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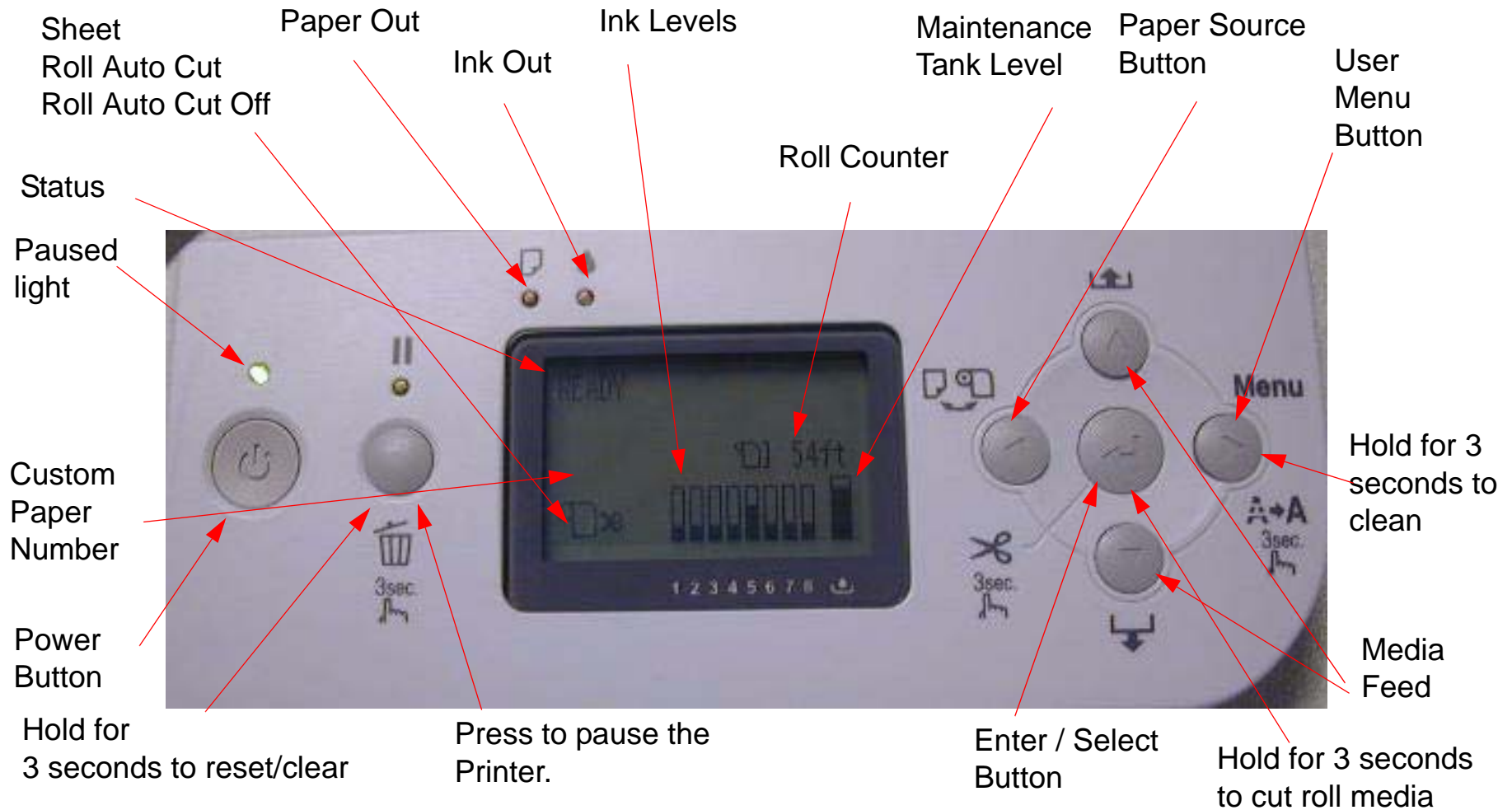


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# Control Panel Map



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

**SELF TESTING:** Down, Right, Enter, at power on.

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

**Maintenance Mode 1:** Pause, at power on.

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

## 1. PRINTER SETUP.

**ROLL PAPER COUNTER:** 15ft - 300ft

**PLATEN GAP:** \*STANDARD, NARROW, WIDE, WIDER, WIDEST

**PAGE LINE:** \*ON, OFF

**INTERFACE:** \*AUTO, USB, IEEE1394, OPTION

**CODE PAGE:** \*PC437, PC850,

**ROLL PAPER MARGIN:** \*DEFAULT, TOP/BOTTOM 15mm, TOP 35/BOTTOM 15mm, 15mm, 3mm

**PAPER SIZE CHK:** \*ON, OFF

**PAPER SKEW CHECK:** \*ON, OFF

**TIME OUT:** \*OFF, 30SEC, 60SEC, 180SEC, 300SEC

**CUTTER ADJUSTMENT:** EXEC

**REFRESH MARGIN:** \*ON, OFF

**AUTO NOZZLE CHECK:** \*OFF, ON

**AUTO CLEANING:** \*ON, OFF

**QUIET CUT:** \*OFF, ON

**INITIALIZE SETTINGS:** EXEC

## 2. TEST PRINT.

**NOZZLE CHECK:** PRINT

**STATUS SHEET:** PRINT

**JOB INFORMATION:** PRINT

**CUSTOM PAPER:** PRINT

## 3. PRINTER STATUS.

**VERSION:** (CURRENT FIRMWARE)

**PRINTABLE PAGES:** (FOR EACH COLOR)  
(nnnnnn)PAGES

**INK LEVEL:** (FOR EACH COLOR) E\*\*\*\*\*F

**MAINTENANCE TANK:** E\*\*\*\*\*F

**USAGE COUNT:** INK (nnnn.n)ML, PAPER (nnnn.n)FT

**CLEAR USAGE COUNT:** INK:EXEC PAPER:EXEC

**JOB HISTORY:** NO.(n) INK:(n)ml, PAPER:(nnn)sqft

**TOTAL PRINTS:** (n) PAGES

**SERVICE LIFE:** CUTTER, CR MOTOR, PF MOTOR, HEAD UNIT, CLEANING UNIT, PRESSURE MOTOR (E\*\*\*\*\*F)

## 4. CUSTOM PAPER.

**PAPER NUMBER:** \*STANDARD, NO. (1-10)

**PLATEN GAP:** NARROW, STANDARD, WIDE, WIDER

**THICKNESS PATTERN:** PRINT

**CUT METHOD:** \*STANDARD, THIN PAPER, THICK PAPER FAST, THICK PAPER SLOW

**PAPER FEED ADJUST:** (n.nn)%

**DRYING TIME:** (n.n)sec

**SUCTION:** \*STANDARD, -1, -2, -3, -4

**M/W ADJ:** \*STANDARD, 1, 2

## 5. MAINTENANCE

**CUTTER REPLACEMENT:** EXEC

**BK Ink Change:** EXEC (For Changing between Matte and Photo Black)

**POWER CLEANING:** "YOU MUST MOVE INK LEVERS WHEN CLEANING", EXECUTE, CANCEL (102ml)

**CLOCK SETTING:** (mm/dd/yy hh:mm)

**CONTRAST ADJUSTMENT:** (nn)

## 6. Head Alignment.

**PAPER THICKNESS:** \*STANDARD, (n.n)mm

**ALIGNMENT:** AUTO (UNI-D, BI-D 2-COLOR, BI-D All, BI-D #1, BI-D #2, BI-D #3)  
MANUAL (UNI-D, BI-D 2-COLOR, BI-D All,)

## Parameter Backup and Restore Mode

Release the **Paper Lever**, lift **2 Ink Levers**, remove the **Maintenance Tank**, hold the **Down**, **Right**, and **Pause** buttons and turn on the **Printer**.

**Note:** If the backup procedure fails, try re-booting the Printer and letting it come **Ready**. Then try the backup / restore procedure.

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## F/W Download Mode

Hold the **Up**, **Down**, **Left**, and **Right** buttons and turn on the power.

## Maintenance Mode 1: Press and hold the **Pause** button and turn on the Printer.

**HEX DUMP:** PRINT EXEC (In this mode, the printer prints hexadecimal values received)

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

**REMAINING PPR SETUP:** \*ROLL, OFF (Roll enables the ROLL PAPER COUNTER)

**UNIT:** \*FEET/INCH, METER (Set's the unit of measure that the printer displays)

**CUT PRESSURE:** \*100% (0%-150%) (Adjusts the Paper Cutter pressure)

**SS:** EXEC (Super Strong Cleaning)(255 time limit without replacing print head and resetting life counter)

**PWR ON ROLL PPR FEED:** \*ON, OFF (On = Feeds the paper 3" lower, when auto cut is off)

(Off = Does not feed the paper 3" lower, when auto cut is off)

**DEFAULT PANEL: EXEC** (Resets to Factory Default the following User Menus: **Printer Setup, Printer Status, Custom Paper, Head Alignment**)

**INK INFO MENU:** (FOR EACH COLOR) MANUFACTURER, COLOR, INK TYPE, INK CAPACITY, INK LEVEL, PRODUCTION DATE, EXPIRATION DATE, INK LIFE, INK AGE (CSIC information, for each ink cartridge)

**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.*

*Note: SERVICEMAN MODE must be displayed on the LCD to turn on the USB Port.*

#### SELF TESTING:

##### Test:

**Version:** F/W: S(N or W)(nnnnn.nnn) (Displays the current firmware version)

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

**Sensor: CR Origin:** On, Off (Carriage Home Position Sensor test)

**Paper:** 00, 01, 10, 11 (Paper Thickness Sensor test)

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

**HeadSlide:** On, Off (Platen Gap Home Position Sensor test)

**Pump:** On, Off (Pump Home Position Sensor test)

**InkLvr:** Down/Down, Up/Down, Down/Up, UP/Up (Right and Left Ink Lever Sensor test)

**Cover:** Close, Open (Cover Sensor test)

**MainteTank:** On, Off (CSIC Contact Test)

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

**EdgeAD:** (nnn nnn) (Paper Edge Sensor test)

**Edge2AD:** (nnn nnn) (Ink Mark Sensor Test)

**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)

**Ink Press:** Off, On (Pressure Sensor test)

**Take Up: (9800 Only)** (Tests the absence, or presence of the Optional Take Up Reel)

**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 (Left Side Fan (Center Fan on 9800)))

**Paper3:** (9800 only)(Fan test for paper suction fan #3 (Left Side Fan))

**Head Drv:** (Fan test for the Head Driver Cooling Fan)

**Elec.: Maintenance: WasteInk:** (Right Side Maintenance Tank Counter)

**WasteInk2: (9800 Only)**(Left Side Maintenance Tank Counter)

**Wiper:** (Wiping Counter)

**Rubbing:** (Rubbing Counter)

**Lever:** (Paper Release Lever Counter)

**Cover:** (Cover Sensor Counter)

**Ink Lever:** (Left and Right Ink Lever Counter)

**Cr Motor:** (Carriage Motor Usage Counter)

**W PF Motor:** (Paper Feed Motor Usage Counter)

**PrintNumber:** (Number of printed pages)

**Cleaning:** (Cleaning Operations Counter)

**Fire A:** (Light Light Black Nozzle Array Counter)

**Fire B:** (Light Magenta Nozzle Array Counter)

**Fire C:** (Light Cyan Nozzle Array Counter)

**Fire D:** (Light Black Nozzle Array Counter)

**Fire E:** (Photo/Matte Black Nozzle Array Counter)

**Fire F:** (Cyan Black Nozzle Array Counter)

**Fire G:** (Magenta Nozzle Array Counter)

**Fire H:** (Yellow Nozzle Array Counter)

**Cut:** (Paper Cutting Operations Counter)

**Cute Sole:** (Cutter Solenoid Counter)



**Record: Error:** Error (0 - 6) (Displays the last 7 errors)

**Cut Adj:** Cutter: 55%

**Actuator2: Cutter Sol:** [Enter], Start (Tests the Cutter Solenoid)

**Pump Motor:** [Enter], Start (Tests the Cutter Solenoid)

**Regulator Sol:** [Enter], Start (Tests the Ink System Pressure Release Solenoid)

**Ink Press Motor:** [Enter], Start (Ink System Pressure Motor)

**Edge Sns Lvl:** [Enter], Start (?)

**Auto Gap Adj: Auto Uni-D:** [Enter] Print (Performs and Auto Uni-D Adjustment)

**Auto Bi\_d PG1.6:** [Enter] Print (Performs and Auto Bi-D for Platen Gap 1.6 (WIDE))

**Auto Bi\_d PG0.8:** [Enter] Print (Performs and Auto Bi-D for Platen Gap 0.8 (NARROW))

### Adjustment:

**Fan:** Paper(ALL)(Runs all Suction Fans), Fan Adjust \*0% (-10% to +10%) (Adjusts Suction Fans)

**Paper:** 00, 01, 10, 11(Displays the output from the Paper Thickness Sensors)

**RearAD:** [Enter], Start: **Exc.: RearAD:** (nnn nnn nnn) (For adjusting the Rear Paper Sensor)

**Check Nozzle:** [Enter] Print: (Service nozzle check, displays Firmware Version, displays Head Rank)

**Cutter:** (Cut position check)

**IM Sensor:** (Adjusts sensitivity of the Edge Detector Sensor)

**PlatenPos:** (n.n)mm(Calibrates the Borderless Pad Positions)

**PlatenPos.Chk.:** (Checks the Borderless Pad Position calibration)

**Rear Sens.Pos:** (Calibrates the EOF position for cut sheet media)

**CR Head Slant:** (Performs the CR Head Slant adjustment)

**PF Head Slant:** PF Head BiD Adj (Pk or MK Bi-D adjustment), PF Head Slant (PF Head Slant adjustment)

**Gap Adj:** All, Uni-D, Bi-D PG1.6,Bi-D PG0.8, (Manual Bi-D and Uni-D)

**Check Skew:** (n.n)mm (Default 1.0) (Used for testing and setting the amount of allowable skew)

**Feed Adj.+T&B:** (Performs the 980mm, Top and Bottom Margin adjustments)

**IM Thresh:** IM PosAdj, IM Full Pattern, IM Loss Pattern (Calibrates the IM Sensor for Auto Nozzle Check)

**Adj. Variable:** [Enter] Print (Prints the numeric adjustment variables currently set)

**Clean Head:** (Evacuates the ink system. Requires cleaning cartridges to complete the process)

**Pump Cnt:** NG(?)



**VIEW COUNTERS:**

**CUTTER:** (Count for the Cutter Blade)  
**CUTTER TOTAL:** (Count for the Cutter Assembly)  
**TOTAL PAGES:** (Page count for the Printer)  
**CR MOTOR:** (Count for the Carriage Motor)  
**CR TOTAL:** (Count for the Carriage Mechanism)  
**PF MOTOR:** (Count for the Paper Feed Motor)  
**PRESSURE MOTOR:** (Count for the Pressure Motor)  
**NOZZLE A:** (Light Light Black Nozzle Array Counter)  
**NOZZLE B:** (Light Magenta Nozzle Array Counter)  
**NOZZLE C:** (Light Cyan Nozzle Array Counter)  
**NOZZLE D:** (Light Black Nozzle Array Counter)  
**NOZZLE E:** (Photo/Matte Black Nozzle Array Counter)  
**NOZZLE F:** (Cyan Black Nozzle Array Counter)  
**NOZZLE G:** (Magenta Nozzle Array Counter)  
**NOZZLE H:** (Yellow Nozzle Array Counter)  
**FL BOX:** (Count for the Flushing Box)  
**CLEANER:** (Count for the Pump and Cap Assembly)  
**SPONGE:** (?)  
**PG:** (Count for the Platen Gap Assembly)

**MAINT INFO:**

**MENU E:** E1 - E17 (?)  
**MENU R:** R1 - R9 (?)  
**MENU S:** S1 - S26 (?)  
**MENU A:** A1 - A32 (?)  
**MENU B:** B1 - B48 (?)  
**MENU P:** P1 - P46 (?)  
**MENU M:** M1 - M26 (?)  
**MENU O:** 01 - 026 (?)  
**MENU F:** F1 - F20 (?)

**MENU N: N1 - N22 (?)**

**SELF TESTING:** Press and hold the **Down**, **Right**, and **Enter** buttons and turn on the Printer.

**Test:**

**Version:** F/W: S(N or W)(nnnnn.nnn) (Displays the current firmware version)

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

**Sensor: CR Origin:** On, Off (Carriage Home Position Sensor test)

**Paper:** 00, 01, 10, 11 (Paper Thickness Sensor test)

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

**HeadSlide:** On, Off (Platen Gap Home Position Sensor test)

**Pump:** On, Off (Pump Home Position Sensor test)

**InkLvr:** Down/Down, Up/Down, Down/Up, UP/UP (Right and Left Ink Lever Sensor test)

**Cover:** Close, Open (Cover Sensor test)

**MainteTank:** On, Off (CSIC Contact Test)

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

**EdgeAD:** (nnn nnn) (Paper Edge Sensor test)

**Edge2AD:** (nnn nnn) (Ink Mark Sensor Test)

**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)

**Ink Press:** Off, On (Pressure Sensor test)

**Take Up:** (9800 Only) (Tests the absence, or presence of the Optional Take Up Reel)

**Encoder: CR** (nnnn) (Carriage Encoder test. Counts up, left to right)

**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 (Left Side Fan (Center Fan on 9800)))

**Paper3:** (9800 only)(Fan test for paper suction fan #3 (Left Side Fan))

**Head Drv:** (Fan test for the Head Driver Cooling Fan)

**Elec.: Maintenance:** **WasteInk:** (Right Side Maintenance Tank Counter)  
**WasteInk2:** **(9800 Only)**(Left Side Maintenance Tank Counter)  
**Wiper:** (Wiping Counter)  
**Rubbing:** (Rubbing Counter)  
**Lever:** (Paper Release Lever Counter)  
**Cover:** (Cover Sensor Counter)  
**Ink Lever:** (Left and Right Ink Lever Counter)  
**Cr Motor:** (Carriage Motor Usage Counter)  
**PF Motor:** (Paper Feed Motor Usage Counter)  
**PrintNumber:** (Number of printed pages)  
**Cleaning:** (Cleaning Operations Counter)  
**Fire A:** (Light Light Black Nozzle Array Counter)  
**Fire B:** (Light Magenta Nozzle Array Counter)  
**Fire C:** (Light Cyan Nozzle Array Counter)  
**Fire D:** (Light Black Nozzle Array Counter)  
**Fire E:** (Photo/Matte Black Nozzle Array Counter)  
**Fire F:** (Cyan Black Nozzle Array Counter)  
**Fire G:** (Magenta Nozzle Array Counter)  
**Fire H:** (Yellow Nozzle Array Counter)  
**Cut:** (Paper Cutting Operations Counter)  
**Cute Sole:** (Cutter Solenoid Counter)  
**Record: Error:** Error (0 - 6) (Displays the last 7 errors)  
**CSIC:** Slot (1 - 8), Maintenance Tank (?)  
**Cut Adj:** Cutter: 55%  
**Actuator2: Cutter Sol:** [Enter], Start (Tests the Cutter Solenoid)  
**Pump Motor:** [Enter], Start (Tests the Cutter Solenoid)  
**Regulator Sol:** [Enter], Start (Tests the Ink System Pressure Release Solenoid)  
**Ink Press Motor:** [Enter], Start (Ink System Pressure Motor)  
**Edge Sns Lvl:** [Enter], Start (?)  
**Auto Gap Adj: Auto Uni-D:** [Enter] Print (Performs and Auto Uni-D Adjustment)

**Auto Bi\_d PG1.6:** [Enter] Print (Performs and Auto Bi-D for Platen Gap 1.6 (WIDE))  
**Auto Bi\_d PG0.8:** [Enter] Print (Performs and Auto Bi-D for Platen Gap 0.8 (NARROW))

### Adjustment:

**Input HeadRank:** (?)

**Fan:** Paper(ALL)(Runs all Suction Fans), Fan Adjust \*0% (-10% to +10%) (Adjusts Suction Fans)

**Paper:** 00, 01, 10, 11(Displays the output from the Paper Thickness Sensors)

**Rear AD:** [Enter], **Start: Exc.: RearAD:** (nnn nnn nnn) (For adjusting the Rear Paper Sensor)

**Init.Fill:** (Starts an initial fill)

**Check Nozzle:** [Enter] **Print:** (Service nozzle check, displays Firmware Version, displays Head Rank)

**Cutter:** (Cut position check)

**IM Sensor:** (Adjusts sensitivity of the Edge Detector Sensor)

**PlatenPos:** (n.n)mm(Calibrates the Borderless Pad Positions)

**PlatenPos.Chk.:** (Checks the Borderless Pad Position calibration)

**Rear Sens.Pos:** (Calibrates the EOF position for cut sheet media)

**CR Head Slant:** (Performs the CR Head Slant adjustment)

**PF Head Slant:** PF Head BiD Adj (Pk or MK Bi-D adjustment), PF Head Slant (PF Head Slant adjustment)

**Gap Adj:** All, Uni-D, Bi-D PG1.6,Bi-D PG0.8, (Manual Bi-D and Uni-D)

**Check Skew:** (n.n)mm (Default 1.0) (Used for testing and setting the amount of allowable skew)

**Feed Adj.+T&B:** (Performs the 980mm, Top and Bottom Margin adjustments)

**IM Thresh:** IM PosAdj, IM Full Pattern, IM Loss Pattern (Calibrates the IM Sensor for Auto Nozzle Check)

**Adj. Variable:** [Enter] Print (Prints the numeric adjustment variables currently set)

**Clean Head:** (Evacuates the ink system)

**Pump Cnt:** NG(?)

**Counter Clear:** (Clears a variety of counters)(Do not use)

### Cleaning:

**Std. CL1** (5.3ml)

**Std. CL2** (6.3ml)

**Std. CL3** (10.4ml)

**Std. CL6** (?)

**Init.Fill****Parameter:****Initialize:**

**All:** Initialize OK? (Resets all of the following counters at once)

**PF Resolution:** Initialize OK? (Resets this counter only)

**Head Record:** Initialize OK? (Resets this counter only)

**Wiping Record:** Initialize OK? (Resets this counter only)

**Rab. Record:** Initialize OK? (Resets this counter only)

**Waste Record:** Initialize OK? (Resets this counter only)

**CRmot Record:** Initialize OK? (Resets this counter only)

**PFmot Record:** Initialize OK? (Resets this counter only)

**Lever Record:** Initialize OK? (Resets this counter only)

**Cover Record:** Initialize OK? (Resets this counter only)

**Ink Lever Record:** Initialize OK? (Resets this counter only)

**Cutter Record:** Initialize OK? (Resets this counter only)

**Cleaner Record:** Initialize OK? (Resets this counter only)

**Update:** InkParameter: Init. Fill: (Set, Reset) (Reset, turns off the initial fill)

**HeadWash(?)** [www.tonerplus.com.ua](http://www.tonerplus.com.ua)

**Mask Type:** Dispersion, Regular (?)

**PF BiD Adjust:** (+/- n) (?)

**Uni-D Trap:** (On, Off) (?)

**Display: Address:** (nnnn)(Used for displaying data at specific RAM addresses)

**Custom:** (?)

**Life: CR Motor** (Carriage Motor Life Counter)

**PF Motor** (Paper Feed Motor Life Counter)

**CR+PF Motor** (Carriage and Paper Feed Motor Life Counter)

**Cutter** (Cutter Assembly Life Counter)

**Head U/D** (?)

**Head Lock** (Head Lock Assembly Life Counter)

**Cleaning** (Cleaning Unit Life Counter)

**Print** (Print Head Life Counter)

**Total Life** (?)

**TotalLife2** (?)

**CSIC** (?)

**Check** (?)



# Component Replacement



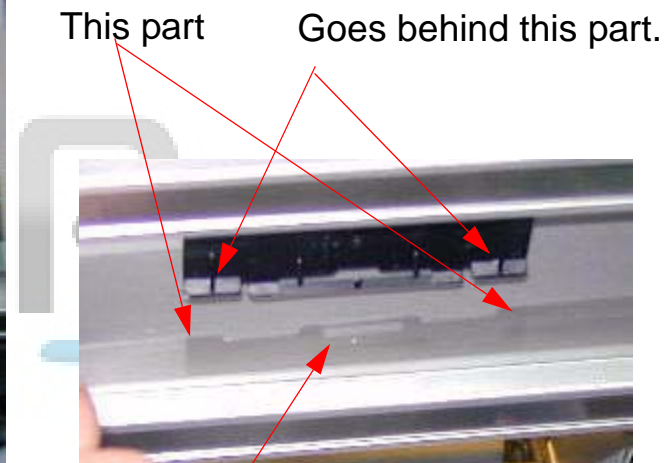


# Carriage Encoder Strip Replacement

1. Remove the **Left**, **Right**, and **Top Covers**.
2. Inspect the way that the **Encoder Strip** is held by the **Encoder Strip Bracket**.



**Encoder Strip Bracket.**



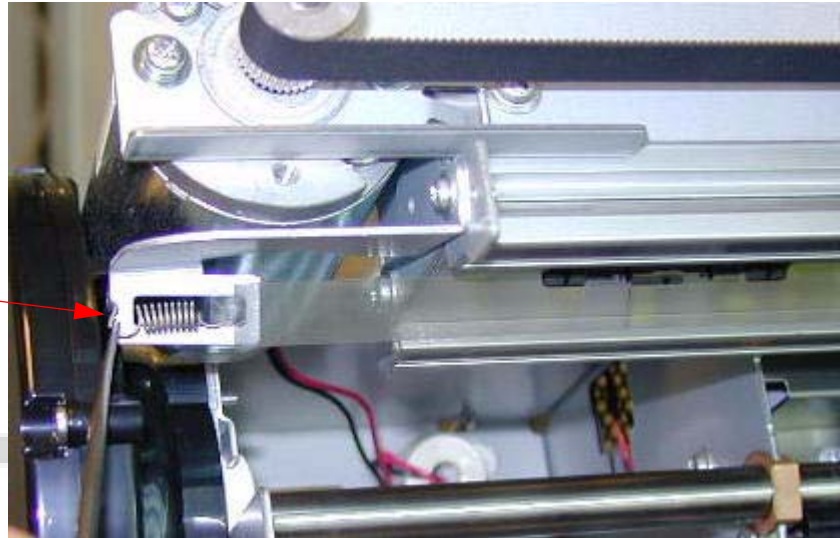
This **Tab** on the **Encoder Strip** should be inserted into the corresponding **Slot** on the **Bracket**, and then rotated down 90 degrees to lock it in place.

**Note: There are 3 Brackets on the 7800, and 4 Brackets on the 9800.**



3. Remove the **Encoder Strip Tension Spring**, located on the left side of the **Printer**.

Remove the **Encoder Strip Tension Spring**.



**Note:** A new Encoder Strip has a plastic film on it that must be removed.

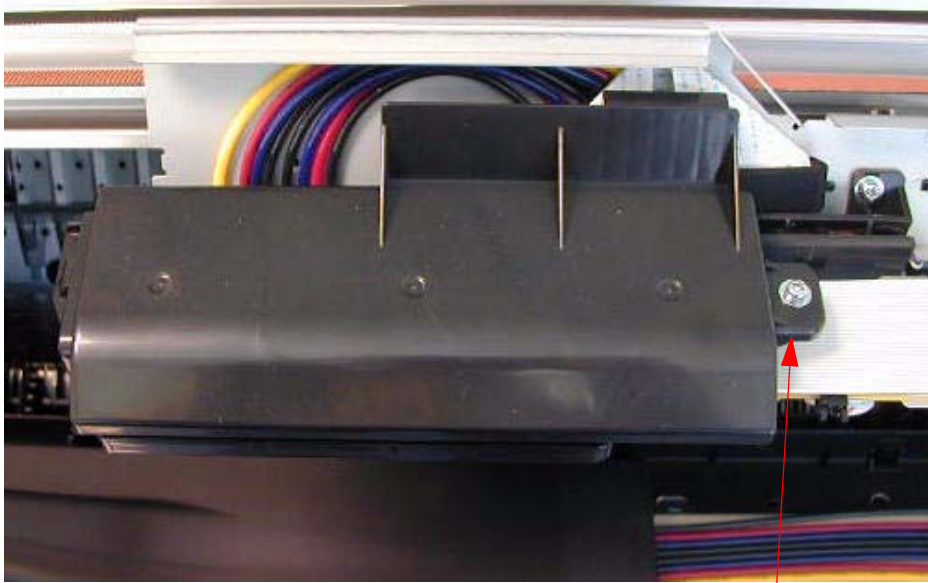
**Note:** Before completely disconnecting the old Encoder Strip, tape the new Encoder Strip to the cap side end of the old Strip, to facilitate pulling the new Strip through the Carriage Encoder.

4. Working left to right, disconnect the **Encoder Strip** from each **Encoder Strip Bracket**.
5. Tape the new **Strip** to the old **Strip**, and pull the new **Strip** through the **Carriage Encoder**.
6. Attach the new **Strip** to the **Brackets** and add the **Tension Spring**.

# Carriage Assembly Replacement Procedure

**Required Parts:** *New Carriage*, Part # 1449306 & Cutter Alignment tool, Part # 1212928

1. **Unplug the Printer.**
2. Raise both **Ink Levers**, closing the **Ink Valves**.
3. Remove the **Top Cover**, **Left Side Cover**, and **Right Side Cover**.
4. Release the **Carriage Lock**, and move the **Carriage Mechanism** to the center of the **Printer**.
5. Remove the **Pump Cap Assembly**.
6. Remove the **Carriage Board Cover**.

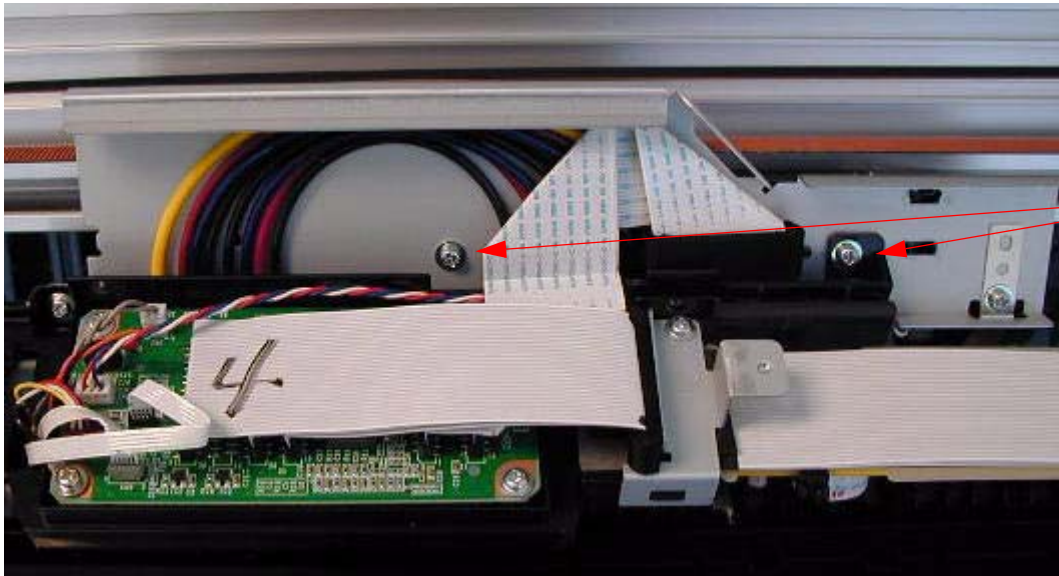


Loosen **1 Screw**.



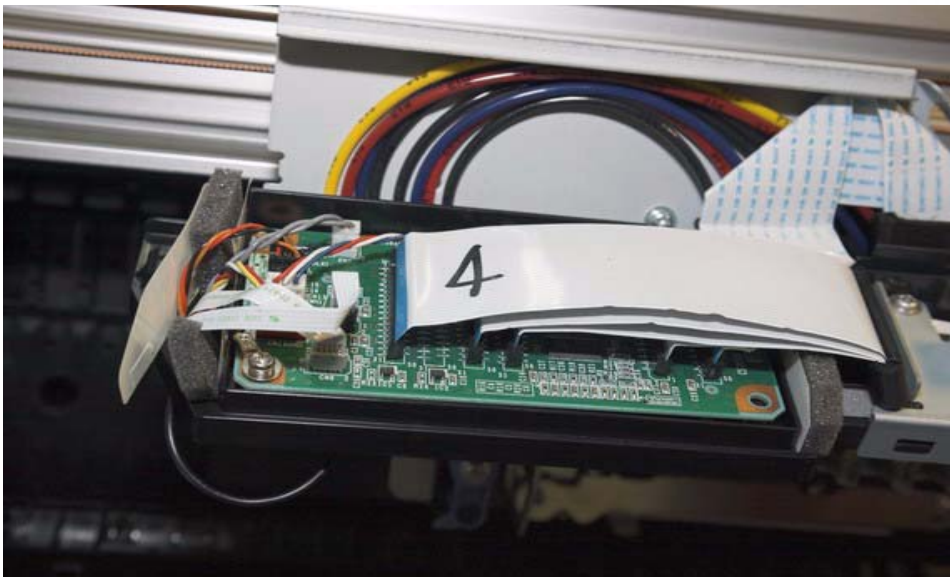
Lift off the **Carriage Board Cover**.

7. Remove **2 Screws** that fasten the **Carriage Board Assembly**.



Remove **2 Screws**.

8. Disconnect **5 Cables**

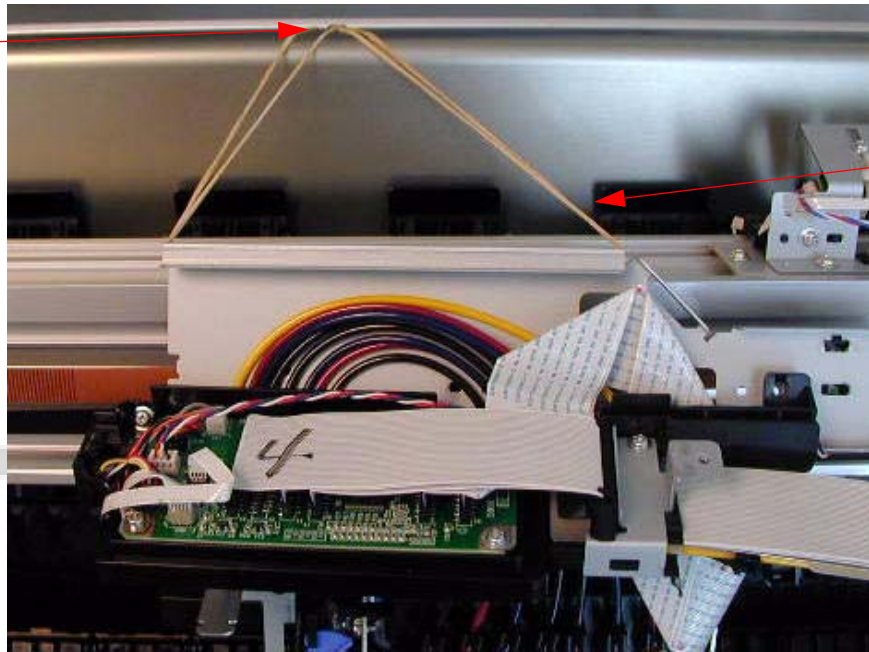


Disconnect **2 foil cables** and **3 connectors**.  
Remove 1 screw that fastens the **Ground Strap Wire**.



## 9. Lift and suspend the **Carriage Board Assembly**.

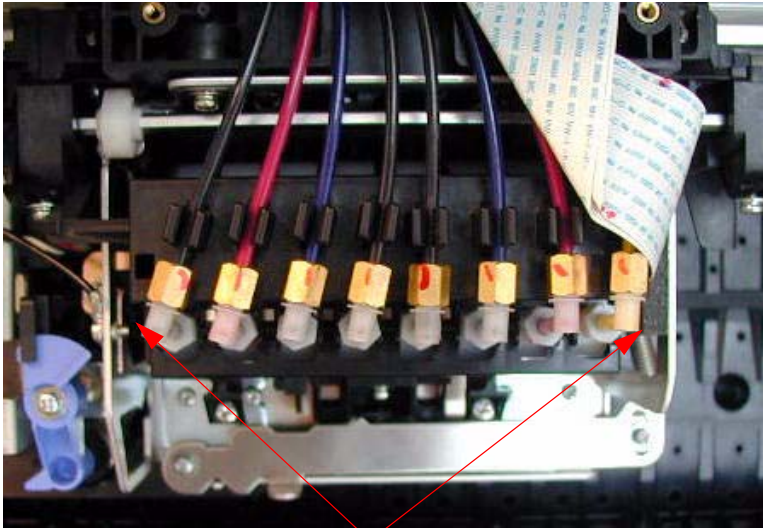
Loosen one of the **Screws** that fasten a cover to support the **Carriage Board Assembly**.



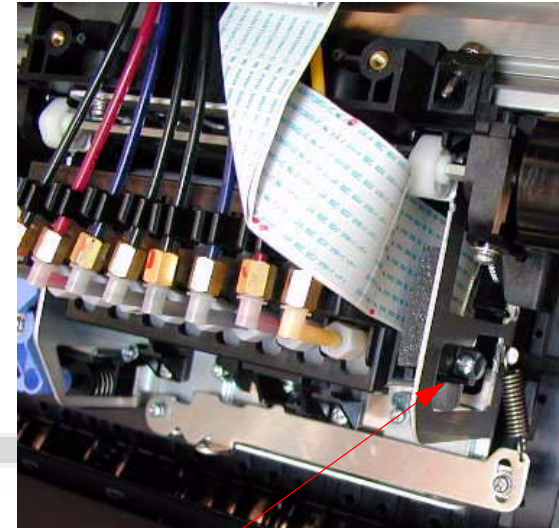
Lift up the **Carriage Board Assembly**, and suspend it from the loosened **Screw**. (Shown with rubber bands in the picture).

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10. Remove **2 Screws** that fasten the **Damper Assembly** to the **Carriage Assembly**.

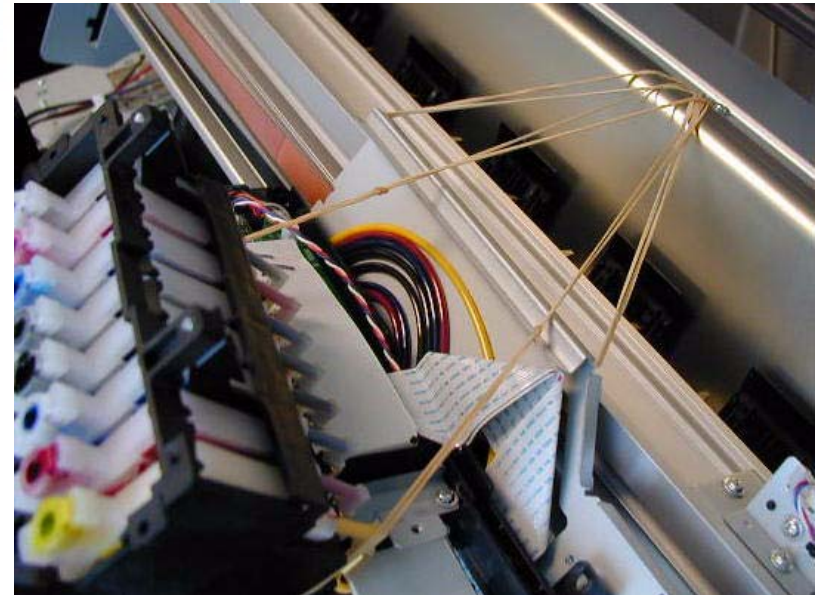
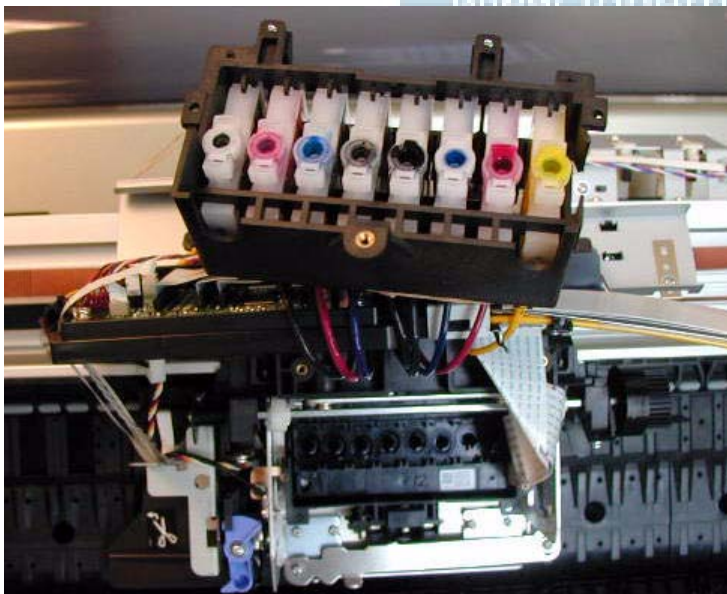


Remove **2 Screws** that are to the left and the right to the **Damper Bracket**.



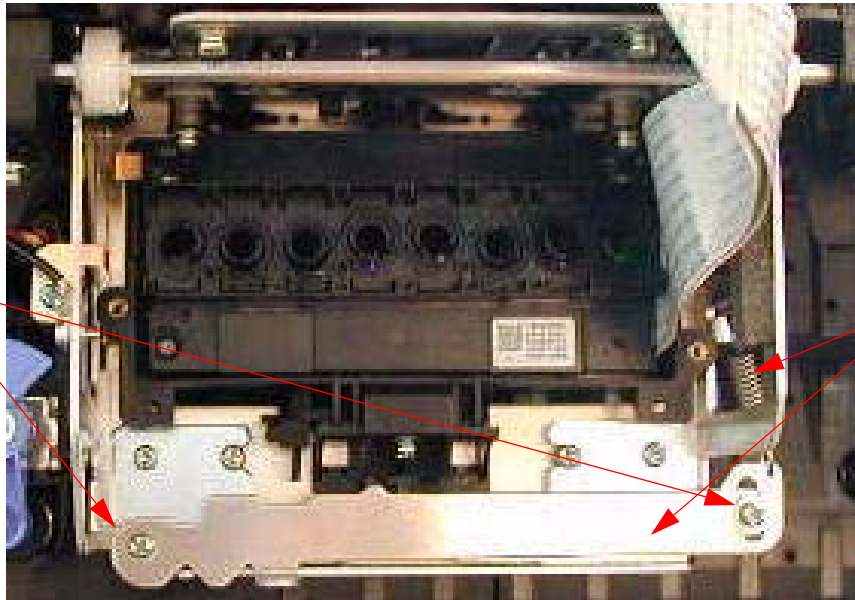
Right side **Screw** shown from the side.

11. Lift off the **Damper Assembly** and suspend it from the same **Screw** used in step 8.



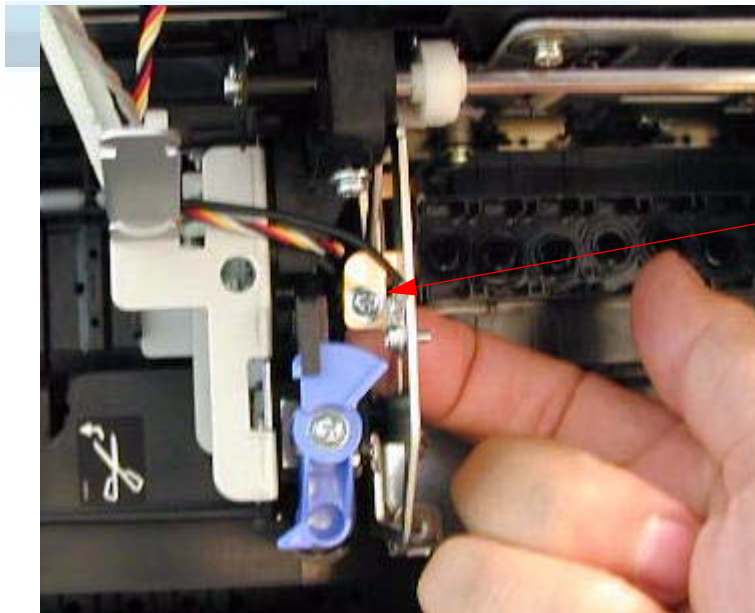
12. Remove **2 Screws**, **1 Spring**, and the **Tension Bar** that fasten the **Print Head Assembly**.

Remove **2 Screws**.



Remove **Tension Bar** and **Spring**.

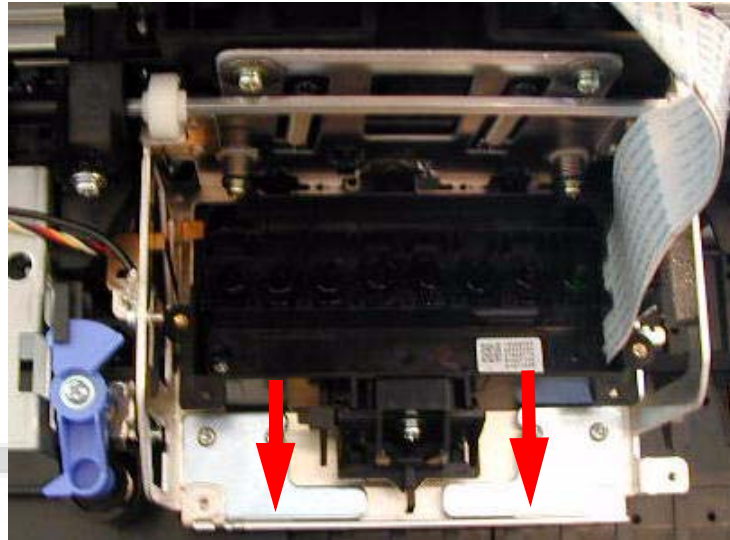
13. Remove the **Print Head Ground Strap Screw**.



Support the **Bracket** so that it does not bend, and remove **1 Screw**.



14. Slide the **Print Head Assembly** in the direction shown, and lift it out. Place it on the side.

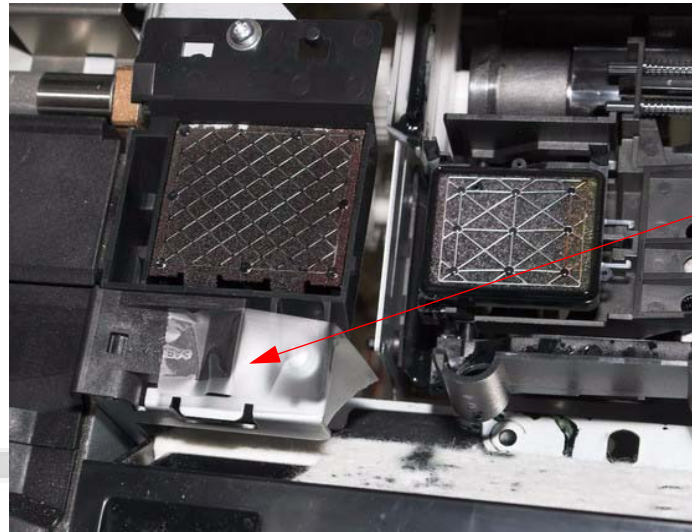


15. Disconnect **5 Cables**



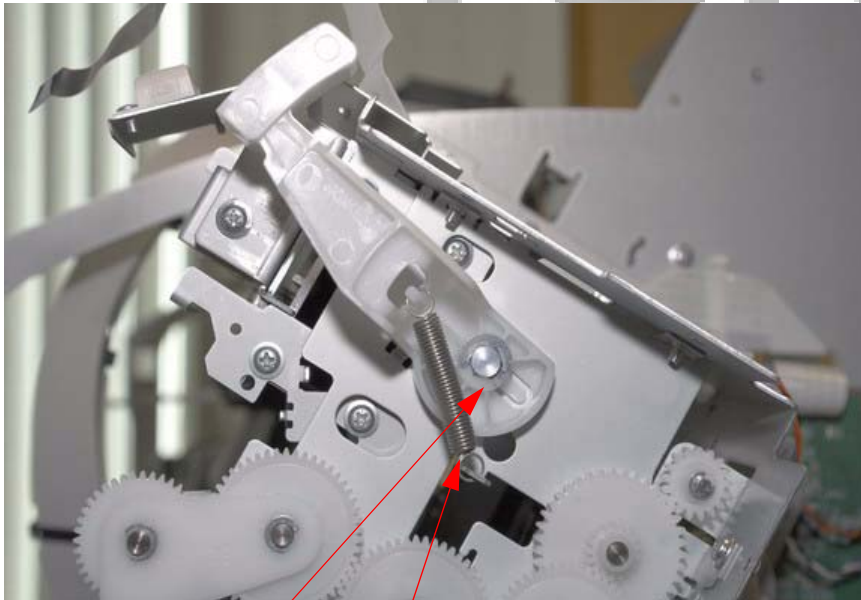
Disconnect **2 foil cables** and **3 connectors**.  
Remove 1 screw that fastens the **Ground Strap Wire**.

16. Place a tape on **Locking Lever** to disengage **Locking Mechanism**.

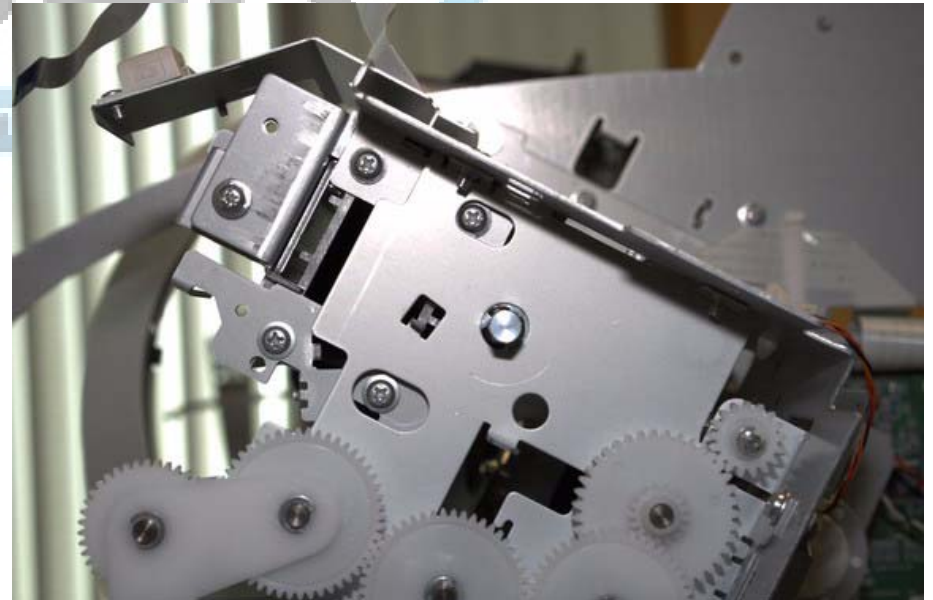


Place tape here

17. Remove the **Paper Release Lever**.



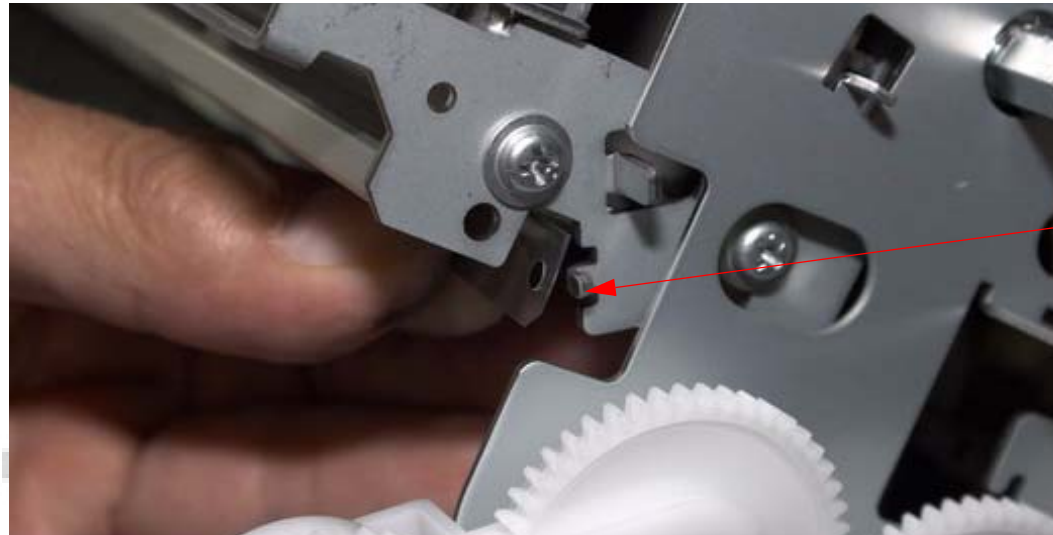
Remove the **E-ring** and **Spring**



Pull the **Paper Release Lever** out.

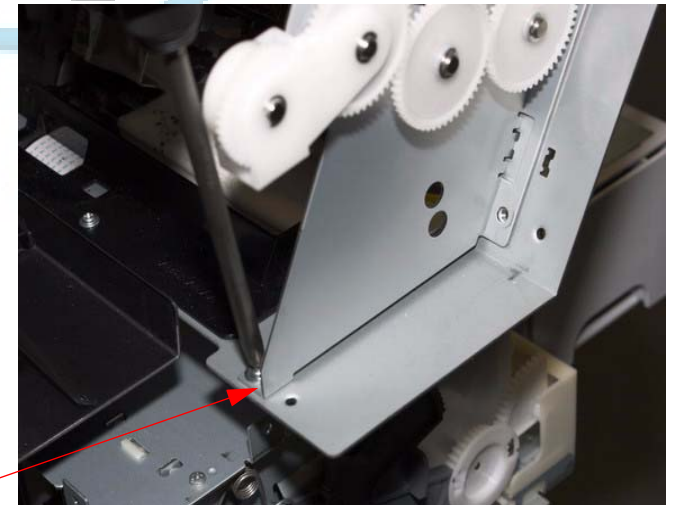
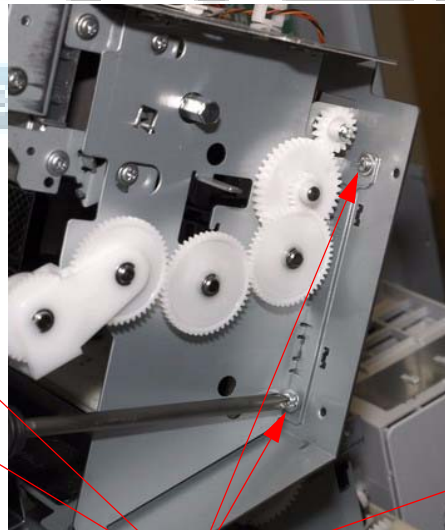
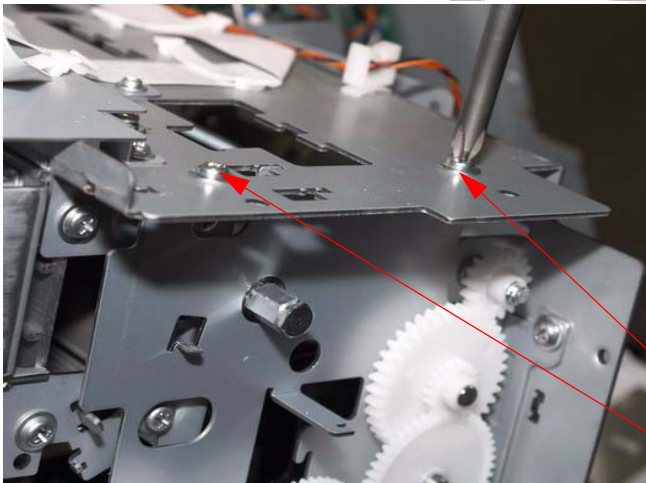


18. Unhook **Timing Fence** from the right side.



Unhook **T-fence** here

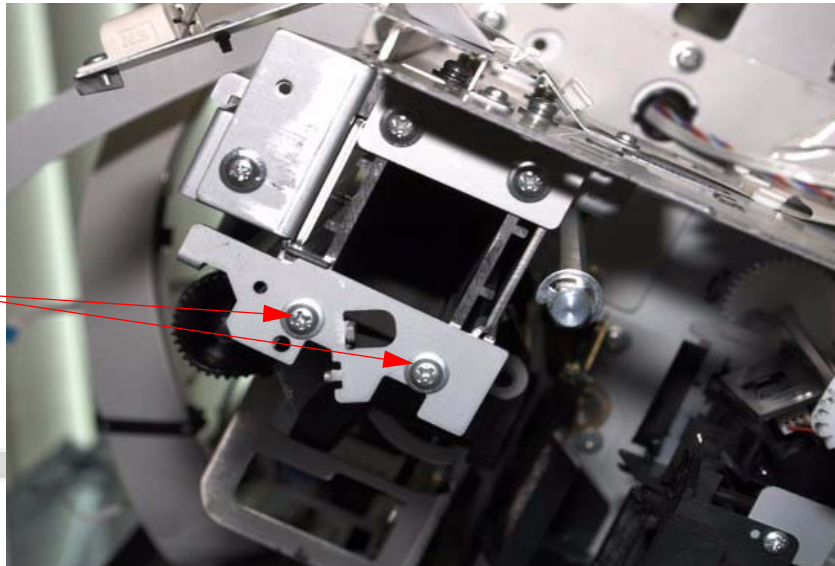
19. Remove the **Right Side Gear Assy.**



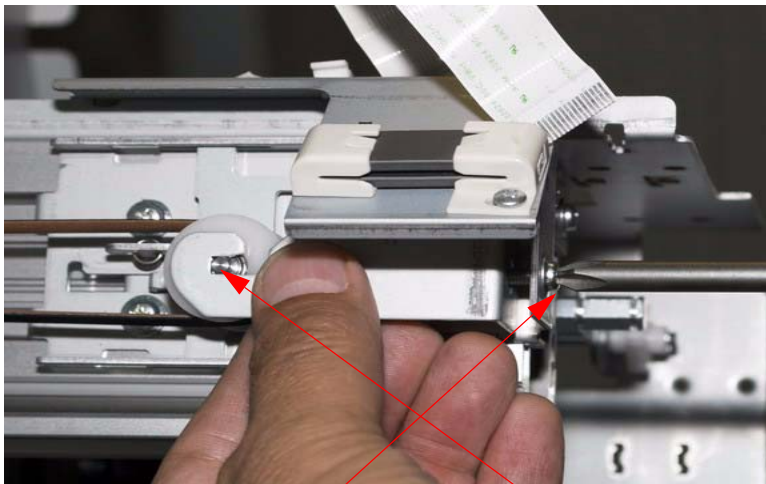
Remove **5 screws** and slide the **Gear Assy** out

## 20. Remove **T-Fence Hook Plate**.

Remove **2 screws** and take off the **T-fence Hook**



## 21. Remove the **Belt** and **Pulley** from **Carriage Assy**.

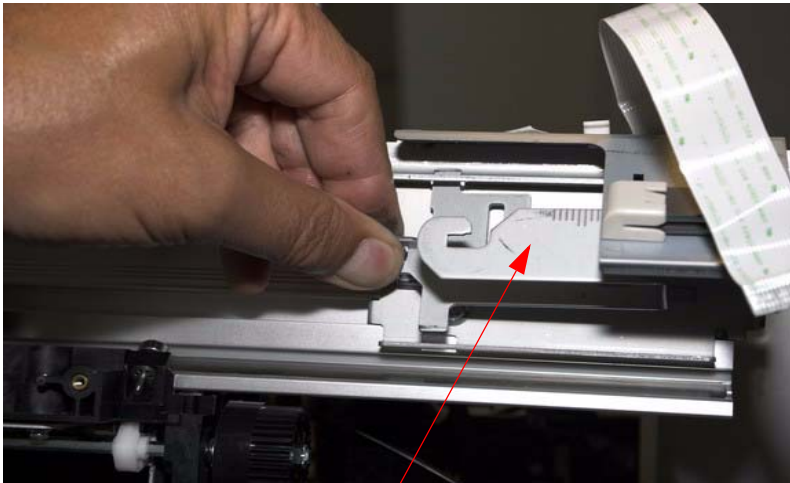


Remove **1 screw** and remove **Pulley**.

