Hardware Requirements for AccuLoad III Firmware Upgrade

Before attempting to upgrade your AccuLoad III to an ALX firmware package, ensure that the hardware is capable of handling the application by checking the revision levels of the EAAI board and the PIB board. Refer to the tables below for revision levels and capabilities.

EAAI Board

Board Revision Level	Number of RTD Modules Allowed
#1 - #4	2
#5 - #6	4
#7	6

PIB Board

Board Revision Level	Functionality
Board Revision #0 EPLD (U9) Revision #0	Can handle up to three single channel product meter pulse inputs and three pulse inputs for metered injectors and/or frequency densitometers; or Two dual pulse meter inputs with integrity (collision); or One dual pulse meter input with integrity (collision) and three pulse inputs for metered injectors and/or frequency densitometers
Board Revision #0 EPLD (U9) Revisions #1 and #2	Adds the capability of two dual pulse meter inputs and two inputs for metered injectors or frequency densitometers
Board Revision #1 (PIB II) EPLD (U9) Revision #0	Adds the capability of three dual pulse meter inputs
Board Revision #2 (PIB III) EPLD (U9) Revision #0	Adds the capability of a high speed prover output
Board Revision #2 (PIB III) EPLD (U9) Revision #1	Reverse Flow

PROM Installation Instructions

Before attempting any part of the following procedure, make certain that all programming data (including meter factors, totalizers, equations, and reports) currently contained in the program codes are recorded so that it can be re-entered into memory after new PROMs have been installed.

Note: PROMs must be changed as sets for units using a KDC Board. Do not attempt to operate the AccuLoad III using PROMs from different revisions.

When installing a KDC.net please note that the software revision (retrievable through diagnosis), U5 and U6 display proms, EAAI, BSE, and the AICB can all contain DIFFERENT revision levels. This is very common in firmware revisions 11.01 and above.

1. Read all instructions completely before attempting PROM Installation.
2. Power down the AccuLoad III.
3. Remove the AccuLoad III front cover screws.
4. Open the front cover.
5. Remove the seven barrier screws and barrier plate (Figure 1) from the KDC board located on the cover.
6. Remove the four barrier screws and the barrier plate (Figure 2) from the EAAI board located in the bottom of the housing.
7. Refer to Figure 3 for location of the PROMs on the KDC board and Figure 4 for the location of the PROM on the EAAI board and the BSE board (BSE board on ALIII-Q units only).
8. Using a PROM extracting tool, carefully pry the PROMs out of their sockets.
9. Install the new PROM in its proper location on the KDC board as shown by the PROM reference number (U5, U6, U34, U35, U39, and U40) on each PROM. (On the KDC.net there will be no U34, U40, U35, or U39 firmware proms). Ensure that all pins on the PROM are lined up with the socket receptacles, and that pin 1 of the PROM is lined up with pin 1 of its corresponding socket. There will be a notch in the socket to assure proper installation. Referring again to Figure 3, all PROMs (when properly installed) will have their notch facing left on the board where the arrows appear on the picture.
10. Install the new PROM in its proper location on the EAAI board as shown by the PROM reference number (U8) on the PROM. Ensure that all pins on the PROM are lined up with the socket receptacles, and that pin 1 of the PROM is lined up with pin 1 of its corresponding socket. There will be a notch in the socket to assure proper installation. Referring again to Figure 4, the PROM (when properly installed) will have its notch facing up on the board where the arrow appears on the picture.
11. Install the new PROM in its proper location on the BSE board (provided but not used with ALIII-S hardware) as shown by the PROM reference number (U5) on the PROM. Ensure that all pins on the PROM are lined up with the socket receptacles, and that pin 1 of the PROM is lined up with pin 1 of its corresponding socket. There will be a notch in the socket to assure proper installation. Referring again to Figure 4, the PROM (when properly installed) will have its notch facing left on the board where the arrow appears on the picture.
12. Pin 1 of the PROM is indicated as being to the left of the notch (facing away from you). Care should be taken to avoid bending the pins.
13. This completes the installation of the new PROMs. To assure correct system operation, it is now necessary to initialize the AccuLoad.
14. Replace the barrier plates and secure them into place with the screws removed earlier.
15. Close the front cover, taking care not to pinch any of the internal cables.
16. Power-up the AccuLoad III. The initialization test will be displayed followed by Ready Mode Display. If the AccuLoad III does not display the Ready Mode Display, power the unit down and check the PROM installation for bent pins and correct orientation. Disregard any alarms that occur on initial power-up.
17. Go to the Main Menu and Select Program Mode Menu.
18. The ENTER Passcode Screen will be displayed. Press "0" (X) will be displayed.
19. Press "ENTER". The Program Mode Menu will be displayed. Scroll down to the "Diagnostics Menu" and press "ENTER".
20. The Diagnostics Menu will be displayed. Scroll down to "Factory Intialize" selection and press "ENTER".

