provided. Observe all local, UBC and other applicable electrical codes.

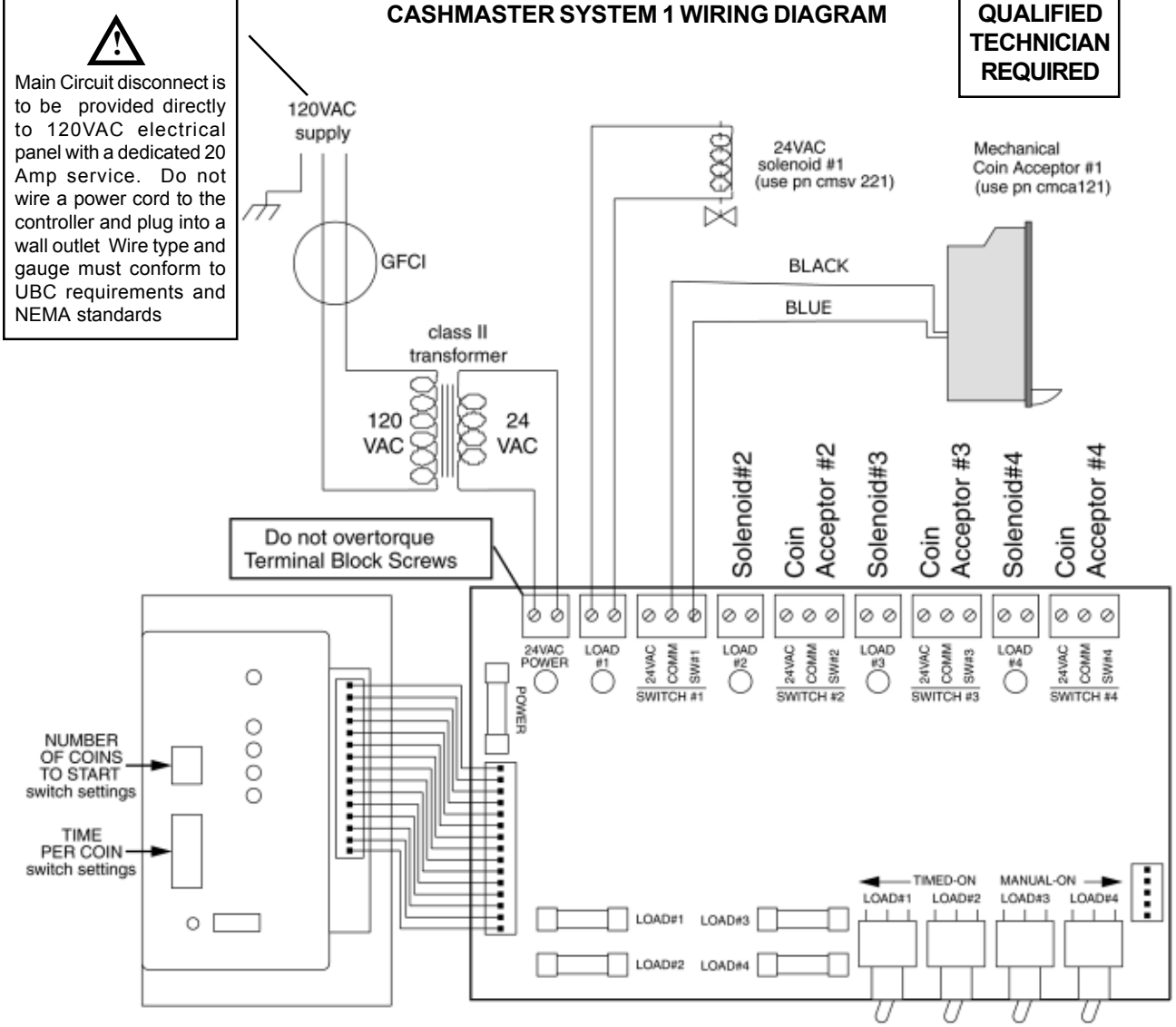
Secondary Wiring: All secondary circuit wiring must be stranded copper to accommodate current and service flexibility requirements. For runs up to 25 feet use minimum **20 gauge AWG wire**, for runs exceeding 25 feet use **18 Gauge AWG.** Run length should not exceed 100 feet. Under no circumstances is solid core wire to be used or are wire gauges to be smaller than recommended. Improper operation and/or damage to the Cashmaster System could result and may void your warranty.

