OKI
PRINTING SOLUTIONS

OKI proColor™ C910 /C930 Engine

Service Training & Disassembly Procedures

DISTRIBUTED AT THE C910 / C930 SERVICE TRAINING CLASSES

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REV. 3.20

OKI proColor™

This document describes the disassembly of the Oki Data A3 9 series of printer engines. It is to be used during Oki Data Service Training. It is not designed to be a self-directed course, as Oki Data Trainers will provide additional information as required during the course. We are not responsible for typographical errors nor or we responsible for manufacturing changes that are considered part of a products life cycle.

This document is being provided in conjunction with an Oki Data sponsored and instructor led course. Be aware that the machine you are working with may have already been disassembled, resulting in parts and / or screws being incorrectly replaced.

You are responsible for your own personal safety as you work through this course. You are expected to know how to safely operate, disassemble, and repair machines of this type. Oki Data is providing disassembly, troubleshooting, repair and reassembly instructions specific to this series of printers. Oki Data assumes that each student has already demonstrated their knowledge of basic electronics, troubleshooting, disassembly and reassembly of this type of equipment.

Important Safety Notes:

- This product generates potentially lethal voltages. While Oki Data has made every attempt to insure safe operation and voltage interruption by installing safety circuits, it is possible to by-pass these safety circuits. Oki Data will not be responsible for the safety of any attendee who knowingly by-passes any of these safety devices.

- The printer units are very heavy. The ES3640 printer weighs approximately 190 pounds. Safe lifting techniques are required and Oki Data assumes that the attendee is versed in established safe lifting techniques.

- These printers contain large amounts of metal that may have sharp edges or burrs on edges. Oki Data assumes no liability for carelessness that results in injuries to attendees. In short – Be Aware – Be Careful - Don't Fool Around!

- If you are unsure of something – ask the Oki Data Trainer before continuing.

- Follow the disassembly instructions as they are written to insure your safety as well as your successful disassembly/reassembly of the printer(s) you'll be working with.

Course Instructions:

1. The Oki Data A3 printer engine weighs almost 200 pounds, so use caution and common sense when lifting, moving, or placing it on a surface.

2. Follow the procedures as they are written.

3. If you encounter any problems, notify the instructor.

4. **NOTE**: steel screws go into metal; Black screws go into plastic.

5. Use Electrostatic Discharge precautions when handling the electronics portions of the printers.

6. Pay very close attention to the wiring harnesses and how they are routed. This will save time when you reassemble your unit!

7. Pay particular attention to not pinching cable assemblies when reassembling the unit.

8. Watch for sharp edges and burrs on the metal covers and support brackets. This machine contains a lot of metal – **Be careful!**

9. Store the removed screws with the appropriate assembly they secure.

10. Notify the instructor if you have any left over parts/screws once you've completed the re-assembly. This is **IMPORTANT** since these are training machines and will be used for additional training classes.

11. We do not "booby trap" machines prior to disassembly or re-assembly. We may introduce problems after your unit is reassembled and tested: This is the best way to learn troubleshooting techniques.

12. Learn as much as you can - Enjoy the class – Ask questions

13. Remember; **It Is Your Course**! Ask questions of the instructors.

14. When completing the course critique, be honest; If you find a problem, want to make a suggestion, utilize the comments section on the rear of the critique form. **We Do Pay Attention to These Comments!** Remember: Constructive Criticism is always welcome and it helps us to improve this course.

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A3 Printer Engine Disassembly Procedures

All directions are referenced from the "Front / Operator Panel" of the machine

Install the consumables (First Time Use machines only)

Remove drum and toner assemblies from the black bags (if so equipped) and reinstall in your printer.

1. Print the following pages:

    1.1.1. "Configuration Pages"

    1.1.2. "Demo Page 1"

2. Unplug the power cord from the wall and from the printer.

    2.1. Remove all consumables from the printer.

        2.1.1. Drum and toner assemblies go back in the black bags and fold the tops of the bag to block light leakage.

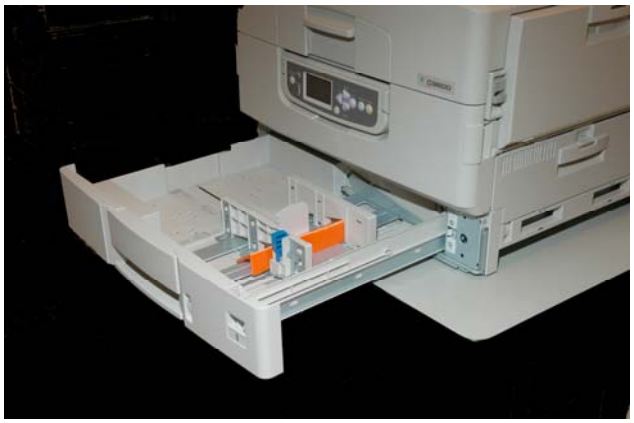
        2.1.2. Remove the Transfer Belt.

        2.1.3. Remove the Fuser assembly.

        2.1.4. Remove Waste Toner Box

    2.2. Close the printer cover.

3. Remove the Paper Cassette from the printer.



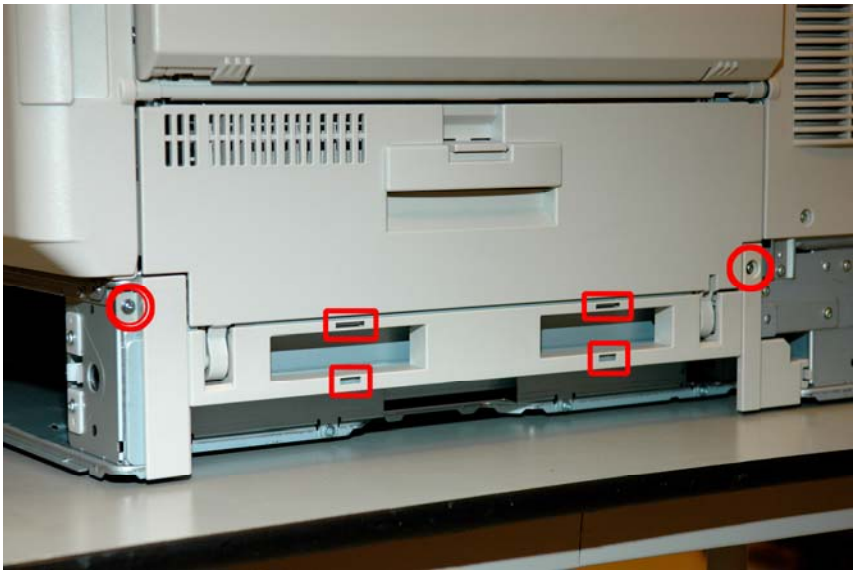
4. Removing the Power Supply Cover.

    4.1. Remove 5 screws from the Power Supply Cover.

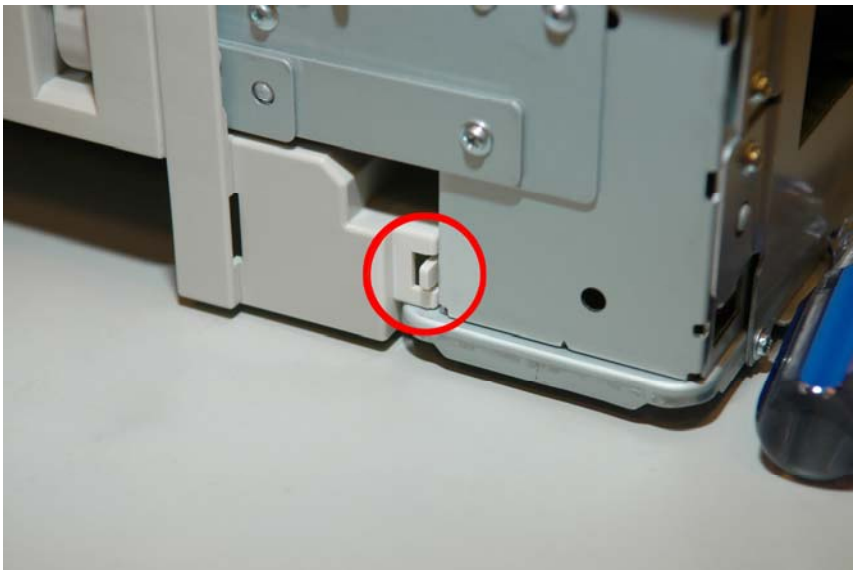
    4.2. Remove the Power Supply Cover.

5. Removing the Right Side Cover and the Right Side Lower Access Cover.

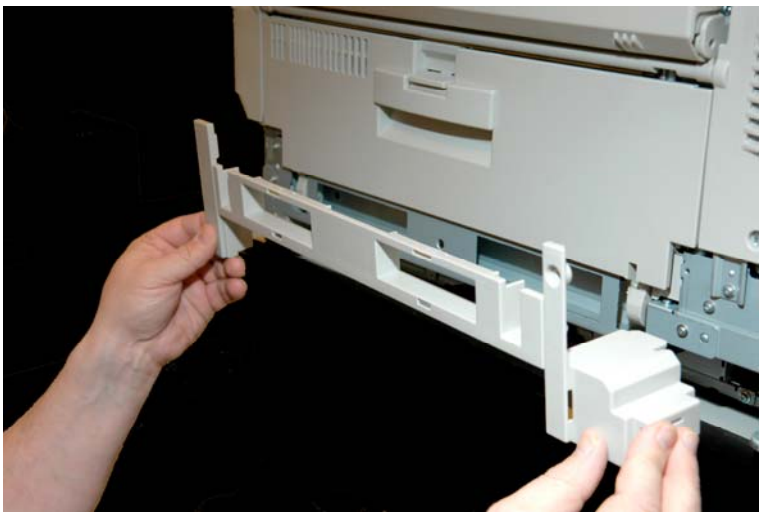
5.1. Remove 2 screws from the Right Side Cover and use a flat blade screwdriver to release the four tabs. Push down on the top taps and up on the bottom tabs.



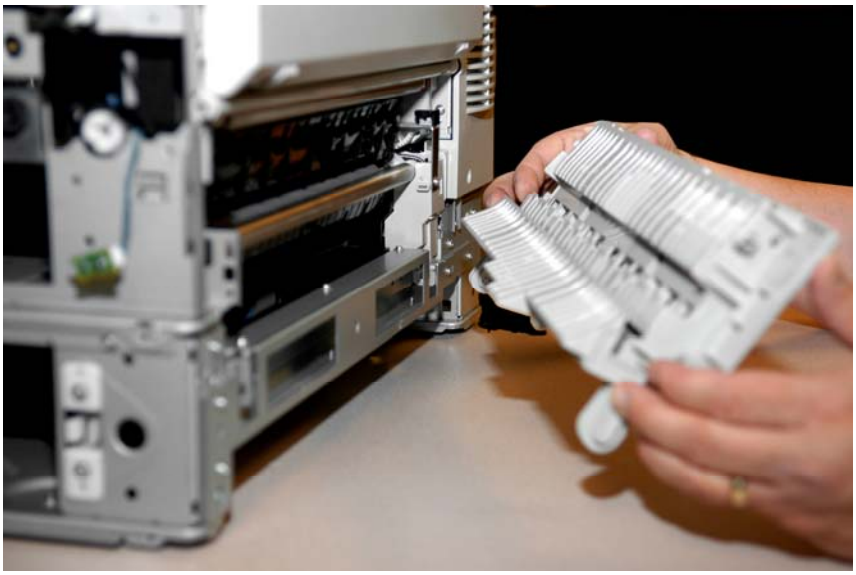
5.2. Release the latch.



5.3. Remove the Right Side Cover.



5.4. Remove the Right Side Lower Access Cover by gently prying the plastic pins away from the metal frame.



6. Removing the Rear Right Side Cover.

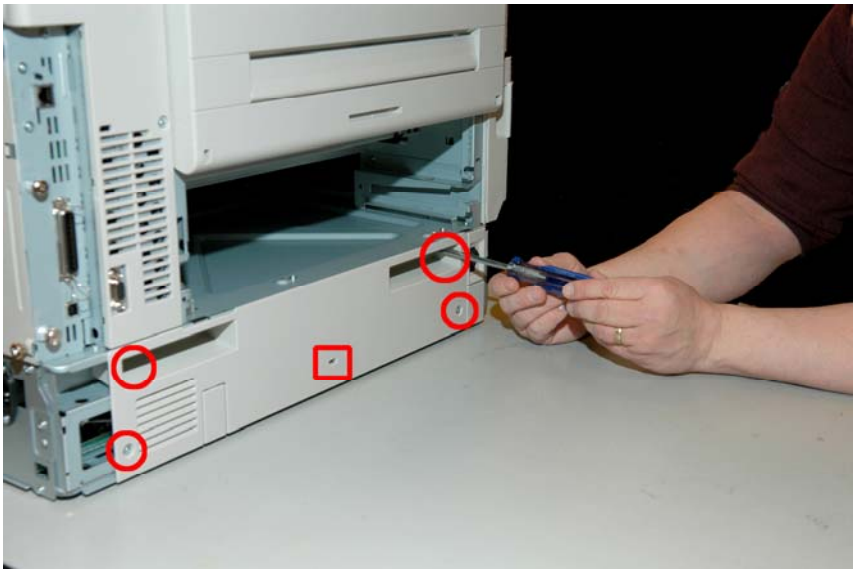
6.1. Open the Top Cover and remove two screws.

6.2. Remove the Rear Right Side Cover.

7. Remove the Duplexer (if equipped) / Dummy Duplex Cover from the left side.

8. Removing the Left Side Cover.

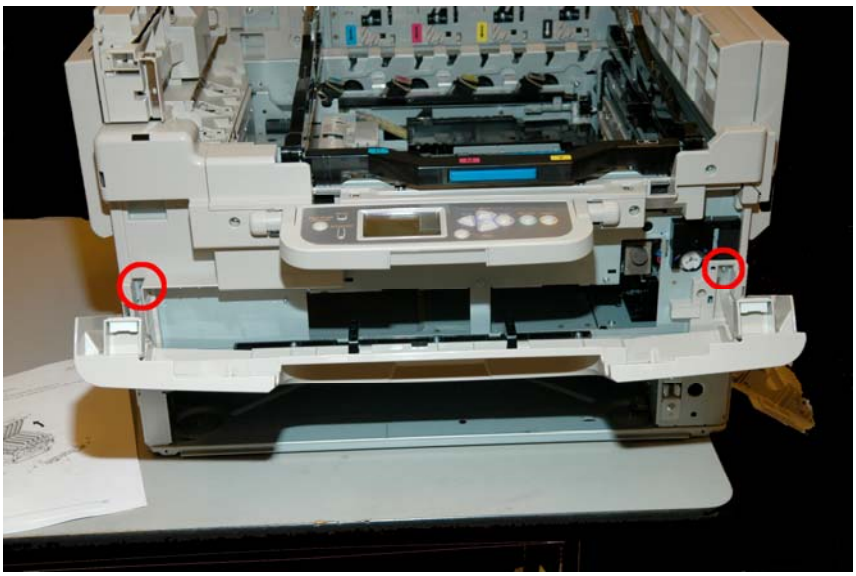
    8.1. Remove the 4 screws and release the tabs by pressing down with a flat blade screwdriver.



    8.2. Remove the Left Side Cover.

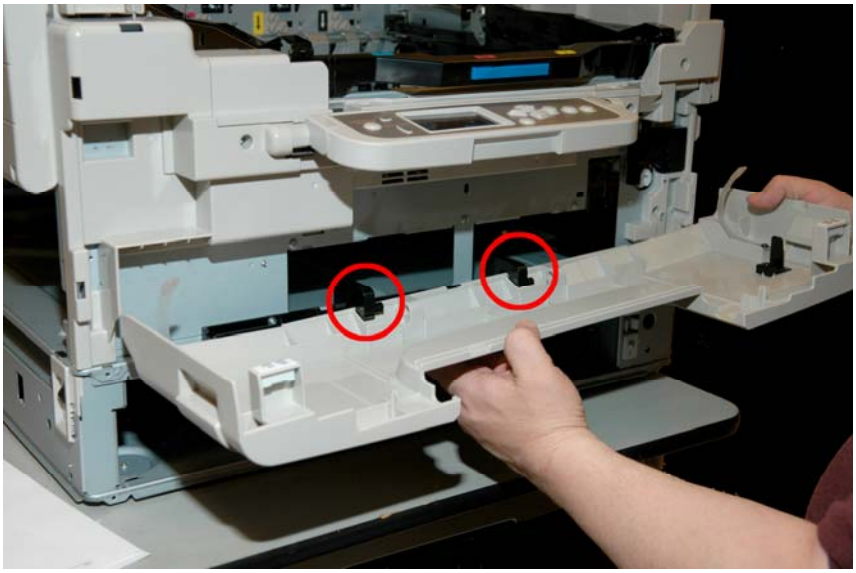
9. Removing the Front Cover Assy.

9.1. Lift the Op Panel as far as possible and open the Front Cover Assy. Remove the 2 screws from the support straps.



NOTE: Be sure the Waste Toner Box has been removed.

9.2. Make sure the cover is open all the way – remove it by pushing to the left on the black hinges and moving the cover to the right.

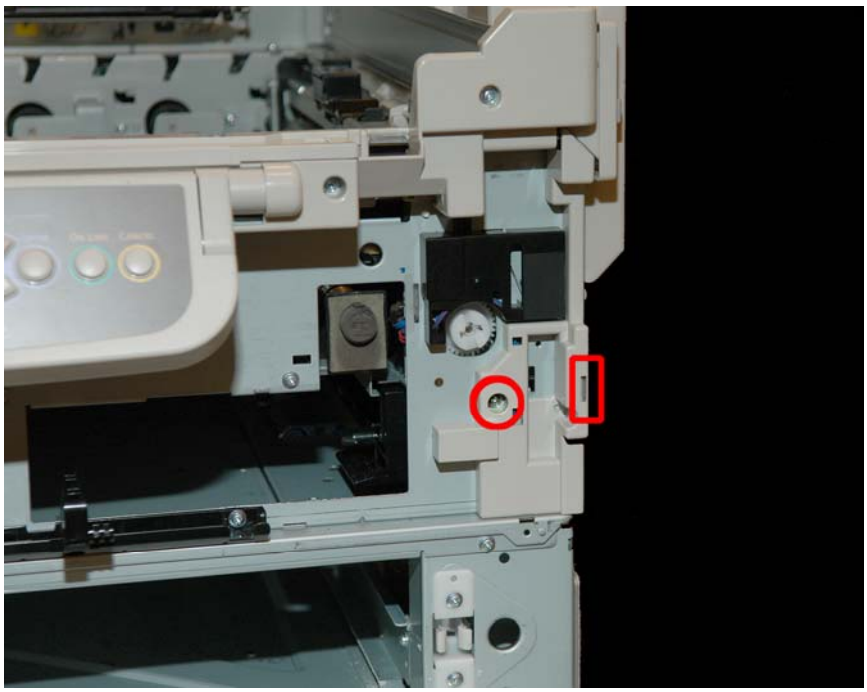


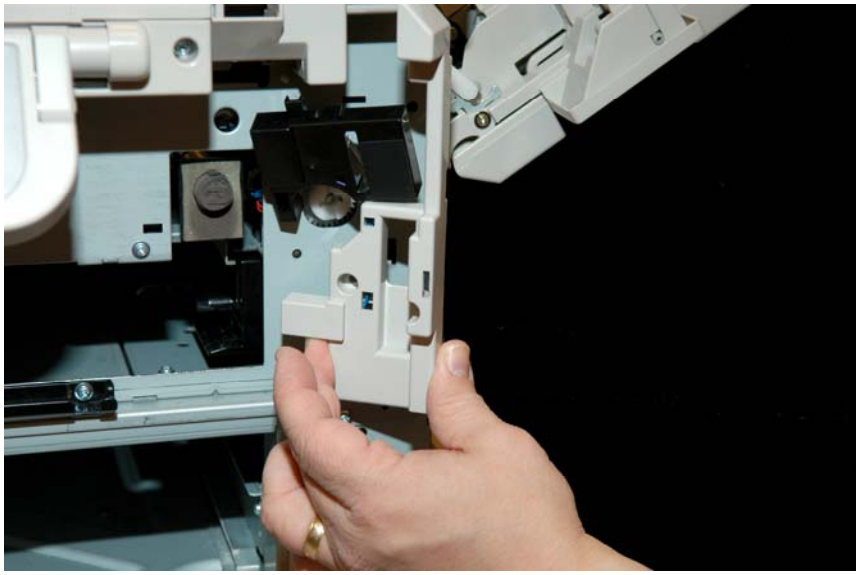
10. Removing the Right Cover Guard

NOTE: Read the next 2 pages before starting this step to familiarize yourself with the procedure!

