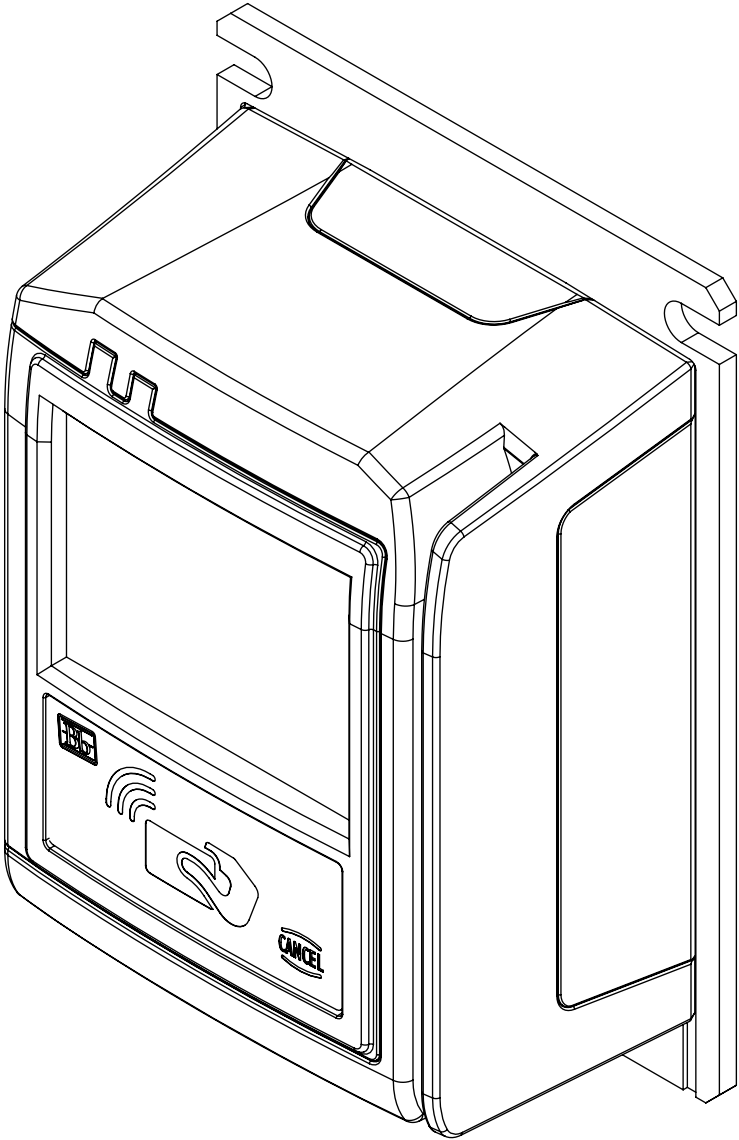
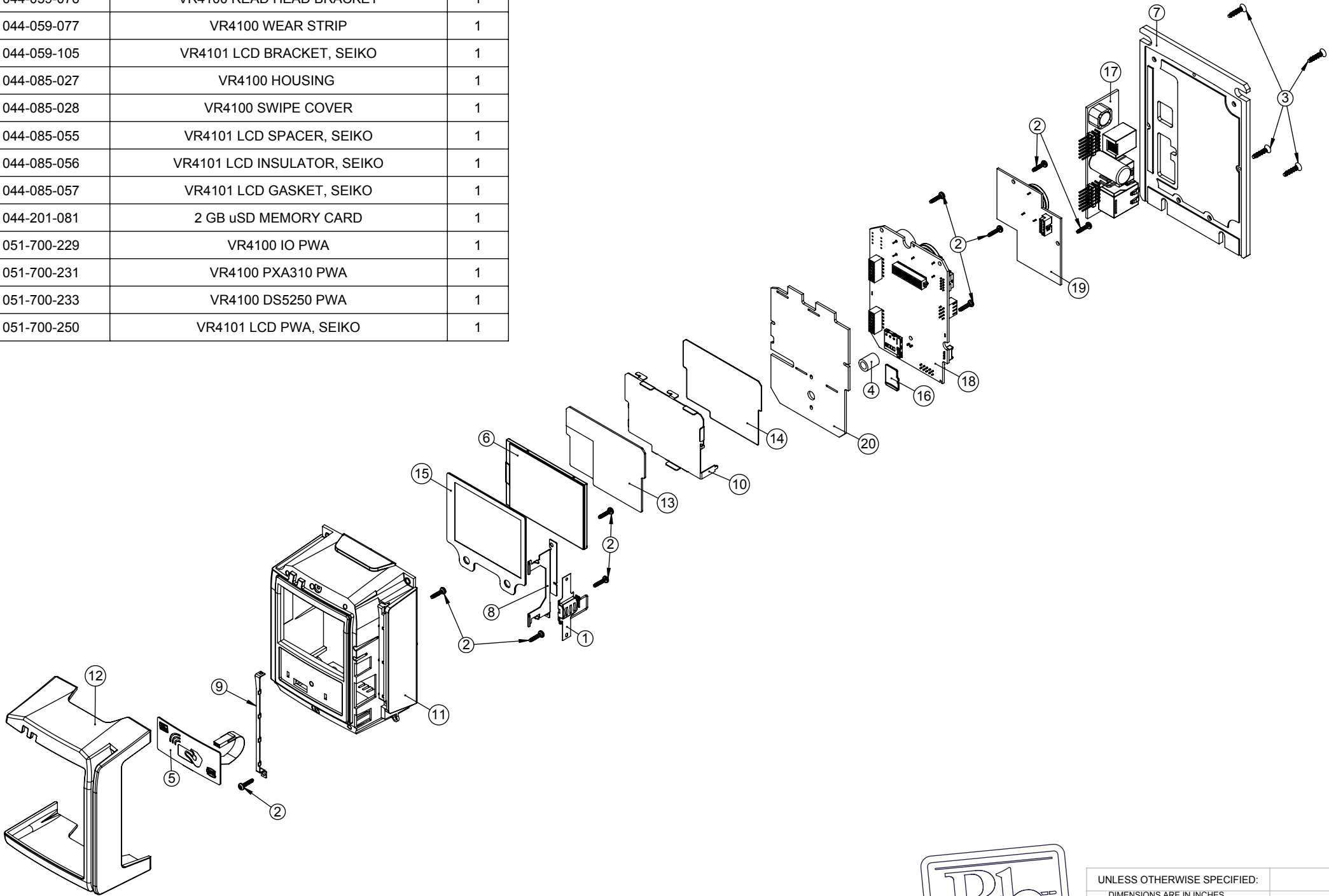
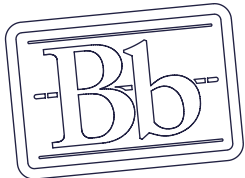


