



**Main Board replacement for
Cetac ASX-520/ASX-520HS
Autosamplers.**

Main Board Replacement in ASX-520/520HS

NOTE:

MAKE SURE THE UNIT IS UNPLUGGED AND IN THE "OFF" POSITION BEFORE BEGINNING THIS PROCEDURE.

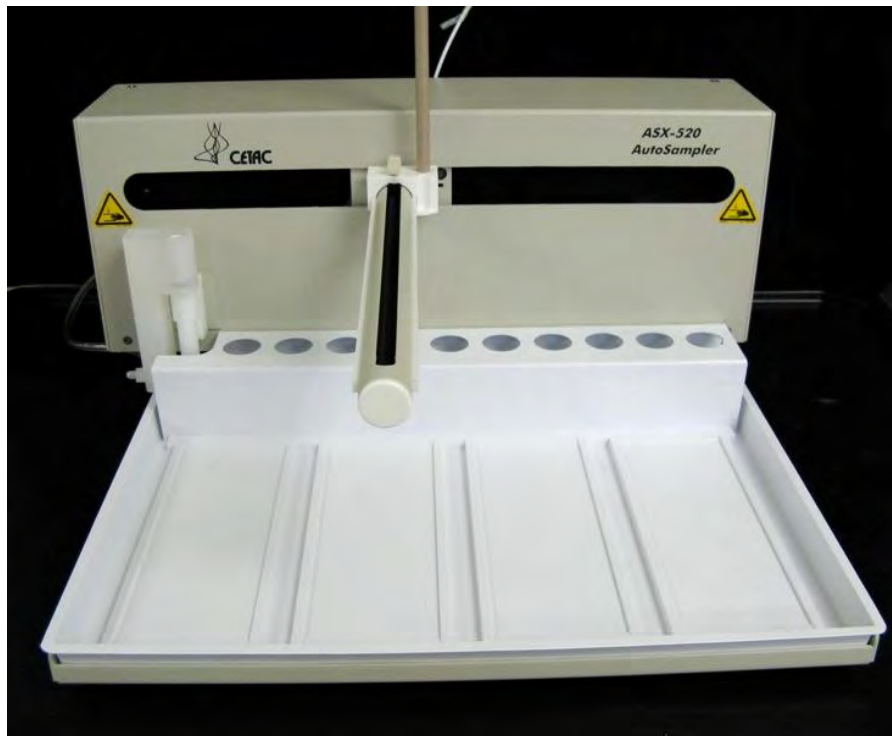


Figure 1-1. Front view of ASX-520.

1. First, remove the two Kynar thumbscrews from the Y-axis home block. See Figure 1-2.

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Figure 1-2. View of Y- axis home block with Kynar thumbscrews.

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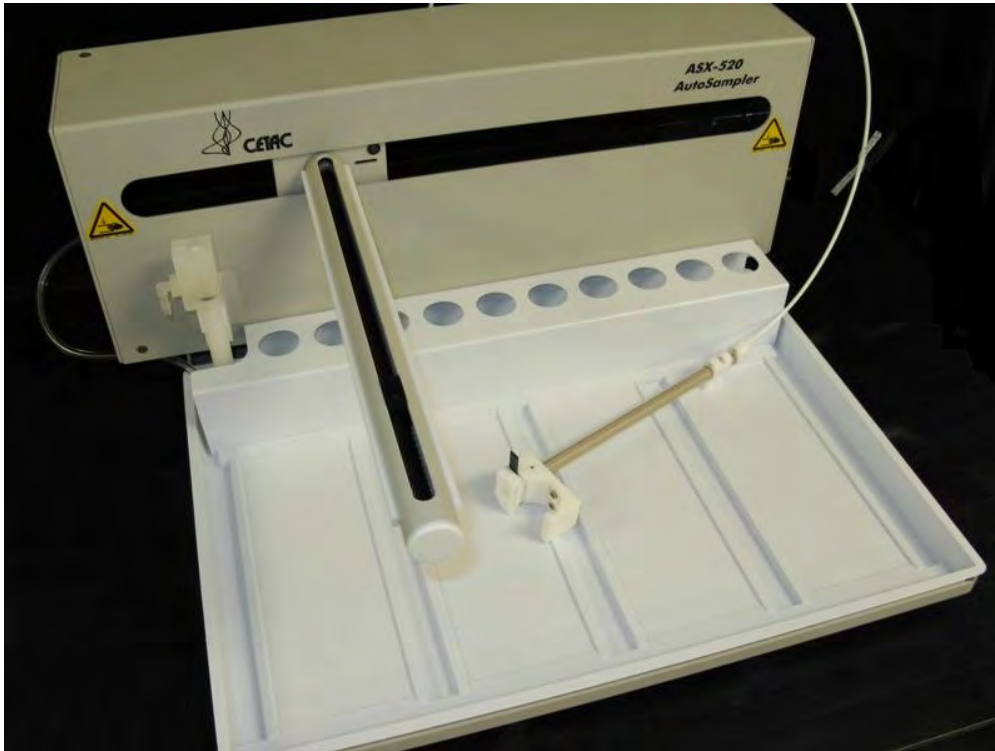


