

Hamilton Manufacturing Corporation

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XE VALIDATOR UPDATE EPROM INSTALLATION INSTRUCTIONS

Introduction

Included with these instructions is a 28 pin EPROM for updating an XE validator. These instructions will detail the disassembly of the validator, replacement of the EPROM and re-assembly. **Before attempting the installation, please read through all the instructions carefully to see if you feel comfortable performing the steps required.** If you are not comfortable working on electrical equipment where serious shock hazards exist, you should contact a qualified technician to perform the installation for you. A list of Hamilton Mfg. Corp. Factory Trained Service Representatives that are fully qualified to perform this update is included in this instructional guide.

Tools Required

- #2 phillips screwdriver
- Small flat blade screwdriver
- Small needle-nose pliers

Preliminary Testing

1. Before beginning this update, confirm that the validator is functioning properly and is accepting the old currency well. If not, you should have the validator serviced by a qualified technician.
2. If the validator is working properly, be certain all electrical power to the changer or Autocashier has been turned off before commencing disassembly and reassembly. Failure to do so may cause injury or death. Then remove the validator and proceed with disassembly.

Disassembly

1. Stand the validator upright on a solid work surface to perform the following steps.
2. Remove the 6-32 x 1/8 screw from the top of the validator as shown in Figure 1.

WARNING! Shock Hazard! DO NOT connect power or operate the validator with the covers removed.

3. Set the validator on its side with the display and DIP switch facing up. Then remove the two 6-32 x 1/8 flathead screws as shown in Figure 1.
4. Carefully lift off the side/rear cover. Slide the 9-pin connector out of the cutout in the cover and set the cover aside. Remove the small cardboard insulator from around the display and DIP switch and set it aside also.
5. Stand the validator upright again. Refer to Figures 2 and 5 for the next four steps.
6. Pull up slightly on the large cardboard insulator and remove it. Set it aside to be re-installed later.
7. Remove the two #4-40 x 1/4 screws that hold the board.
8. Remove the two connectors at P2 and P3. It may be necessary to use a small flat blade screwdriver to pry the connectors loose before they can be pulled off.
9. Lift up on the right side of the circuit board and swing it toward you. Then disengage the bottom left corner from the frame.
10. Remove the sensor cable at connector P1 and separate the circuit board from the validator.

EPROM Removal

1. Refer to Figure 3 and locate the EPROM at U1 on the circuit board.
2. Using a small flat blade screwdriver carefully pry the old EPROM out of its socket. Note that the socket pins may be attached to a thin piece of plastic. When prying out the EPROM be sure and place the screwdriver between the bottom of the EPROM and the top of the plastic. Do not try to pry up from underneath this plastic film.

EPROM Installation

Note: When installing the new EPROM it is very important that it be inserted with the notched end in the correct location, and that all 28 pins are properly seated.

1. The pins on the new EPROM may be bent out at an angle as shown in Figure 4. Do not try to install the EPROM without first bending the pins inward, or the pins may be damaged. Lay the EPROM on its side on a hard flat surface as shown, and carefully roll it toward the pins to bend the lower pins into line. Then turn it over and bend the pins on the other side in the same manner.
2. Locate the small notch at one end of the EPROM in Figure 5, A. Make sure it is lined up with the

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notch of the socket outline at U1 on the circuit board, as shown in Figure 5, B. Also make sure that all the pins are started into the socket. Then press the EPROM firmly into the socket.

3. Inspect all 28 pins to be sure they are seated properly. Note that a pin can become bent under the EPROM and may appear as though it is correctly installed in the socket. If all the pins were not properly seated in the socket, remove the EPROM, straighten the pins with needle-nose pliers, and try again. Remember that the notched end must be as shown in Figure 5.

