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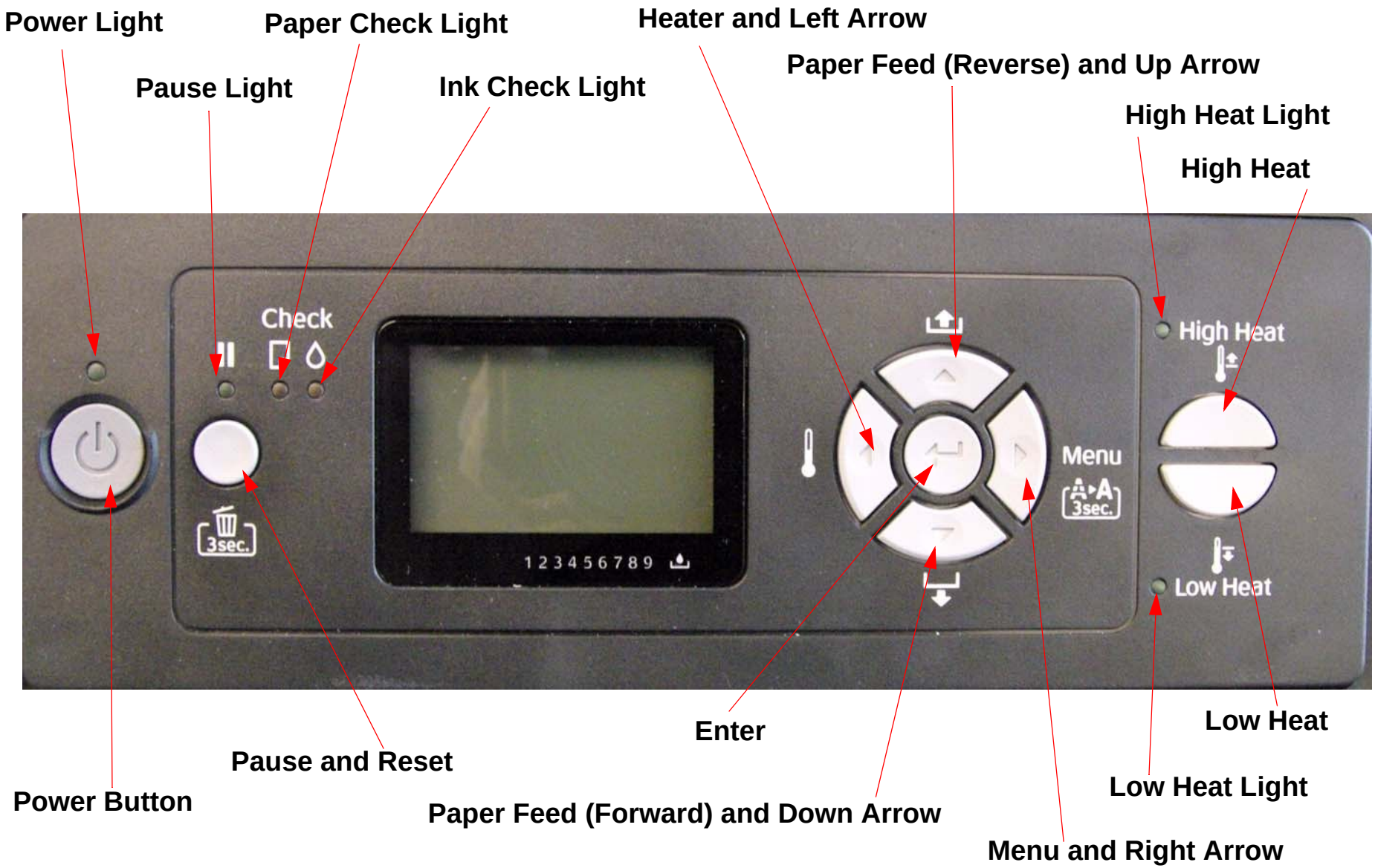
Flushing Box Removal - - -

Input Serial Number - - -

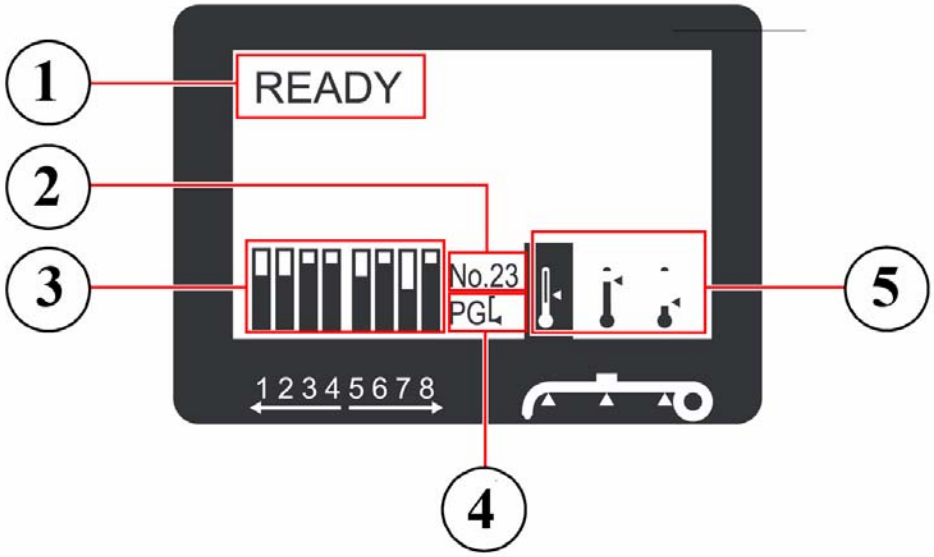
Color Order - - -

Control Panel Map



Printer Component, Software Item, LCD Display, Printer Button

Printers LCD Display



1. **Messages**
2. **Paper Type**
3. **Ink Cartridge Status Icon**
4. **Platen Gap Icon**
5. **Heater Icon**

SERVICEMAN MODE: **Down**, **Right**, and **Pause**, at power on.

Parameter Backup and Restore Mode: **Down**, **Right**, and **Pause**, at power on.

F/W DOWNLOAD MODE: **Up**, **Down**, **Left**, and **Right**, at power on.

Maintenance Mode: **Pause**, at power on.

User Menu: Press the Menu button when the printer displays Ready

1. PRINTER SETUP.

Side Margin: *5mm-25mm(*0.2inch-1.00inch)
Paper Size Check: *ON, OFF
Paper Skew Check: *ON, OFF
Print Nozzle Pattern: *OFF, On: Every PageOn: Every 10 Pages
Heating Time: Off, *10min-240min
Flush onto Paper: *Yes, No
Flushing Frequency: 1Pass-*5Pass-999Pass
Paper Origin Setup: *0mm-800mm, *0-32inches
Auto Take-Up Reel: *On, Off
Head Fan: *ON, OFF
Regular Cleaning: Off, 1h-*6h, 9h, 12h, 18h, 24h
Initialize Settings: Execute

2. Paper Setup

Paper Type: *Standard, No. 1 - 30
Paper Setup: *Standard, No. 1-30: Print Mode: *Speed 2, Speed 1-3, Quality 1-3, Max Quality
Paper Feed Adjust: Line Feed Adjust: 100mm, 250mm, 500mm: Print
Print Sample Pattern
Head Alignment: Bi-D All
Pre Heater: *50C, Off, 30-50C
Platen Heater: *50C, Off, 30-50C
After Heater: *50C, Off, 30-50C
M/W Adjust: *High A, High A-D, Extra High A-B, Low A-B, Medium A-D
Paper Suction: *High, Low
Drying Time: *0.0sec, 0-10.0 sec.
Carriage Movement: * Date Width, Printer Full Width
Print Multiple Layer: *Off, 2-8

3. Maintenance

Cleaning (Very Light): Execute
Cleaning (Light): Execute
Cleaning (Medium): Execute
Cleaning (Heavy): Execute
Head Washing: Execute
Carriage Maintenance: Execute
Clocking Setting: MM/DD/YY HH MM
Contrast Adjustment: -20 - *0 - 20

4. Test Print

Nozzle Check: Print
Status Print: Print
Network Status Sheet: Print
Job Information: Print
Custom Paper: Print

5. Printer Status

Version: T0xxxx-xx xx IBCC
Printable Page: (ink color) nnnnn Pages
Ink Level: (ink colors) nn%
Usage Counter: Ink xxxxx.x ml, Paper xxxxx.x cm
Clear Usage Count: Ink: Execute
Paper: Execute

Job History
Total Print: nnnnnn Pages
EDM Status: *Not Started, Enabled, Disabled
Last Uploaded
MM/DD/YY HH/MM

6. Network Setup

Network Setup: *Disable, Enable
IP Address Setting:*Auto, Panel
IP, SM, DG Setting: IP Address:*192.168.192.168
Subnet Mask:*255.255.255.000
Default Gateway:
*255.255.255.255

**Bonjour: ***On, Off
Init Network Setting: Execute

Maintenance Mode: Press and hold the Pause button and turn on the Printer.

LANGUAGE: *ENGLISH, JAPANESE, FRENCH, GERMAN, ITALIAN, PORTUGUE, SPANISH, DUTCH (Panel Language)

UNIT: *FEET/INCH, METER (Set's the unit of measure that the printer displays)
Thermometer Unit: *C, F (Set the Unit for Temperature of Heaters)
DEFAULT PANEL: EXEC (Resets to Factory Default all of the User Menus

ServiceMan Mode: Press and hold the Down, Right, and Pause buttons, and turn on the Printer

Note: SERVICEMAN MODE turns on the USB Port even if there is an error condition.

SELF TESTING:

Test:

Version: F/W, Boot, Pram1, Pram 2, Serial No., USB, Serial No.

Panel: Key, LCD, LED, Printer Check LED(Button, LCD, and LED tests for the control panel)

Sensor: Paper Lever: Down, Up (Paper Release Sensor test)

MTank: On, ON, ON(CSIC Contact Test)

Carriage NOT: 1,2,3,4,5,6,7,8 (Ink Cartridge Sensor test for 9 Ink Bays)

RearAD: (nnn nnn) (Rear Paper Sensor test)

Head Temp: (nn)C (Displays the current Print Head temperature in degrees centigrade)

Drv. Temp: (nn)C (Displays the current Print Head Driver temperature in degrees centigrade)

PG: (High, Low) **(**Platen Gap Sensor Test)

CR Origin: (Home Position Sensor Test)

Edge AD: (Edge Detector Sensor Test)

Encoder: CR (nnnn) (Carriage Encoder test. Counts up, moving away from home position)

PF (nnnn) (Paper Feed Encoder test. Counts up, as the paper advances.)

Fan: Paper(ALL): (Fan test for all paper suction fans)

Paper(Duty): (200% - 0%) (Tests the fan suction for all paper suction fans)

Paper1: (Fan test for paper suction fan #1 (Right Side Fan))

Paper2: (Fan test for paper suction fan #2

Paper3: (Fan test for paper suction fan #3

Paper4: (Fan test for paper suction fan #4

HT Fan: (Fan test for the Head Driver Cooling Fan)

Head Fan 1: (Fan Test for the Carriage Fan 1)

Head Fan 2: (Fan Test for the Carriage Fan 2)

Actuator: CrLock Sol (Carriage Lock Solenoid Test)

Ctrl Test: Ctrl Ver: Ctrl AP, Ctrl PCB

Ctrl Sns: Tank: 1 H/L/V - 8 H/L/V

Etc: Maint Cover, Ink Cover, Front Cover, Pre Heater 1/2, Platen Heater 1/2, After

Heat 1/2
Ctrl Fan: Mist Fan: Mist Fan All, Mist Fan 1, Mist Fan 2, Mist Fan 3
Box Fan
Ctrl Heater: Pre Heater: Pre Heater 1/2
Platen Heater: Platen Heater 1/2
After Heater: After Heater 1/2
Ctrl Actuator: Tank Valve
Ink Valve: Valve1 On, Valve2 On, Valve3 On, Valve4 On
Ink Pump
Wiper

Error History (list of past errors)
Edge Sns Lvl: [Enter], Start (Sets the black level of the Edge Detector)

Adjustment

CR Origin Adjust: Exec. (Sets the "Capped" position for the Carriage Assembly.)
Platen Adjust: Exec.(Turns on the Platen Heater).
Heater Temp: Pre Heater Temp: 0-58 C (Sets the Pre Heater Temperature for service printing)
Platen Heater Temp:0-58 C (Sets the Platen Heater Temperature for service printing)
After Heater: 0-58 C (Sets the Post Heater Temperature for service printing)
RearAD: [Enter]Start (nnn nnn nnn) (For adjusting the Rear Paper Sensor)
Init.Fill: [Enter]Start (Starts a initial fill)
Nozzle Check: Output Pattern**:**(Nozzle Check pattern for checking vertical deflections)
Nozzle Alignment: Output Pattern**:** (Nozzle Check pattern for checking horizontal deflections)
Head Slant : CR Head Slant, PF Head Slant: Adjust, Confirm(Adjust Print head mechanical alignments)
Skew Check: Please Set Paper (Tests for Paper Skewing)
Feed Adj.+ Side: [Enter] Print(Performs the 980mm and Side Margin adjustments)
Gap Adj: Uni-D Low, Bi-D Low, Uni-D High, Bi-D High:
VSD1 400, VSD3 320, VSD3 400, All: Rough Adjust, Fine Adjust (Perform **All**, **Rough**, to completely adjust the Bi and Uni directional adjustments.)
Print Adj. Variable: [Enter] Print (Prints the numeric adjustment variables currently set and head rank)
All Pattern: (Print All Adjustment Patterns)

Life(?)

CR Motor: Speed CW, Speed CCW, Page Size, Head Fan, LifeCount (?)

PF Motor: Feed Amount, LifeCount(?)

Pump: Pump Speed, LifeCount(?)

Head Fan: Head Fan 1 ON Time, Head Fan 1 OFF Time, Head Fan 2 ON Time, Head Fan 2 OFF Time, LifeCount(?)

CR Lock: Wait Time (sec.), LifeCount(?)

Ink Valve: Valve1 On, Valve2 On, Valve3 On, Valve4 On, Valve All On(?)

Tank Valve: Valve1 On, Valve2 On, Valve3 On, Valve4 On, Valve5 On, Valve6 On, Valve7 On, Valve8 on, Valve All On(?)

Feed(?)

Key: Backward(?)

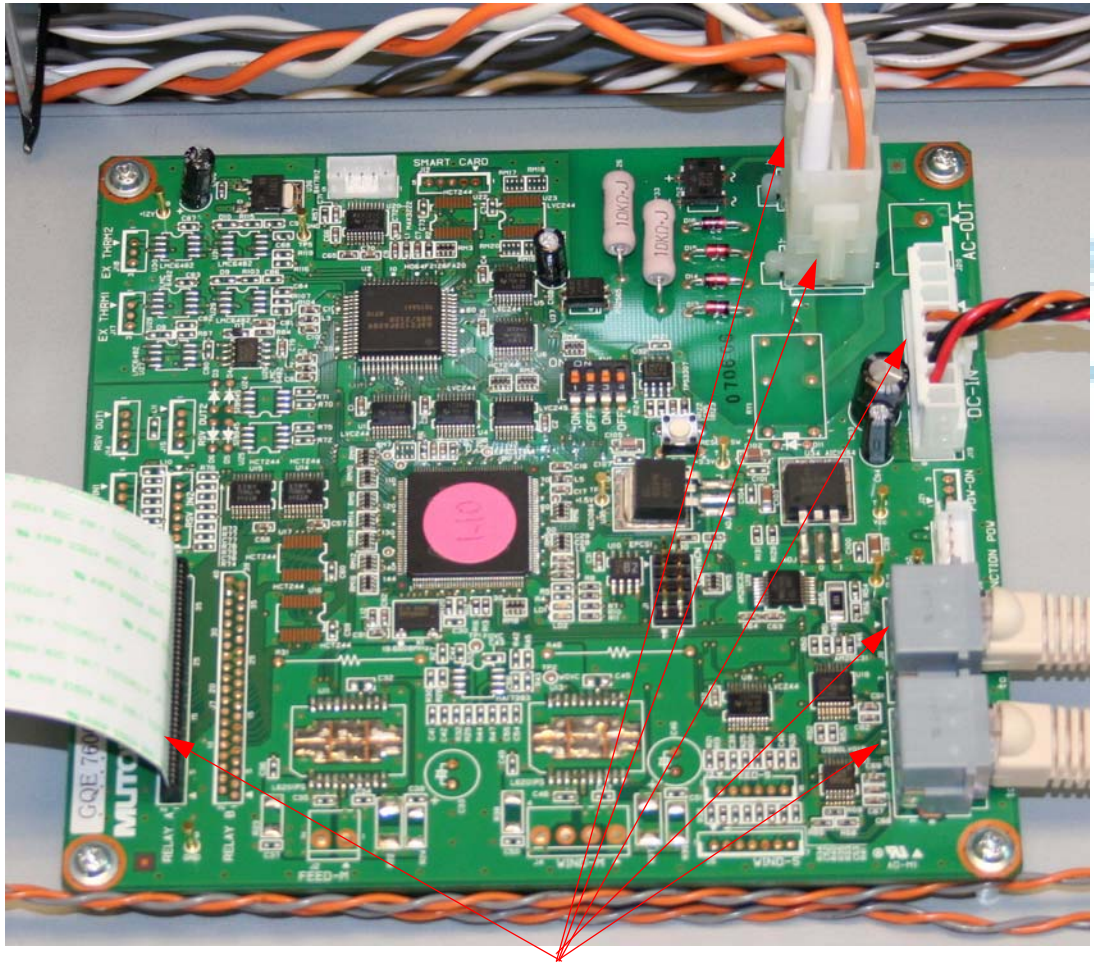
Key: Forward(?)

Status(?)

Component Replacement

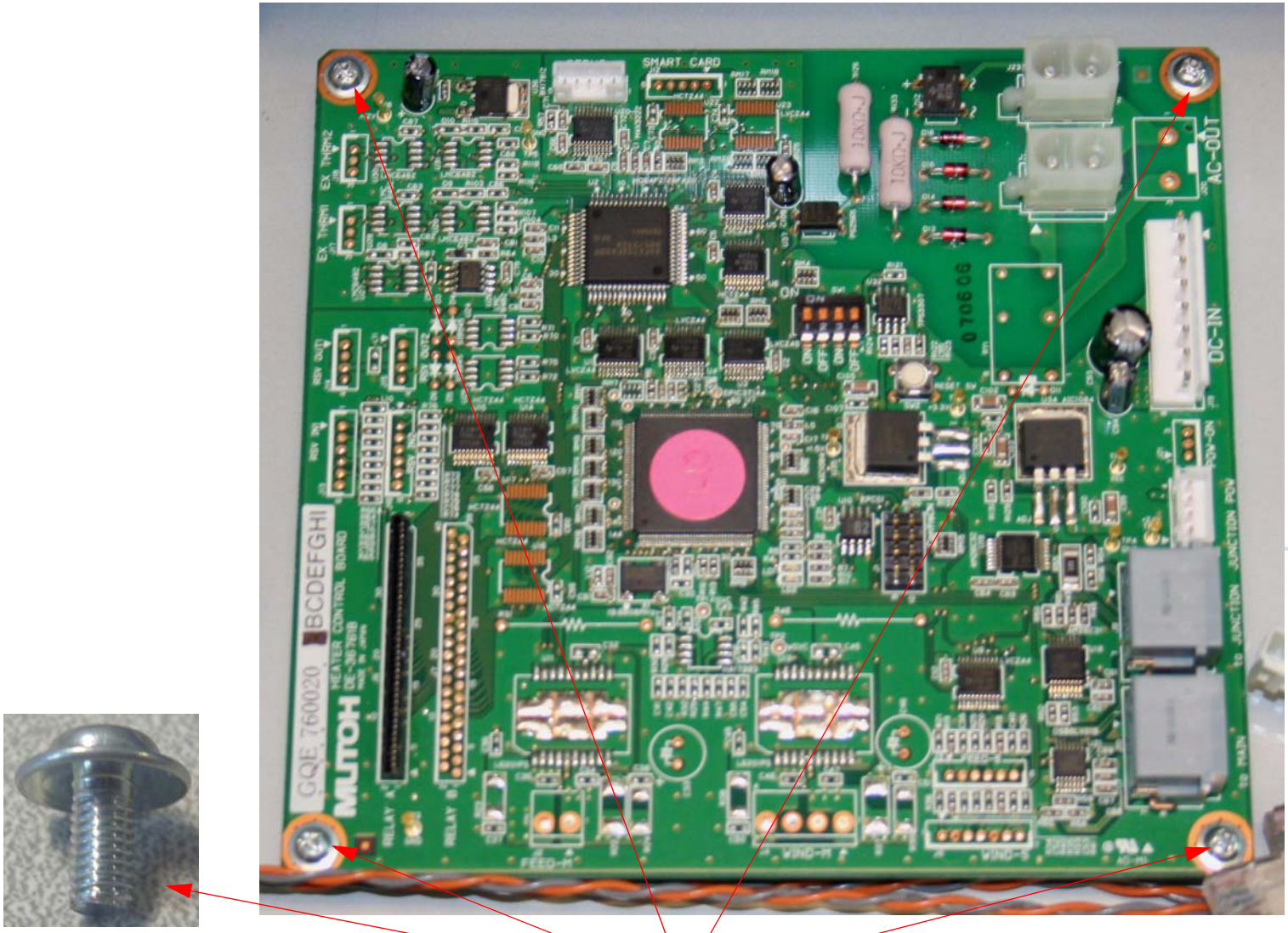
Board (Heater Control) Removal

1. Turn off the ***Printer*** and ***UNPLUG from AC.***
2. Remove the ***Heater Assembly (Post).***
3. Unplug the ***6 Cables*** that attach the ***Heater Control Board*** to the ***Printer.***



Unplug ***6 Cables***.

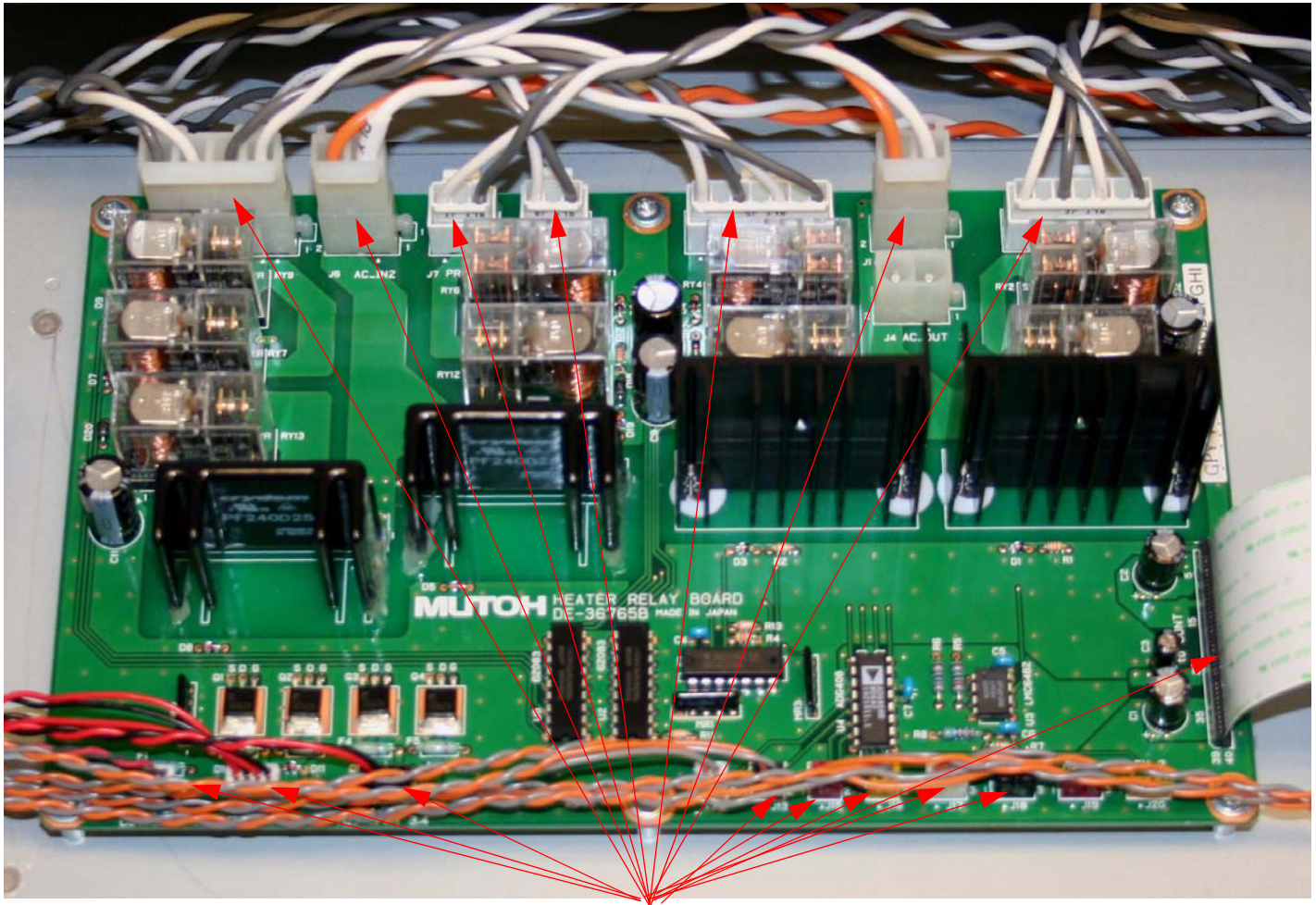
4. Remove ***4 Screws*** that fasten the ***Heater Control Board*** to the ***Printer***.



Remove ***4 Screws***.

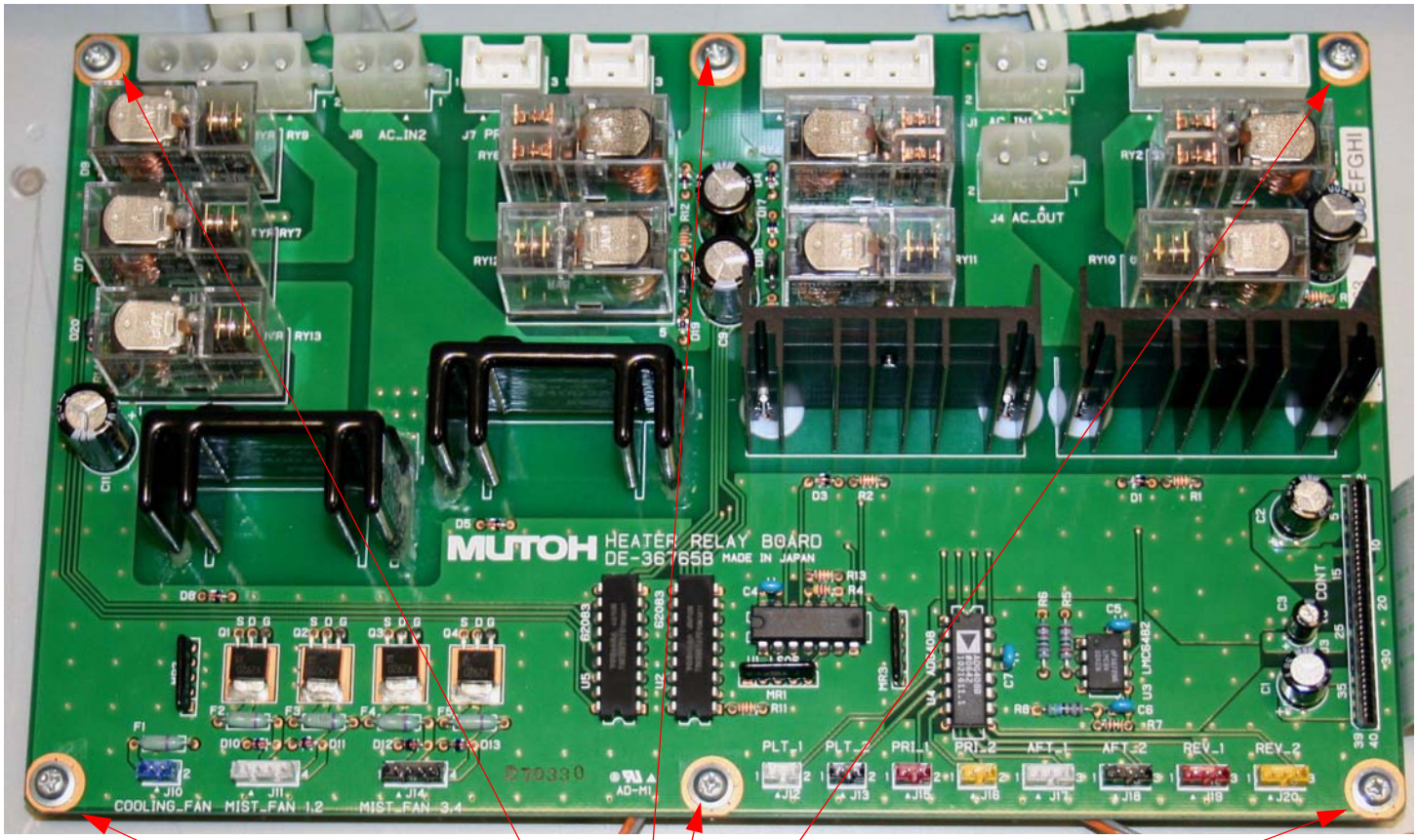
Board (Heater Relay) Removal

1. Turn off the ***Printer*** and ***UNPLUG from AC.***
2. Remove the ***Heater Assembly (Post).***
3. Unplug the ***17 Cables*** that attach the ***Heater Relay Board*** to the ***Printer.***



Unplug ***17Cables***.

4. Remove ***6 Screws*** that fasten the ***Heater Relay Board*** to the ***Printer***.



Remove ***6 Screws***.

Board (Main) Removal

Note: GS6000 Main Board Part # 2121641 (the part # is stamped on the board)

Main Board Removal (Overview)

- Back up the ***Printer's Parameters***.
- Release the ***Mainboard (Box) Cover***.
- Unplug the ***Cables***.
- Remove the ***Screws***.
- Remove the ***Ethernet Cover*** from the ***Main Board***.
- Remove the ***Main Board***

Main Board Removal (Detail)

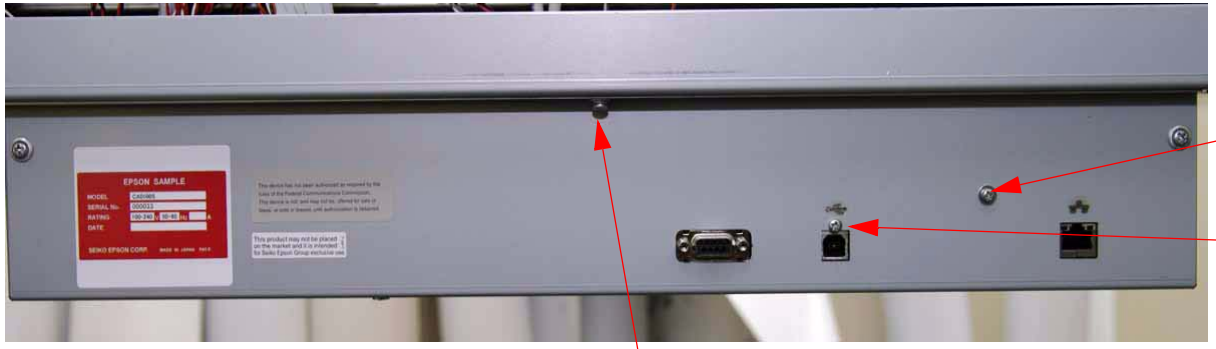
1. Re-Install the ***Printer's*** parameters using the ***NV-Ram Backup Utility*** feature of the ***servprog.exe*** utility.

   1.1 Perform the ***RTC & USBID*** Adjustment located in the ***servprog.exe*** utility.

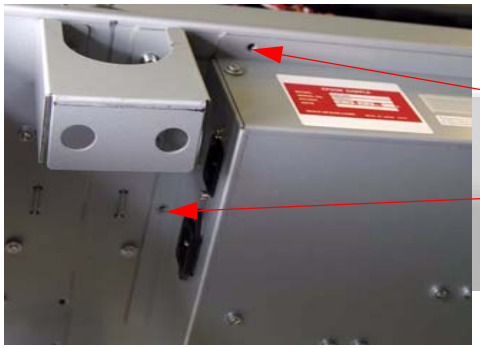
   Note: If the Printer's parameters can not be "backed up", print out the Print Head Calibration value (Head Rank). The Print Head Calibration value is included when the Adjustment variables are printed. (ServiceMan Mode: Self Testing: Adjustment: Print Adj. Variable).

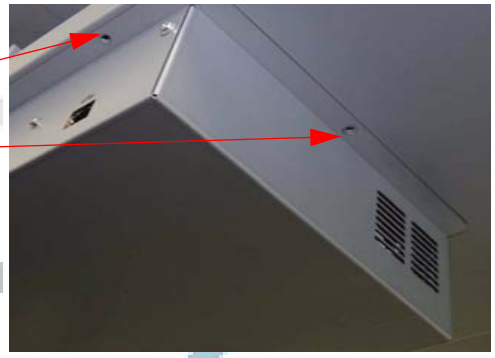
2. Turn off the ***Printer*** and ***UNPLUG from AC.***

3. Release the ***Mainboard Cover.***



Remove 2 ***screws***



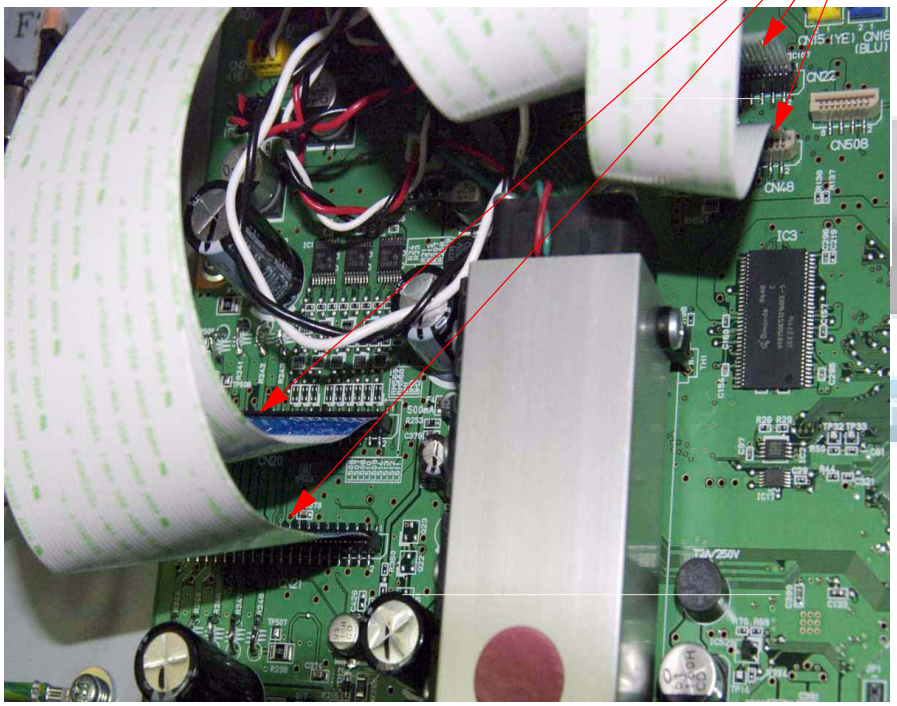


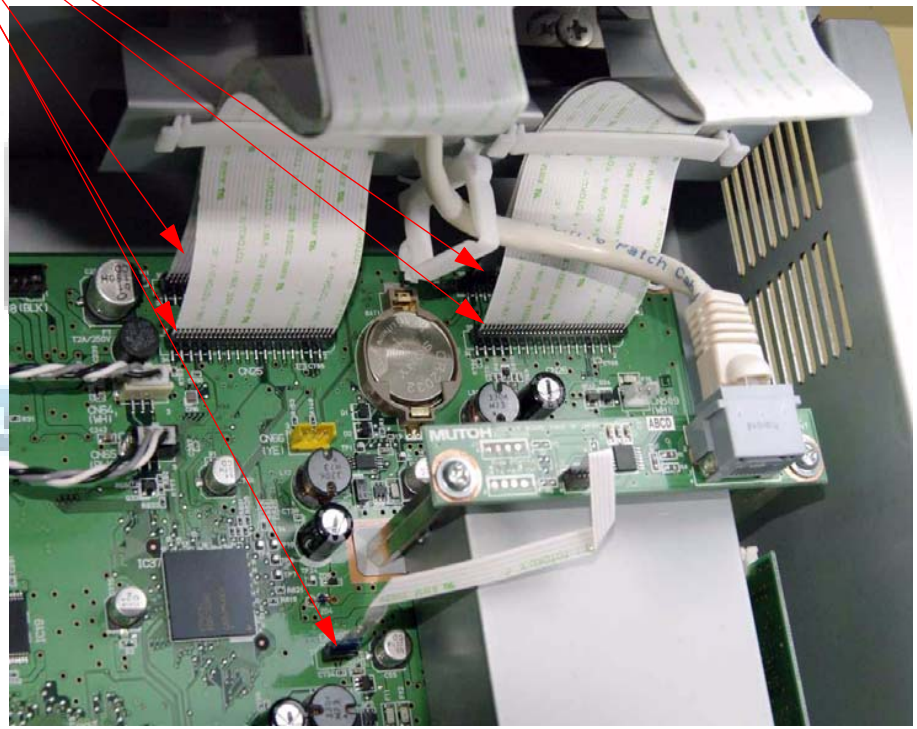
Remove 5 ***screws*** securing the ***Mainboard Cover*** to the ***Printer***.

Be sure to hold the ***Mainboard Cover*** when removing the last ***screw*** as the ***cover*** will drop down.

4. Unplug the ***9 Foil Cables*** that attach the ***Main Board*** to the ***Printer***

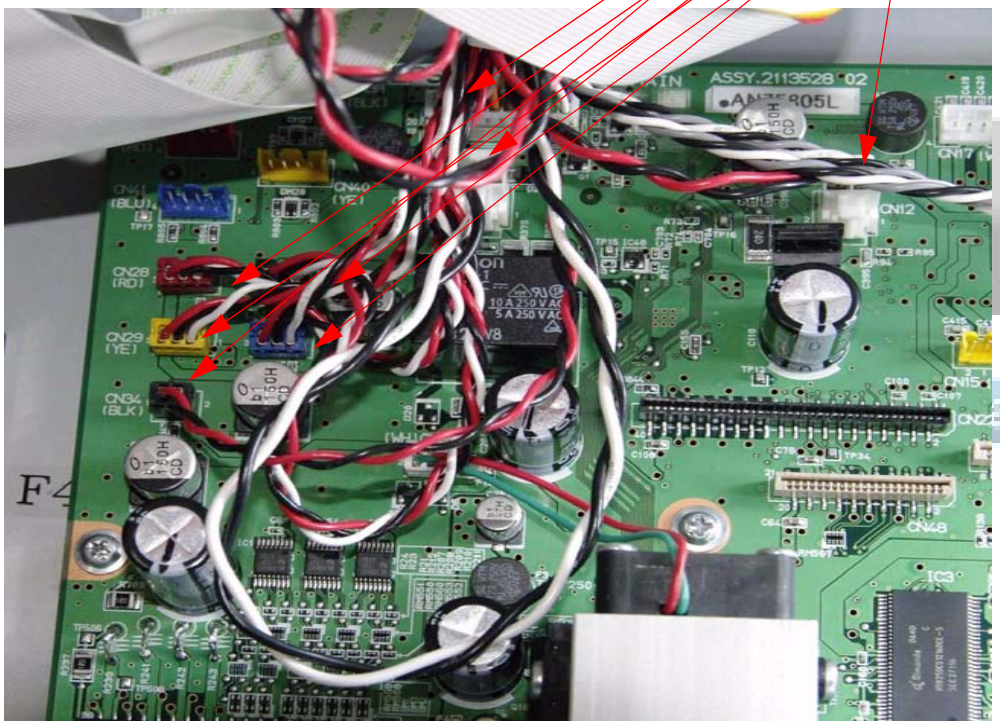
Unplug ***9 Foil Cables***

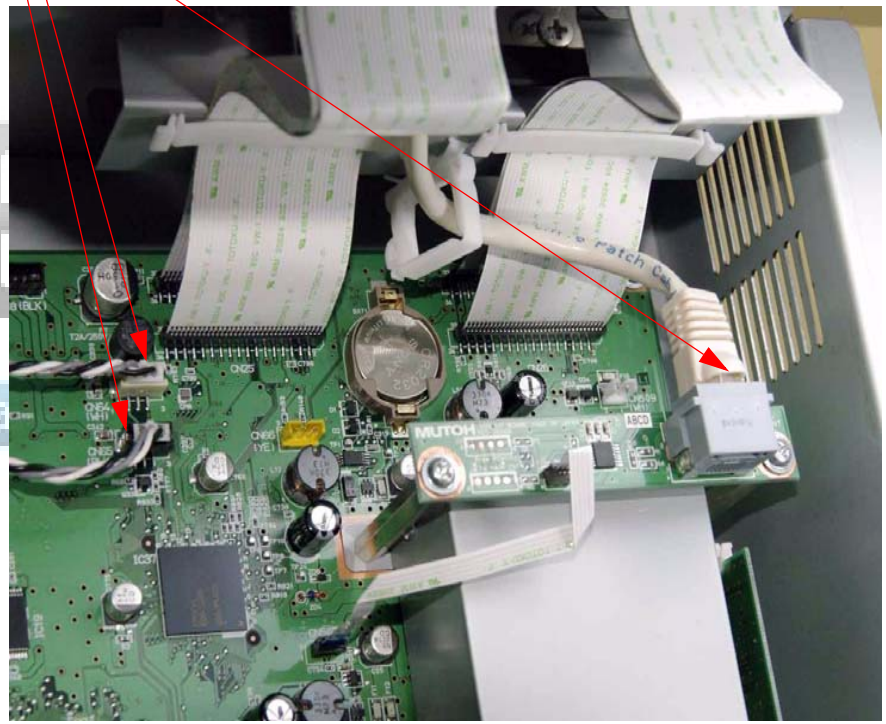




5. Unplug the ***11 Wired Cables*** that attach the ***Main Board*** to the ***Printer.***

Unplug 11 Wire Cables

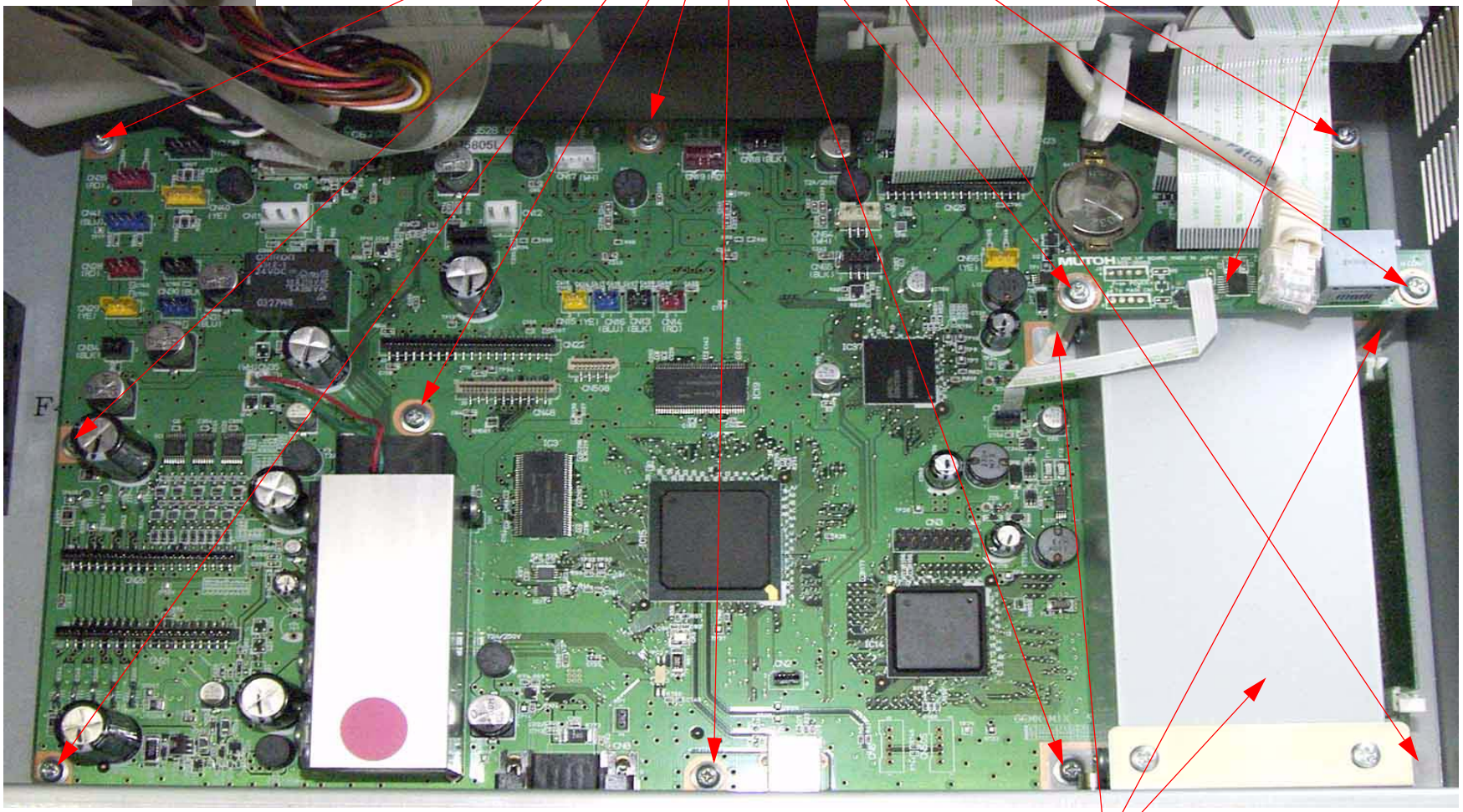




6. Remove ***11 Screws*** and ***2 Metal Support Rods*** and remove the ***LVDS Board.***

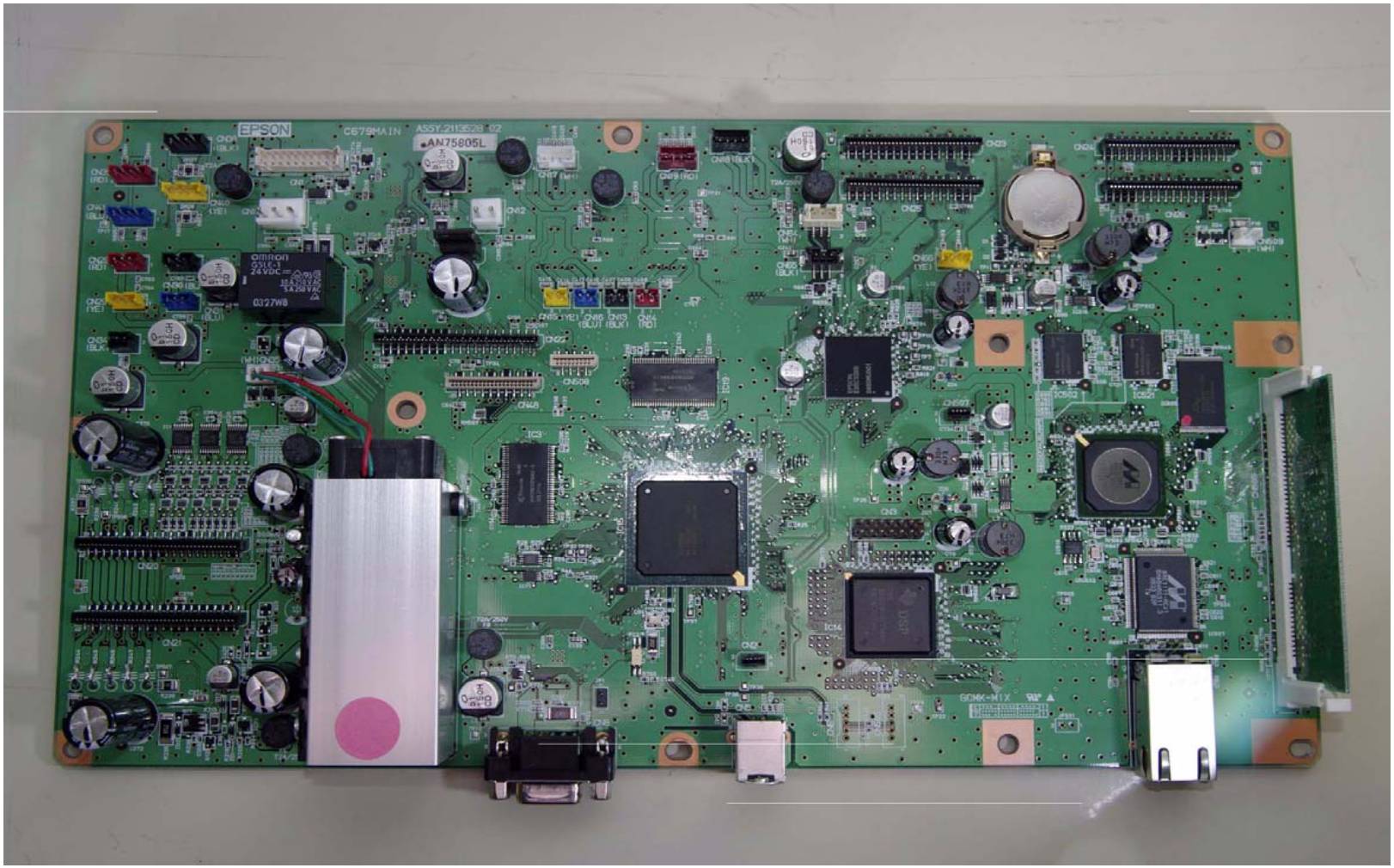
1. Remove ***11 Screws***

2.Remove the LVDS Board

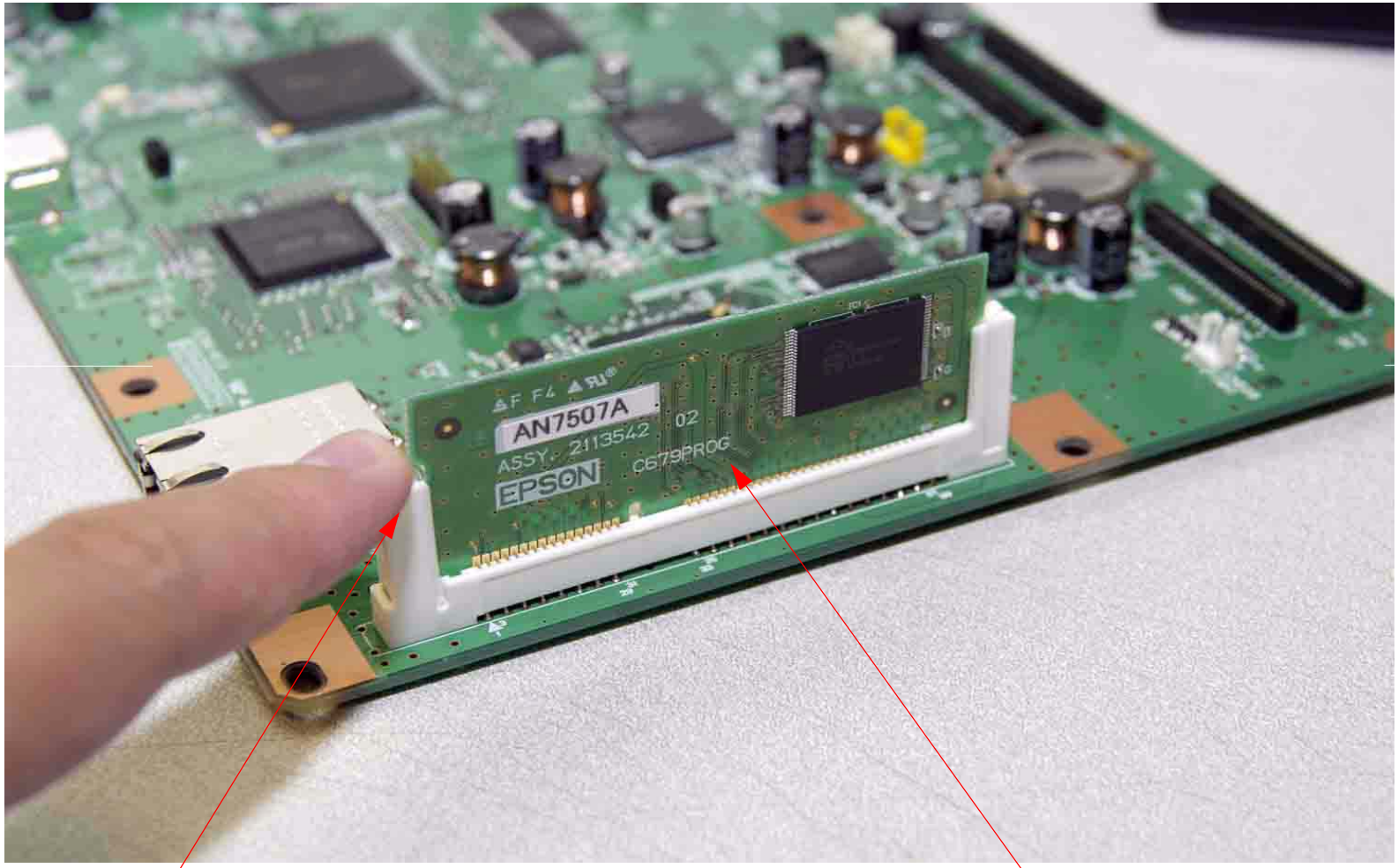


3.Use pliers to remove ***2 Metal Support Rods*** and remove the ***Ethernet Cover.***

7. Lift out the ***Main Board***.



8. Remove the ***EDM SIMM*** from the ***Main Board***.



1. Press here to release the ***EDM SIMM***.

2. Lift out the ***EDM SIMM***.

Board (Main) Installation

Note: GS6000 Main Board Part # 2121641 (the part # is stamped on the board)

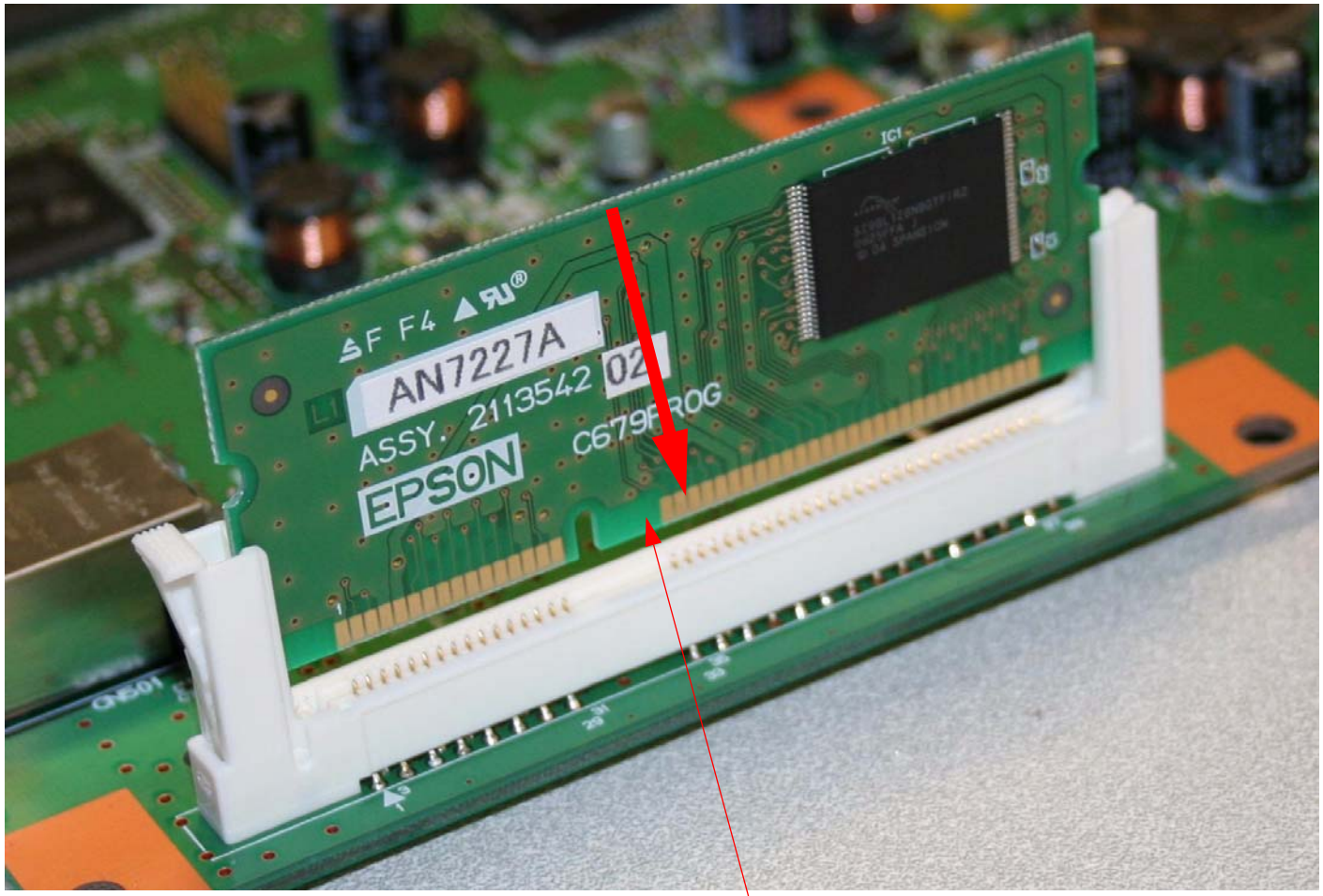
Main Board Installation (Overview)

- Install the ***EDM SIMM*** on the ***New Main Board***
- Install the ***Main Board***.
- Install the ***Ethernet Cover*** onto the ***Main Board***.
- Install the ***Screws***.
- Plug in the ***Cables***.
- Close the ***Rear Cover***.
- Upload ***Firmware***.
- Install the ***Printer's Parameters***.
- Perform the ***RTC & USB ID Adjustment***.

Main Board Installation (Detail)

1. Compare the ***New Main Board*** to the ***Old Main Board***. Verify that the ***Components***, ***Brackets***, and ***Part Numbers*** match.

2. Install the ***EDM SIMM*** onto the ***Main Board***.

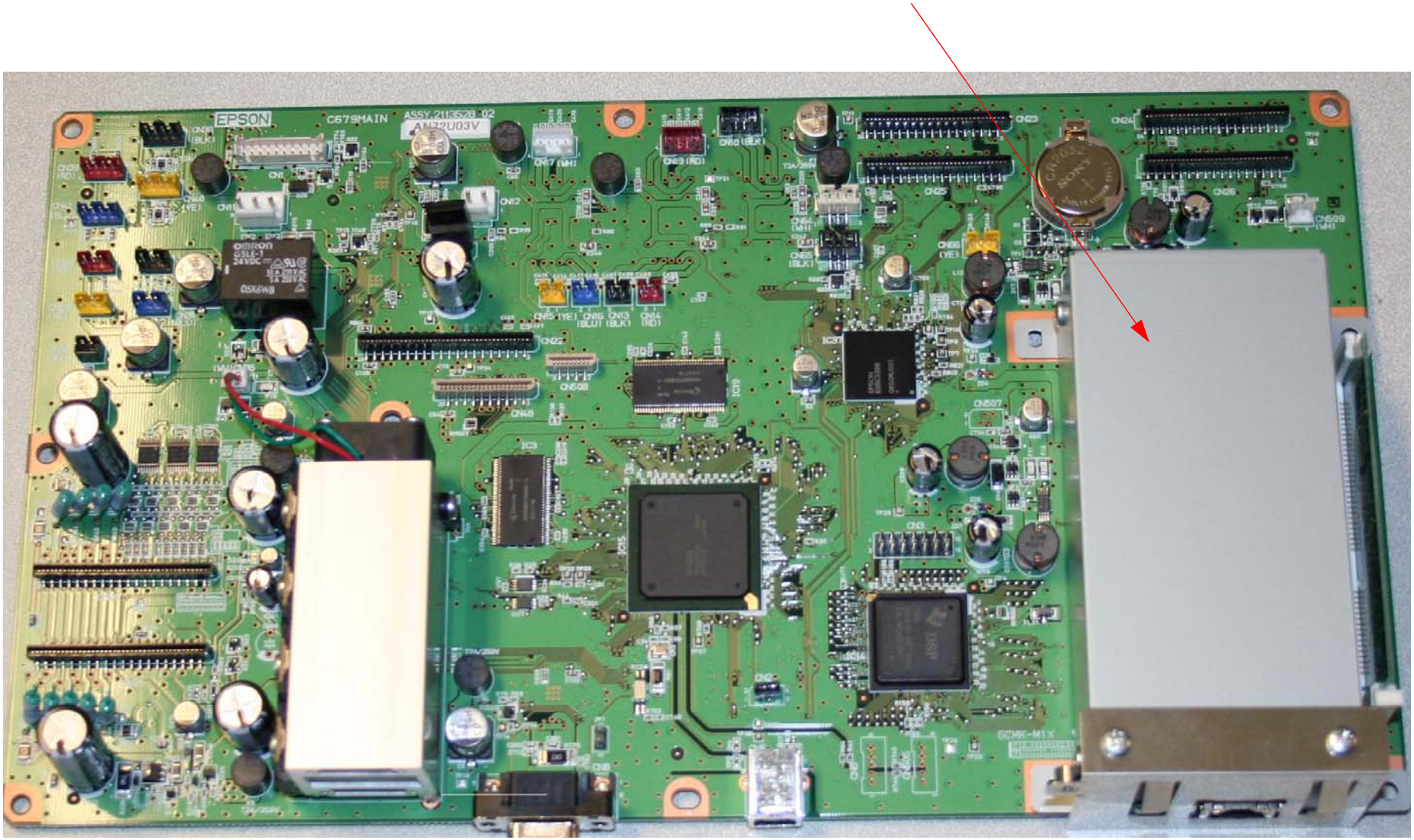


Install the ***EDM SIMM.***

3. Install the ***Main Board*** into the ***Printer***, and place the ***Ethernet Cover*** in position.

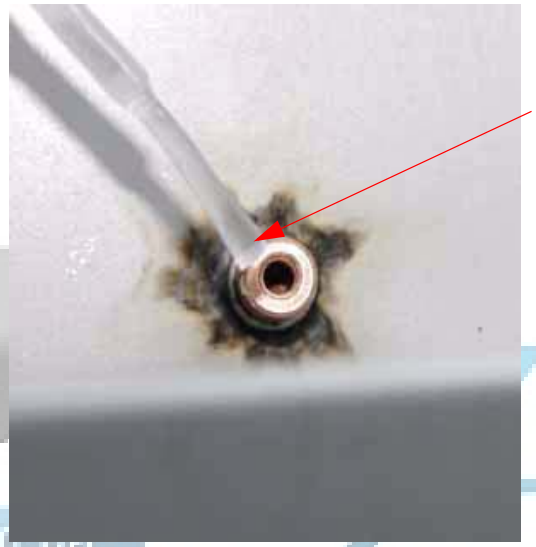
1. Drop in the ***Main Board***.

2. Place the ***Ethernet Cover*** in position



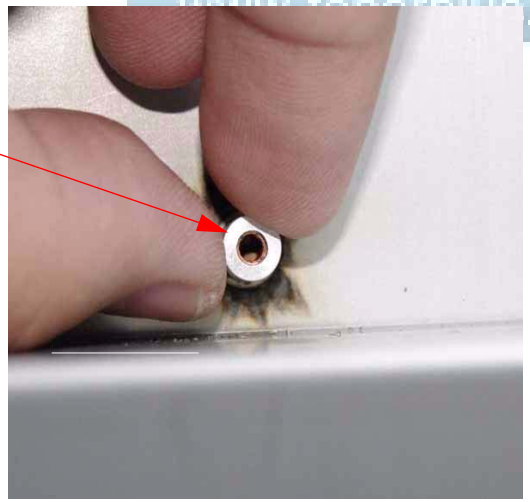
4. Make sure all screw stands have the washer on them.

During Mainboard removal or installation, this washer may come off its screw stand. Glue it back in place, making sure no glue leak into the thread of the stand.



Brush a small amount of glue on the outer edge of the screw stand.

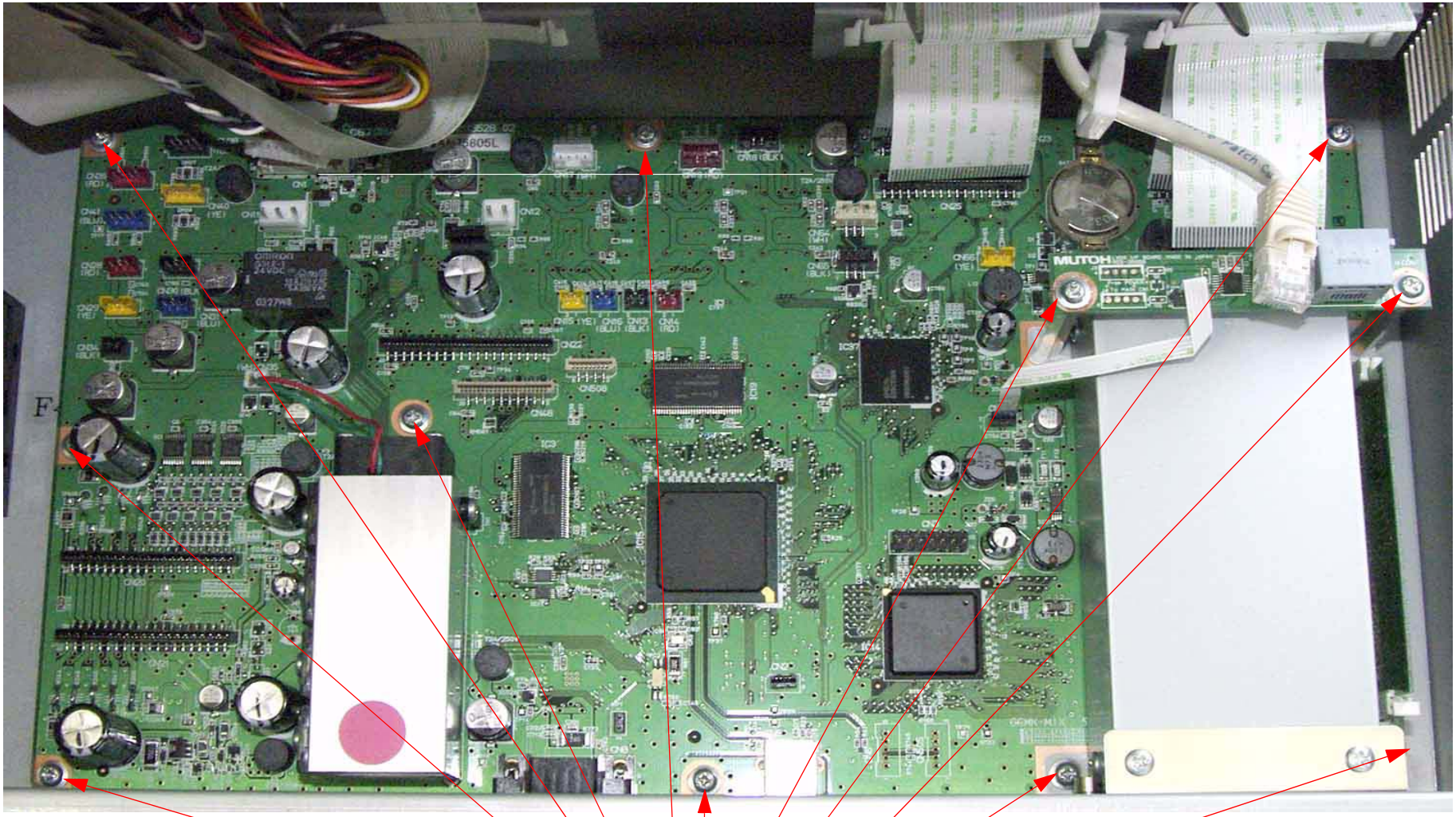
Install washer.



5. Install 2 ***Metal Support Rod*** that fasten the ***Main Board*** and Ethernet Cover to the ***Printer.***

Install ***2 Metal Support Rods,*** do not over-tighten.

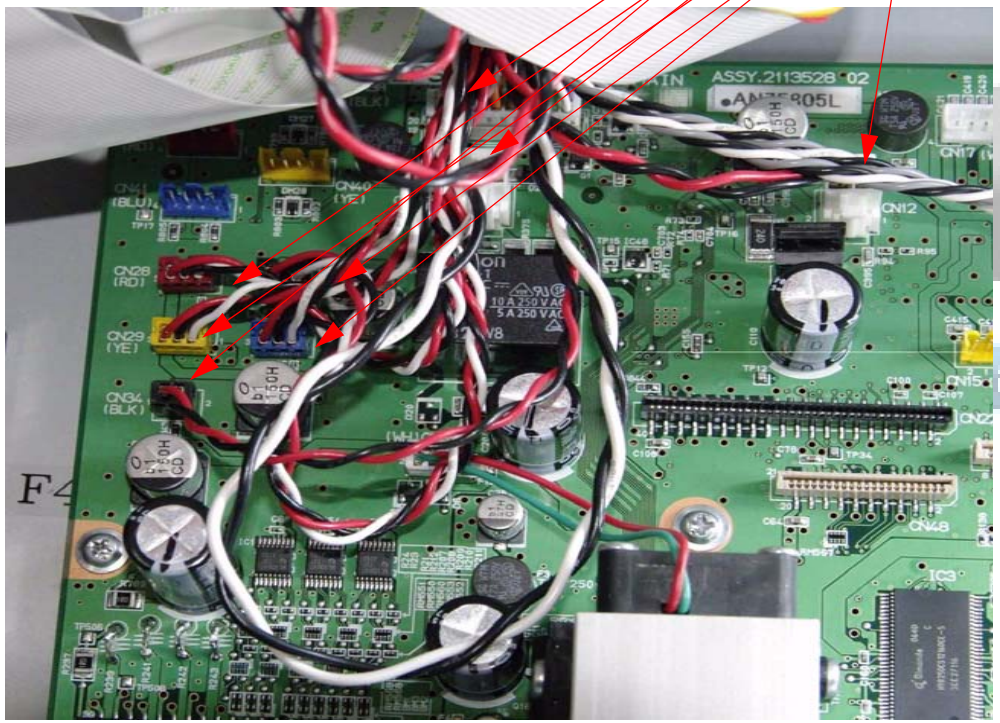
6. Install ***11 screws*** that fasten the ***Main Board*** to the ***Printer.***

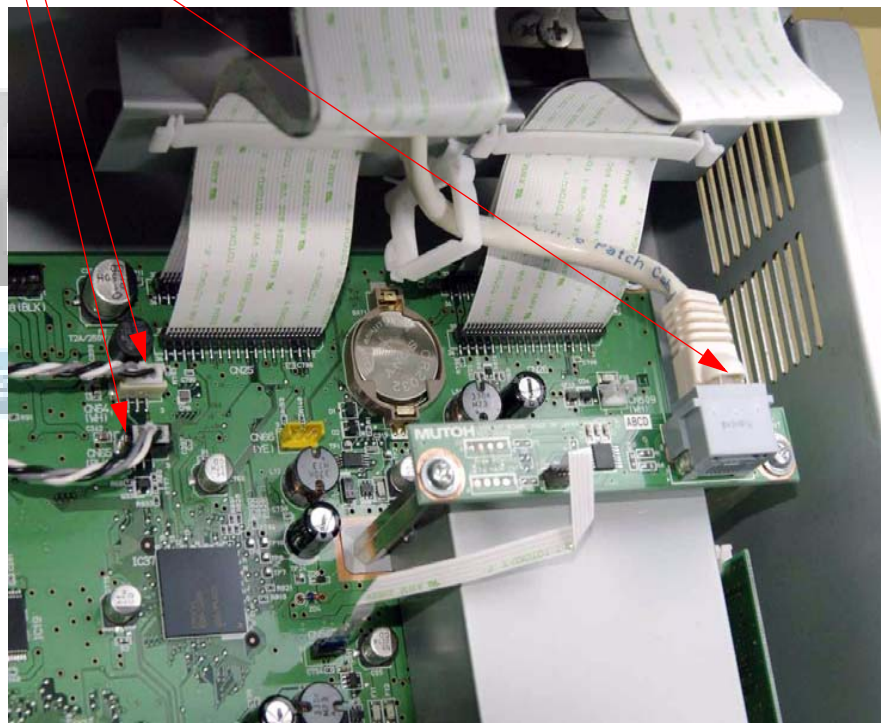


Install ***11 screws.***

7. Plug in ***11 Wire cables***

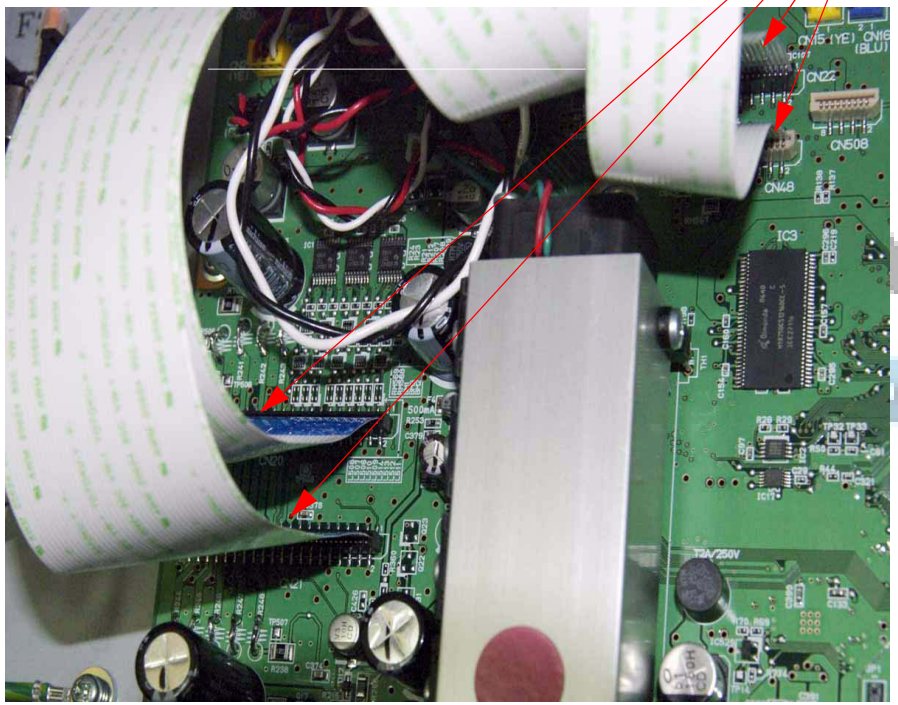
Plug in ***11 Wire Cables***

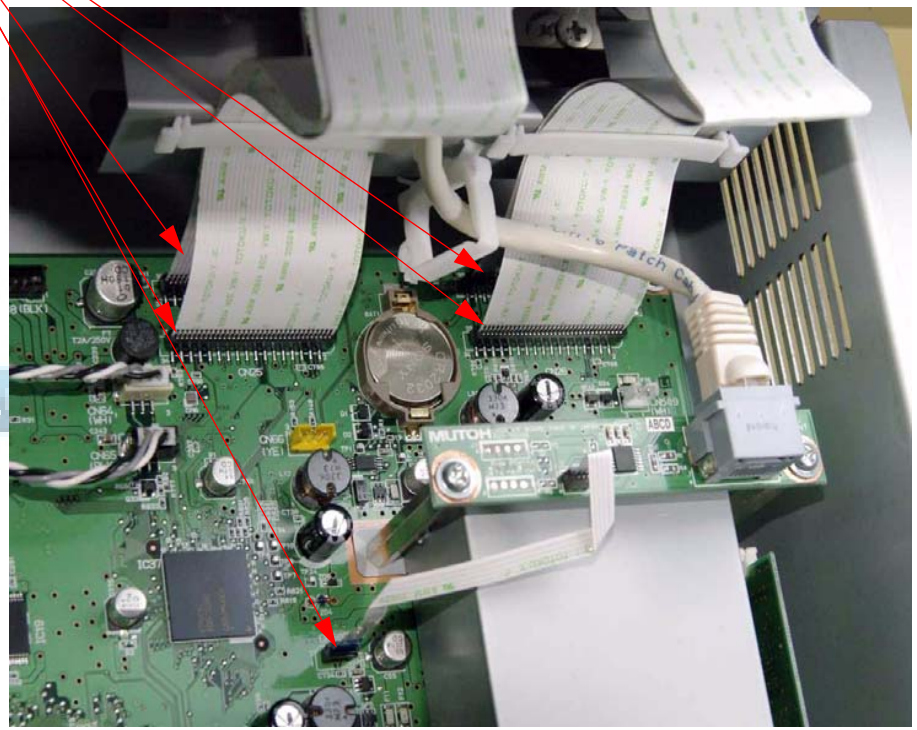




8. Plug in ***10 Foil Cables***. ***Ensure that the Cables are fully seated (straight)***

Unplug ***9 Foil Cables***



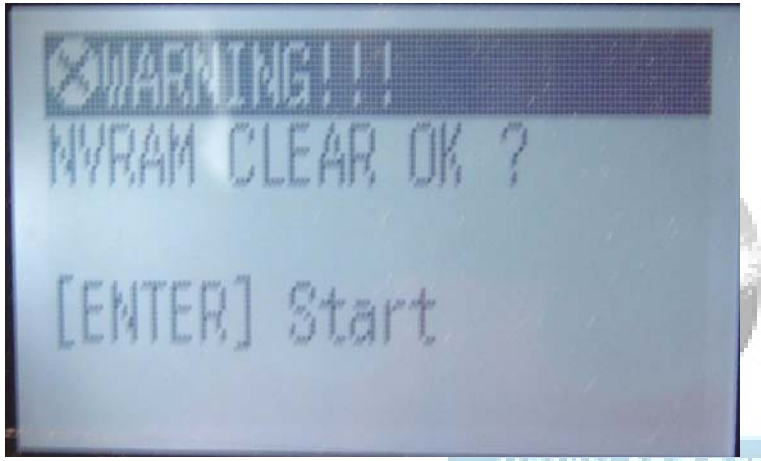


9. Install 7 screws that fasten the Main Board Cover to the Printer

10. Plug in and turn on the ***Printer*** in Firmware Download Mode (depress the **Up**, **Down**, **Left**, and ***Menu*** buttons, and turn on the power to the ***Printer***).

    10.1 Download the latest Firmware following the directions found in the *Firmware Update Procedure Using* FWUpdate.exe chapter located in the Reference section of the Field Guide.

11. New ***Main Boards*** (never used ***Boards***) will display this message. Follow the steps below.



Note: During the boot process after installing firmware, the Printer may display this message. It indicates that pressing the Enter Button will clear the NVRAM area. This NVRAM area will be overwritten when Parameters are installed in the following steps.

    11.1 Press the **Enter** Button.

    11.2 Immediately turn off the ***Printer***, and proceed to Step 11.

Note: If the Printer is allowed to fully boot after clearing the NVRAM, the Printer will begin an "Initial Ink Charge". If it does, open an Ink Door to interrupt the "Initial Ink Charge", and turn the Printer off. Installing Parameters in the next step will cancel the "Initial Ink Charge".

If the Printer's Parameters are not available skip step 12, and proceed with step 13.

12. Re-Install the ***Printer's*** parameters using the ***NV-Ram Backup Utility*** feature of the ***servprog.exe*** utility.

    12.1 Perform the ***RTC & USBID*** Adjustment located in the ***servprog.exe*** utility. ***(End of the Procedure)***

13. Install the appropriate generic ***Printer*** parameters using the ***NV-Ram Backup Utility*** feature of the ***servprog.exe*** utility.

    Note: If the new Board does not have any parameters, the Printer will not function well enough to allow alignments, paper loading, nozzle check, or the rest of step 13. Generic parameters are a set of working parameters from another printer. They are available for download at: https://www.epsoninsider.com listed under the Printer name, as Generic NVRAM Backup.

14. Perform the following operations in the order listed.

1. Perform the **RTC & USB ID** Adjustment.

    1.2 Enter the ***Head Rank Input*** (***Print Head*** calibration values).

    1.3 Perform ***Input Serial Number***.

    1.4 Perform the Rear Sensor Adjustment (also known as the Rear Sensor Test).

    1.5 Perform the Paper Feed Adjustment.

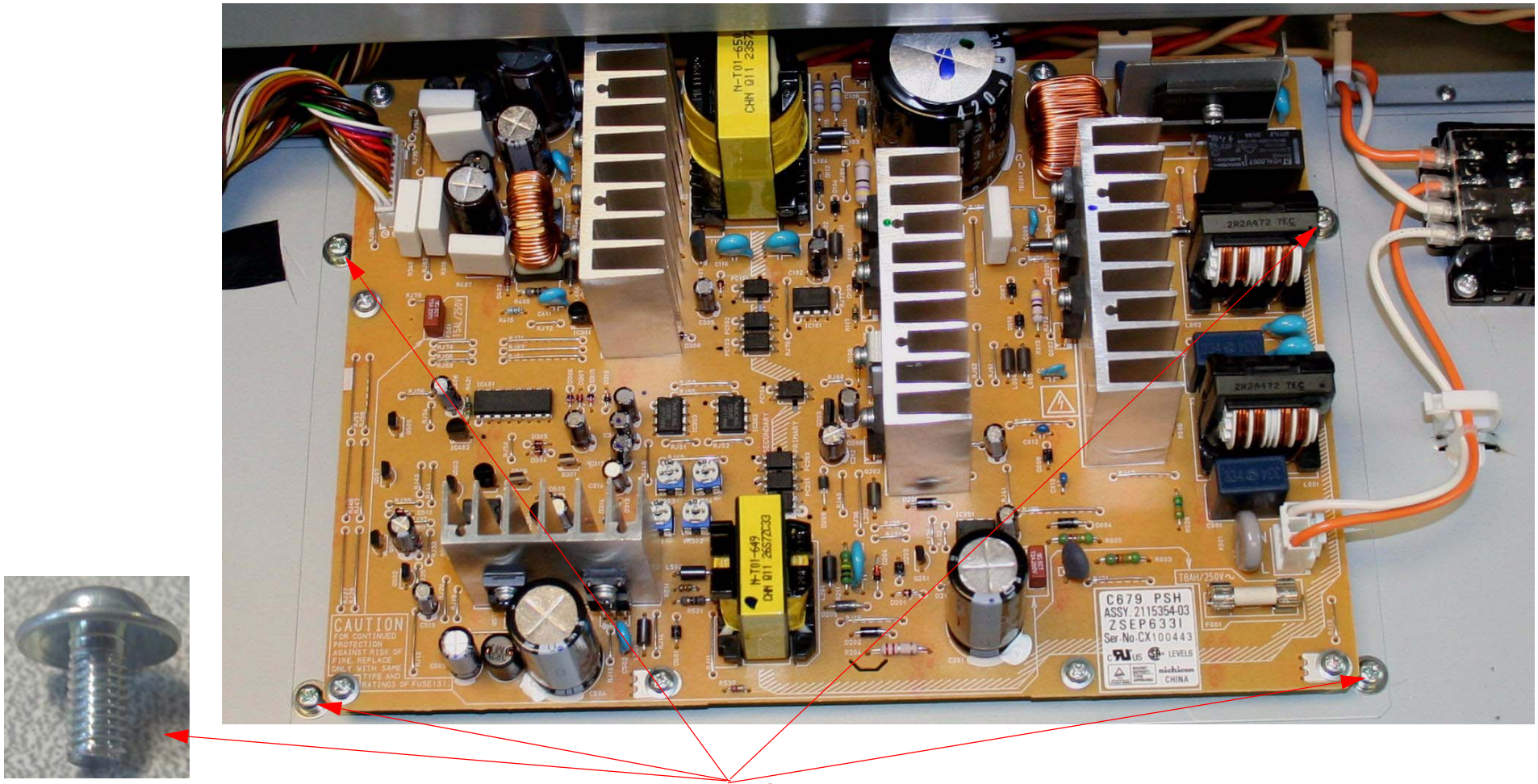
    1.6 Perform the Media Side Margin Adjustment.

    1.7 Perform the Head Bi-D Gap Adjustment.

    1.8 Perform the Head Uni-D Gap Adjustment.

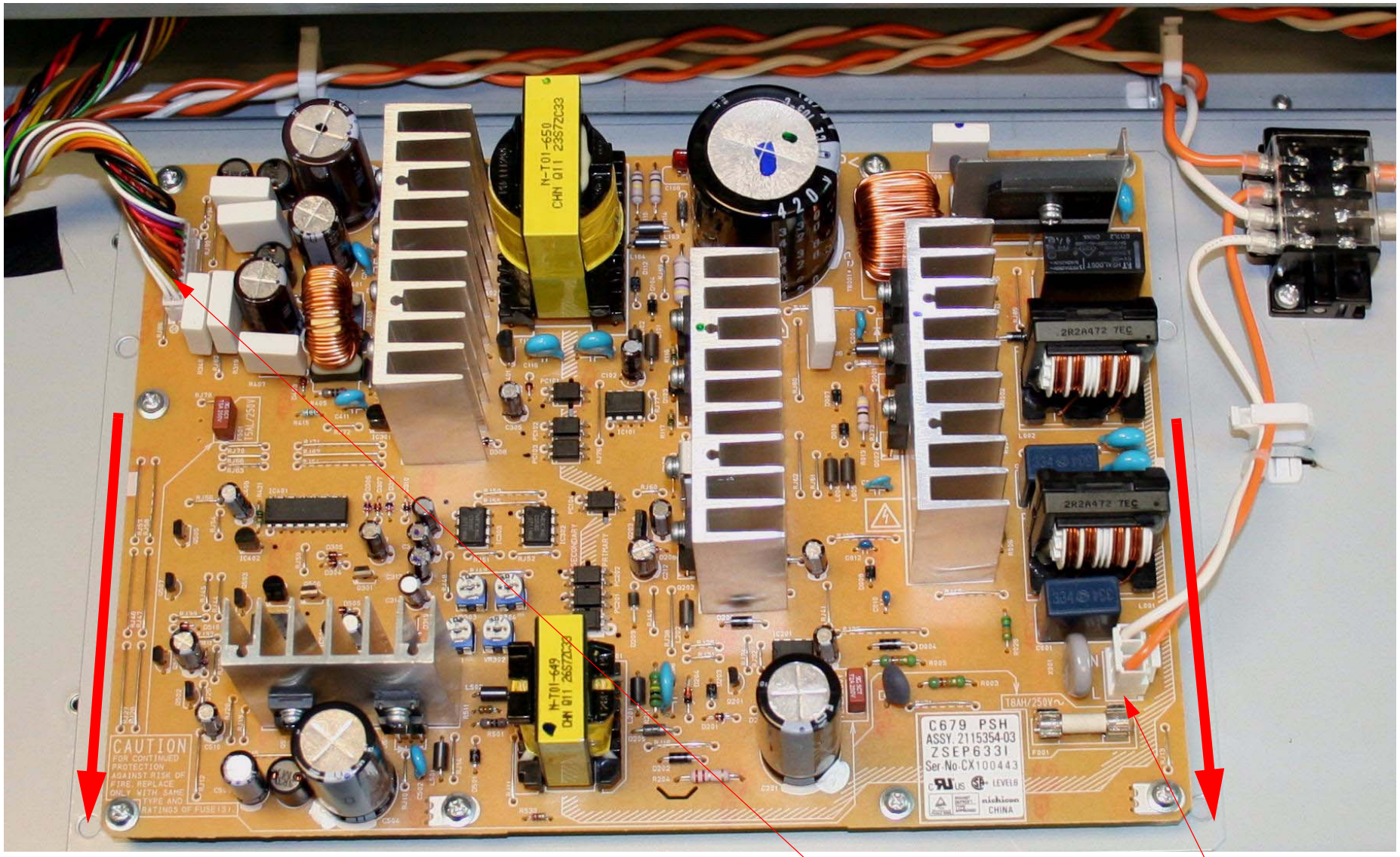
Board (Power Supply) Removal

1. Turn off the ***Printer*** and ***UNPLUG from AC.***
2. Remove the ***Heater Assembly (Post).***
3. Remove ***4 Screws*** that fasten the ***Power Supply Assembly*** to the ***Printer***.



Remove ***4 Screws***.

4. Unplug the ***Cables*** that attach the ***Power Supply*** to the ***Printer.***



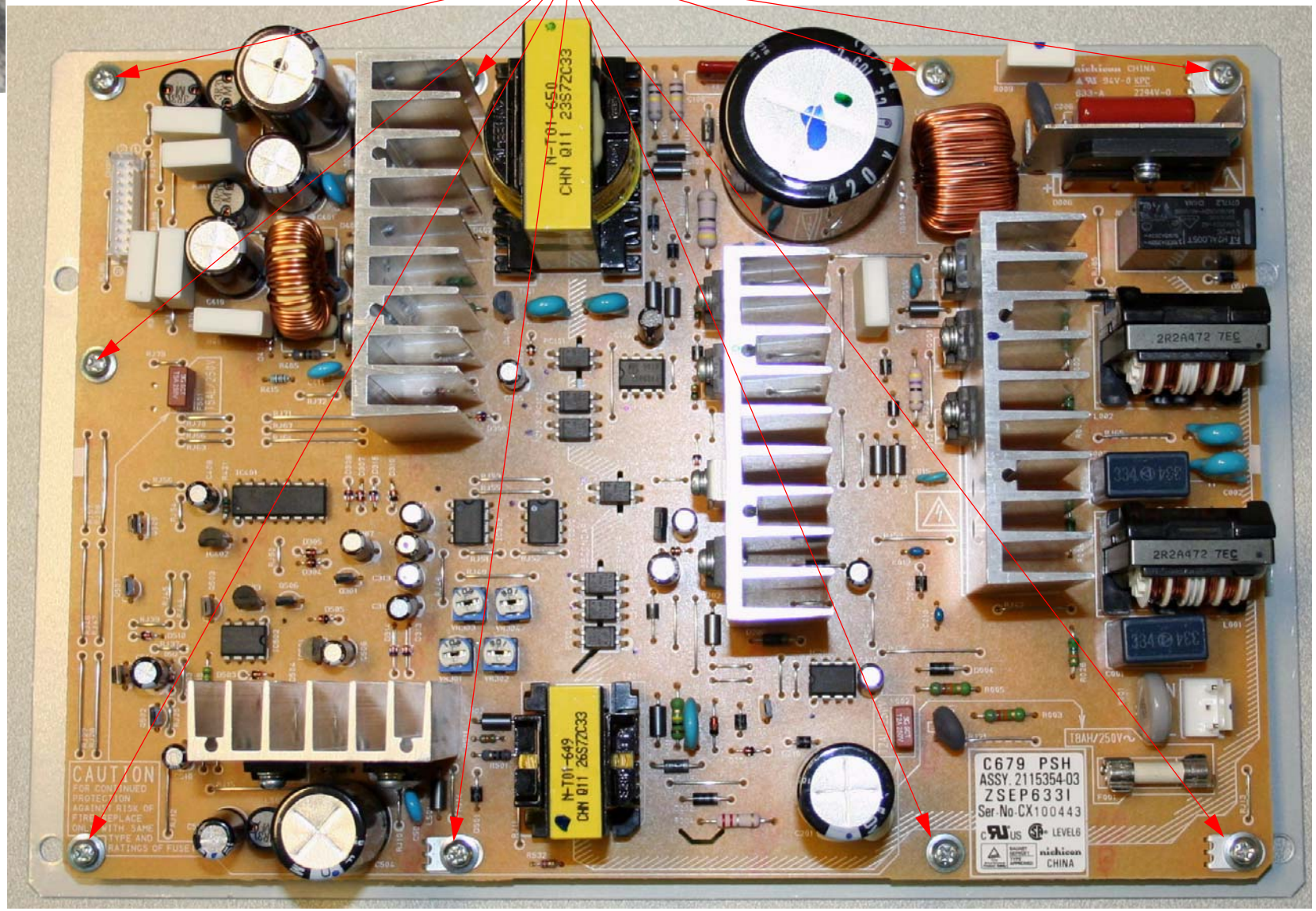
1. Slide the ***Power Supply Assembly*** forward.

2. Unplug ***CN301***.

3. Unplug ***CN001***.

5. Remove ***9 Screws***, and lift off the ***Power Supply.***

1. Remove ***9 Screws***



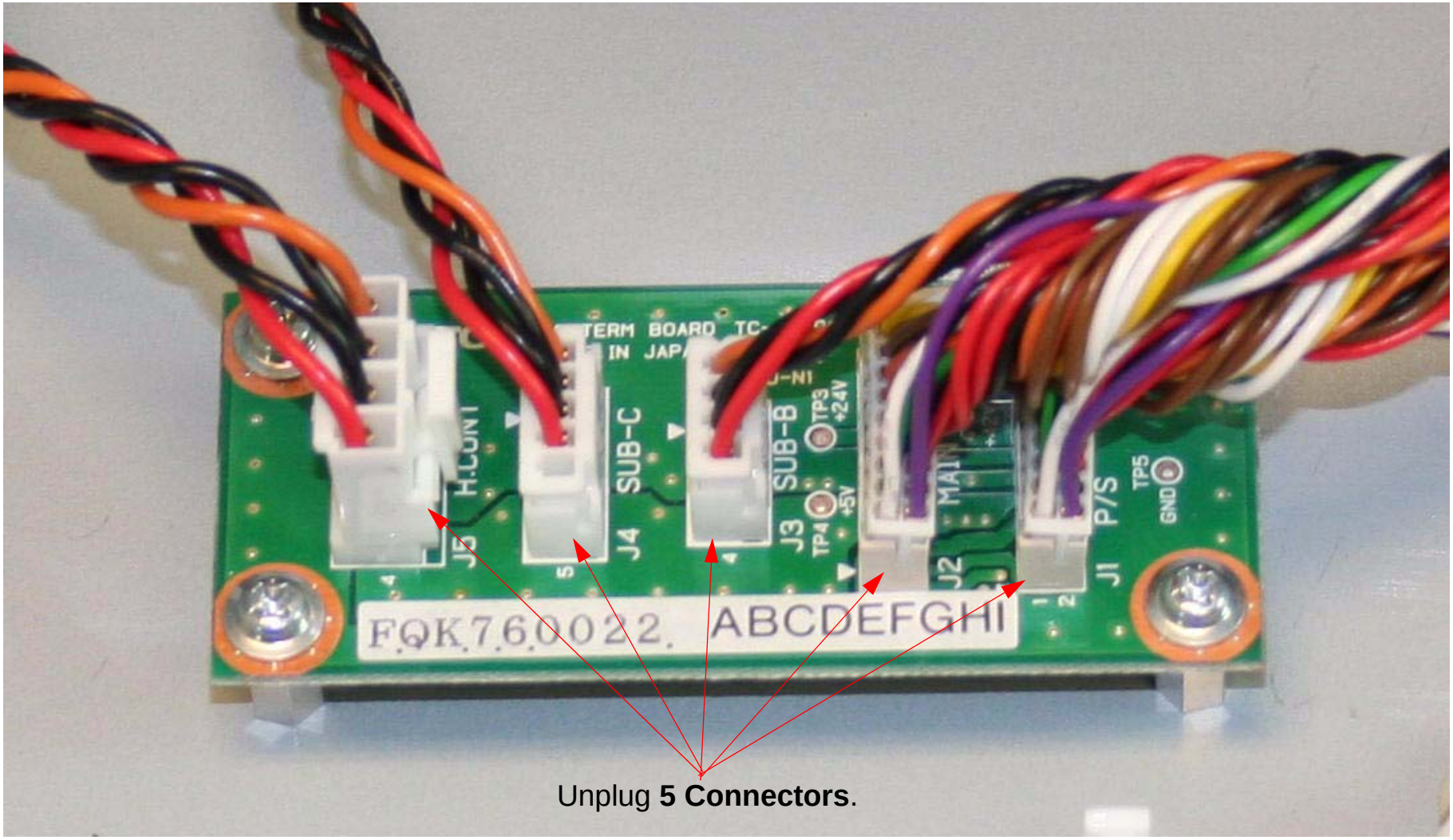
2. Lift off the ***Power Supply***.

Board (P/S Term) Removal

1. Turn off the ***Printer*** and ***UNPLUG from AC.***

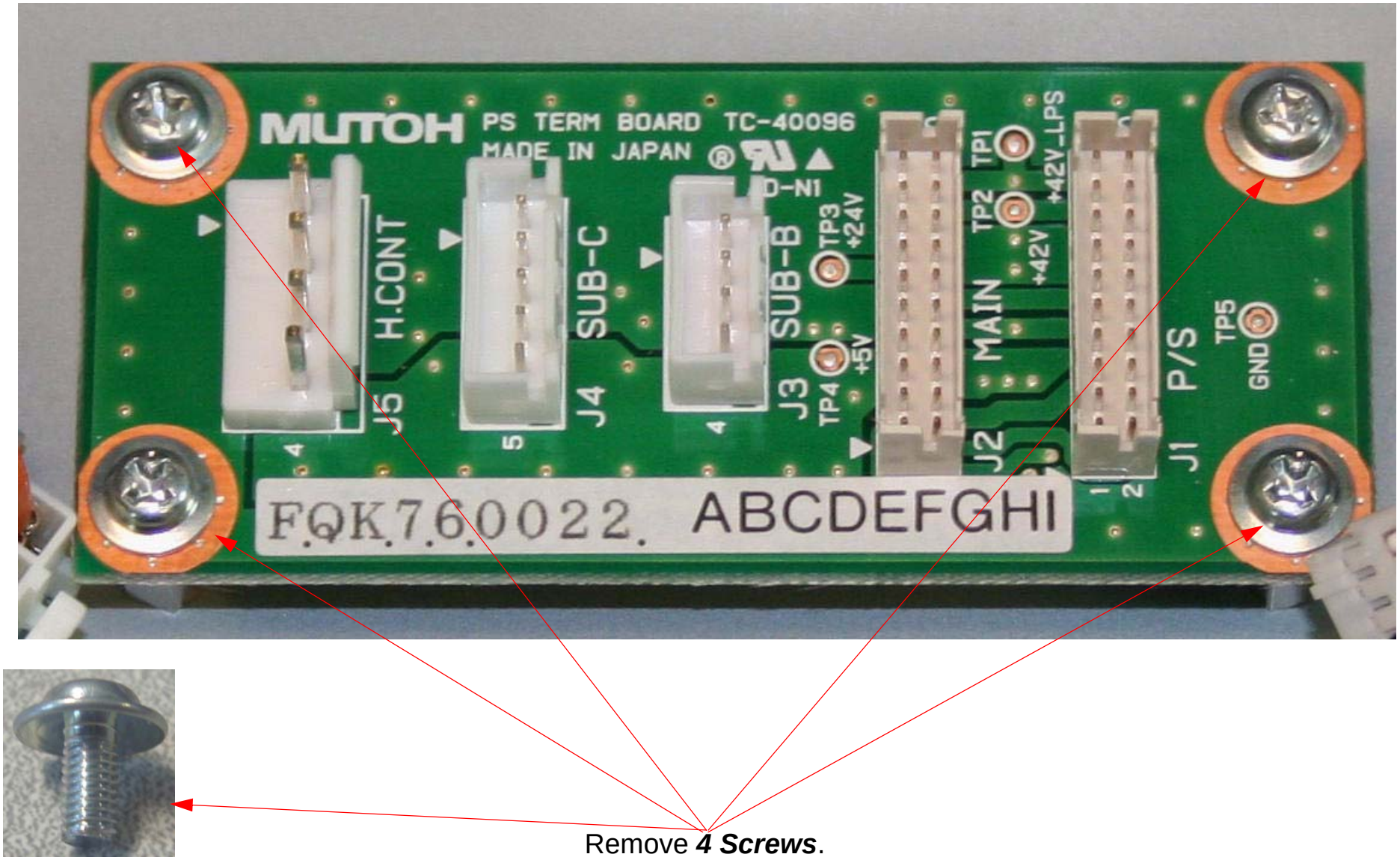
2. Remove the ***Heater Assembly (Post).***

3. Unplug the ***5 Cables*** that attach the ***P/S Term Board*** to the ***Printer.***



Unplug **5 Connectors**.

4. Remove ***4 Screws*** that fasten the ***P/S Term Board*** to the ***Printer***.

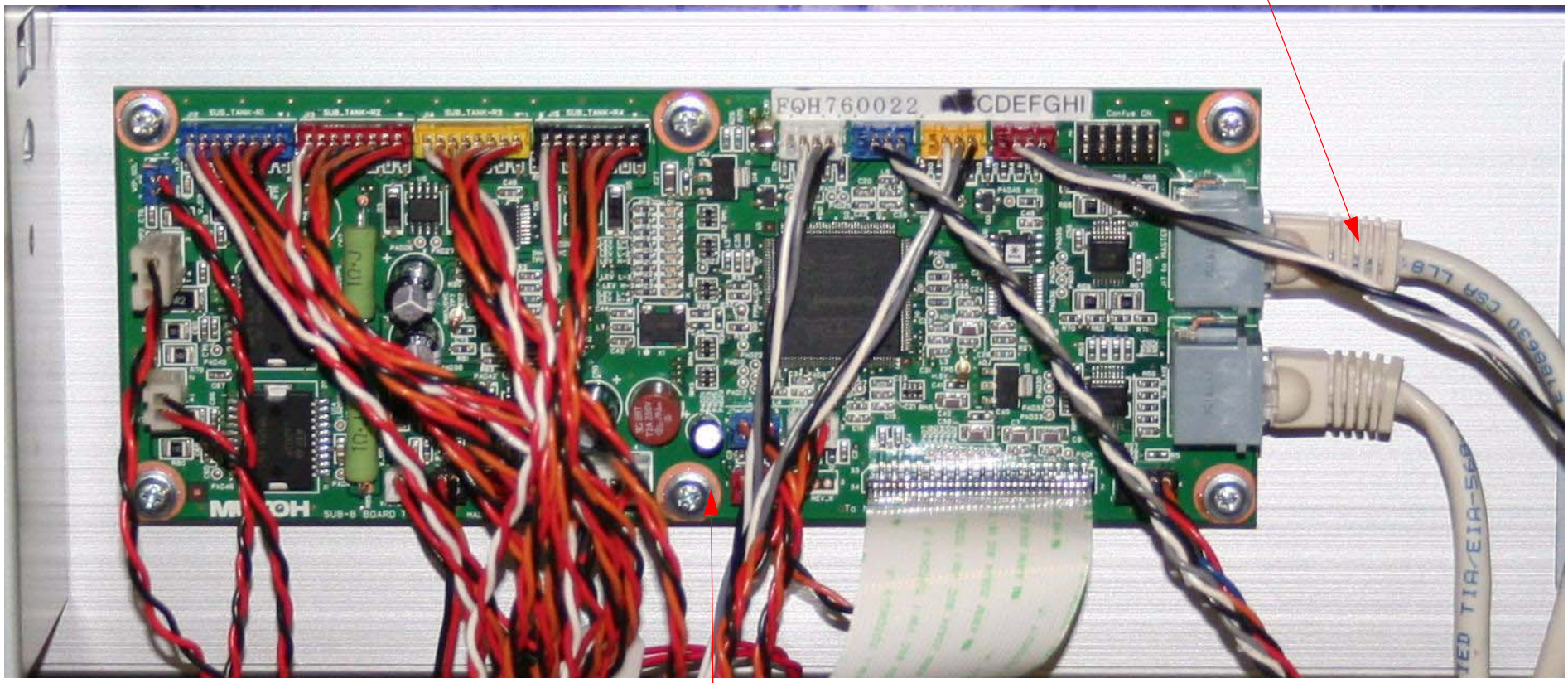


Remove ***4 Screws***.

Board (Sub B) Removal

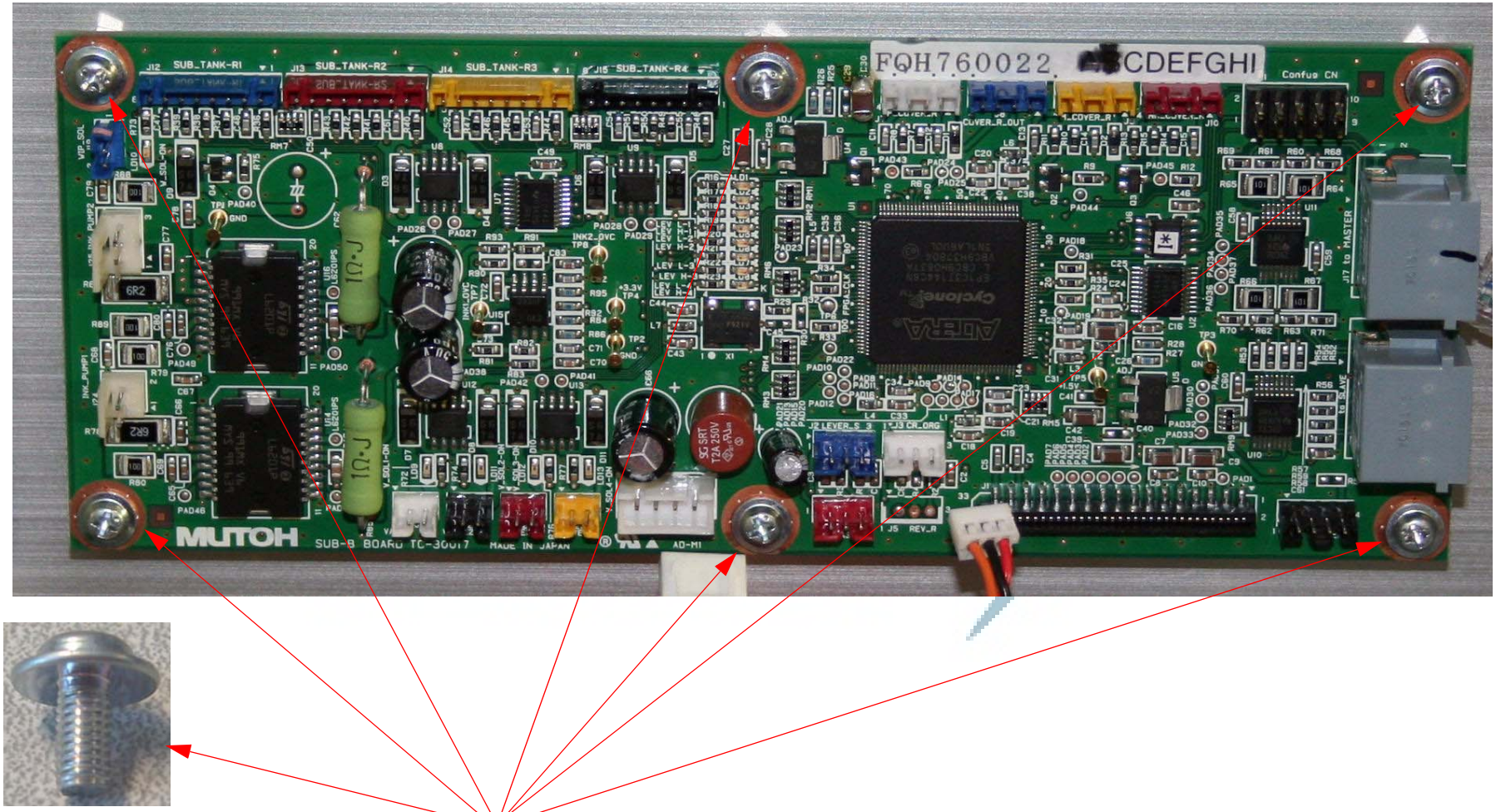
1. Remove the ***Heater Assembly (Pre).***
2. Remove the ***Media Holder Assembly***.
3. Disconnect ***23 Cables***.

1. Mark this ***Cable*** and ***Connector.***



2. Disconnect ***23 Cables***.

4. Remove ***6 Screws***, and the ***Sub Board B***.

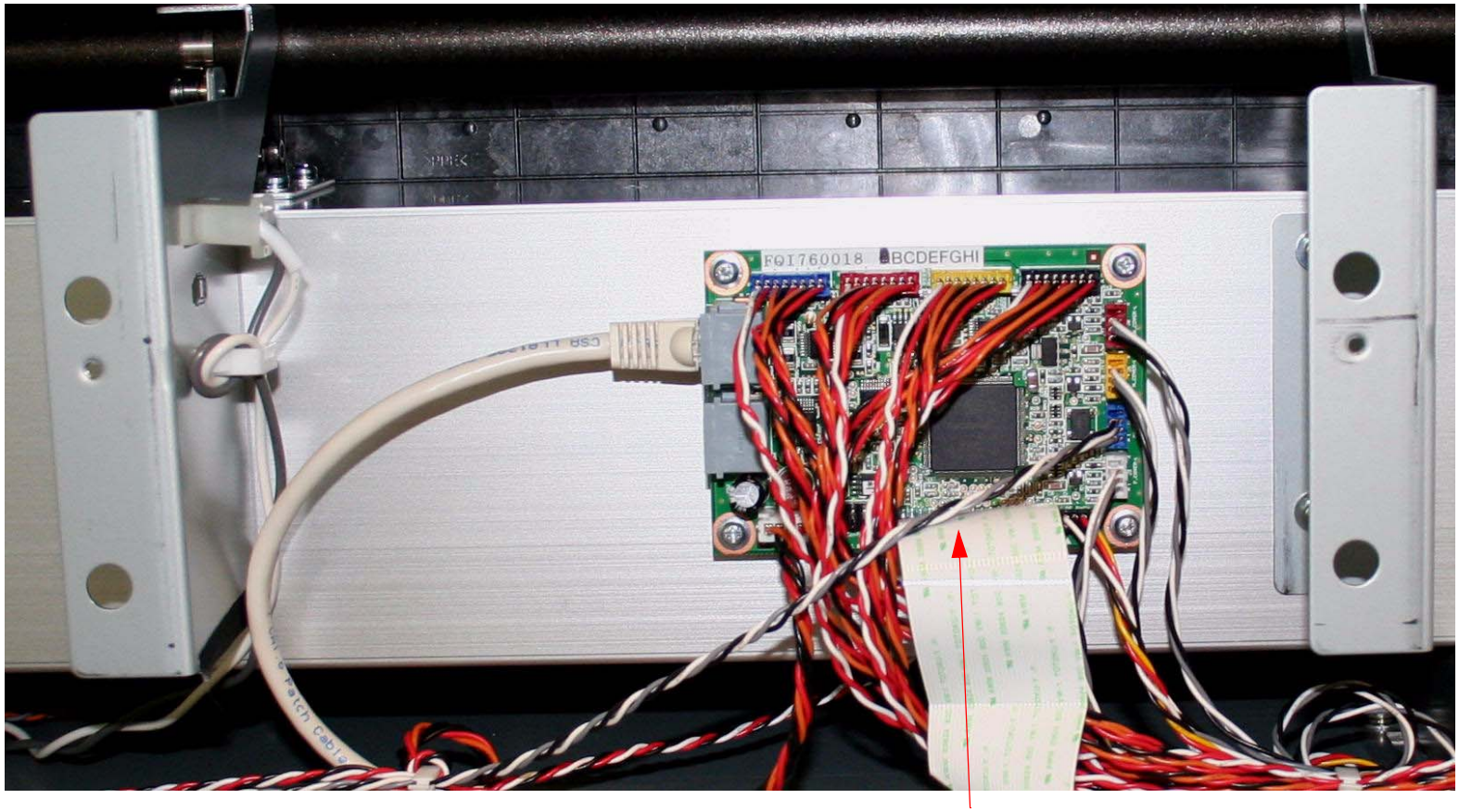


1. Remove ***6 Screws***.

2. Remove ***Sub Board C***.

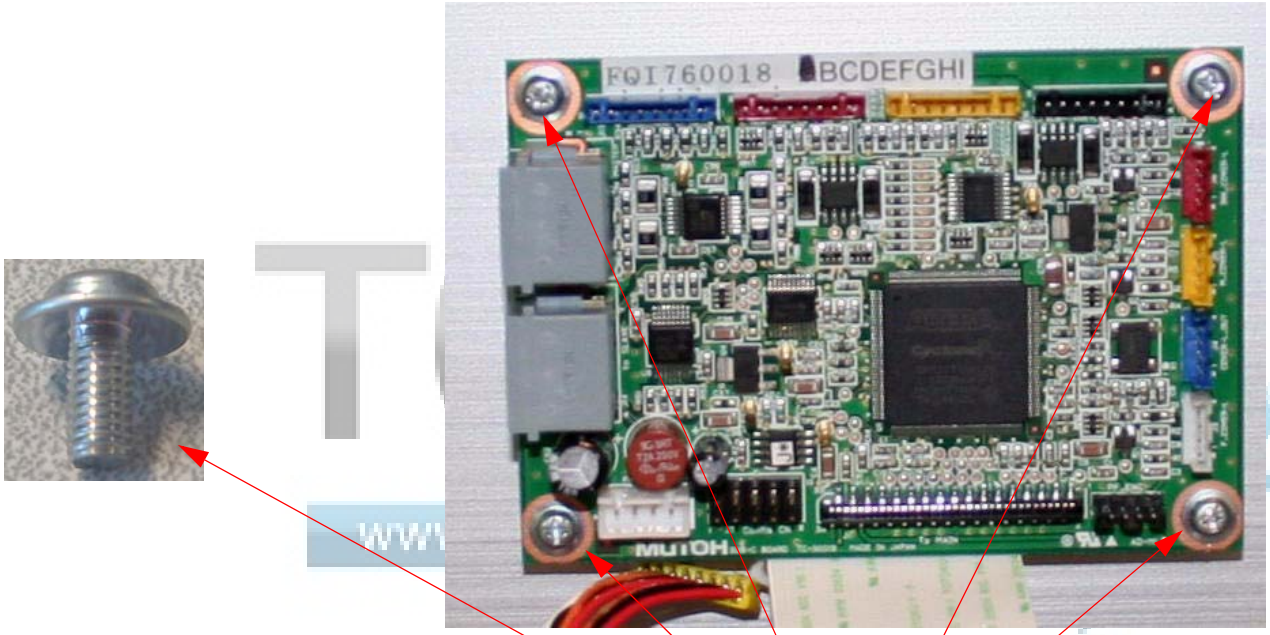
Board (Sub C) Removal

1. Remove the ***Heater Assembly (Pre).***
2. Remove the ***Media Holder Assembly***.
3. Disconnect ***13 Cables***.



Disconnect ***13 Cables***.