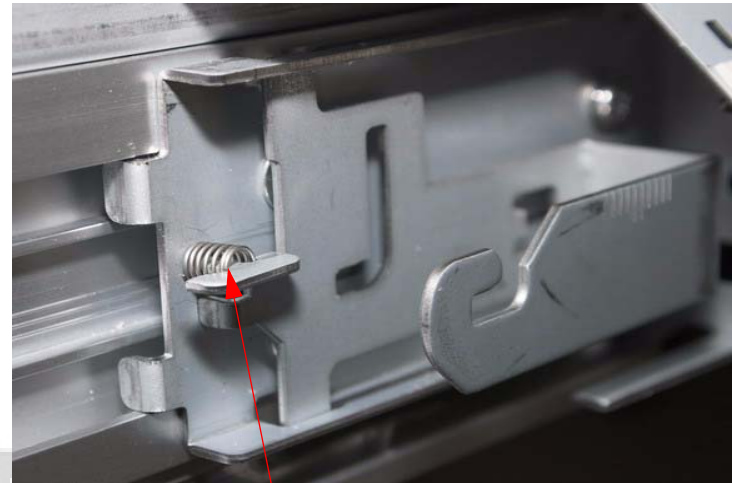


Remove **Belt** from **Fastener**

## 22. Remove the **Belt Tensioner Bracket**



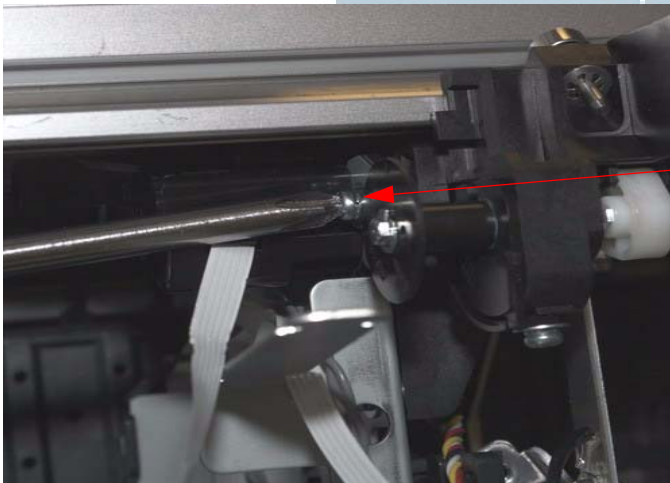
Remove the **Belt Tensioned Bracket**.



Beware of the **Spring** here.

## 23. Remove the **CR Encoder**.

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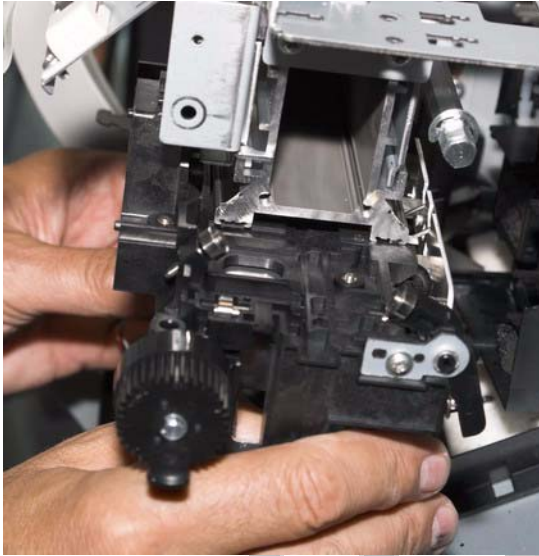


Remove **2 screws**.

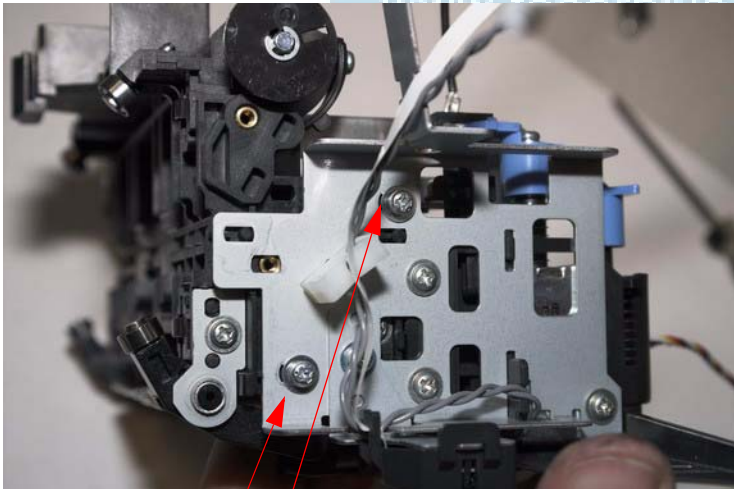




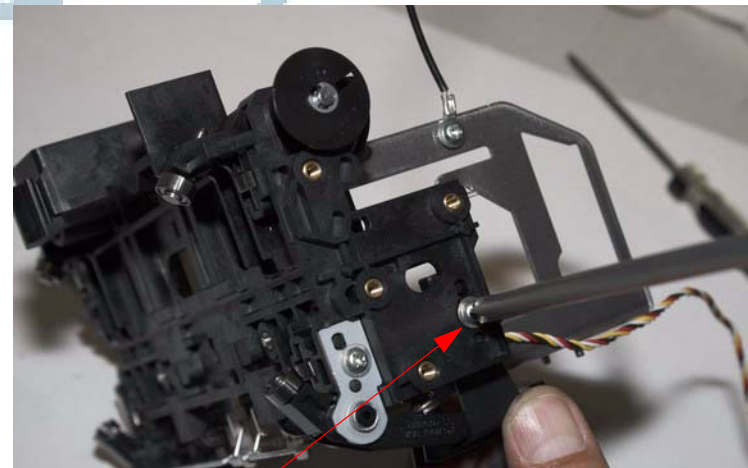
24. Slide the **Carriage Assembly** out.



25. Remove the **Cutter Assembly** and **Multisensor** from the old **Carriage Assembly**.

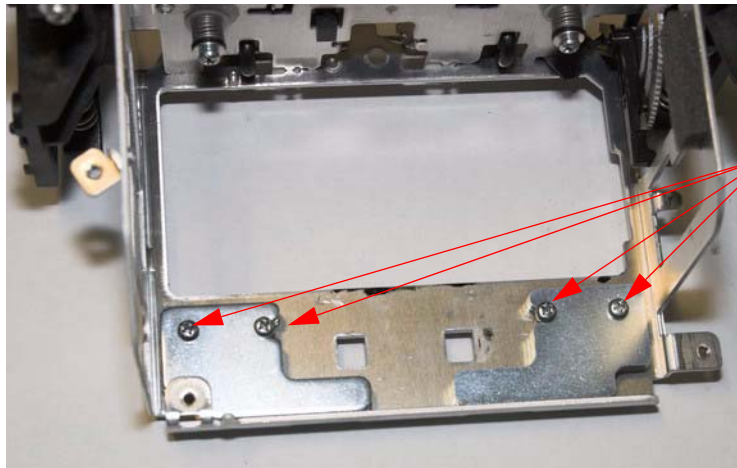


Remove **2 screws** and take off the **Cutter Assy**.

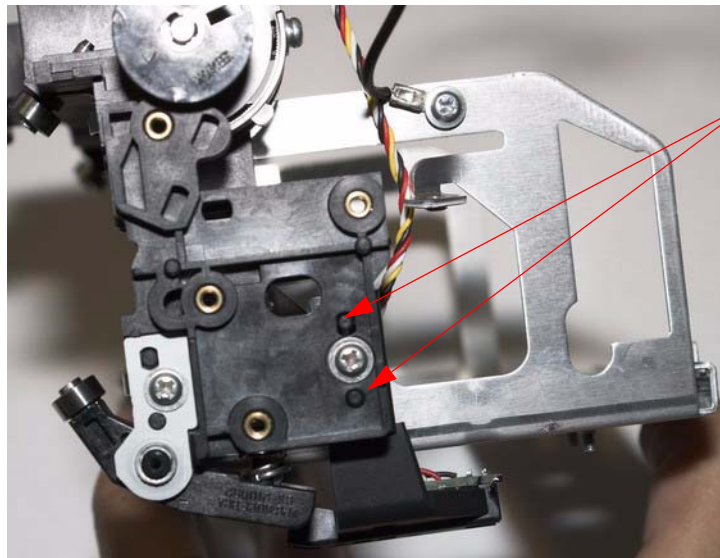
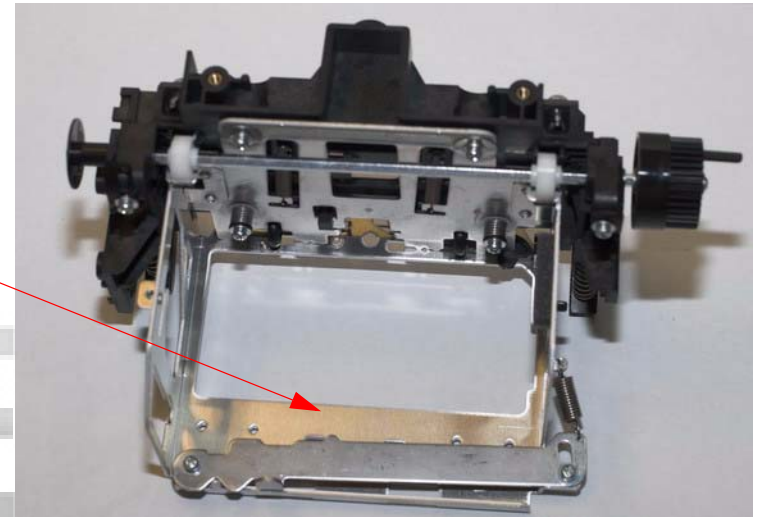


Remove **1 screw** and remove the **Multisensor**

26. Remove the **Weights** and transfer the **Weights**, **Cutter Assembly** and **Multisensor** to the new **Carriage Assembly**.

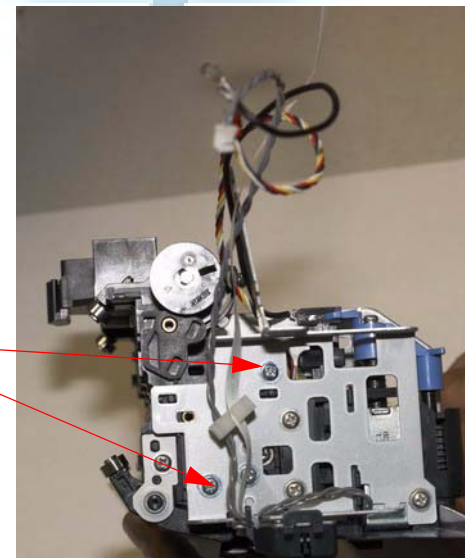


Remove **4 screws** and transfer the **Weights** to New **Carriage Assy**.



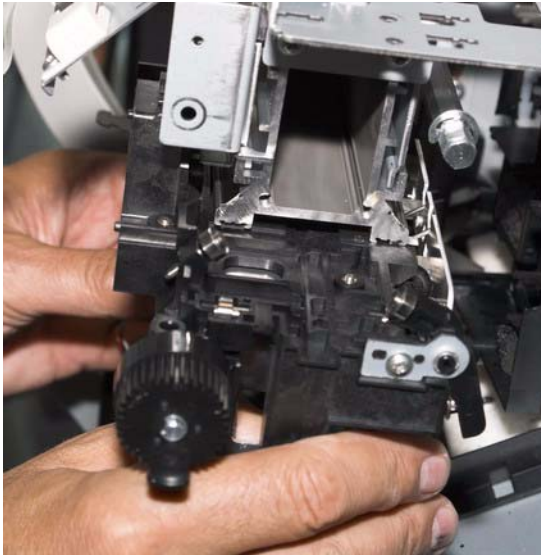
Install **Multisense**, make sure it is in the correct alignment holes.

Install **Cutter Assy** back, **2 Screws**.

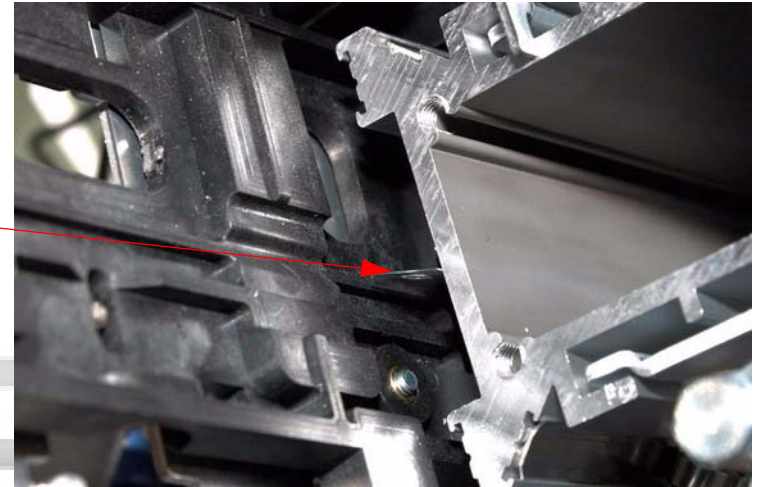




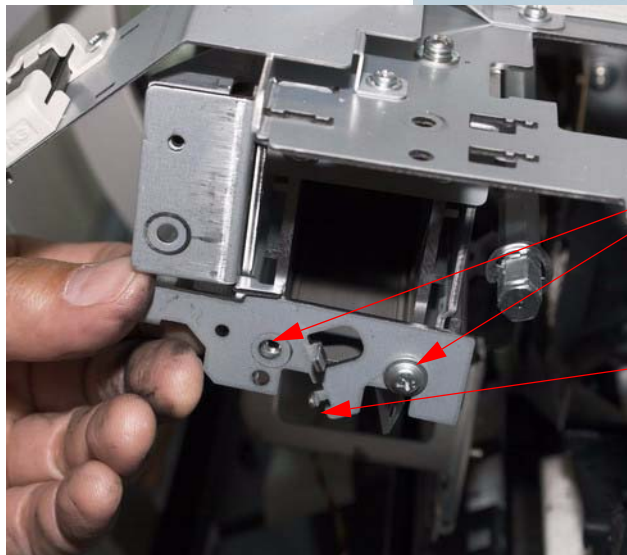
## 27. Slide new **Carriage Assy** back on to the **Rail**.



When sliding **Carriage Assy.** back on, be aware that the **T-fence** needs to be here.

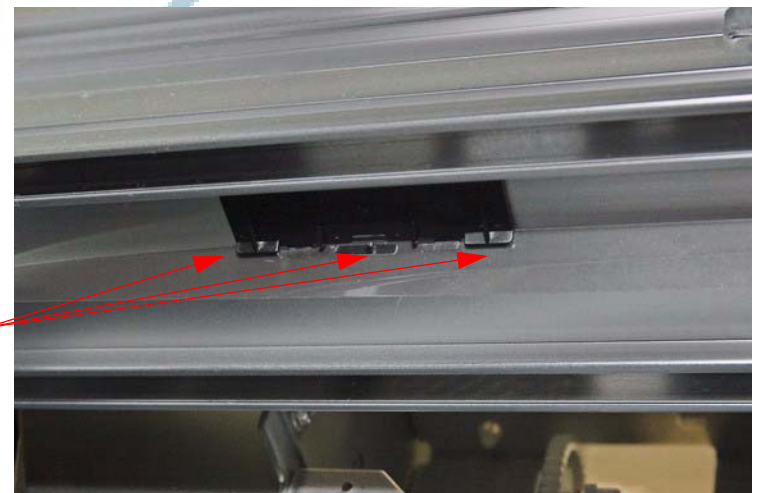


## 28. Install **T-Fence Hook Plate**.

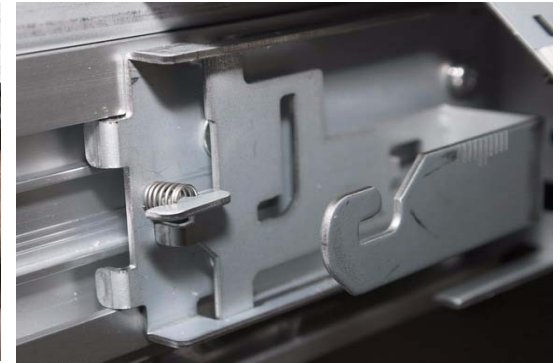


**2 screws** here

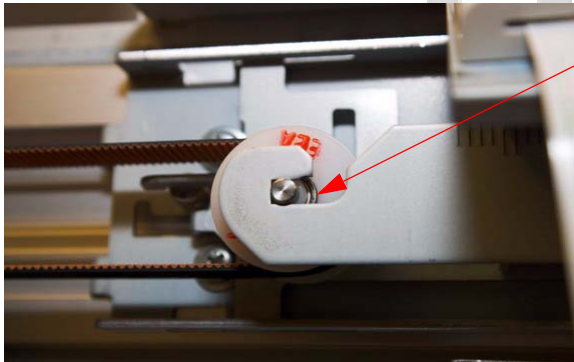
Make sure the **T-Fence** hooks on to here.



## 29. Install the **Belt Tensioner Bracket**



## 30. Install **Belt, Pulley** and **Tensioner Plate**



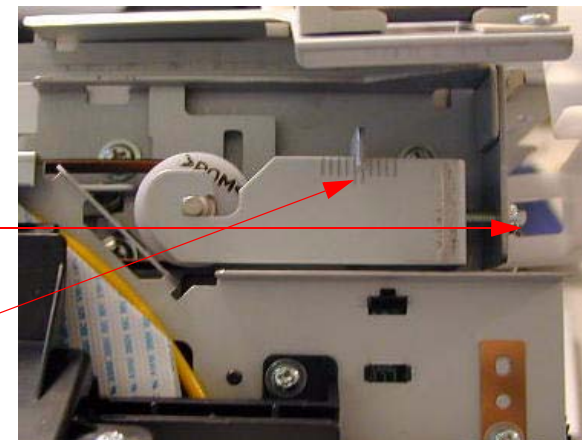
1. Put on **Pulley**, make sure **White Nylon Ring** is facing toward the front.

2. Make sure the **Belt** is hooked on to the **Carriage Motor**.



3. The ribs on the Belt end at the right side of the **Fastener**

4. Turn the **Adjustment Screw** until the **Belt Bracket** is positioned between 2 long marks in the center.

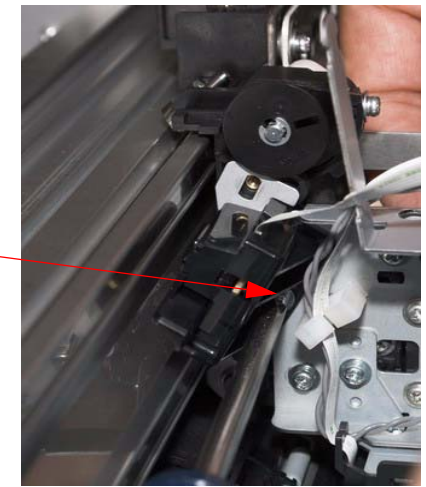




### 31. Install the **CR Encoder**.

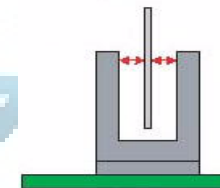
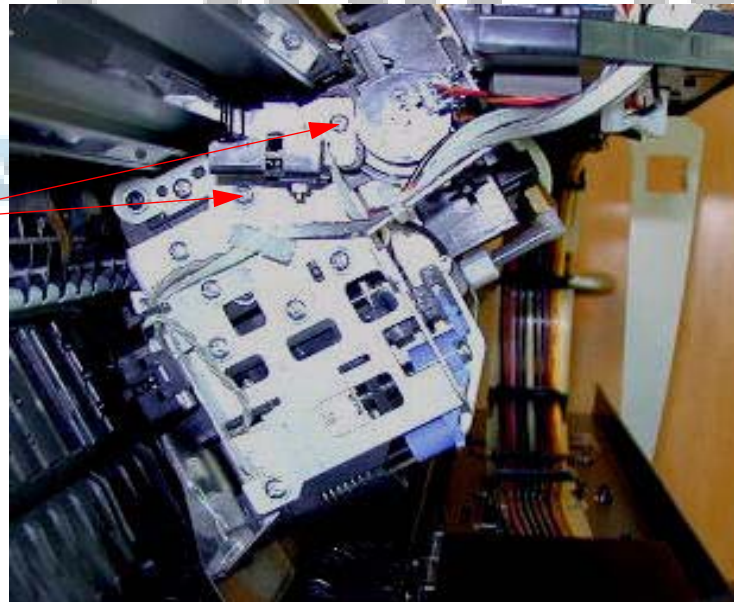


2 Screws



### 32. Adjust the **Carriage Encoder Sensor**, until it is centered on the **Carriage Encoder Strip**.

1. Loosen **2 Screws** so that the **Carriage Encoder** can be shifted forward and back.



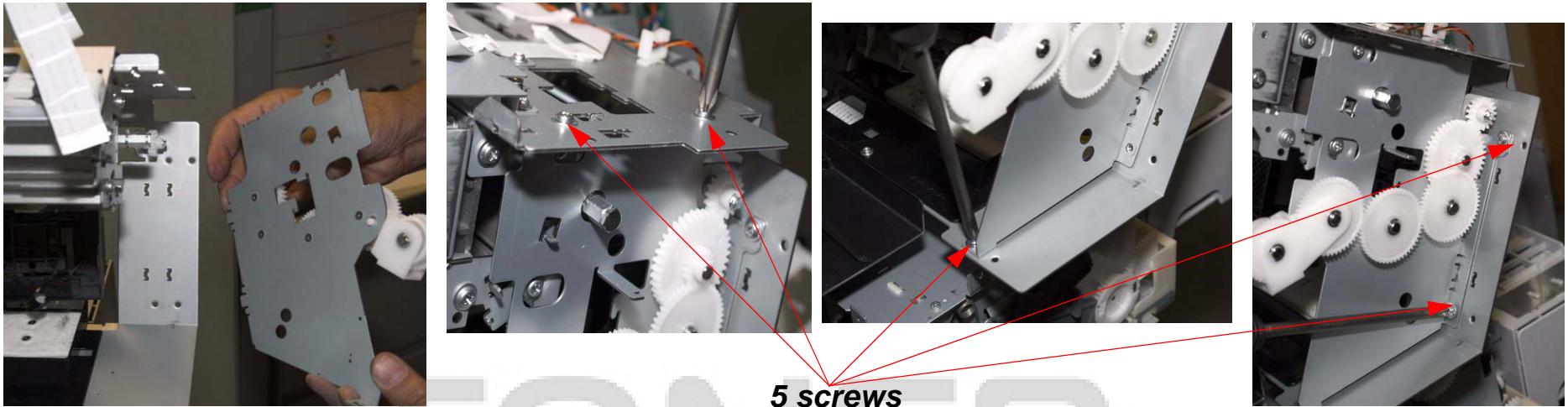
2. Sight down the **Encoder Strip** and adjust the position of the **Carriage Encoder** until it is centered on the **Encoder Strip**.

Note: Move the **Carriage Assembly** and sight down the **Strip**. If the **Encoder** is not centered, the **Strip** will subtly shift position. Adjust until the shifting is minimized.

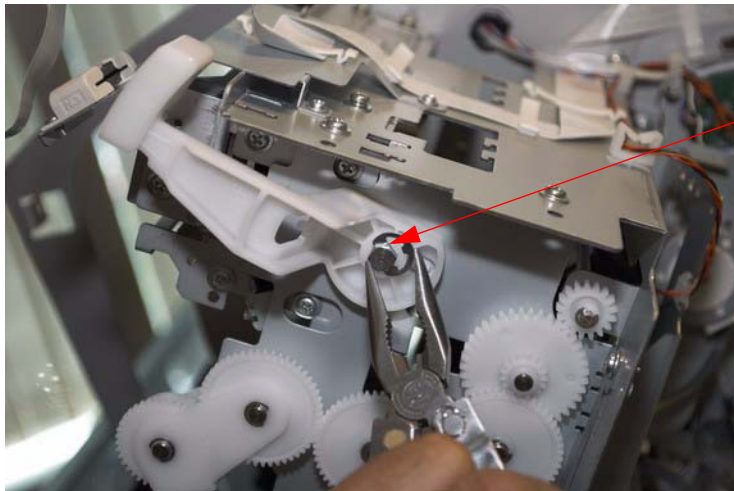
3. Tighten **2 Screws** when adjusted.



### 33. Install the **Right Side Gear Assy.**

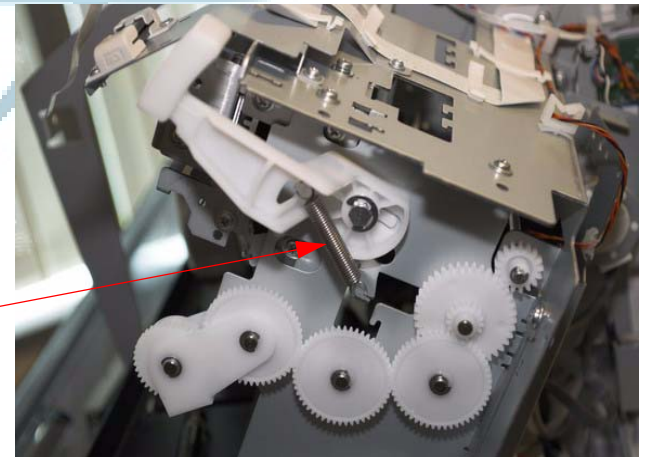


### 34. Install the **Paper Release Lever.**

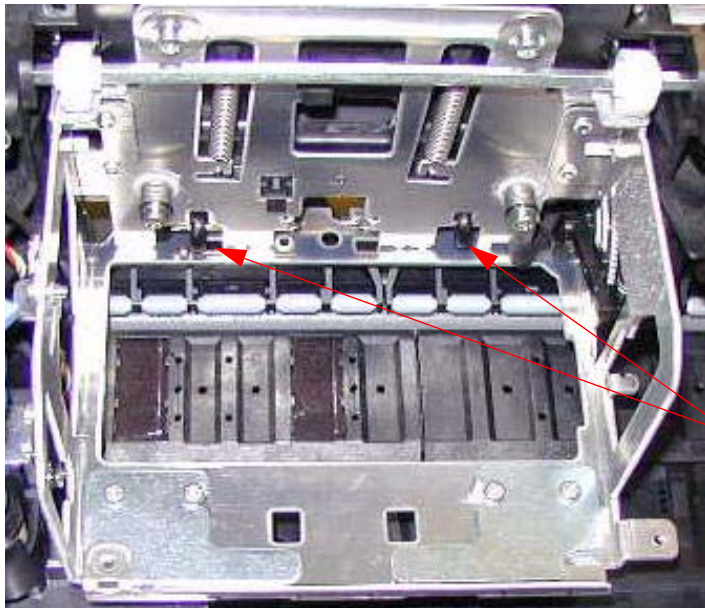


1. Insert **Paper Release Lever** and install the **E-Ring**. Push the **Paper Release Rod** from the left side to install the **E-Ring** properly.

2. Install the **Spring**.



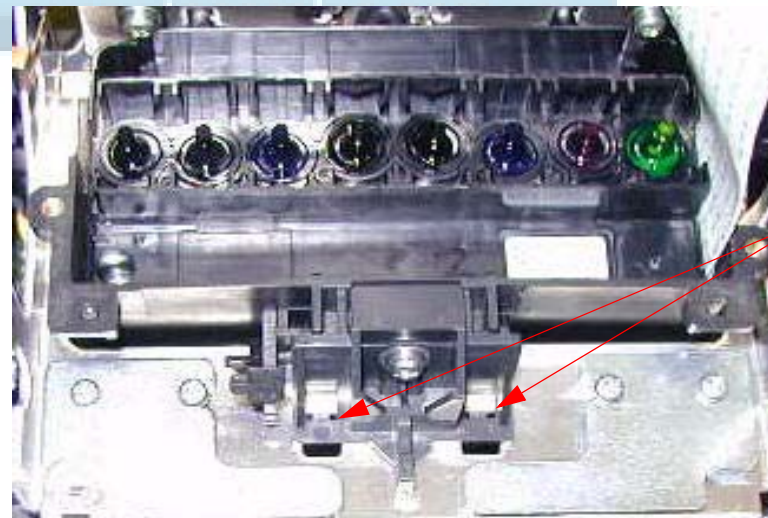
35. Slide the **Print Head Assembly** into the **Carriage Mechanism**.



The **Left and Right Plastic Tabs** on the **Print Head Assembly** go under these **Plastic Wheels**.



36. Ensure that the **Head Assembly Interlock Tabs** are inserted into the **Carriage Assembly Slots**.

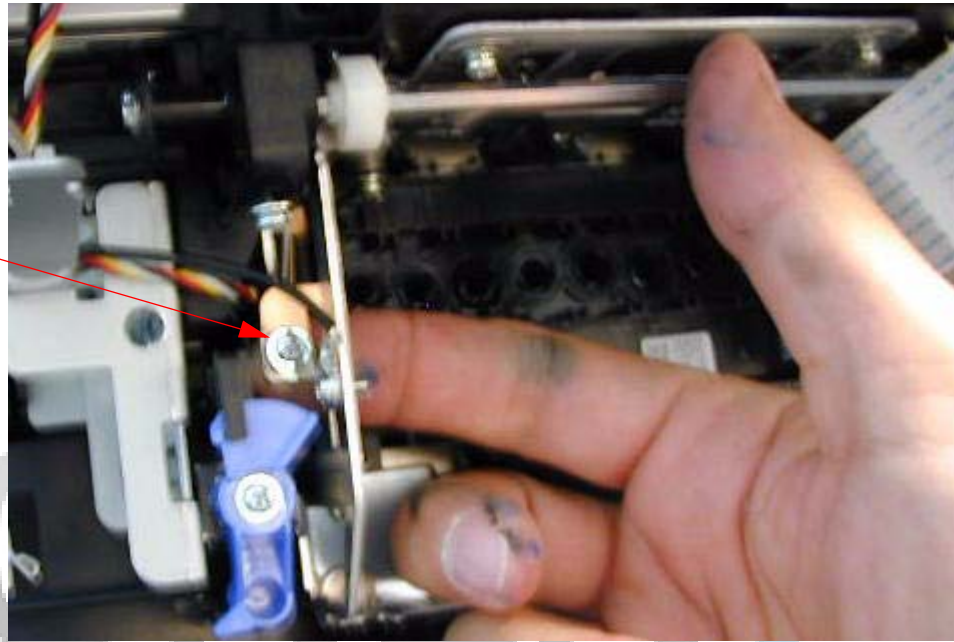


**Head Assembly Interlock Tabs** are inserted into the **Carriage Assembly Slots**

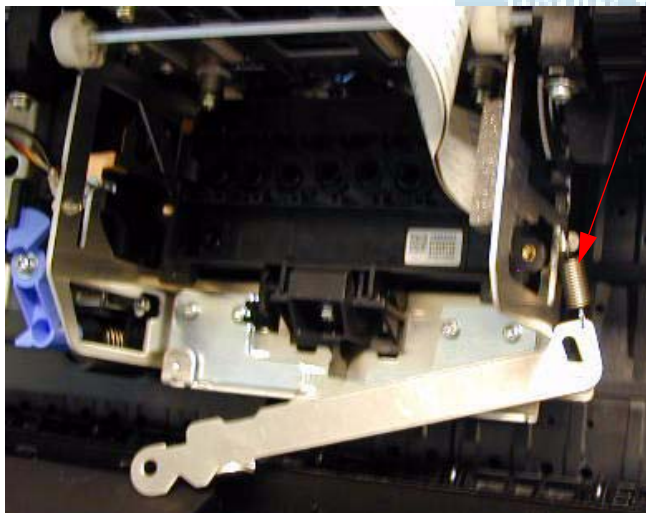


37. Attach the **Print Head Ground Strap** with **1 Screw**.

Attach the **Print Head Ground Strap** with **1 Screw**.



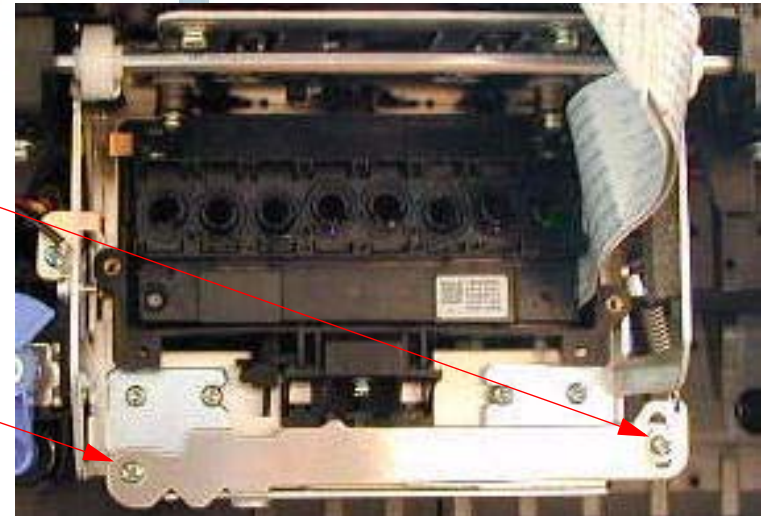
38. Install the **Tension Bar**, that fastens the **Print Head Assembly**.



1. Install the **Spring**.

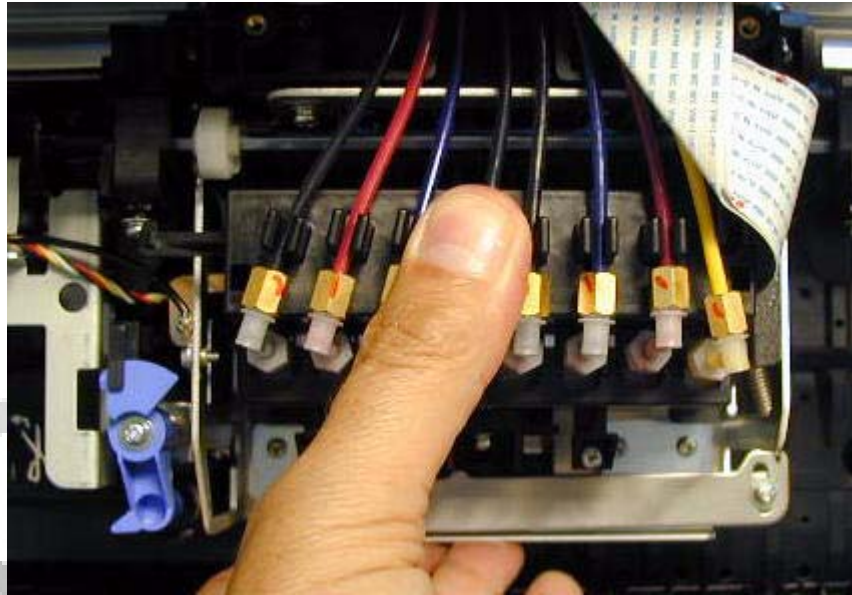
2. Install this **Screw** loosely.

3. Flex the **Tension Bar** into position and then insert the **Screw**.



39. Install the **Damper Assembly**, and fasten with **2 Screws**.

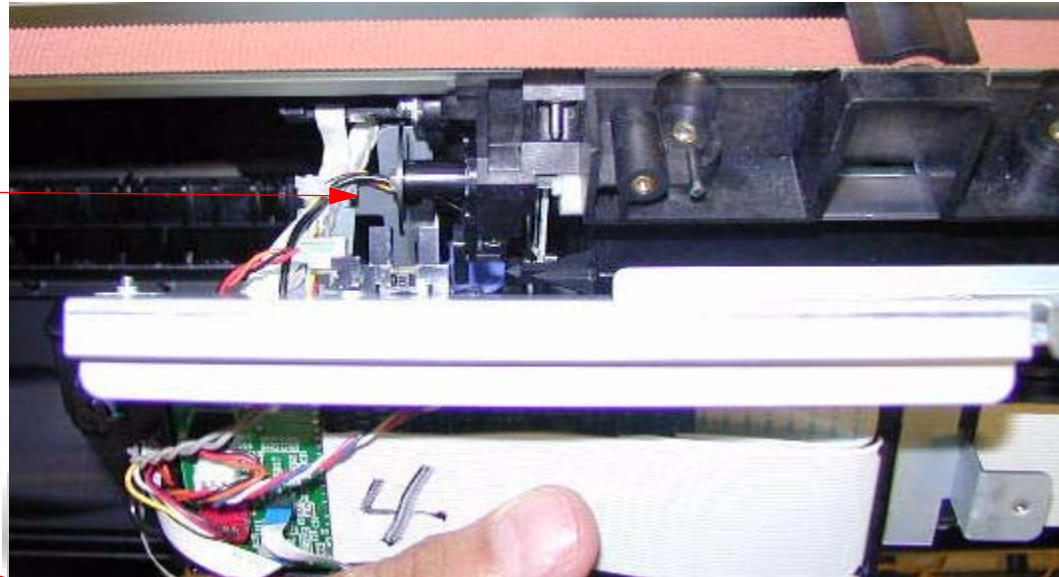
1. Lower the **Damper Assembly** onto the **Print Head**, and press onto the **Print Head** firmly.
2. Fasten with **2 Screws**, **1 Screw** on each side.



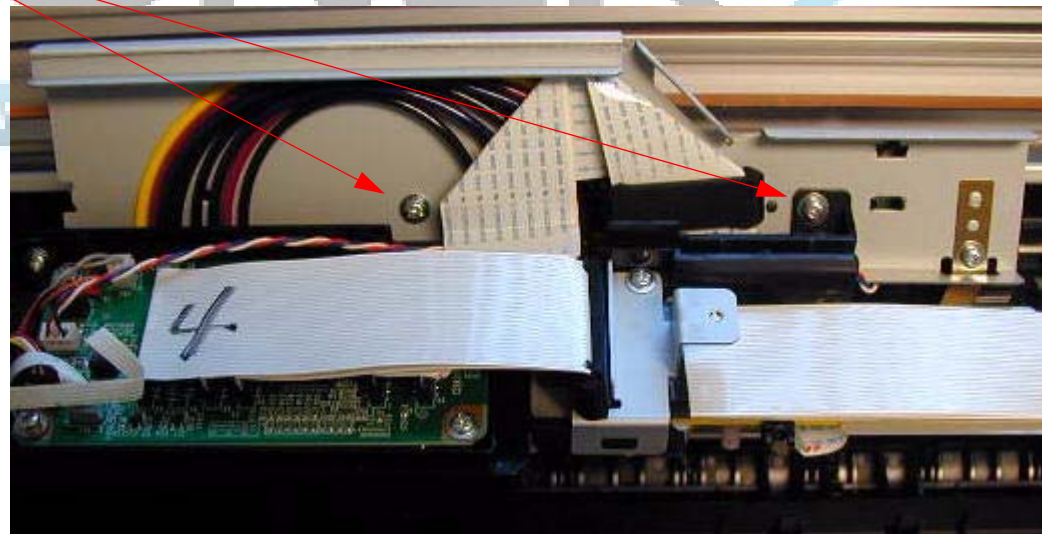
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#### 40. Attach the **Carriage Board Assembly** with **2 Screws**.

1. Ensure that the **Platen Gap Sensor** and the **Platen Gap Wheel** are in the correct position.

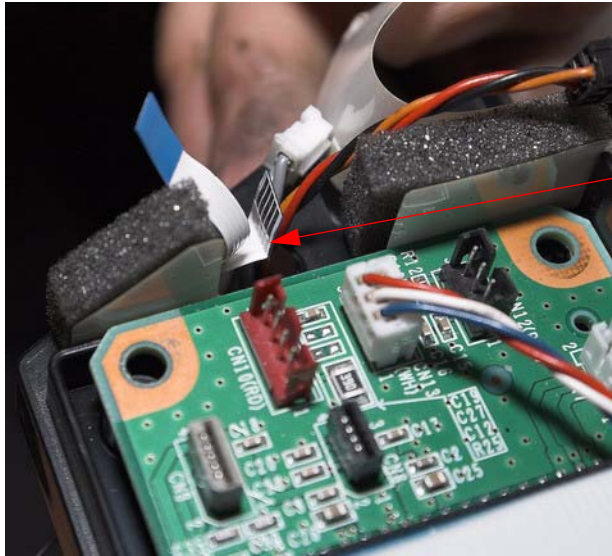


2. Fasten the **Carriage Board Assembly** with **2 Screws**.

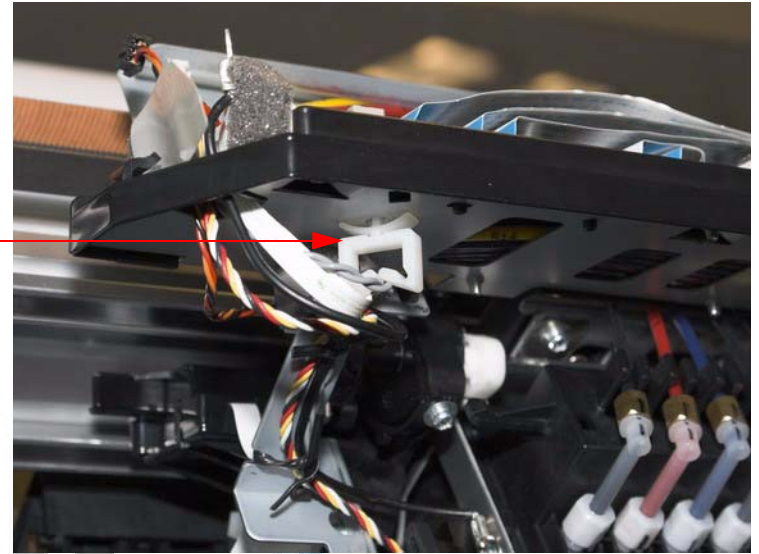




#### 41. Route and connect **5 Cables** for the **Carriage Board**.



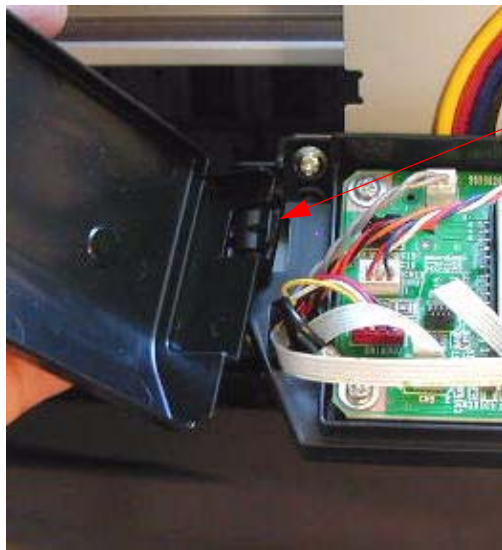
**Cables** go through here.  
Make sure the **Cables**  
are in the holder.



Connect **2 Foil Cables** and **3 Connectors**.  
**1 Screw** that fastens the **Ground Strap Wire**.



42. Install the **Carriage Board Cover** and fasten with **1 Screw**.



1. Engage the **Cover** with the **Hinge**.

2. Fasten with **1 Screw**.



43. Perform **Cutter Blade Position Adjustment**.

44. Plug in the **Printer**, and lower both **Ink Cartridge Levers** to open the **Ink Valves**.

45. Defeat the **Cover Sensor**, and turn on the **Printer**.

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

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

48. Press the **Menu** button and navigate to **PWR CLEANING**.

49. Press the **Menu** button, and follow the directions to execute.

**Note:** *Power Cleaning is necessary to prime the “negative pressure” Dampers. Other cleaning cycles do not work as well or quickly. Ensure that you raise and lower the levers when instructed.*

50. Print a Nozzle Check pattern (Perform standard cleanings if necessary).

51. Perform the following adjustments in sequence.

51.1 Perform **Reset When Print Head Change**

51.2 Perform the **Print Head Slant Adjustment (CR)**

51.3 Perform the **Print Head Slant Adjustment (PF)**

51.4 Perform the **Auto Bi-D Adjustment**

51.5 Perform the **Auto Uni-D Adjustment**

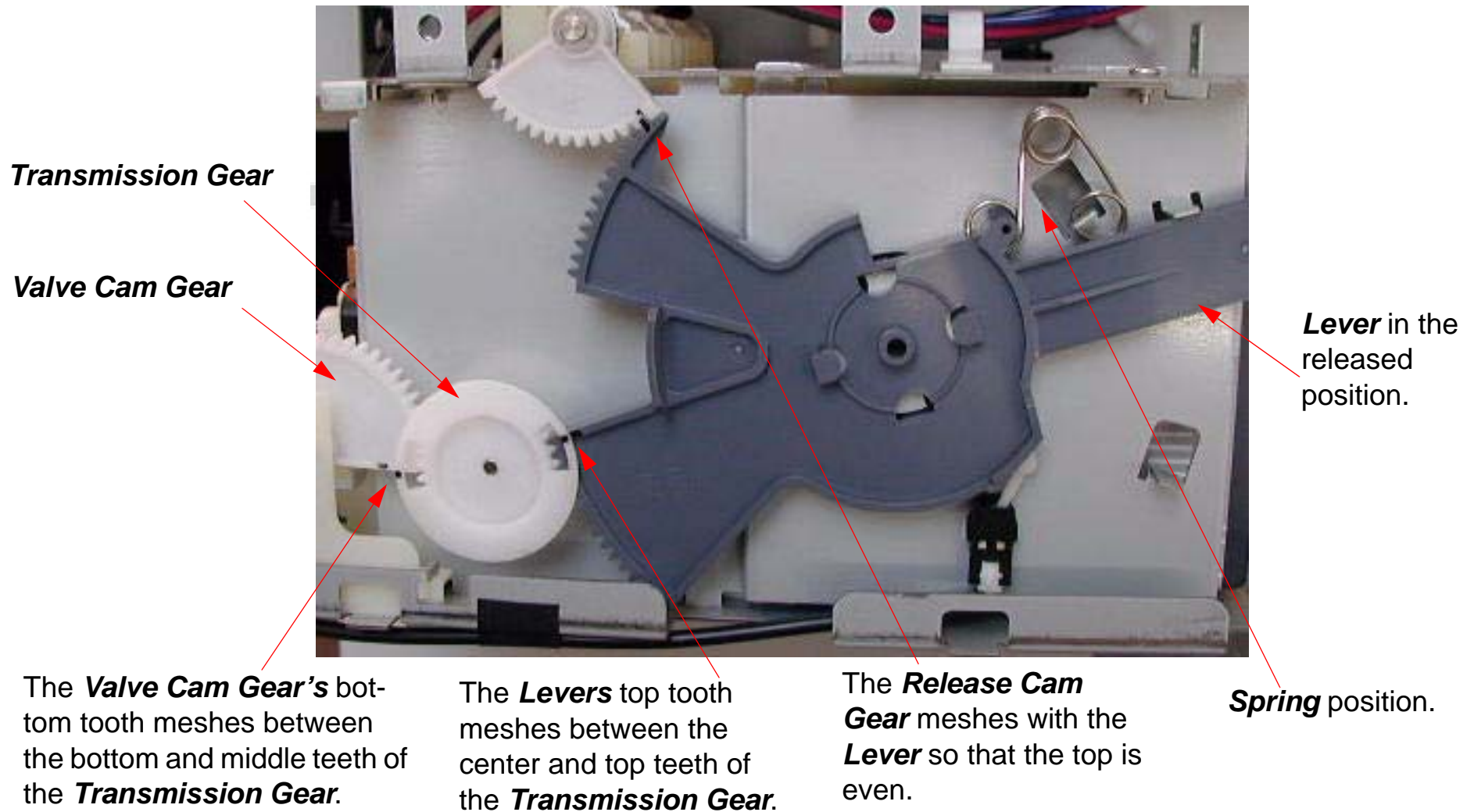
51.6 Perform the **Colorimetric Calibration** (*When specifically requested by Epson*)





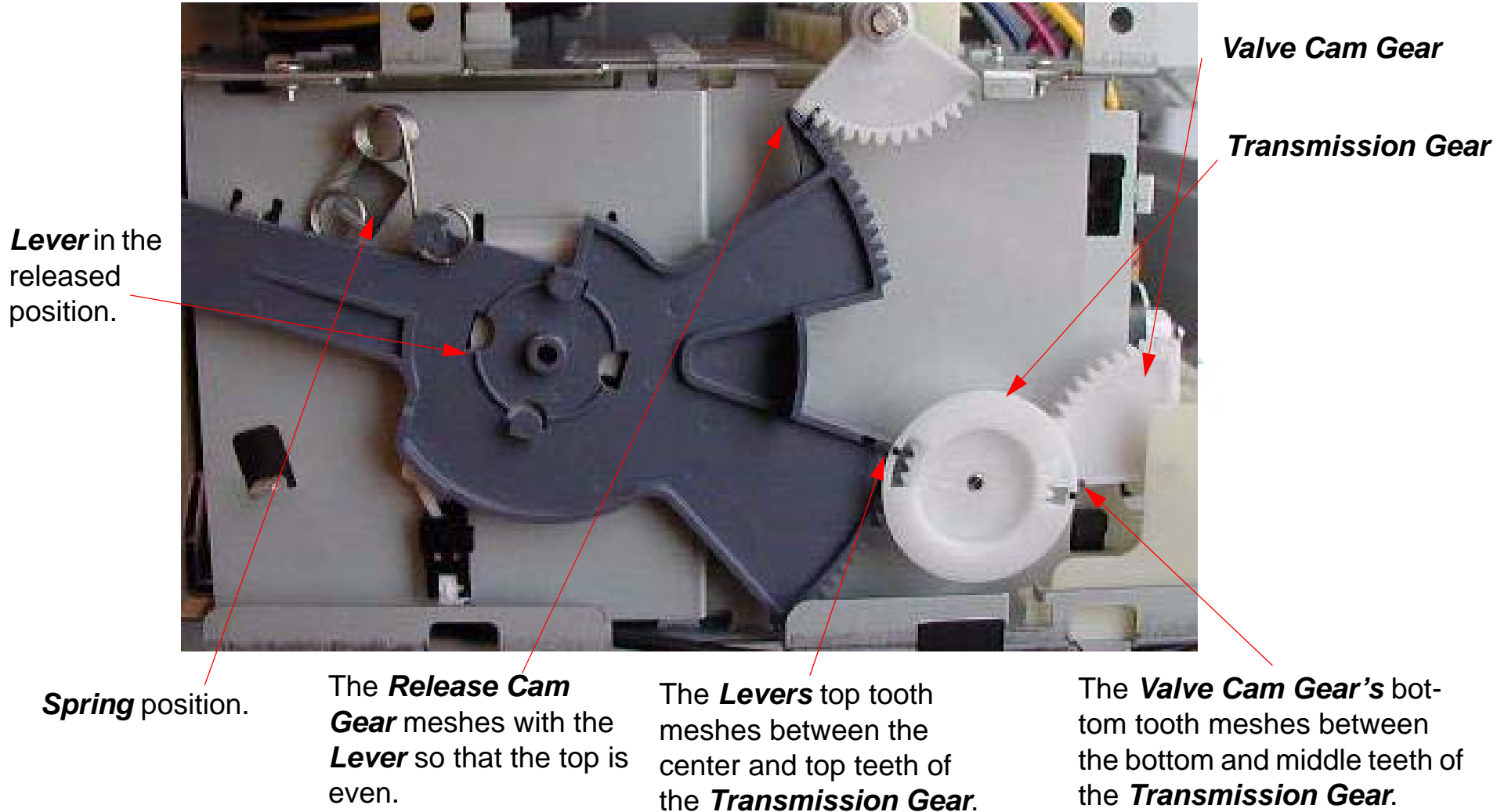
## Cartridge Release Lever Repair (Left)

1. Remove the **Left Side Cover**.
2. Ensure that the **Gears** and **Spring** are in the positions shown.



## Cartridge Release Lever Repair (Right)

1. Remove the **Right Side Cover**.
2. Ensure that the **Gears** and **Spring** are in the positions shown.

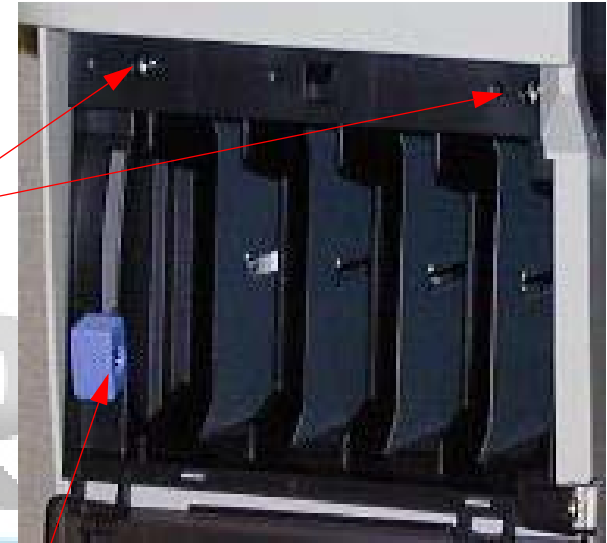


## Cover (Left Side) Removal

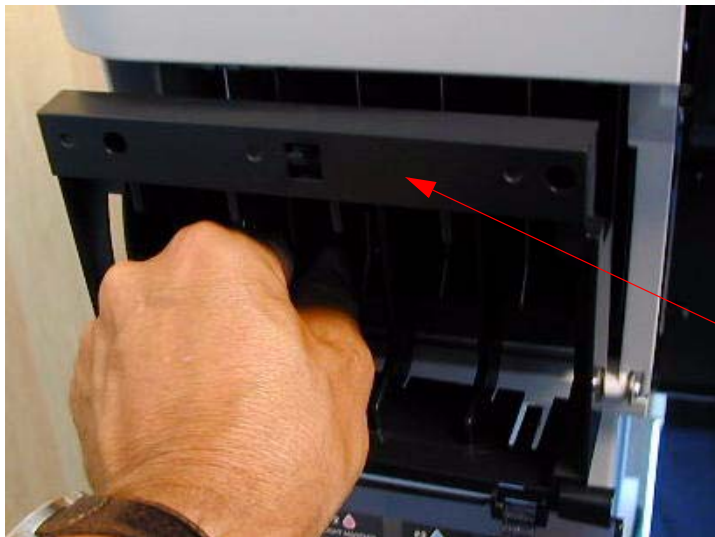
1. Remove the **Left Ink Bay Cover**.



2. Remove the **2 Screws** that fasten the **Left Ink Bay Cover**.



1. Raise the left **Ink Cartridge Release Lever** and remove the **4 Ink Cartridges**.



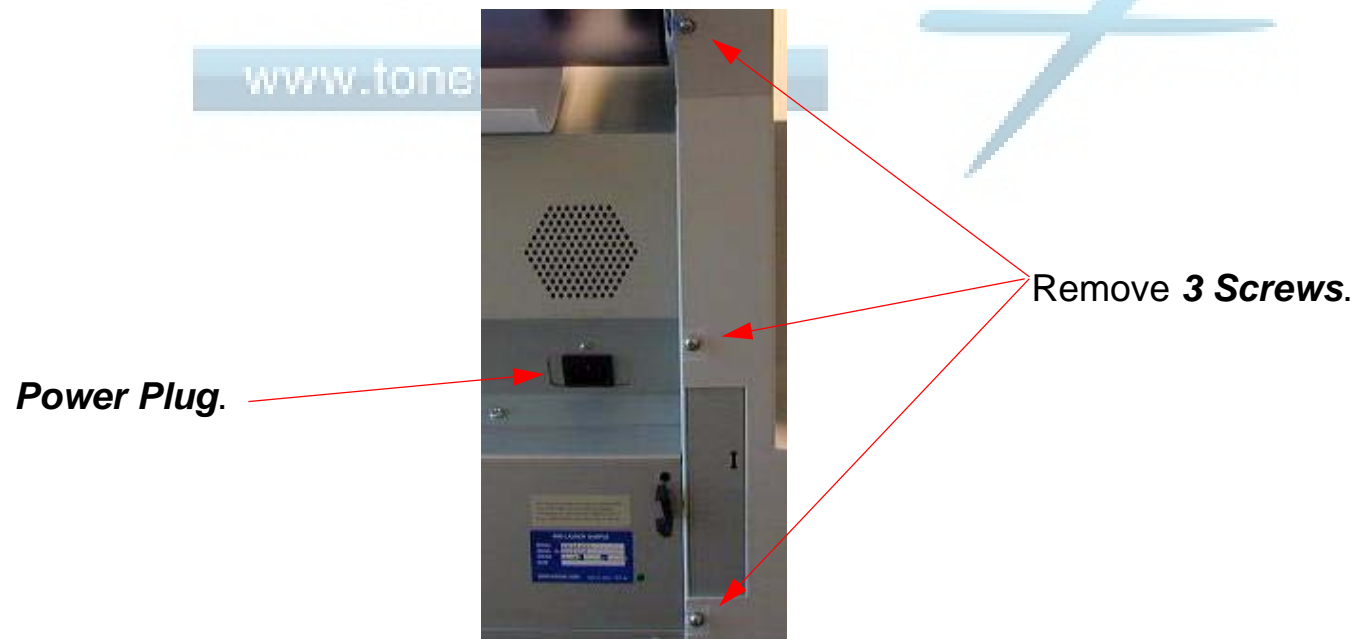
3. Remove the **1 Screw** that fastens the **Ink Cartridge Release Lever Handle** and remove the **Handle**.

4. Remove the **Left Ink Bay Cover** by pulling straight out.

2. Remove **4 Screws** that fasten the **Left Side Cover** from the inside of the **Printer**.



3. Remove **3 Screws** from the back of the **Printer**.





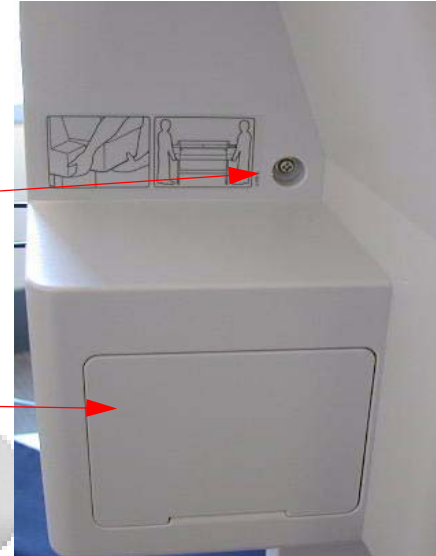
4. Remove the **Screw Cover** and **1 Screw** that fasten the **Cover** to the **Printer** from the left side.



Remove the **Screw Cover**.

Remove **1 Screw**.

**Note:** On a 9800 also remove the **Waste Ink Tank** that would be located here.

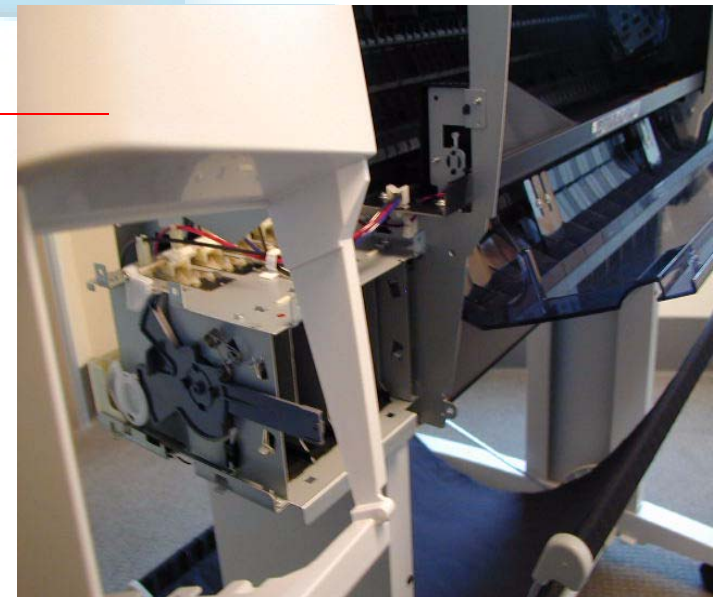


5. Slide off the **Left Side Cover**.



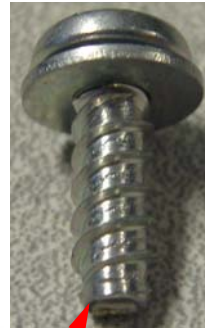
1. Flex the **Left Side Cover Plastic** away from this **Metal Bracket**.