Re-assembly

1. Install the sensor cable connector at P1. Note that this connector can be easily mis-plugged, so be sure all the pins are covered by the connector shell.
2. Swing the right side of the circuit board toward the validator frame and drop it down into place. Be sure to tuck the sensor cable down between the transformer and the front cover so that no wires become pinched.
3. Install the cables at connectors P2 and P3.
4. Install two #4-40 x 1/4 screws in board.
5. Place the large cardboard insulator over the display circuit board and insert the tabs at the bottom between the main circuit board and the validator frame.

WARNING! This insulator must be re-installed correctly or a serious electrical SHOCK HAZARD could result.

6. Lay the validator over on its side with the display and DIP switch facing up.
7. Place the small cardboard insulator over the DIP switch and display.
8. Lower the side/rear cover over the validator and slide the grooves of the 9-pin connector shell into the cutout on the rear cover.
9. Snap the side/rear cover into place as it interlocks with the other side/front cover.
10. Install the two 6-32 x 1/8 flathead screws removed earlier, as shown in Figure 1.
11. Stand the validator upright.
12. Install the remaining 6-32 x 1/8 screws as shown in Figure 1.

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Final Checkout

1. **Once again, be certain all electrical power to the changer or Autocashier has been turned off. Failure to do so may cause injury or death.** Then re-install the validator in its mounting bracket.
2. Be sure the 9-pin harness connector at the rear of the validator is securely seated.
3. Before you apply power, position yourself so that you can observe the display on the side of the validator.
4. Apply power and you should observe a decimal point or other character flashing on the display within five seconds. If you don't see anything on the display, or the display is not flashing, remove power immediately and proceed to troubleshooting.
5. If you do see a flashing decimal point on the display, the validator is ready to accept currency. Try inserting a few bills to be sure the validator is working properly.
6. This completes the update process. Your validator should now be capable of accepting both the old and new currency.

Troubleshooting

Follow this troubleshooting chart if your validator did not power up correctly during final checkout.

SYMPTOM	POSSIBLE CAUSES
Display is blank	<ul style="list-style-type: none">• 9-pin harness is not connected• Power is not on• Connector P3 not installed• EPROM is installed incorrectly. Backwards or pin bent.
Display has random segments lit.	<ul style="list-style-type: none">• EPROM is installed incorrectly. Backwards or pin bent.
Display flashes ½ of 1	<ul style="list-style-type: none">• Validator is inhibited. Changer is Out-of-Service• Connector P2 not installed
Display flashes 1.5	<ul style="list-style-type: none">• Connector P1 not installed or mis-plugged
Display shows a "J"	<ul style="list-style-type: none">• Connector P1 is mis-plugged
Does not accept new bills	<ul style="list-style-type: none">• Will only accept new bills if inserted black seal first

For any other symptom or error code, consult your validator operation manual. For additional assistance contact an Authorized Service Representative from the list attached, or the Hamilton Service Department at (800) 837-5561.

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Assumption of Risk

Hamilton Manufacturing Corp. warrants the validator Update to be free from defects in material and workmanship under normal use and service and if properly installed and operated. Hamilton's obligation under the warranty is limited to replacing any defective part at its expense within one (1) year from the date of the purchase of the Validator Update. If you elect not to use a Hamilton service representative to install the Validator Update, you acknowledge and agree that Hamilton shall have no liability whatsoever relative to the installation of said equipment and you will assume all risk and liability in connection therewith and will hold Hamilton harmless therefrom.