4. Remove ***4 Screws***, and the ***Sub Board C***.



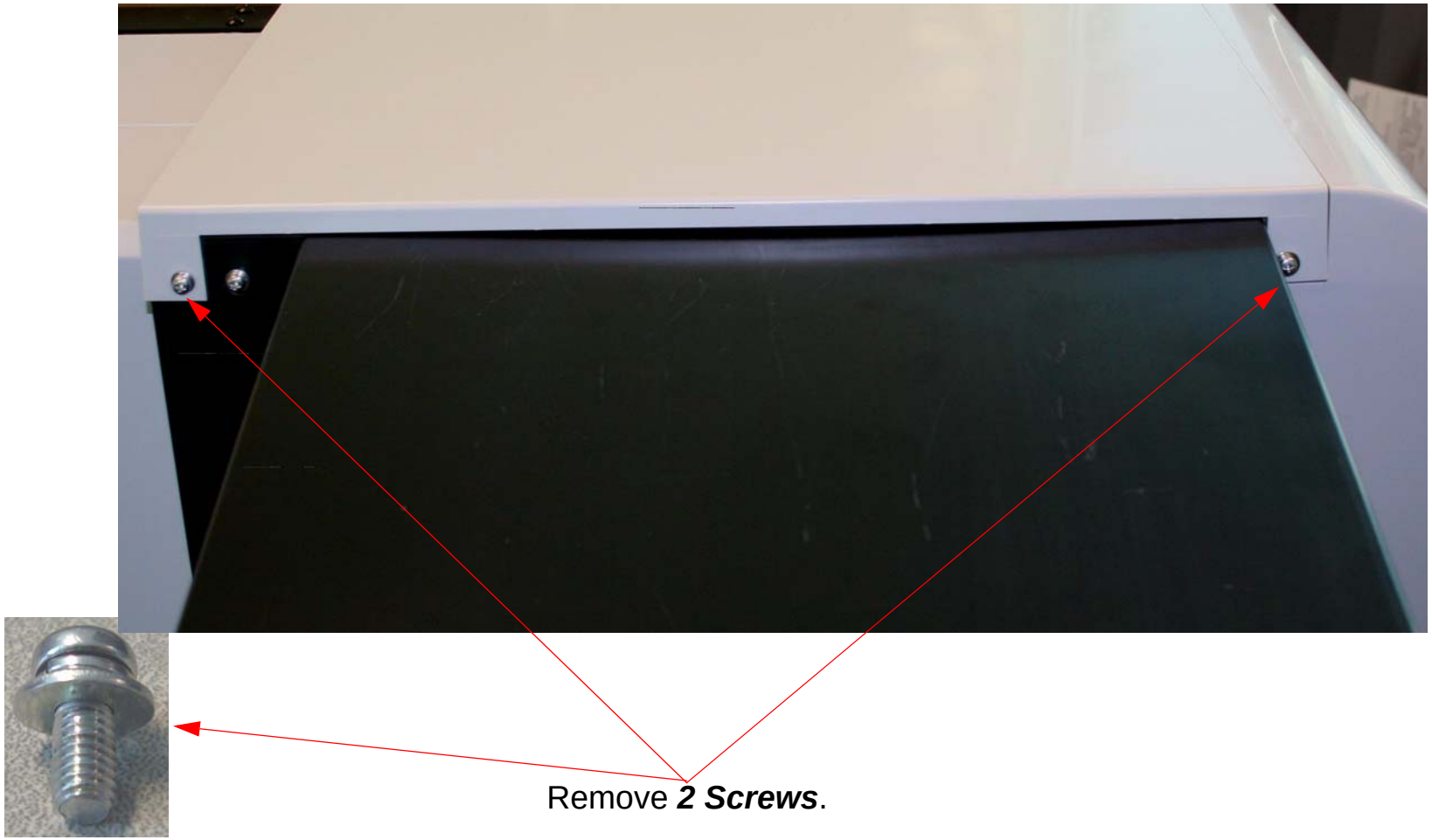
1. Remove ***4 Screws***.

2. Remove ***Sub Board C***.

Board Sub D (Left) Removal

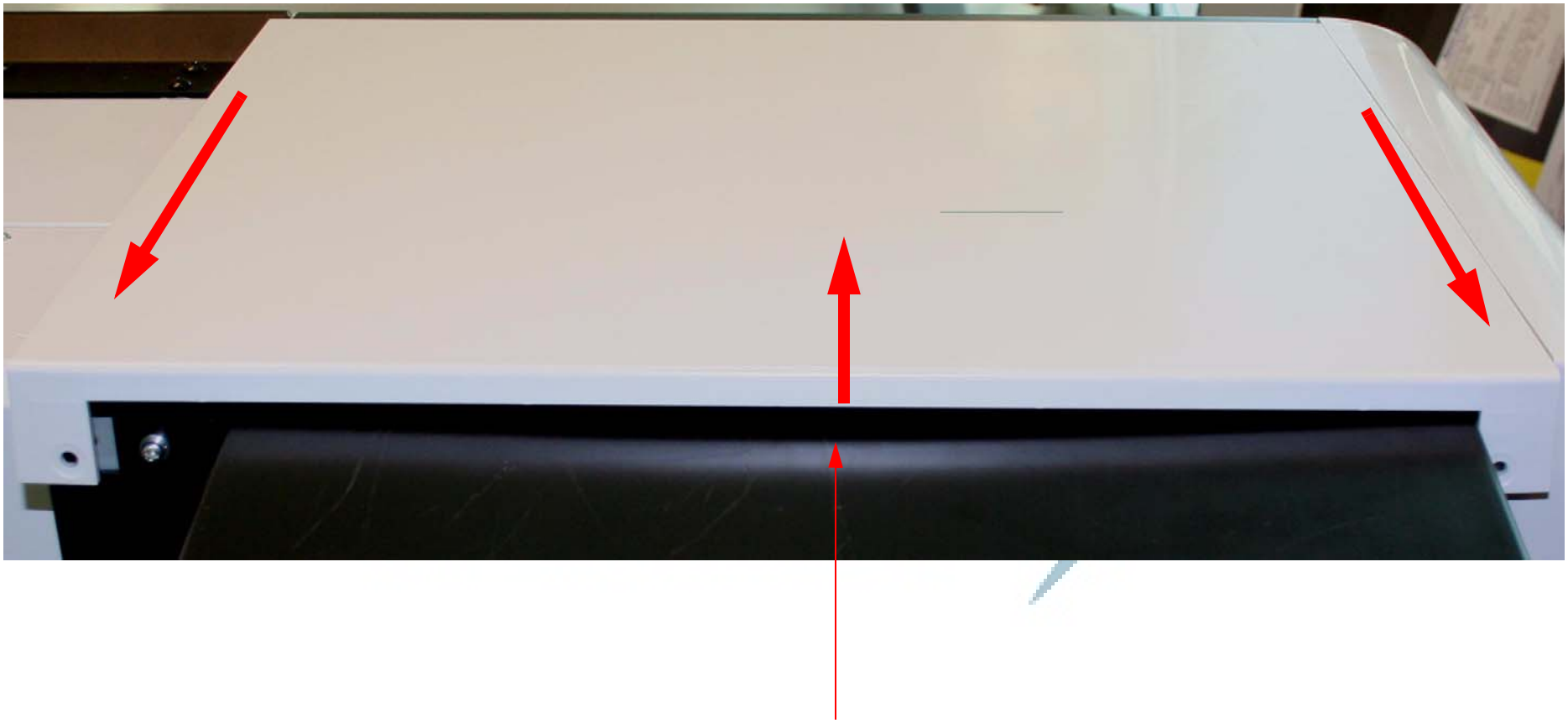
1. Remove ***2 Screws*** that fastens the rear of the ***Top Left Cover*** to the left side of the ***Printer***.

View from the rear of the ***Printer.***



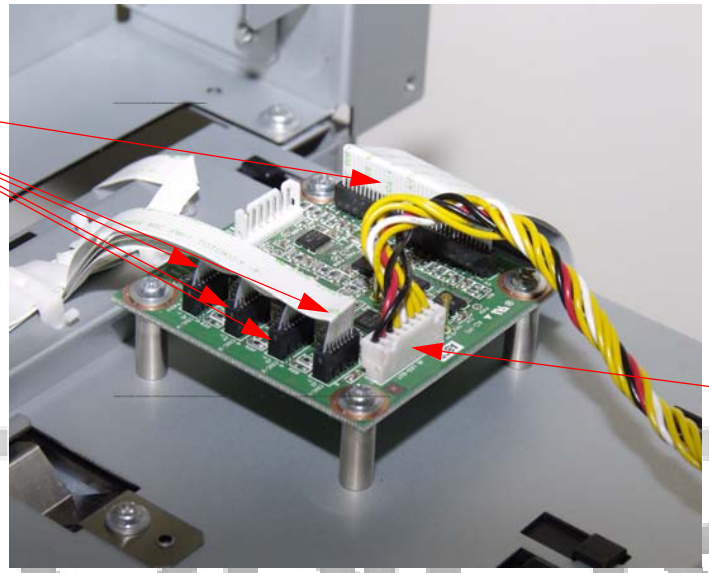
Remove ***2 Screws***.

2. Remove the ***Top Left Cover***.

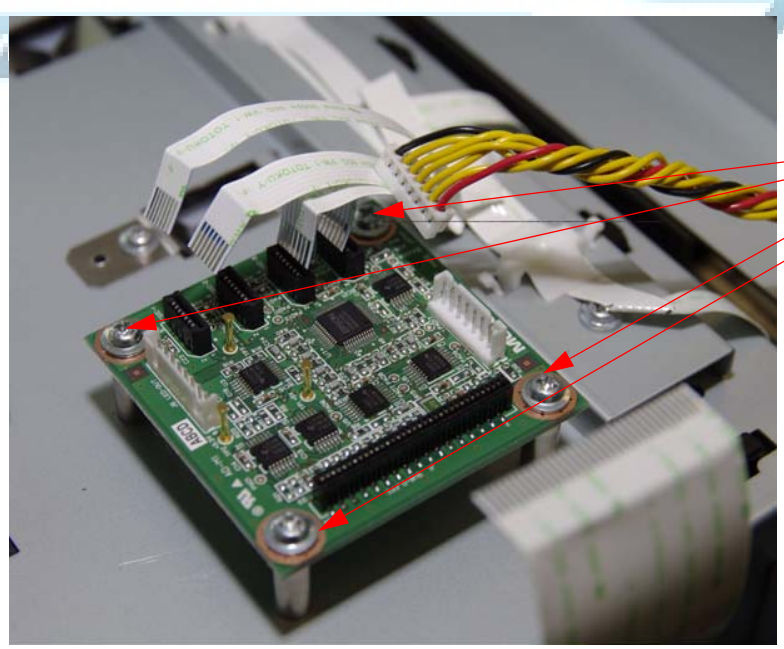


Lift up and back to remove the ***Cover***.

3. Unplug ***5 Foil Cables*** and ***1 Connector***.



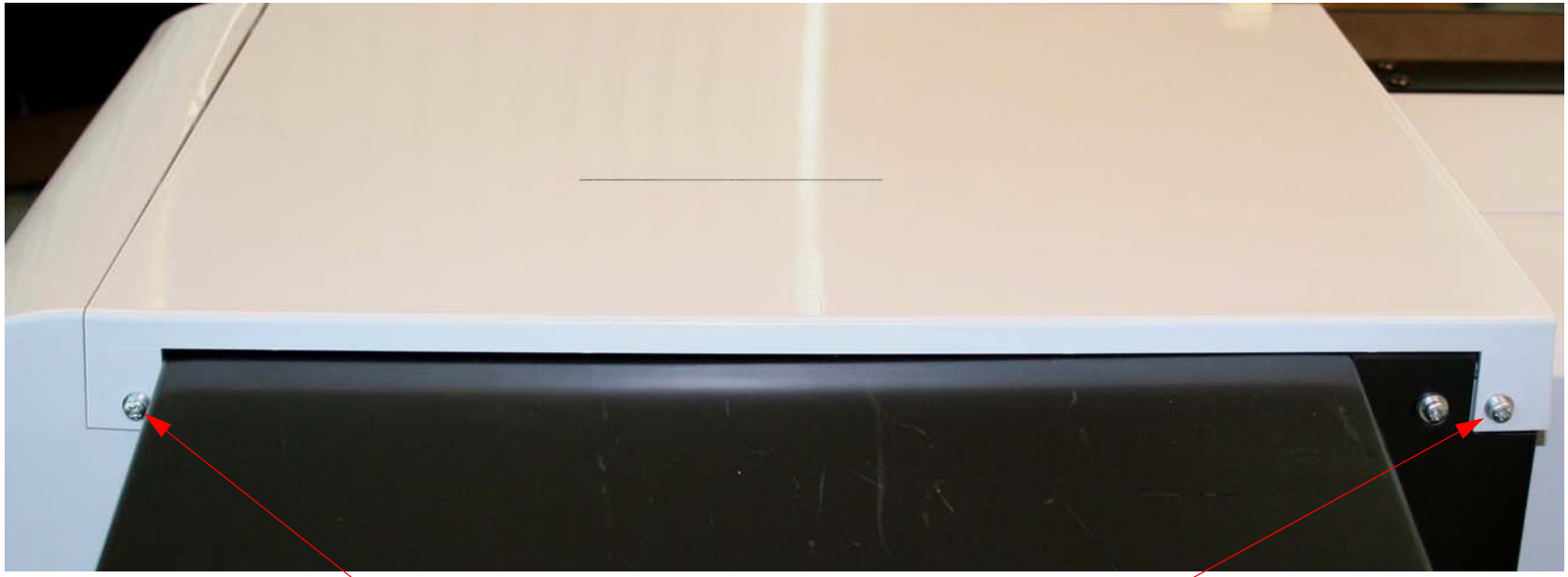
4. Remove ***4 screws*** and remove the ***Sub D Board***



Board Sub D (Right) Removal

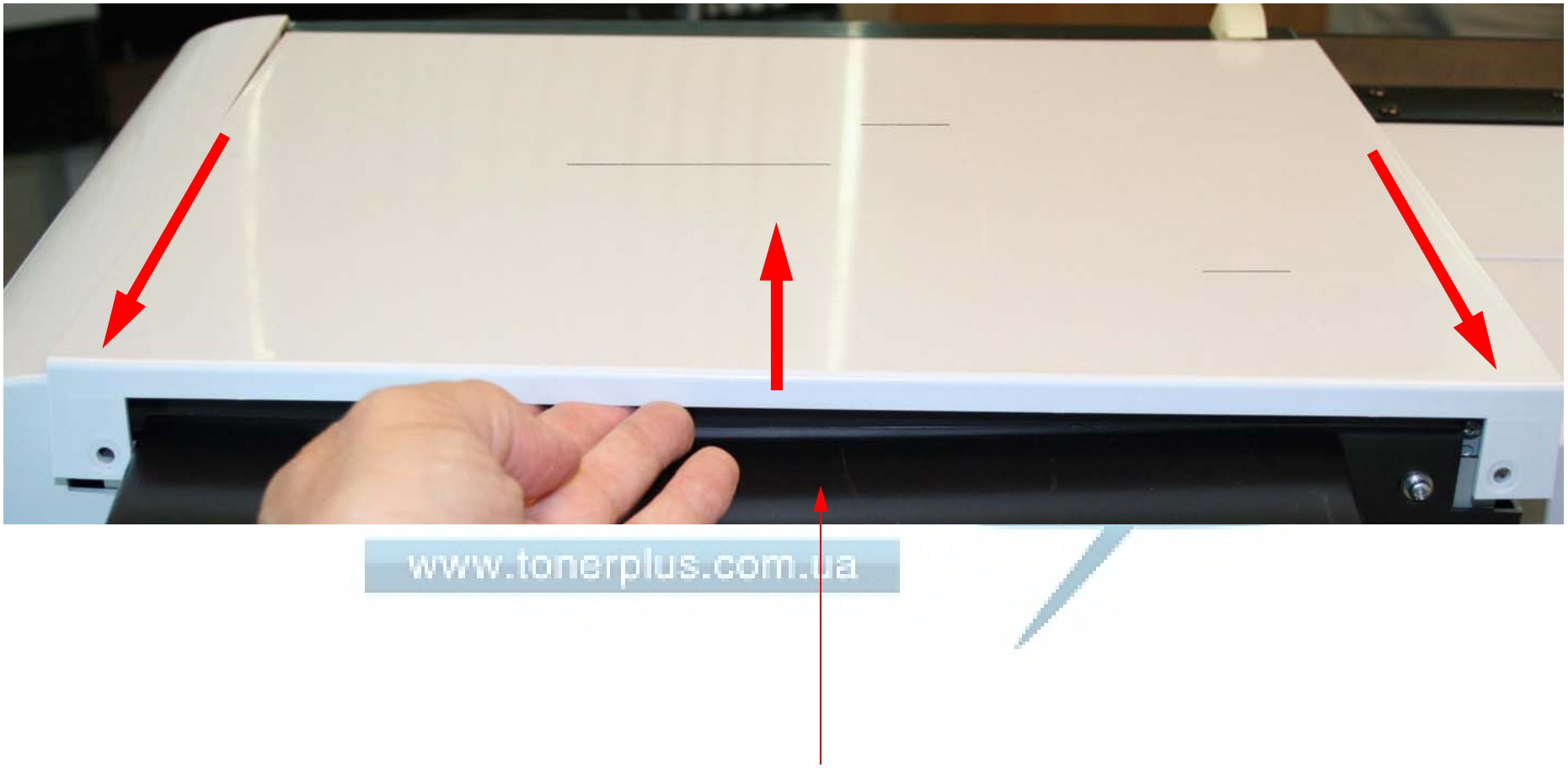
1. Remove ***2 Screws*** that fastens the rear of the ***Top Right Cover*** to the right side of the ***Printer***.

View from the rear of the ***Printer.***



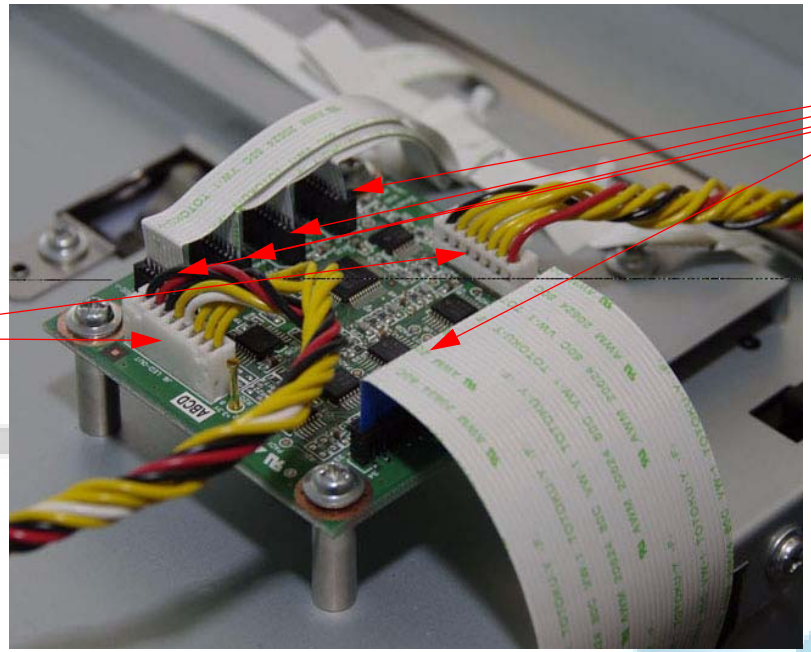
Remove ***2 Screws***.

2. Remove the ***Top Right Cover***.

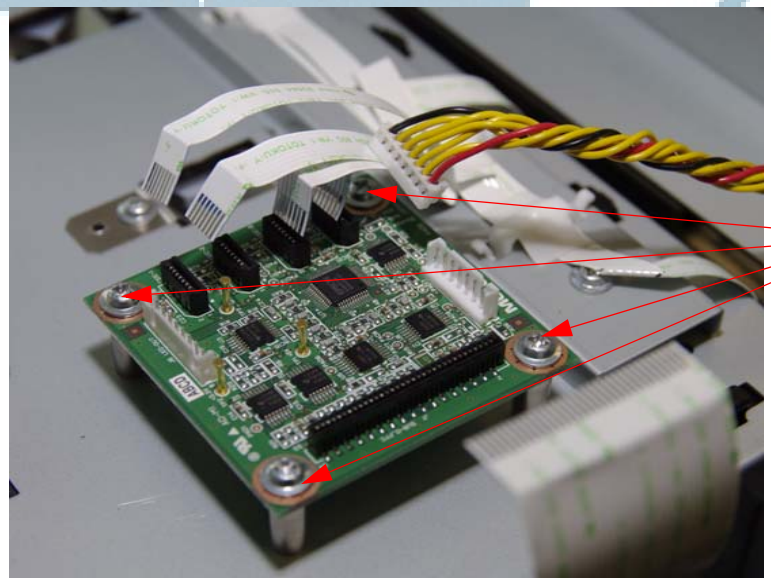


Lift up and back to remove the ***Cover***.

3. Unplug ***5 Foil Cables*** and ***2 Connectors***



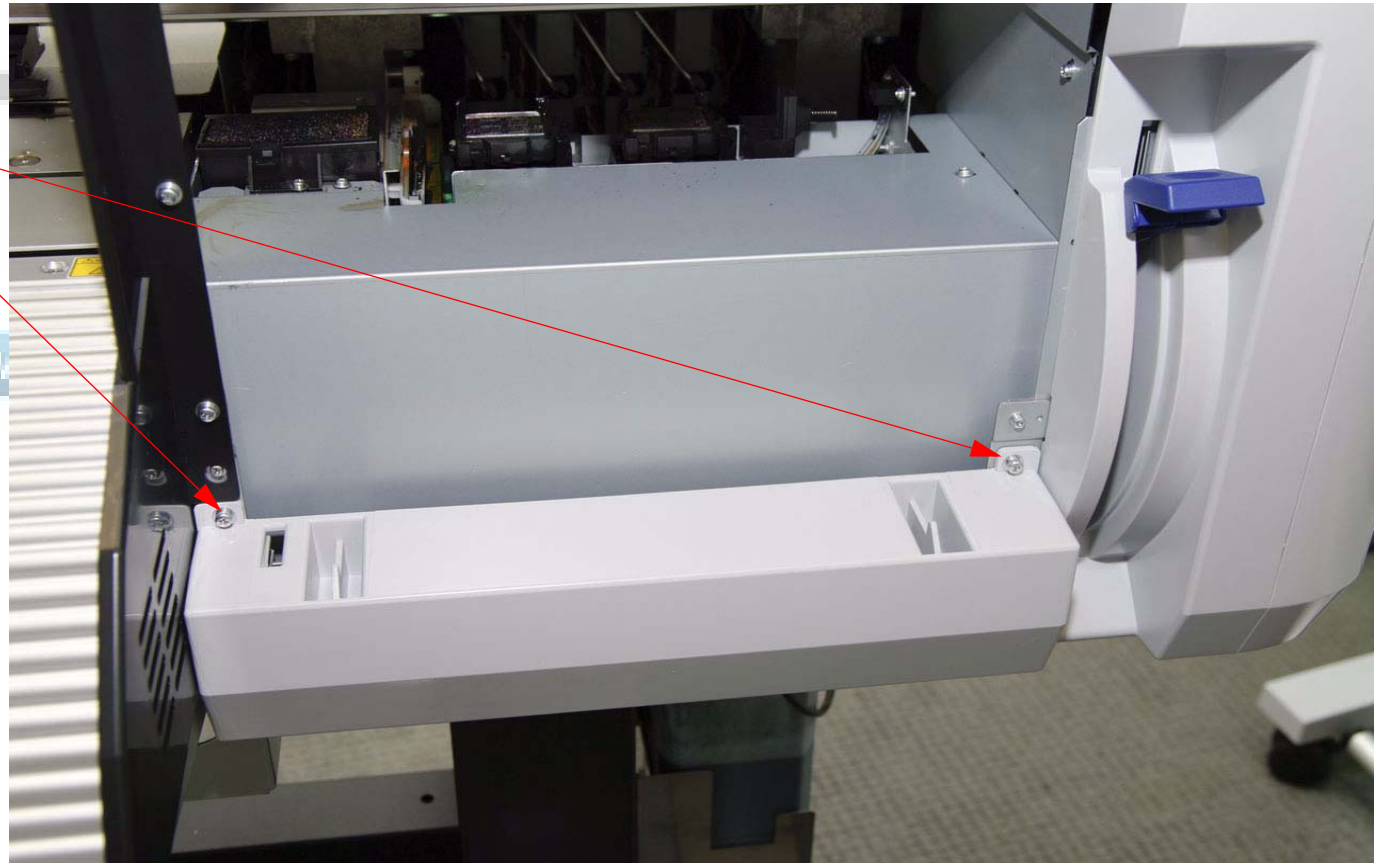
4. Remove ***4 Screws*** to remove the ***Sub D Board.***



Cap Assy Removal

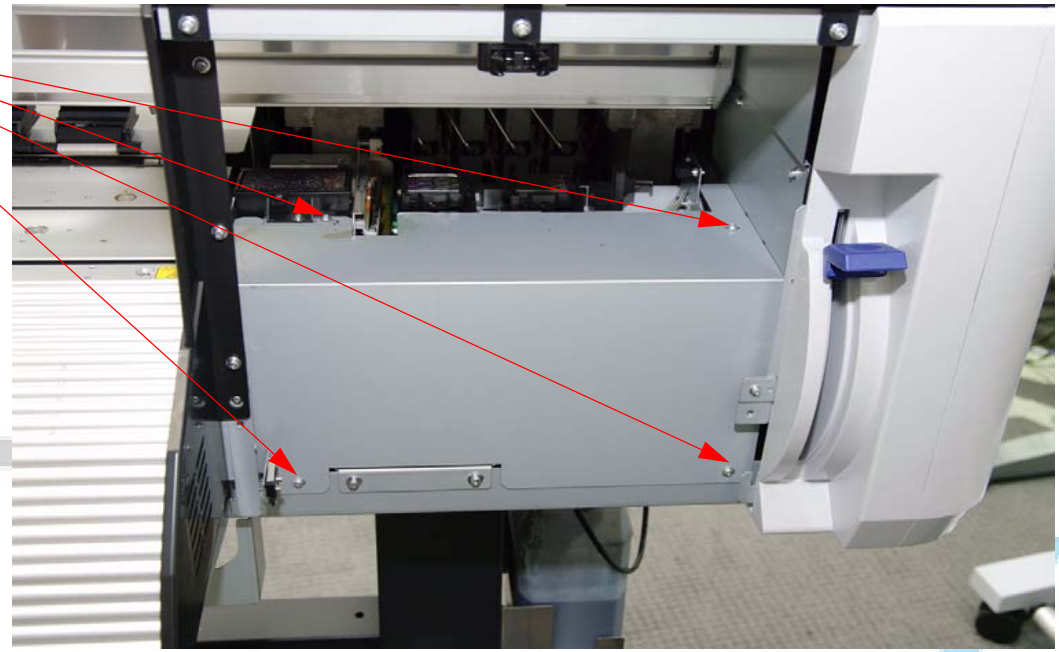
1. Remove the ***Cover (Top Right)***
2. Remove the ***Right Front Door***
3. Remove the ***Right Door Hinge***

2 Screws



4. Remove ***Maintenance Cover***

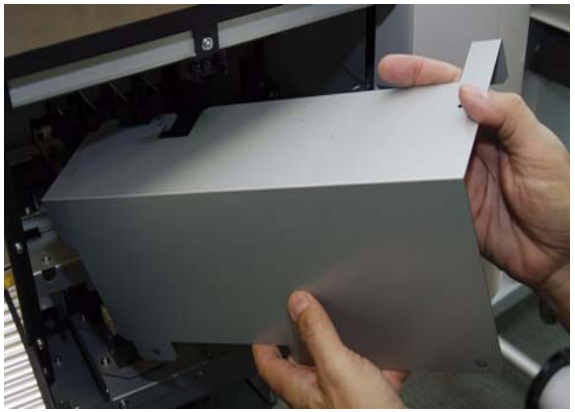
4 Screws



1. Lift Up the ***Maintenance Cover***

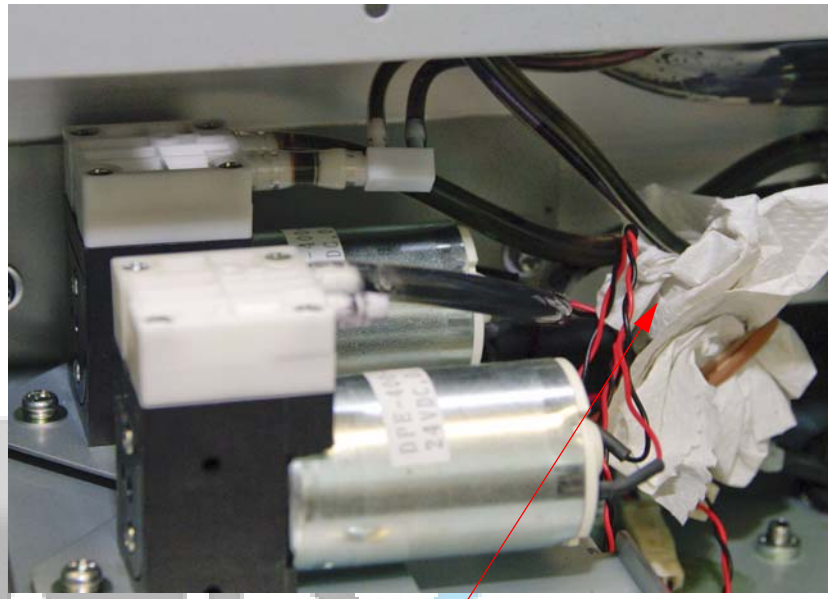
2. Slide the right side out first

3. Slide the ***Maintenance Cover*** out.



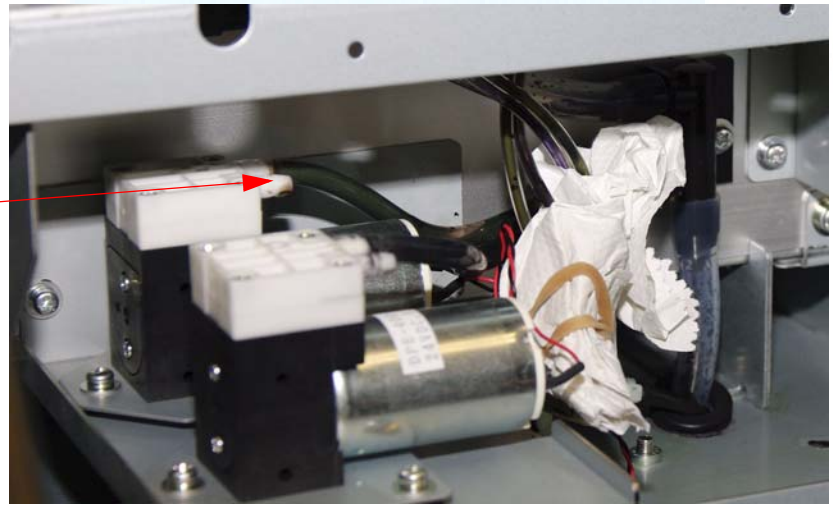
5. Unplug ***Cap Tubing*** from ***Pump Assy***

1. Unplug the ***Tube*** here.



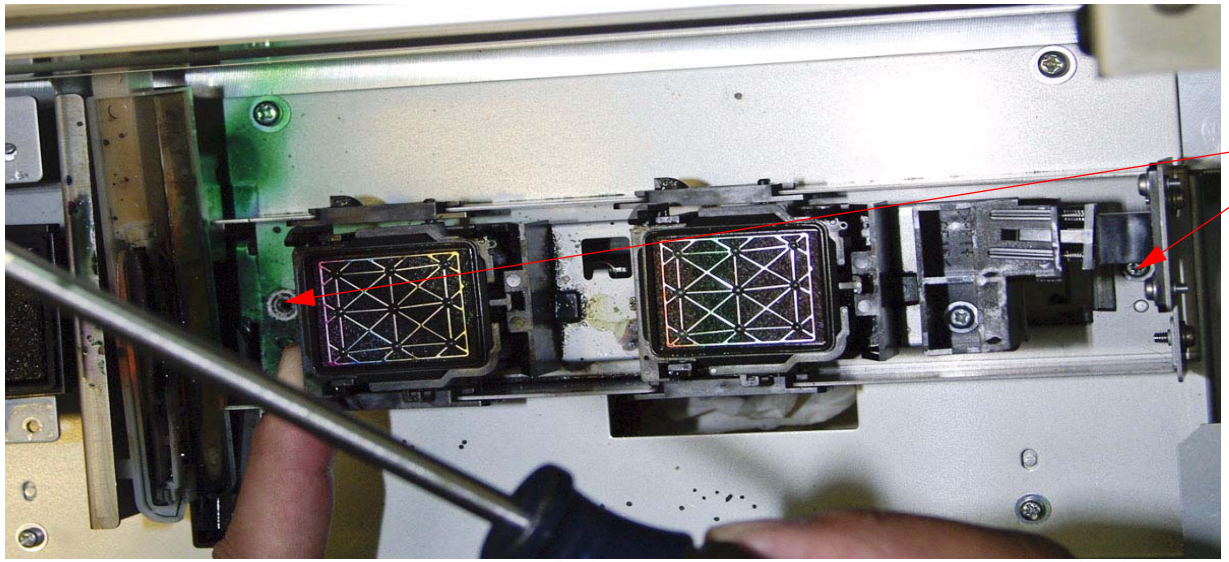
2. Wrap the tubing in paper towel to prevent ink leaks and drips

Remove the other ***Cap Tubing*** as well



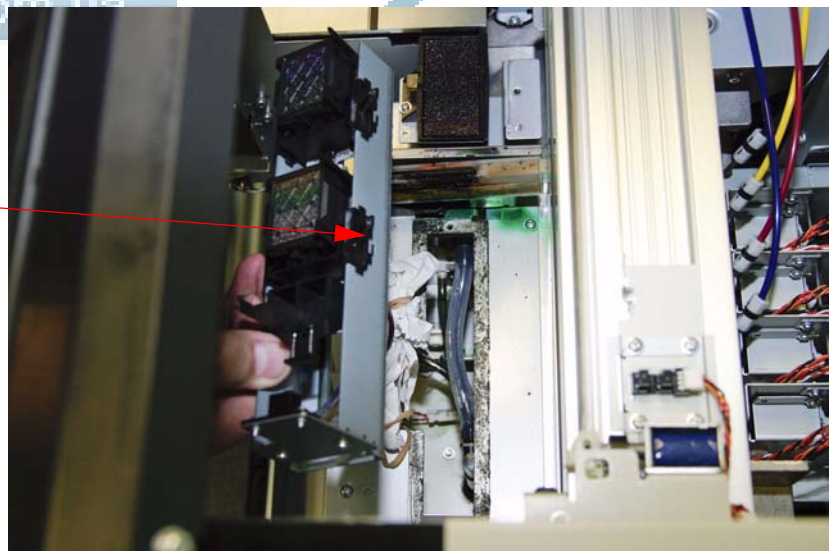
For installation, the Right Cap Tubing goes to the Rear Pump Assy and the Left Cap Tubing goes to the Front Pump Assy.

6. Remove ***Cap Assembly***



Two Screws

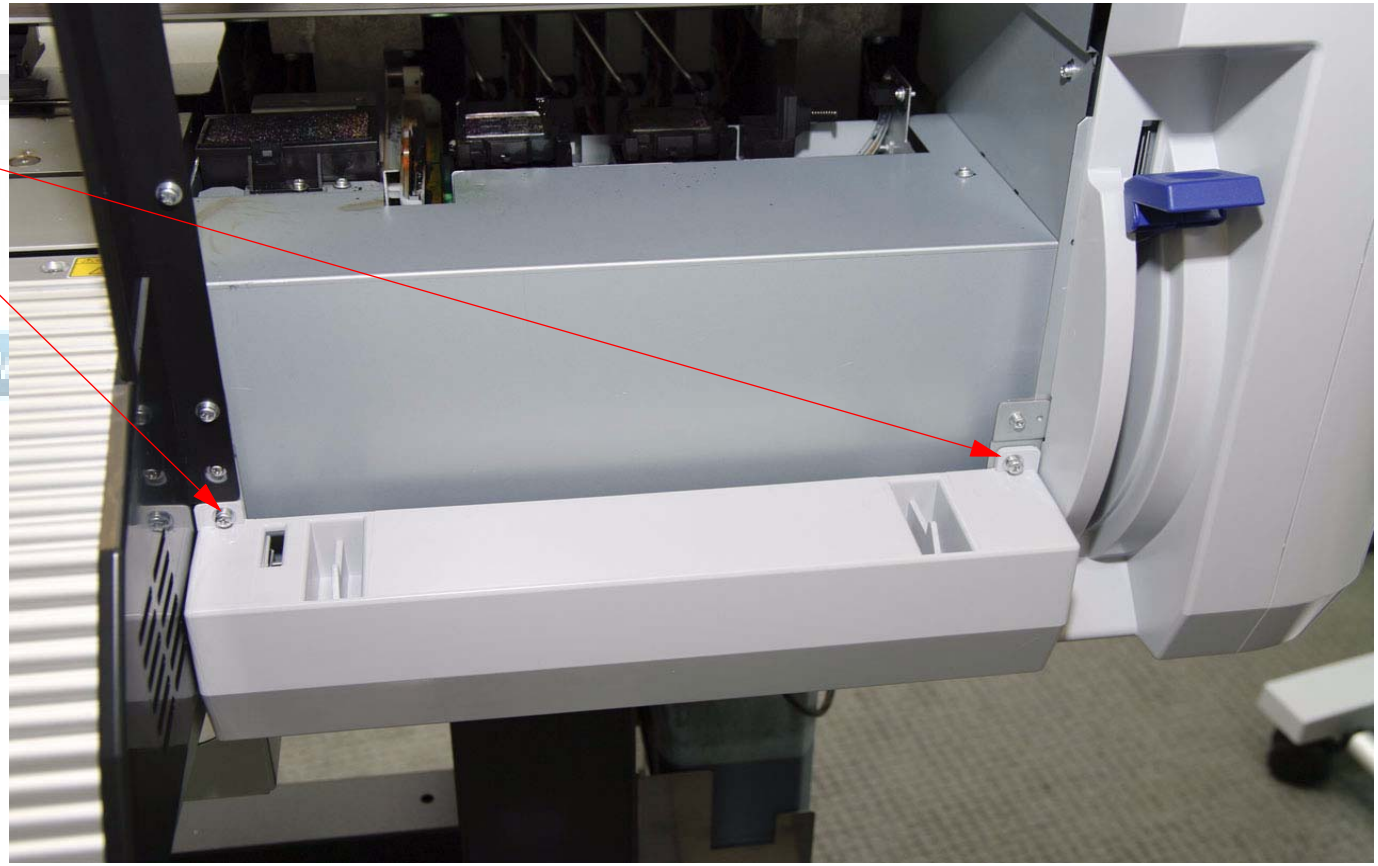
Take out the ***Cap Assembly***



Cleaner Removal

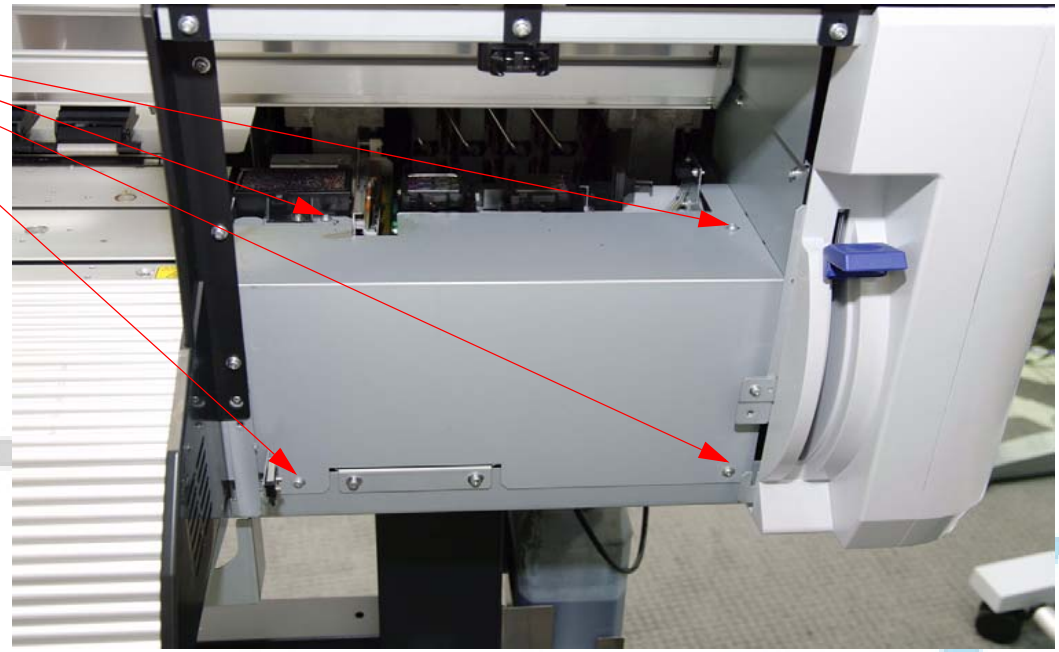
1. Remove the ***Cover (Top Right)***
2. Remove the ***Right Front Door***
3. Remove the ***Right Door Hinge***

2 Screws



4. Remove ***Maintenance Cover***

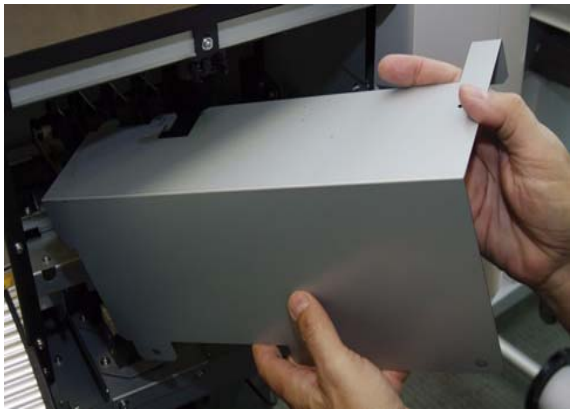
4 Screws



1. Lift Up the ***Maintenance Cover***

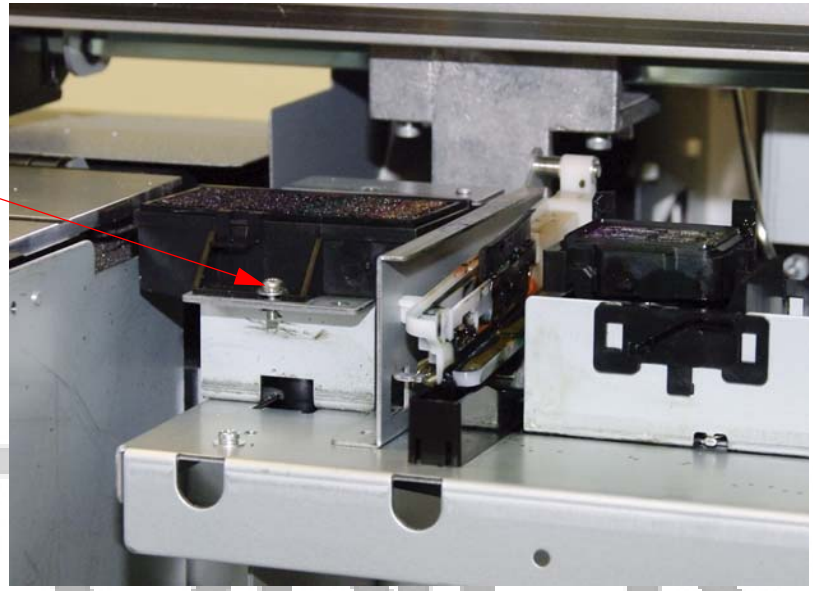
2. Slide the right side out first

3. Slide the ***Maintenance Cover out***.



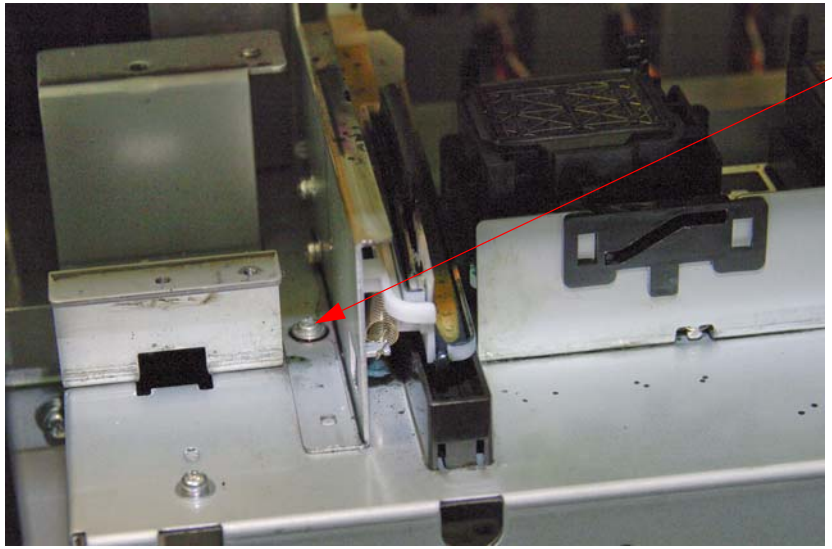
5. Remove ***Flushing Box***

One Screw

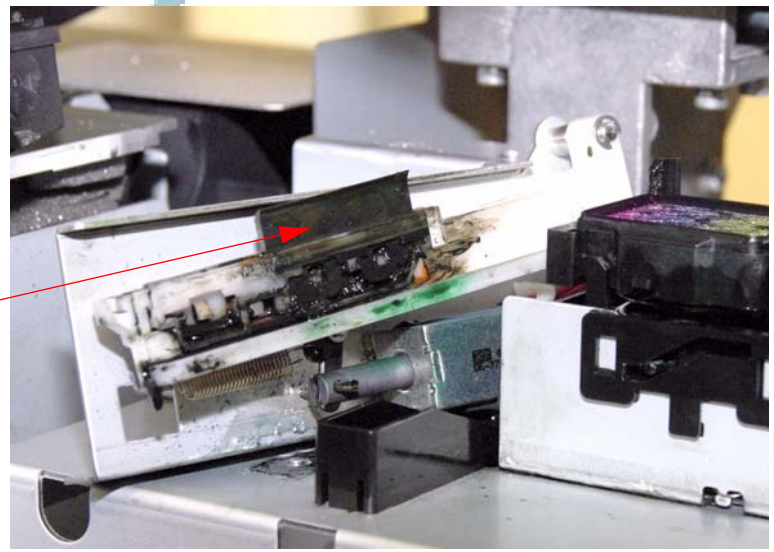


6. Remove ***Cleaner***

One Screw



Slide the assembly out and remove the ***Cleaner***



Cover (Control Panel) Removal

1. Turn off and ***unplug the Printer***.
2. Remove the ***Cover (Top Right)***.
3. Remove ***2 Screws*** that fastens the rear of the ***Control Panel*** to the right side of the ***Printer***.

View from the rear of the ***Printer.***

Remove ***2 Screws***.

4. Remove ***3 Screws*** that fastens the front of the ***Control Panel*** to the ***Printer.***

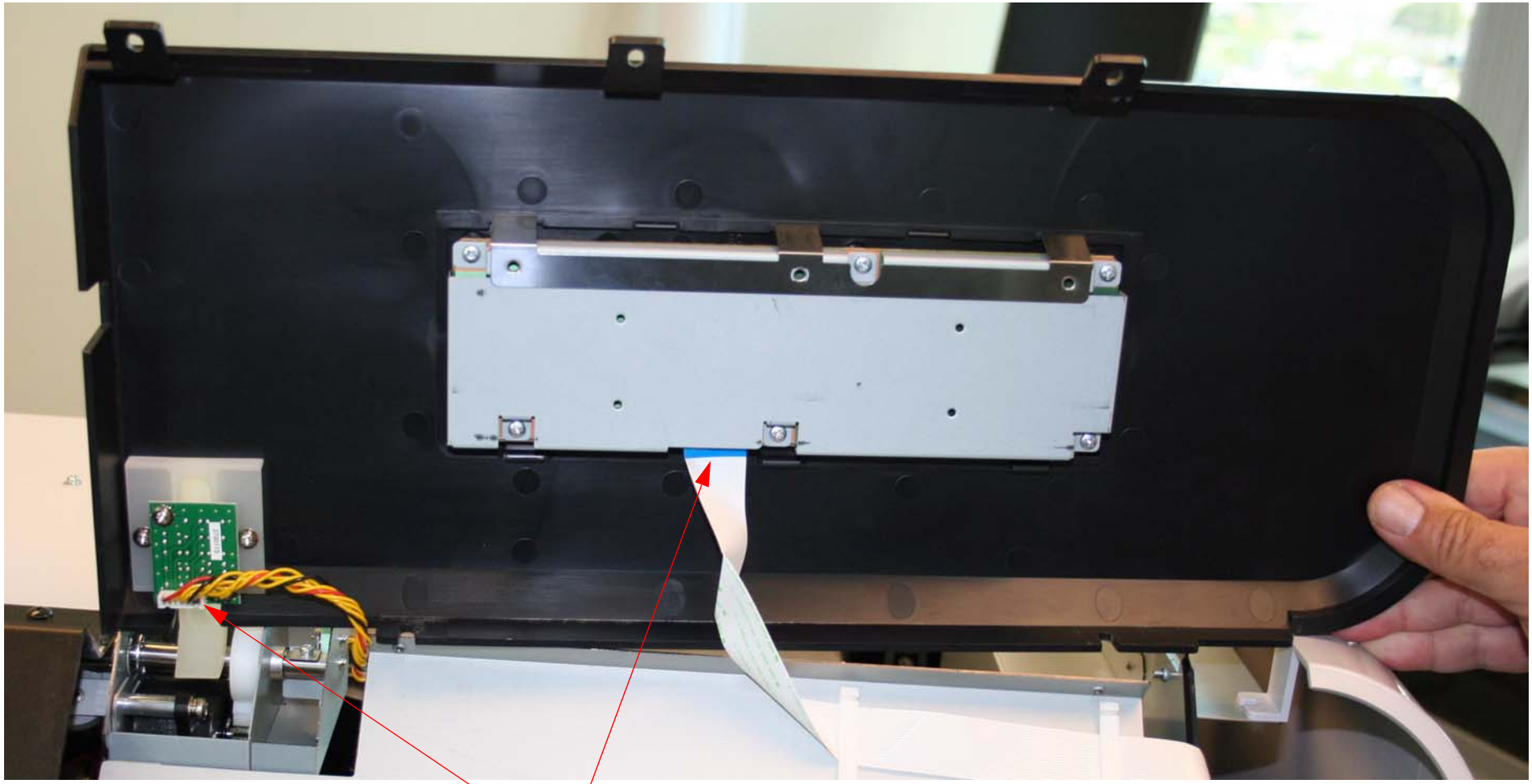
Remove ***3 Screws***.

5. Lift off the ***Control Panel Cover***.

Note: The Control Panel Cover is still connected to the Printer by 2 Cables. Look at the next step before removing the Cover.

Lift up and to the left to remove the ***Cover***.

6. Disconnect ***2 Cables*** and remove the ***Control Panel Cover***.



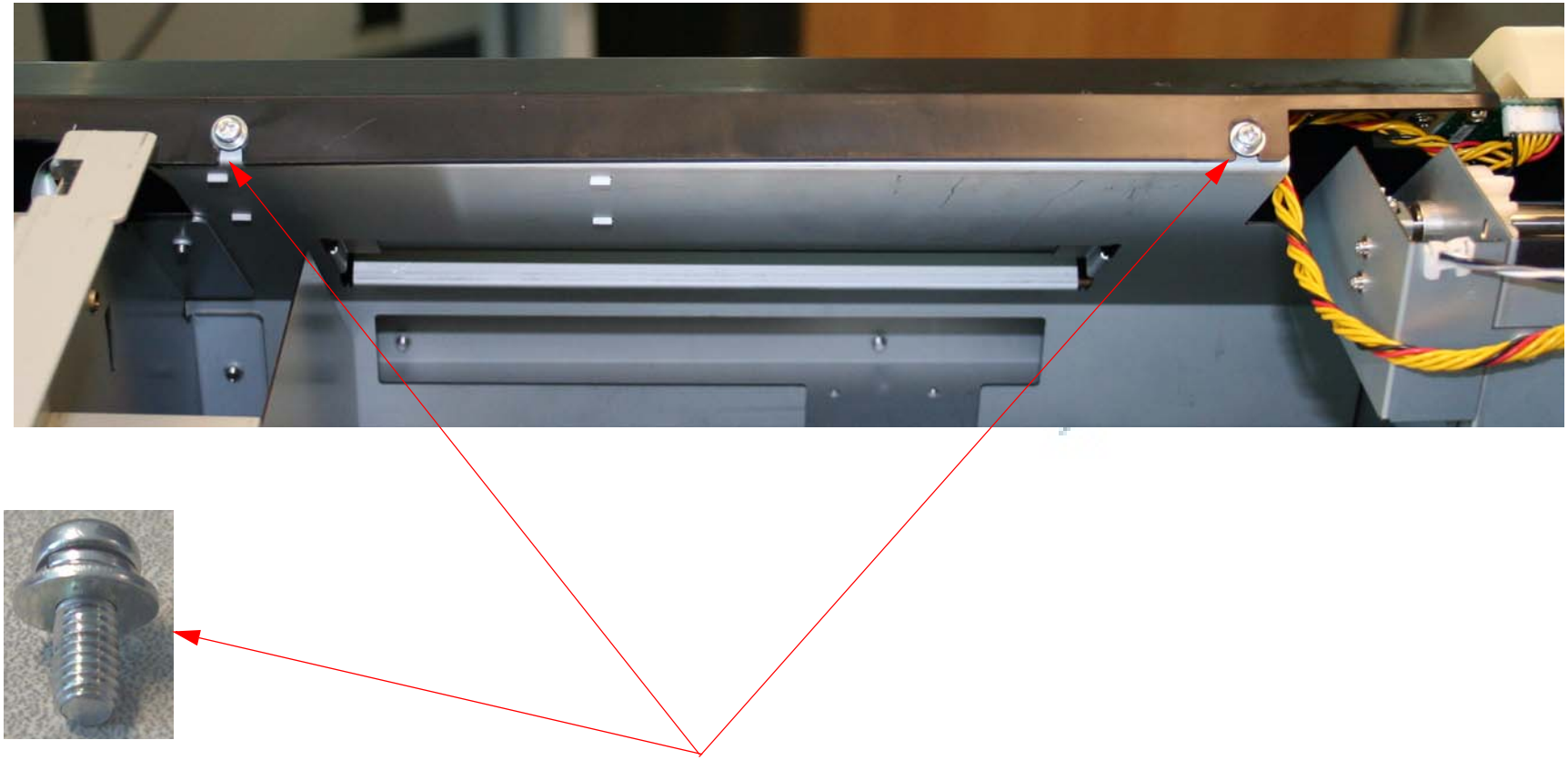
1. Unplug ***2 Cables***.

2. Remove the ***Cover***.

Cover (Front Left) Removal

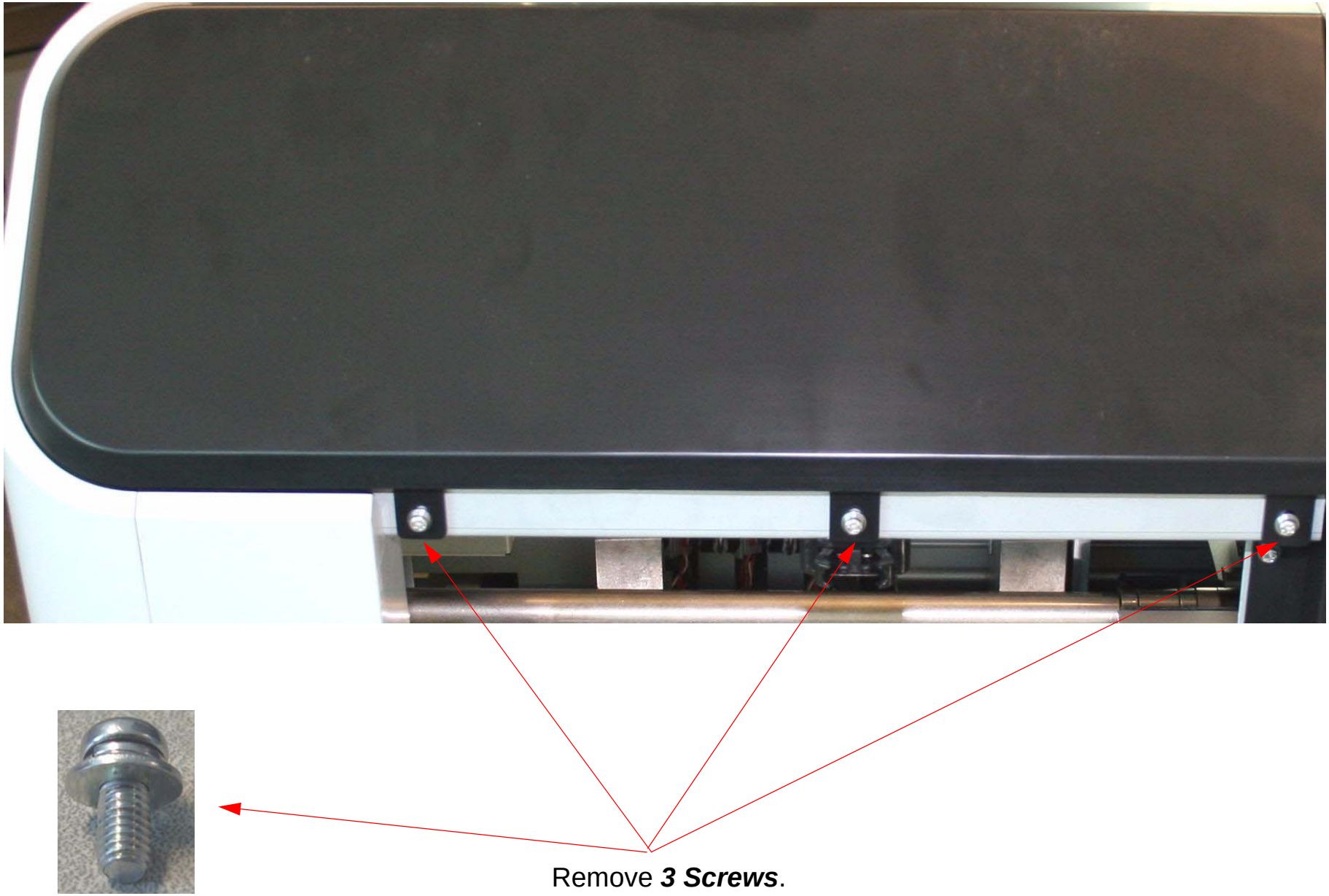
1. Remove the ***Cover (Top Left)***.
2. Remove ***2 Screws*** that fastens the rear of the ***Left Front Cover*** to the ***Printer***.

View from the rear of the ***Printer.***



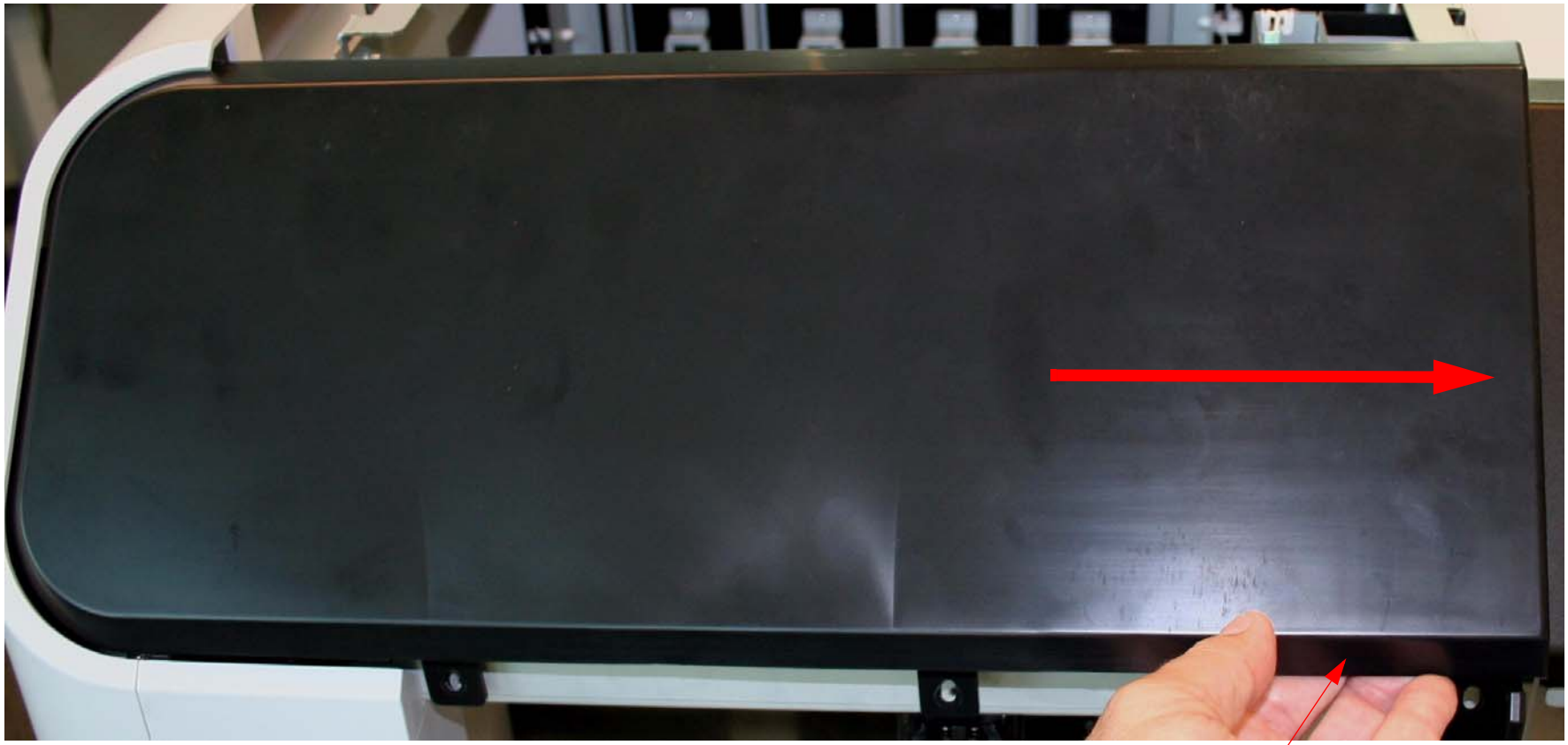
Remove ***2 Screws***.

3. Remove ***3 Screws*** that fastens the front of the ***Left Front Cover*** to the ***Printer.***



Remove ***3 Screws***.

4. Lift off the ***Left Front Cover***.

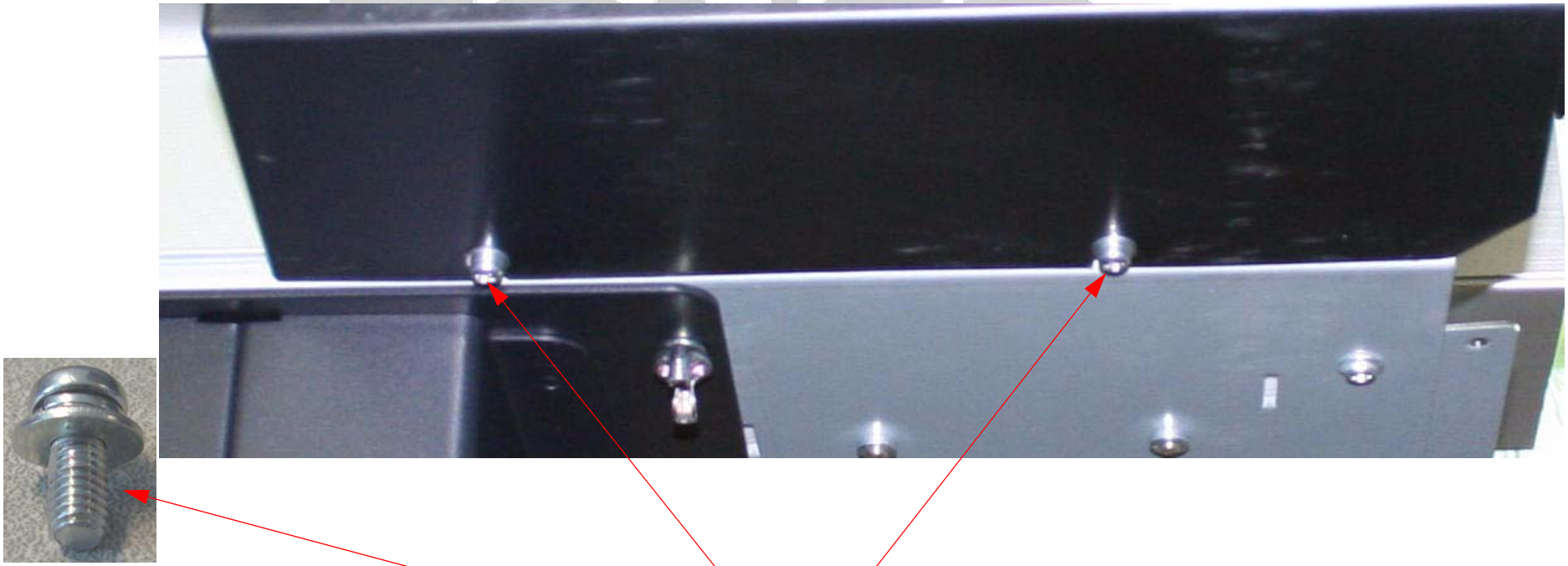


Lift up and to the right to remove the ***Cover***.

Cover (Ink Bay Left) Removal

1. Remove the ***Cover (Top Left)***.
2. Remove the ***Cover (Left Front)***.
3. Remove the ***Cover (Side Left)***.
4. Remove ***2 Screws*** that fastens the bottom of the ***Left Ink Bay Cover*** to the ***Printer.***

View from the bottom of the ***Printer.***



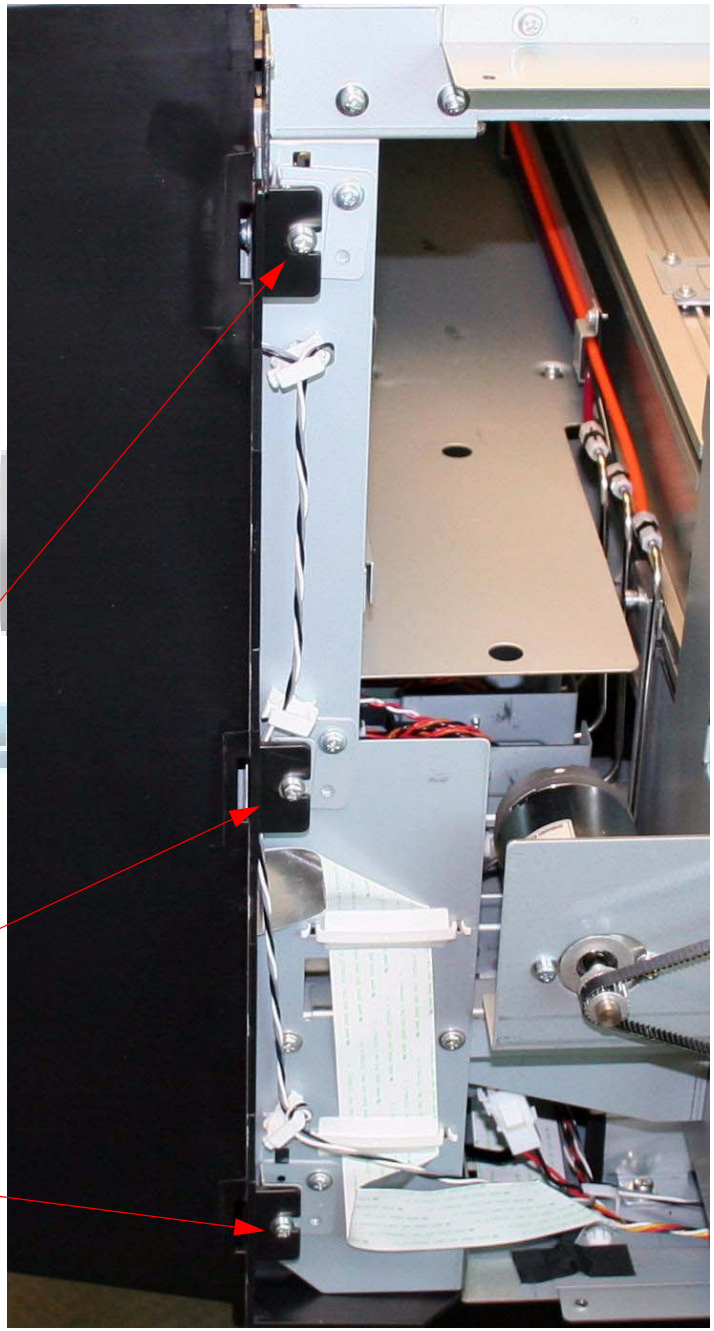
Remove ***2 Screws***.

5. Remove ***1 Screw*** that fastens the ***Left Ink Bay Cover*** to the ***Printer.***

View from the back of the ***Printer.***

Remove ***1 Screw***.

6. Remove ***3 Screws***.



Remove ***3 Screws***.

7. Open the ***Left Ink Bay Door*** and remove the ***Left Ink Bay Cover***.

Note: Opening the Ink Bay Door is necessary to ensure that the Latch is not damaged when the Ink Bay Cover is removed.

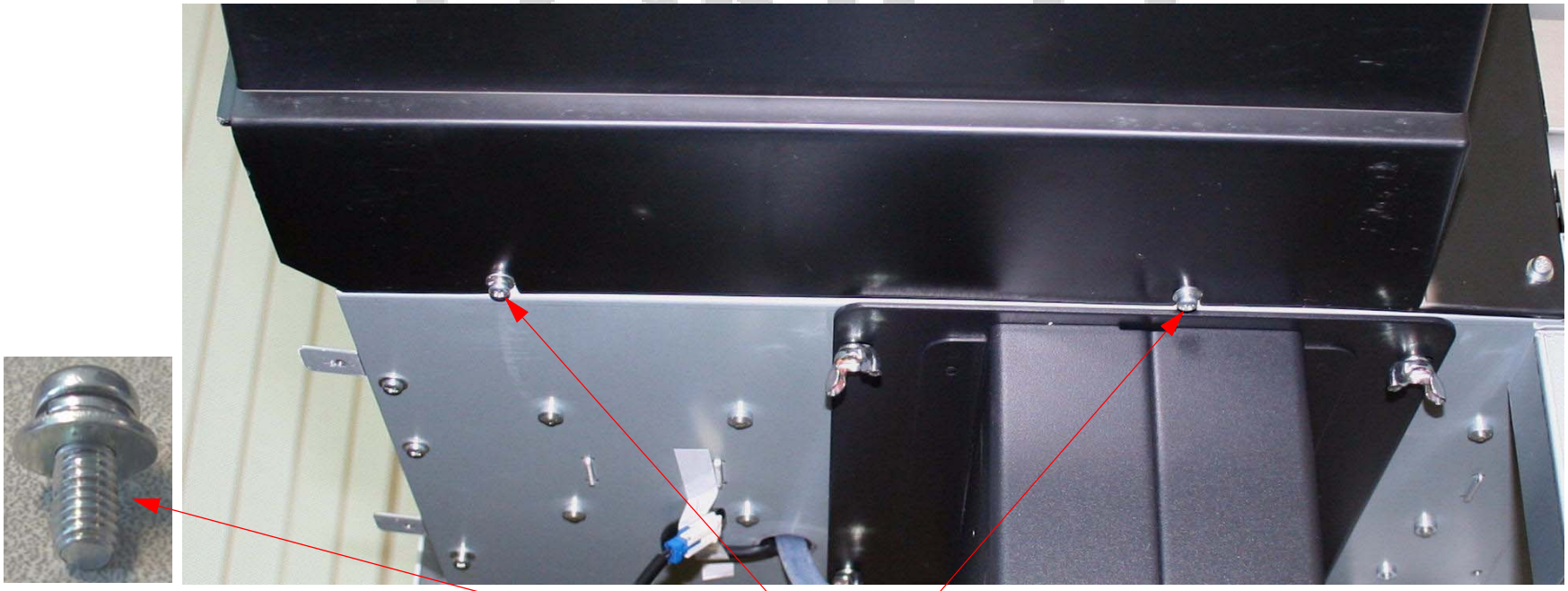
1. Open the ***Left Ink Bay Door***.

2. Remove the ***Cover***.

Cover (Ink Bay Right) Removal

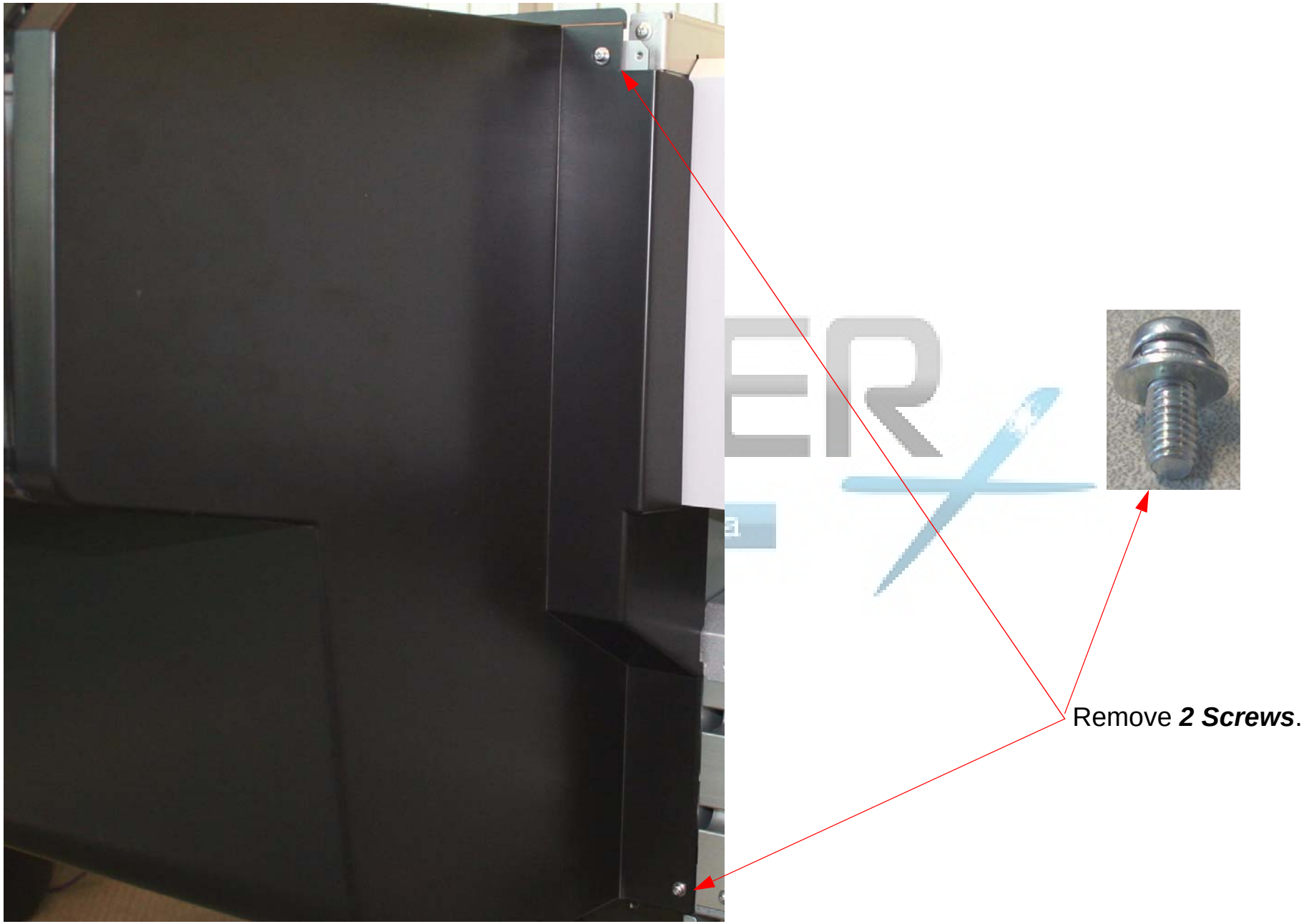
1. Remove the ***Cover (Top Right)***.
2. Remove the ***Cover (Control Panel)***.
3. Remove the ***Cover (Side Right)***.
4. Remove ***2 Screws*** that fastens the bottom of the ***Right Ink Bay Cover*** to the ***Printer.***

View from the bottom of the ***Printer.***

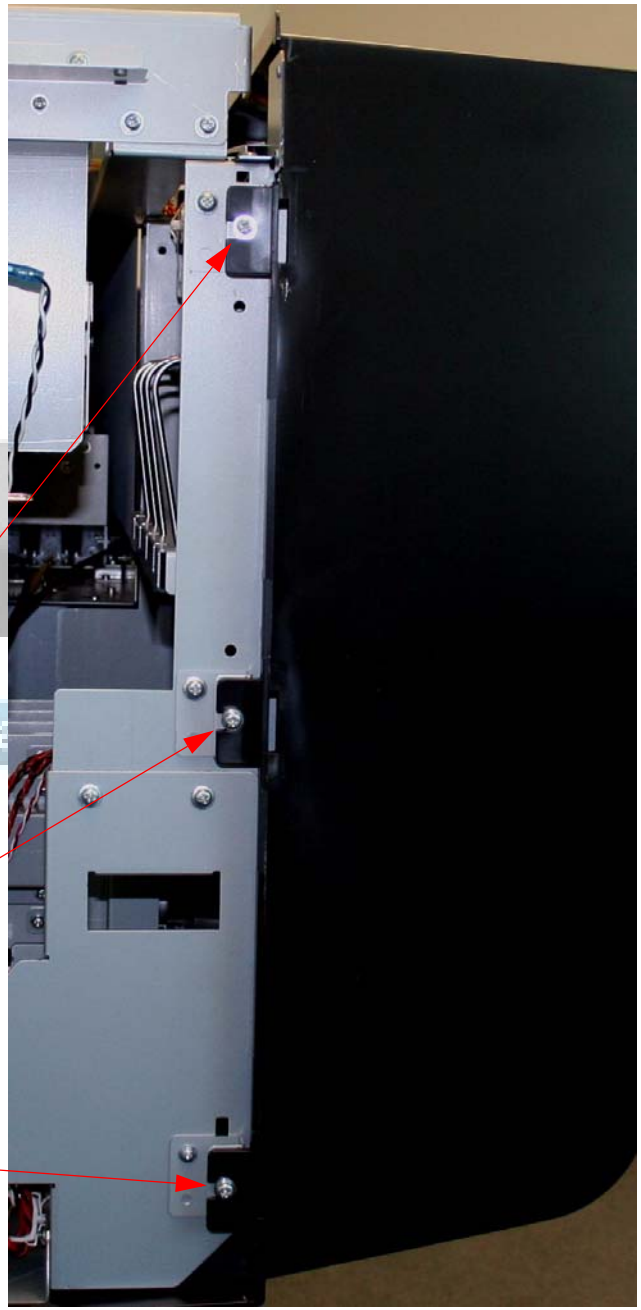


Remove ***2 Screws***.

5. Remove ***2 Screws*** that fastens the ***Right Ink Bay Cover*** to the ***Printer.***



6. Remove ***3 Screws***.



1. Remove ***3 Screws***.

2. Remove the ***Cover***.

7. Open the ***Right Ink Bay Door*** and remove the ***Right Ink Bay Cover***.

Note: Opening the Ink Bay Door is necessary to ensure that the Latch is not damaged when the Ink Bay Cover is removed.

1. Open the ***Right Ink Bay Door***.

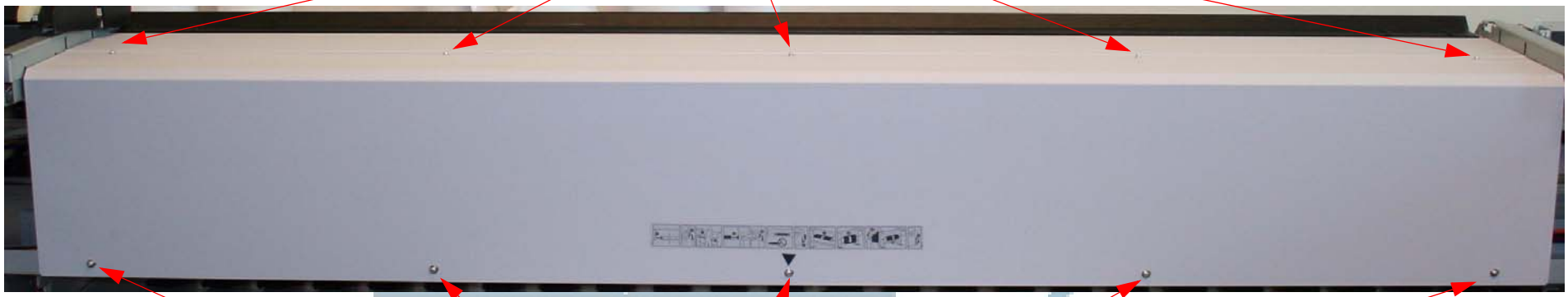
2. Remove the ***Cover***.

Cover (Rear) Removal

1. Remove ***10 Screws,*** and remove the ***Rear Cover.***

View from the rear of the ***Printer.***

1. Remove ***5 Screws***.



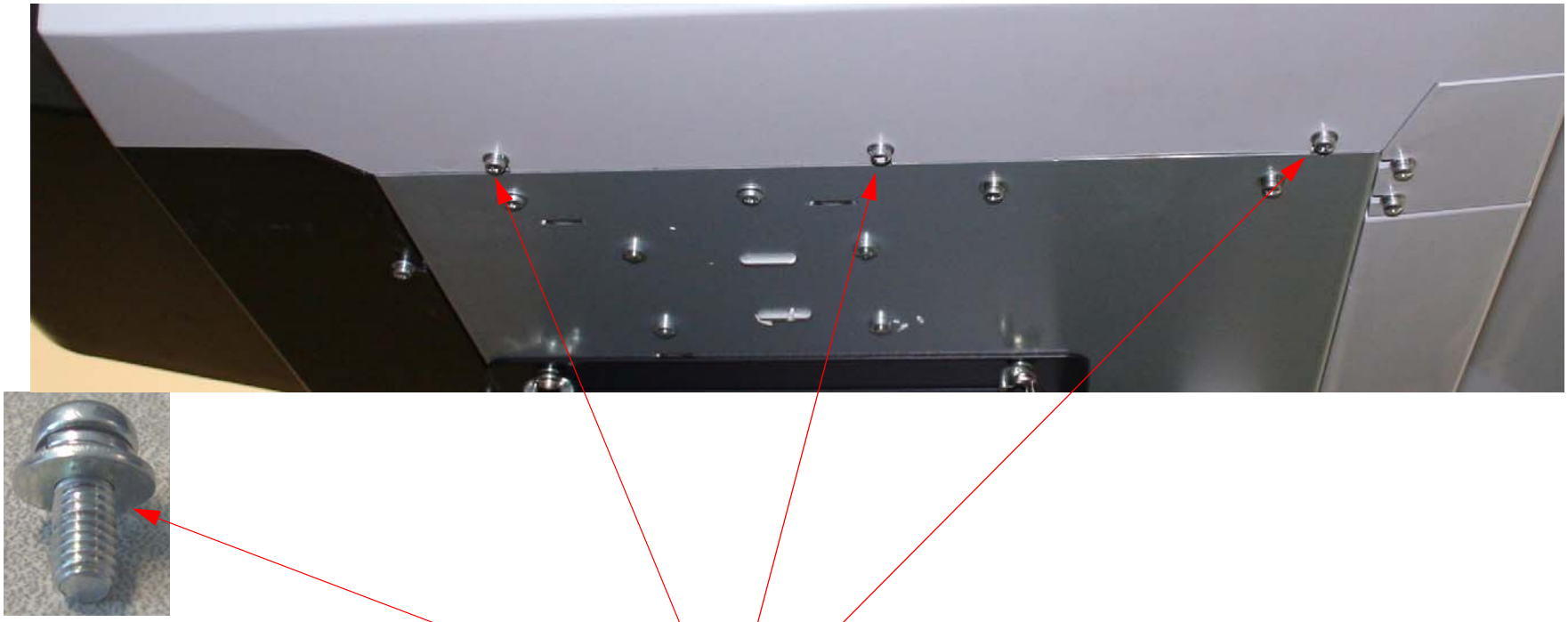
2. Remove ***5 Screws***.

3. Remove the ***Cover***.

Cover (Side Left) Removal

1. Remove the ***Cover (Top Left)***.
2. Remove the ***Cover (Left Front)***.
3. Remove ***3 Screws*** that fastens the bottom of the ***Left Side Cover*** to the ***Printer.***

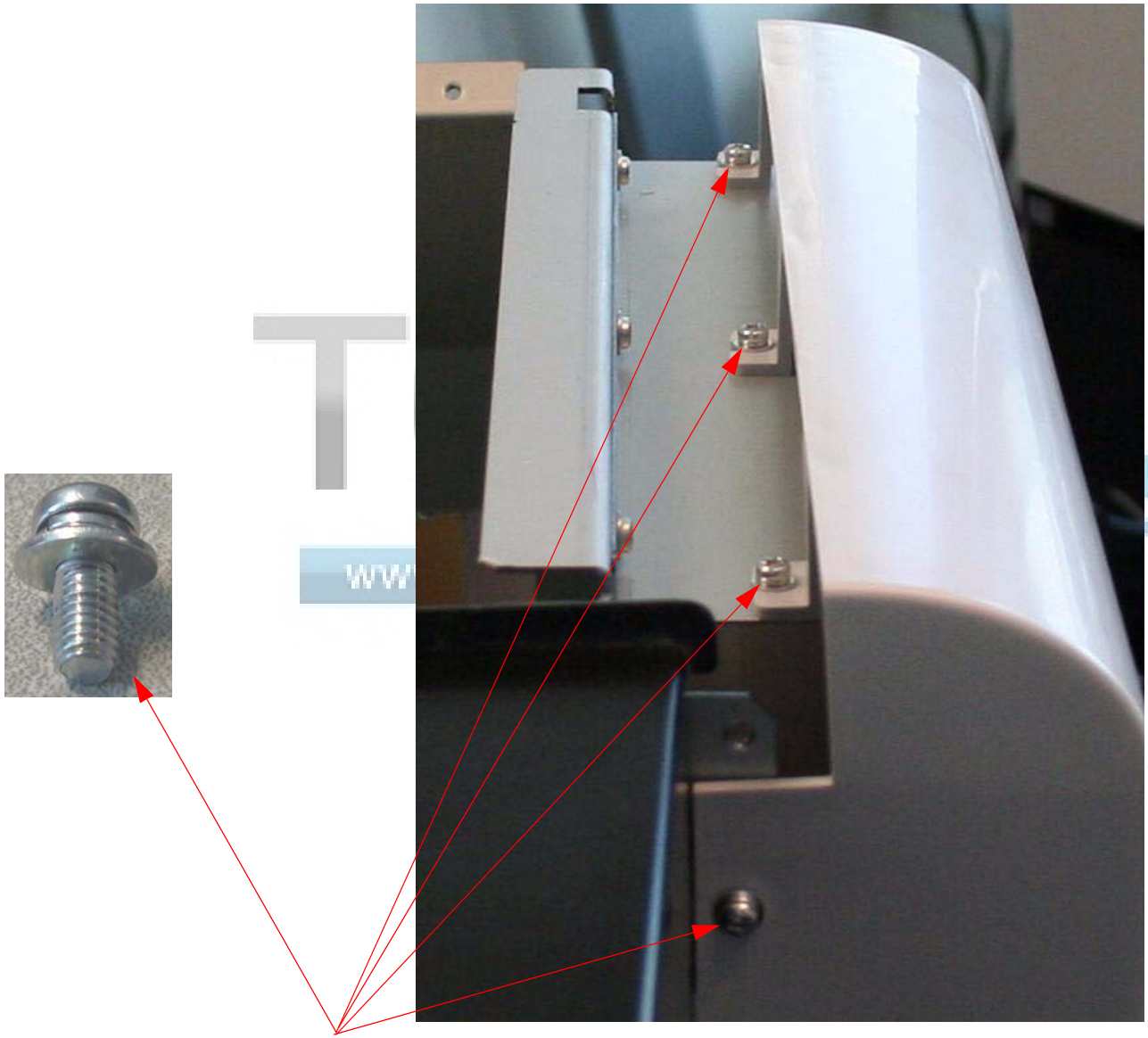
View from the bottom of the ***Printer.***



Remove ***3 Screws***.

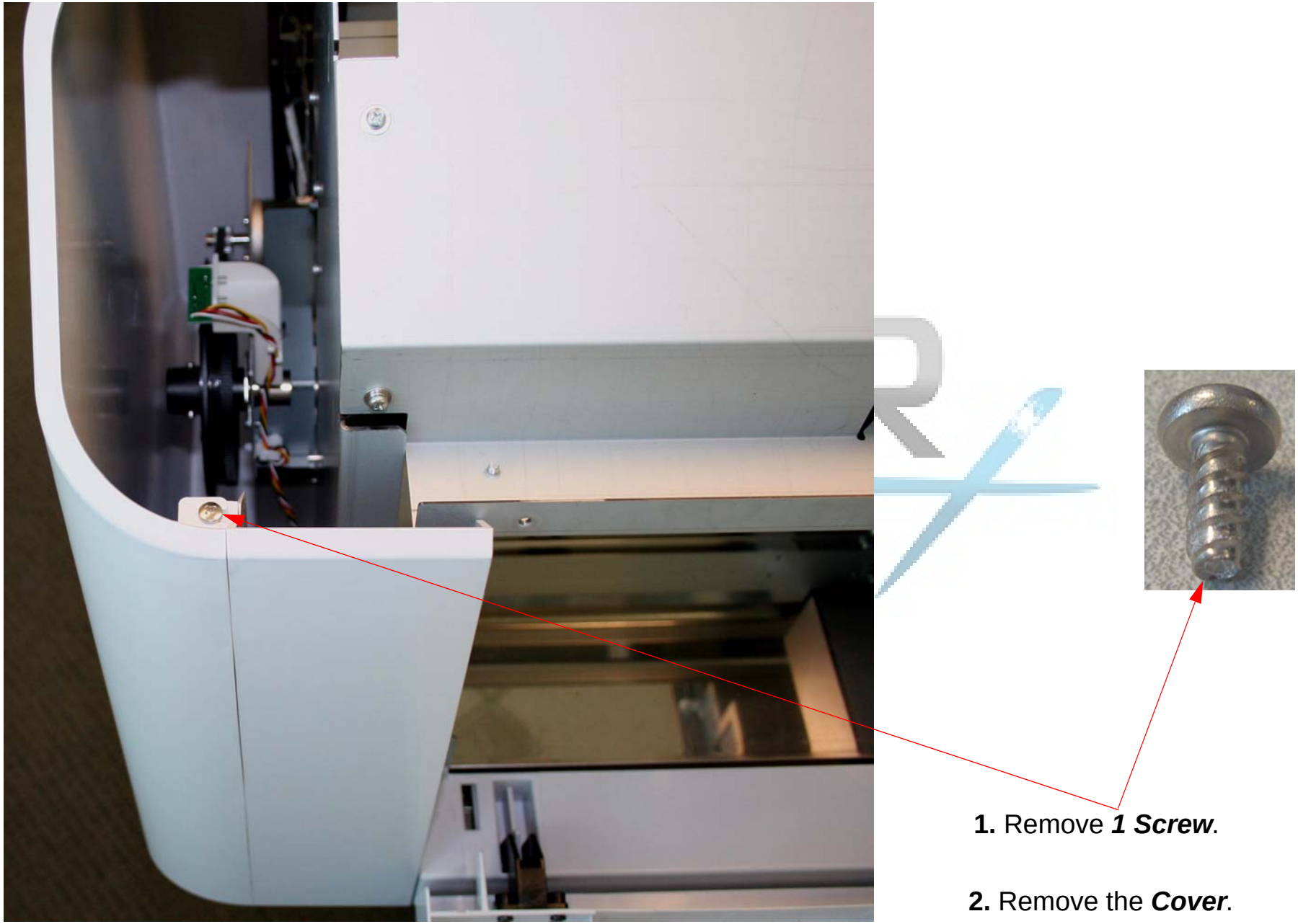
4. Remove ***4 Screws*** that fasten the ***Left Side Cover*** to the ***Printer.***

View from the back of the ***Printer.***



Remove ***4 Screws***.

5. Remove ***1 Screw***, and then the ***Left Side Cover***.



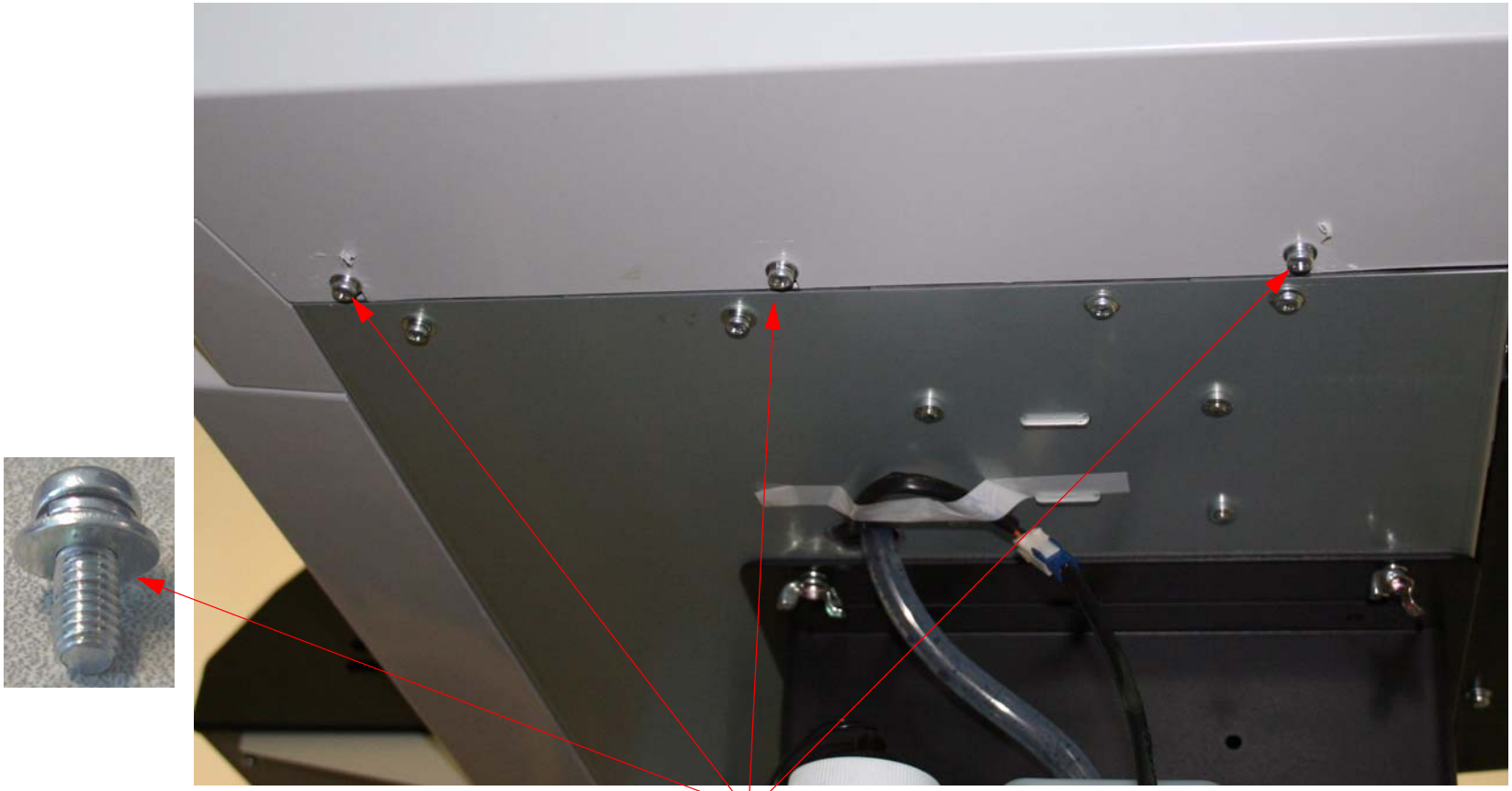
1. Remove ***1 Screw***.

2. Remove the ***Cover***.

Cover (Side Right) Removal

1. Remove the ***Cover (Top Right)***.
2. Remove the ***Cover (Control Panel)***.
3. Remove ***3 Screws*** that fastens the bottom of the ***Right Side Cover*** to the ***Printer***.

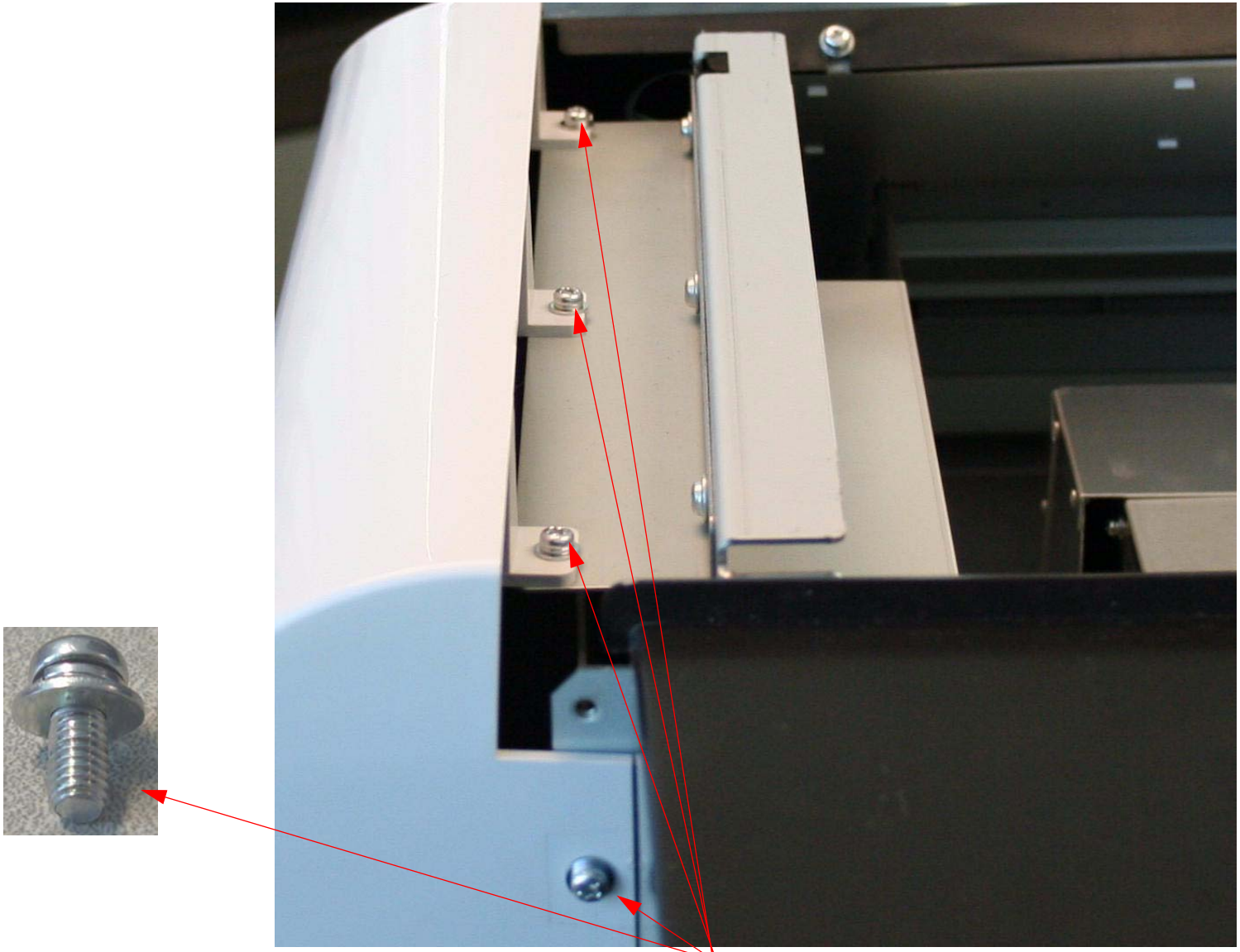
View from the bottom of the ***Printer.***



Remove ***3 Screws***.

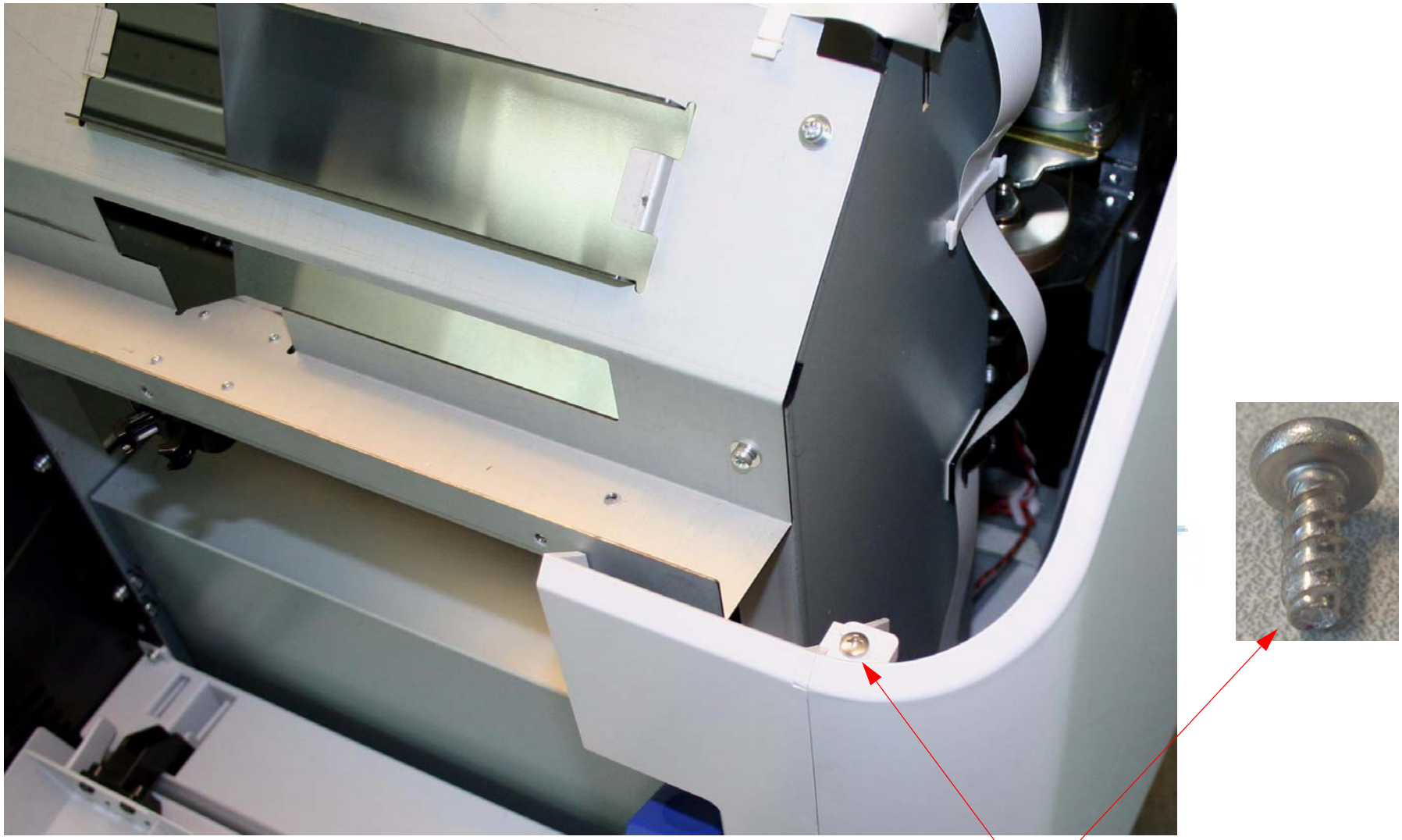
4. Remove ***4 Screws*** that fasten the ***Right Side Cover*** to the ***Printer.***

View from the back of the ***Printer.***



Remove ***4 Screws***.

5. Remove ***1 Screw***, and then the ***Right Side Cover***.



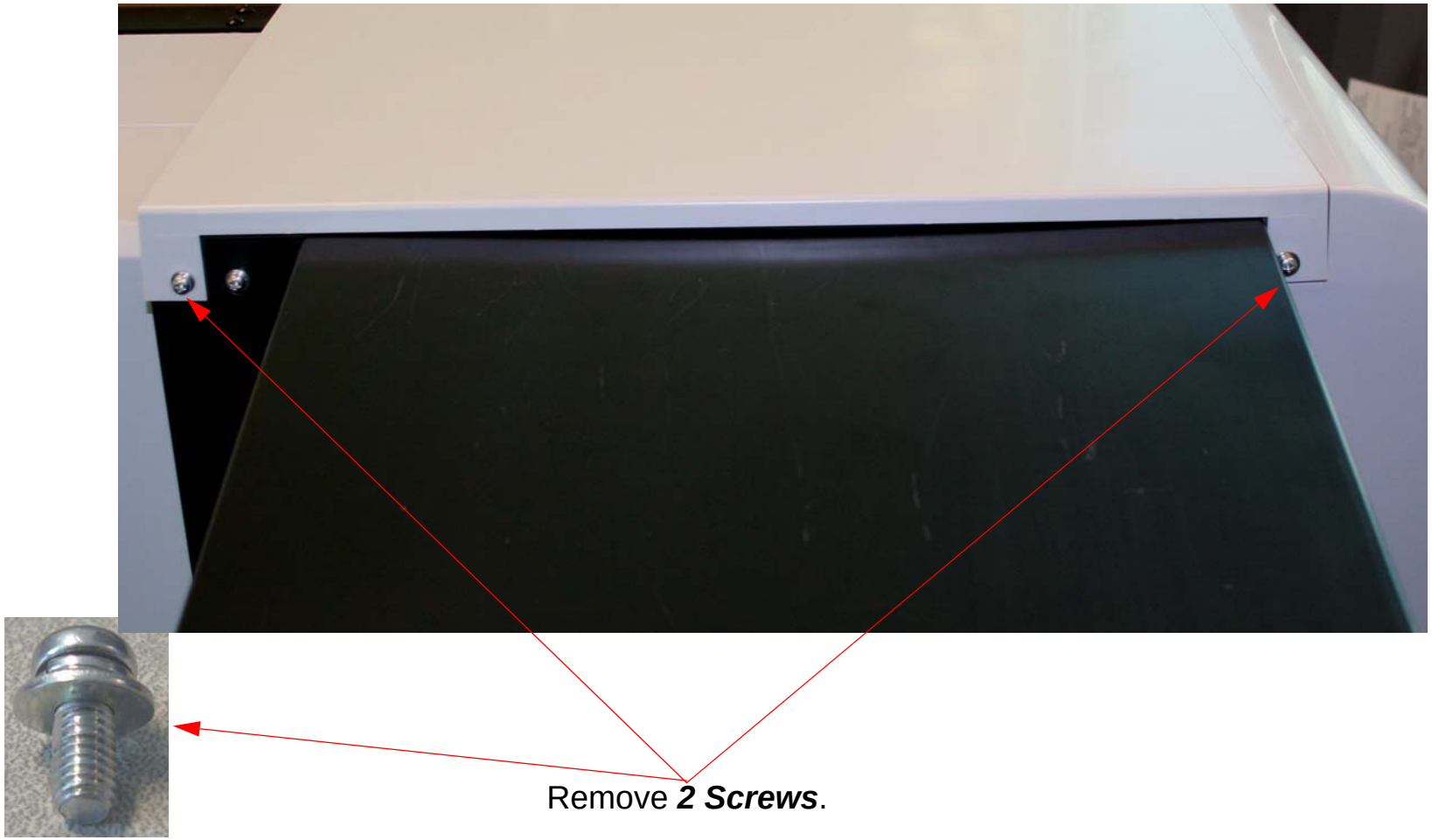
1. Remove ***1 Screw***.

2. Remove the ***Cover***.

Cover (Top Left) Removal

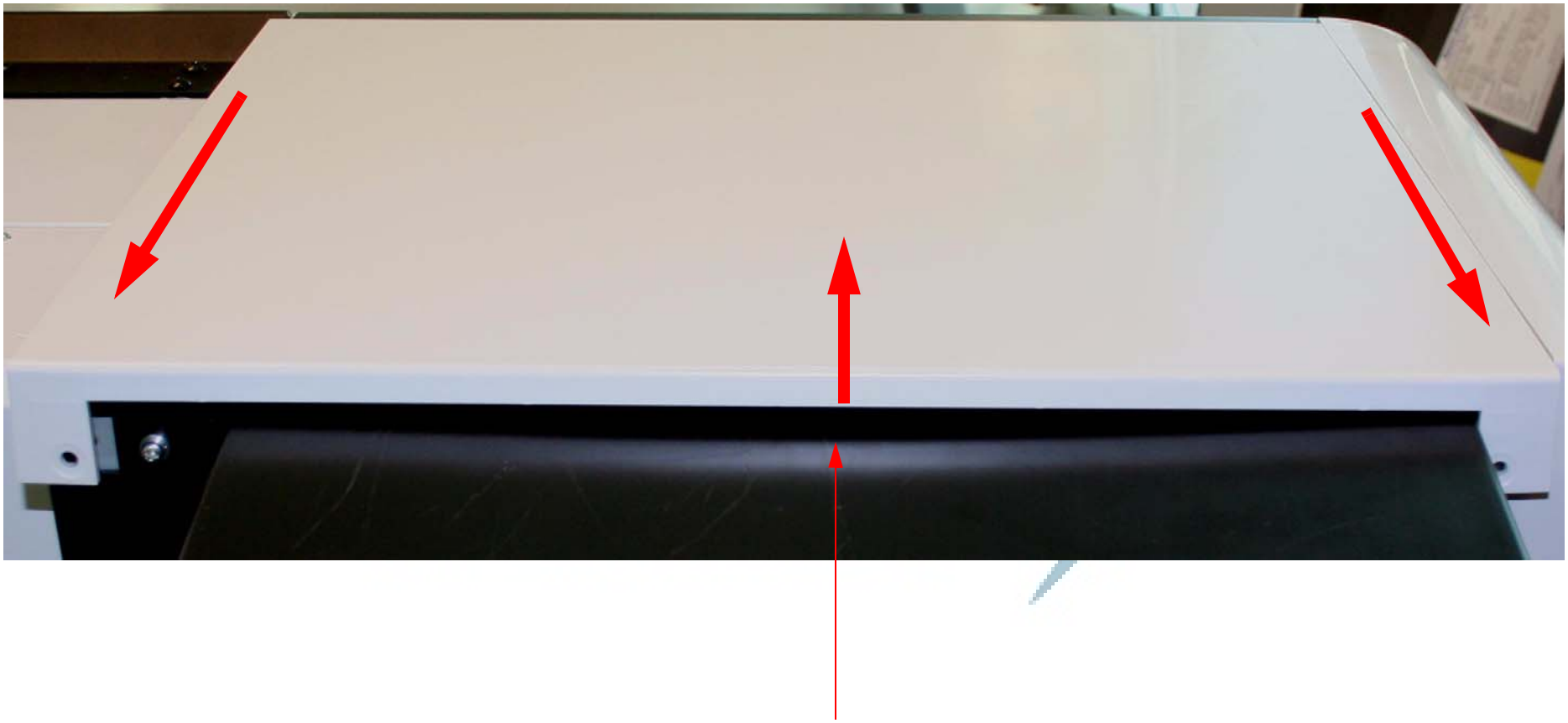
1. Remove ***2 Screws*** that fastens the rear of the ***Top Left Cover*** to the left side of the ***Printer***.

View from the rear of the ***Printer.***



Remove ***2 Screws***.

2. Remove the ***Top Left Cover***.

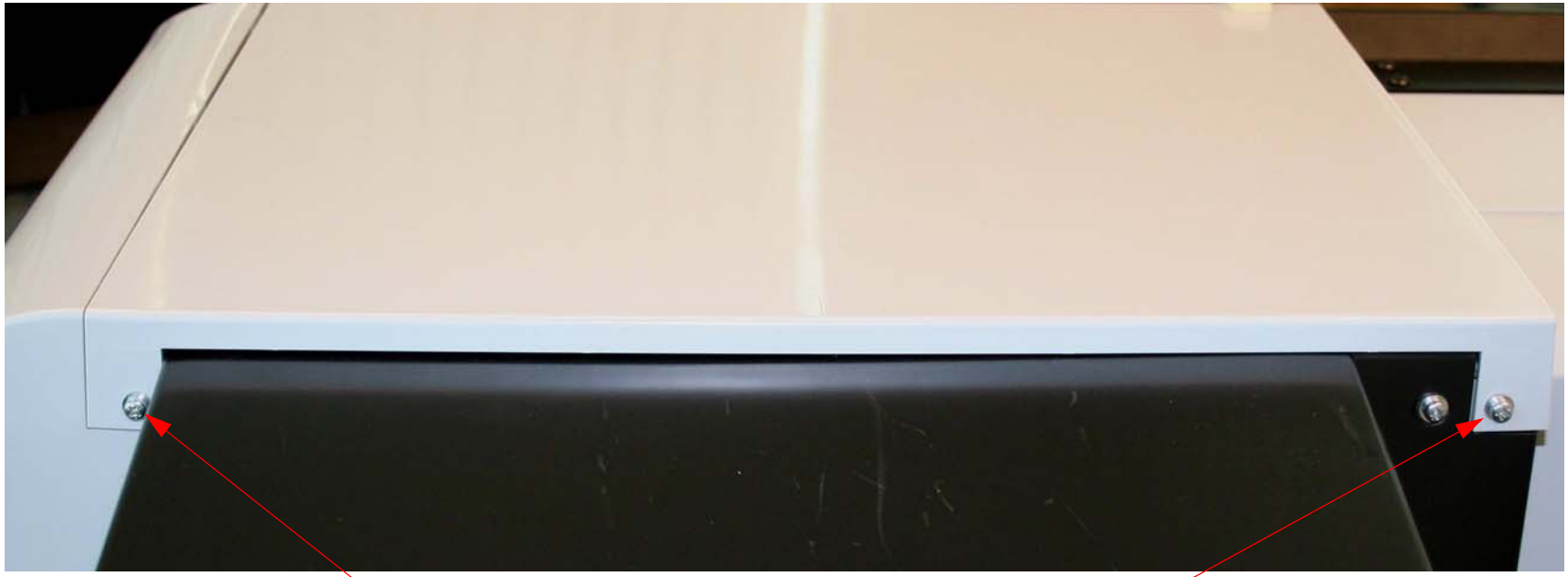


Lift up and back to remove the ***Cover***.