21.   The following will be displayed:

```
Factory Initialize
WARNING
All run data and parameters
Will be erased! Press ENTER to
Continue or CLEAR to exit.
```

22.   Press "ENTER". The following screen will be displayed:

```
Erasing Flash
May take over 1 minute
Please wait
```

Followed by:

```
Smith Meter Inc.

AccuLoad III Initializing…
```

23.   When the intialization process, has been completed the AccuLoad will display a DA: Mtr Program Err.

24.   Enter the Program mode and reprogram the AccuLoad III.

25.   Record program data for future reference.

26.   Return old PROMs to:

         FMC Technologies Measurement Solutions Parts Operation
         1602 Wagner Avenue
         Erie, PA 16510-1444
         Attention: Electronic Repair Center

27.   Reference the shipping order and RMA number on the return package for expedient processing.

Mounting Screws
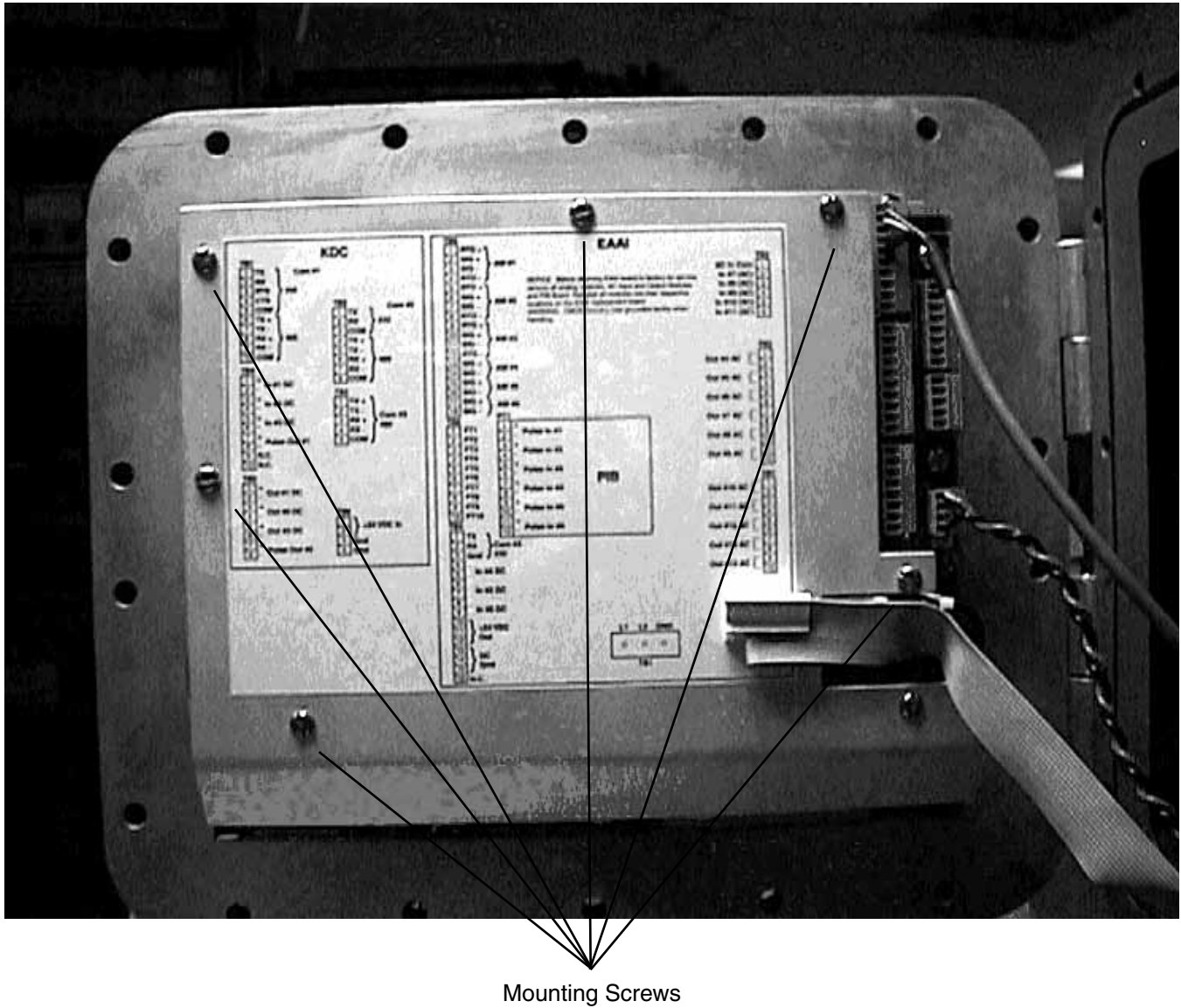
Figure 1. KDC Barrier Plate (ALIII-S hardware shown)

