

Validator Update Instructions Rowe BC1400 & BC2800 \$1- \$20

Kit Overview:

The purpose of the kit is to replace the Rowe BA50 transport and stacker with a 120-volt Mars validator with a #8 mask. The kit and these instructions pertain to a Rowe BC1400; this is a rear loading changer with two hoppers. \$1-\$20. This kit is designed for dollar bill changers that are not used to make change for a coin.

The installation information is intended for experienced personnel familiar with the operation of these components. All the installation procedures must be reviewed and understood prior to installing the kit. The installation instructions are based upon a dollar bill changer that has not been modified from the original factory configuration. If the machine has been altered in any way, restore the machine to the original factory configuration prior to beginning the conversion.

Kit Components:

- Module in black plastic box; labeled BC1200/1400/3500
- Metal validator slide plate with wide opening – long style – 7 holes for #8 mask
- Jumper with a 15-position connector
- Four of 11/32 hex nuts

Additional Required Items Not Included with Kit:

- Working CPI/MEI/Mars validator – Model AE2481/AE2481, VN2581, AE2681, Talos T68
- Dollar bills to test the validator and verify operation of the kit

Tools Required:

- 11/32", 1/4", and 3/8" long handle nut drivers
- Pliers

Installation Instructions:

1. Unplug the power cord from the wall and open the door of the changer.
2. Begin removing the BA50 bill transport by unplugging the harness at the 15-position harness connector. A harness will still be connected to the side of the BA50 transport.
3. Plug the kit's jumper harness BCHARNJUMPER15 into the now open 15 position female connector. This is the male plug with the shrink tube covering the wires. Attach the Mars validator to the Slide plate.
4. Unscrew the 2 thumbscrews that secure the transport assembly. Slide the transport assembly out of the changer. The spring steel-locking clip on the right-hand side will need to be pushed to the right to release the assembly. Set the assembly in a clean work area for modification. The photos of this procedure are found on the page titled REAR LOAD CHANGER TRANSPORT MODIFICATION INSTRUCTIONS.
5. Slide the BA50 transport forward and out of the transport assembly. The latch will need to be depressed to release the transport. Figure 1-RLCMI shows the complete assembly, and figure 2-RLCMI the transport removed.
6. Remove the two 1/4" hex screws from the left- and right-hand side of the assembly; figure 3-RLCTMI.
7. Separate the lower unit with the motor and harnessing from the upper section; figure 4-RLCTMI.
8. The upper section, shown in figure 5-RLCMI, is reused.
9. Loosen the 1/4" hex screw at the top center of the assembly, one rotation, it was originally used to hold a white nylon tie down.
10. Slide the validator mounting plate (with validator attached) down into the upper bracket; figures 6-RLCMI.

11. Once the bracket is all the way forward, tighten the ¼" hex screw so the plate and bracket are secured together.
12. Set the dipperswitches on the validator. The various possible settings are listed on the Module.
13. Set the assembly aside, it will be reinstalled in a future step.
14. Insert the 9-position harness from the new Module into the 9 position harnesses that is currently tucked behind the Coin Dispenser Assembly. Extend the harness out from behind the Assembly. This harness was not connected to any components. In most cases it is necessary to remove both hoppers and unbolt the Coin Dispenser Assembly.
15. After attaching the harness, re-secure the Coin Dispenser Assembly and hoppers.
16. Unplug the 3-position power harness from the power junction box. Plug the 3-position male connector from the kit into the now open connector. Plug the machine harness into the 3-position female connector of the wiring harness from the Module. See figure 5.
17. Mount the kit Module using Velcro. See figure 5.
18. The new validator assembly is now installed. Slide the validator plate assembly down the same tracks that secured the original Rowe BA50 transport assembly. The upper black rails will slide along the tracks in the changer. Secure the unit using the original two thumbscrews.
19. Attach the harness from the Module with the long black connector to the Mars validator. Note the position of the two "keyed pins" when attaching the connector.
20. At this point the BILL CHANGER CONTROL COMPUTER is reprogrammed. Plug the power cord back into the wall outlet. After a 10 second warm up period the "walking blue dash" will appear on the BILL CHANGER CONTROL COMPUTER and begin scrolling back and forth.

The 3 most popularly used programs are described below. The programming assumes 4 quarters will be dispensed for each dollar value inserted. If you are dispensing dollar coins divide the number of coins to be dispensed by 4. The below instructions can be used as a basis for substituting your own values if needed. The values you are programming may seem odd, however the validator now controls the denominations accepted. The MC mode is recommended if you are dispensing the same value coin in both hoppers. The operation of the MC Mode is described on page 2-12 in the Rowe BC-1200/1400 Bill & Coin Changer Field Service Manual and Parts Catalog; fifth edition.