Cover (Top Right) Removal

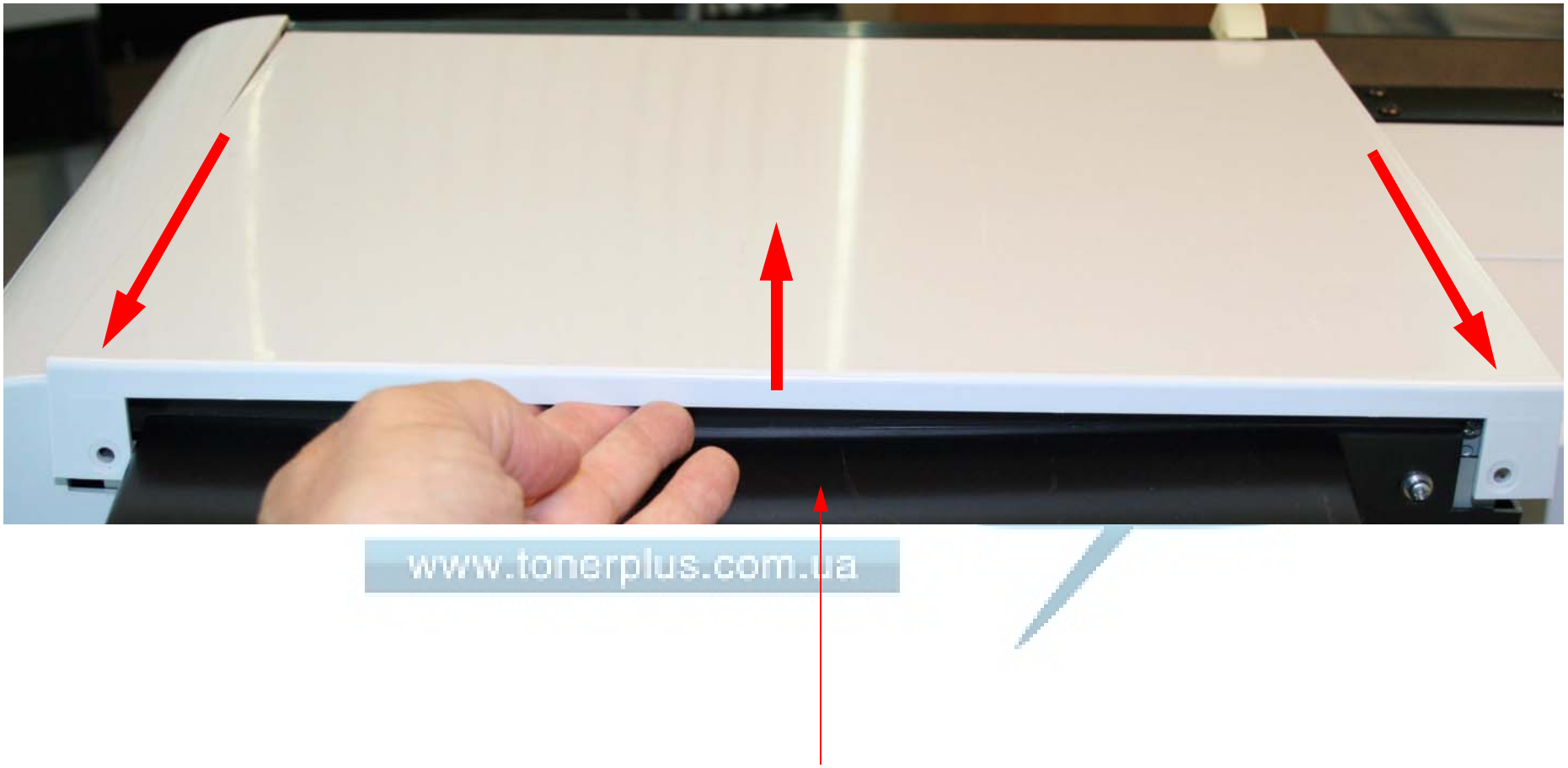
1. Remove ***2 Screws*** that fastens the rear of the ***Top Right Cover*** to the right side of the ***Printer***.

View from the rear of the ***Printer.***



Remove ***2 Screws***.

2. Remove the ***Top Right Cover***.

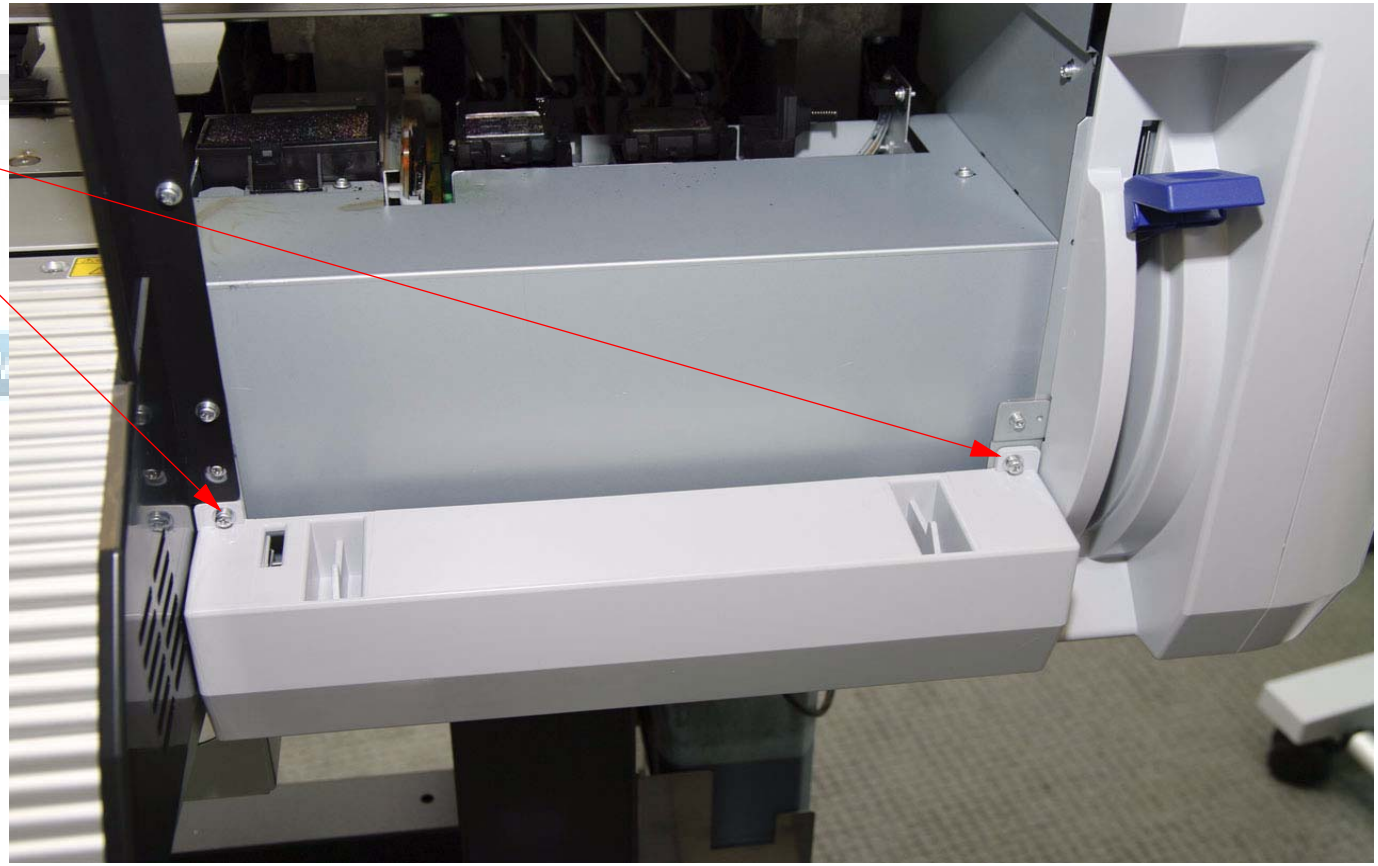


Lift up and back to remove the ***Cover***.

Flushing Box Removal

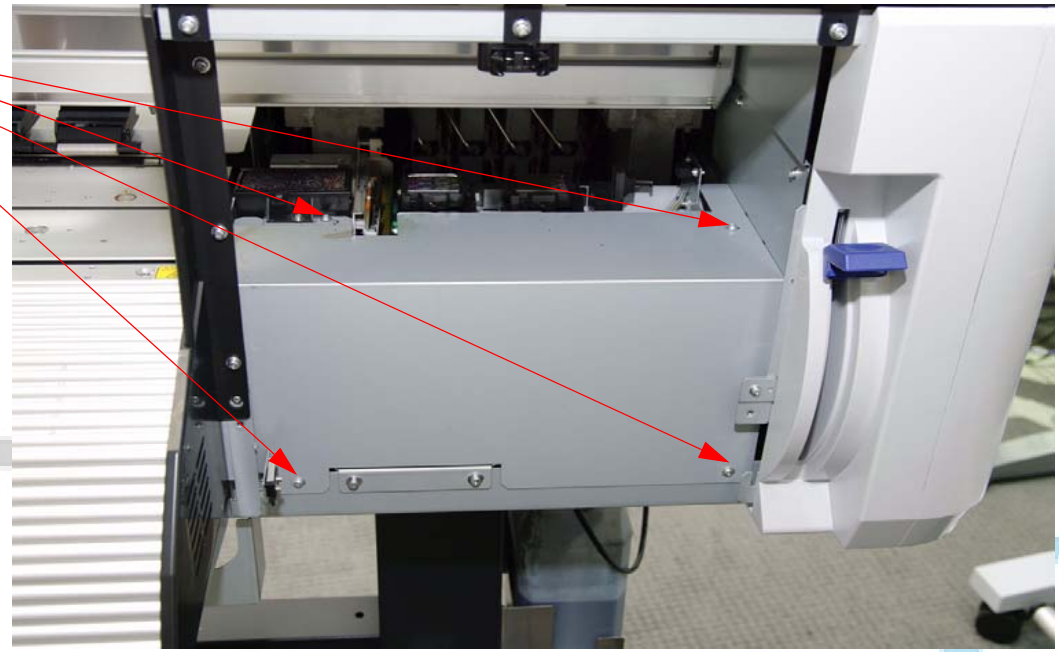
1. Remove the ***Cover (Top Right)***
2. Remove the ***Right Front Door***
3. Remove the ***Right Door Hinge***

2 Screws



4. Remove ***Maintenance Cover***

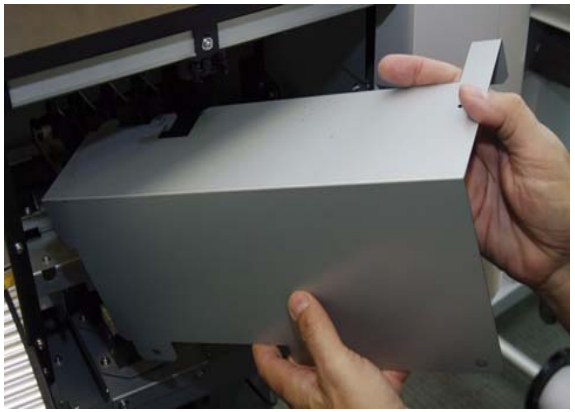
4 Screws



1. Lift Up the ***Maintenance Cover***

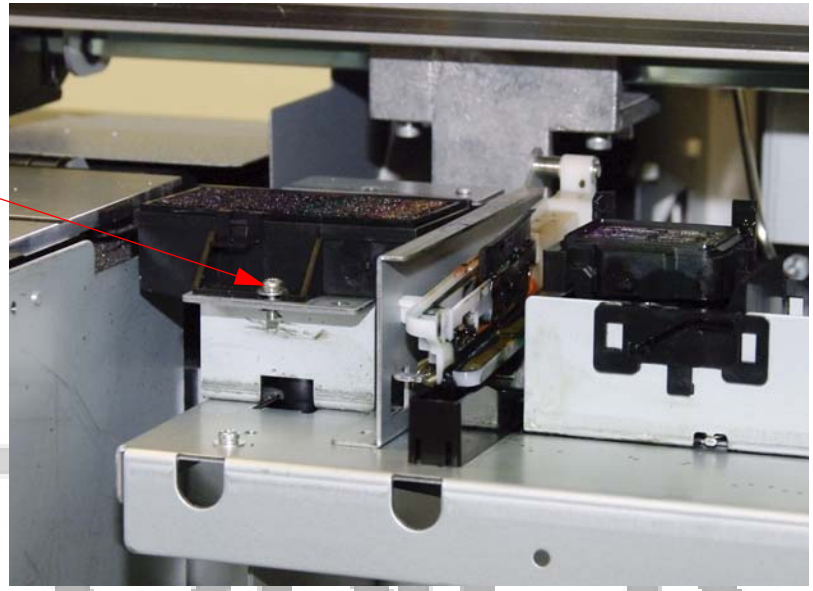
2. Slide the right side out first

3. Slide the ***Maintenance Cover*** out.



5. Remove ***Flushing Box***

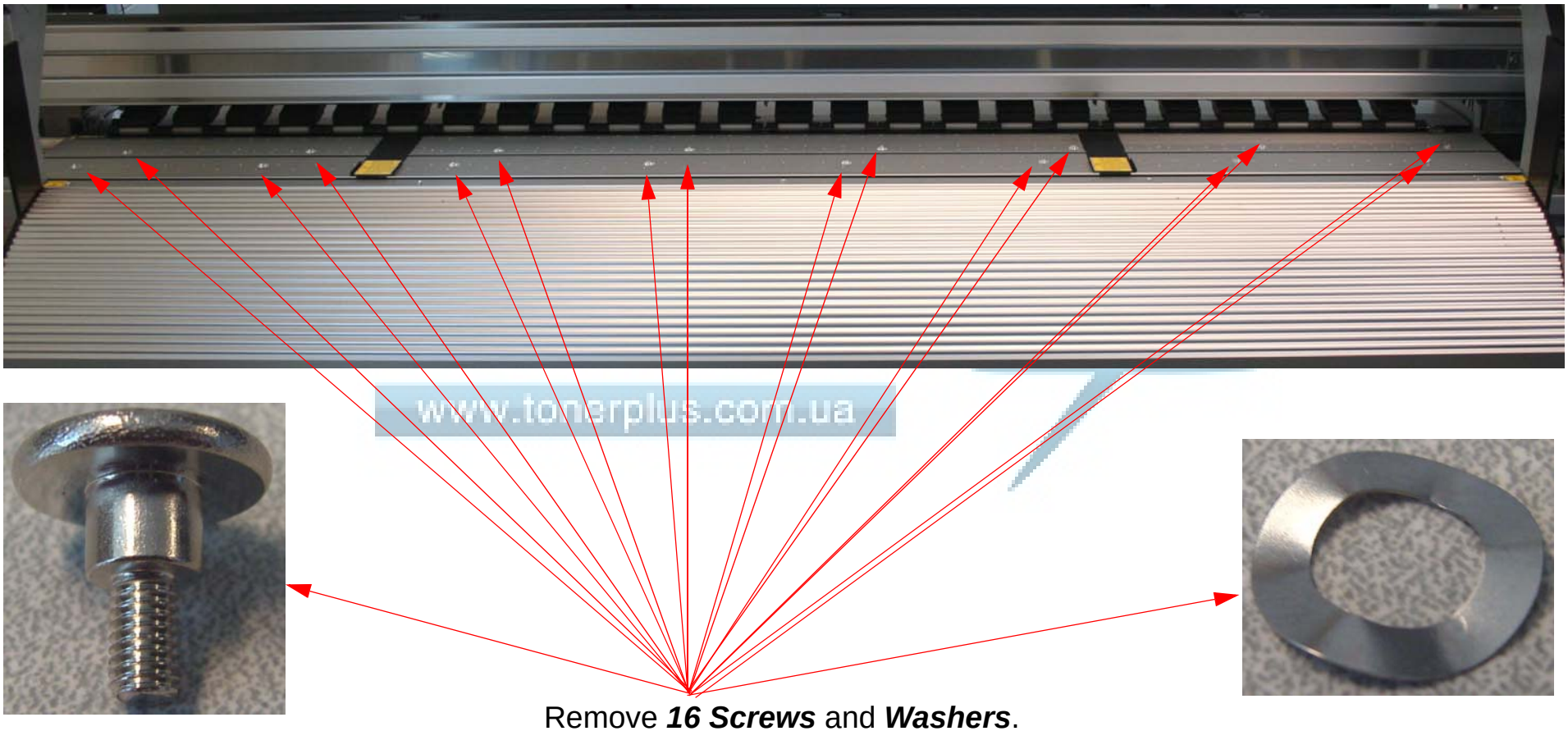
One Screw



Heater Assembly (Platen) Removal

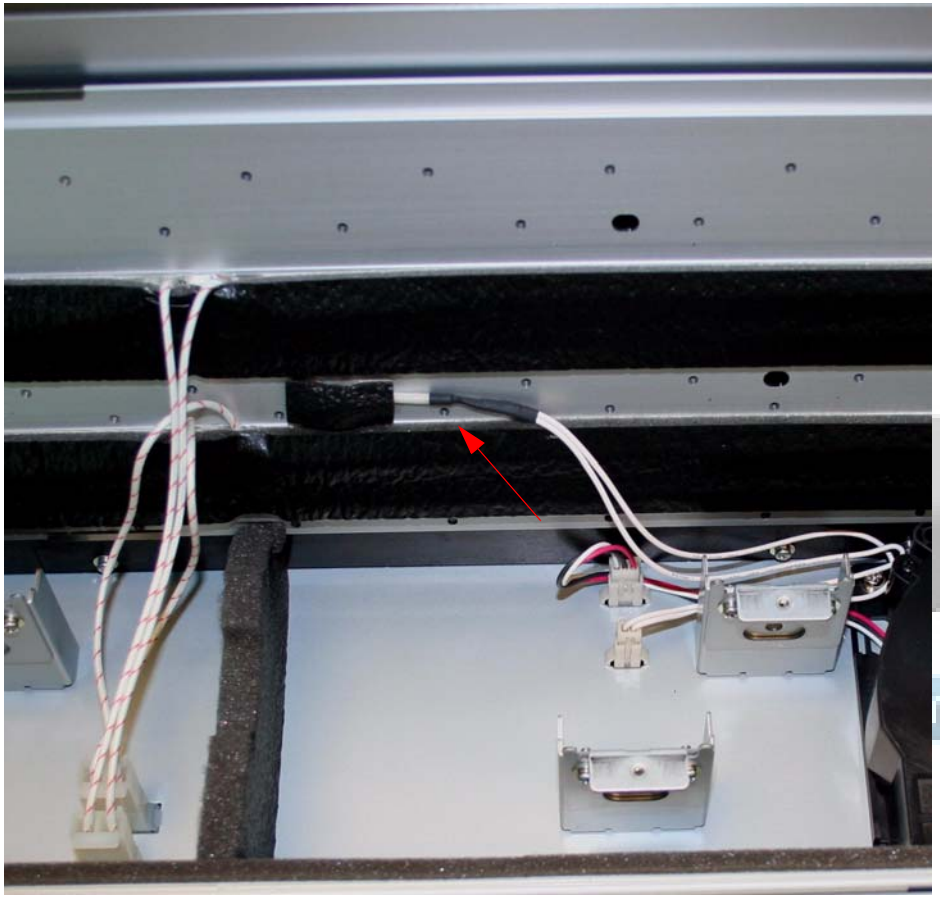
1. Remove ***16 Screws***.

View from the front of the ***Printer***.

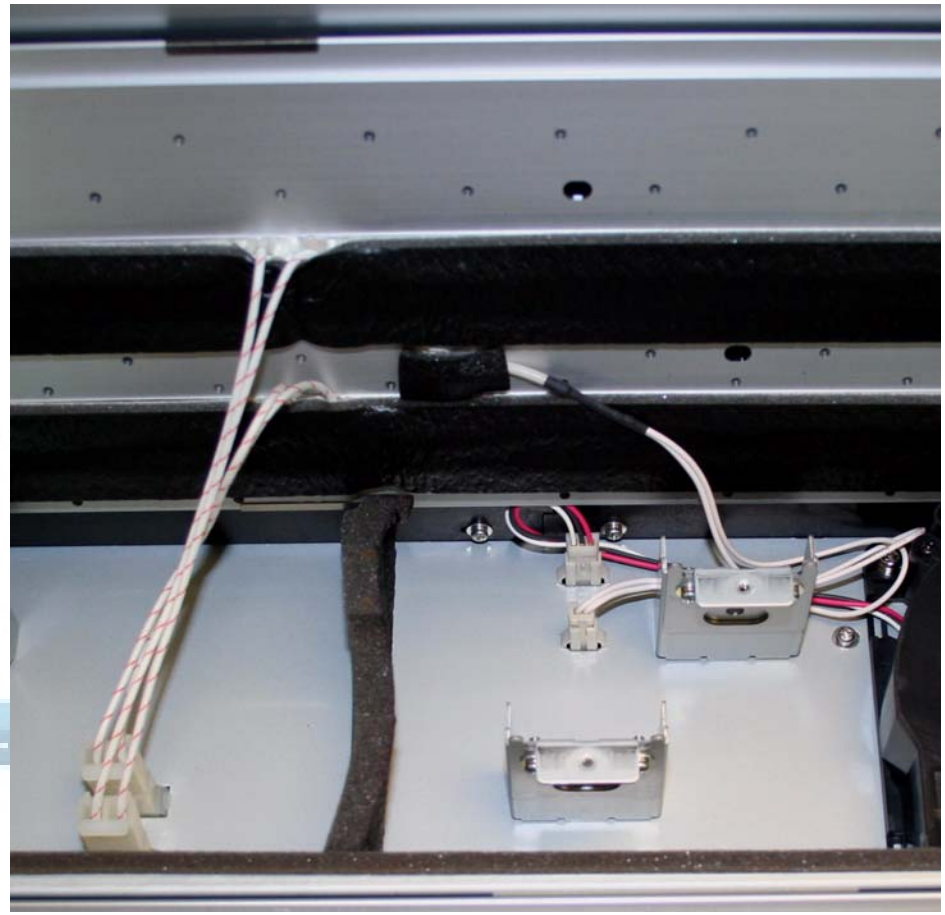


Remove ***16 Screws*** and ***Washers***.

2. Lift up the ***Platen Heater Assembly*** and disconnect ***8 Connectors***.



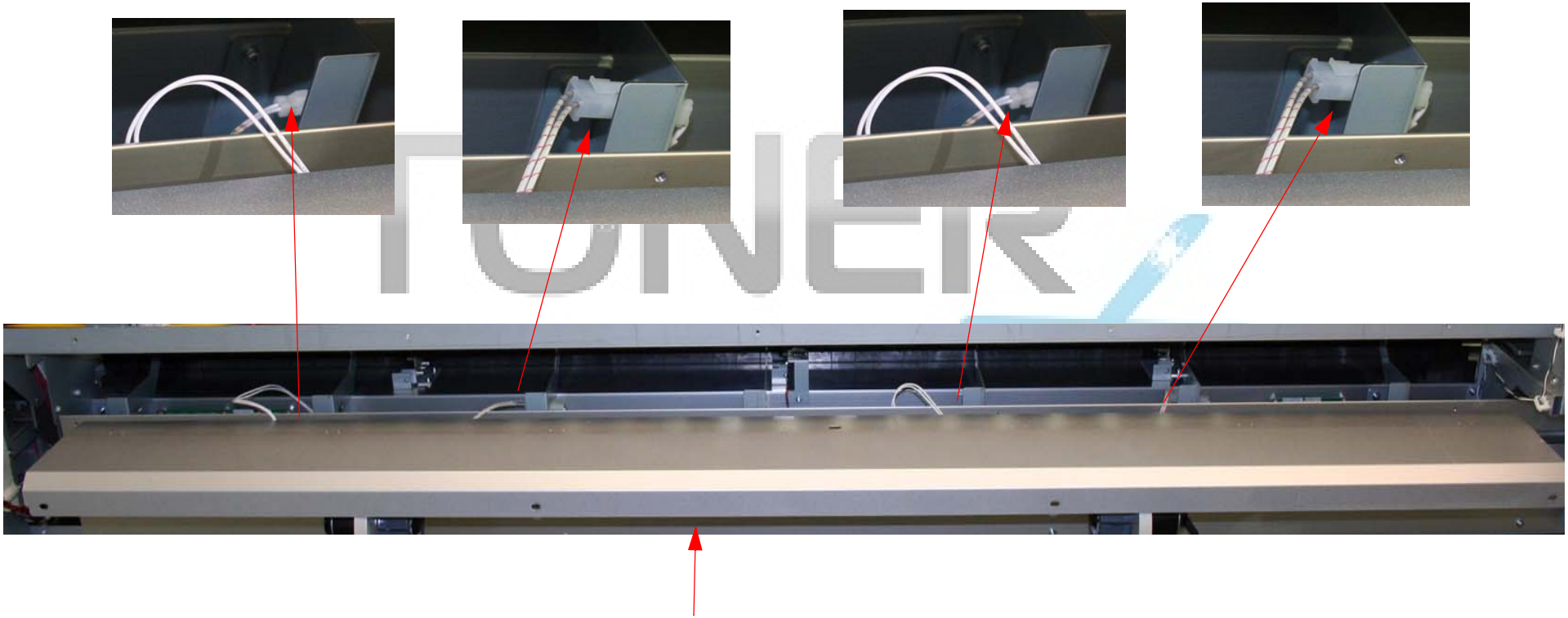
1. Disconnect the ***4 Left Side Connectors***.



2. Disconnect the ***4 Right Side Connectors***.

3. Lift off the ***Platen Heater Assembly***.

3. Disconnect ***4 Cable Connectors***.

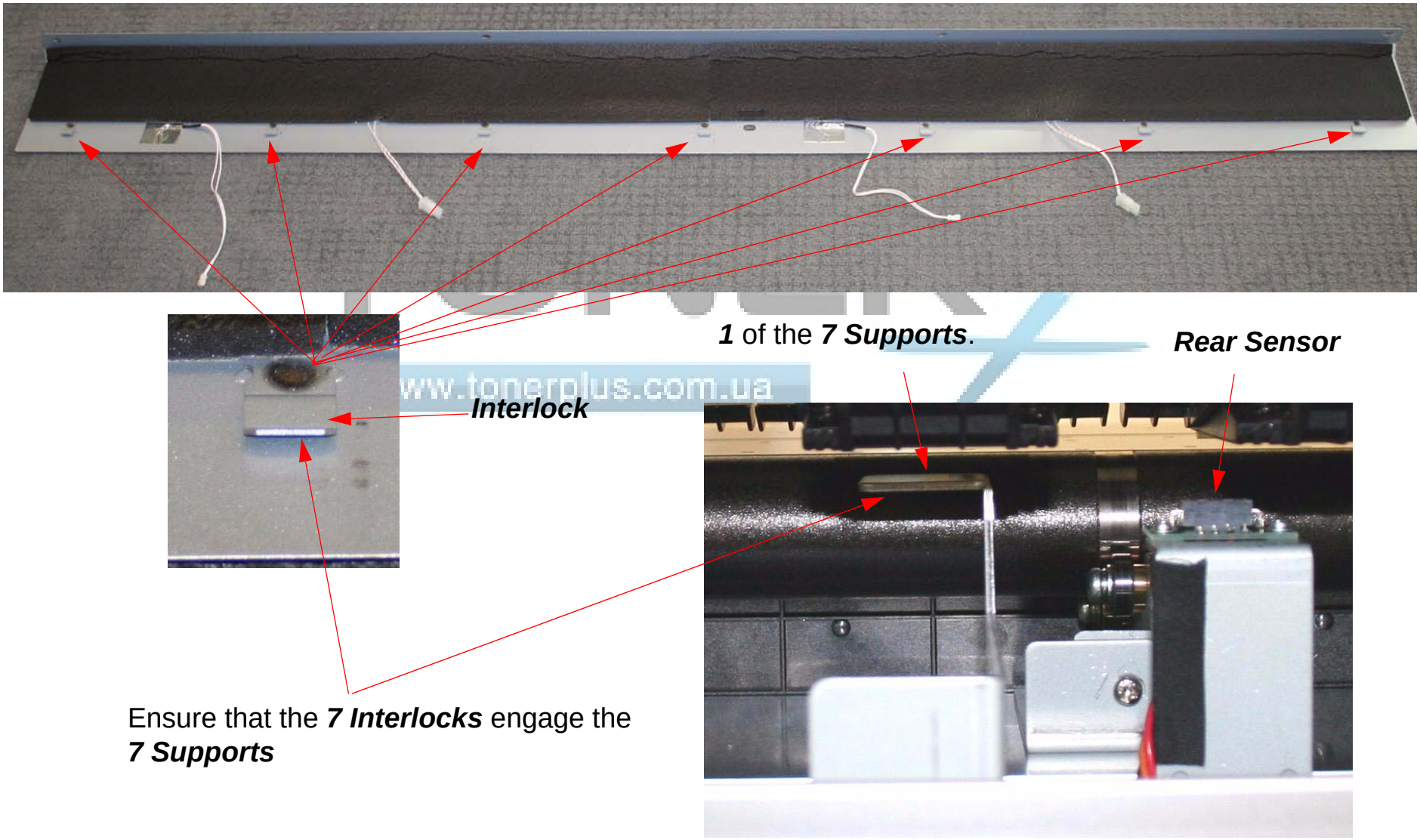


1. Unplug ***4 Cable Connectors***.

2. Remove the ***Pre Heater Assembly***.

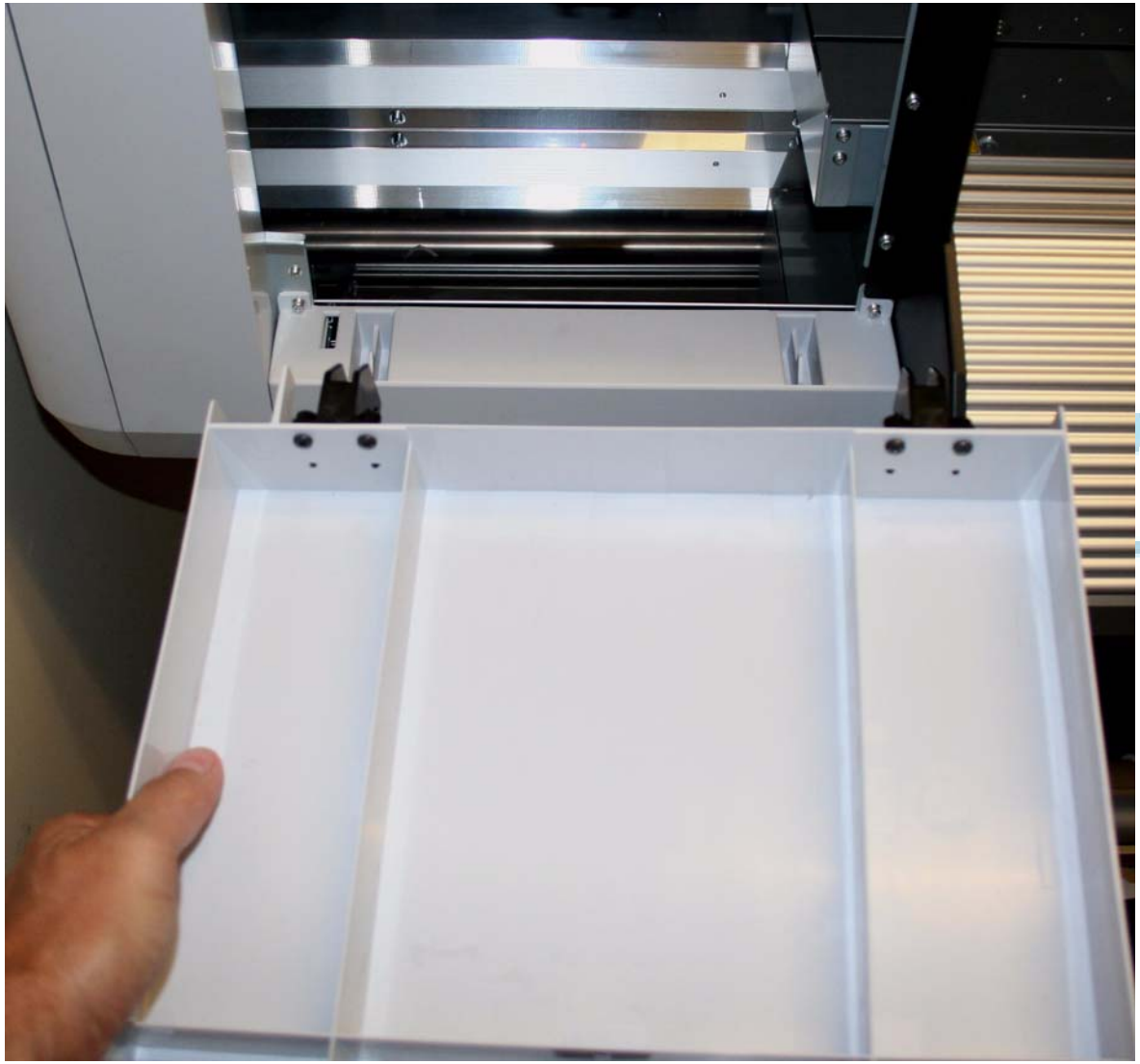
See the reassembly tip on the next page.

4. When reassembling, ensure that the ***7 Interlocks*** engage the ***7 Supports***.



Heater Assembly (Post) Removal

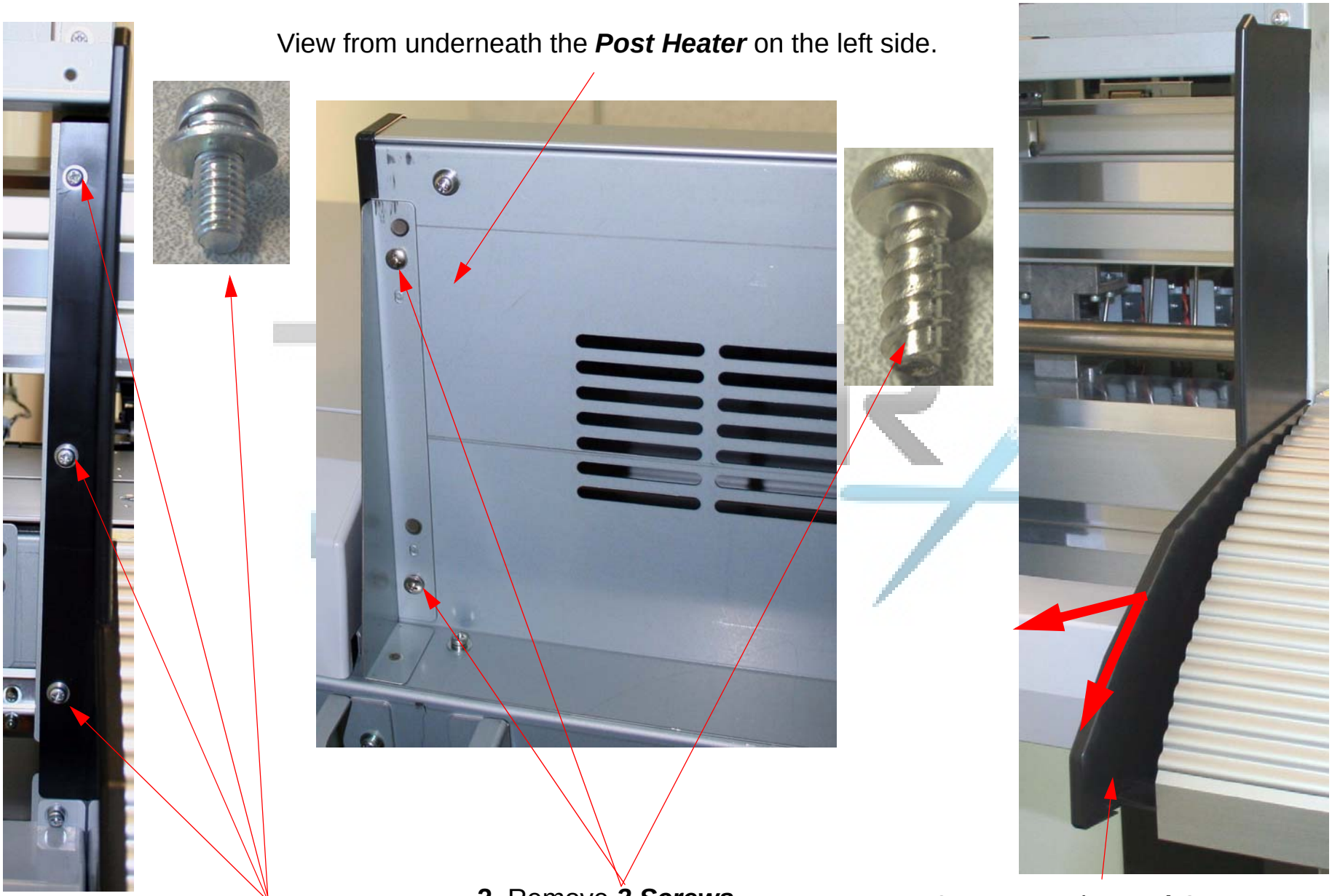
1. Remove the ***2 Maintenance Covers***.



Open and remove the ***Right and Left Maintenance Covers***.

2. Remove ***5 Screws*** and the ***Left Black Plastic Post Heater End Cap***.

View from underneath the ***Post Heater*** on the left side.



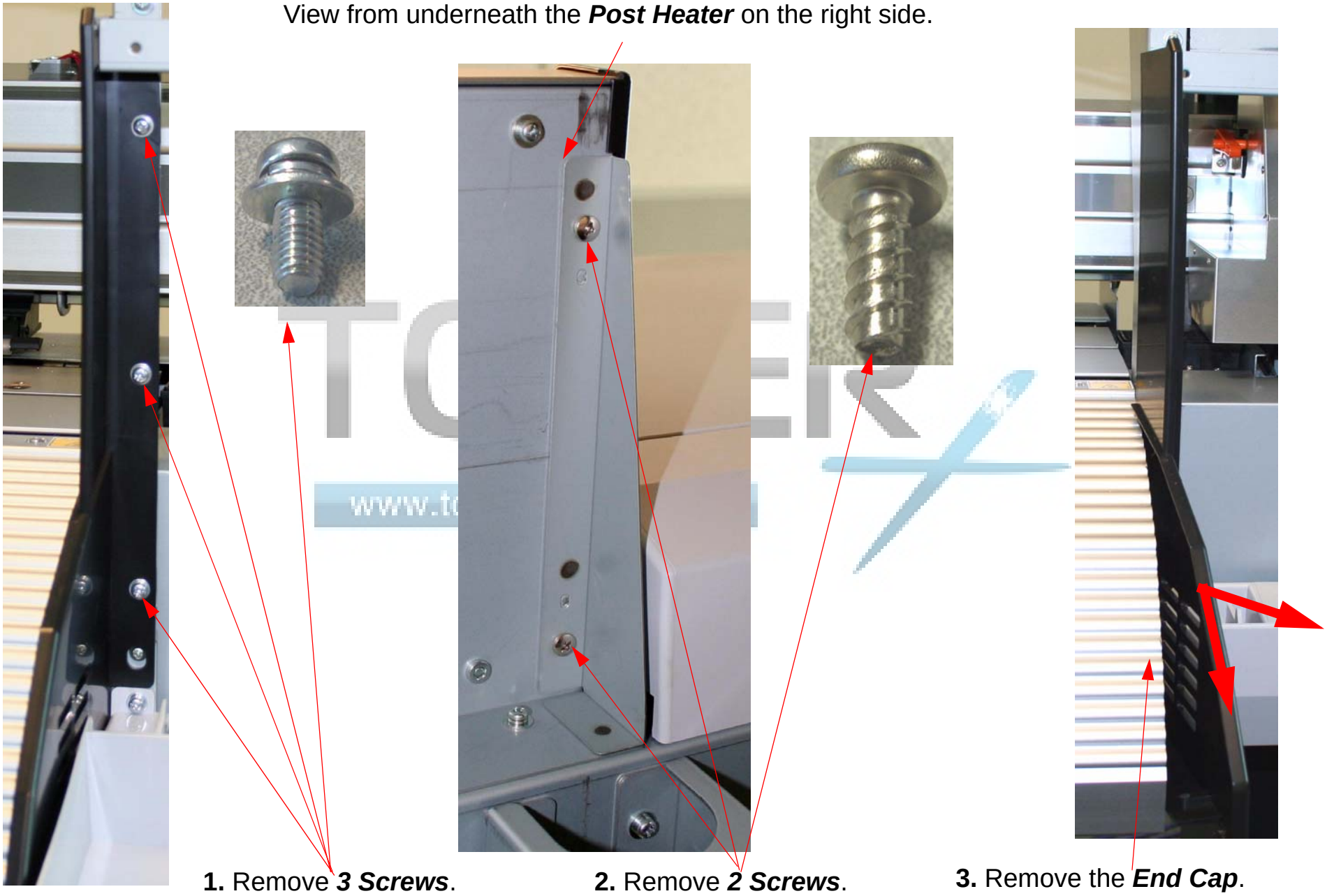
1. Remove ***3 Screws***.

2. Remove ***2 Screws***.

3. Remove the ***End Cap***.

3. Remove ***5 Screws*** and the ***Right Black Plastic Post Heater End Cap***.

View from underneath the ***Post Heater*** on the right side.

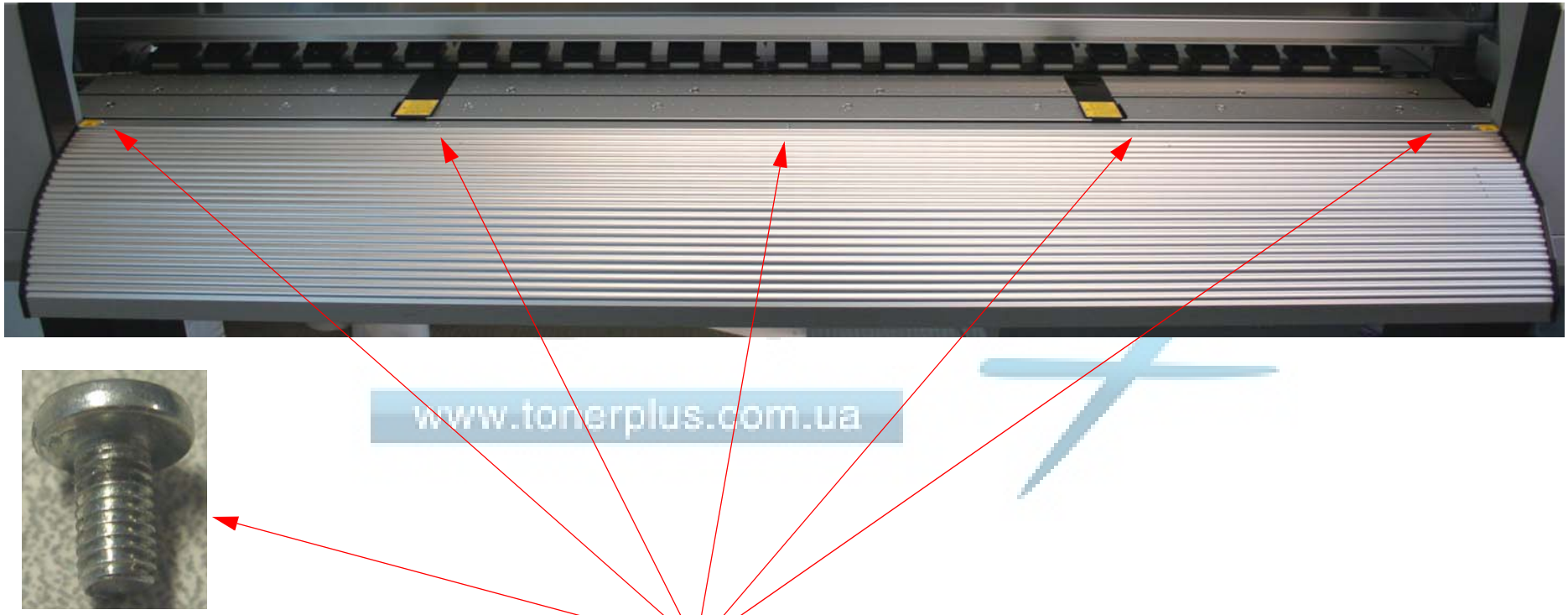


1. Remove ***3 Screws***.

2. Remove ***2 Screws***.

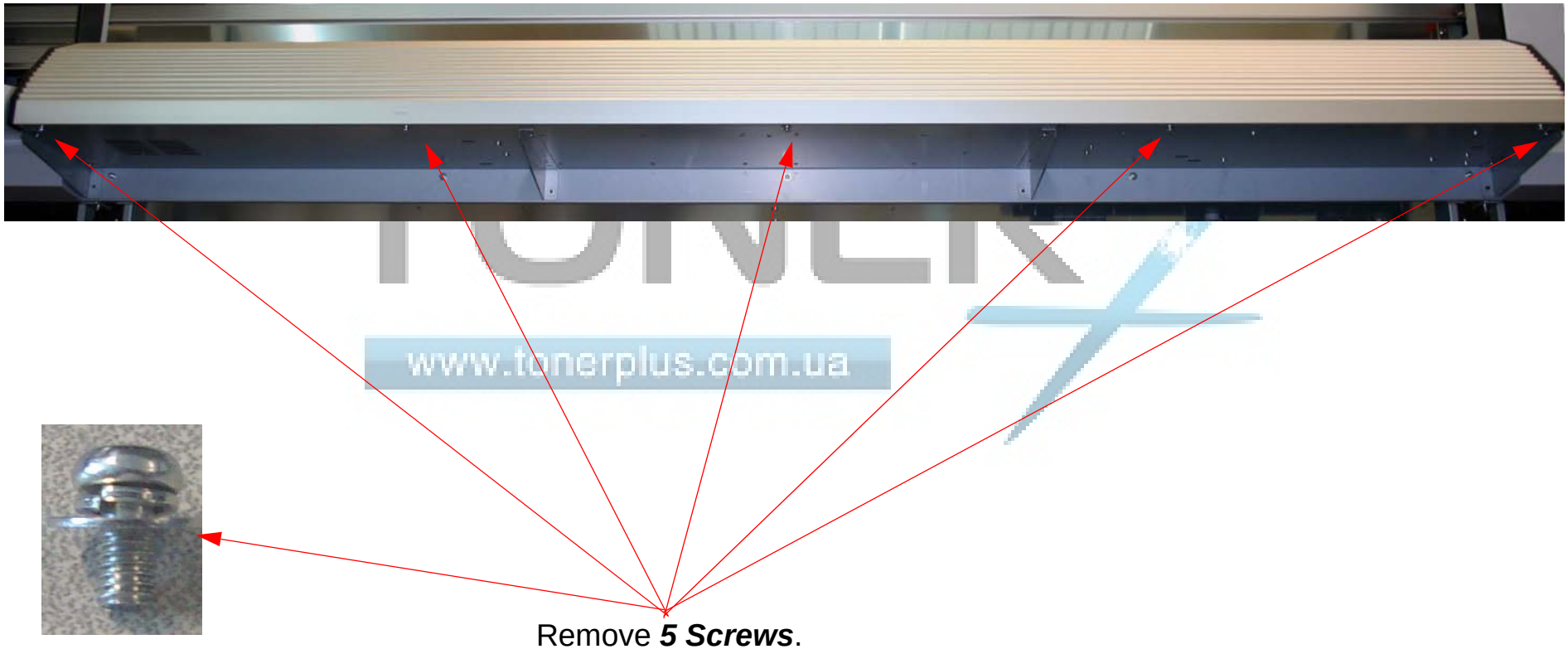
3. Remove the ***End Cap***.

4. Remove ***5 Screws*** that fasten the top of the ***Post Heater*** to the ***Printer***.



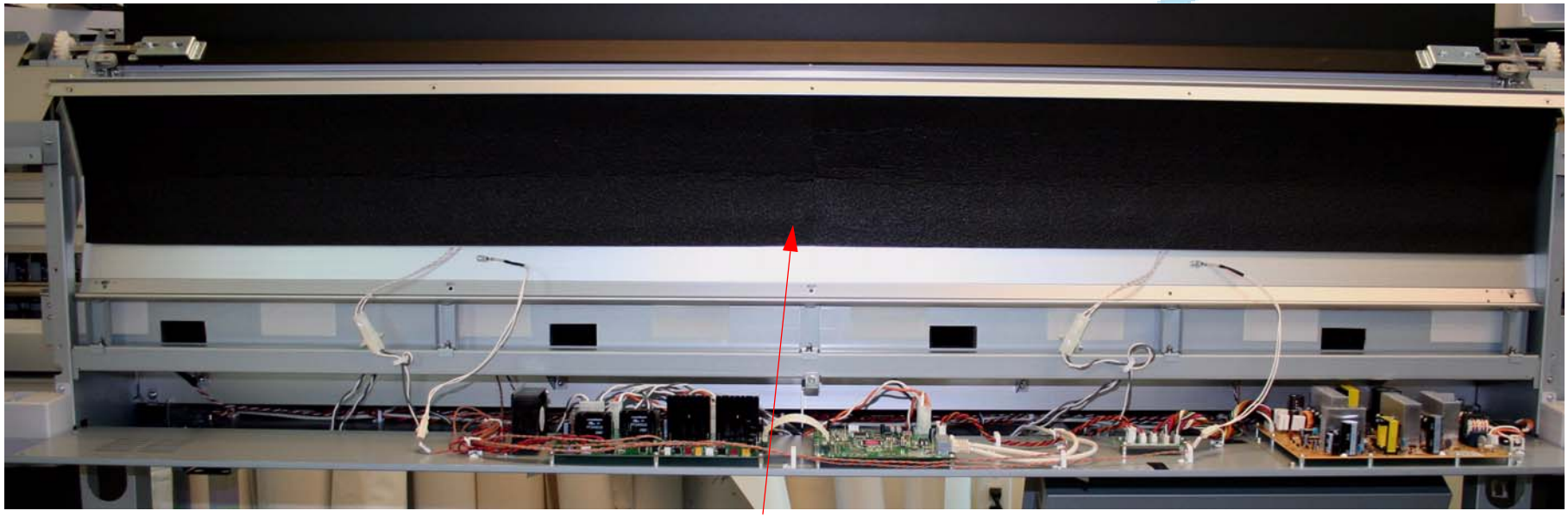
Remove ***5 Screws***.

5. Remove ***5 Screws*** that fasten the bottom of the ***Post Heater*** to the ***Printer***.



6. Lift up the ***Post Heater Assembly***.

1. Lift the ***Post Heater Assembly*** here.



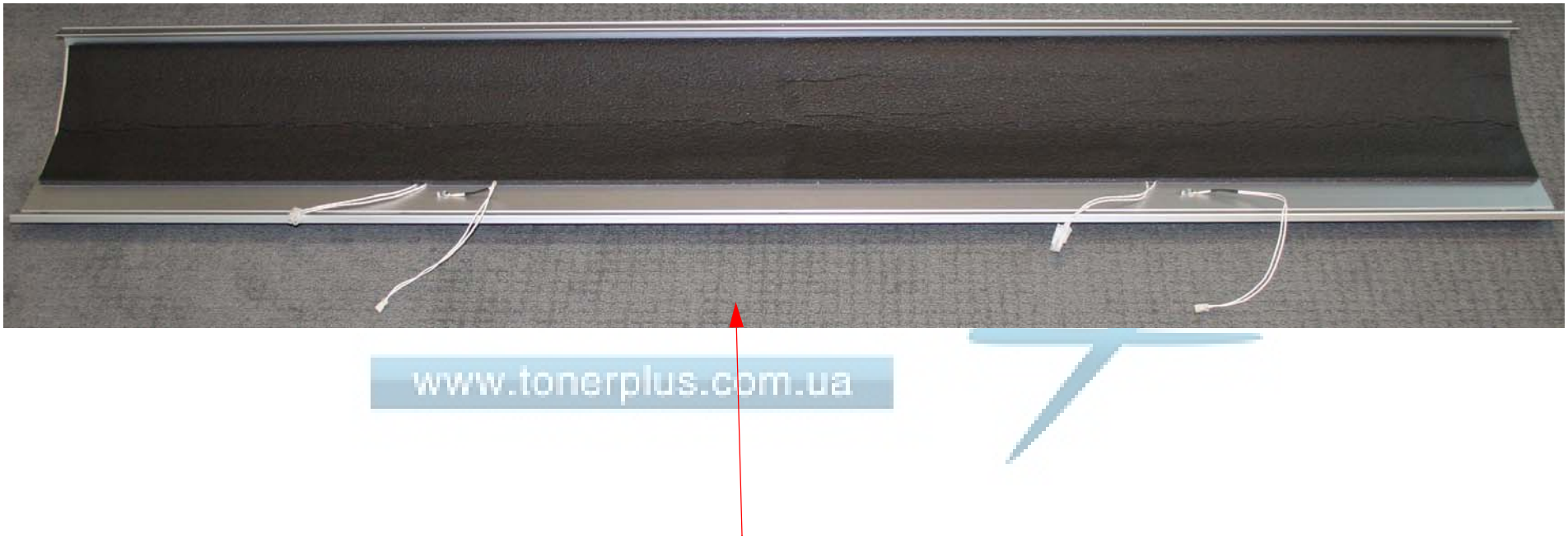
2. Support the ***Post Heater Assembly*** here.

7. Place the ***Post Heater Assembly*** in this position, and unplug ***4 Connectors***.

1. Place the ***Post Heater Assembly*** behind the ***5 Supports*** to stabilize it.

2. Unplug the ***4 Connectors*** that connect the ***Post Heater Assembly*** to the ***Printer***.

8. Remove the ***Post Heater Assembly***.

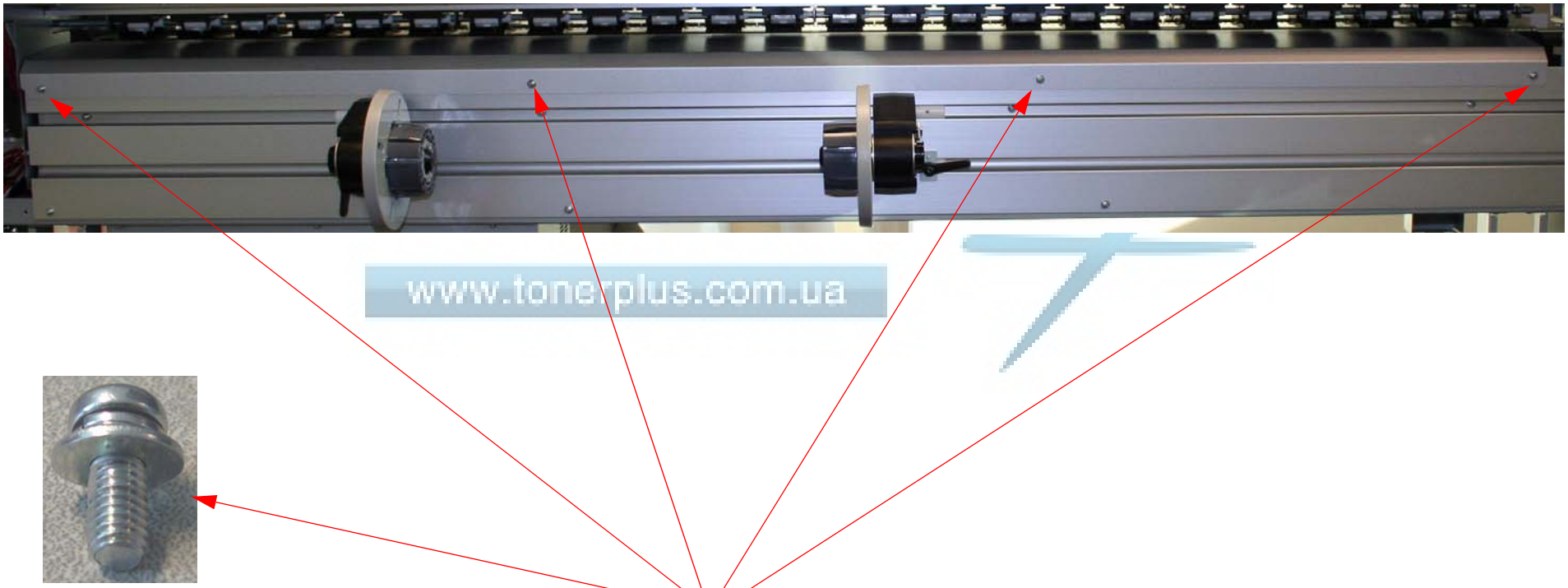


Remove the ***Post Heater Assembly***

Heater Assembly (Pre) Removal

1. Remove ***4 Screws***.

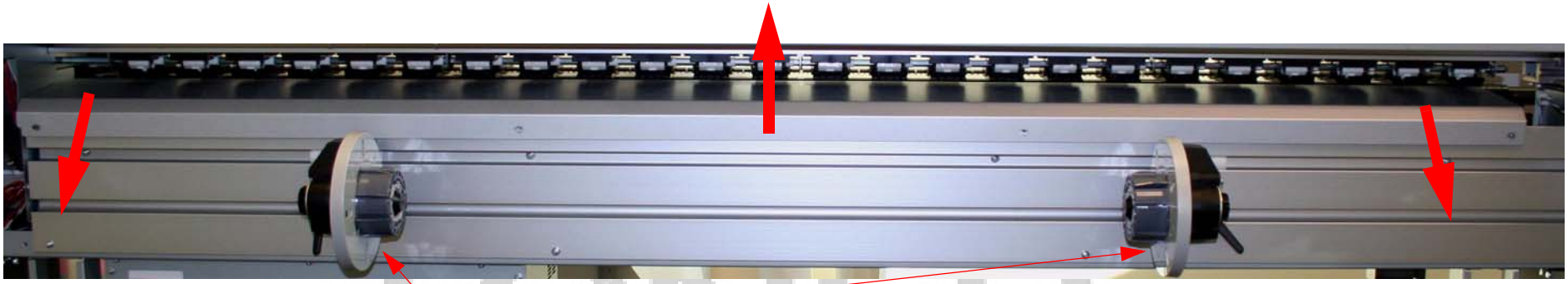
View from the back of the ***Printer***.



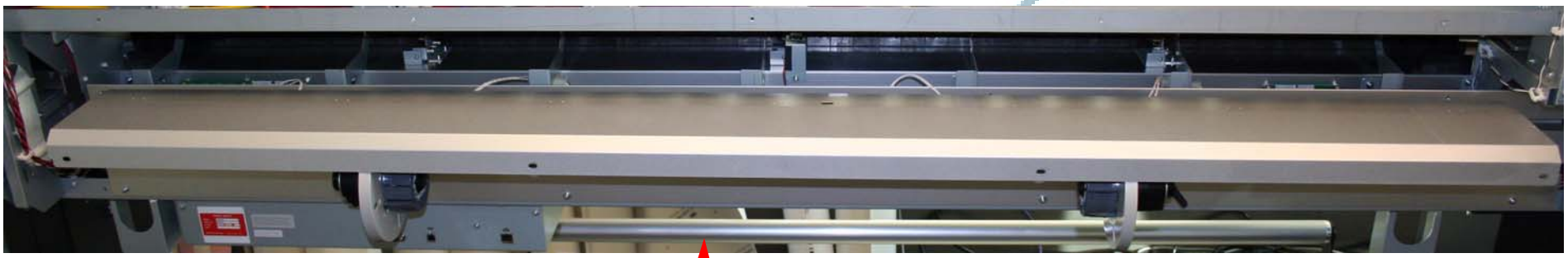
Remove ***4 Screws***.

2. Partially slide off the ***Pre Heater Assembly***.

2. Lift slightly up, and pull back to disengage the ***Pre Heater Assembly***.

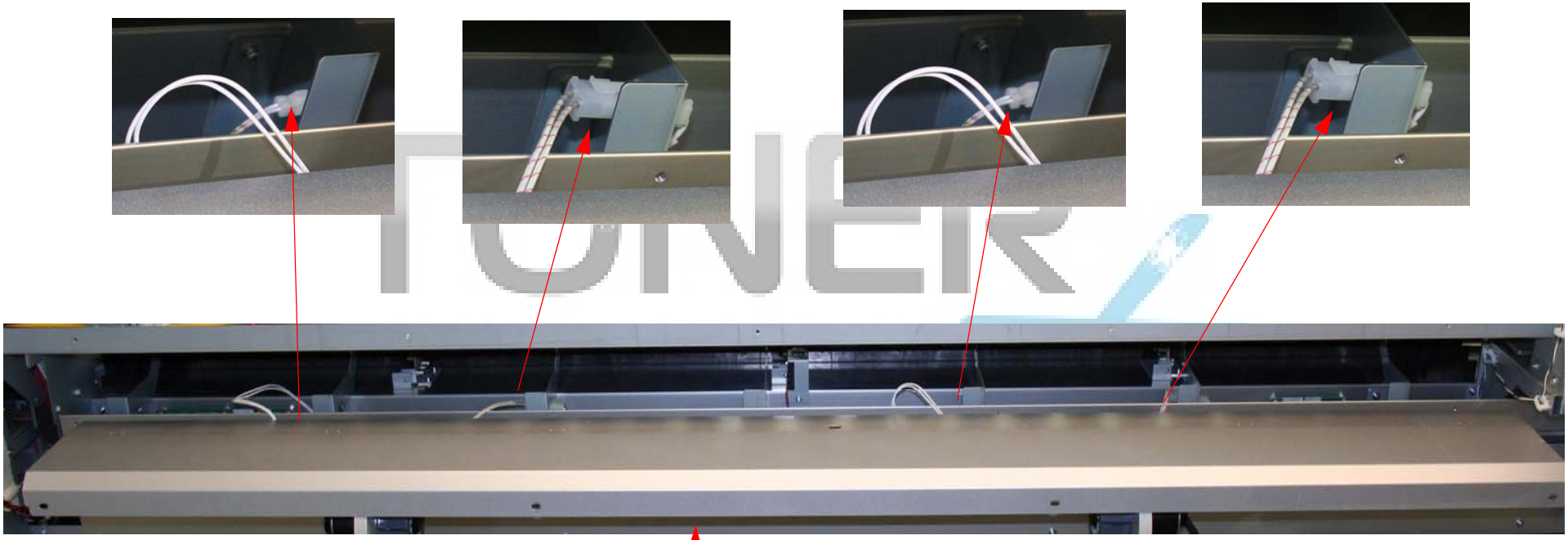


1. Move the ***Media Holders*** as shown.



3. Rest the ***Pre Heater Assembly*** on the ***Media Holders***.

3. Disconnect ***4 Cable Connectors***.

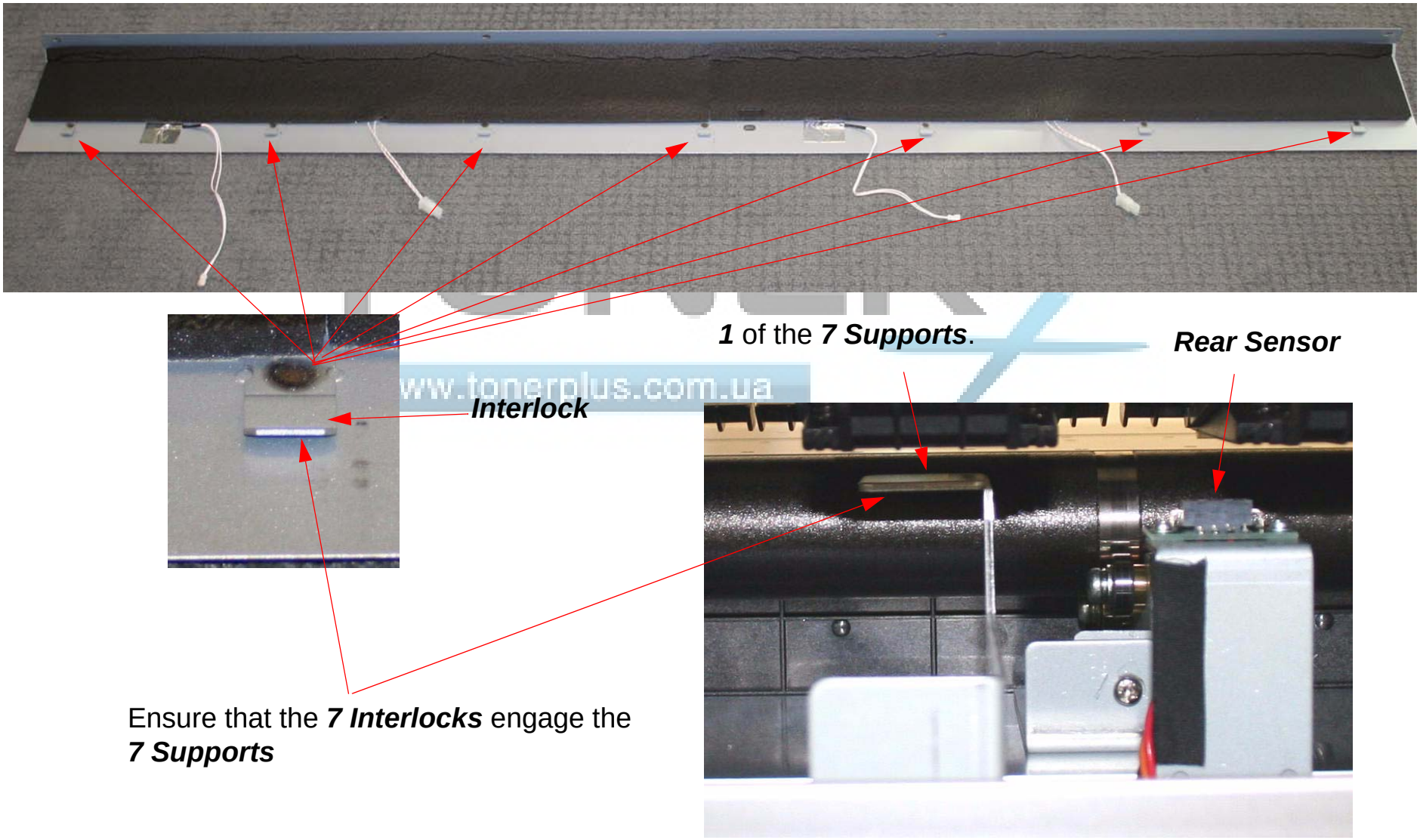


1. Unplug ***4 Cable Connectors***.

2. Remove the ***Pre Heater Assembly***.

See the reassembly tip on the next page.

4. When reassembling, ensure that the ***7 Interlocks*** engage the ***7 Supports***.

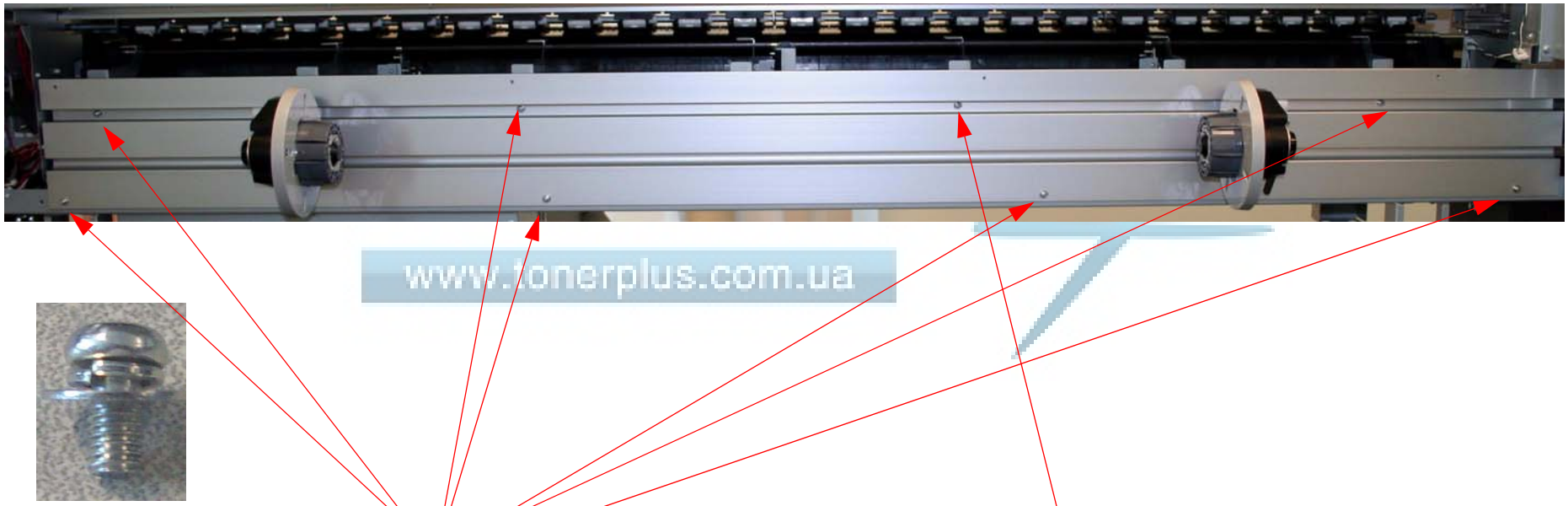


Media Holder Assembly Removal

1. Remove the ***Pre Heater Assembly***.

2. Remove ***8 Screws*** and remove the ***Media Holder Assembly.***

Note: When the last Screw is removed the Media Holder Assembly will fall off. Make sure that you support the Assembly when the last Screw is removed.



1. Remove ***7 of the 8 Screws***.

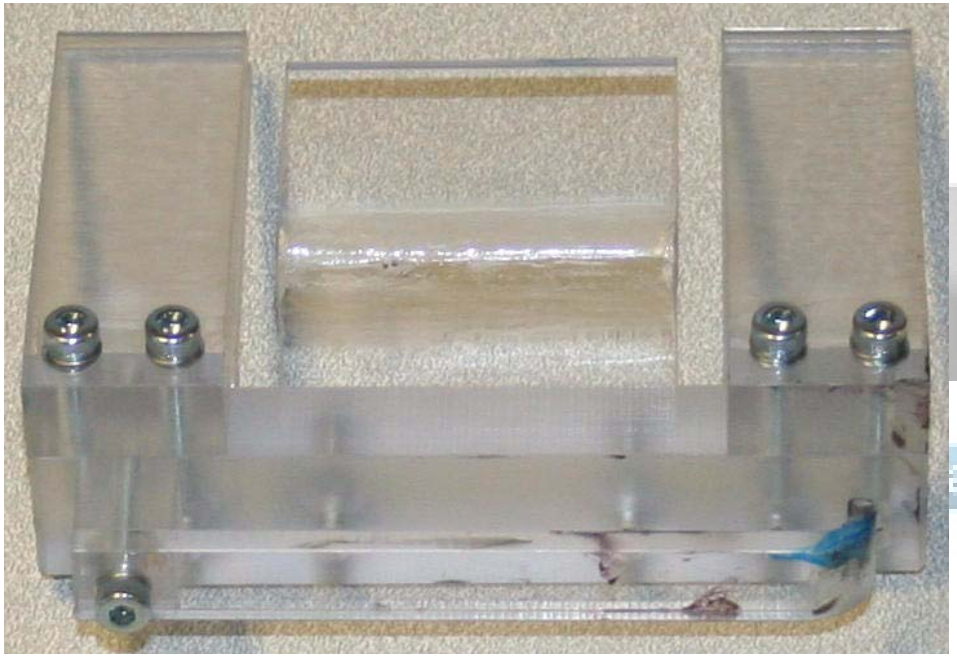
2. Support the ***Media Holder Assembly***, remove ***1 Screw***, and remove the ***Assembly***.

Print Head (Left) Removal

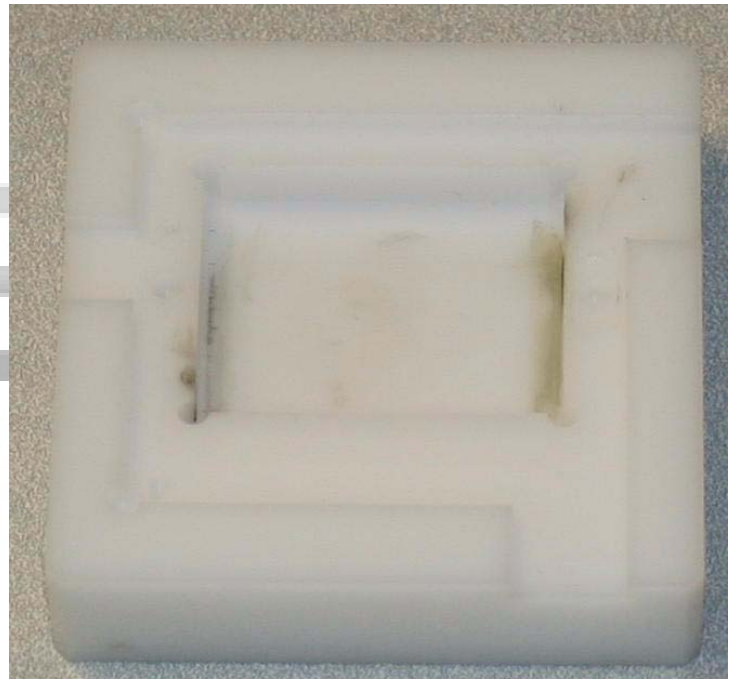
Note: It is recommended that all 4 Damper Assemblies be replaced when replacing a Print Head.

Special Tools

Note: The Special Tools listed below are not necessary, but strongly recommended.



Cable and Tube Holder: Part # **1501560**



Print Head Assembly Holder: Part # **1501562**

Note: The Print Head Spring Tool is only used when replacing the Right Print Head.

Print Head Spring Tool: Part # **1501561**

Print Head Removal Overview

- Input the ***New Print Head's*** ***Head Rank Input*** (if the Print Head is to be replaced).
- Unplug the ***Printer***.
- Remove the ***Cover (Top Right)***.
- Release the ***Carriage Mechanism***.
- Remove the ***Left Front Plate***.
- Remove the ***Carriage Cover***.
- Disconnect the ***Print Head Cables.***
- Disconnect the ***Ink Tubes***.
- Remove the ***Print Head Assembly***.
- Remove the ***Print Head Assembly Cover***.
- Separate the ***Print Head*** form the ***Print Head Base***.

Print Head Removal Detail

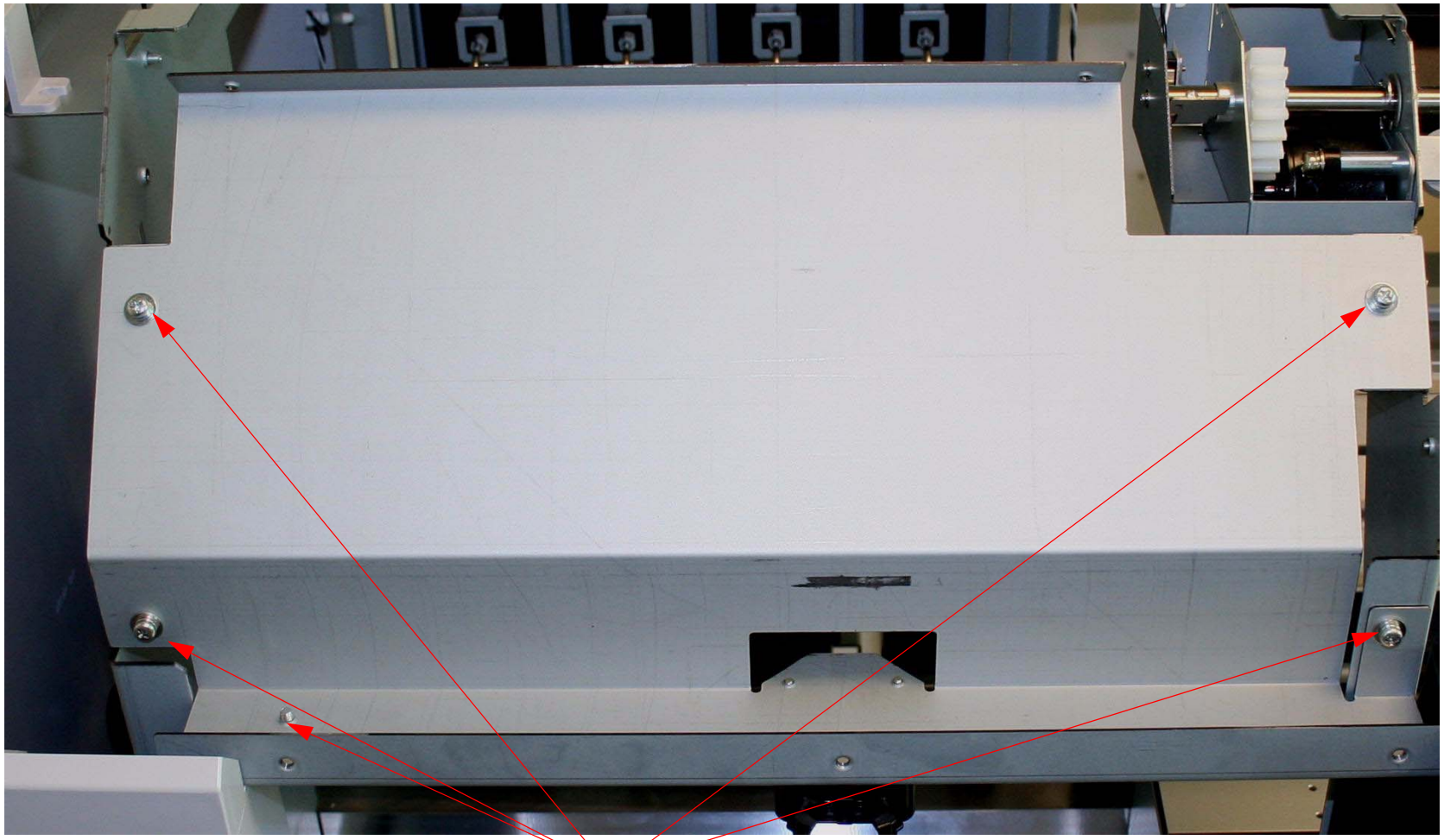
1. ***Unplug the Printer***.

2. If you are replacing the ***Print Head,*** run **Servprog.exe** and input the new ***Print Head's*** calibration value (***Head Rank Input***).

3. Remove the ***Cover (Top Left)***.

4. Remove the ***Cover (Left Front)***.

5. Remove the ***Left Front Plate***.

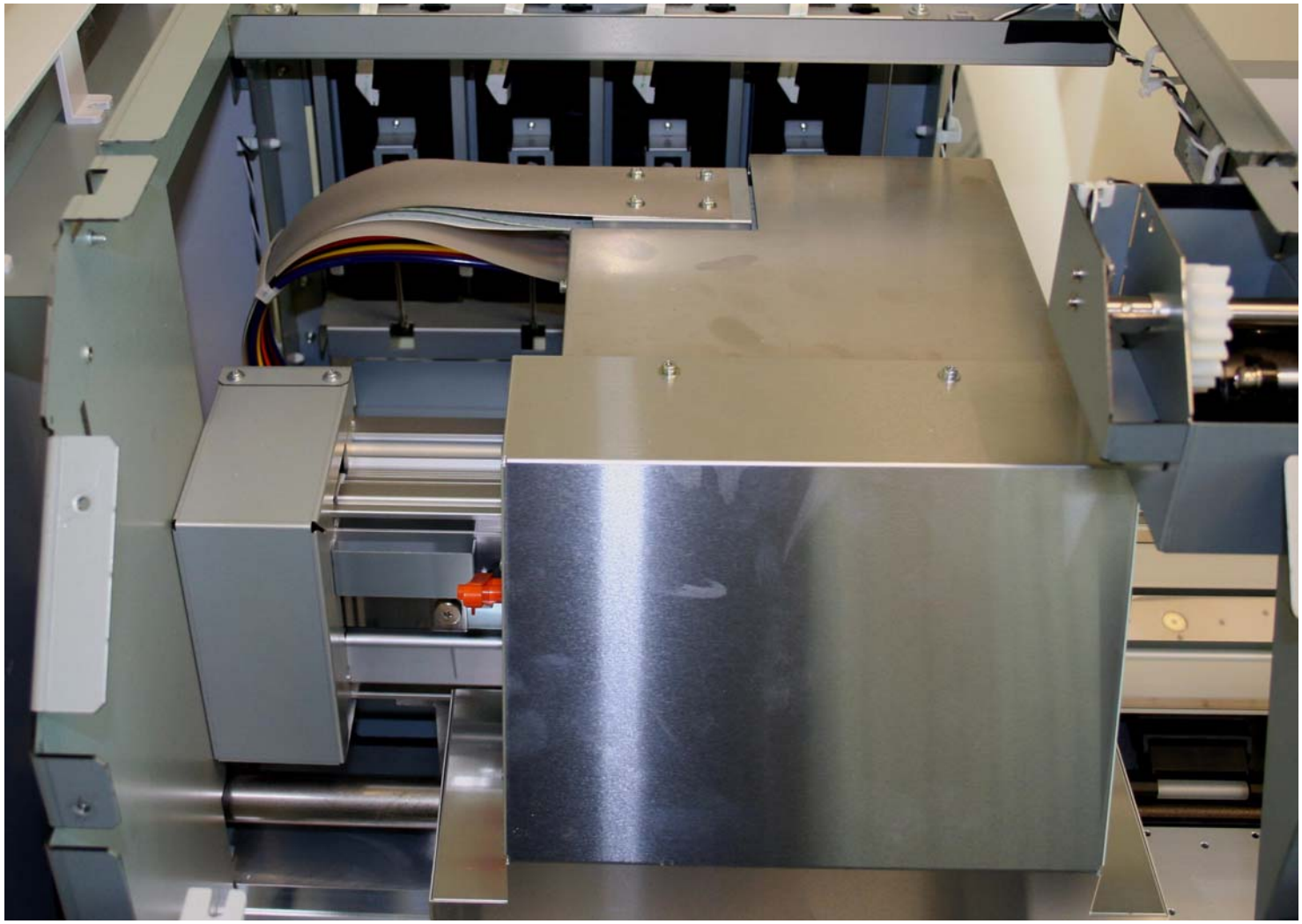


1. Remove ***5 Screws***.

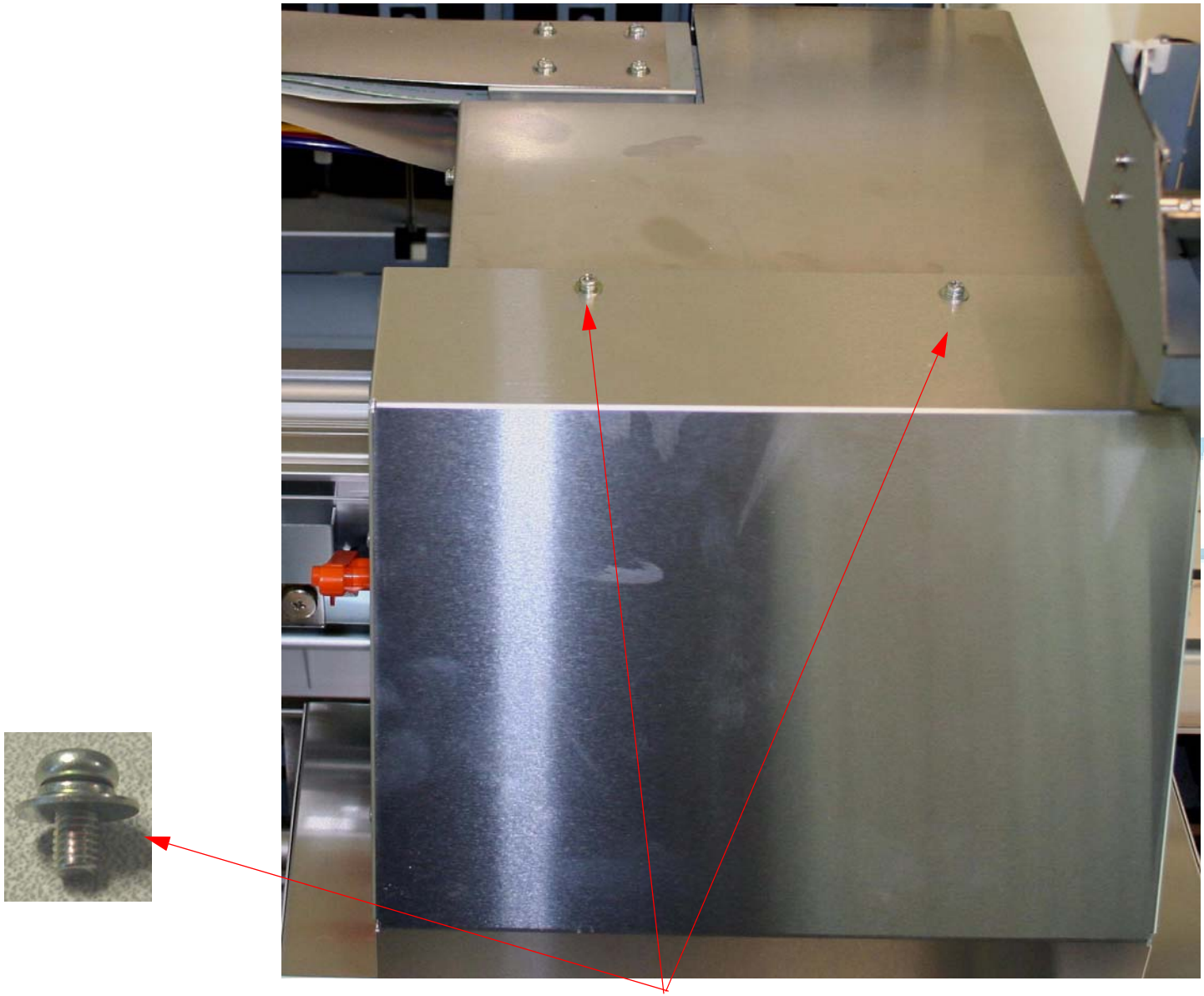
2. Lift off the ***Left Front Plate***.

6. Release the ***Carriage Mechanism,*** following the directions found in the Carriage Release (Manual) Chapter, located in the Reference Section.

7. Raise the ***Front Cover*** and move the ***Carriage Mechanism*** into the far left maintenance area.

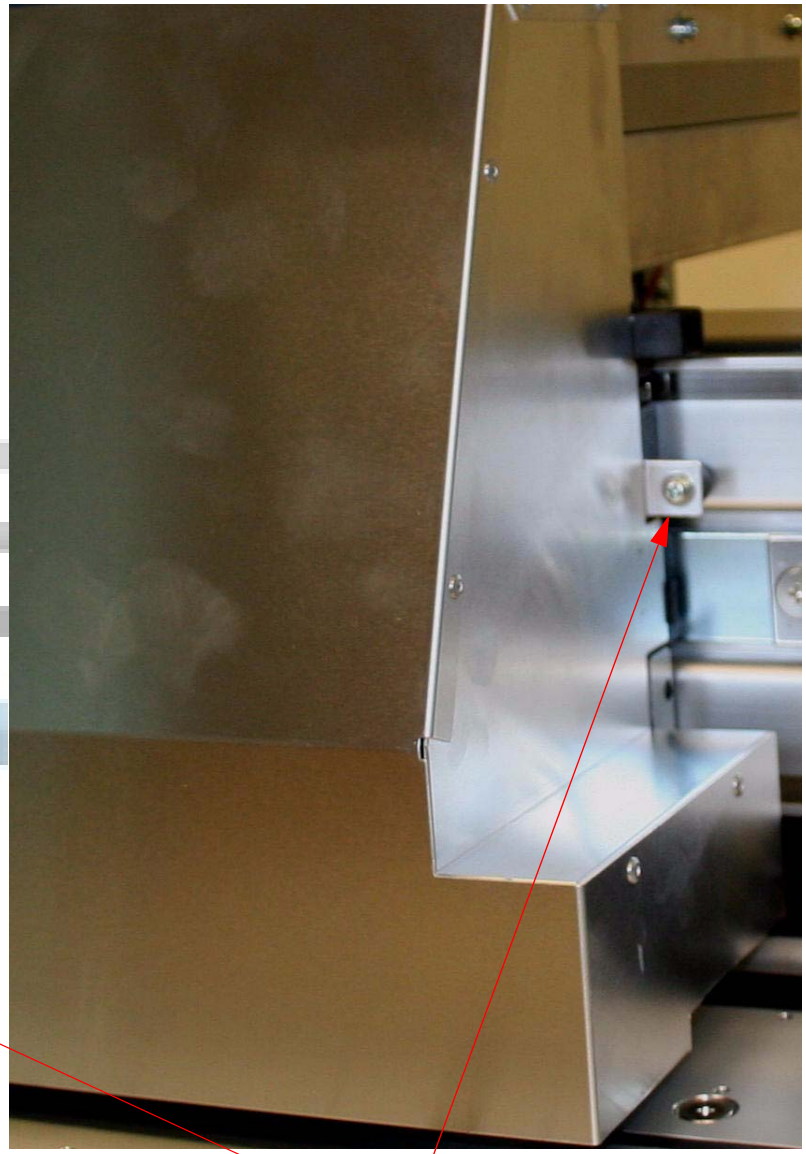


8. Remove ***2 Screws*** that fasten the top of the ***Carriage Cover*** to the ***Carriage Assembly***.



Remove ***2 Screws***.

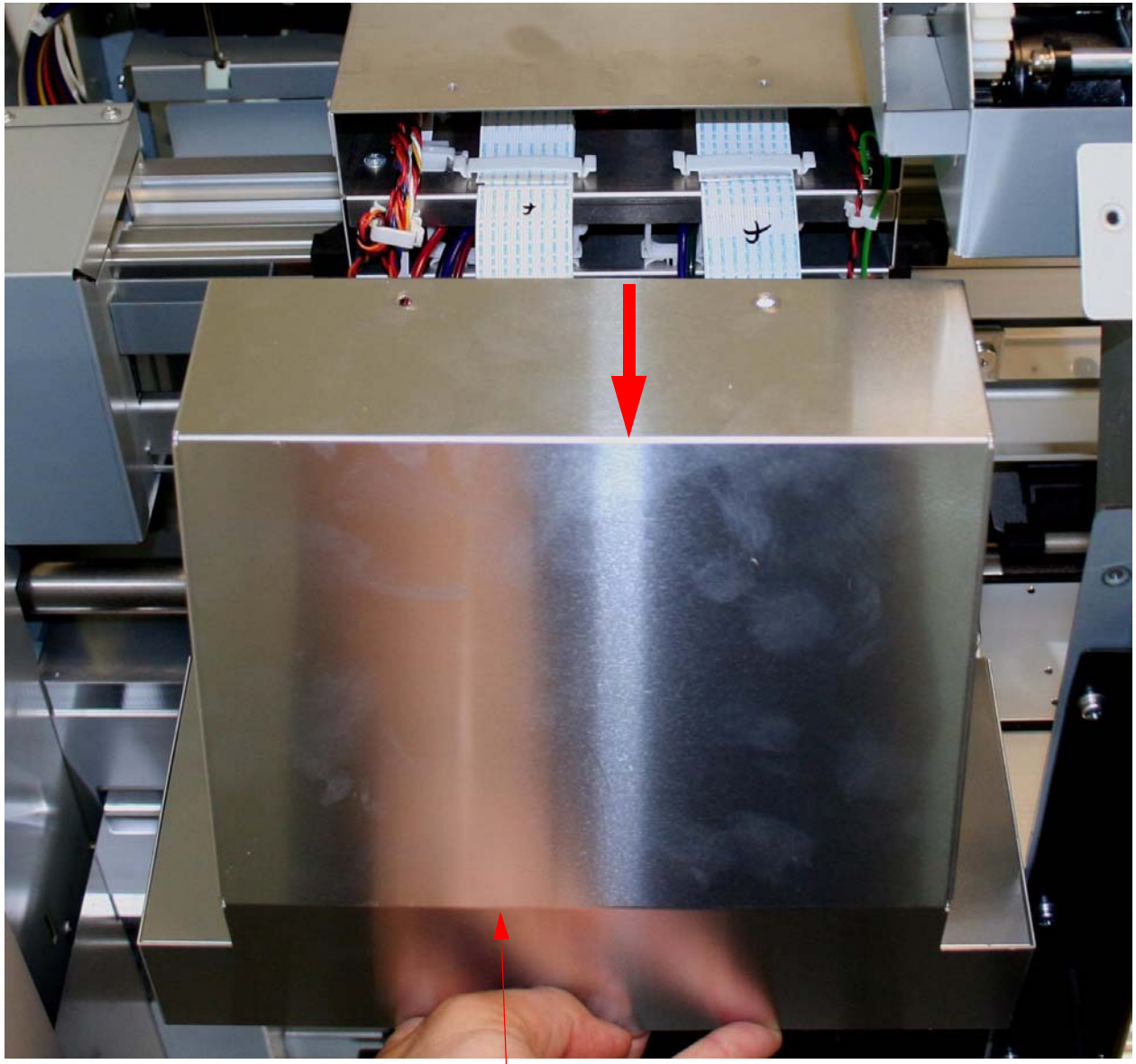
9. Remove ***2 Screws*** that fasten the sides of the ***Carriage Cover*** to the ***Carriage Assembly***.



1. Remove ***1 Screw***.

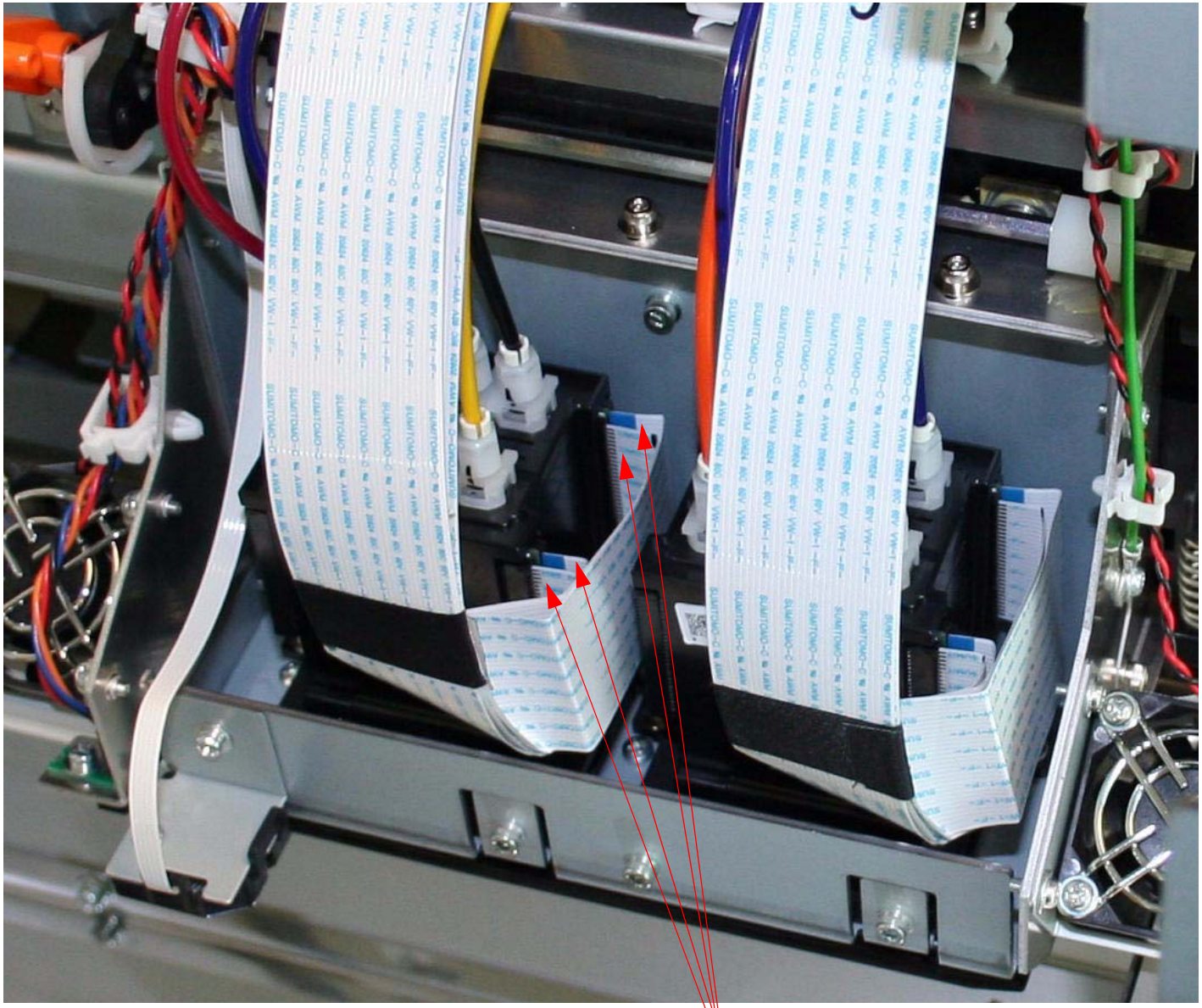
2. Remove ***1 Screw***.

10. Remove the ***Carriage Cover***.



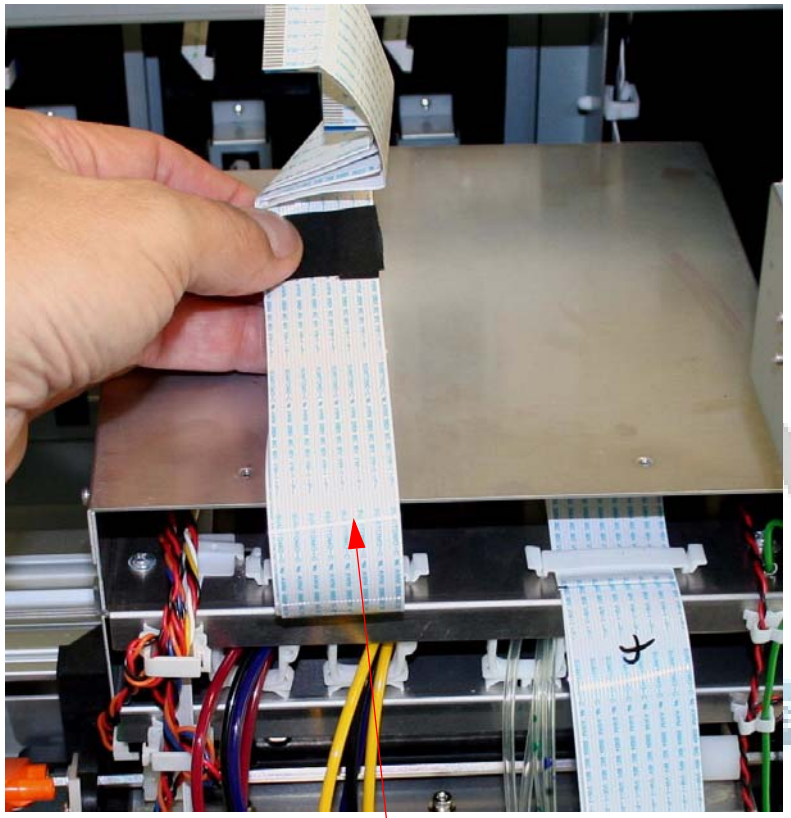
Slide off the ***Carriage Cover***.

11. Unplug ***4 Print Head Cables***.

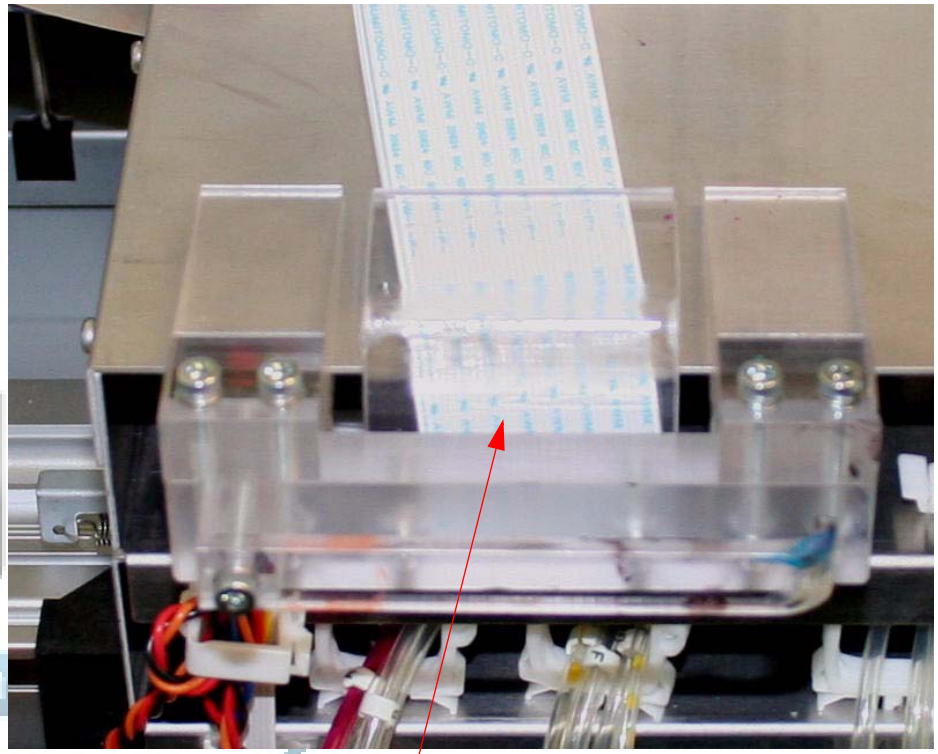


Unplug ***4 Print Head Cables*.**

12. Fasten the ***Print Head Cables*** to the ***Carriage*** with the Cable and Tube Holder.



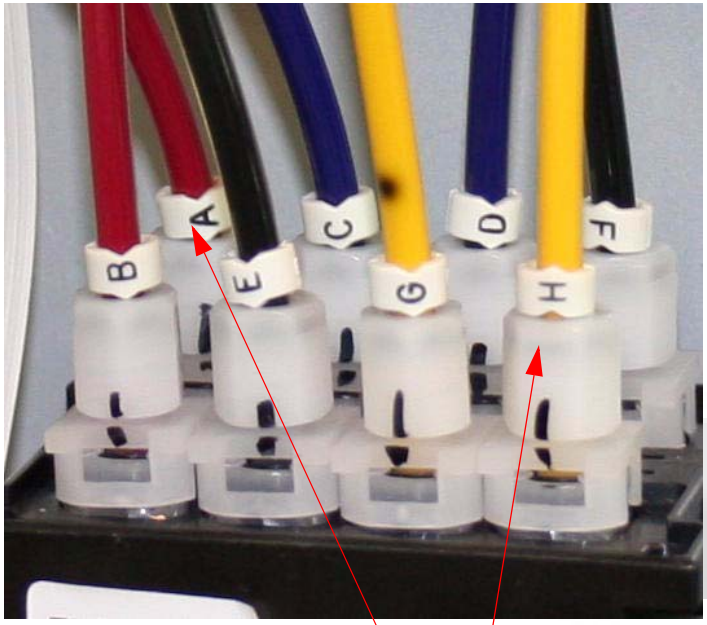
1. Place the ***Print Head Cables*** in this position.



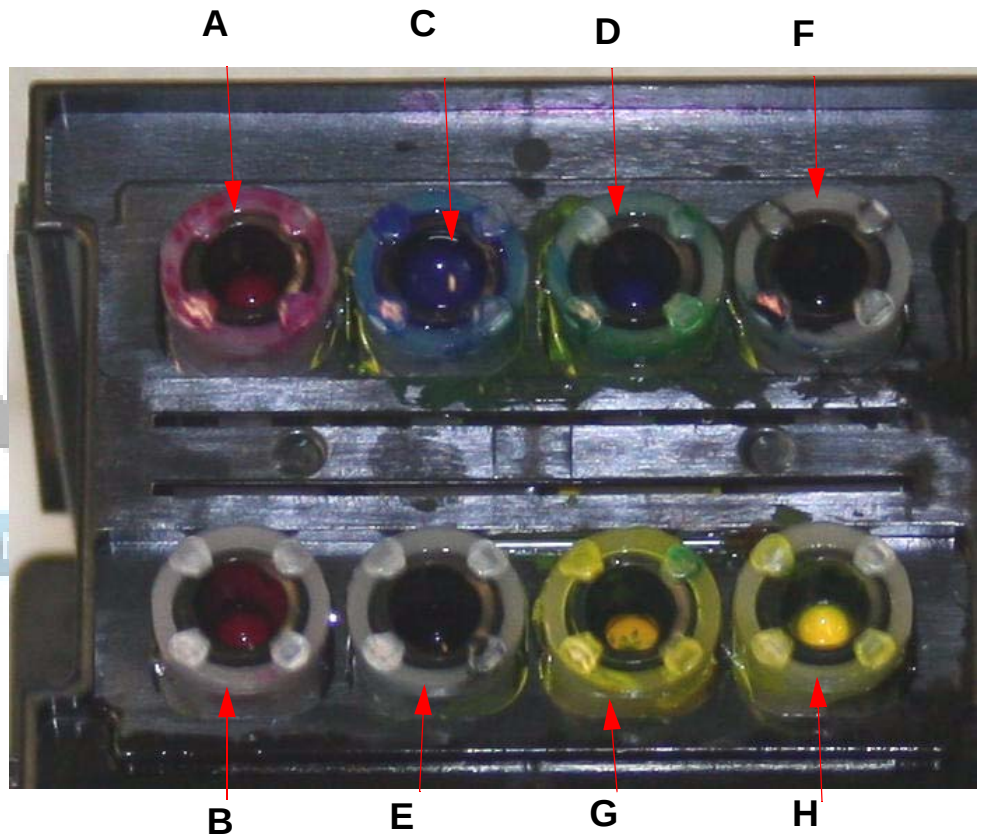
2. Fasten the ***Print Head Cables*** with the Cable and Tube Holder.

13. Note the connection order of the ***Ink Lines***.

Note: This step is a reassembly note.

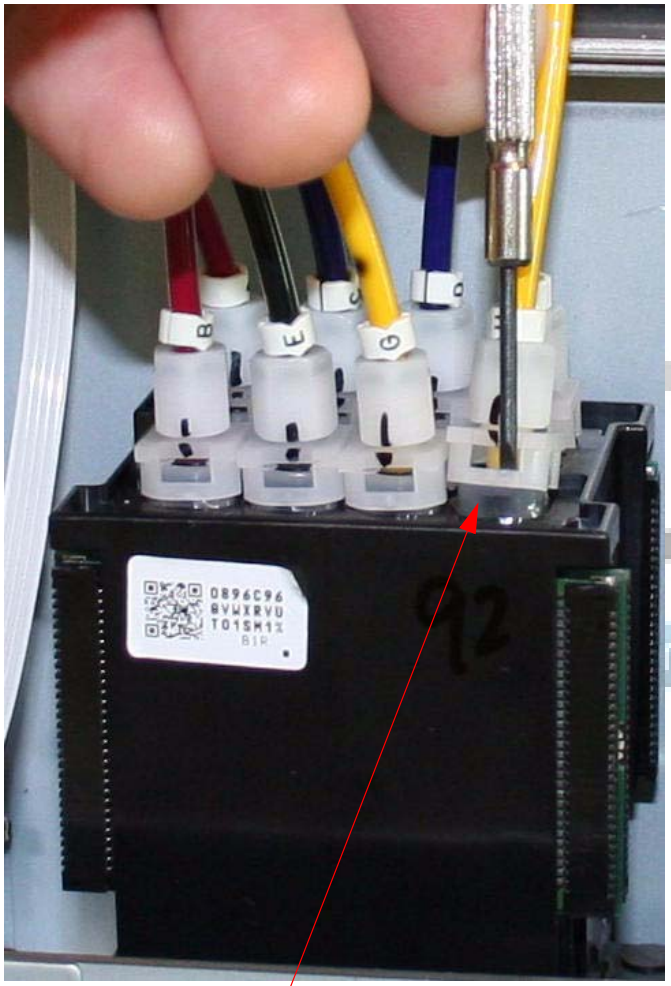


Tubes are marked **A - H**

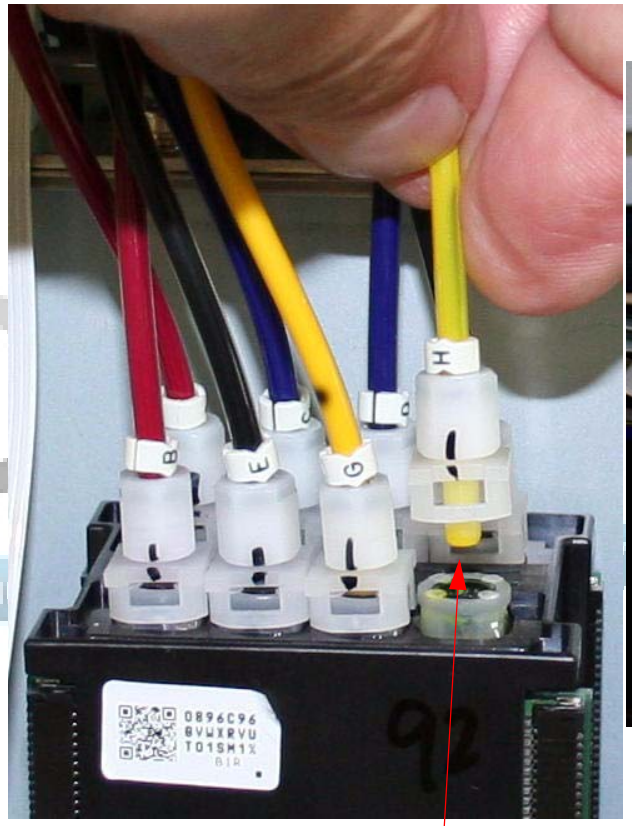


14. Disconnect ***1 Yellow Tube***.

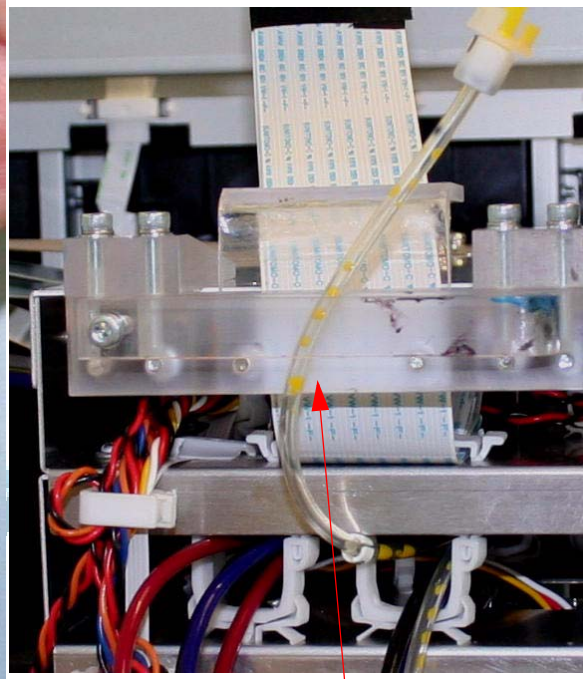
Note: Failure to follow this step, and the next 2 steps, will result in an ink spill.



1. Gently release the ***Interlock***.

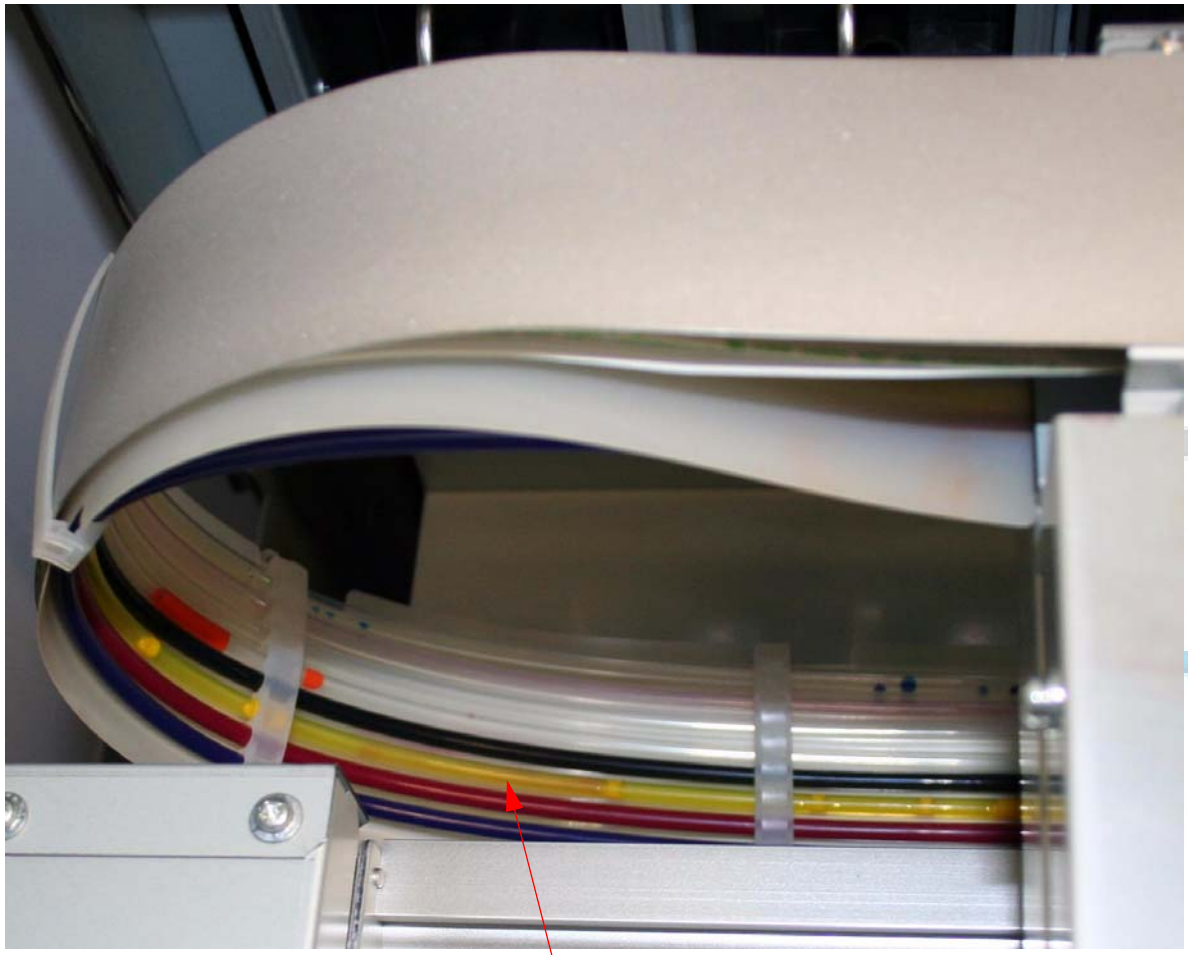


2. Remove the ***Tube***.

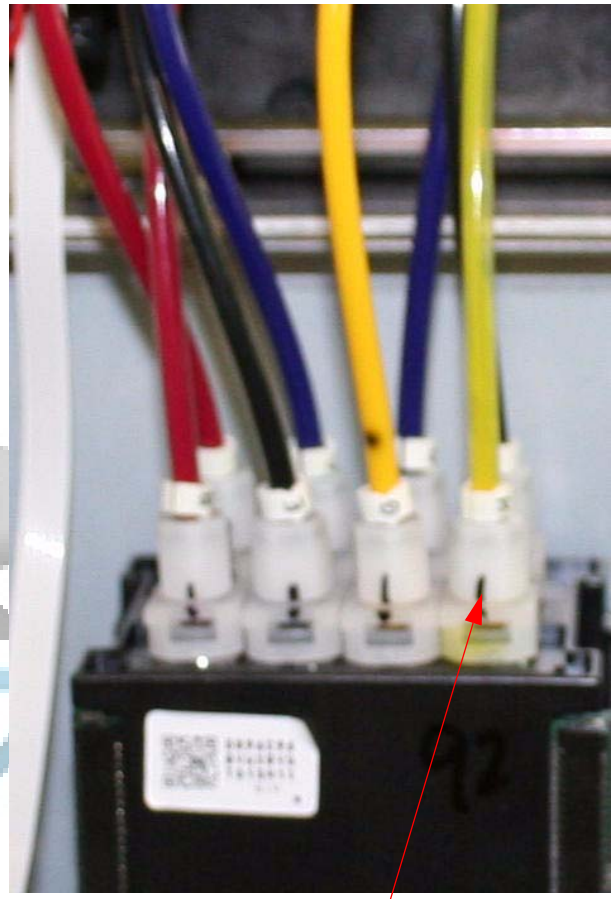


3. Place the ***Tube*** behind the holder.

15. Wait for the **Tube** to drain, and reattatch.



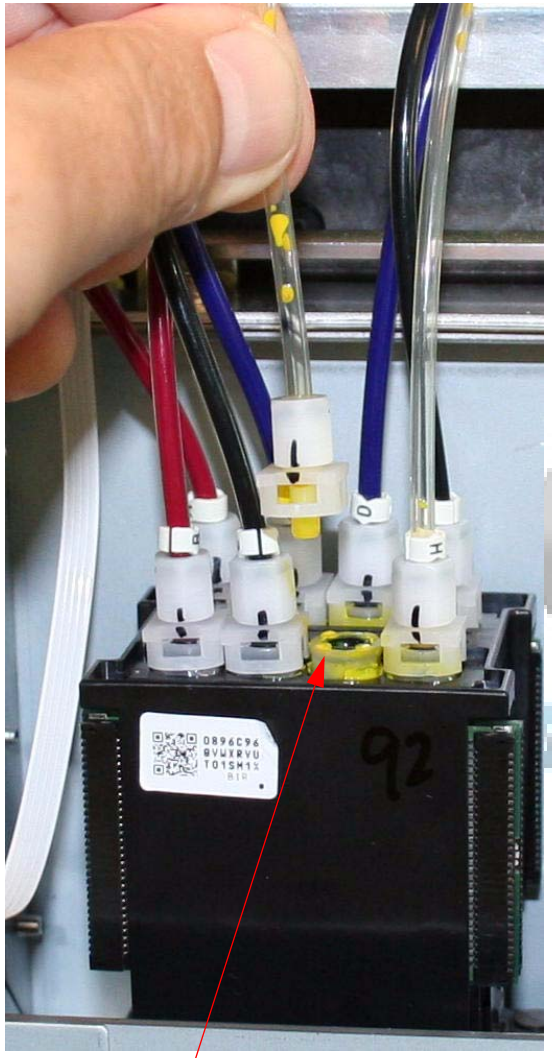
1. Wait for the ***Tube*** to drain to this point.