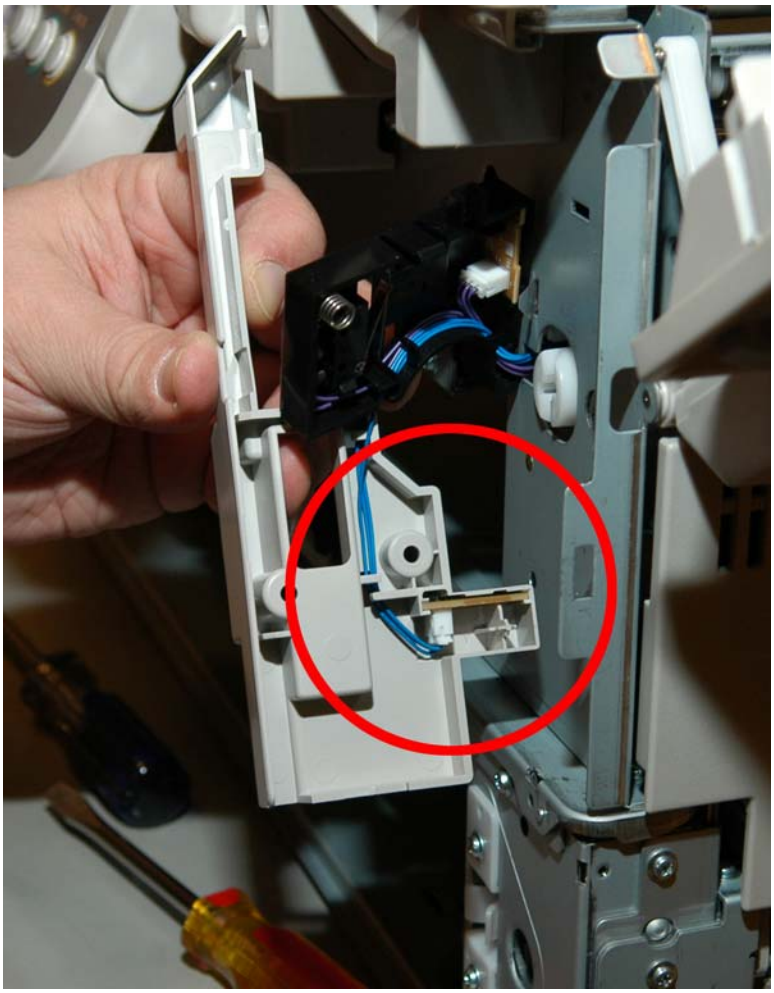
10.1. Remove 1 screw and use a flat blade screwdriver to release the tab.

10.2. Remove Right Cover Guard.

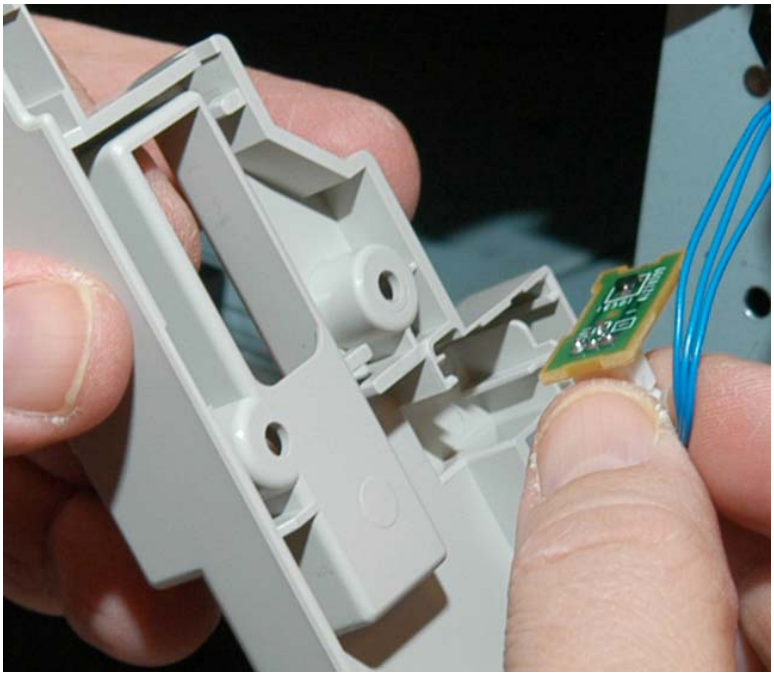




10.3. Take note of the wire routing in the Right Cover Guard for the Waste Toner Box sensor and unthread.



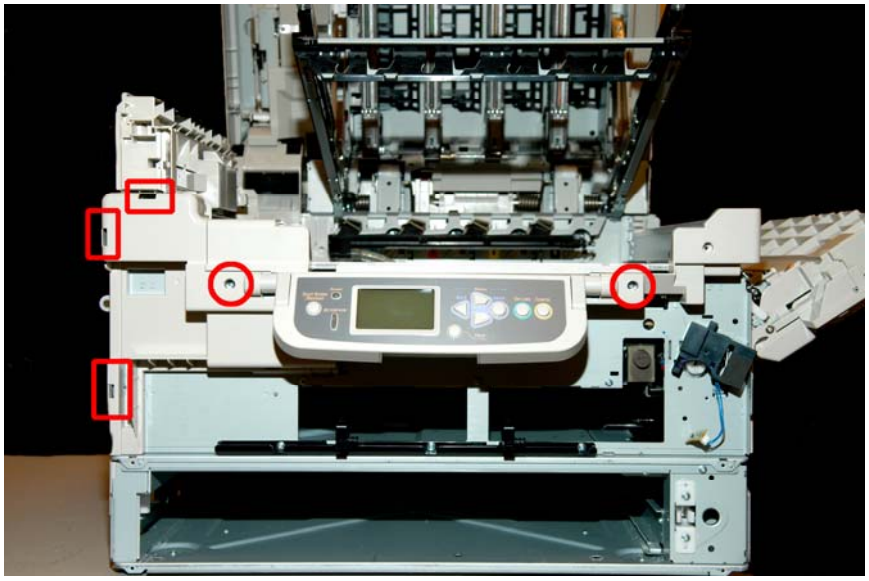
10.4. Remove the Sensor board and wiring harness from the right cover card as an assembly.



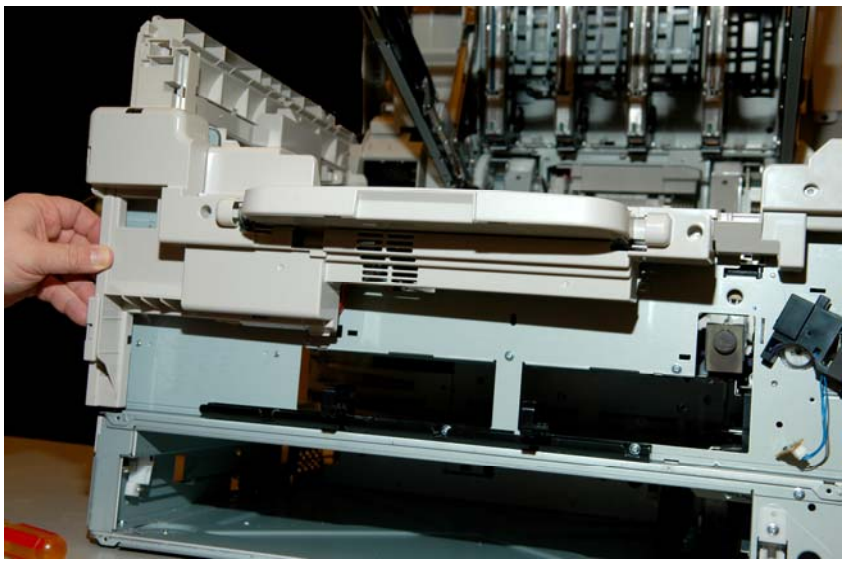
11. Removing the Left Cover Guard

NOTE: Lift the Basket Assy.

11.1. Remove 2 screws and use a flat blade screwdriver to release the 3 latches.

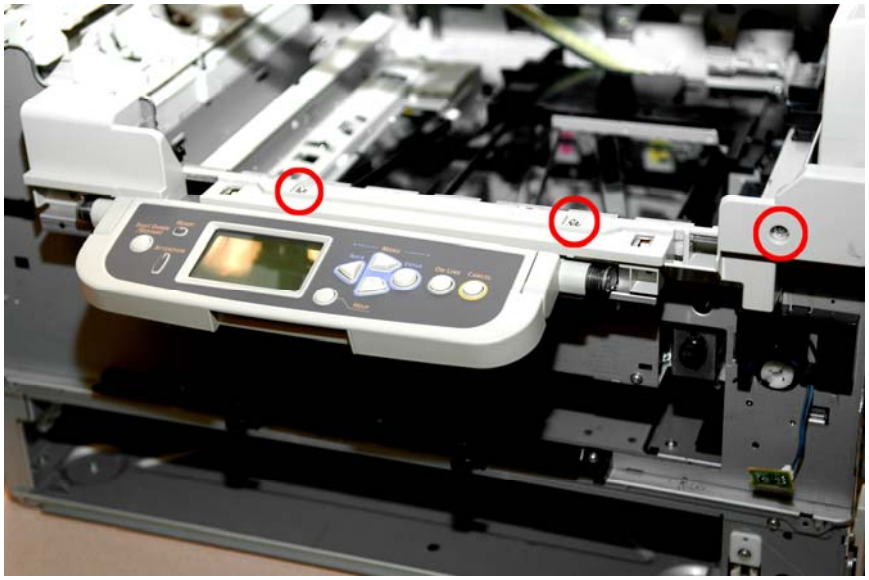


11.2. Remove the Left Cover Guard.

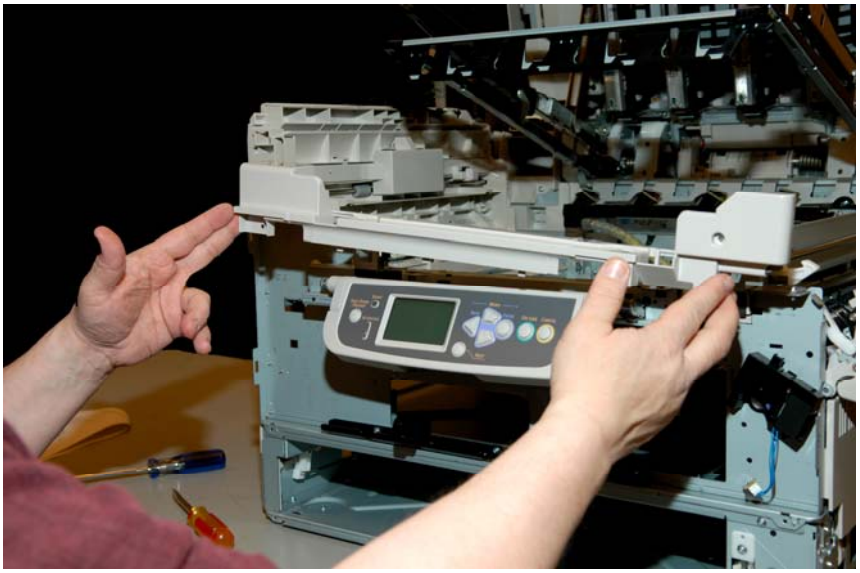


12. Removing the Front Cover Guard

12.1. Remove 3 screws and remove the Front Cover Guard.



12.2. The Front Cover Guard has a very tight fit even with the screws removed. Gently work it off.

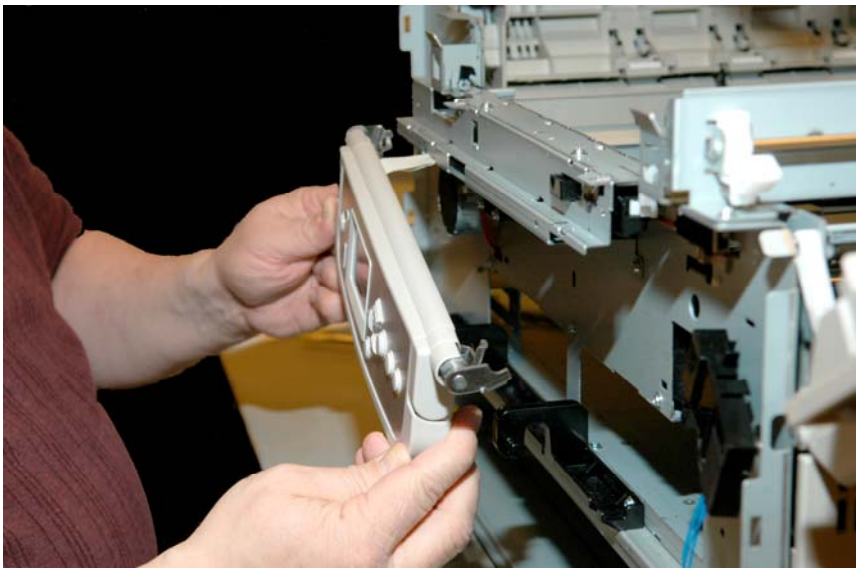


13. Removing the Operator Panel.

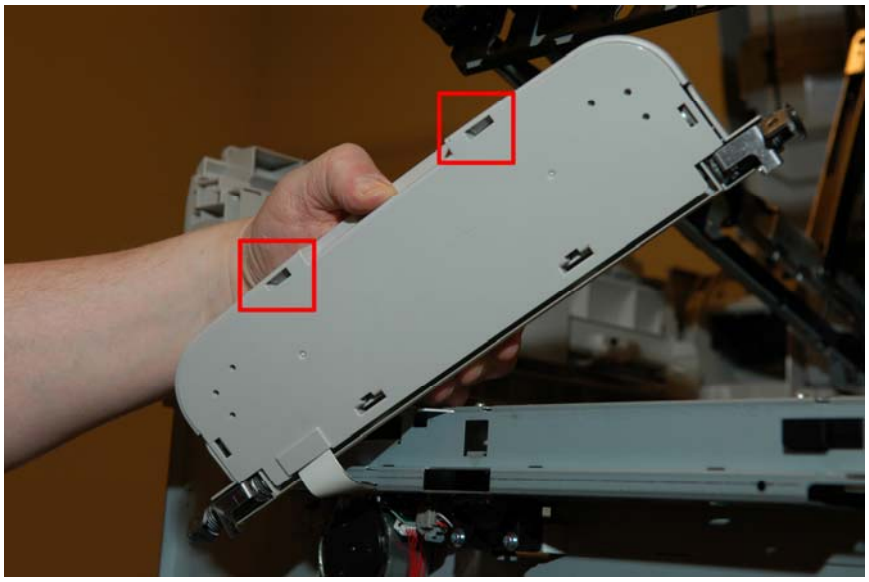
NOTE: Read the next 2 pages before starting this step to familiarize yourself with the procedure!

13.1. Remove 2 screws.

13.2. Remove the Op Panel but do not let it drop as there is ribbon cable attached.

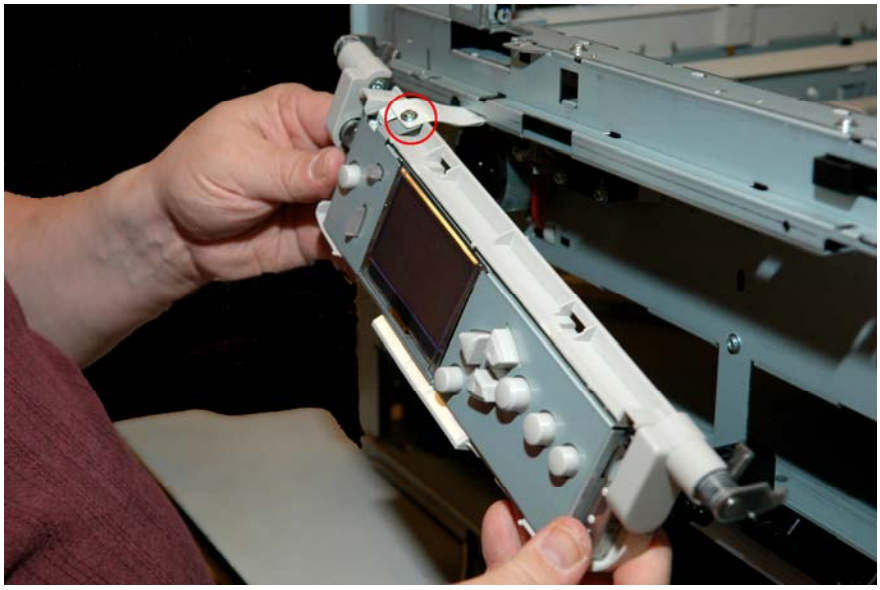


13.3. Release the 2 latches on the underside of the Op Panel.



13.4. Remove the Op Panel Cover.

13.5. Remove 1 screw



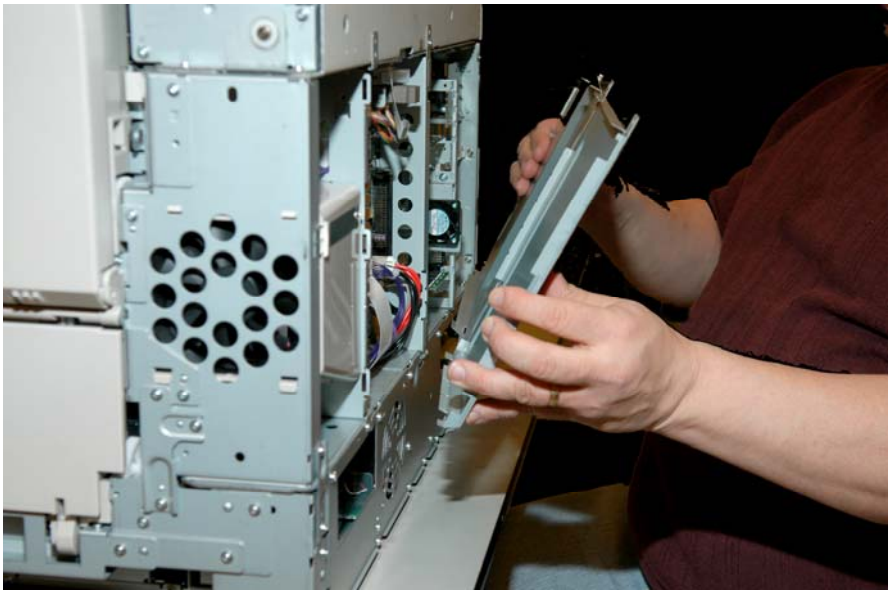
13.6. Gently unplug the ribbon cable.

14. Removing the Plate Shield Assy. (Rear Metal Cover)

    14.1. Be sure the Top Cover is closed. Loosen the 2 captured thumb screws on the side and remove the 2 screws along the top.

NOTE: Be careful when handling any sheet metal as there may be sharp edges left over from the manufacturing process.

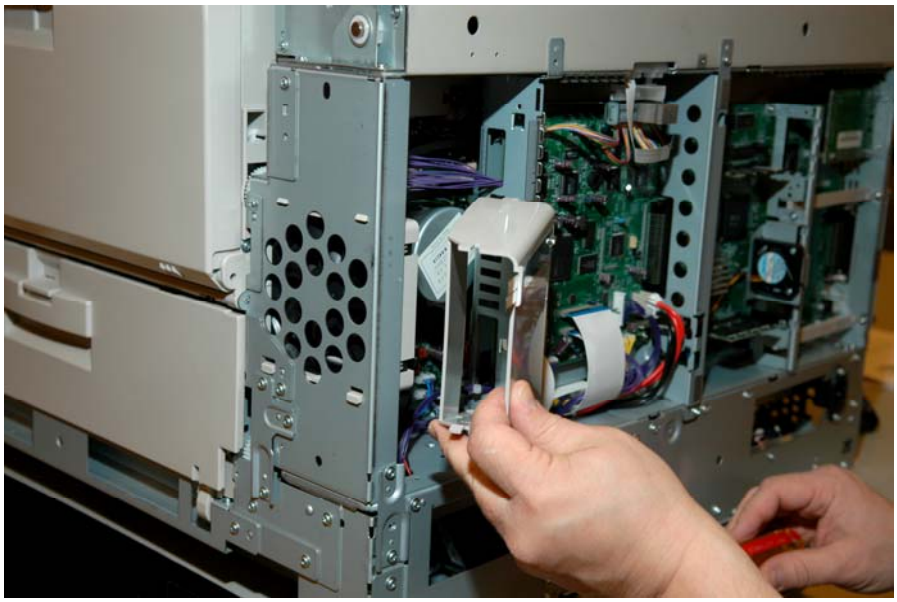
    14.2. Lifting up and at the angle shown, remove the Plate Shield Assy.



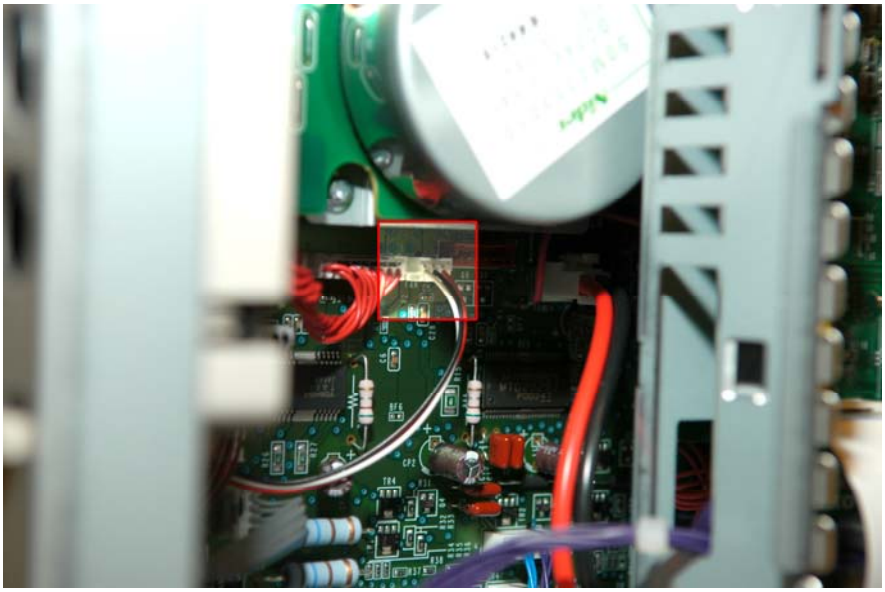
15. Removing the Engine Board Fan and Air Duct

15.1. Gently release tab.

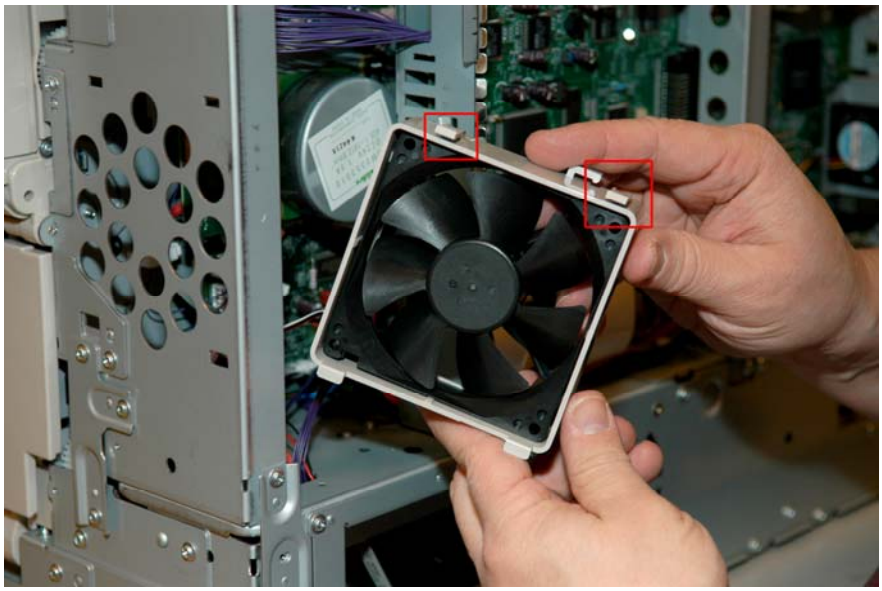
15.2. Remove the air duct by pulling it outward.