Figure 1-3. Z-drive removed from arm assembly.

2. Next, remove the whole Z-drive assembly from the arm by pulling the whole Z-drive assembly forward and off the Auto Sampler arm. See Figure 1-3.
3. After the Z-drive assembly is removed, then remove the rinse station. See Figure 1-4. Turn the rinse station $\frac{1}{4}$ turn counter-clockwise while pulling up. Also, the tubing located at the bottom of rinse station will have to be removed or moved aside. See Figure 1-5.



Figure 1-4. View of rinse station.

4. Some Auto Samplers may have a different rinse station, although they both connect the same. See figure 1-5.

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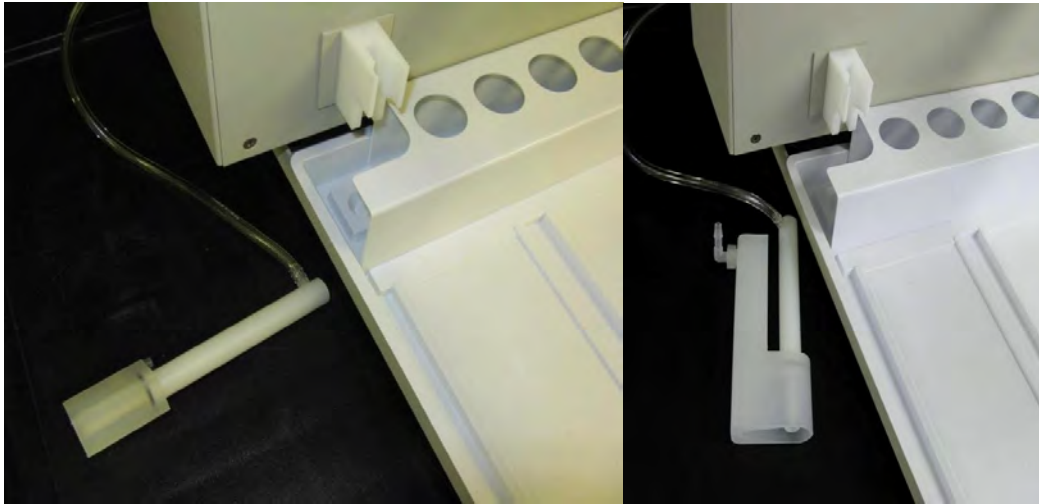


Figure 1-5. View of rinse stations removed from the front cover.