2. Slide the **Cover** off.



## Cover (Right Side) Removal

1. Remove the **Paper Release Lever**.



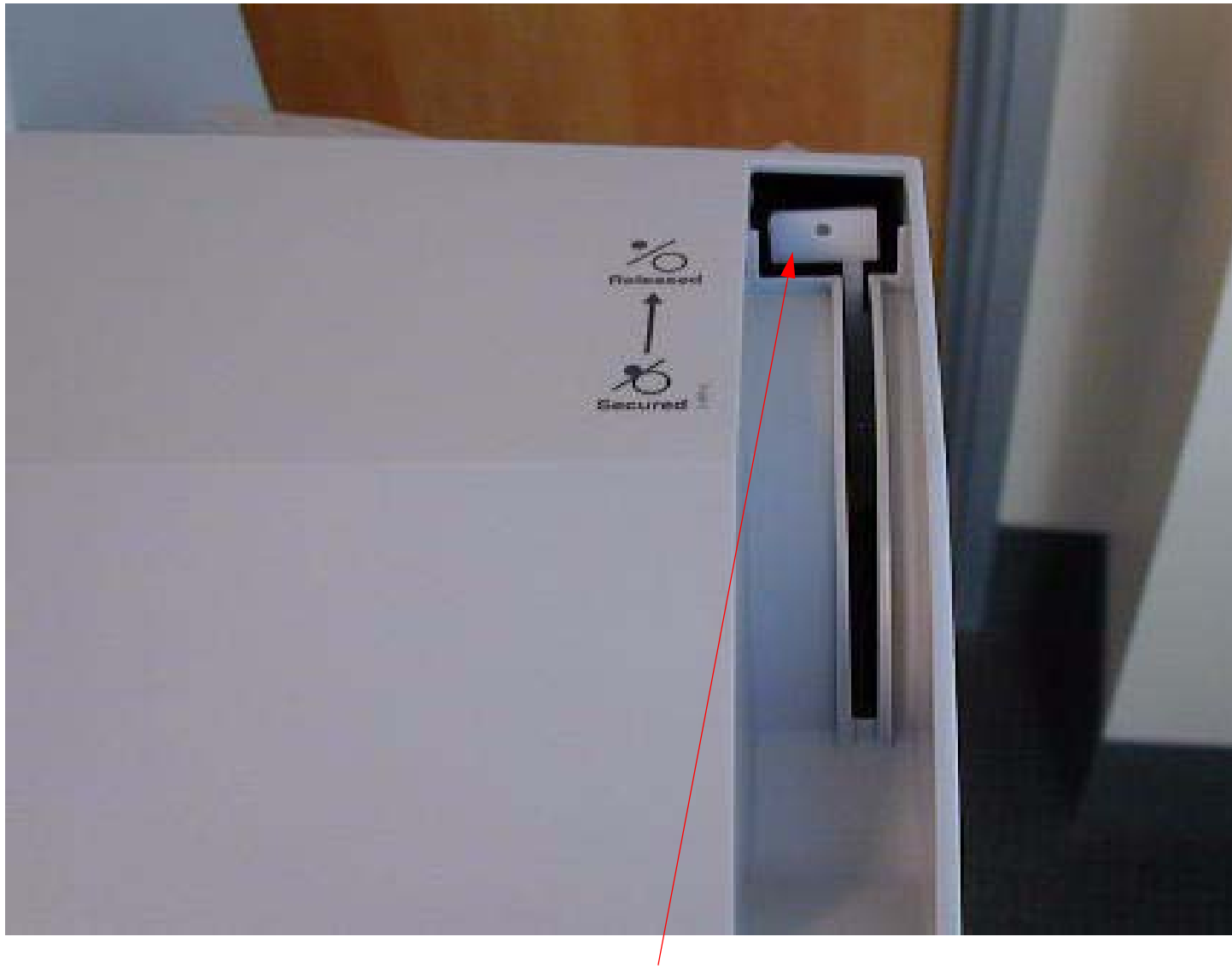
1. Raise the **Paper Release Lever**, and remove 1 **Screw**.

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2. Lower the **Paper Release Lever**, and lift off the **Lever**.



2. Move the **Paper Release Lever** up, to the “released position”.



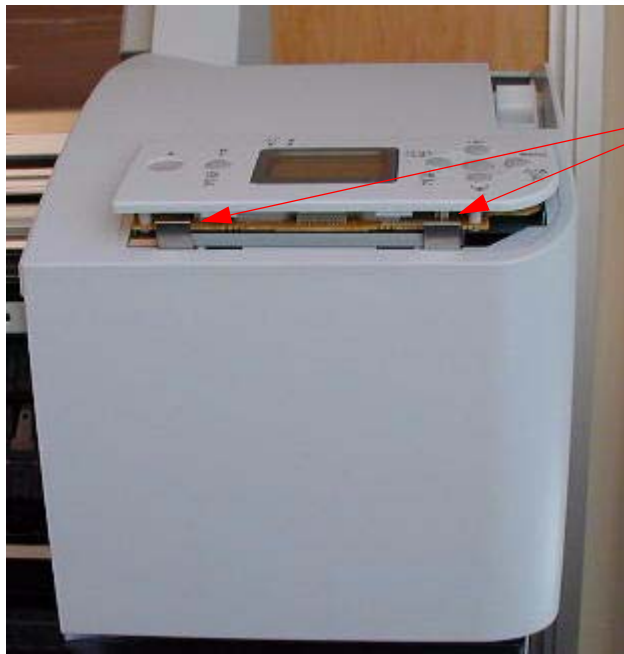
Put the **Paper Release Lever** in this position.

### 3. Remove the **Control Panel**.



1. Press down on the **Cutter Solenoid** to release the **Carriage Assembly**, and move it away from the **Cap**.

2. Reach into the **Right Side Cover**, and release the **Spring Clips** that fasten the **Control Panel** to the Cover.



These are the **Spring Clips** that fasten the **Control Panel** to the Cover.

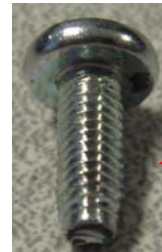
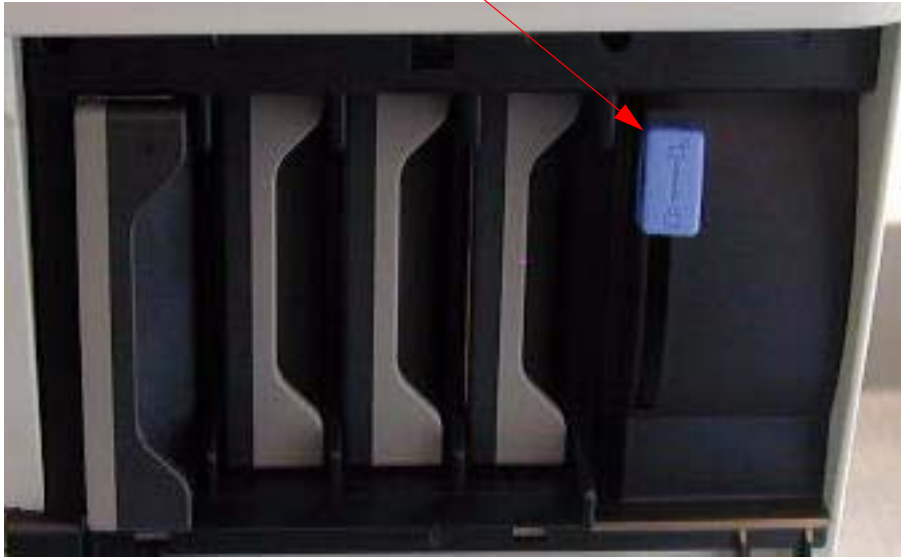
3. Unplug the **Control Panel Cable**.



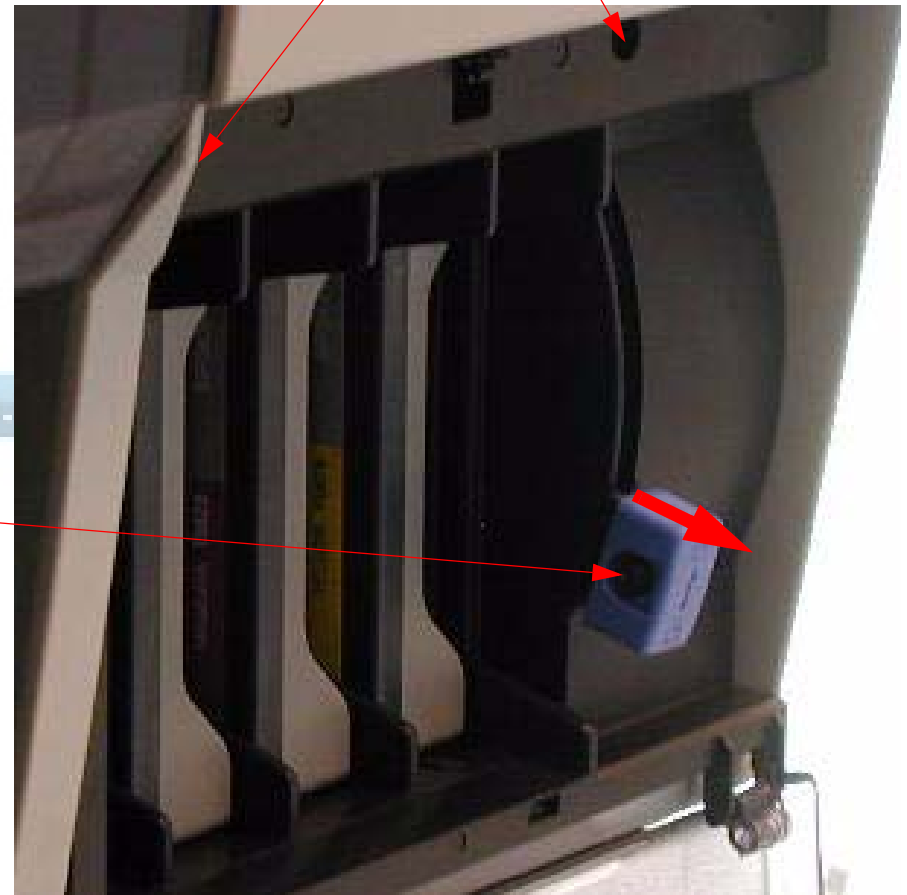


4. Prepare the **Right Ink Bay Cover** for removal.

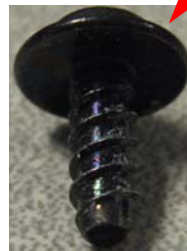
1. Raise the **Ink Cartridge Release Lever** and remove the **4 Ink Cartridges**.



2. Remove the **2 Screws** that fasten the **Right Ink Bay Cover**.

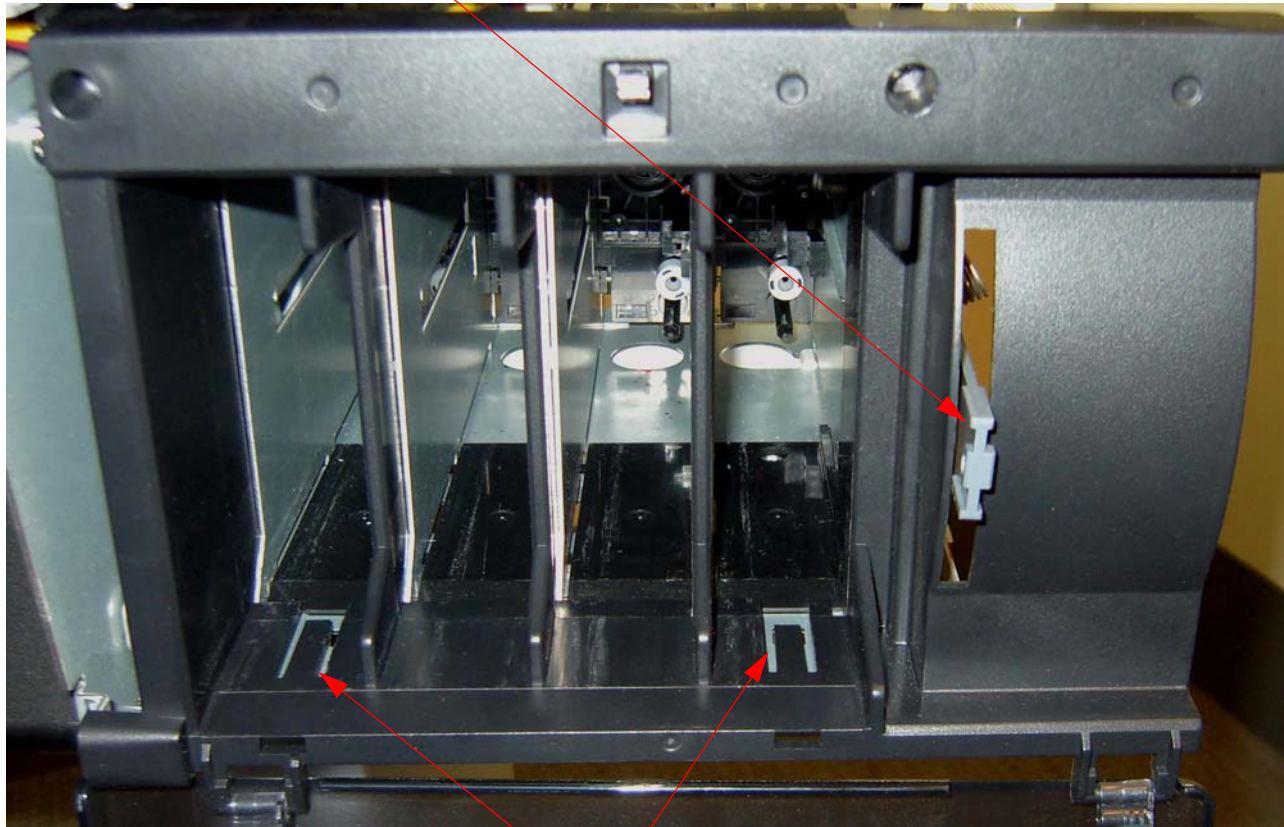


3. Remove the **1 Screw** that fastens the **Ink Cartridge Release Lever Handle** and remove the **Handle**.



## 5. Remove the **Right Ink Bay Cover**

1. Place the **Ink Cartridge Release Lever** in the middle position.



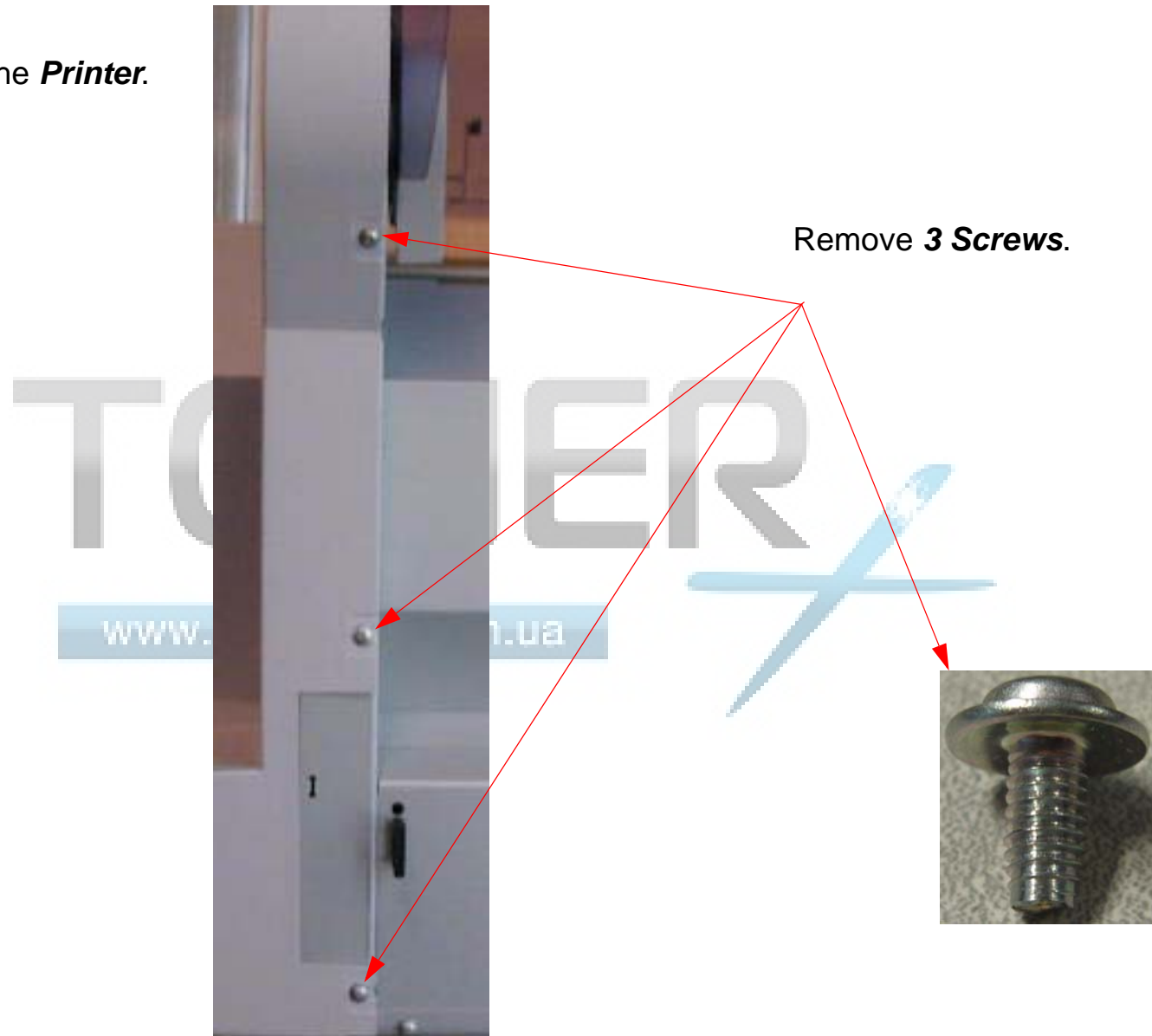
2. Using a small flat head screw driver, release these **2 Interlocks**, and remove the **Right Ink Bay Cover** by pulling straight out.

6. Remove **4 Screws** that fasten the **Cover (Right Side)** from the inside of the **Printer**.



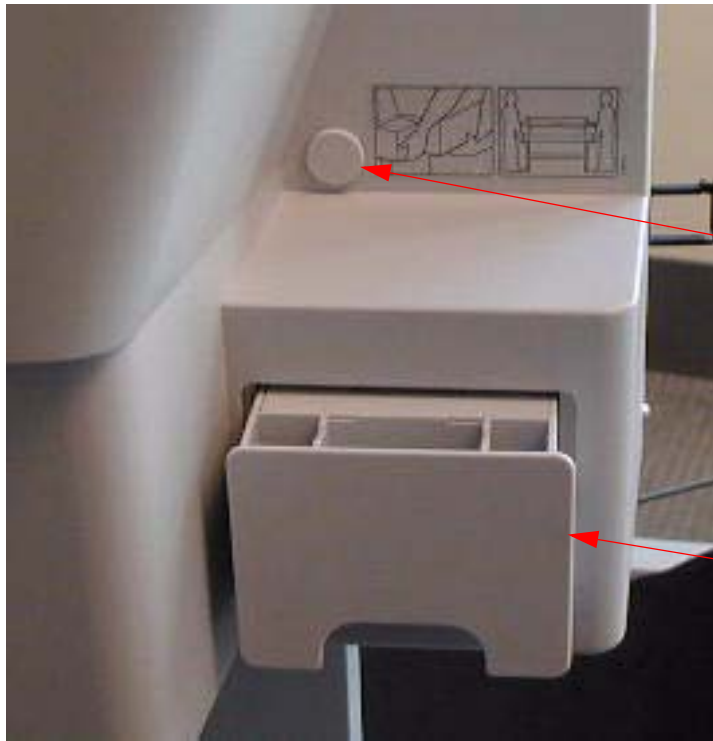
## 7. Remove **3 Screws** from the back of the **Printer**.

Right rear corner of the **Printer**.





8. Remove the **Screw Cover** and **1 Screw** that fasten the **Cover** to the **Printer** from the right side.



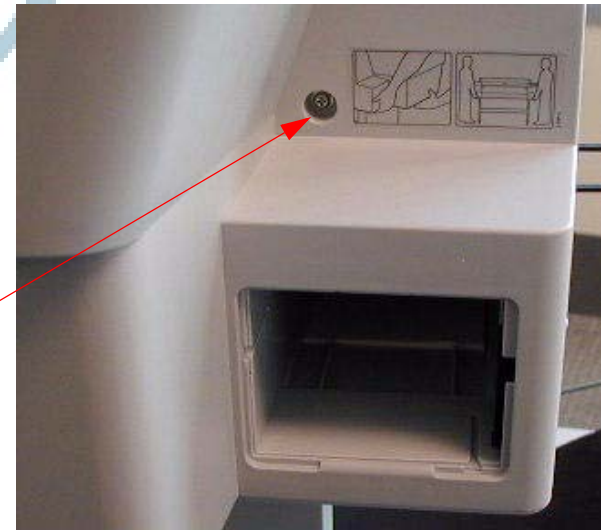
1. Remove the **Screw Cover**.



2. Remove the **Waste Ink Tank**.

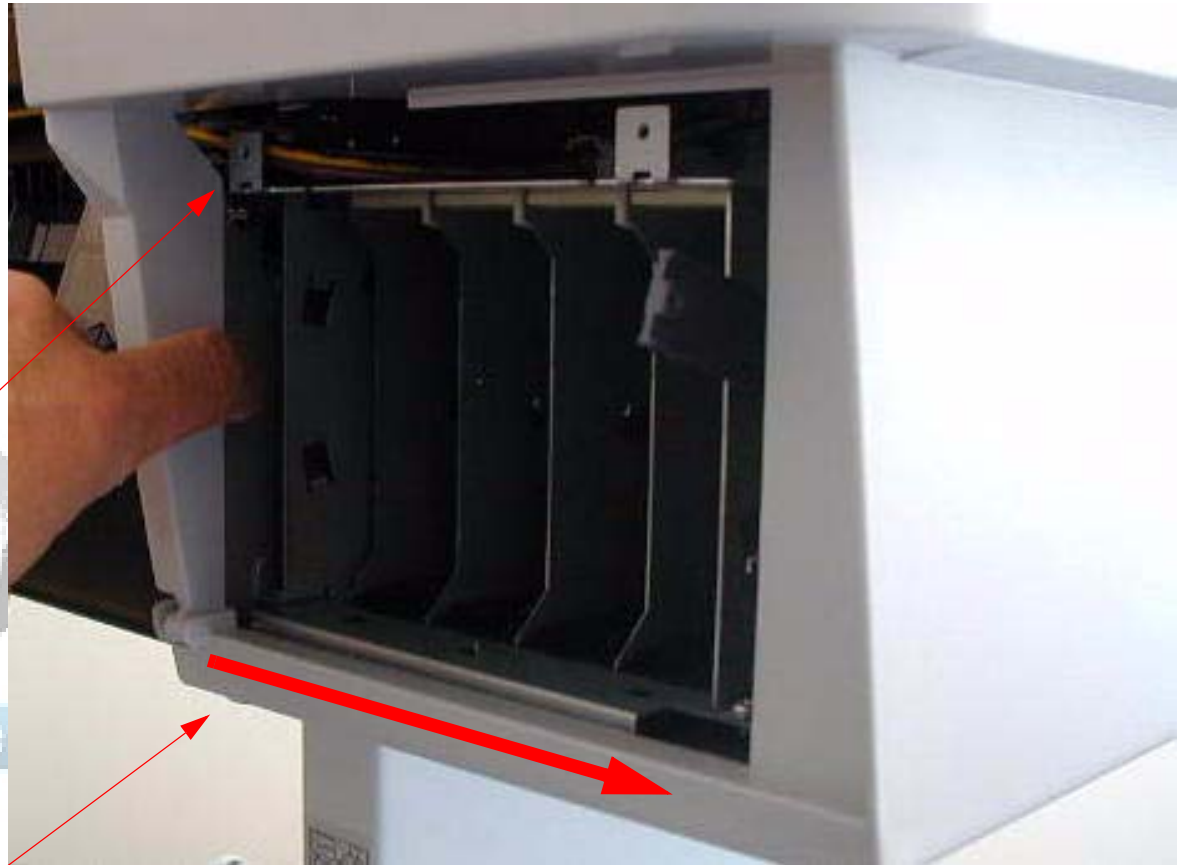


3. Remove **1 Screw**.



## 9. Slide off the **Cover (Right Side)**.

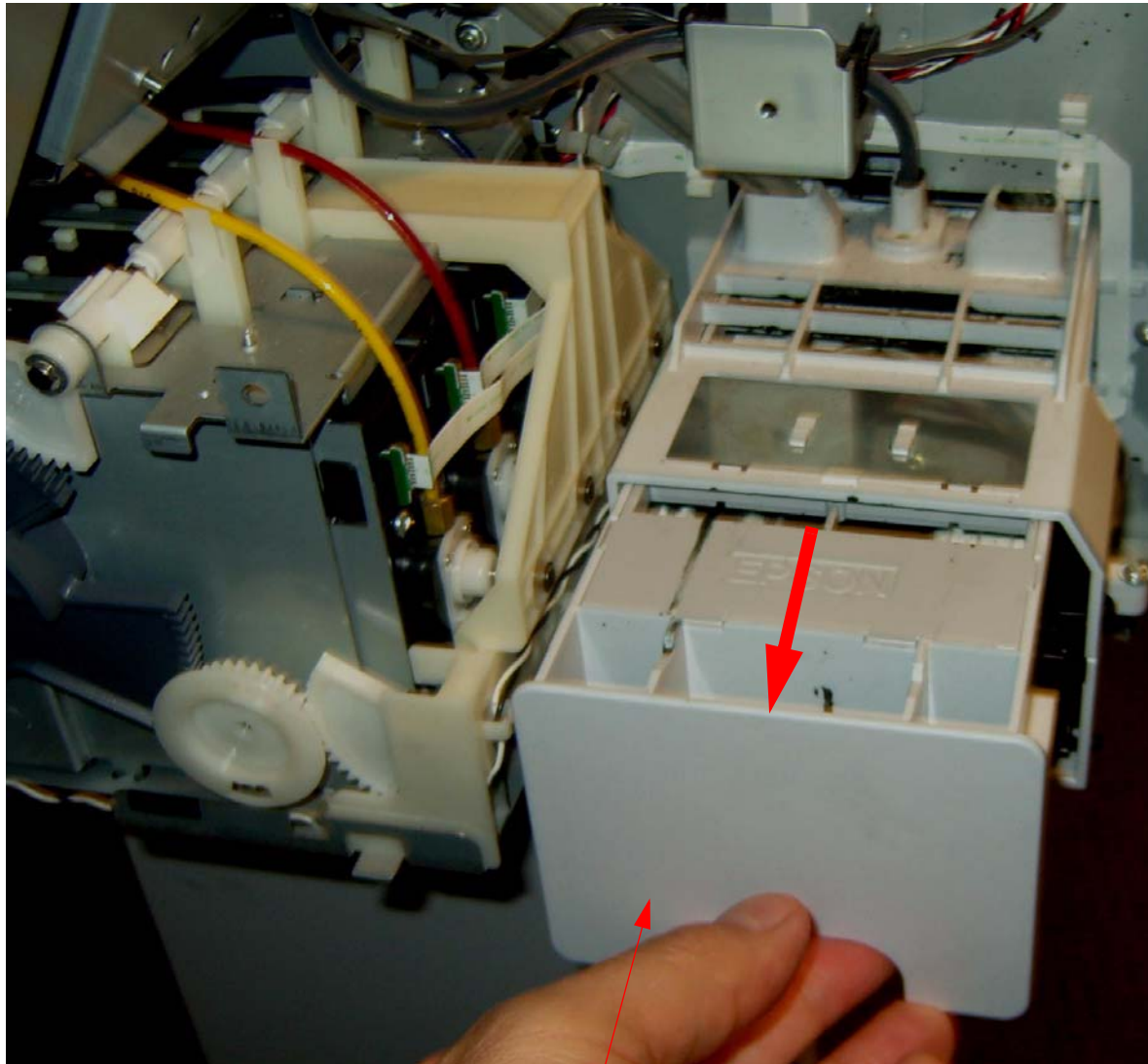
1. Flex the **Cover ( Right Side ) Plastic** away from this **Metal Bracket**.



2. Slide the **Cover** off.

## Cover (Right Side) Installation

1. Remove the ***Maintenance Tank*** from the ***Printer***.



Remove the ***Maintenance Tank*** from the ***Printer***.

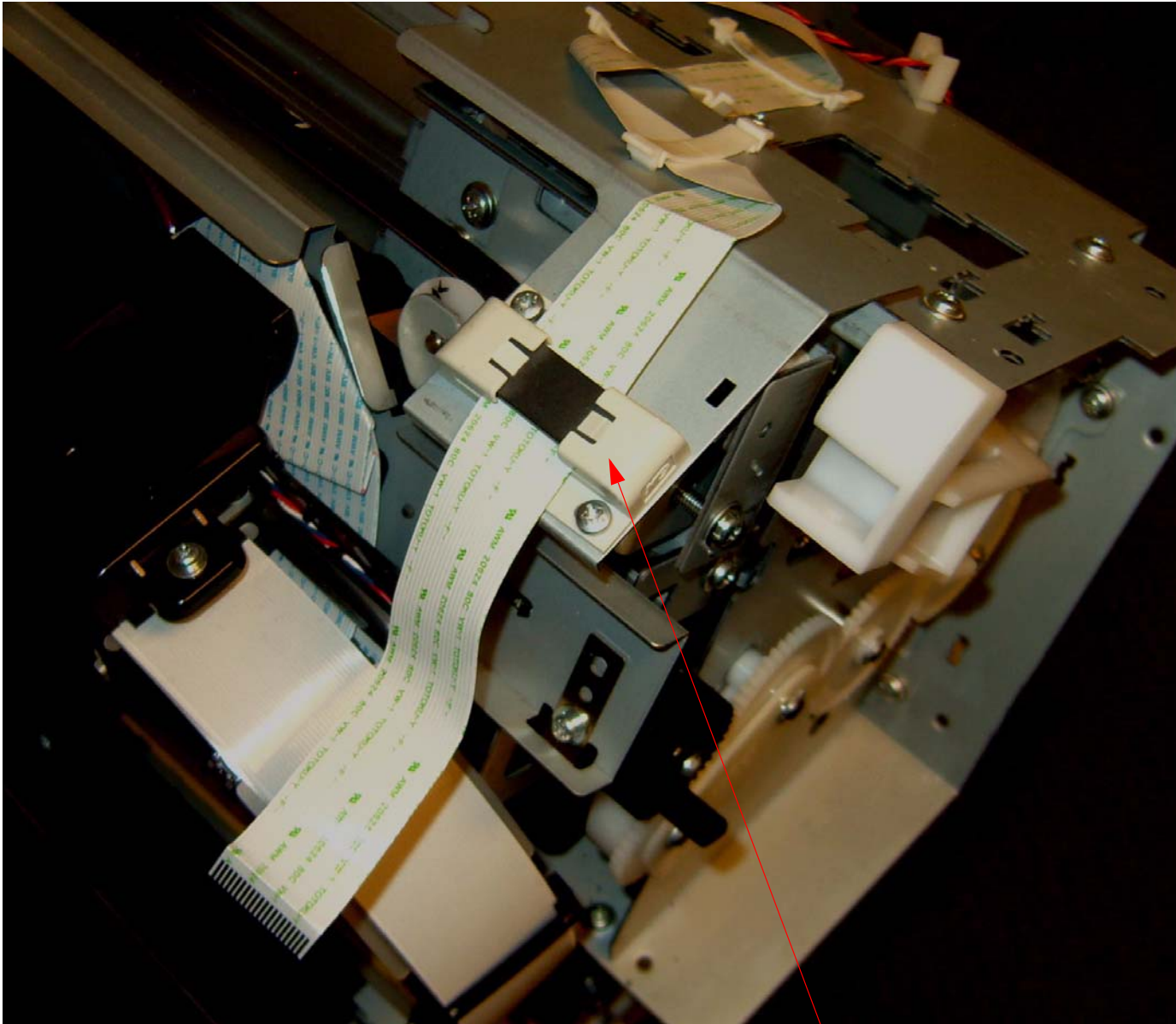
2. Disconnect the **Control Panel Cable** from the **Control Panel**.



Disconnect the **Control Panel Cable** from the **Control Panel**.

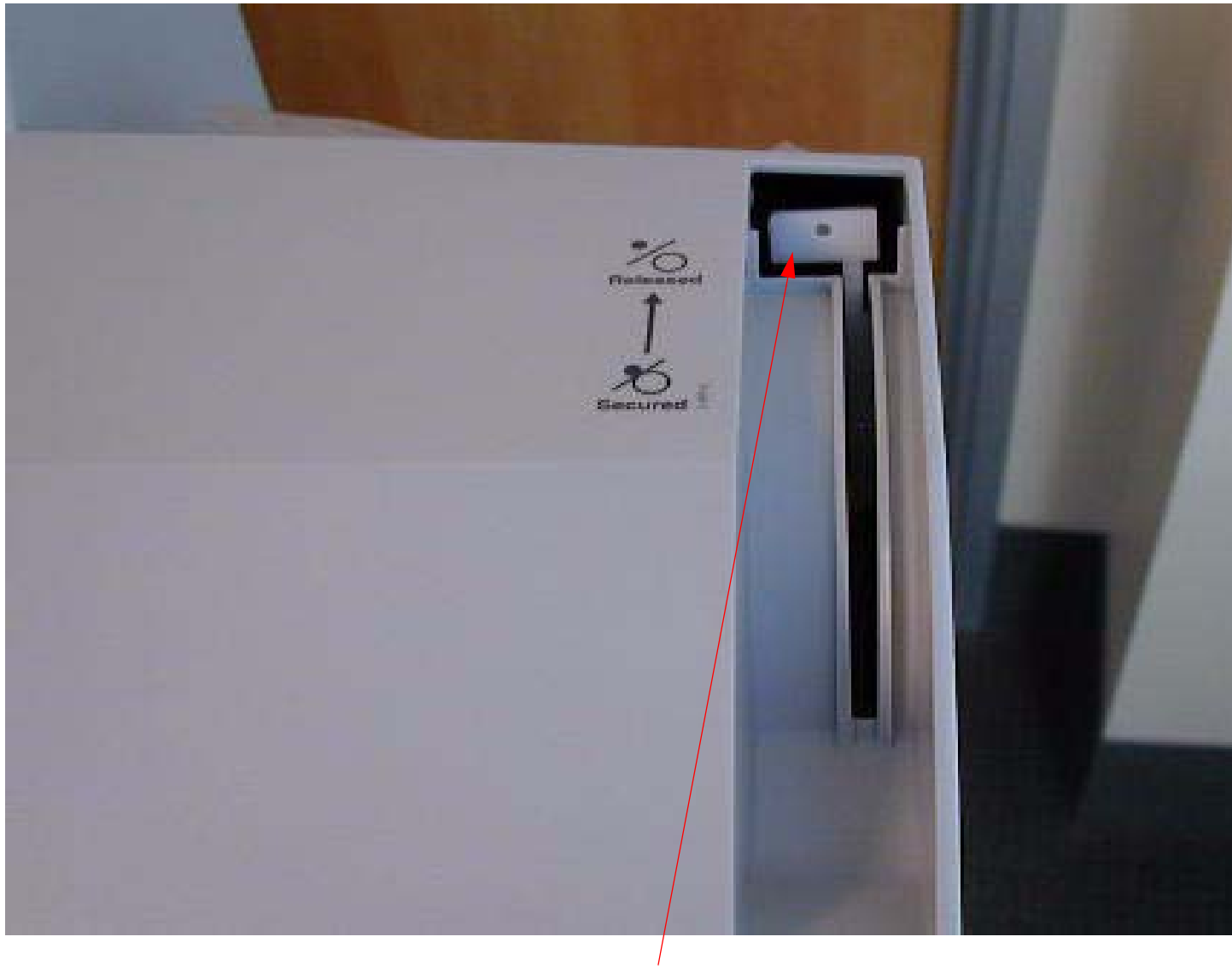


3. Route the **Control Panel Cable** through the **Cable Guide**.



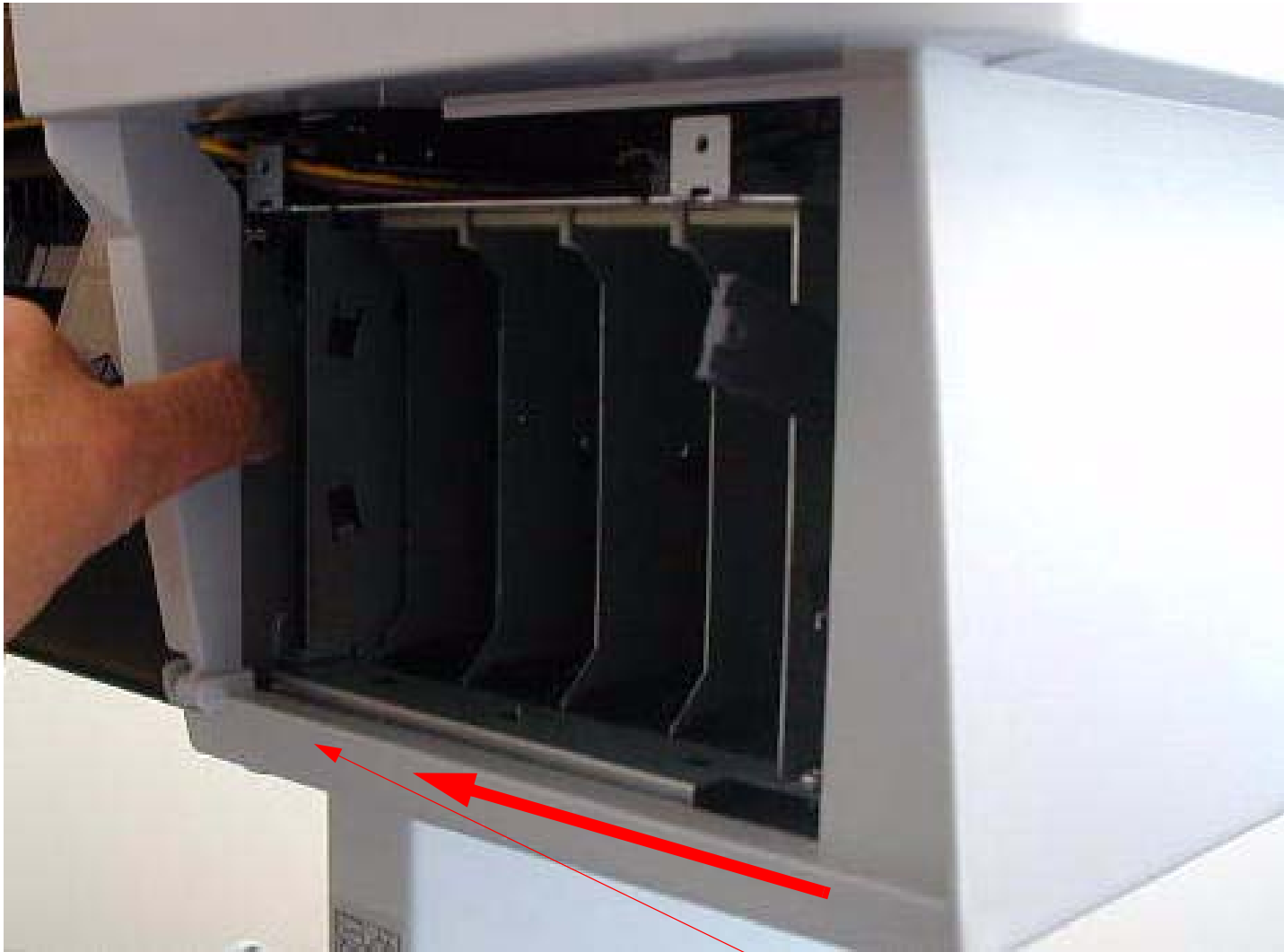
Route the **Control Panel Cable** through the **Cable Guide**.

4. Move the **Paper Release Lever** up, to the “released position”.



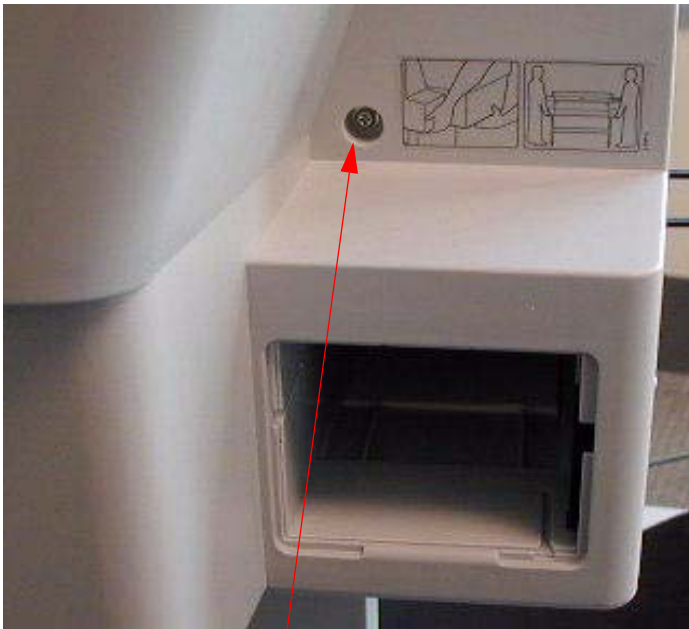
Put the **Paper Release Lever** in this position.

5. Slide on the **Cover (Right Side)**.



Slide on the **Cover (Right Side)**.

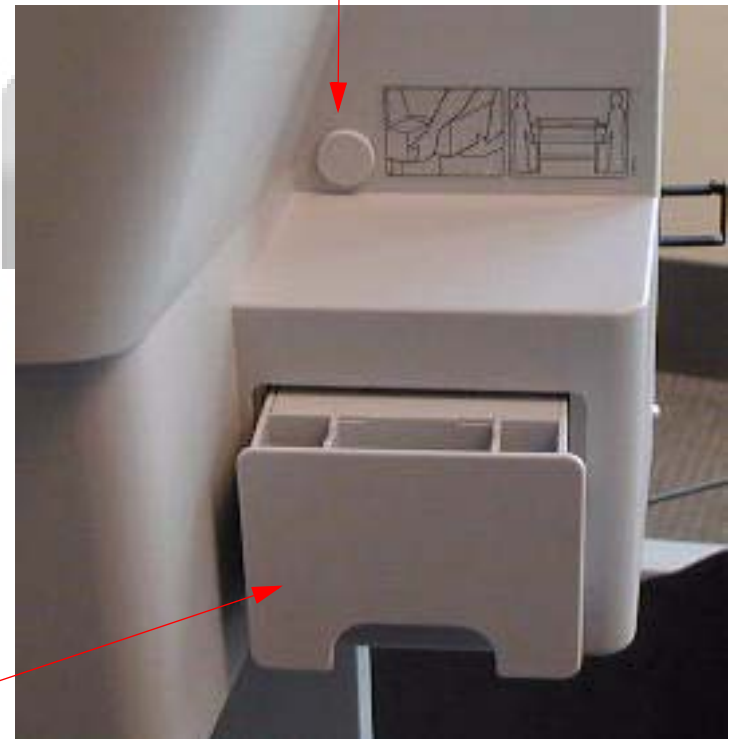
6. Install **1 Screw** and **Screw Cover** that fasten the **Cover (Right Side)** to the **Printer** from the right side.



1. Install **1 Screw**.



2. Install the **Screw Cover**.



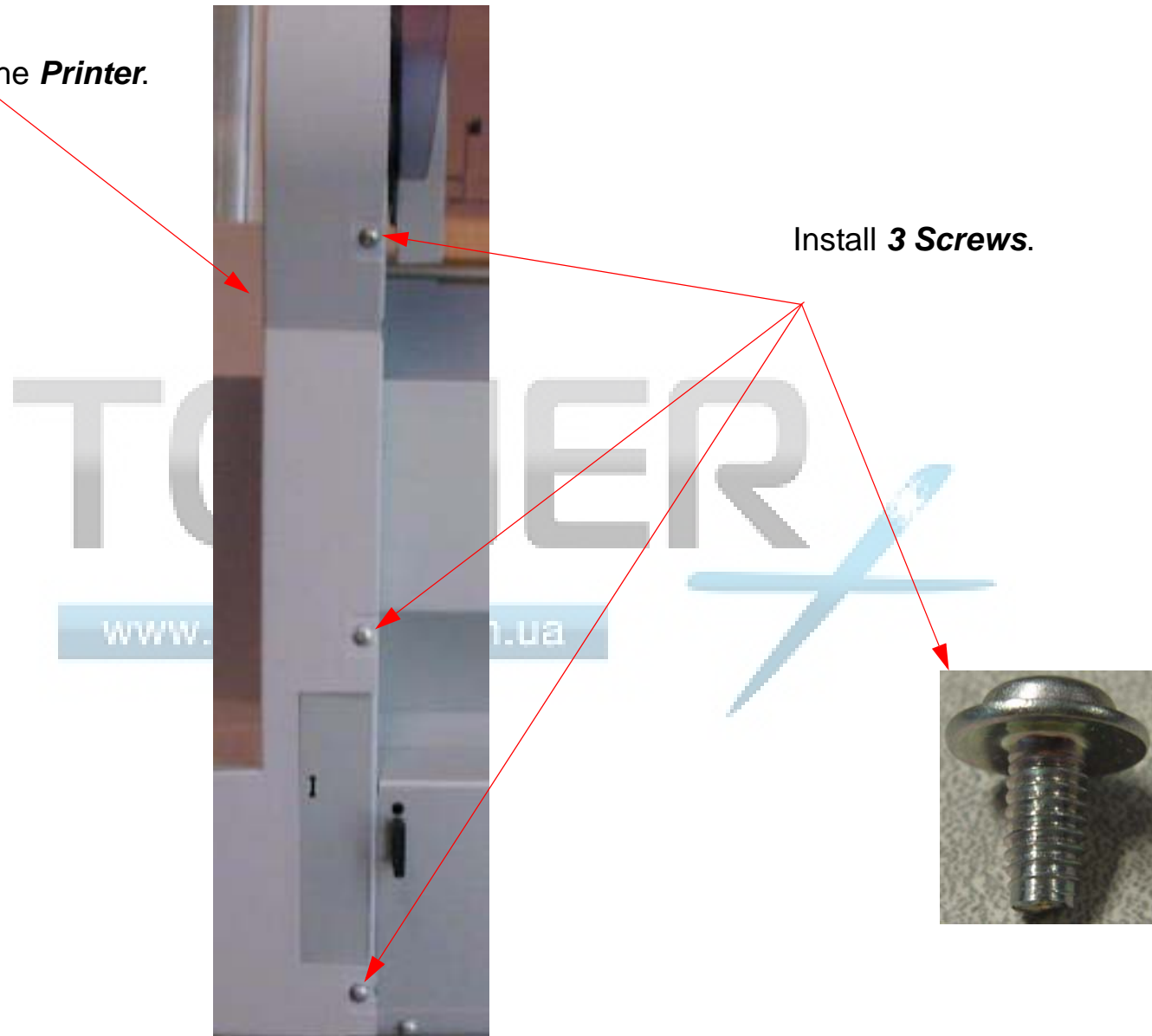
3. Install the **Waste Ink Tank**.



7. Install **3 Screws** that fasten the **Cover (Right Side)** to the back of the **Printer**.

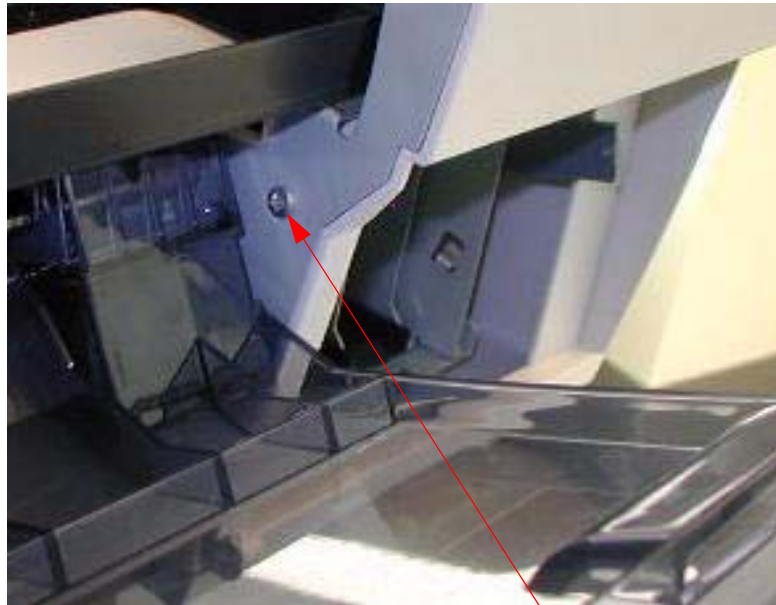
Right rear corner of the **Printer**.

Install **3 Screws**.

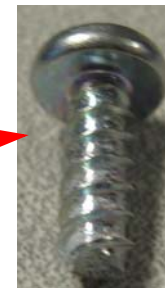


8. Install **4 Screws** that fasten the **Cover (Right Side)** from the inside of the **Printer**.

1. Install **1 Screw**.

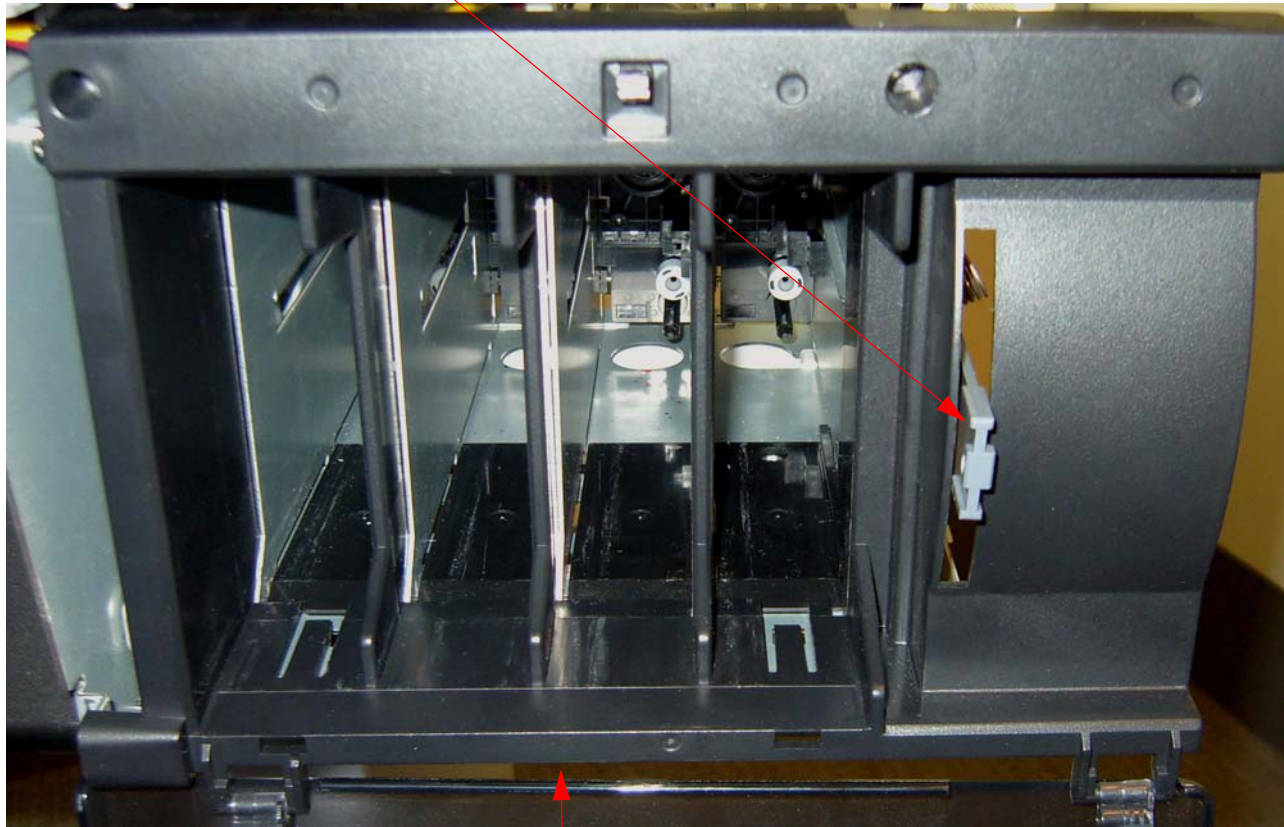


2. Install **3 Screws**.



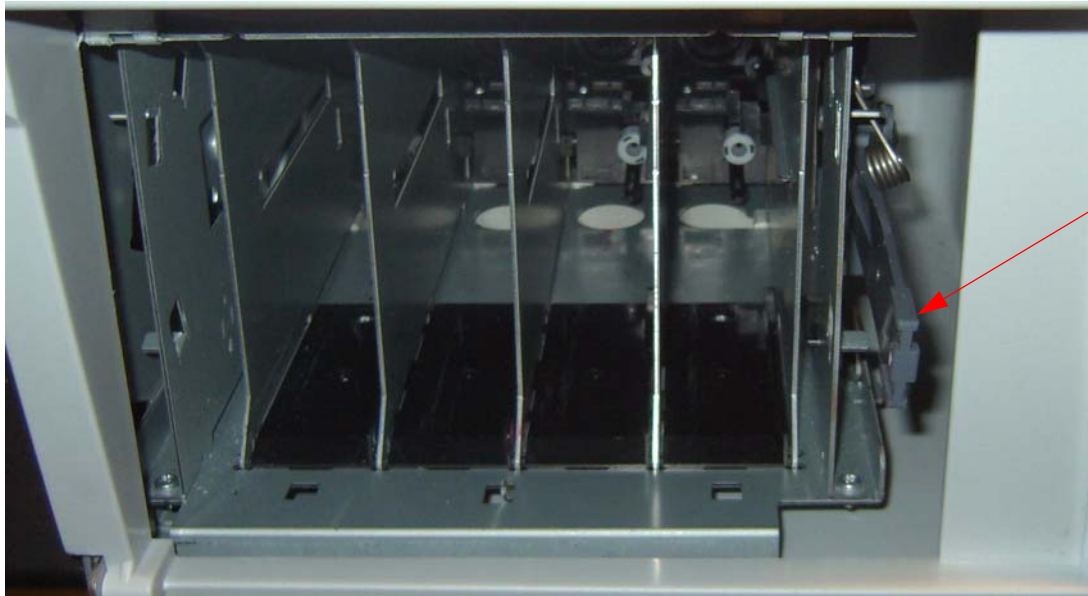
## 9. Install the ***Right Ink Bay Cover***

1. Place the ***Ink Cartridge Release Lever*** in the middle position.



2. Slide on the ***Left Ink Bay Cover***.

## 10. Install the **Right Ink Bay Cover**.

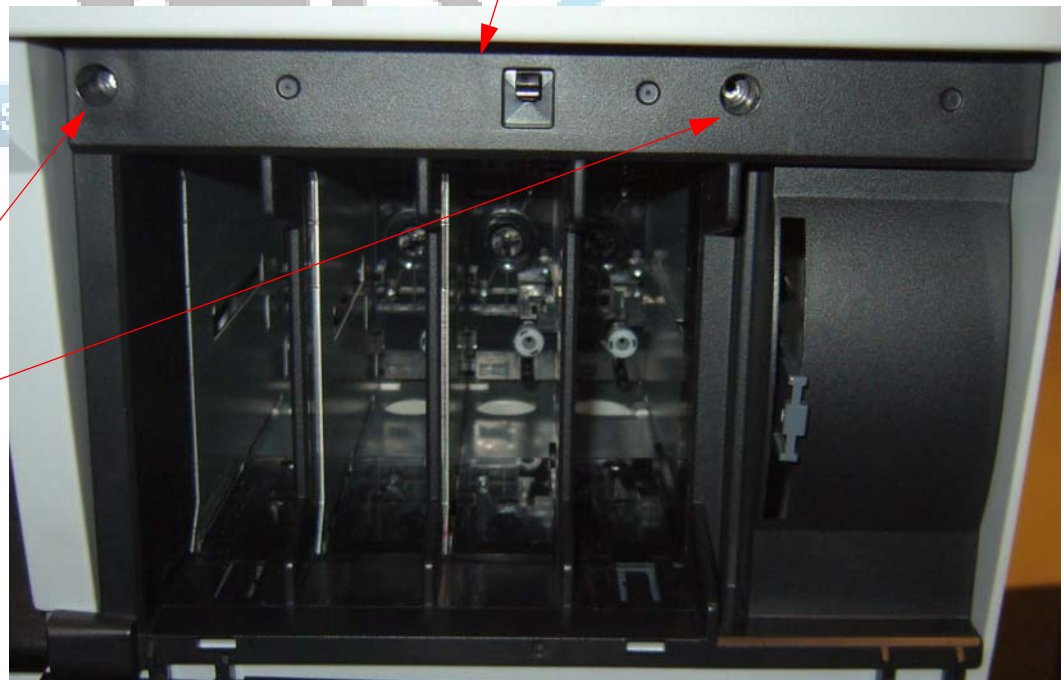


1. Center the **Ink Cartridge Release Lever**.

2. Slide on the **Right Ink Bay Cover**.

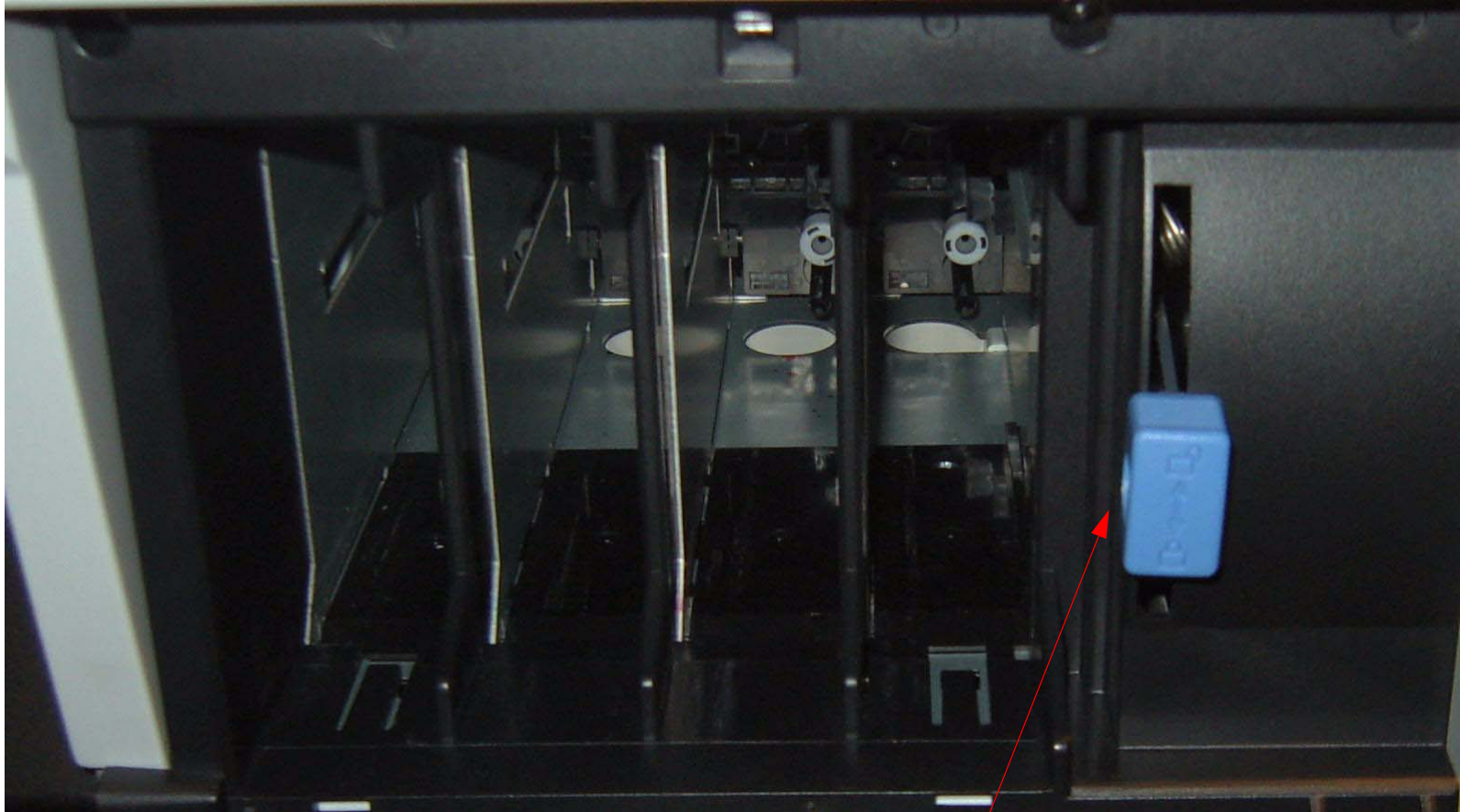


3. Install the **2 Screws** that fasten the **Right Ink Bay Cover**.





## 11. Install the **Cartridge Release Lever Handle**..



Slide on the **Cartridge Release Lever Handle**, and fasten with **1 Screw**.