| ITEM NO. | PART NUMBER | DESCRIPTION                             | QTY. |
|----------|-------------|-----------------------------------------|------|
| 1        | 044-022-009 | 3 TRACK INTELLIHEAD                     | 1    |
| 2        | 044-028-A12 | 2-28 X 3/8" TORX PANHEAD PLASTITE SCREW | 10   |
| 3        | 044-028-C32 | #4 X 1/2 FLAT HEAD SCREW, PHILLIPS      | 4    |
| 4        | 044-030-H01 | NYLON SPACER O.D.8mm X 10mm LENGTH      | 1    |
| 5        | 044-039-153 | VR4100 MEMBRANE SWITCH                  | 1    |
| 6        | 044-041-046 | 2.8" QVGA FFS TFT WITH TOUCH SCREEN     | 1    |
| 7        | 044-059-074 | VR4100 MOUNTING PLATE                   | 1    |
| 8        | 044-059-076 | VR4100 READ HEAD BRACKET                | 1    |
| 9        | 044-059-077 | VR4100 WEAR STRIP                       | 1    |
| 10       | 044-059-105 | VR4101 LCD BRACKET, SEIKO               | 1    |
| 11       | 044-085-027 | VR4100 HOUSING                          | 1    |
| 12       | 044-085-028 | VR4100 SWIPE COVER                      | 1    |
| 13       | 044-085-055 | VR4101 LCD SPACER, SEIKO                | 1    |
| 14       | 044-085-056 | VR4101 LCD INSULATOR, SEIKO             | 1    |
| 15       | 044-085-057 | VR4101 LCD GASKET, SEIKO                | 1    |
| 16       | 044-201-081 | 2 GB uSD MEMORY CARD                    | 1    |
| 17       | 051-700-229 | VR4100 IO PWA                           | 1    |
| 18       | 051-700-231 | VR4100 PXA310 PWA                       | 1    |
| 19       | 051-700-233 | VR4100 DS5250 PWA                       | 1    |
| 20       | 051-700-250 | VR4101 LCD PWA, SEIKO                   | 1    |

| REVISIONS |                              |            |          |
|-----------|------------------------------|------------|----------|
| REV.      | DESCRIPTION                  | DATE       | APPROVED |
| A         | ECO10012, PRODUCTION RELEASE | 06/13/2011 | CNC      |