5. The Auto Sampler tray is next to be removed. Lift up the tray and pull forward. See Figure 1-7.

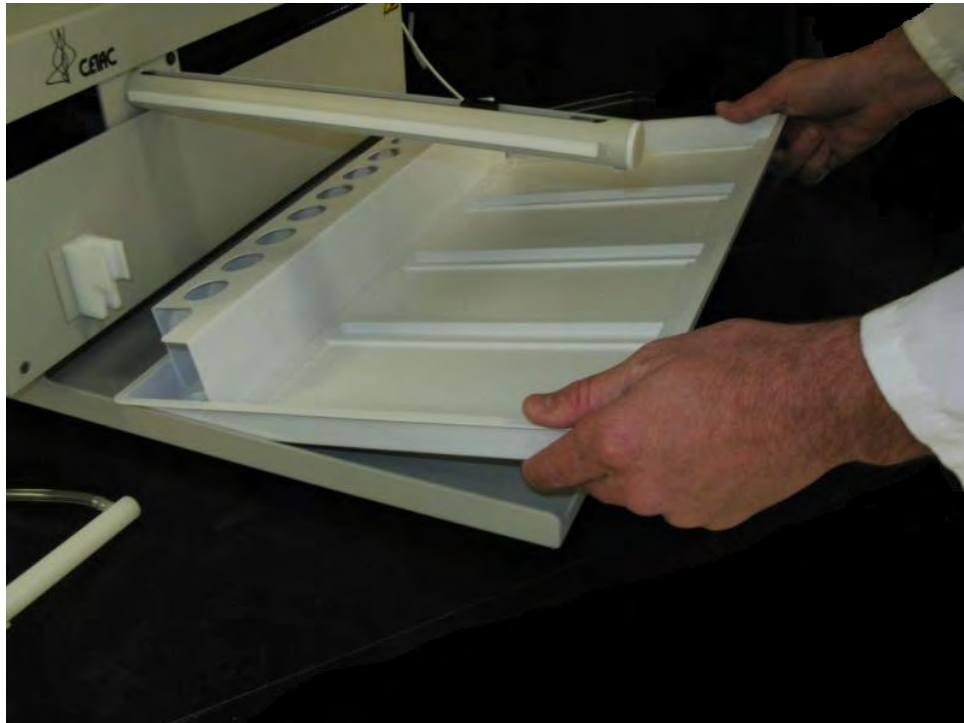


Figure 1-7. Removing the tray.

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Figure 1-8. Front view of ASX-510 Auto Sampler showing front cover screws.

6. Next, the front cover needs to be removed. Remove the four corner screws shown in Figure 1-8.
7. The front cover can be removed by lifting it slightly and pulling forward. See Figure 1-9.

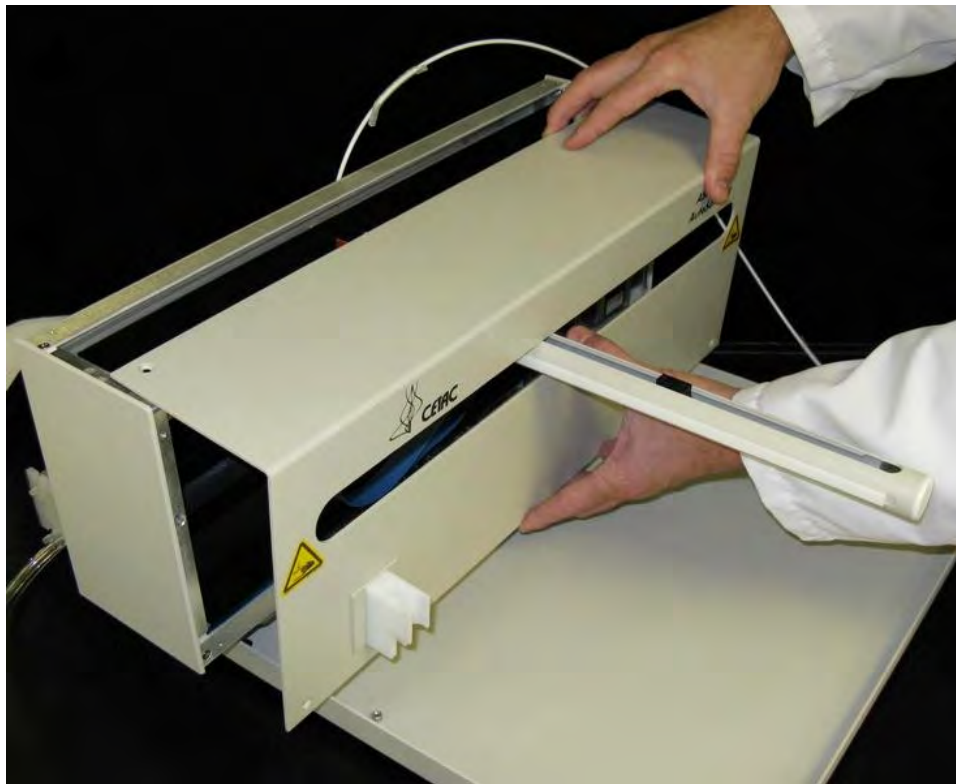


Figure 1-9. View of ASX-520 Auto Sampler with the front cover being removed.