diagram 11

CASHMASTER SYSTEM 1 WIRING DIAGRAM

QUALIFIED TECHNICIAN REQUIRED

Main Circuit disconnect is to be provided directly to 120VAC electrical panel with a dedicated 20 Amp service. Do not wire a power cord to the controller and plug into a wall outlet Wire type and gauge must conform to UBC requirements and NEMA standards



11. INSTALLING YOUR SYSTEM: SYSTEM WIRING, CASHMASTER SYSTEMS 2 & 3

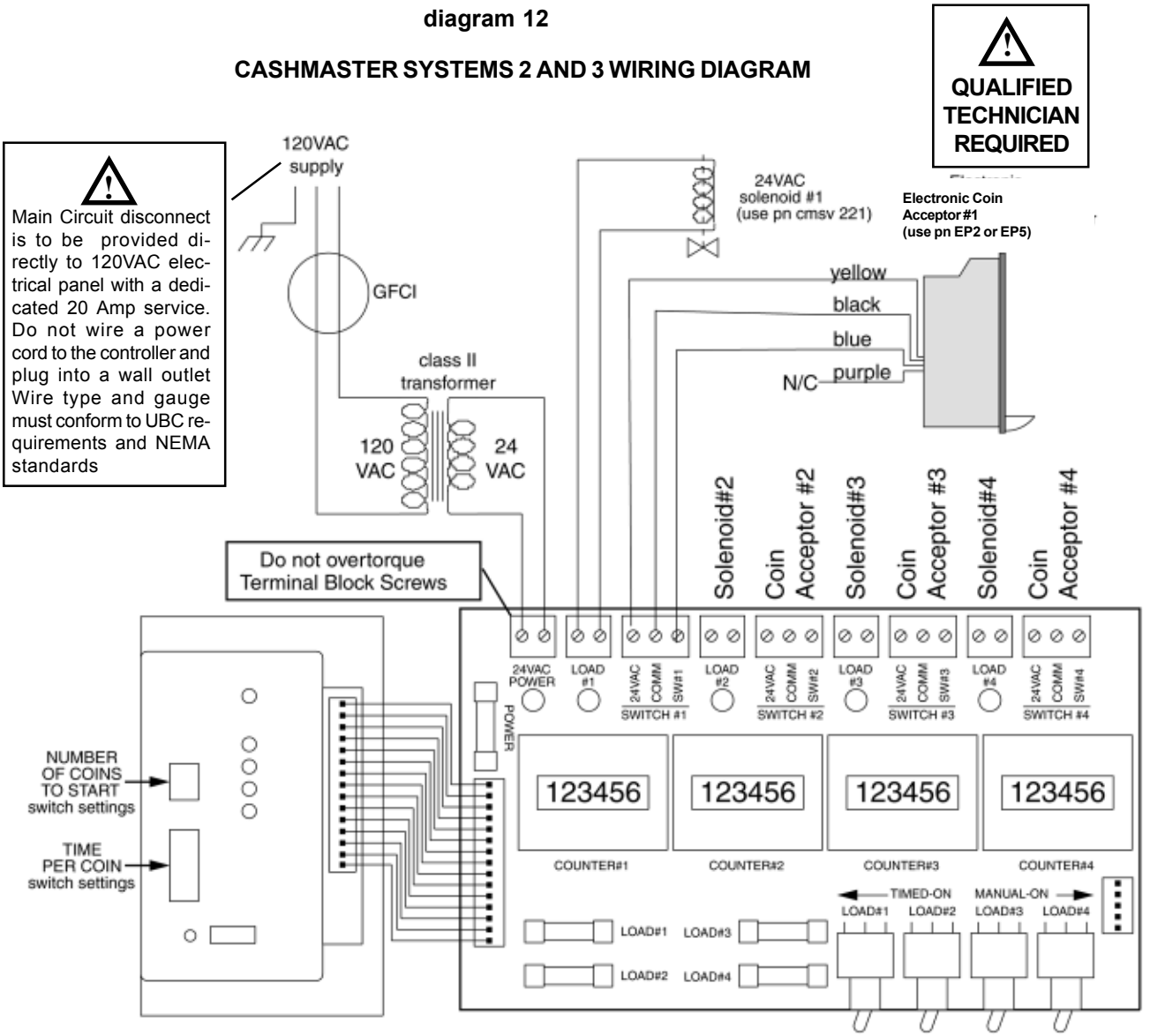
The diagram below shows primary and secondary wiring of the Cashmaster System 2 and 3, including the EP2 or EP5 Electronic Coin Acceptor and CMSV-221 Solenoid Valve.