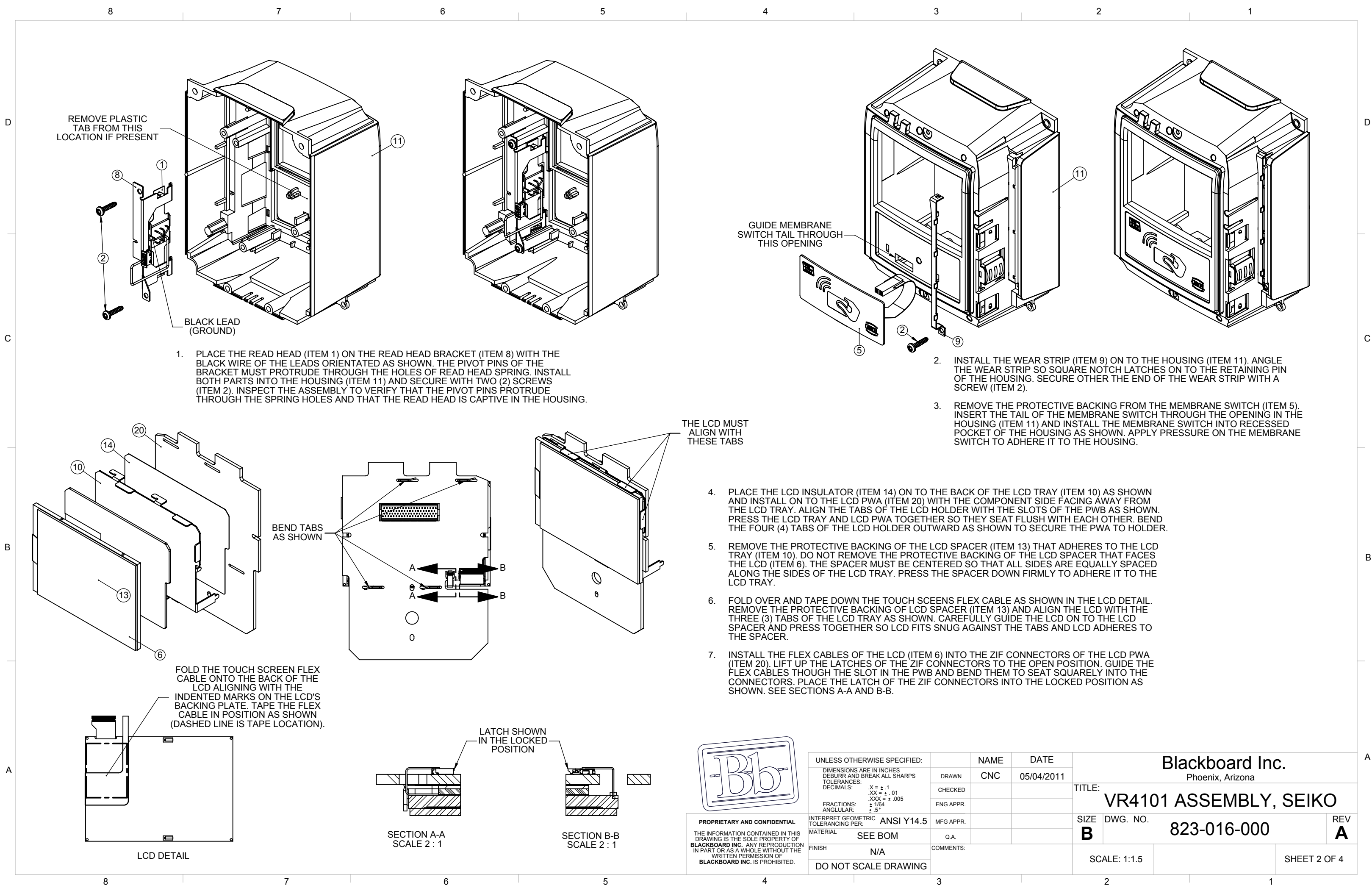
ISOMETRIC VIEW  
SCALE 1:1

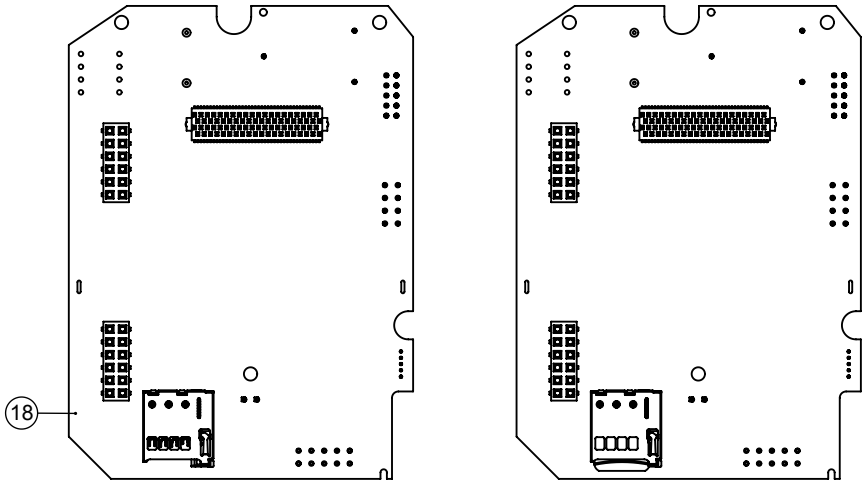


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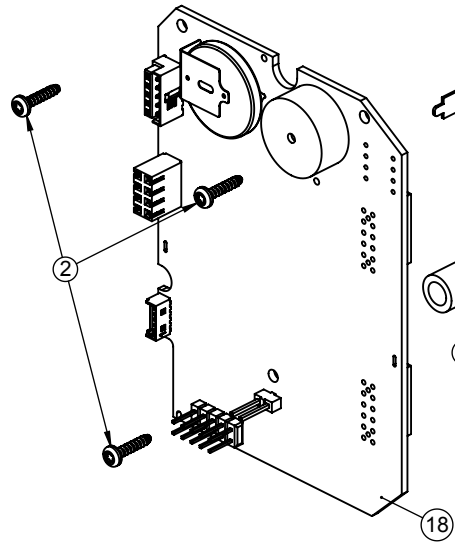
| UNLESS OTHERWISE SPECIFIED:                                                                                                                                          |            | NAME      | DATE       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|
| DIMENSIONS ARE IN INCHES<br>DEBURR AND BREAK ALL SHARPS<br>TOLERANCES:<br>DECIMALS: .X = ± .1<br>.XX = ± .01<br>.XXX = ± .005<br>FRACTIONS: ± 1/64<br>ANGULAR: ± .5° | DRAWN      | CNC       | 05/04/2011 |
|                                                                                                                                                                      | CHECKED    |           |            |
|                                                                                                                                                                      | ENG APPR.  |           |            |
|                                                                                                                                                                      | MFG APPR.  |           |            |
| INTERPRET GEOMETRIC<br>TOLERANCING PER:                                                                                                                              | ANSI Y14.5 |           |            |
| MATERIAL                                                                                                                                                             | SEE BOM    | Q.A.      |            |
| FINISH                                                                                                                                                               | N/A        | COMMENTS: |            |
| DO NOT SCALE DRAWING                                                                                                                                                 |            |           |            |

|                                     |                         |              |  |
|-------------------------------------|-------------------------|--------------|--|
| Blackboard Inc.<br>Phoenix, Arizona |                         |              |  |
| TITLE:<br>VR4101 ASSEMBLY, SEIKO    |                         |              |  |
| SIZE<br>B                           | DWG. NO.<br>823-016-000 | REV<br>A     |  |
| SCALE: 1:3                          |                         | SHEET 1 OF 4 |  |