## 12. Install the *Ink Cartridges*.



1. Slide in the *Ink Cartridges*.

2. Lock in place with the *Ink Cartridge Release Lever*.

### 13. Install the **Control Panel**.



1. Plug in the **Control Panel Cable**.

2. Press the **Control Panel** into place.





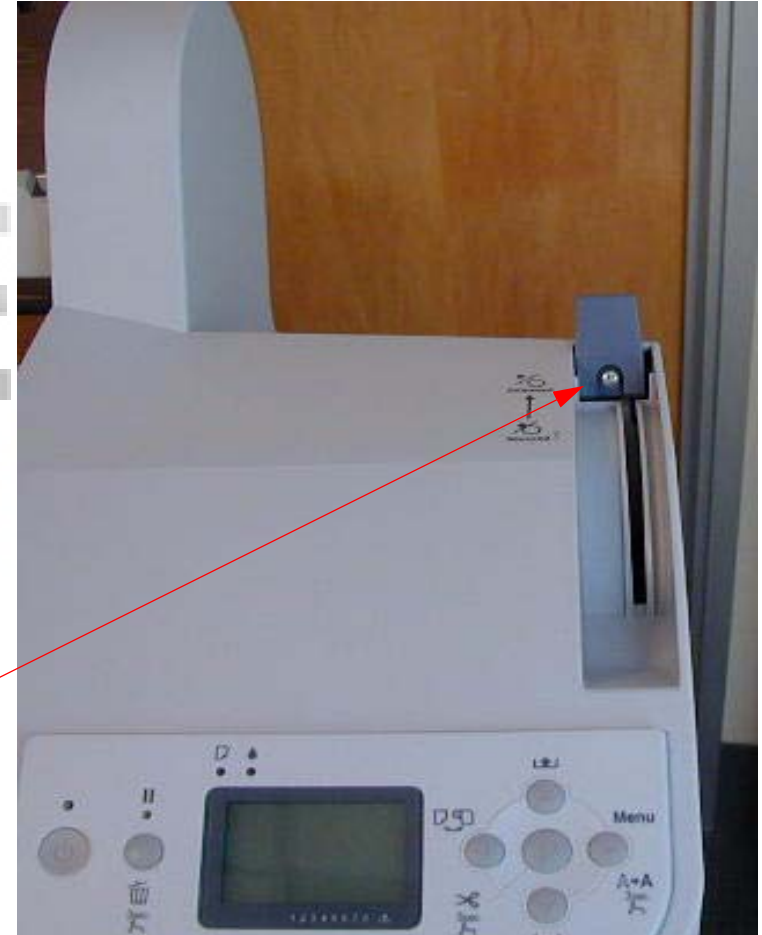
## 14. Remove the **Paper Release Lever**.



1. Lower the **Paper Release Lever**, and put the **Paper Release Handle** in place.



2. Raise the **Paper Release Lever**, and fasten with **1 Screw**.

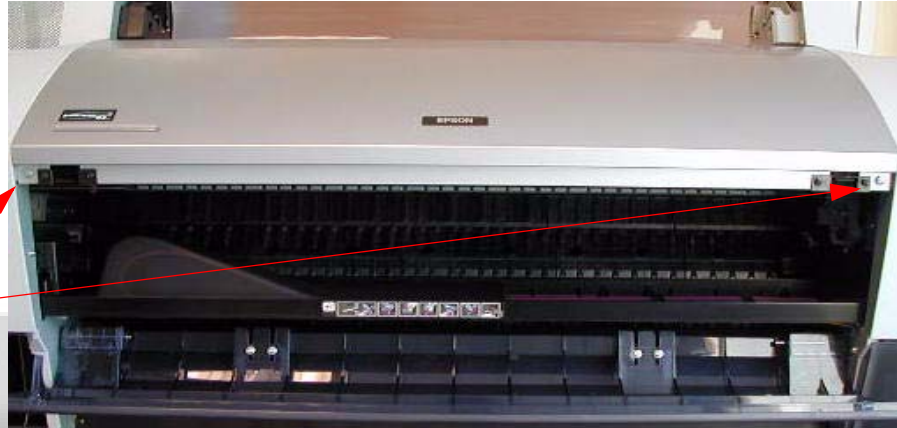




## Cover (Top) Removal

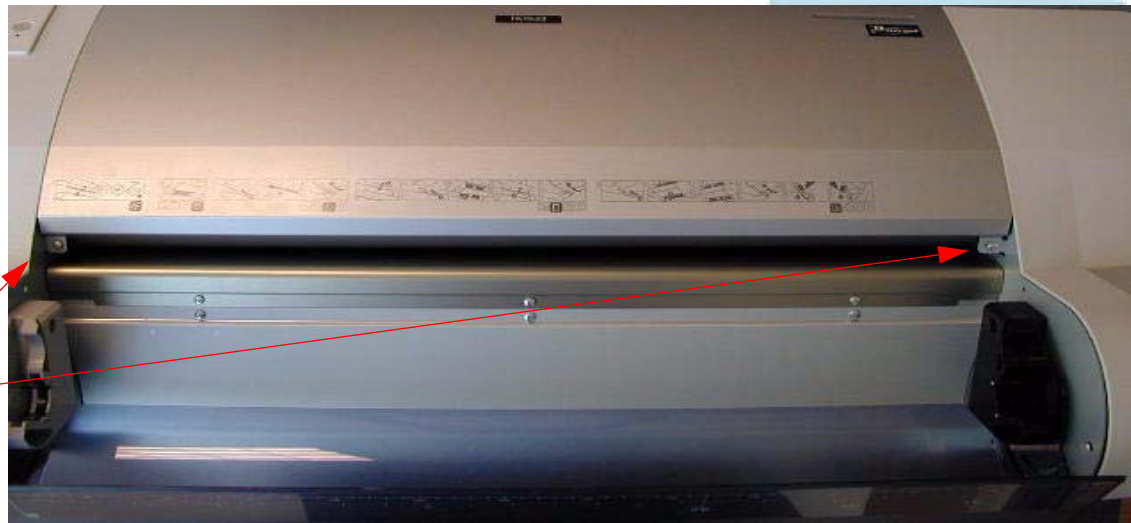
1. Remove **2 Screws** that fasten the **Top Cover** from the front of the **Printer**.

Remove **2 Screws**.



2. Remove **2 Screws** that fasten the **Top Cover** from the top / back of the **Printer**.

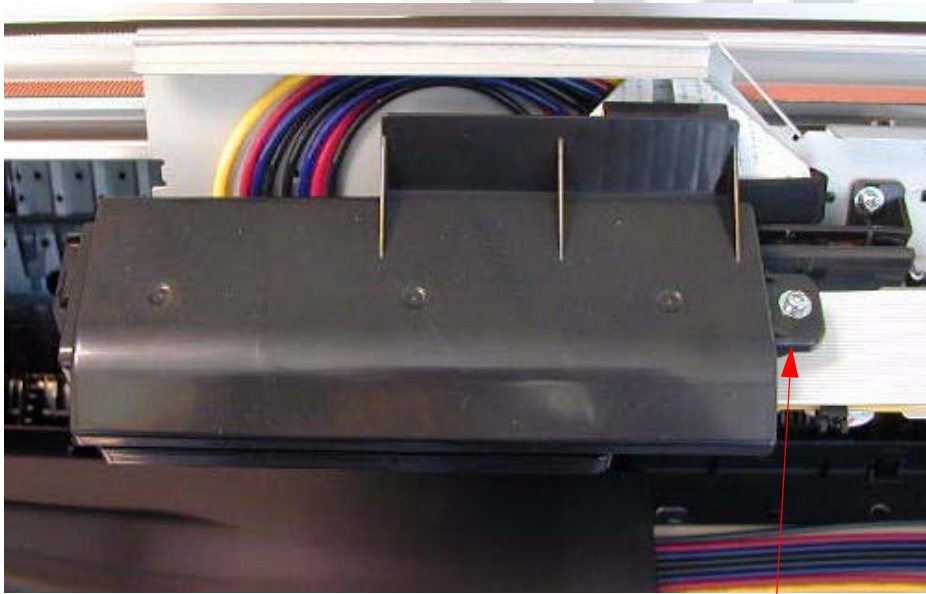
Remove **2 Screws**.



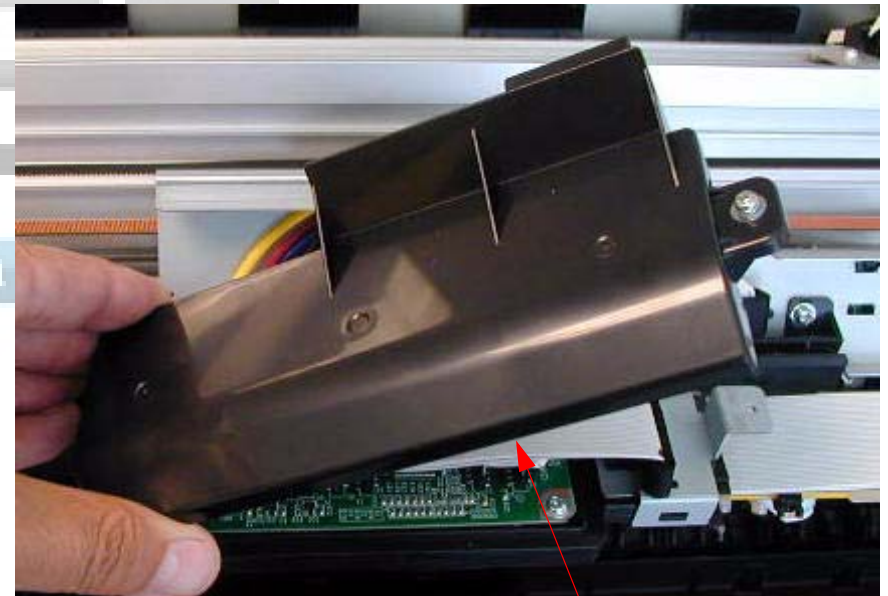
3. Ensure that the **Paper Release Lever** is in its “closed” position, and lift off the **Top Cover**.

# Damper Replacement

1. **Unplug the Printer.**
2. Raise both **Ink Levers**, closing the **Ink Valves**.
3. Remove the **Top Cover**.
4. Release the **Carriage Lock**, and move the **Carriage Mechanism** to the center of the **Printer**.
5. Remove the **Carriage Board Cover**.

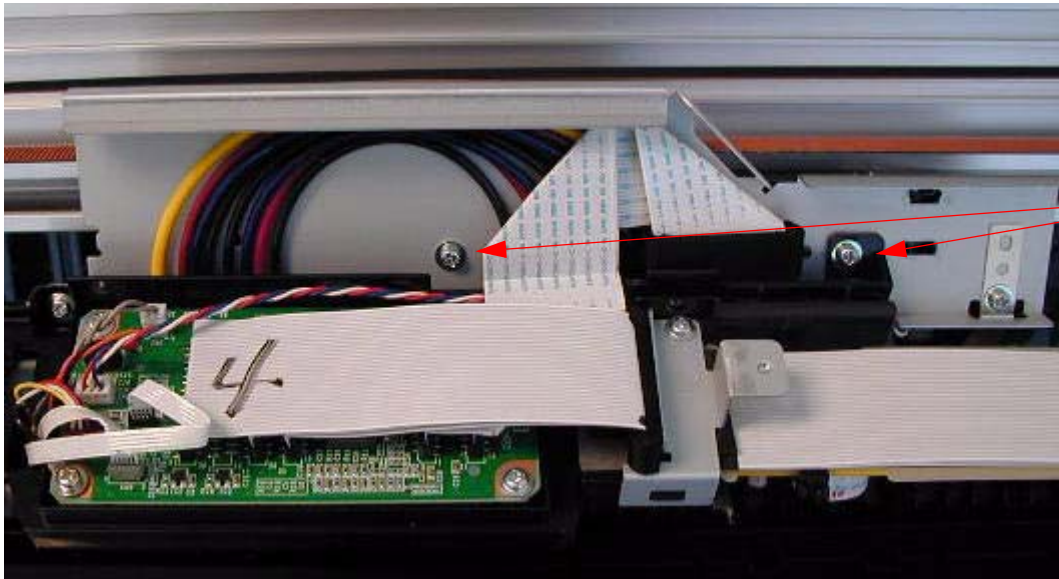


Loosen **1 Screw**.



Lift off the **Carriage Board Cover**.

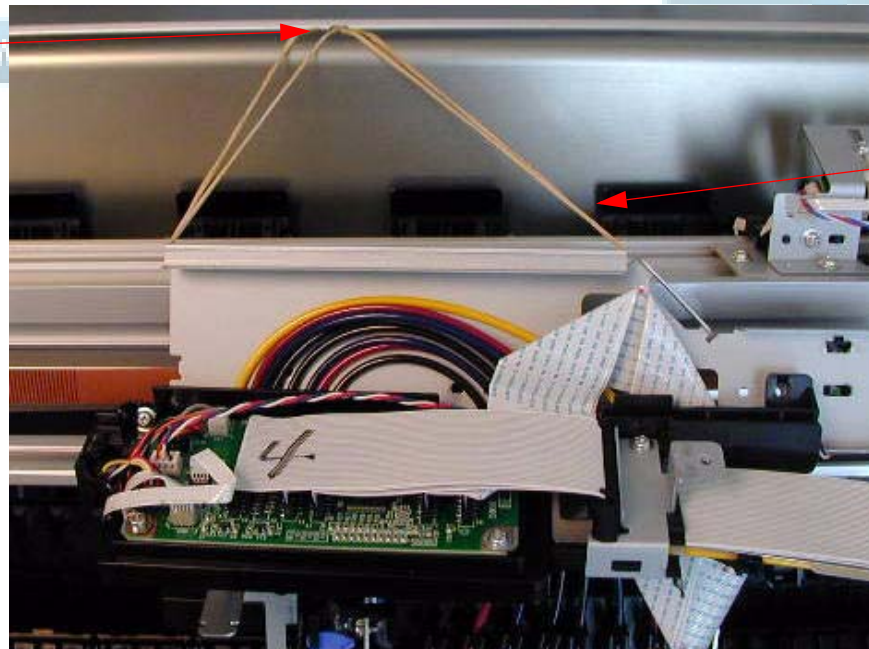
6. Remove **2 Screws** that fasten the **Carriage Board Assembly**.



Remove **2 Screws**.

7. Lift and suspend the **Carriage Board Assembly**.

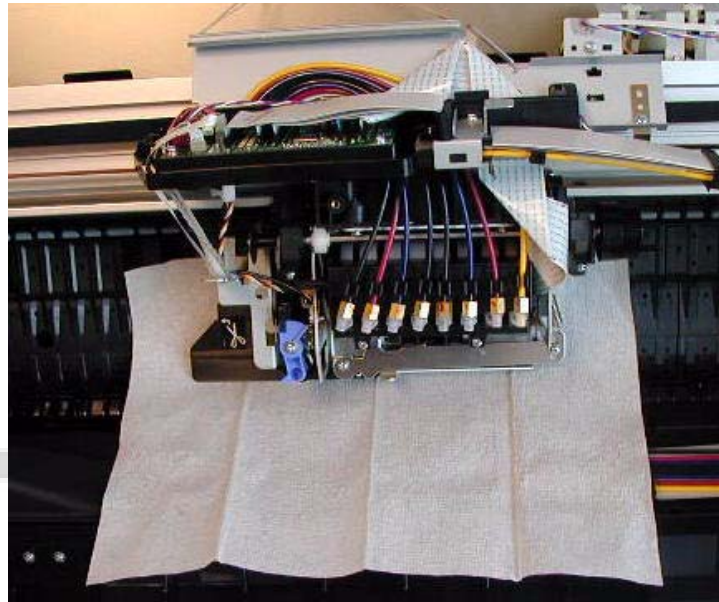
Loosen one of the **Screws** that fasten a cover to support the **Carriage Board Assembly**.



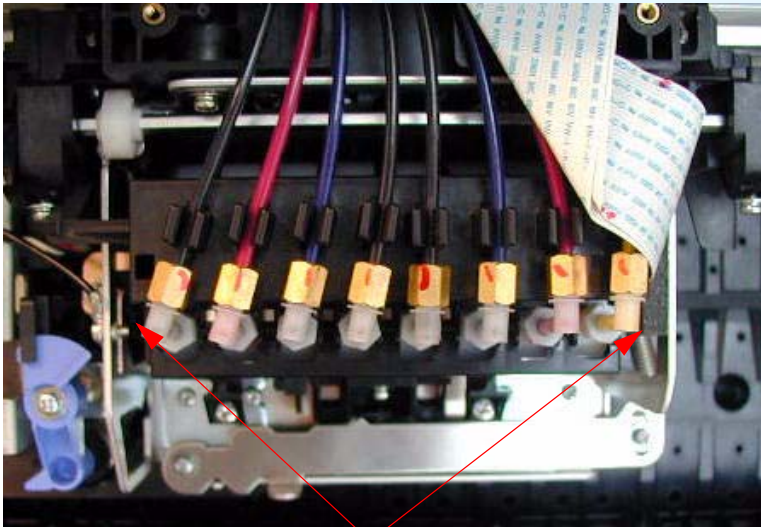
Lift up the **Carriage Board Assembly**, and fasten to the loosened **Screw**.  
(Shown with rubber bands in the picture.)



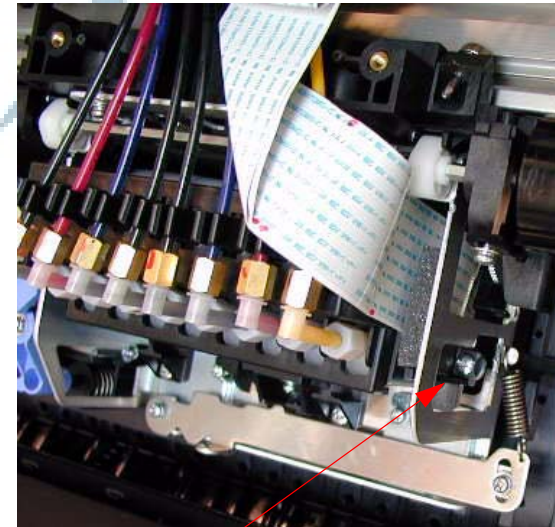
8. Place a “drop cloth” under the **Carriage Assembly**.



9. Remove **2 Screws** that fasten the **Damper Assembly** to the **Carriage Assembly**.



Remove **2 Screws** that are to the left and the right to the **Damper Bracket**.



Right side **Screw** shown from the side.

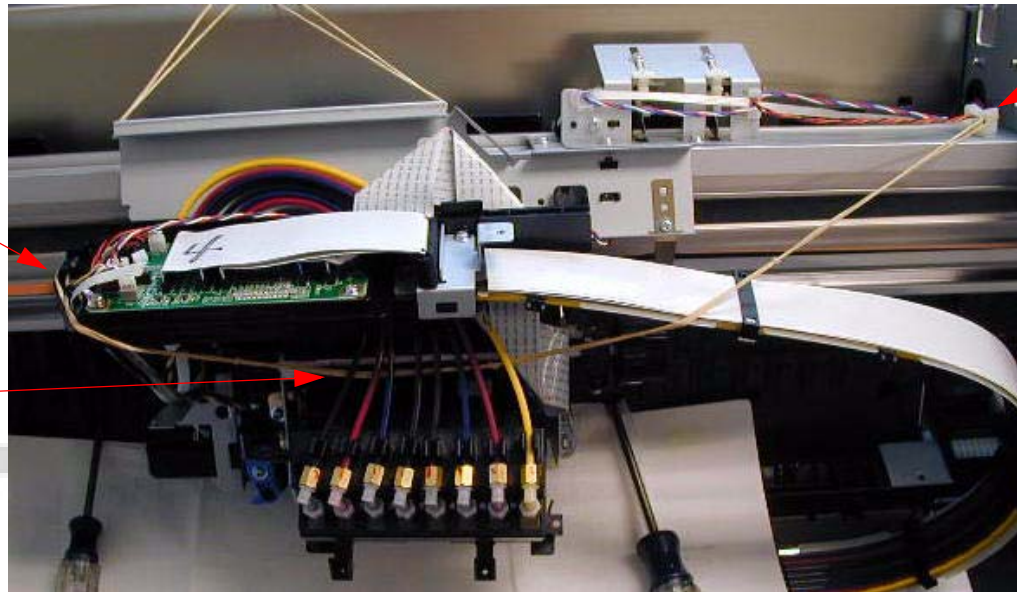


10. Lift off the **Damper Assembly** and suspend it as shown below with rubber bands.

**Carriage Board  
Cover Hook.**

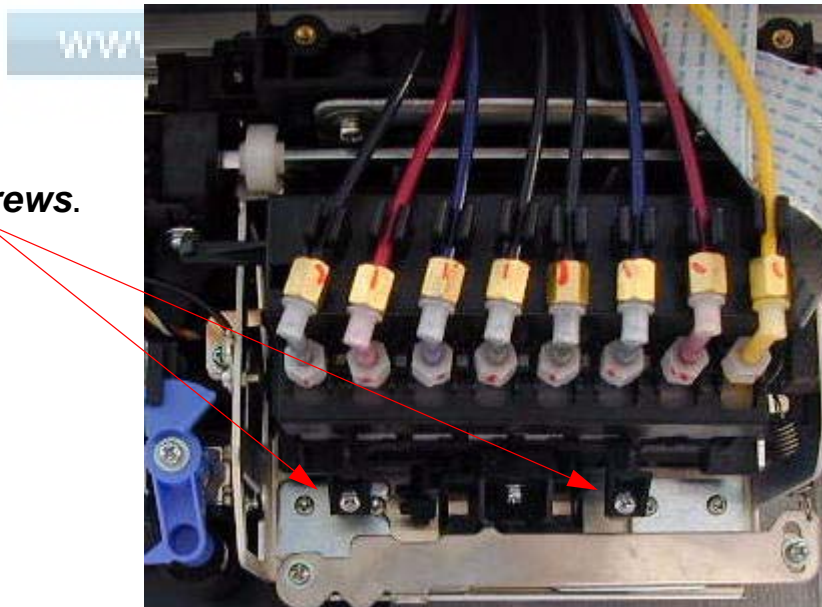
Run it under the **Ink  
Supply Tubes.**

**Wire Guide.**



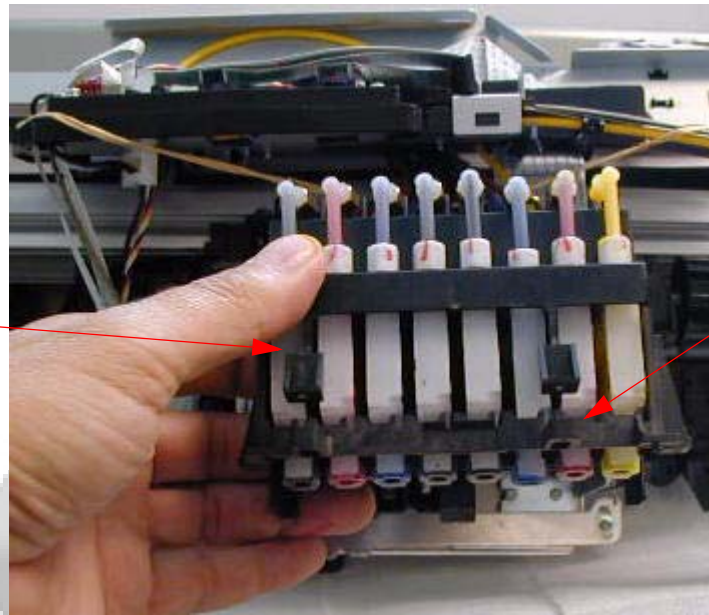
11. Remove **2 Screws** that fasten the top and bottom sections of the **Damper Assembly**.

Remove **2 Screws.**



12. Separate the top and bottom sections of the **Damper Assembly**, and remove the bottom section.

Top Section



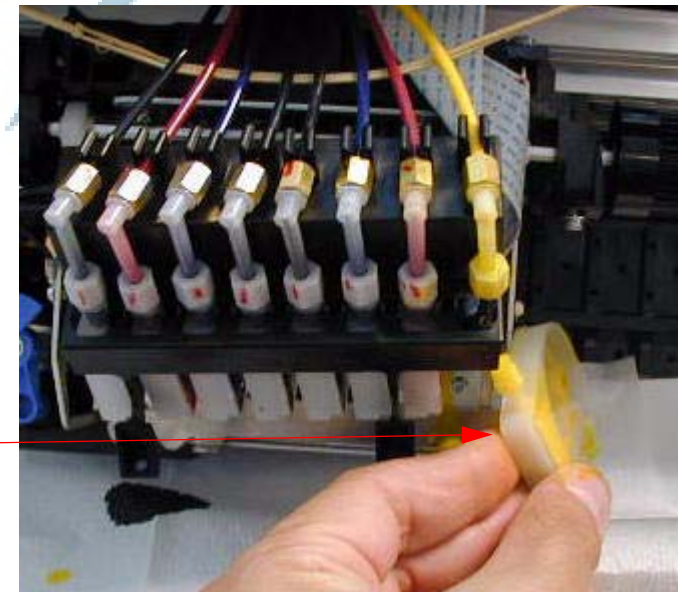
Bottom Section

13. Using a 8mm wrench, disconnect the **Tube(s)** that correspond to the **Damper(s)** to be replaced.



8mm wrench.

Remove the  
**Damper(s).**



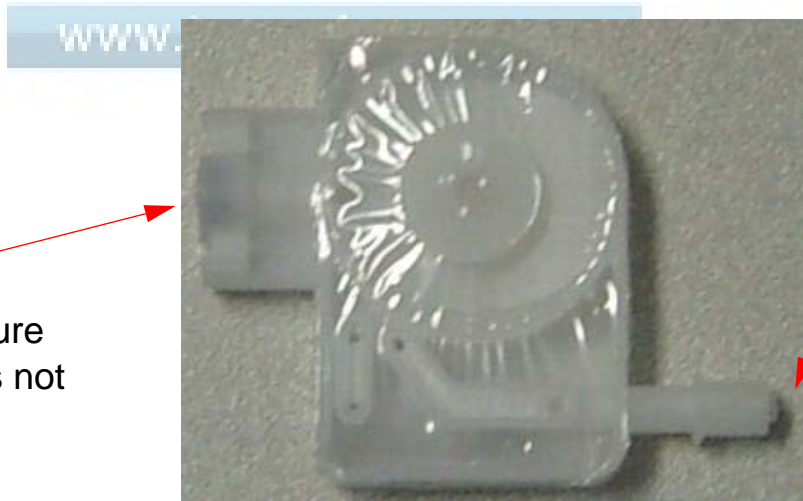
14. Inspect the **O-Ring(s)** on the **Ink Tube Fitting(s)**, and replace if necessary.



Inspect the **O-Ring(s)** and replace if necessary.

**Note: The 7800 and 9800 use a pressurized Ink System. A bad seal in the Ink Supply System will cause a messy ink leak.**

15. Inspect the new **Damper(s)** for leaks.

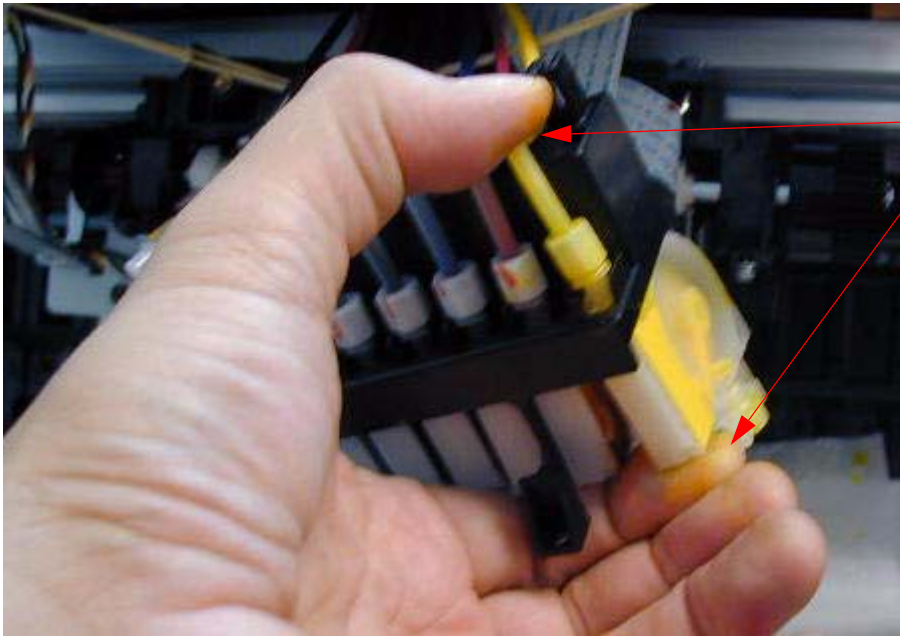


1. Blow in here and ensure that the **Damper** does not leak air.

2. Blow in here and ensure that the **Damper** does not leak air.



16. Firmly hold the **Ink Supply Fitting(s)** deep in the **Damper(s)**, and tighten with an **8mm wrench**.



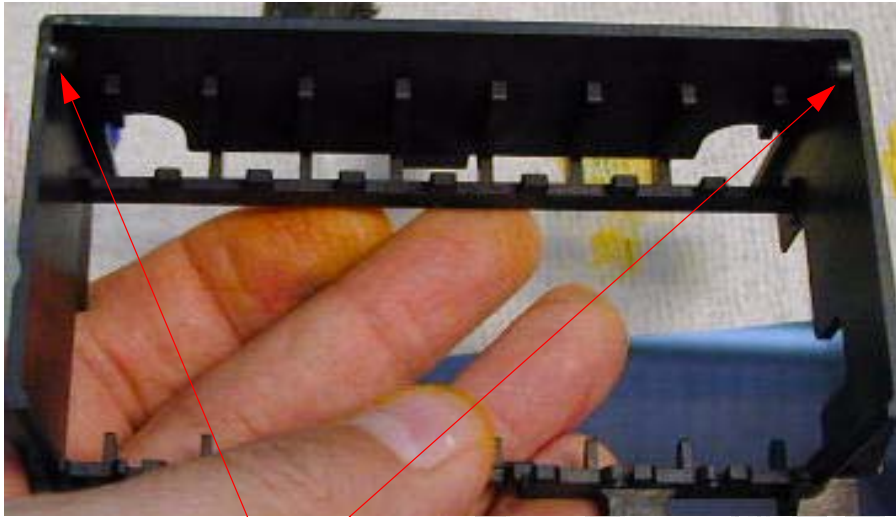
Hold firmly and tighten with an **8mm wrench**.

**Note: It is possible to over-tighten the Fitting. Over-tightening will Damage the Fitting's O-ring, causing a leak.**

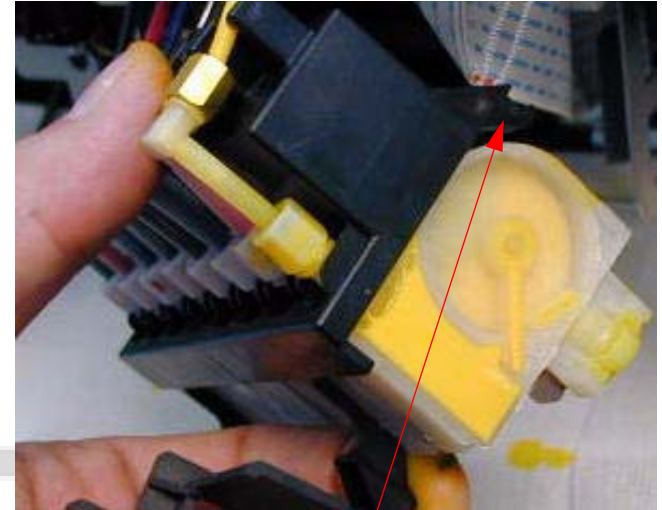
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17. Connect the top and bottom sections of the **Damper Assembly** at the “**Hinge Points**”.

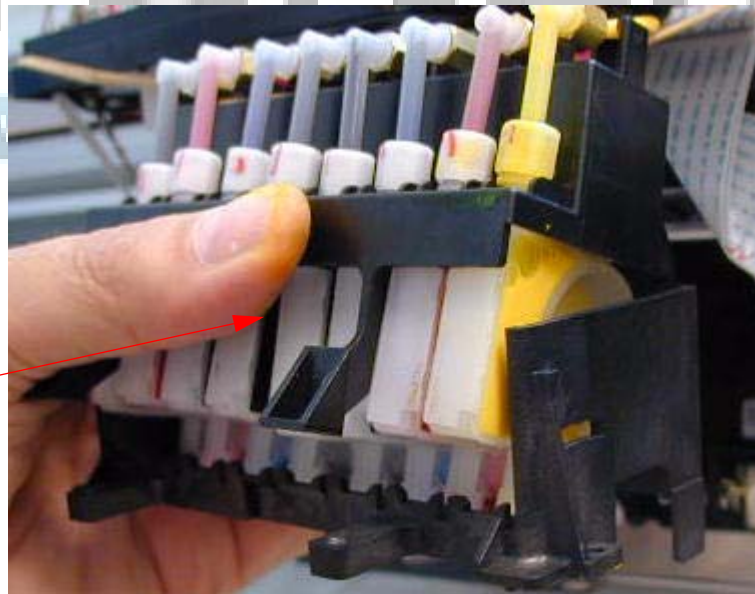


Bottom section **Hinge Points**.



1 top section **Hinge Point**.

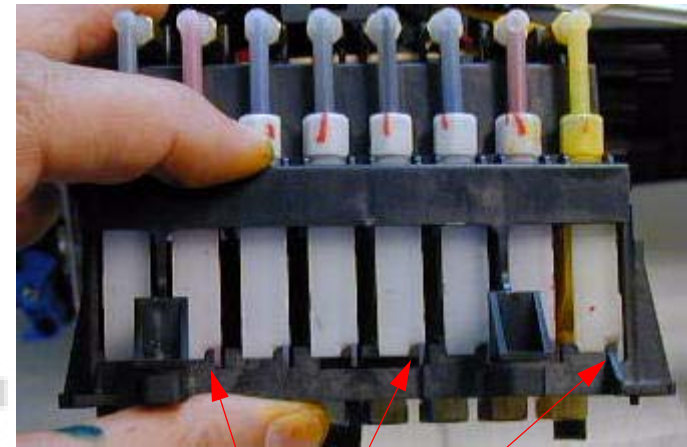
Engage the **Hinge Points** as shown.



18. Maneuver the **Dampers** until they fit uniformly in the guides provided by the top and bottom sections of the **Damper Assembly**.



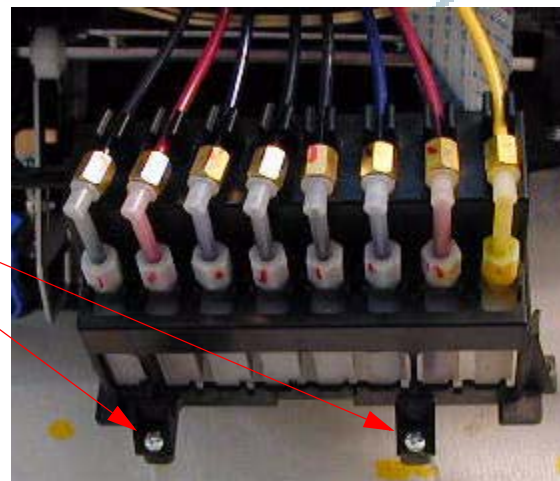
This **Damper** is in the proper position, the others are not.



Each **Damper's Slot** should engage with the **Assembly's Guides**.

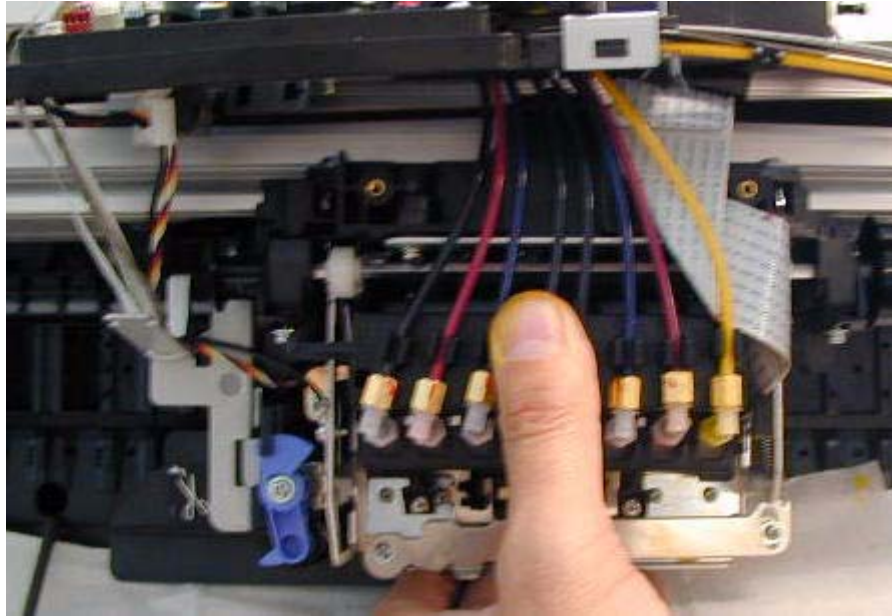
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When each **Damper** is in position the top and bottom sections of the **Damper Assembly** will come together. Fasten with **2 Screws**.



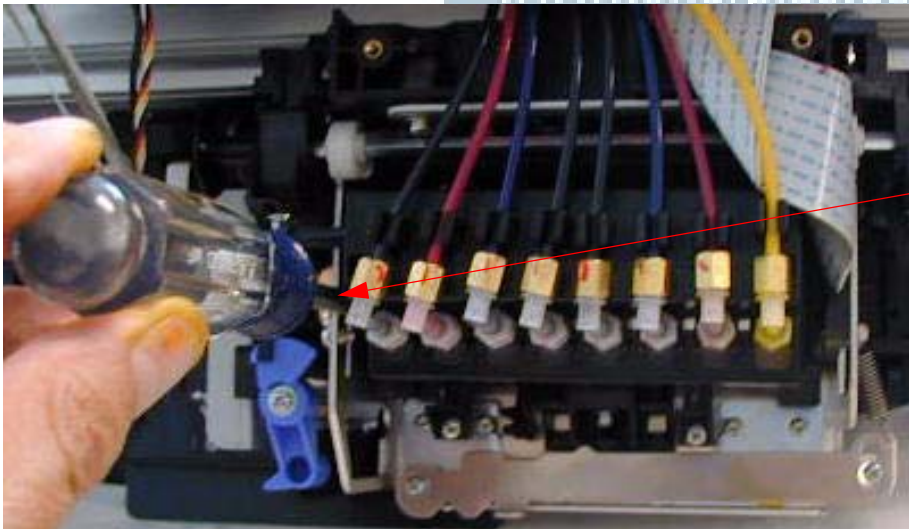


19. Press the **Damper Assembly** onto the Print Head.

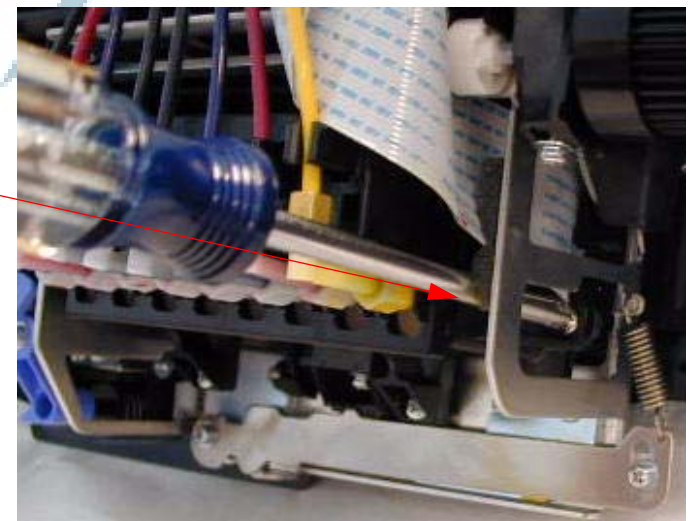


Support the **Carriage Assembly** from underneath while pressing the **Damper Assembly** firmly into place.

20. Fasten the **Damper Assembly** to the **Carriage Assembly** with 2 Screws.

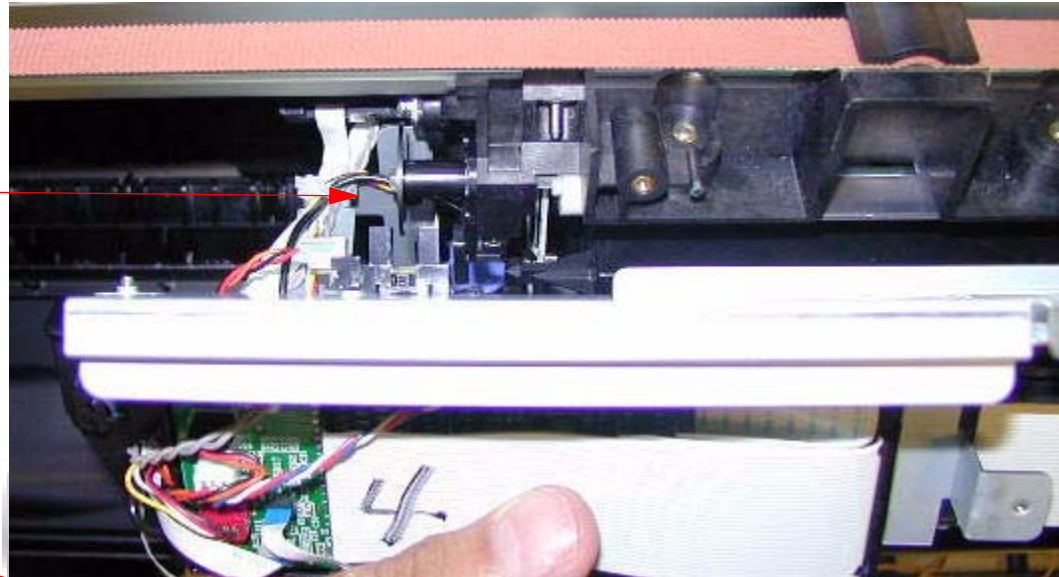


Fasten with 2  
Screws.

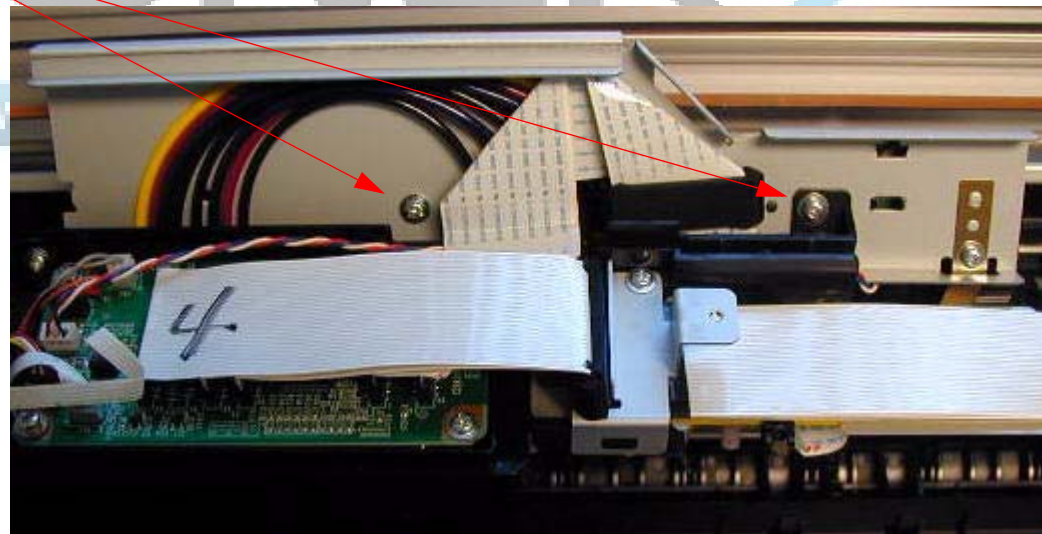


## 21. Attach the **Carriage Board Assembly** with **2 Screws**.

1. Ensure that the **Platen Gap Sensor** and the **Platen Gap Wheel** are in the correct position.

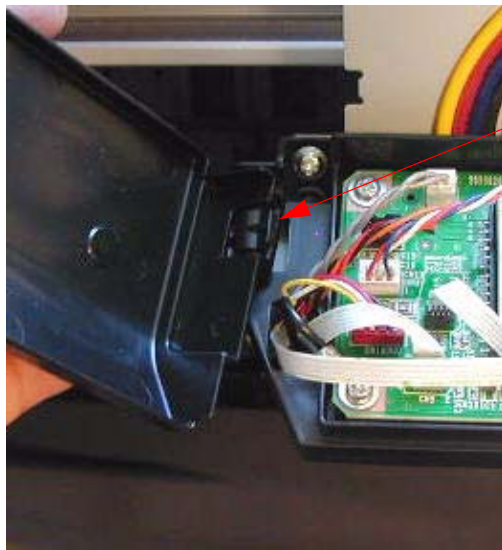


2. Fasten the **Carriage Board Assembly** with **2 Screws**.





22. Install the **Carriage Board Cover** and fasten with **1 Screw**.



1. Engage the **Cover** with the **Hinge**.

2. Fasten with **1 Screw**.



**Note:** It is very important to closely observe the **Joint(s)** that were separated and re-connected during the **Damper(s)** replacement procedure. Because of the pressurized ink system, when the **Printer** is first turned on after servicing the **Ink System**, there is potential for major leaking. If a leak is observed, raising an **Ink Lever** will immediately bleed the pressure, stopping the ink flow.

23. Plug in the **Printer**, and lower both **Ink Cartridge Levers** to open the **Ink Valves**.

24. Defeat the **Cover Sensor**.

25. Turn on the **Printer** while observing the **Joints** connecting the **Ink Tubes** to the **Dampers** for leaks. and let it comes **Ready**.

26. When the **Printer** comes **Ready**, press the **Menu** button and navigate to **Maintenance**.

27. Press the **Menu** button and navigate to **PWR CLEANING**.

28. Press the **Menu** button, and follow the directions to execute.

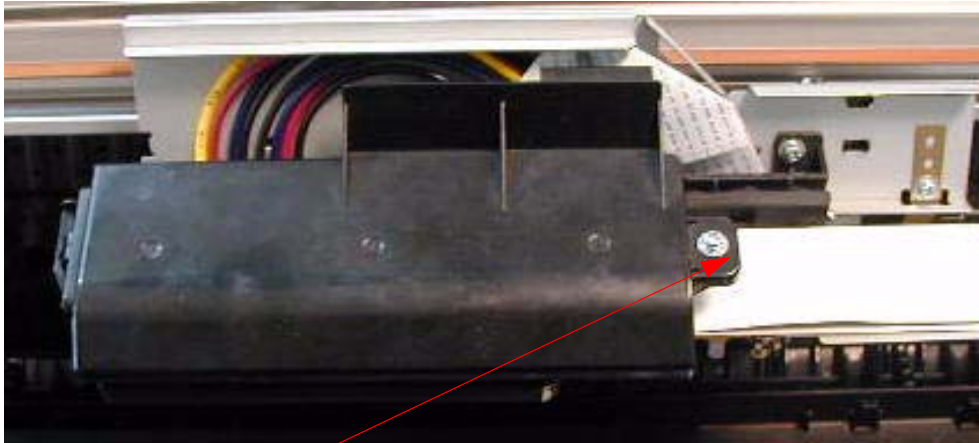
***Note: Power Cleaning is necessary to prime the “negative pressure” Dampers. Other cleaning cycles do not work as well or quickly. Ensure that you raise and lower the levers when instructed.***

29. Print a Nozzle Check Pattern (Perform standard cleanings if necessary).

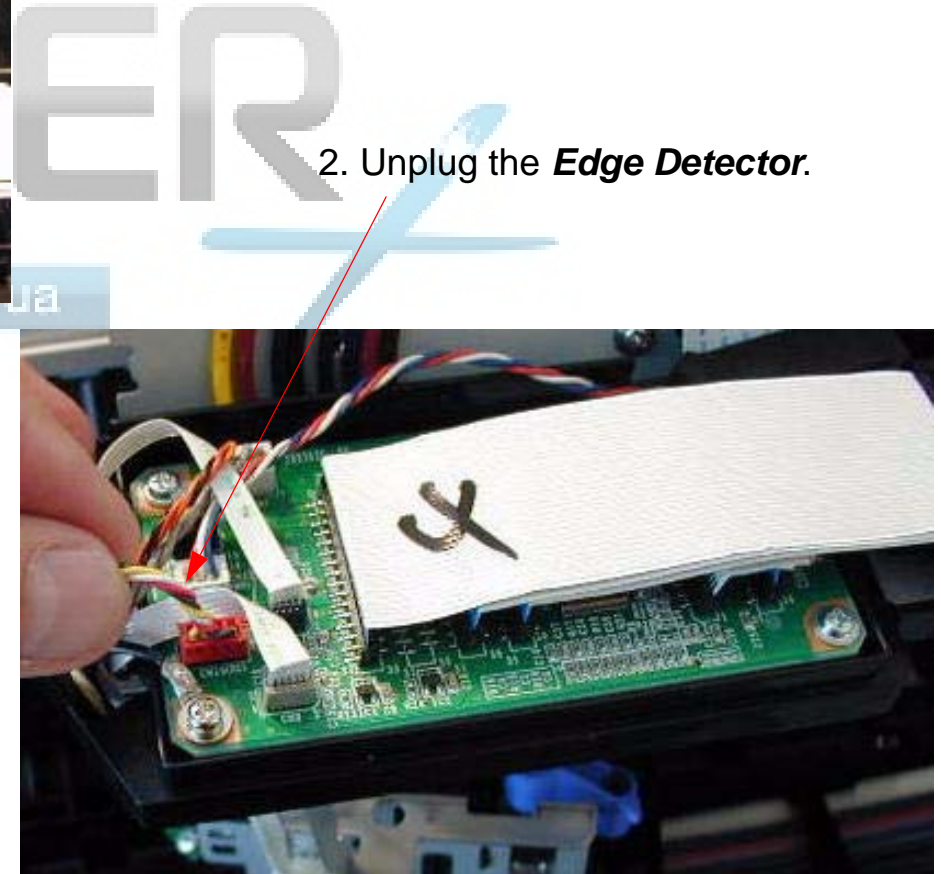


## Edge Detector (EdgeAD) Replacement

1. Remove the **Top Cover**.
2. Release the **Carriage Assembly** and move the **Carriage** away from the capped position.
3. Remove the **Carriage Board Cover** and unplug the **Edge Detector (EdgeAD Sensor)**



1. Loosen **1 Screw** and remove the **Carriage Board Cover**.

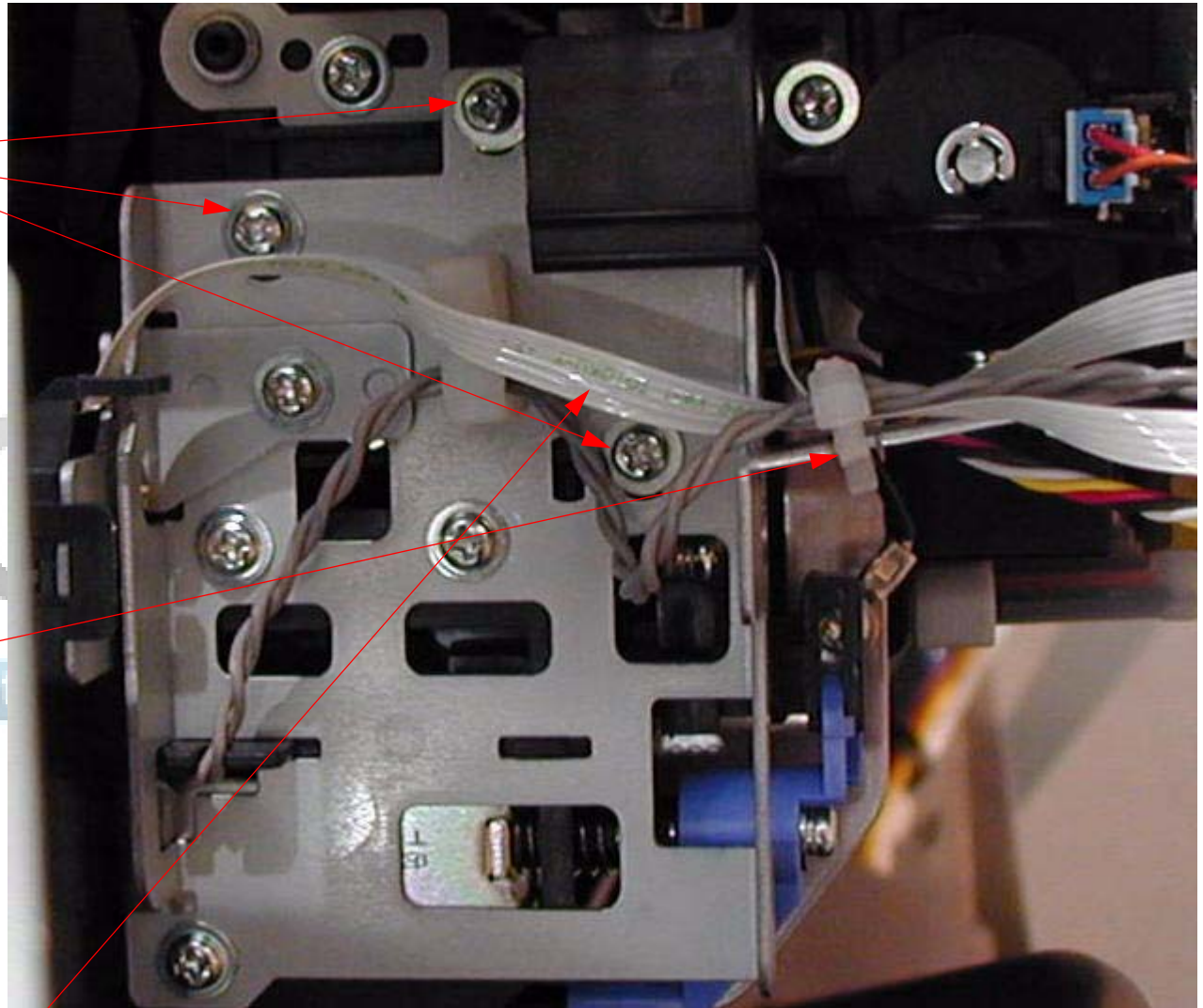


#### 4. Remove the **Cutter Assembly**.

1. Remove **3 Screws**.

2. Cut **1 Tie Wrap**.

3. Remove the **Cutter Assembly**, and place out of the way.



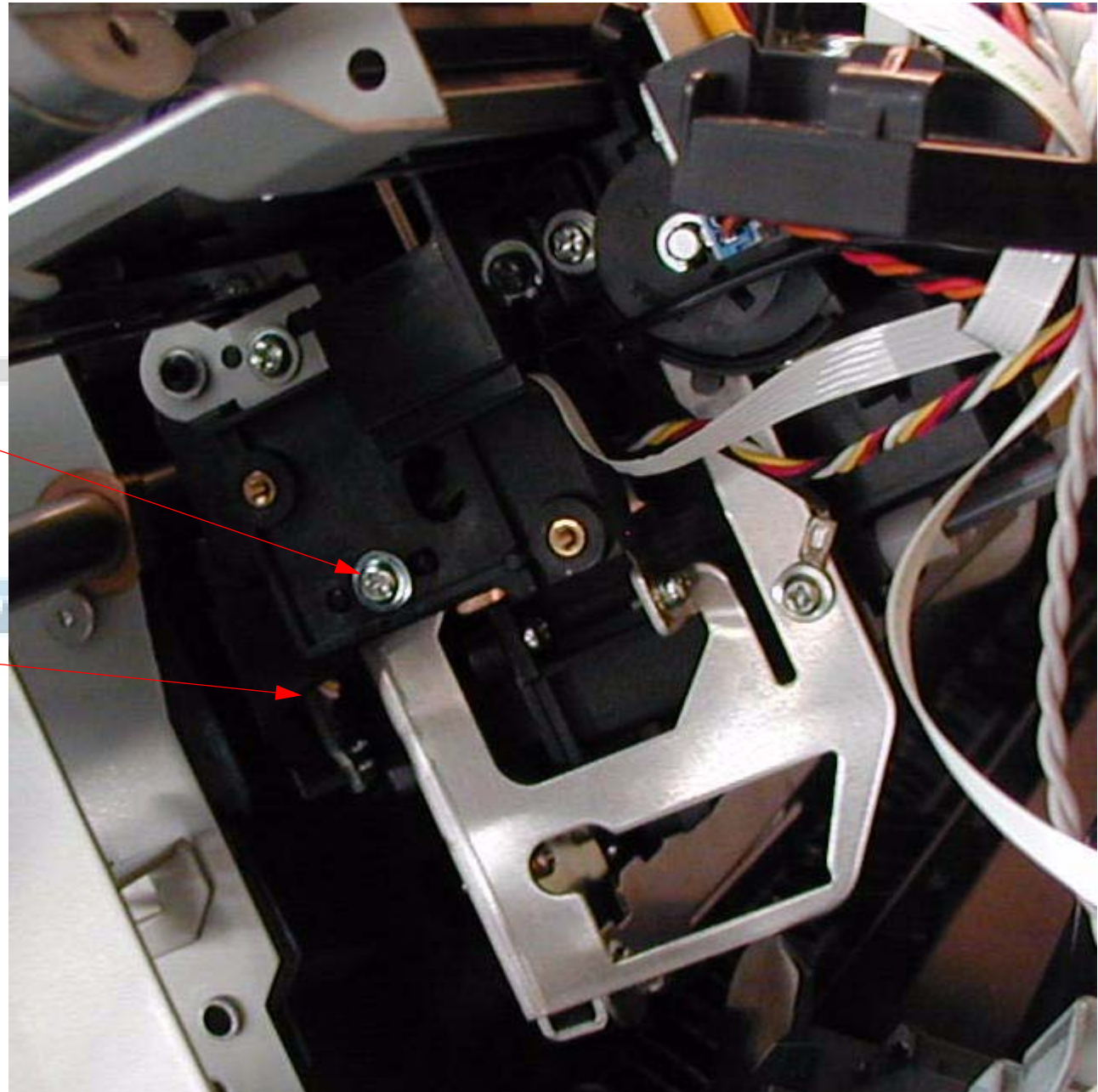
**Note:** Be careful of the Ink Mark Sensor Foil Cable, it is easy to damage or pull off the Ink Mark Sensor.