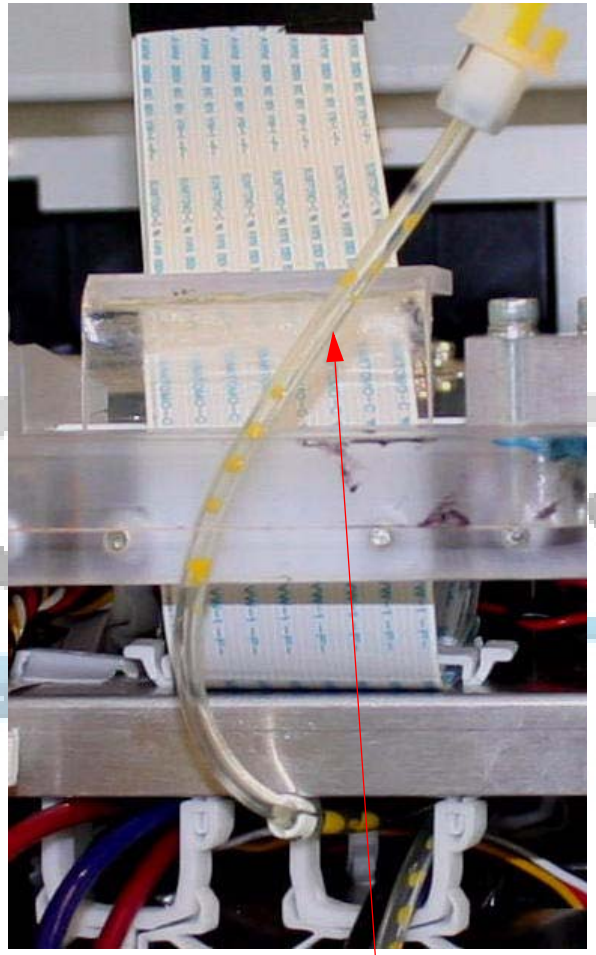
2. Reconnect the ***Tube***.

Note: Failure to reattach the first Yellow Tube will cause the next Yellow Tube to drain out the end, instead of draining into the Ink Sub Tank.

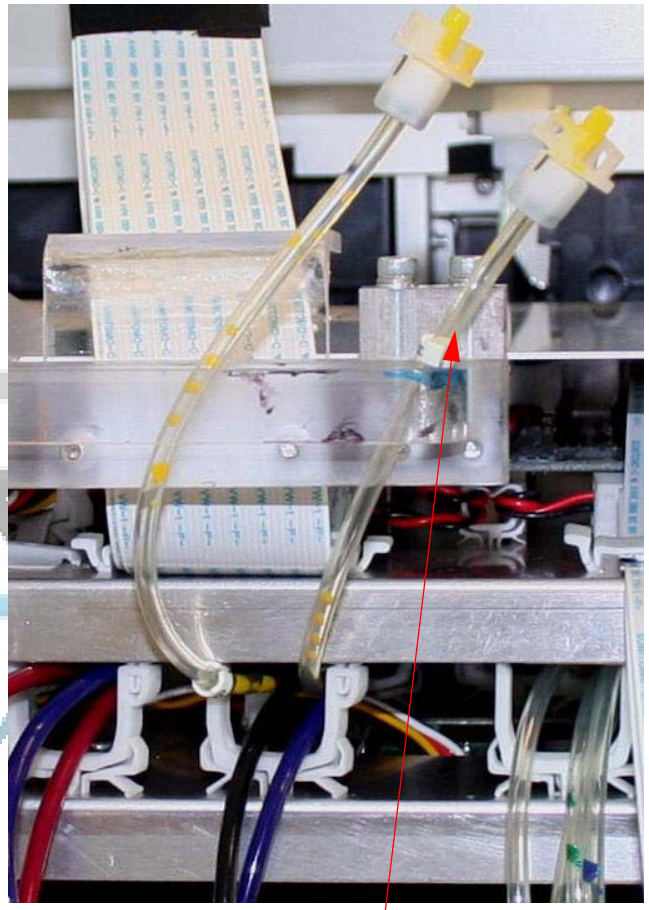
16. Remove the second ***Yellow Tube***.



1. Release and remove the second ***Yellow Tube***.



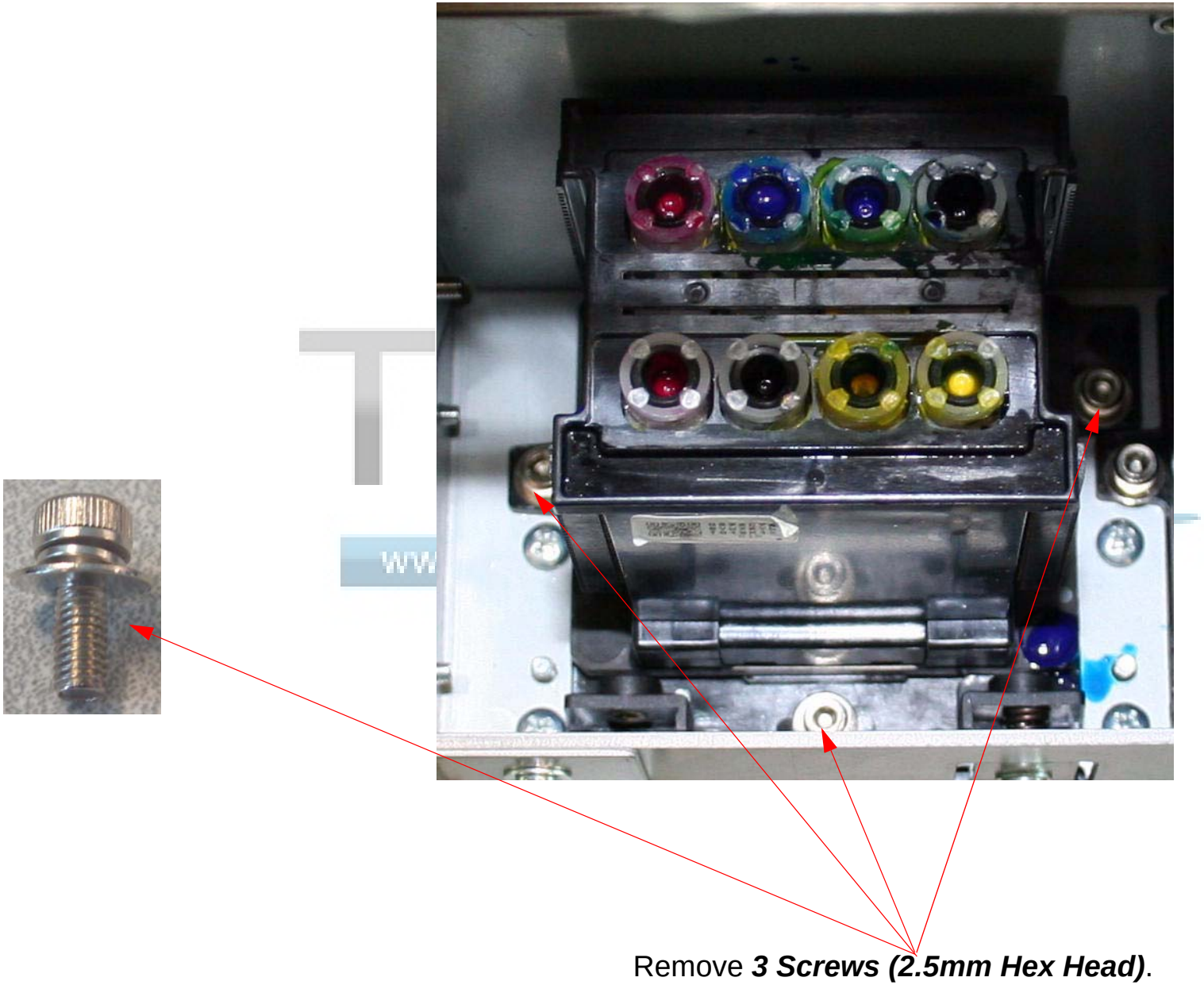
2. Place it behind the holder.



3. Place the first ***Yellow Tube*** behind the holder.

17. Repeat steps 14 - 16 with each of the 3 remaining color pairs.

18. Remove ***3 Screws (2.5mm Hex Head)***



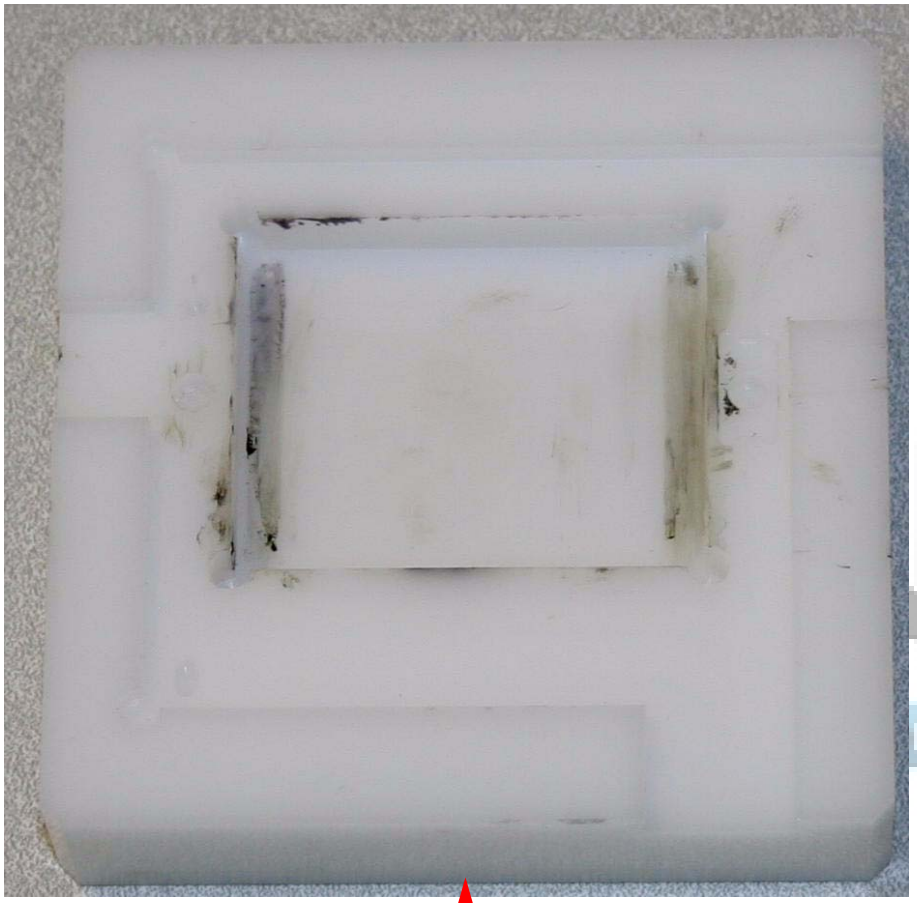
Remove ***3 Screws (2.5mm Hex Head)***.

19. Remove the ***Print Head Assembly***.

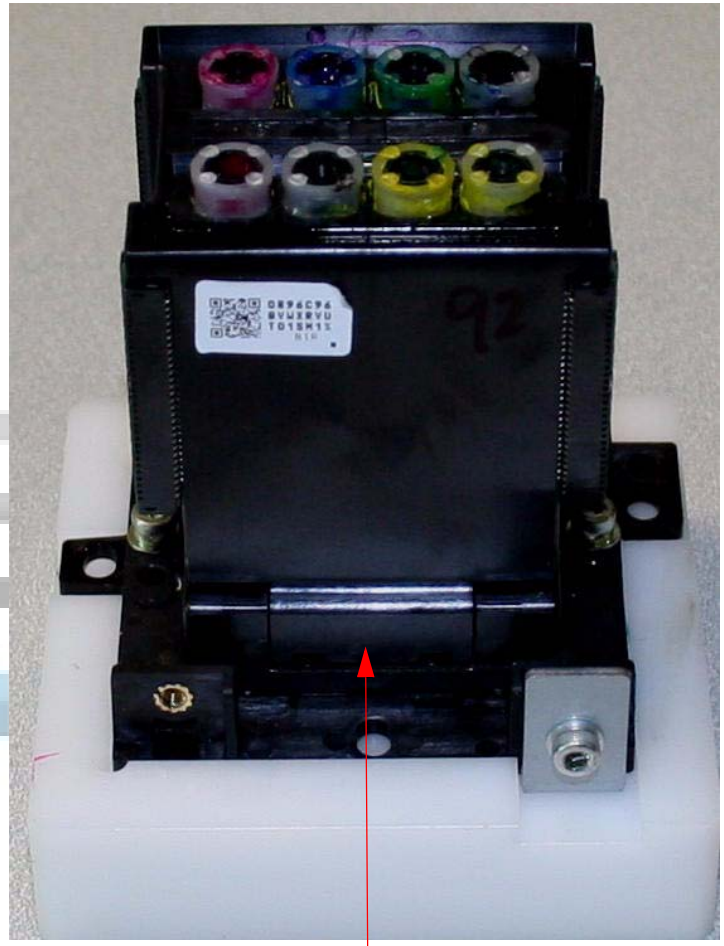
1. Tilt the ***Head Assembly*** forward to free this piece.

2. Lift out the ***Head Assembly***.

20. Place the ***Print Head Assembly*** onto the Print Head Assembly Holder.

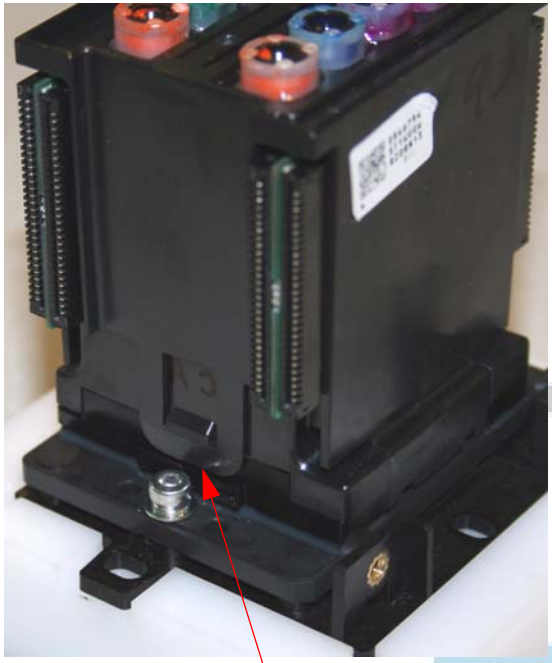


1. Place the print head assembly holder in this position.

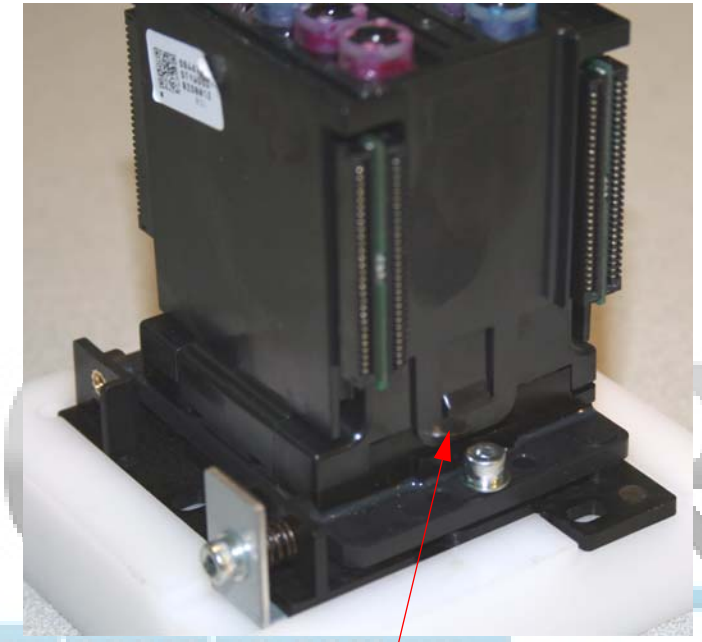


2. Place the ***Print Head Assembly*** on the holder.

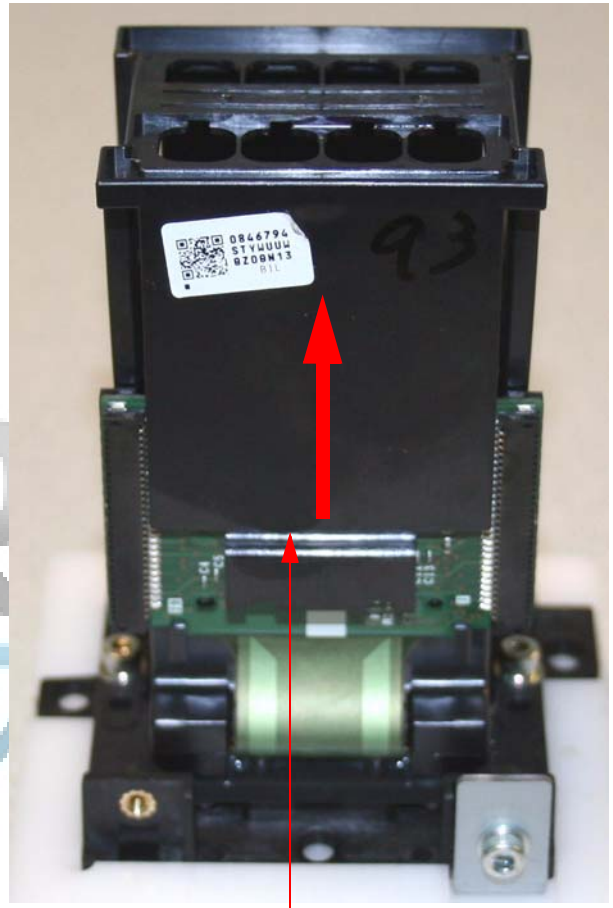
21. Remove the ***Print Head Cover***.



1. Release the ***Left Interlock***

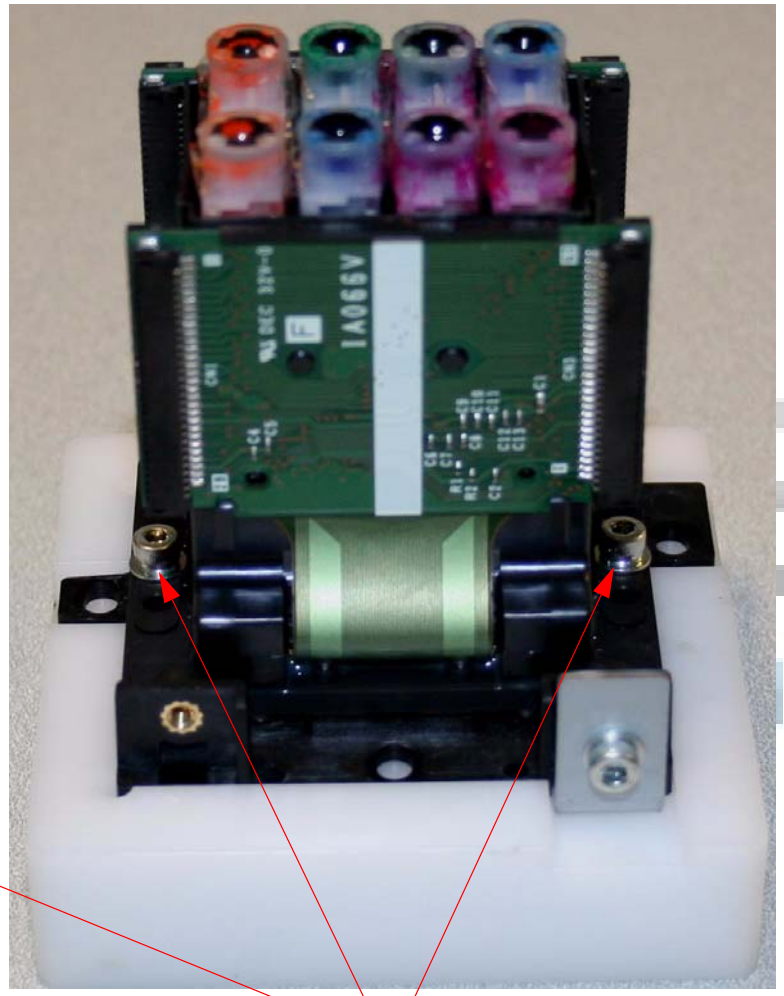


2. Release the ***Right Interlock***.

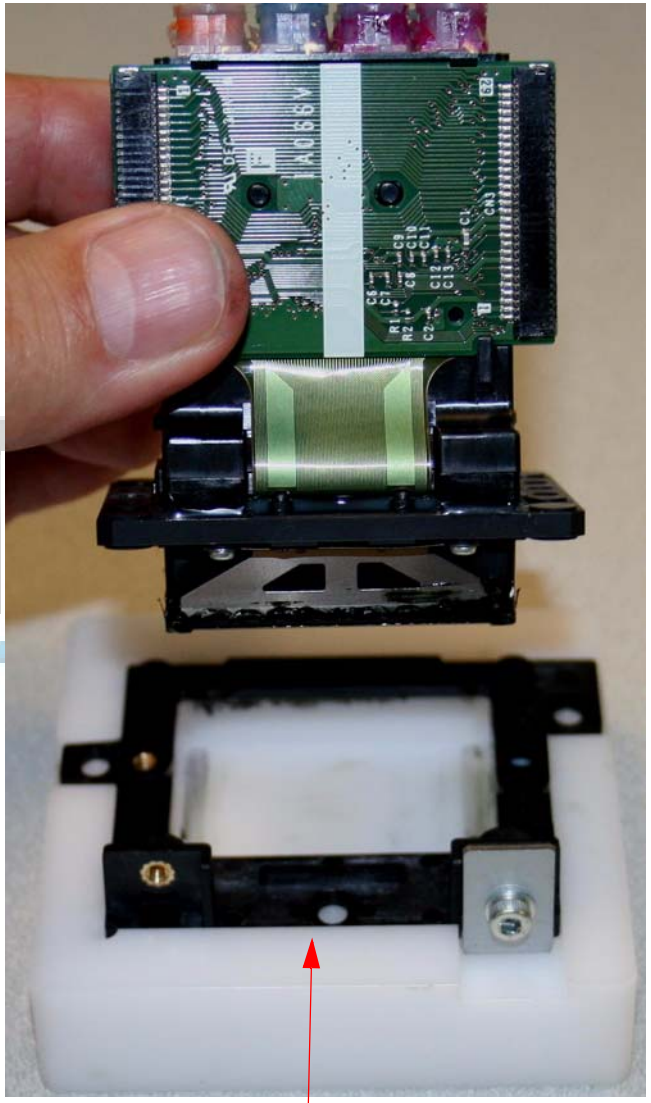


3. Lift off the ***Print Head Cover***.

22. Remove the ***Print Head*** from the ***Print Head Base***.



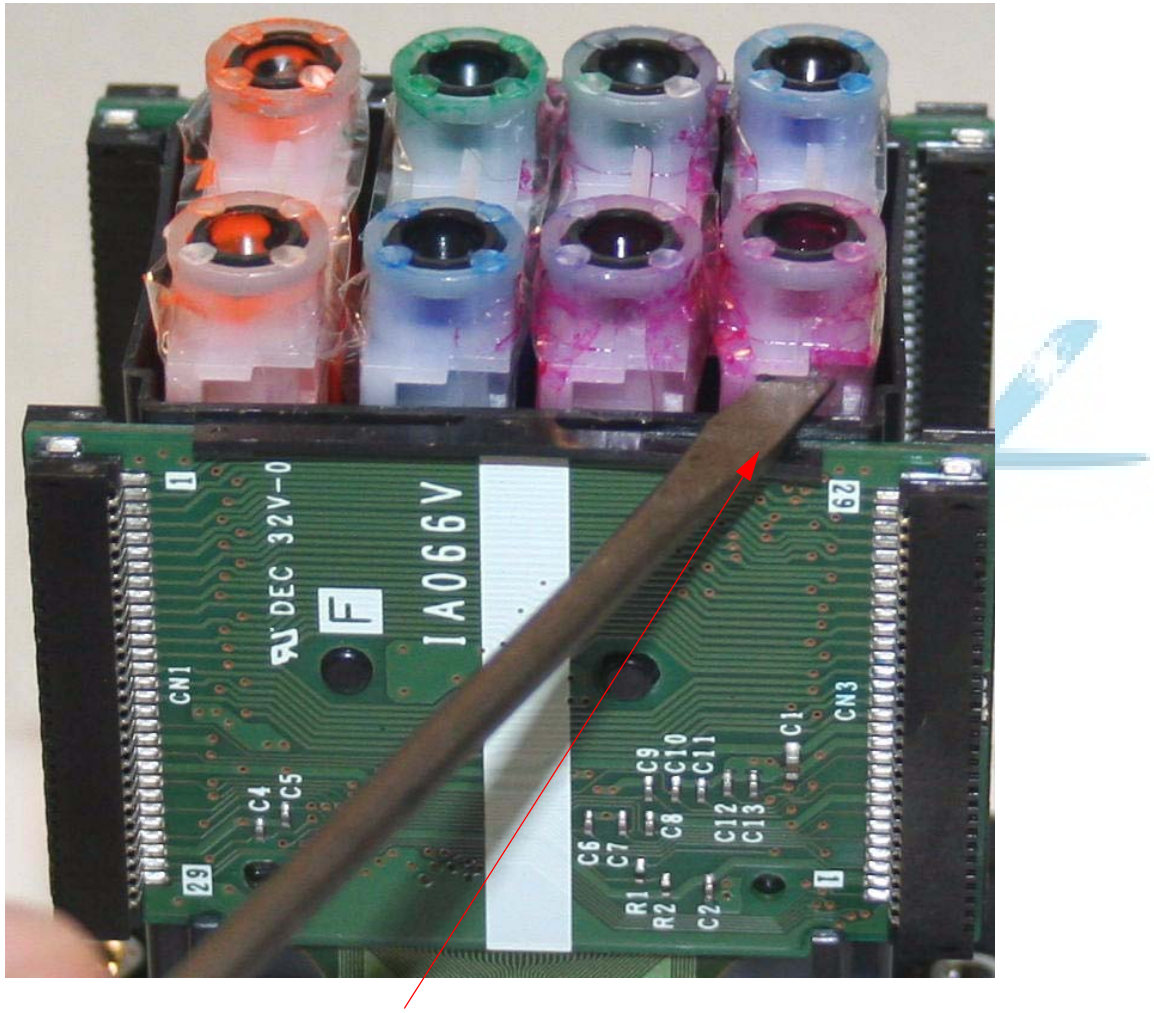
1. Remove ***2 Screws (2.5mm Hex Head)***.



2. Separate the ***Print Head*** from the ***Print Head Base***.

23. Remove the ***Dampers*** (***optional***).

Note: Epson recommends that new Dampers be used with each Print Head Exchange. If new Dampers are to be used, removal of the old Dampers is not necessary. Removal is only necessary if the old Dampers are to be transferred to the new Print Head.



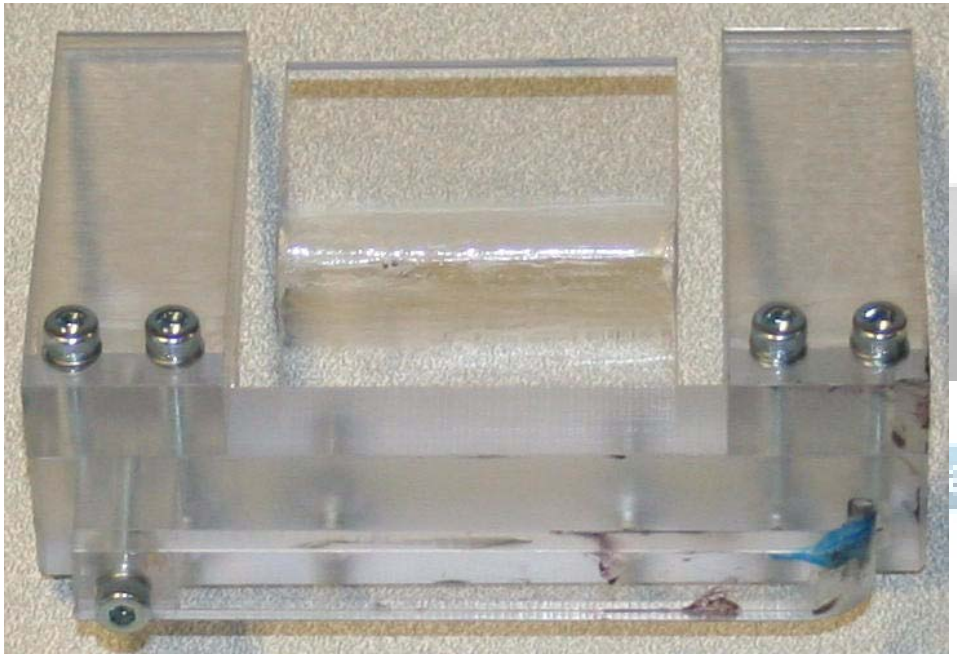
"Pop out" each ***Damper*** by gently applying pressure as shown.

Print Head (Left) Installation

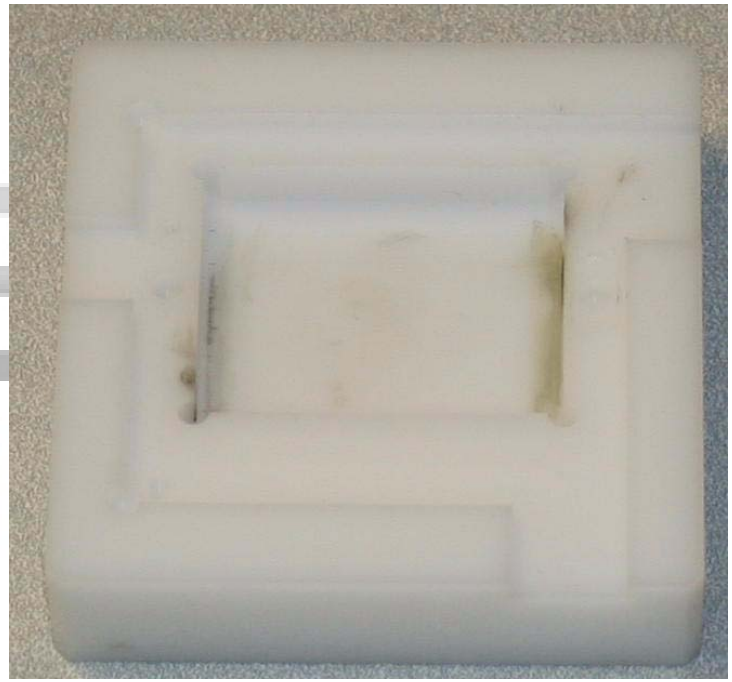
Note: It is recommended that all 4 Damper Assemblies be replaced when replacing a Print Head.

Special Tools

Note: The Special Tools listed below are not necessary, but strongly recommended.



Cable and Tube Holder: Part # **1501560**



Print Head Assembly Holder: Part # **1501562**

Note: The Print Head Spring Tool is only used when replacing the Right Print Head.

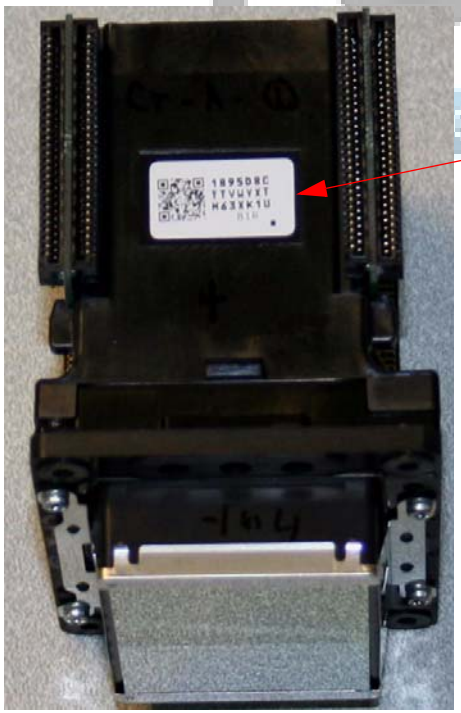
Print Head Spring Tool: Part # **1501561**

Print Head Removal Overview

- Transfer the ***Head Rank Sticker***.
- Attach the ***Print Head*** to the ***Print Head Base***.
- Install ***Dampers***.
- Install the ***Print Head Cover***.
- Attach the ***Head Cables***.
- Install the ***Print Head***.
- Attach the ***Ink Tubes***.
- Clean the ***Print Head*** until the Nozzles work.
- Adjust the ***Print Head***.

Print Head Removal Detail

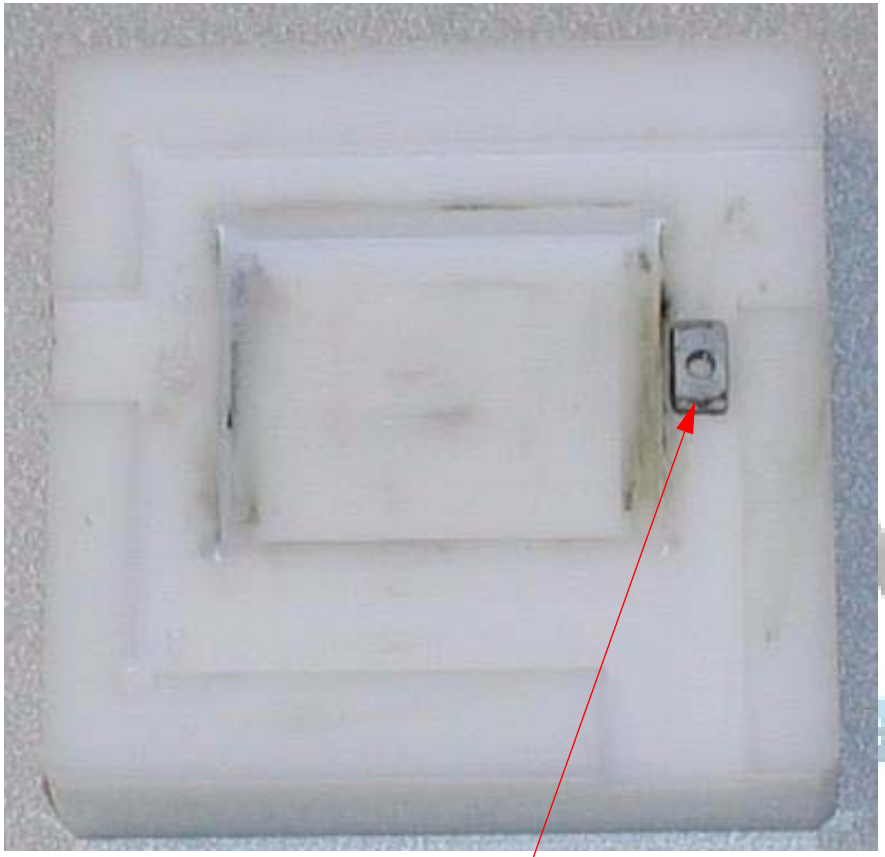
1. Remove the ***Head Rank Sticker*** from the ***New Print Head*** and save it.

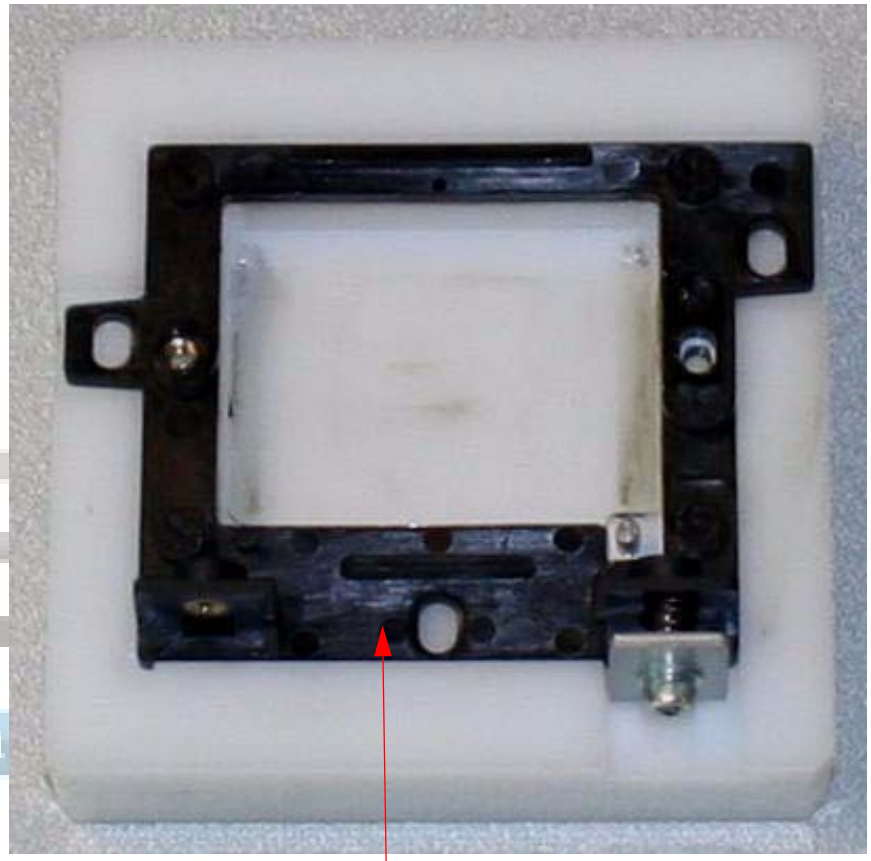


Remove the ***Head Rank Sticker***, and save it.

Note: The Head Rank Sticker will be attached to the Print Head Cover at a latter step.

2. Place the ***Print Head Base*** on the Print Head Assembly Holder.

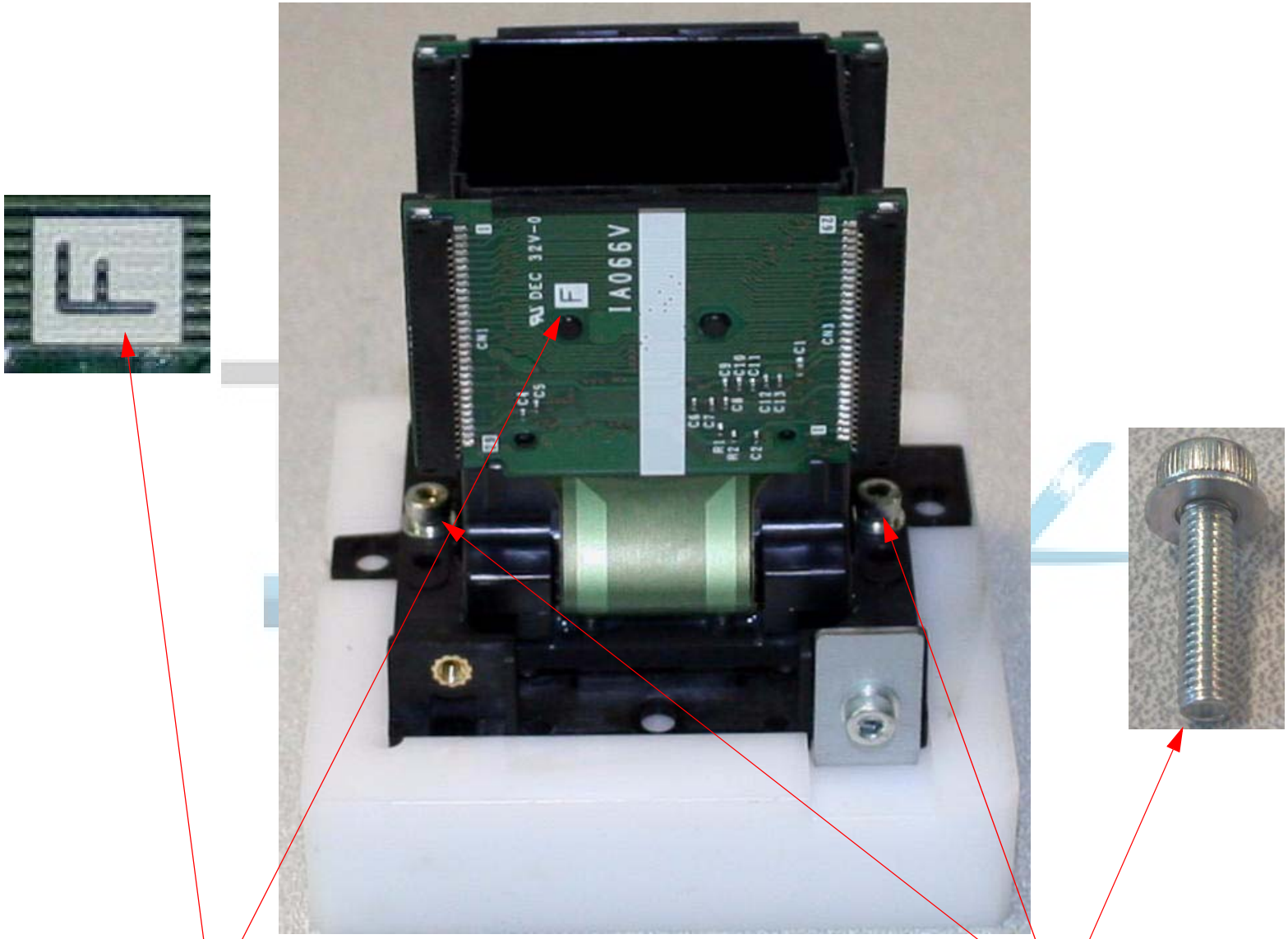




1. Put the ***Right Threaded "Nut"*** into it's slot on the Print Head Assembly Holder.

2. Place the ***Print Head Base*** on the Print Head Assembly Holder.

3. Attach the ***Print Head*** to the ***Print Head Base***.



1. Place the ***Print Head*** on the ***Print Head Base*** with the side with the "F" on it facing front.

2. Fasten with ***2 Screws (2.5mm Hex Head)***

4. Install ***New Dampers*** (***recommended***), or the ***Old Dampers***.

Note: Epson recommends that new Dampers be used with each Print Head Exchange.

Widest spaced Inlet/Out-lets at the top.

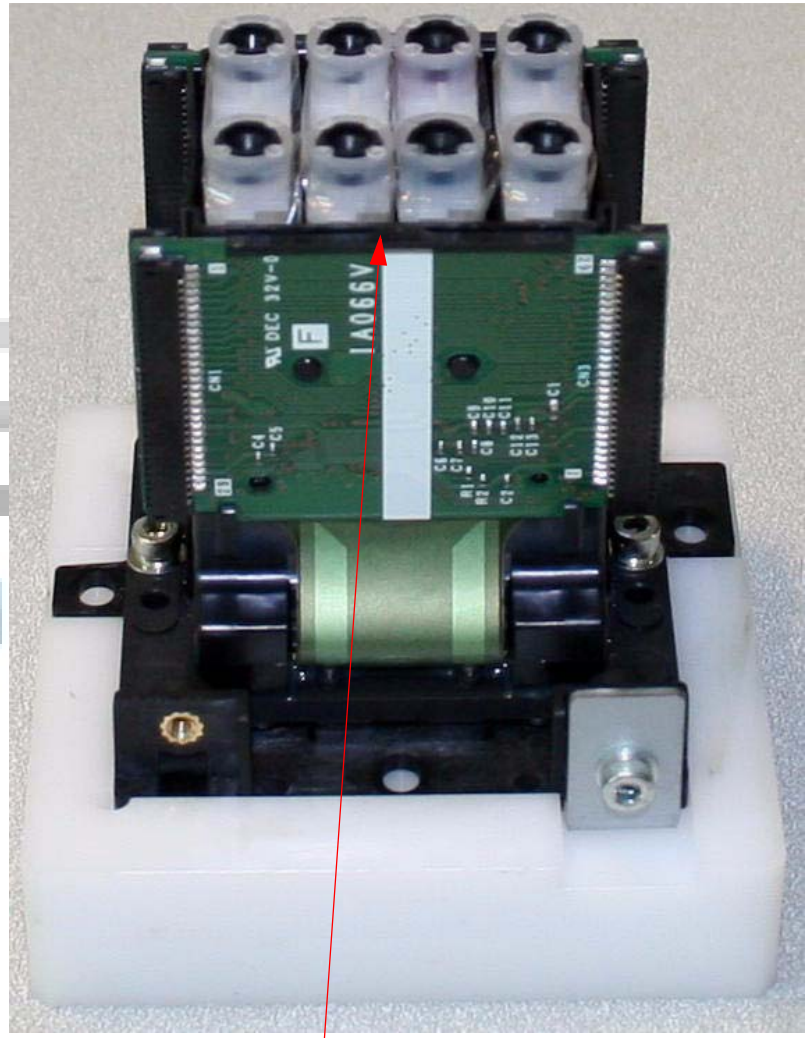
This Valve to the right.

Narrowest spaced Inlet/ Outlets at the bottom

Widest spaced Inlet/Out-lets at the top.

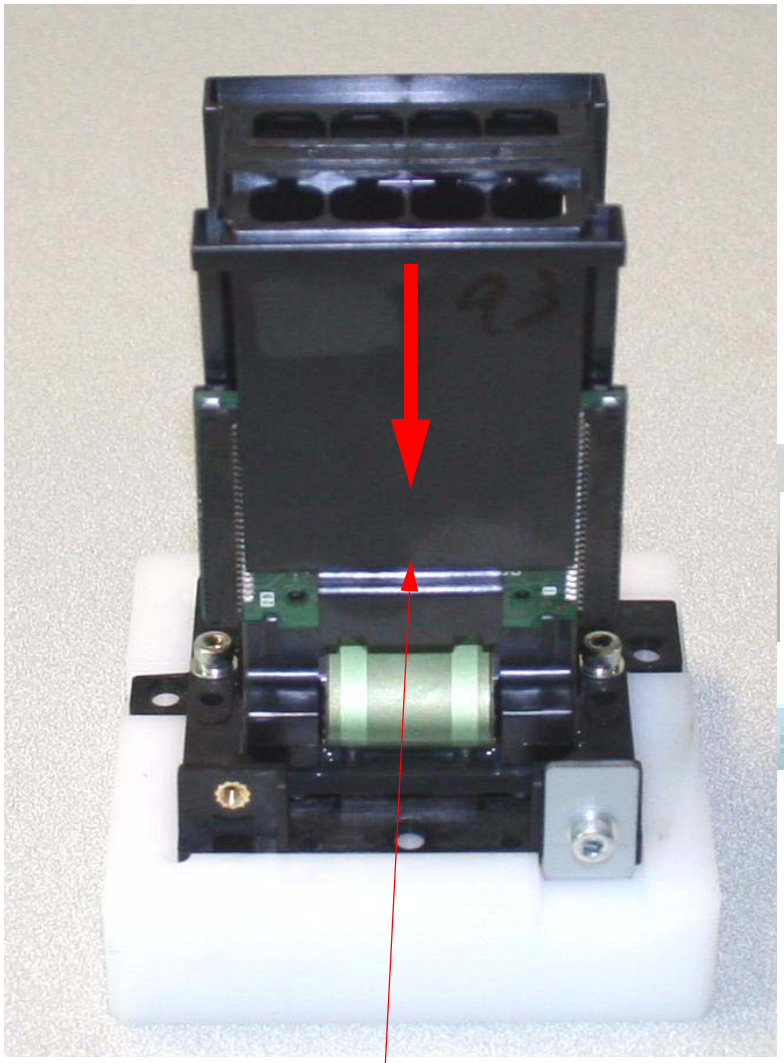
These Screens to the left.

Narrowest spaced Inlet/ Outlets at the bottom



Place ***4 Dampers*** into the ***Print Head*** and press them into place.

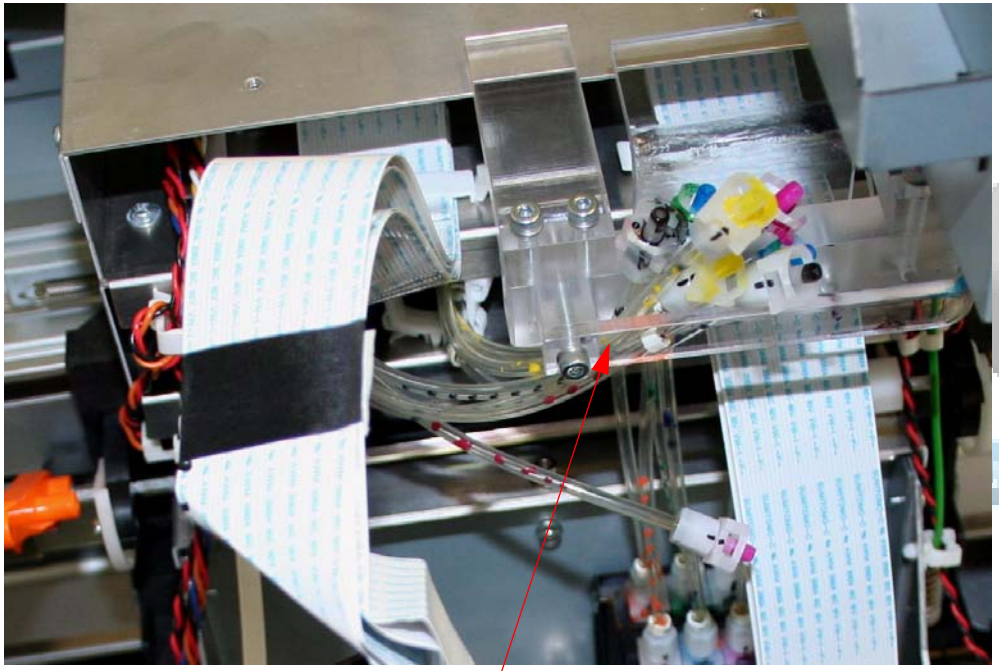
5. Install the ***Print Head Cover***.



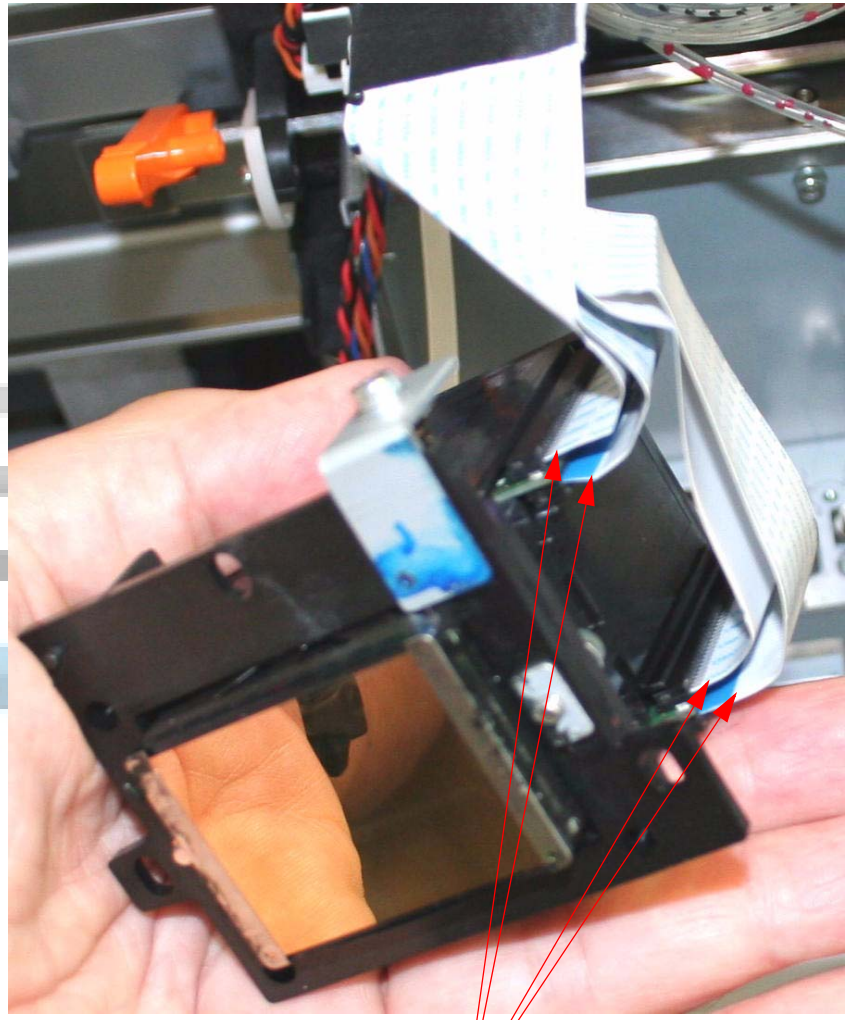
1. Slide the ***Print Head Cover*** into place.

2. Transfer the ***New Head Rank ID Label*** onto the front of the ***Print Head Cover***.

6. Connect the ***Print Head Cables***.

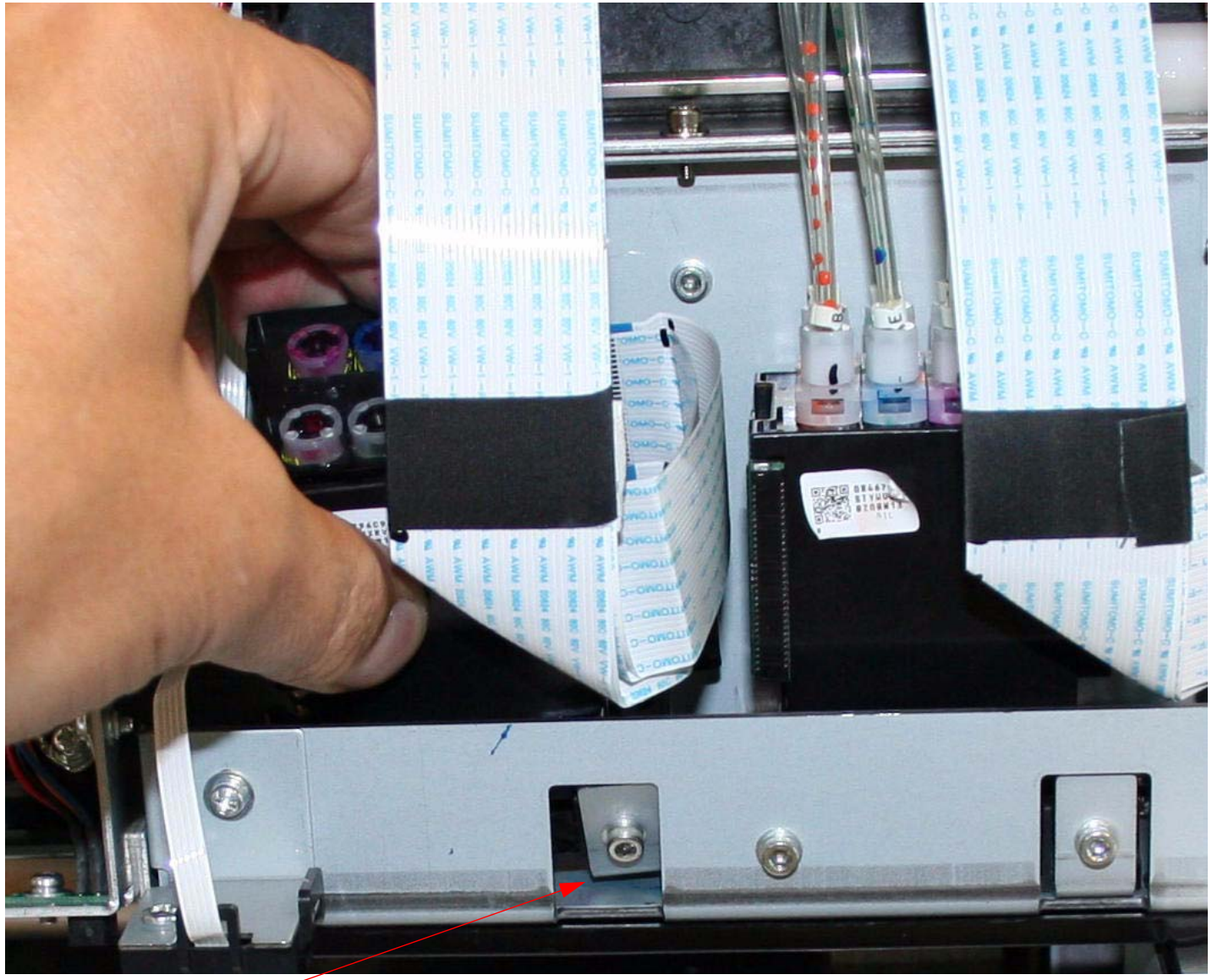


1. Move the Tube and Cable Holder over to release the ***Head Cables*** and move the ***Ink Tubes*** out of the way.



2. Plug in the ***4 Head Cables***.

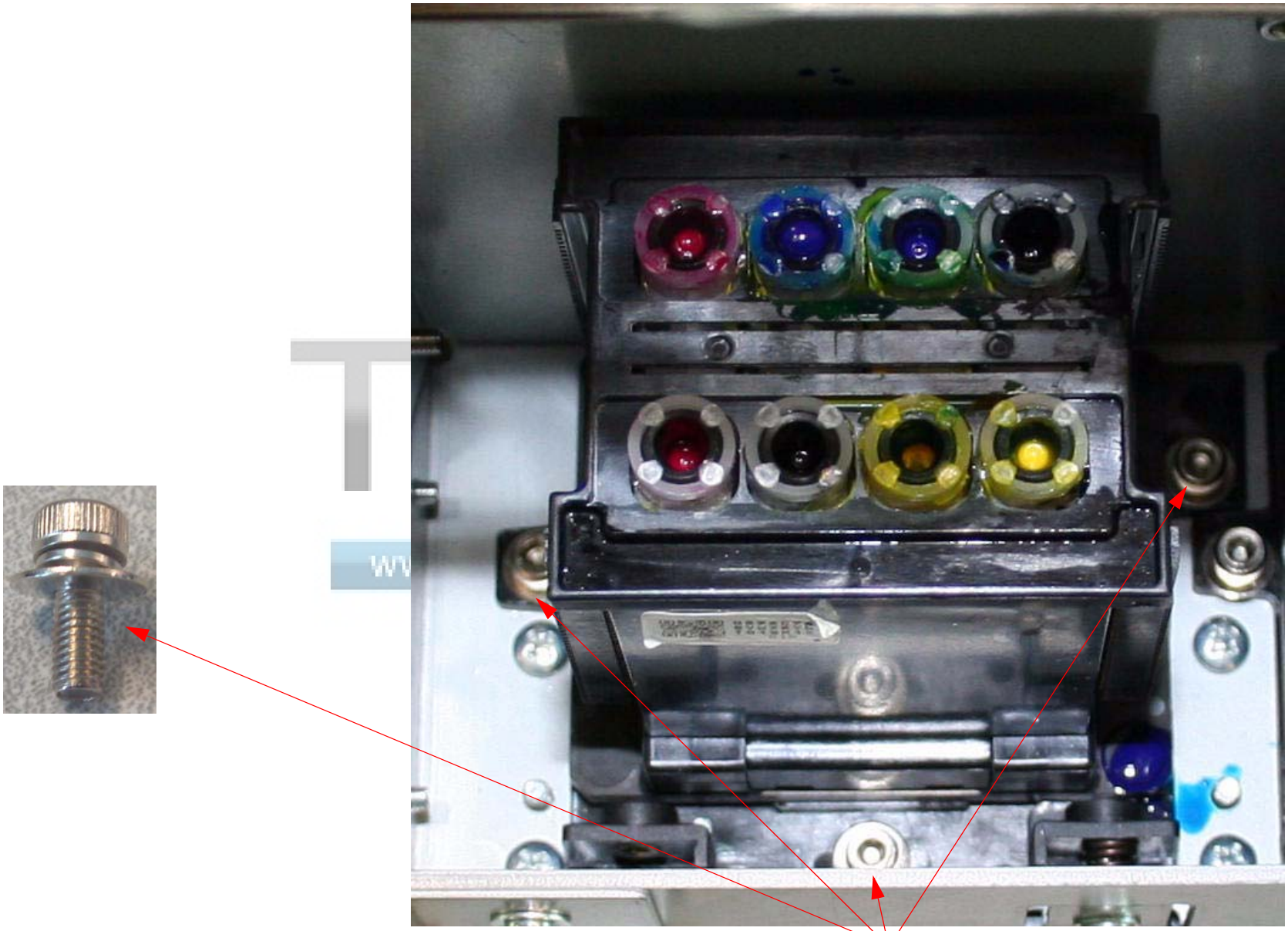
7. Install the ***Print Head Assembly***.



1. Tilt the ***Head Assembly*** forward to insert this piece.

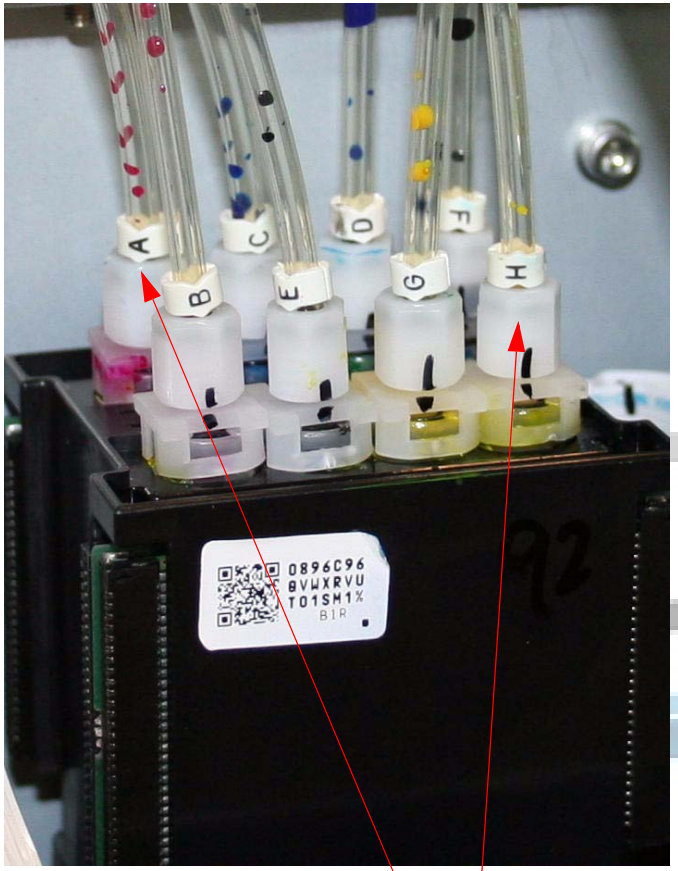
2. Drop in the ***Head Assembly***.

8. Install ***3 Screws (2.5mm Hex Head)***

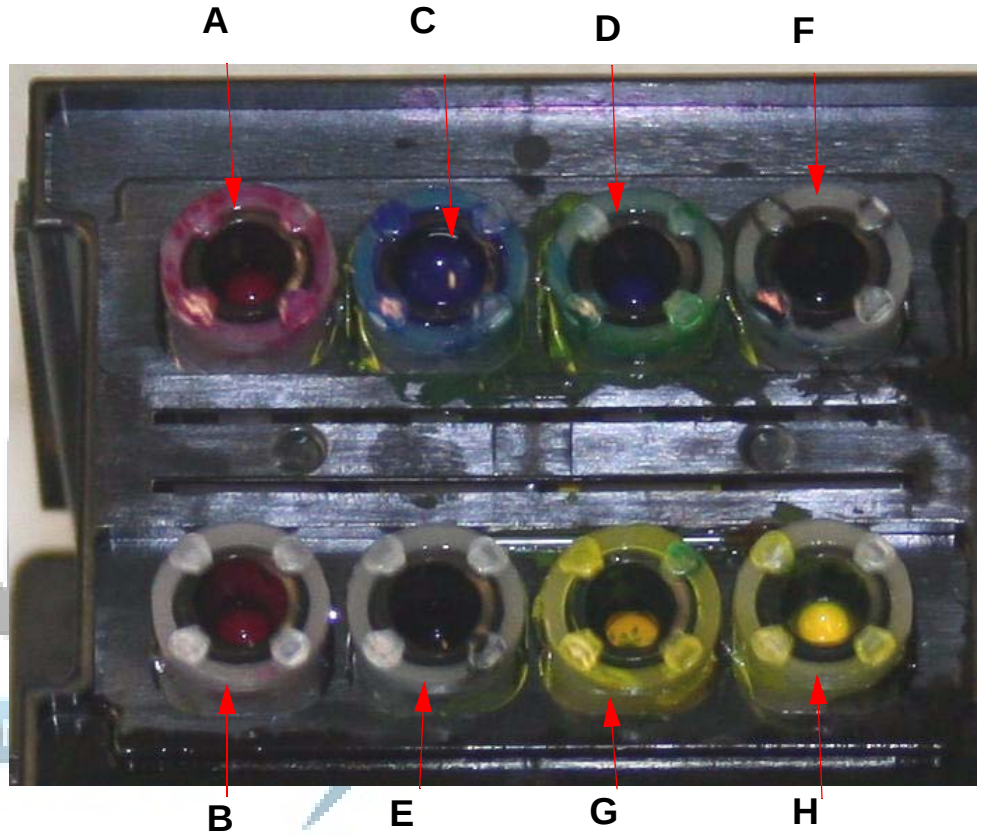


Install ***3 Screws (2.5mm Hex Head)***.

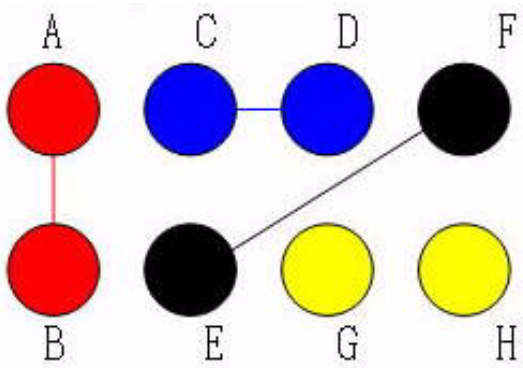
9. Connect the ***Ink Lines***.



Tubes are marked **A - H**



Connect the ***Ink Tubes*** in the correct position.



10. Move the ***Carriage Assembly*** back onto the ***Cap Assembly***.

11. Turn on the ***Printer***, and let it come **Ready**.

12. Press the **Menu** button and navigate to **Maintenance**.

13. Press the ***Menu*** button and navigate to **Cleaning (Heavy)**.

    13.1 Execute the cleaning.

14. Press the ***Menu*** button and navigate to **Cleaning (Very Light)**.

    14.1 Execute the cleaning.

15. Print a Nozzle Check pattern (Perform additional cleanings if necessary).

16. Perform the following adjustments in sequence.

    16.1 Perform ***Head Left (M,C,K,Y) Counter Save and Reset.***

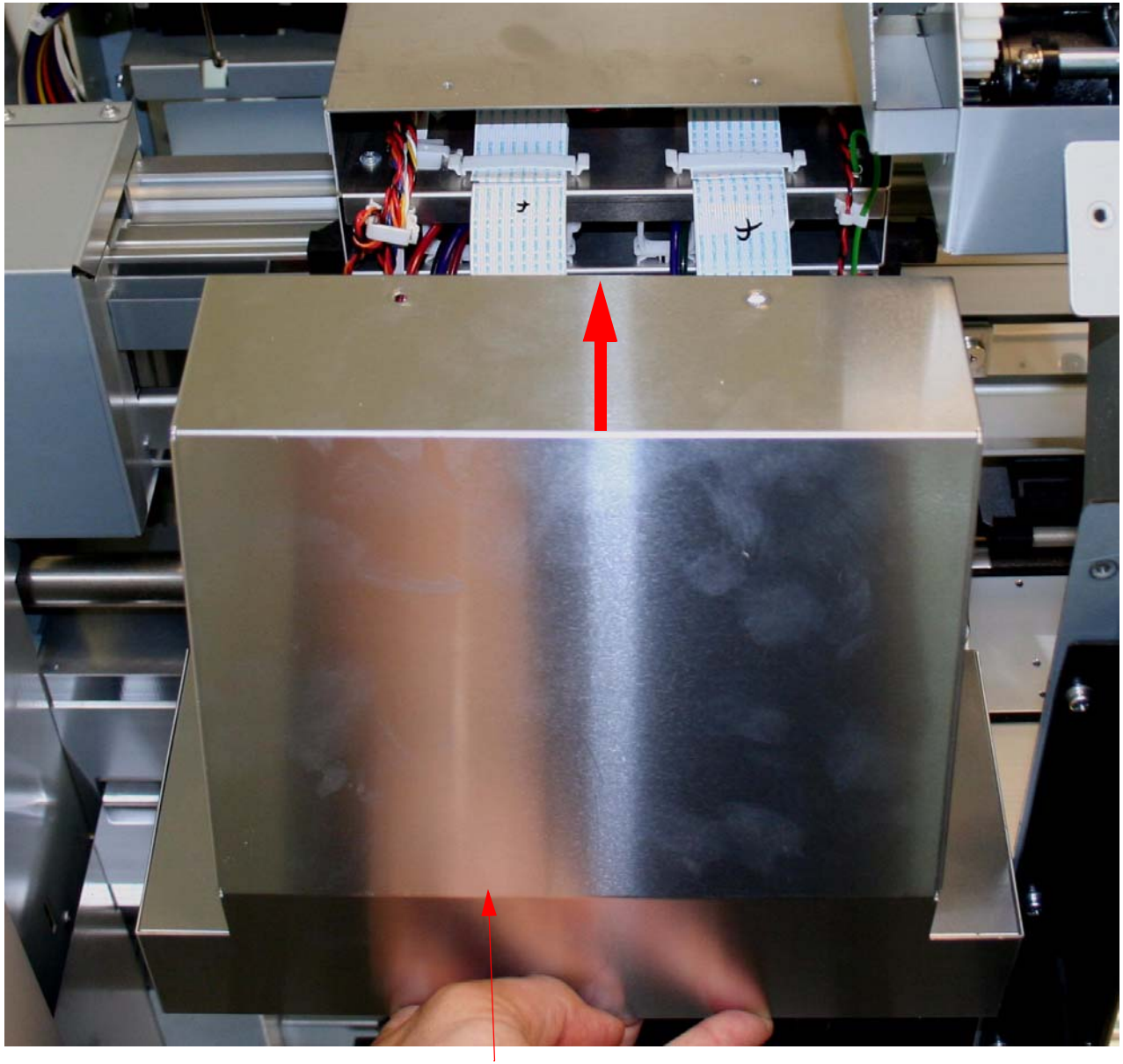
    16.2 Perform ***Head Rank Input*** (***if you did not do it before removing the old Print Head***).

    16.3 Perform the **Head Slant (CR) Adjustment**.

    16.4 Perform the **Head Bi-D Gap Adjustment**.

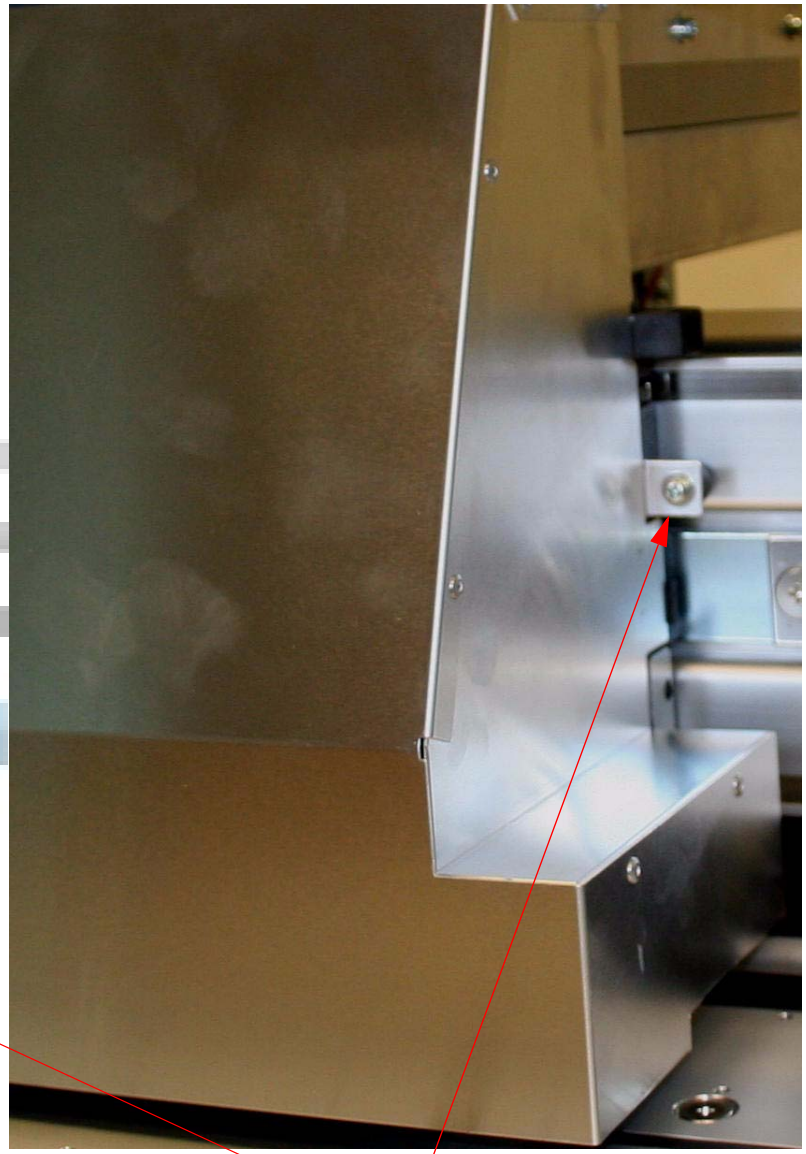
    16.5 Perform the **Head Uni-D Gap Adjustment**.

17. Install the ***Carriage Cover***.



Slide on the ***Carriage Cover***.

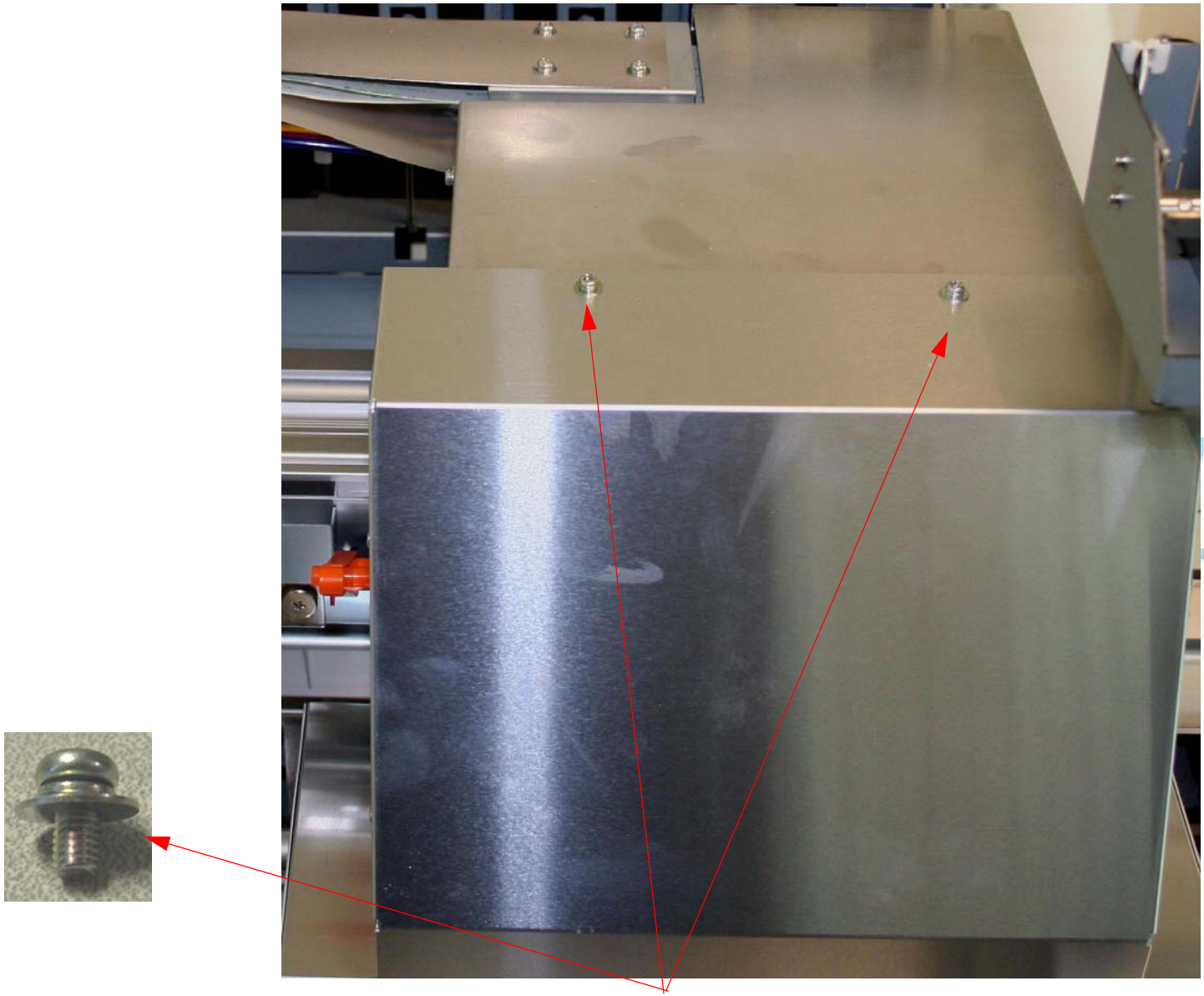
18. Install ***2 Screws*** that fasten the sides of the ***Carriage Cover*** to the ***Carriage Assembly***.



1. Install ***1 Screw***.

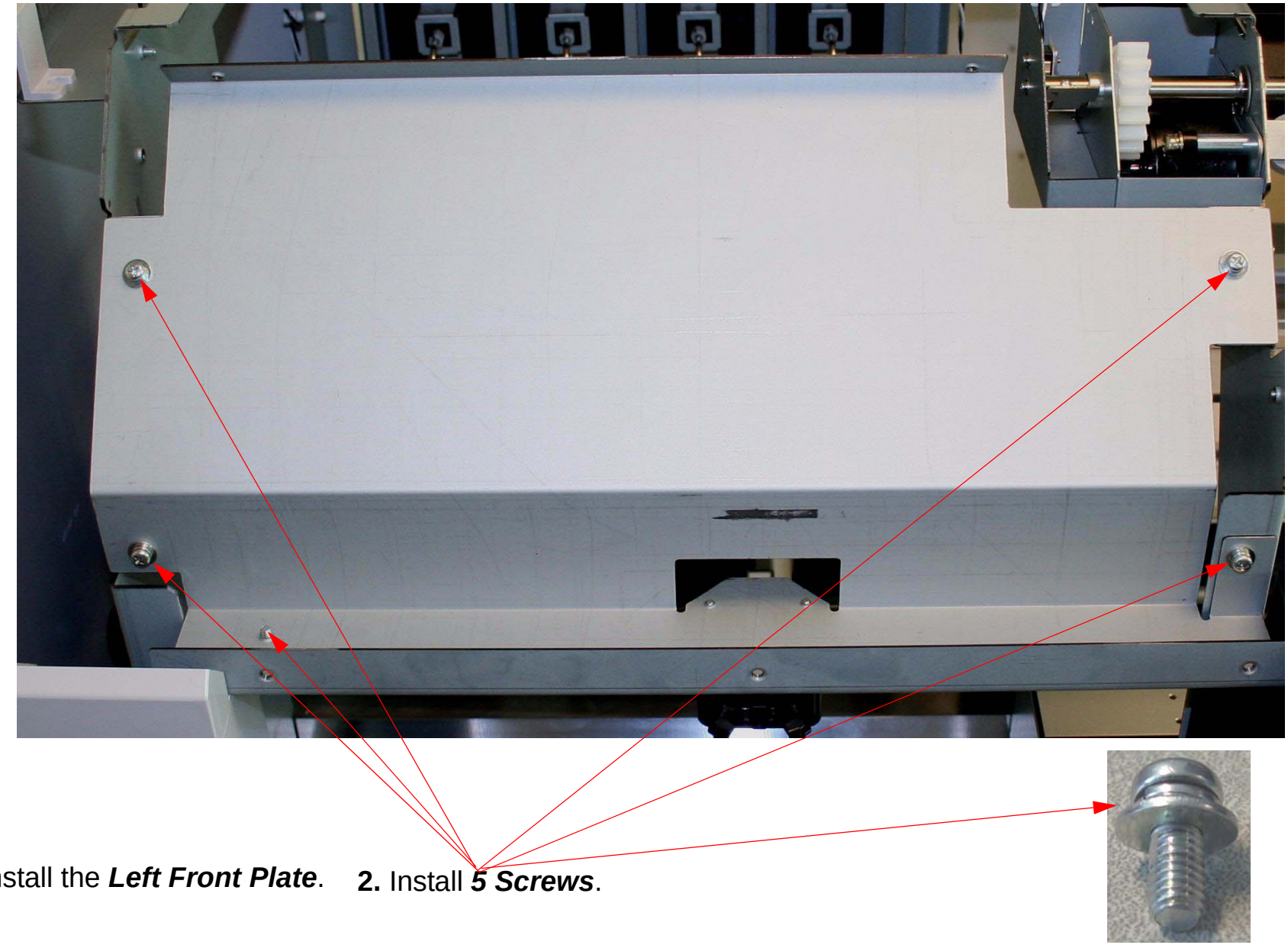
2. Install ***1 Screw***.

19. Install ***2 Screws*** that fasten the top of the ***Carriage Cover*** to the ***Carriage Assembly***.



Install ***2 Screws***.

20. Install the ***Left Front Plate***.



1. Install the ***Left Front Plate***. **2.** Install ***5 Screws***.

21. Install the ***Cover (Left Front)***.

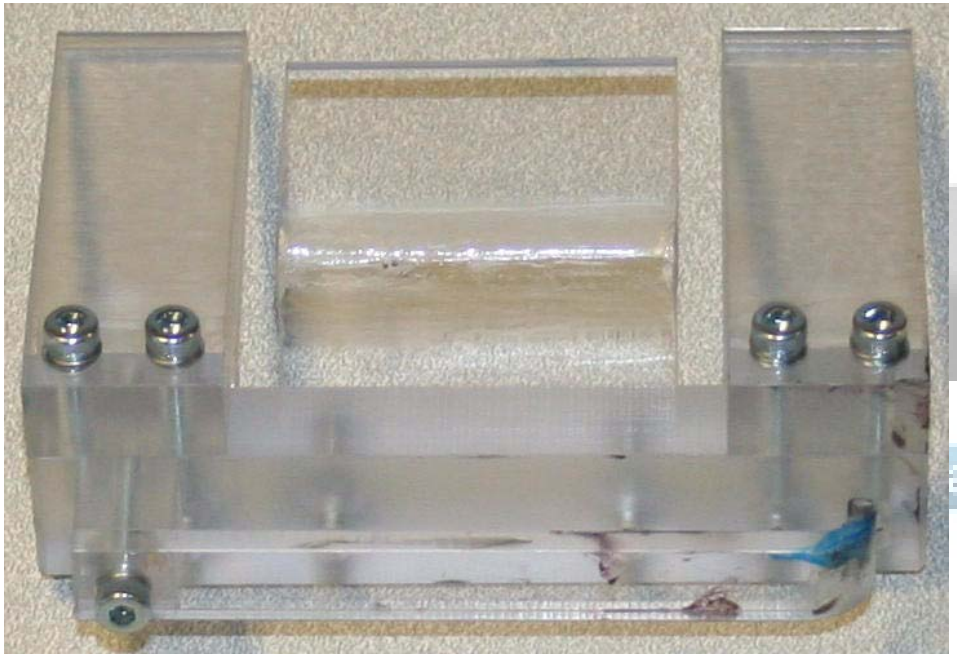
22. Install the ***Cover (Top Left)***.

Print Head (Right) Removal

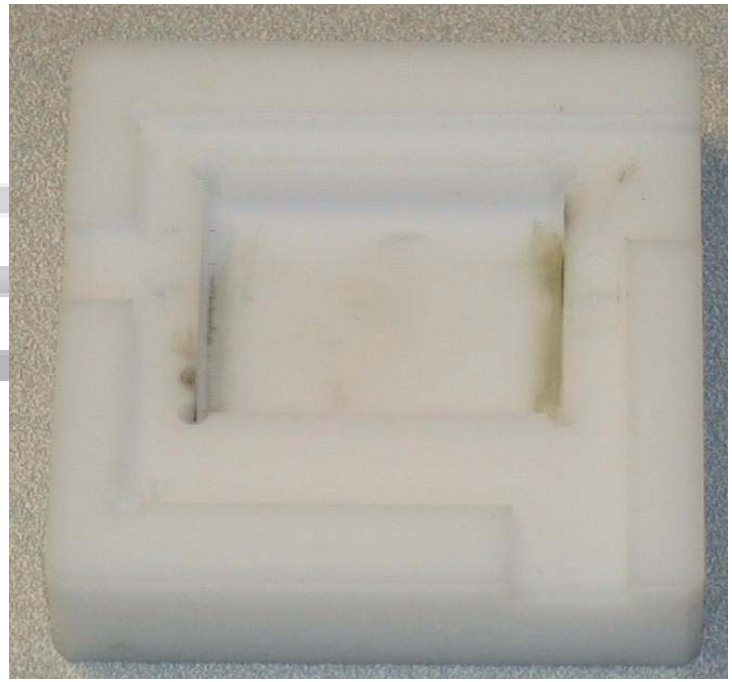
Note: It is recommended that all 4 Damper Assemblies be replaced when replacing a Print Head.

Special Tools

Note: The Special Tools listed below are not necessary, but strongly recommended.



Cable and Tube Holder: Part # **1501560**



Print Head Assembly Holder: Part # **1501562**

Note: The Print Head Spring Tool is only used when replacing the Right Print Head.

Print Head Spring Tool: Part # **1501561**

Print Head Removal Overview

- Input the ***New Print Head's*** ***Head Rank Input*** (if the Print Head is to be replaced).
- Unplug the ***Printer***.
- Remove the ***Cover (Top Right)***.
- Release the ***Carriage Mechanism***.
- Remove the ***Left Front Plate***.
- Remove the ***Carriage Cover***.
- Disconnect the ***Print Head Cables.***
- Disconnect the ***Ink Tubes***.
- Remove the ***Print Head Assembly***.
- Remove the ***Print Head Assembly Cover***.
- Separate the ***Print Head*** form the ***Print Head Base***.

Print Head Removal Detail

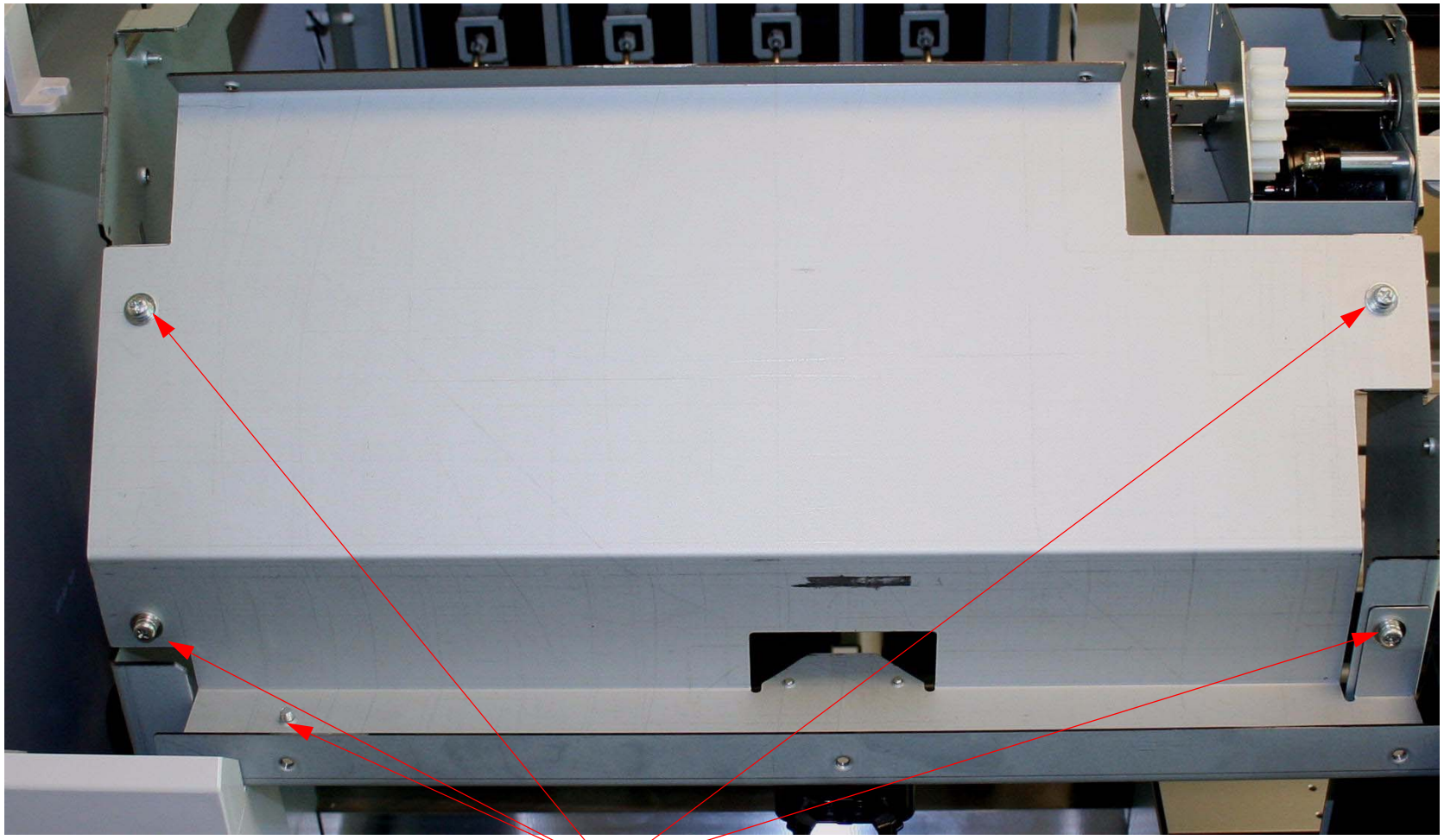
1. ***Unplug the Printer***.

2. If you are replacing the ***Print Head,*** run **Servprog.exe** and input the new ***Print Head's*** calibration value (***Head Rank Input***).

3. Remove the ***Cover (Top Left)***.

4. Remove the ***Cover (Left Front)***.

5. Remove the ***Left Front Plate***.

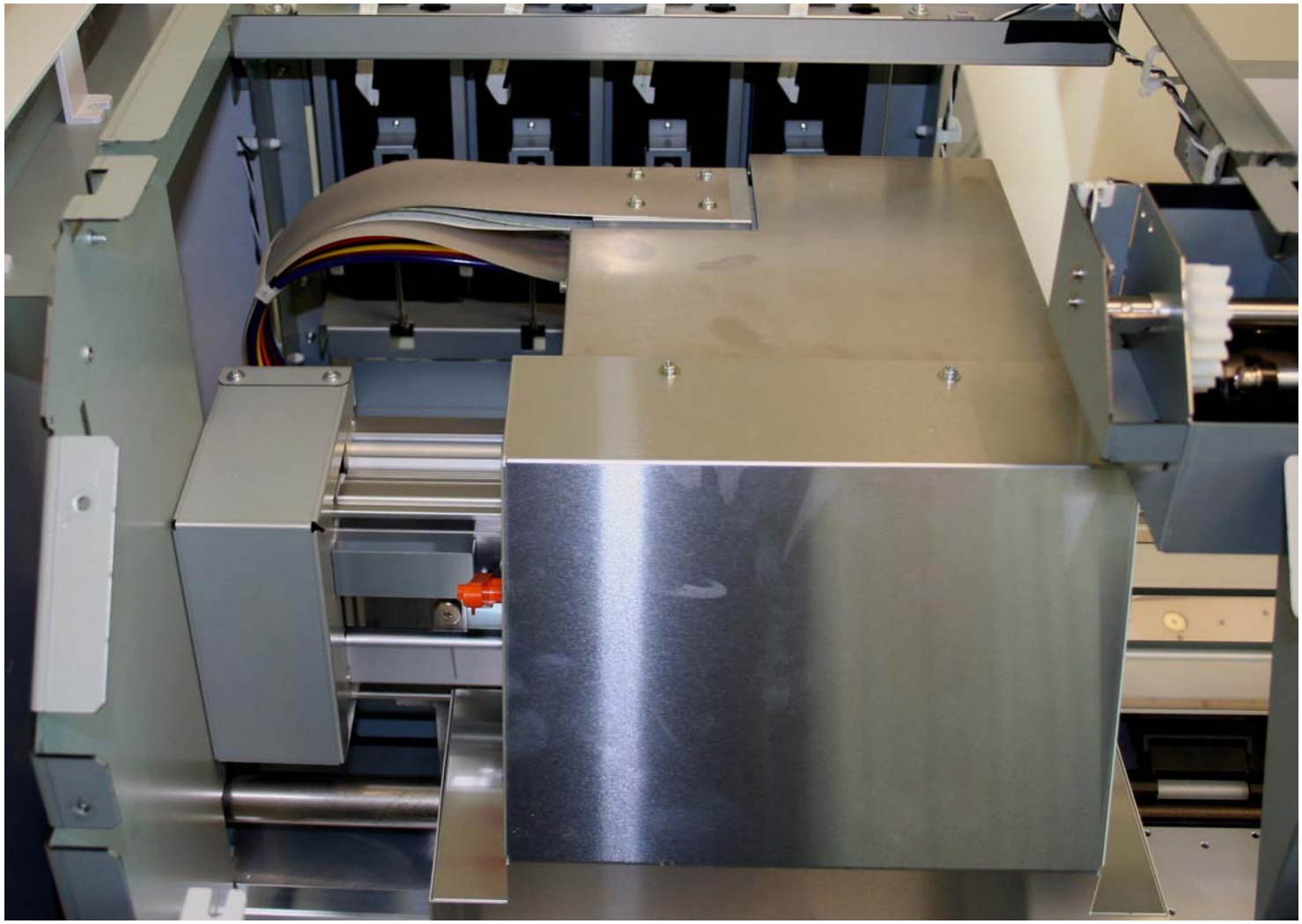


1. Remove ***5 Screws***.

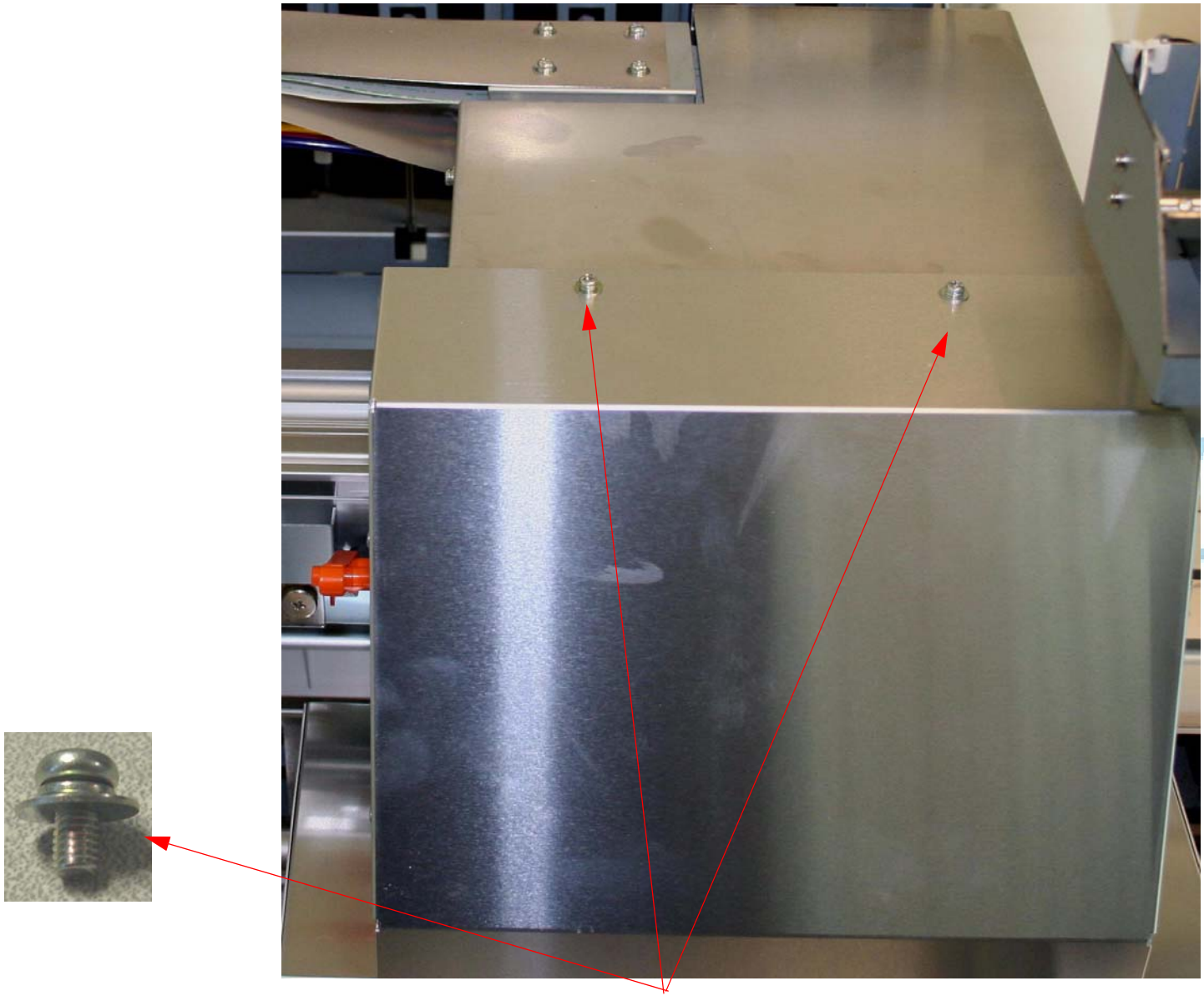
2. Lift off the ***Left Front Plate***.

6. Release the ***Carriage Mechanism,*** following the directions found in the Carriage Release (Manual) Chapter, located in the Reference Section.

7. Raise the ***Front Cover*** and move the ***Carriage Mechanism*** into the far left maintenance area.

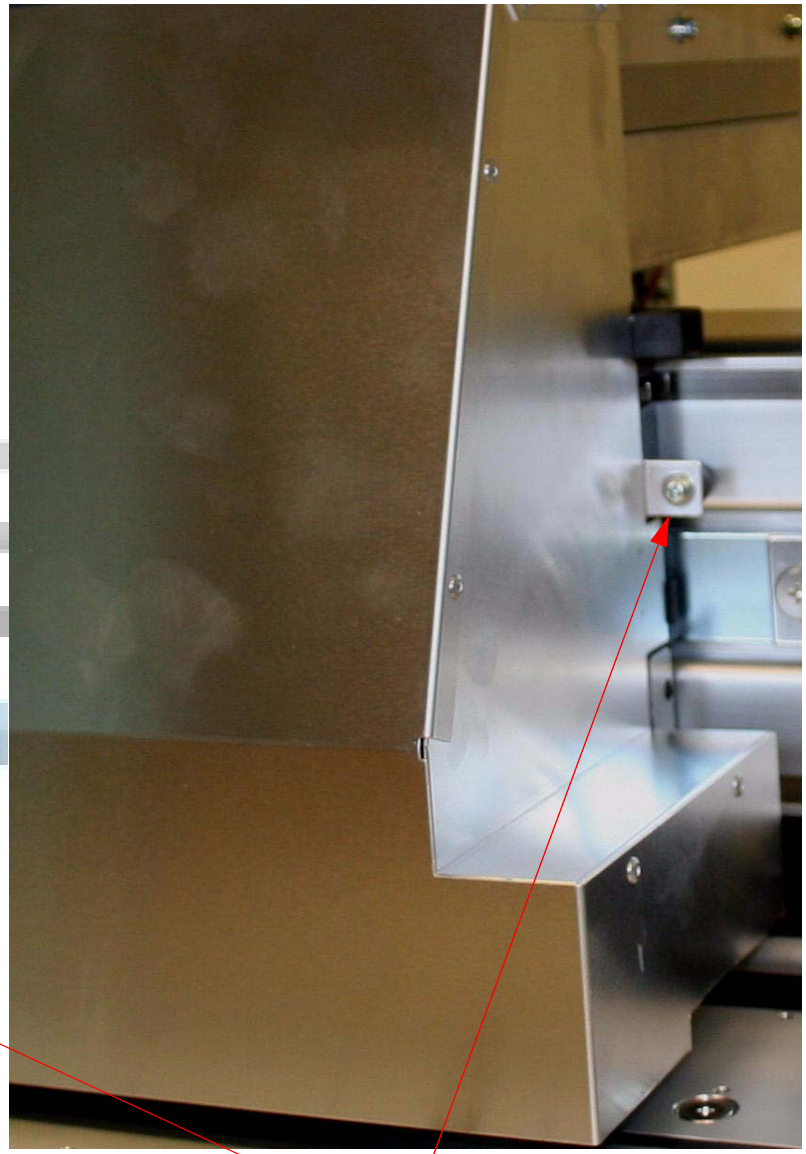


8. Remove ***2 Screws*** that fasten the top of the ***Carriage Cover*** to the ***Carriage Assembly***.



Remove ***2 Screws***.

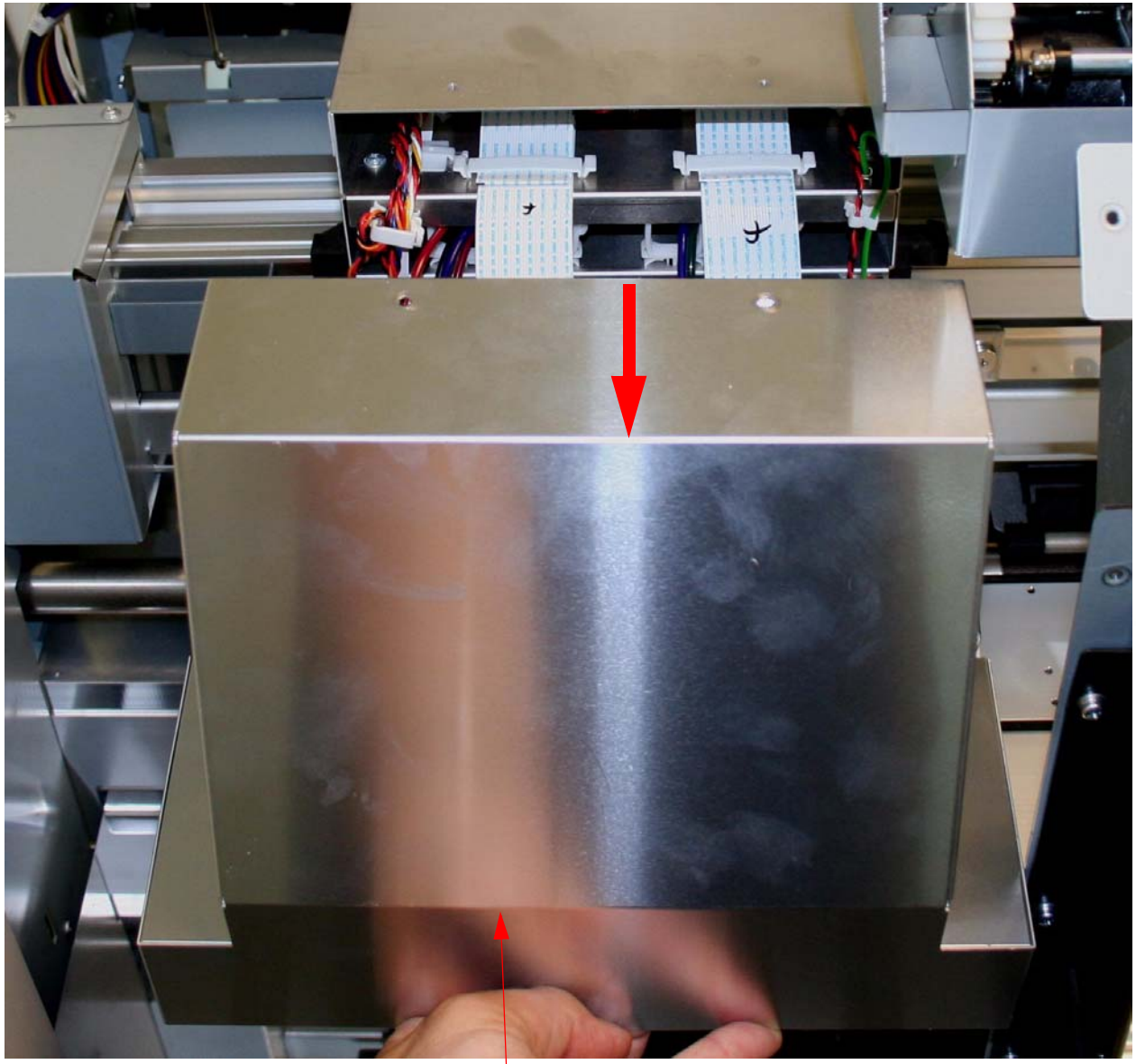
9. Remove ***2 Screws*** that fasten the sides of the ***Carriage Cover*** to the ***Carriage Assembly***.



1. Remove ***1 Screw***.

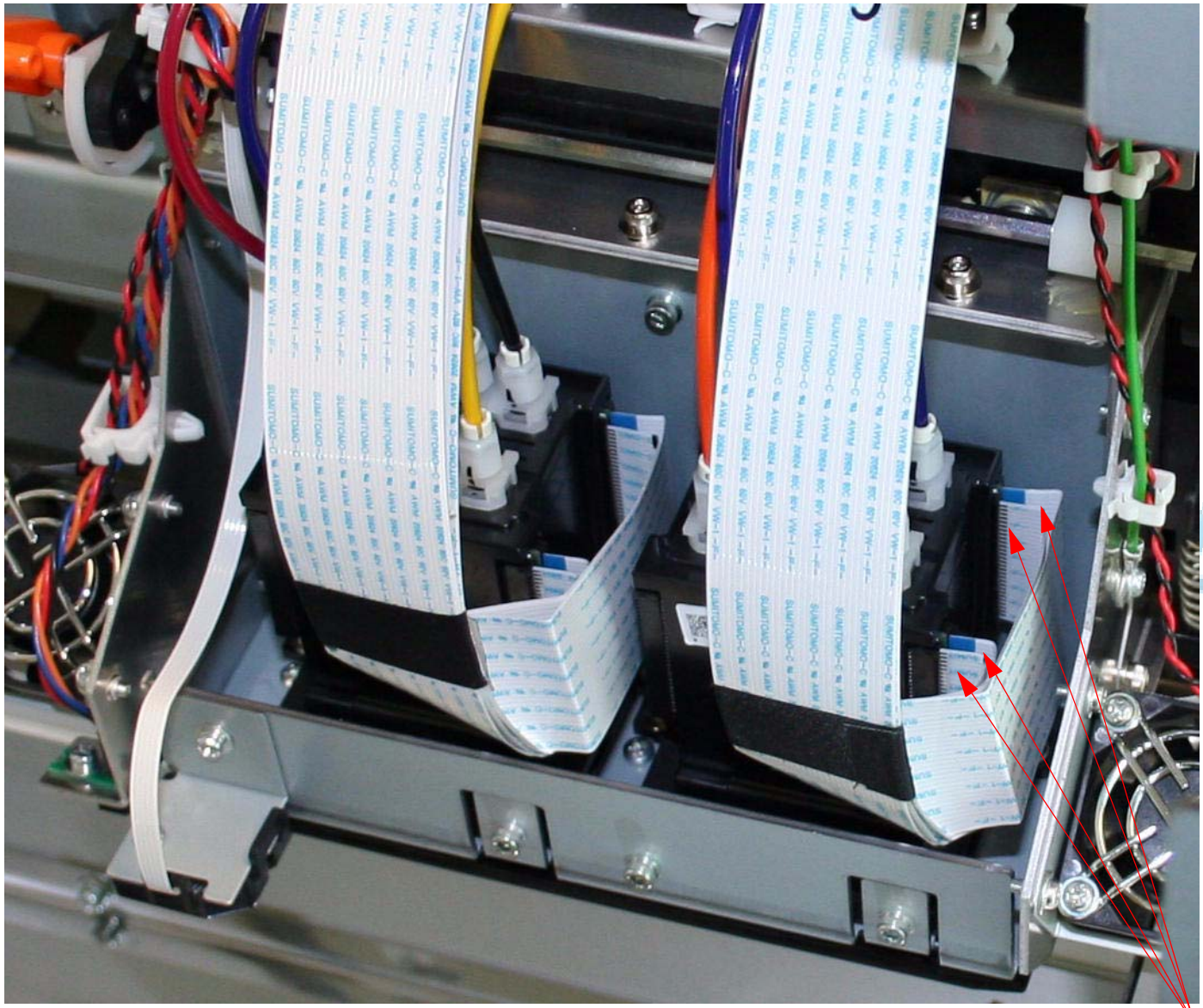
2. Remove ***1 Screw***.

10. Remove the ***Carriage Cover***.



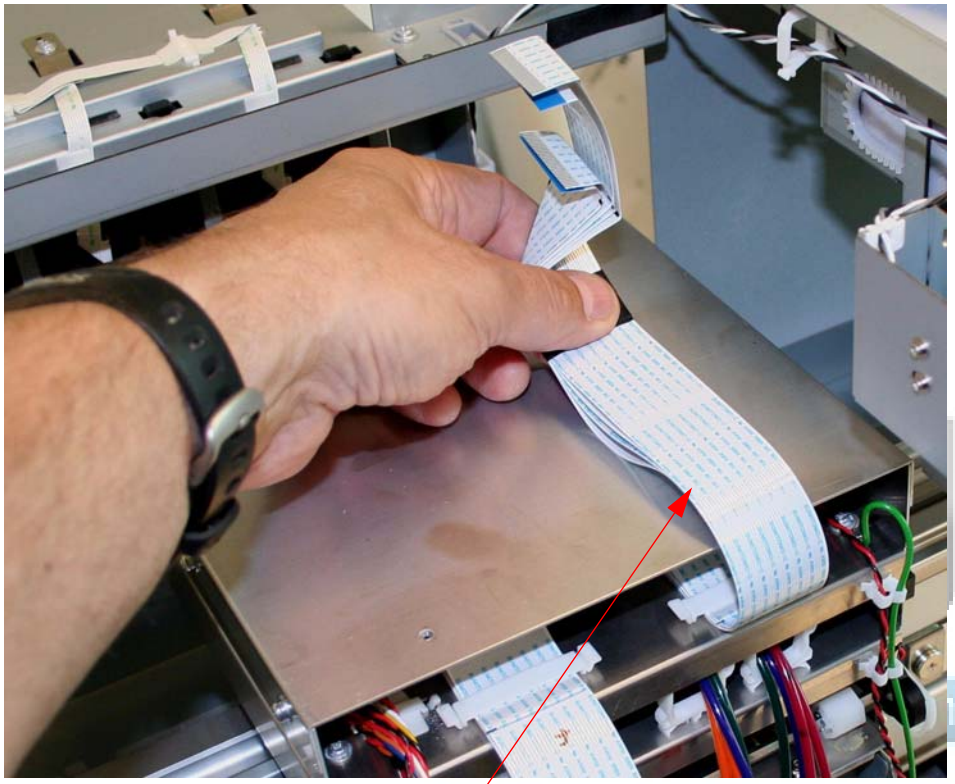
Slide off the ***Carriage Cover***.