15.3. Unplug the fan connector.



15.4. Release the tabs that secure the fan to the Plate Shield Box Assy. (Card Cage) and remove the fan by lifting up and out.

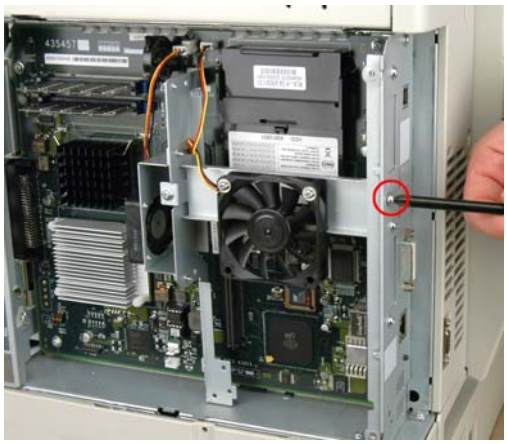


NOTE:

Oki Data manufactures and sells many different versions of this A3 Engine, employing different controller cards: Some are EFI Fiery™ designed boards while others utilize Oki Data designed controller boards. The controller boards pictured in this document may be different from the machine you are disassembling.

16. Removing the Controller Board

16.1. Remove the single screw from the I/O panel.

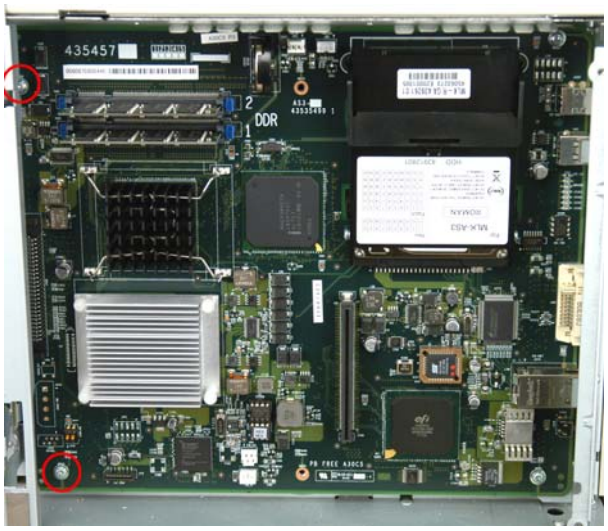


16.2. Unplug the 2 power connectors for the fans.

16.3. Remove two screws on the fan bracket. Take note that these screws are longer than rest.

16.4. Remove the bracket and fans.

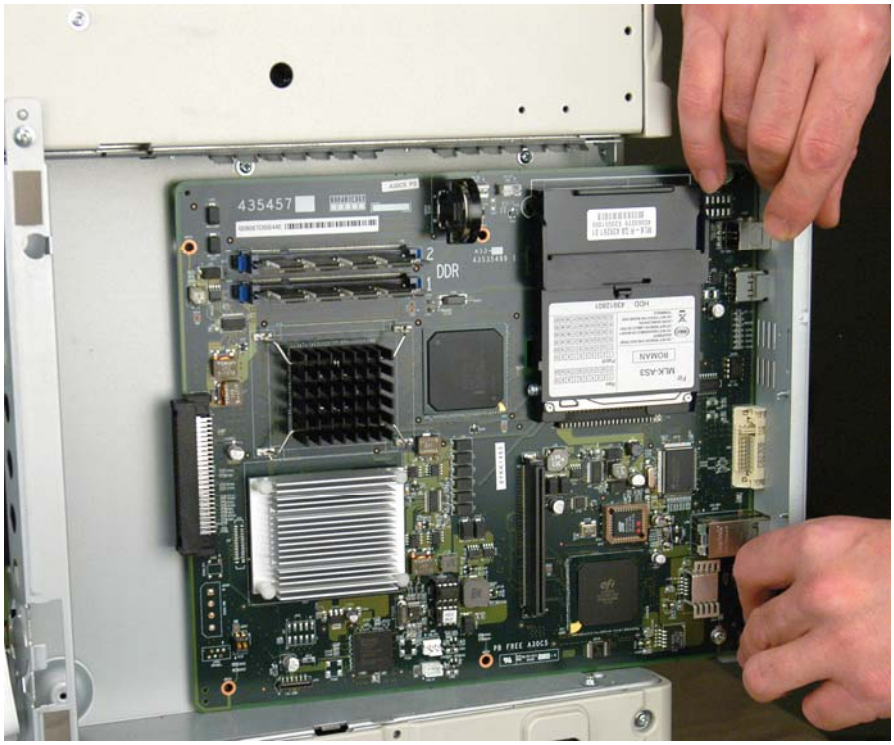
16.5. Remove two screws from the controller card as shown.



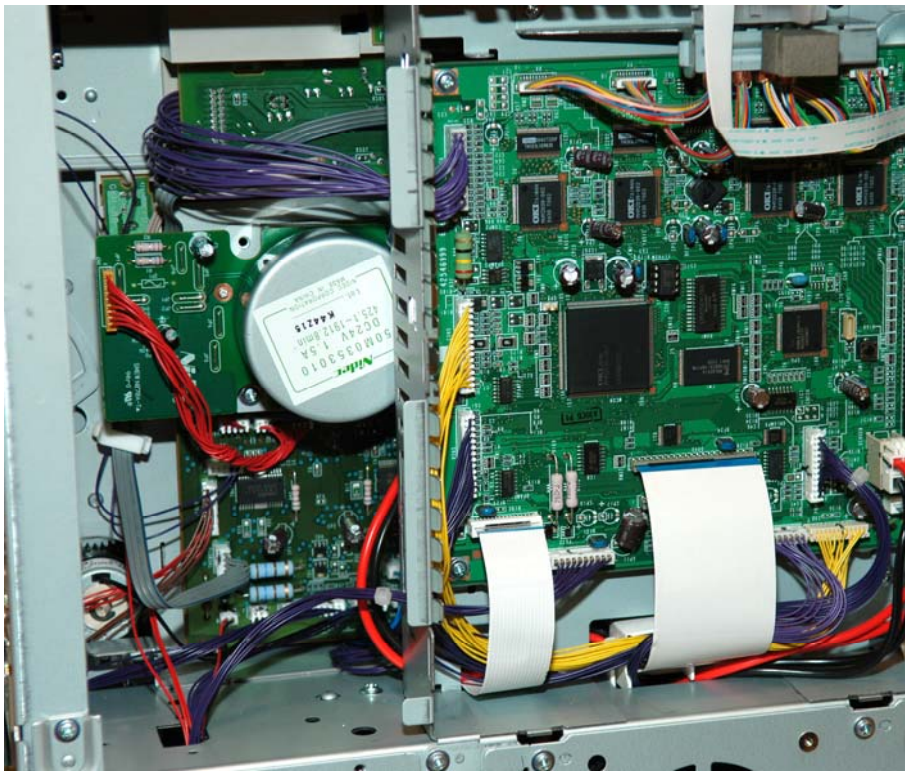
16.6. Remove one screw from the controller bracket inside the frame.

16.7. Remove one screw on the outside of the bracket.

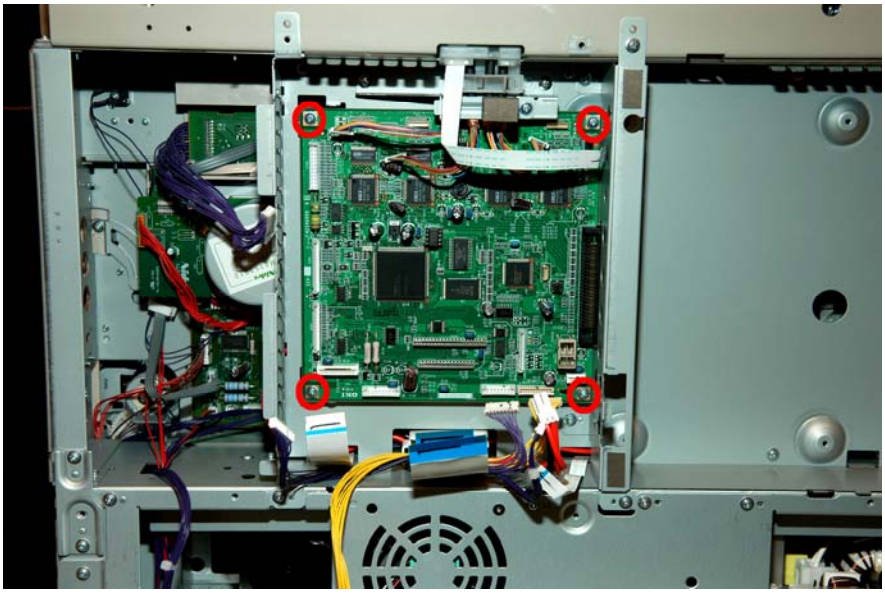
16.8. Slide the Controller Board slightly to the right and remove.



17. Removing the Engine Board



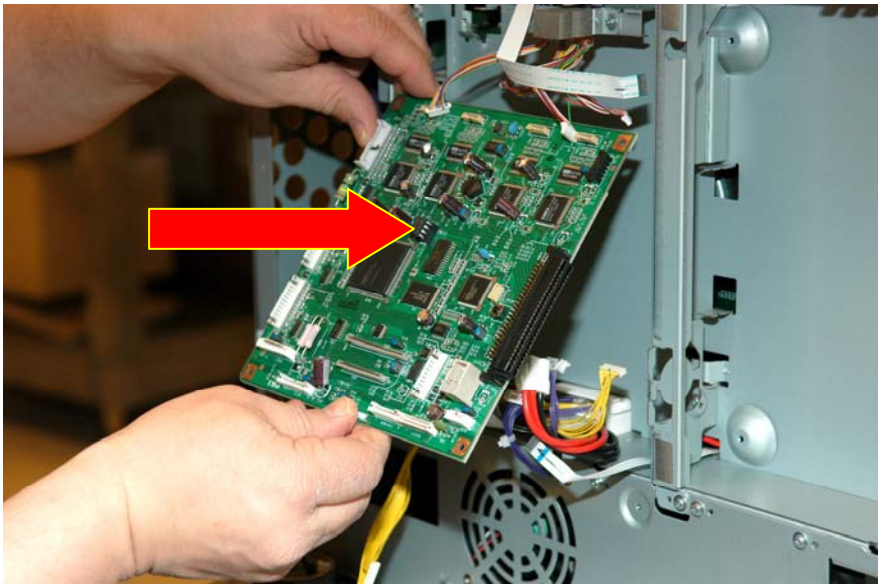
17.1. Unplug 17 connectors and remove four screws.



NOTE: Prior to unplugging all of the wiring connectors from the engine controller board make note of the wire harness routing. Note where the various cables/ harnesses enter the card cage, etc.

It's easier to note this now, when the machine is fresh, than to try and figure it out when you're rushing to reassemble the unit.

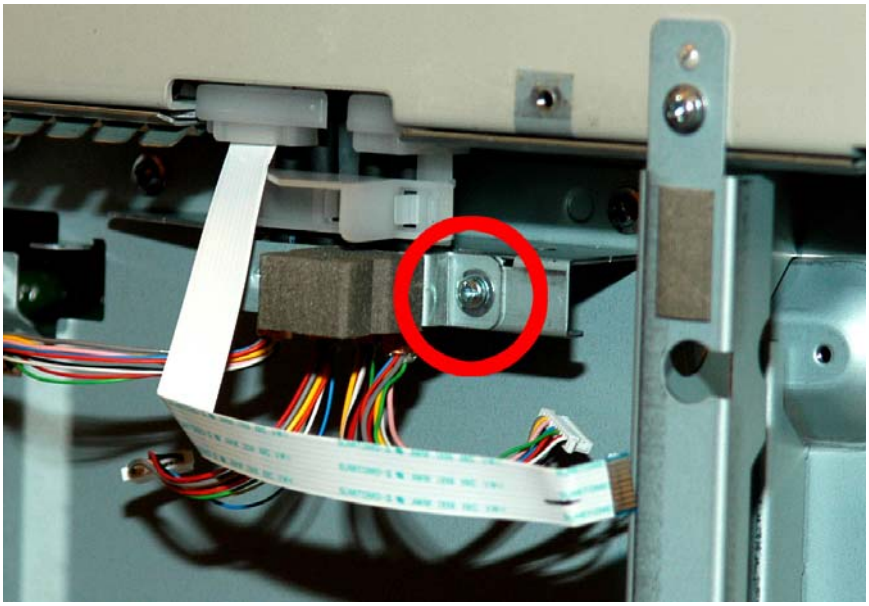
17.2. Push the Engine Board slightly to the left - pull the bottom of the board out then remove entire board.



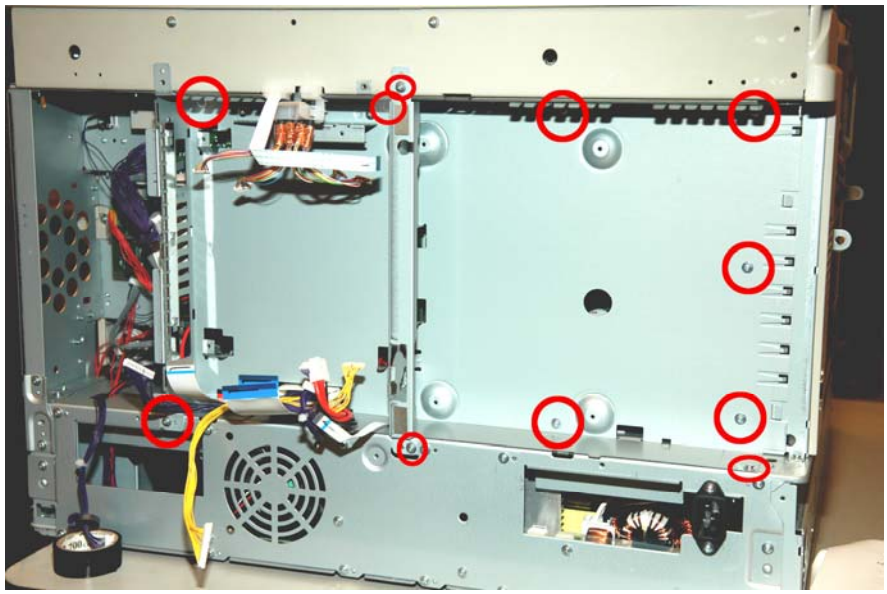
NOTE: If replacing a failed Engine Board, the socketed EEPROM must be retained and inserted into the new Engine Board.

18. Remove the Plate Shield Box Assy. (Card Cage)

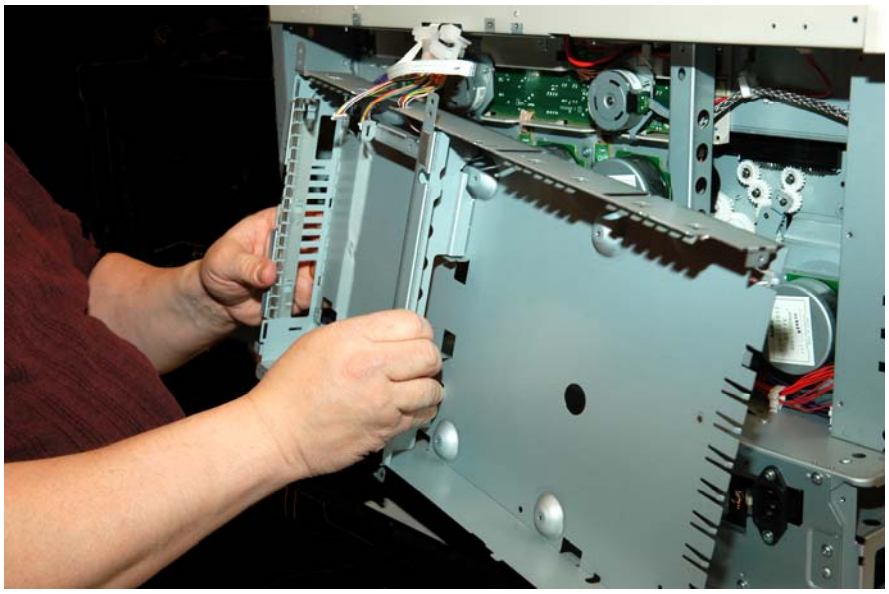
18.1. Remove 1 screw to release the Plate Clamp HCB (LED Head Cable clamp). Slide the white plastic bracket outward to release it from the Card Cage.



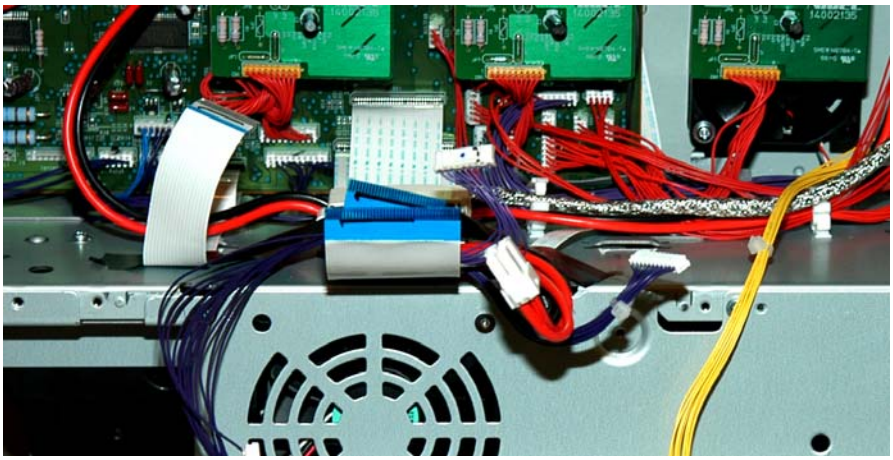
18.2. Remove 11 screws from the Card Cage.



18.3. Remove Card Cage.

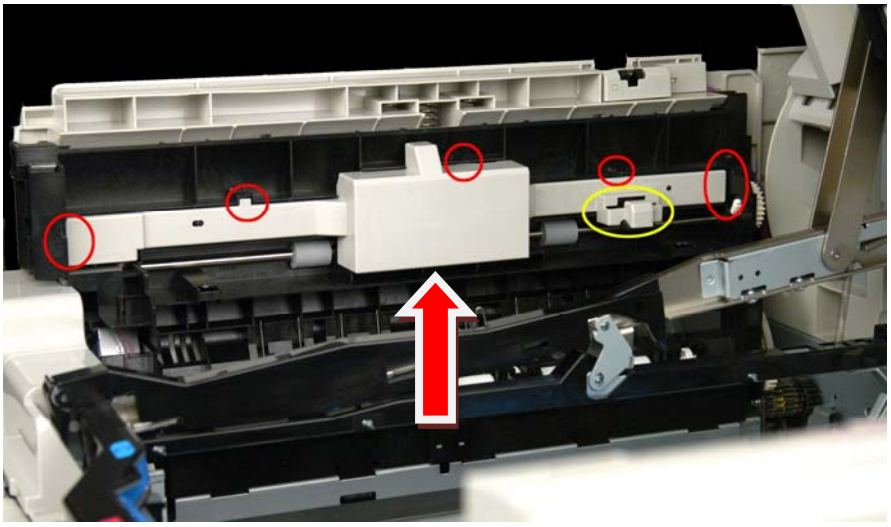


NOTE: To help make the reassembly process easier, it is recommended that any of the cables and harnesses that enter the Card Cage from the bottom, be taped down in their relative positions as illustrated.