## 5. Remove the **Edge Detector**.

1. Remove **1 Screw** that fastens the **Edge Detector**.

2. Remove the **Edge Detector**.

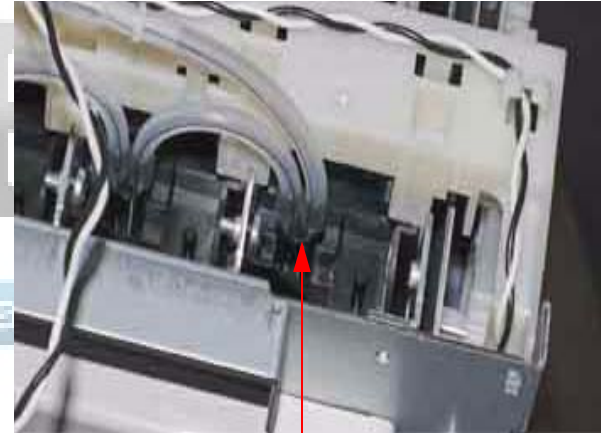
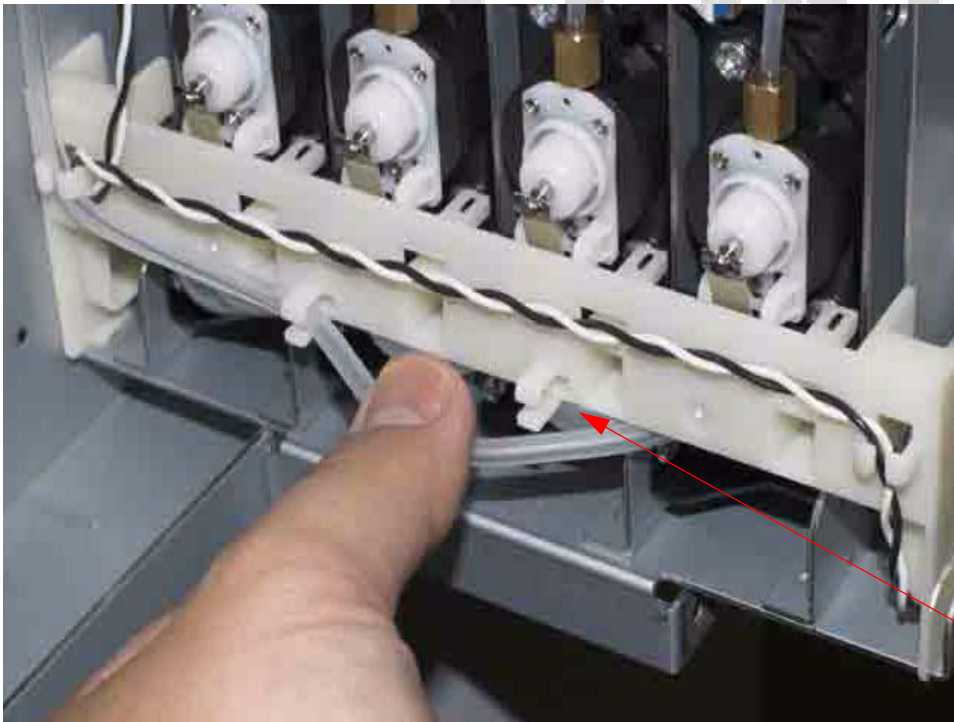


6. Install the new **Edge Detector**.
7. Attach the **Cutter Assembly**.
8. Perform the **Cutter Blade** Position Adjustment.
9. Install the **Carriage Board Cover**.
10. Replace the **Top Cover**.



## Ink Bay Removal (Left)

1. Drain the ***Ink System***.
  - 1.1 Follow the directions in the Ink Draining Procedure Chapter, in the Reference Section of the Field Repair Guide.
2. Remove the ***Left Side Cover***.
3. Disconnect the ***Ink System Pressure Tube***.



Disconnect the ***Ink System Pressure Tube*** by pulling it off the ***Inlet***.

Free the ***Ink System Pressure Tube*** from ***3 Guides***.  
(This is ***1 Guide*** out of ***3 Guides***)

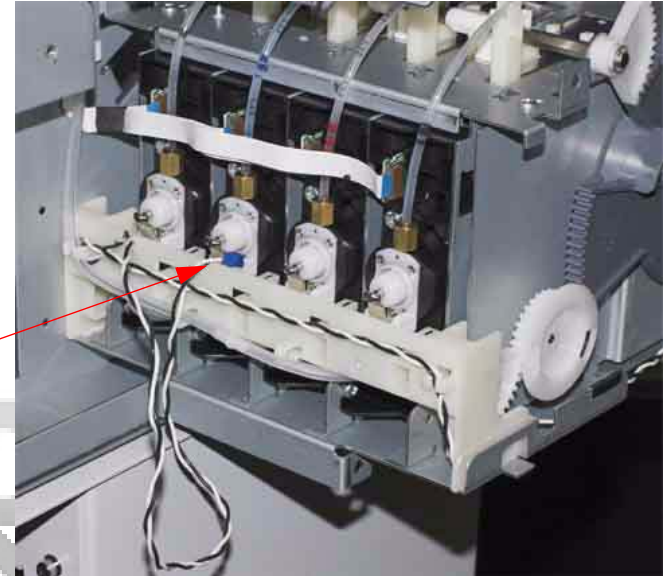


#### 4. Disconnect the **Cartridge Release Sensor Cable**



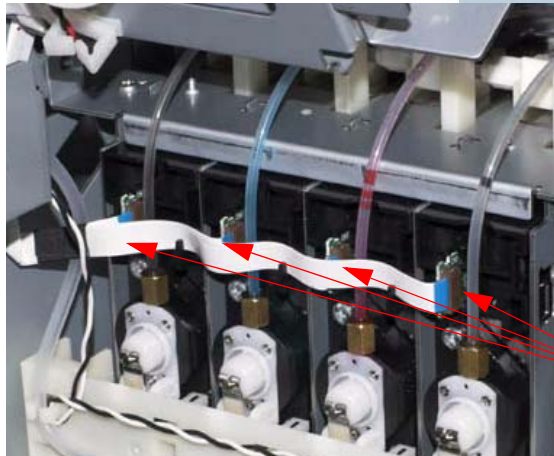
Unplug this **Cable**.

Free the **Cable** from the **Cable Guides**, to this point.

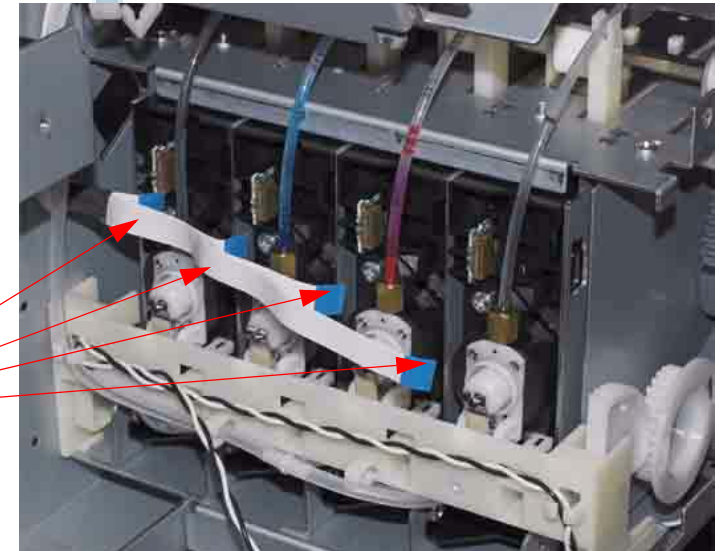


#### 5. Unplug **4 CSIC Cables**

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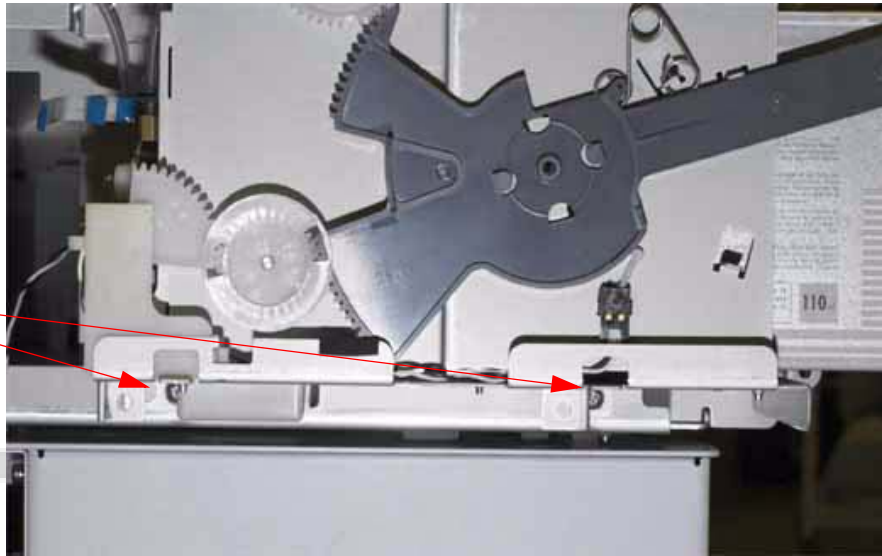
Unplug **4 CSIC Cables**.



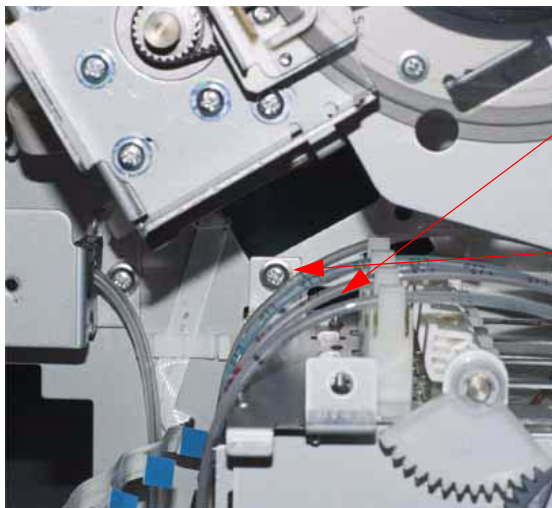


6. Remove **2 Screws** from the bottom of the **Ink Bay Assembly**

Remove **2 Screws**.

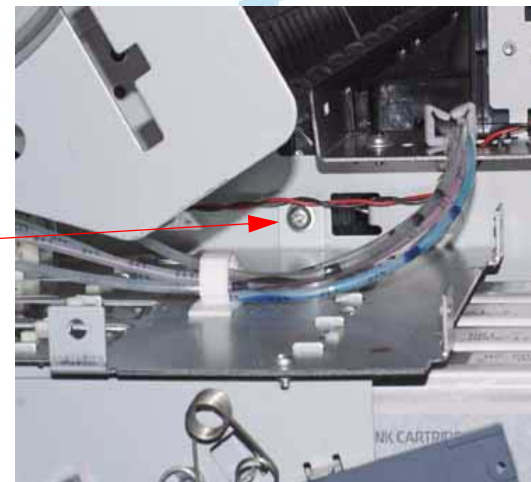


7. Remove **2 Screws** from the top of the **Ink Bay Assembly**.



The **Hook** that suspends the **Ink Bay** is located here.

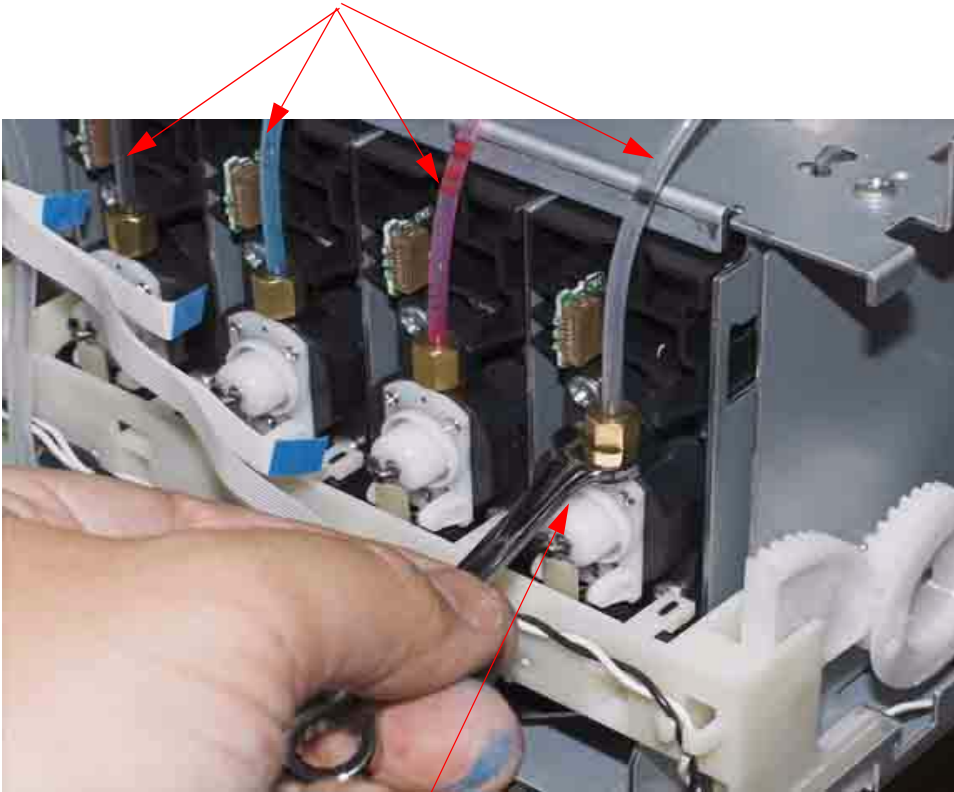
Remove **2 Screws**.



**Note:** The **Ink Bay** will still be suspended by **1 Hook** that fits into a **Slot** in the **Frame** of the **Printer**

## 8. Mark, then unscrew the **Brass Fittings** that fasten the **Ink Lines** to the **Ink Bay**

1. Mark these Ink **Tubes** to assist in proper re-assembly. The **LLK and LK tubes** can be easily switched.

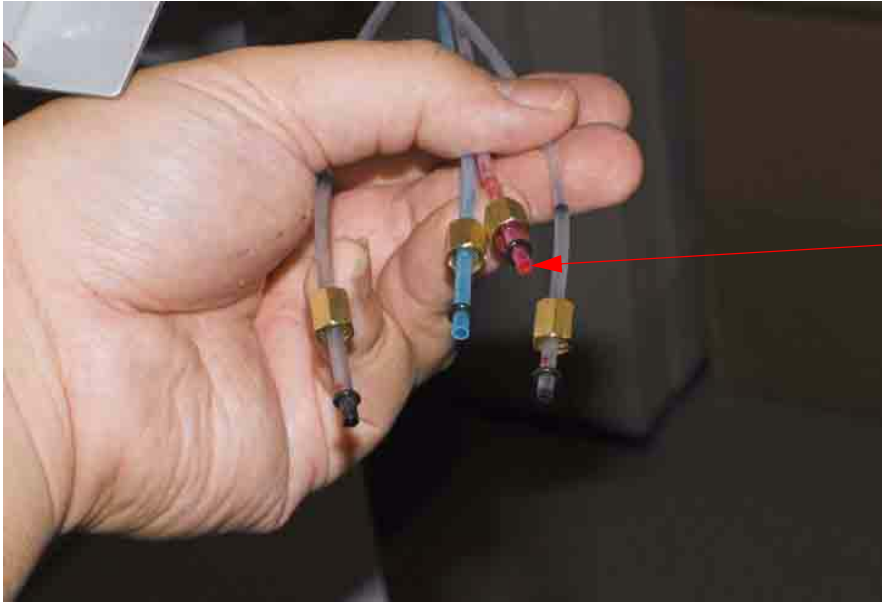


2. Using a **7mm wrench**, un-screw these **Brass Fittings**, but do not disconnect the **Ink Lines**.



3. Un-hook and pivot the **Ink Bay**.

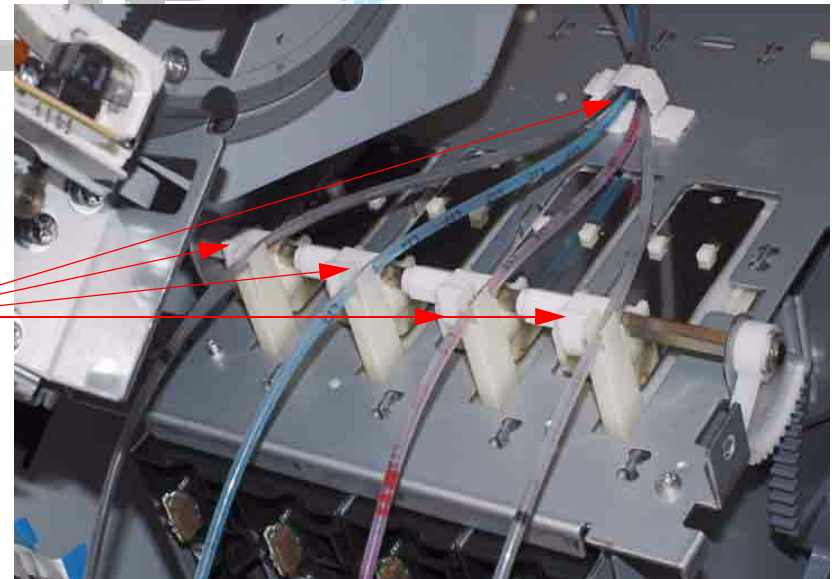
## 9. Disconnect the ***Ink Lines*** and remove the ***Ink Bay***



Disconnect the ***Ink Lines*** from the ***Ink Valves***.

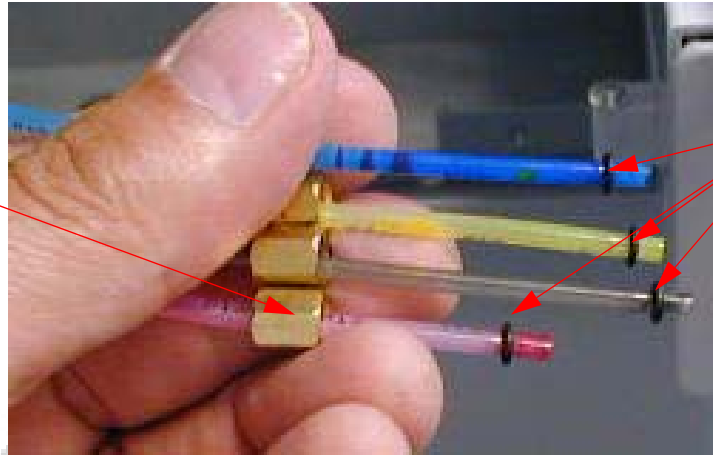
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Disconnect the ***Ink Lines*** from the ***Ink Line Guides***.



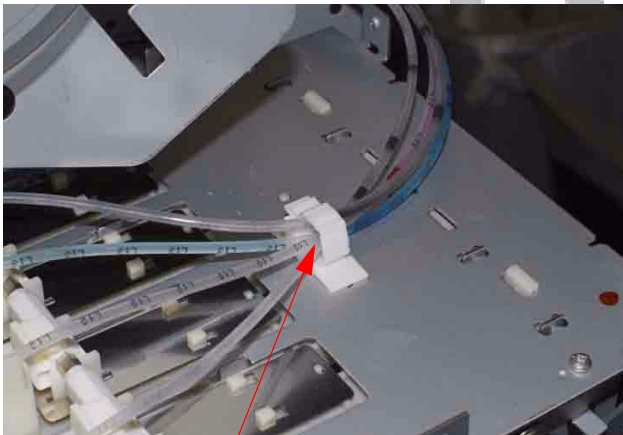
## 10. Inspect and prepare the **Ink Lines** and **O-rings**

Ensure that the **Brass Fittings** are in the proper position.

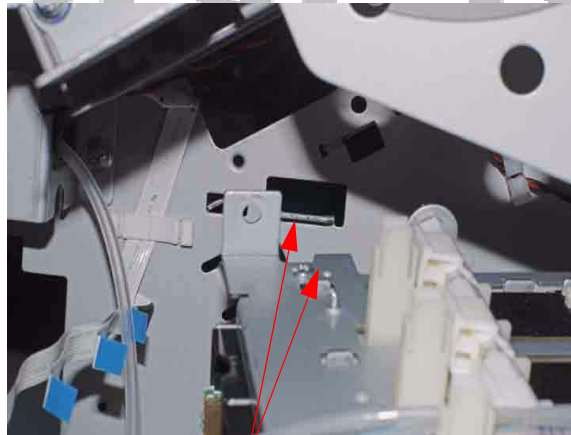


Ensure that the **O-rings** are in this position and undamaged.

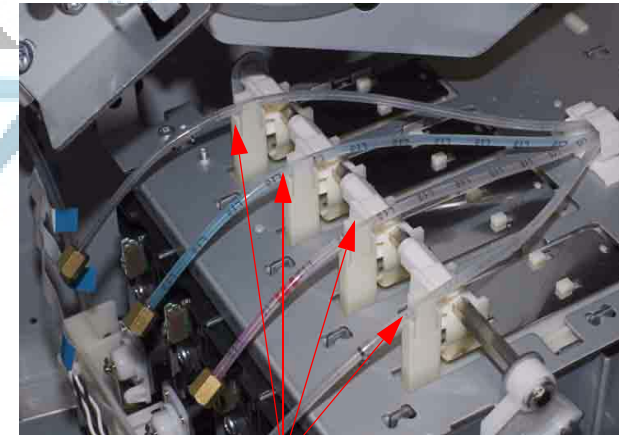
## 11. Route the **Ink Lines** through the **Guides**, and hang the **Ink Bay** on the **Suspension Hook**



Route the **Tubes** through this **Guide**.



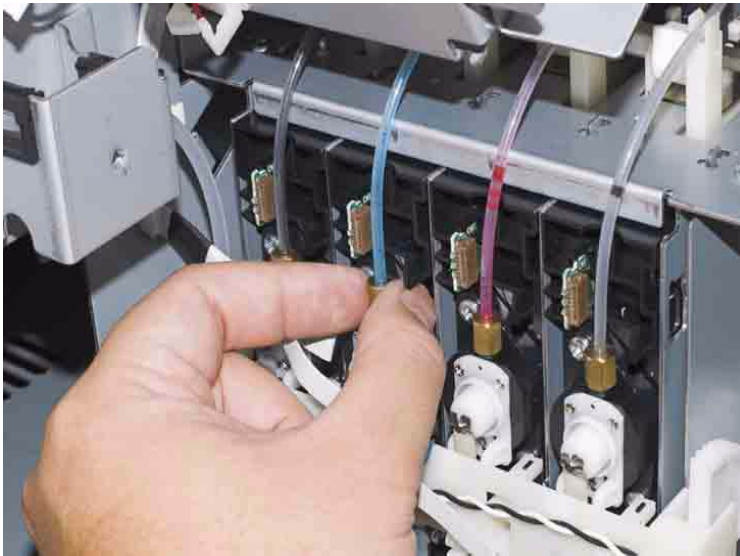
Hang the **Ink Bay** on this **Slot** with this **Hook**.



Route the **Tubes** through these **Guides** in **this color order**.  
Left to Right: **Light Light Black**,  
**Light Cyan**, **Light Magenta**, **Light Black**.



## 12. Connect the **Ink Tubes** to the **Ink Bay Valve Assemblies**



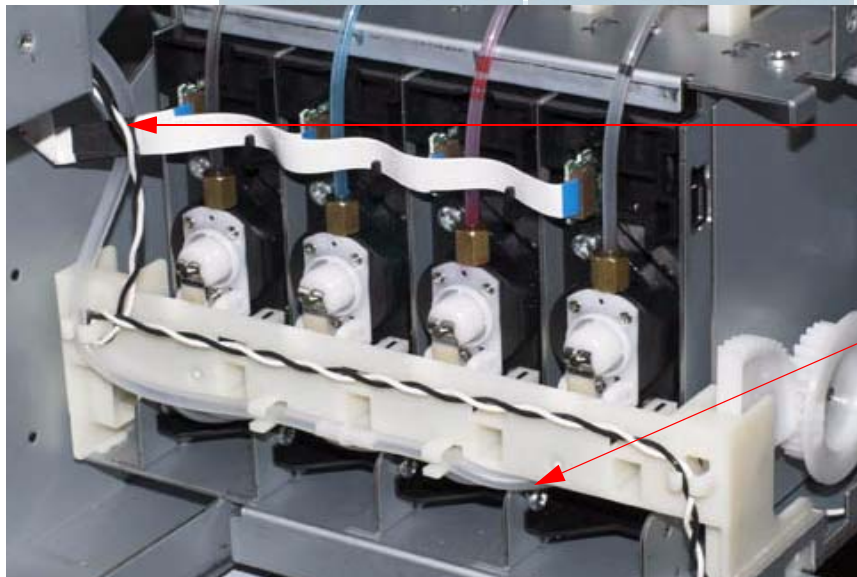
Connect all **Tubes**, finger tight.



Gently tighten the **Brass Fittings** with a **7mm Wrench**.  
**Do not over-tighten.**

**Note: Because the Ink System is pressurized, when the Printer is first turned on these 4 Connections should be carefully observed. In case of a leak, lift the Ink Lever.**

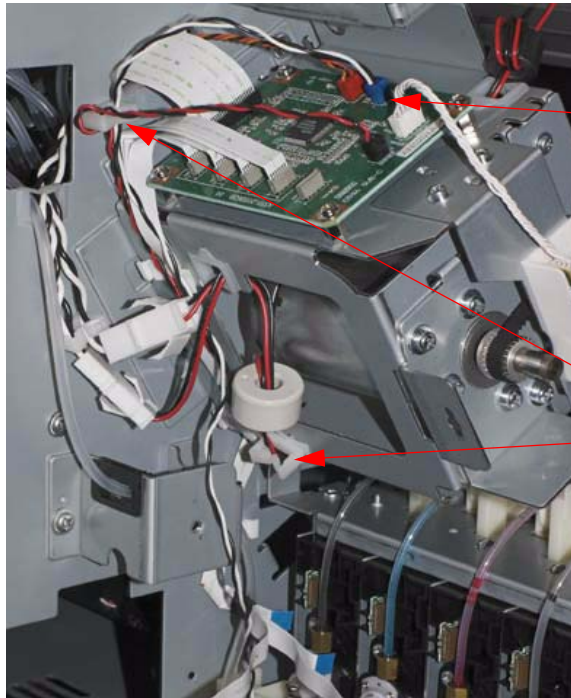
## 13. Connect and route the **Pressure Tube** and the **Release Lever Sensor Wire**.



Route The **Release Lever Sensor Wire** as shown.

Connect the **Pressure Tube** here, and route through the **Guides**.

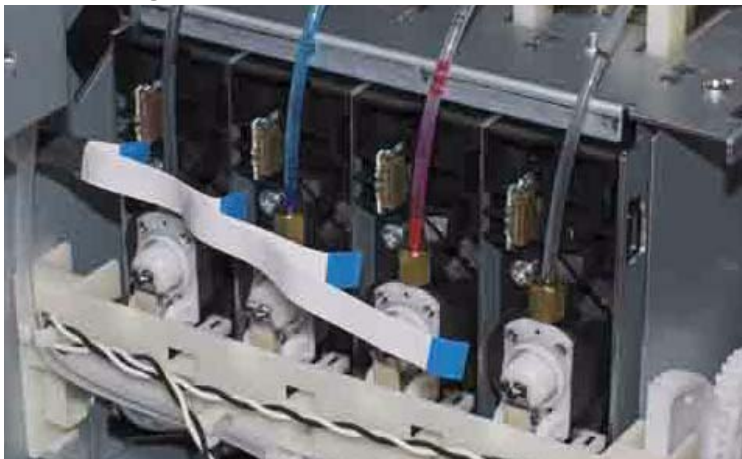
14. Finish routing the **Release Lever Sensor Wire** and plug it in



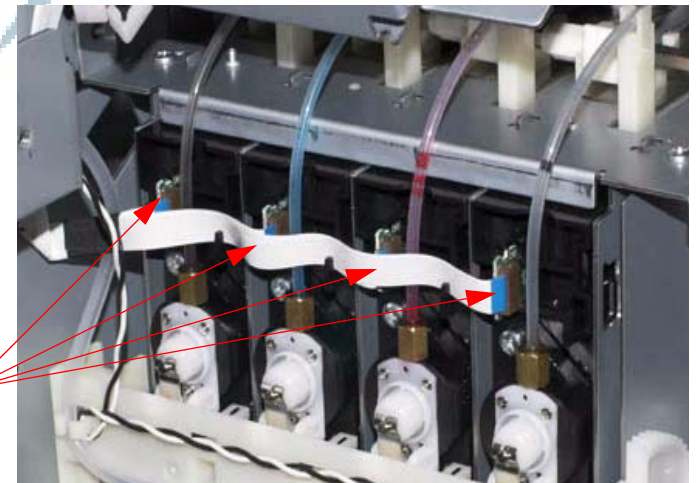
Plug in here.

Route through **3 Guides**.

15. Plug in **4 CSIC Cables**

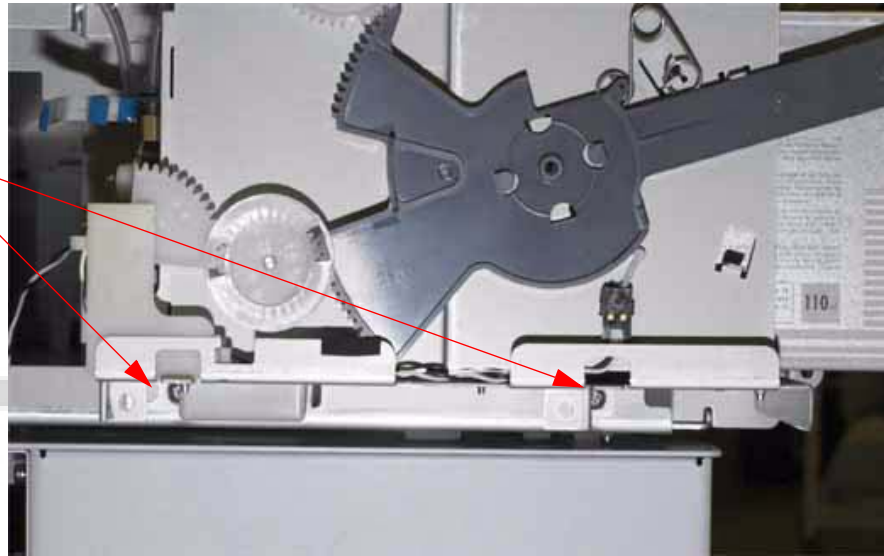


Plug in **4 CSIC Cables**



## 16. Fasten the bottom of the **Ink Bay Assembly with 2 Screws**

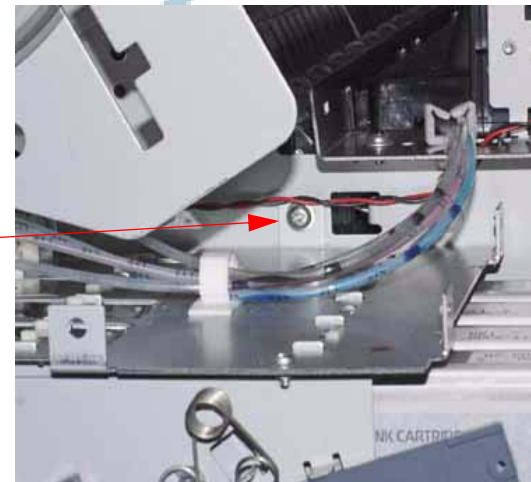
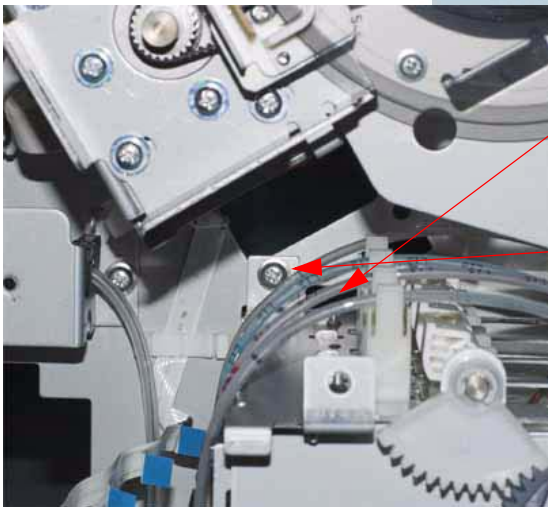
Fasten with **2 Screws**.



## 17. Fasten the top of the **Ink Bay Assembly with 2 Screw**

The **Hook** that suspends the **Ink Bay** is located here.

Remove **2 Screws**.



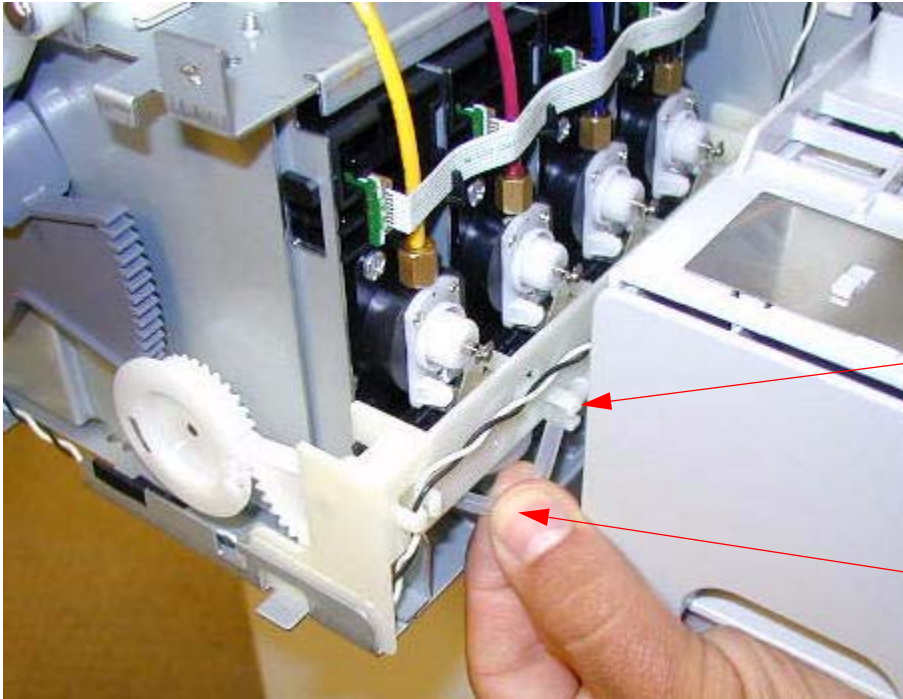
18. Turn on the **Printer's** prime function following the directions found in the Prime On / Off Chapter, found in the Reference section of the Field Repair Guide.
19. Turn off the **Printer**, and then turn it back on to start the prime routine. Install the **Ink Cartridges** and lower the **Ink Cartridge Release Levers**.
20. Install the **Ink Cartridges** and lower the **Ink Cartridge Release Levers**.  
***Note: Observe the connection between the Tubes and the Ink Bay for leaks. Raise the Ink Cartridge Release Lever at the first sign of a leak.***
21. Install the **Right Side Cover**.





## Ink Bay Replacement (Right)

1. Drain the ***Ink System***.
  - 1.1 Follow the directions in the **Ink Draining Procedure Chapter**, in the **Reference Section** of the **Field Repair Guide**.
2. Remove the ***Right Side Cover***.
3. Disconnect the ***Ink System Pressure Tube***.



Free the ***Ink System Pressure Tube*** from **3 Guides**. (This is **1 Guide** out of **3 Guides**)

Disconnect the ***Ink System Pressure Tube*** by pulling it off the ***Inlet***.

#### 4. Disconnect the **Cartridge Release Sensor Cable**.

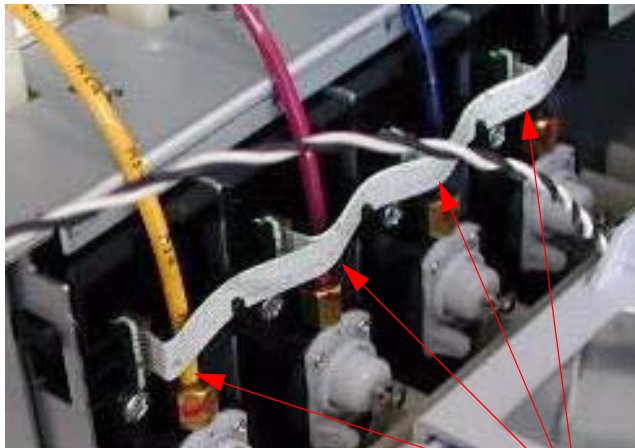


Unplug this **Cable**.

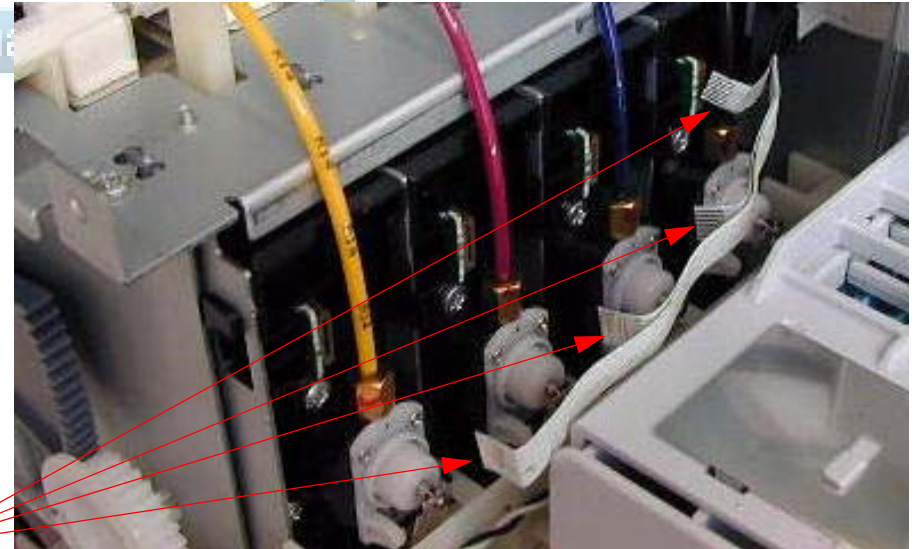
Free the **Cable** from the **Cable Guides**, to this point.



#### 5. Unplug **4 CSIC Cables**.



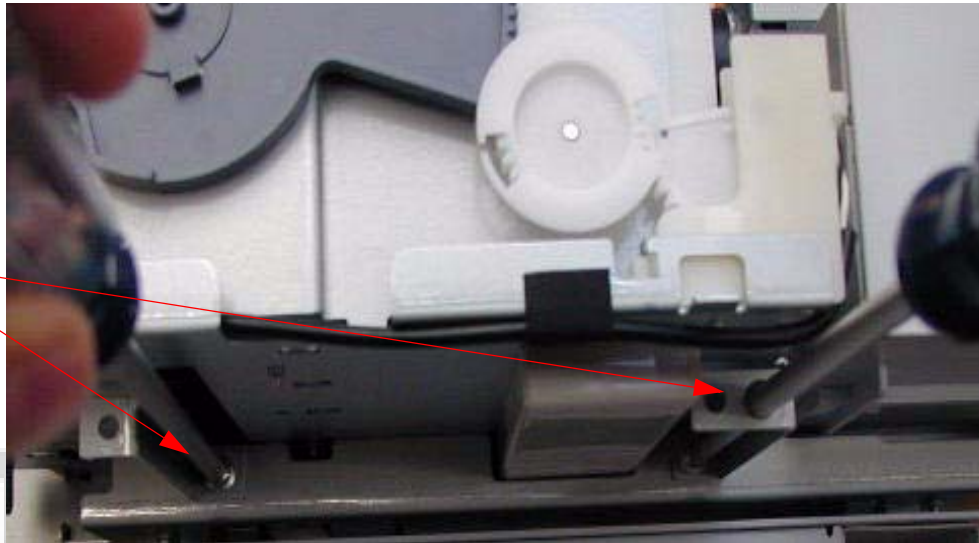
Unplug **4 CSIC Cables**.





6. Remove **2 Screws** from the bottom of the **Ink Bay Assembly**.

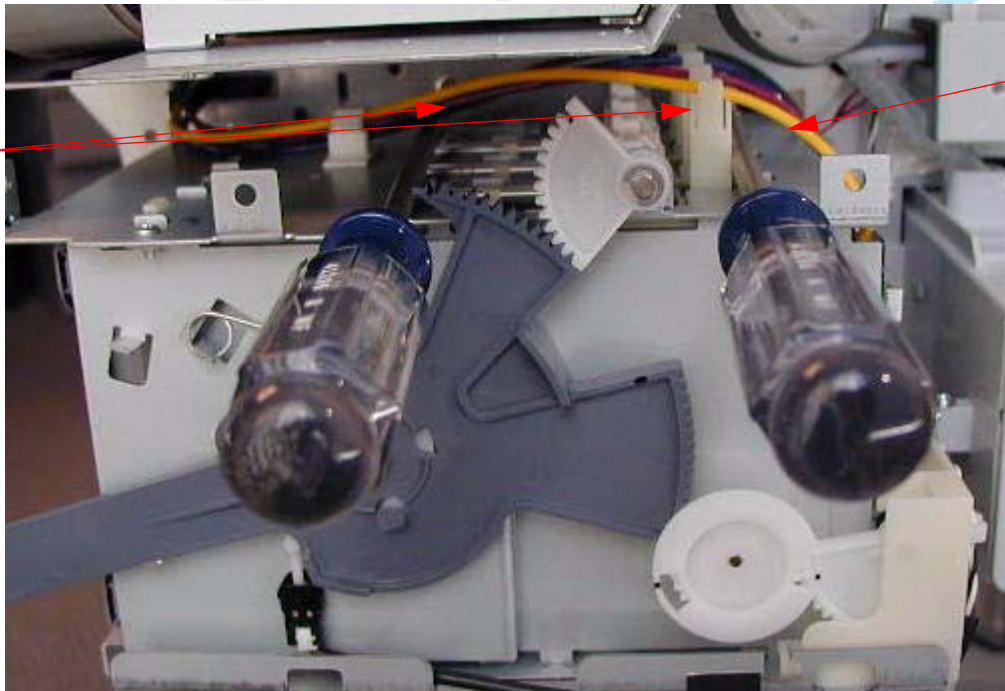
Remove **2 Screws**.



7. Remove **2 Screws** from the top of the **Ink Bay Assembly**.

Remove **2 Screws**.

**Note:** The **Ink Bay** will still be suspended by **1 Hook** that fits into a **Slot** in the **Frame** of the **Printer**.



The **Hook** that suspends the **Ink Bay** is located here.

8. Mark, then unscrew the **Brass Fittings** that fasten the **Ink Lines** to the **Ink Bay**.

1. Mark these **Ink Tubes** to assist in proper re-assembly.



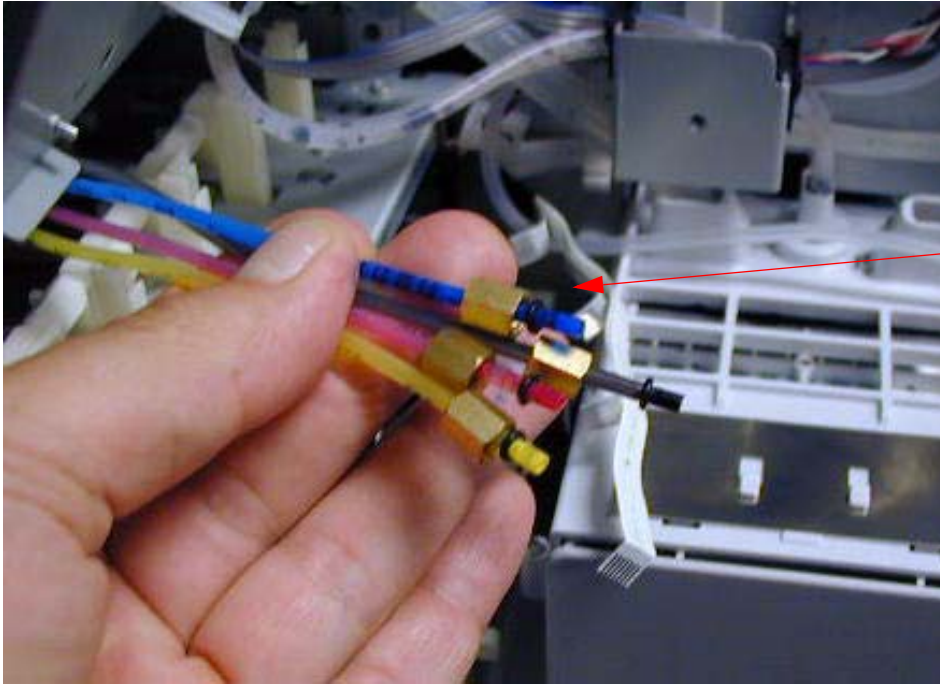
2. Using a **7mm wrench**, un-screw these **Brass Fittings**, but do not disconnect the **Ink Lines**.



3. Un-hook the **Ink Bay** from the **Printer Frame**, and pivot the **Ink Bay** away from the **Frame** to facilitate un-screwing the **Black and Cyan Ink Lines**.



9. Disconnect the **Ink Lines** and remove the **Ink Bay**.

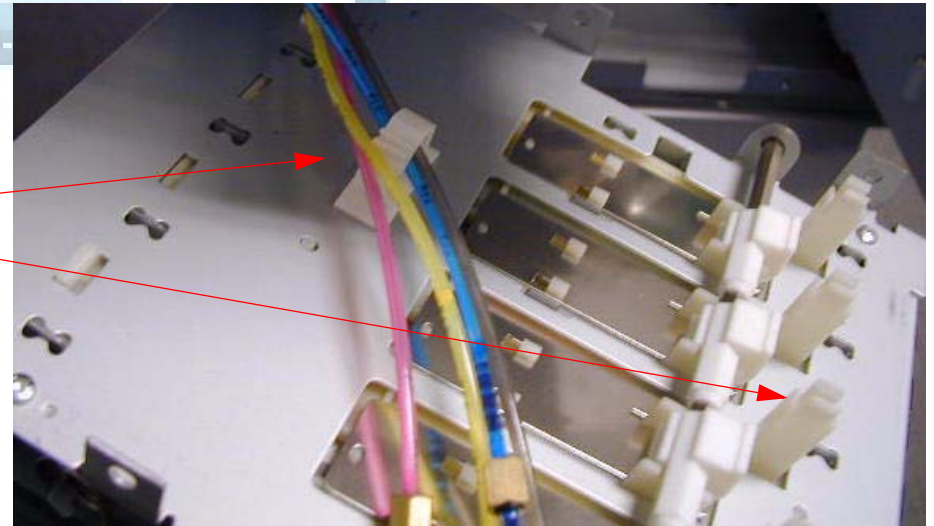


Disconnect the **Ink Lines** from the **Ink Valves**.



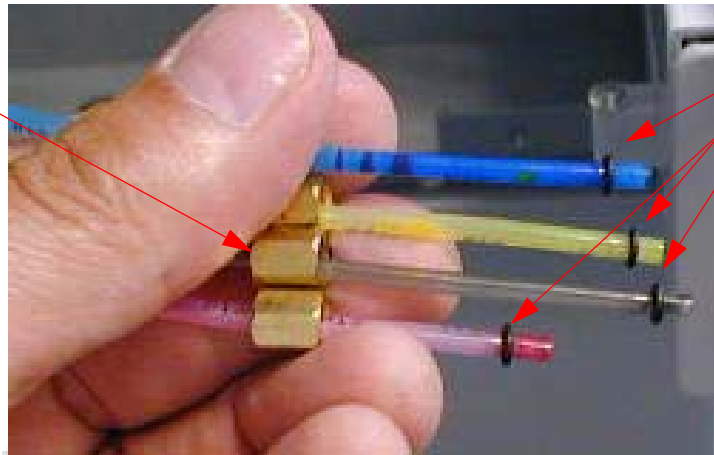
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Disconnect the **Ink Lines** from the **Ink Line Guides**.



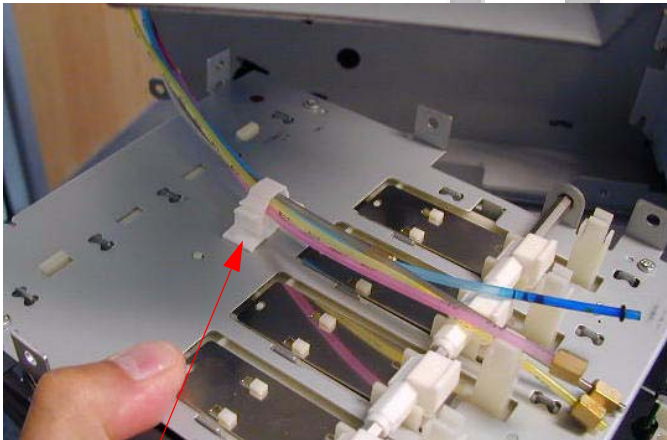
## 10. Inspect and prepare the **Ink Lines** and **O-rings**.

Ensure that the **Brass Fittings** are in the proper position.

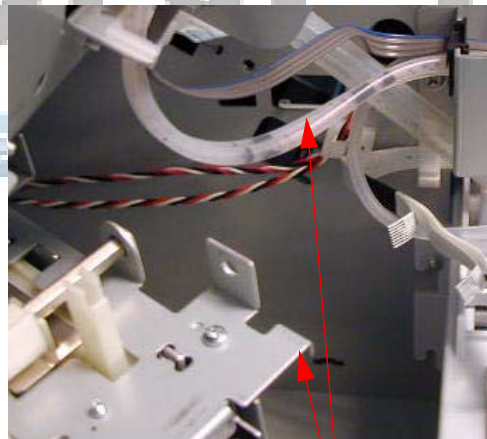


Ensure that the **O-rings** are in this position and undamaged.

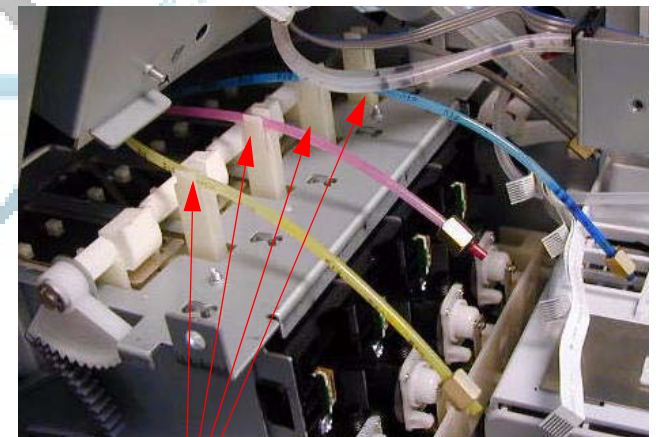
## 11. Route the **Ink Lines** through the **Guides**, and hang the **Ink Bay** on the **Suspension Hook**.



Route the **Tubes** through this **Guide**.



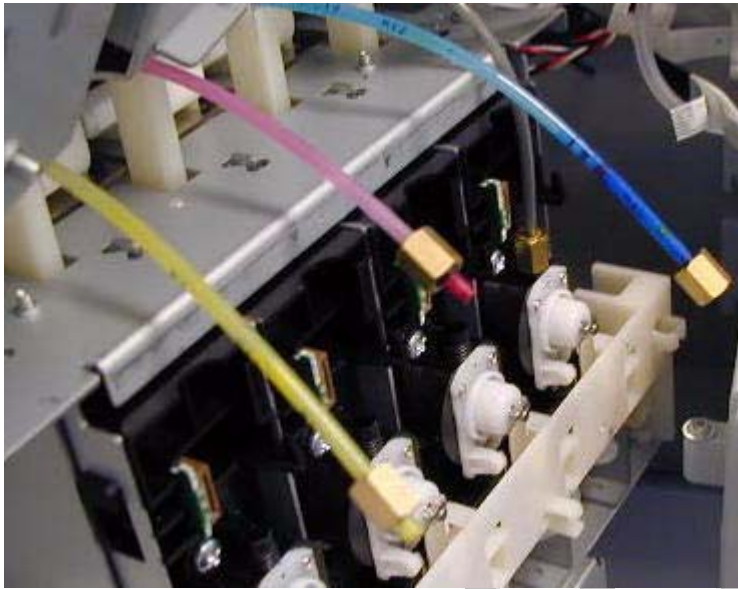
Hang the **Ink Bay** on this **Slot** with this **Hook**.



Route the **Tubes** through these **Guides** in **this color order**.  
Left to Right: **Black, Cyan, Magenta, Yellow**



## 12. Connect the **Ink Tubes** to the **Ink Bay Valve Assemblies**.



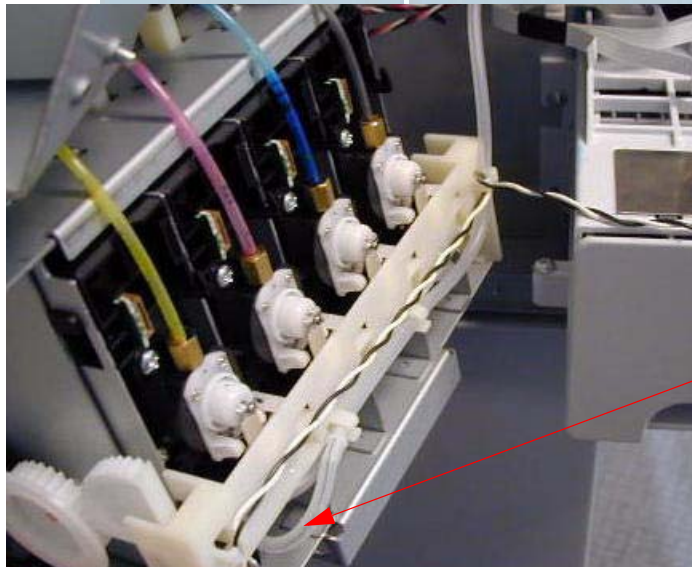
Connect all **Tubes**, finger tight.



Gently tighten the **Brass Fittings** with a **7mm Wrench**.  
**Do not over-tighten.**

**Note: Because the Ink System is pressurized, when the Printer is first turned on, these 4 Connections should be carefully observed. In case of a leak, lift the Ink Lever.**

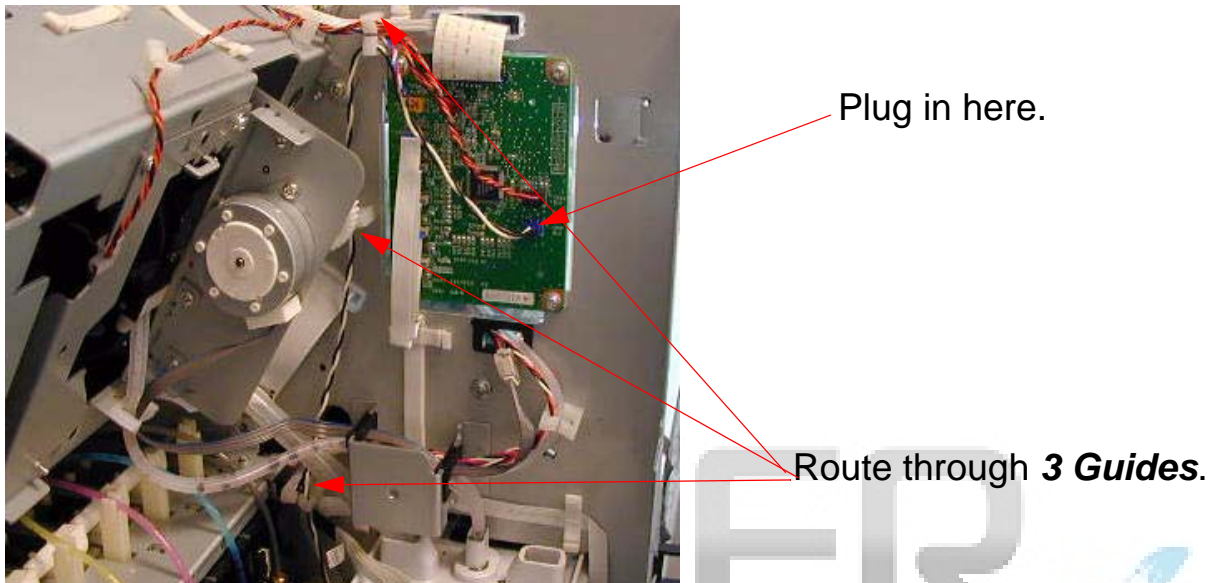
## 13. Connect and route the **Pressure Tube** and the **Release Lever Sensor Wire**.



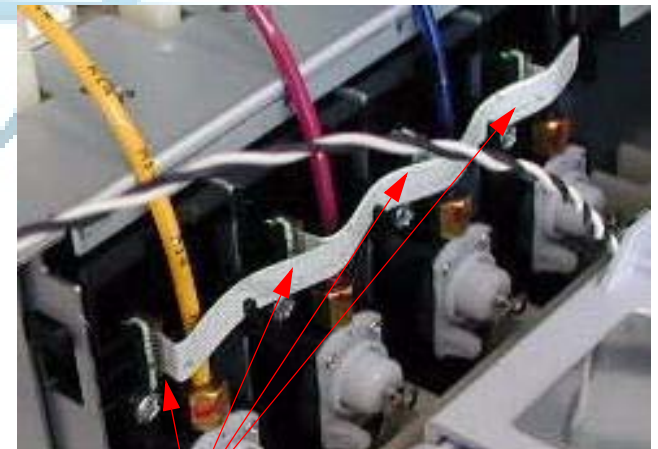
Route The **Release Lever Sensor Wire** as shown.

Connect the **Pressure Tube** here, and route through the **Guides**.

14. Finish routing the **Release Lever Sensor Wire** and plug it in.



15. Plug in **4 CSIC Cables**.

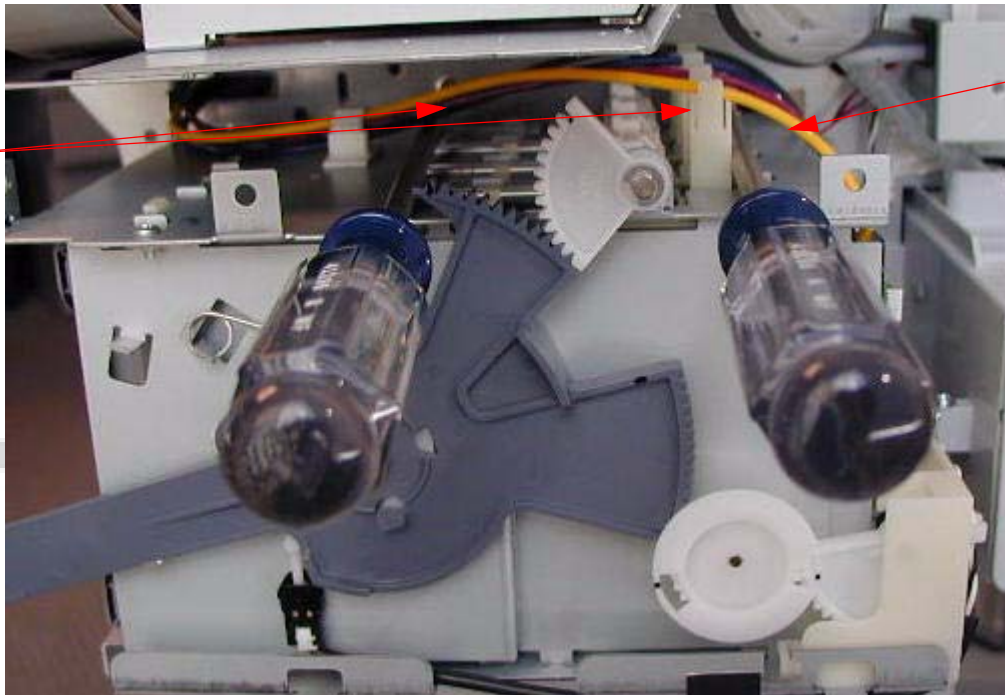


Plug in **4 CSIC Cables**.