Primary Wiring: The main disconnect and branch circuit wiring is provided by the purchaser or the purchaser's representative and must be installed properly to assure reliable and safe operation. If you are not familiar with electrical wiring or installing electrical equipment, refer installation to a qualified electrician or technician. Primary 120VAC wiring must be run in conduit from an electrical panel to the Controller using proper connectors. Connection to the Controller is made inside the panel junction box directly to the GFCI outlet lugs. An appropriate ground lug is provided. Observe all local, UBC and other applicable electrical codes.

Secondary Wiring: All secondary circuit wiring must be stranded copper to accommodate current and service flexibility requirements. For runs up to 25 feet use minimum **20 gauge AWG wire**, for runs exceeding 25 feet use **18 Gauge AWG.** Run length should not exceed 100 feet. Under no circumstances is solid core wire to be used or are wire gauges to be smaller than recommended. Improper operation and/or damage to the Cashmaster System could result and may void your warranty.

diagram 12

CASHMASTER SYSTEMS 2 AND 3 WIRING DIAGRAM



12. PROGRAMMING THE CONTROLLER

Programming the CashMaster Controller for coins to start and seconds per coin

Settings for coins to start and seconds per coin are found in the System Controller on the CashMaster 4-in-1 Timer (see diagram 7). Power does not need to be disconnected from the Controller when programming. Pushing the Reset Button on the CashMaster 4-in-1 Timer will allow the new settings to take effect. See, also, CashMaster 4-in-1 Timer Installation and Programming Instructions, attached.

Coins to Start: Locate the timer module in the System Controller Box. The top 4 rocker switches of the timer module (diagram 13) control how many coins it takes to start the shower. The setting amounts are shown to the right of the rocker switches. A setting is chosen when the rocker is depressed toward the right side of the switch body. Amounts are cumulative: depressing rocker 1 and 2 sets the system for 3 coins to start (see examples, below).

Seconds per Coin are set in the same way. The bottom 8 rocker switches of the timer module control the number of seconds the showers will run per each coin inserted. The example below shows 96 seconds per coin set (32+64).

Programming for Coin and Token Type

The CMCA-121 Mechanical Coin Acceptor (System 1) and EP2 Electronic Coin Acceptors (System 2 and 3) are factory preset for coin and token types to your specification at time of purchase . The optional EP5 Electronic Programmable Coin Acceptor is field-programmable for coin type, token type and pulses per coin (see “EP5 Installation and Programming Instructions).

diagram 13

Coins to start switch positions are cumulative:

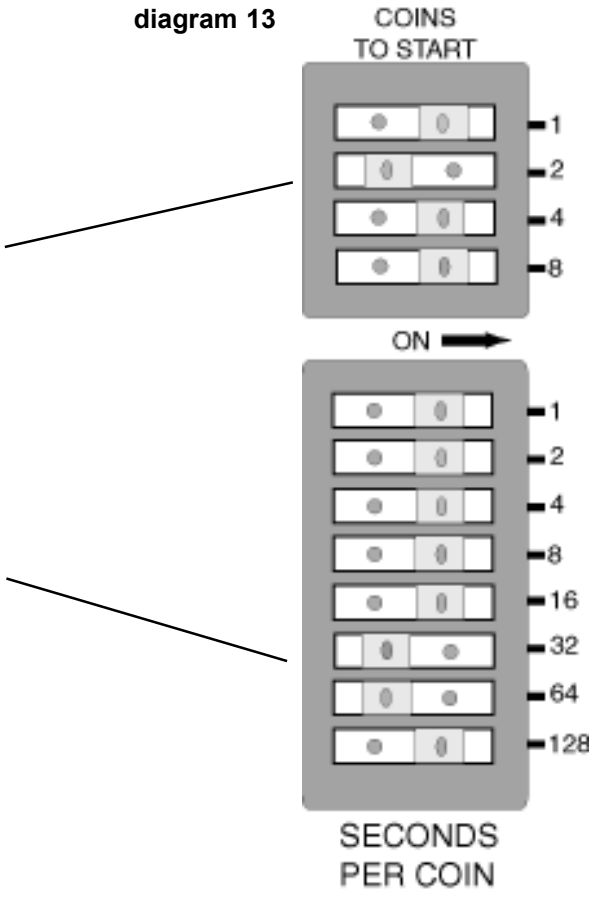
Example: to select 5 coins to start, depress 1 coin and 4 coins.