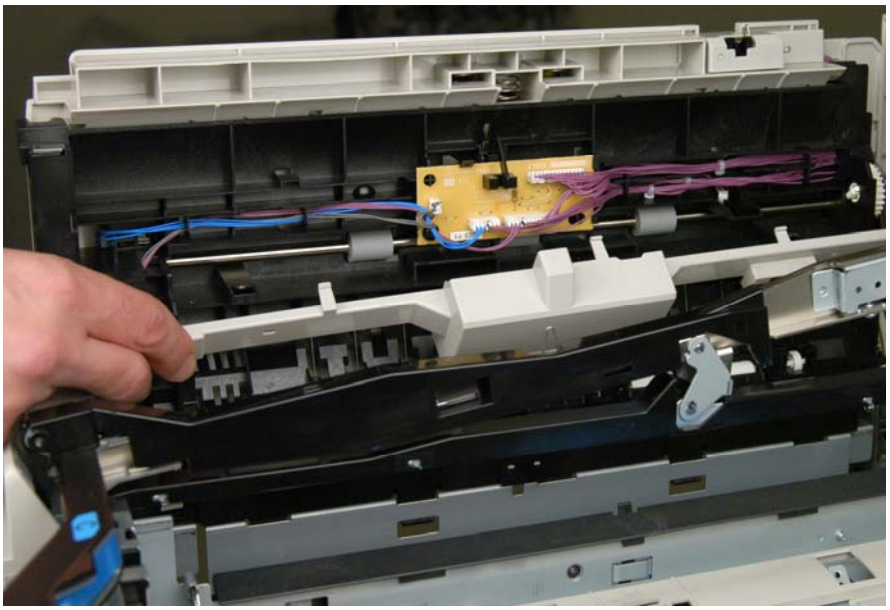


19. Removing the Eject-Assy. (Exit Guide)

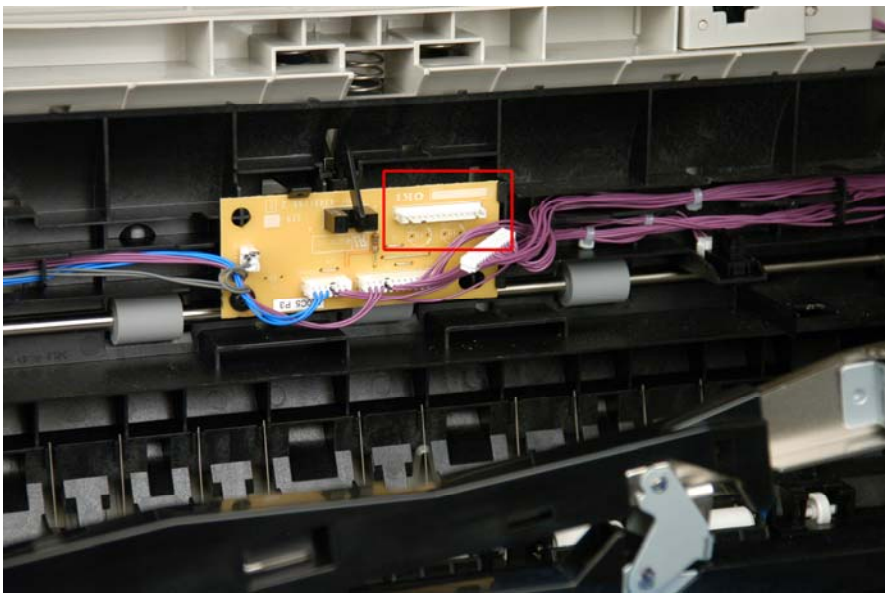
19.1. Release the five tabs with a flat blade screwdriver – the two tabs on the end of the cover first – and reach under the area marked with the Red arrow and press to release latches. Gently pivot the cover up to remove.



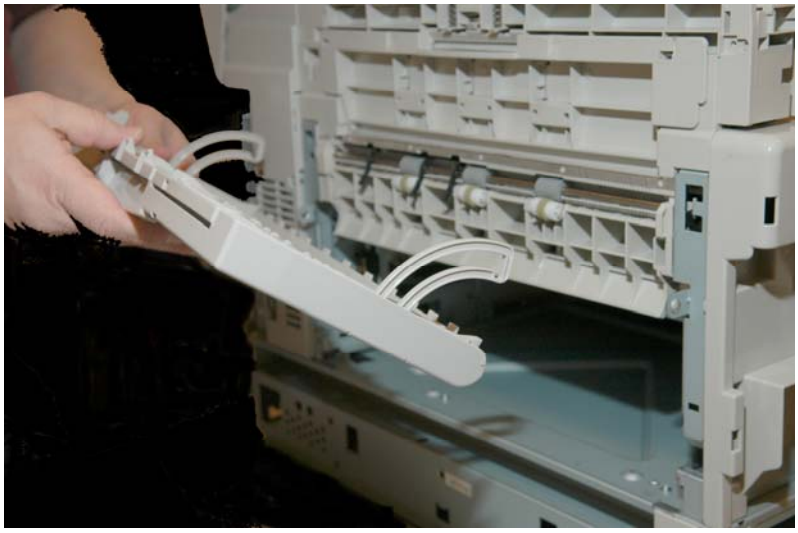
NOTE: Do Not Pull cover outlined in the Yellow oval area! Damage is sure to occur if you do!



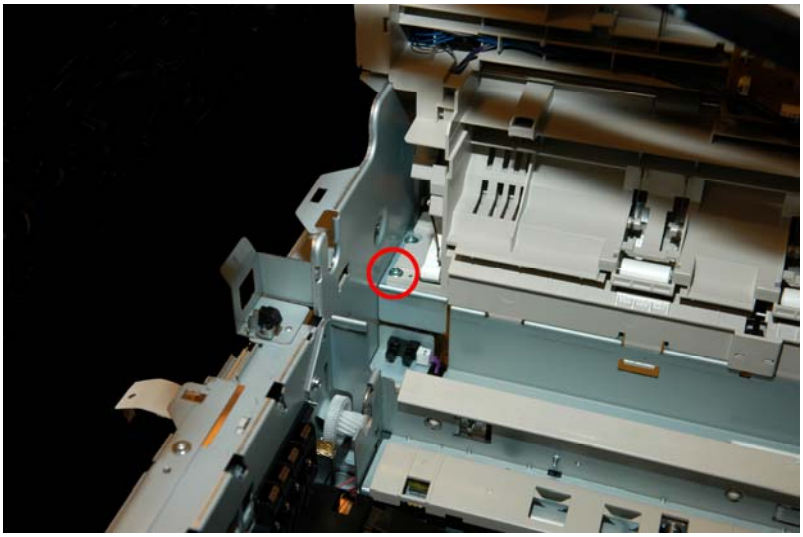
19.2. Unplug connector at upper right of the OR-S2R (exit sensor board).



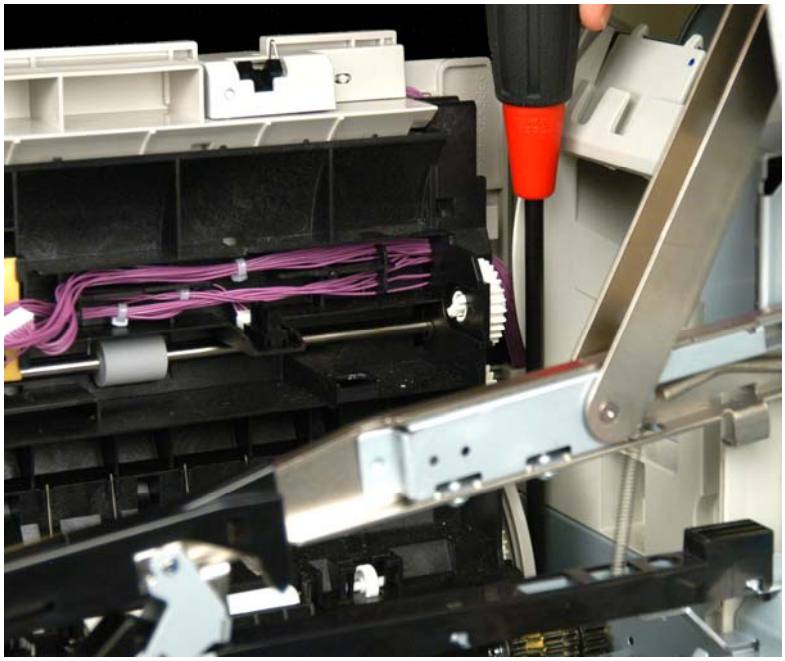
19.3. Remove Face-up Output Stacker



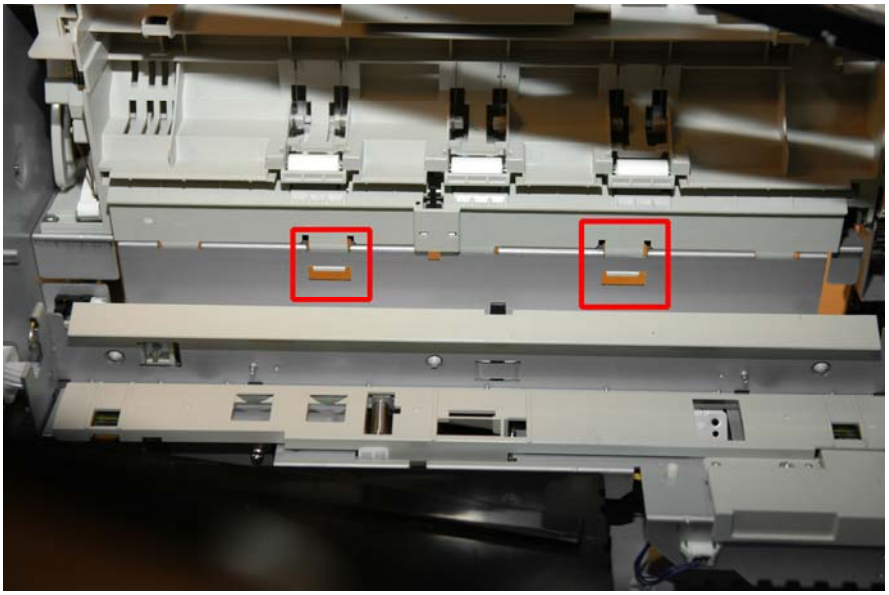
19.4. Remove 1 screw from the front of the Exit Assembly.

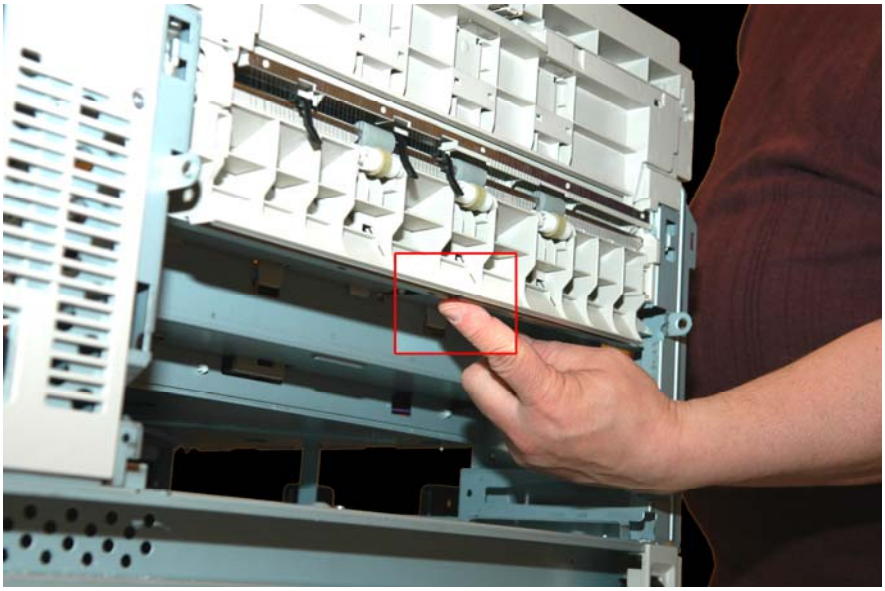


19.5. Remove 1 screw at the rear of the Exit Assembly (make sure you remove the correct screw – no way to picture the correct screw).



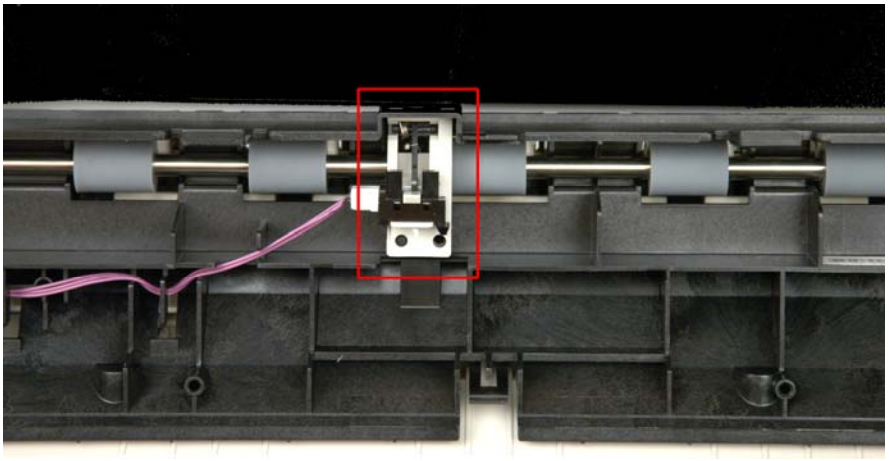
19.6. Release the tabs – two inside the printer cavity and one outside.



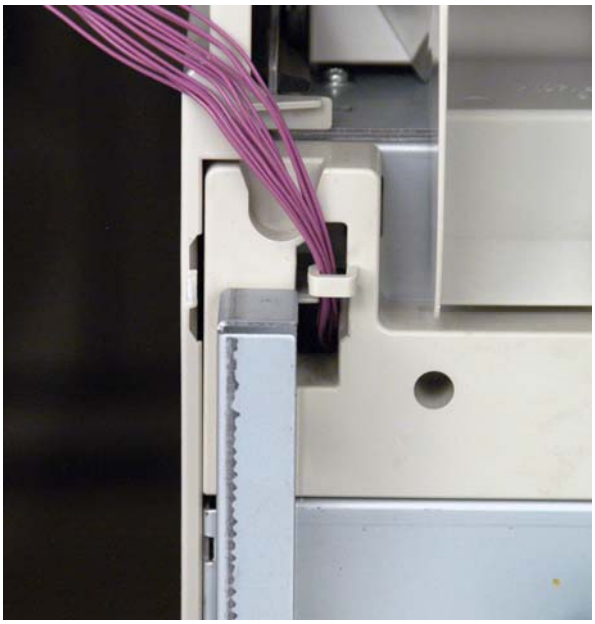


19.7. Lift Exit Guide up and out and gently unthread the cable bundle and connector through the side.

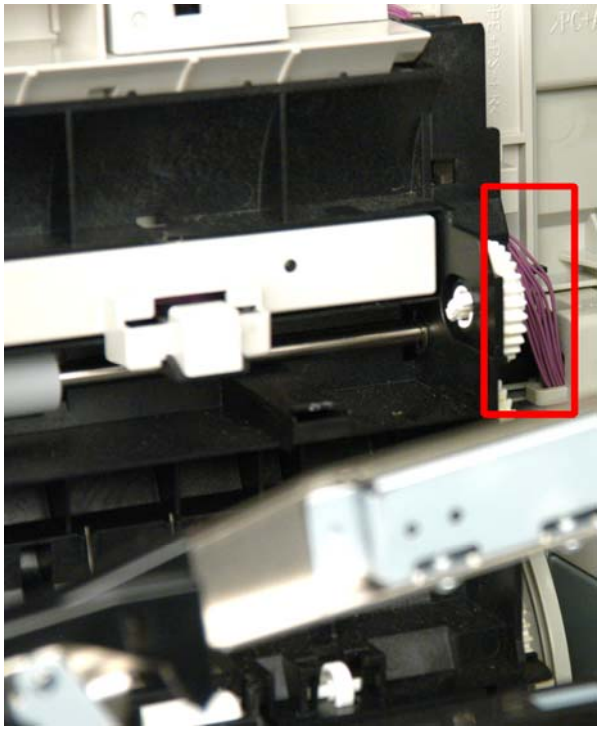
NOTE: On reassembly insure that the **paper exit sensor on the bottom of the exit guide** is completely snapped into it correct position.



The correct threading for the exit tray guide cable harness is through the wire guide in the rear of the printer cavity.

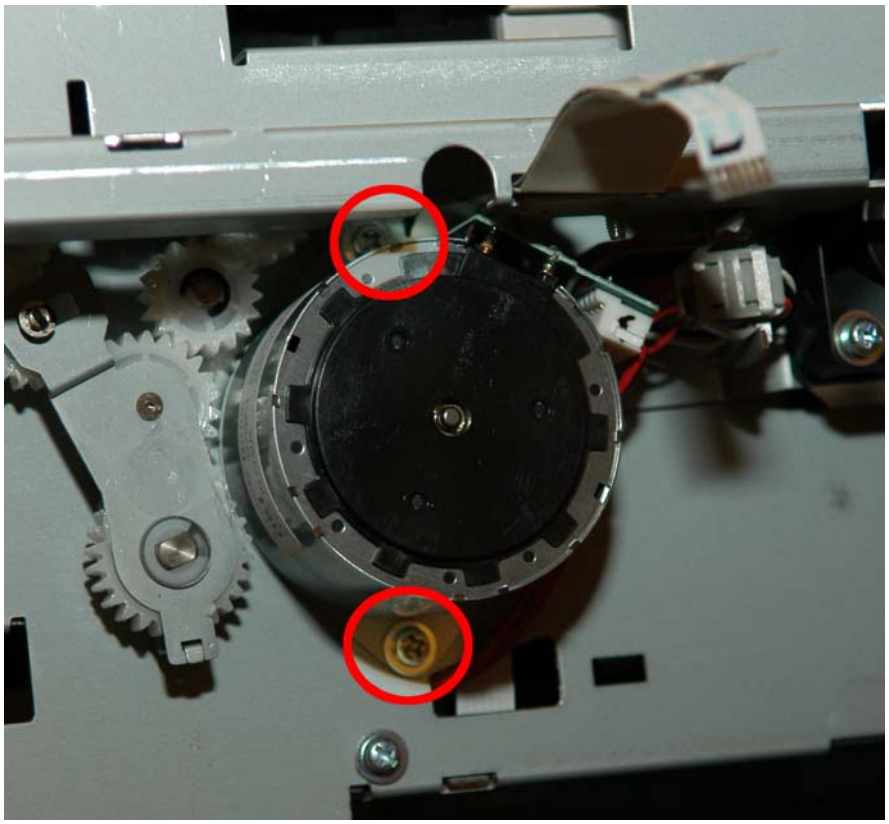


When reassembling also insure the cable threading around the Exit Guide Assembly gearing. It is very easy to pinch wires or get them too close to the gearing.