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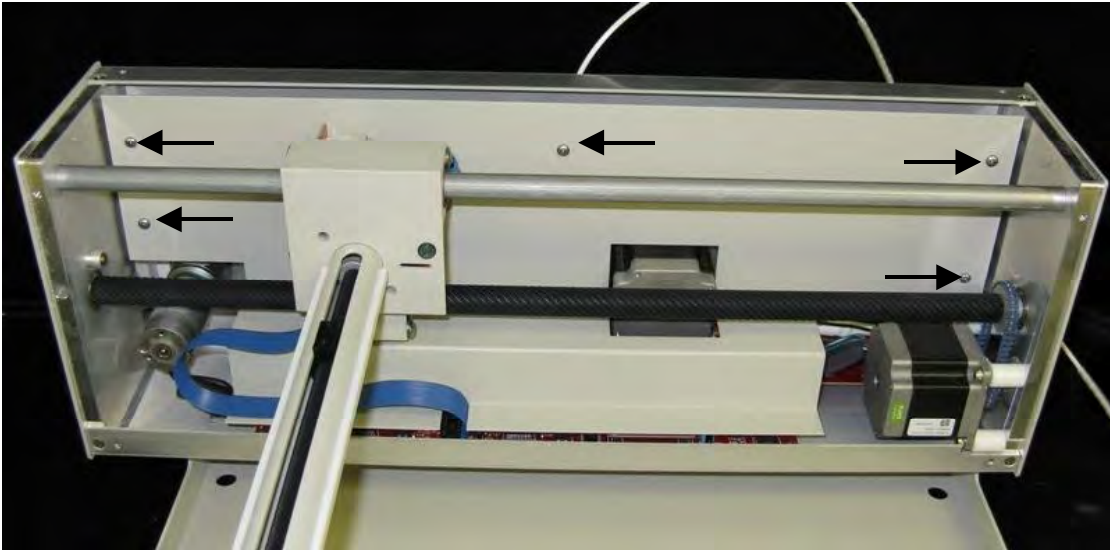


Figure 1-10. View of inner shield inside the ASX-520 (old shield).

8. The five screws that hold the inner shield will have to be removed. Move the Y-axis assembly all the way to the left. See Figure 1-10. If you have a newer two piece shield and splashguard proceed to step 10.
9. The inner shield can be removed by lifting it up while pulling forward. See Figure 1-11.

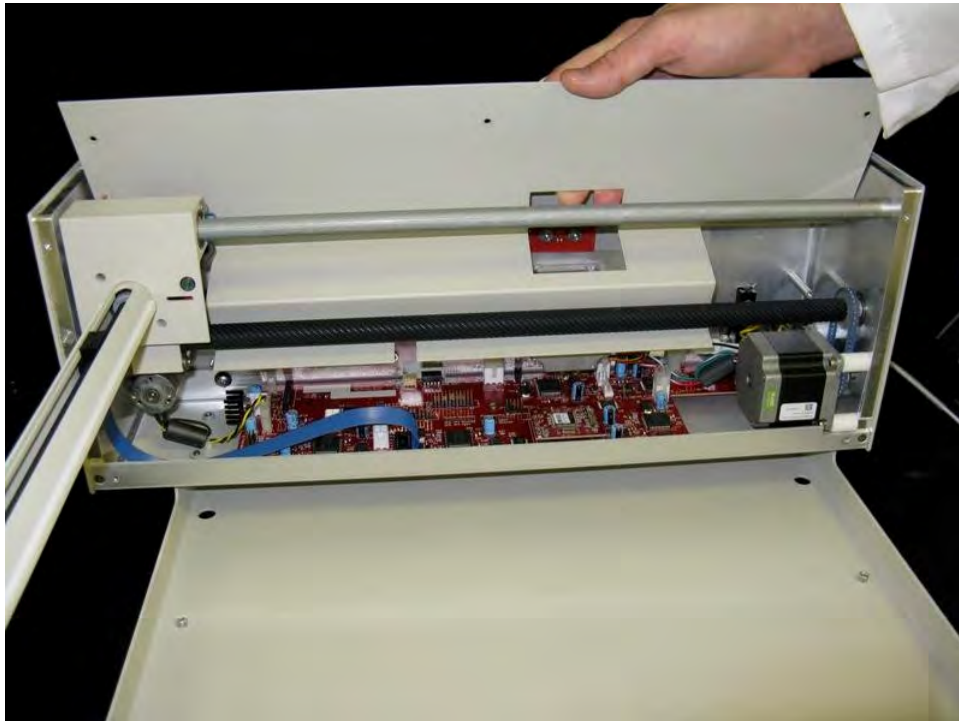


Figure 1-11. Removal of inner shield.