Factory Trained Service Representatives

Hamilton Mfg. Factory Trained Service Representatives

<i>Company Name</i>	<i>Street Address</i>	<i>City, State, Zip</i>	<i>Phone #</i>
Advance Changer	3854 Hogan Rd.	Oakland, OR 97462	800.598.3055
Amtek Services, Inc.	25135 W. Six Mile	Redford, MI 48240	313.532.6318
Change-Tec	3725 S. Division Ave. SW	Grand Rapids, MI 49548	800.957.2646
G.S. Davidson	44 Vine St.	Everett, MA 02149	617.389.4000
Gateway Changer Service	2045 Southway Dr.	Arnold, MO 63010	636.464.2424
Hi-Performance	3901 E. 41st Ave.	Denver, CO 80216	303.322.2232
Iowa Changer Services	5384 NW 89th Ct	Johnston, IA 50131	800.397.5208
Nationwide Changer Service	9990 Monroe Dr. #212	Dallas, TX 75220	214.358.0081
Rick's Technical Service	1236 N. 66th Pl.	Mesa, AZ 85205	800.438.6235
Suncoast Laundry Equipment	2195 S. Combee Rd.	Lakeland, FL 33801	863.669.9699
X-Cel Electronics	1104 N. Ridge Ave. Ste. A	Lombard, IL 60148	630.932.4234
X-Cel Electronics of Nevada	5640 N. Riley St.	Las Vegas, NV 89149	702.889.9235

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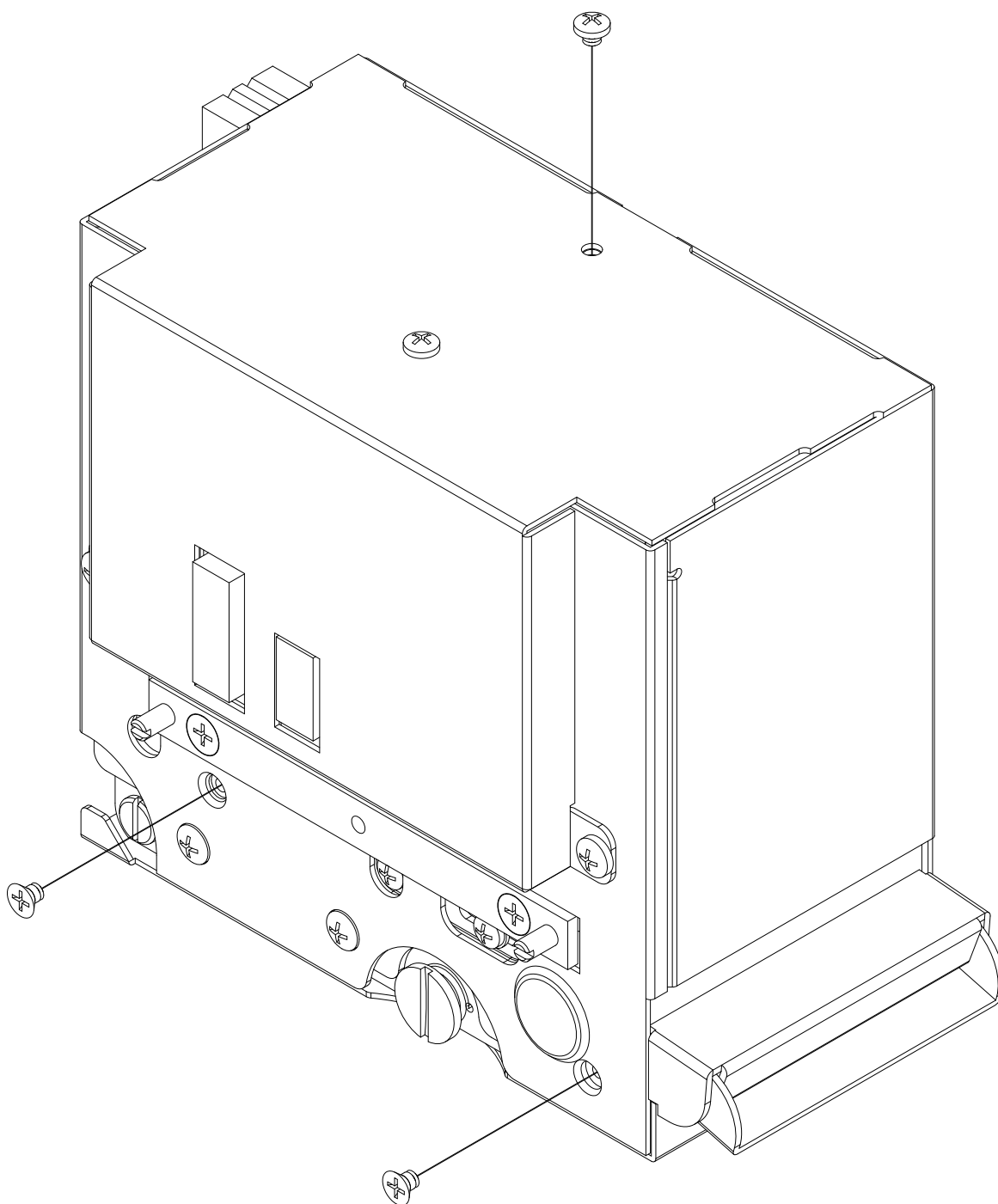