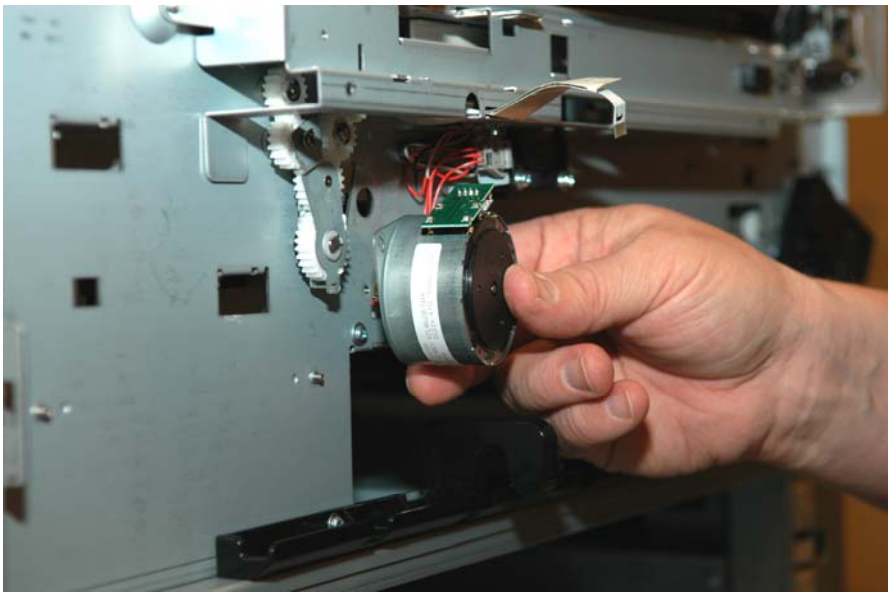


20. Removing the Belt Motor at the front of the unit.

20.1. Remove 2 screws and unplug connector.

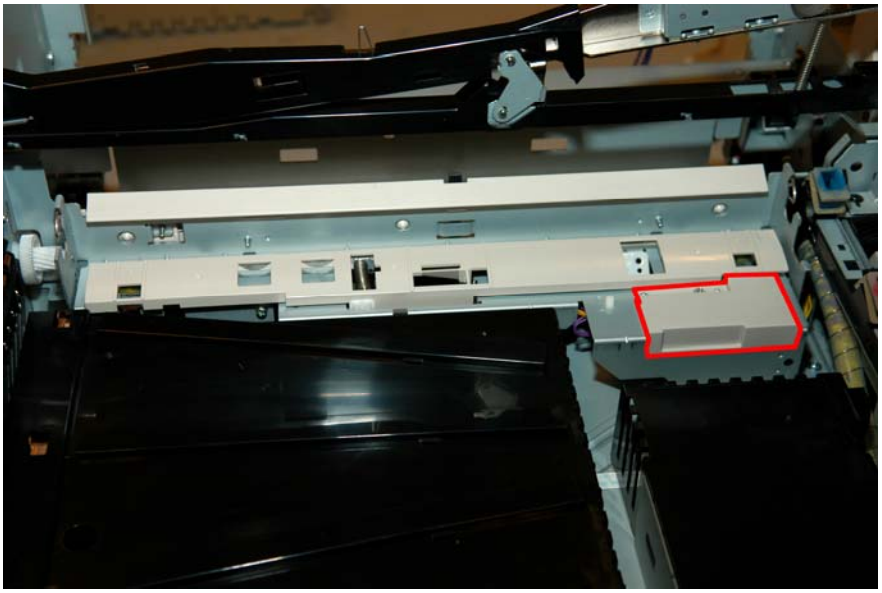


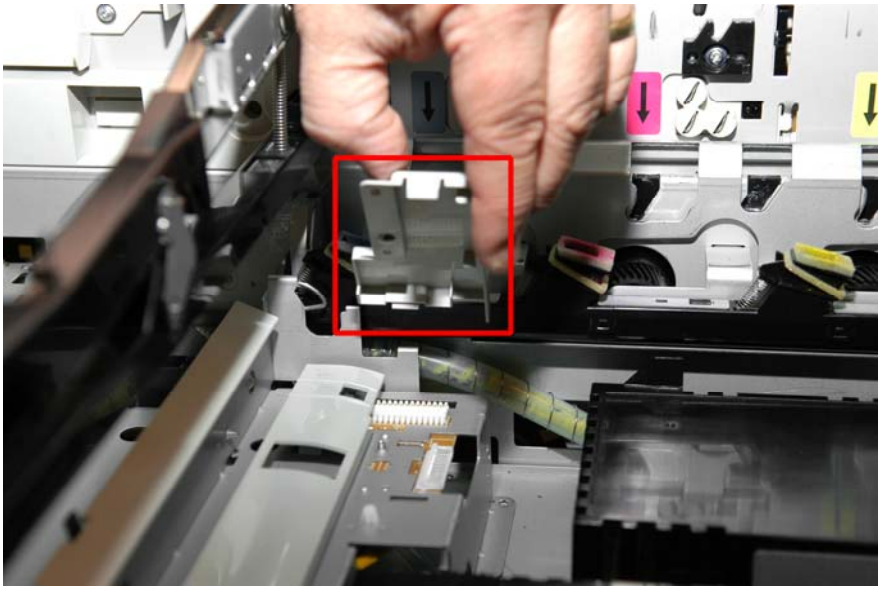
20.2. Remove the Belt Motor



21. Removing the Sensor-Registration Assy.

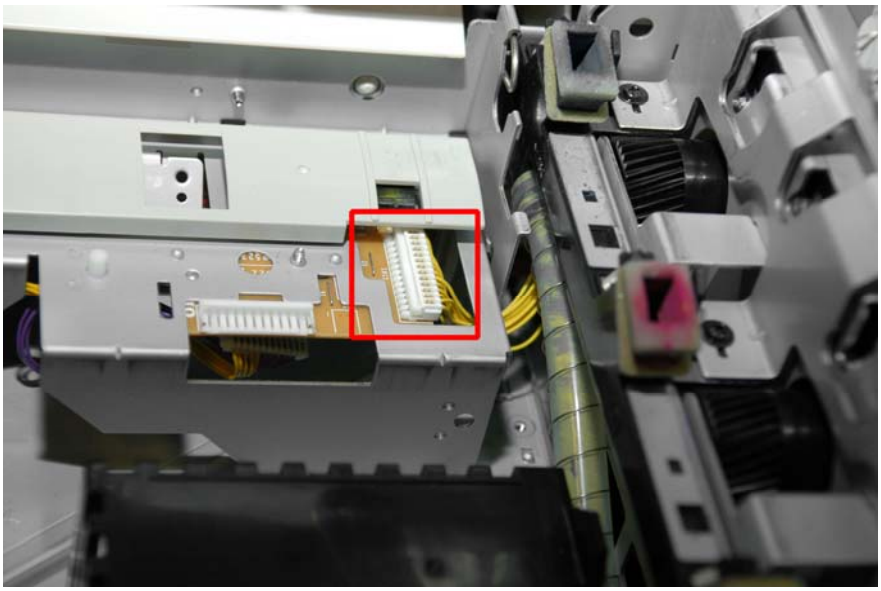
21.1. Remove the Board-Regist-Sensor(S2Z) cover.



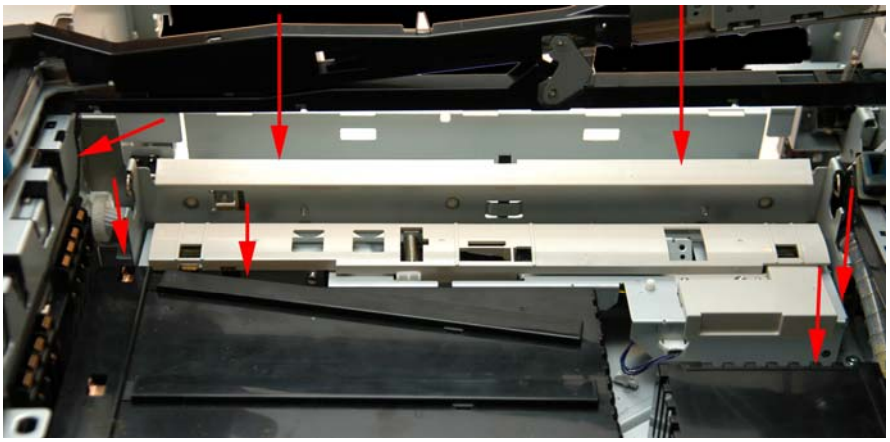


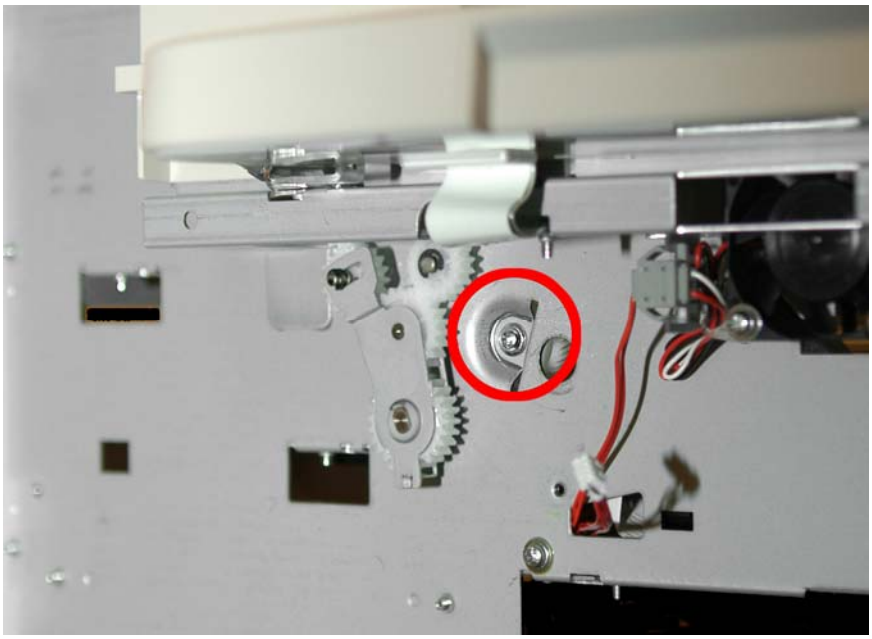
21.2. Unplug the yellow wire harness connector.

NOTE: The second connector should stay plugged in – it is removed just for this picture.



21.3. Remove eight screws – seven inside the printer (arrows) and one on the front (circled).

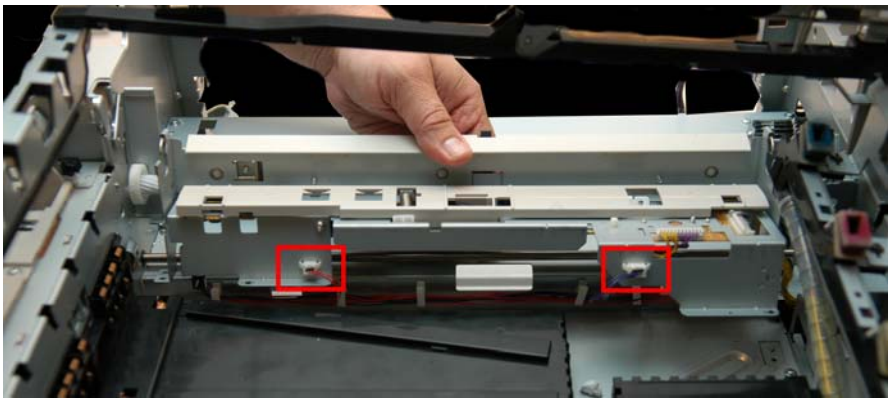




NOTE: During reassembly, don't forget to reinstall the screw through the front of the chassis – it's a step many technicians forget!

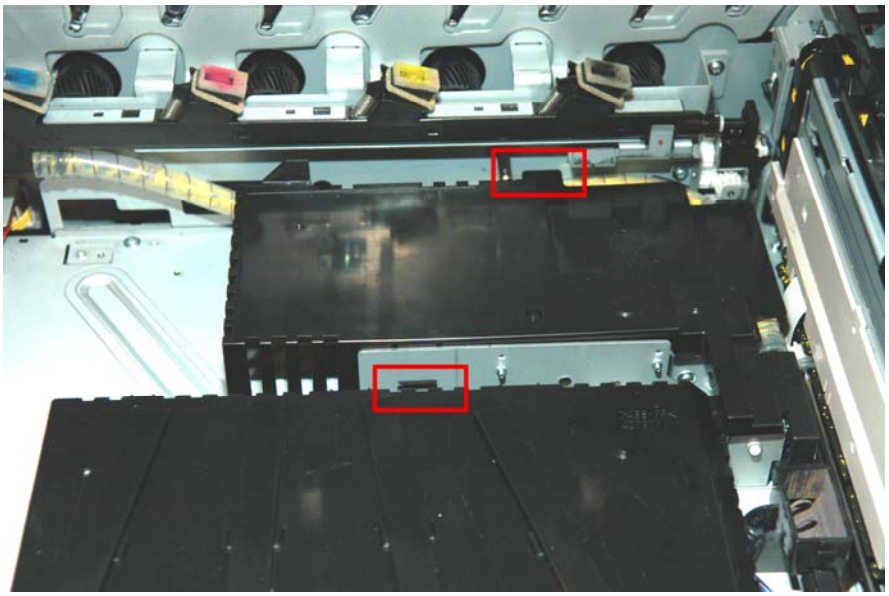
21.4. A flat blade screwdriver may be required to pry the side plate away from the frame at the front of the printer.

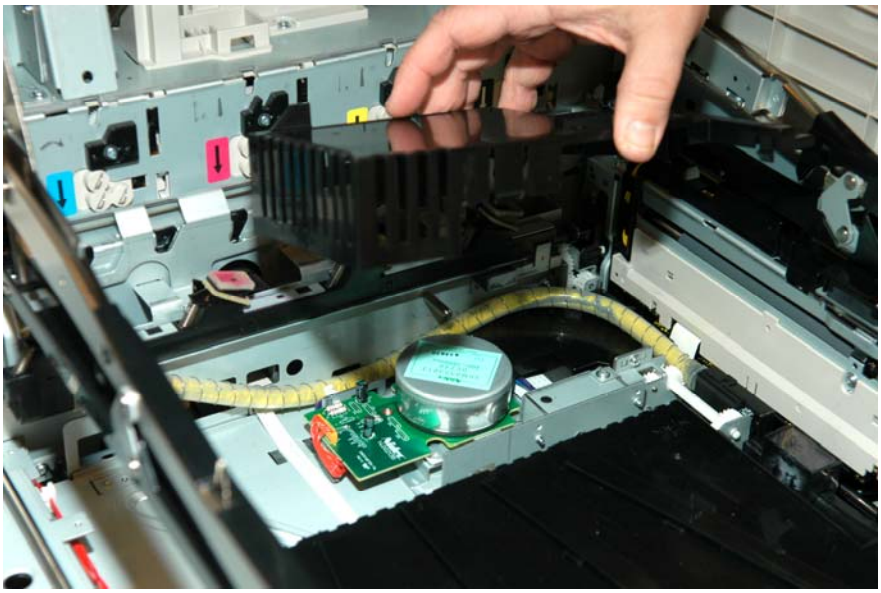
Once done, lift the Sensor-Registration Assy. up to remove and while doing so, unplug the two connectors as shown.



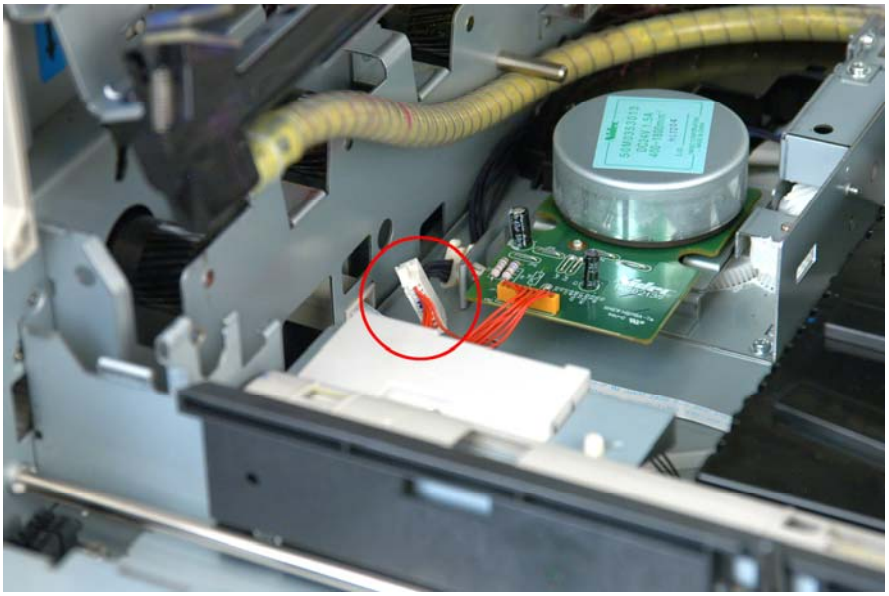
22. Removing the Duct Gear Assy. and the Duct Drive Assy.

22.1. Release the tab at the rear and remove the Middle Cover.



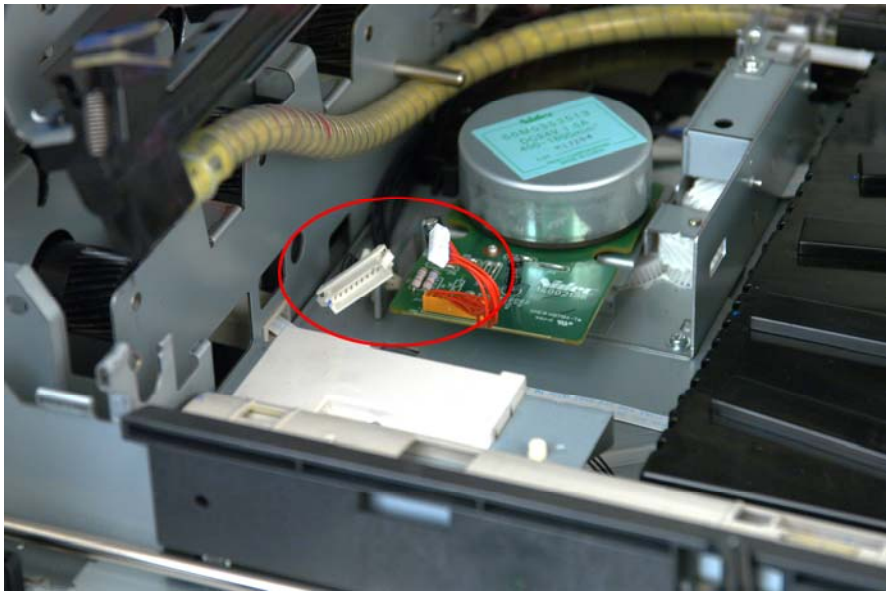


22.2. Lift the connector for the waste toner motor to wiring harness from under the motor's printed wiring board.

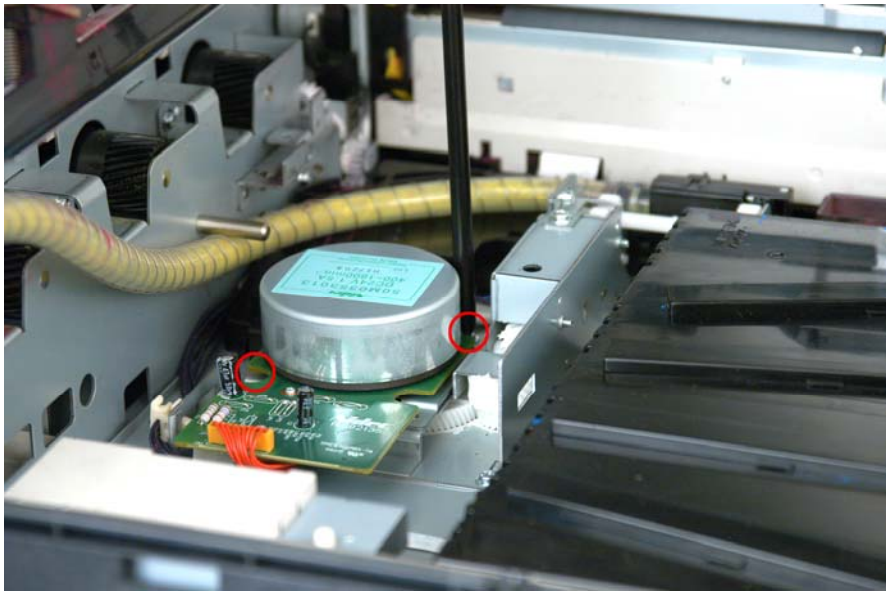


NOTE: Orange connectors are soldered to the board and are not removable. DO NOT try to remove the orange connector from the printed wiring board.

22.3. Unplug the Waste Toner Motor to wiring harness connector.

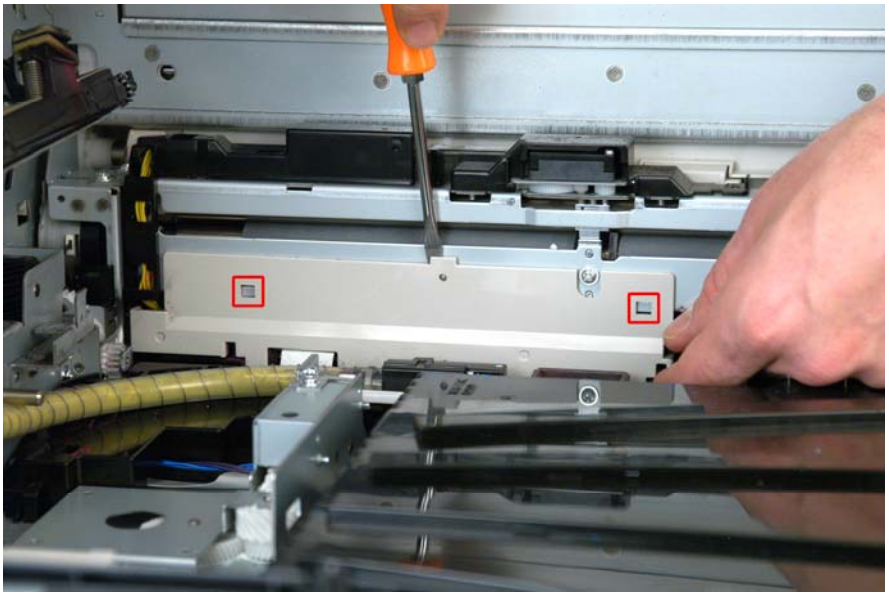


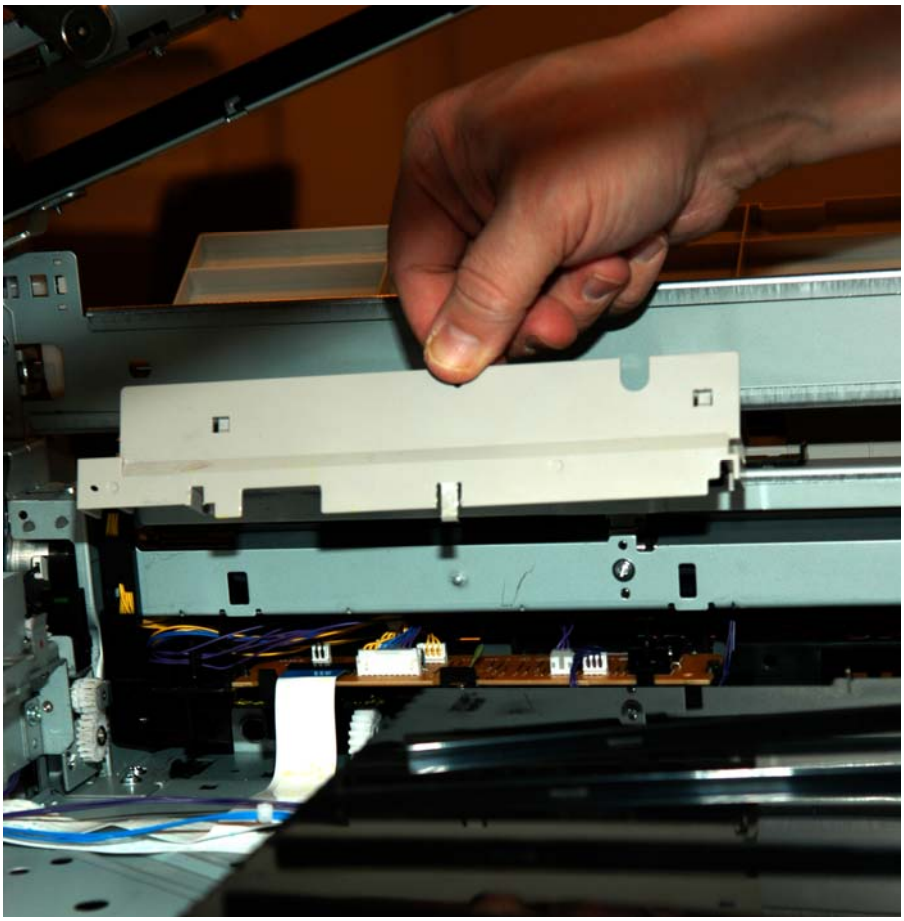
22.4. Remove the Waste Toner Motor by removing the two screws (diagonally mounted) and lifting it out.