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Figure 1-12. View of ASX-520 with inner shield removed.

10. If you have a newer shield/splash guard combination proceed as follows. Locate and remove the 5 screws holding the shield in place. See Figure 1-13.

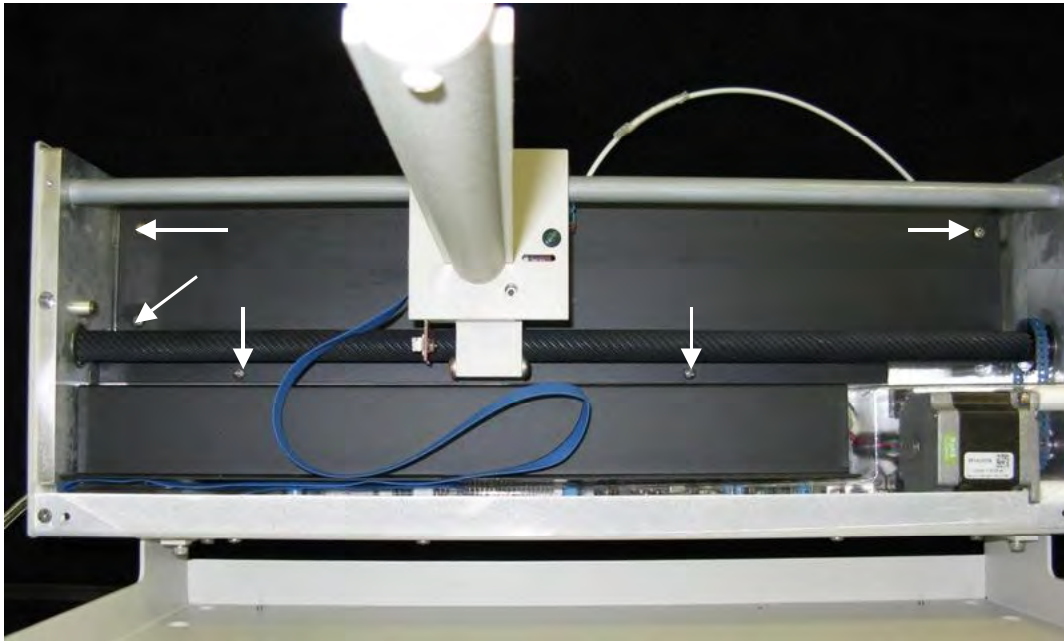


Figure 1-13. View of new shield and splashguard inside the ASX-520.

11. Remove the two shield pieces. Notice that the splashguard goes under the chassis on the top and over the chassis on the bottom. See Figure 1-14. When you replace the splashguard, ensure it is oriented in this manner.

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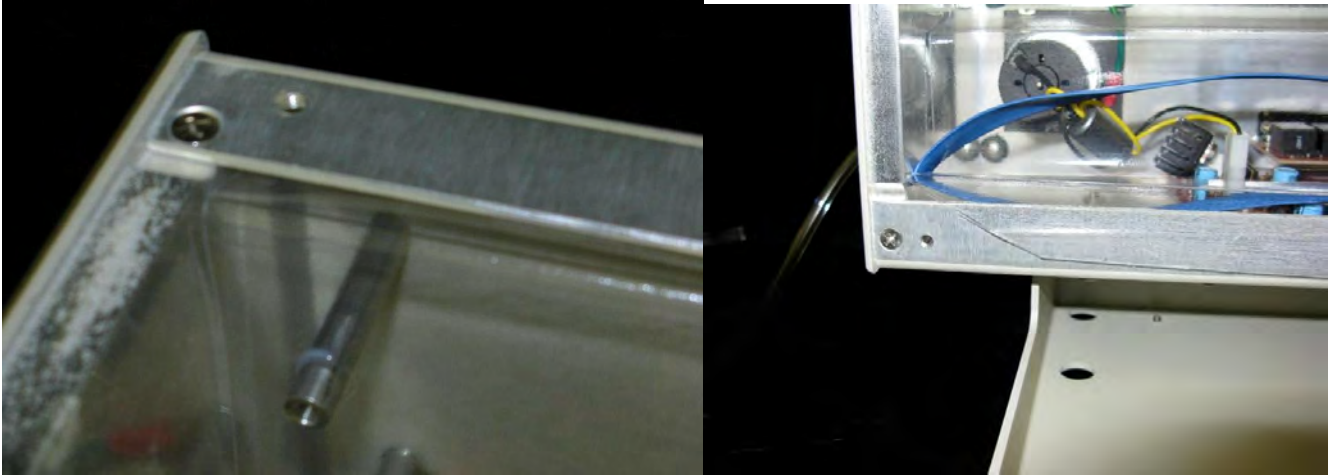


Figure 1-14. View of splashguard placement.