## 16. Fasten the top of the **Ink Bay Assembly with 2 Screws.**

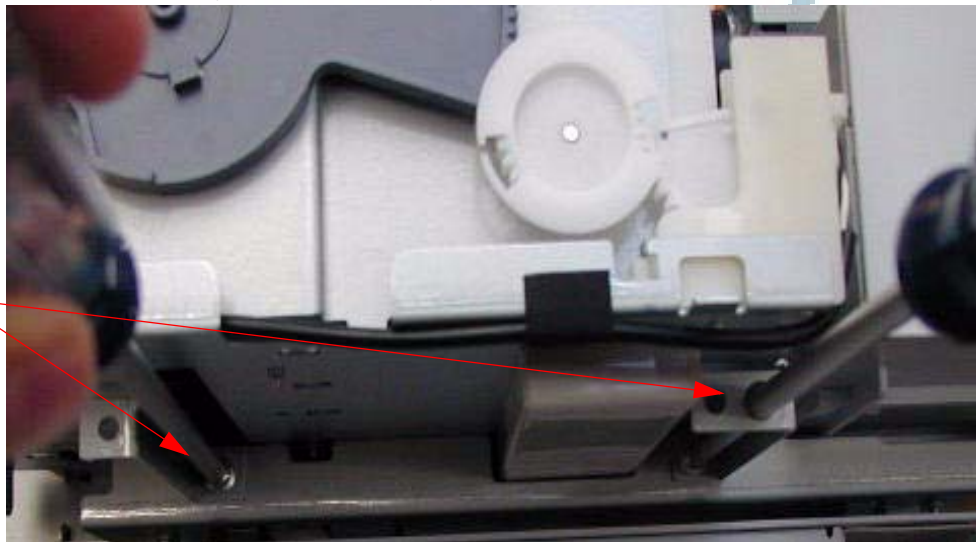
Fasten with **2 Screws.**



The **Hook** that suspends the **Ink Bay** is located here.

## 17. Fasten the bottom of the **Ink Bay Assembly with 2 Screws.**

Fasten with **2 Screws.**



18. Turn on the **Printer's** prime function following the directions found in the Prime On / Off Chapter, found in the Reference section of the Field Repair Guide.
19. Turn off the **Printer**, and then turn it back on to start the prime routine.
20. Install the **Ink Cartridges** and lower the **Ink Cartridge Release Levers**.  
***Note: Observe the connection between the Tubes and the Ink Bay for leaks. Raise the Ink Cartridge Release Lever at the first sign of a leak.***
21. Install the **Right Side Cover**.



## Ink Bay Spring Upgrade

**Note:** The Ink Bay Spring upgrade is designed to add additional spring pressure on the Ink Bay Valves. This upgrade is necessary for the following serial number ranges.

Pro 7800 Serial Number Ranges	Pro 9800 Serial Number Rangers
GLL0000001 - GLL0007350	GLS0000001 - GLS0005206
GLL0007352	GLS0005208 - GLS0005210
GLL0007360	GLS0005212 - GLS0005235
GLL0007362 - GLL0007368	GLS0005256 - GLS0005257
GLL0007386	GLS0005260
GLL0007406 - GLL0007408	GLS0005276
GLL0007426 - GLL0007428	

### Required Parts and Utilities.

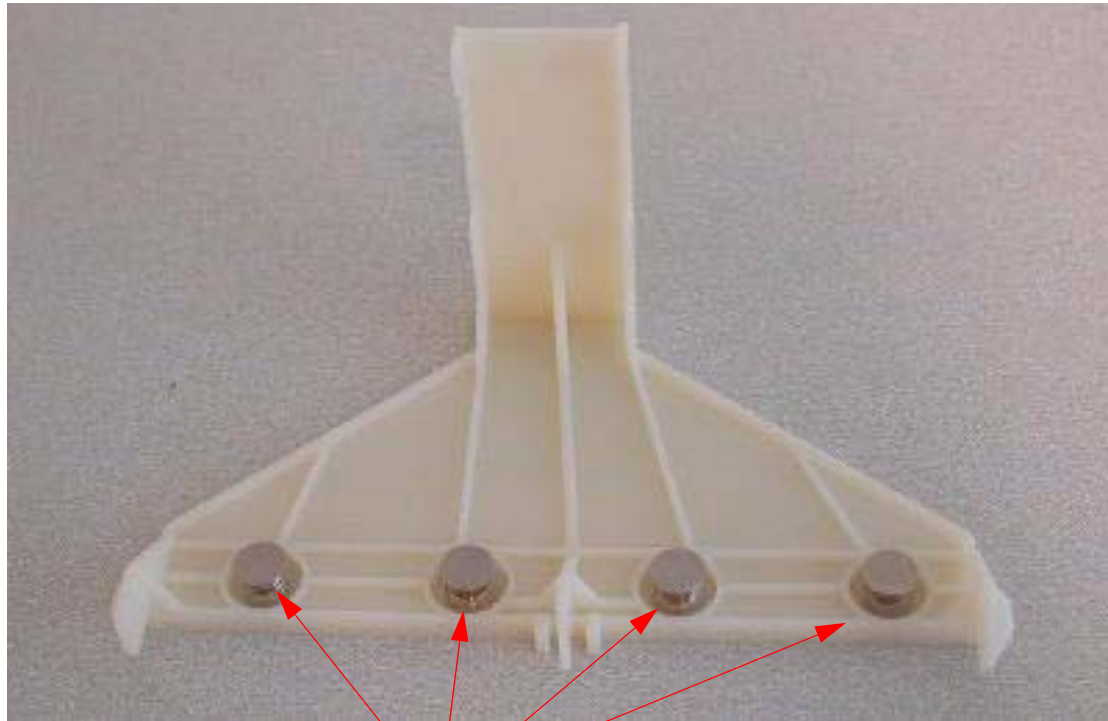
**Firmware Update Utility** (Available on Epson Insider)

**Flag Set/Reset Utility** (Available on Epson Insider)

Current **Firmware** file (Available on Epson Insider)

Upgrade Part # **1434902 Adaptor Assy. IH** Quantity required (2)

)

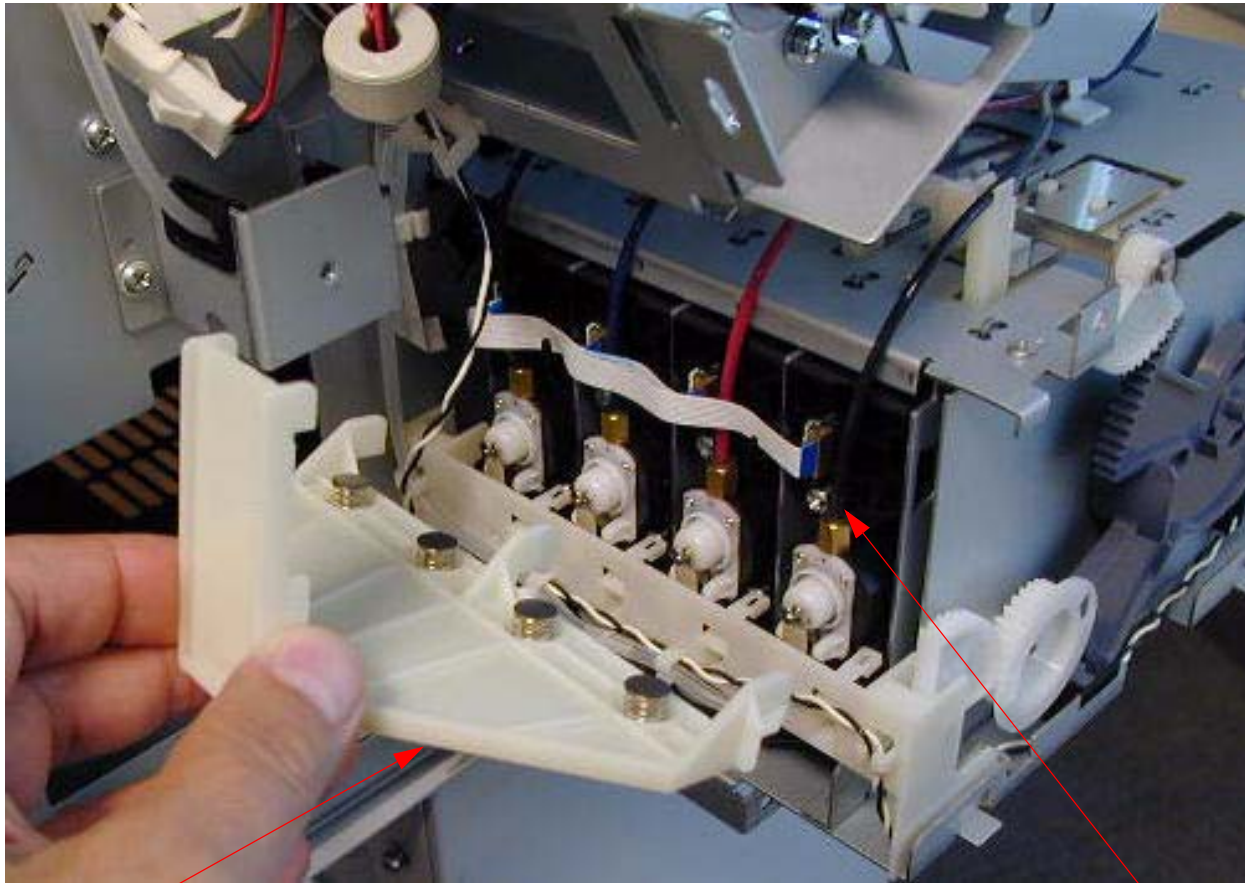
Upgrade Part # **1434902**

These **Springs** push on the **Ink Valves** to add additional pressure.

1. Remove the **Left and Right Side Covers**.
2. Lift the **Right and Left Ink Release Levers**.



3. Place the **Upgrade Part** in the position shown below, behind the **Left Side Ink Bay**.

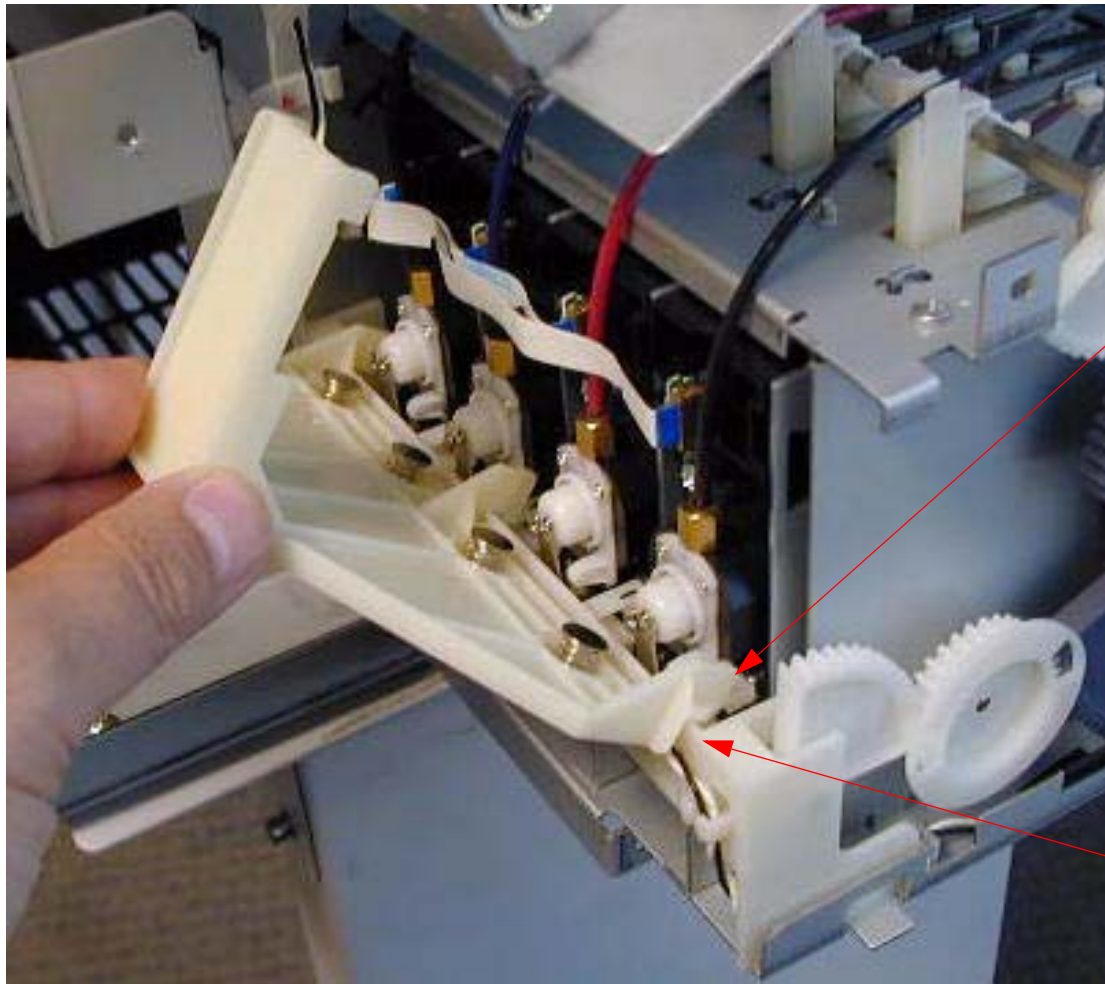


**Upgrade Part**

Back of the **Left Side Ink Bay**.

4. Place the **Upgrade Part** in the position shown below,

Place the **Upgrade Part** so that the bottom most section of the **Part** fits between the **White Plastic Bracket** and the **Ink Bay**.

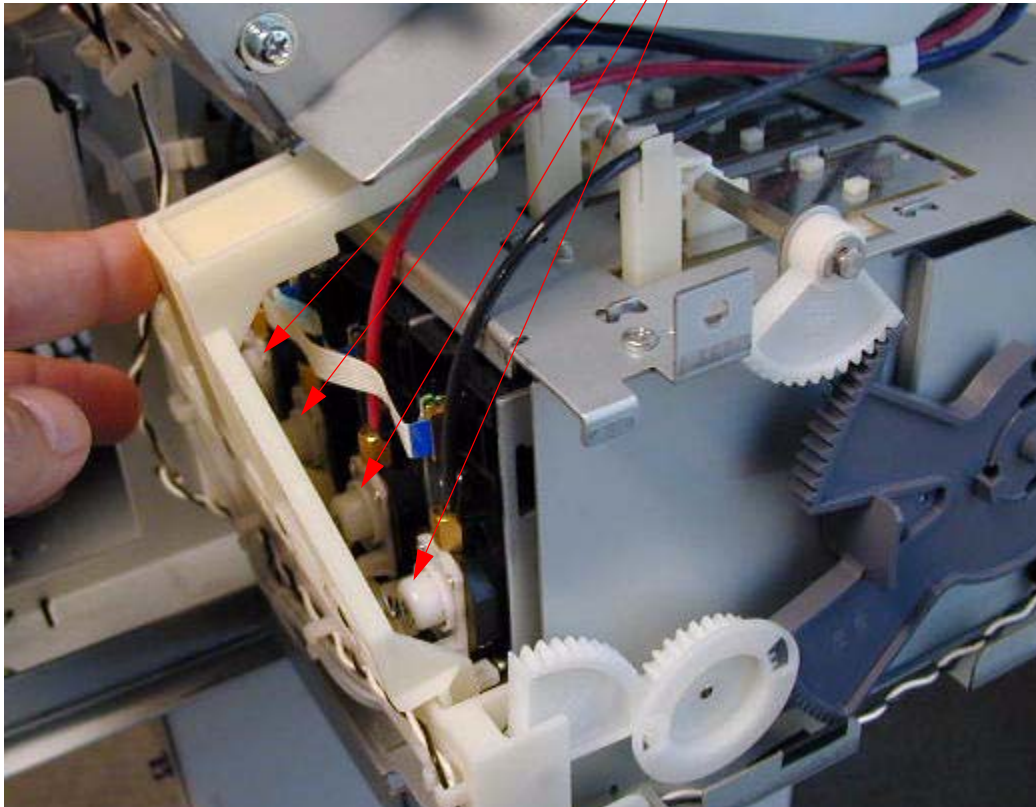


Bottom most section of the **Upgrade Part**.

**White Plastic Bracket** on the back of the **Ink Bay**.

5. Rotate the **Upgrade Part** into position, as shown below.

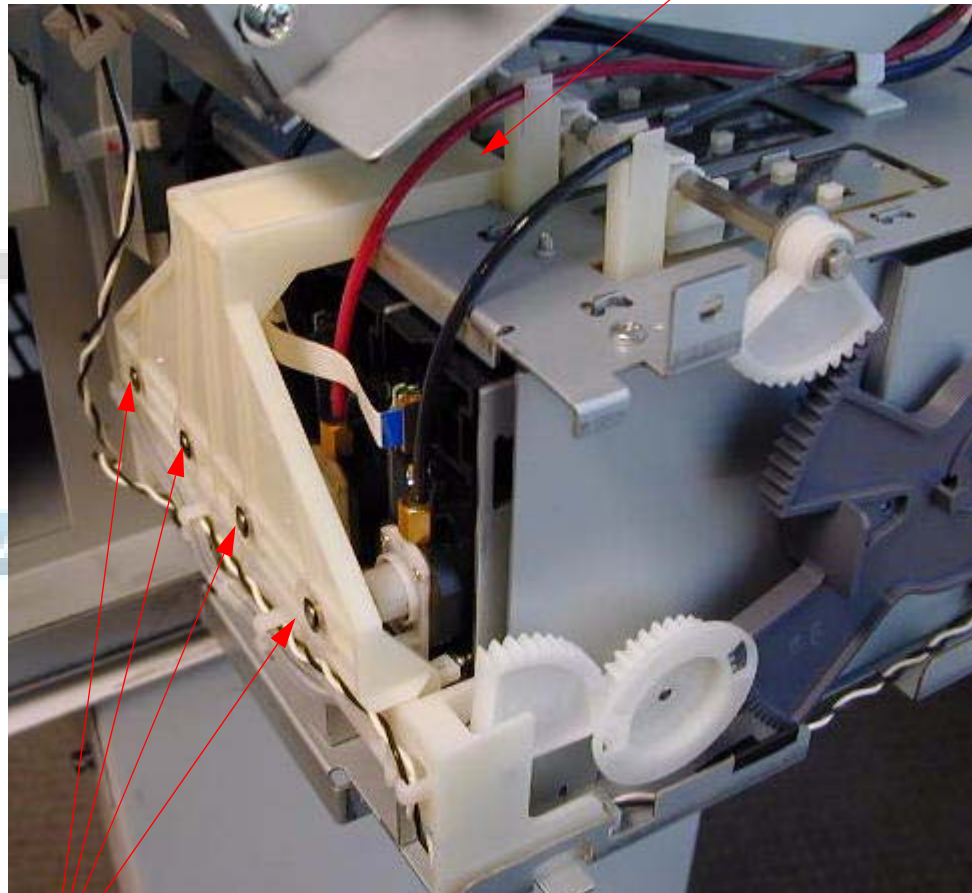
Ensure that the **4 Spring Loaded Pressure Plates** on the **Upgrade Part** press against the back of the **4 Valve Assemblies**.





6. Snap the **Upgrade Part** into position.

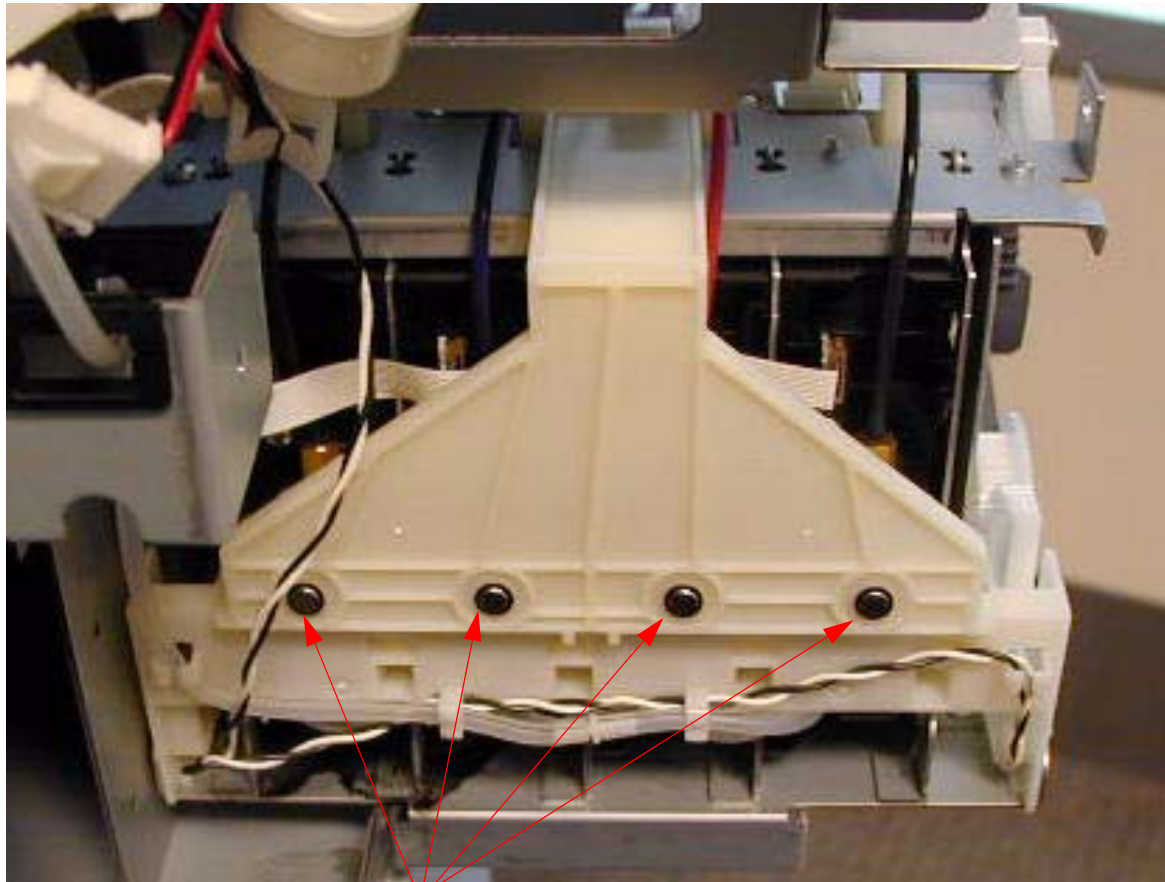
Snap this section of the **Upgrade Part** onto the top of the **Ink Bay**.



Ensure that the **4 Spring Loaded Pressure Plates** on the **Upgrade Part** press against the back of the **4 Valve Assemblies**.

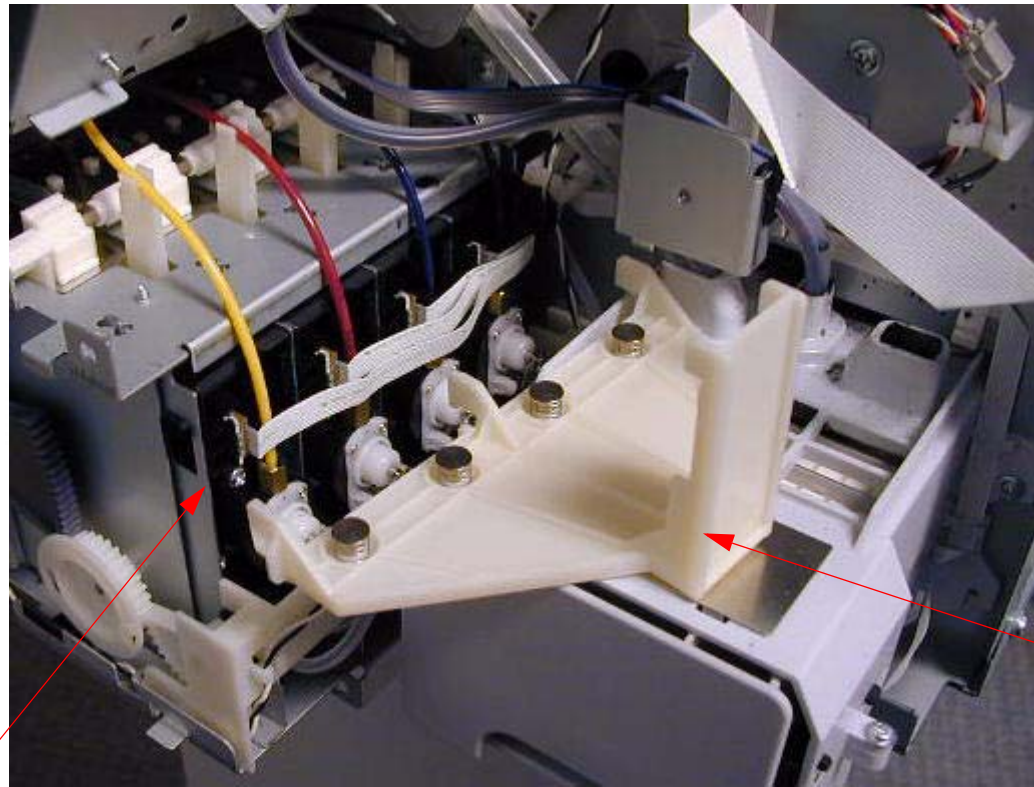


7. The view from behind of the installed **Upgrade Part**, on the **Left Ink Bay Assembly**.



The **4 Spring Loaded Pressure Plates** on the **Upgrade Part** press against the back of the **4 Valve Assemblies**.

8. Place the **Upgrade Part** in the position shown below, behind the **Right Side Ink Bay**.

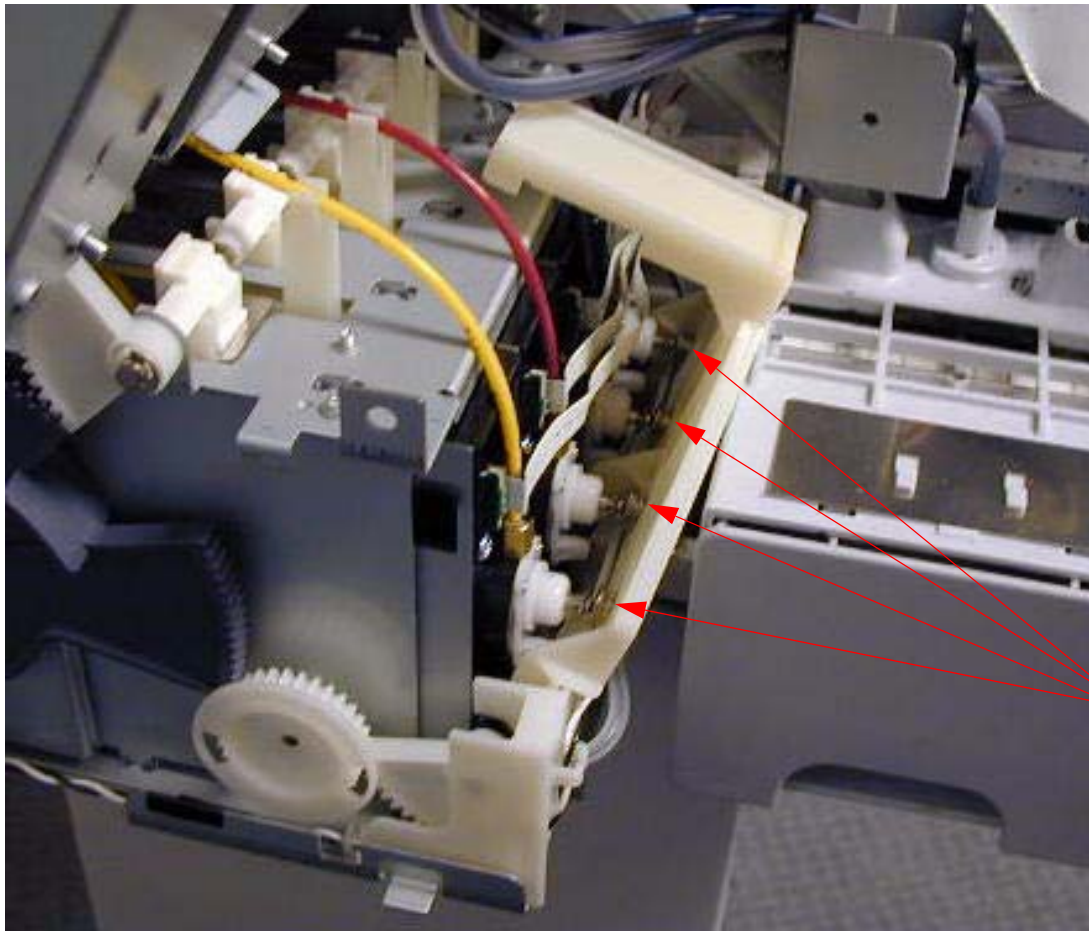


Back of the **Right Side Ink Bay**.

**Upgrade Part**

9. Place the **Upgrade Part** in the position shown below.

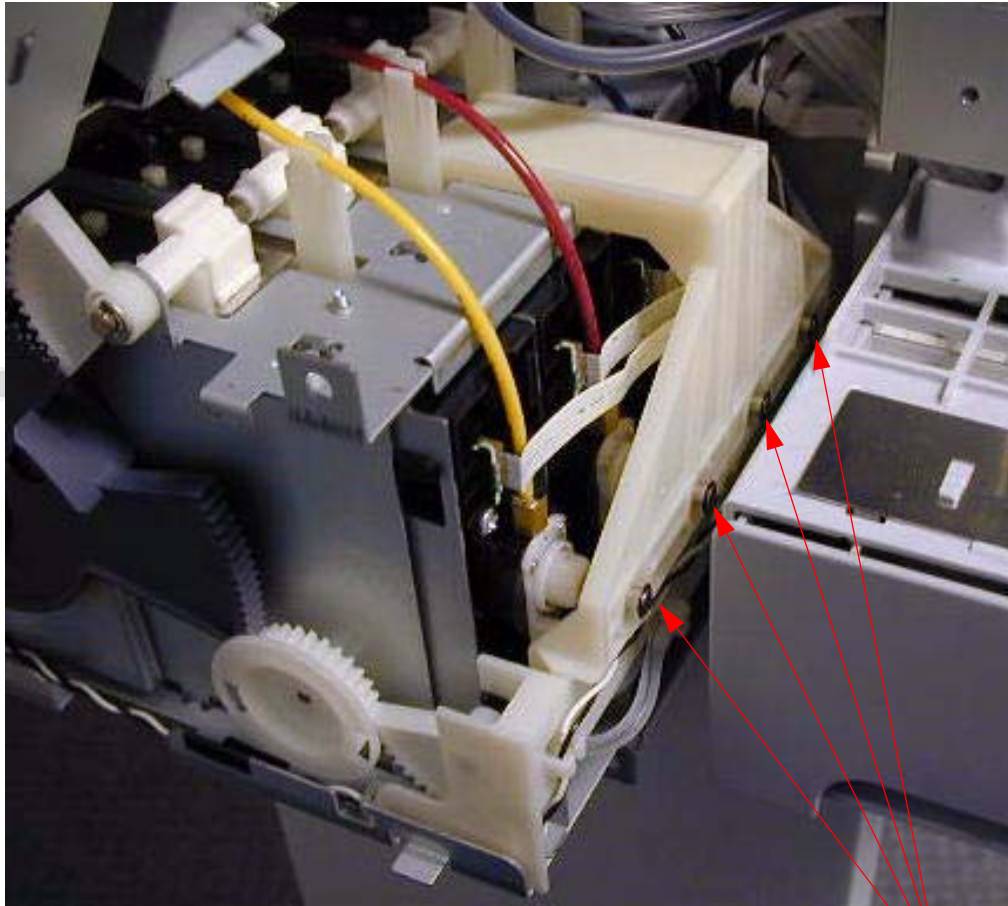
Place the **Upgrade Part** so that the bottom most section of the **Part** fits between the **White Plastic Bracket** and the **Ink Bay**.



Ensure that the **4 Spring Loaded Pressure Plates** on the **Upgrade Part** press against the back of the **4 Valve Assemblies**.



10. Snap the **Upgrade Part** into position.



Ensure that the **4 Spring Loaded Pressure Plates** on the **Upgrade Part** press against the back of the **4 Valve Assemblies**.

11. Upgrade the **Printer** to the latest **firmware**.



11.1 Follow the instructions found in the Firmware Upgrade Chapter, in the Reference Section of the Field Guide.

12. Turn on the firmware flag that supports the **Upgrade Parts** just installed.

12.1 Locate the appropriate **file** for the **Printer**.

12.1.1 Pro 7800: **7800 Flag On.prn**

12.1.2 Pro 9800: **9800 Flag On.prn**

12.2 Send the appropriate **file** to the **Printer**.

12.2.1 Turn on the **Printer** while depressing **Down**, **Right**, and **Pause** to place the **Printer** in **SERVICEMAN MODE**.

12.2.2 Send the appropriate **file** to the **Printer** using the **Firmware Update Utility**.

12.3 Verify that the flag was set properly.

12.3.1 Turn off the **Printer**.

12.3.2 Turn on the **Printer** in user mode.

12.3.3 Press the **Menu** button and navigate to **Printer Status: Version**, and display the **Printer's** firmware version.

12.3.3.1 Incorrect example: SN01761.800 = Flag turned off.

12.3.3.2 **Correct example:** SN01761.8001 = **Flag turned on**.

13. Replace the **Left and Right Side Covers**.

# Main Board Replacement

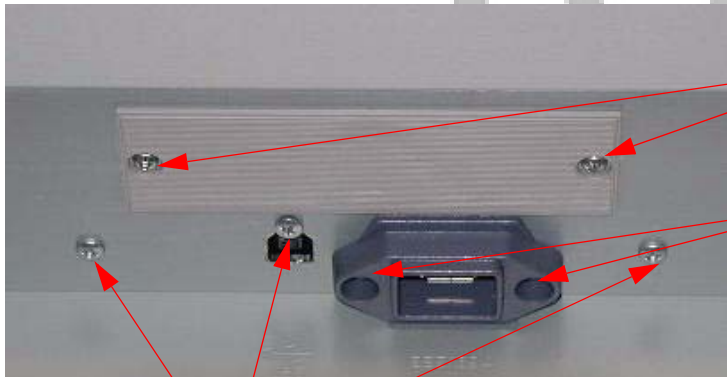
**Note:** 7800 Main Board Part # 2093624 (the part # is stamped on the board)

**Note:** 9800 Main Board Part # 2093840 (the part # is stamped on the board)

1. Back up the **Printer's** parameters using the Parameter Backup / Restore Utility (**Nvram.exe**)

**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 printed on the Service Level Nozzle Check (**ServiceMan Mode: Self Testing: Adjustment: Check Nozzle**).

2. Turn off the **Printer** and **UNPLUG from AC**.
3. Remove the **Main Board Cavity Cover**.



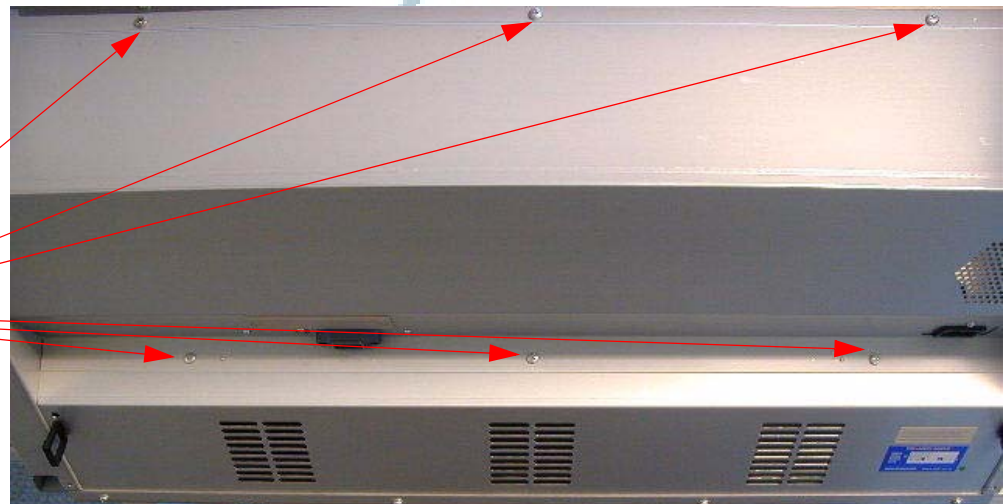
1. Remove 2 Screws and the **Optional Port Cover**

2. Remove 2 Screws and the **FireWire Port Cover**.

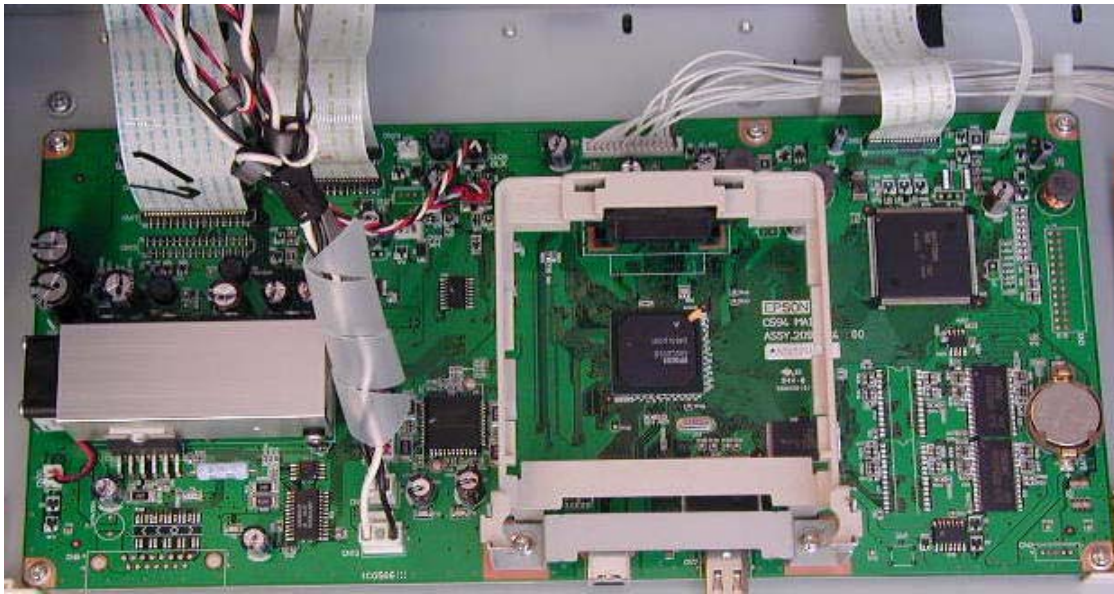
3. Remove these 3 Screws.

4. Remove these 6 Screws.

5. Remove the **Cover**.

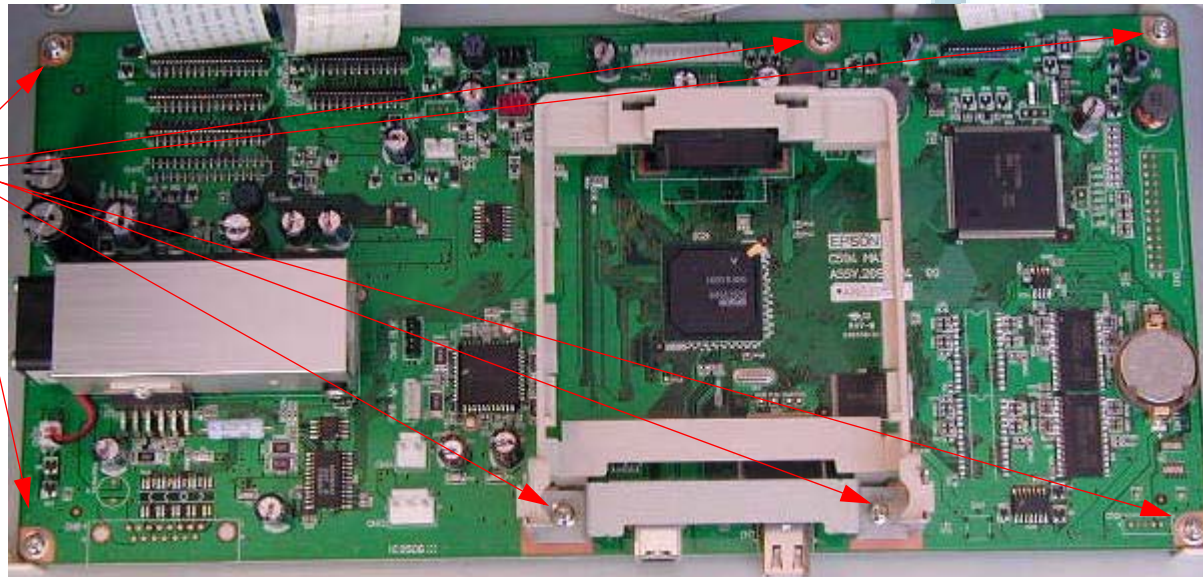


4. Unplug the **Cables** that attach to the **Main Board**.



5. Remove **7 Screws**, and lift out the **Main Board**.

Remove **7 Screws**





6. Compare the **new Main Board** to the **old Main Board**. Verify that the **Components, Brackets,** and **Part Numbers** match.
7. Fasten the new **Board** to the **Housing** with **7 Screws** (see above).
8. Connect the **Cables** to the **Board**. **Ensure that the Cables are fully seated (straight).**
9. Reinstall the **Main Board Cavity Cover**, and fasten with **6 Screws (do not fully tighten).**
10. Install the **Port Covers** and **5 Screws**



11. Fully tighten the **6 Screws** that fasten the **Main Board Cavity Cover**
12. 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**).
13. 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.



## If the Printer's Parameters are not available skip step 14, and proceed with step 15.

### 14. Re-Install the **Printer's** parameters using the Parameter Backup / Restore Utility (**Nvram.exe**)

14.1 Perform the **RTC&USBID&IEEE1394ID Adjustment**.

14.2 Perform the **Colorimetric Calibration** (*When specifically requested by Epson*).

### 15. Install the appropriate generic **Printer** parameters using the Parameter Backup / Restore Utility (**Nvram.exe**)

**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 16. 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. They come in 4 variations (7800 Matte Black, 7800 Photo Black, 9800 Matte Black, and 9800 Photo Black)*

### 16. Perform the following operations in the order listed.

16.1 Perform the **RTC&USBID&IEEE1394ID Adjustment**.

16.2 Enter the **Head Rank ID** (**Print Head** calibration values).

16.3 Perform **Input Serial Number**.

16.4 Perform the **Rear Sensor Adjustment**.

16.5 Perform the **980mm Feed Adjustment**

16.6 Perform the **Ink Mark Sensor Level Adjustment**.

16.7 Perform the **T&B&S (Roll Paper) Adjustment**.

16.8 Perform the **T&B&S (Cut Sheet) Adjustment**.

16.9 Perform the **Platen Position Adjustment**

16.10 Perform the **Ink Mark Sensor Adjustment for Auto Nozzle Check**.

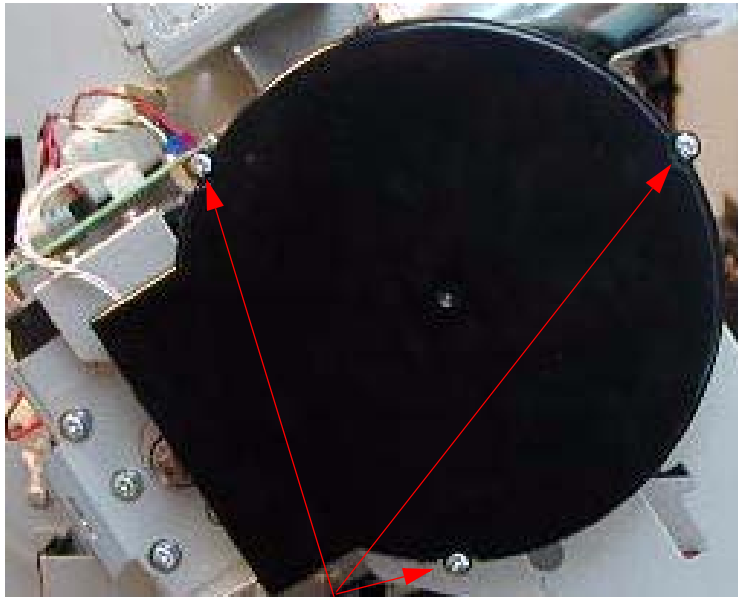
16.11 Perform the **Auto Bi-D Adjustment**.

- 16.12 Perform the **Auto Uni-D Adjustment**.
  - 16.13 Perform the **Cutter Pressure Adjustment**.
  - 16.14 Perform the **Colorimetric Calibration** (*When specifically requested by Epson*).
17. Turn the **Printer** off, and then back on, to ensure that the new data from step 16 is loaded into the **Printer's** memory.

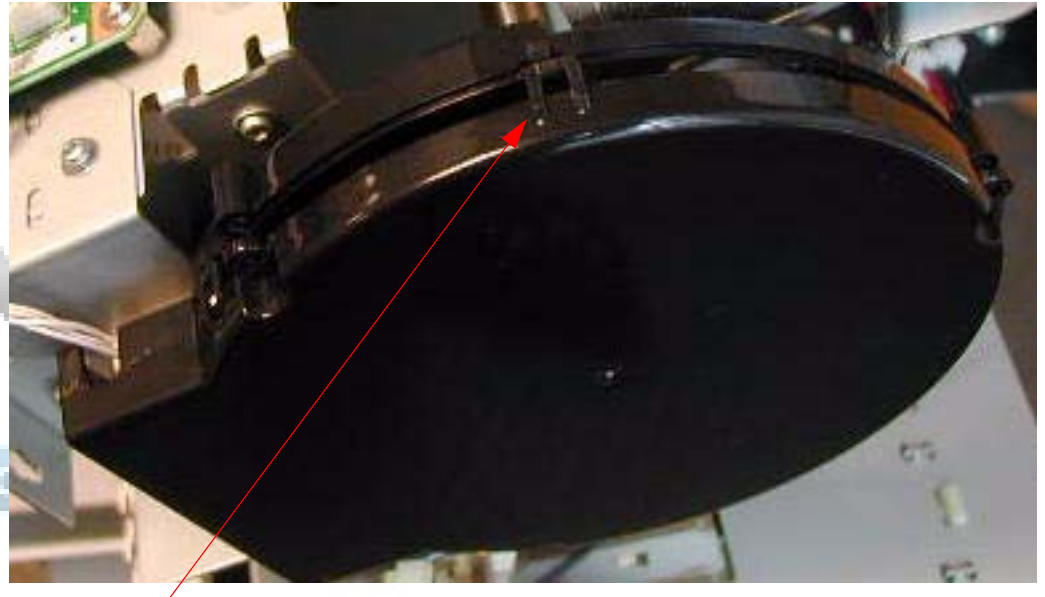


# Paper Feed Encoder Scale Replacement

1. Remove the **Left Side Cover**.
2. Remove the **Paper Feed Encoder Scale Cover**.



1. Remove **3 Screws**.

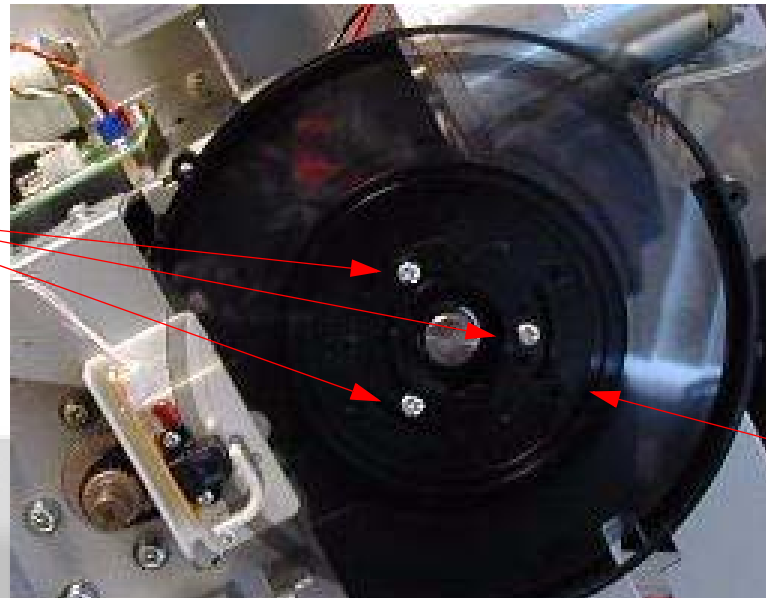


2. Release **4 Interlocks**.

3. Remove the **Cover**.

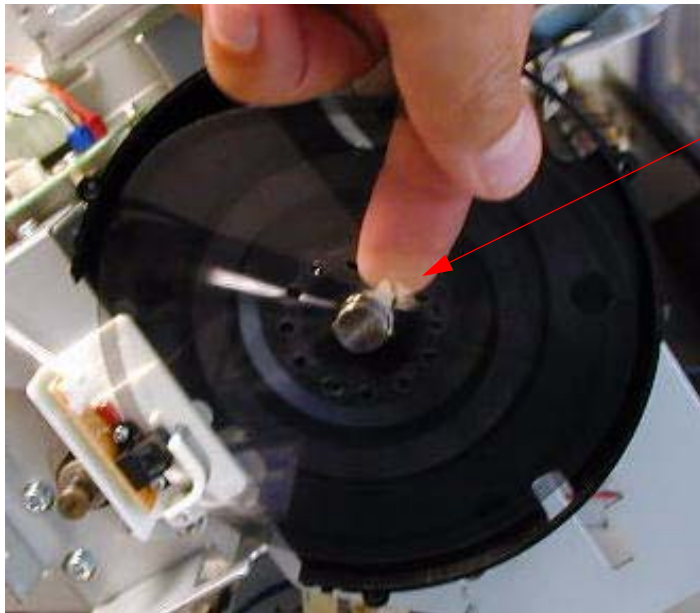
### 3. Remove the ***Paper Feed Encoder Scale Fastener Disk***.j

1. Remove **3 Screws**.



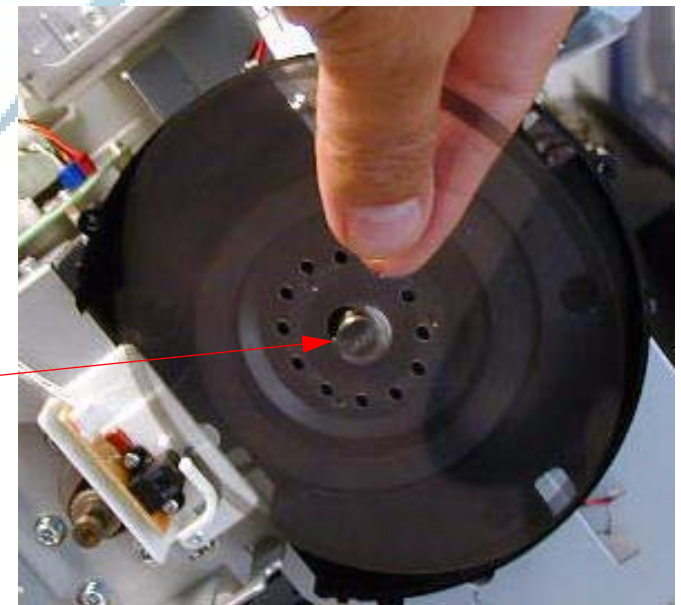
2. Remove the ***Paper Feed Encoder Scale Fastener Disk***

### 4. Remove the ***Paper Feed Encoder Scale***.



1. Place your finger behind the ***Encoder Scale***, down by the center.

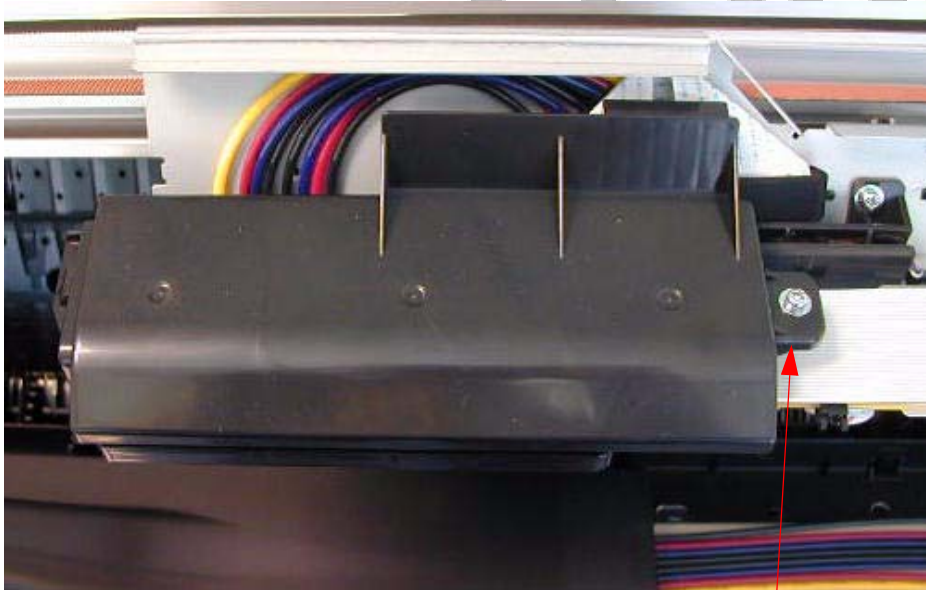
2. Gently ease the ***Scale*** of the ***Shaft***.



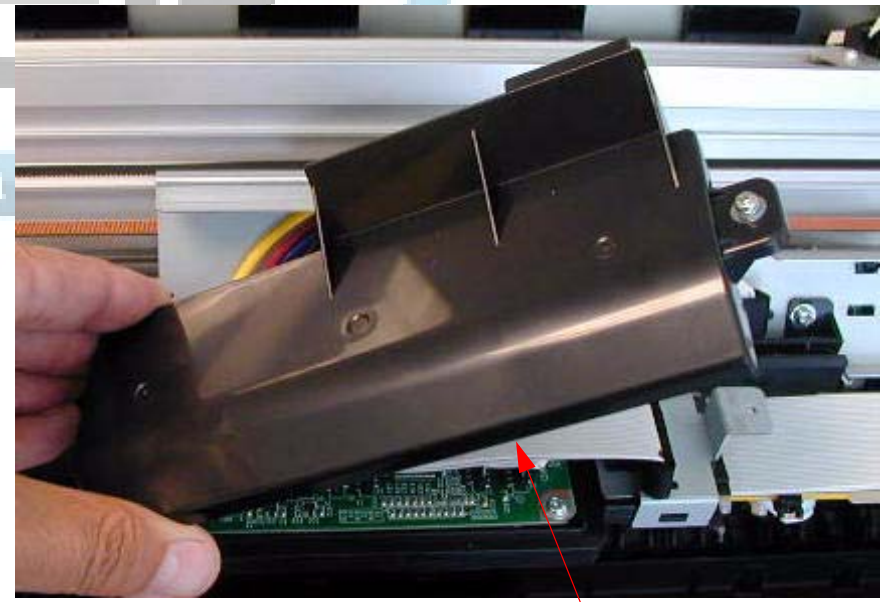


# Print Head Replacement Procedure

1. Run the **Adjustment Wizard** and input the new **Print Head's** calibration value (**Head Rank ID**).
2. **Unplug the Printer.**
3. Raise both **Ink Levers**, closing the **Ink Valves**.
4. Remove the **Top Cover**.
5. Release the **Carriage Lock**, and move the **Carriage Mechanism** to the center of the **Printer**.
6. Remove the **Carriage Board Cover**.

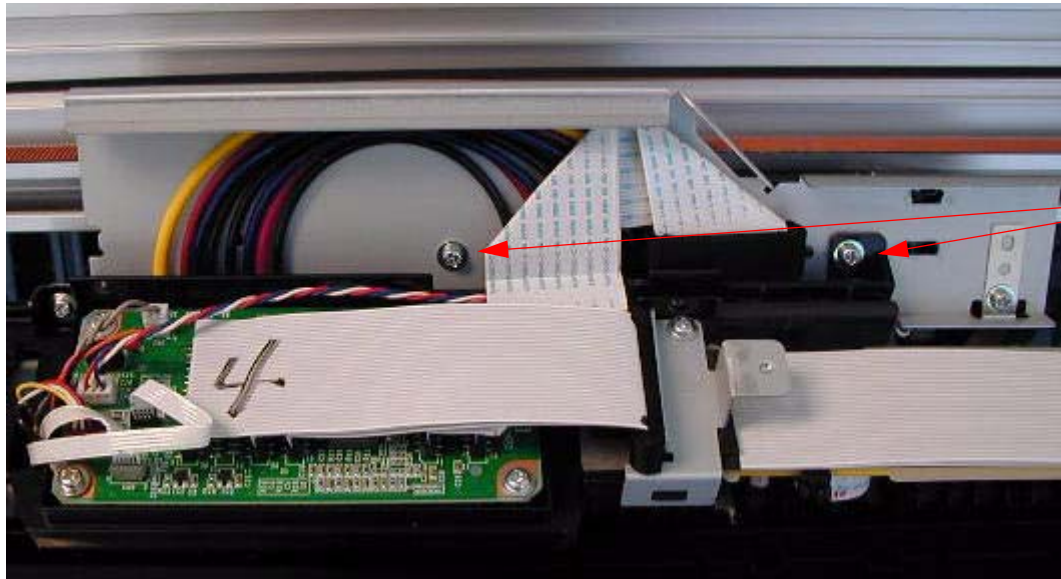


Loosen **1 Screw**.



Lift off the **Carriage Board Cover**.

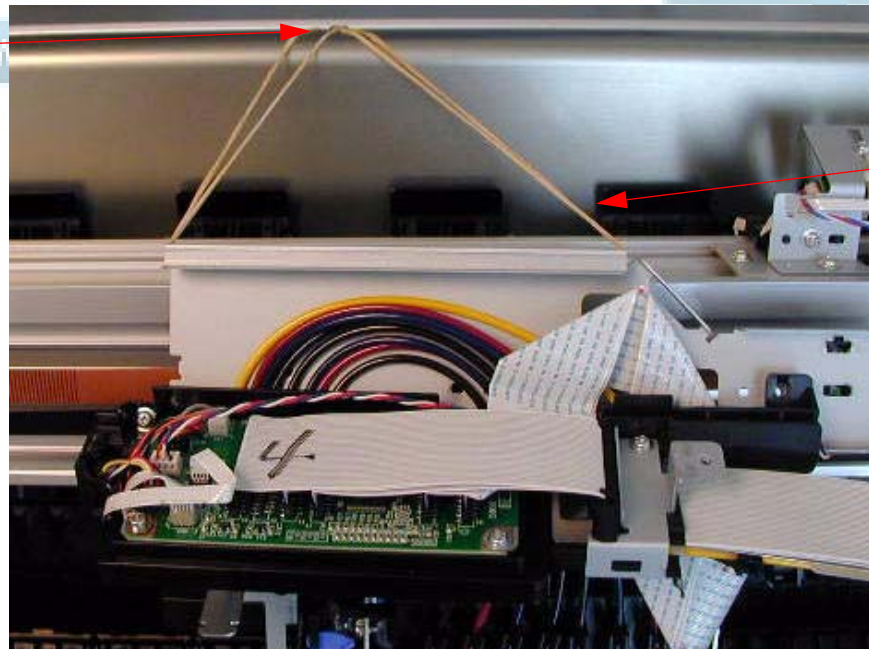
7. Remove **2 Screws** that fasten the **Carriage Board Assembly**.



Remove **2 Screws**.