23. Removing the Multi-Purpose Tray.
24. Gently pry out the top center and pull up to remove the Sensor Board Cover.

NOTE: While gently prying, lift up on the sides of the cover to remove.

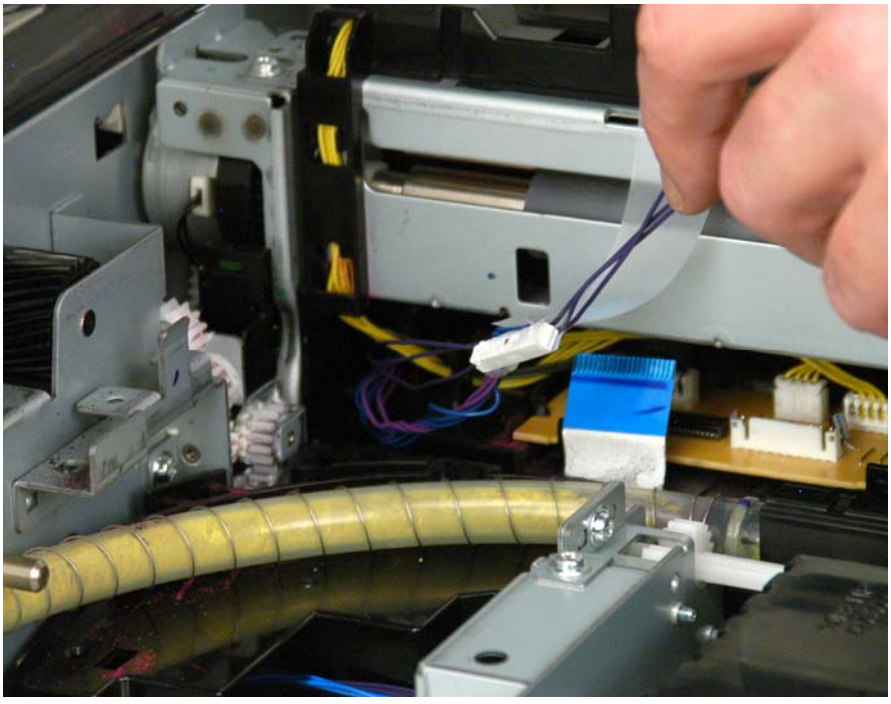




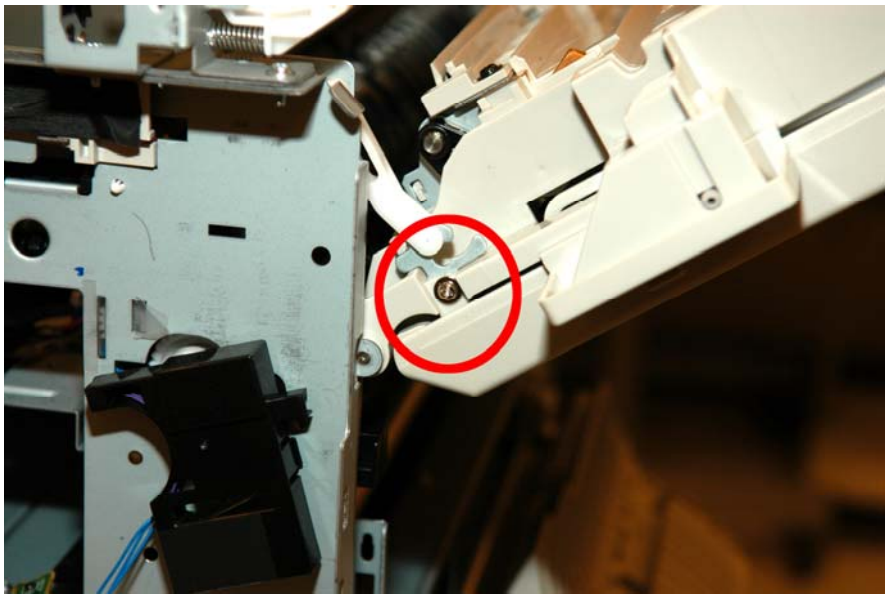
24.1. Unplug the two connectors that come from the Multi-Purpose Tray and unthread them from the guides.

24.2. Unplug the ribbon cable to that board.

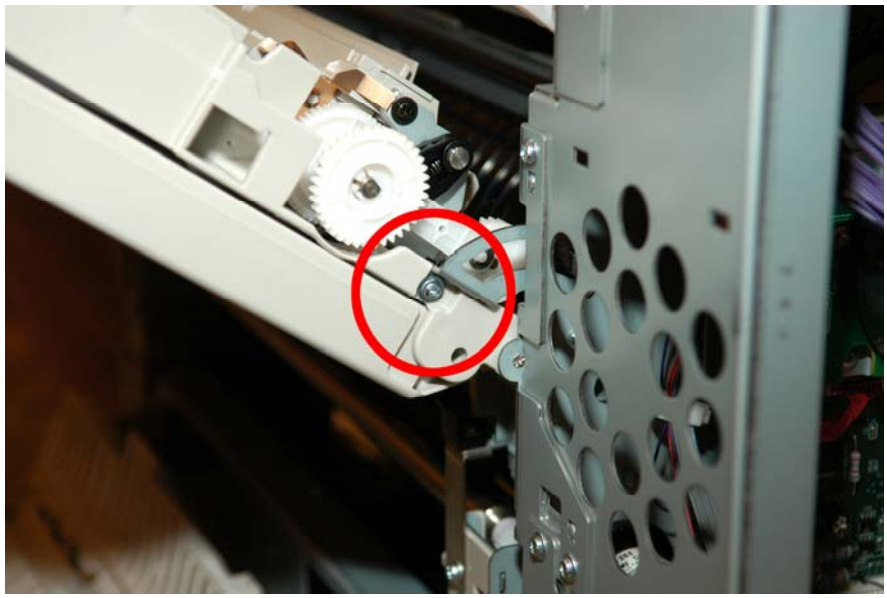
24.3. Using the “Special Oki Data Tool” (a small piece of transparent tape) wrap the larger white connector parallel to the purple & blue cable bundle to assist in the removal of the MP Tray. Leave a tab of tape to assist you in un-wrapping this on the units reassembly.



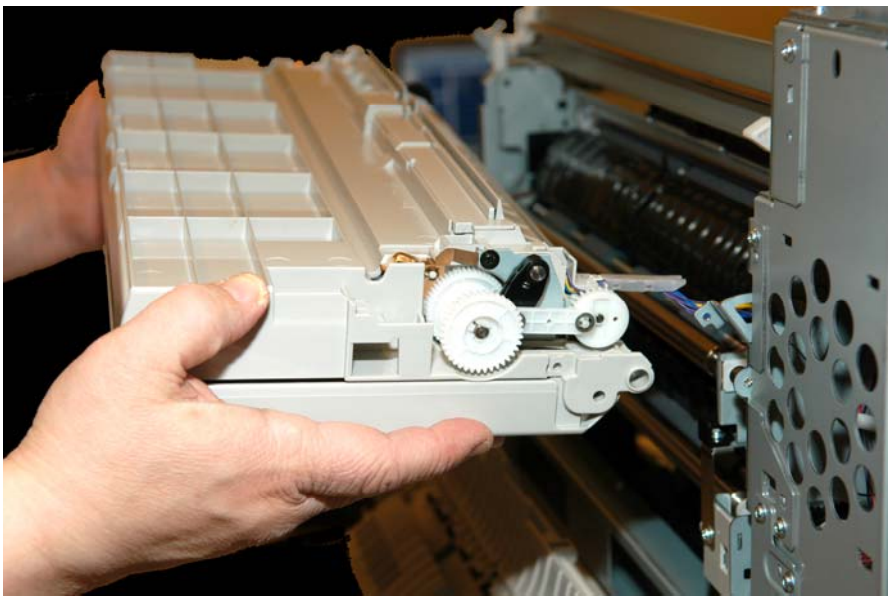
24.4. Open the Multi-Purpose Tray using the lever at the front of the unit. Remove one screw from the front stay.



24.5. Remove one screw from the rear stay. Take note of the rear stay as it will most likely fall into the machine.

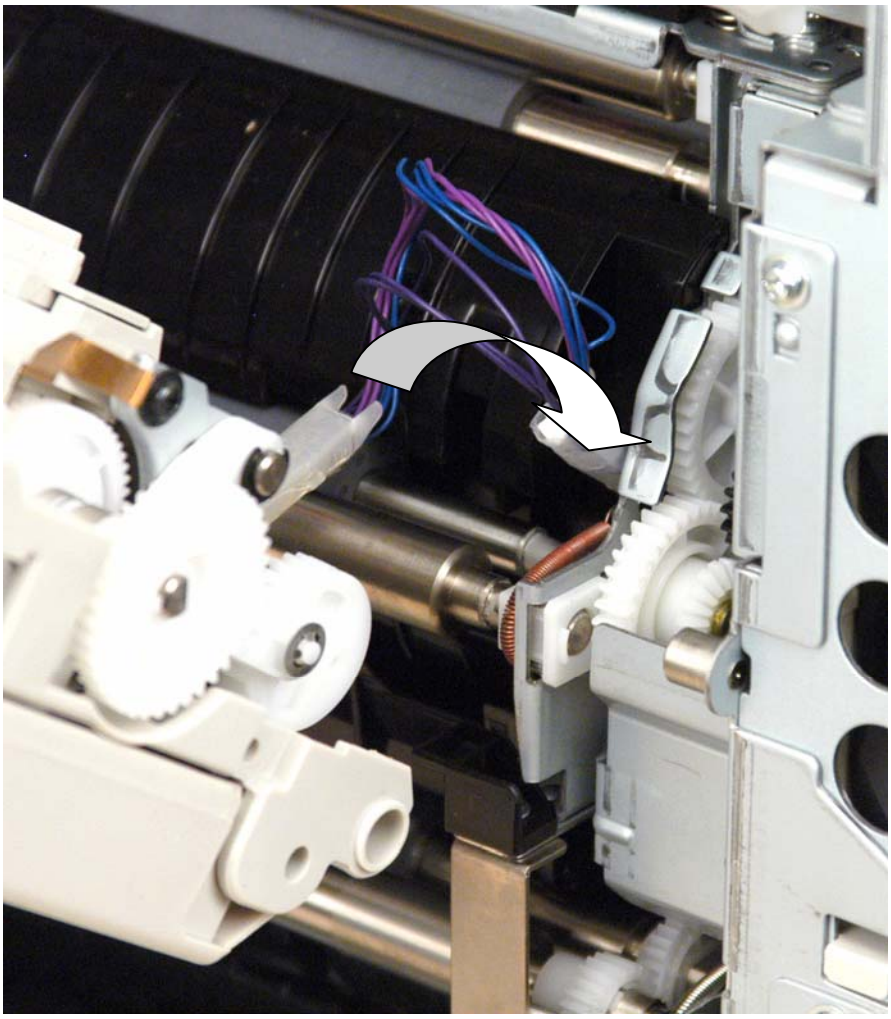


24.6. Release the Multi-Purpose Tray from the hinges and gently unthread the two connectors from step 22.2 through the channel.



NOTE: During reassembly, the plastic wire harness protector must be carefully and fully reinserted into the channel. If it is not fully reinserted it will become damaged and the Multi-Purpose Tray will not close properly.

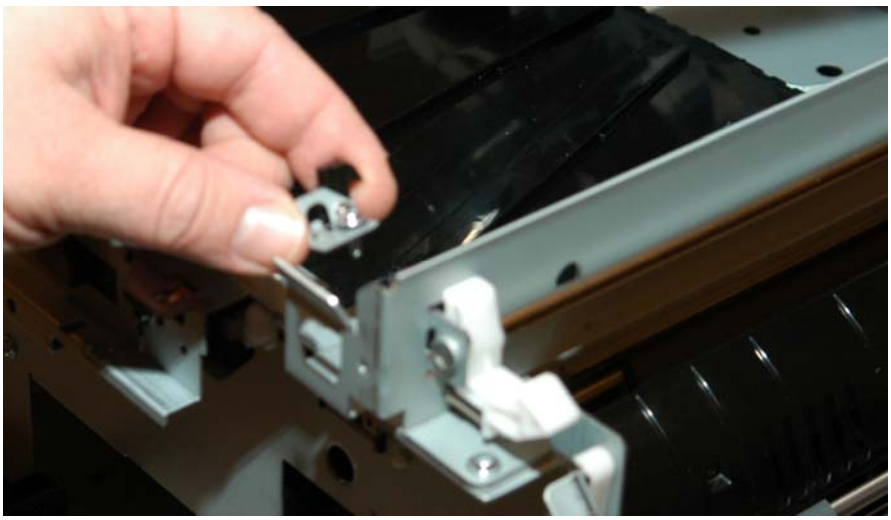
If this happens and the plastic wire harness protector cannot be repaired – the entire MP Tray must be replaced.



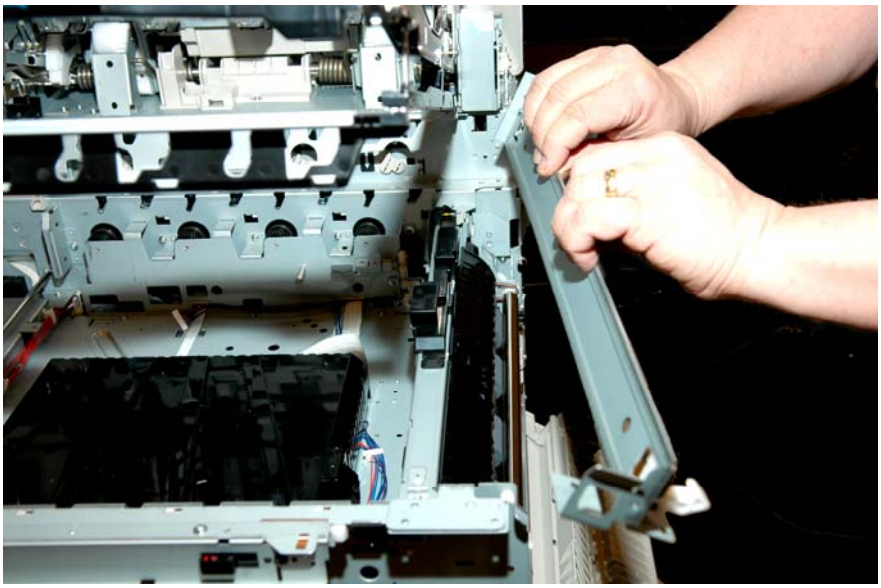
25. Removing the Registration Unit (Right Paper Guide Assy)

NOTE: Be sure the Top Cover is open and the basket is up.

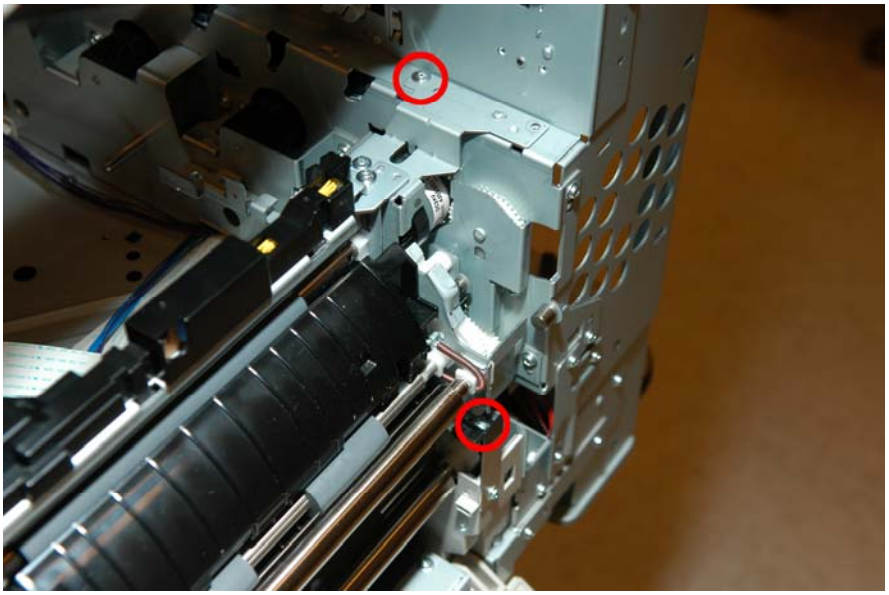
25.1. Remove four screws. The screw marked by the arrow will also remove the right basket latch.



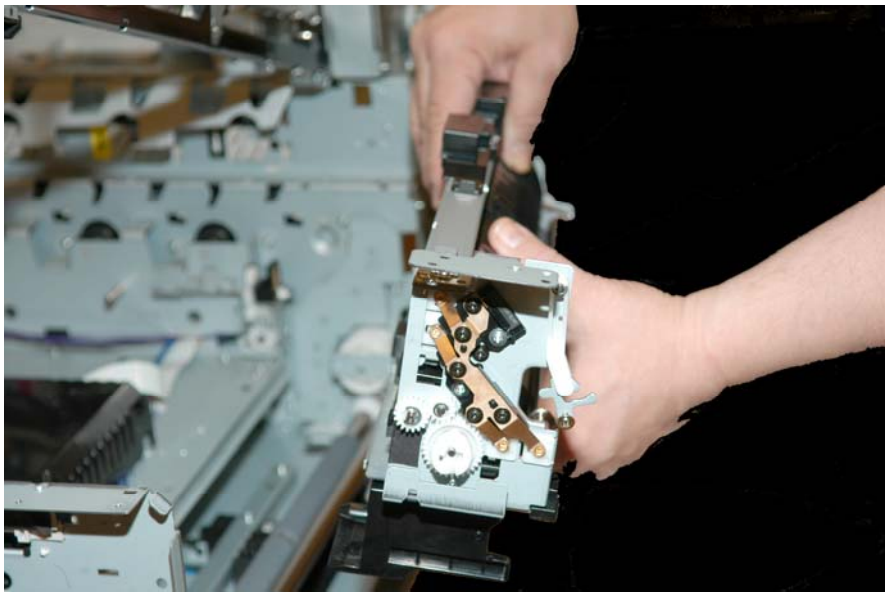
25.2. Remove the Multi-Purpose Tray Lock Plate Assy.



25.3. Remove two screws from rear of Registration Unit.

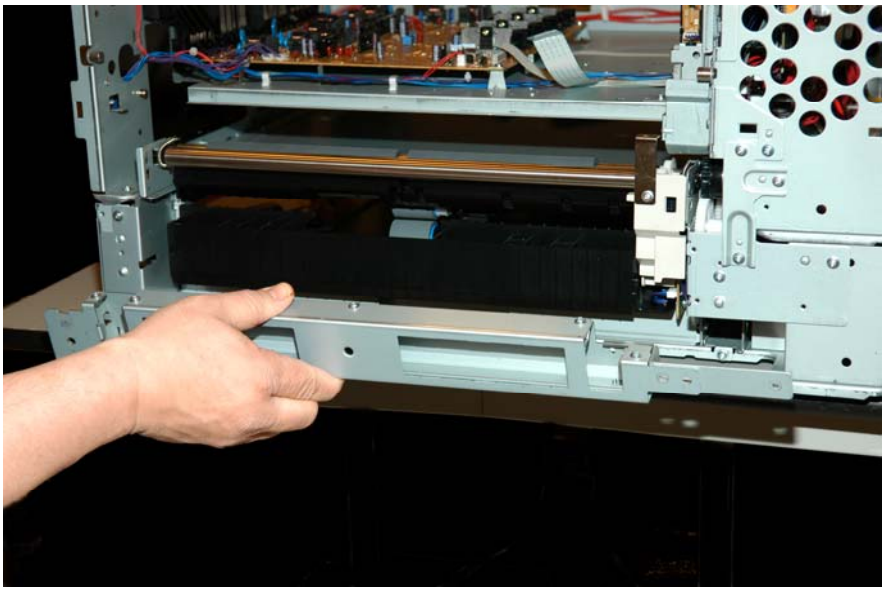


25.4. Unthread the wires at the front and remove the Registration Unit being careful of the spring loaded gear at the front.

