

# **Control Board Update Instructions for Rowe SBC2, SBC4, & NSBC Accepting \$1-\$20**

## **INSTALLATION OVERVIEW**

This update kit is for the Rowe SBC2/SBC4 board, which enables the changer to interface with Mars AE/VN 120 volt validators. The bill denominations accepted { \$1-\$5 or \$1-\$20 } are determined by the validator. This kit will interface with other 120v validators other than the Mars AE/VN series (Pyramid Apex, CoinCo, Mars VFM, etc.) but requires additional components or a different wiring harness. Contact us for details at (800) 814-7756.

## **KITS CONTENTS**

Control Board in metal housing with yellow text

Jumper on header C3

MEI validator harness connected at header C4

12vdc meter

Harness to empty lamp on front door to P5 on left hand side of board (44")

Instructions titled: Control Board Update Instructions for Rowe SBC2,SBC4 & NSBC Accepting \$1-\$20 – 4 pages total

## **Additional Required Items Not Included With Kit**

Working Mars validator – Model AE2401, VN2501, or AE2601

Dollar bills to test the validator and verify operation of the kit

If the board is being used with a Pyramid or Coinco validator an optional connector will be populated at Connector 5.

## **Tools Required**

11-32 long handle nut driver

¼” long handle nut driver

## **Optional Parts**

Low coins screw - If installed a drill and a bit are required – call if desired

## INSTALLATION INSTRUCTIONS

1. Unplug the changer's power cord from the wall outlet.
2. Unlock and open the front door of the changer.
3. Unplug the five wiring harnesses from the control board # 450858--.
4. Remove the control board from the back of the cabinet by unscrewing the four 11-32 nuts.
5. Install the new control board in the exact location of the original board. Use the original four nuts to mount the board. Be sure the gray insulating paper is still in place.
6. Reconnect the harnesses to the new control board. The power connector attaches at P2. The payout assembly attaches at C2A. The empty lamp harness connects to the lower 2 pins at the connector labeled "empty". Connector C2 is not used in this application and will remain open.
7. The harness for the Mars validator will be connected to header C4 when the board arrives. Run this harness towards the Rowe validator that is still mounted to the front door of the changer.
8. Unplug the two wiring harnesses from the Rowe CBA2/UBA2 validator. These 2 harnesses are not used with the kit.
9. Remove the validator by unscrewing all four ¼" hex screws.
10. A Mars 120v validator with a VFM style mask will fit perfectly into the door slot for a SCB2 changer. The models are VN 2501, AE 2401, and AE 2601. In the event the validator you are installing has a compact mask, a conversion kit will need to be installed; The Mars part number is 250067013. The NSCB has a full size validator mounting hole so a validator with a compact mask or VFM style mask can be installed.
11. Set the dipswitches on the validator. Switch setting information is printed in yellow text on the board enclosure.
12. Install the validator using the same original four ¼" hex screws.
13. Connect the harness from C4 of the new control board to the validator.
14. At this point the kit can be tested. Plug the changer back into the wall outlet. The new board should have power, which will be indicated by the +5v LED.
15. Upon verification that the board is working correctly, the payout dipswitches can be changed if desired. The board will be set to dispense four coins per dollar value when it is shipped.

## TROUBLESHOOTING TIPS

The status LED on the control board will display the following codes:

- 1 Blink – Hopper is empty or has no continuity from harness to control board
- 2 Blinks – Time out feature; the maximum allowed time of 20 seconds between coin counts was exceeded
- 3 Blinks – Over payment of coins
- 4 Blinks – The red LED count emitter is bad or is covered – the counting collector (across from emitter) may be bad.
- 5 Blinks – The dipswitches are not set, thus no payout is possible

## **If the +5vdc LED on the board is not lit, check the following:**

1. Wall outlet has power and the machines power cord is in excellent condition.
2. The on/off switch on the power input line is in the "on" position.
3. Unplug the machine and confirm that fuse #1 on the control board is good. It is a 2 amp fuse; 20mm.

The input button on the control board can be used to simulate pulses from a dollar bill validator to test the board. This button must be pressed rapidly. It must be pressed once, twice, five, ten, or twenty times as the board will shut down if an impossible dollar value is entered. The pulses must be inputted quickly. If the board shuts down depress the reset button.

## **OPERATIONAL OVERVIEW**

The green hopper LED lights while the hopper is running

The meter clicks once per dollar value at the end of the vend cycle

## **WIRING HARNESS CONNECTIONS**

Wiring Harness – main power to P3 of board

Wiring Harness – to empty lamp on front door to P5 of board

Wiring Harness – to Coin Dispense Assembly to P4 of board

Wiring Harness – to Mars AE/VN validator to P6 of board standard stock validator to P6 of board

Wiring Harness – low coins to P7 of board jumper or harness from parts kit

## **Dip Switch Settings for Mars validators**

<b>AE2400 \$1-\$5</b>	<b>AE2600 \$1-\$20</b>	<b>VN2500 \$1-\$5</b>
1. ON	1. ON	1. ON
2. ON	2. ON	2. ON
3. OFF	3. ON	3. OFF
4. ON	4. ON	4. ON
5. ON	5. ON	5. ON
6. ON	6. OFF	6. ON
7. OFF	7. OFF	7. ON
8. ON	8. ON	8. OFF

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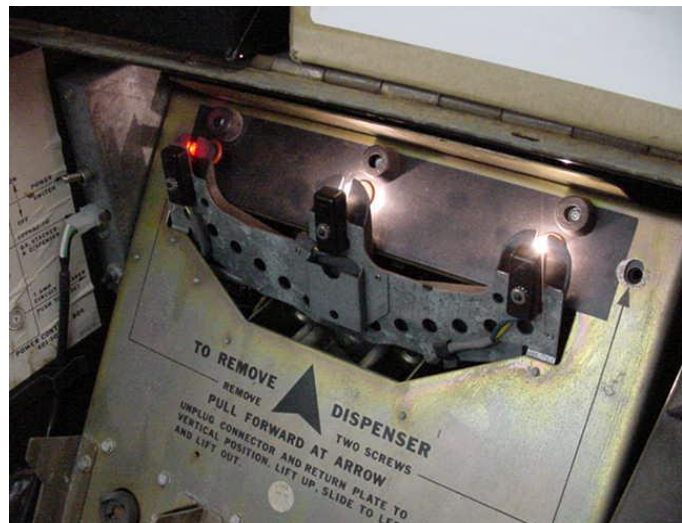
## Bullet Bulb

This custom part replaces the 755 incandescent count emitter bulb in Rowe dollar bill changers. This part is installed in the coin dispenser assembly that is located behind the hoppers. This new part offers the advantage of a considerably longer life and will not fail due to vibrations. This is very important as Rowe changers shut down when the count emitter bulb fails. This item easily pays for it self by eliminating service calls and unnecessary downtime.

The "Bullet Bulb" can be installed in a bill changer that originally used an incandescent lamp *BC2RC, SCC3, BC9, C10, BC11, BC115, BC12, BC12R, BC20, BC25, BC25MC, and BC35.*  
**Part# NRBULLETBULB**

For Rowe changer models *BC100, BC150, BC200, BC1200, BC1400, BC2800, and BC3500.*  
**Part # NRBULBxx00**

**Installation:** On location installation time of 5 minutes or less.



**New Bullet Bulb shown on left hand side**

# NEED HELP?

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