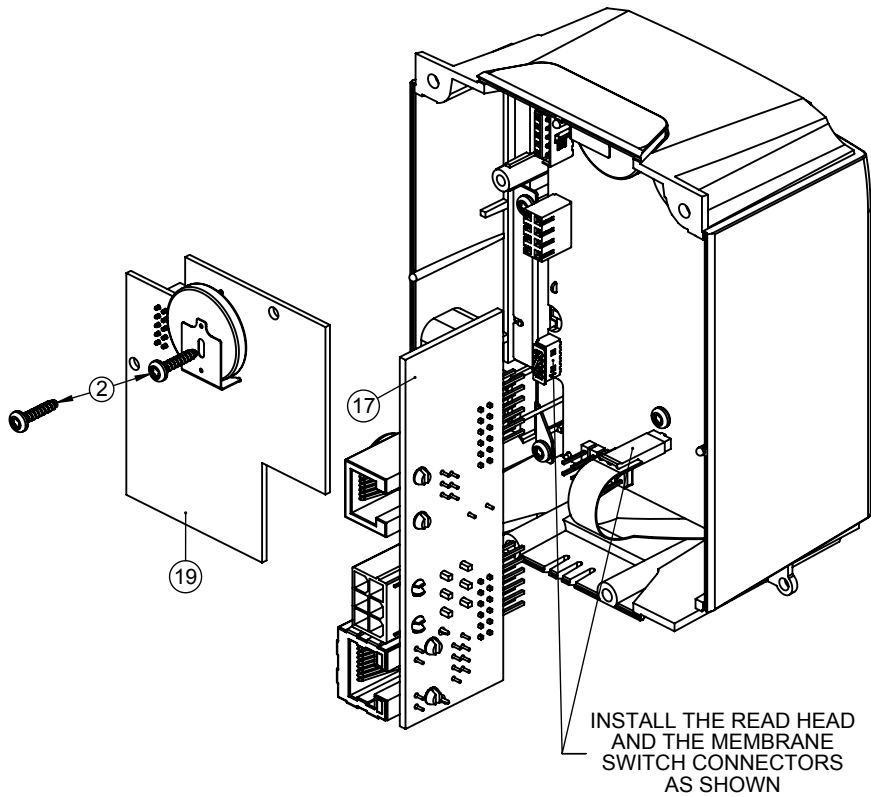




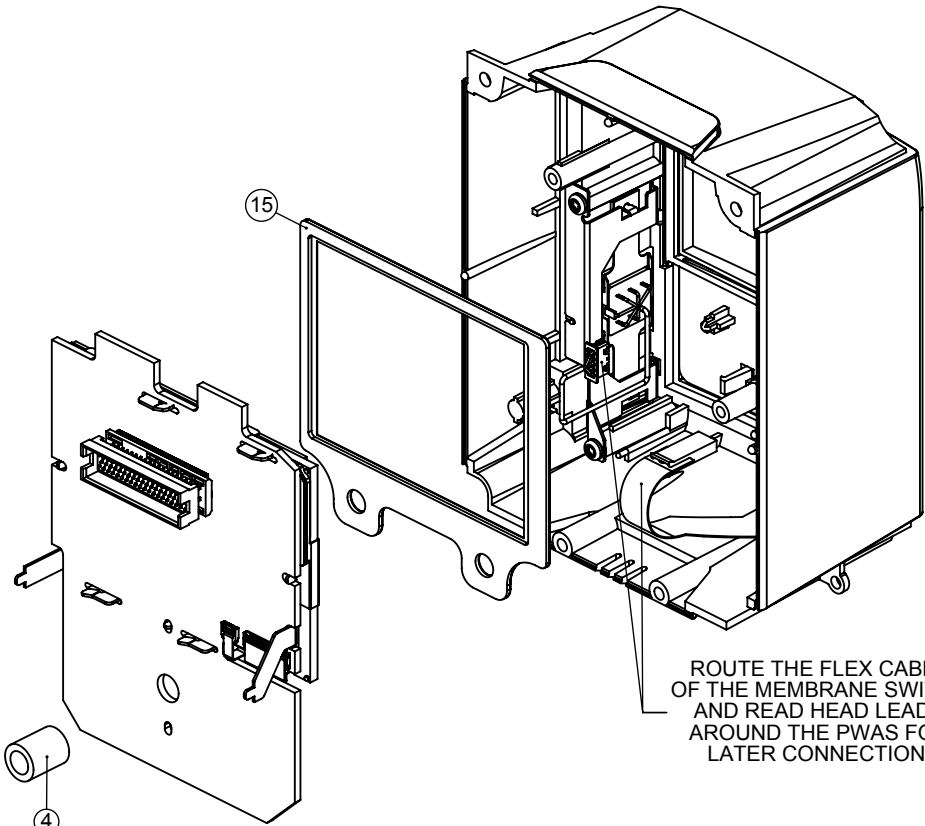
8. INSERT MICROSD CARD (ITEM 16) INTO MICROSD HOLDER OF THE PXA310 PWA (ITEM 18). THE MICROSD CARD MUST BE INSERTED INTO THE LOCKED POSITION AS SHOWN.