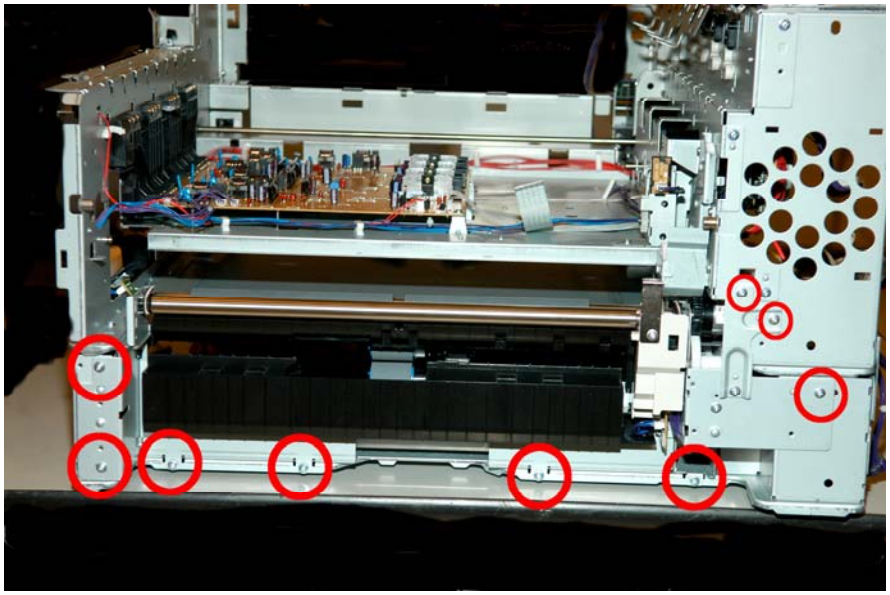


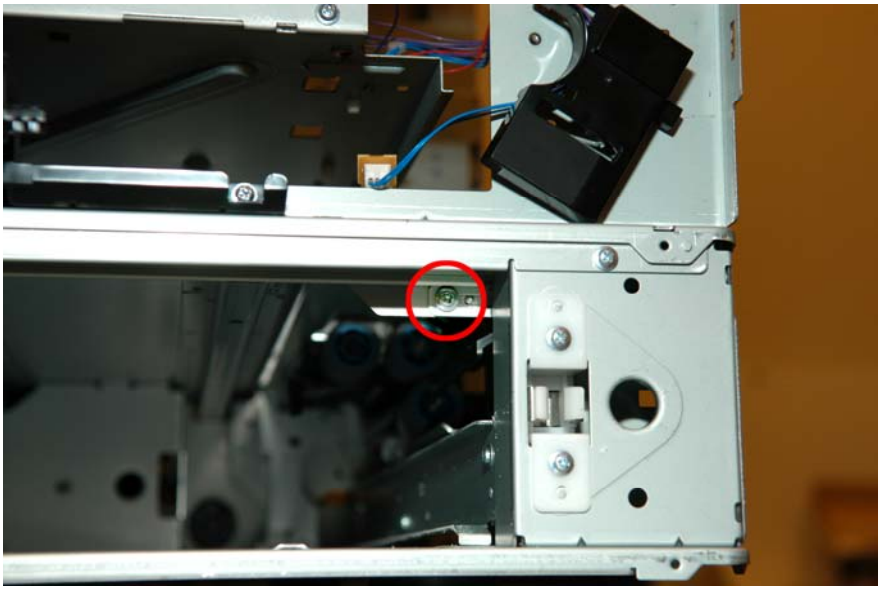
26. Removing the Paper Feed Unit

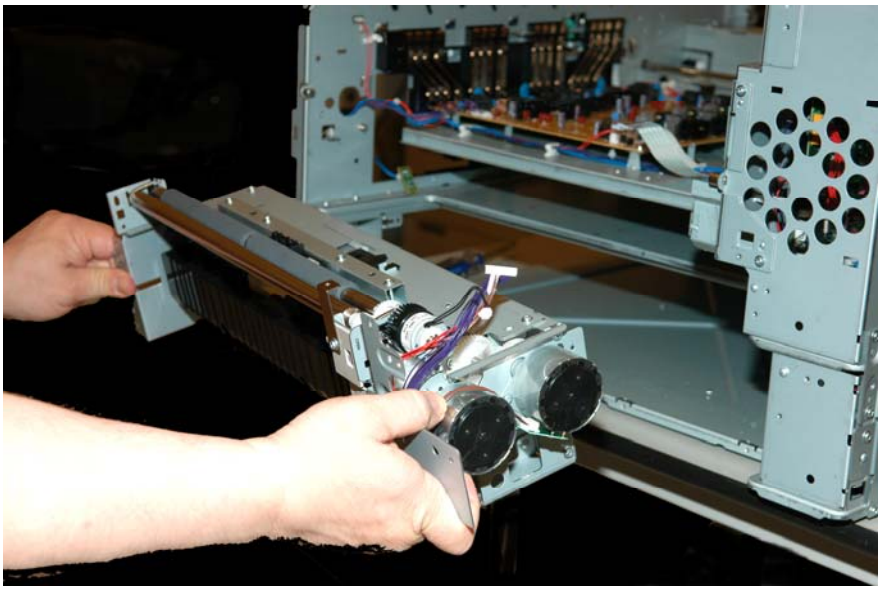
    26.1. Remove four screws and remove the Metal Right Side Cover.



26.2. Remove nine screws from the right side and one from the front. Unplug 3 connectors from the ORS2M (Motor Driver Board). Remove the Paper Feed Unit.

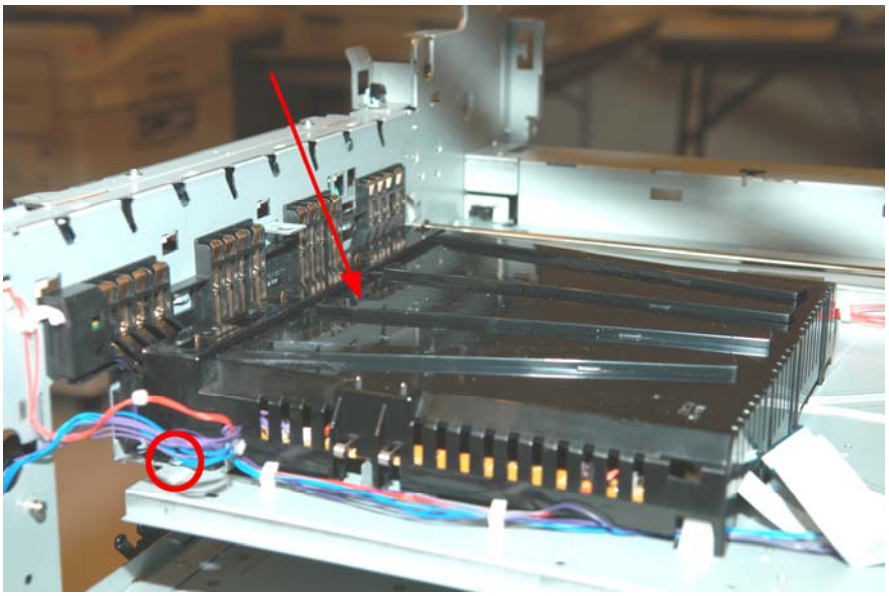






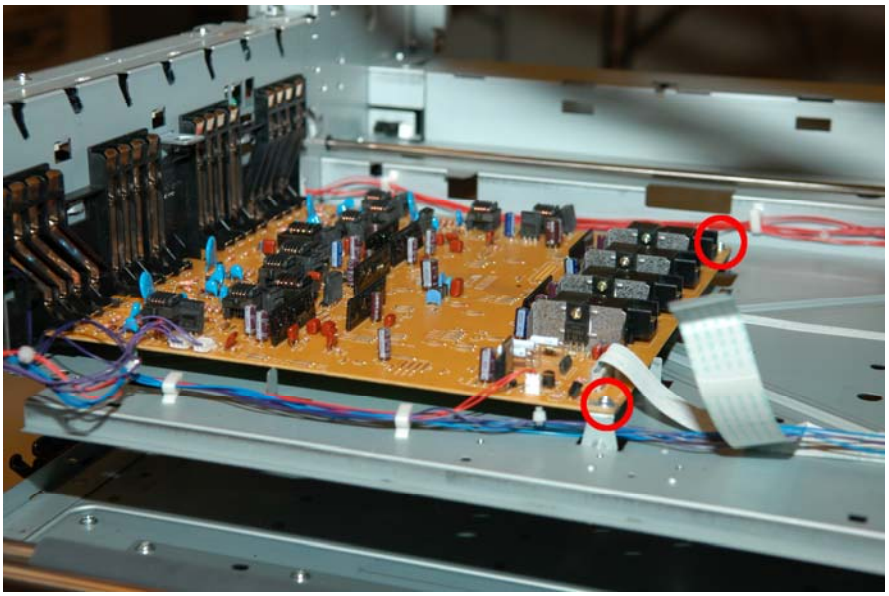
27. Removing the High Voltage Power Supply (HVPS).

27.1. Remove two screws and release three tabs along the back of the HVPS cover. Remove the HVPS cover.



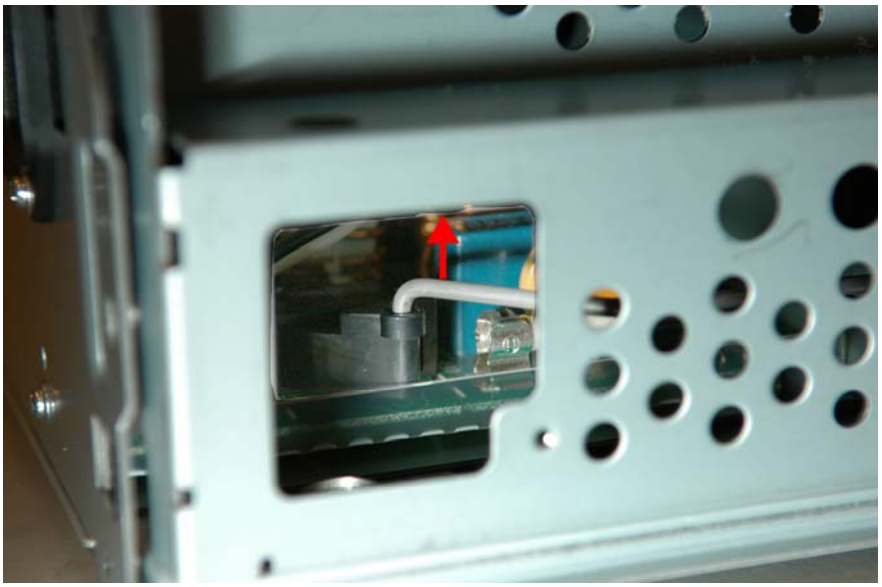
NOTE: When reinstalling the HVPS cover insure that all 3 tabs are snapped under the chassis plate. Failure to do this may cause transfer voltage problems resulting in washed out images.

27.2. Remove two screws and unplug four connectors. Gently slide the HVPS toward the rear of the unit until it clears the contacts and lift the board out.

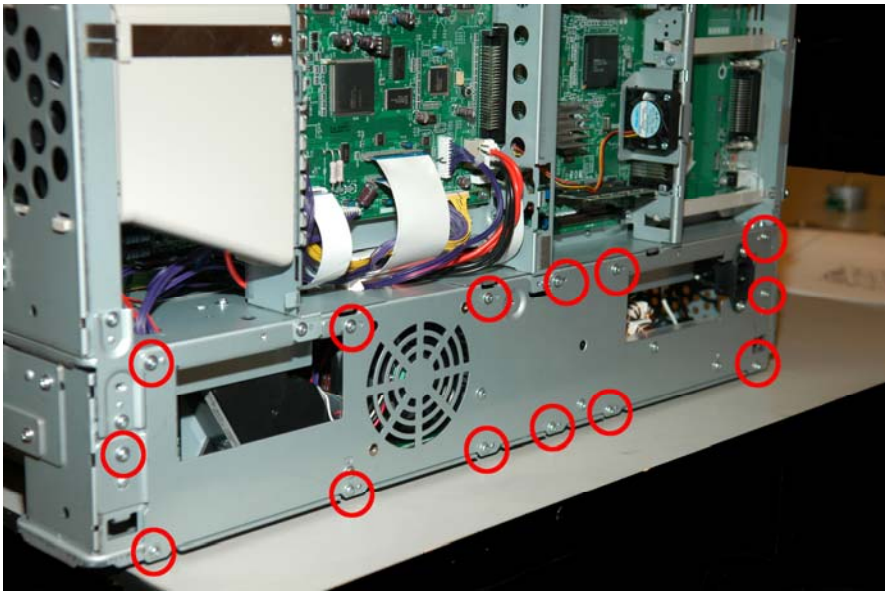


28. Removing the Low Voltage Power Supply (LVPS).

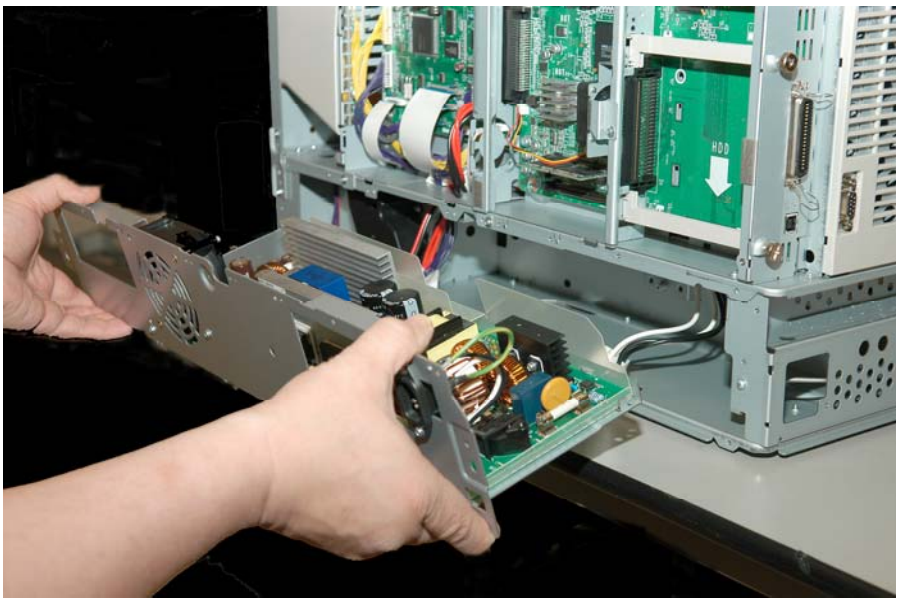
28.1. Release the power switch linkage by lifting up and away.



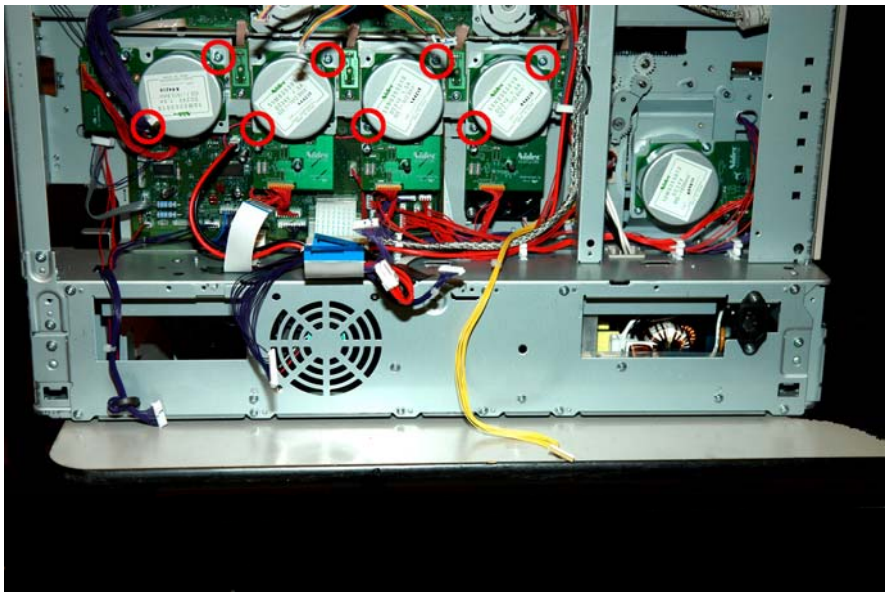
28.2. Remove 14 screws.



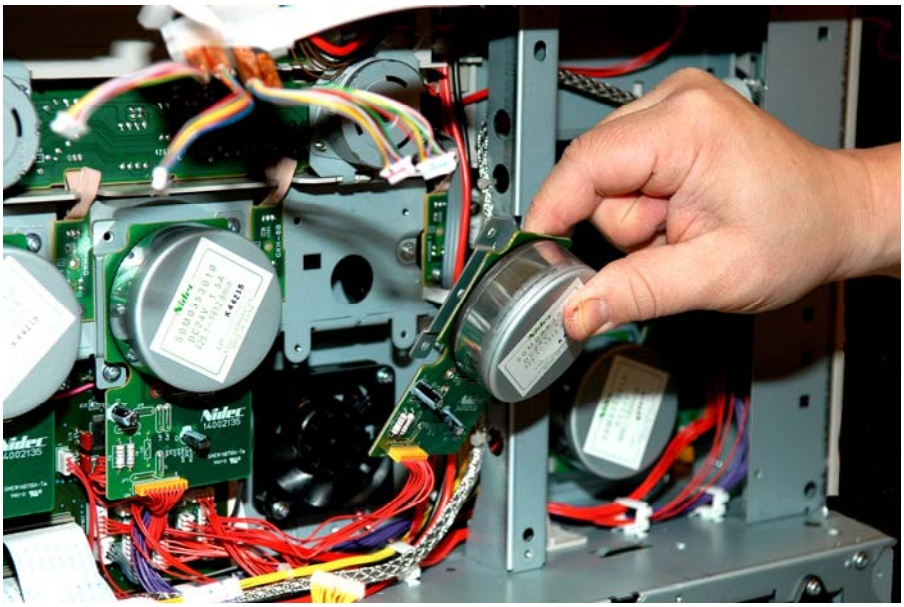
28.3. Unplug four connectors and remove the LVPS.



29. Removing Motor-DC(ID) (Drum Motors)



29.1. Remove two screws and unplug the connector from the OR-S2M(Motor Driver Board) and not from the motor assembly.

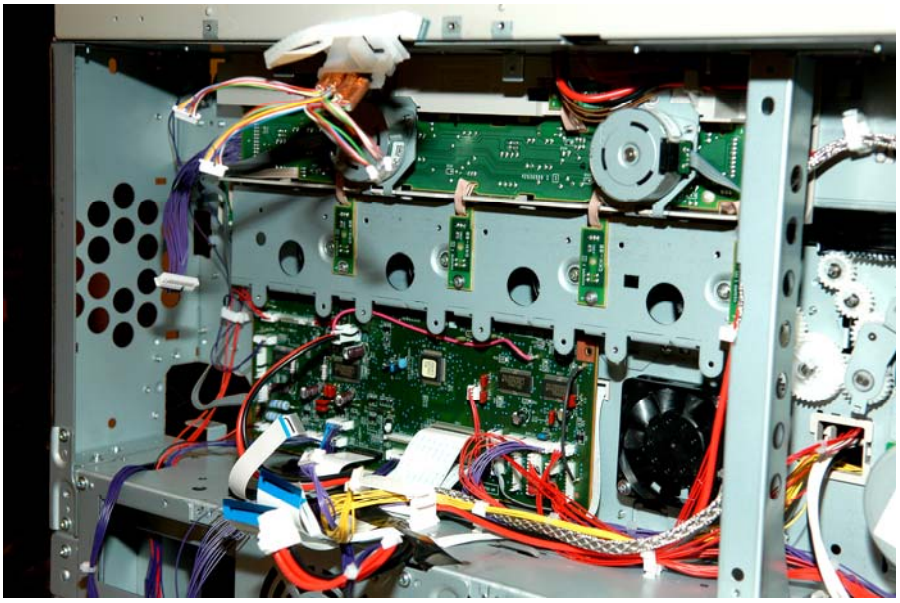


NOTE: Each of the four motors is mounted with two screws. Also, the Black ID motor is mounted at a 90° angle to the other three. The 4 drum motors are interchangeable.

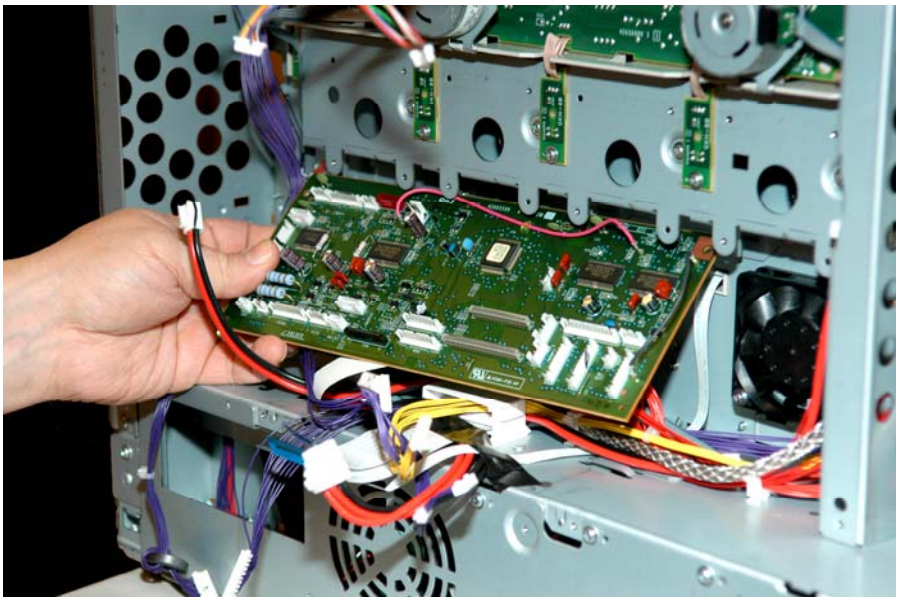
When you reassemble the printer make sure that you hold the motor(s) securely when you are installing the holding screws. Also make sure that the screws are completely screwed down.

30. Removing OR-S2M(Motor Driver Board)

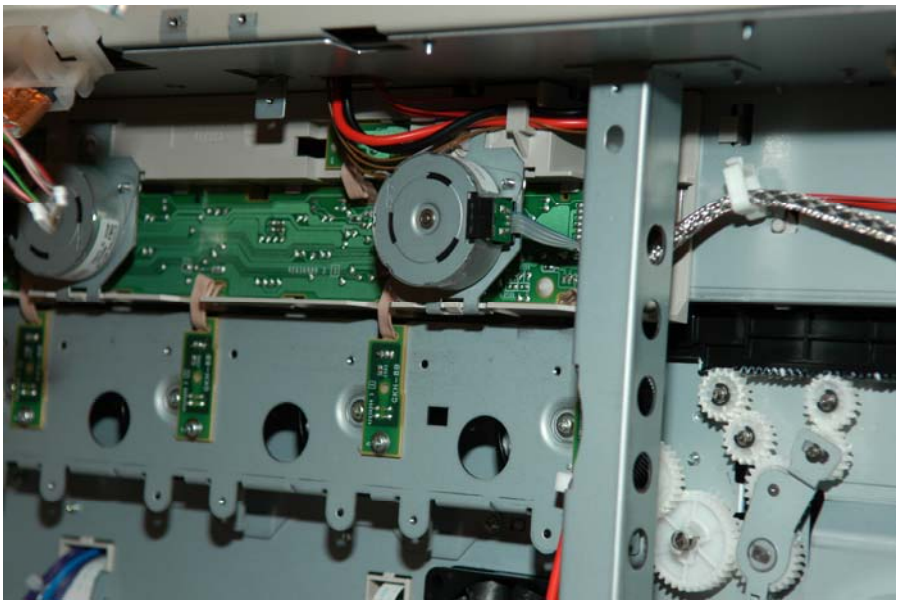
30.1. Unplug remaining connectors and remove two screws.