Second position depressed (shown) indicates 2 coins to start

Seconds per coinswitch positions are also cumulative:

32 seconds and 64 seconds depresssed indicates 96 seconds per coin selected (36 + 64)

Any single switch or combination can be used.



13. MAINTENANCE AND TROUBLESHOOTING

TROUBLESHOOTING and PREVENTIVE MAINTENANCE
Your Cashmaster System is designed and built to be safe and reliable. A simple, routine maintenance schedule will assure years of trouble free operation.

1 TROUBLE SHOOTING (REFER TO CONTROLLER DIAGRAM, SECTION 4)

1.1 Controller

1.1.1 CONDITION: Green "Power" LED's on Timer and/or Distribution Board in Controller Box are not lit.

- Main fuse is bad or out of socket. Replace fuse.
- GFCI has tripped. Test and reset GFCI. If GFCI will not reset a ground fault is indicated and primary power wiring may be incorrectly installed (or modifications to the circuit have been incorrectly made.) Contact a qualified electrician to evaluate the primary circuit.
- 120 VAC service circuit breaker has tripped. First verify that nobody is working in the building and confirm that it is safe to re-energize circuits, then reset circuit breaker.
- Controller transformer is bad. Call WCS Customer Service.

1.1.2 CONDITION: Red LED for Individual Shower (load) is not lit.

- Secondary fuse is bad. Replace corresponding fuse.
- Secondary fuse is loose in clips on Distributor Board. Tighten fuse clips by gently squeezing together. If controller is in a damp environment, condensation can cause poor connections. Ventilate area or relocate controller to drier environment.

1.1.3 CONDITION: Red LED for Individual Shower is lit.

- Shower is in use. Wait until person finishes to verify LED turns off.
- Override Switch may be in the OVERRIDE position. Toggle switch to normal position. Verify proper operation of coin acceptor.

1.2 Meter Box

1.2.1 CONDITION: Meterbox takes quarters but shower does not start.

- Coin Acceptor may be jammed and not allowing coins to fall. Remove faceplate/acceptor assembly. Clear jam carefully with hack saw blade or similar thin tool; test coin acceptor with coin while it is out of MeterBox.
- Coin Acceptor may be out of alignment with coin slot in meter box floor causing coin to hang up on edge of slot. Realign Coin Acceptor, tighten nuts, or replace Faceplate assembly. Test for clearance, assure coin slot is clear and that coin acceptor wiring is not impeding coin fall.
- Known good' test coin returns to coin cup (Try different quarters if possible). Adjust sensitivity on Coin Acceptor or replace Faceplate assembly.
- Test quarter does not turn on Timer and/or Solenoid Valve. Bad Faceplate Assembly. Replace with confirmed good SPARE.
- Test quarter turns on Timer and or Solenoid Valve, but little or no water comes out of shower head. Shower head is clogged, remove & clean it.
- Test faceplate with quarter, if shower is activated and counter in controller advances, then report may be false.

1.2.2 CONDITION: Coin Acceptor does not accept coins, all coins are rejected to coin return cup

- Check Coin Acceptor for any coin jams, obstructions or buildup of dirt or soap film in coin path
- Clean out Coin Acceptor using denatured alcohol and a thin tool such as a hacksaw blade wrapped in thin cloth.
- If unit is CMCA-121 Mechanical Coin Acceptor (System 1) and unit is still rejecting all coins call WCS Customer Service
- If unit is EP2 or EP5 Electronic Coin Acceptor (System 2 or 3), check all wiring and voltages. Electronic acceptors require a full 24volts to operate correctly.
- Test acceptor faceplate assembly by installing it in a known working MeterBox.
- Call WCS Customer Service if unit continues to reject coins.