12. INSTALL THE READ HEAD CONNECTOR ON TO THE CONNECTOR OF THE PXA310 PWA (ITEM 18). ROUTE THE WIRES OF THE READ HEAD THROUGH THE RECTANGULAR SLOT AS SHOWN.
13. INSTALL THE MEMBRANE SWITCH CONNECTOR ON TO THE 2-PIN HEADER OF THE PXA310 PWA (ITEM 18).
14. INSTALL THE IO PWA (ITEM 17) ON TO THE PXA310 PWA (ITEM 18) AS SHOWN. THE RIGHT-ANGLE HEADERS ON THE IO PWA MATE TO THE BOTTOM ENTRY CONNECTORS (HOLES IN PWB). THE BOARD EDGE OF THE IO PWA SHOULD SEAT FLUSH AGAINST THE PXA310 PWB.
15. INSTALL THE DS5250 PWA (ITEM 19) INTO THE HOUSING AS SHOWN. PRESS DOWN ON THE DS5250 PWA TO ENSURE THAT THE 2 X 5 CONNECTOR ENGAGES PROPERLY WITH THE MATING CONNECTOR ON THE PXA310 PWA. SECURE THE DS5250 PWA TO THE HOUSING WITH TWO (2) SCREWS (ITEM 2).

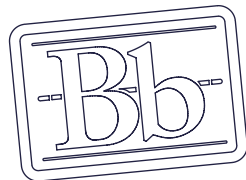


INSTALL THE READ HEAD AND THE MEMBRANE SWITCH CONNECTORS AS SHOWN



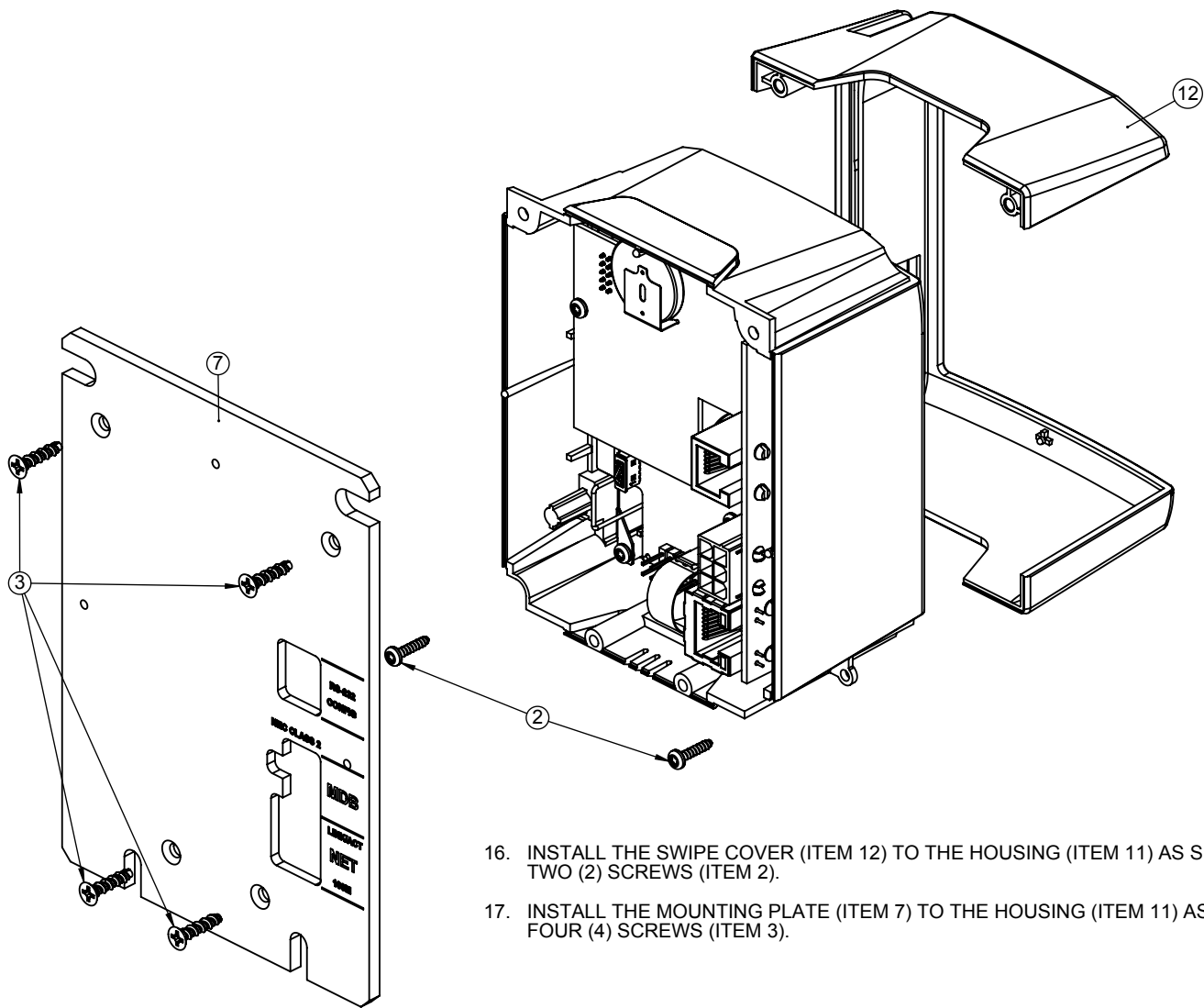
ROUTE THE FLEX CABLE OF THE MEMBRANE SWITCH AND READ HEAD LEADS AROUND THE PWAS FOR LATER CONNECTION.