30.2. Remove Motor Driver Board.

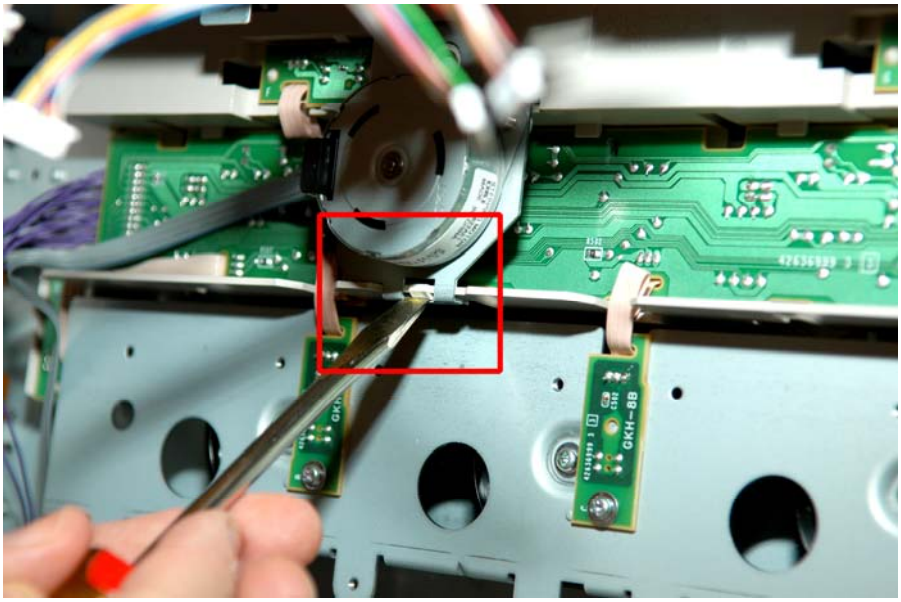


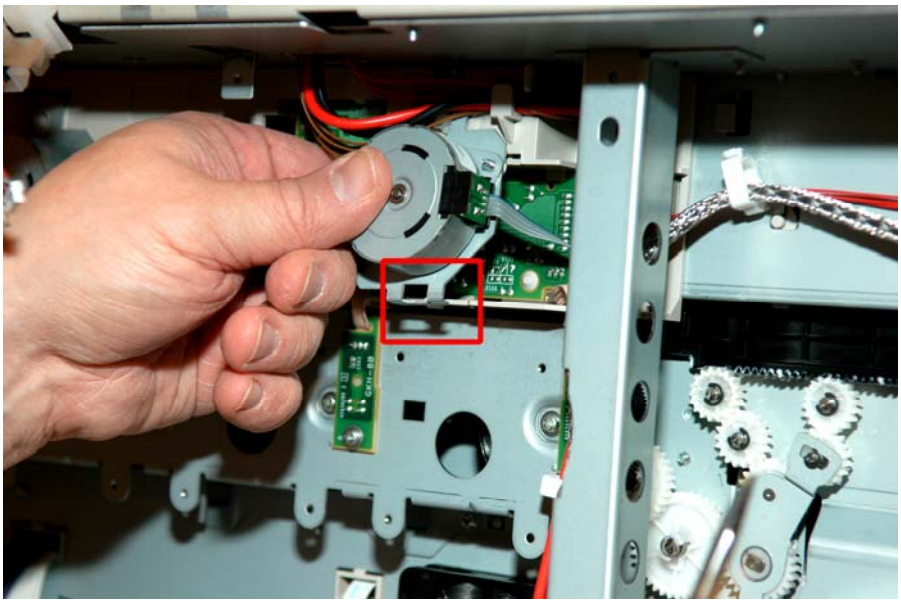
31. Removing Motor-Pulse(Toner Shutter) aka Toner Supply Motor.



31.1. Using a flat blade screwdriver, push up to release the tab.

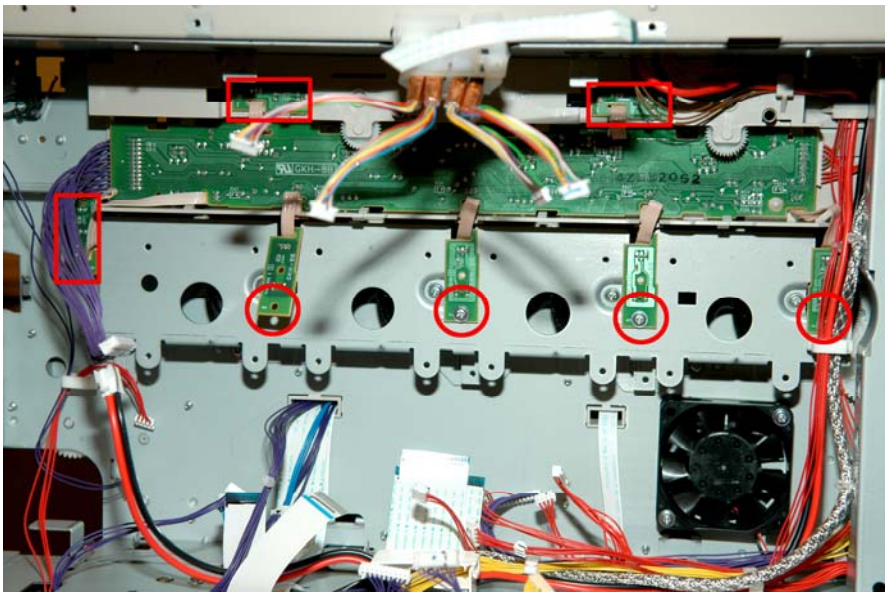
NOTE: Both the motors and the mounting plates are the same however the motors are mounted to the plates 180° opposite of each other. Be aware of this for reassembly.



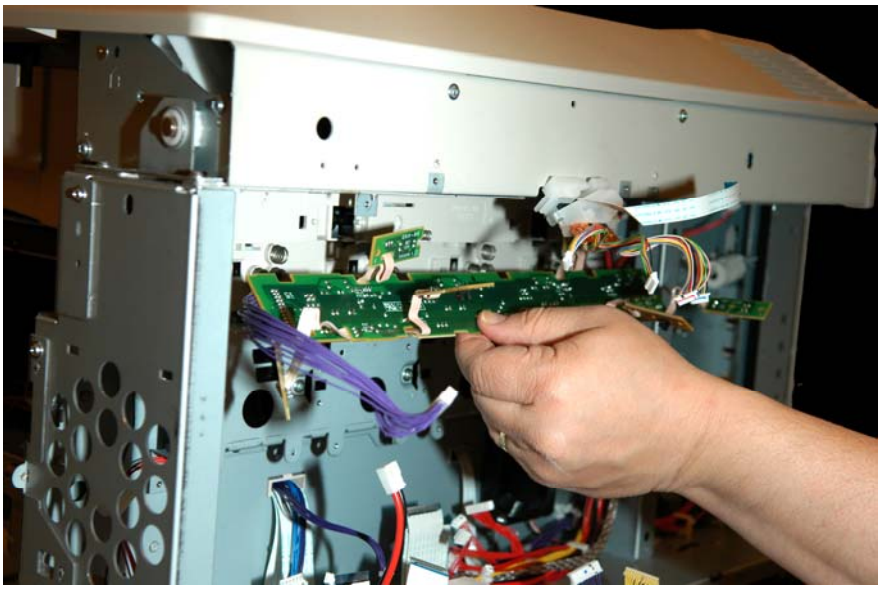


32. Removing the OR-SGG (ID System SNS PWB) aka Drum Contact and Sensor Board Assy.

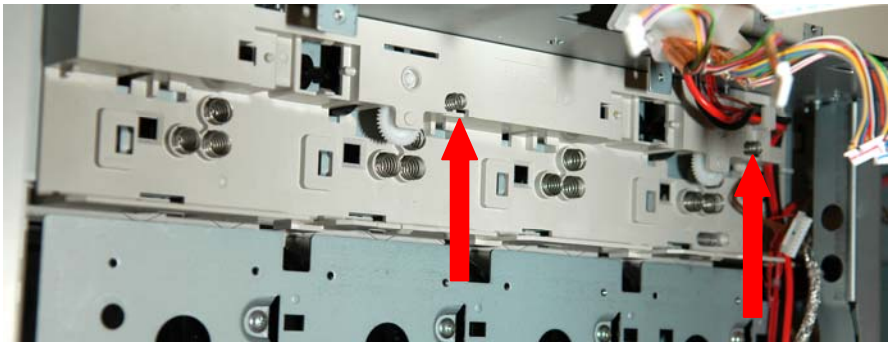
32.1. Remove four screws, one each from the Drum Position Home sensors. Use a flat blade to release the two Toner Shutter Home sensors and the Drum Up/Down Home sensor.



32.2. Use a flat blade screwdriver to release the tabs securing the main portion of the Drum Contact and Sensor Board Assy. and unplug one connector. Remove the board being careful of the drum contact springs as they may fall out.



NOTE: There are 2 Grounding Springs (red arrows, at right) that ground the OR-SGG board to the chassis ground. **You Must** insure that both of these springs are correctly installed during the reassembly process.



33. Removing the Fuser Motor

    33.1. Remove two screws and unthread wire harness taking note of the routing for reassembly. Remove the Fuser Motor.

Congratulations! This concludes the disassembly of the bottom half of the 9 Series A3 Printer unit.

Prior to starting the next section (*Top Cover Skin Removal*) reassemble the bottom half of the printer unit using this step-by-step disassembly manual in reverse.

NOTE: Take your time and be very careful when reconnecting the wiring harnesses to the (1) motor driver board, (2) the engine driver board and (3) when reconnecting the 2 ribbon cables between the engine and motor controller boards! A properly reassembled printer contains only one (1) empty red test connector on the motor driver board! **Take Your Time** when rewiring and reassembling this printer. **HINT:** If you're unsure of something – ask one of the instructors circling the room: it's easier to ask for help than ask for a replacement part.

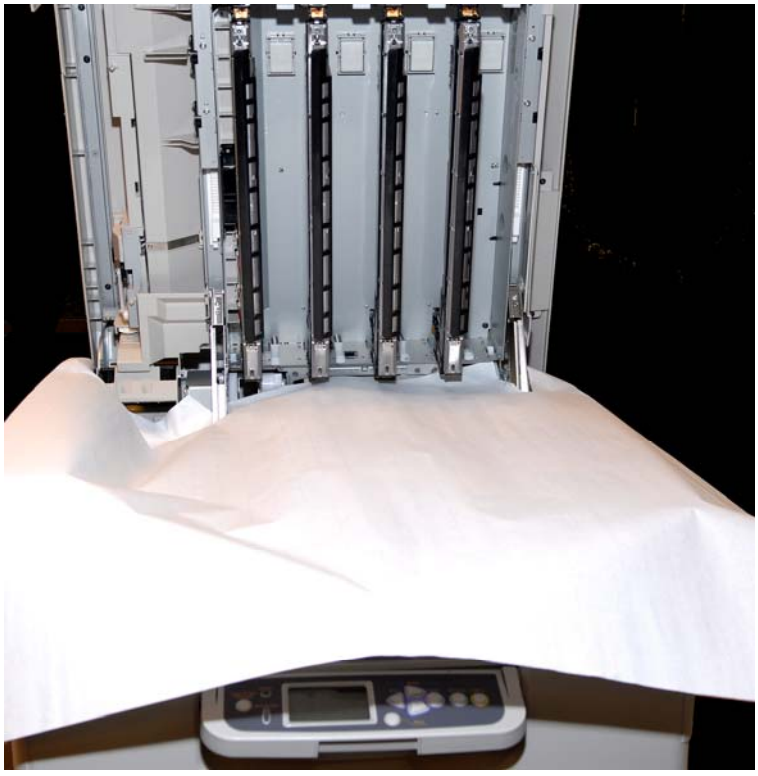
Reassemble the Bottom Half

Top Cover Skin Removal

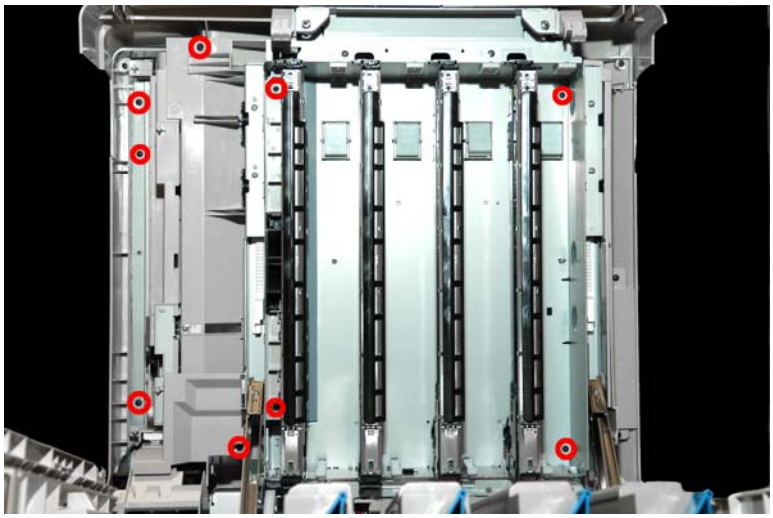
1. Open the top cover

2. Place media (large sheet of paper / plastic) over top of the consumables cavity (to catch any falling screws).

NOTE: Fit the media to go around the hinge plates, so the media completely covers the cavity.

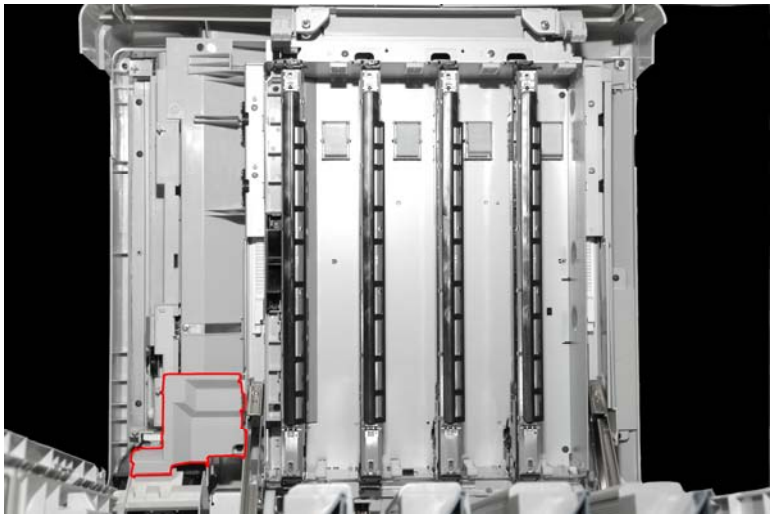


3. Remove the 9 black screws, as shown.

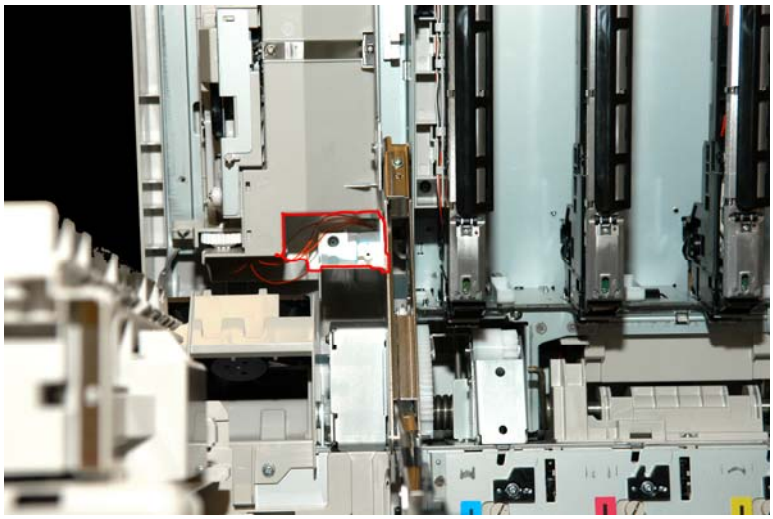


4. Detach the small cover (outlined in red).

NOTE: Consumables have been removed for image clarity.

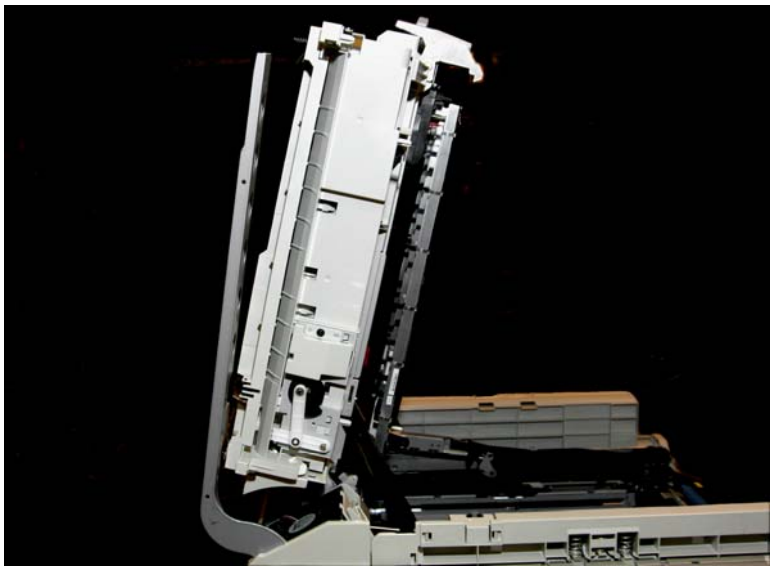


5. Remove the exposed black screw.

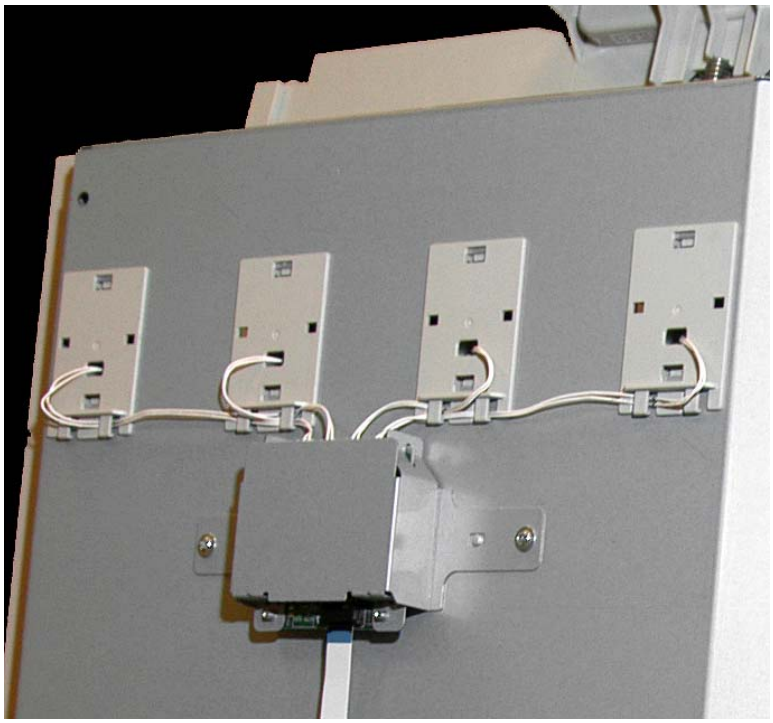


6. Gently lift the top cover skin off the frame of the printer's top cover.

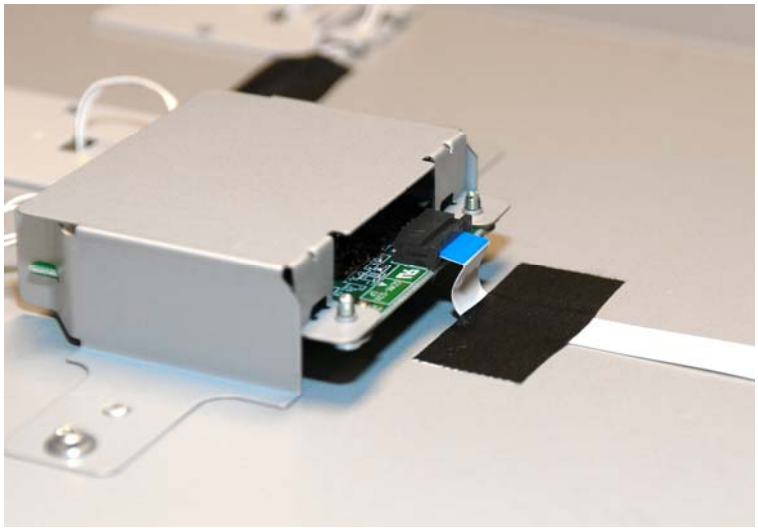
7. Close the top cover and gently lower the metal cover brace on the printer's left side.



8. Mounted to the top cover is a small circuit board; this is the RFID board. The 4 leads coming from this board go to the individual RFID antennae, mounted over the toner cartridges.



NOTE: The ribbon cable connector mounted on the circuit boards has a locking collar that must be opened prior to removing and installing the cable!



9. Reassemble the Top Cover Skin on the frame of the printer's Top Cover **NOTE:** Make sure the Top Cover Skin sits flush on the frame before you reinstall the 9 screws!