12. Remove the splashguard by pulling it out from one side. It may be necessary to reach under the guard and remove it from the support stand offs. See Figure 1-15.

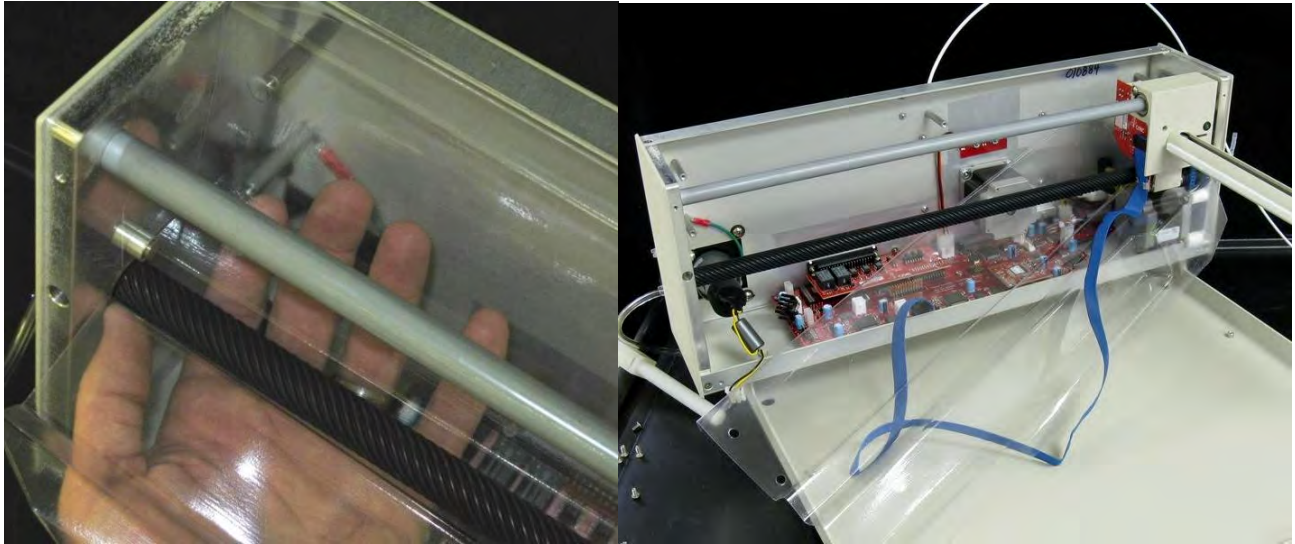


Figure 1-15. View of splashguard removal.

13. Unplug all connections from the main board, including pump (if equipped), blue ribbon cable, z-sensor and z-motor, x-motor, and power entry cable.