9. PLACE THE LCD GASKET (ITEM 15) INTO THE HOUSING SUBASSEMBLY. THE CLEAR SIDE RESTS AGAINST THE HOUSING AND THE HOLES FIT OVER THE CROSS SHAPED BOSSES.
10. INSTALL THE PXA310 PWA (ITEM 18) ON TO THE LCD SUBASSEMBLY. PLACE THE SPACER (ITEM 4) BETWEEN THE PWAS AS SHOWN. USE A SCREW TO POSITION THE SPACER TO KEEP IT ALIGNED WITH THE HOLES OF THE PWA'S. PRESS THE TWO PWA'S TOGETHER SO THE 4 X 20 CONNECTORS MATE COMPLETELY AND THE TABS ON THE LCD HOLDER PROTRUDE THROUGH THE MATING SLOTS OF THE PXA310 PWA.
11. PLACE THE PXA310 / LCD SUBASSEMBLY INTO THE HOUSING. ENSURE THAT THE READ HEAD CABLE AND FLEX CABLE OF THE MEMBRANE SWITCH ARE ROUTED AROUND THE PWA AS SHOWN. VERIFY THAT THE ASSEMBLY RESTS AGAINST BOSSES OF THE HOUSING AND THAT THE LCD GASKET IS NOT VISIBLE IN THE LCD OPENING OF THE HOUSING. INSPECT THE GAP AROUND THE LCD AND HOUSING TO VERIFY THAT THE ASSEMBLY IS SQUARELY SEATED IN THE HOUSING. INSTALL THREE (3) SCREWS (ITEM 2) TO SECURE THE PXA310 / LCD SUBASSEMBLY INTO THE HOUSING AS SHOWN.