11. Unplug ***4 Print Head Cables***.

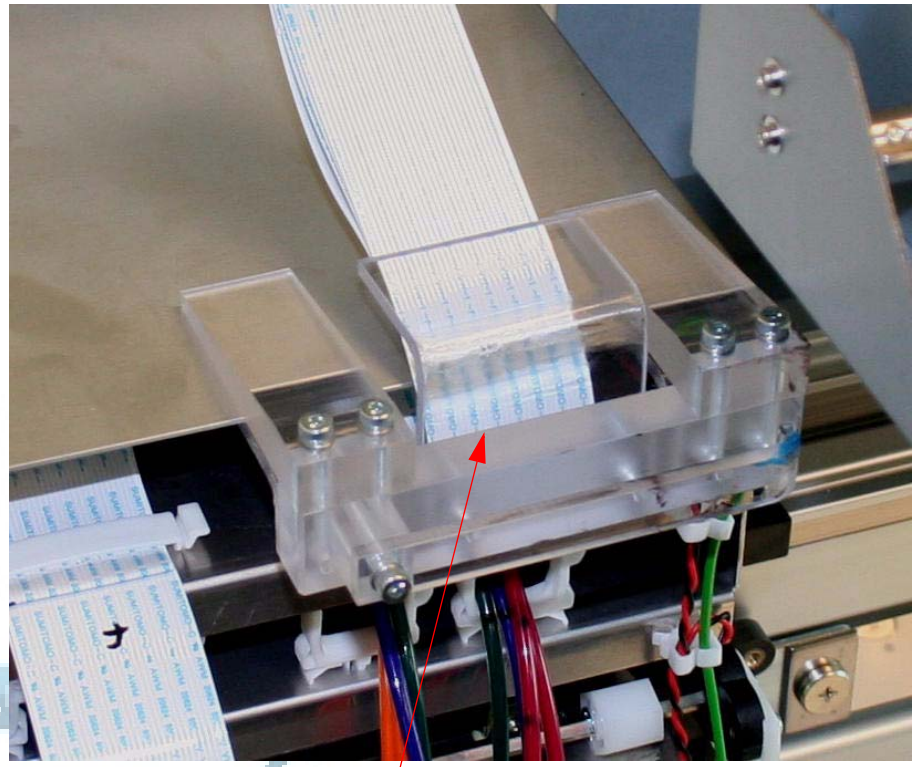


Unplug ***4 Print Head Cables*.**

12. Fasten the ***Print Head Cables*** to the ***Carriage*** with the Cable and Tube Holder.



1. Place the ***Print Head Cables*** in this position.

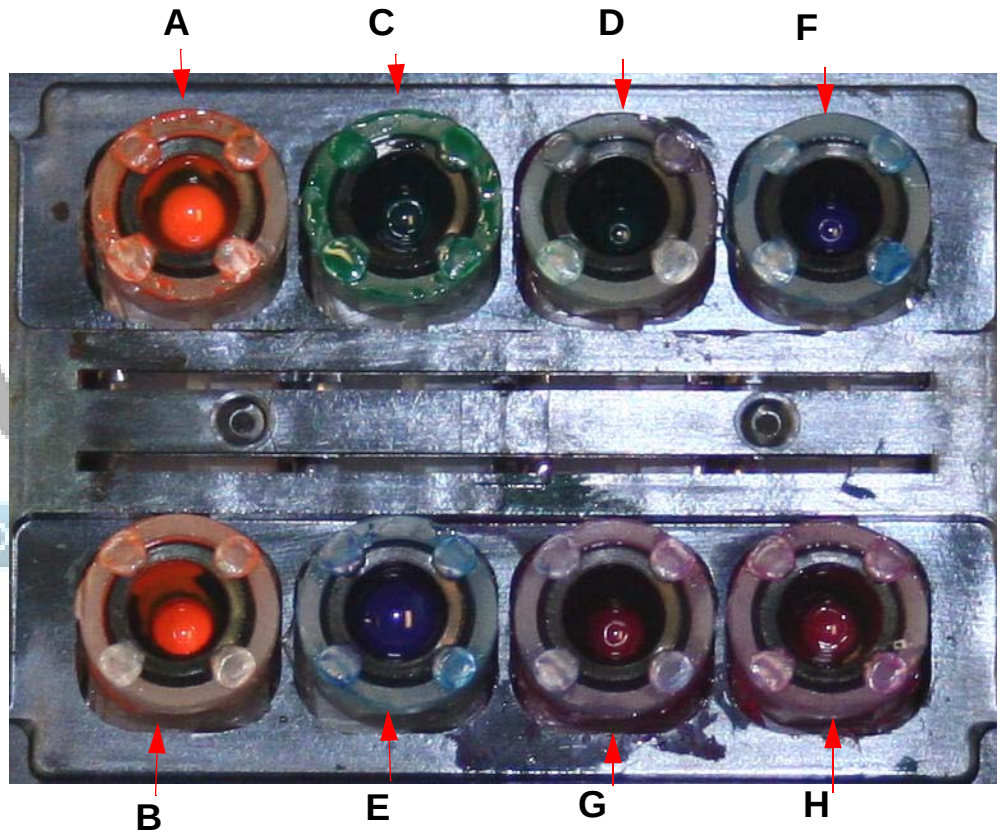


2. Fasten the ***Print Head Cables*** with the Cable and Tube Holder.

13. Note the connection order of the ***Ink Lines***.

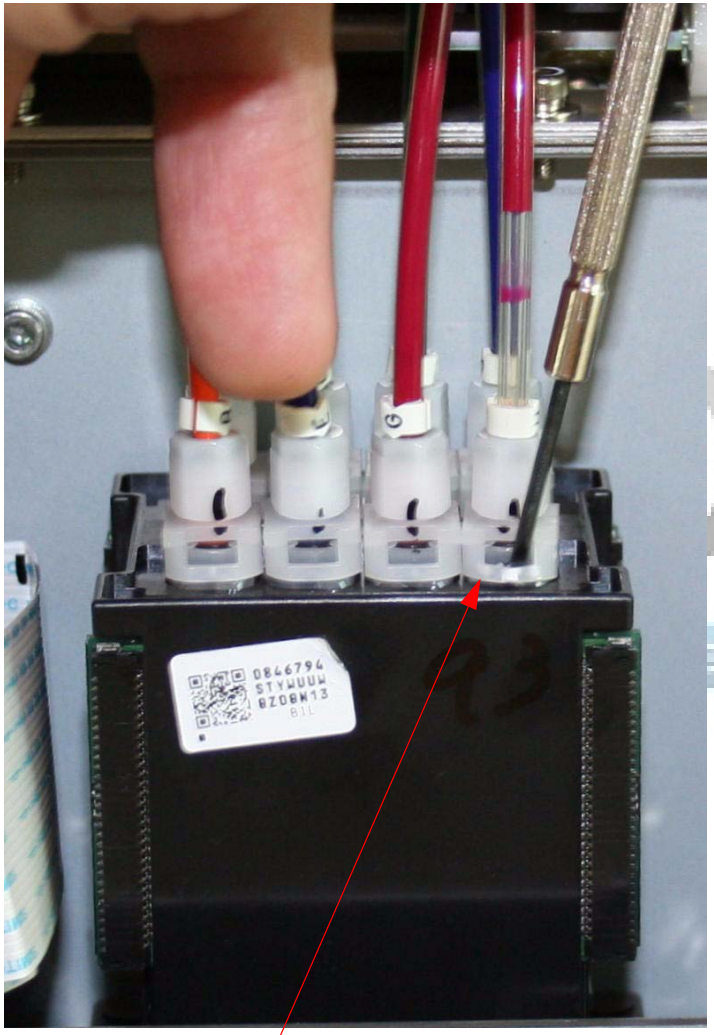
Note: This step is a reassembly note.

Tubes are marked **A - H**



14. Disconnect ***1 Magenta Tube***.

Note: Failure to follow this step, and the next 2 steps, will result in an ink spill.

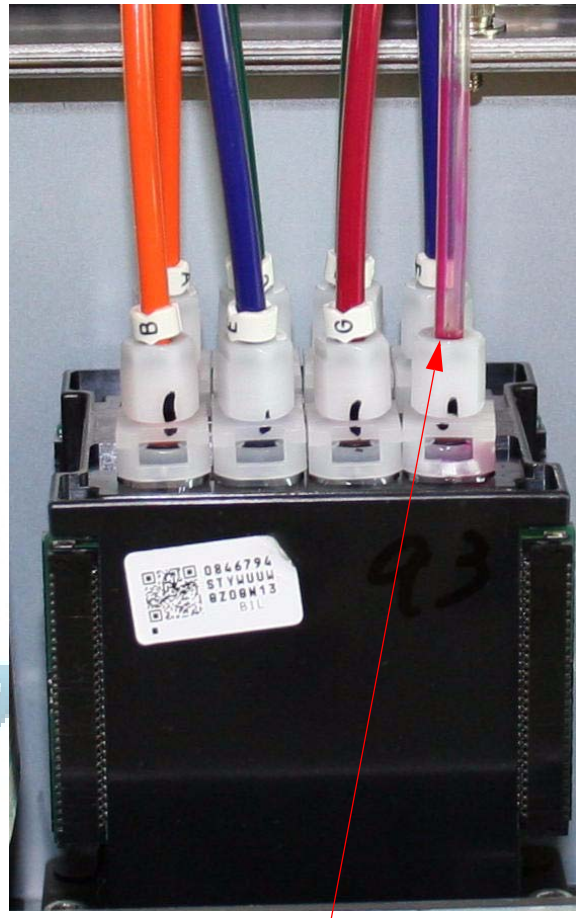


1. Gently release the ***Interlock***.

2. Remove the ***Tube***.

3. Place the ***Tube*** behind the holder.

15. Wait for the **Tube** to drain, and reattatch.

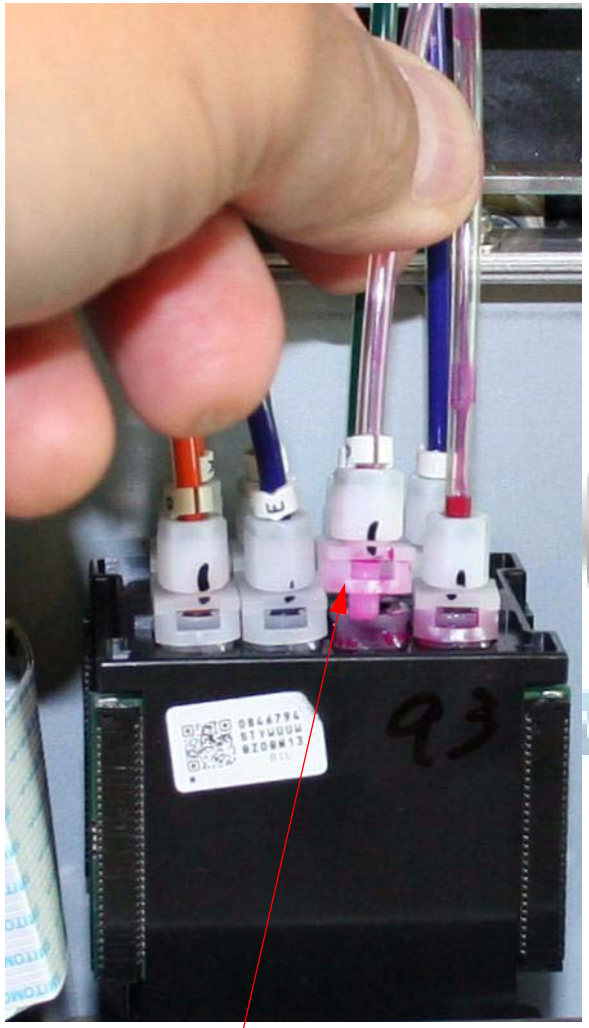


1. Wait for the ***Tube*** to drain to this point.

2. Reconnect the ***Tube***.

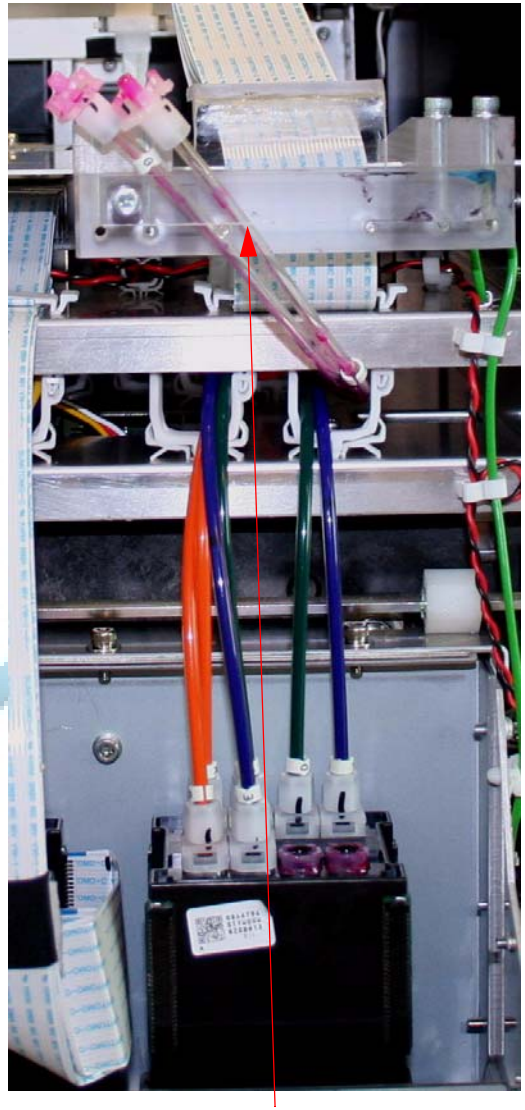
Note: Failure to reattach the first Magenta Tube will cause the next Magenta Tube to drain out the end, instead of draining into the Ink Sub Tank.

16. Remove the second ***Magenta Tube***.



1. Release and remove the second ***Magenta Tube***.

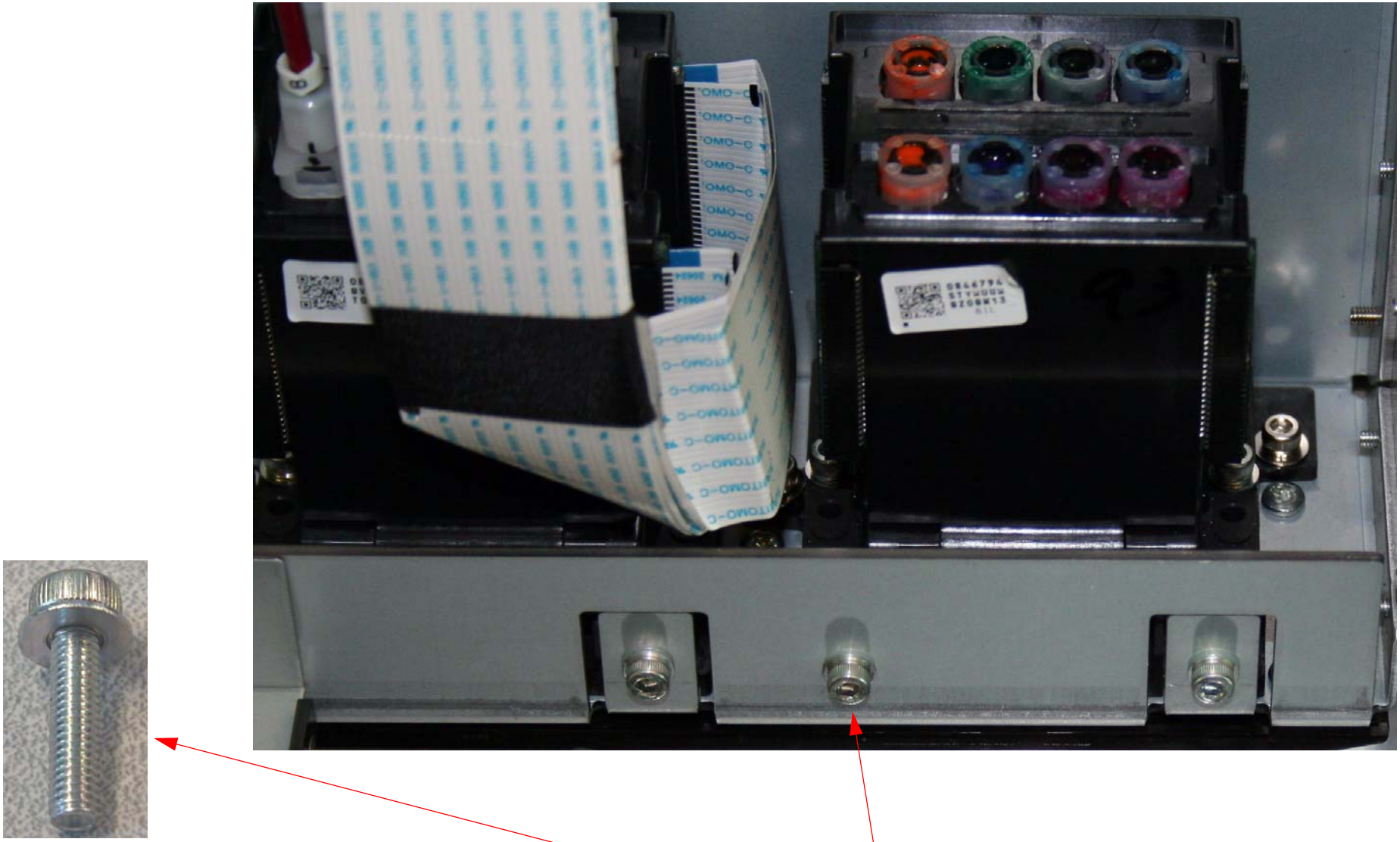
2. Place it behind the holder.



3. Place the first ***Magenta Tube*** behind the holder.

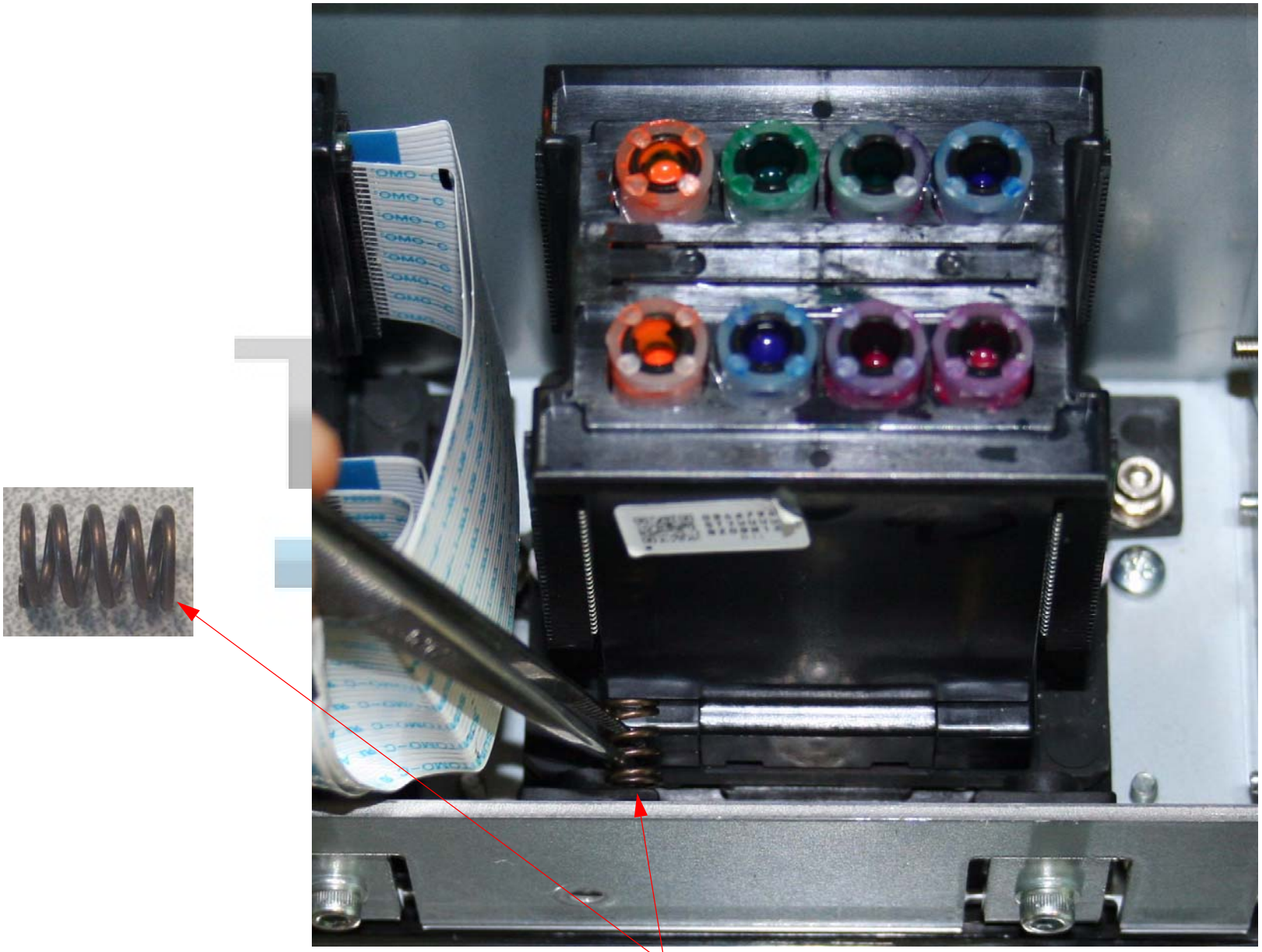
17. Repeat steps 14 - 16 with each of the 3 remaining color pairs.

18. Remove ***1 Screw (2.5mm Hex Head)***.



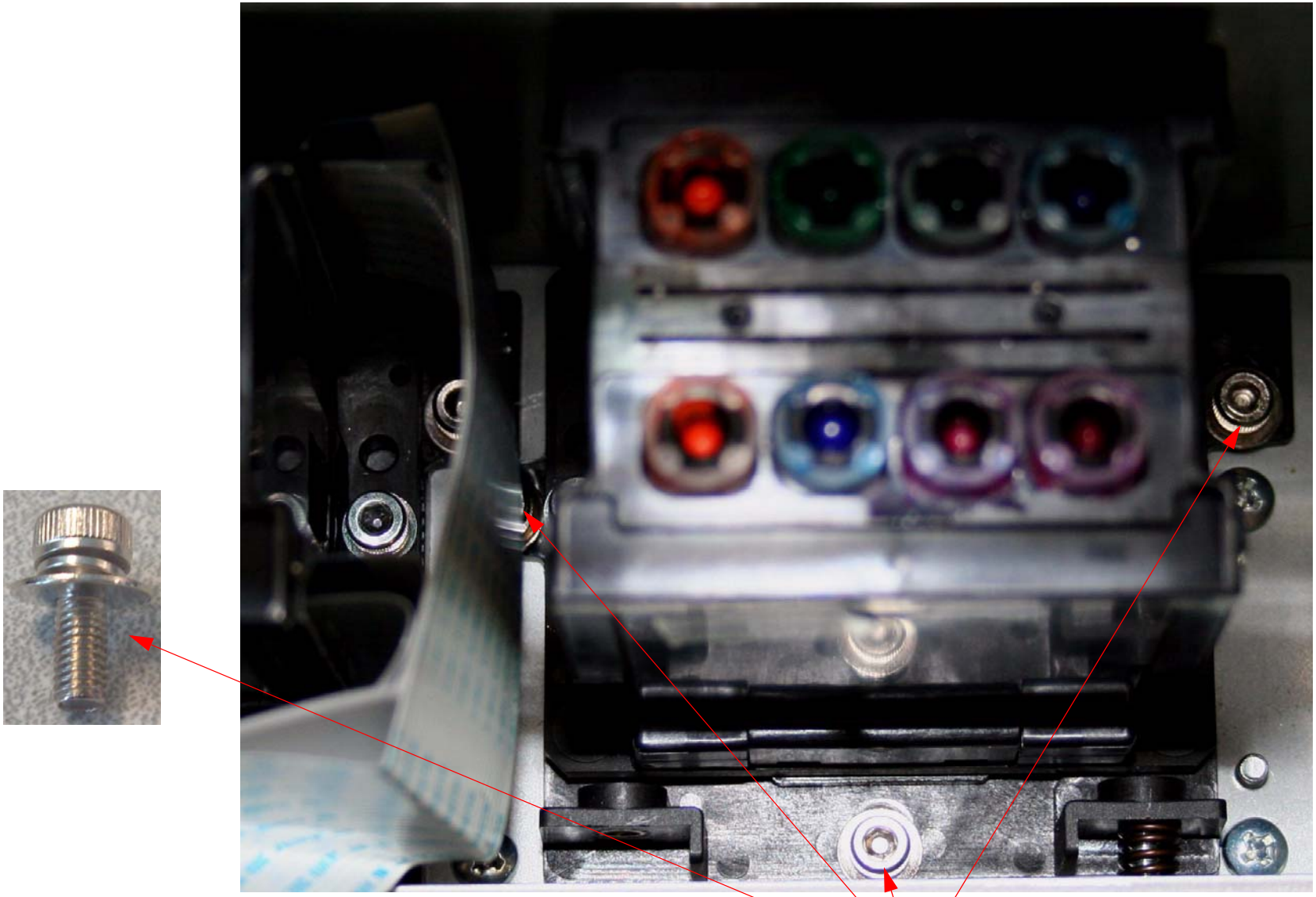
Remove ***1 Screw (2.5mm Hex Head)***.

19. Extract ***1 Spring***.



Extract **1 Spring**

20. Remove ***3 Screws (2.5mm Hex Head)***



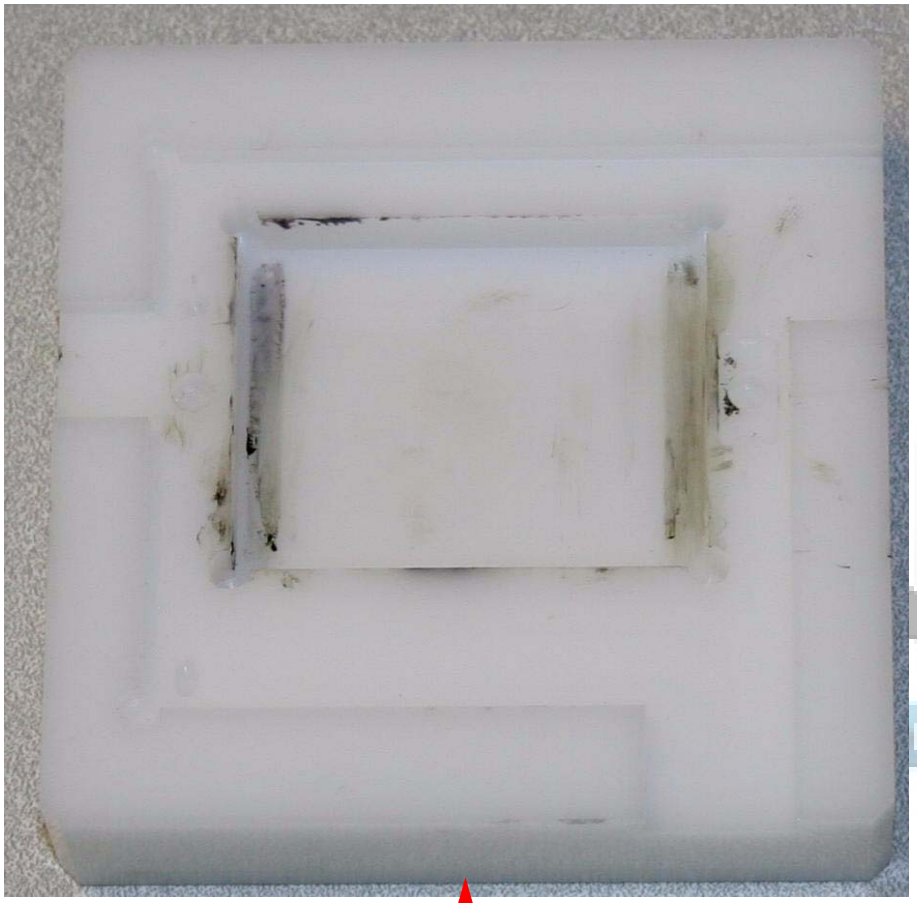
Remove ***3 Screws (2.5mm Hex Head)***.

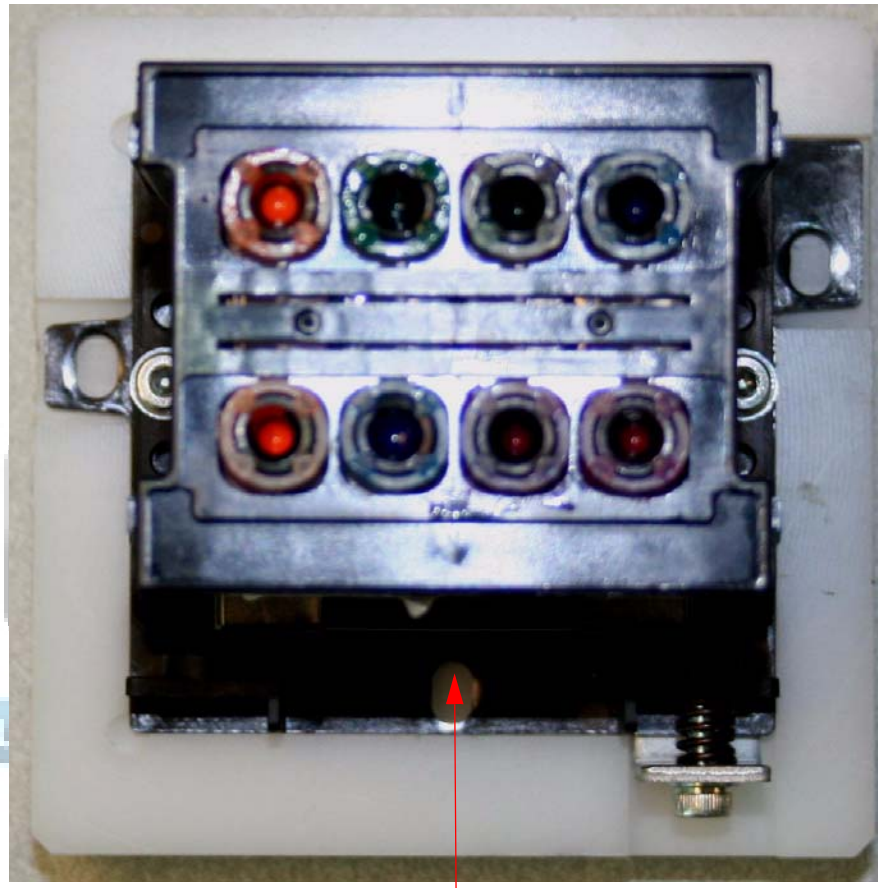
21. Remove the ***Print Head Assembly***.

1. Tilt the ***Head Assembly*** forward to free this piece.

2. Lift out the ***Head Assembly***.

22. Place the ***Print Head Assembly*** onto the Print Head Assembly Holder.

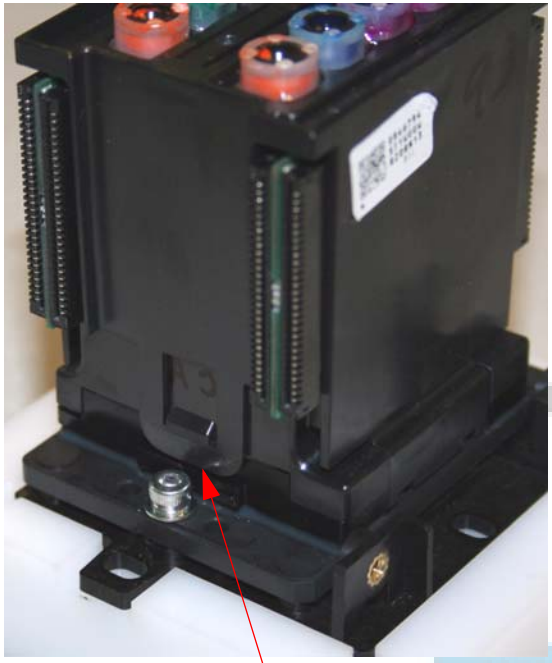




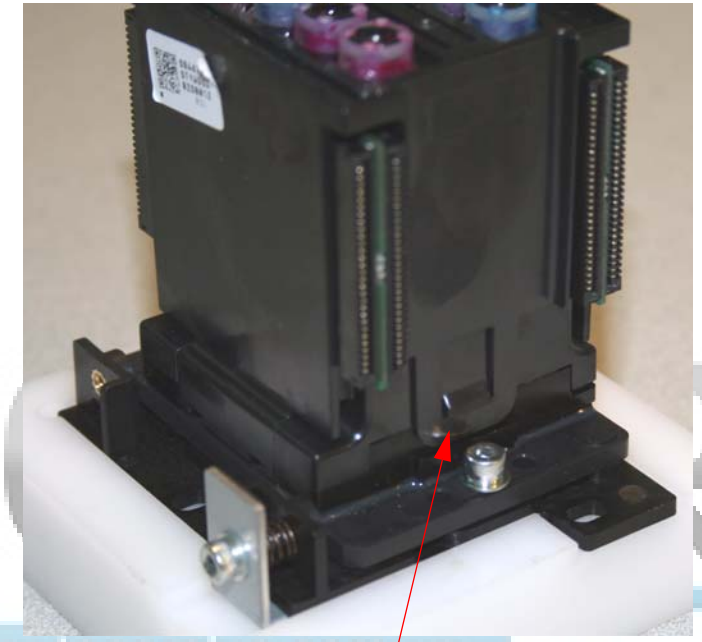
1. Place the print head assembly holder in this position.

2. Place the ***Print Head Assembly*** on the holder.

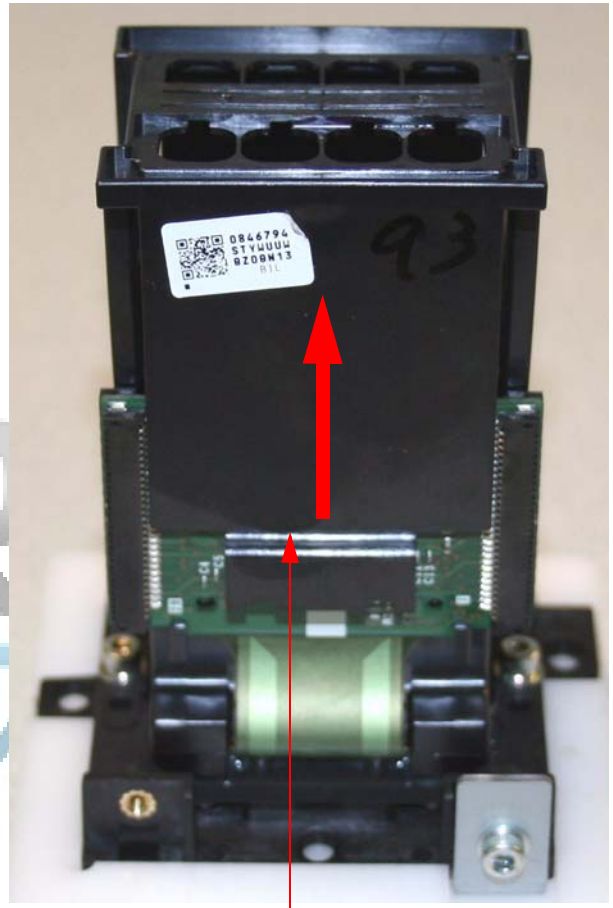
23. Remove the ***Print Head Cover***.



1. Release the ***Left Interlock***

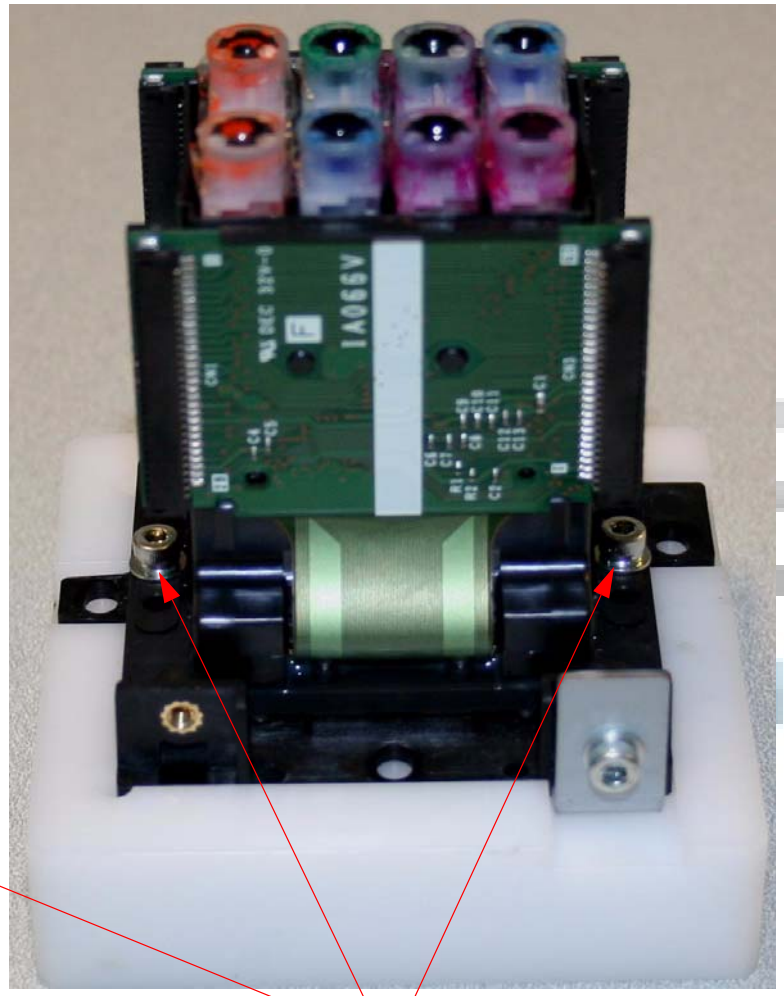


2. Release the ***Right Interlock***.

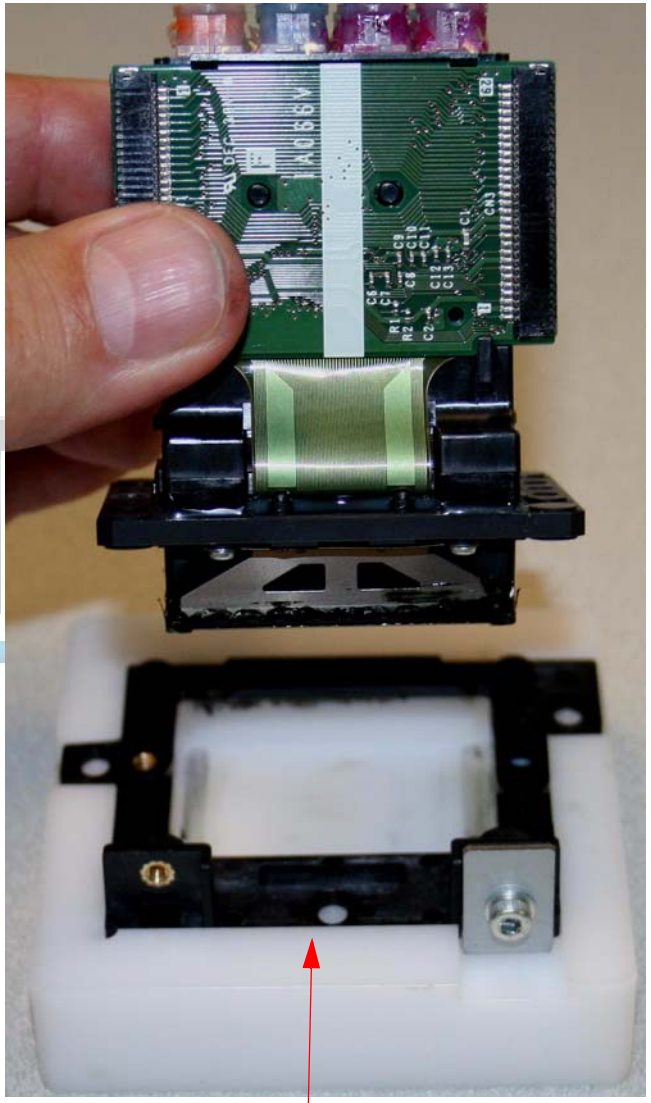


3. Lift off the ***Print Head Cover***.

24. Remove the ***Print Head*** from the ***Print Head Base***.



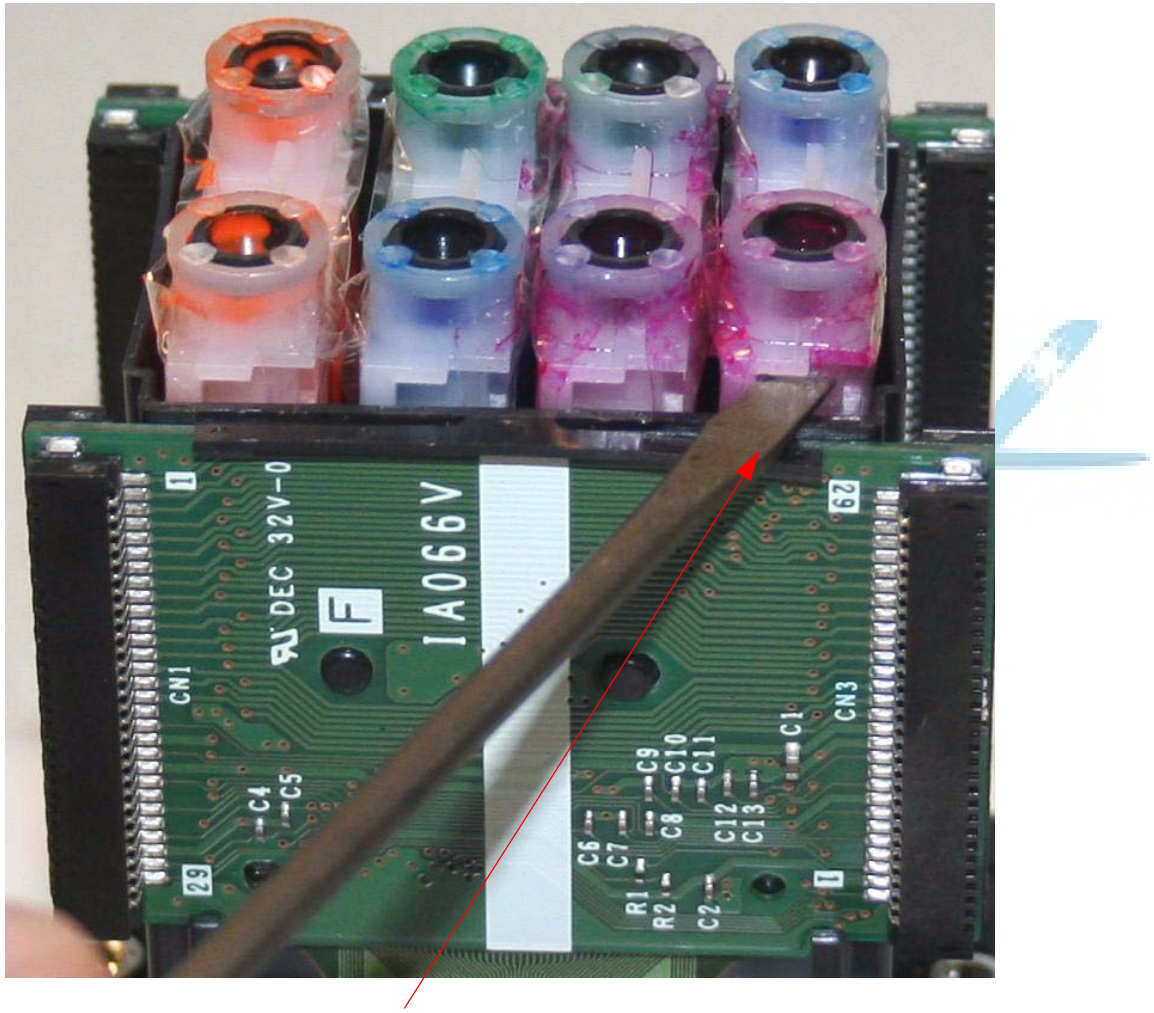
1. Remove ***2 Screws (2.5mm Hex Head)***.



2. Separate the ***Print Head*** from the ***Print Head Base***.

25. Remove the ***Dampers*** (***optional***).

Note: Epson recommends that new Dampers be used with each Print Head Exchange. If new Dampers are to be used, removal of the old Dampers is not necessary. Removal is only necessary if the old Dampers are to be transferred to the new Print Head.



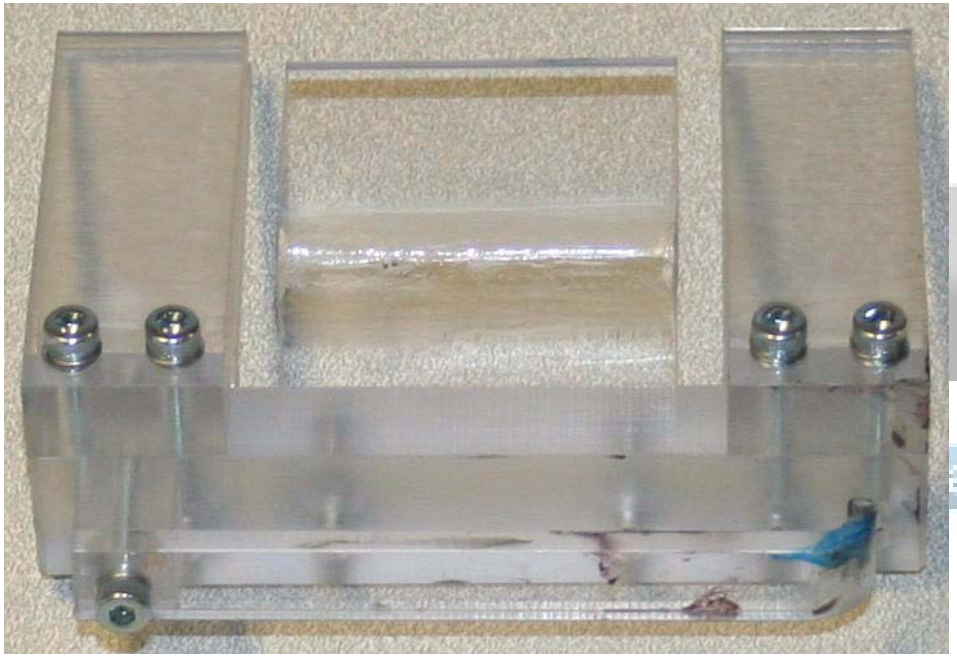
"Pop out" each ***Damper*** by gently applying pressure as shown.

Print Head (Right) Installation

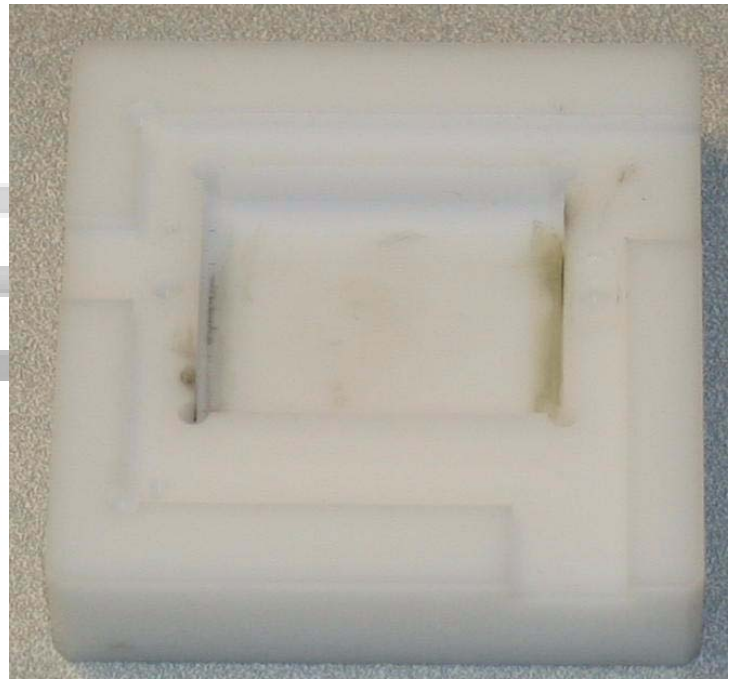
Note: It is recommended that all 4 Damper Assemblies be replaced when replacing a Print Head.

Special Tools

Note: The Special Tools listed below are not necessary, but strongly recommended.



Cable and Tube Holder: Part # **1501560**



Print Head Assembly Holder: Part # **1501562**

Note: The Print Head Spring Tool is only used when replacing the Right Print Head.

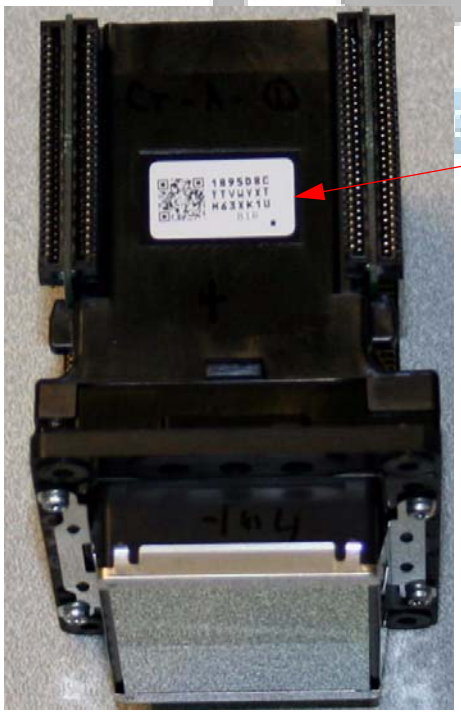
Print Head Spring Tool: Part # **1501561**

Print Head Removal Overview

- Transfer the ***Head Rank Sticker***.
- Attach the ***Print Head*** to the ***Print Head Base***.
- Install ***Dampers***.
- Install the ***Print Head Cover***.
- Attach the ***Head Cables***.
- Install the ***Print Head***.
- Attach the ***Ink Tubes***.
- Clean the ***Print Head*** until the Nozzles work.
- Adjust the ***Print Head***.

Print Head Removal Detail

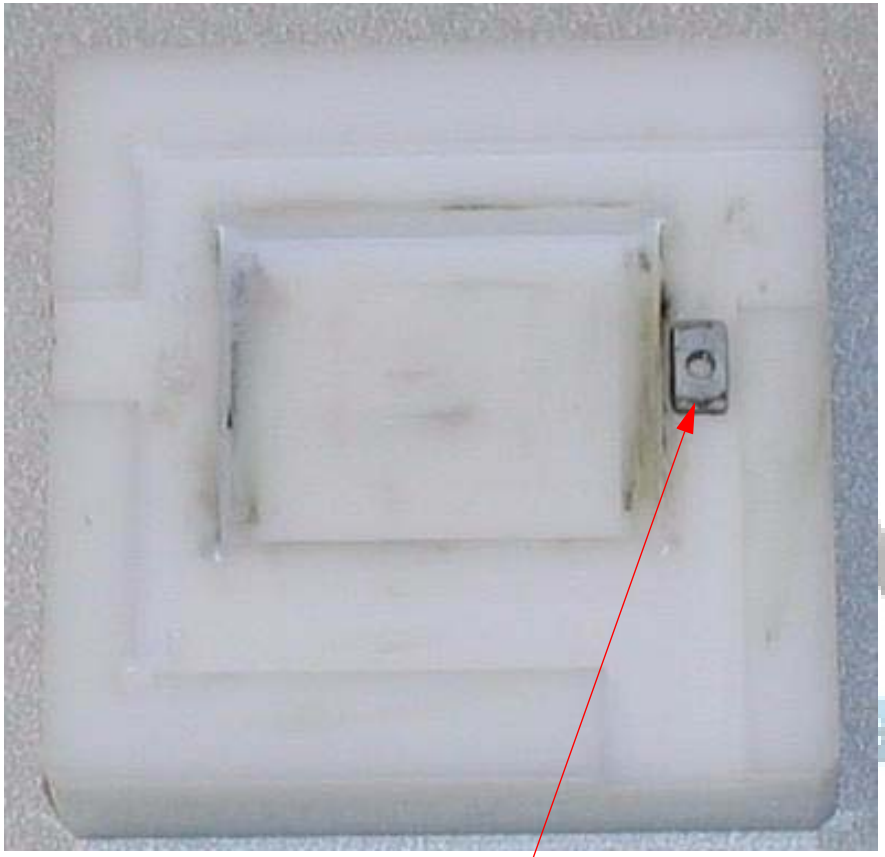
1. Remove the ***Head Rank Sticker*** from the ***New Print Head*** and save it.

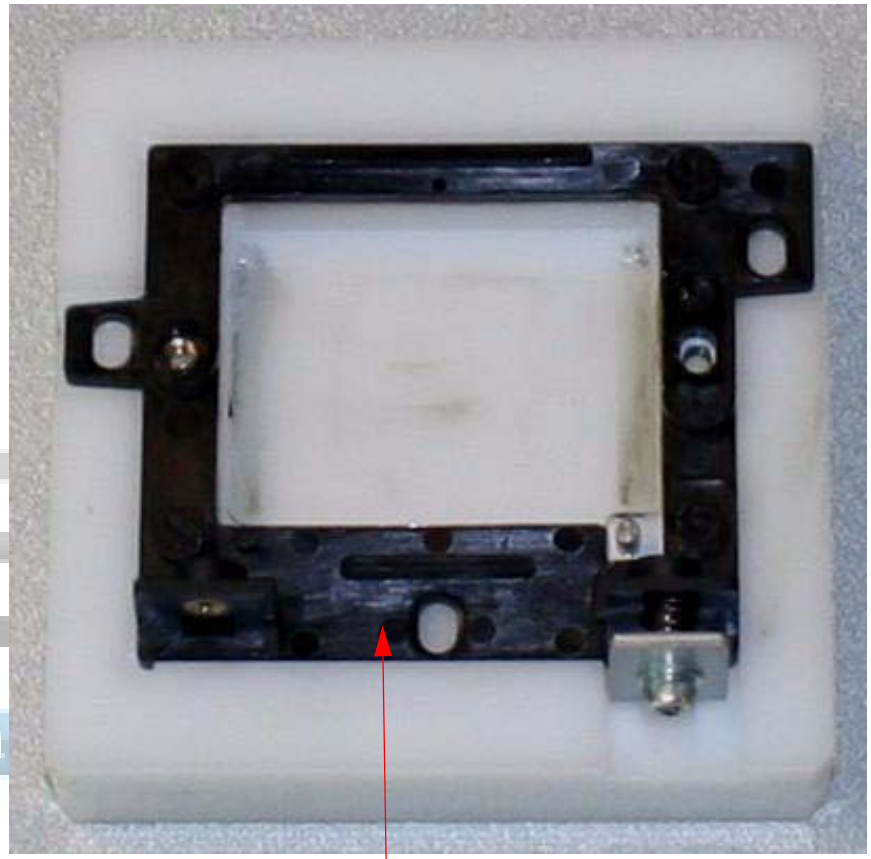


Remove the ***Head Rank Sticker***, and save it.

Note: The Head Rank Sticker will be attached to the Print Head Cover at a latter step.

2. Place the ***Print Head Base*** on the Print Head Assembly Holder.

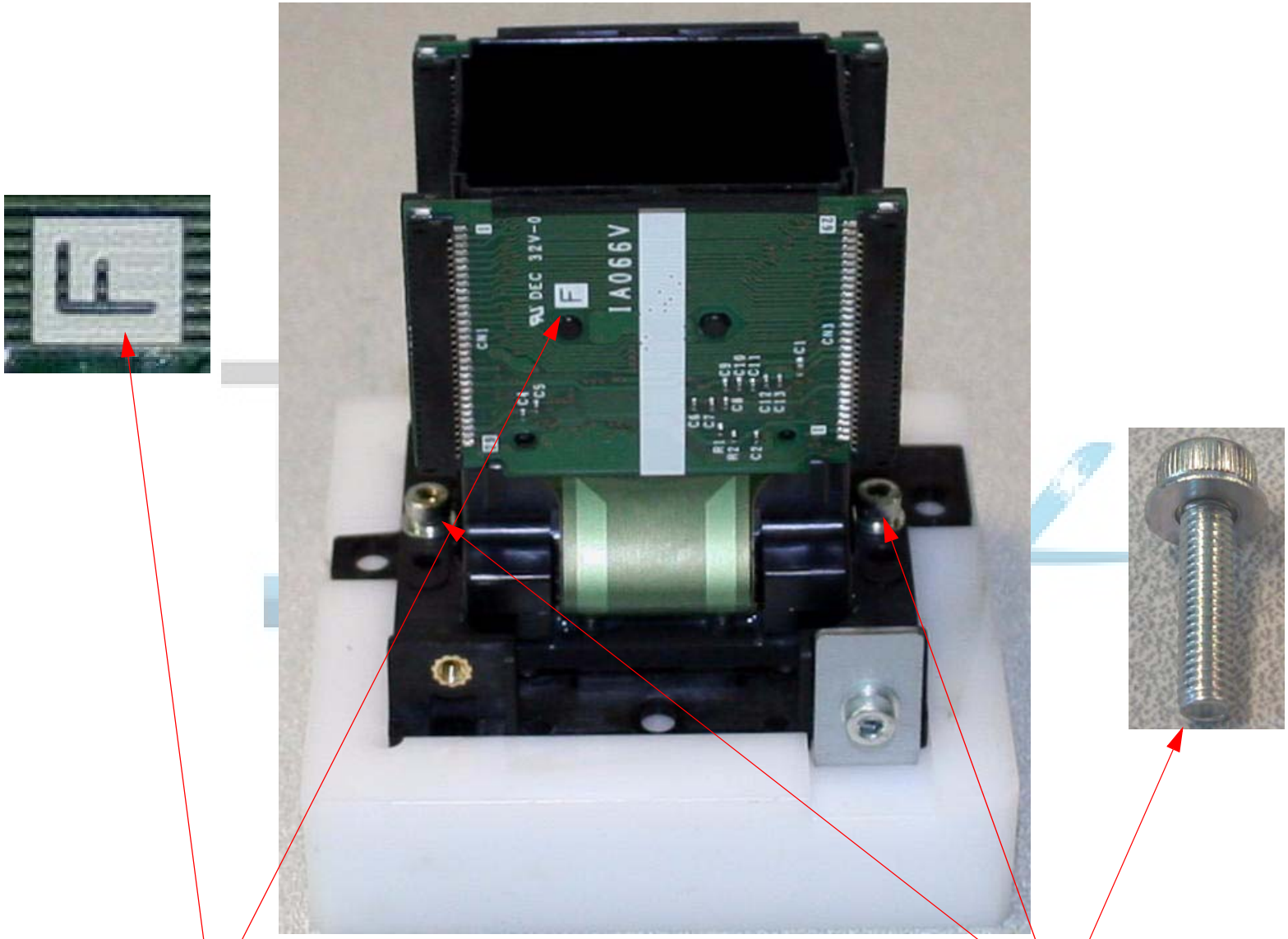




1. Put the ***Right Threaded "Nut"*** into it's slot on the Print Head Assembly Holder.

2. Place the ***Print Head Base*** on the Print Head Assembly Holder.

3. Attach the ***Print Head*** to the ***Print Head Base***.



1. Place the ***Print Head*** on the ***Print Head Base*** with the side with the "F" on it facing front.

2. Fasten with ***2 Screws (2.5mm Hex Head)***

4. Install ***New Dampers*** (***recommended***), or the ***Old Dampers***.

Note: Epson recommends that new Dampers be used with each Print Head Exchange.

Widest spaced Inlet/Outlets at the top.

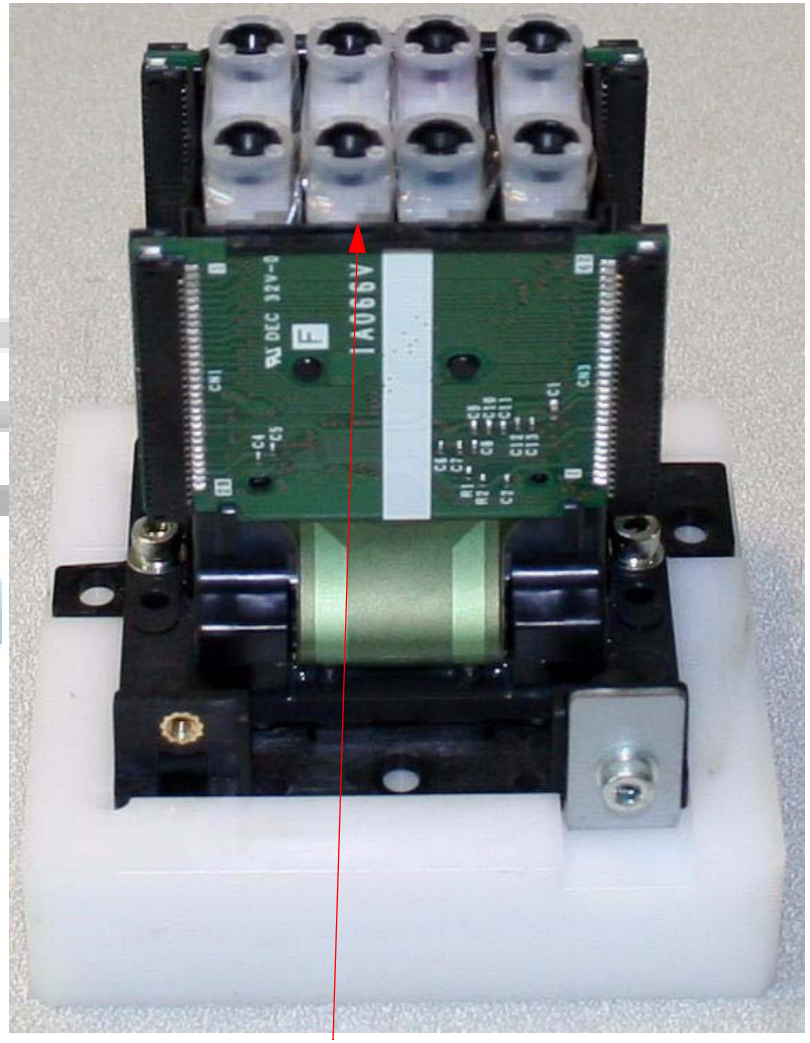
This Valve to the right.

Narrowest spaced Inlet/ Outlets at the bottom

Widest spaced Inlet/Outlets at the top.

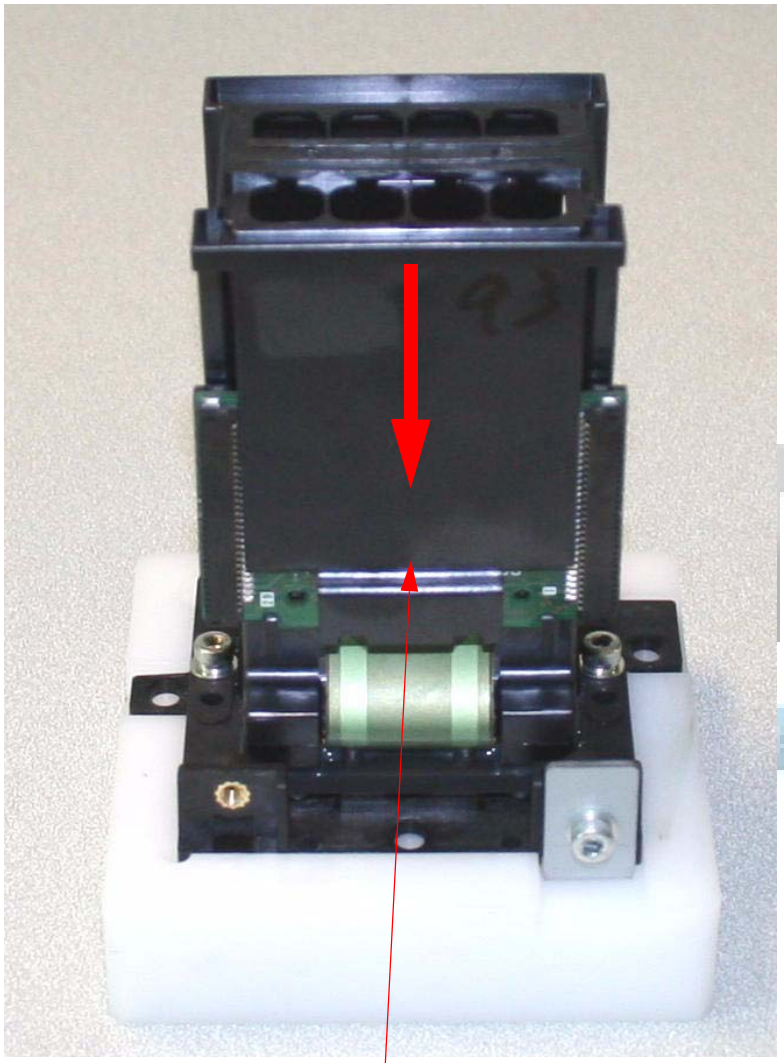
These Screens to the left.

Narrowest spaced Inlet/ Outlets at the bottom



Place ***4 Dampers*** into the ***Print Head*** and press them into place.

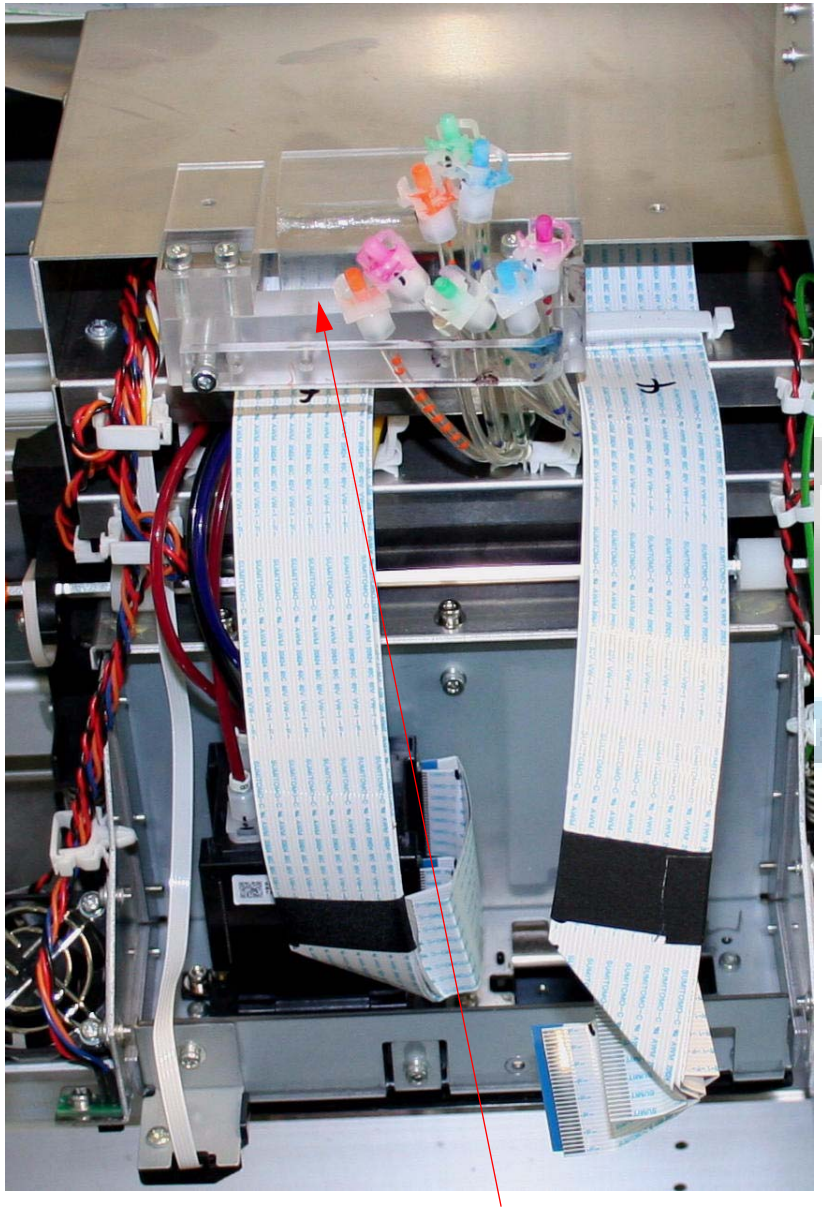
5. Install the ***Print Head Cover***.



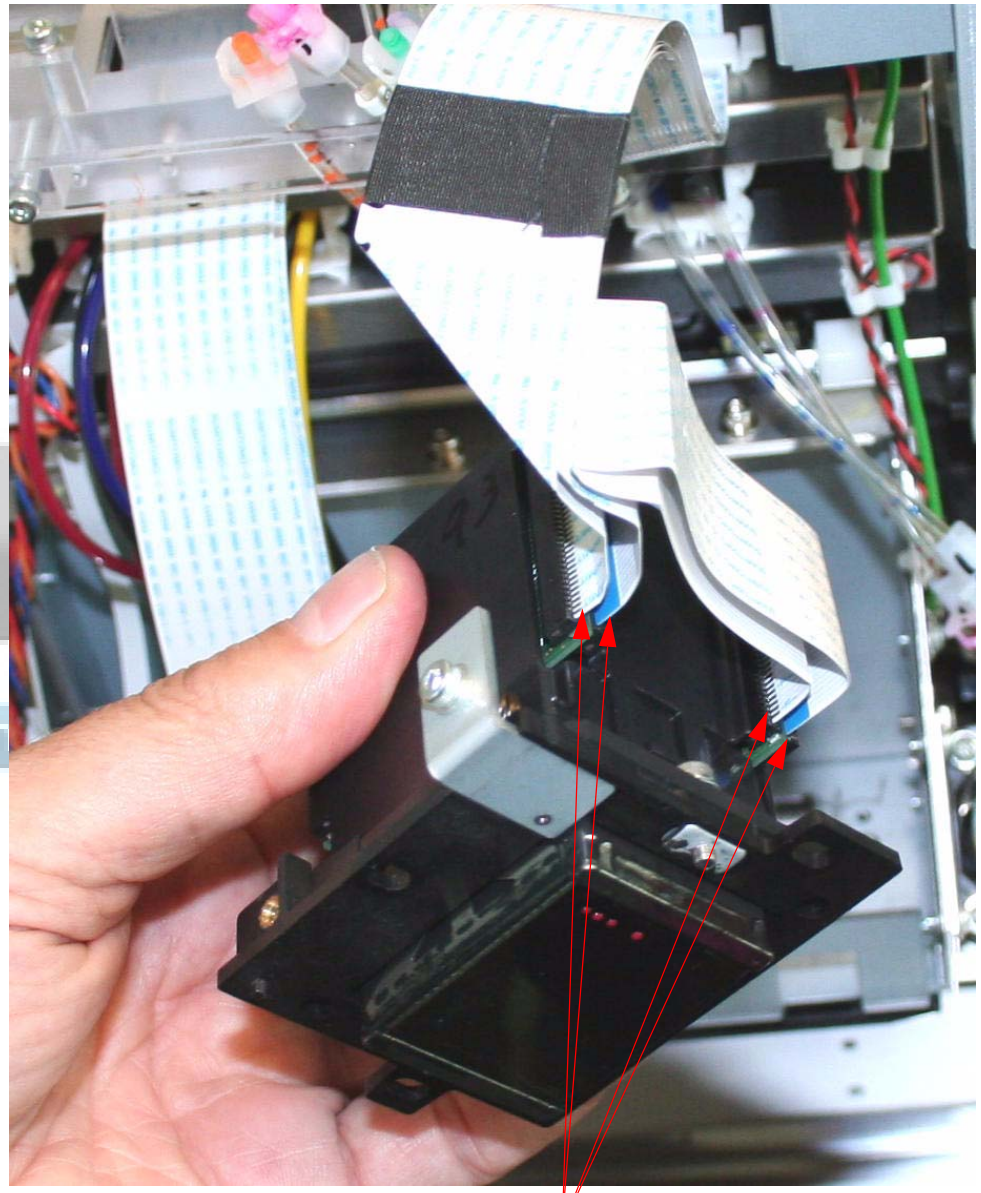
1. Slide the ***Print Head Cover*** into place.

2. Transfer the ***New Head Rank ID Label*** onto the front of the ***Print Head Cover***.

6. Connect the ***Print Head Cables***.

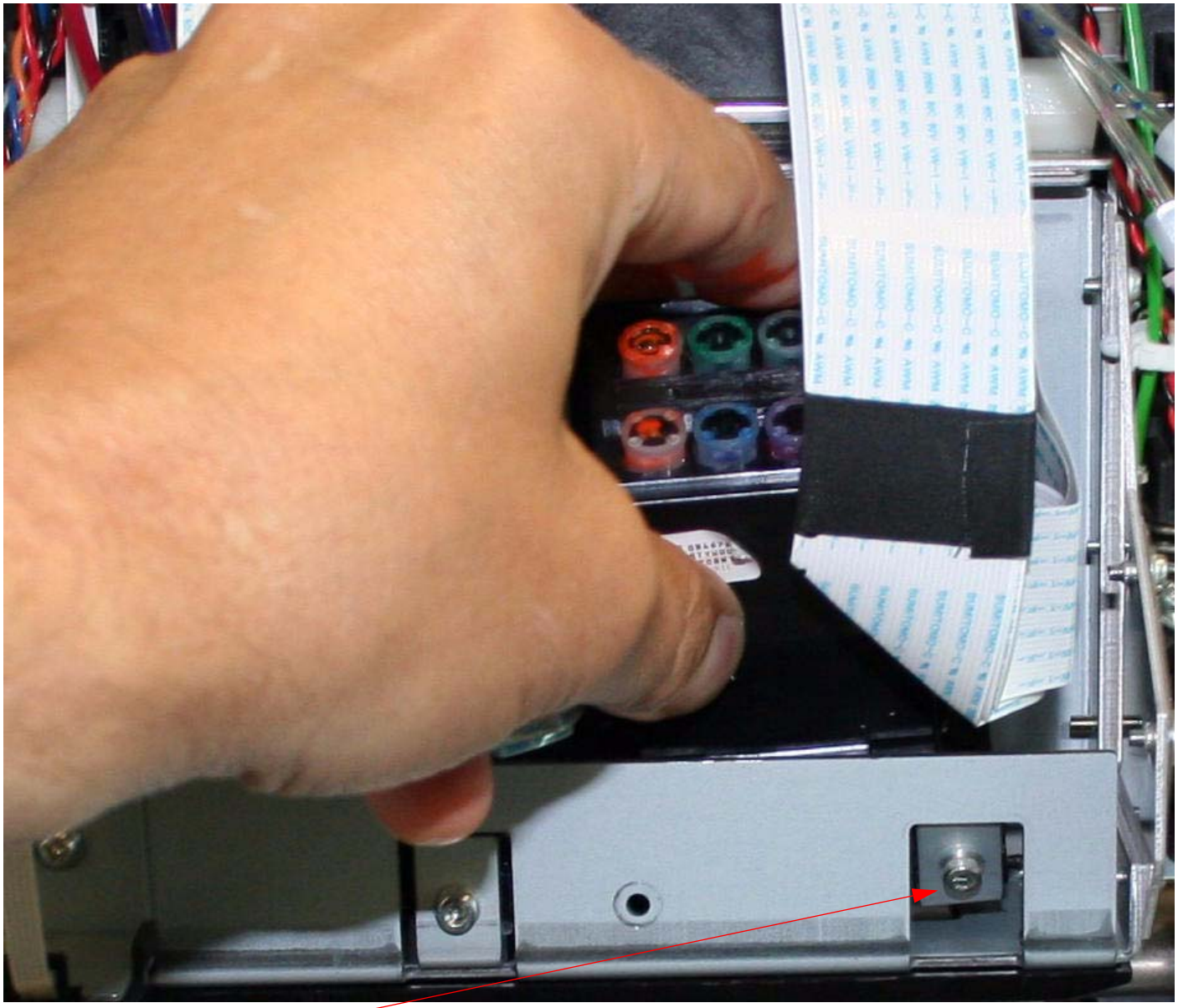


1. Move the Tube and Cable Holder over to release the ***Head Cables*** and move the ***Ink Tubes*** out of the way.



2. Plug in the ***4 Head Cables***.

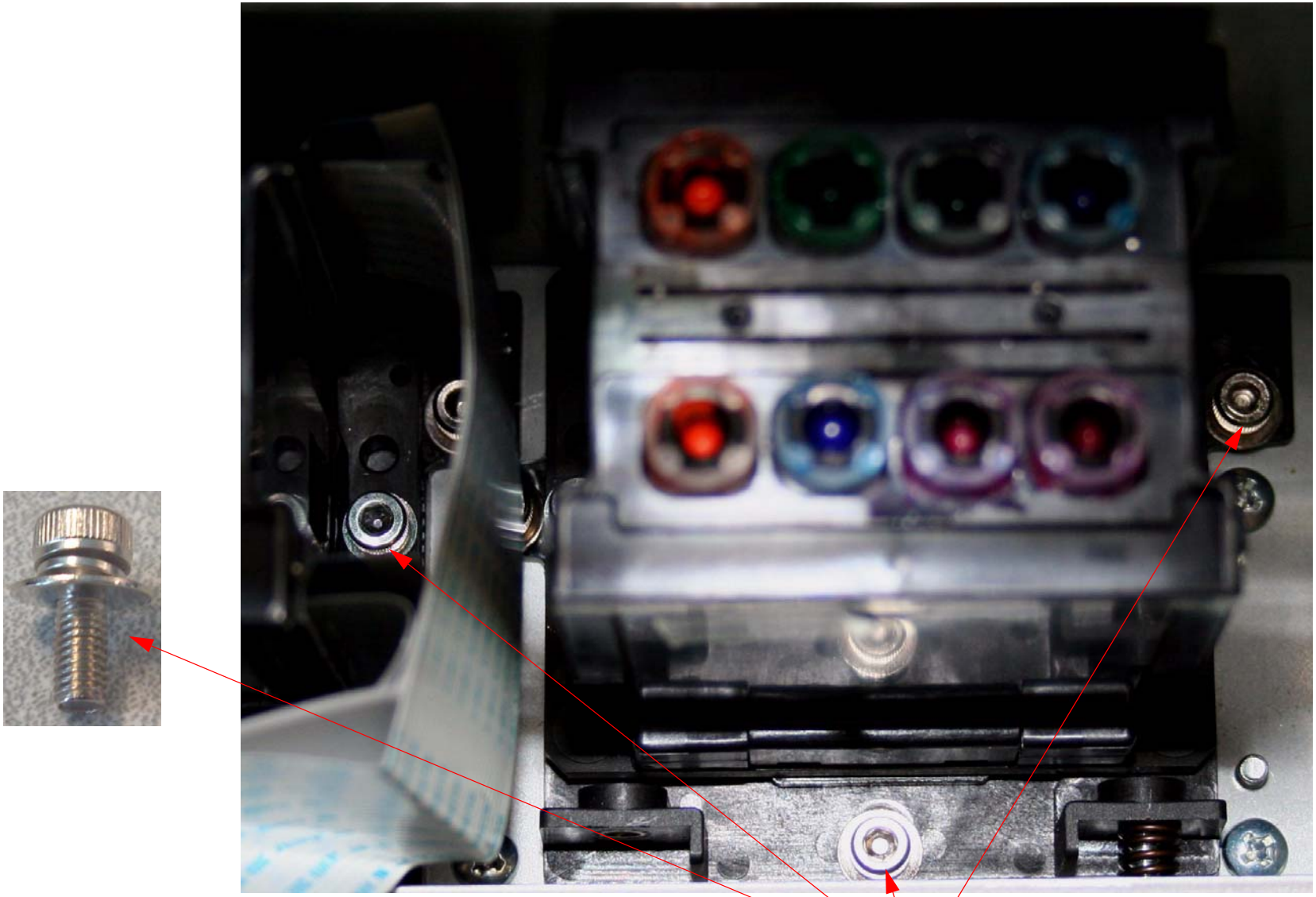
7. Install the ***Print Head Assembly***.



1. Tilt the ***Head Assembly*** forward to insert this piece.

2. Drop in the ***Head Assembly***.

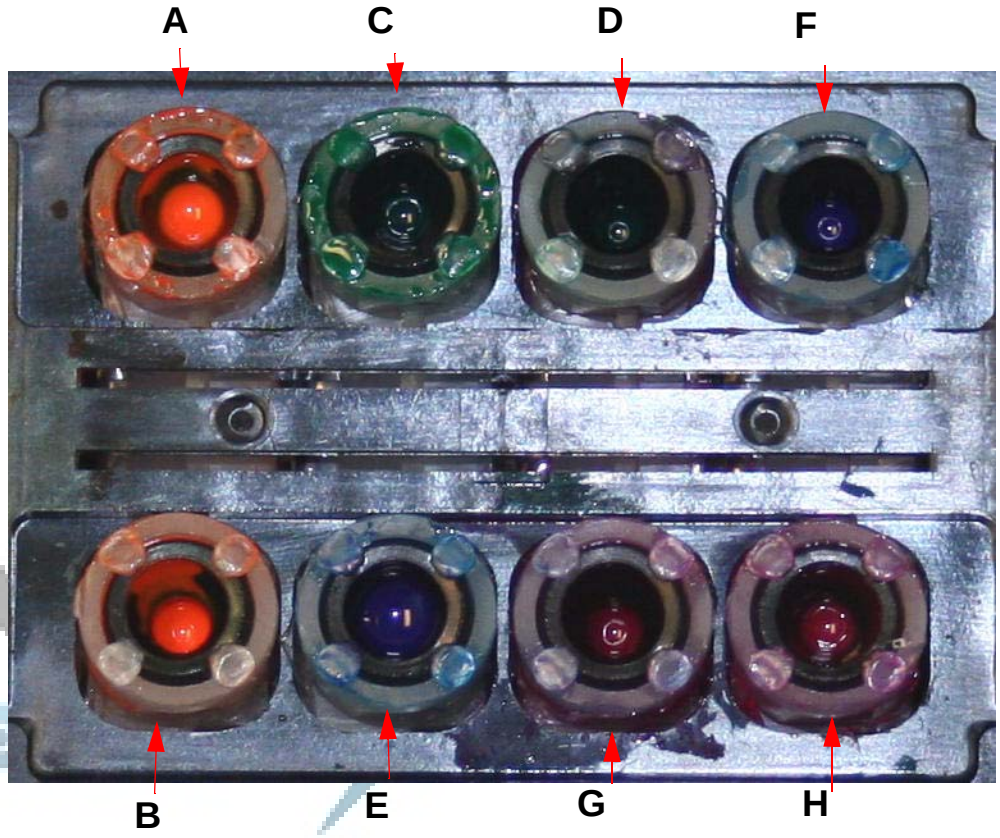
8. Install ***3 Screws (2.5mm Hex Head)***



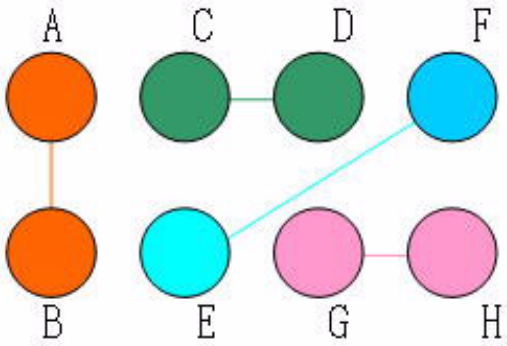
Install ***3 Screws (2.5mm Hex Head)***.

9. Connect the ***Ink Lines***.

Tubes are marked **A - H**



Connect the ***Ink Tubes*** in the correct position.



10. Load the Spring Tool with the ***Print Head Spring***.l

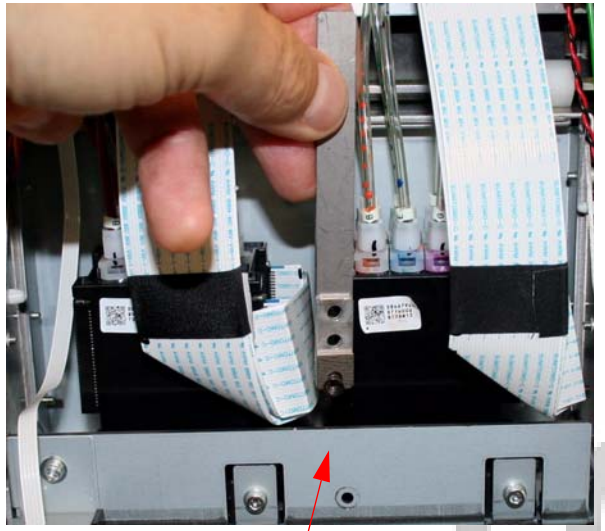
Spring Tool

Print Head Spring

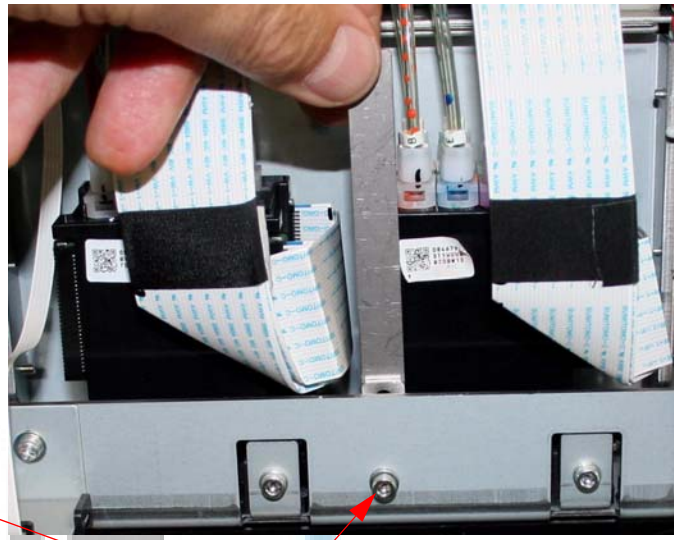
Compress the ***Spring*** and insert it into the Tool.

Note: it is not necessary to completely compress / insert the Spring into the Tool.

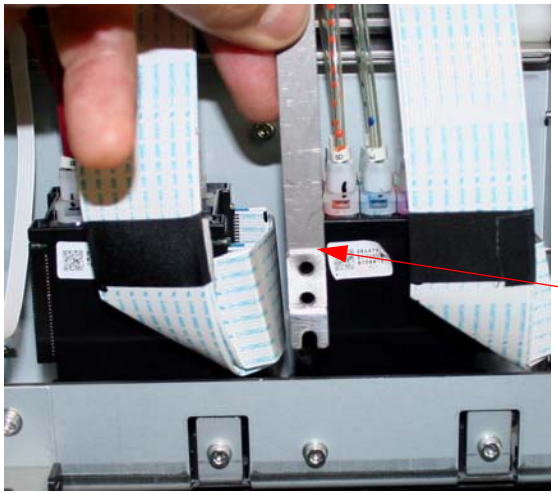
11. Insert the ***Print Head Spring*** and fasten with ***1 Screw (2.5mm Hex Head)***.



1. Place the ***Spring*** in position



2. Insert ***1 Screw (2.5mm Hex Head)*** through the ***Spring*** and tighten loosely***.***



3. Remove the Spring Tool.

12. Move the ***Carriage Assembly*** back onto the ***Cap Assembly***.

13. Turn on the ***Printer***, and let it come **Ready**.

14. Press the **Menu** button and navigate to **Maintenance**.

15. Press the ***Menu*** button and navigate to **Cleaning (Heavy)**.

    15.1 Execute the cleaning.

16. Press the ***Menu*** button and navigate to **Cleaning (Very Light)**.

    16.1 Execute the cleaning.

17. Print a Nozzle Check pattern (Perform additional cleanings if necessary).

18. Perform the following adjustments in sequence.

    18.1 Perform ***Head Left (M,C,K,Y) Counter Save and Reset.***

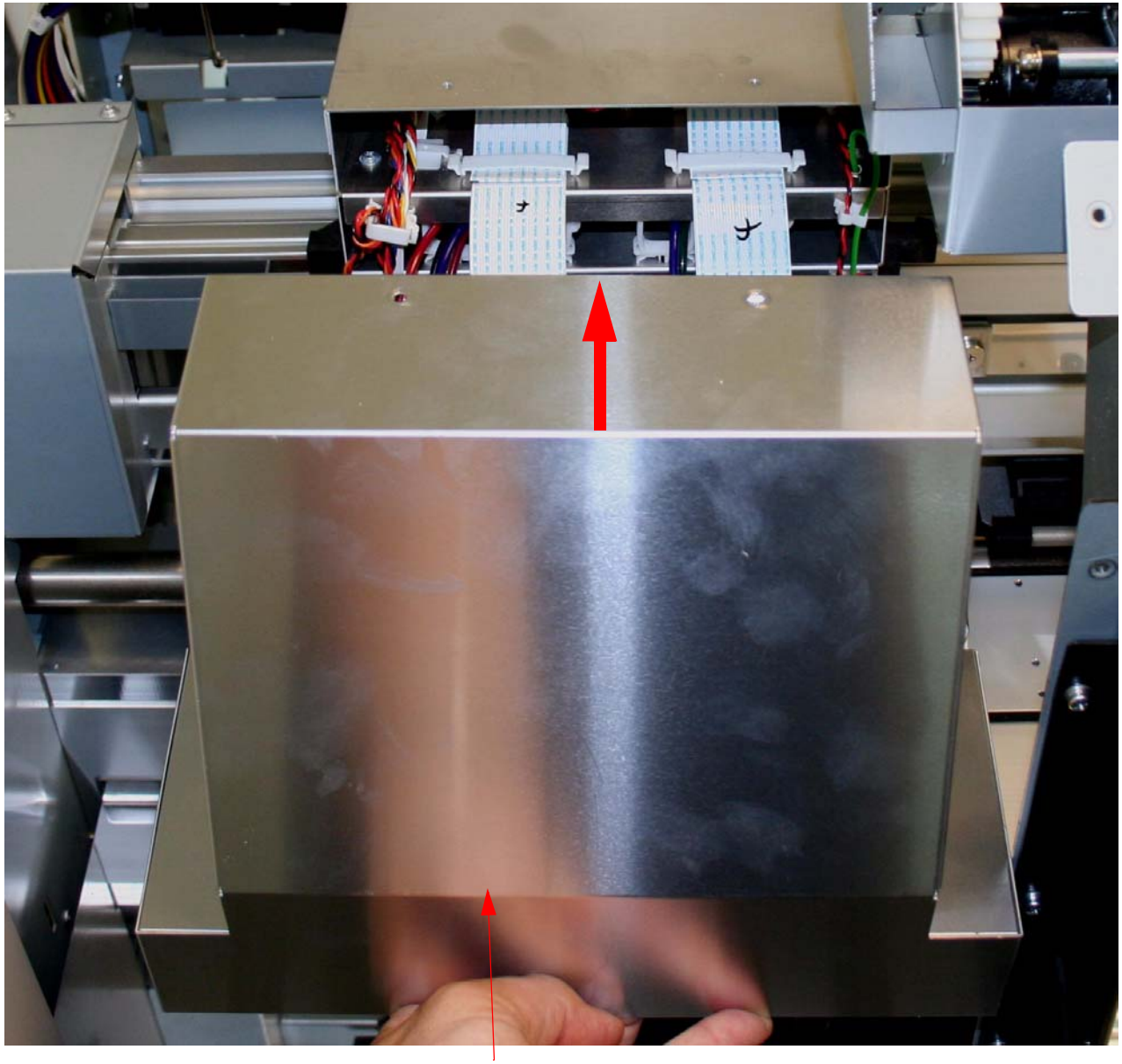
    18.2 Perform ***Head Rank Input*** (***if you did not do it before removing the old Print Head***).

    18.3 Perform the **Head Slant (CR) Adjustment**.

    18.4 Perform the **Head Bi-D Gap Adjustment**.

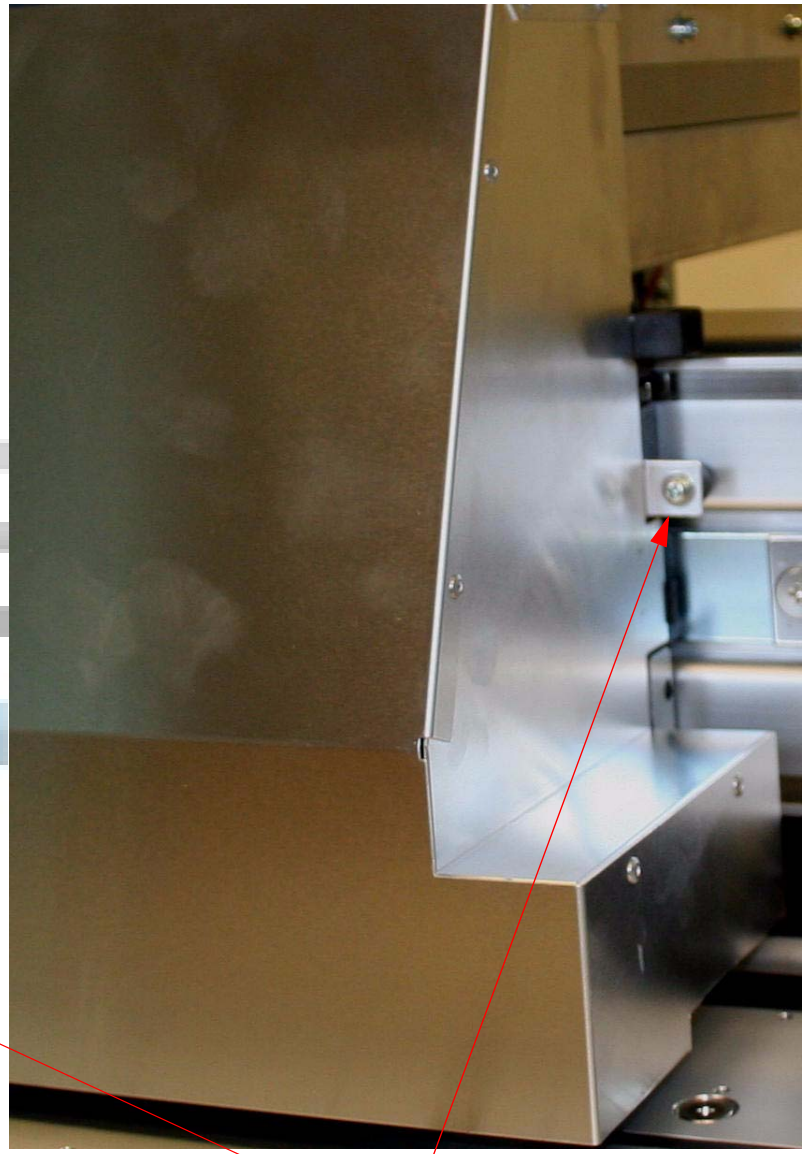
    18.5 Perform the **Head Uni-D Gap Adjustment**.

19. Install the ***Carriage Cover***.



Slide on the ***Carriage Cover***.

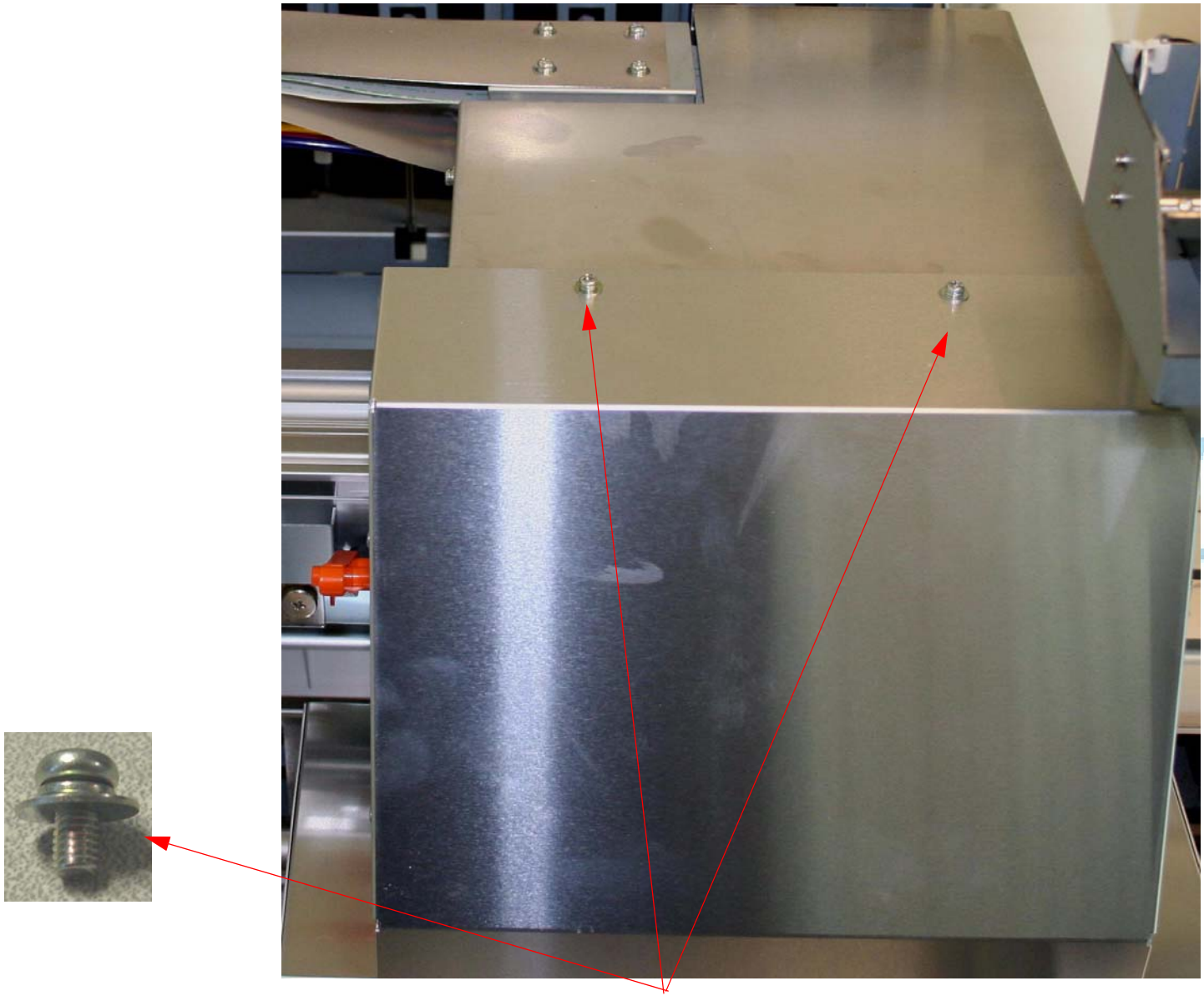
20. Install ***2 Screws*** that fasten the sides of the ***Carriage Cover*** to the ***Carriage Assembly***.



1. Install ***1 Screw***.

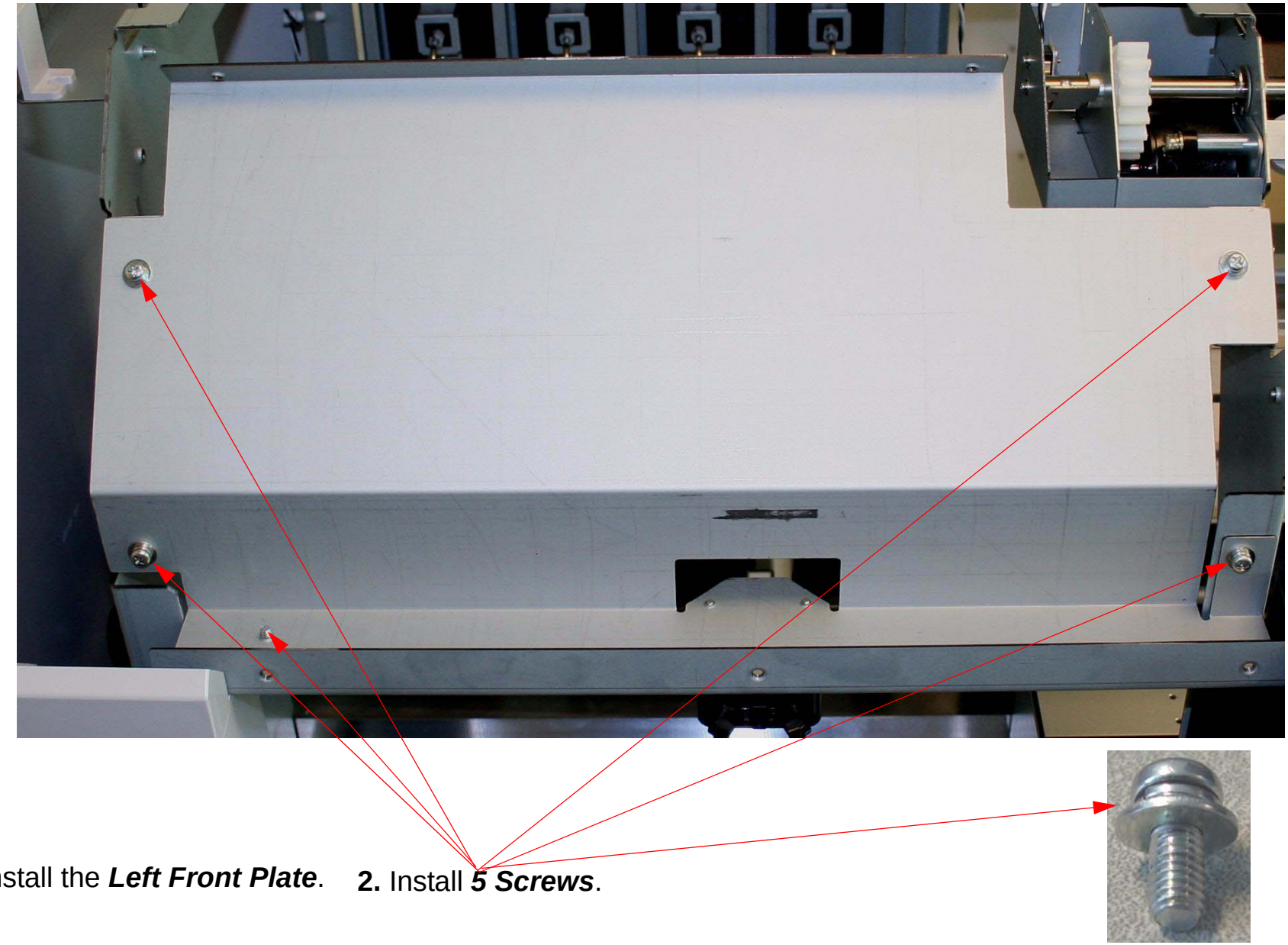
2. Install ***1 Screw***.

21. Install ***2 Screws*** that fasten the top of the ***Carriage Cover*** to the ***Carriage Assembly***.



Install ***2 Screws***.

22. Install the ***Left Front Plate***.



1. Install the ***Left Front Plate***. **2.** Install ***5 Screws***.

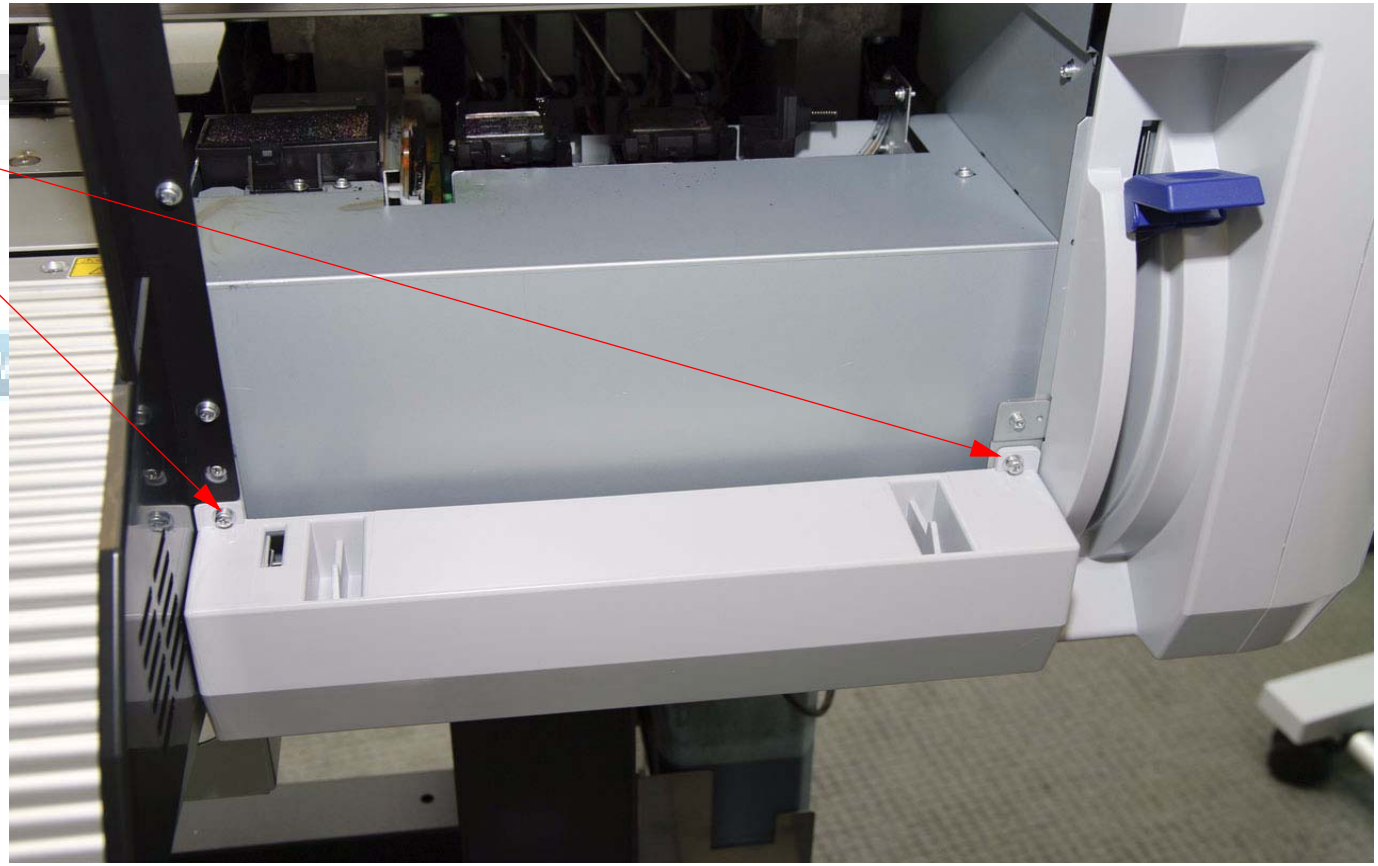
23. Install the ***Cover (Left Front)***.

24. Install the ***Cover (Top Left)***.

Pump Assembly Removal

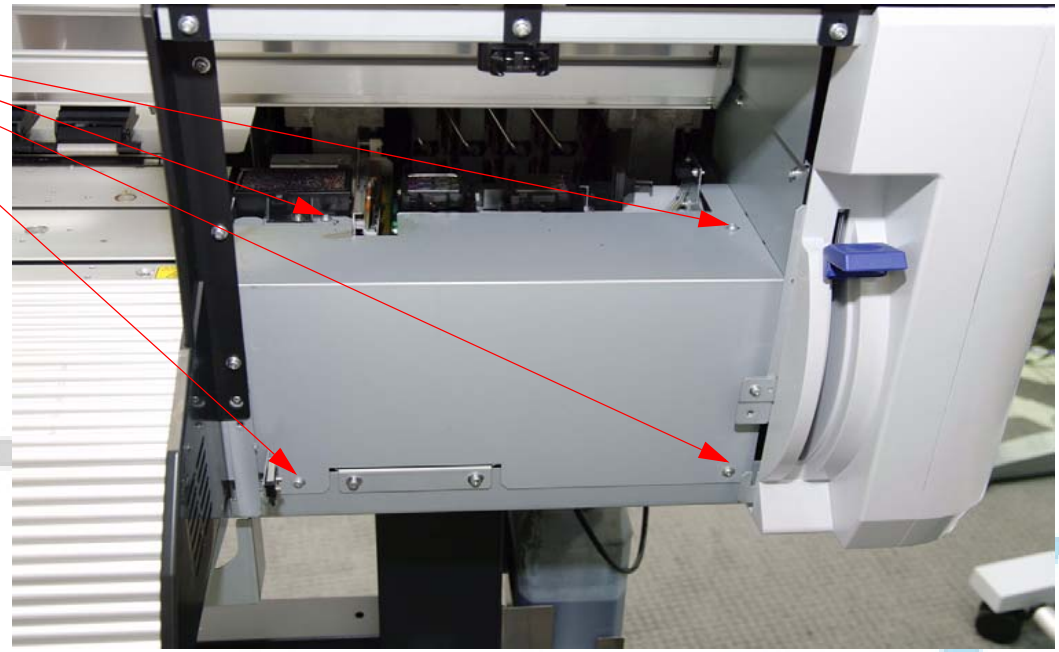
1. Remove the ***Cover (Top Right)***
2. Remove the ***Right Front Door***
3. Remove the ***Right Door Hinge***

2 Screws



4. Remove ***Maintenance Cover***

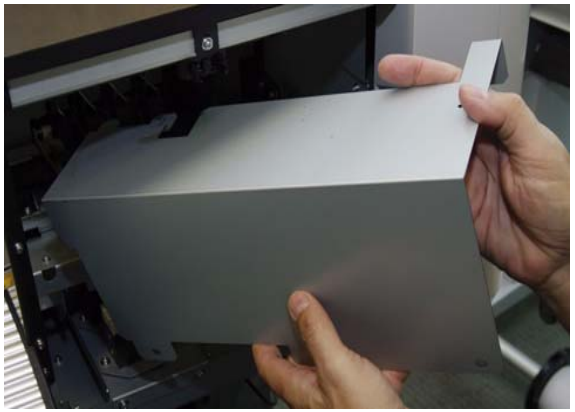
4 Screws



1. Lift Up the ***Maintenance Cover***

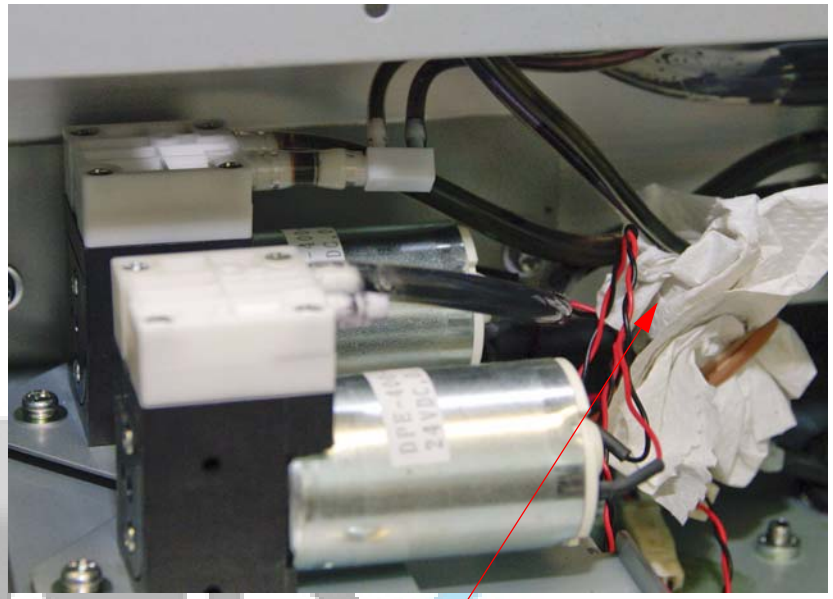
2. Slide the right side out first

3. Slide the ***Maintenance Cover*** out.



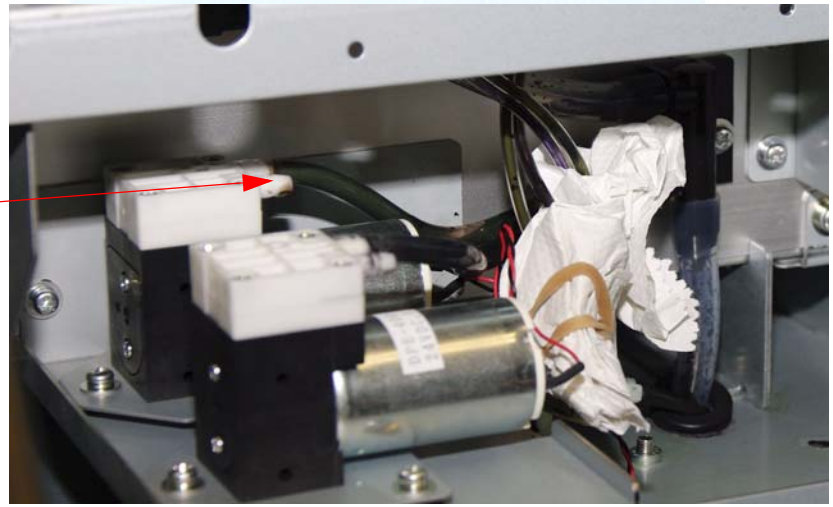
5. Unplug Cap Tubing from Pump Assy

1. Unplug the ***Tube*** here.



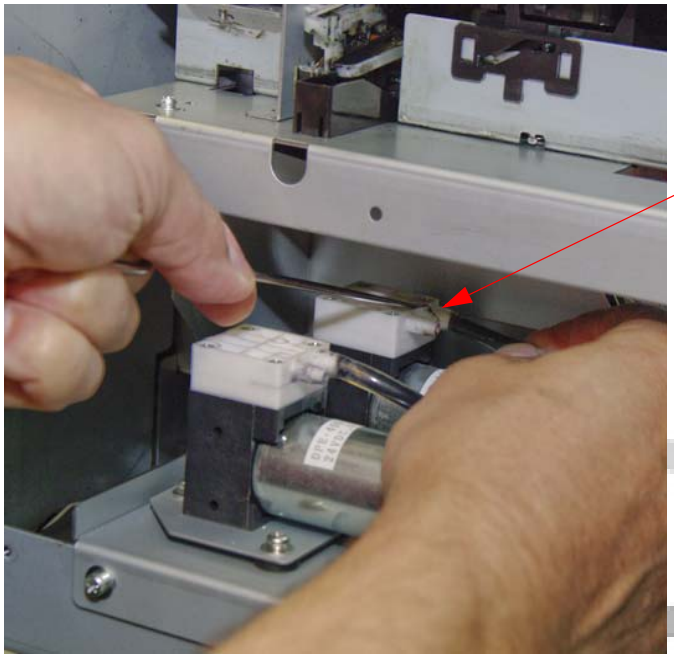
2. Wrap the tubing in paper towel to prevent ink leaks and drips

Remove the other ***Cap Tubing*** as well



For installation, the Right Cap Tubing goes to the Rear Pump Assy and the Left Cap Tubing goes to the Front Pump Assy.