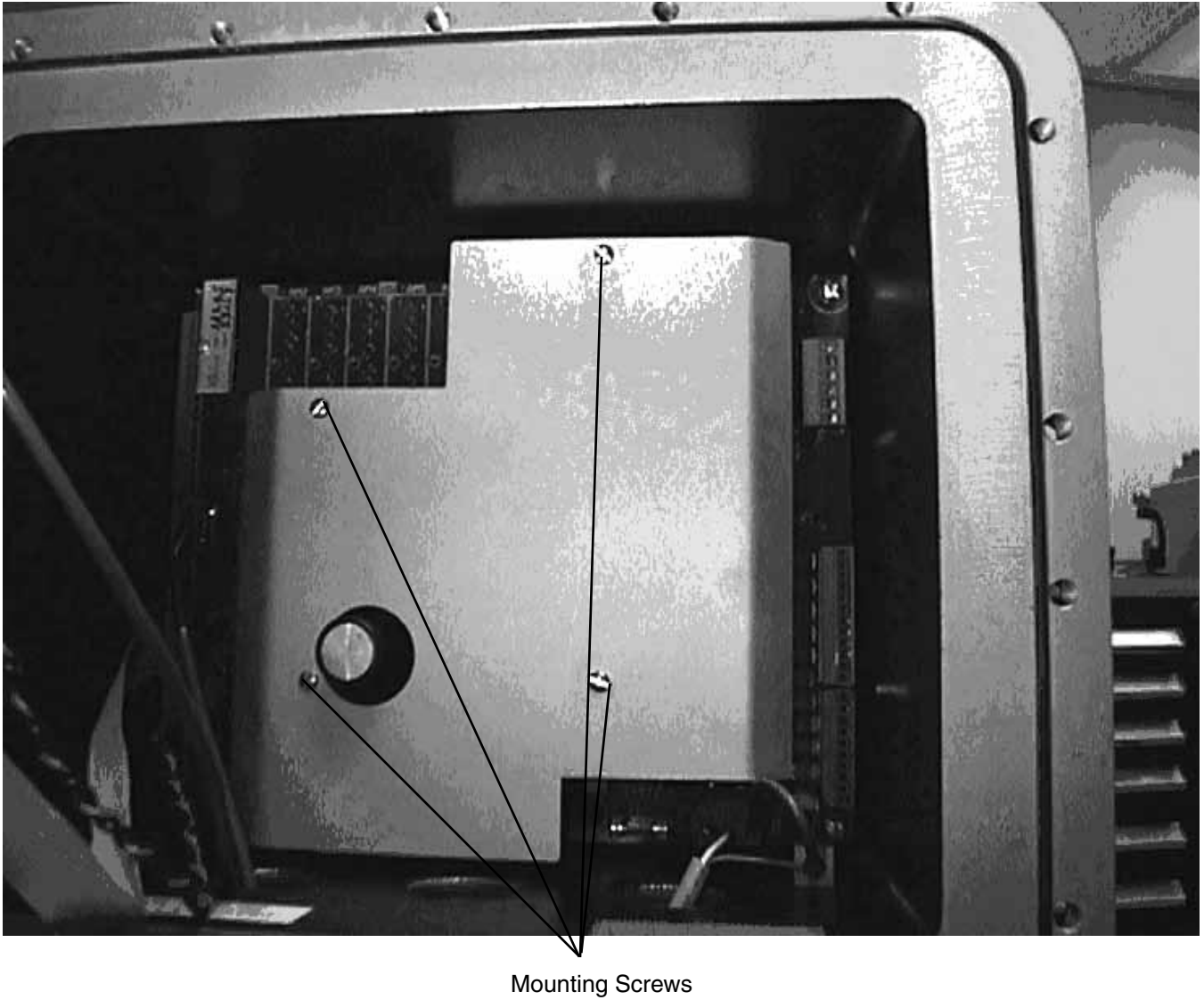Mounting Screws

Figure 2. EAAI Barrier Plate (ALIII-S hardware shown)

U39 PROM notch left
(not present with AccuLoad III.net KDC boards)

U40 PROM notch left
(not present with AccuLoad III.net KDC boards)

U6 PROM
(notch left)

U5 PROM
(notch left)

U35 PROM notch left
(not present with AccuLoad III.net KDC boards)