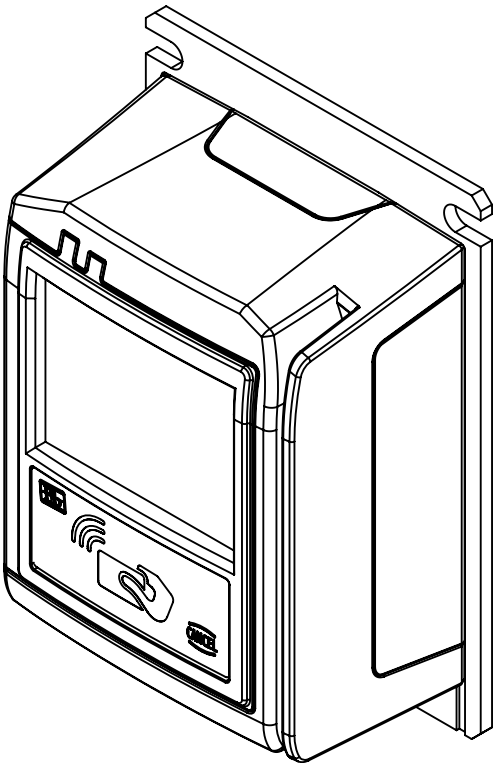
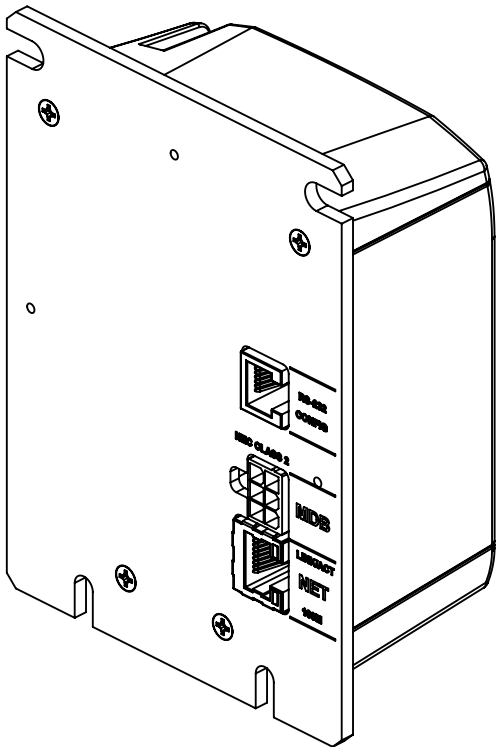


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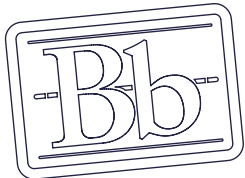
|                                                                                                                                                                                                                                                 |  |           |      |                               |             |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|------|-------------------------------|-------------|--------------|
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|                                                                                                                                                                                                                                                 |  | CHECKED   |      | TITLE: VR4101 ASSEMBLY, SEIKO |             |              |
|                                                                                                                                                                                                                                                 |  | ENG APPR. |      | SIZE                          | DWG. NO.    | REV          |
|                                                                                                                                                                                                                                                 |  | MFG APPR. |      | B                             | 823-016-000 | A            |
| FINISH N/A                                                                                                                                                                                                                                      |  | COMMENTS: |      | SCALE: 1:1.5                  |             | SHEET 3 OF 4 |
| DO NOT SCALE DRAWING                                                                                                                                                                                                                            |  |           |      |                               |             |              |



16. INSTALL THE SWIPE COVER (ITEM 12) TO THE HOUSING (ITEM 11) AS SHOWN. SECURE WITH TWO (2) SCREWS (ITEM 2).
17. INSTALL THE MOUNTING PLATE (ITEM 7) TO THE HOUSING (ITEM 11) AS SHOWN. SECURE WITH FOUR (4) SCREWS (ITEM 3).



18. INSPECT AND CLEAN UNIT



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| TOLERANCES:<br>DECIMALS:                                |  | CHECKED   |      |                                     |              |
| FRACTIONS:<br>ANGULAR:                                  |  | ENG APPR. |      |                                     |              |
| INTERPRET GEOMETRIC<br>TOLERANCING PER:                 |  | MFG APPR. |      | TITLE:                              |              |
| MATERIAL                                                |  | Q.A.      |      | VR4101 ASSEMBLY, SEIKO              |              |
| FINISH                                                  |  | COMMENTS: |      | SIZE                                | REV          |
| DO NOT SCALE DRAWING                                    |  |           |      | B                                   | A            |
|                                                         |  |           |      | DWG. NO.                            |              |
|                                                         |  |           |      | 823-016-000                         |              |
|                                                         |  |           |      | SCALE: 1:1.5                        | SHEET 4 OF 4 |