Mc Mode - 4 Coins per Dollar Value

- A. Slide the BILL CHANGER CONTROL COMPUTER towards yourself so it is easy to view the blue display and access the programming buttons.
- B. Slide the mode switch upwards to the programming mode, the display will read TEMP COUNTERS.
- C. Depending upon the vintage of the BILL CHANGER CONTROL COMPUTER, the FUNCTION button may be labeled as FUNCTION or FUNCTION-ERROR RESET. These instructions refer to the button as FUNCTION.
- D. Press the FUNCTION button, the display will read PERM COUNTERS.
- E. Press the FUNCTION button, the display will read PROGRAMMING __ __ __ __. If a security code was entered earlier enter the code now.
- F. Press the FUNCTION button, the display will read MC PAYOUT. It must be set to ON. Use either of the COUNT SWITCHES BUTTONS to set this option to ON.
- G. Press the FUNCTION button, the display will read HOP VAL; the value of coins for the left hopper will be flashing. Press the VALUE button until the display reads T1.
- H. Press the HOPPER button; the display will advance to the right hopper. Press the VALUE button until the display reads T1.
- I. Press the FUNCTION button, the display will read ACCEPT 1; this is set to NO. The NO and YES options are toggled using the COUNT SWITCHES.
- J. Press the VALUE button, the display will read ACCEPT 2; this is set to NO.
- K. Press the VALUE button, the display will read ACCEPT 5; this is set to YES.
- L. Press the VALUE button, the display will read ACCEPT 10; this is set to NO.
- M. Press the VALUE button, the display will read ACCEPT 20; this is set to NO.
- N. Press the VALUE button, the display will read ACCEPT 25; this setting must be set to YES.
- O. Press the VALUE button, the display will read ACCEPT 25A; this setting is set to NO.

- P. Press the VALUE button, the display will read ACCEPT 50; this is set to YES.
- Q. Press the FUNCTION button, the display will show 25 PAY ____ MC MC. Use the COUNT SWITCH BUTTONS to set the value to 4. Use the COUNT SWITCHES to change the value. This value determines the number of coins to be dispensed for a \$1 bill; twice the number of coins for a \$2 bill.
- R. Press the VALUE button, the display will show 50 PAY ____ MC MC. Use the COUNT SWITCHES BUTTONS to set the value to 20. Use the COUNT SWITCHES to change the value. This value determines the number of coins to be dispensed for a \$5 bill.
- S. At this point all the programming changes needed for the kit have been made, slide the function button down to the NORMAL OPERATING MODE. The display will indicate Storing New Data.
- T. The walking blue dash will begin scrolling. The 2 green arrows on the validator will begin blinking.
- U. Skip to #16.

Non-Mc Mode - 2 Quarters from Each Hopper for a \$1 Bill & 10 Quarters from Each Hopper for a \$5 Bill

- A. Slide the BILL CHANGER CONTROL COMPUTER towards yourself so it is easy to view the blue display and access the programming buttons.
- B. Slide the mode switch upwards to the programming mode, the display will read TEMP COUNTERS.
- C. Depending upon the vintage of the BILL CHANGER CONTROL COMPUTER, the FUNCTION button may be labeled as FUNCTION or FUNCTION-ERROR RESET. These instructions refer to the button as FUNCTION.
- D. Press the FUNCTION button, the display will read PERM COUNTERS.
- E. Press the FUNCTION button, the display will read PROGRAMMING ____ ____ ____ _____. If a security code was entered earlier enter the code now.
- F. Press the FUNCTION button, the display will read MC PAYOUT. It must be set to OFF. Use either of the COUNT SWITCHES BUTTONS to set this option to OFF.
- G. Press the FUNCTION button, the display will read HOP VAL; the value of coins for the left hopper will be flashing. Press the VALUE button until the display reads T1.
- H. Press the HOPPER button; the display will advance to the right hopper. Press the VALUE button until the display reads T1.
- I. Press the FUNCTION button, the display will read ACCEPT 1; this is set to NO. The NO and YES options are toggled using the COUNT SWITCHES.
- J. Press the VALUE button, the display will read ACCEPT 2; this is set to NO.
- K. Press the VALUE button, the display will read ACCEPT 5; this is set to YES.
- L. Press the VALUE button, the display will read ACCEPT 10; this is set to NO.
- M. Press the VALUE button, the display will read ACCEPT 20; this is set to NO.
- N. Press the VALUE button, the display will read ACCEPT 25; this setting must be set to YES.
- O. Press the VALUE button, the display will read ACCEPT 25A; this setting is set to NO.
- P. Press the VALUE button, the display will read ACCEPT 50; this is set to YES.
- Q. Press the FUNCTION button, the display will show 25 PAY ____ --- _____. Use the COUNT SWITCH BUTTONS to change the value for the left hopper to 2. Press the HOPPER button to advance to the right hopper value. Use the COUNT SWITCHES to set the value at 2. This value determines the number of coins to be dispensed for a \$1 bill; twice the number of coins for a \$2 bill.
- R. Press the VALUE button, the display will show 50 PAY ____ --- _____. Use the COUNT SWITCHES BUTTONS to change the value for the left hopper to 10. Press the HOPPER button to advance to the right hopper value. Use the COUNT SWITCHES to change set the value to 10. This value determines the number of coins to be dispensed for a \$5 bill.
- S. At this point all the programming changes needed for the kit have been made, slide the function button down to the NORMAL OPERATING MODE. The display will indicate Storing New Data.