8. Lift and suspend the **Carriage Board Assembly**.

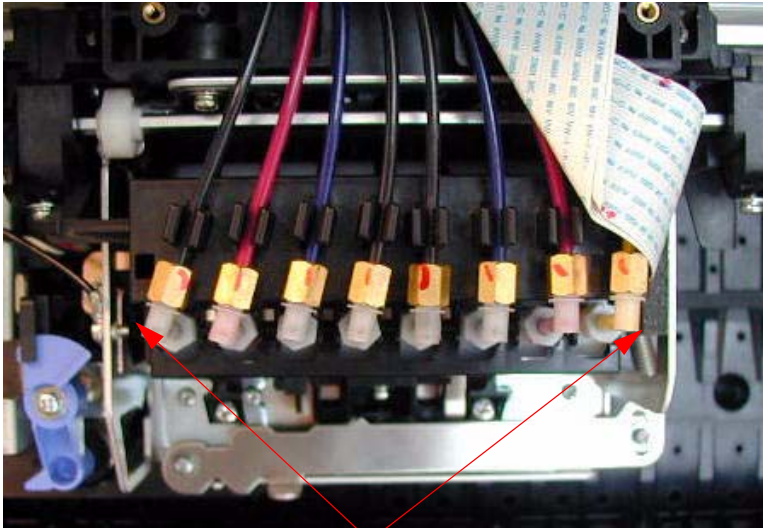
Loosen one of the **Screws** that fasten a cover to support the **Carriage Board Assembly**.



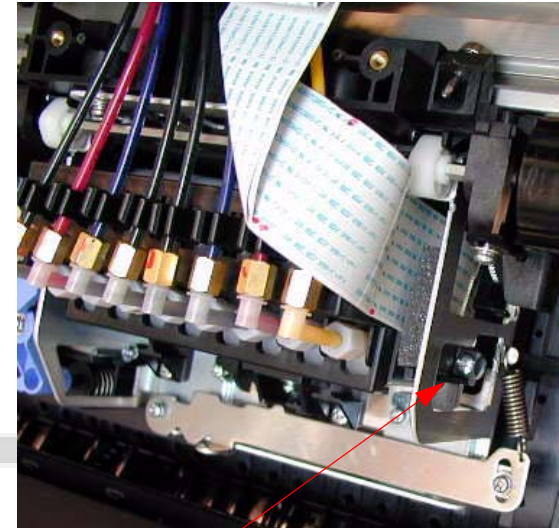
Lift up the **Carriage Board Assembly**, and suspend it from the loosened **Screw**. (Shown with rubber bands in the picture).



9. Remove **2 Screws** that fasten the **Damper Assembly** to the **Carriage Assembly**.

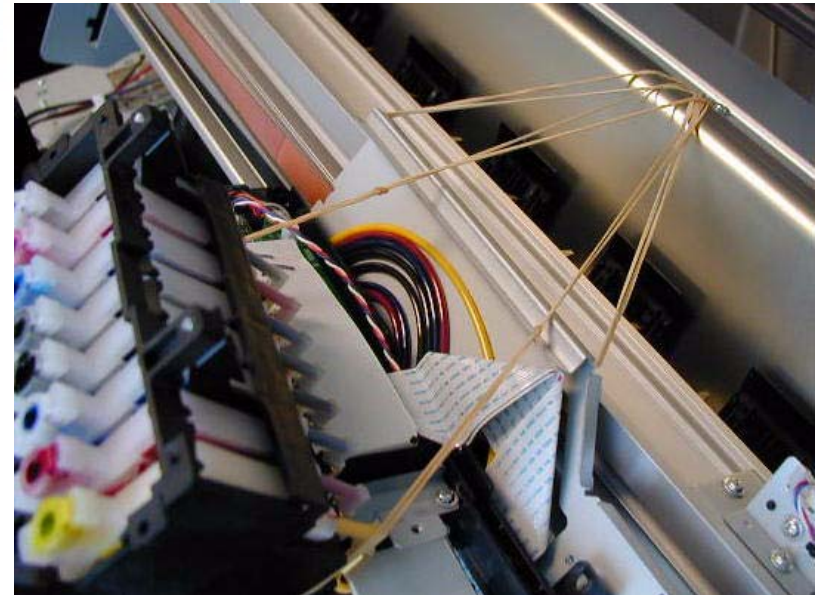
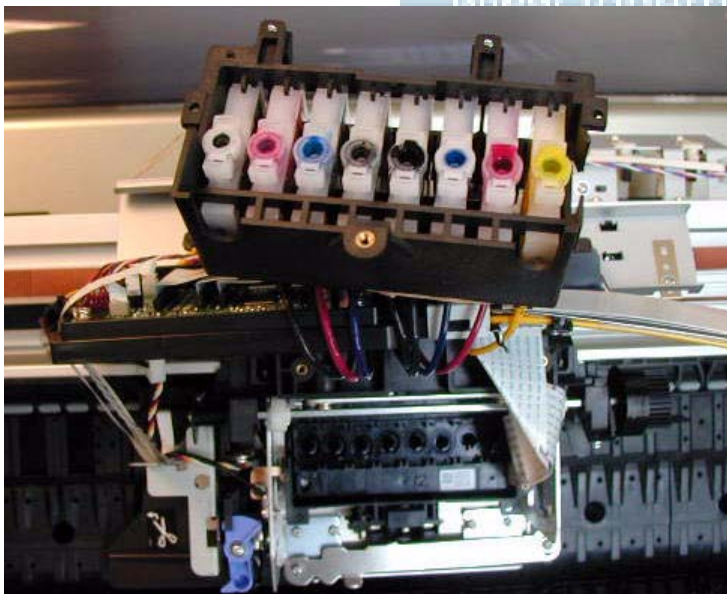


Remove **2 Screws** that are to the left and the right to the **Damper Bracket**.



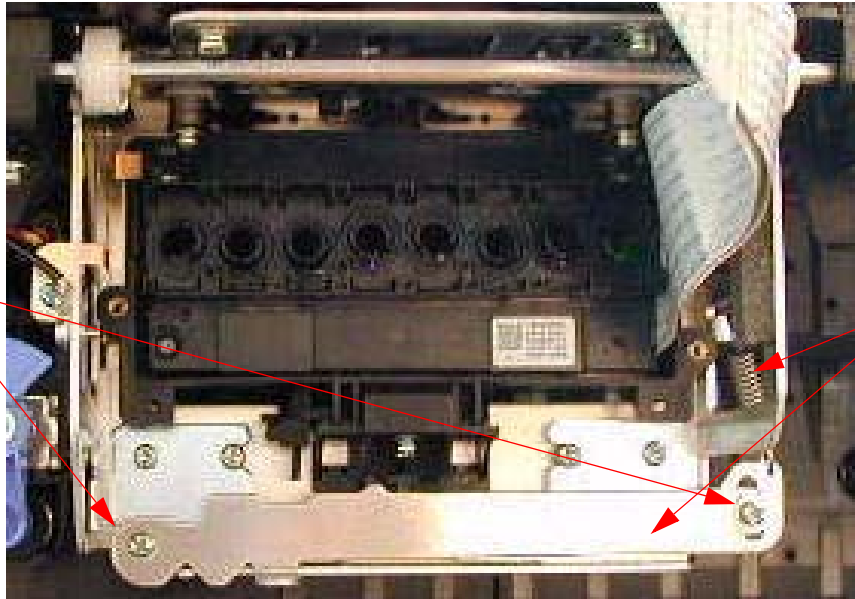
Right side **Screw** shown from the side.

10. Lift off the **Damper Assembly** and suspend it from the same **Screw** used in step 8.



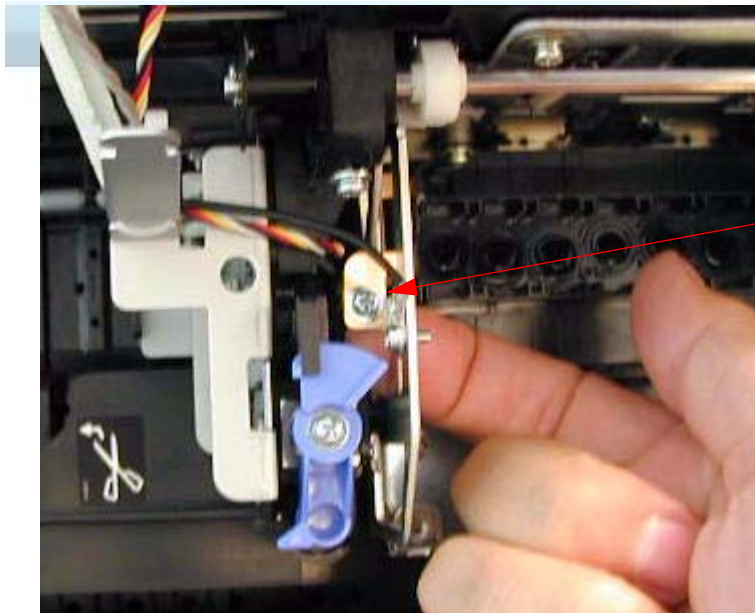
11. Remove **2 Screws**, **1 Spring**, and the **Tension Bar** that fasten the **Print Head Assembly**.

Remove **2 Screws**.



Remove **Tension Bar** and **Spring**.

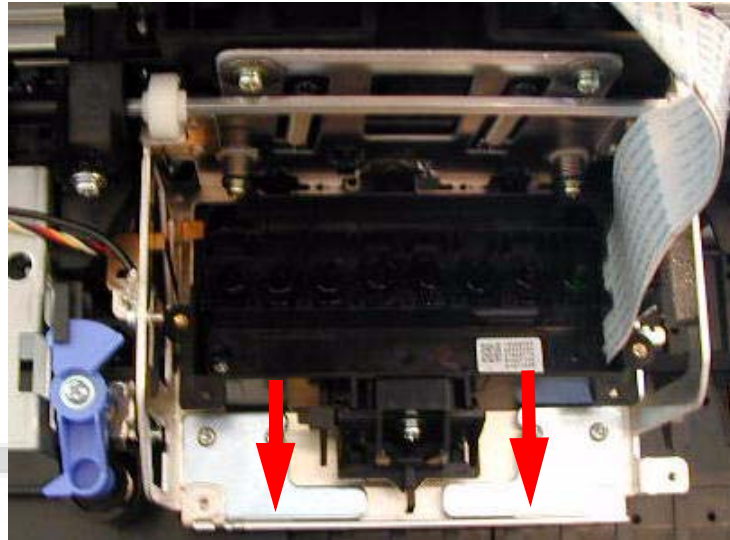
12. Remove the **Print Head Ground Strap Screw**.



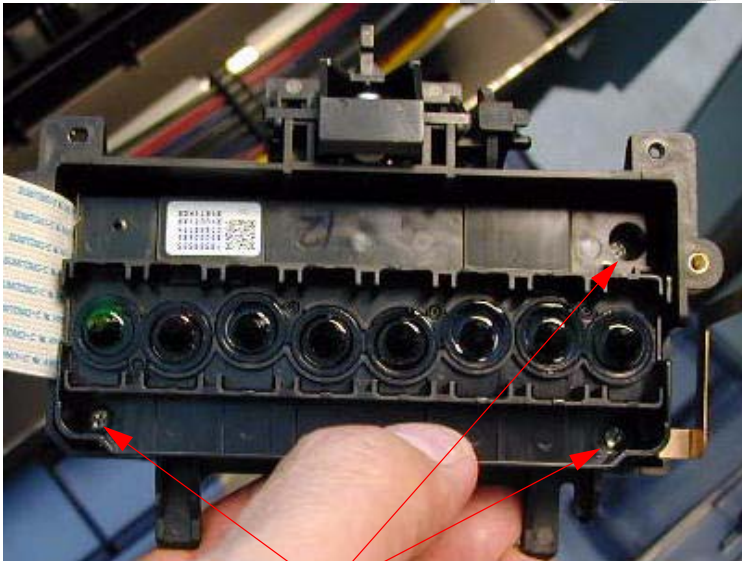
Support the **Bracket** so that it does not bend, and remove **1 Screw**.



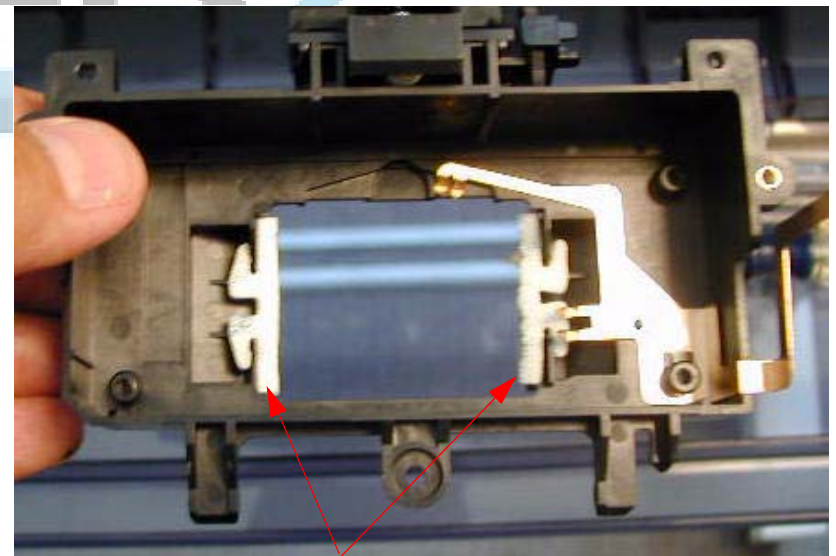
13. Slide the **Print Head Assembly** in the direction shown, and lift it out.



14. Remove **3 Screws**, and lift the **Print Head** out of the **Print Head Case**.



Remove **3 Screws**.

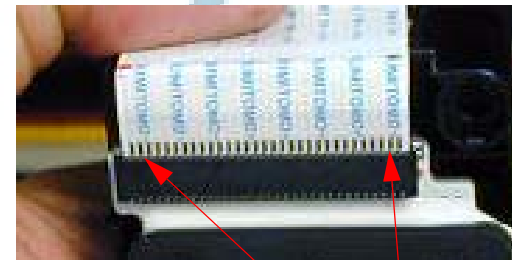
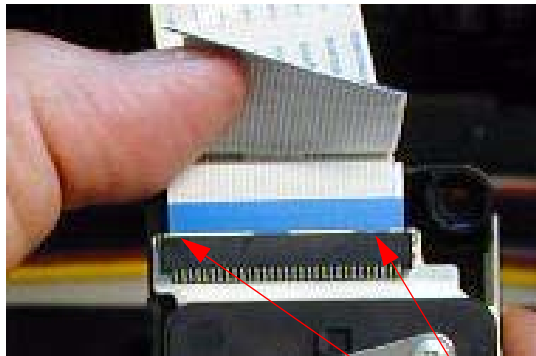


Re-position the **Print Head Seals** if necessary.

## 15. Unplug the **Print Head Cables**.



## 16. Plug the **Print Head Cables** into the **New Print Head**.



1. Plug in the first **Cable**.

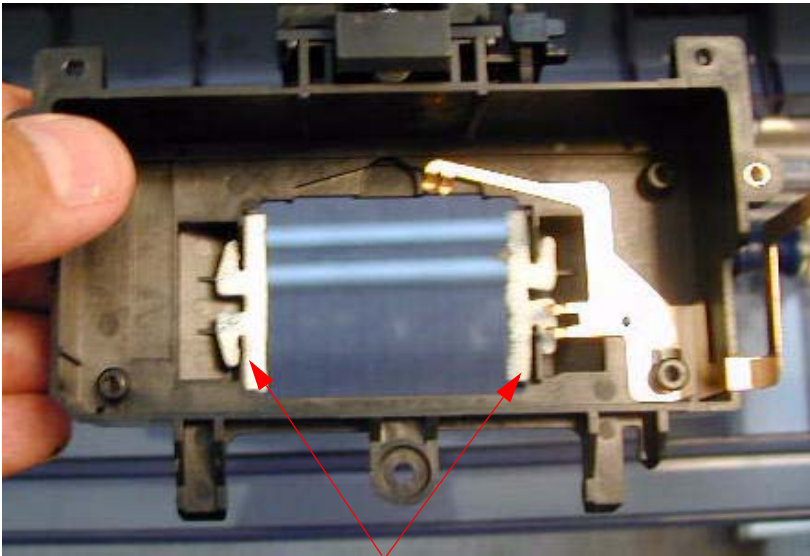
2. Verify that it is fully, and evenly seated, by comparing the blue part of the **Cable** against the edge of the **Connector**.

3. Plug in the second **Cable**.

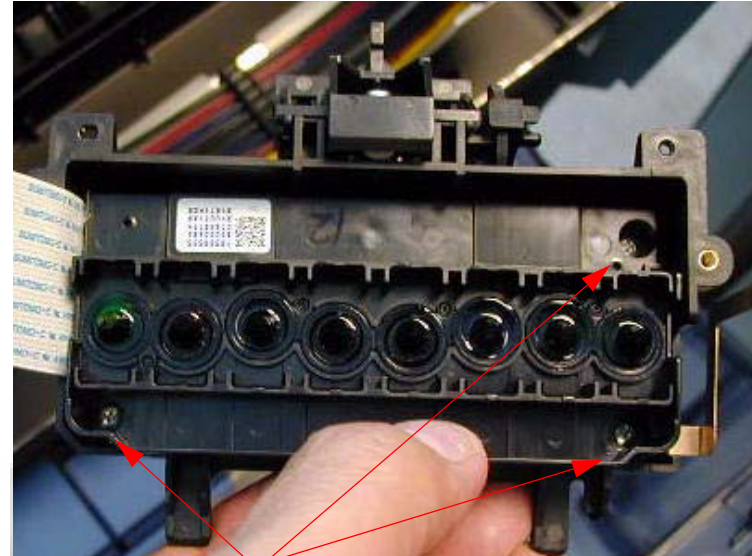
4. Verify that it is fully, and evenly seated, by comparing the silver part of the **Cable** against the edge of the **Connector**.



17. Place the **Print Head** into the **Print Head Case**, and fasten with **3 Screws**.

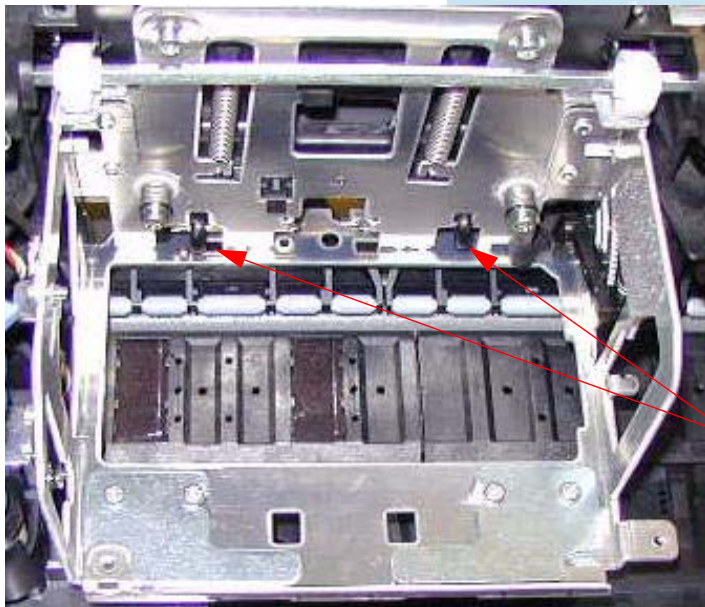


Re-position the **Print Head Seals** if necessary.



Fasten with **3 Screws**.

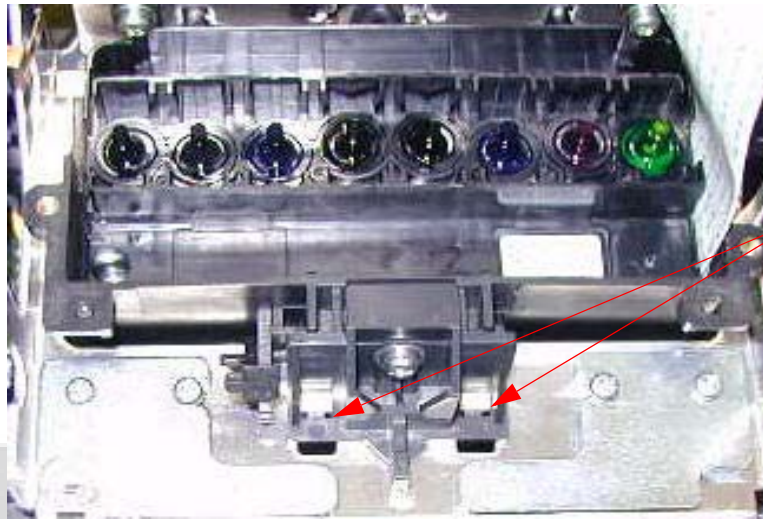
18. Slide the **Print Head Assembly** into the **Carriage Mechanism**.



The **Left and Right Plastic Tabs** on the **Print Head Assembly** go under these **Plastic Wheels**.



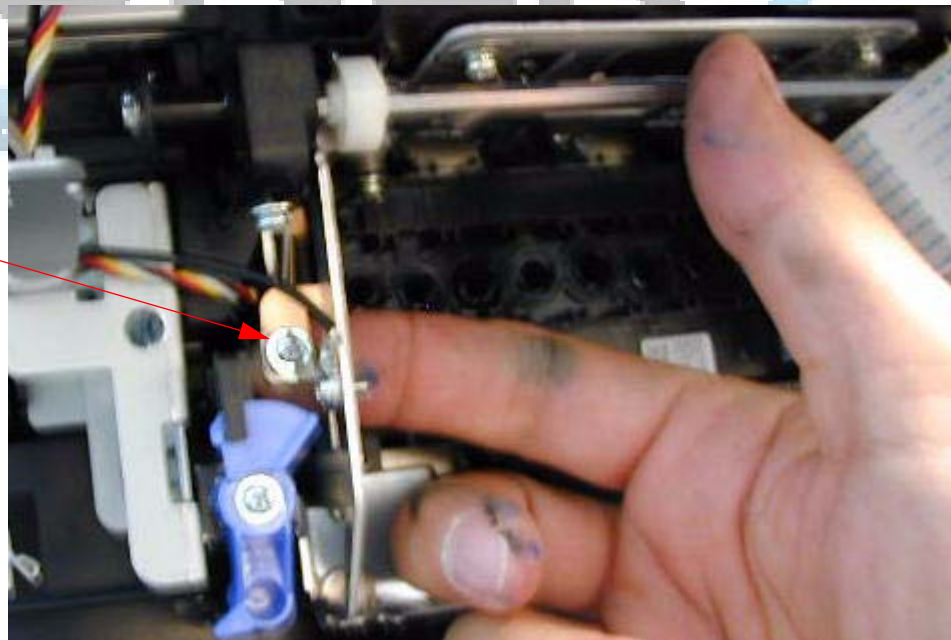
19. Ensure that the **Head Assembly Interlock Tabs** are inserted into the **Carriage Assembly Slots**.



**Head Assembly Interlock Tabs** are inserted into the **Carriage Assembly Slots**

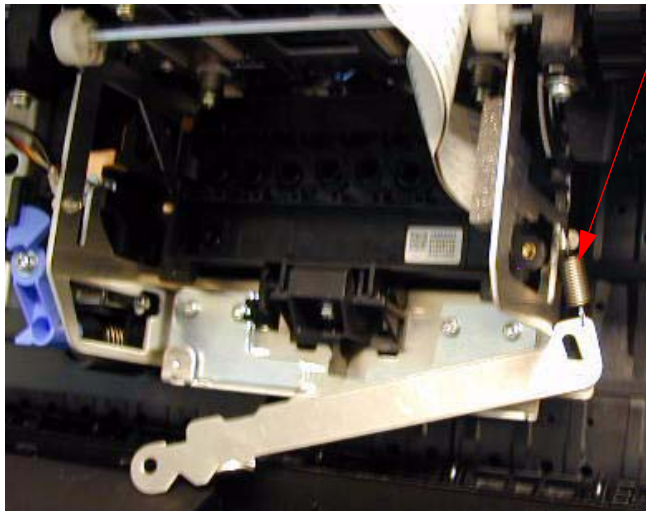
20. Attach the **Print Head Ground Strap** with 1 **Screw**.

Attach the **Print Head Ground Strap** with 1 **Screw**.

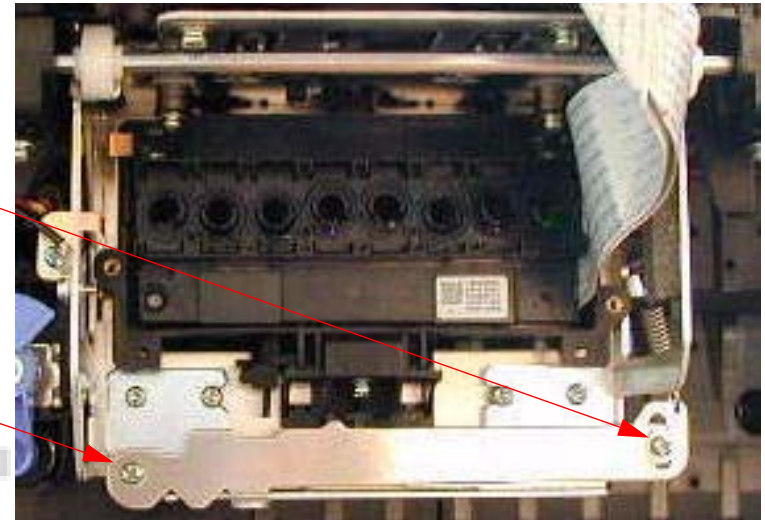




## 21. Install the **Tension Bar**, that fastens the **Print Head Assembly**.

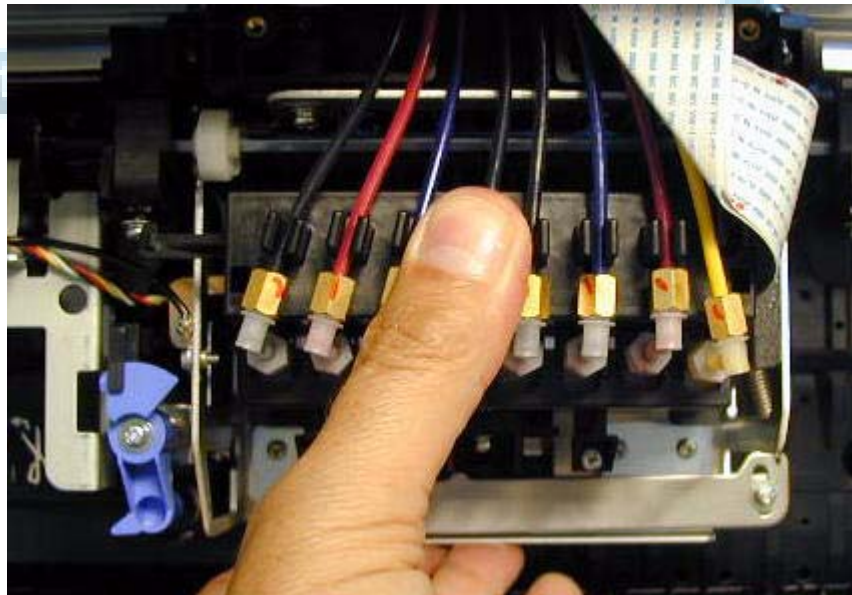


1. Install the **Spring**.
2. Install this **Screw** loosely.
3. Flex the **Tension Bar** into position and then insert the **Screw**.



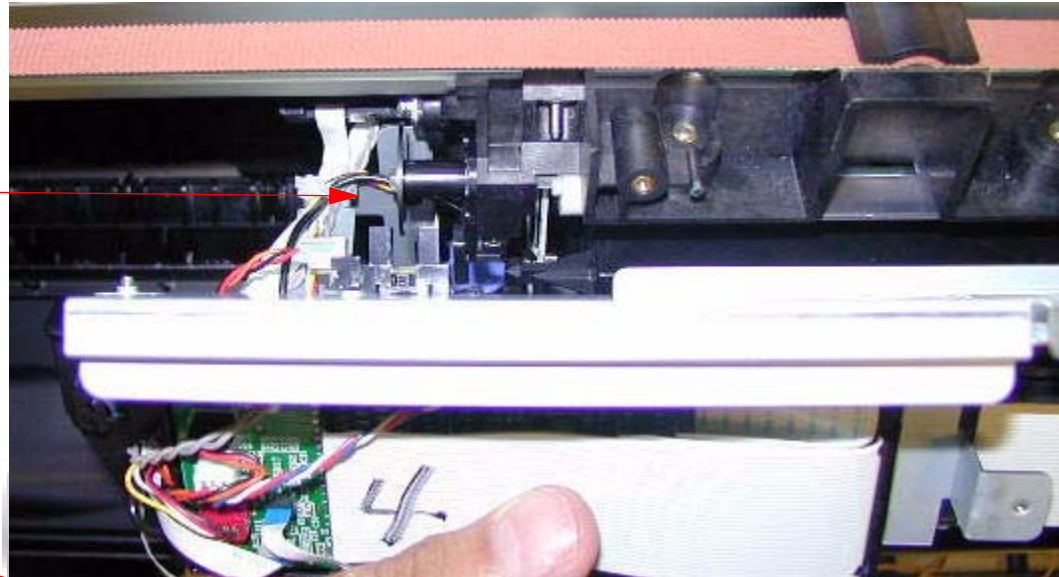
## 22. Install the **Damper Assembly**, and fasten with **2 Screws**.

1. Lower the **Damper Assembly** onto the **Print Head**, and press onto the **Print Head** firmly.
2. Fasten with **2 Screws**, **1 Screw** on each side.

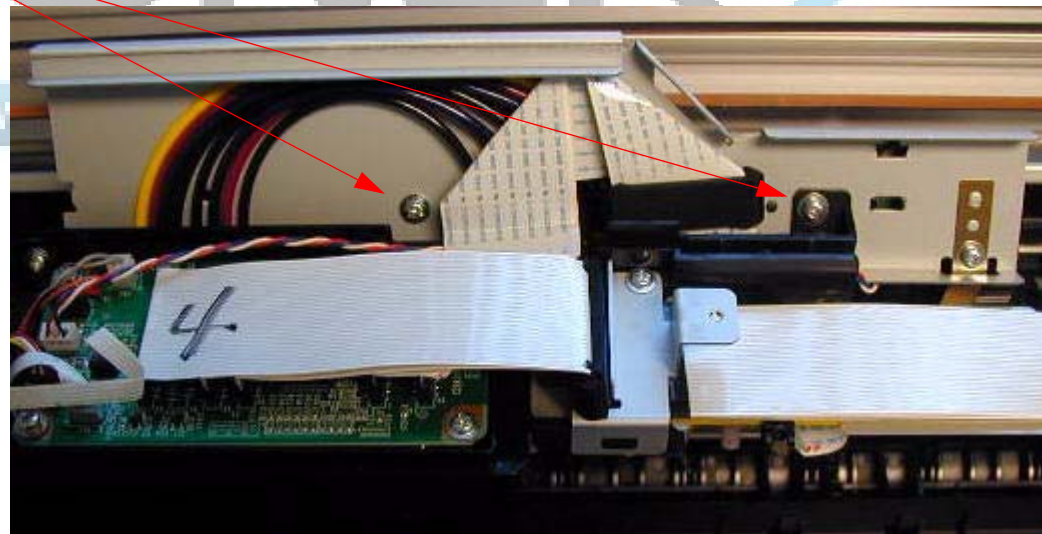


## 23. Attach the **Carriage Board Assembly** with **2 Screws**.

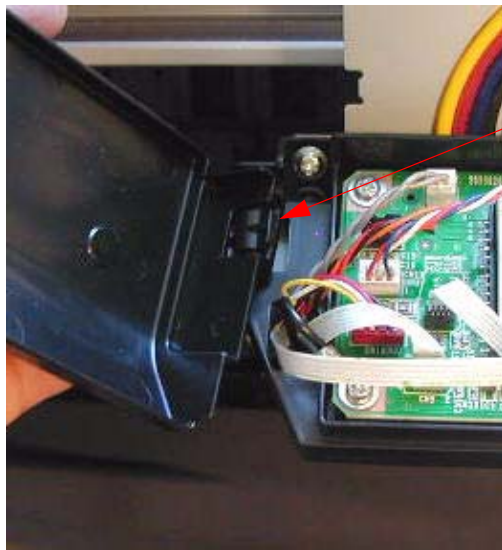
1. Ensure that the **Platen Gap Sensor** and the **Platen Gap Wheel** are in the correct position.



2. Fasten the **Carriage Board Assembly** with **2 Screws**.



24. Install the **Carriage Board Cover** and fasten with **1 Screw**.



1. Engage the **Cover** with the **Hinge**.

2. Fasten with **1 Screw**.



25. Plug in the **Printer**, and lower both **Ink Cartridge Levers** to open the **Ink Valves**.

26. Defeat the **Cover Sensor**, and turn on the **Printer**.

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

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

29. Press the **Menu** button and navigate to **PWR CLEANING**.

30. Press the **Menu** button, and follow the directions to execute.

**Note:** *Power Cleaning is necessary to prime the “negative pressure” Dampers. Other cleaning cycles do not work as well or quickly. Ensure that you raise and lower the levers when instructed.*

31. Print a Nozzle Check pattern (Perform standard cleanings if necessary).



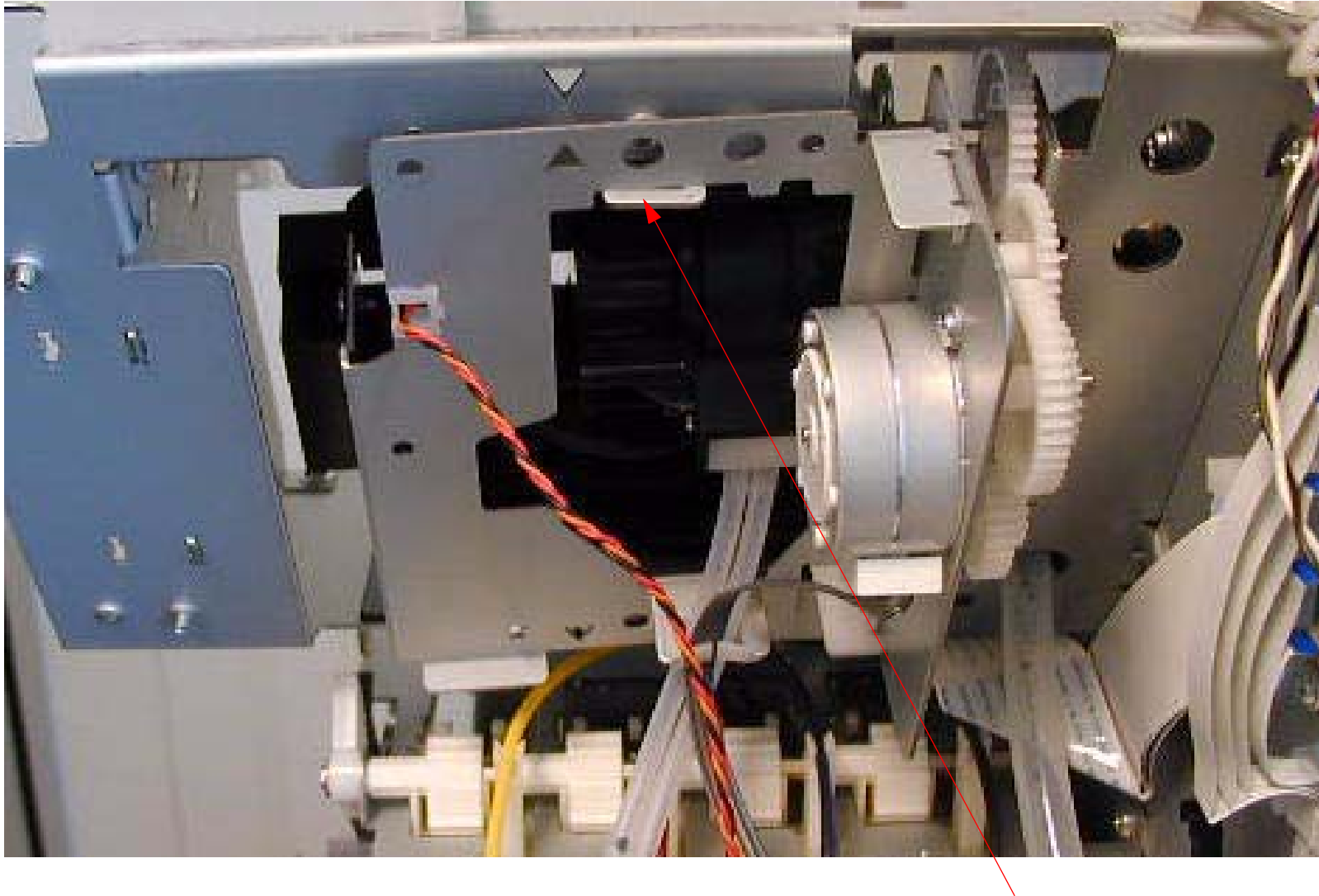
## 32. Perform the following adjustments in sequence.

- 32.1 Perform **Reset When Print Head Change**
- 32.2 Perform the **Print Head Slant Adjustment (CR)**
- 32.3 Perform the **Print Head Slant Adjustment (PF)**
- 32.4 Perform the **Auto Bi-D Adjustment**
- 32.5 Perform the **Auto Uni-D Adjustment**
- 32.6 Perform the **Colorimetric Calibration** (*When specifically requested by Epson*)



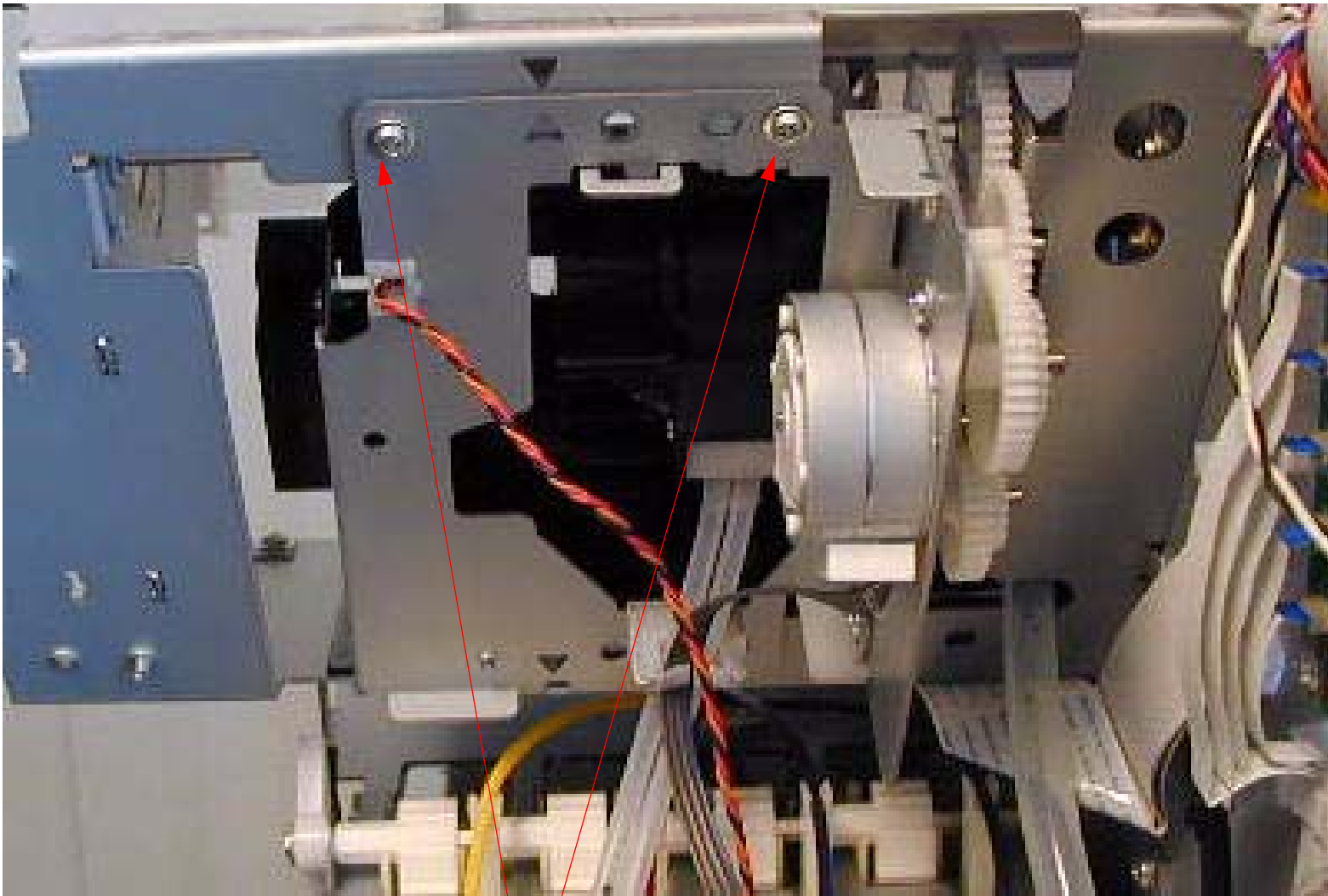
# Pump and Cap Assembly Installation

1. Hang the **Pump and Cap Assembly** in position on the provided **Hook**.

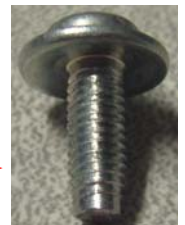


Hang the **Pump and Cap Assembly** on the provided **Hook**.

2. Fasten the ***Pump and Cap Assembly*** loosely, with **2 Screws**.

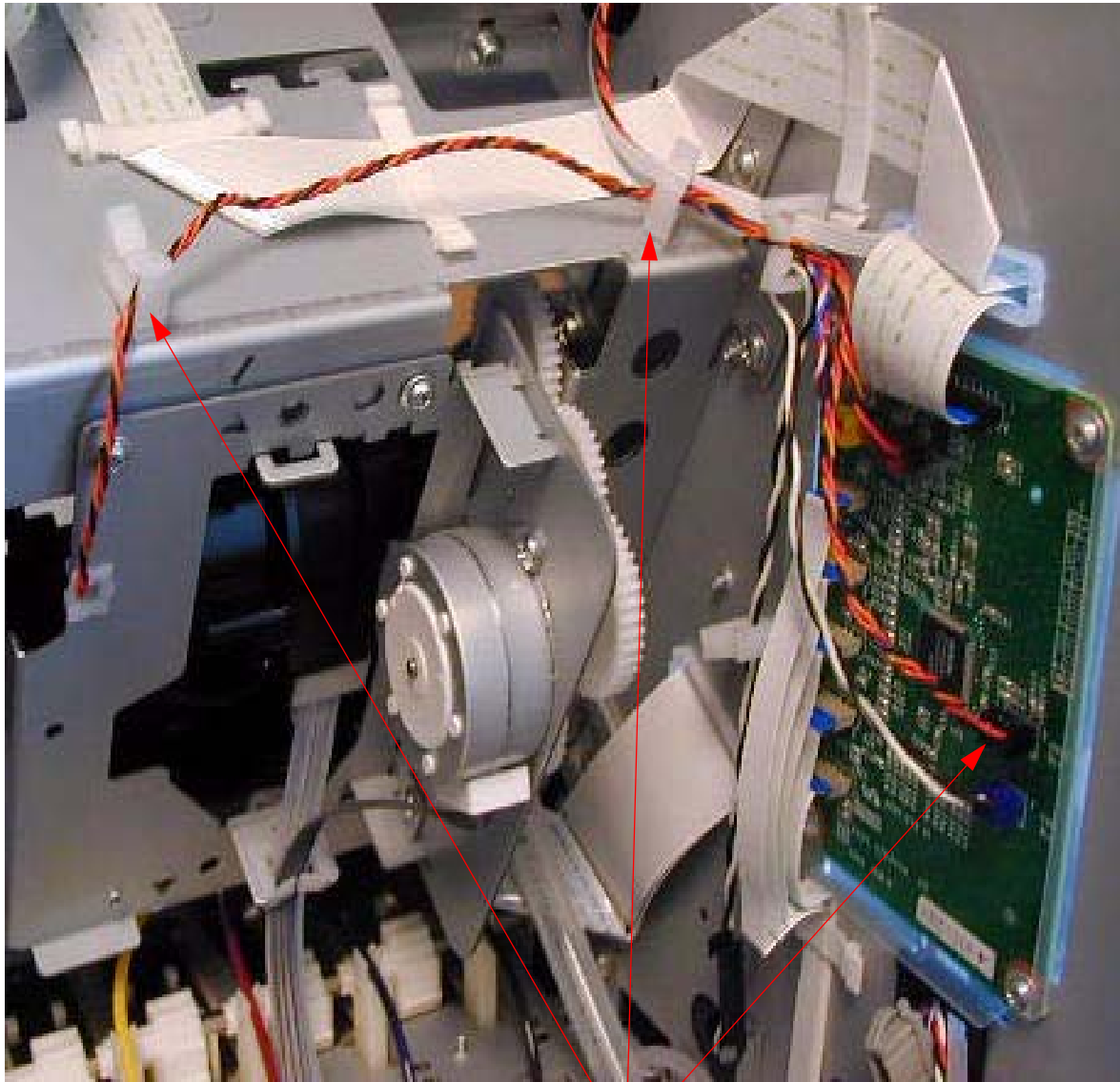


Fasten with **2 Screws** but ***do not fully tighten.***



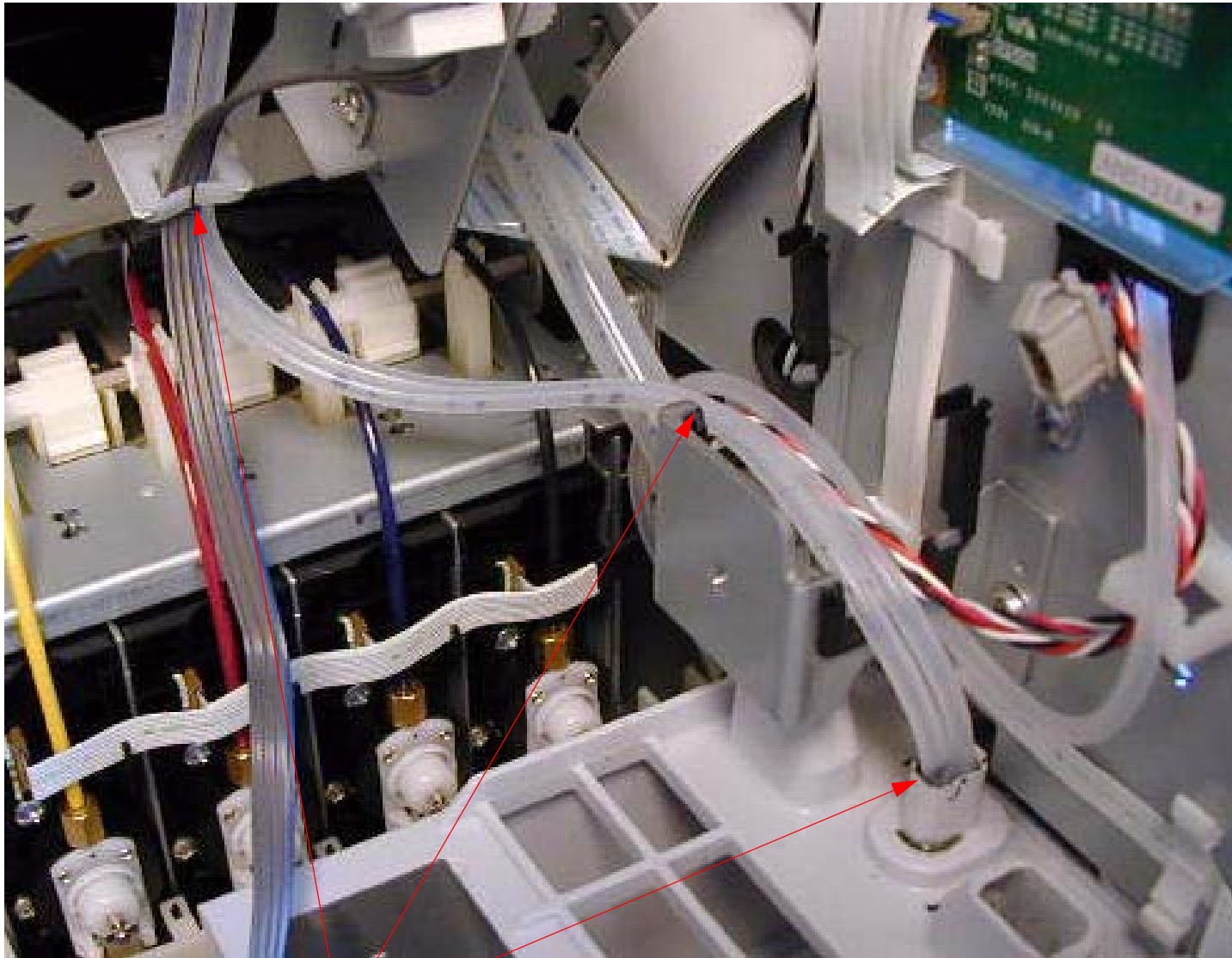


3. Route, and plug in the ***Pump Home Position Sensor Cable***.



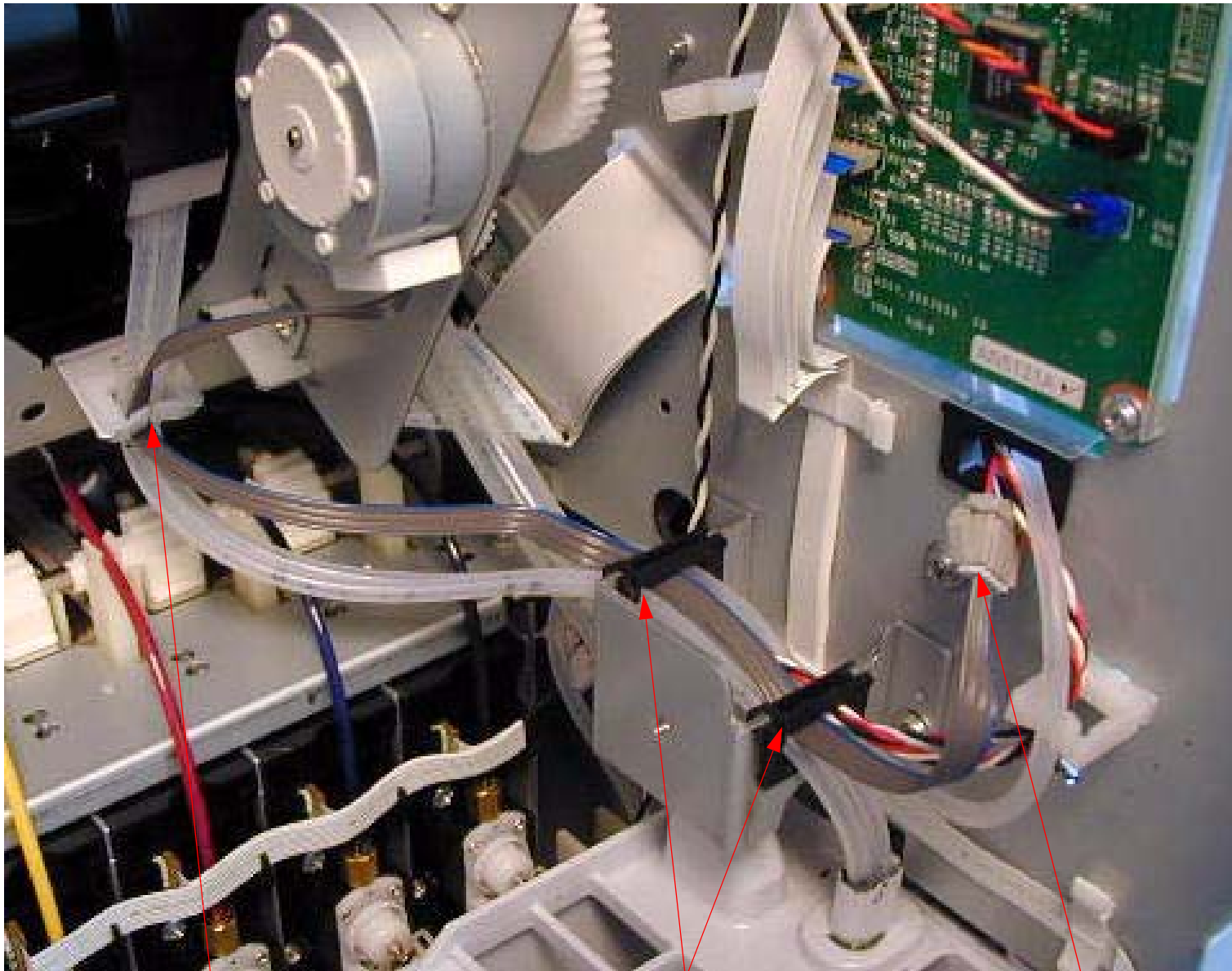
Route, and plug in the ***Pump Home Position Sensor Cable***.

4. Route, and insert the **Pump / Waste Ink Tube** into the top of the **Waste Ink Tank Cavity**.



Route, and insert the **Pump / Waste Ink Tube** into the top of the **Waste Ink Tank Cavity**.

5. Route and plug in the **Pump Motor Cable**, and re-clip the **2 Black Plastic Brackets** to fasten.

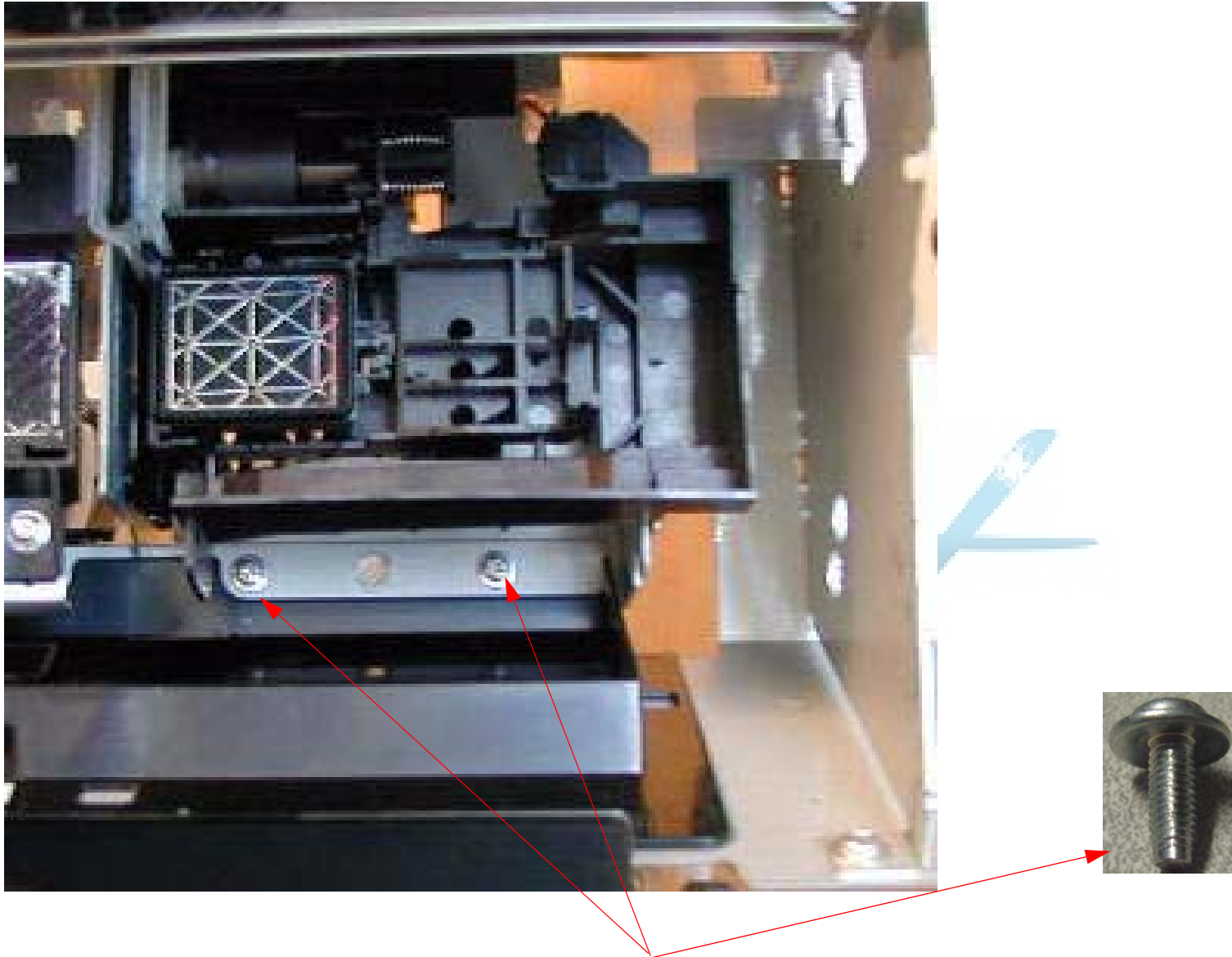


1. Route the **Pump Motor Cable** through this **Cable Guide**.

2. Re-clip **2 Fasteners**.

3. Plug in here.

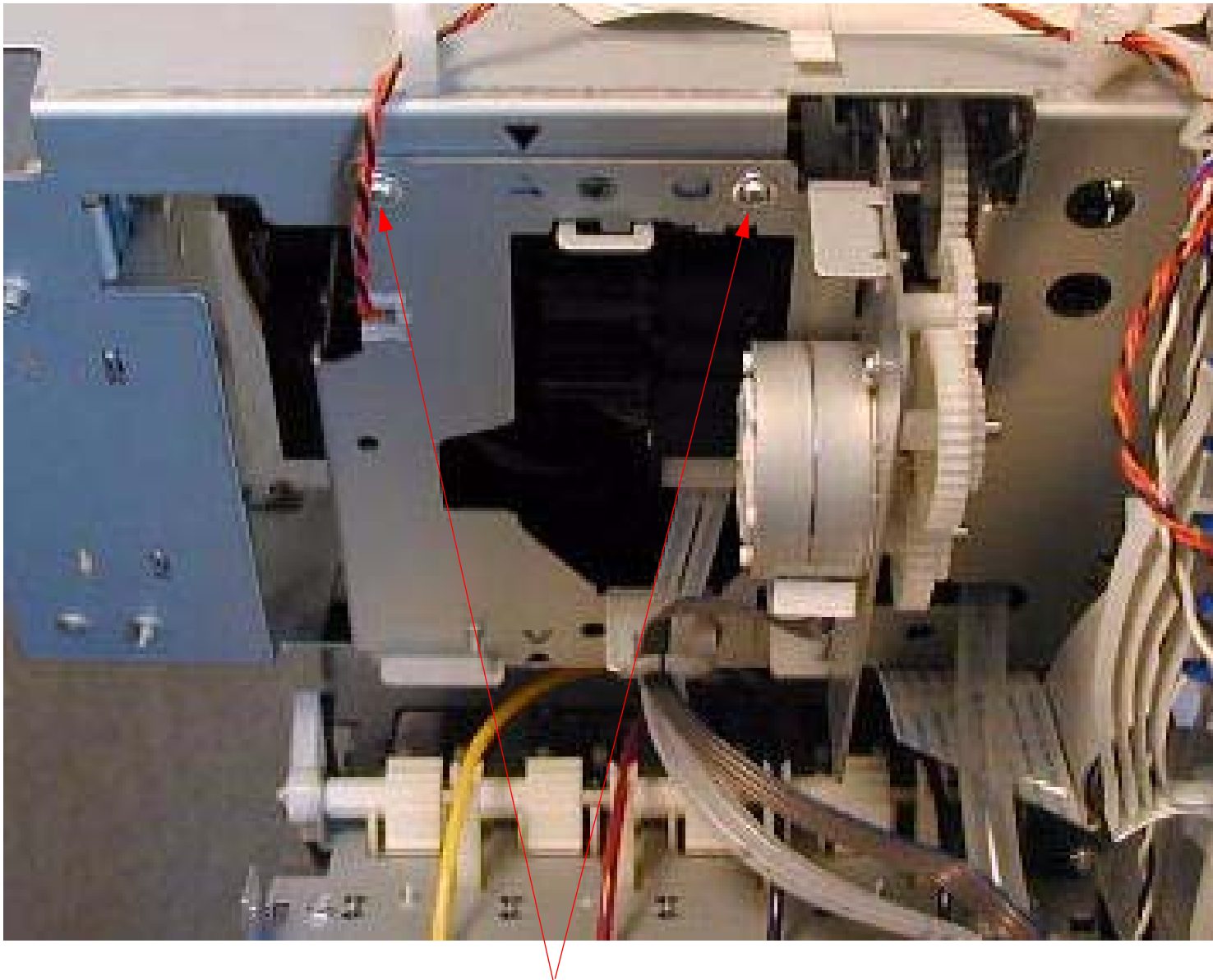
6. Fasten the front of the ***Pump and Cap Assembly*** with **2 Screws**.