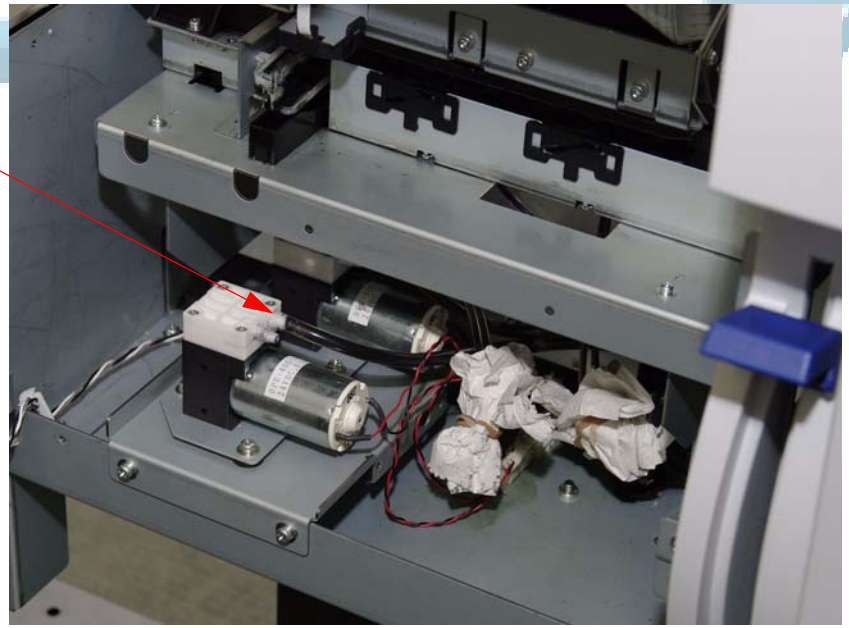
6. Disconnect ***2 Waste Ink Tubes***



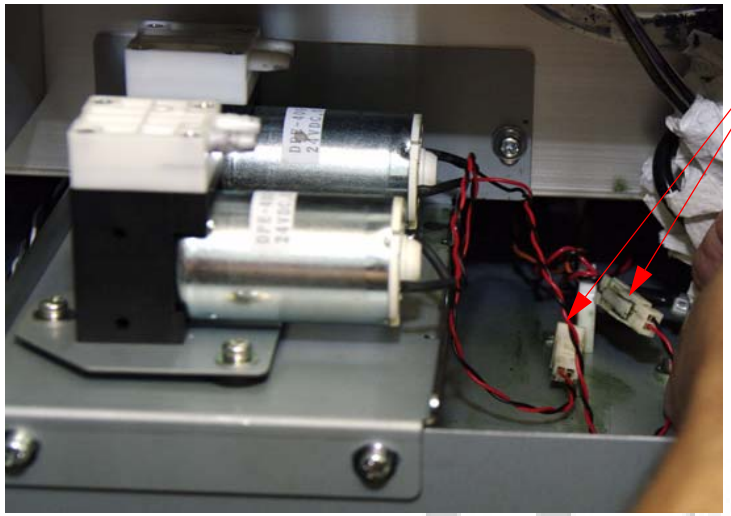
Remove ***Waste Ink Tube*** from the Pump Assy.

Wrap the tube with paper towel to prevent ink drip.

Remove the other ***Waste Ink Tube*** as well.

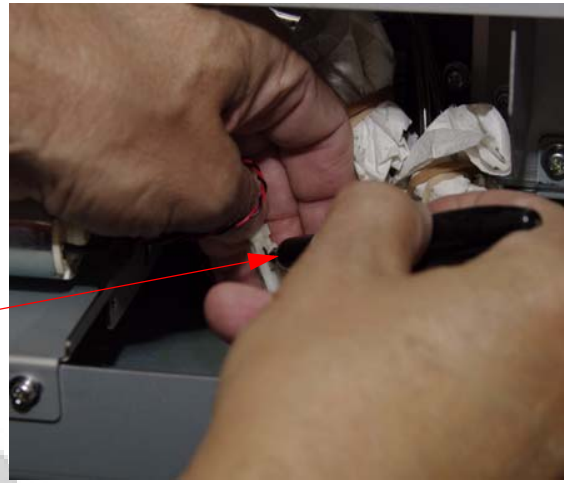


7. Disconnect ***2 Connectors***

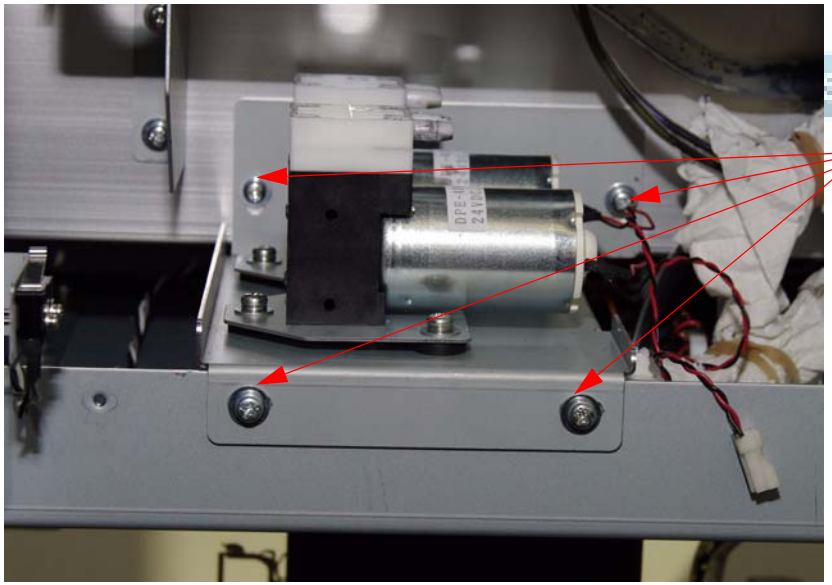


Disconnect ***2 Connectors*** for each Pump Motor.

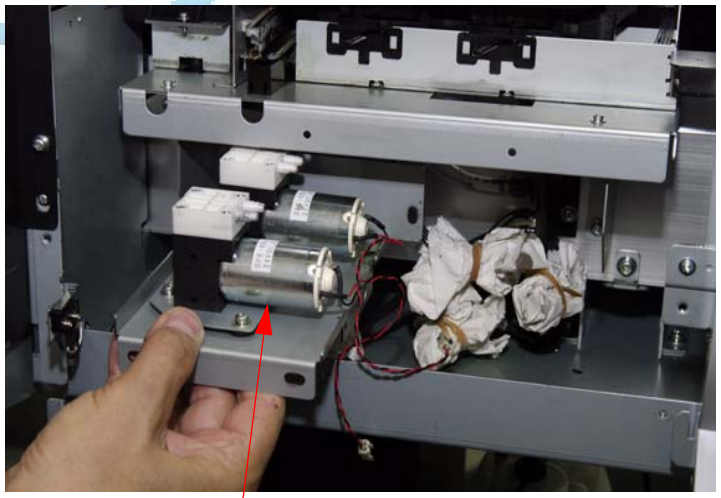
Make sure to mark 1 connector to ensure matching connectors when installing.



8. Remove 2 Screws



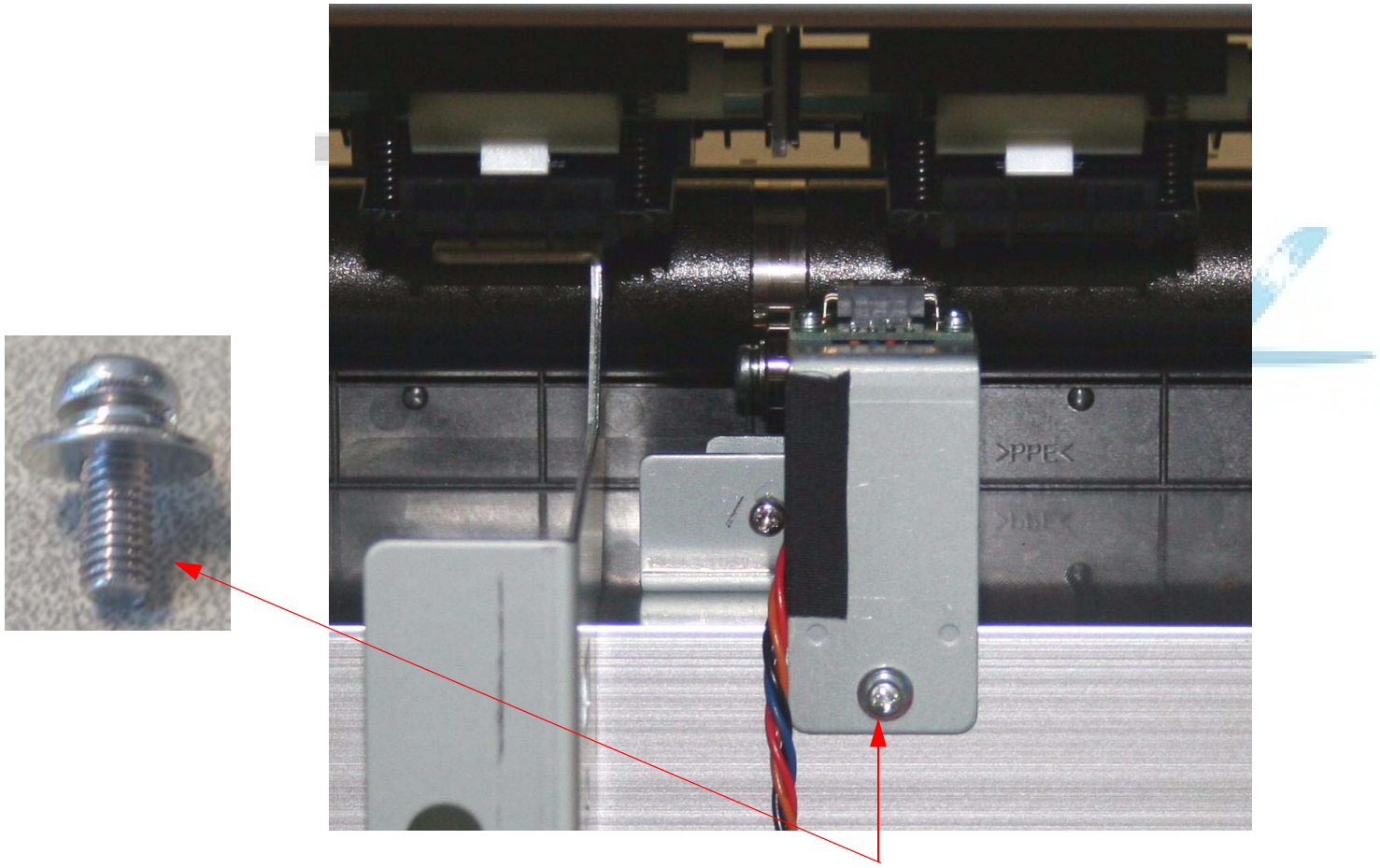
Remove 4Screws



Slide the Pump Assy out.

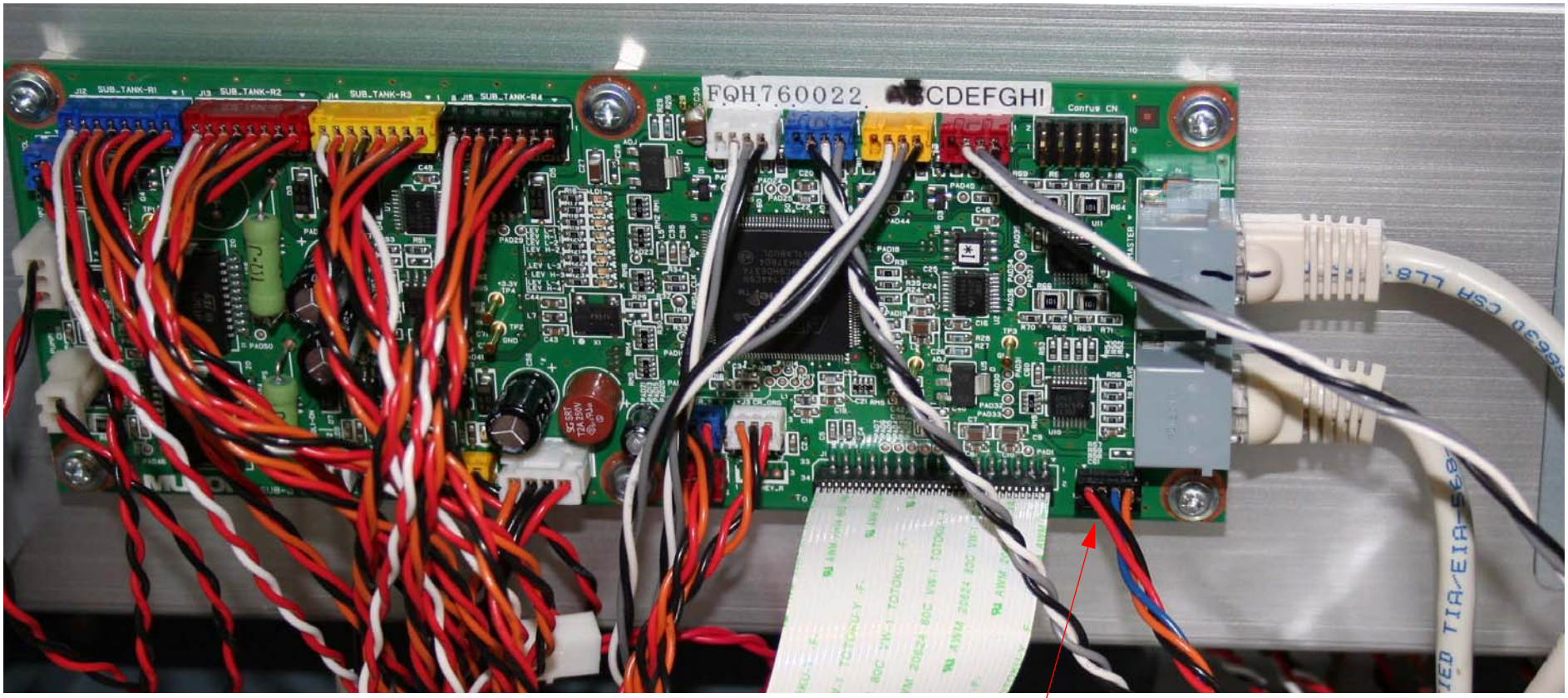
Sensor (Rear AD) Removal

1. Remove the ***Heater Assembly (Pre).***
2. Remove the ***Media Holder Assembly***.
3. Unfasten the ***Rear AD Sensor***.



Remove ***1 Screw***.

4. Unplug the ***Rear AD Sensor*** from ***Sub Board B (J6)***, and remove the ***Sensor***.

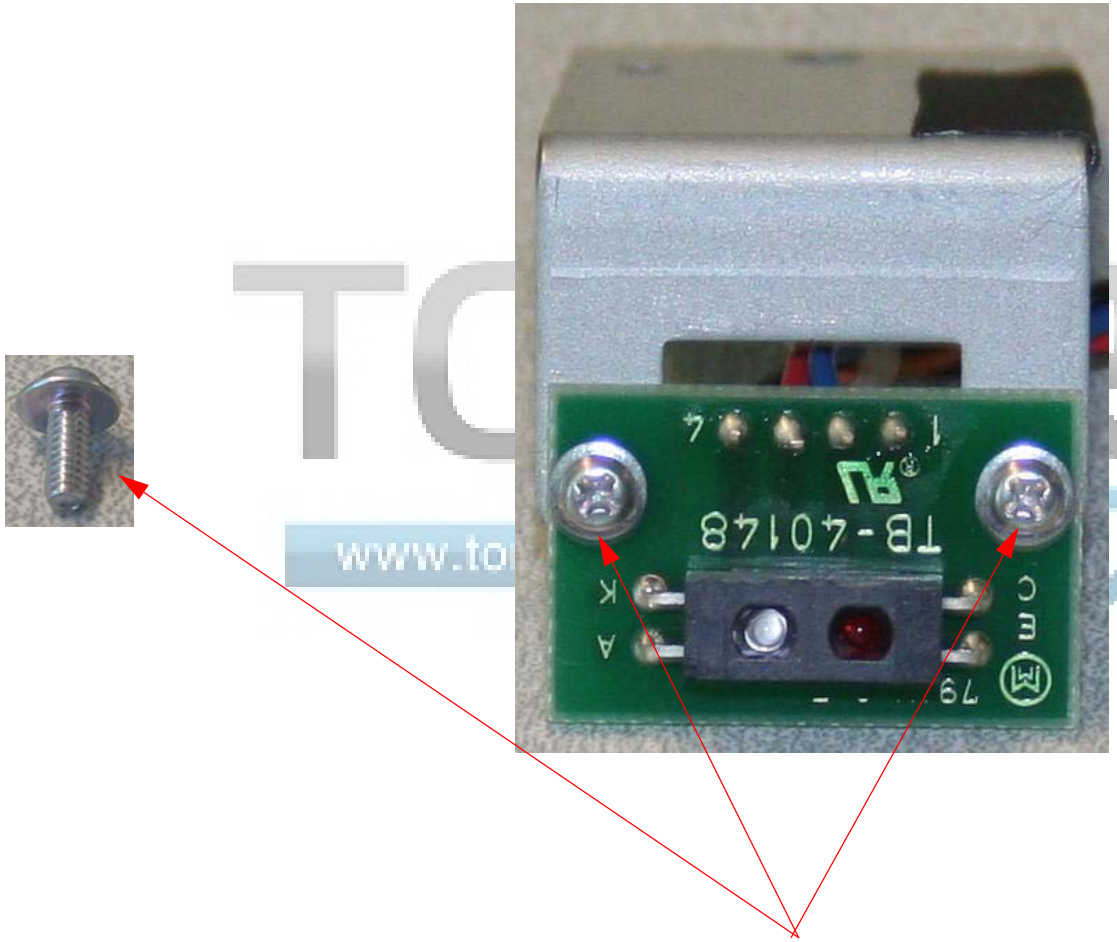


1. Unplug the ***Rear AD Sensor***.

2. Free the ***Cable*** from the ***Fasteners.***

3. Remove the ***Rear AD Sensor***.

5. Remove ***2 Screws*** that fasten the ***Rear AD Sensor*** to it's ***Bracket***.



Remove ***2 Screws***.

Troubleshooting

Error Codes (Service)

11xx Series Carriage Error Codes

Carriage Error Code	Error Name	Description	Remedy
1101	Carriage Motor End Of Life Error	The ***Carriage*** has made enough passes to wear out the ***Ink Tubes***.	Inspect and replace the ***Ink Tubes*** if necessary, and reset the counter (***CR Motor Life Counter Save & Reset***)
1125	Carriage Home Position Detection Error	The ***Carriage Home Position Sensor*** does not detect the ***Carriage*** properly.	**1.** Check the ***Carriage Home Position Sensor***. **2.** Check for mechanical issues that would restrict the ***Carriage Mechanism*** from going "home".
1133	Carriage Position Time Out Error	The ***Carriage Encoder*** reports that the ***Carriage Assembly*** is out of position.	**1.** Check for proper ***Carriage*** movement. **2.** Check the ***Carriage Encoder.*** **3.** Clean the ***Carriage Encoder Strip***. **4.** Check for proper ***Carriage Belt*** tension. **5.** Check the ***Carriage Motor***. **6.** Check the ***Carriage Home Position Sensor***.
1135	Carriage Encoder Check Error	The ***Carriage Encoder*** signal does not look right to the ***Main Board***.	**1.** Check the ***CR Encoder Strip***. **2.** Check the ***CR Encoder***. **3.** Check the ***Carriage Motor***.

Carriage Error Code	Error Name	Description	Remedy
1136	Carriage Motor Step-out Error	The ***Carriage Encoder*** reports that the ***Carriage Assembly*** is out of position.	**1.** Check for proper ***Carriage*** movement. **2.** Check the ***Carriage Encoder.*** **3.** Clean the ***Carriage Encoder Strip***. **4.** Check for proper ***Carriage Belt*** tension. **5.** Check the ***Carriage Motor***. **6.** Check the ***Carriage Home Position Sensor***.
1137	Carriage Servo Parameter Error	The ***Carriage Motor Driver Circuit*** detects abnormal current draw.	**1.** Check for proper ***Carriage*** movement (defective ***Carriage Bearings***, etc.). **2.** Check for proper ***Carriage Belt Tension***. **3.** Check the ***Carriage Motor***.

12xx Series Paper Feed Error Codes

Paper Feed Error Codes	Explanation	Description	Remedy
1223	Paper Feed Encoder Check Error	The ***Paper Feed Encoder*** signal does not look right to the ***Main Board***.	**1.** Check the ***PF Encoder Disk***. **2.** Check the ***PF Encoder***. **3.** Check the ***Paper Feed Motor***.
1225	Paper Feed Motor Positioning Time Out	The ***Paper Feed Encoder*** reports that the ***Paper Feed Roller*** does not move properly.	**1.** Check for proper ***Paper Feed Roller*** movement. **2.** Check for proper ***Paper Feed Belt*** tension. **3.** Check the ***Paper Feed Encoder***. **4.** Check the ***Paper Feed Encoder Disk***. **5.** Check the ***Paper Feed Motor***
1227	Paper Feed Motor is out of step.	The ***Paper Feed Encoder*** reports that the ***Paper Feed Roller*** does not move properly.	**1.** Check for proper ***Paper Feed Roller*** movement. **2.** Check for proper ***Paper Feed Belt*** tension. **3.** Check the ***Paper Feed Encoder***. **4.** Check the ***Paper Feed Encoder Disk***. **5.** Check the ***Paper Feed Motor***
1228	Paper Feed Motor Servo Parameter Error	The ***Paper Feed Motor Driver Circuit*** detects abnormal current draw.	**1.** Check for proper ***Paper Feed Roller*** movement (look for binding). **2.** Check for proper ***Paper Feed Belt Tension***. **3.** Check the ***Paper Feed Motor***.

13xx Series Head Driver Errors

Head Driver Error Codes	Explanation	Description	Remedy
131B	Head Driver (Transmission Gate) Temperature Error	The ***Thermistor*** in the ***Print Head*** reports an over temperature condition	**1.** Re-seat the ***Print Head*** Cables on the ***Main Board*** side. **2.** Re-seat the ***Print Head Cables*** on the ***Print Head*** side. **3.** Replace the ***Print Head***. **4.** Replace the ***Main Board***.

17xx Series Paper Detection Error

P/W Errors	Explanation	Description	Remedy
1700	Print Position Error	The Edge Detector can not measure the media accurately.	**1.** Check for proper ***Carriage*** movement. **2.** Check the ***Carriage Encoder.*** **3.** Clean the ***Carriage Encoder Strip***. **4.** Check the ***Edge Detector*** (***EdgeAD Sensor***)

19xx Heater and Sub Tank Errors

1900	Heater Control Board serial connection error.	The ***Cat. 5 Cable*** connection between the ***Main Board*** and the ***Heater Control Board*** is not working.	**1.** Check the ***Cat. 5 Cable***. **2.** Replace the ***Cat. 5 Sub Board*** on the ***Main Board***. **3.** Replace the ***Main Board***. **4.** Replace the ***Heater Control Board***.
1902	Pre Heater High Temperature Error	An abnormally high temperature of the Pre Heater is detected.	**1.** Check ***Thermistor***. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***.
1903	Platen Heater High Temperature Error	Platen Heater High Temperature Error	**1.** Check ***Thermistor***. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***.
1904	Post Heater High Temperature Error	Post Heater High Temperature Error	**1.** Check ***Thermistor***. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***.
1905	Pre Heater Low Temperature Error.	The ***Pre Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.
1906	Platen Heater Low Temperature Error.	The ***Platen Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.

1907	Post Heater Low Temperature Error.	The ***Post Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.
1908	Abnormal voltage on the Heater Control Board	Voltage error on the ***Heater Control Board***.	**1.** Check the ***Heater Control Board***. **2.** Check the ***Power Supply***.
1909	Heater Control Board serial connection error.	The ***Cat. 5 Cable*** connection between the ***Heater Control Board*** and the ***Sub Board B*** or ***C*** is not working.	**1.** Check the ***Cat. 5 Cables***. **2.** Replace the ***Heater Control Board***. **3.** Replace ***Sub Board B.*** **4.** Replace ***Sub Board C.***
1910	Pre Heater Low Temperature Error.	The ***Pre Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.
1911	Platen Heater Low Temperature Error.	The ***Platen Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.
1912	Post Heater Low Temperature Error.	The ***Post Heater*** does not heat properly.	**1.** Check for heat. **2.** Check for AC Connection. **2.** Check ***Heater Relay Board***. **3.** Check ***Heater Control Board***. **4.** Check ***Heater Elements***.

1920	Sub Tank 1 Sensor Error (Cyan)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1921	Sub Tank 2 Sensor Error (Magenta)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1922	Sub Tank 3 Sensor Error (Yellow)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1923	Sub Tank 4 Sensor Error (Black)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.

1924	Sub Tank 5 Sensor Error (Light Cyan)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1925	Sub Tank 6 Sensor Error (Light Magenta)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1926	Sub Tank 7 Sensor Error (Green)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.
1927	Sub Tank 8 Sensor Error (Orange)	Data from the 2 Sub Tank Sensors conflicts.	Check the ***Sub Tank Metal Actuator Plate*** (The metal plate that toggles the ***2 Sub Tank Sensors***) for mechanical linearity. See the Sub Tank Troubleshooting chapter located in the Troubleshooting Section of the Field Repair Guide.

1Axx, 20xx, Fxxx Series Main Board and Print Head Errors

Main Board Errors	Explanation	Description	Remedy
1A23	RTC Analysis error	The RTC data on the ***Main Board*** is invalid.	1. Using the ***Servprog.exe*** run the ***RTC USB ID*** adjustment. 2. Check the ***Battery***. 3. Replace the ***Main Board***.
1A26	RTC Communication Error	The RTC circuit on the ***Main Board*** is malfunctioning.	1. Unplug the ***Printer***. 2. Remove the ***Battery*** for 30 seconds. 3. Re-install the Battery. 4. Using the ***Servprog.exe*** run the ***RTC USB ID*** adjustment. 5. Replace the ***Main Board***.
1A37	Thermistor Sensor Error	The ***Thermistor*** on the ***Print Head*** reports an over temperature condition	1. Re-seat the ***Print Head Cables*** on the ***Main Board*** side. 2. Re-seat the ***Print Head Cables*** on the ***Print Head*** side. 3. Replace the ***Main Board***. 4. Replace the ***Print Head***.
1A38	Transistor Environment Temperature Error	The ***Thermistor*** on the ***Print Head*** reports tempera-ture out of range.	1. Replace the ***Print Head***.
1A39	Print Head Error	The ***Print Head*** reports an error.	1. Replace the ***Print Head***.
1A40	IC22 Error	**Main Board** Error	Replace the ***Main Board***.

Main Board Errors	Explanation	Description	Remedy
1A41	Head Rank Id Input Error	Head Rank Data is corrupt	Re-send the Head Rank Data
2000	NVRAM Error	RAM error on the Main Board	Replace the ***Main Board***
2002	SDRAM Error	RAM error on the Main Board	Replace the ***Main Board***
2003	Boot Firmware Error	Corrupted Firmware	**1.** Re-install Firmware. **2.** Replace the ***Main Board***.
200A	Firmware Loading Error	There is a problem with the SDRAM	**1.** Re-install Firmware. **2.** Replace the ***Main Board***.
200B	Insufficient Memory Error	Firmware Error	**1.** Re-install Firmware. **2.** Replace the ***Main Board***.
200C	Servo Interrupt Time Out Error.	A Servo can not be controlled	**1**. Re-install Firmware. **2.** Replace the ***Main Board***.
200D	System Interrupt Time Out Error.	***Main Board*** or Firmware Problem	1. Re-install Firmware. 2. Replace the ***Main Board***.
200E	System Board Error	Main Board Error	Replace the ***Main Board***
3000	AC Power Error	AC Power dropped while the Printer was turned on.	Check AC Power.
FXXX	CPU Error	***Main Board*** or Firmware Problem	1. Re-install Firmware. 2. Replace the ***Main Board***.

Sub Tank Troubleshooting

Note: The Sub Tank Sensors are involved with determining when the related Ink Cartridges are empty. Consequently, Sub Tank Sensor errors can confuse the Printer, resulting in data on the CSIC Chip being incorrectly written. This results in the Printer falsely "marking" the Ink Cartridge as empty. The cartridge must be replaced. For that reason, always remove the Ink Cartridges before experimenting with the Sub Tank Sensors.

Check the Sub Tank Sensors

1. Enter the ***Sub Tank Sensor*** test menu.
   - 1.1 Enter Service Man Mode (Hold the **Down**, **Right**, and **Pause** buttons and turn on the ***Printer***).
     - 1.1.1 The Printer will display **Self Testing**.
   - 1.2 Navigate to **Self Testing\Test\Ctrl.Test*Ctrl Sns:Tank*** and enter the menu.
   - 1.3 The ***Printer*** will display this on the ***LCD***.

***Sub Tank* 1 - 8**
(Use the up/down arrows to change Sub Tanks).

1 = Cyan
2 = Magenta
3 = Yellow
4 = Black
5 = Light Cyan
6 = Light Magenta
7 = Green
8 = Orange

Sub Tank Empty Sensor
(On / Off). This is the ***Sensor*** located on the top of the ***Sub Tank***.

On = Sensor Flagged (interrupted)
Off = Sensor Not Flagged (not inter-

Sub Tank Full Sensor
(**On** / **Off**). This is the ***Sensor*** located on the bottom of the ***Sub Tank***.

Sub Tank Sensor Condition Table

Full Sensor (**H**)	***Empty Sensor*** (**L**)	What it means
On	**On**	The ***Sub Tank*** is full
Off	**On**	The ***Sub Tank*** is not full, but it has ink.
Off	**Off**	The ***Sub Tank*** is empty.
On	**Off**	This condition should not occur in normal operation. It only occurs if there is a mechanical problem with the ***Metal Actuator Plate***, a ***Sensor*** problem, or a ***Board*** problem. This condition creates the ***1920*** - **1927** error. **1920** = ***Cyan Sub Tank*** **1921** = ***Magenta Sub Tank*** **1922** = ***Yellow Sub Tank*** **1923** = ***Black Sub Tank*** **1924** = ***Light Cyan Sub Tank*** **1925** = ***Light Magenta Sub Tank*** **1926** = ***Green Sub Tank*** **1927** = ***Orange Sub Tank***

On = Sensor Flagged (interrupted)
Off = Sensor Not Flagged (not interrupted)

Adjustments

All Counter Clear

Note: All Counter Clear resets all life counters and resets all adjustments and settings. It is for Printer refurbishment. There is no repair application.

Check Network Communication

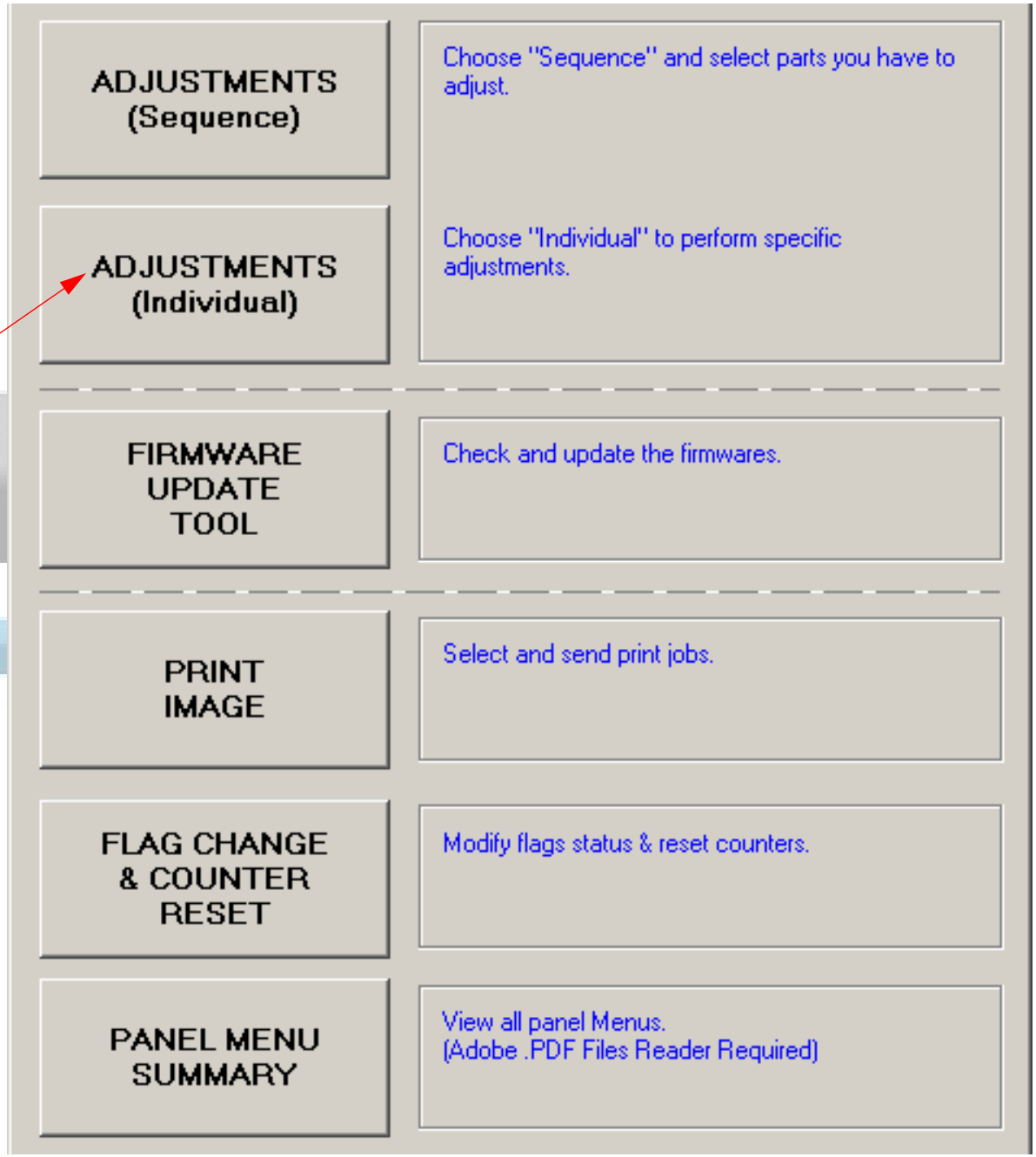
Note: The Check Network Communication adjustment item tests the Ethernet Port on the Printer.

1. Prepare the ***Printer's Ethernet Port*** for the test.
   - 1.1 Enter the User **Menu** on the ***Printer***, and navigate to **NETWORK SETUP**.
     - 1.1.1 Set the **NETWORK SETUP** to **ENABLE**.
   - 1.2 Navigate within the **NETWORK SETUP** menu to **IP ADDRESS SETTING**.
     - 1.2.1 Set the **IP ADDRESS SETTING** to **AUTO**.
2. Connect the ***Printer's Ethernet Port*** to a DHCP network.
   - 2.1 The DHCP network will assign an IP Address to the ***Printer.***
3. Determine the IP Address assigned to the ***Printer*** by the DHCP network.
   - 3.1 Enter the User **Menu** on the ***Printer***, and navigate to **TEST PRINT**.
   - 3.2 Navigate within the **TEST PRINT** menu to **NETWORK STATUS SHEET**.
     - 3.2.1 Print the **NETWORK STATUS SHEET**.
   - 3.3 Locate the ***Printer's*** IP Address on page 1 of the Network Status Sheet print out.
4. Load paper into the ***Printer*** (any kind).

Note: Steps 1 - 3 describe a method for assigning an IP Address using a network that supports DHCP protocol. It is also possible to use a direct connection between a computer and the Printer. A manual IP Address must be used for a direct connection.

5. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

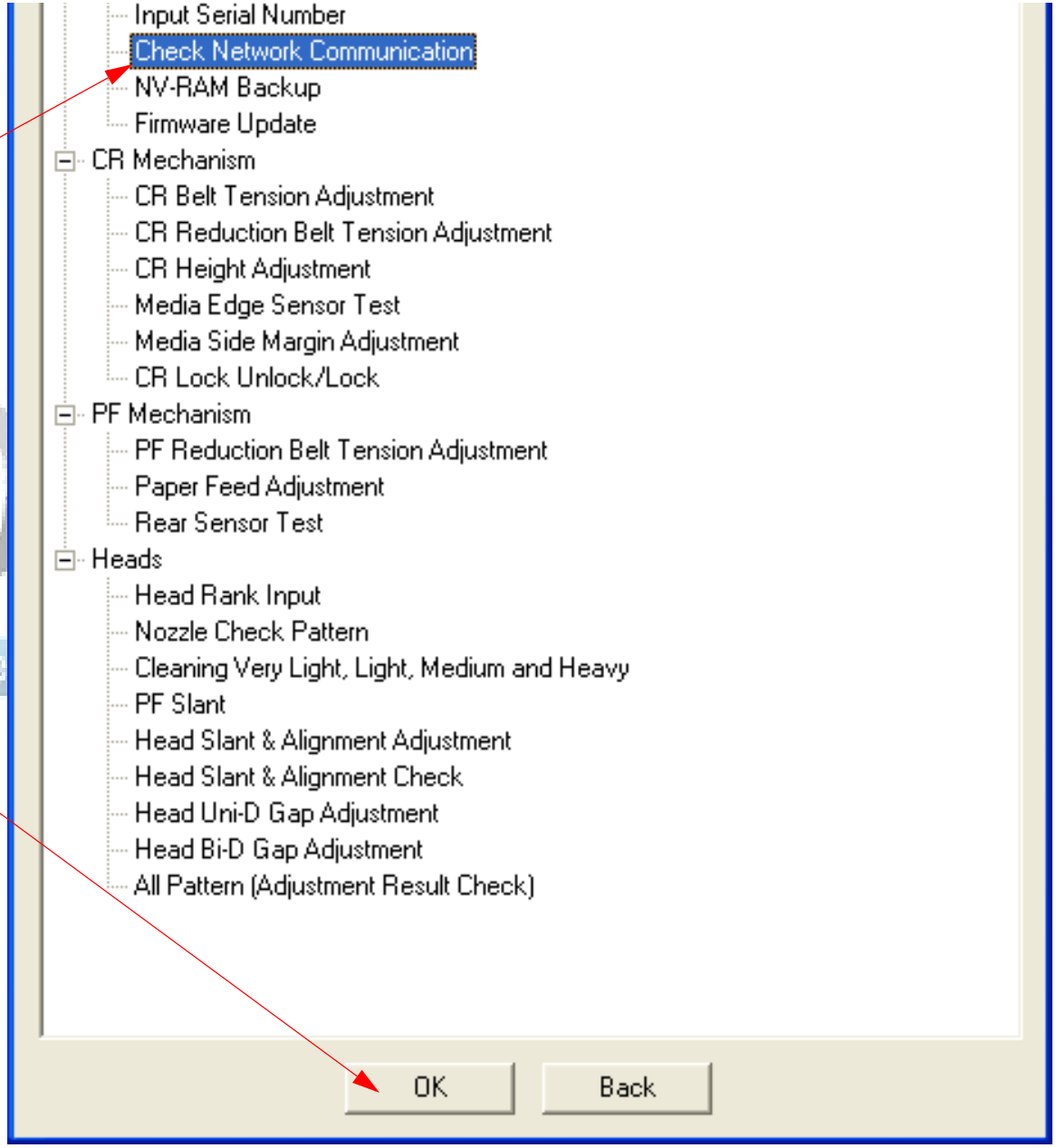
CLICK ON ***ADJUSTMENTS (Individual)***.



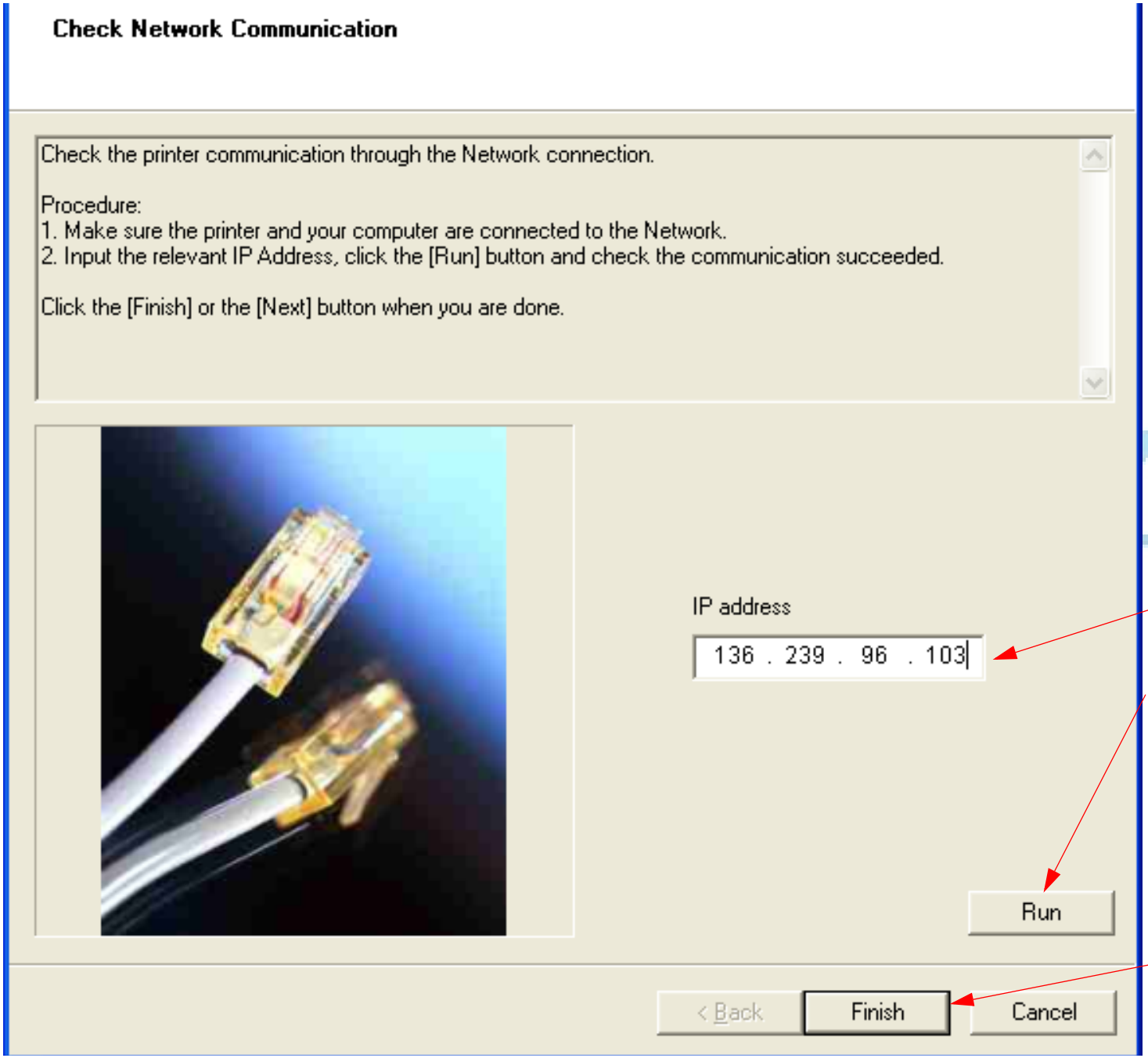
Check Network Communication (continued)

1. Select ***Check Network Communication.***

2. Click on ***OK***.



6. Check Network Communication (continued



3. Enter the ***Printer's*** IP Address.

4. Click on the ***Run*** button to start the test.

5. The ***Printer*** will print out a Status Sheet (test print).

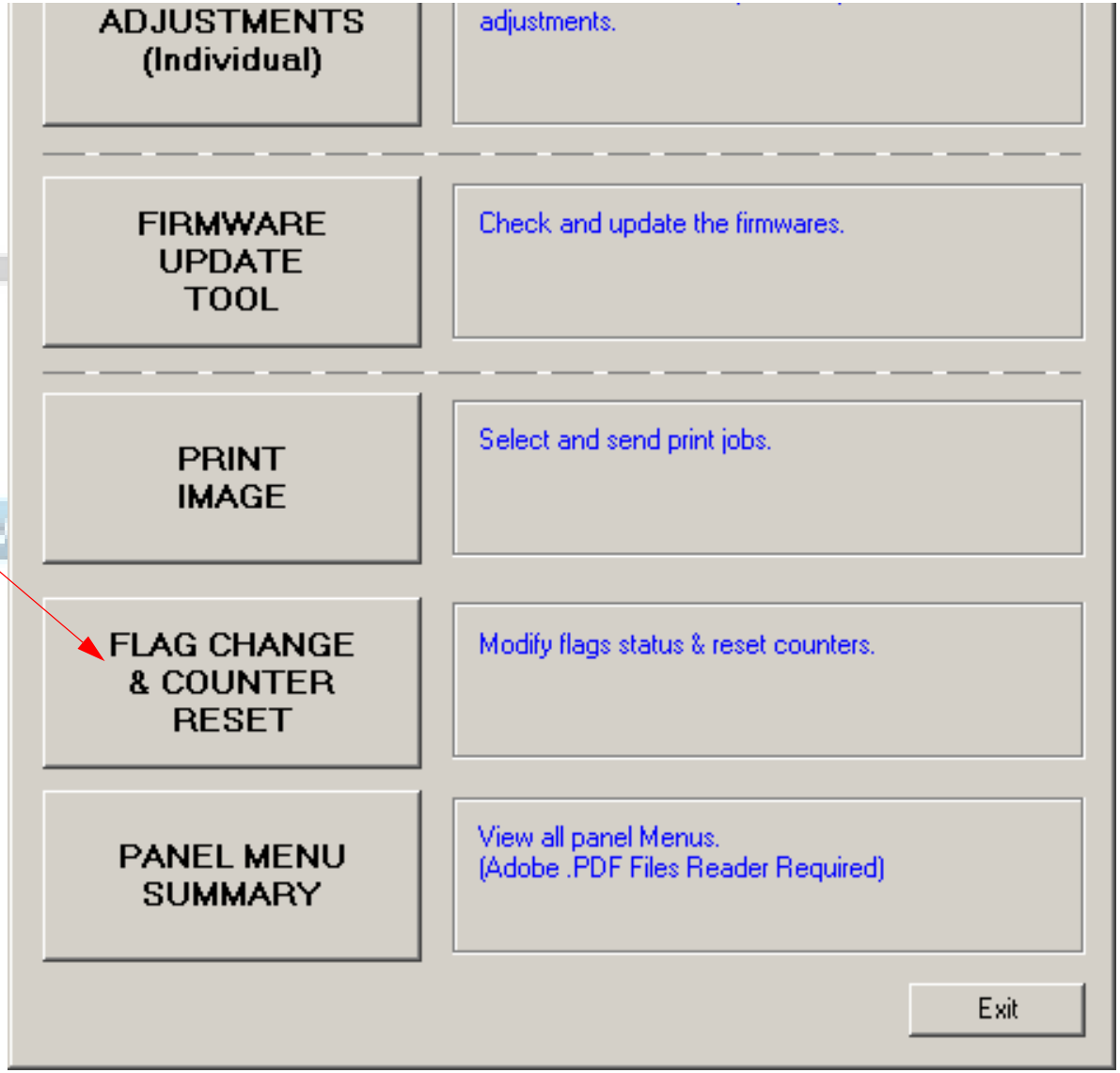
6. Click on ***Finish*** to return to the main menu.

CR Motor Life Counter Save & Reset

Note: CR Motor Life Counter Save & Reset is used to reset the Carriage Motor life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

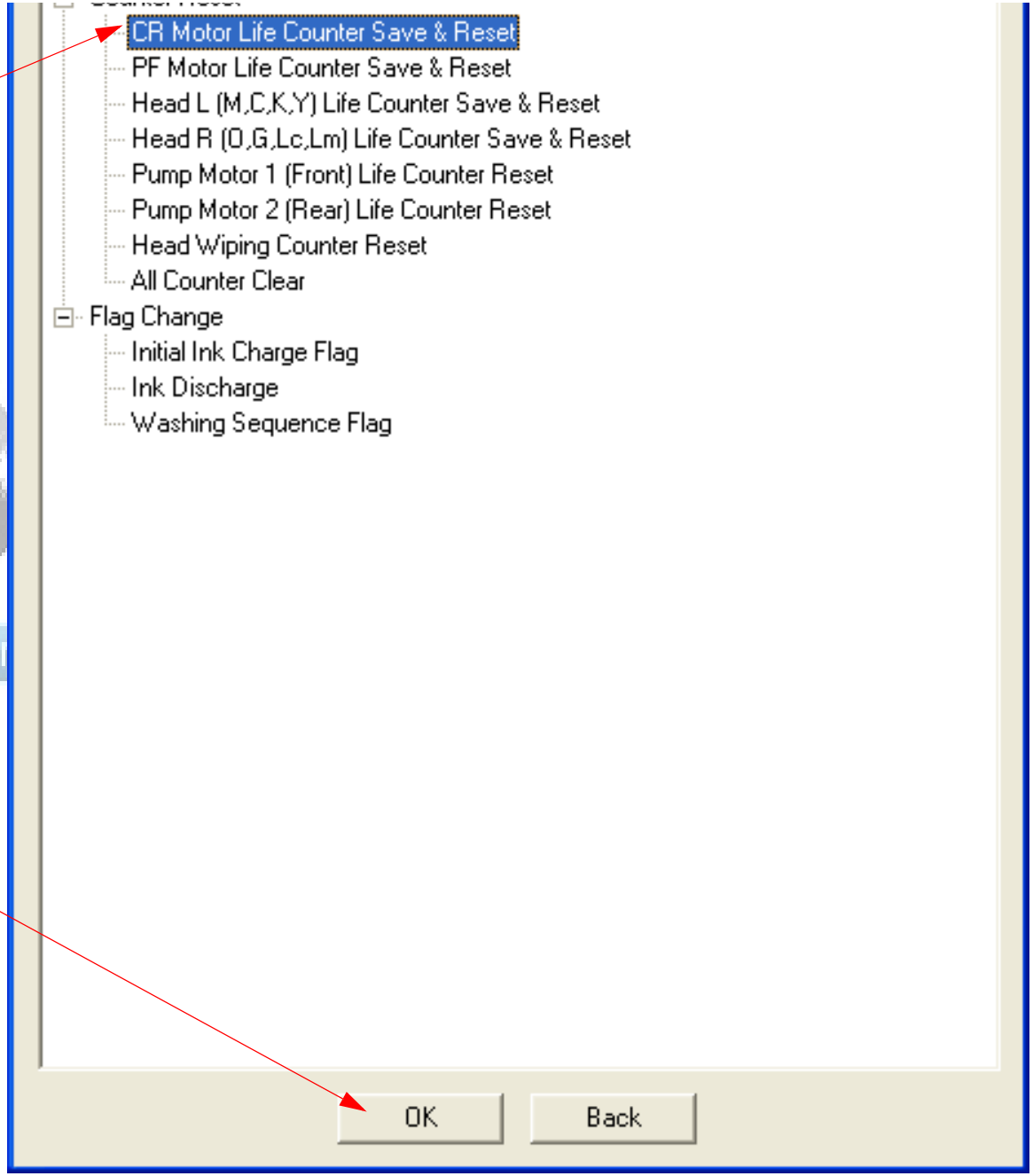
Click on ***FLAG CHANGE & COUNTER RESET***.



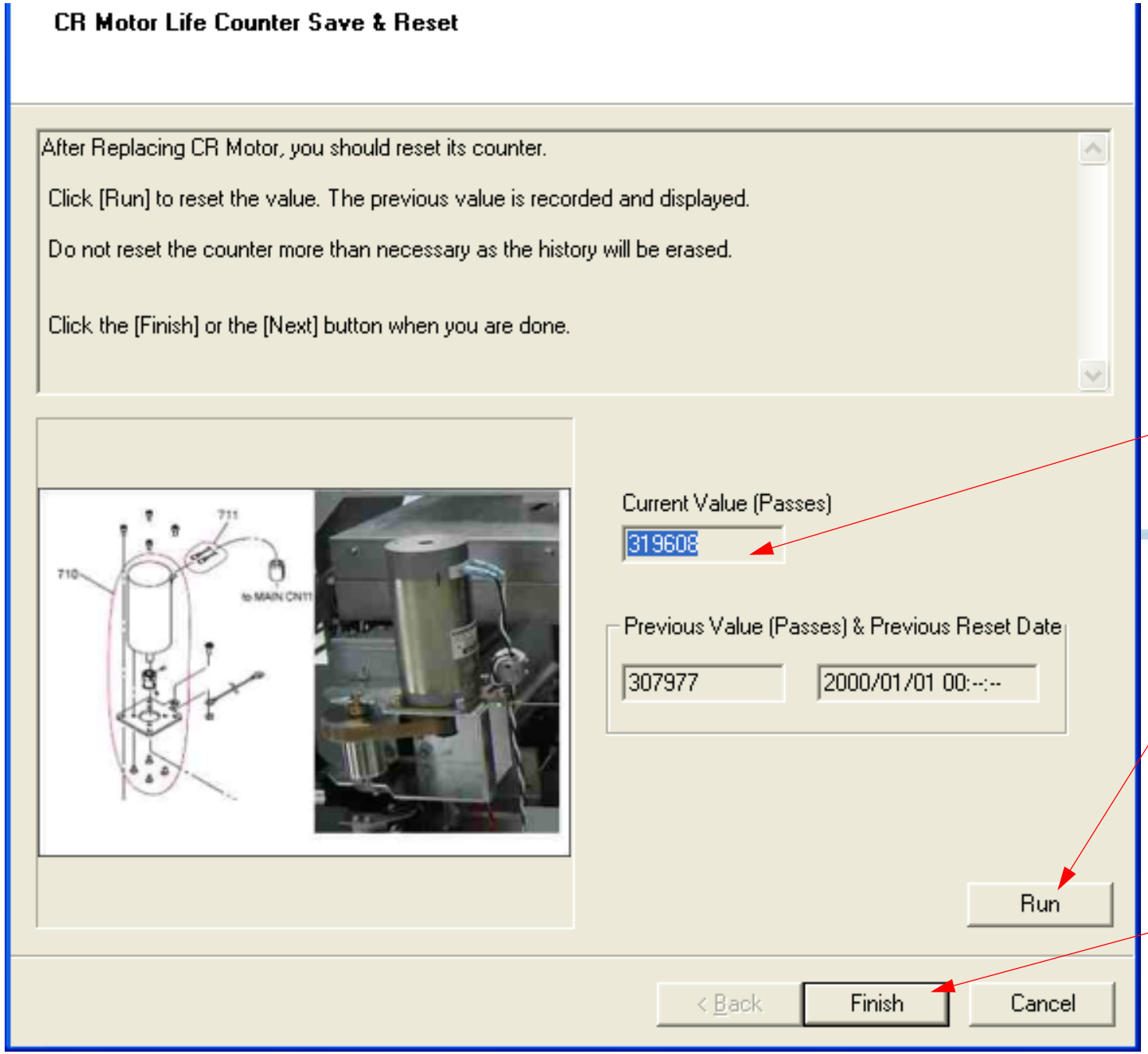
CR Motor Life Counter Save & Reset (continued)

1. Select ***CR Motor Life Counter Save & Reset.***

2. Click on ***OK***.



CR Motor Life Counter Save & Reset (continued).



Note: Current life count is displayed here.

3. Click on ***Run*** to reset the Carriage Motor Counter.

4. Click on the **Finish** button.

Head Slant (CR) Adjustment

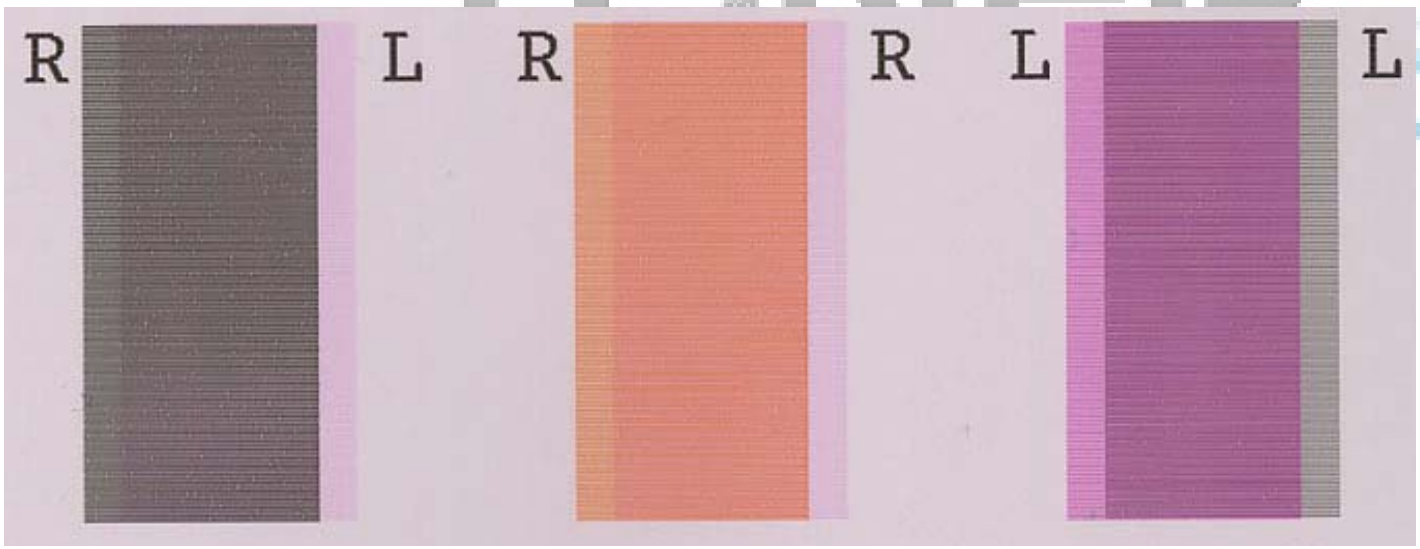
Note: The Print Head Slant Adjustment (CR) adjusts the Print Head rotation for the Left and Right Print Heads. It also adjusts the Left and Right Head Linearity.

CR Slant Adjustment (Overview)

1. Adjust the ***Left Print Head*** rotation.
   - 1.1 Print the Alignment Pattern.
   - 1.2 Inspect the pattern.
   - 1.3 Adjust following the Left Head adjustment directions.
2. Adjust the ***Right Print Head*** rotation (**RR**) and the ***Right*** to ***Left Print Head*** (**RL**) linearity at the same time.
   - 2.1 Print the Alignment Pattern.
   - 2.2 Inspect the pattern.
   - 2.3 Adjust following the Right Head “rough” adjustment procedure.
   - 2.4 Adjust following the Right Head “fine” adjustment procedure.

CR Slant Adjustment (Detail)

1. From **ServiceMan Mode: SELF TESTING\Adjustment**: Select **Head Slant.**
   - 1.1 **ServiceMan Mode: Down, Right,** and **Pause** buttons, and turn on the ***Printer***.
   - 1.2 Navigate to **ServiceMan Mode: SELF TESTING\Adjustment\Head Slant**
2. Load Media.
3. Print the adjustment pattern.
   - 3.1 Navigate to **ServiceMan Mode: SELF TESTING\Adjustment\Head Slant\CR Slant\[Enter] Print**
   - 3.2 Press the **Enter** button to print.
   - 3.3 The ***Printer*** will print the alignment pattern.



Paper feed direction

4. ***Left Head*** adjustment procedure.

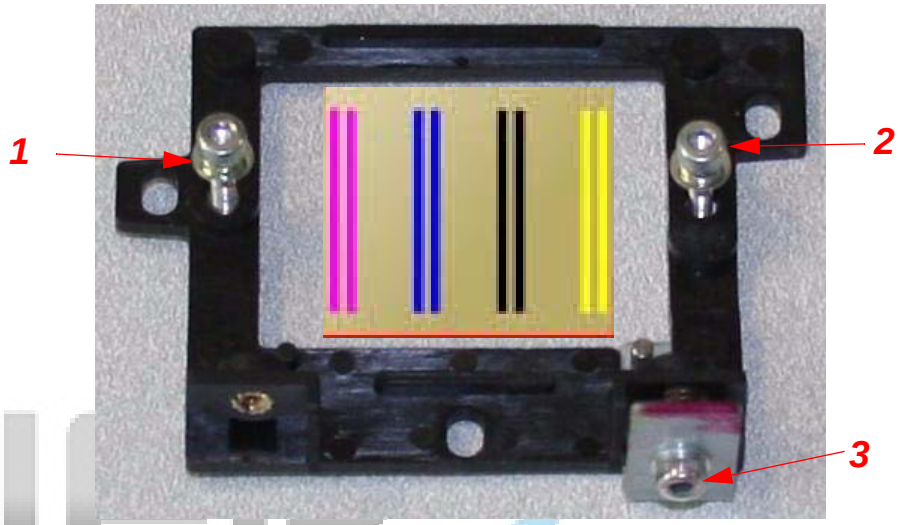
1. Print and inspect the CR Slant **LL** Pattern.

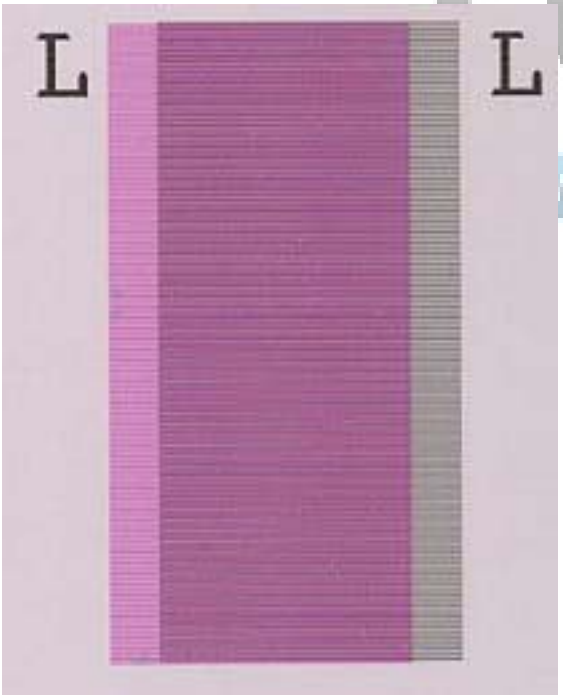
2. Loosen Screws ***1*** and ***2***.

3. Turn Screw ***3*** to adjust.

4. Tighten Screws ***1*** and ***2,*** and reprint the pattern.

5. Repeat steps 2, 3 and 4 until adjusted.

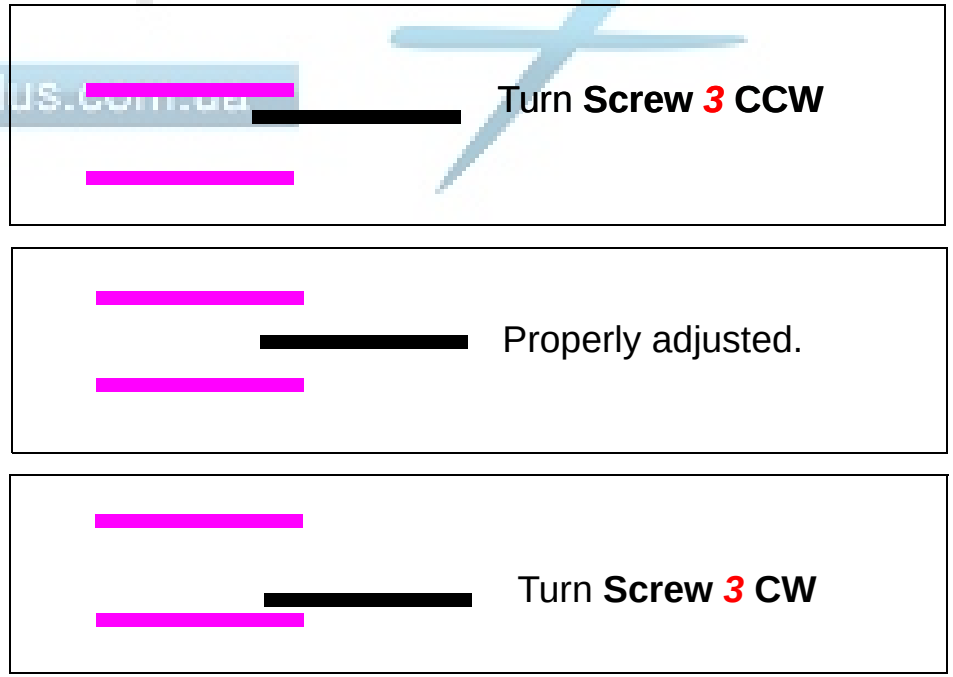




Magenta line closest to the leading edge.

Paper feed direction

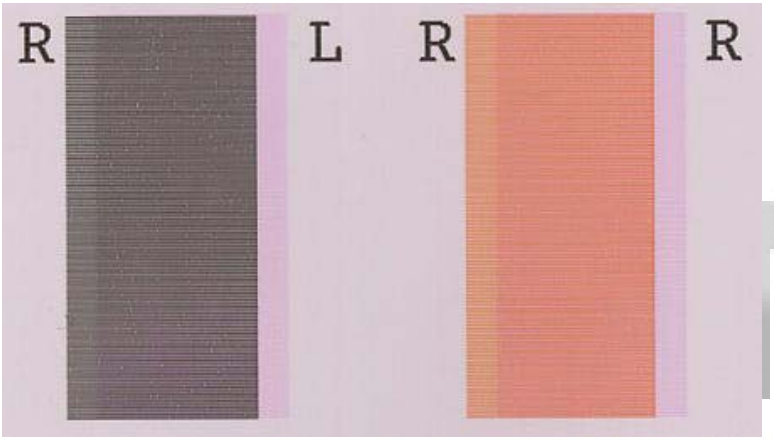
Clockwise to move the ***black lines up.***



5. ***Right Head*** "rough" adjustment procedure.

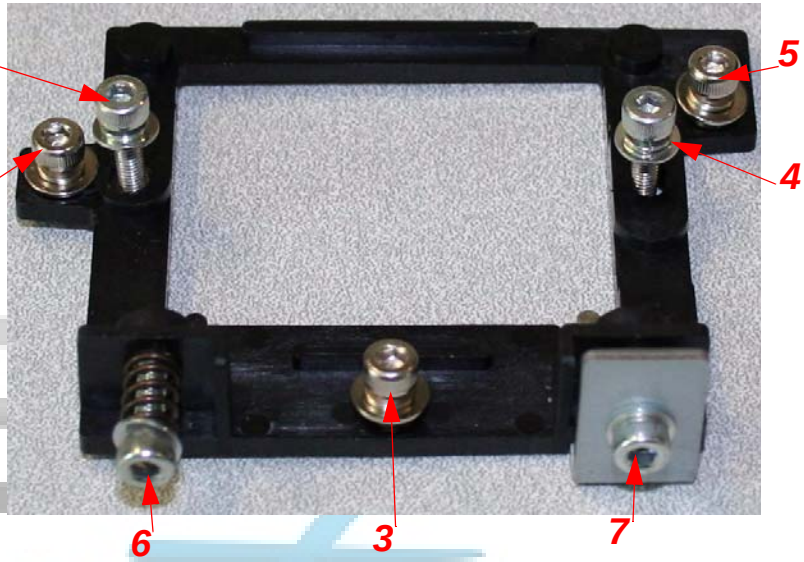
Note: The Right Head requires 2 adjustments that must be performed at the same time. The RR adjustment and the RL adjustments impact each other. Changing one, changes the other.

RR Adjustment: Right Head rotation.
RL Adjustment: Right Head to Left Head.



Black line closest to the leading edge.

Orange line closest to the leading edge.



RL: Turn Screw ***6*** **CCW** to move the Light Magenta lines up.

RR: Turn Screw ***7*** **CW** to move the Light Magenta lines up.

RL and RR 'rough' adjustment procedure

1. Print and inspect the CR Slant **RL** and **RR** patterns.

2. Loosen Screws ***1***, ***2***, ***3***, ***4***, **and** ***5***.

3. Adjust the **RR** and **RL** patterns until the Light Magenta lines look close to the patterns above.

4. Tighten Screws ***1***, ***2***, ***3***, ***4***, and ***5***.

5. Proceed to the **RL** and **RR** Slant "fine tune" adjustment procedure.

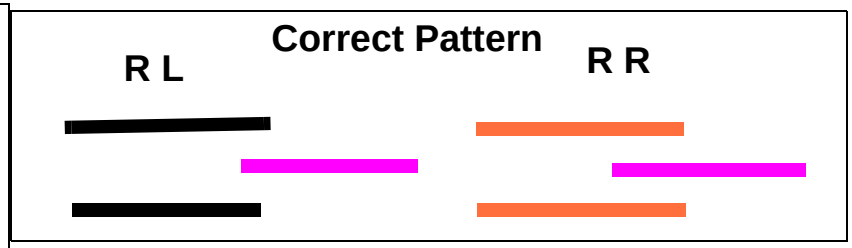
6. ***Right Head*** 'fine tune' adjustment procedure.

Note: Turn the adjustment Screws (6 and 7) in small increments for best results.

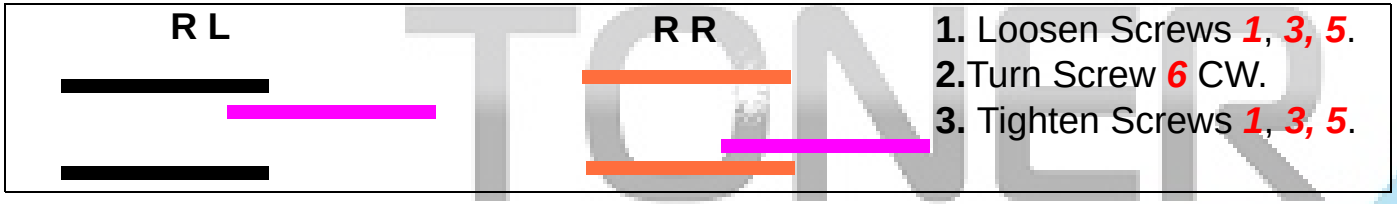
1. Inspect the **RL** and **RR** patterns. Look at the lines closest to the leading edge of the media. Determine which of the 4 conditions listed below is the closest to your printer's patterns.

2. Follow the directions for your printer's condition.

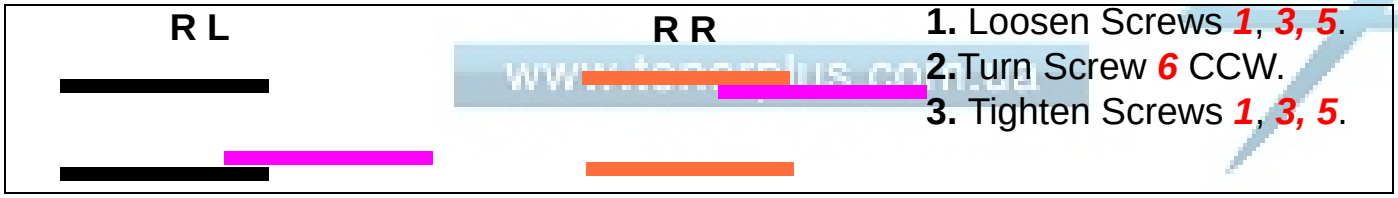
3. Repeat steps 1 and 2 until the patterns are correct.



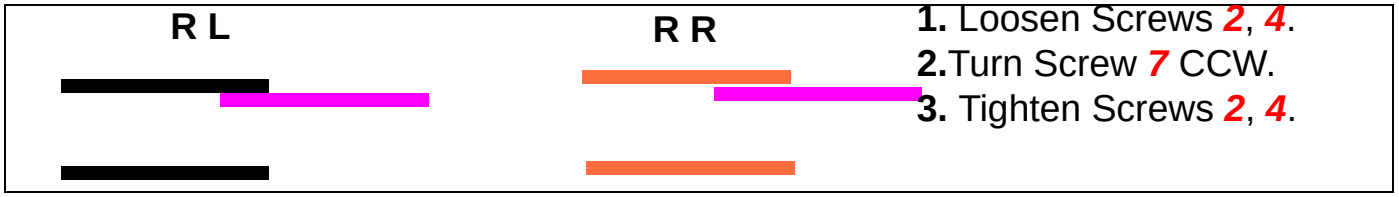
RL: Black Line closest to the leading edge. **RR: Orange line** closest to the leading edge.



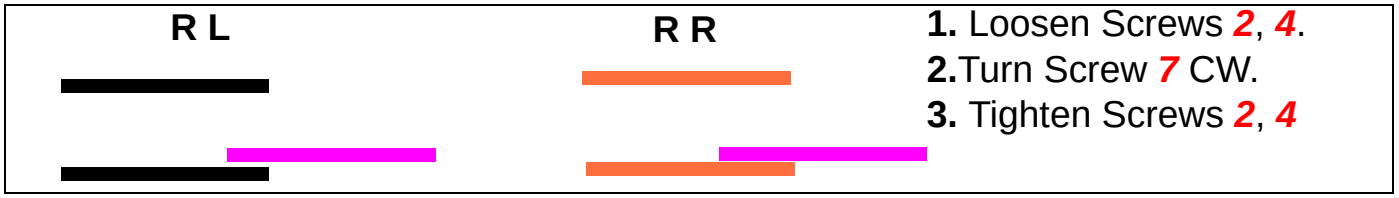
1. Loosen Screws ***1, 3, 5***.
2.Turn Screw ***6*** CW.
3. Tighten Screws ***1, 3, 5***.



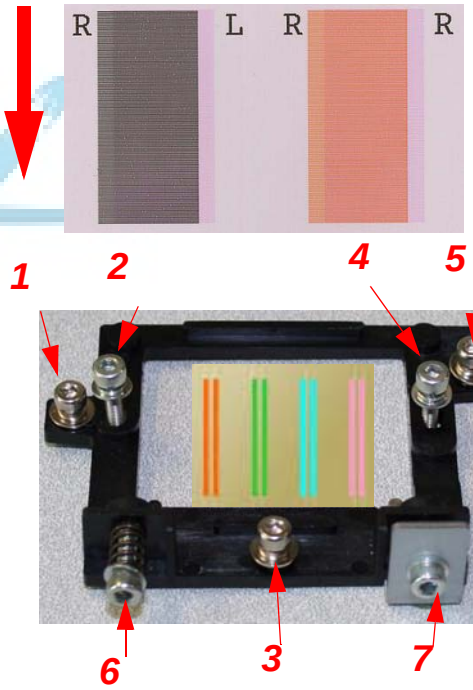
1. Loosen Screws ***1, 3, 5***.
2.Turn Screw ***6*** CCW.
3. Tighten Screws ***1, 3, 5***.



1. Loosen Screws ***2, 4***.
2.Turn Screw ***7*** CCW.
3. Tighten Screws ***2, 4***.



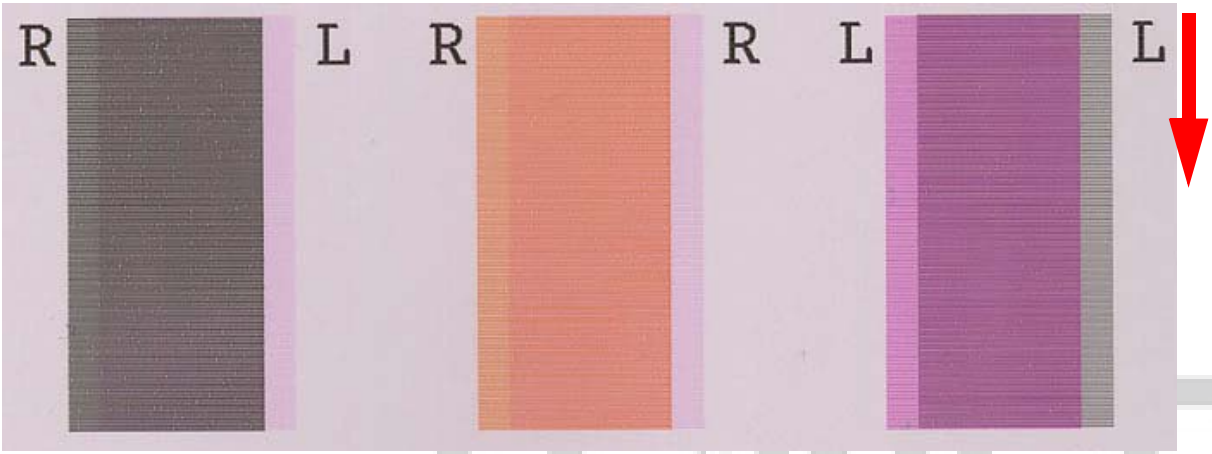
1. Loosen Screws ***2, 4***.
2.Turn Screw ***7*** CW.
3. Tighten Screws ***2, 4***

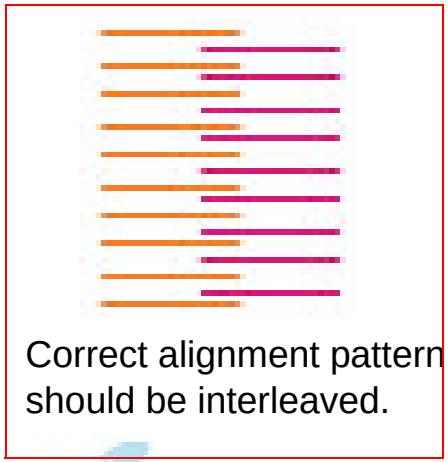


7. CR Slant Adjustment (Reference Page).

Head to Head ***Right Head*** ***Left Head***

Paper feed direction





Correct alignment pattern should be interleaved.

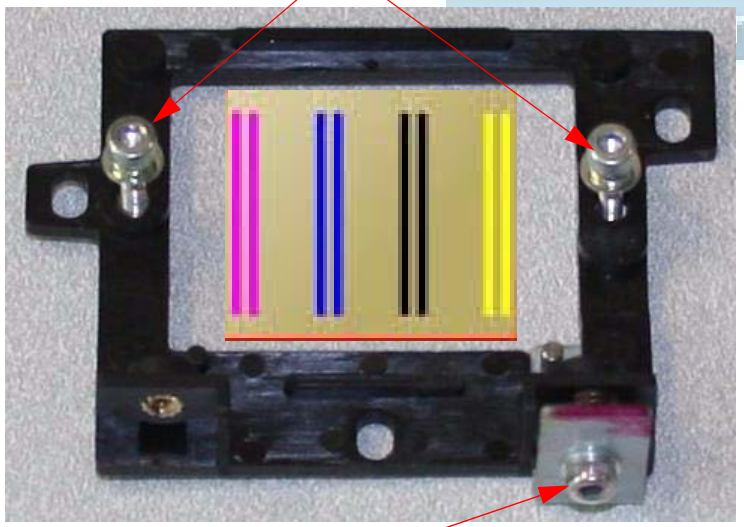
Black line closest to the leading edge.

Orange line closest to the leading edge.

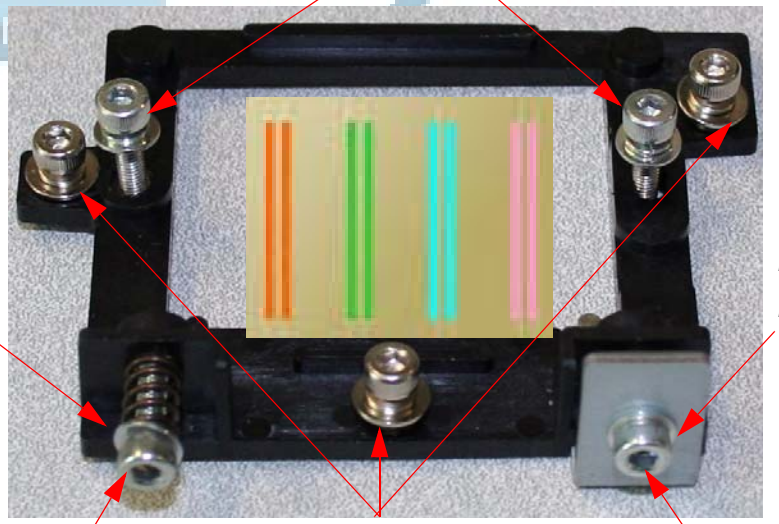
Magenta line closest to the leading edge.

Loosen for ***Left Head Rotation***

Loosen for Right ***Head Rotation***



Head to head



Head rotation

Clockwise to move the ***black lines up.***

Head rotation

Counter clockwise to move ***light magenta up***

Loosen for ***head to head***

Clockwise to move ***light magenta lines up***.

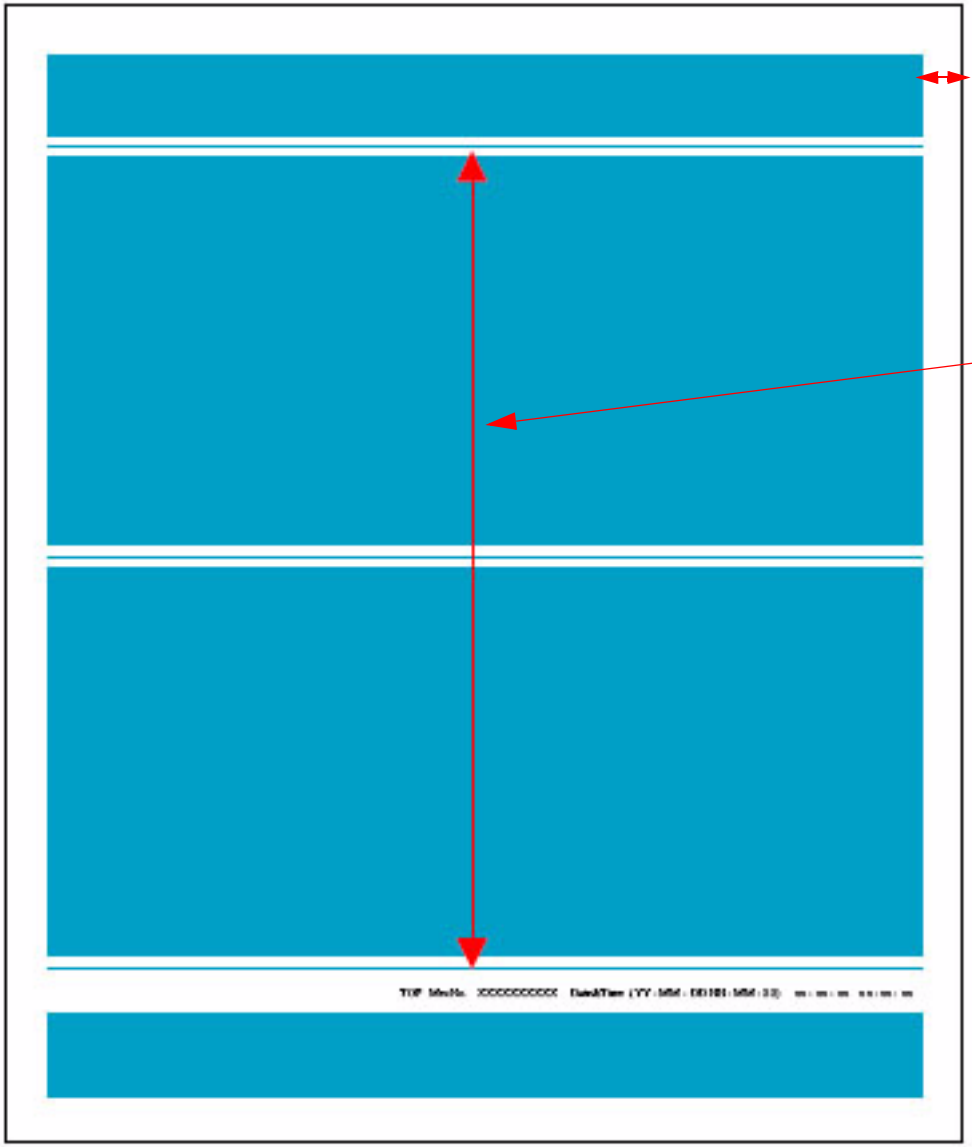
Feed Adj.+Side Adjustment

Note: The Feed Adj.+Side Adjustment calibrates the paper feed mechanism and side margin.

1. Set the Heater Temperatures.
   - 1.1 **ServiceMan Mode: Down, Right,** and **Pause** buttons, and turn on the ***Printer***.
   - 1.2 Navigate to **ServiceMan Mode: SELF TESTING\Adjustment\Heater Temp**
     - 1.2.1 Set the Pre Heater to **47.**
     - 1.2.2 Set the Platen Heater to **42.**
     - 1.2.3 Set the Post Heater to **40.**
2. Load ***Marking Film*** media.

   Note: Failure to use Marking Film for this adjustment will invalidate the results.
3. Start the **Feed Adj.+Side** adjustment.
   - 3.1 Navigate to **ServiceMan Mode: SELF TESTING\Adjustment\Feed Adj.+Side\[Enter] Print**
   - 3.2 Press the **Enter** button to print.

4. Print and measure the pattern.



1. Measure the Side Margin.

2. Measure the V Length.

3. With the ***Control Panel:*** Enter the **Side Margin (n)mm**.

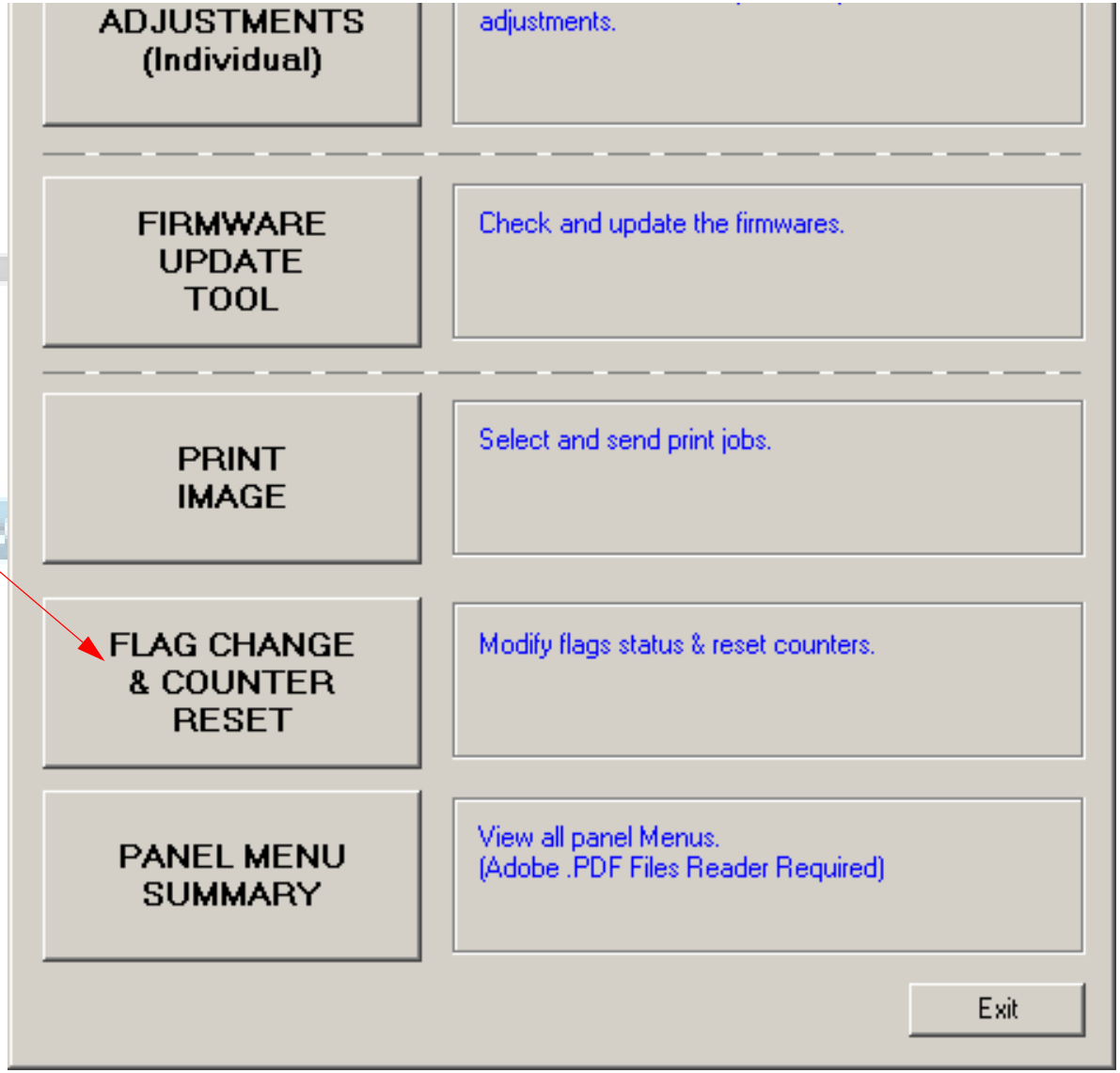
4. With the ***Control Panel:*** Enter the **V Length (nnn)mm**

Head L [M,C,K,Y] Life Counter Save & Reset

Note: Head L [M,C,K,Y] Life Counter Save & Reset is used to reset the Left Print Head life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

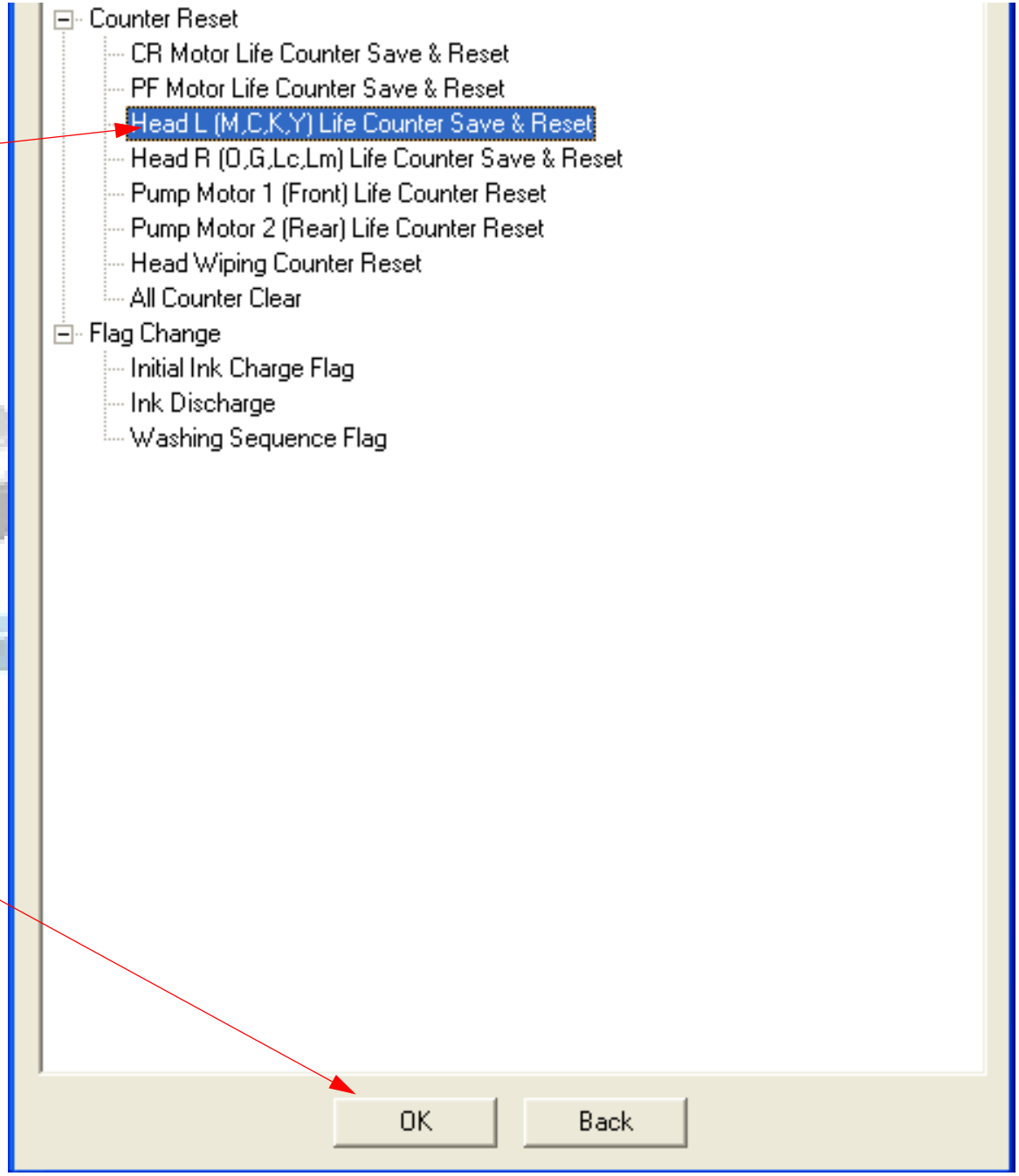
Click on ***FLAG CHANGE & COUNTER RESET***.



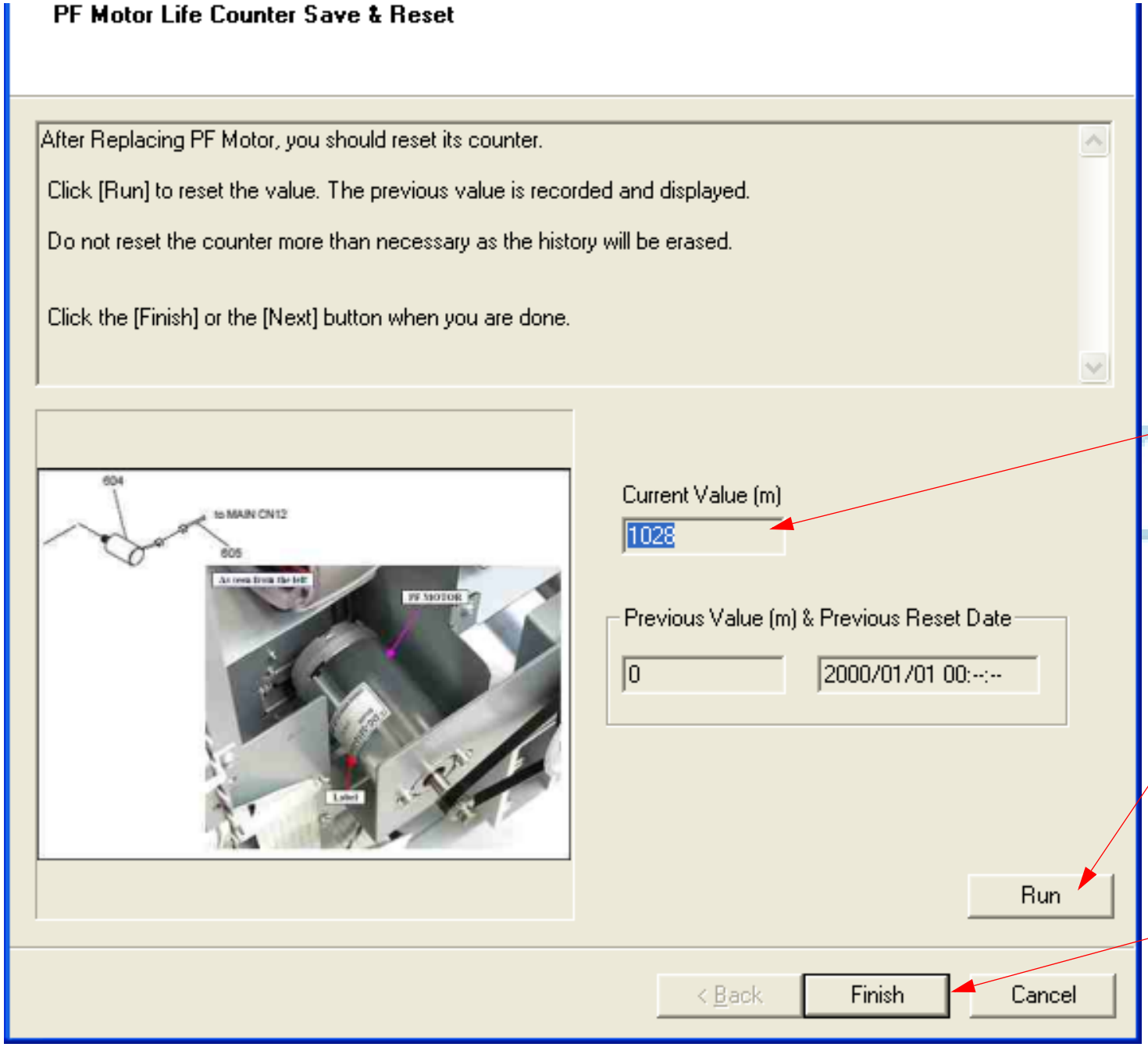
Head L [M,C,K,Y] Life Counter Save & Reset (continued)

1. Select ***Head L [M,C,K,Y] Life Counter Save & Reset.***

2. Click on ***OK***.



Head L [M,C,K,Y] Life Counter Save & Reset (continued).



Note: Current life count is displayed here.

3. Click on ***Run*** to reset the Left Print Head Life Counter.

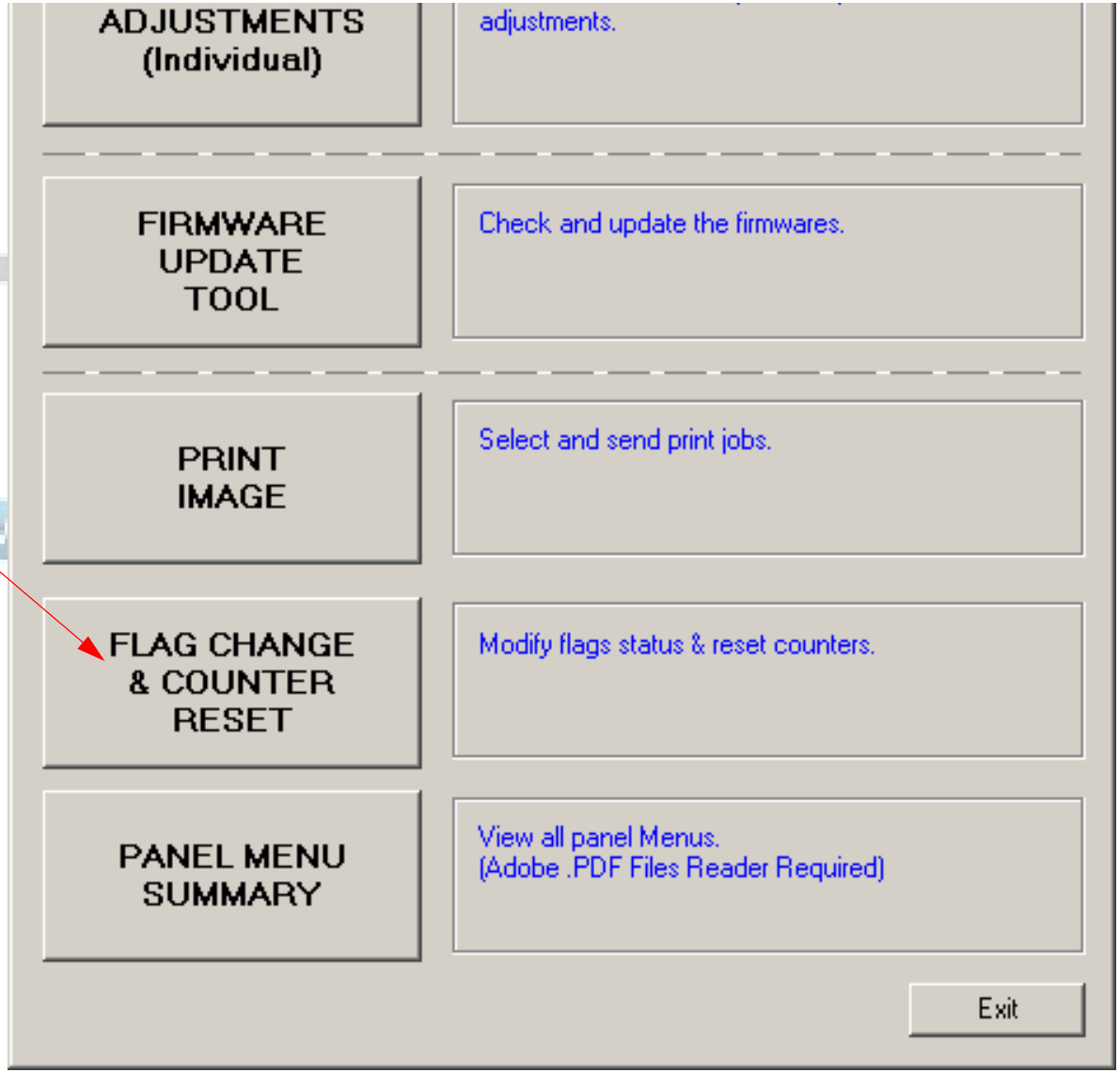
4. Click on the **Finish** button.

Head R [O,G,Lc,Lm] Life Counter Save & Reset

Note: Head R [O,G,Lc,Lm] Life Counter Save & Reset is used to reset the Right Print Head life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

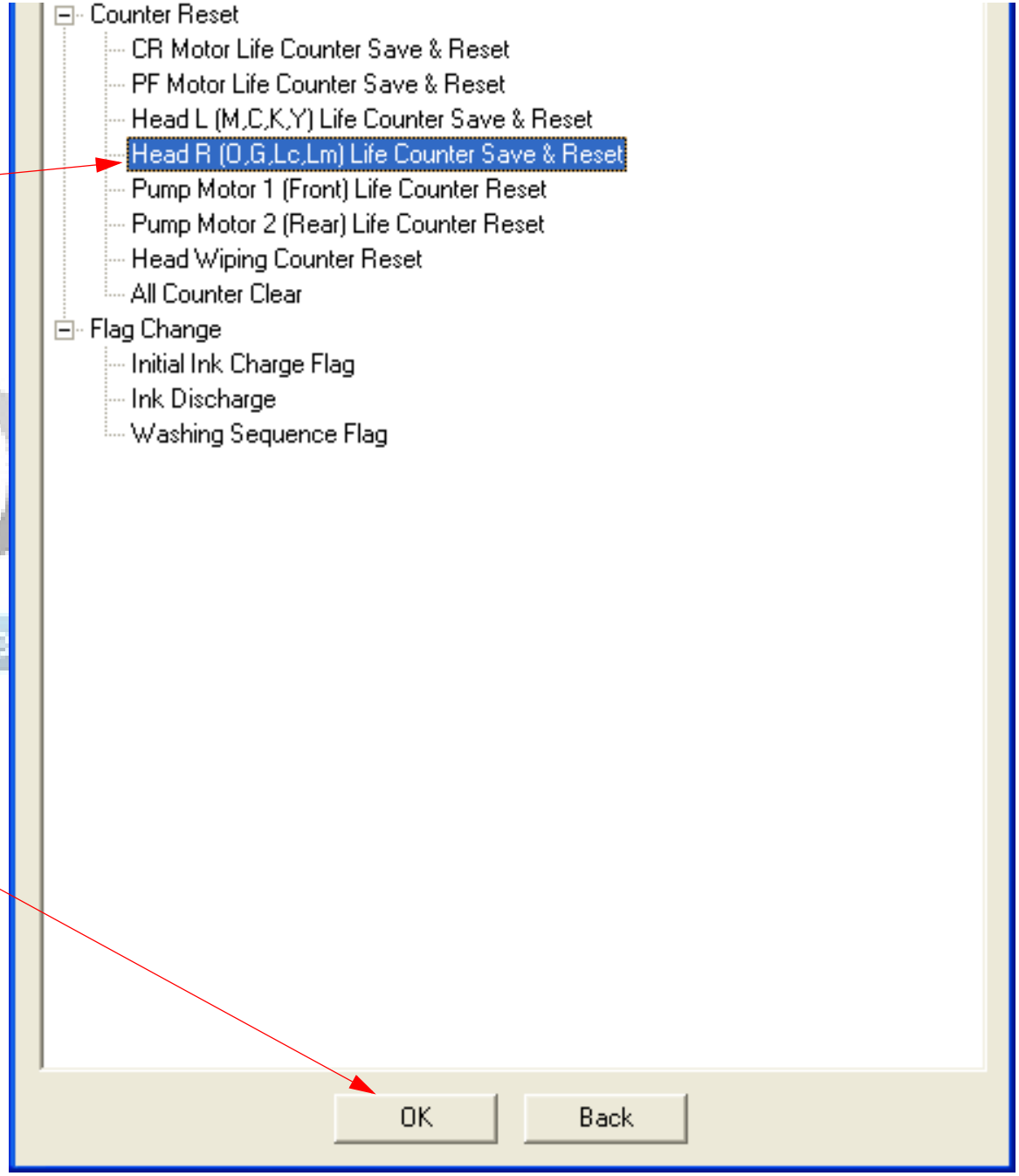
Click on ***FLAG CHANGE & COUNTER RESET***.



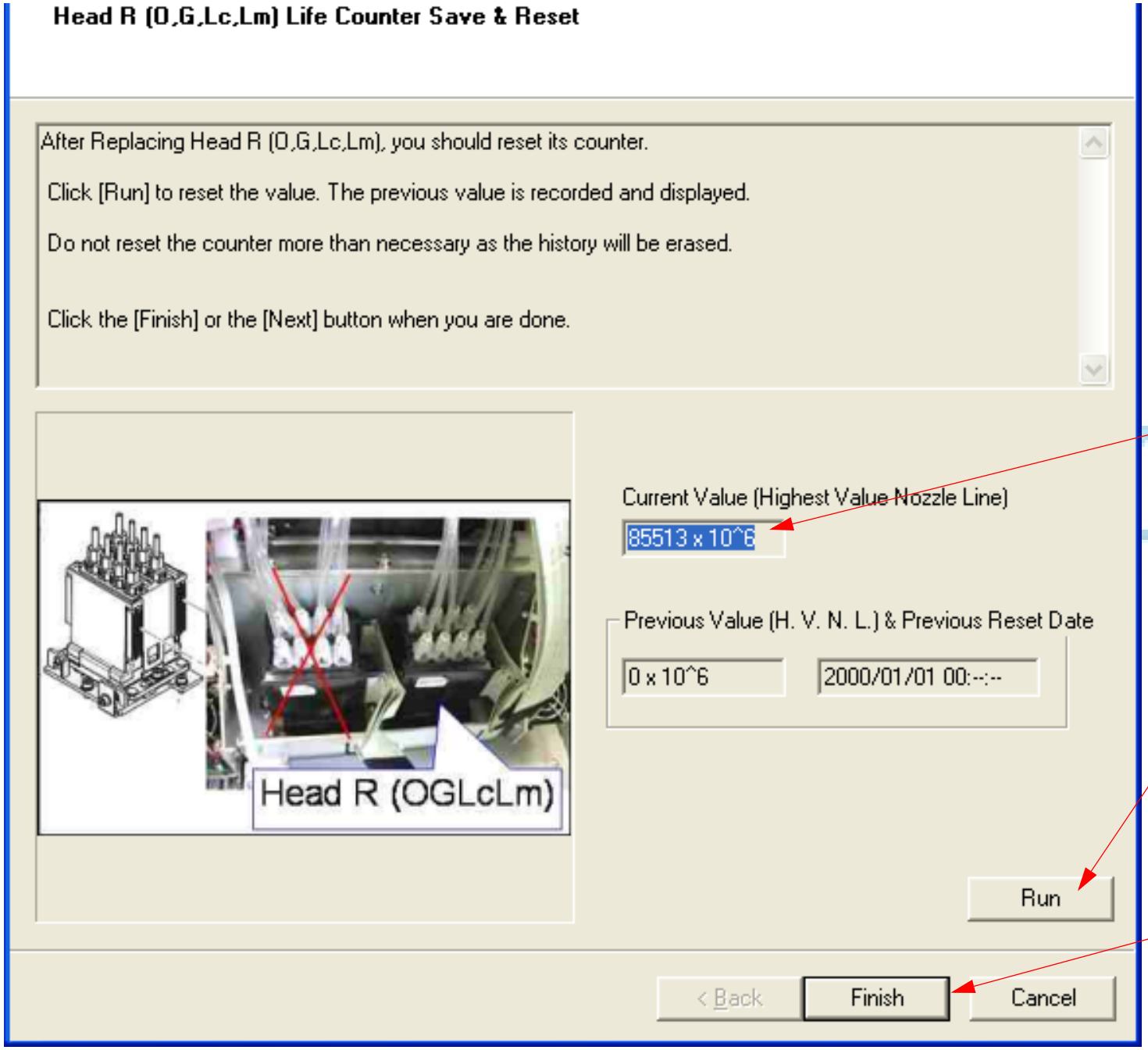
Head R [O,G,Lc,Lm] Life Counter Save & Reset (continued)

1. Select ***Head R [O,G,Lc,Lm] Life Counter Save & Reset.***

2. Click on ***OK***.



Head R [O,G,Lc,Lm] Life Counter Save & Reset (continued).



Note: Current life count is displayed here.

3. Click on ***Run*** to reset the Right Print Head Life Counter.

4. Click on the **Finish** button.

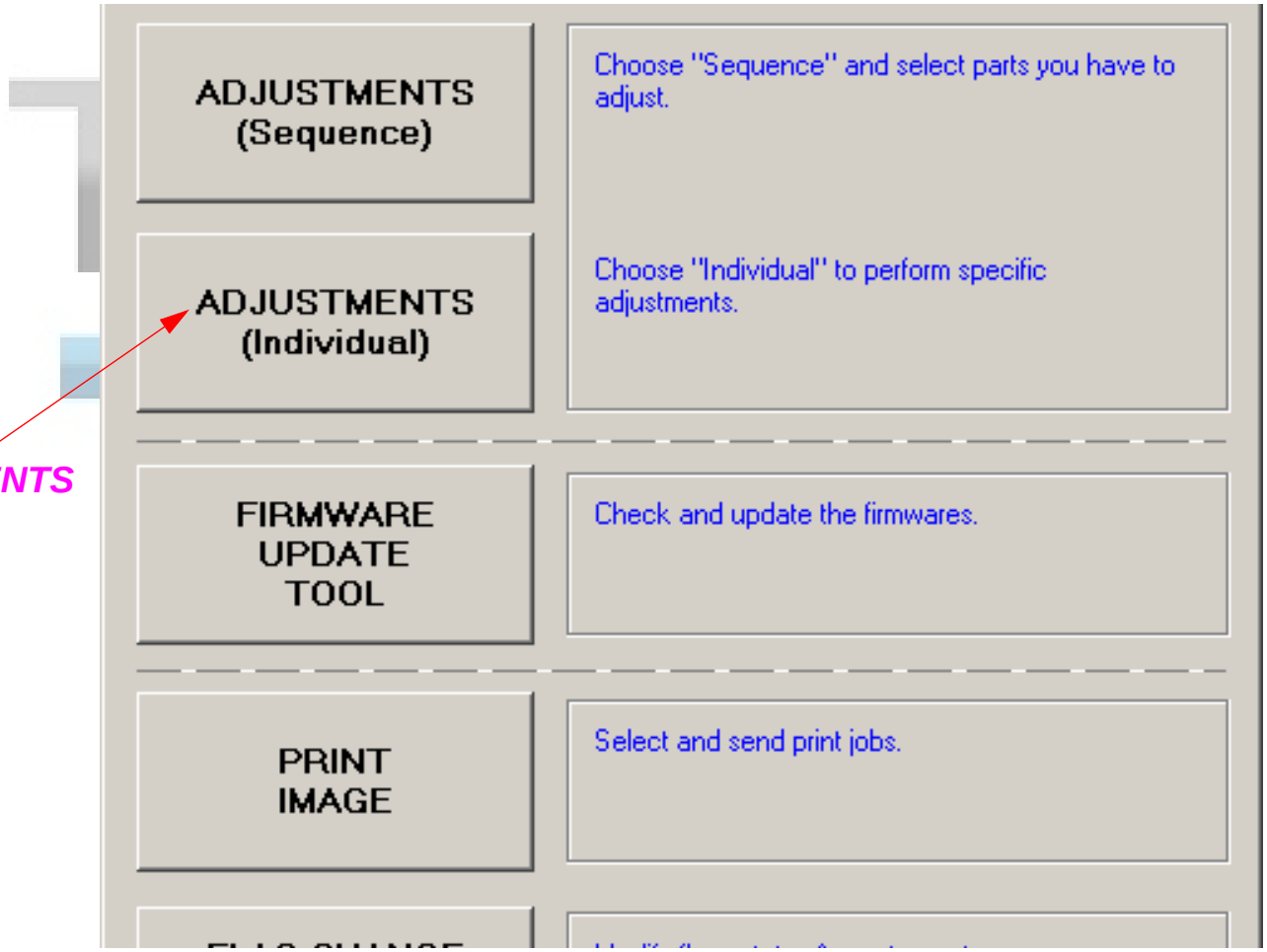
Head Rank Input

Note: The Head Rank Input writes the Print Head Calibration Value (Head ID / Head Rank) to the Main Board.

Note: Enter the Head Rank ID before installing the Print Head. This way it is possible to enter the data directly off the Print Head. Otherwise, it is necessary to write down the data before installing the Print Head.

1. Open ***Servprog.exe*** and click on **NVRAM** to start the procedure.

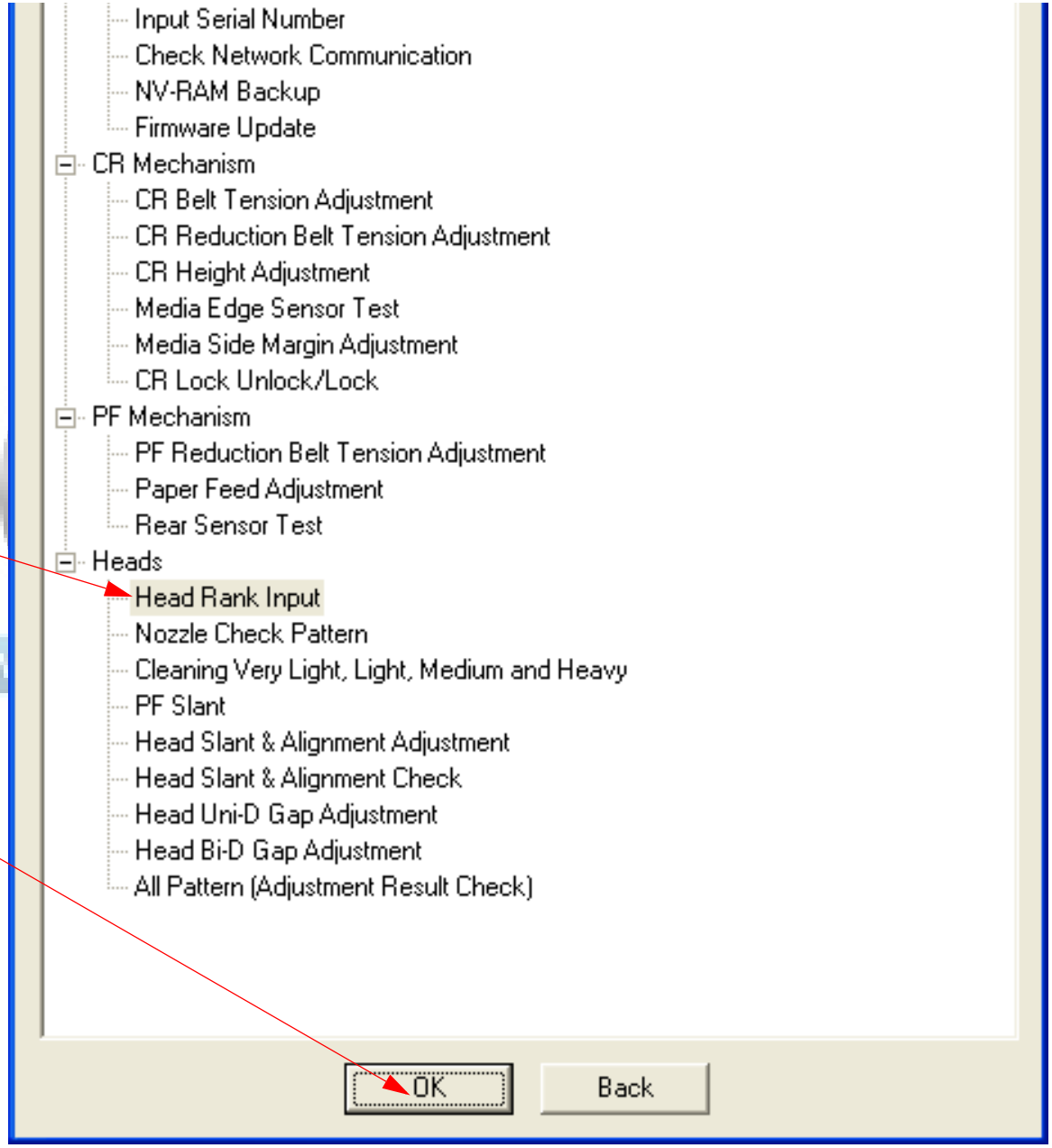
CLICK ON ***ADJUSTMENTS (Individual)***.