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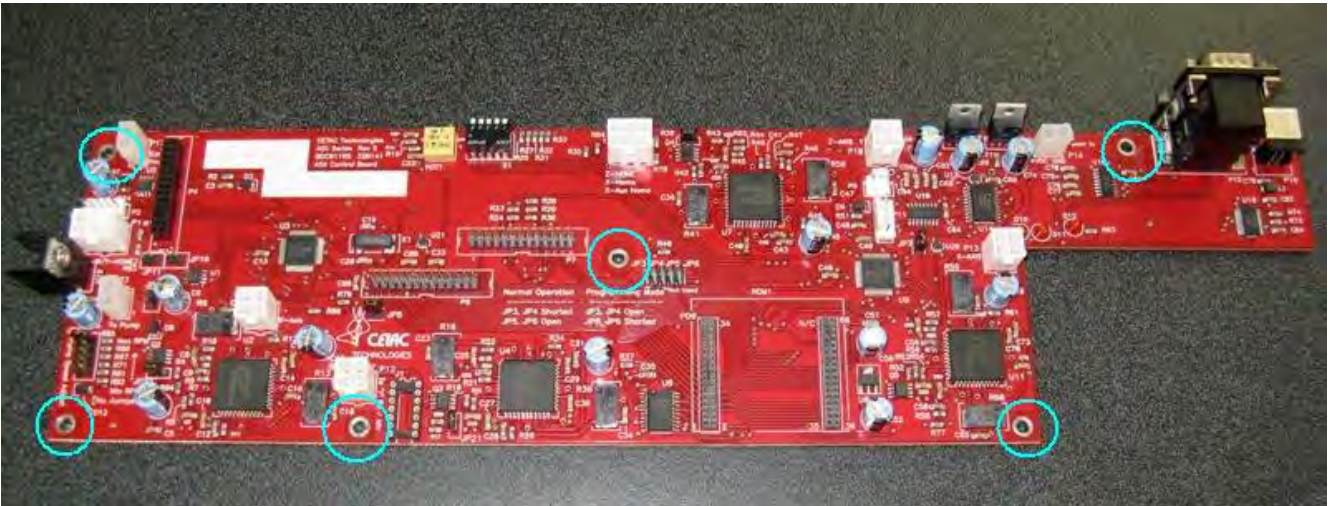


Figure 1-16. Main Board mounting screws.

14. Remove the Jack screws holding the auxillary connector from the rear of the sampler if equipped.
15. Remove the six main board mounting screws. See Figure 1-16.
16. Remove the ¼ inch nut holding the heat sink for the voltage regulators and the mounting screw for the comm port retaining strap. See Figure 1-17.

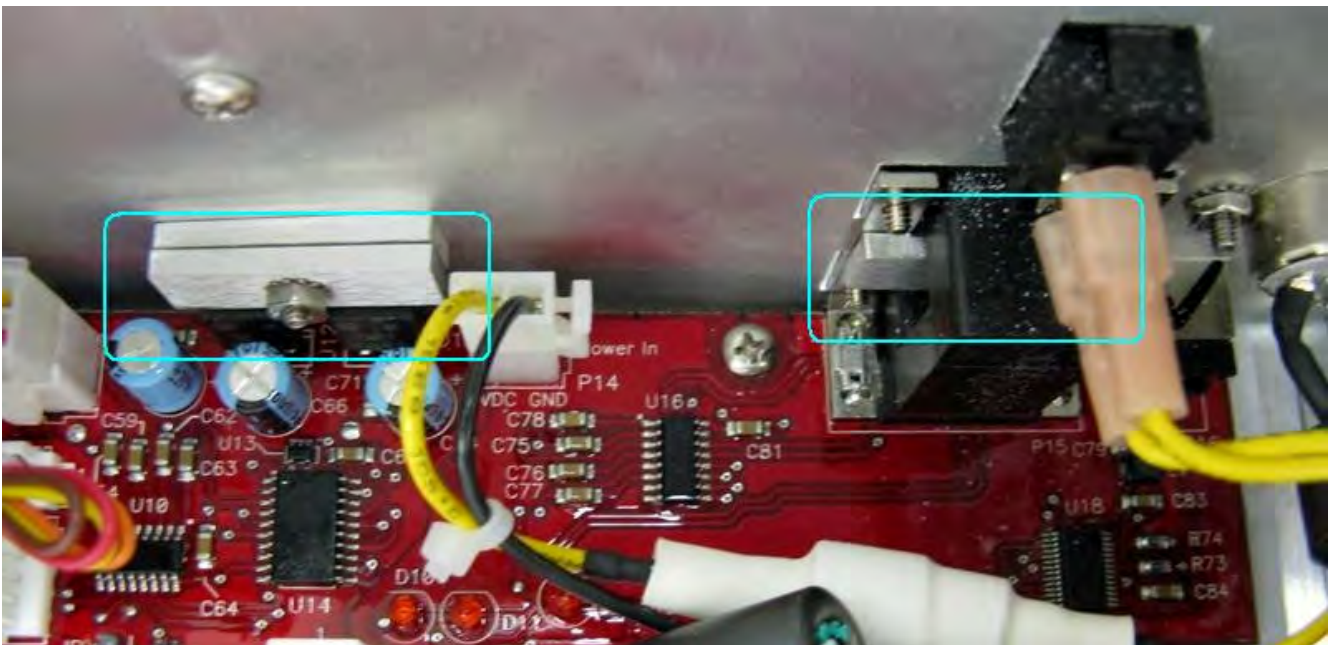


Figure 1-17. Comm port mounting screw is located on the back side of the sampler.