Figure 1

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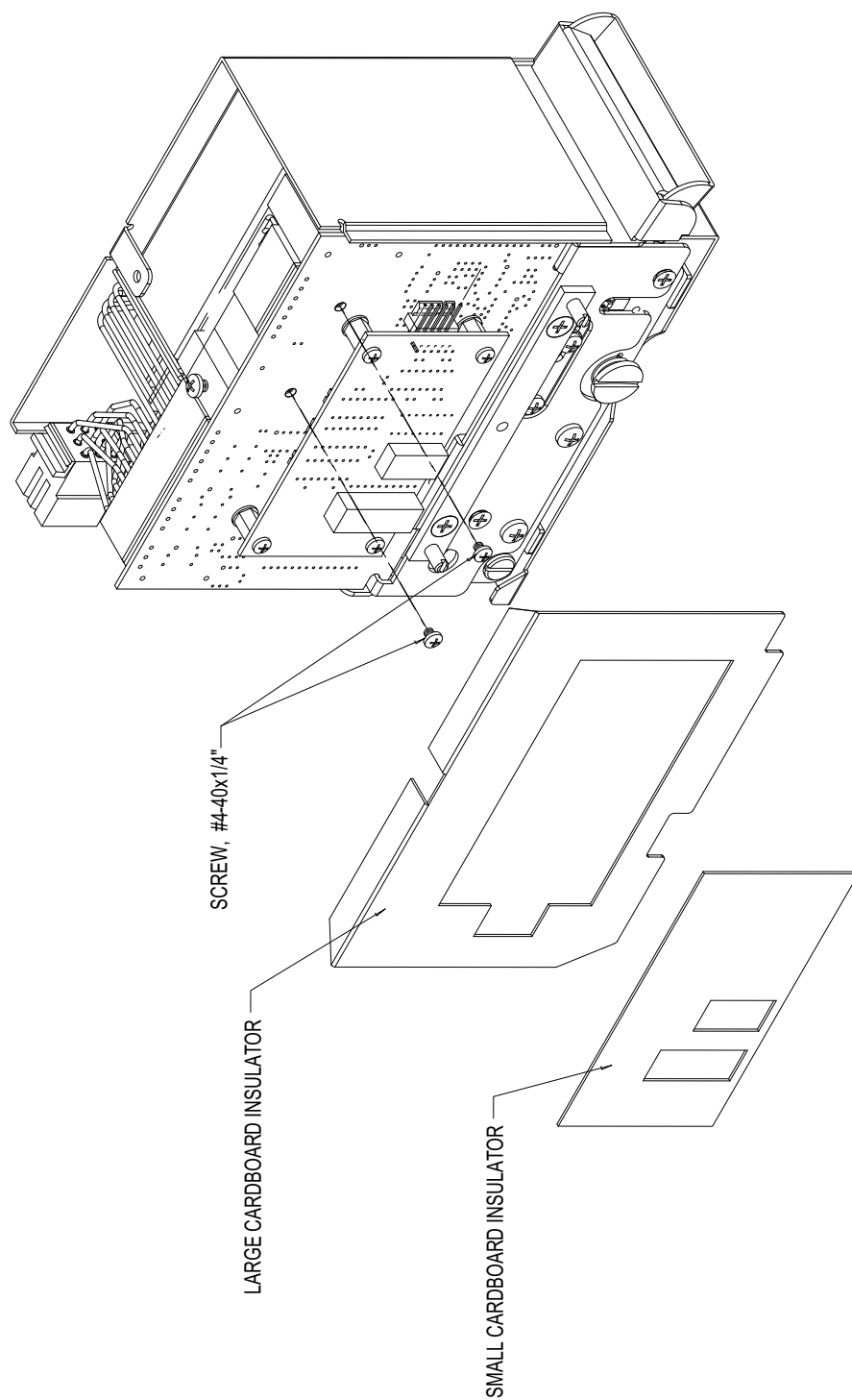