Head Rank Input (continued)

1. Select ***Head Rank Input***.

2. Click on ***OK***.



Head Rank Input (continued).

Head Rank Input

Whenever a Print Head is replaced, input the head rank that consist of head specific information for the best driving voltage setting.
[Procedure] :
1. Write down the Head Rank ID indicated on the ID label affixed to the new Print head. (See fig.)
2. Enter 21-digit ID into the appropriate edit boxes in the same way as indicated on the label.
3. After the print head is replaced, click the [Write] button to register it on the printer's NVRAM.

ATTENTION : Do not invert head L (MCKY) and head R (OGLcLm) codes!

Click the [Finish] or the [Next] button when you are done.

Head L (M,C,K,Y)
18C617ET
YXSONURX
2SH1+

Head R (O,G,Lc,Lm)

Service Program
Writing is successfully completed.
OK

Write Head L
Write Head R

< Back
Finish
Cancel

3. Enter the Head Rank data for the ***Print Head*** being replaced. Ensure that the left head rank is entered into ***Head L*** and that the right head data is entered into ***Head R***.

4. Click on the **Write *Head L* (*R*) button**.

Note: If the utility displays:

Headrank ID input contains wrong character(s), one or more of the digits entered is incorrect. Check that an Zero was not entered as a O, etc.

5. Click on ***OK***.

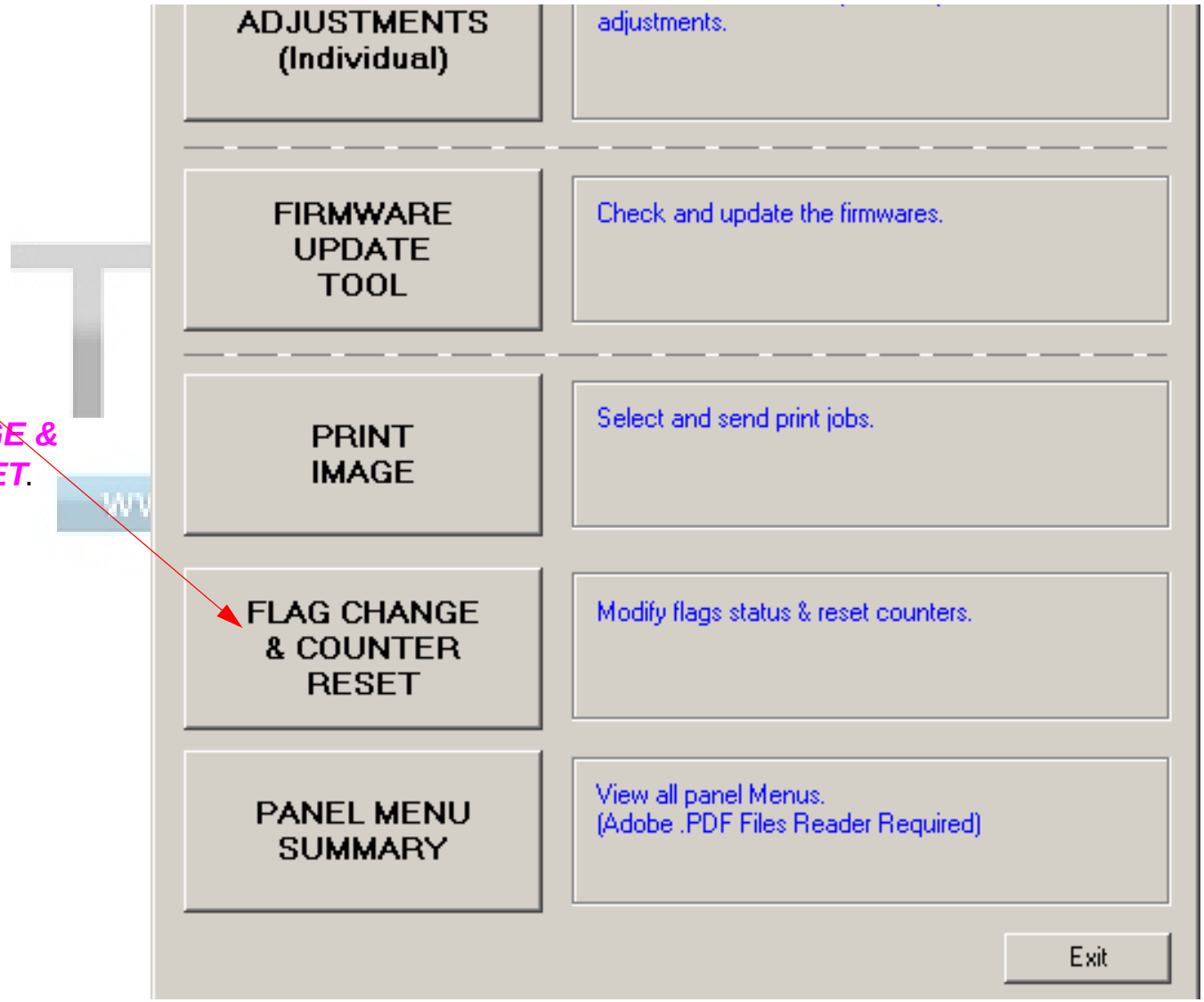
6. Click on the **Finish** button.

Head Wiping Counter Reset

Note: Head Wiping Counter Reset is used to reset the Wiper Blade life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

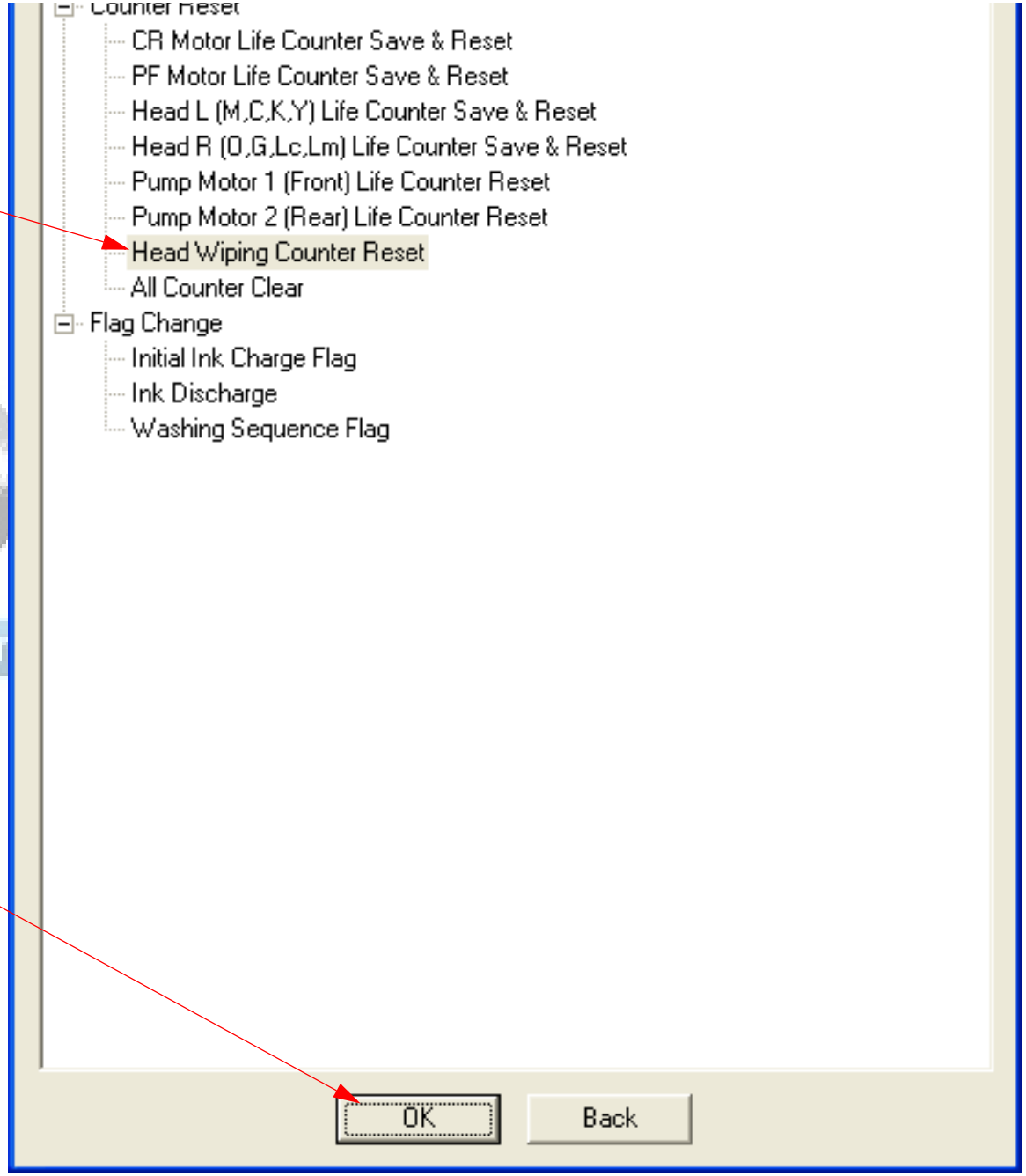
Click on ***FLAG CHANGE & COUNTER RESET***.



Head Wiping Counter Reset (continued)

1. Select ***Head Wiping Counter Reset.***

2. Click on ***OK***.



Head Wiping Counter Reset (continued).

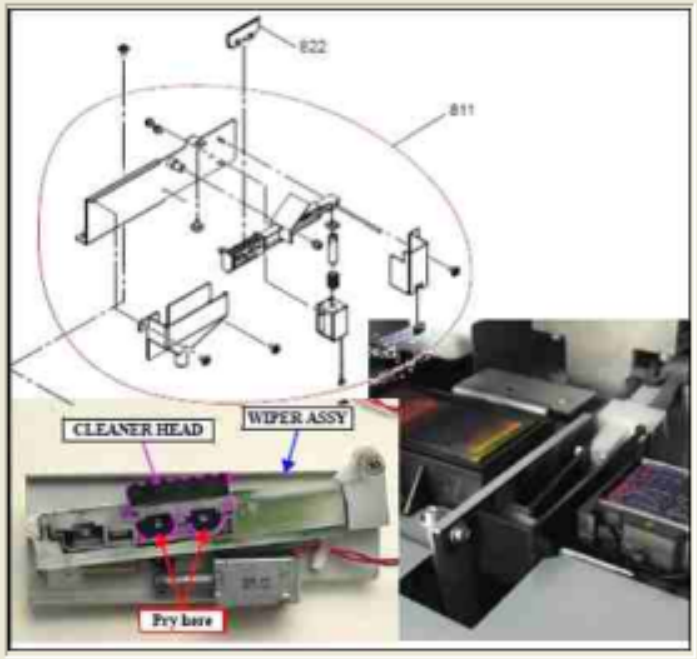
Head Wiping Counter Reset

Head Wiping Counter Reset can be done after changing the CLEANER HEAD or the WIPER ASSY.

Click [Run] to reset the value.

Note:
Head wiping counter history data are not preserved on the NVRAM so it is important to backup the NVRAM before doing a reset in case the part counter value has to be checked.

Click the [Finish] or the [Next] button when you are done.



Run

< Back | Finish | Cancel

3. Click on ***Run*** to reset the Wiper Blade Life Counter.

4. Click on the **Finish** button.

Ink Discharge

Note: Ink Discharge is used to discharge Ink from the Printer.

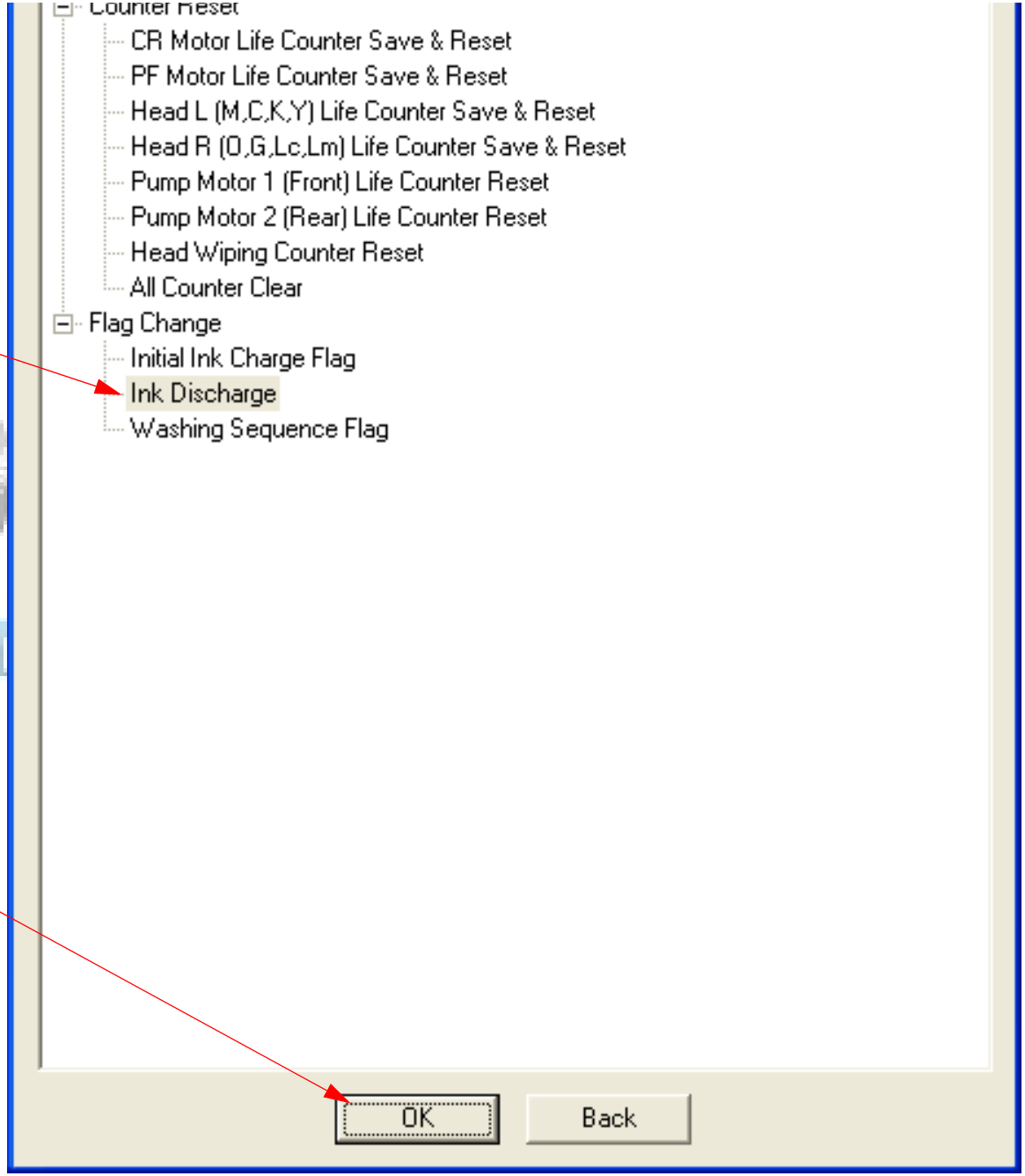
1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

Click on ***FLAG CHANGE & COUNTER RESET***.

Ink Discharge (continued)

1. Select ***Ink Discharge.***

2. Click on ***OK***.



Initial Ink Charge Flag (continued).

Ink Discharge

This function allows discharging the ink without cleaning cartridges.

[Procedure] :
1) Remove the Ink cartridges.
2) Click [Run]
3) Turn the printer Off and On: the draining sequence will start.

ATTENTION: Make sure the Waste Ink Tank is emptied when prompted on the Panel.

Run

< Back | Finish | Cancel

Note: Ensure that the Printer's Waste Tank is empty

3. Click on ***Run*** to set or reset the Initial Ink Charge Flag.

4. Turn the ***Printer*** off, and then on to start the discharge.

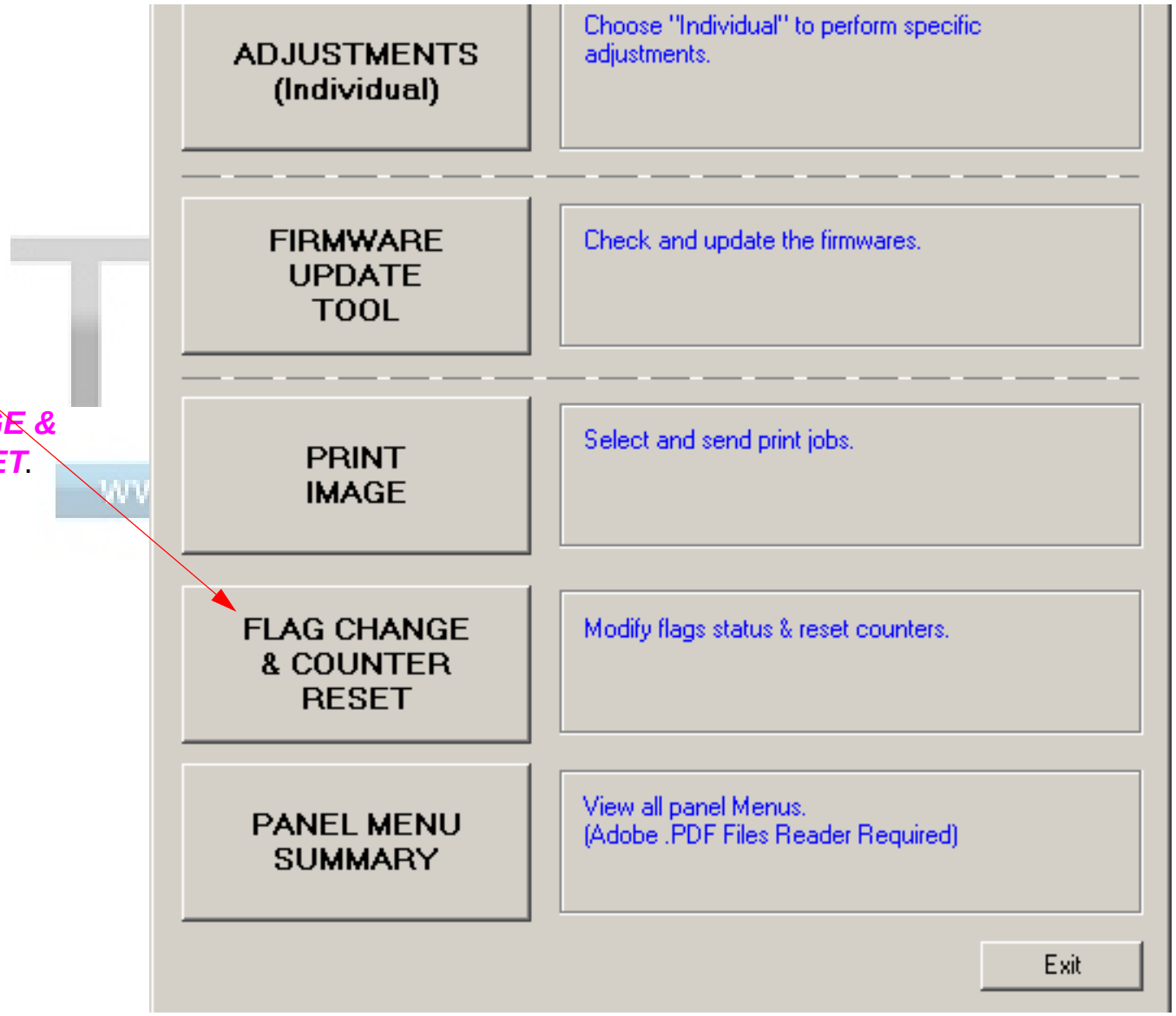
5. Click on the **Finish** button.

Initial Ink Charge Flag

Note: Initial Ink Charge Flag is used to set or Reset is used to reset the Ink Charge Flag.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

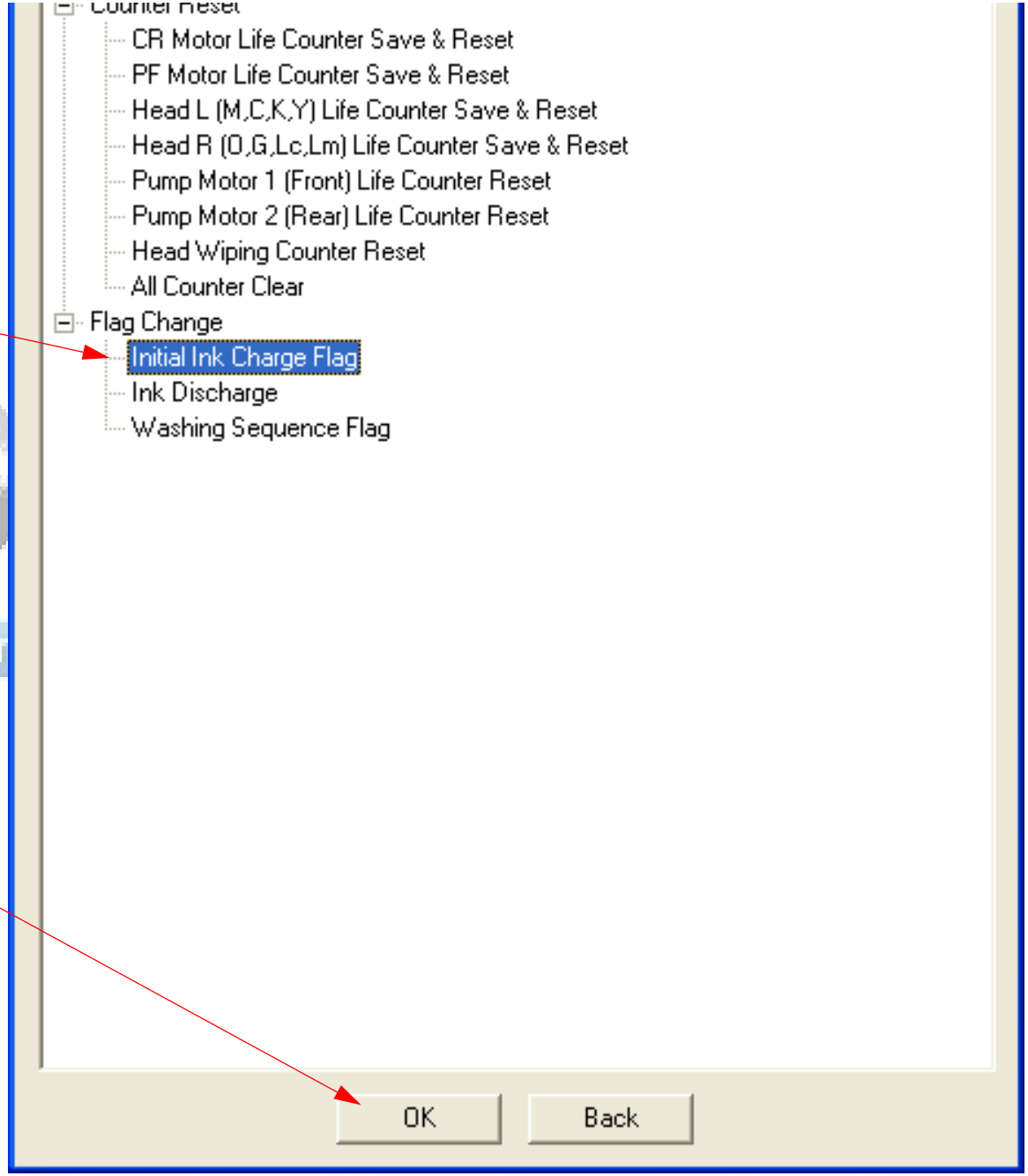
Click on ***FLAG CHANGE & COUNTER RESET***.



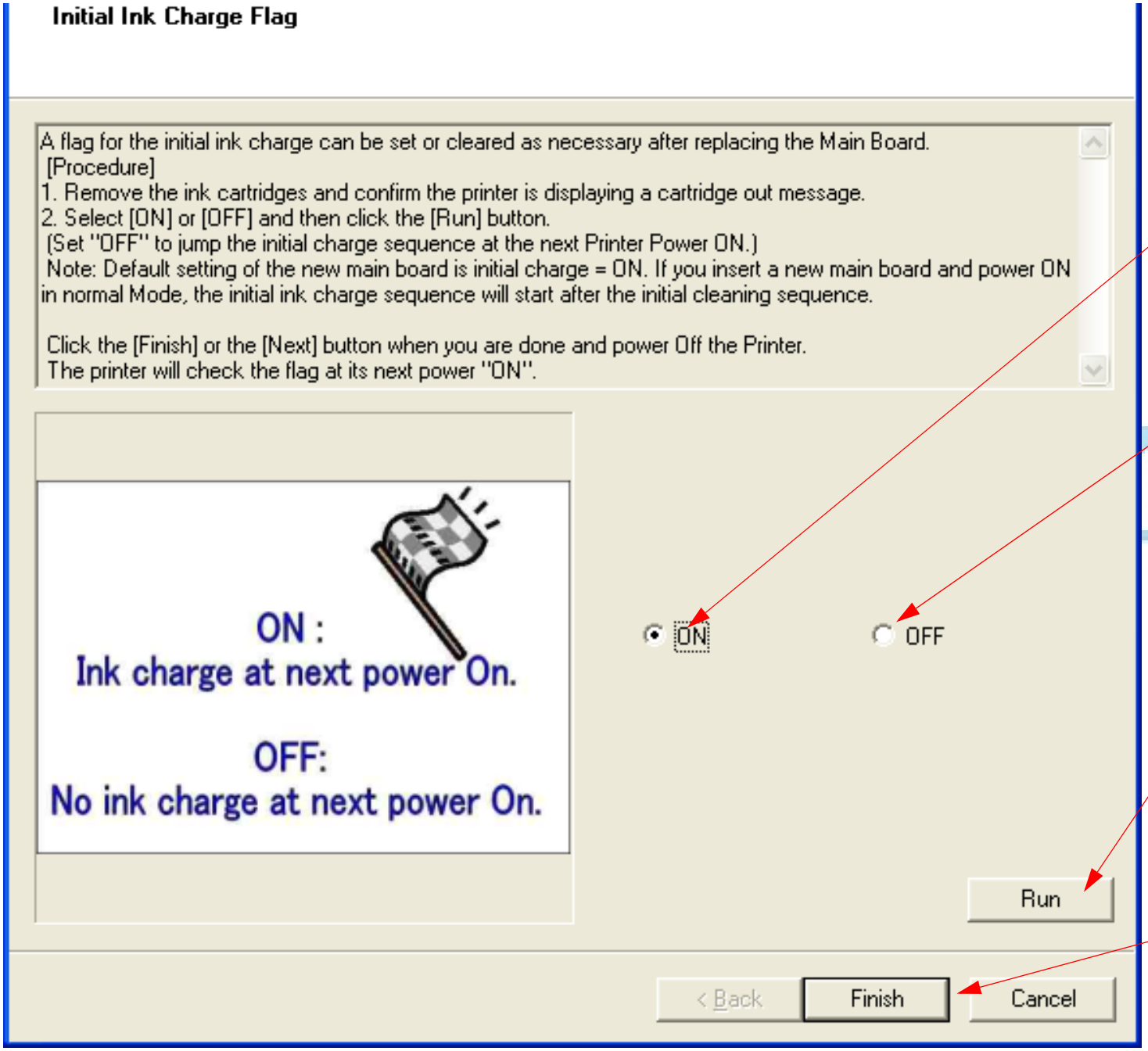
Initial Ink Charge Flag (continued)

1. Select ***initial Ink Charge Flag***.

2. Click on ***OK***.



Initial Ink Charge Flag (continued).



Select ***On*** to cause the Printer to do an initial charge the next time the Printer is turned on with Ink installed.

Select ***Off*** to cancel an initial charge.

3. Click on ***Run*** to set or reset the Initial Ink Charge Flag.

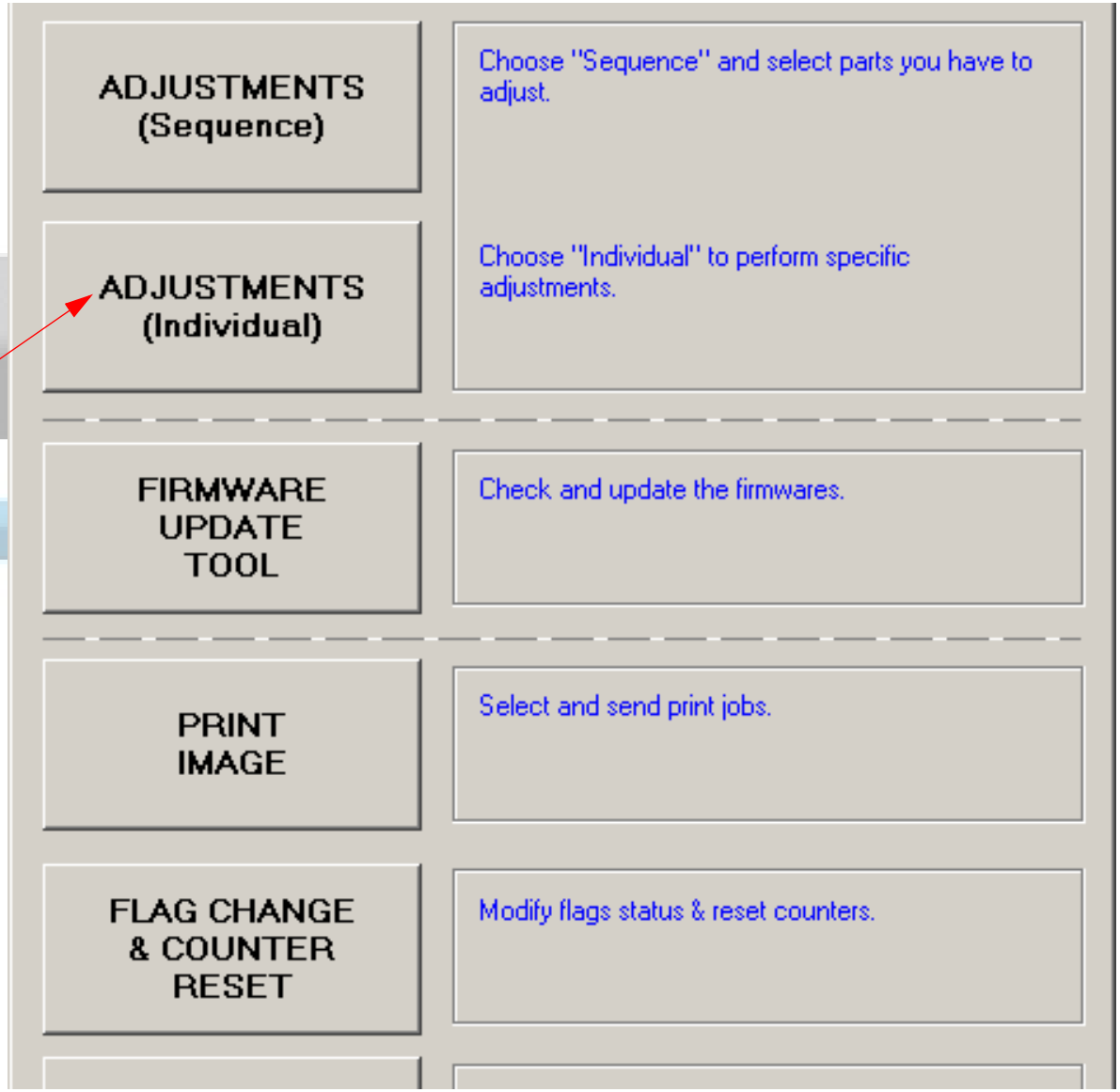
4. Click on the **Finish** button.

Input Serial Number

Note: Input Serial Number is used to write the Printer's serial number to the Main Board.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** ***to*** start the procedure.

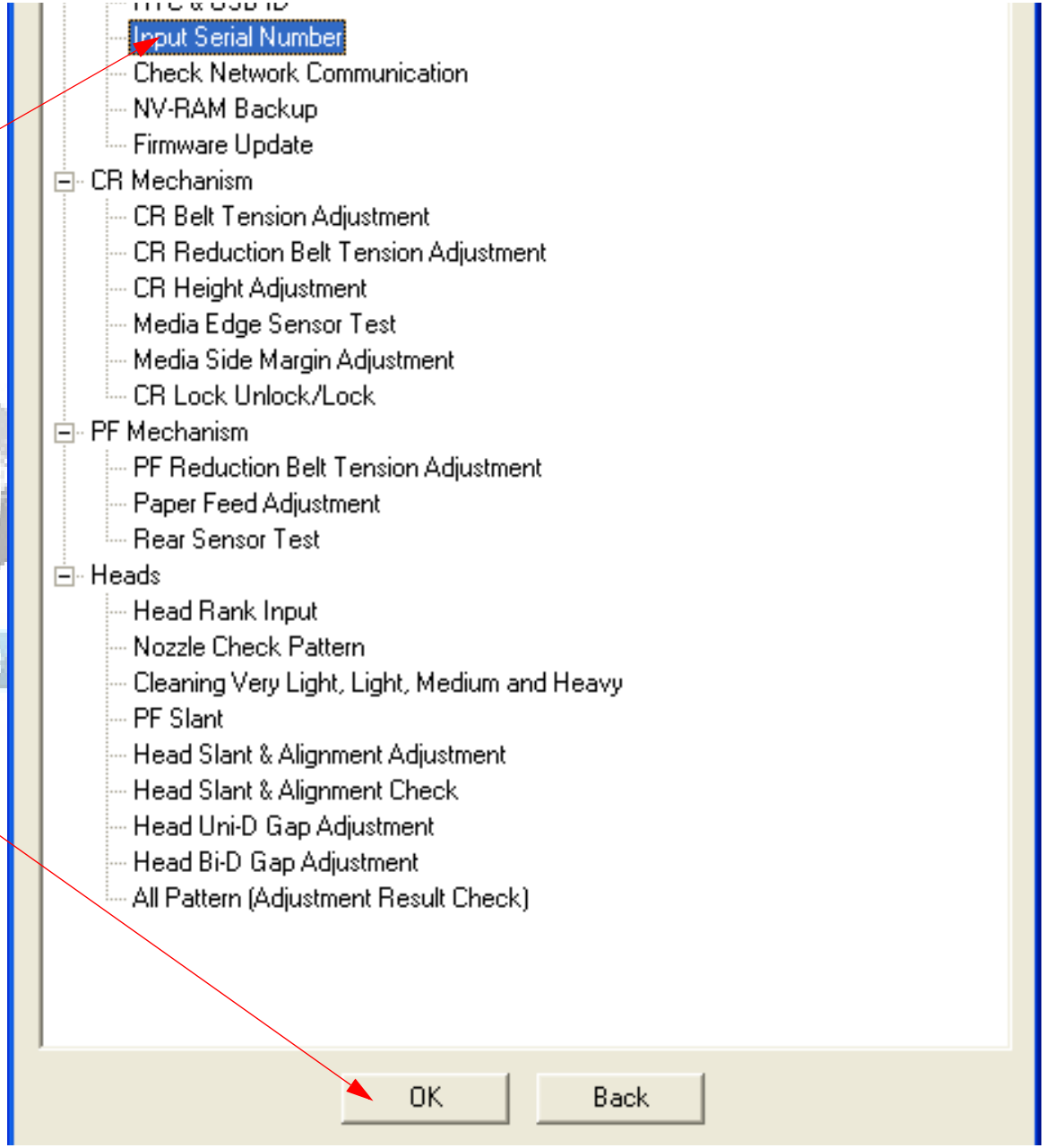
CLICK ON ***ADJUSTMENTS (Individual)***.



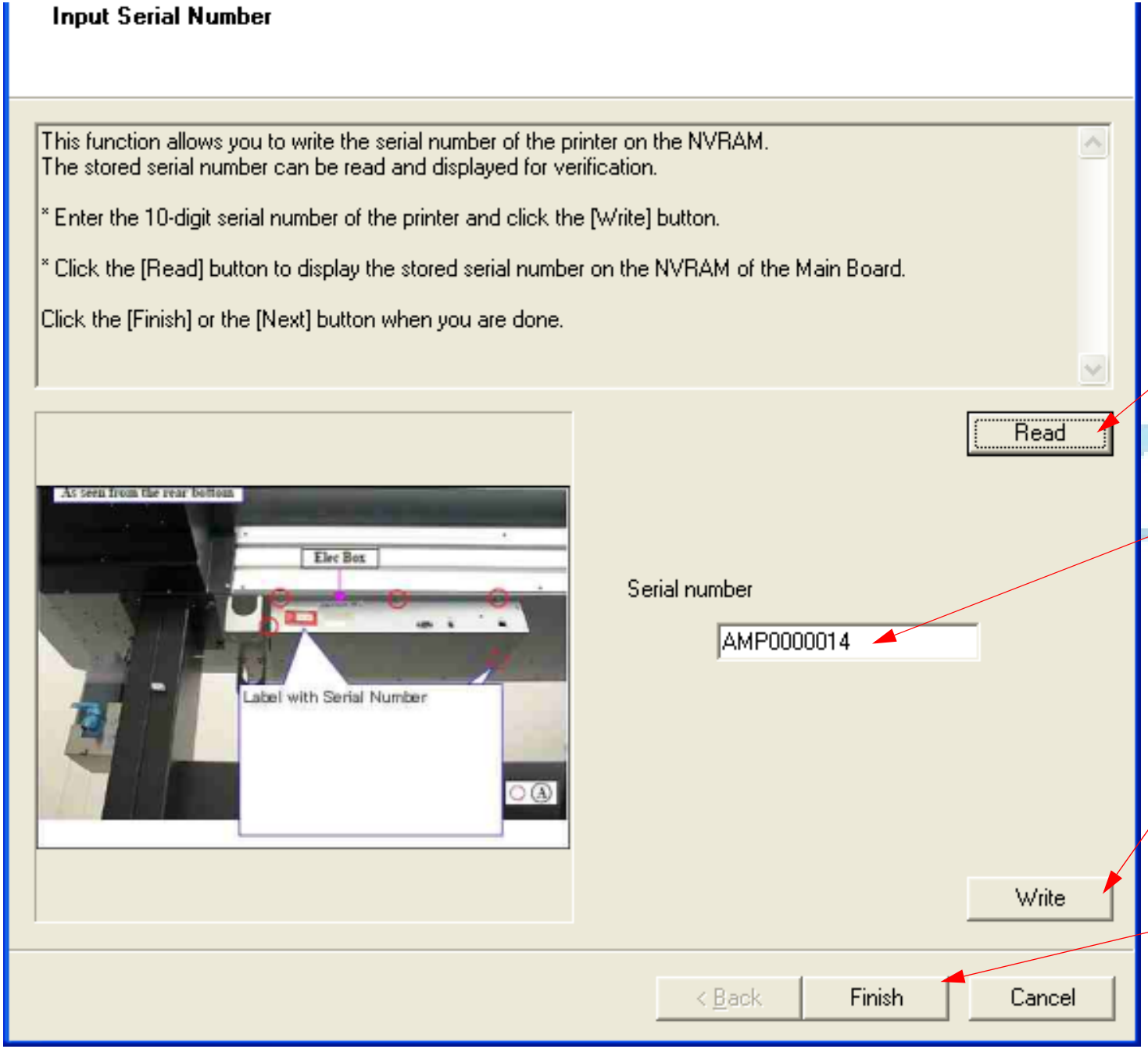
Input Serial Number (continued)

1. Select ***Input Serial Number.***

2. Click on ***OK***.



Input Serial Number (continued)



Note: The Read button will display the Serial Number stored on the Main Board.

3. Input the ***Printer's*** serial number.

4. Click on the ***Write*** button.

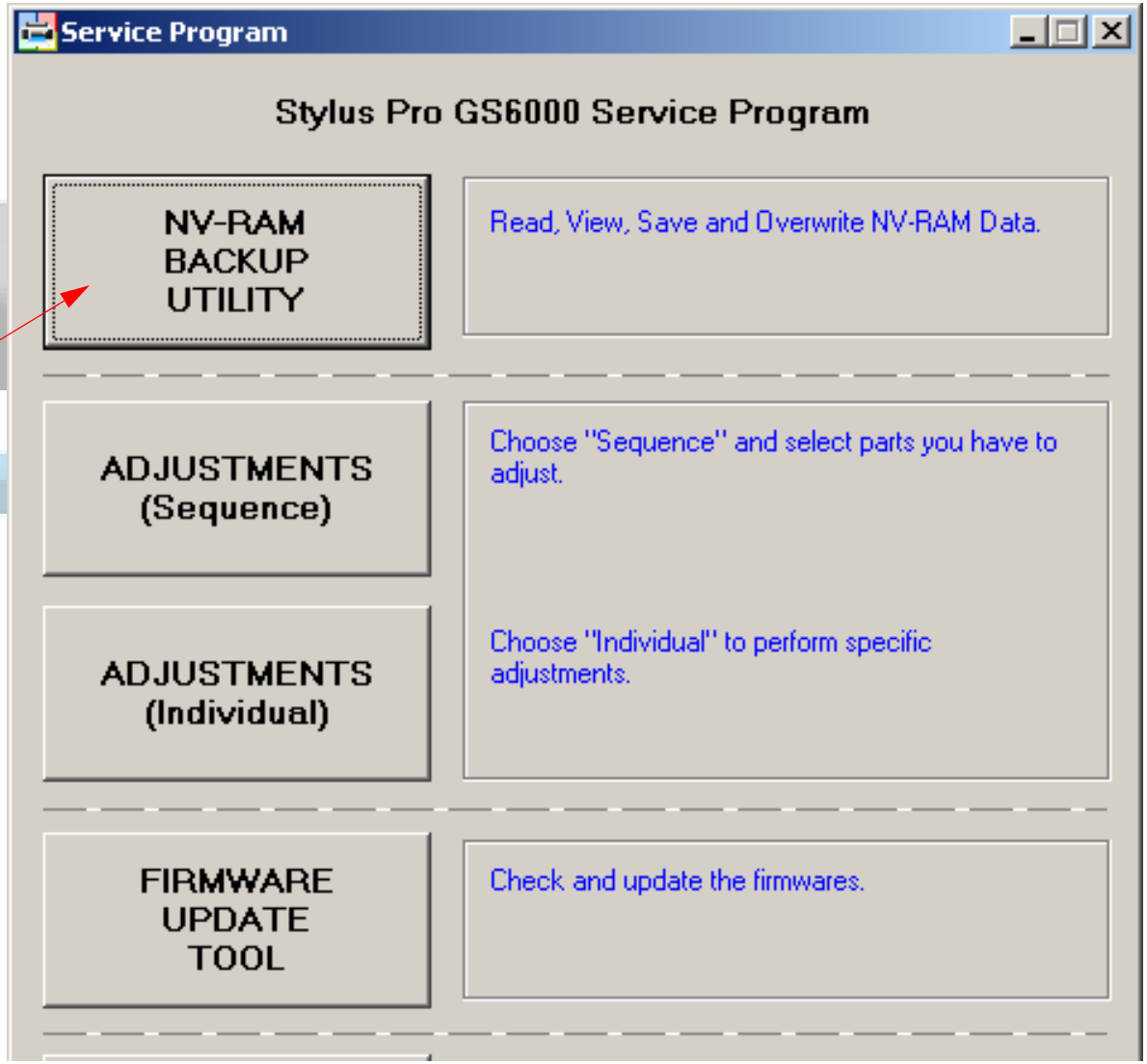
5. Click on ***Finish***.

NVRAM.EXE

Note: NVRAM enables the backup and re-installation of parameters (data/settings), necessary when exchanging the Main Board of a GS6000.

1. Open ***Servprog.exe*** and click on **NVRAM** to start the procedure.

CLICK ON ***NV-RAM BACKUP UTILITY***.



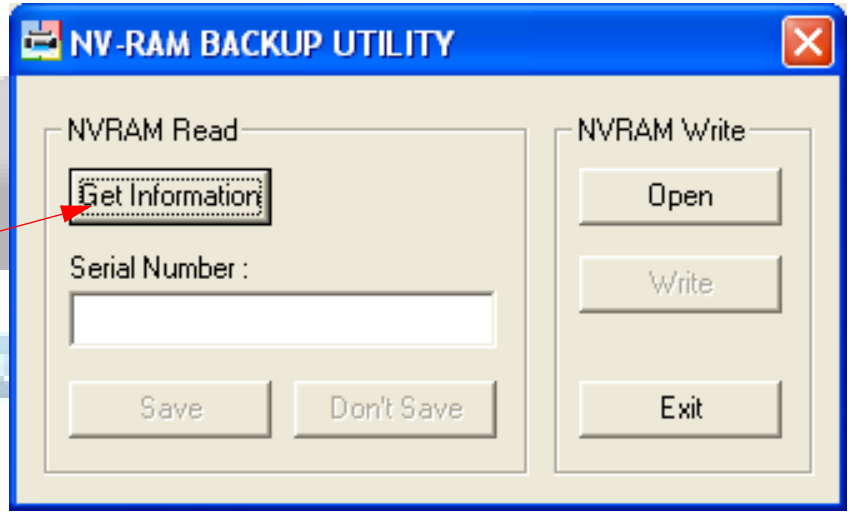
2. Place the ***Printer*** in Parameter Backup and Restore Mode

2.0.1 Release the ***Paper Lever***, disengage ***8 Ink Cartridges***, hold the **Down, Right,** and **Pause** buttons and turn on the ***Printer***. The Printer will display **Menu:SELF TESTING**.

Note: Parameter Backup can also be performed in F/W Download mode (hold the UP Arrow, Down Arrow, Left Arrow, and Right Arrow at Power on.

Backup

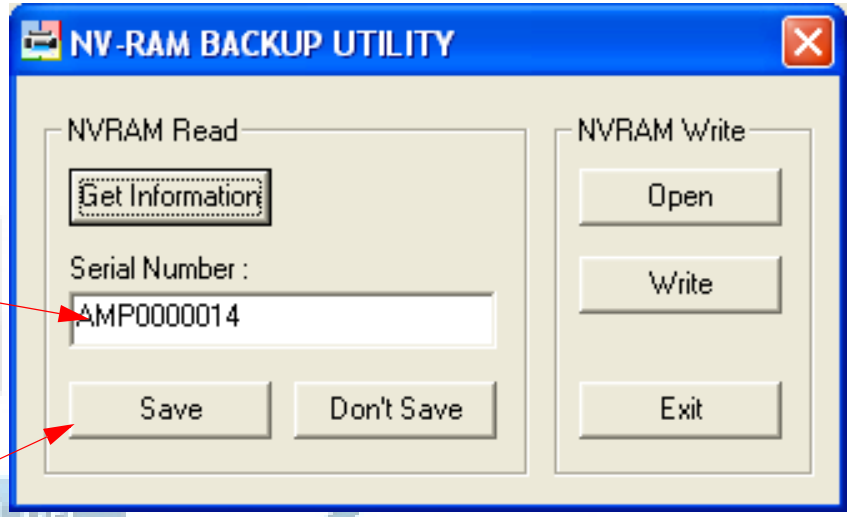
1. Click on ***Get Information***.



2. The utility will display this, until it is finished transferring data.

Backup (Continued)

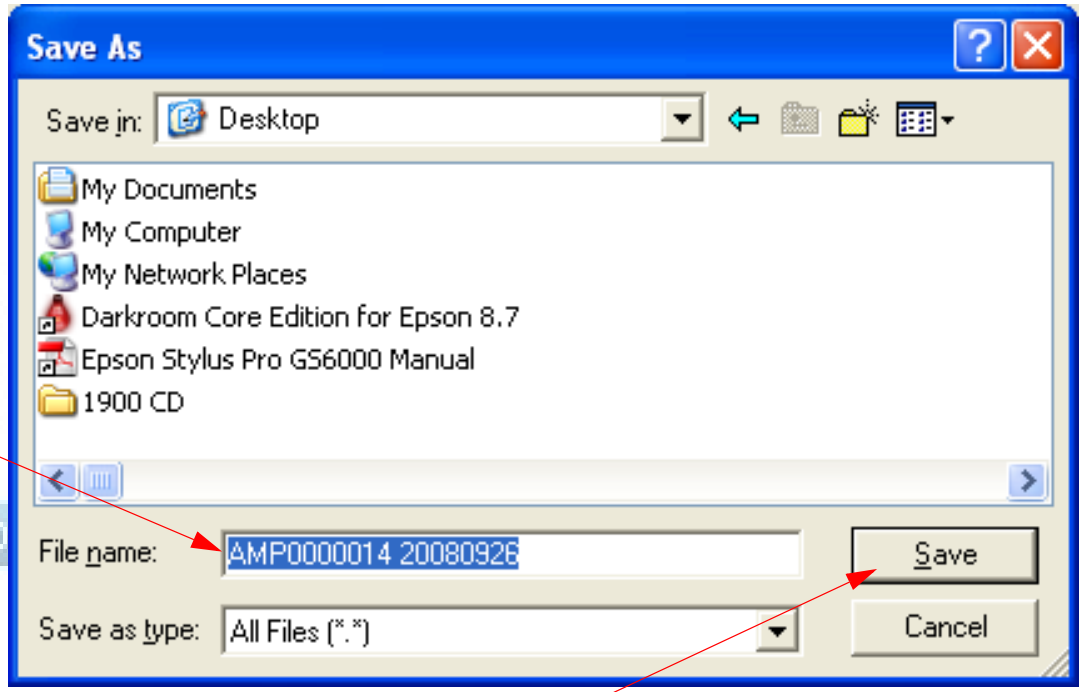
The ***Printer's*** serial number will be displayed when the parameters are transferred to the computer.



4. Click on **Save** to save the data.

Backup (Continued)

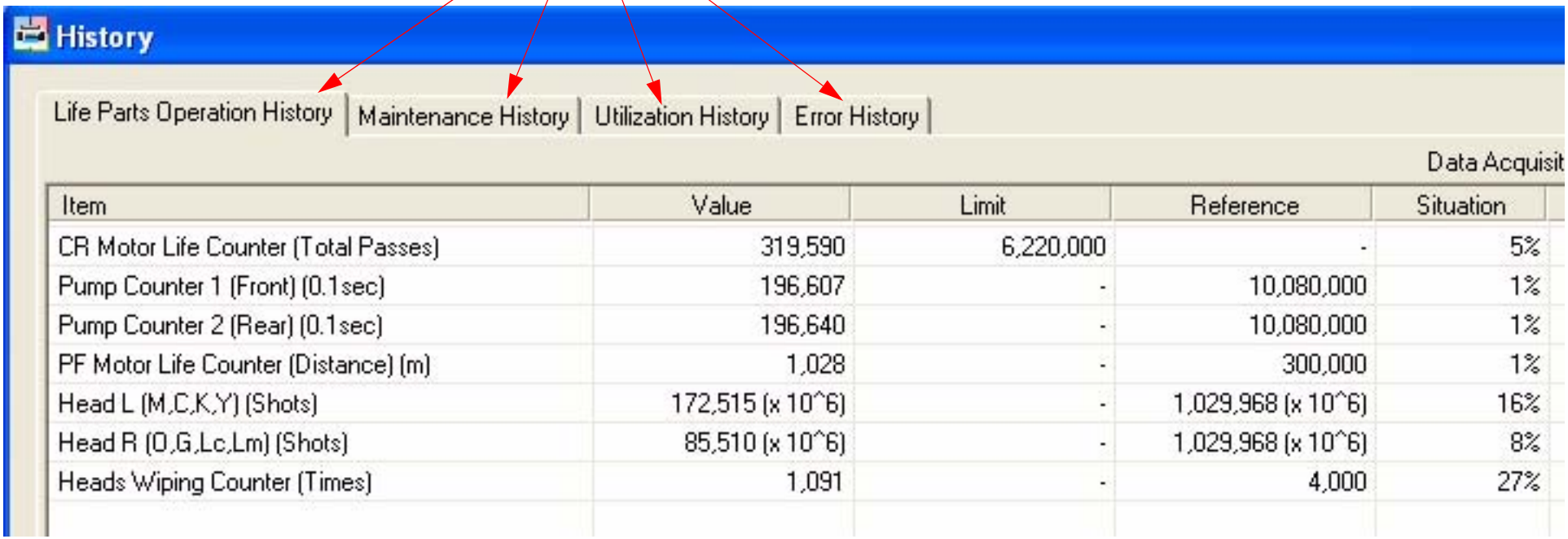
The ***Printer's*** serial number and the current date will be assigned as the default file name.



5. Click on **Save** to save the data.

Backup (Continued)

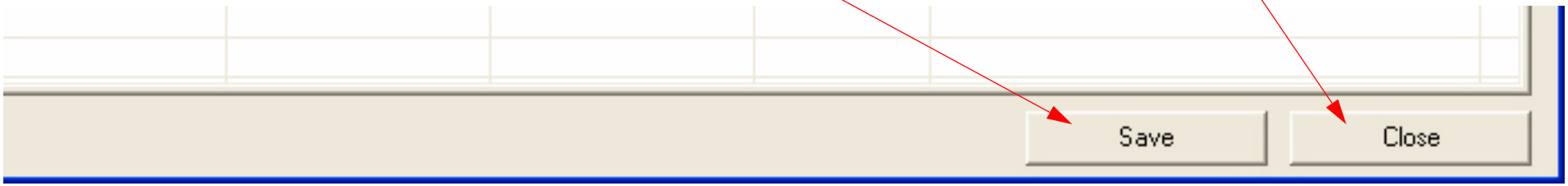
4 Categories of NVRAM data will be displayed.



Item	Value	Limit	Reference	Situation
CR Motor Life Counter (Total Passes)	319,590	6,220,000	-	5%
Pump Counter 1 (Front) (0.1sec)	196,607	-	10,080,000	1%
Pump Counter 2 (Rear) (0.1sec)	196,640	-	10,080,000	1%
PF Motor Life Counter (Distance) (m)	1,028	-	300,000	1%
Head L (M,C,K,Y) (Shots)	172,515 (x 10^6)	-	1,029,968 (x 10^6)	16%
Head R (O,G,Lc,Lm) (Shots)	85,510 (x 10^6)	-	1,029,968 (x 10^6)	8%
Heads Wiping Counter (Times)	1,091	-	4,000	27%

Click on ***Save*** to save the displayed data. Each of the 4 categories of data must be displayed and saved individually.

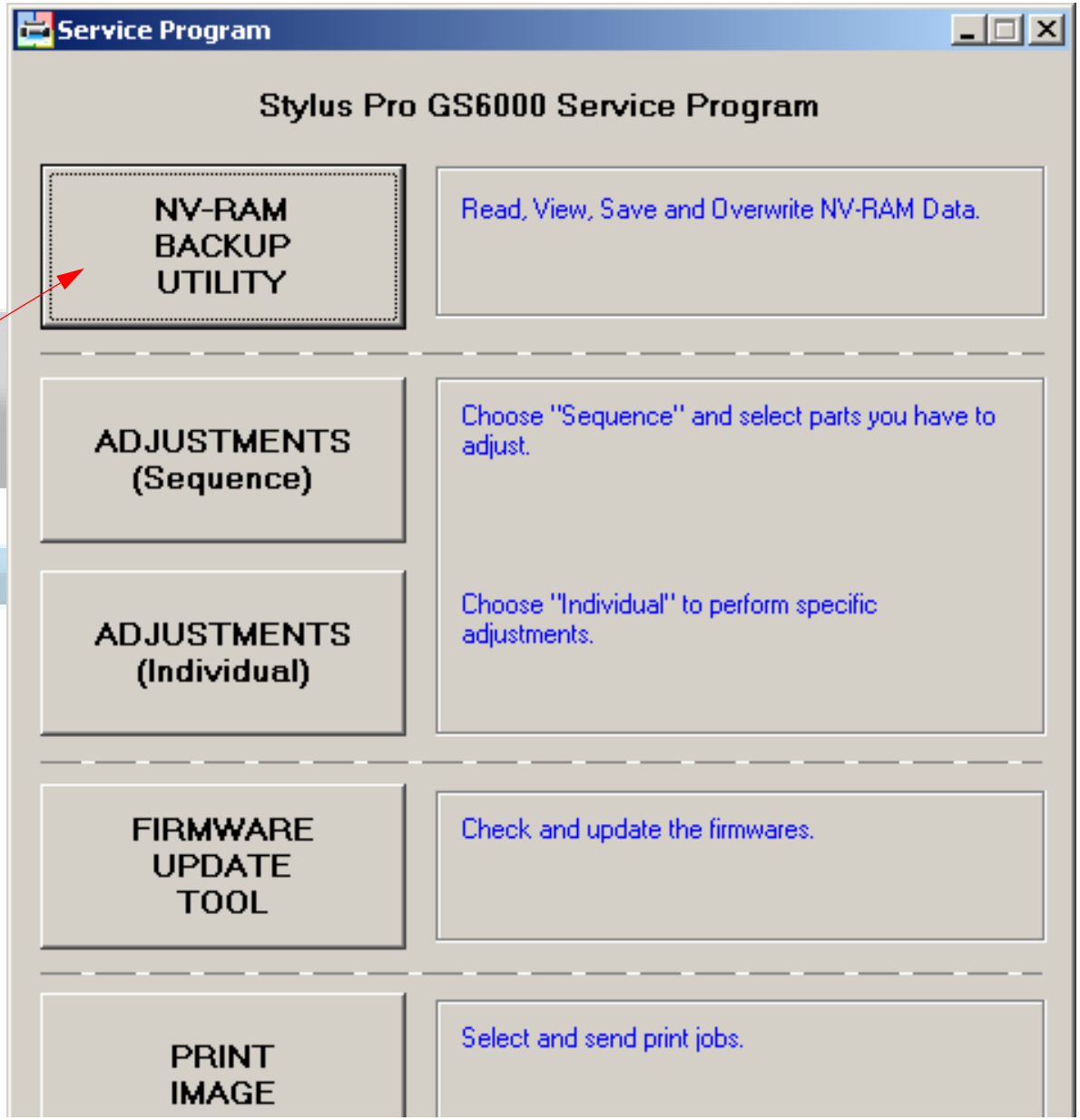
5. Click on **Close** to finish.



Restore

1. Open ***Servprog.exe*** and click on **NVRAM** to start the procedure.

CLICK ON ***NV-RAM BACKUP UTILITY***.

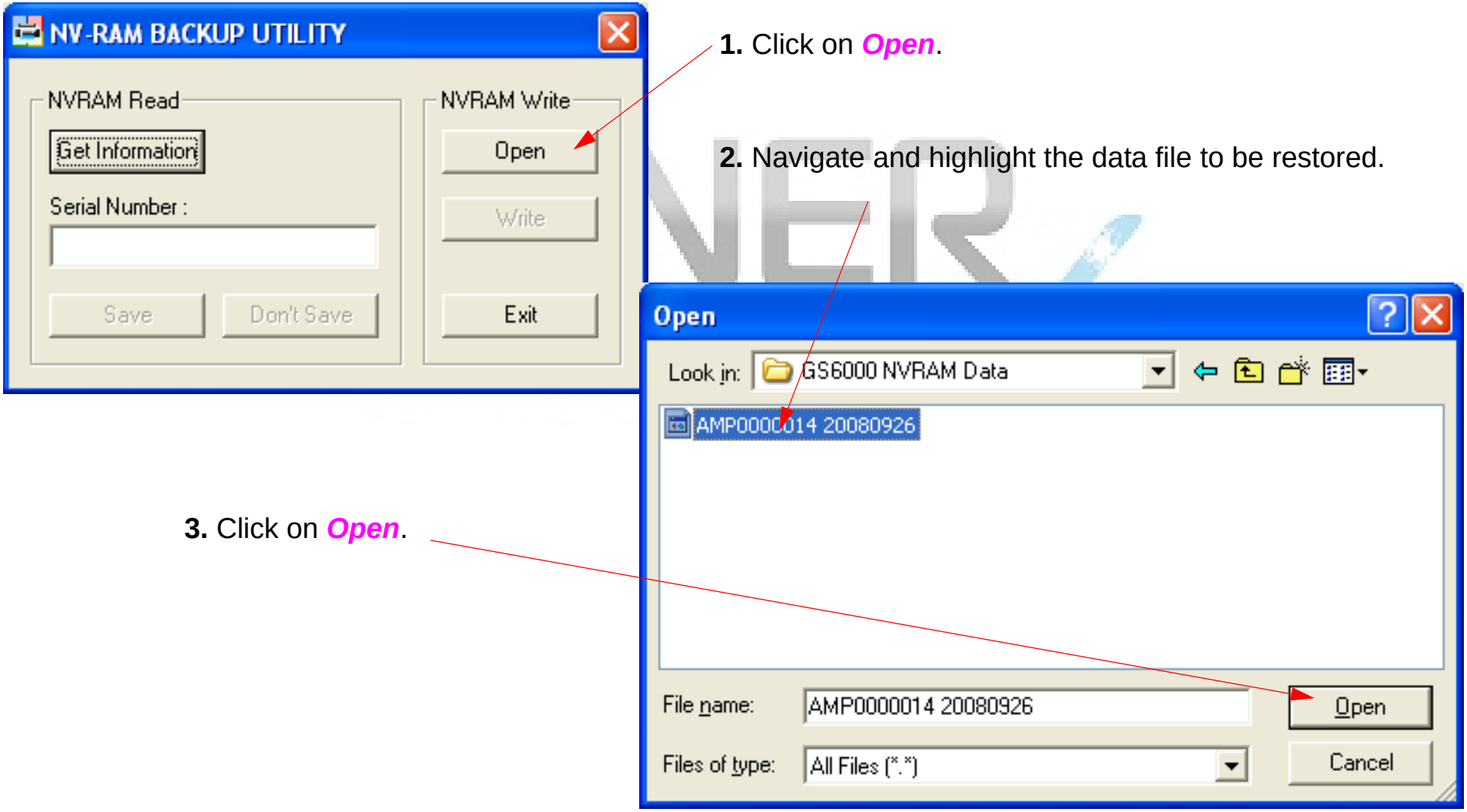


Restore (Continued)

2. Place the ***Printer*** in Parameter Backup and Restore Mode

   2.0.1 Release the ***Paper Lever***, disengage ***8 Ink Cartridges***, hold the **Down, Right,** and **Pause** buttons and turn on the ***Printer***. The Printer will display **Menu:SELF TESTING**.

Note: Restore can not be performed in F/W Download mode.



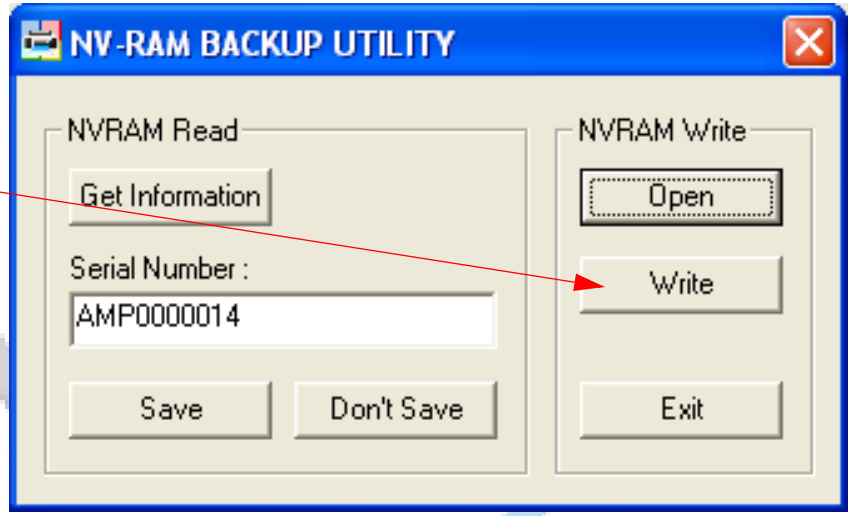
1. Click on ***Open***.

2. Navigate and highlight the data file to be restored.

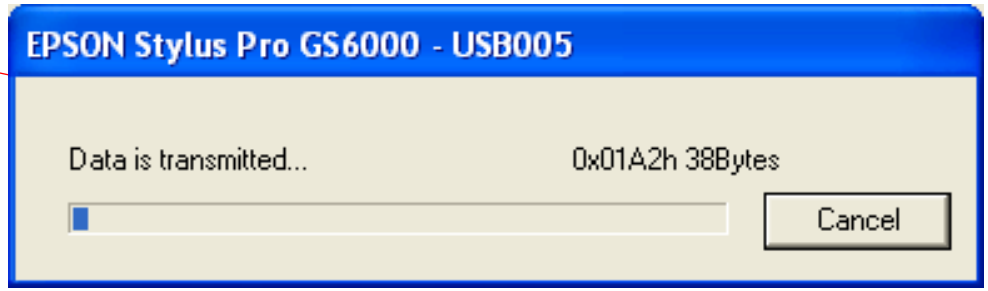
3. Click on ***Open***.

Restore (Continued)

4. Click on **Write** to send the data to the ***Printer***.



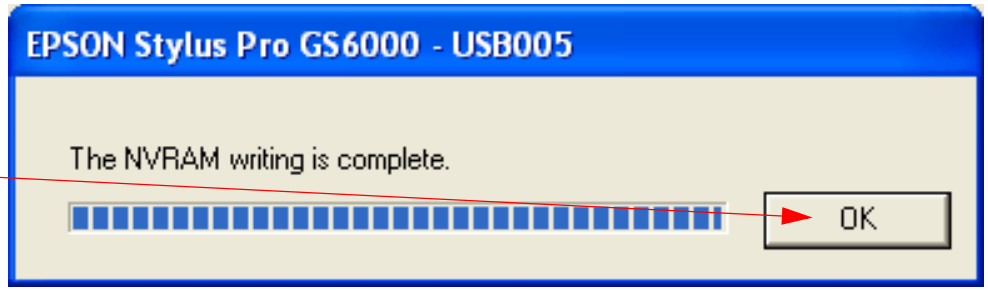
The utility will display this screen while it is transmitting the parameters to the ***Printer***.



Do not turn the printer off until the utility is done transferring data.

Restore (Continued)

5.Click on ***OK***.

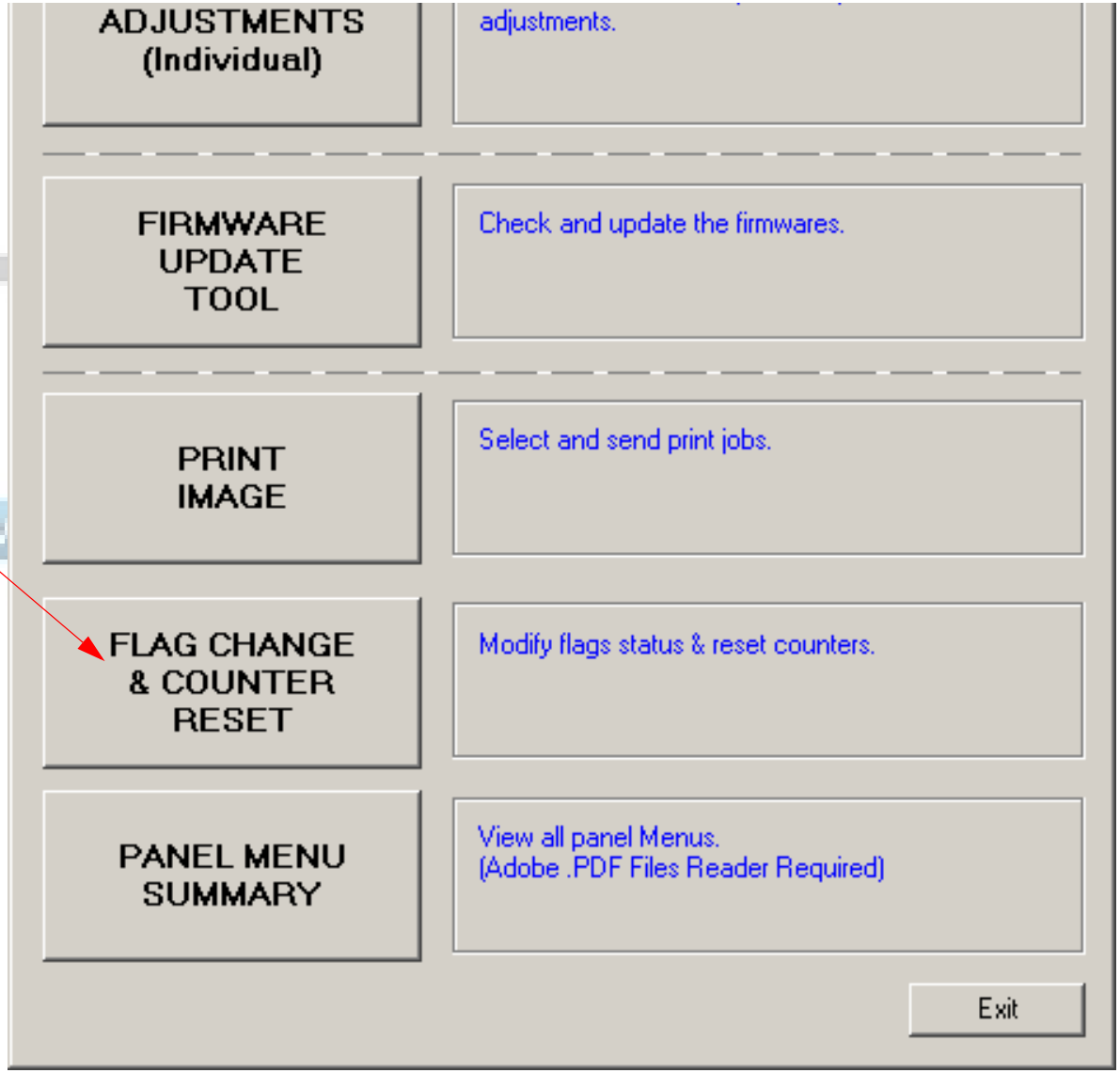


PF Motor Life Counter Save & Reset

Note: PF Motor Life Counter Save & Reset is used to reset the Paper Feed Motor life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

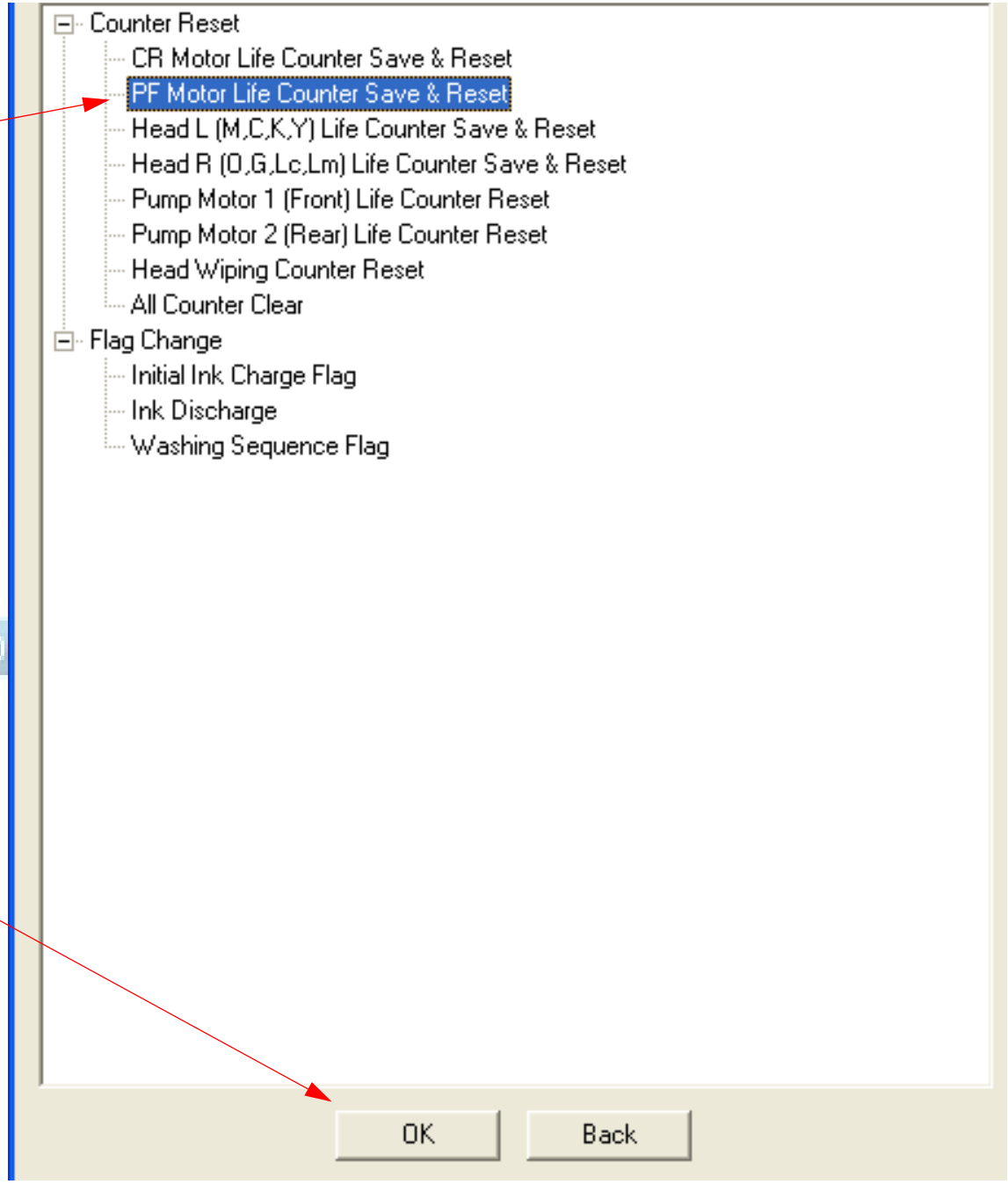
Click on ***FLAG CHANGE & COUNTER RESET***.



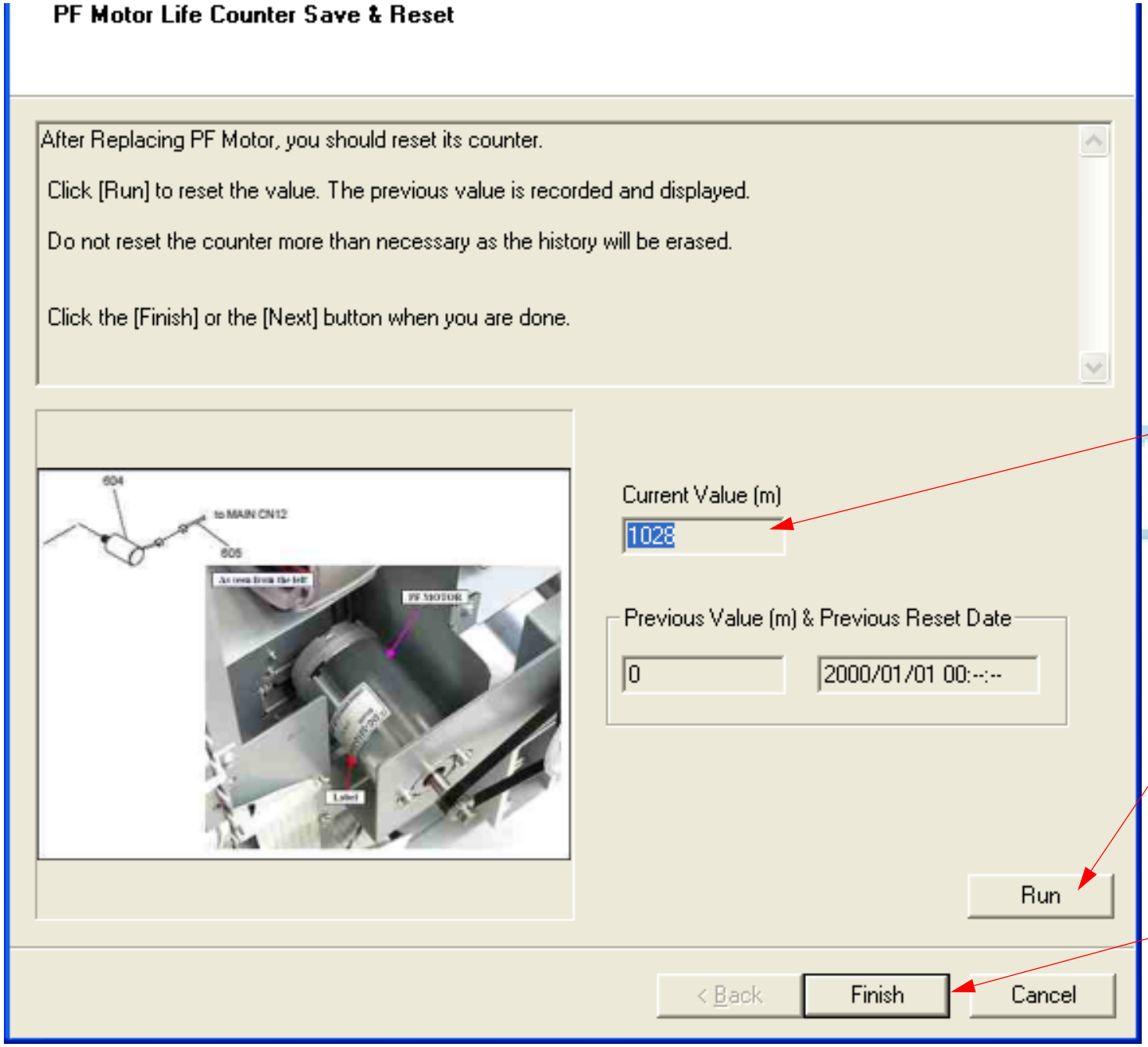
PF Motor Life Counter Save & Reset (continued)

1. Select ***PF Motor Life Counter Save & Reset.***

2. Click on ***OK***.



PF Motor Life Counter Save & Reset (continued).



Note: Current life count is displayed here.

3. Click on ***Run*** to reset the Paper Feed Motor Counter.

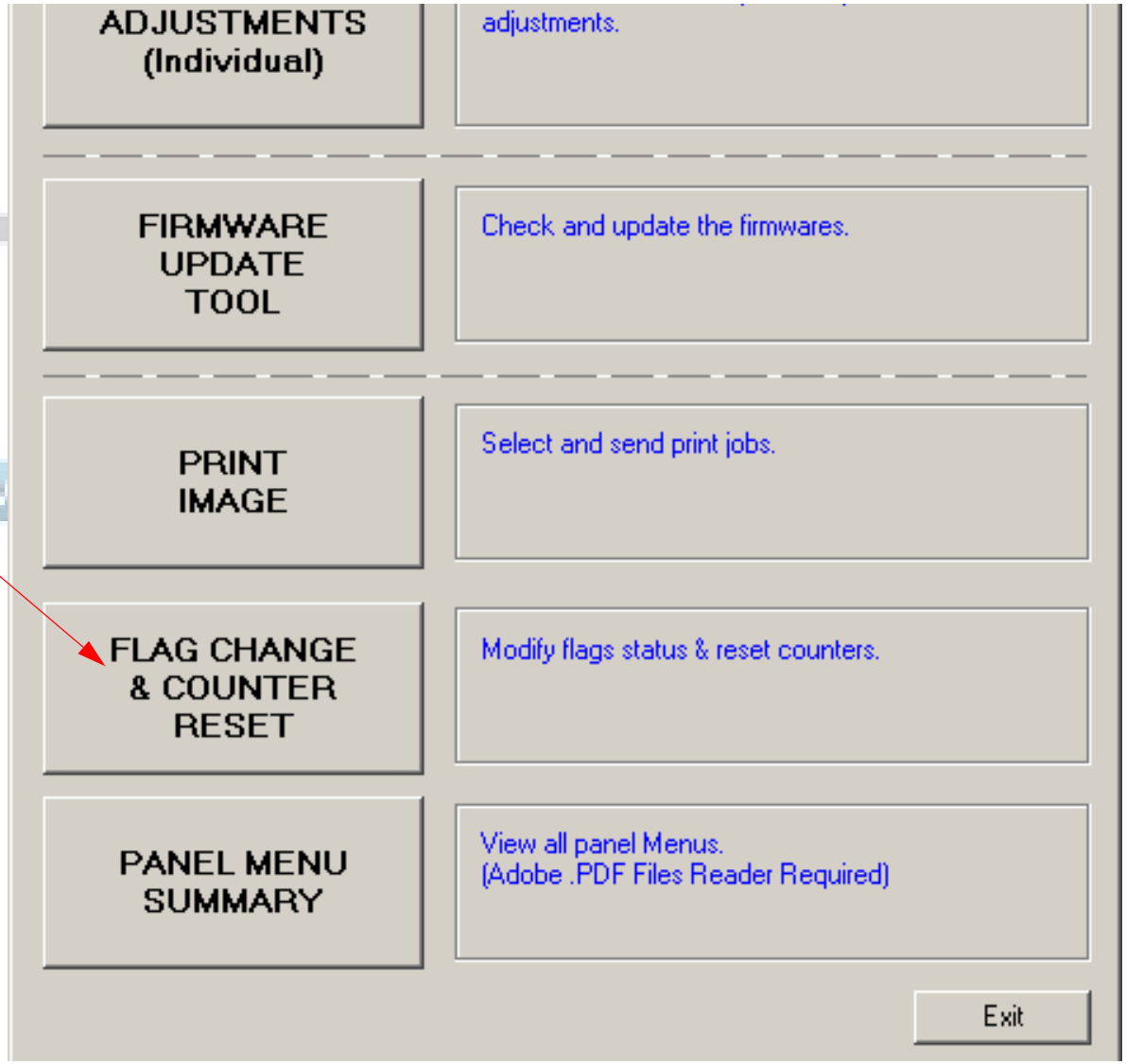
4. Click on the **Finish** button.

Pump Motor 1 [Front] Life Counter Reset

Note: Pump Motor 1 [Front] Life Counter Reset is used to reset the Front Cleaning Pump Motor life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

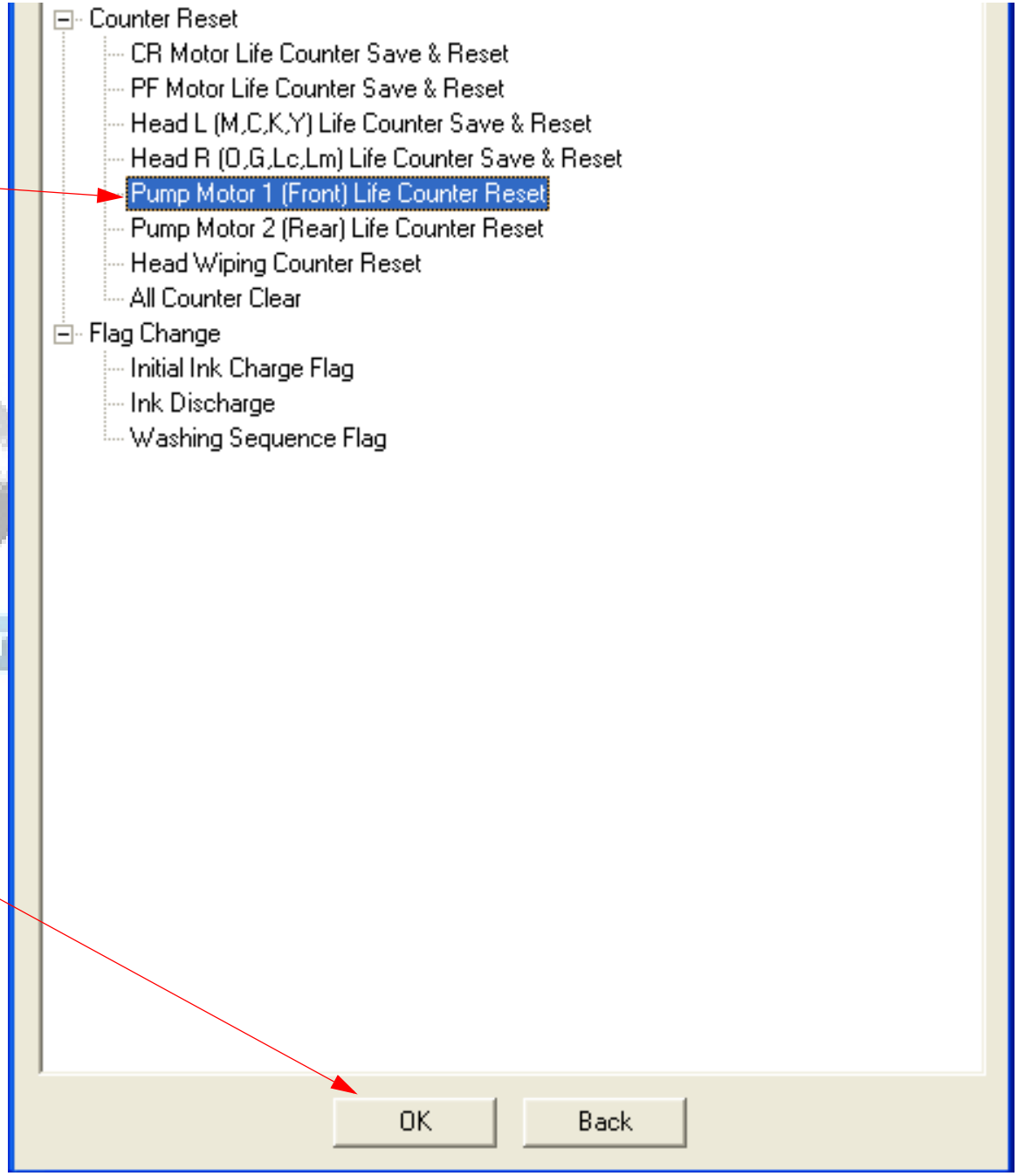
Click on ***FLAG CHANGE & COUNTER RESET***.



Pump Motor 1 [Front] Life Counter Reset (continued)

1. Select ***Pump Motor 1 [Front] Life Counter Reset.***

2. Click on ***OK***.



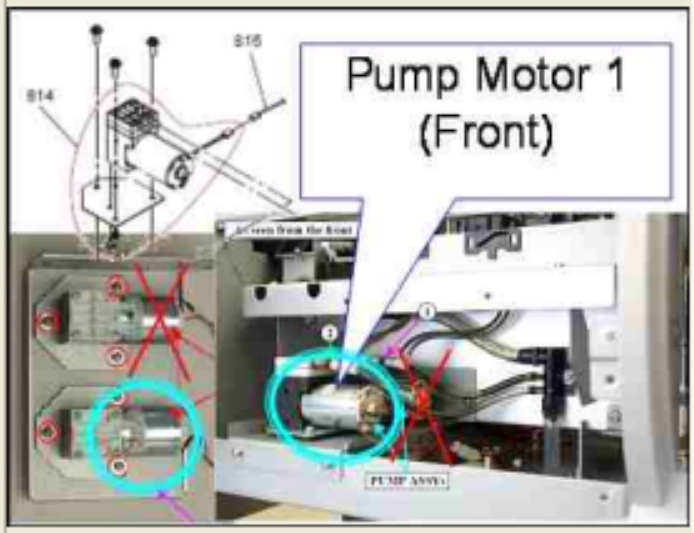
Pump Motor 1 [Front] Life Counter Reset (continued).

Pump Motor 1 (Front) Life Counter Reset

After Replacing Pump Motor 1, you should reset its counter.

Click [Run] to reset the value.

Make sure you do not reset the wrong motor if you only changed one of them. (The Pump Motor 1 is the one in front.)
Note:
Pump Motor counter history data are not preserved on the NVRAM so it is important to backup the NVRAM before doing a reset in case the counter value has to be checked.



Run

< Back | Finish | Cancel

3. Click on ***Run*** to reset the Pump Motor 1 Life Counter.

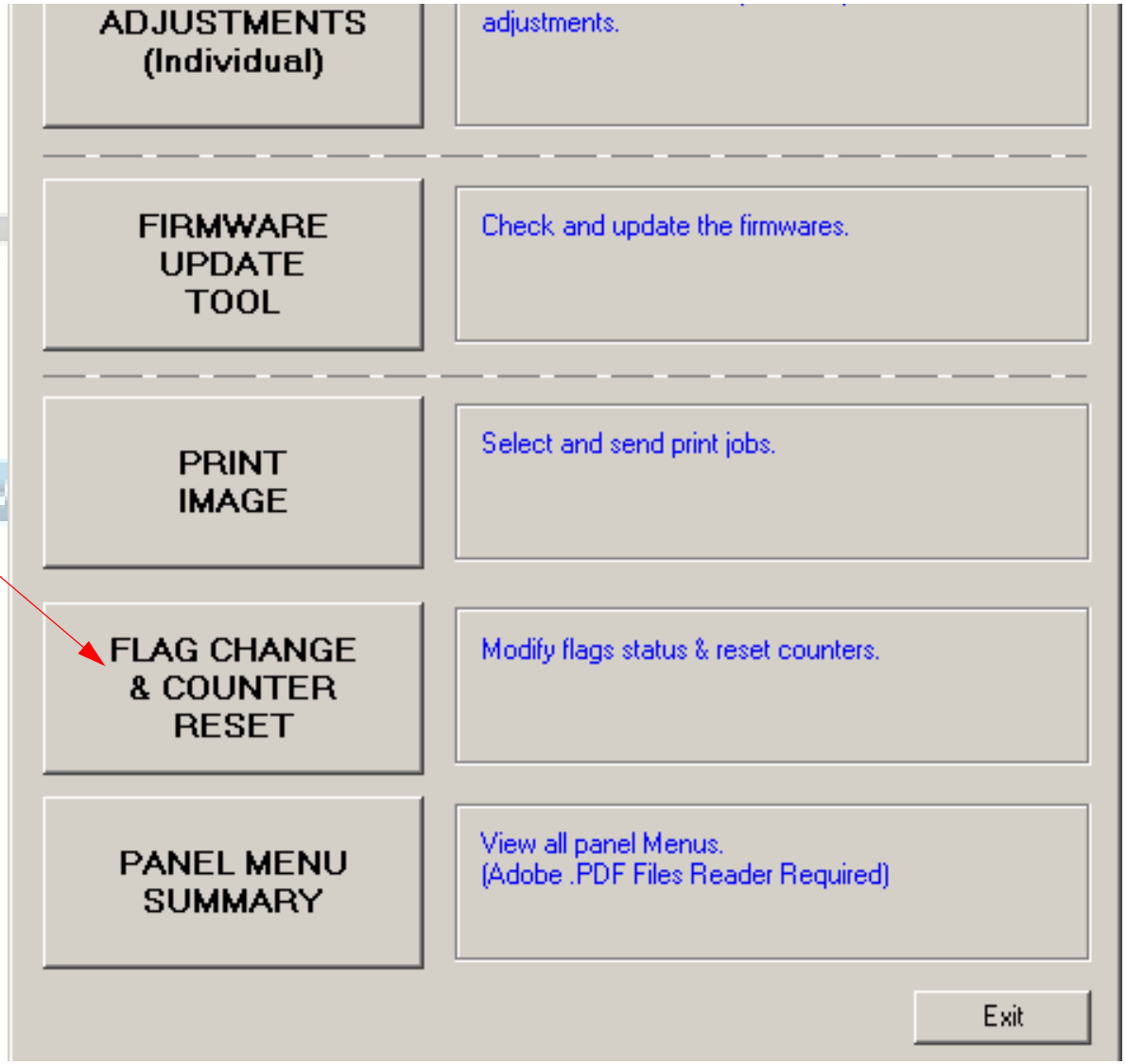
4. Click on the **Finish** button.

Pump Motor 2 [Rear] Life Counter Reset

Note: Pump Motor 2 [Rear] Life Counter Reset is used to reset the Rear Cleaning Pump Motor life counter.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

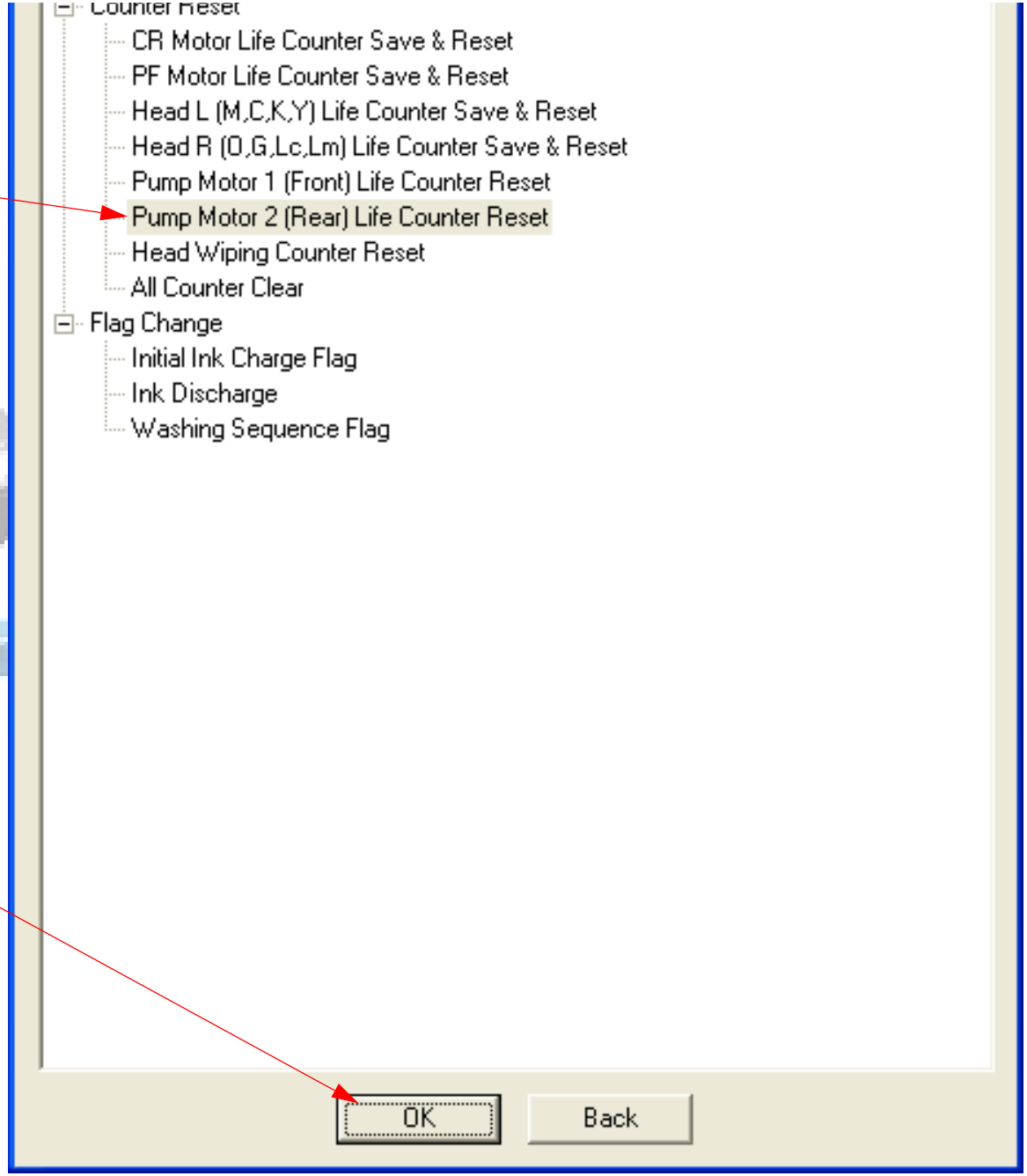
Click on ***FLAG CHANGE & COUNTER RESET***.



Pump Motor 2 [Rear] Life Counter Reset (continued)

1. Select ***Pump Motor 2 [Rear] Life Counter Reset.***

2. Click on ***OK***.



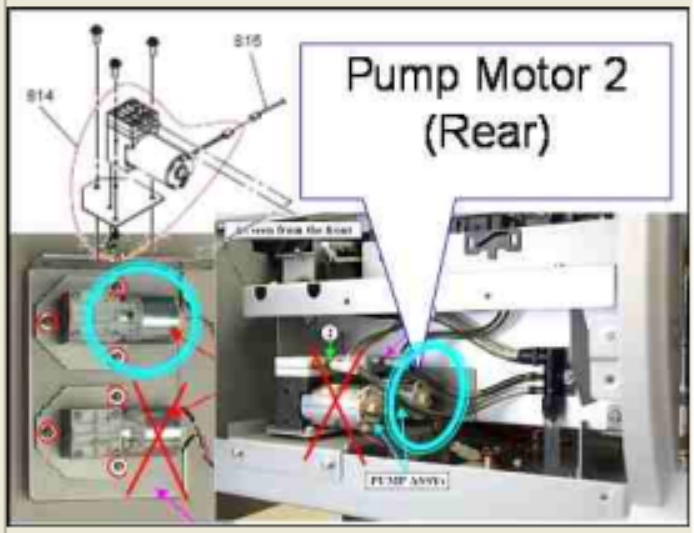
Pump Motor 2 [Rear] Life Counter Reset (continued).

Pump Motor 2 (Rear) Life Counter Reset

After Replacing Pump Motor 2, you should reset its counter.

Click [Run] to reset the value.
Make sure you do not reset the wrong motor if you only changed one of them.
(The Pump Motor 2 is the one in the rear.)

Note:
Pump Motor counter history data are not preserved on the NVRAM so it is important to backup the NVRAM before doing a reset in case the counter value has to be checked.
Click the [Finish] or the [Next] button when you are done.



Run

< Back | Finish | Cancel

3. Click on ***Run*** to reset the Pump Motor 2 Life Counter.

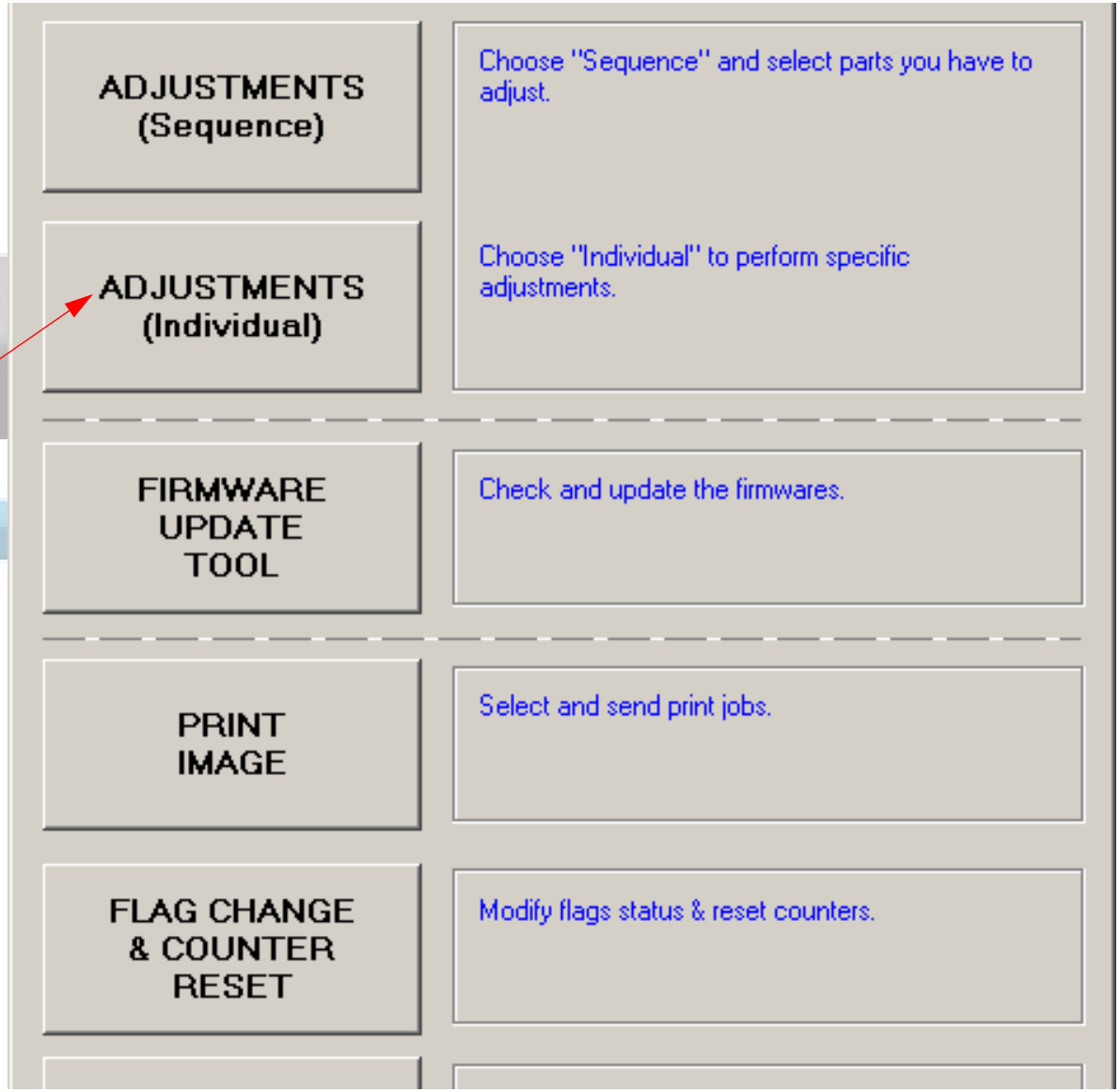
4. Click on the **Finish** button.

RTC & USB ID Adjustment

Note: The RTC & USB ID Adjustment is used to write the correct time, and USB ID to the Main Board.

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

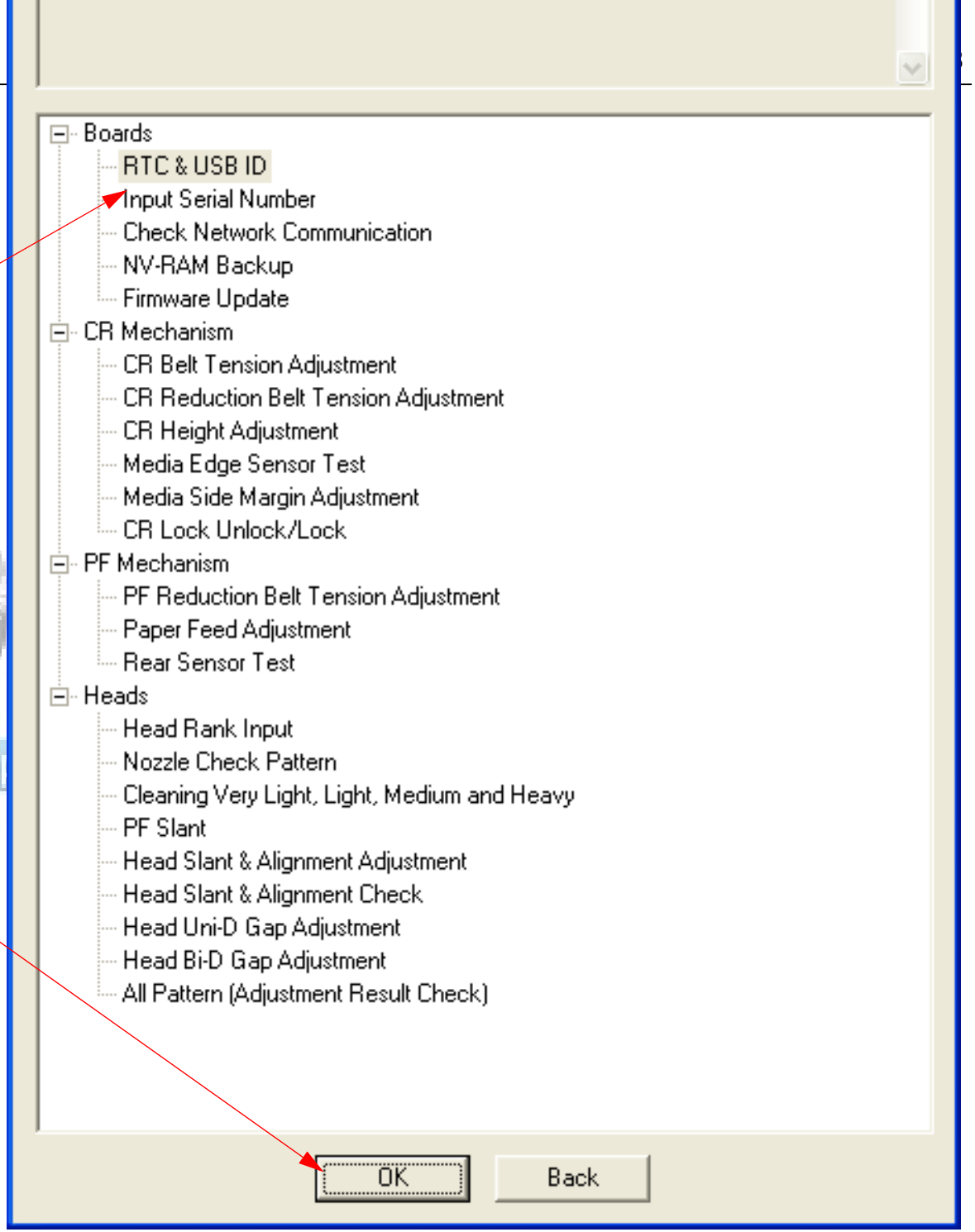
CLICK ON ***ADJUSTMENTS (Individual)***.



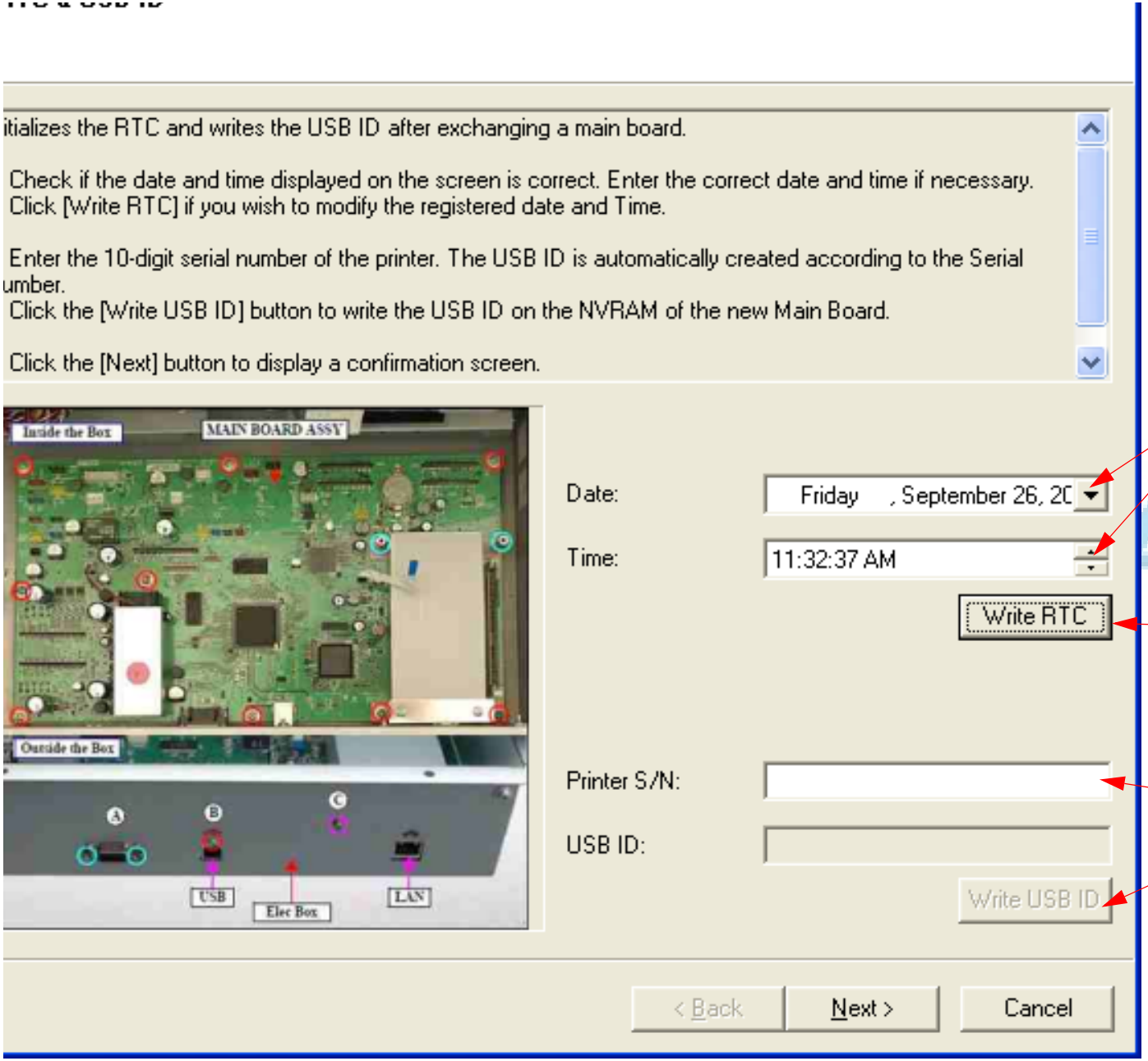
RTC & USB ID (continued)

1. Select ***RTC & USB ID.***

2. Click on ***OK***.



RTC & USB ID (continued)



3. Verify that the Date and Time information is correct. It can be adjusted if necessary.

4. Click on the ***Write RTC*** button.

Note: If the Printer's serial number is entered and Write USB ID is clicked on, a new USB ID will be generated and sent to the Printer.

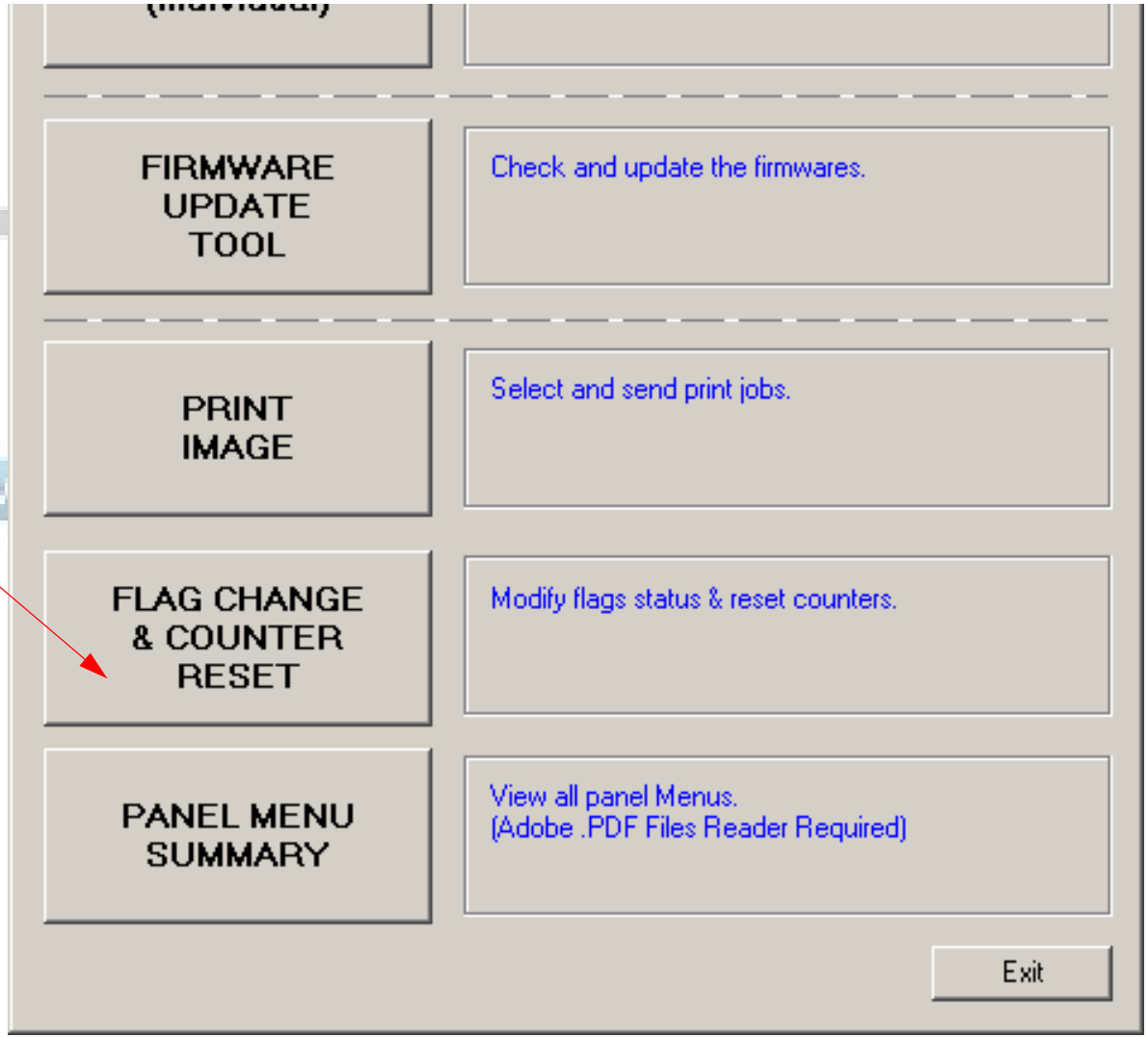
Washing Sequence Flag

Note: The Washing Sequence Flag is used to start or cancel flushing the Printer with cleaning fluid.

Note: Flushing the Printer requires a set of 8 cleaning cartridges (Part #T623900 (qty 8)).