17. The main board is now ready to be removed. Rotate up slightly, then out first from the left side. The old board may be green in color and slightly different in appearance. This is normal.
18. Remove the auxilliary (daughter) board from the old main board and replace on the new main board if equipped. Take care to double check pin orientation between the two boards.
19. Set dip switches on the new board to match the dip switches on the old board. See Figure 1-18.
20. If a new rabbit processor is not being installed, remove the rabbit board from the old main board and place in the new main board. Take note that the gold corner pad should be oriented towards the top-left corner as you are looking down. Ensure pin placement is correct before reinstalling new main board. See Figure 1-18.

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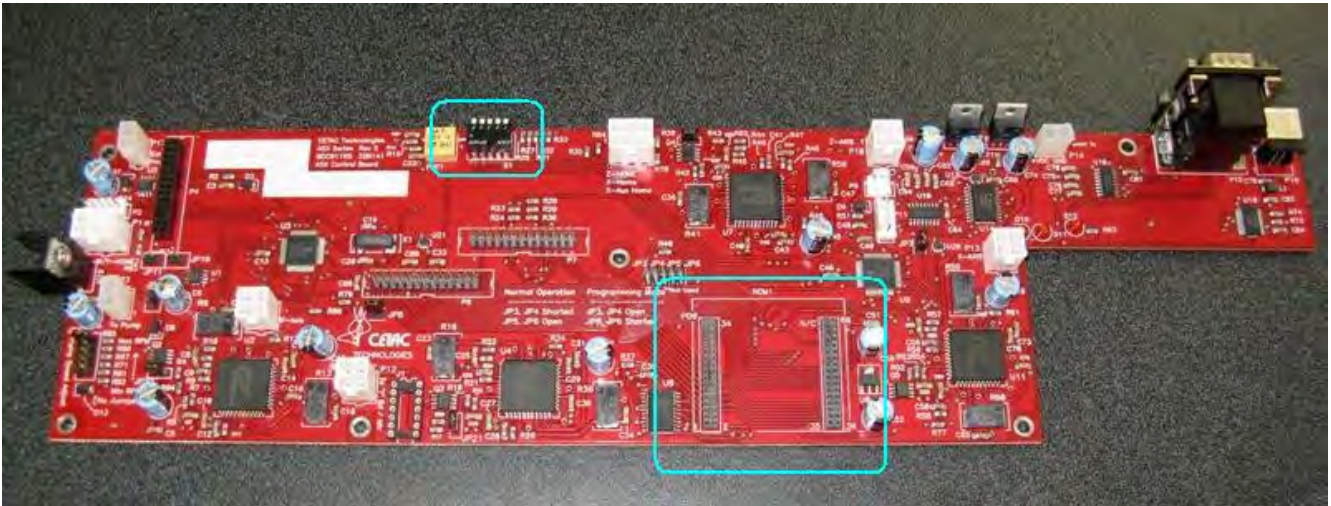


Figure 1-18. Gold corner pad should be oriented toward center screw hole on main board.

21. Place new main board in chassis. Ensure bottom voltage regulator heat sink strap is in place against chassis before placing new board in chassis.
22. Start all six board mounting screws, then tighten them all.
23. Replace voltage regulator heat sink strap and align straps evenly, then tighten down ¼ inch nut. See Figure 1-17.
24. Replace Jack screws in Daughter board if equipped.
25. Replace comm port mounting strap and screw. Ensure the PIM nut in the strap is oriented away from the chassis to ensure it is not pulled out of the strap when tightened.
26. Replace all wiring connectors in the correct connectors. If you are upgrading from an older green board to a new red board as pictured, you will need the short adapter cable for the z-axis sensor. This converts the connection from a four pin to a six pin, and should be included in the board replacement kit.
27. Replace the splashguard, if equipped, taking note to orient the edges as seen before. Also route the blue ribbon cable under and to the left end, then up. Note: when routing the blue ribbon cable, ensure that it does not lay above U4 as this will cause the IC to overheat and fail.
28. Replace the shield. Route the blue ribbon cable through the notch in the bottom of the shield.
29. Replace the cover, tray; rinse station, z-drive assembly, and racks.
30. Power up and test operation before returning to service.