Figure 2

WARNING! Shock Hazard! DO NOT connect power or operate the validator with the covers removed.

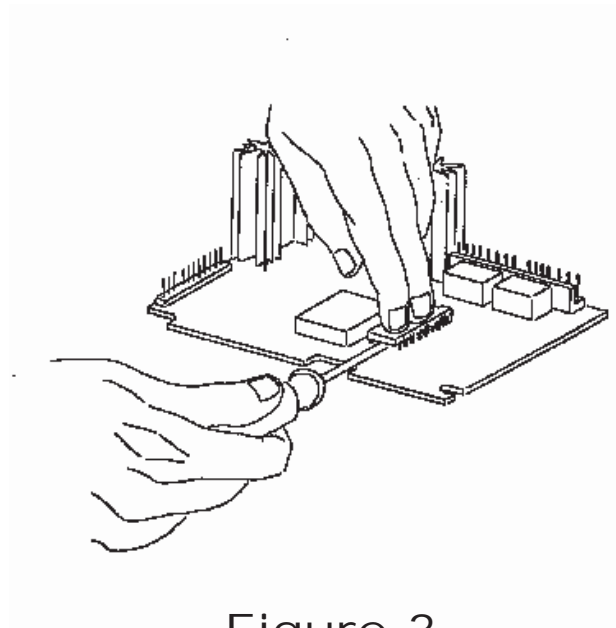


Figure 3

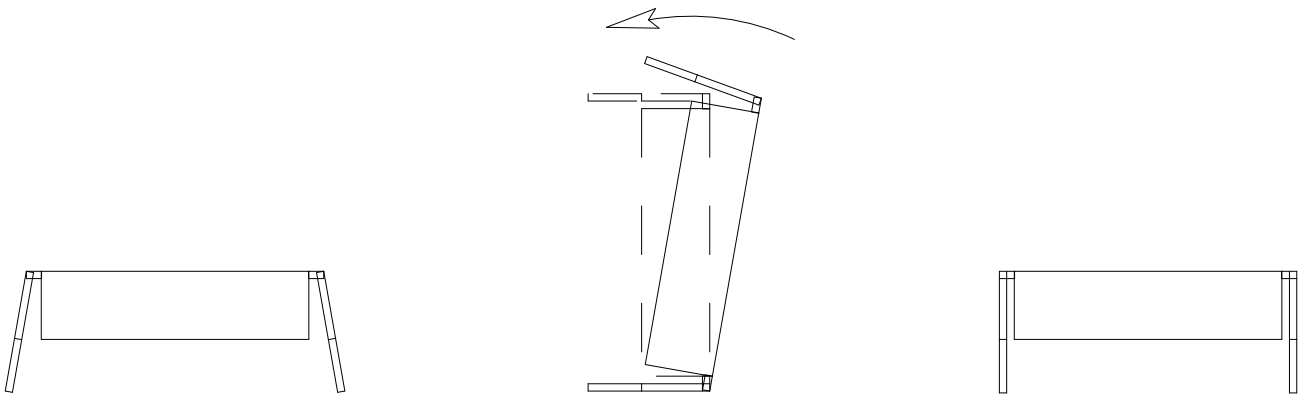


Figure 4

WARNING! Shock Hazard! DO NOT connect power or operate the validator with the covers removed.