1.2.3 Green, "Timer On" LED is always lit and shower is activated.

- If shower does not turn off automatically, check override switch position.
- If override switch is in normal position, check wiring to coin acceptor for continuity.
- If coin acceptor wiring connections are good and override switch is in the normal position, interchange existing

faceplate/coin acceptor with operational faceplate/coin acceptor from another shower. Test with coin and wait for timer to turn off shower. If known good faceplate/coin acceptor works, call WCS Customer Service

1.2.4 CONDITION: Shower Solenoid is Buzzing after shower stops;

- Change faceplate/coin acceptor assembly with known good one and test. Wait for timer to shut off shower. If problem persists replace solenoid valve or call WCS Customer Service.

1.2.5 CONDITION: Shower head leaks Water;

- Solenoid valve may be stuck open. Toggle override switch between normal and override positions several times. If problem persists call WCS Office.

1.2.6 CONDITION: Starting Shower blows fuse;

- Install new fuse and test existing faceplate, if fuse blows again, interchange faceplate/coin acceptor and test with known good unit. If problem persists call WCS Customer Service.
- Put in new fuse and test existing faceplate. If Green, “Timer On” LED lights and then turns off, solenoid coil may be shorted. Disconnect faceplate from plug and lock faceplate in meter box. Do not replace existing faceplate with good spare. Call WCS Customer Service

2 Repair and Maintenance recommendations: to keep your shower system up and running, the following tools and spares are recommended.

2.1 Recommended Tools

- ALLEN WRENCH set
- ELECTRIC DRILL, bits
- FLASHLIGHT
- FLATHEAD SCREW DRIVERS
  1 LARGE
  1 SMALL
- HAMMER
- MULTIMETER
- SOLDERING IRON, SOLDER
- 7/8” OPEN END WRENCH
- 7/16” OPEN END WRENCH
- 12” CRESCENT WRENCH

2.2 SPARE PARTS RECOMMENDED:

- CMCA 221 Coin Acceptor - 1 or CMCA121 Coin Acceptor -1
- CASH VAULT CAM LOCK WITH CORE - 1
- FACE PLATE CAM LOCK WITH CORE - 1
- CMSV221 SOLENOID VALVE - 1

2.3 PLUMBING TOOLS:

- FIRE EXTINGUISHER
- FLUX
- FLUX BRUSH
- HACKSAW
- METAL FILE
- PIPE CUTTER
- SMALL PLUNGER
- SOLDER
- VISE-GRIP
- TEFLON TAPE
- PIPE WRENCH

15. MAINTENANCE AND TROUBLESHOOTING

2.4 Preventive Maintenance:

- To keep your Cashmaster System reliable, safe and in new operating condition the following preventive maintenance steps are recommended:

- Keep Coin acceptors clean. Clean coin paths of soap scum and/or oil film deposits with dishwashing detergent and swab. Electronic appliance stores carry the right size swab to clean the coin path. DO NOT LUBRICATE COIN ACCEPTORS.

- If coin acceptors become obstructed, gently remove foreign objects using a thin tool such as a hack saw blade. If a source of compressed air is available, the path may be cleared by blowing it out.

- Use a Scotchbrite pad and damp cloth to restore meterboxes original luster.

- When servicing Coin Acceptors, remove faceplate assembly carefully to avoid pulling wires loose or damaging the coin acceptor.

- Once yearly, clear solenoid sediment screens. If system is shut down seasonally, depressurize lines and open solenoid sediment screen assembly to drain.

- Regularly check the alignment of coin acceptor and faceplate slot, and coin acceptor and cash vault slot. Realign if necessary to prevent coin jams.

- When replacing faceplate assembly, carefully route all cabling to avoid pinching wires or obstructing the coin path.

- Once monthly lubricate camlock keyways with LPS 1 or other silicone-based lubricant to inhibit corrosion and keep action smooth.

- Remember: WCS carries all spare parts required to keep your Cashmaster System running properly. Use only WCS components for repair and replacement.

Questions? Comments? Need more Information?

Please call WCS Customer Service
888-872-4975 or 805-963-5511
M-F 8am-5pm pst

Additional Information and Instruction Manuals are available at:
www.watercon.com