1. Open ***Servprog.exe*** and click on **ADJUSTMENTS (Individual)** to start the procedure.

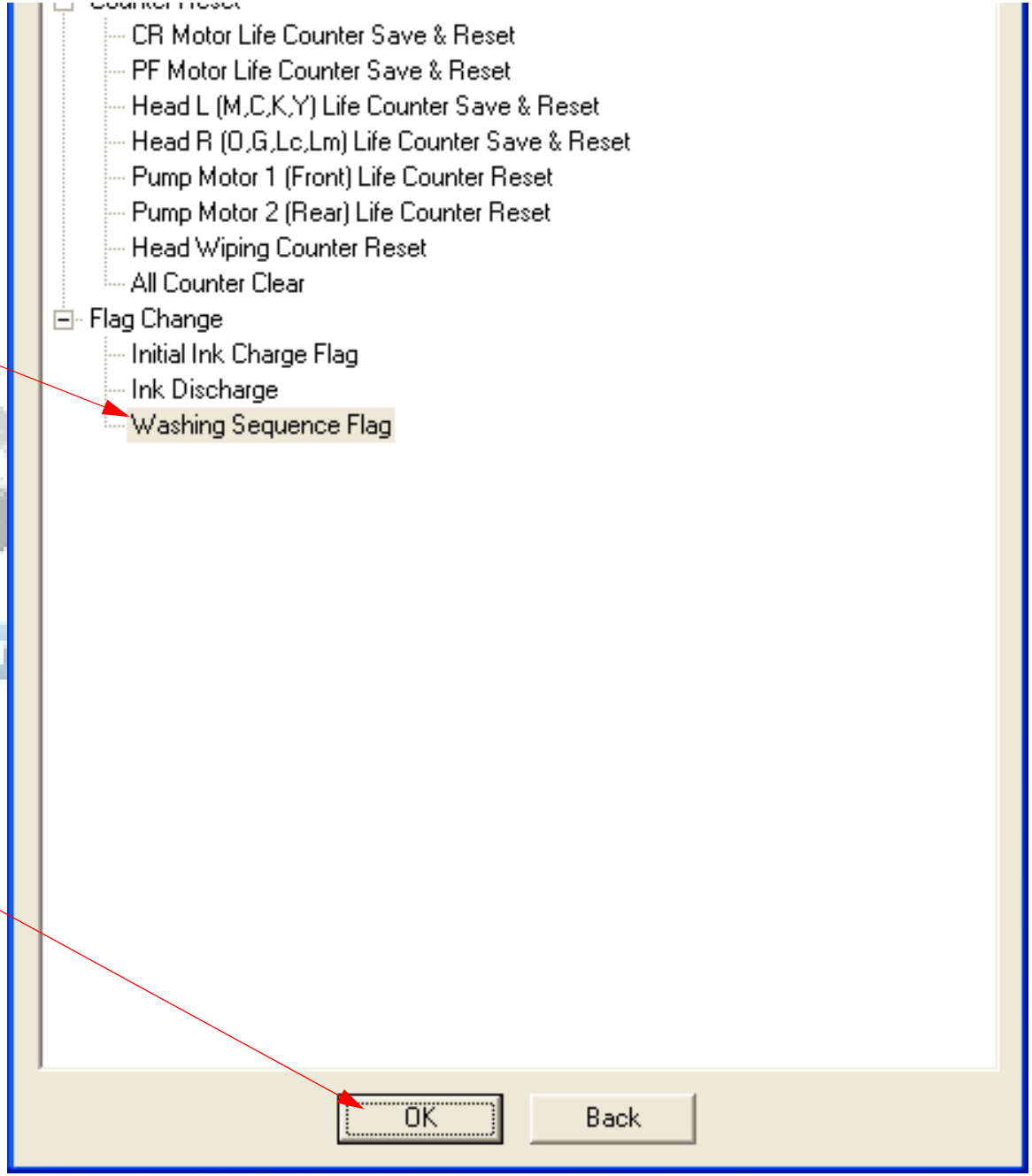
Click on ***FLAG CHANGE & COUNTER RESET***.



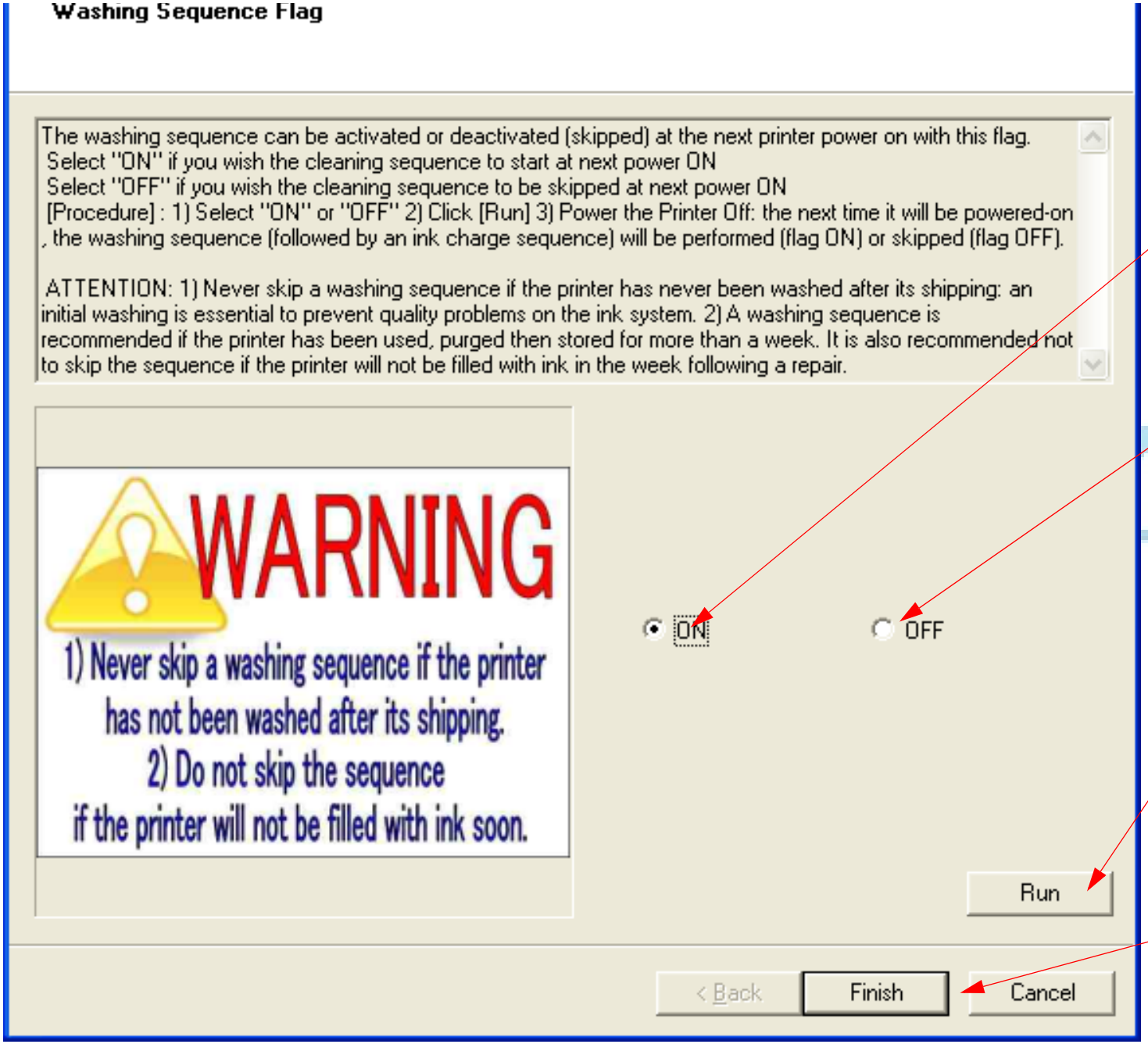
Washing Sequence Flag (continued)

1. Select ***Washing Sequence Flag.***

2. Click on ***OK***.



Washing Sequence Flag (continued).



Select ***On*** to cause the Printer to start a "washing sequence", the next time the Printer is turned on.

Select ***Off*** to cancel a "washing sequence".

3. Click on ***Run*** to start or cancel a "washing sequence".

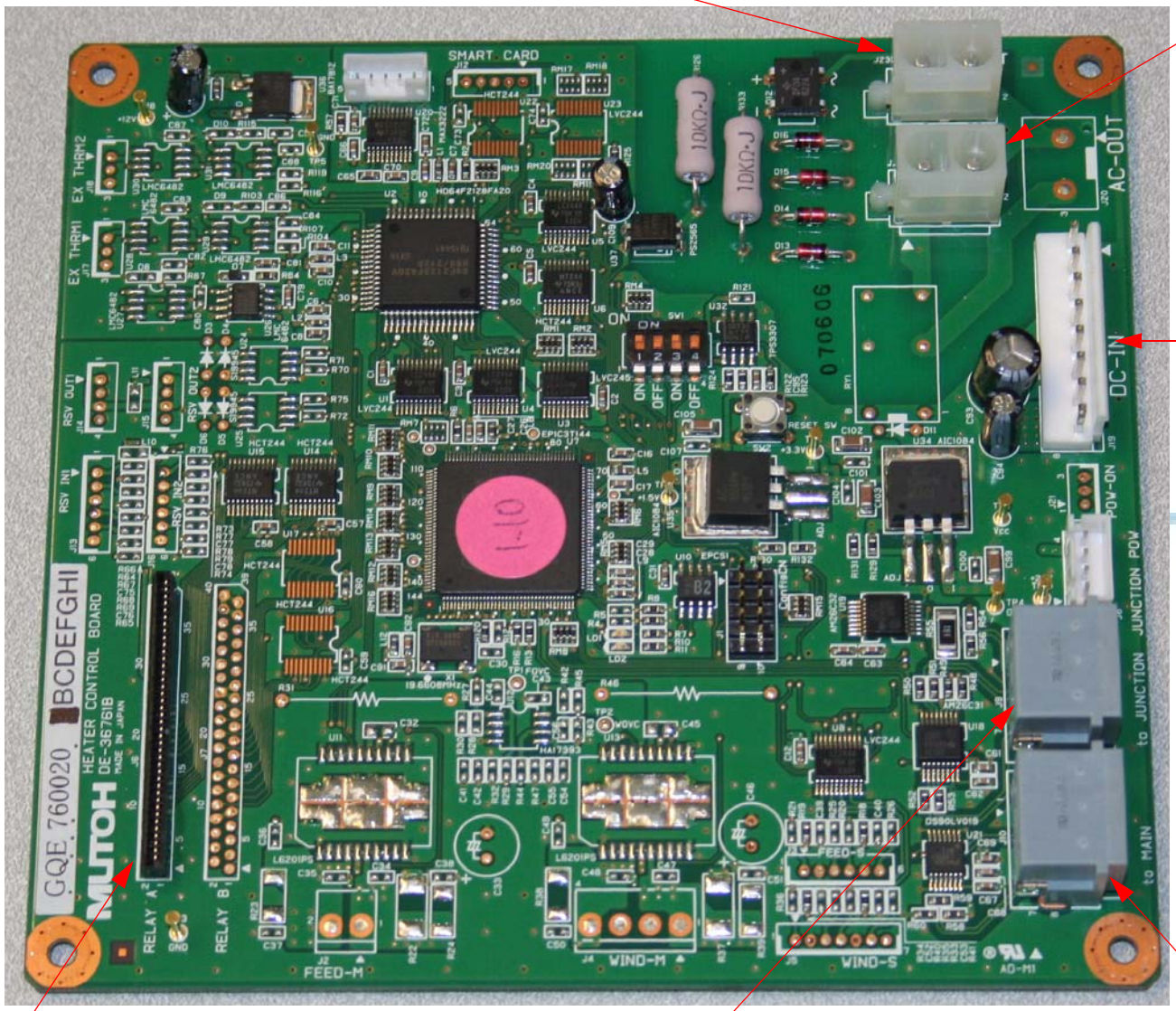
4. Click on the **Finish** button.

Component Pictures

Board (Heater Control) Picture

J23 to Heater Relay Board (J1)

J22 to AC Term Block



J19 to P/S Term Board (J5)

J6 to Heater Relay Board (J3)

J9 to Sub Board B (J17)

J10 to LVDS Board (J2)

Board (Heater Relay) Picture

J6 to AC inlet 2

J7 to Pre Heater

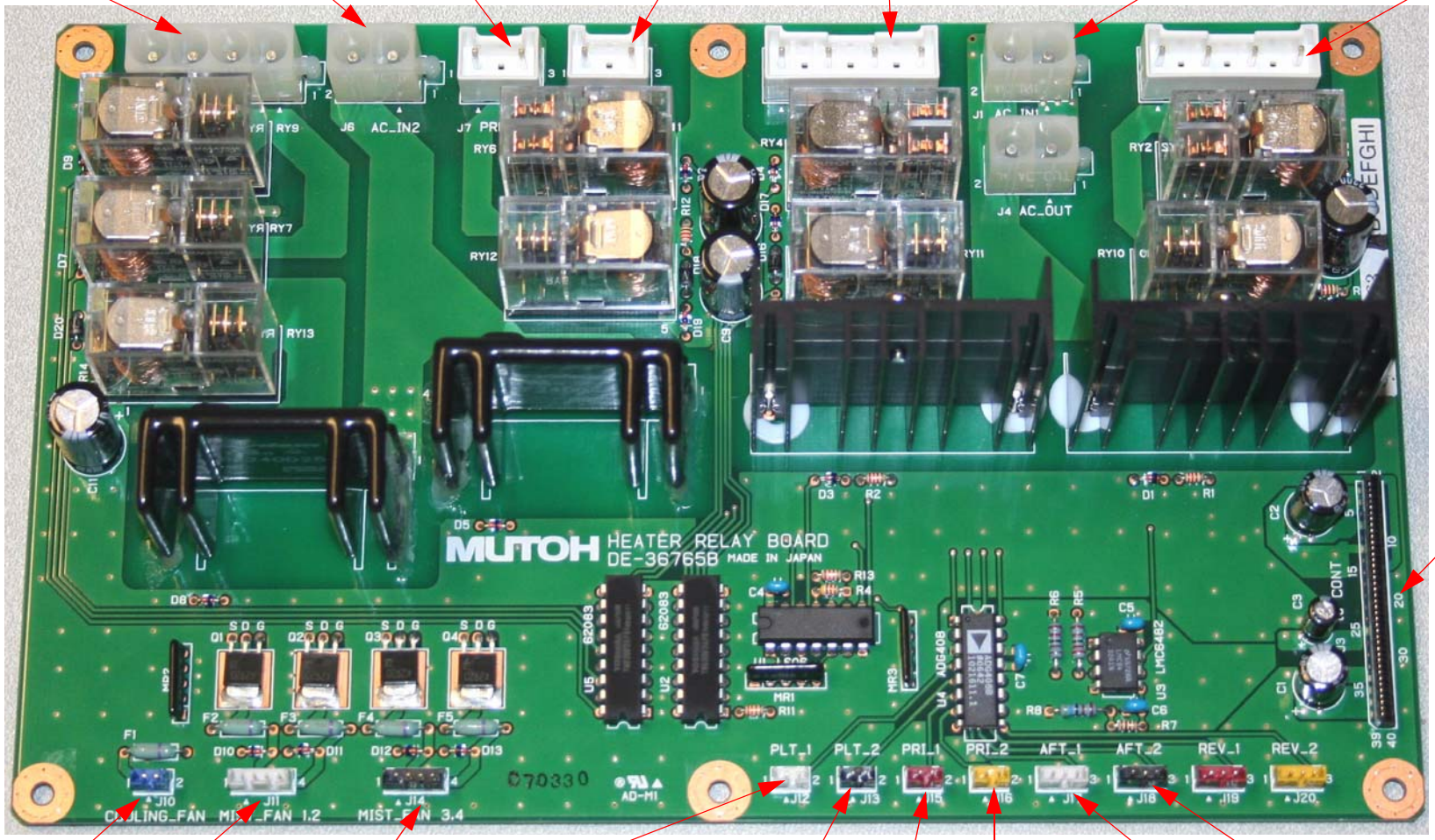
J5 to Platen Heater

J2 to Platen Heater

J9 to Post Heater

J8 to Pre Heater

J1 to Heater Control Board (J23)



J3 to Heater Control Board (J6)

J12 to PL H Therm

J11 Suction Fans

J14 Suction Fans

J13 to PL H Therm

J16 to PR H Therm

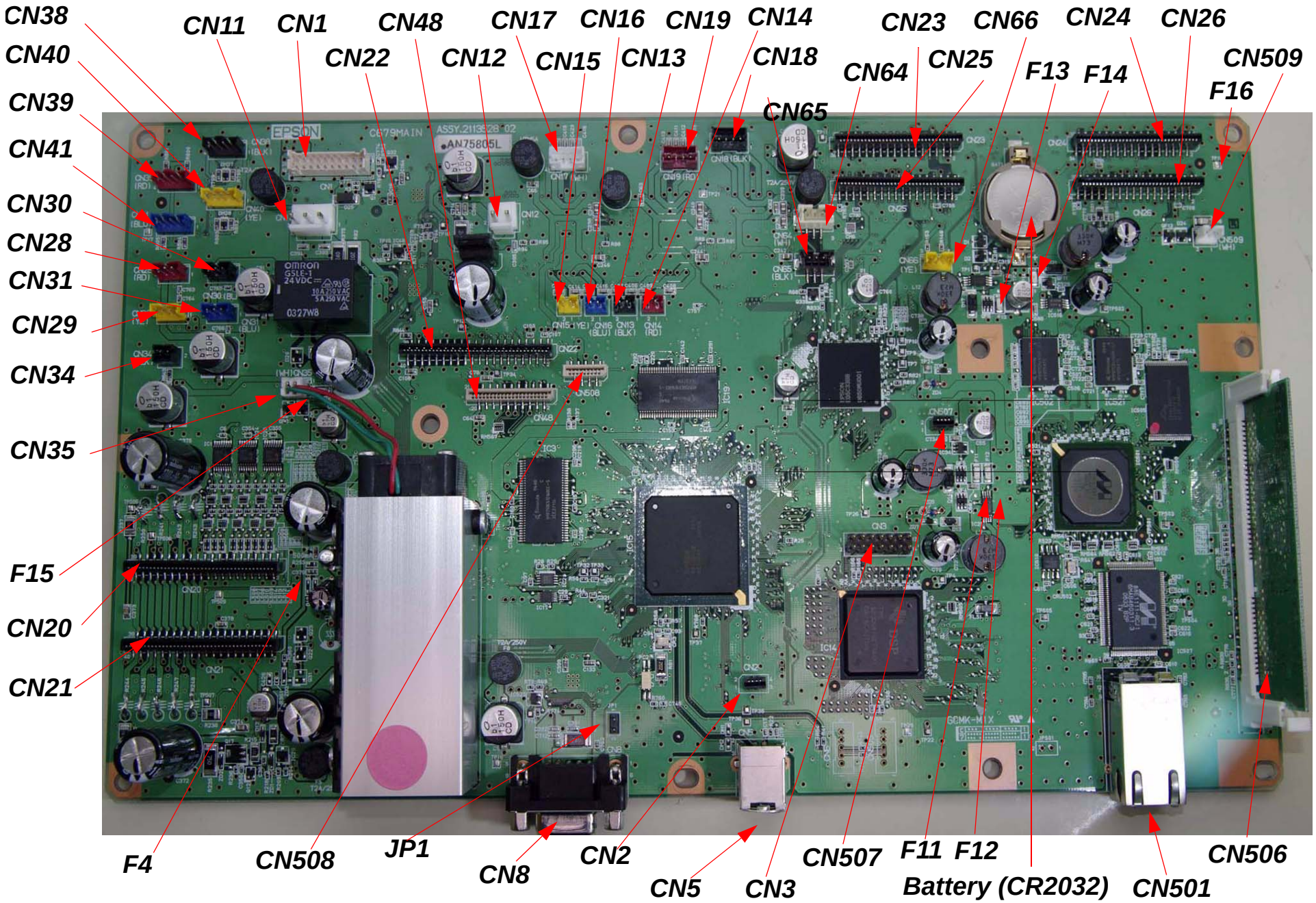
J18 to P0 H Therm

J10 to Heater Control Board Cooling Fan

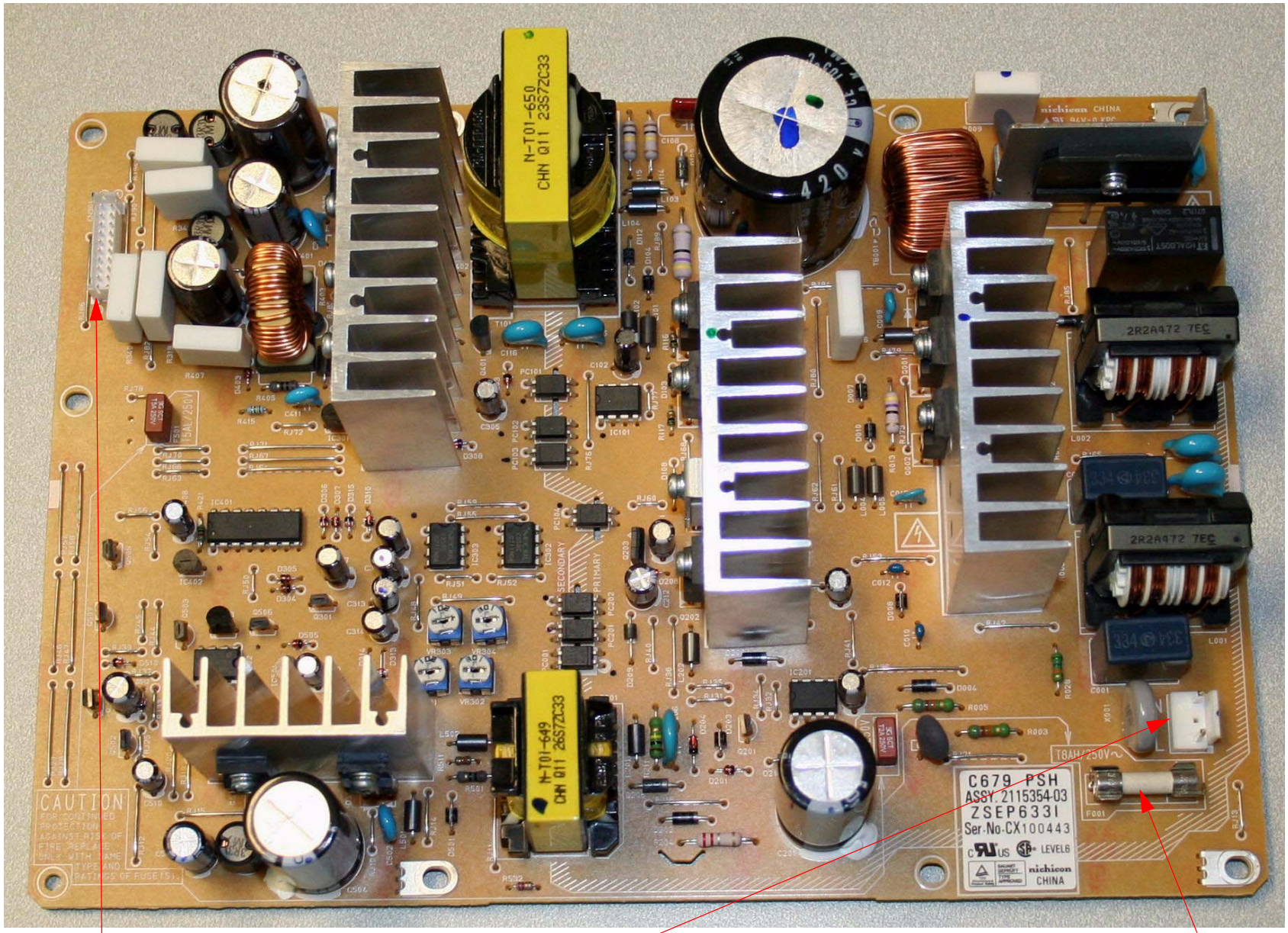
J15 to PR H Therm

J17 to P0 H Therm

Board (Main) Picture



Board (Power Supply) Picture

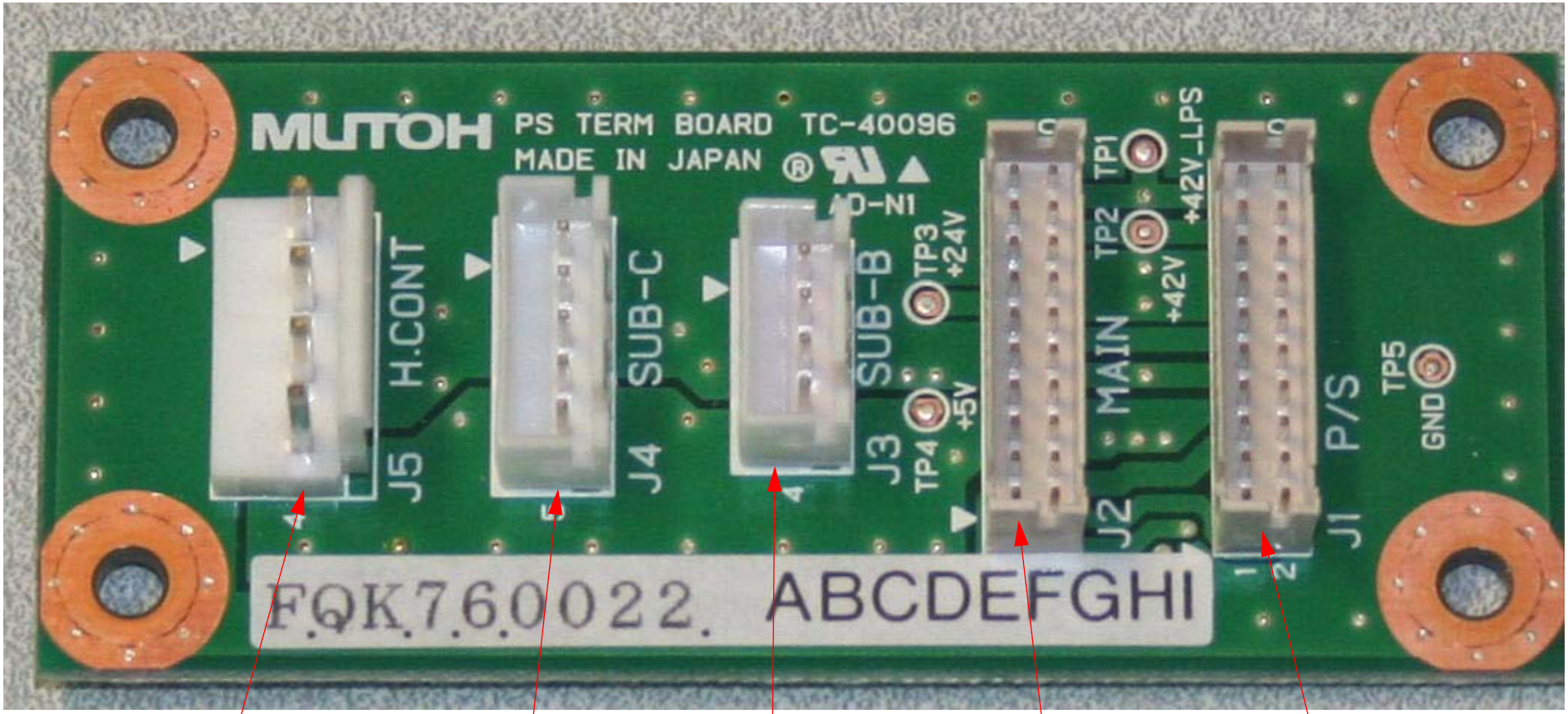


(CN301) to P/S Term Board

(CN001) AC input

(F001) 8amp, 250 Volt Fuse

Board (P/S Term) Picture



J4 to Sub Board C (J12)

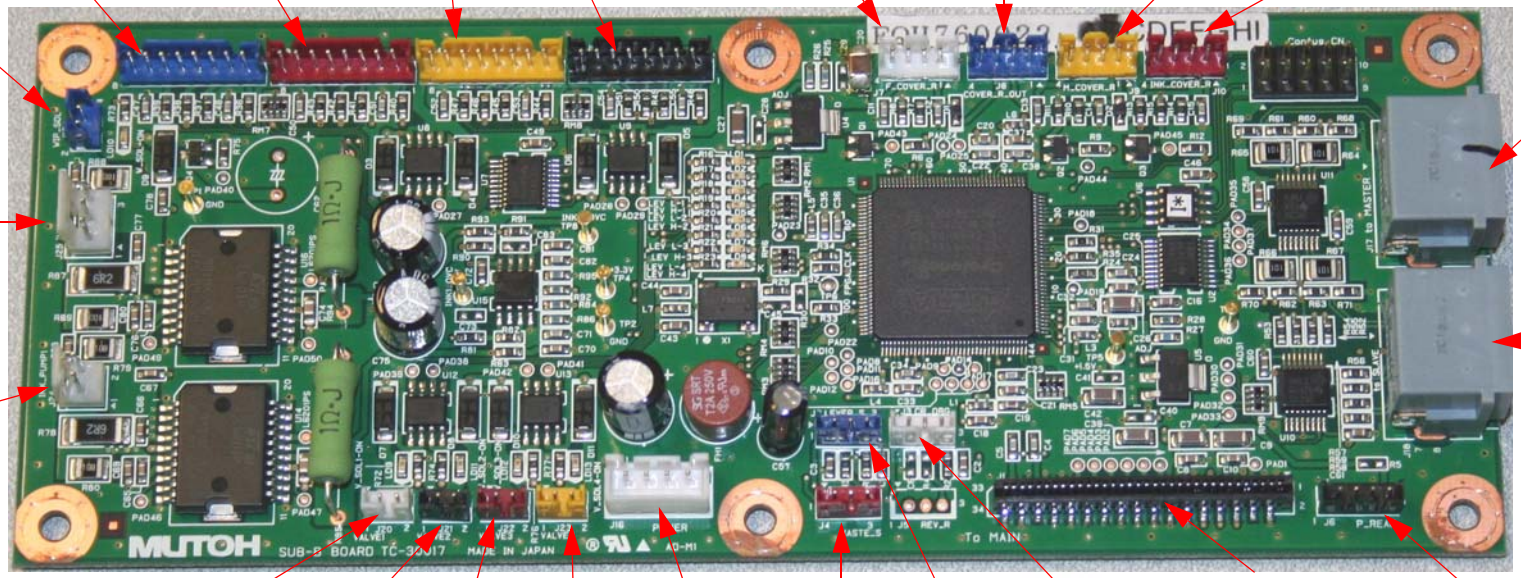
J2 to Main Board (CN1)

J5 to Heater Control Board (J19)

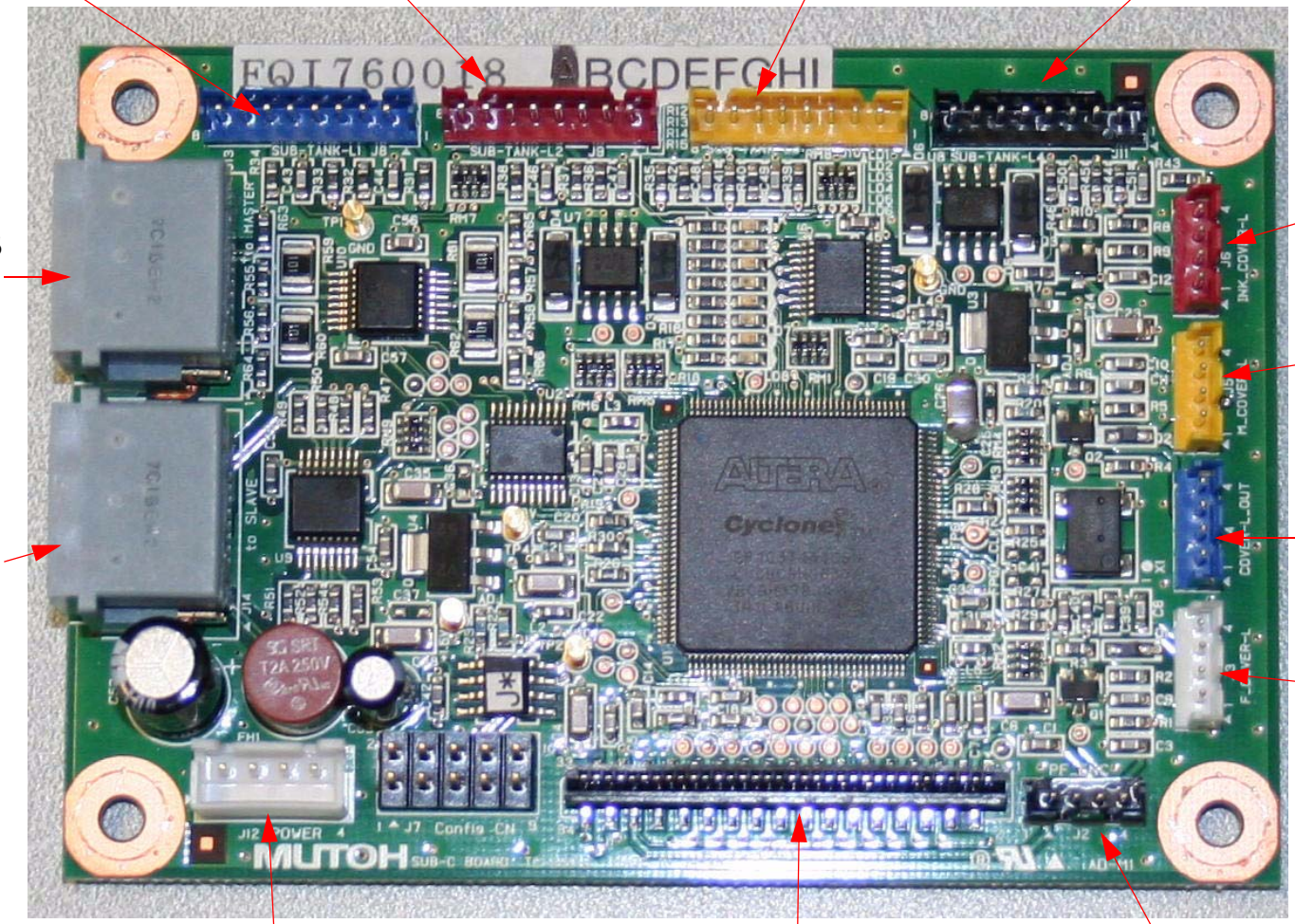
J3 to Sub Board B (J16)

J1 to Power Supply (CN301)

Board (Sub-B) Picture



Board (Sub C) Picture



Board (Sub-D) Picture

Sub Board D is located on the top of both the Left and Right Ink Bays.

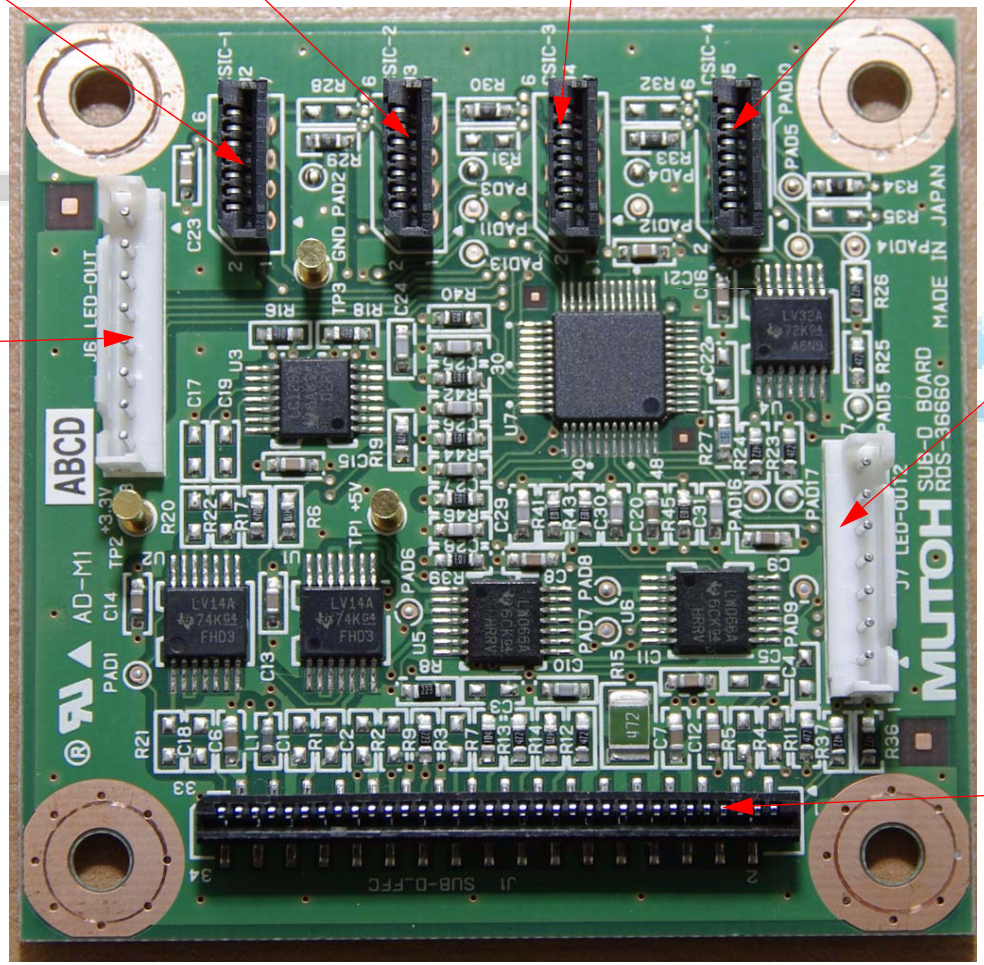
J2
Black (R)
Orange (L)

J3
Yellow (R)
Green (L)

J4
Magenta (R)
Light Magenta (L)

J5
Cyan (R)
Light Cyan (L)

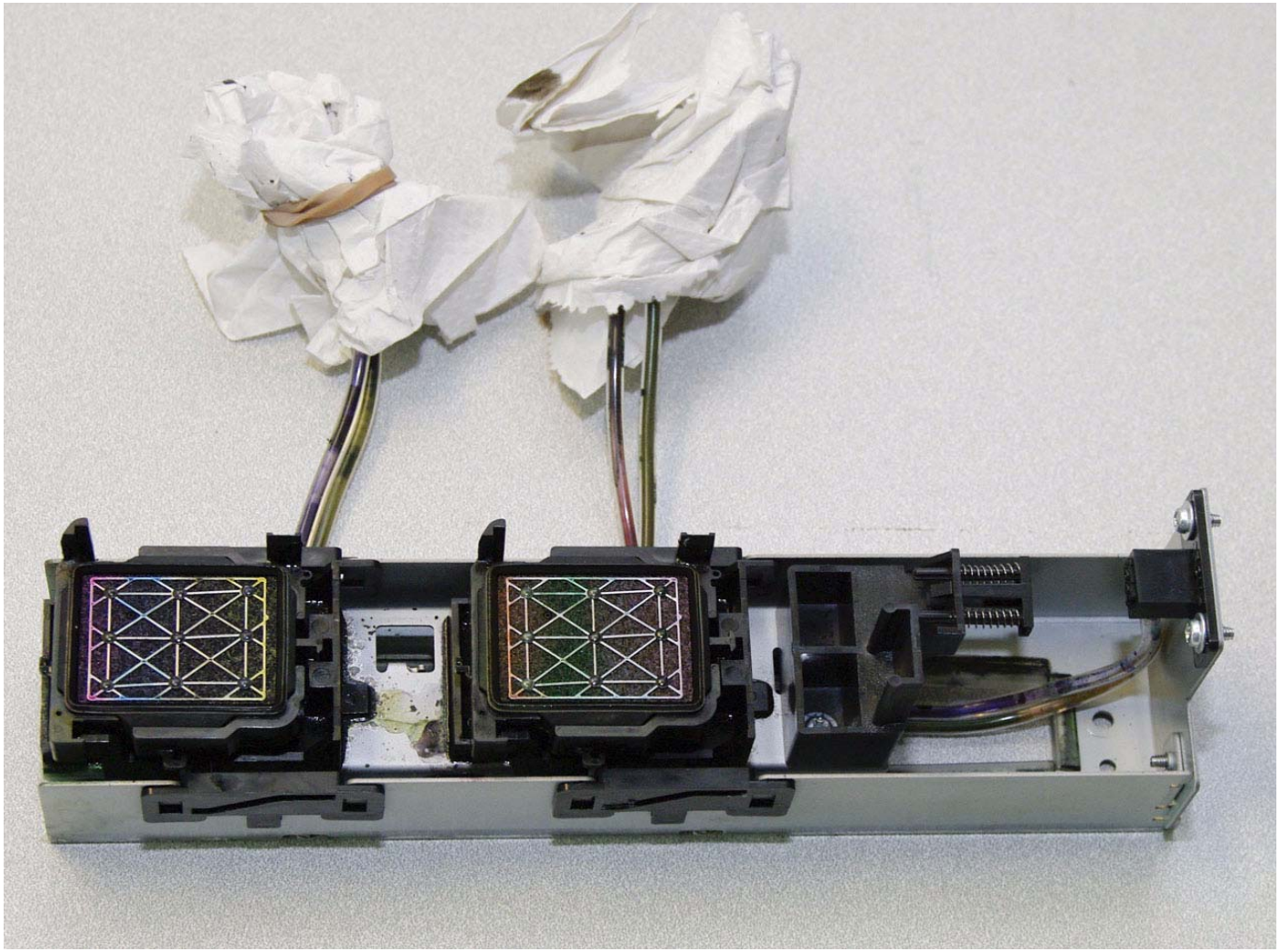
J6
Ink Out LED
Board (Ink Bay)



J7
Ink Out LED Board
(Control Panel, Right only)

J1
Mainboard

Cap Assembly Picture



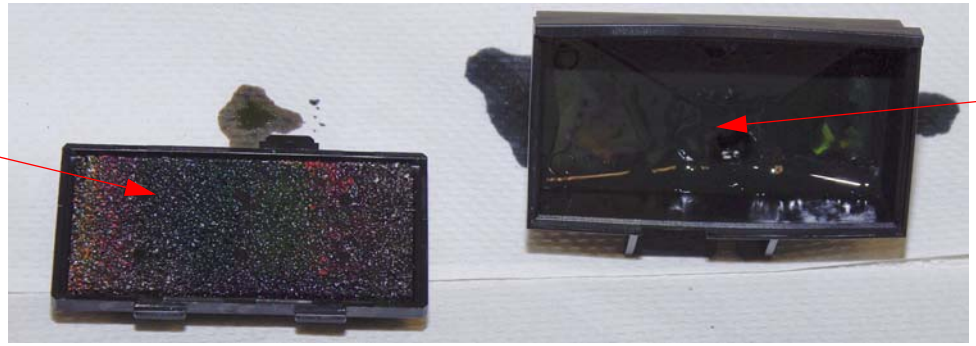
Control Panel Pictures

Flushing Box Picture

Flushing Box Assy.

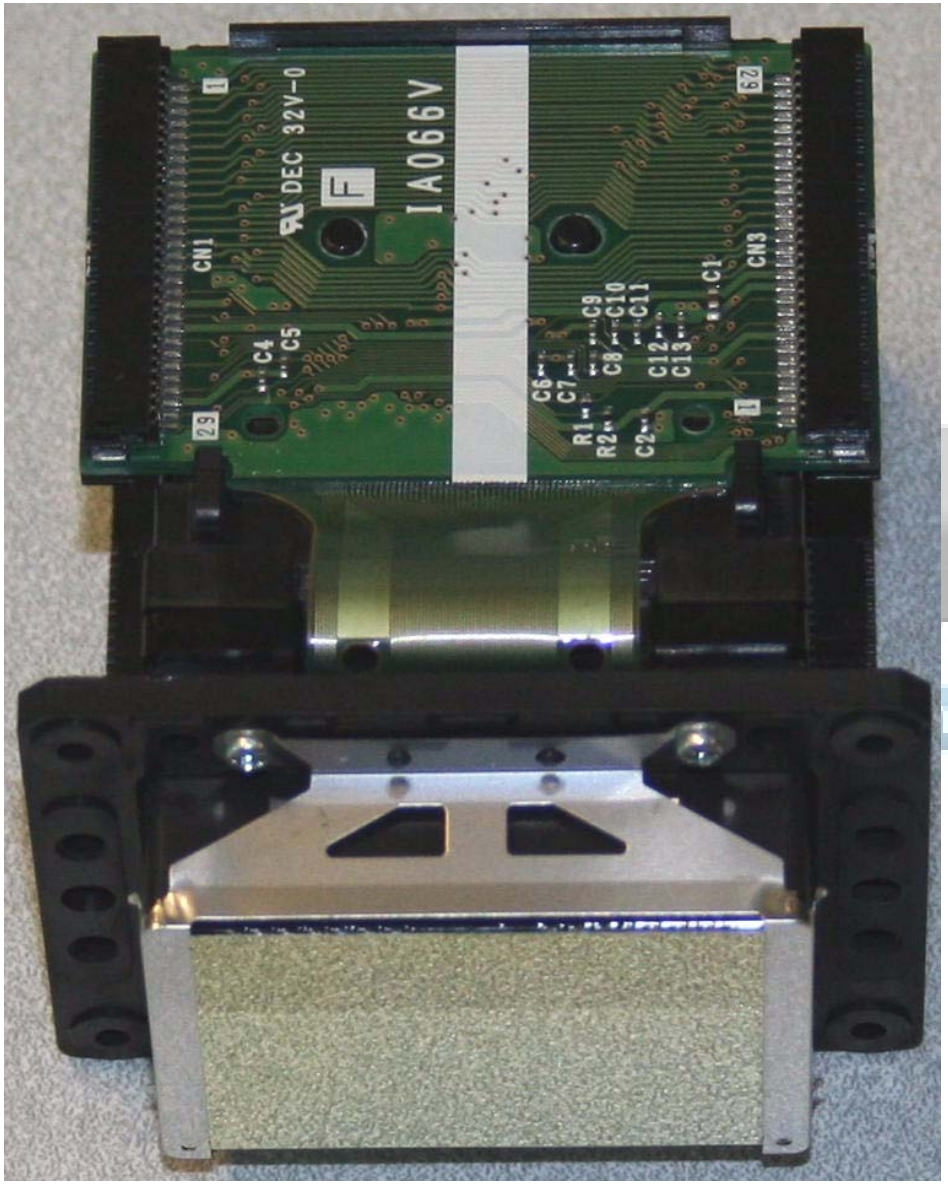
Interlock

Flushing Box Pad

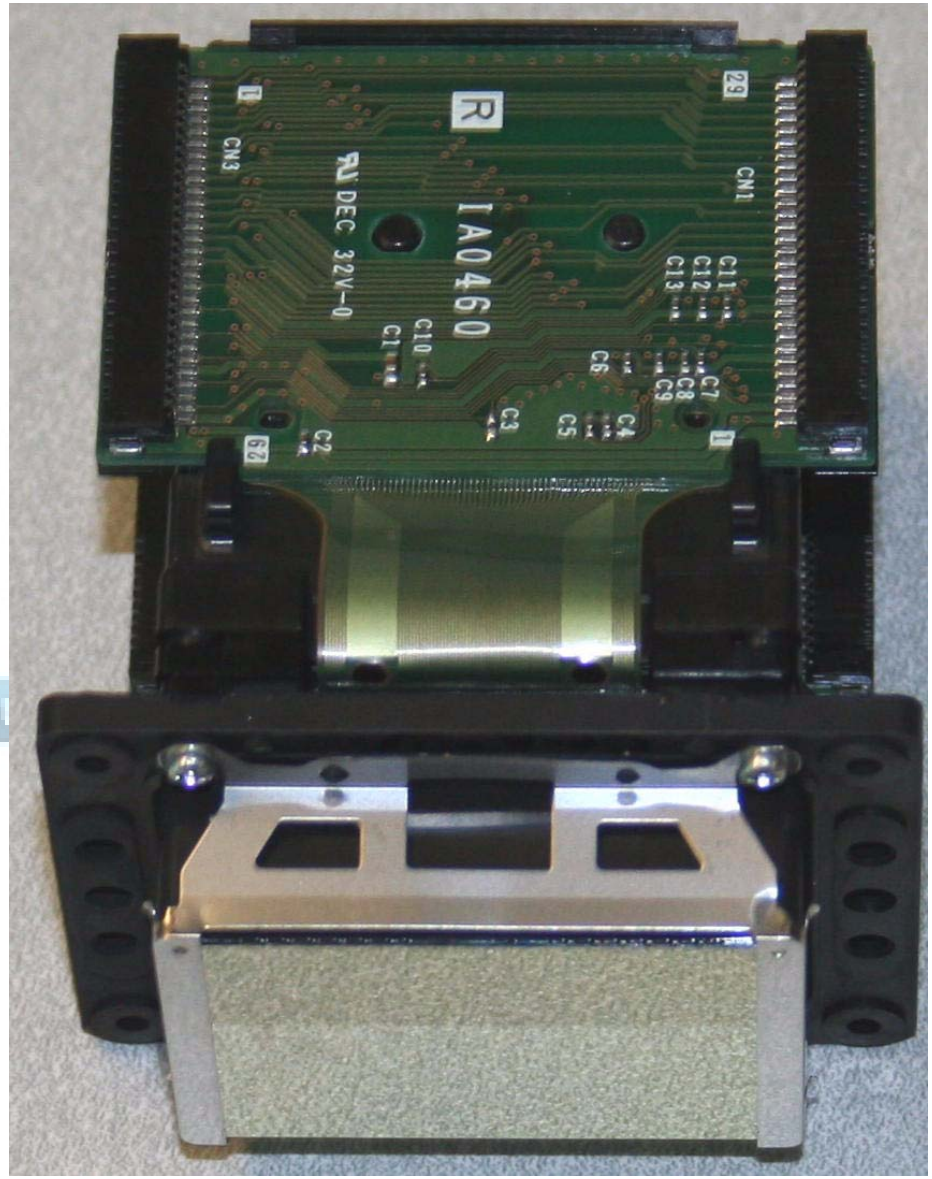


Exit to Waste Ink

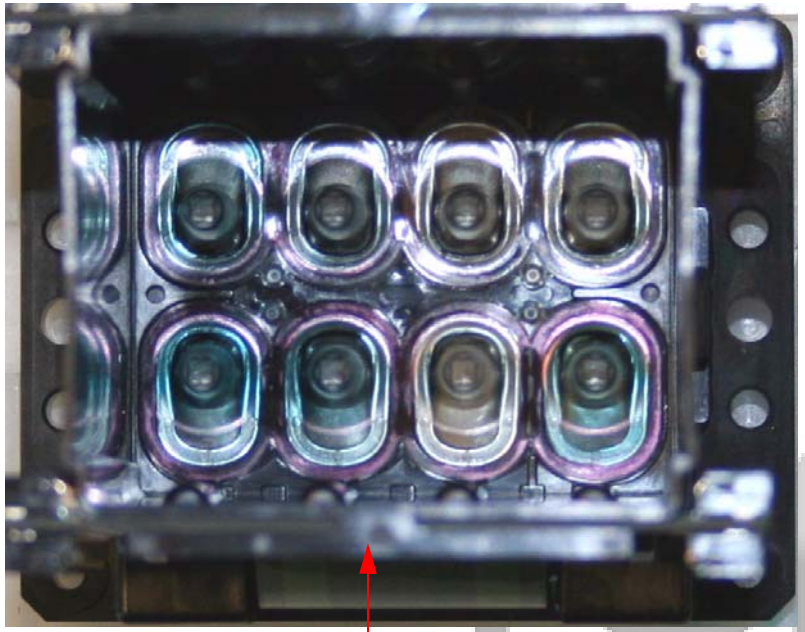
Print Head Pictures



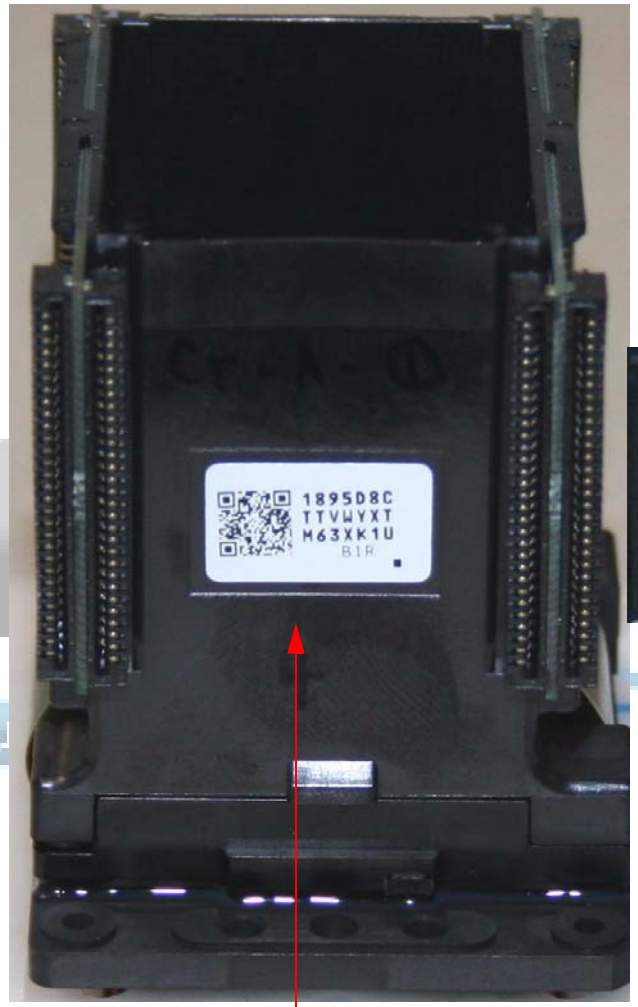
Front



Rear



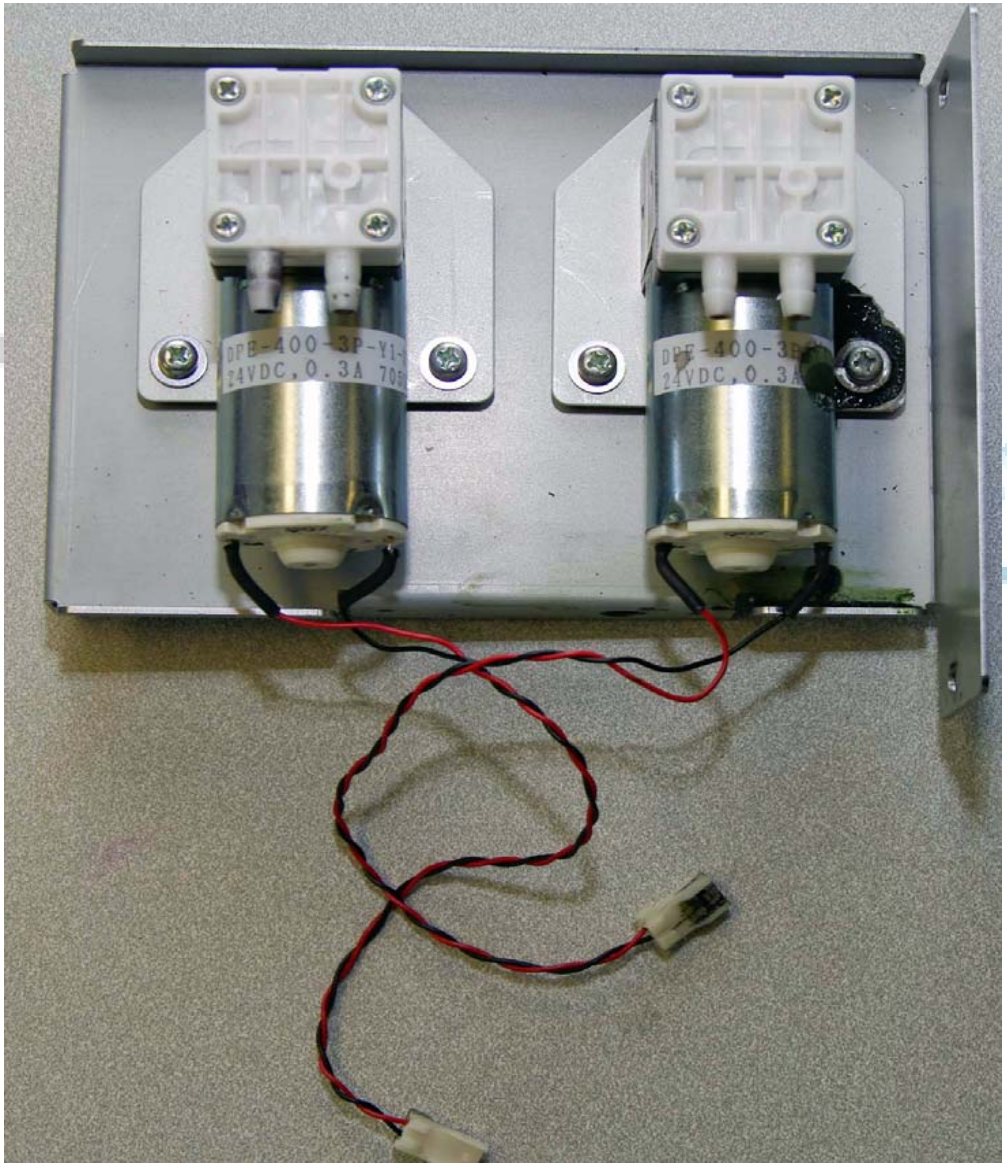
Damper Cavity



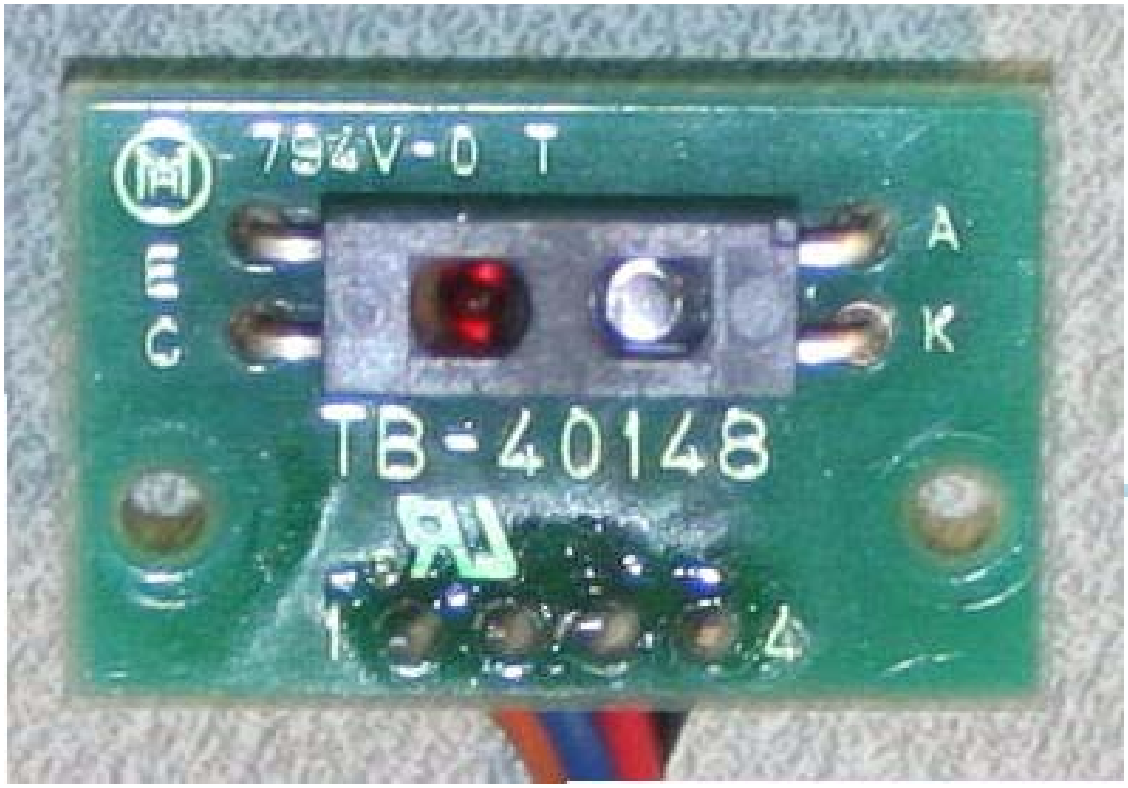
Head Rank (Left Side of Print Head)

Head Rank

Pump Assembly



Sensor (Rear AD) Picture



Reference

Accessories List

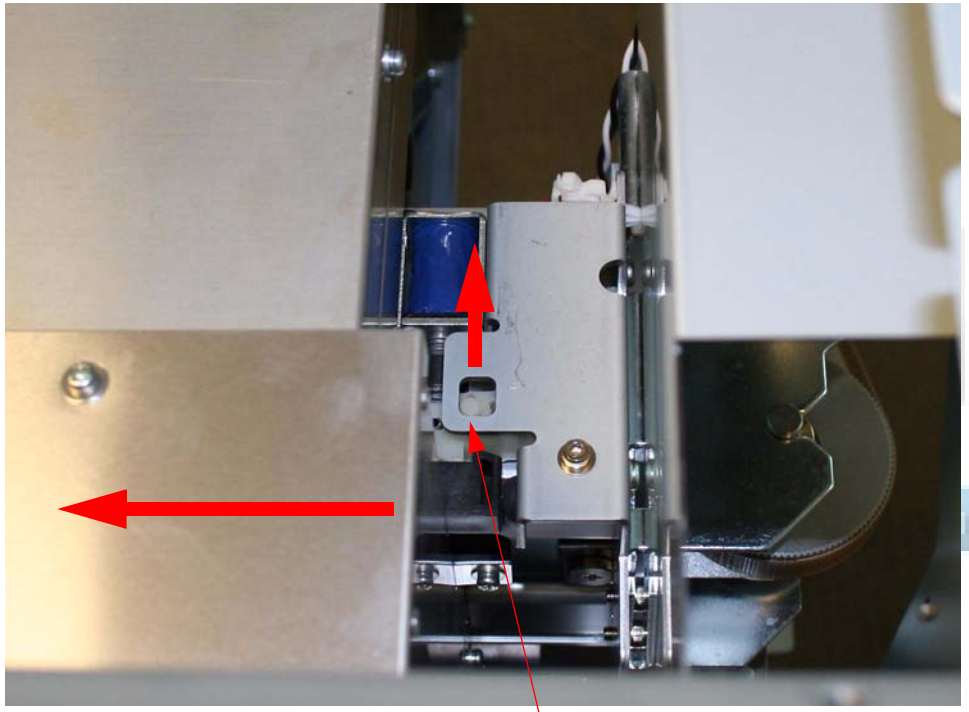
Accessories

Product Code	Description
C64CORE	Replacement 64-inch Take-up Reel Core
CBOTTLE	Replacement Waste Ink Tank / Bottle (qty-6)
T623900	Cleaning Cartridge (qty-8)
C12C890621	Print Head Cleaning Kit (Solvent, Cup, Gloves)
C12C890611	Additional Maintenance Kit (Swabs, Gloves, Flushing Box Cap)

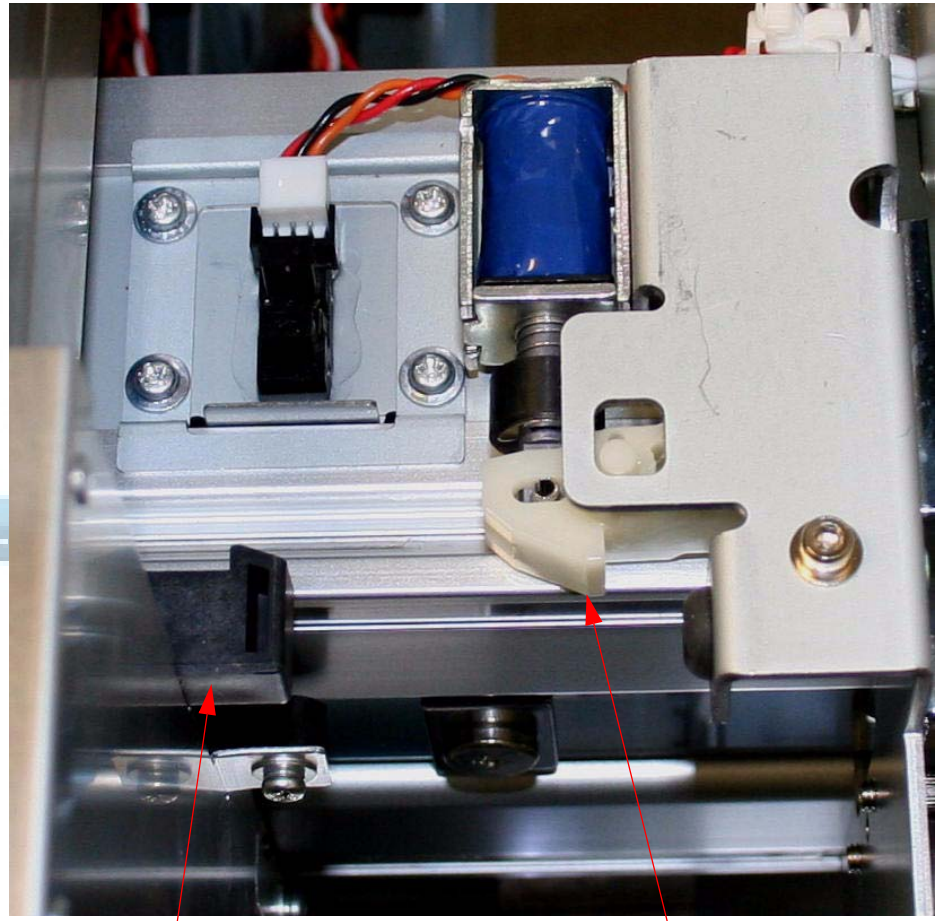
Carriage Release (Manual)

1. Remove the ***Cover (Top Right)***.

2. Release the ***Carriage Lock Mechanism***.



Push the ***White Nylon Carriage Lock,*** in the direction of the arrow, to unlock.



Black Plastic Hook that is held by the ***Carriage Lock***.

White Nylon Carriage Lock

Cleaning Supplies

Product Code	Description
CBOTTLE	Replacement Waste Ink Tank / Bottle (qty-6)
T623900	Cleaning Cartridge (qty-8)
C12C890621	Print Head Cleaning Kit (Solvent, Cup, Gloves)
C12C890611	Additional Maintenance Kit (Swabs, Gloves, Flushing Box Cap)

Color Order

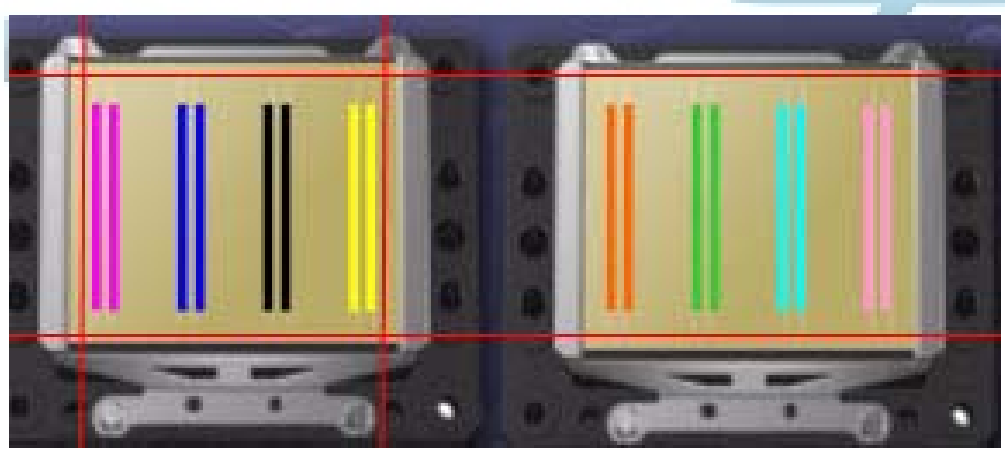
Color Order For installed Cartridges (Viewed from the back, Listed Left to Right)

1. **Cyan**
2. **Magenta**
3. **Yellow**
4. **Black**
5. **Light Cyan**
6. **Light Magenta**
7. **Green**
8. **Orange**

Color Order of the Nozzles on the Print Head

Left Head (Head 1)

1. Magenta
2. Magenta
3. Cyan
4. Cyan
5. Black
6. Black
7. Yellow
8. Yellow

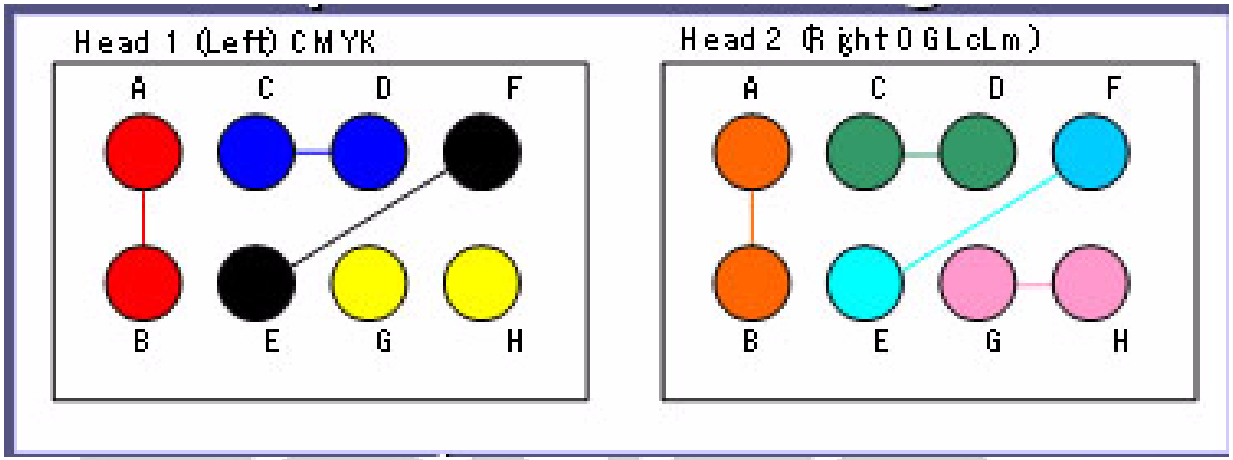


Left Head Right Head

Right Head (Head 2)

1. Orange
2. Orange
3. Green
4. Green
5. Light Cyan
6. Light Cyan
7. Light Magenta
8. Light Magenta

Ink Tube Color Order on the Print Head



Connectors / Wiring

Main Board Connectors

Connector #:	Connected To:	Pins:
CN1	PS Term Board ***J2***	20
CN2	Not Used	4
CN3	Not Used	14
CN5	USB 2.0	4
CN8	Not Used	9
CN11	Carriage Motor	3
CN12	Paper Feed Motor	2
CN13	Not Used	2
CN14	Not Used	2
CN15	Not Used	2
CN16	Not Used	2
CN17	Not Used	4
CN18	Not Used	4
CN19	Not Used	4
CN20	Sub_A Board Assy ***J1***	40
CN21	Sub_A Board Assy ***J2***	40
CN22	Sub_A Board Assy ***J3***	40

Connector #:	Connected To:	Pins:
CN23	Sub_B Board ***J1***	34
CN24	Sub_C Board ***J1***	34
CN25	Sub_D Board (Right) ***J1***	34
CN26	Sub_D Board ***J1***	34
CN28	Vacuum Fan 1	3
CN29	Vacuum Fan 2	3
CN30	Vacuum Fan 3	3
CN31	Vacuum Fan 4	3
CN34	CR Lock Solenoid Assy	2
CN35	Head Driver Cooling Fan	2
CN38	Not Used	4
CN39	Not Used	4
CN40	Not Used	4
CN41	Not Used	4
CN48	Control Panel	20
CN64	Sub_C Board Assy J4	3
CN65	Sub_B Board Assy J8	3
CN66	Not Used	3
CN501	Ethernet Port	8
CN506	EDM Memory	90

Connector #:	Connected To:	Pins:
CN 507	LVDS Board	4
CN508	Not Used	9
CN509	Not Used	2

Sub-B Board)

Connector #:	Connected To:	Pins:
J1	Main Board (***CN23)***	34
J2	Paper Release Sensor	3
J3	Carriage Home Position Sensor	3
J4	Waste Ink Sensor	3
J6	Rear Paper Sensor (Rear AD)	4
J7	Right Front Cover Sensor	4
J8	To Main Board (**CN65**)	4
J9	Right Maintenance Cover Sensor	4
J10	Right Ink Cover Sensor	4
J12	Cyan Sub Tank	8
J13	Magenta Sub Tank	8
J14	Yellow Sub Tank	8
J15	Black Sub Tank	8
J16	P/S Term Board	4
J17	Heater Control Board (**J9**)	8
J18	Sub Board B (**J13**)	8
J19	Wiper Solenoid	2
J20	Magenta and Cyan Ink Valve Solenoid	2
J21	Yellow and Black Ink Valve Solenoid	2

Connector #:	Connected To:	Pins:
J22	Orange and Red Ink Valve Solenoid	2
J23	L Magenta and L Cyan Ink Valve Solenoid	2
J24	Pump Motor 1	2
J25	Pump Motor 2	3

C594 Sub-C Board

Connector #:	Connected To:	Pins:
J1	Main Board (***CN26***)	34
J2	Paper Feed Encoder	4
J3	Left Front Cover Sensor	4
J4	Main Board (***CN24***)	4
J5	Left Maintenance Cover Sensor	4
J6	Left Ink Cover Sensor	4
J8	L Cyan Sub Tank	8
J9	L Magenta Sub Tank	8
J10	Green Sub Tank	8
J11	Orange Sub Tank	8
J12	P/S Term Board (J4)	4
J13	Sub Board B (**J18**)	8
J14	Not used	8

Sub-D Board

Connector #:	Connected To:	Pins:
J1	Main Board (***CN26***-L)(***CN25***-R)	34
J2	Black Ink CSIC (R) Orange Ink CSIC (L)	7

Connector #:	Connected To:	Pins:
J3	Yellow Ink SCSIC (R) Green Ink CSIC (L)	7
J4	Magenta Ink CSIC (R) Light Magenta Ink CSIC (L)	7
J5	Cyan Ink CSIC (R) Light Cyan Ink CSIC (L)	7
J6	Ink Out LED Board- Ink Bay (J1)	8
J7	Ink Out LED Board- Control Panel (J1)	7

Power Supply

Connector #:	Connected To:	Pins:
CN001	AC Power	2
CN301	P/S Term Board	20

Heater Control Board

Connector #:	Connected To:	Pins:
J6	Heater Relay Board (***J3***)	40
J9	Sub Board B (**J17**)	8
J10	LVDS Board (**J2**)	8
J19	P/S Term Board (**J5**)	8
J22	AC Term Block	2
J23	Heater Relay Board (**J1**)	2

Heater Relay Board

Connector #:	Connected To:	Pins:
J1	Heater Control Board (**J23**)	2
J2	Platen Heater	4
J3	Heater Control Board (**J6**)	40

Connector #:	Connected To:	Pins:
J5	Platen Heater 1 and 2	4
J6	AC inlet 2	2
J7	Pre Heater 1	2
J8	Pre Heater 2	2
J9	Post Heater 1 and 2	4
J10	Heater Control Board Cooling Fan	2
J11	Suction Fans 1 and 2	4
J12	Platen Heater 1 Thermistor	2
J13	Platen Heater 2 Thermistor	2
J14	Suction Fans 3 and 4	4
J15	Pre Heater Thermistor 1	2
J16	Pre Heater Thermistor 2	2
J17	Post Heater Thermistor 1	2
J18	Post Heater Thermistor 2	2

PS Term Board

Connector #:	Connected To:	Pins:
J1	Power Supply (**CN301**)	20
J2	Main Board (**CN1**)	20
J3	Sub Board B (**J16**)	4

Connector #:	Connected To:	Pins:
J4	Sub Board C (**J12**)	5
J5	Heater Control Board (**J19**)	4

Consumable/Service Parts List

Ink is intended as a service tool (Warranty Service Only), and is not for sale. Use the Service Part Number, and claim it on a warranty form.

Service Part #	*Product Code*	*Ink 950 ML Cartridges*	
WAT624100	**T624100**	Black	***Warranty use only***
WAT624200	**T624200**	Cyan	***Warranty use only***
WAT624300	**T624300**	Magenta	***Warranty use only***
WAT624400	**T624400**	Yellow	***Warranty use only***
WAT624500	**T624500**	Light Cyan	***Warranty use only***
WAT624600	**T624600**	Light Magenta	***Warranty use only***
WAT624700	**T624700**	Green	***Warranty use only***
WAT624800	**T624800**	Orange	***Warranty use only***

.

Product Code	**Description**
CBOTTLE	Replacement Waste Ink Tank / Bottle (qty-6)
T623900	Cleaning Cartridge (qty-8)
C12C890621	Print Head Cleaning Kit (Solvent, Cup, Gloves)
C12C890611	Additional Maintenance Kit (Swabs, Gloves, Flushing Box Cap)

Service Part #	***Product Code***	***Paper Type***
WAS041385	**SO41385**	Double Weight Matte Paper 24” x 82’ roll
WAS041387	**SO41387**	Double Weight Matte Paper 44” x 82’ roll

Firmware History

This chart explains the meaning of the firmware version characters.

Epson firmware version is represented as:

Model and the Release Date.

Example SN00458

SN0	04	5	8
SP7800	DAY	YEAR	MONTH
	4	2005	Aug

Example SN00157

SN0	01	5	7
SP7800	DAY	YEAR	MONTH
	01	2005	Jul

Example:

	DAY	YEAR	MONTH

The values are represented in Hexadecimal

HEX	=	Decimal
1	=	1
2	=	2
3	=	3
4	=	4
5	=	5
6	=	6
7	=	7
8	=	8
9	=	9
A	=	10
B	=	11
C	=	12
D	=	13
E	=	14
F	=	15

GS 6000 Current Firmware Ver. T02587.upg

Release date: 7/25/08

1. Initial release.

Firmware Update Procedure Using FWUpdate.exe

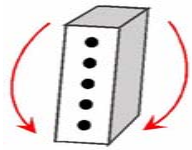
Note: This procedure is used to update or install firmware. It is the service method because it does not require the Printer to be "Online" to work.

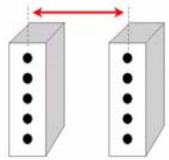
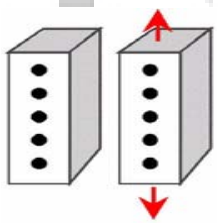
1. Turn on the ***Printer*** while depressing the **Up**, **Down**, **Left,** and ***Right*** buttons.
   1.1 The ***Printer*** will display ***UPDATE FIRMWARE***

2. Using **FWUpdate.exe** transmit the current firmware to the ***Printer***.
   2.1 The Printer will display ***UPDATING FIRMWARE***.
   2.2 The Printer will display **FIRMWARE UPDATE COMPLETE**.
   2.3 The Printer will display **Epson Ultrachrome GSINK**.
   2.4 The Printer will display **PRESS PAUSE BUTTON**.
   2.5 The Printer will display **PLEASE WAIT**.
   2.6 The Printer display **READY**.

Glossary

Artifact	A defect, that is within an image. It can mean something on the graphic that was not intended, or something missing that was intended. All image quality defects are artifacts.
Bi-Directional Adjustment:	An electronic adjustment, that ensures that a printer can coordinate left to right, with right to left, printing.
Capped Position:	The print head at it's stand by position, with the cap mechanism sealing the nozzles.
Coating:	The top layer of graphics paper (media) that consists of a special substance designed to trap ink and keep it from being absorbed into the paper fibers. Non-paper based ink jet media uses coating to allow the ink to bond with the surface. A coatings purpose is to minimize dot gain, and control saturation.
Color Shift:	An unintended change of a gradient or tone.
Continuous Tone:	The qualities of a photograph that makes an image appear real. The smooth and life-like transition from one color shade to the next, like in a photograph. Epson Ink Jet printers are not continuous tone printers. But when working properly, their printed images fool the human eye into seeing continuous tone transitions.
Debris:	A term that refers to unintended ink on the page deposited by debris dropping from the print head.
Deflected Nozzle:	A nozzle is firing, but the ink drop is not landing where it is intended too. Irregular spacing on the nozzle check pattern indicates this condition.
Dithering:	The dot pattern placed on the printed surface to create and image. Also known as screening.
Dot Gain:	A drop of ink tends to travel out from its point of impact, as the media absorbs it. The purpose of the coating (on the media) is to minimize dot gain.

Drop of Ink:	Ink that appears to have dripped from the print head, or any other component of the ink supply.
Dye Ink:	Ink that colors the printed surface with dye. It is less durable than pigment ink, but has a wider color range (gamut).
Electronic Alignments:	Printer adjustments, which are performed using software routines that, allow the printer to compensate for physical variations in its mechanism.
Error Diffusion:	The type of dithering (screening) proprietary to Epson, that employs a random dot pattern to ensure that the human eye can discern no pattern.
Flight Time:	The time it takes a drop of ink to travel from the print head to the printable surface.
Gamut:	The range of colors that a printer can produce.
Ghosting:	A term that refers to components of an image that are intended to be on top of each other (or adjacent), but are offset.
Gradient:	A smooth transition between one color shade, and the next. A continuous tone image requires a smooth gradient for all its tonal shifts.
Grainy:	A breakdown of the “illusion of continuous tone”. A printed image that does not have smooth tonal transition, and sharp detail.
Head Angular Adjustment:	A term that refers to a mechanical print head alignment that ensures that an ink jet’s print heads nozzles are on the same vertical plane. (Also known as the B head slant or the C head slant.) The head is rotated until it is vertically linear. 

Head Gap Adjustment:	An electronic print head adjustment that ensures that the printer knows the exact distance between nozzle sets on separate heads. Also known as Head L/R and Uni-Di... 
Head ID:	The calibration value written on the print head that allows the printers electronics to compensate for the print heads “personality” (inaccuracies).
Head Linear Adjustment:	A mechanical print head alignment that ensures that on a two-head ink jet printer that all the nozzles are on the same horizontal plane. (Also known as Head Height and BC Head Slant.) The right head is moved in relation to the left head. 
Home Position:	The print head’s horizontal reference position, as determined by the Home Position Sensor
Horizontal Banding:	An image defect that extends from the left, to the right margin (parallel to the direction of print head movement). The defect could be a lighter or darker “band” than is intended. It usually repeats, with the same interval, from the top margin to the bottom.).
Horizontal Over-lap:	A type of horizontal banding, where multiple print head passes overlap while printing. The banding looks darker than the intended image. Multiple passes of the print head should place ink on the paper next to, but not on top of earlier passes.

Horizontal Under-lap:	A type of horizontal banding, where multiple print head passes have a space between them. The banding looks lighter than the intended image. Multiple passes of the print head should place ink on the paper exactly next to earlier passes with no space in between.
Illusion of Continuous Tone.	A term that refers to “fooling” the human eye into perceiving a dot matrix image as a photograph (continuous tone image). Epson ink jet printers are not continuous tone printers. However, when working properly, their printed images fool the human eye into seeing continuous tone transitions
Ink Color Contamination:	The intended color of the ink supply has been altered.
Ink Impurities:	Foreign objects in the ink supply.
Margin Shift:	A term that refers to an image with irregular right and left side margins.
Mechanical Alignments:	Printer adjustments, that requires physically moving parts of the mechanism.
Media:	The surface that is being printed on, usually paper.
Metamerism:	The different appearance of colors caused by different light sources and viewing angles
Micro Weave:	The way an Epson Ink Jet printer interlaces (weaves) bands of and image during printing.
Moiré Pattern:	A repetitive pattern, within an image, which is not intended. I can appear like a paisley or herringbone pattern.
Over Saturation:	Too much ink has been applied to the printable surface for the media to support.
Paint Brush Effect:	Something horizontally across the printed surface, that was not intended. Usually caused by an ink soaked fiber hanging off the print head.
Pigment Ink:	Ink that deposits colored particles (pigment) on the printed surface to create an image. It is more durable than dye based ink, but does not have as wide a color range (gamut).

Pixilated:	An image quality issue that is caused by a low-resolution image printed at high resolution.
Platen Gap:	The distance between the print head, and the printable surface.
Rippling:	A term that refers to a condition caused by over saturated paper warping.
Saturation:	The amount of ink applied to the printed surface.
Screening:	The dot pattern placed on the printed surface to create and image. Also known as dithering.
Skew:	Crooked paper in the printer.
Smear:	An image that has been rubbed by something, causing it to be deformed, or smeared. The direction or any repetition of the smear should be noted.
Smudge:	Something on the printed surface, that was not intended. Usually transferred to the page because of contact with a dirty roller or the print head. Any repetition should be noted and measured.
Sublimation Ink:	Ink that is first printed on thermal transfer media, and then transferred using heat to another surface.
Sympathetic Nozzle:	A nozzle that is not intended to fire, firing in conjunction with an intended nozzle.
Tone:	The specific shade of a color.
Under Saturation:	Not enough ink has been applied to the printable surface to properly saturate the media.
UN-sharp:	“Fuzzy “qualities in an image usually caused by too much dot gain.
Vertical Banding, Irregular:	Vertical bands perpendicular to the direction of print head movement, that are not linear. Usually created by paper “rippling”, caused by over saturation.

Vertical Banding, Linear:	An image defect that extends from the top, to the bottom margin (perpendicular to the direction of print head movement). It usually repeats, with the same interval, from the left margin to the right.
White Specks:	A term that indicates that the intended image has small missing areas where no ink has been deposited.

Ink Draining and Flushing Procedure

Note: This procedure requires 8 Cleaning Cartridges

Sales Product Code: T623900 (for a set of 8 Cleaning Cartridges)

Note: This procedure requires draining of the Maintenance Tank.

1. Drain the ***Maintenance Tank.***
2. Turn on the ***Printer***.
3. Press the **Menu** button to enter the User menu.
4. Navigate to the **MAINTENANCE\HEAD WASHING** menu, and press the **Enter** button.
   - 4.1 The ***Printer*** will display **WASHING CARTRIDGES ARE REQUIRED FOR THIS OPERATION. DO YOU HAVE WASHING CARTRIDGES? CONTINUE YES\NO**
   - 4.2 Select **Yes** and press the **Enter** button.
5. The ***Printer*** will display **REMOVE ALL CARTRIDGES**.
   - 5.1 Remove all ***8 Ink Cartridges***.
   - 5.2 Close the ***Left and Right Ink Covers***.
6. The printer will display **CLEANING STOPS IF THE DRAIN TANK IS FULL:EMPTY DRAIN TANK? OK?**
   - 6.1 Press the **Enter** button to proceed.
   - 6.2 The Printer will display **DRAINING nn%** (0-100%)

   Note: The draining procedure will take approximately 11 minutes.
7. The ***Printer*** will display **INSTALL NEW CLEANING CARTRIDGES**.

8. Install the ***8 Cleaning Cartridges.***

   8.1 Close the ***Right and Left Ink Covers***.

   8.2 The Printer will display **CLEANING CARTRIDGES CANNOT BE USED IF THE PROCESS STOPS DUE TO A FULL DRAIN TANK OR OTHER ERRORS; OK.**

   Note: If the process is stopped because of a full Maintenance Tank, there may not be enough cleaning fluid left in the Cleaning Cartridges to complete the task.

   8.3 Drain the ***Maintenance Tank.***

   8.4 Press the **Enter** button to prime the ***Ink System*** with cleaning fluid.

   8.5 The ***Printer*** will display **CLEANING nn%** (0-100%)

   Note: The cleaning procedure will take approximately 8 minutes.

9. The ***Printer*** will display **REMOVE ALL CARTRIDGES**.

   9.1 Remove the all ***8 Cleaning Cartridges***.

10. The ***Printer*** will display **INK COVER OPEN CLOSE THE RIGHT AND LEFT INK COVERS**.

    10.1 Close the ***Right and Left Ink Covers***.

11. The ***Printer*** will display **CLEANING STOPS IF THE DRAIN TANK IS FULL**.

    11.2 Drain the ***Maintenance Tank*** (optional if it is less than 50% full).

    11.3 Press the **Enter** button to proceed.

    11.4 The Printer will display **DRAINING nn%** (0-100%)

    Note: The draining procedure will take approximately 11 minutes.

12. The ***Printer*** will display **EMPTY DRAIN TANK AGAIN AND TURN OFF PRINTER**.

    12.1 Drain the ***Maintenance Tank***.

    12.2 Turn off the ***Printer***.

Revision History

October 10, 2008

1. The Head Slant CR chapter was updated.
2. 15 adjustment chapters documenting the adjustment utility (servprog.exe were added).
3. A chapter documenting the installation and operation of Servprog.exe was added.
4. A chapter on troubleshooting the Sub Tanks was added.

September 12, 2008

Initial Release

Sensors, Motors, Solenoids, and Fans

Home Position Sensors:	***Carriage HP Sensor*** (Detects the Home Position of the ***Carriage Mechanism***) ***Platen Gap Sensor*** (Detects the position of the Platen Gap)
Maintenance/Waste Ink Tank Sensor	***Waste Ink Sensor*** (detects waste ink tank levels)
Ink System Sensors:	***CSIC's*** (Customer Satisfaction Ink Cartridge (qty-8)) ***Sub Tank Sensors*** (qty16) (Detects Sub Tank Ink Levels)
Encoders:	***Carriage Encoder (CR Encoder)***(Carriage position and dot timing) ***Paper Feed Encoder (PF Encoder)*** (Paper advance timing).
Paper Sensors:	***RearAD*** Detects the trailing edge of paper ***EdgeAD*** (Detects paper width and leading edge) ***Paper Slack Sensor*** (Turns on the ***Auto Take Up Reel***) ***Paper Release Sensor*** (Detects the position of the Paper Release Lever)
Cover Sensors:	***Left and Right Top Cover Sensors*** (qty2)(Detects ***Top Cover*** open and closed) ***Left and Right Maintenance Cover Sensors*** (qty2)(Detects Maintenance Covers open and closed) ***Left and Right Ink Cover Sensors*** (qty2)(Detects Ink Covers open and closed)
Auto Alignment Sensors:	***Ink Mark Sensor*** (Not used)

Temperature Sensors:	***Head Temperature Sensor*** (Detects the temperature of the ***Head Driver Heat Sink***) ***Head Driver Temperature Sensor*** (Detects the temperature of the ***Print Head Nozzle Plate***) ***Pre Heater Sensors*** (Qty 2)(Detects the temperature of the Pre Heaters) ***Platen Heater Sensors*** (Qty 2)(Detects the temperature of the Platen Heaters) ***Post Heater Sensors*** (Qty 2)(Detects the temperature of the Post Heaters)

Heaters	***Pre Heaters:*** (Qty2) Heats the media before entering the Printer. ***Platen Heaters:*** (Qty2) Heats the media over the Platen. ***Post Heaters:*** (Qty2) Heats the media leaving the Printer.

Motors	***Carriage Motor:*** Moves the ***Carriage Assembly***. ***Paper Feed Motor:*** Moves the ***Paper Feed Roller*** ***Pump Motor (x2):*** Runs the ***Cleaning Pumps*** ***Take Up Reel Motor*** (Moves the ***Auto Take Up Reel***)
Solenoids	***Carriage Release Solenoid:*** Releases the Carriage Mechanism. ***Sub Tank Solenoids:*** (qty. 8) controls ink flow to the Sub Tanks. ***Ink Valve Solenoids:*** (qty. 4) Controls ink flow to the Print Head.

Fans	***Head Drive Cooling Fan*** (Cools the Print Head Driver Transistors) ***Paper Suction Fans:*** (qty. 4) (Creates suction to hold down the media) ***Electrical Box Cooling Fan:*** Cools the Main Board. ***Heater Board Cooling Fan:*** Cools the Heater and Heater Relay Boards ***Cooling Fans:*** (qty. 3) Cools the Platen area. ***Carriage Fans:*** (qty. 2)Cools the Carriage Mechanism

Service Tools

Service Part Number	Description
1047746	1000mm Scale (meter stick)
1501560	Print Head Cable and Tube Holder
1501561	Print Head Spring Tool
1501562	Print Head Assembly Holder
1501563	Platen Gap Adjustment Jig
1501564	Carriage Belt Tension Attachment
1432563	Carriage Rail Oil

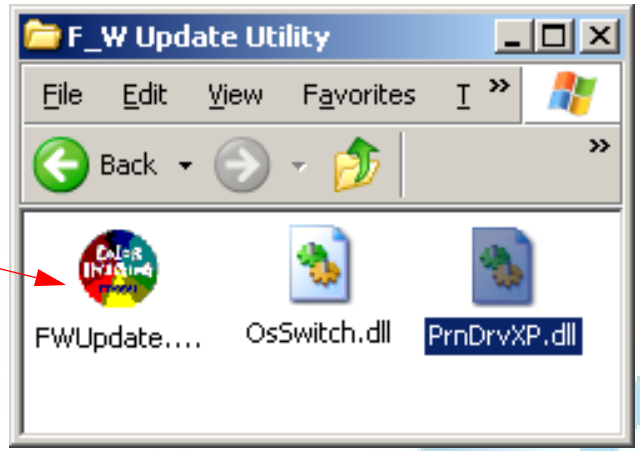
Utilities

FWUpdate.exe

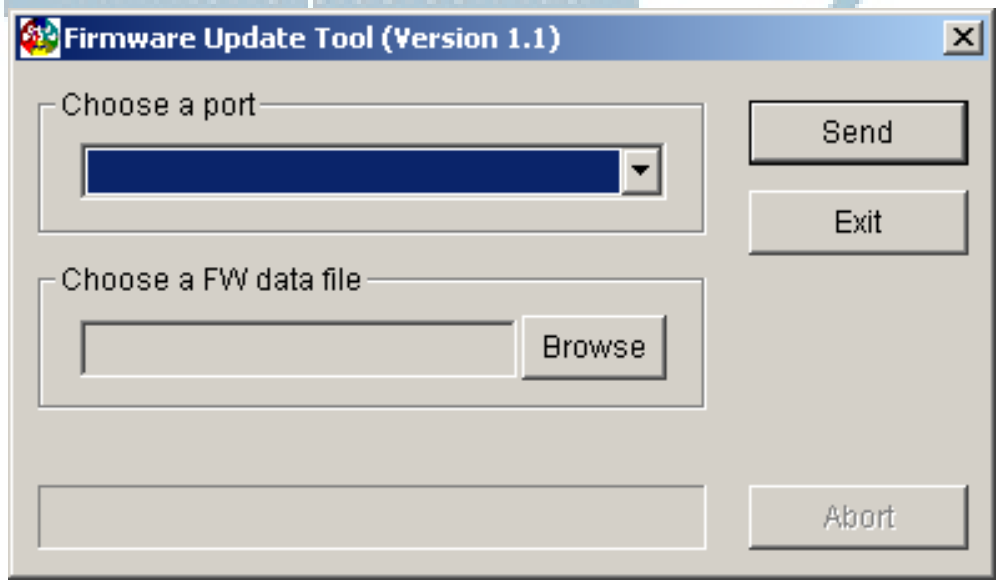
Note: FWUpdate.exe is used to copy Firmware to the Printer and works without the printer driver being installed.

1. Double Click on the ***FWUpdate.exe*** utility Icon.

Double Click on this Icon.



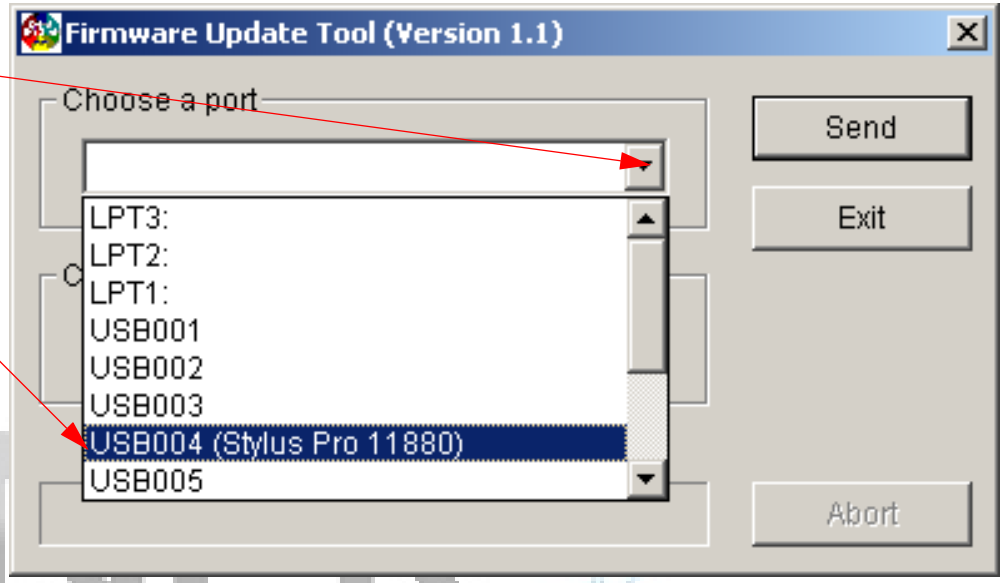
2. The utility will open and look like this.



3. Choose a ***Port/Printer***.

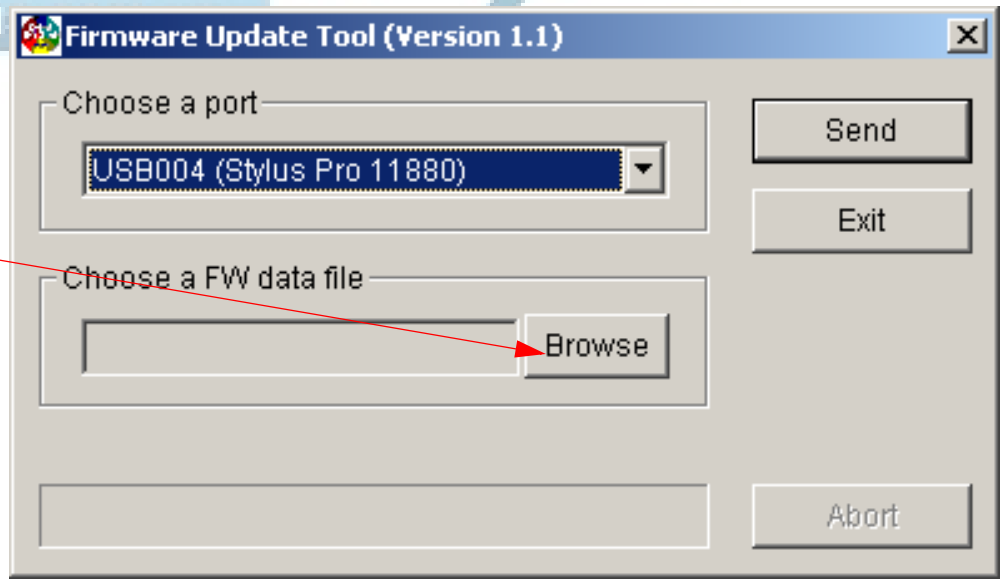
1. Click on the ***Down Arrow*** to open up the list of ***Ports***.

2. Select the ***Port*** that is connected to the ***Printer*** that requires firm-



4. Click on ***Browse*** and navigate to the ***Firmware File*** to be uploaded to the ***Printer***.

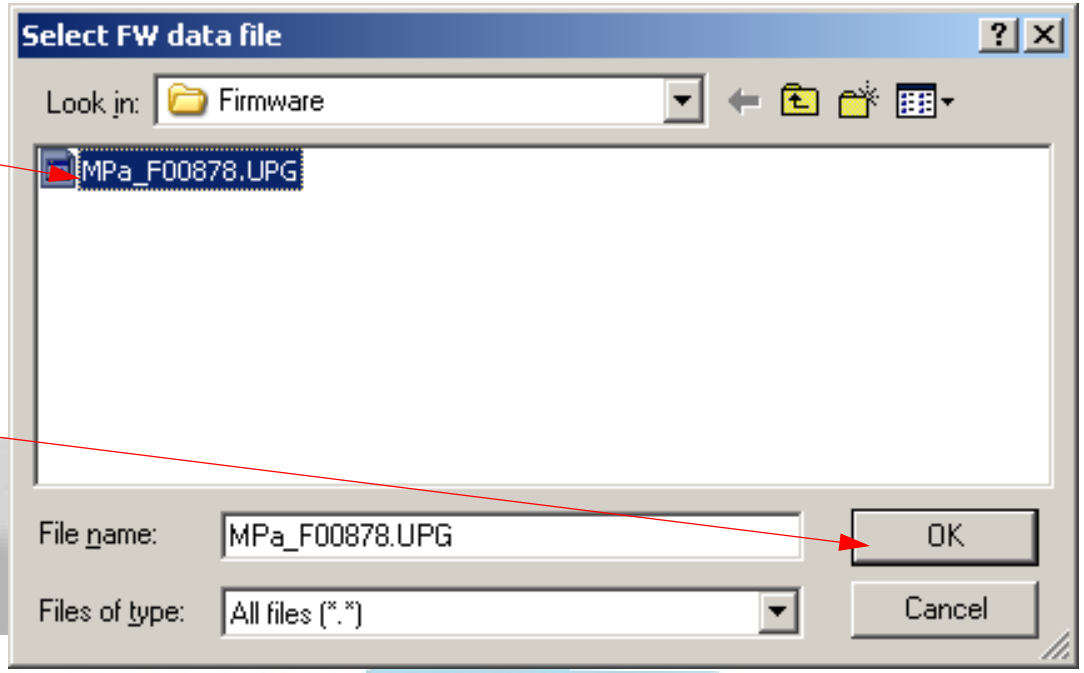
Click on ***Browse***.



5. Select the correct ***Firmware File***.

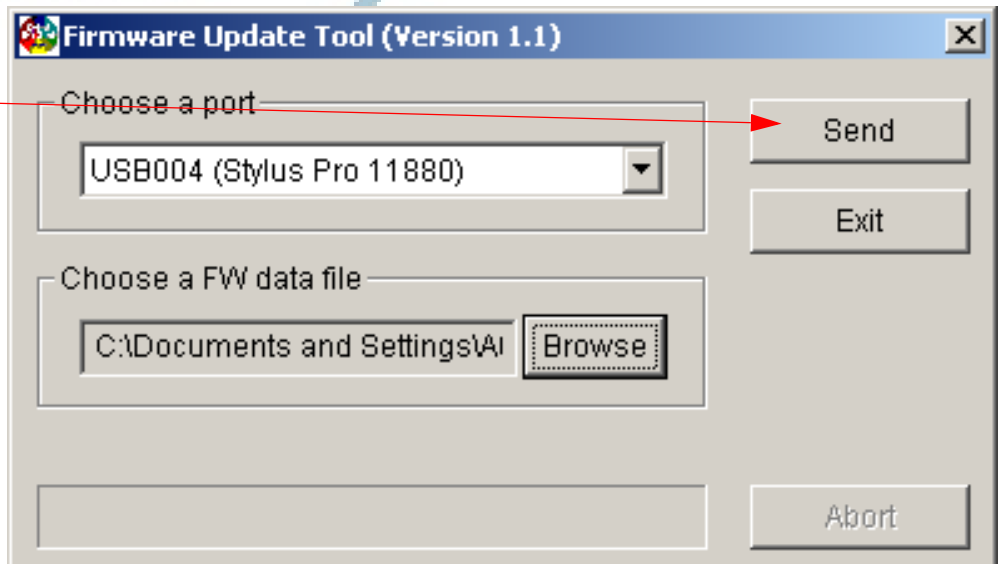
1. Select the correct ***Firmware File***.

2. Click on ***OK.***



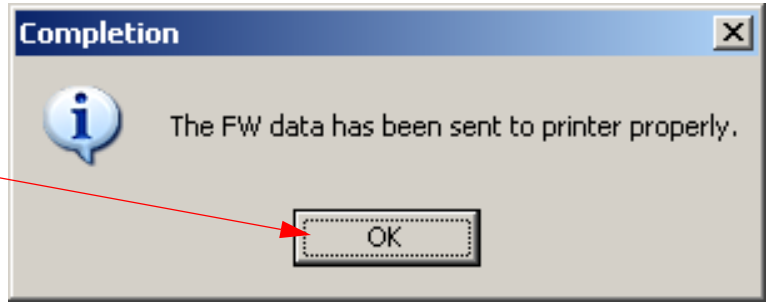
6. Click on ***Send*** to upload the ***Firmware*** to the ***Printer***.

Click on ***Send*** to upload the ***Firmware***.



7. The utility will display this, click on ***Ok***.

Click on ***OK***



Servprog.exe

Note: Servprog.exe will only run on a computer that has been registered with Epson. Check the last page of this chapter for instructions on how to test your copy before going on a service call.

Note: Servprog.exe is the utility that enables counter resets, and some electronic alignments for the GS6000.

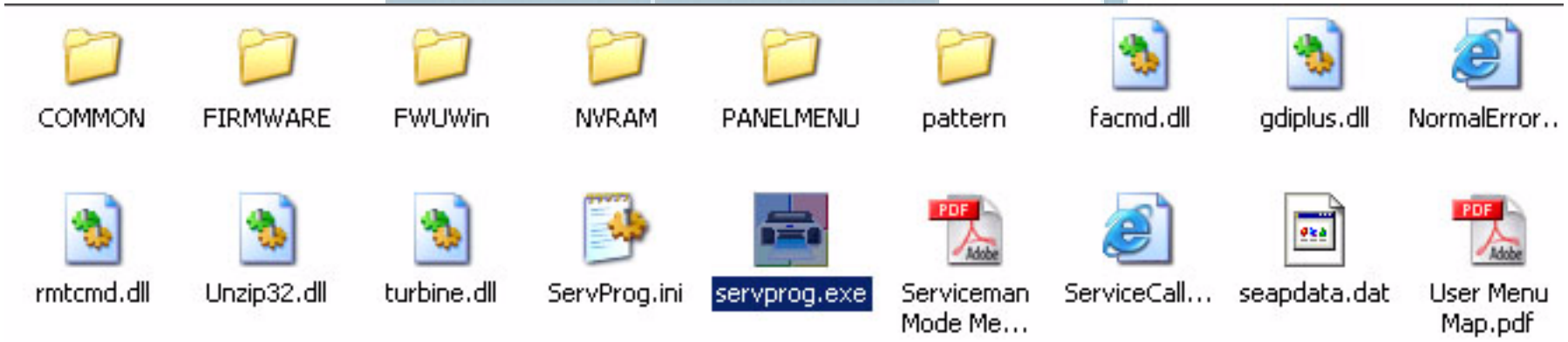
Note: Servprog.exe will work when the Printer is in "Ready" mode, or in SERVICEMAN MODE.

Note: Serviceman Mode will allow the Servprog.exe to function with the Printer, when the Printer is in an error condition.

1. Ensure that the GS6000 Communication Driver is installed on the system that will be running the ***Servprog.exe***.

   1.1 Verify that the ***Epson Communications Driver (Stylus Pro GS6000)*** is in the ***Printers and Faxes*** Group.

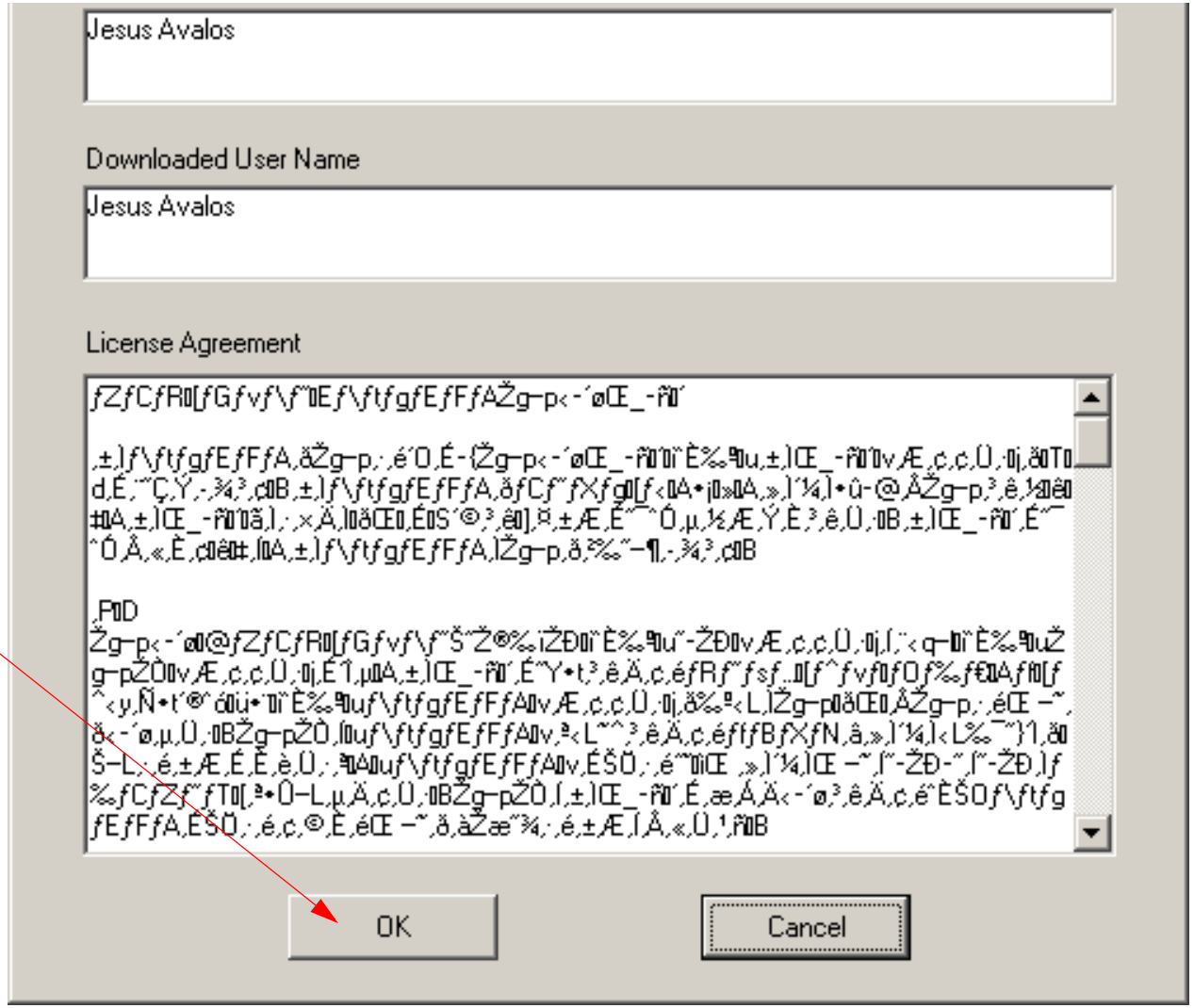
2. Create a folder and copy the **Servprog** files into it.



3. Double Click on **Servprog.exe** to start the utility.

4. Click on ***Ok*** to accept the license agreement.

Click on ***Ok***.



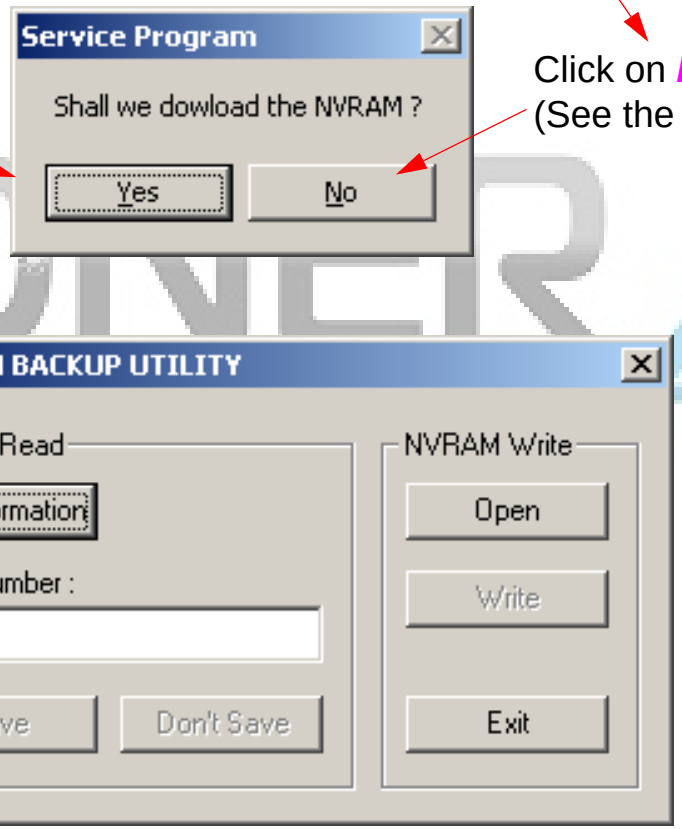
5. (Optional but recommended) Click on ***Yes*** to download the ***Printers*** NVRAM data.

Note: To test the Servprog.exe utility before going on a service call, click on No and open Servprog.exe.

Click on ***Yes*** to open the ***NV-RAM BACKUP UTILITY.***

Click on ***No*** to open ***Servprog.exe***. (See the next page).

Click on ***Get Information*** to download the Printer's NVRAM data.



6. **Servprog.exe** main menu.

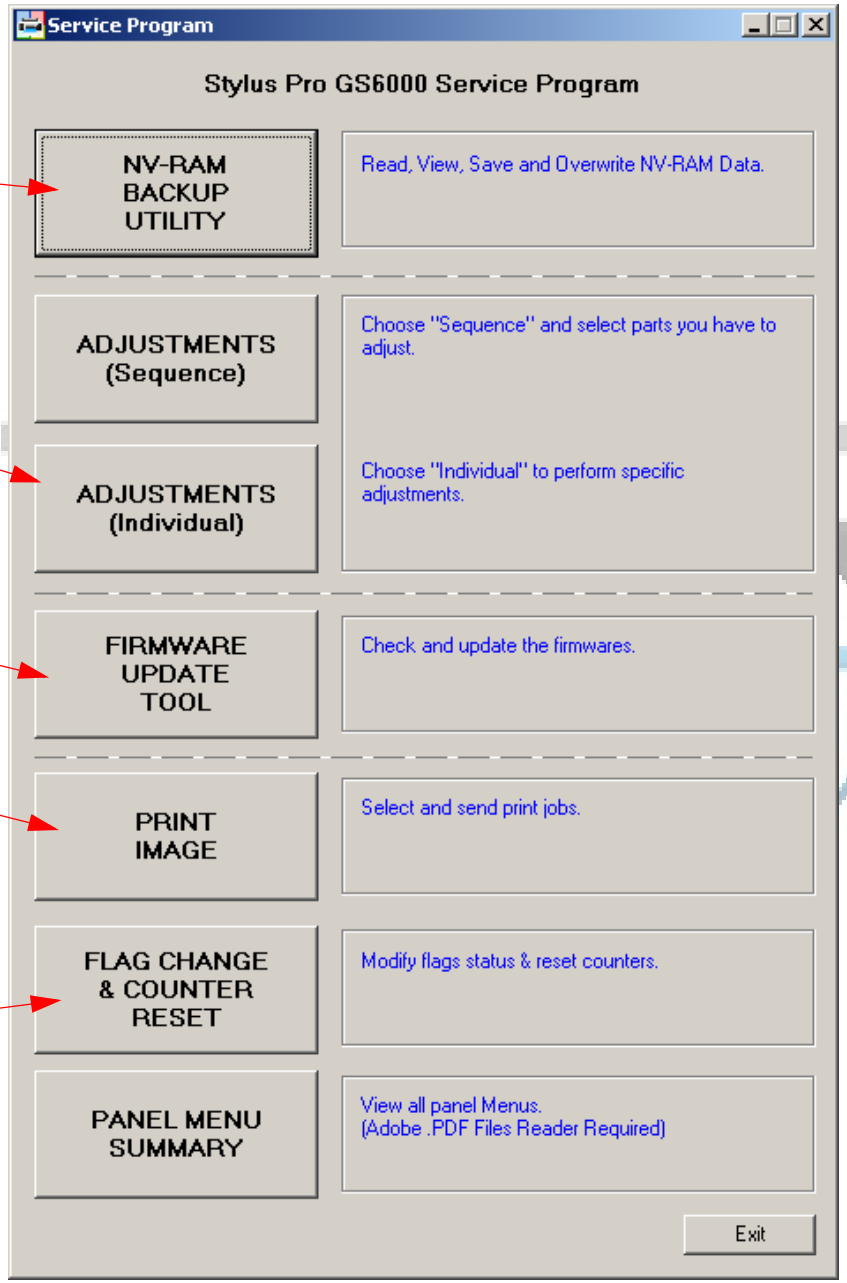
Opens the ***NVRAM Backup Utility.***

Opens the individual adjustment

Opens a firmware update menu.

Opens a menu for sending a PRN print job to the Printer.

Opens the counter reset menu.



Note: To test your copy of Servprog.exe click on any of the buttons on this screen and open a sub-menu. If any sub-menu opens, your copy works.