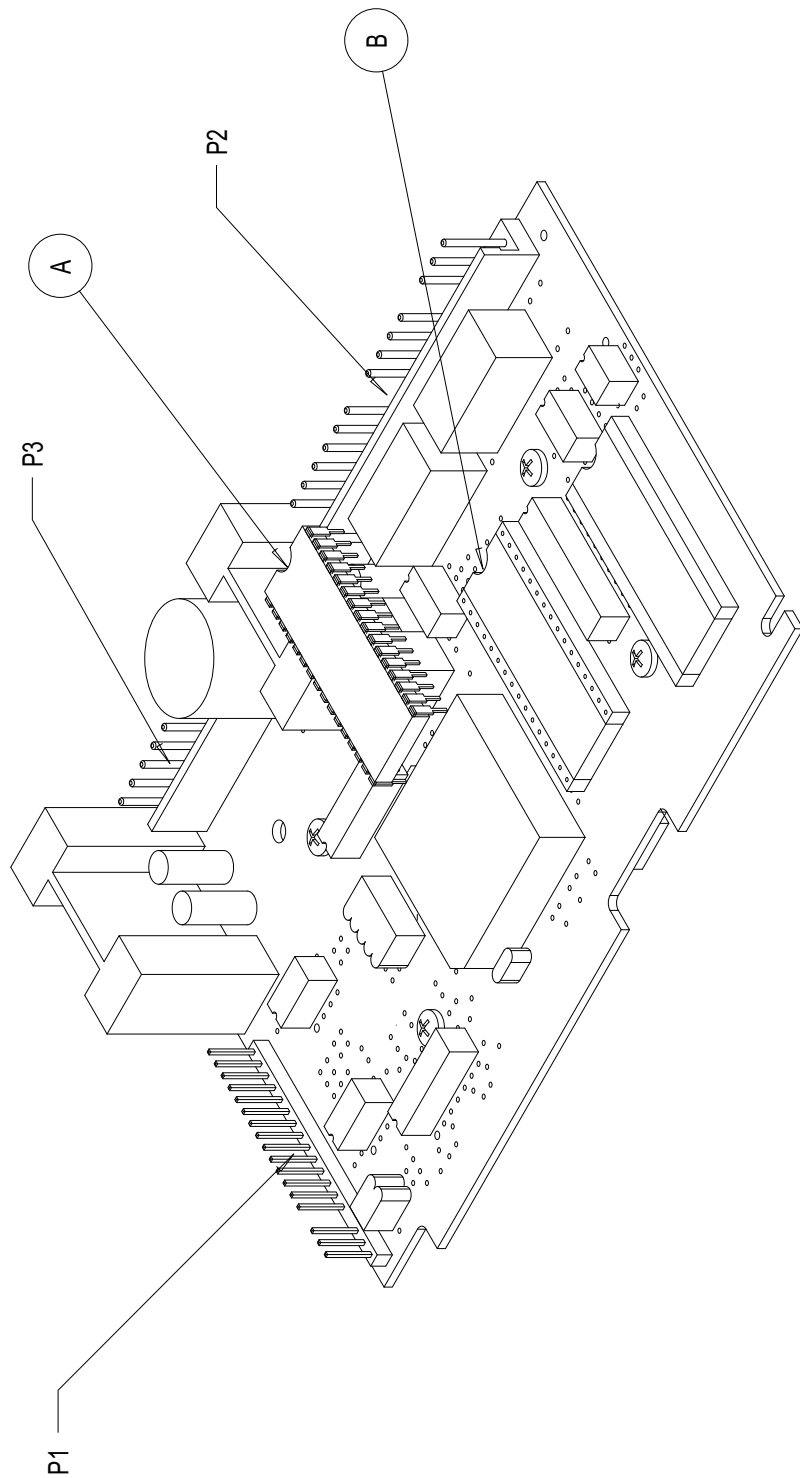


Figure 5

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