U34 PROM notch left
(not present with AccuLoad III.net KDC boards)
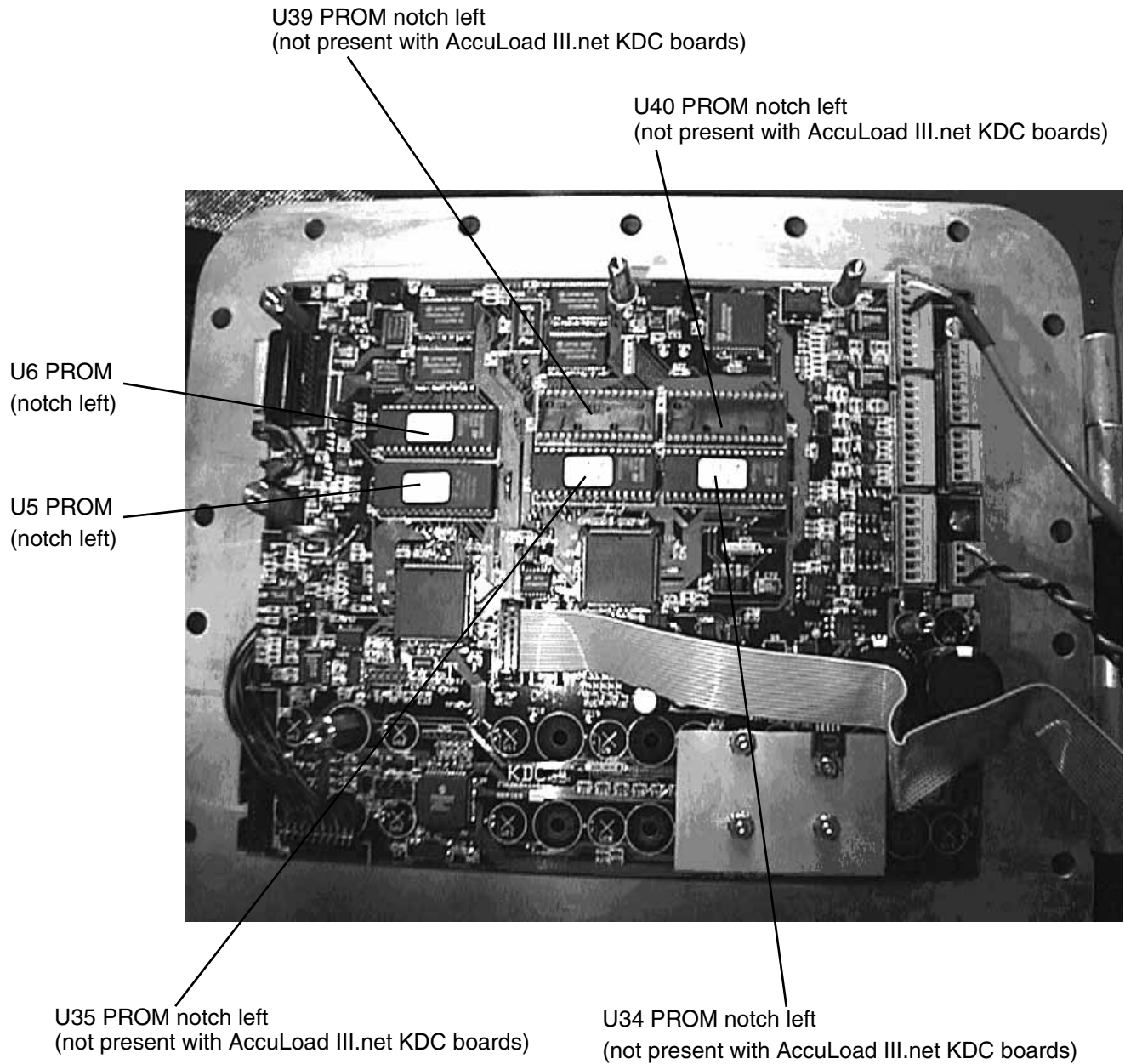
Figure 3. KDC PROMs