- T. The walking blue dash will begin scrolling. The 2 green arrows on the validator will begin blinking.
- U. Skip to #16.

Non-Mc Mode - 3 Quarters and 5 Nickels for a \$1 Bill & 19 Quarters and 5 Nickels for a \$5 Bill

- A. Slide the BILL CHANGER CONTROL COMPUTER towards yourself so it is easy to view the blue display and access the programming buttons.
- B. Slide the mode switch upwards to the programming mode, the display will read TEMP COUNTERS.
- C. Depending upon the vintage of the BILL CHANGER CONTROL COMPUTER, the FUNCTION button may be labeled as FUNCTION or FUNCTION-ERROR RESET. These instructions refer to the button as FUNCTION.
- D. Press the FUNCTION button, the display will read PERM COUNTERS.
- E. Press the FUNCTION button, the display will read PROGRAMMING __ __ __ __. If a security code was entered earlier enter the code now.
- F. Press the FUNCTION button, the display will read MC PAYOUT. It must be set to OFF. Use either of the COUNT SWITCHES BUTTONS to set this option to OFF.
- G. Press the FUNCTION button, the display will read HOP VAL; the value of coins for the left hopper will be flashing. Press the VALUE button until the display reads T1.
- H. Press the HOPPER button; the display will advance to the right hopper. Press the VALUE button until the display reads T1.
- I. Press the FUNCTION button, the display will read ACCEPT 1; this is set to NO. The NO and YES options are toggled using the COUNT SWITCHES.
- J. Press the VALUE button, the display will read ACCEPT 2; this is set to NO.
- K. Press the VALUE button, the display will read ACCEPT 5; this is set to YES.
- L. Press the VALUE button, the display will read ACCEPT 10; this is set to NO.
- M. Press the VALUE button, the display will read ACCEPT 20; this is set to NO.
- N. Press the VALUE button, the display will read ACCEPT 25; this setting must be set to YES.
- O. Press the VALUE button, the display will read ACCEPT 25A; this setting is set to NO.
- P. Press the VALUE button, the display will read ACCEPT 50; this is set to YES.
- Q. Press the FUNCTION button, the display will show 25 PAY __ --- ____. Use the COUNT SWITCH BUTTONS to set the value for the left hopper to 3 (quarters). Press the HOPPER button to advance to the right hopper value. Use the COUNT SWITCHES to change the value to 5 (nickels). This value determines the number of coins to be dispensed for a \$1 bill; twice the number of coins for a \$2 bill.
- R. Press the VALUE button, the display will show 50 PAY __ --- ____. Use the COUNT SWITCHES BUTTONS to change the value for the left hopper to 19 (quarters). Press the HOPPER button to advance to the right hopper value. Use the COUNT SWITCHES to set the value at 5 (nickels). This value determines the number of coins to be dispensed for a \$5 bill.
- S. At this point, all the programming changes needed for the kit have been made, slide the function button down to the NORMAL OPERATING MODE. The display will indicate Storing New Data.
- T. The walking blue dash will begin scrolling. The 2 green arrows on the validator will begin blinking.
- U. Go to #16.

Important Notes:

If you are technician and help with the kit, please open a single support ticket by emailing us at support@capitalvending.com. If the changer has been modified from factory stock and parts are required that are not on the Capital Vending website, let us know and we will do best to get you the part(s).

Take care to update the service records for this machine to reflect the work performed and components installed. There is no excuse for not maintaining proper records as there are likely only a few entries per year. Capital will assist technicians with our kits on a continual basis if service records are maintained.

If you need help with this kit, please contact us at support@capitalvending.com. When you contact us, include a detailed explanation of the issue and a copy of the machines service records as an attachment. Include the invoice number when the kit was purchased as this information is required so our technician has good information about your machine. Include pictures of a fitment issue if applicable.

In the event the issue is related to a component in the cabinet rather than the kit, then contact the manufacturer of the machine or local parts distributor as they will be able to help determine the part you need.

Revision CY08152023

BC 1400 Module Kit



Image 7

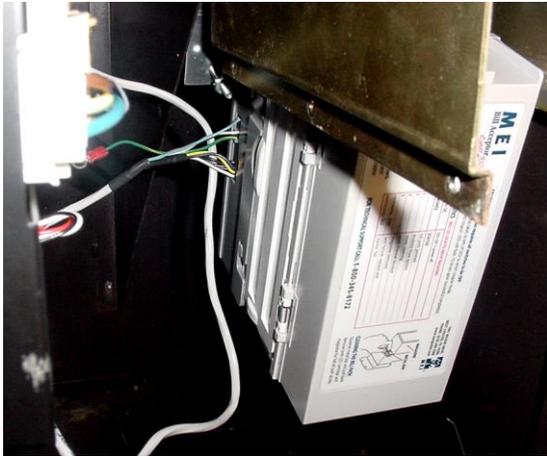


Image 8



Image 9



Image 10