Note: U39 and U40 PROMs apply to ALS1, ALD1, ALQ1, ALQ3, ALQ4, ALX1, ALX2, ALX3, ALX4, ALX5, and ALX6 firmware packages. Picture shown with ALIII-S hardware and ALS firmware.
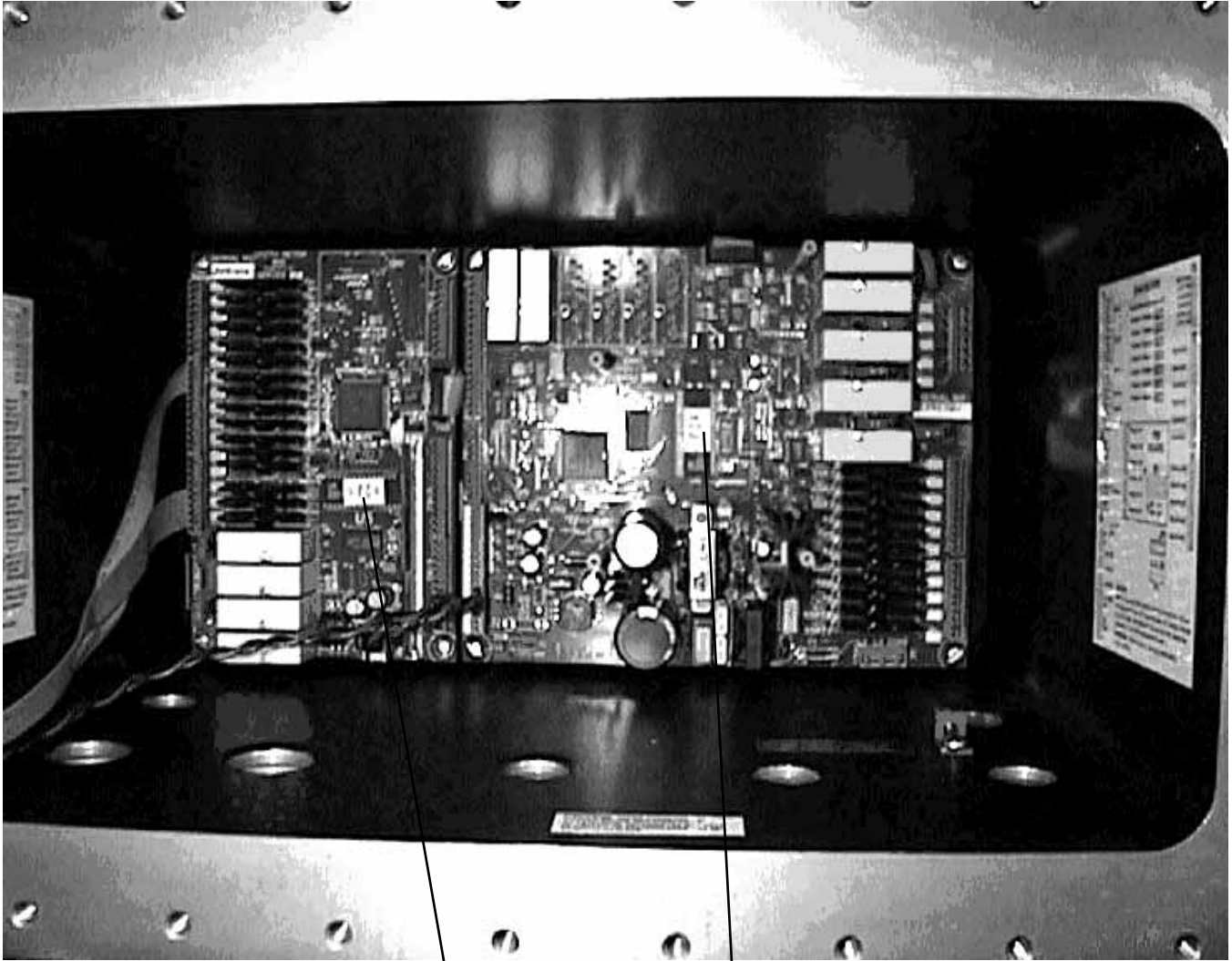
Figure 4. EAAI and BSE PROMs

BSE PROM U5
(notch right)

EAAI PROM U8
(notch up)

Note: BSE Board on ALIII-Q hardware only.
Note: BSE PROM (U5) supplied with all ALX replacement firmware kits. If a BSE board is not included as part of the AccuLoad III system, this PROM will not be used (all ALIII-S hardware).
Note: With AccuLoad III.net, prom revisions may not be the same.

Section II – Related Publications

The following literature can be obtained from FMC Technologies Measurement Solutions Literature Fulfillment at johno@gohrs.com or online at *www.fmctechnologies.com.* When requesting literature from Literature Fulfillment, please reference the appropriate bulletin number and title.

AccuLoad III-ALS

AccuLoad III-ALS1 and ALD1

AccuLoad III-Q

AccuLoad III-X

Revisions included in MN06113 Issue/Rev. 0.7 (7/10):
  Page 1: Note moved to page 2; for units using a KDL board.
  Page 7: BSE changed to EAAI on figure 4.

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