Fasten the front of the ***Pump and Cap Assembly*** with **2 Screws**

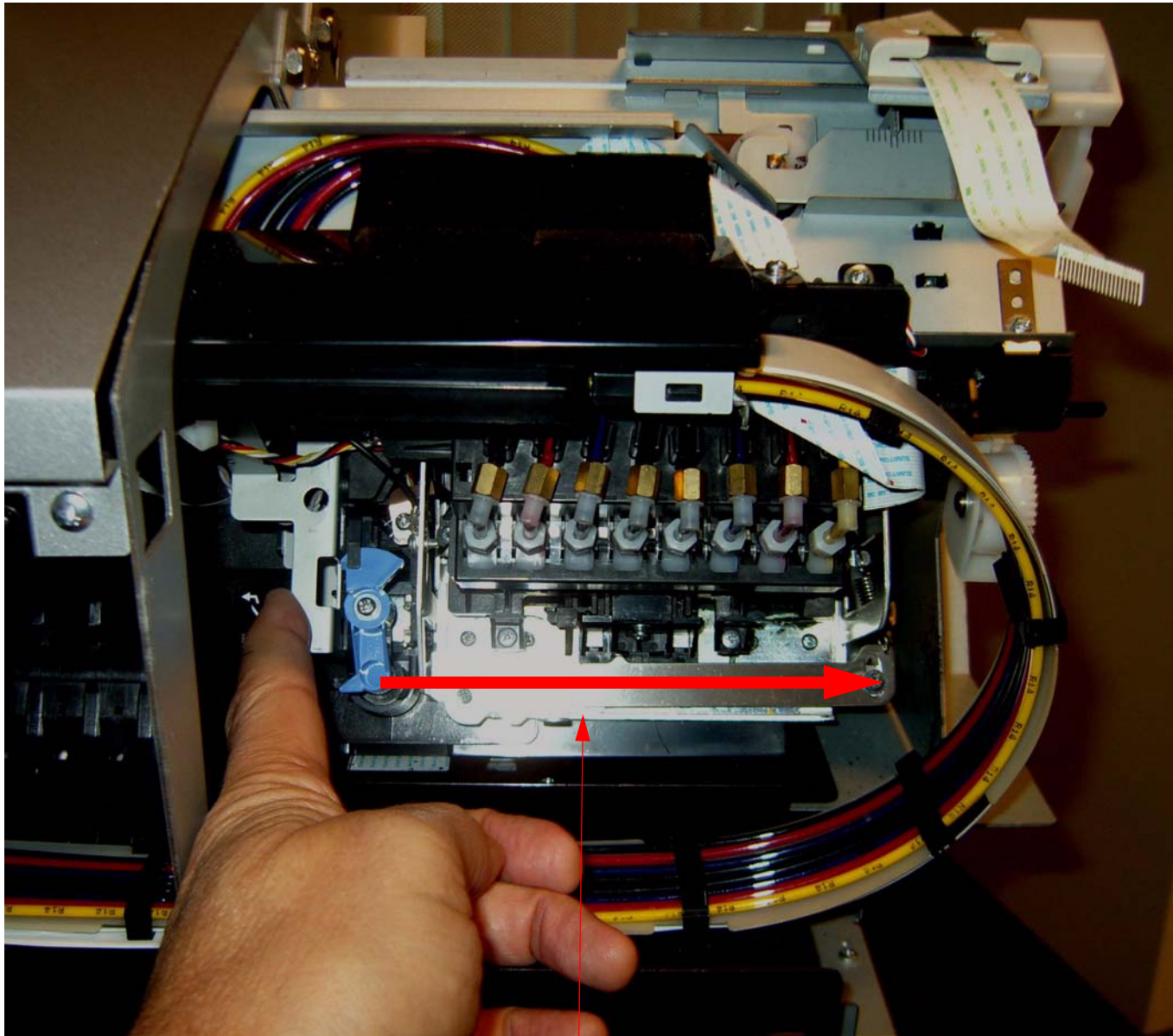


7. Fully tighten the **2 Screws** that fasten the rear of the ***Pump and Cap Assembly***.



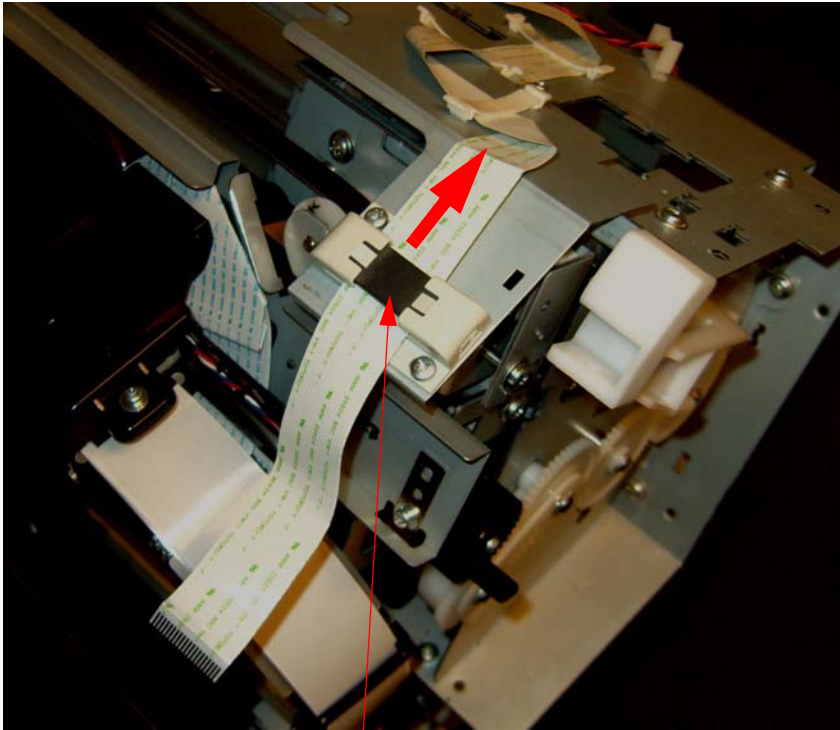
Fully tighten the **2 Screws** that fasten the rear of the ***Pump and Cap Assembly***.

8. Move the **Carriage Assembly** back on to the **Cap and Pump Assembly**.

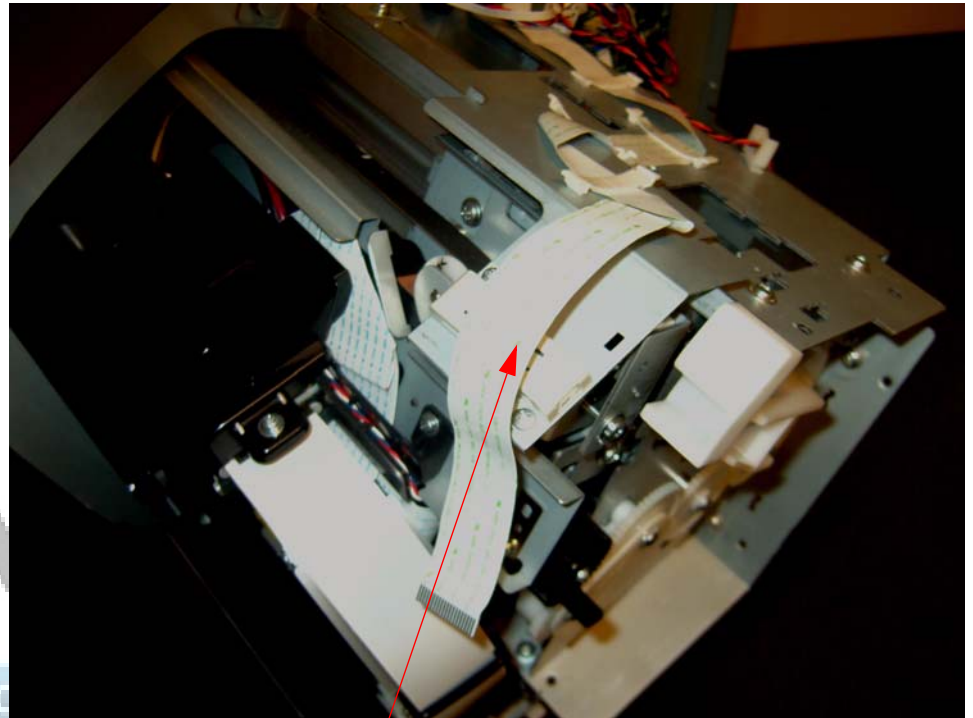


Move the **Carriage Assembly** all the way to the right, until the **Carriage** is locked.

9. Prepare the **Control Panel Cable** for connection of the **Control Panel**.



Free the **Control Panel Cable** from the **Cable Guide**.



**Control Panel Cable** freed from the **Cable Guide**.



10. Plug in the **Control Panel Cable** to the **Control Panel**.



Plug in the **Control Panel Cable** to the **Control Panel**.

**Note:** Ensure that the Cable is fully seated and straight.



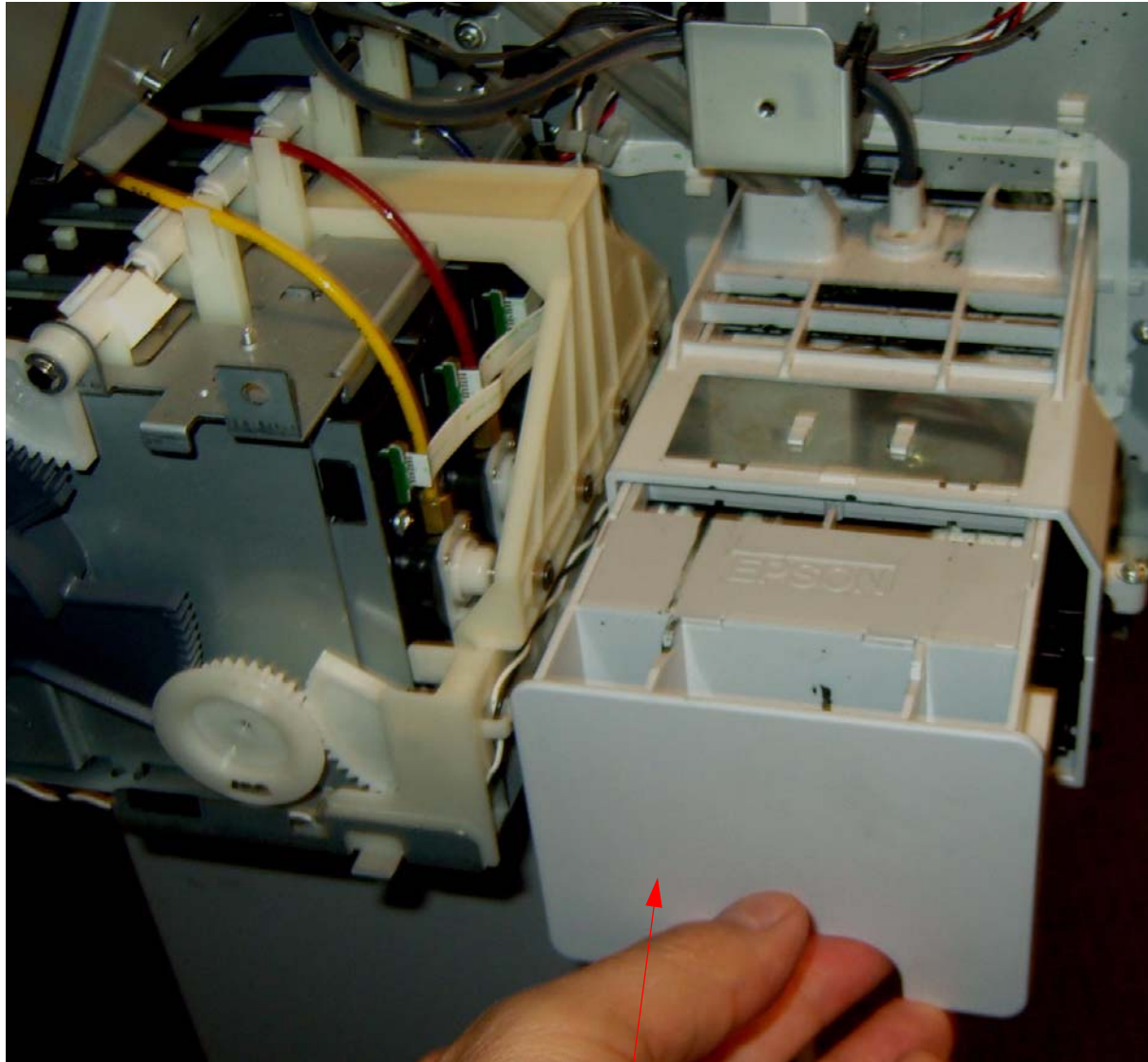
11. Place the **Control Panel** on the **Printer** in this position.



Place the **Control Panel** on the **Printer** in this position.

**Note:** If tape is available, tape the **Control Panel** in position, so that it does not fall.

## 12. Install the **Waste Ink Tank**.



Install the **Waste Ink Tank**.

### 13. Install the **Right Side Ink Cartridges**.



Install the **Right Side Ink Cartridges** in this order.

14. Turn on the **Printer** and load paper.
15. Perform a cleaning.
  - 15.1 Press and hold the **Menu** button for 3 seconds.
16. Perform an “Nozzle Check” to verify that all **Print Head Nozzles** are operational.
  - 16.1 Press the **Menu** button 1 time.
    - 16.1.1 **Printer Setup** will be “highlighted” on the **LCD**.
  - 16.2 Press the **Down Arrow** button 1 time,
    - 16.2.2 **Test Print** will be “highlighted” on the **LCD**.
  - 16.3 Press the **Menu** button 1 time.
    - 16.3.3 **Nozzle Check** will be “highlighted” on the **LCD**.
  - 16.4 Press the **Menu** button 1 time.
    - 16.4.1 **Print** will be “highlighted” on the **LCD**.
  - 16.5 Press the **Enter** (center) button to begin the nozzle check.
17. Repeat “Print Head Cleanings” and “Nozzle Checks” until all of the nozzles are working.

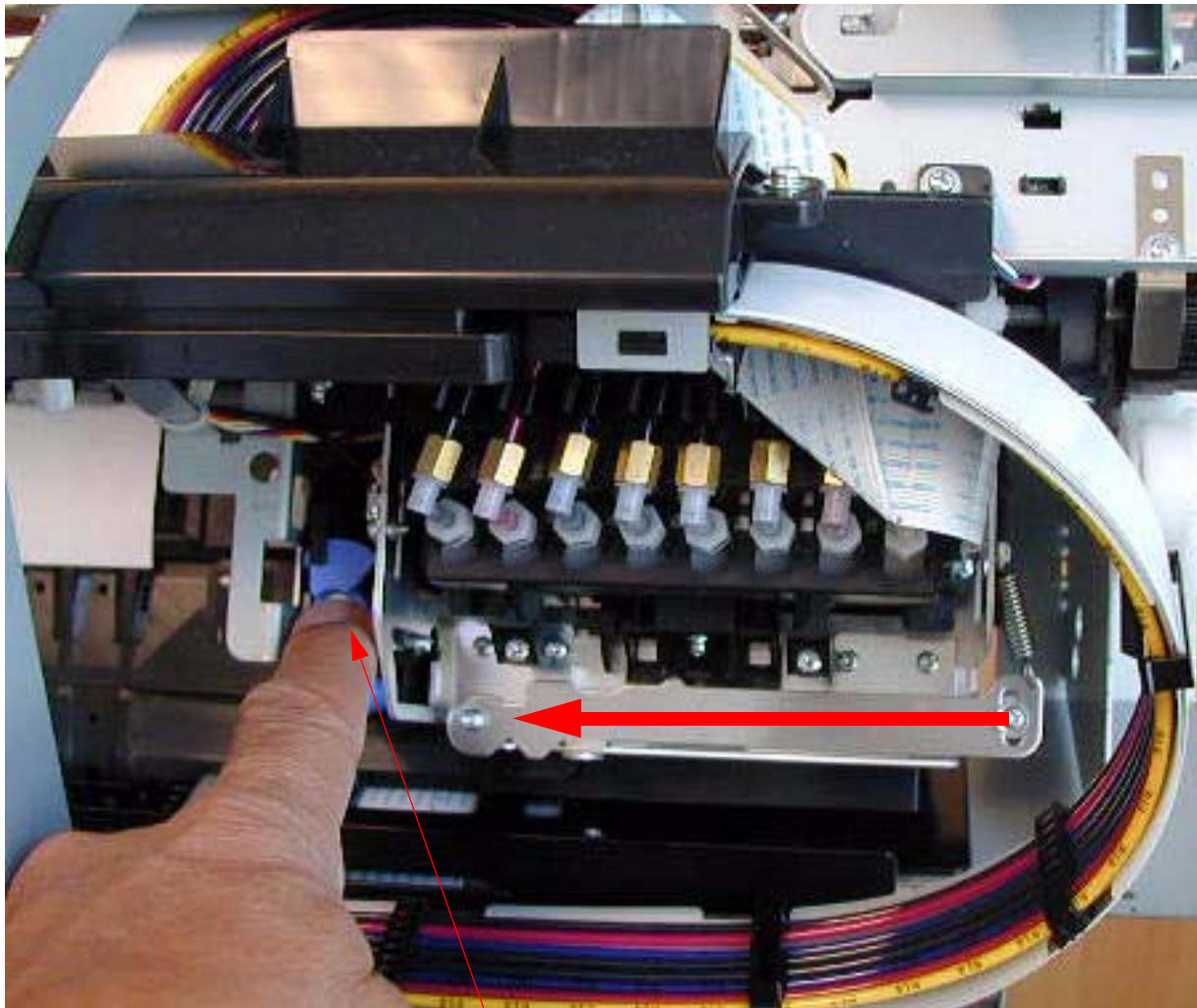
**Note:** *If you are having any problems, or want to ask any questions, contact Epson at 800-234-1445 and follow the prompts to Pro Graphics.*

1. If the **Pump and Cap Assembly** has been replaced, reset the life counter for the **Pump and Cap Assembly**.
  - 1.1 Perform the Adjustment Wizard's **Reset When Cleaning Unit Change**.



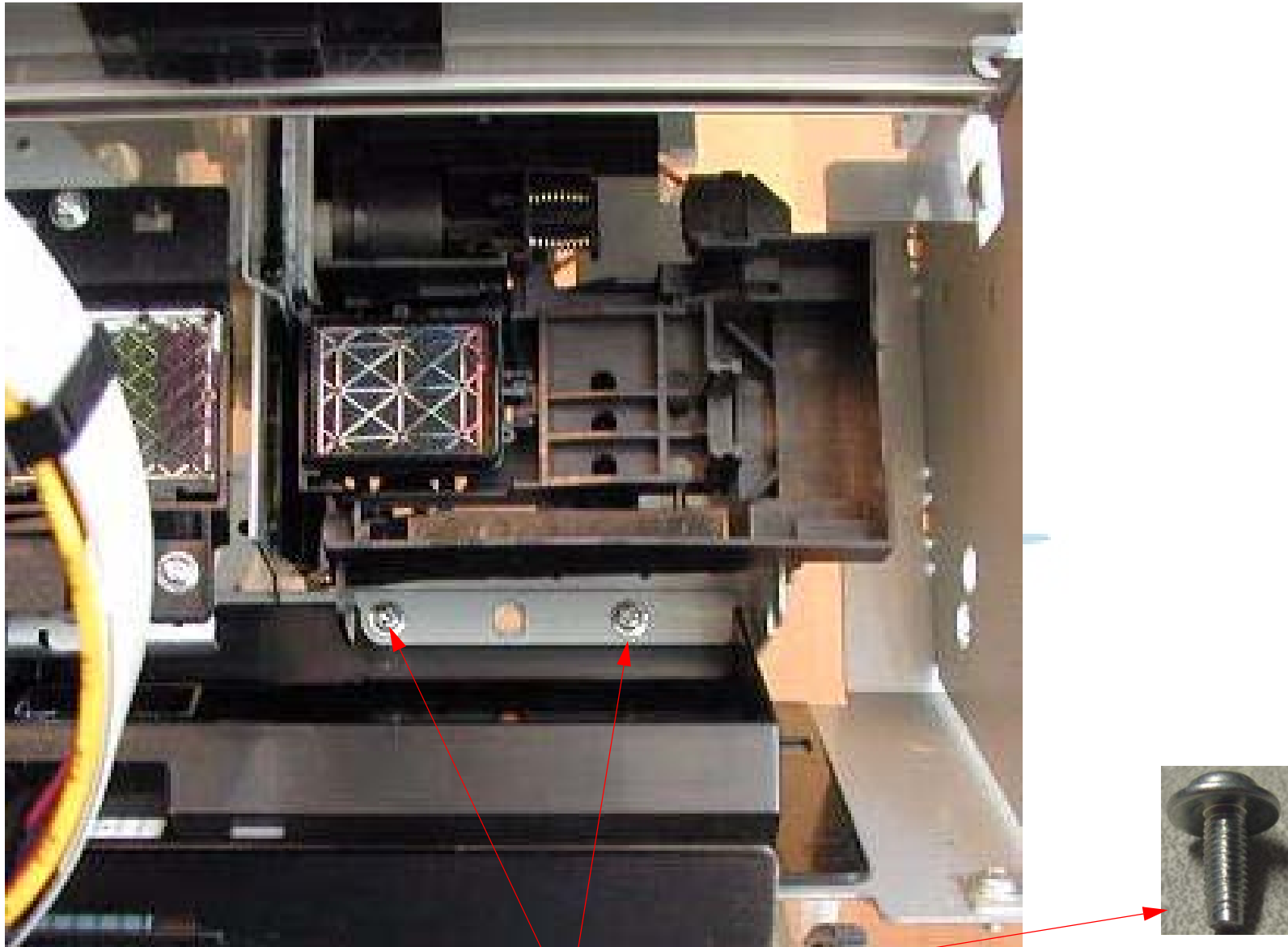
## Pump and Cap Assembly Removal

1. Remove the **Cover (Right Side)**.
2. Release the **Carriage Mechanism**, and move it away from the **Cap**.



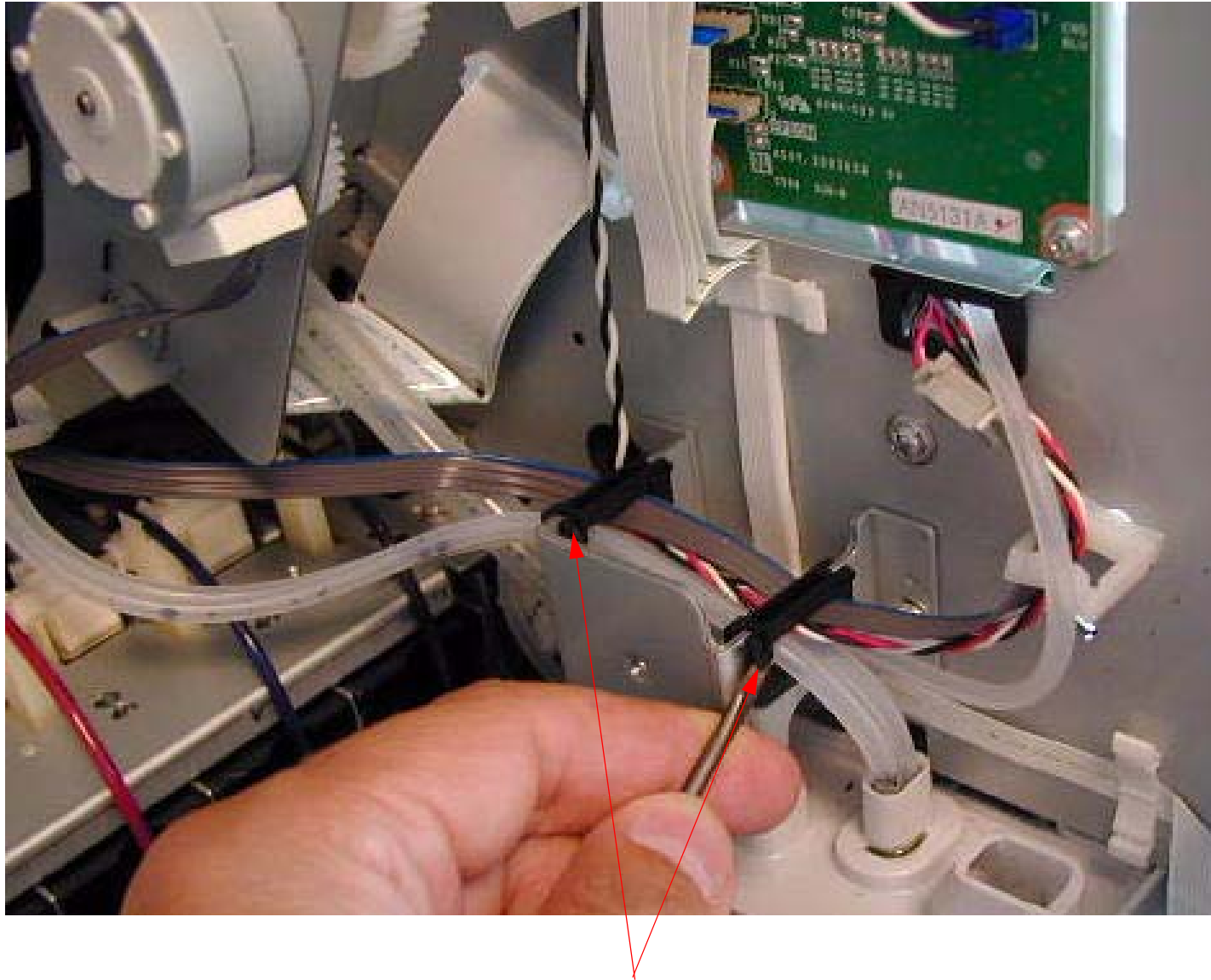
Press on the **Cutter Mechanism** to release the **Carriage Mechanism**, and move it to the left off the **Cap**.

3. Remove **2 Screws** that fasten the ***Pump and Cap Assembly*** to the front of the ***Printer***.



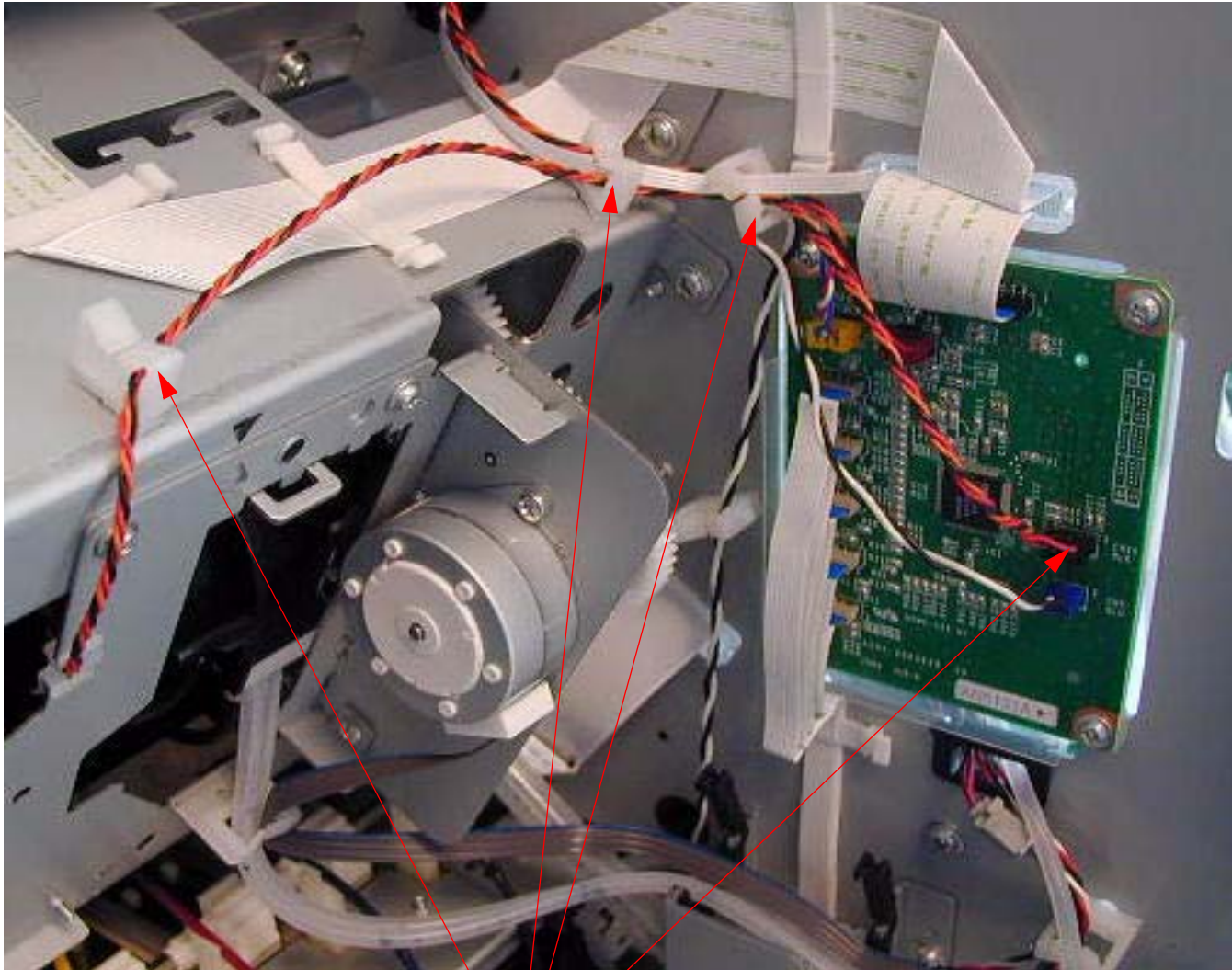
Remove **2 Screws** that fasten the ***Pump and Cap Assembly*** to the front of the ***Printer***.

4. Release the **2 Cable Fasteners** that contain the **Pump Motor Cable** and the **Waste Ink Tubes**.



Release the **2 Cable Fasteners** that contain the **Pump Motor Cable** and the **Waste Ink Tubes**.

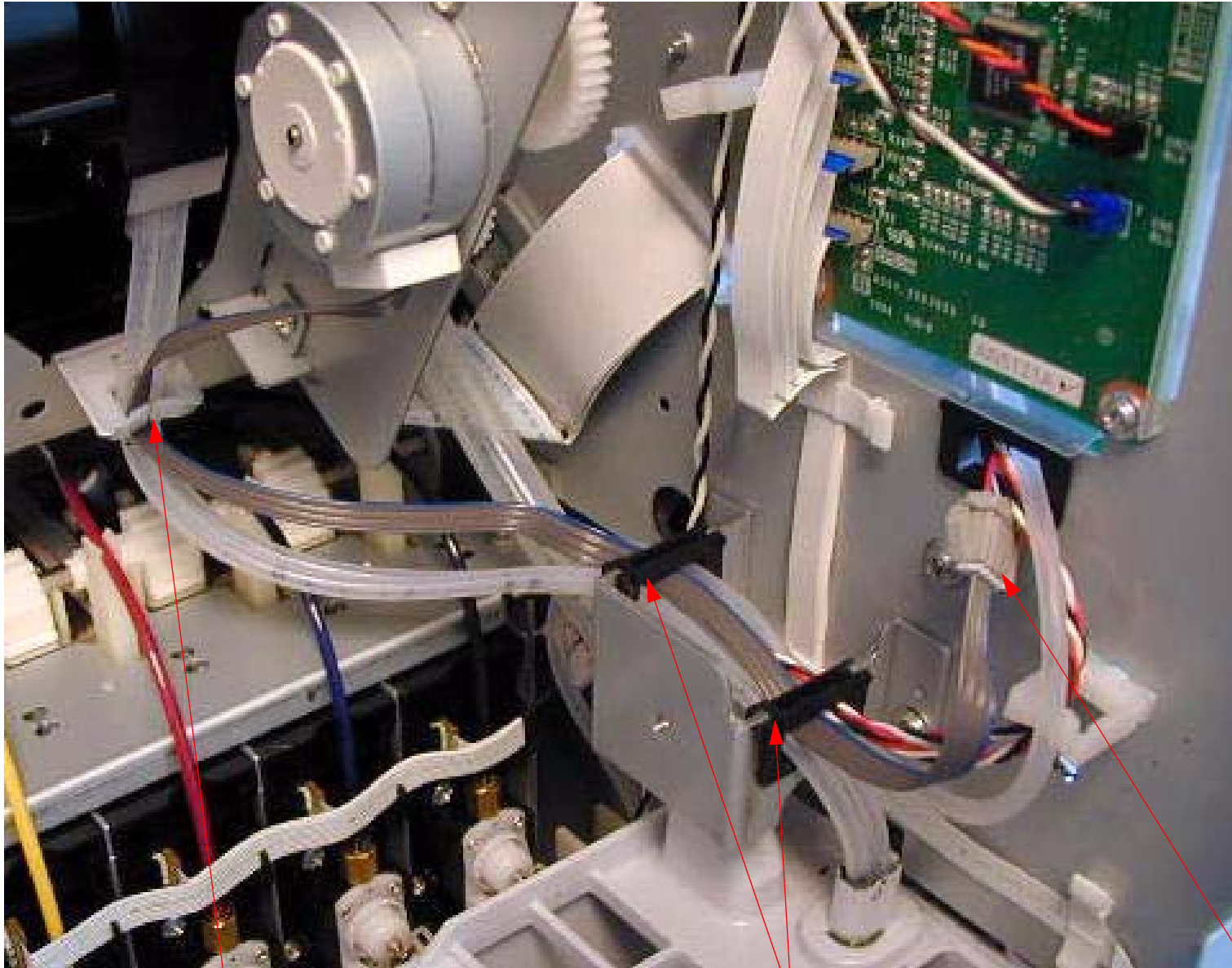
5. Disconnect the ***Pump Home Position Sensor Cable***.j



Disconnect and free the ***Pump Home Position Sensor Cable***.



## 6. Disconnect the **Pump Motor Cable**.

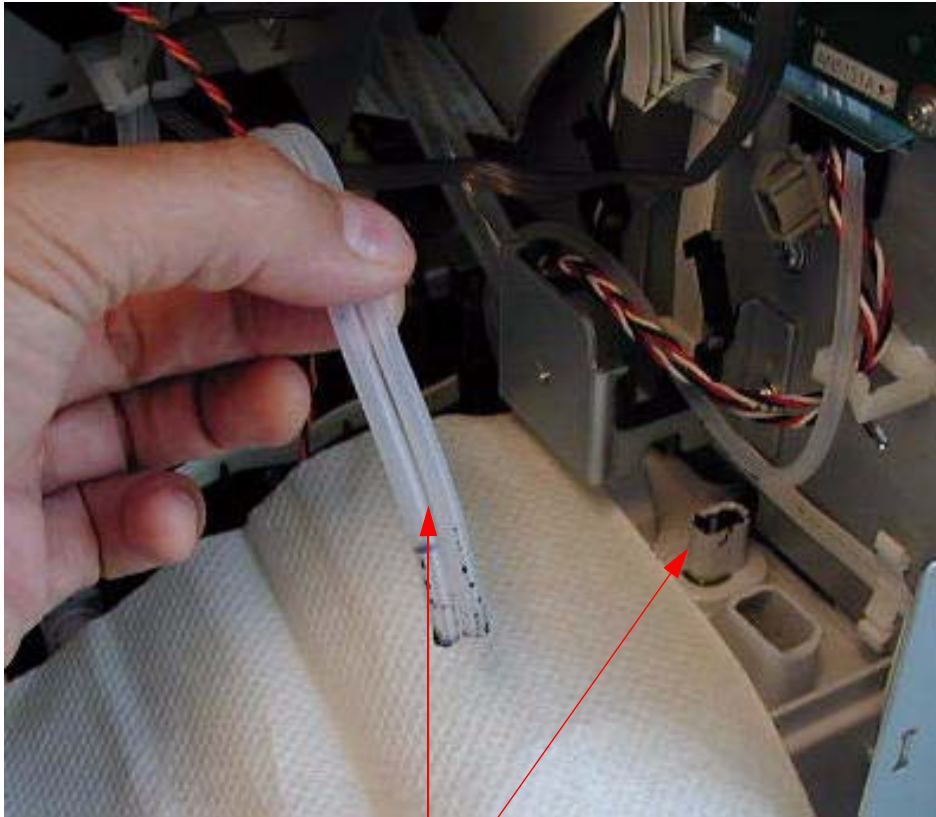


1. Free the **Pump Motor Cable** from this **Cable Guide**.

2. Un-clip these 2 **Fasteners**.

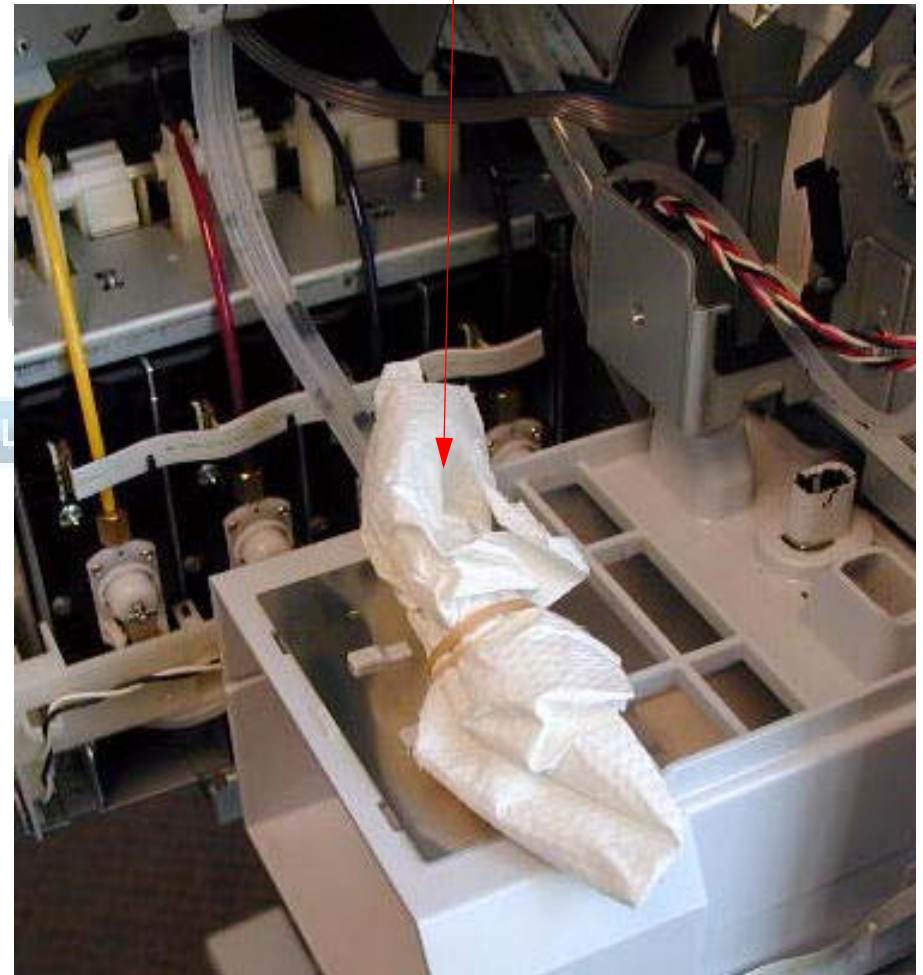
3. Un-Plug this **Connector**.

7. Free, and wrap the **Pump / Waste Ink Tube**.

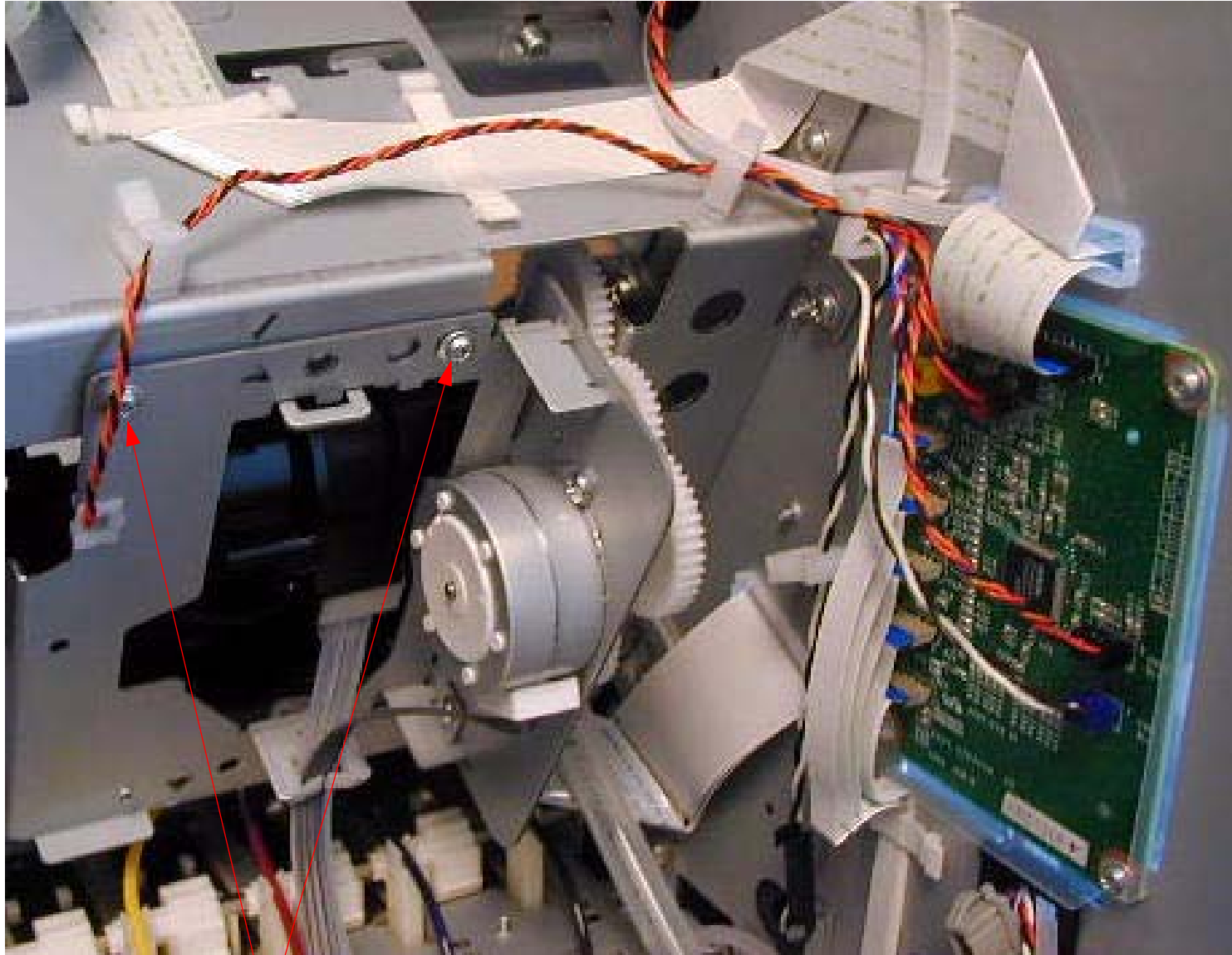


1. Free the **Waste Ink Tube** from the **Waste Ink Tank**.

2. Wrap the **Waste Ink Tube** for safety.

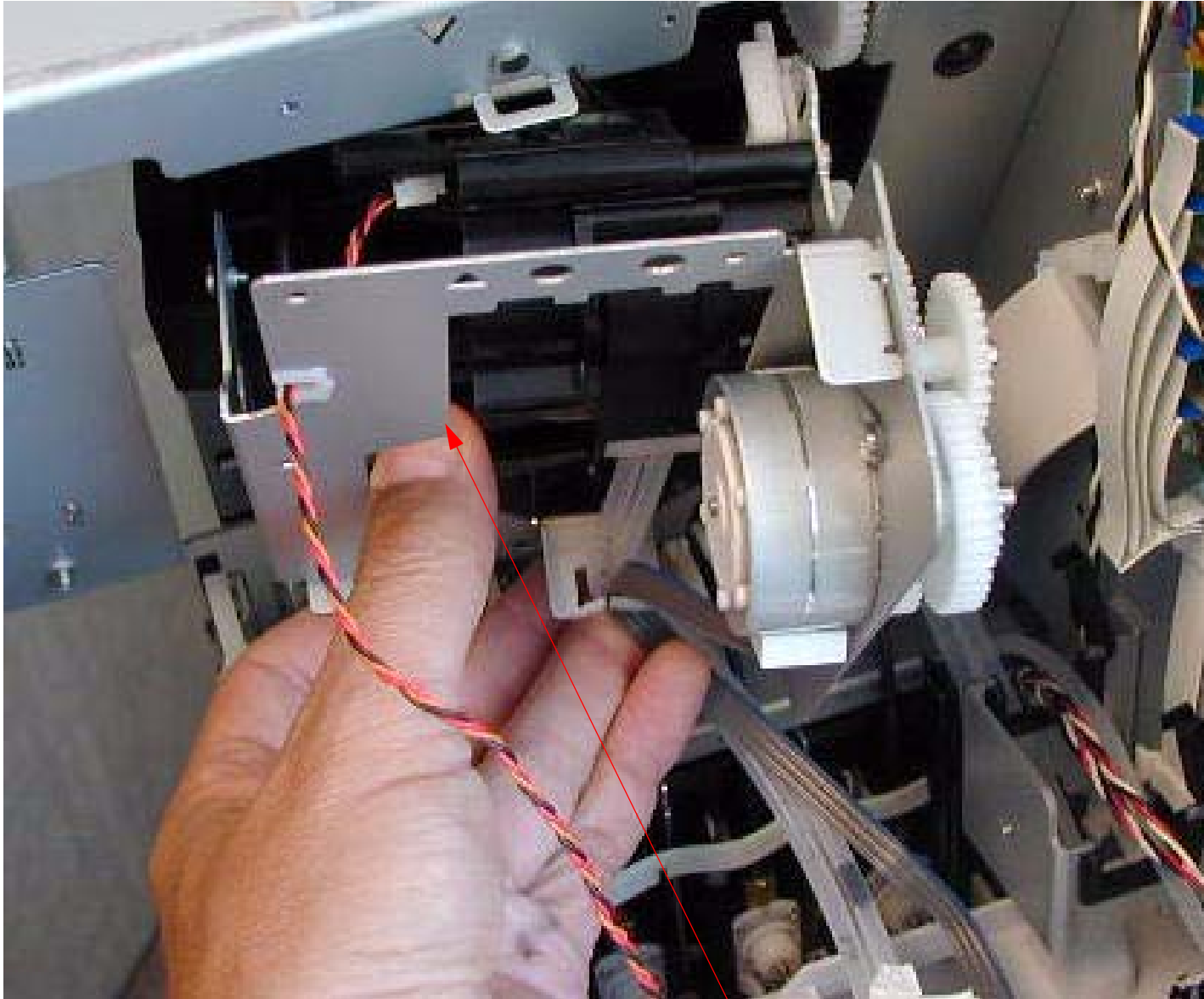


8. Remove **2 Screws** that fasten the **Pump and Cap Assembly** to the rear of the **Printer**.



Remove **2 Screws** that fasten the **Pump and Cap Assembly** to the rear of the **Printer**.

9. Lift out the ***Pump and Cap Assembly***.



Lift out the ***Pump and Cap Assembly***.



# Troubleshooting

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## Error Codes (Maintenance)

0002	Carriage Motor / Ink Tube is near end of life (Clear Carriage Motor Counter)
0004	Nozzle check error
0008	RTC error (Real Time Clock) (Check the Battery and reset the Date and Time)
0020	Print Head life counter (Reset the Head counter)
0040	Cleaning Unit near end of life ( <b>Reset When Cleaning Unit Change</b> )(Pump Assy, Pump Motor, Cap Assy, Wiper Blade, Flushing Box).
0080	Date is not set (Set the date and time using the <b>Adjustment Wizard's RTC &amp; USB &amp; IEEE1394</b> routine.)
0100	RTC Battery low (Replace the battery, and reset the RTC)
0400	Pressure Pump Assembly near end of life ( <b>Reset When Pump Unit Change</b> ) Inspect and replace if necessary.

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## Error Codes (Service)

00000088	RTC (Real Time Clock) data is corrupted
00000101	Carriage Motor life ( <b>Reset When CR Unit Change</b> ), check for leaky ink tubes)
00000103	RTC (Real Time Clock) battery is defective
00000105	Print Head end of life (Inspect print head and reset head counter)
00010000	Paper Feed Motor encoder check error (Check Sensor and Timing Disk)
00010001	Paper Feed Motor out of step
00010002	Paper Feed Motor overcurrent (Check for mechanical binding of the feed rollers / motor)
00010003	Paper Feed Motor in-position time-out
00010004	Carriage Motor encoder check error (Check sensor and Timing Disk)
00010005	Carriage Motor out of step
00010006	Carriage Motor overcurrent (Check for mechanical binding, If not replace motor)
00010007	Carriage Motor in-position time-out
00010008	Servo interrupt watchdog time-out
00010009	System interrupt watchdog time-out
0001000A	Carriage home position error (Check Sensor and mechanical components)
0001000C	Platen Gap home position error (Check Sensor and mechanical components)
0001000F	Carriage Motor PWM output faulty
00010010	Paper Feed Motor PWM output faulty
00010014	Ink System Pressurization Error (The Pressure Sensor does not indicate pressure)
0001001B	Head driver (TG) temperature error

0001001D	Carriage servo parameter error
0001001E	Paper feed servo parameter error
00010020	CSIC read / write error
00010023	RTC (Real Time Clock) (Reset RTC)
00010025	CSIC ROM communication error
00010026	RTC (Real Time Clock) communication error
00010027	Pressure Pump Micro Leak Error (only displayed when testing in Service Mode)
00010028	Head error
00010029	Unidentified NMI
0001002A	Carriage ASIC ECU error
0001002B	Paper feed ASIC ECU error
0001002D	Cleaning Unit end of life ( <b>Reset When Cleaning Unit Change</b> )(Pump Assy, Pump Motor, Cap Assy, Wiper Blade, Flushing Box).
0001002F	360 DPI writing time out error
00010035	Pump Home Position Error (Check Sensor and mechanical components)
00010036	Type B Interface board installation error (Type-B Card is Level 2 or below)
00010037	Print Head thermistor error (Print Head, Head Cable)
00010038	Head Driver thermistor Error (Replace Main Board)
0001003B	Carriage Lock / Cutter Error
0001003C	Carriage Lock / Cutter Error
0001003D	Carriage Lock / Cutter Error
0001003E	Pressure Sensor Error (Sensor detects pressure before the pressure is generated)



0001003F	Pressure Pump Assembly end of life ( <i>Reset When Pump Unit Change</i> ) Inspect and replace if necessary.
00010040	Printing Position Error (Caused by CR Encoder or Timing Strip)
00020000	NVRAM error
00020002	SDRAM error
00020003	BOOT program SUM error
00020009	Flash memory SUM error
0002000A	Program load error
0002000B	Internal memory shortage error
0002000C	Review error
100000E0	CPU address error (load misalignment)
10000100	CPU address error (storage misalignment)
10000180	CPU reserve command code exception error
100001A0	CPU slot illegal command exception error
100001C0	AC disruption (AC Power) (Unplug and wait 30 sec., then plug back in) Bad Power)
100005C0	CPU DMA address error
0003xxxxx - 0Dxxxxxxx	CPU error

# 00000088

**Note:** The 00000088 error code indicates that the RTC (Real Time Clock) battery is defective or low on power.

1. Replace the battery (Battery type: **CR2032**).
2. Set the RTC by accessing the **User Menu: Maintenance: Clock Setting (mm/dd/yy hh:mm)** menu.
  - 2.1 Turn the **Printer** off, and then on again, to clear the error.
3. Replace the **Main Board**, if the error persists.

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# 00000101

**Note:** The 00000101 error code indicates that the Carriage Motor and Ink Tubes have reached their end of life.

1. Inspect the **Ink Tubes** for leaks or cracks.
2. Inspect the **Carriage Motor** for wear.
  - 2.1 Spin the **Motor** manually and feel for friction.
  - 2.2 Replace the **Motor** if necessary.
3. From the Adjustment Wizard, perform **Reset When CR Unit Change**

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# 00000103

**Note:** The 00000103 error code indicates that the RTC (Real Time Clock) has an invalid date.

1. Set the RTC by accessing the **User Menu: Maintenance: Clock Setting (mm/dd/yy hh:mm)** menu.
  - 1.1 Turn the **Printer** off, and then on again, to clear the error.
2. Check the battery (Battery type: **CR2032**).
3. Replace the **Main Board**, if the error persists.





# 00000105

**Note:** The 00000105 error code indicates that the Print Head has reached it's end of life.

1. Inspect the Print Heads operation using the **Printer's SERVICEMAN MODE: Self Testing: Adjustment: Check Nozzle** function.
  - 1.1 Replace the Print Head if necessary.
2. From the **Adjustment Wizard** perform **Reset When Print Head Change**.



# 00010000

**Note:** The 00010000 error code indicates that the *Paper Feed Encoder* does not operate properly.

1. Check the operation of the *Paper Feed Encoder* using the **SERVICEMAN MODE: SELF TESTING: TEST: ENCODER:PF** menu item.
2. Verify that the *Paper Feed Motor* spins when loading paper.

**Replace the following components if steps 1 and 2 reveal no clues.**

3. Replace the *Paper Feed Encoder Scale*.
4. Replace the *Paper Feed Encoder*.
5. Replace the *Paper Feed Motor*.
6. Replace the *Main Board*.

## 00010002

**Note:** The 00010002 error code indicates that the *Paper Feed Motor Driver Circuit* detects *abnormal current draw*.

1. Test the ***Paper Feed Motor*** for binding.
  - 1.1 Unplug the ***Paper Feed Motor***.
  - 1.2 Remove the ***Paper Feed Belt***.
  - 1.3 Manually spin the ***Paper Feed Motor*** and feel for binding.

**Replace the following components if step 1, reveals no clues.**

2. Replace the ***Paper Feed Motor***.
3. Replace the ***Main Board***.

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## 00010004

**Note:** The 00010004 error code indicates that the Main Board detects no Carriage Encoder signal change.

1. Test the **Carriage Encoder** using the **SERVICEMAN MODE: SELF TESTING: TEST: Encoder: CR** menu

1.1 If there is no signal change replace one of the following items and test again.

- Encoder
- Main Board
- Head Cable





## 00010005

**Note:** The 00010005 error code indicates that the Carriage Encoder detects some movement of the Carriage, but the Carriage Motor draws too much current.

1. Clean the **Carriage Rail**.
2. Check the **Carriage Belt Tension**.
3. Manually move the **Carriage Mechanism** along the **Carriage Rail**, feeling for unusual drag, or bad **Bearings**.
4. Manually spin the **Carriage Motor** and feel for binding.
5. Replace the **Carriage Motor**.

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## 0001000C

**Note:** The 0001000C error code indicates that the **Platen Gap Home Position Sensor (Head Slide Sensor)** does not detect movement of the **Platen Gap Mechanism**.

1. Test the **Platen Gap Home Position Sensor** using the **SERVICEMAN MODE: SELF TESTING: TEST: Sensor: Head Slide** menu item
2. Verify that the **Platen Gap Mechanism** rotates during initialization of the **Printer**.
3. Verify that the **Pump Motor** rotates.

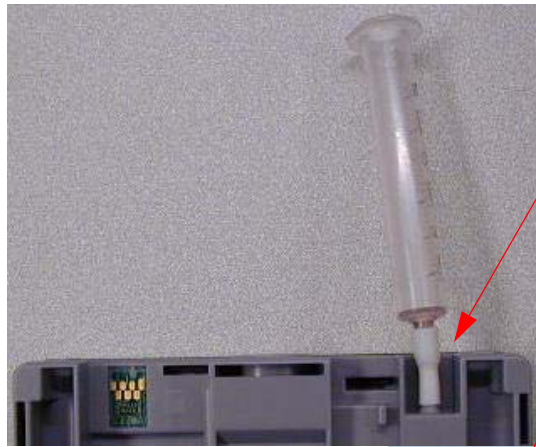


# 00010014

**Note:** The 00010014 error code indicates that the Ink System Pressure Sensor reports low pressure.

**Note:** This error usually is caused by an Ink Cartridge that leaks pressure.

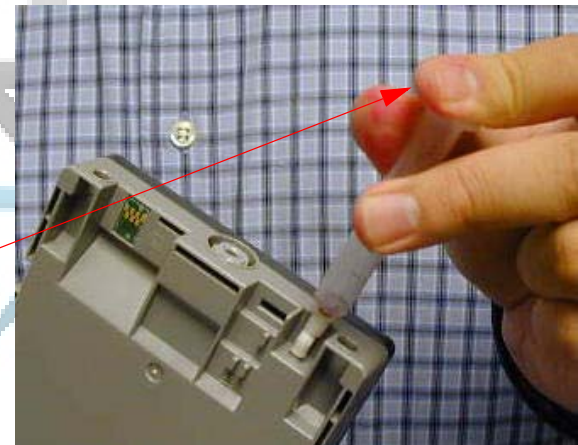
1. Test each **Ink Cartridge** for pressure leaks.



1. Place a tube on the **Air Pressure Inlet** for each Cartridge.

2. Blow into the tube to inflate the Cartridge.

3. Place your finger over the tube to hold in the pressure.



4. After 10 seconds, remove your finger and check for air flow caused by the Cartridge deflating. The leaky **Cartridge** will not release air.

## Borderless Printing Errors

Ensure that the media is one of the supported sizes. The media should be exactly on of the sizes listed below.

**7800: 8", 10", 12", 16", and 24"**

**9800: 8", 10", 12", 16", 24", 36", and 44".**

The image being printed must be at least 1/4" bigger than the media.

Perform the **T&B&S Adjustment**.

Perform the **Platen Position Adjustment**.





# Chronic Nozzle Loss Explanation and Resolution

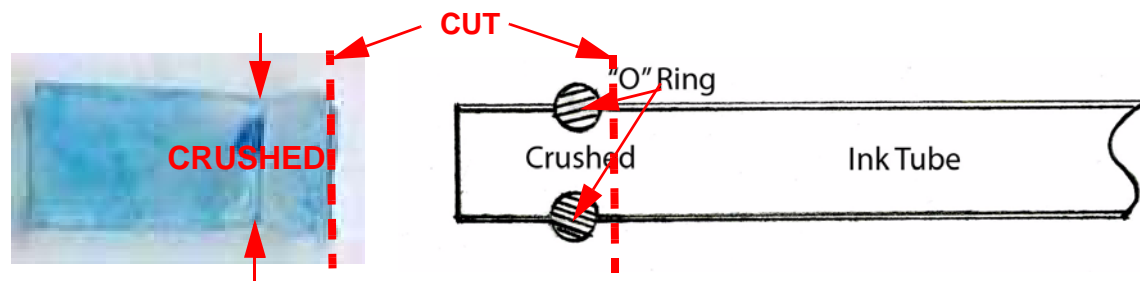
## Overview

Some Stylus Pro 9800 printers experience a unique Chronic Nozzle Loss issues during printing, even after the nozzles were checked and or cleaned prior to printing. This type of nozzle loss usually increases in frequency requiring Power Cleaning on a ever increasing frequency over time and after all the common parts for nozzle loss have been replaced.

This issue is caused by over tightening of the Ink Tube nut fasteners. When the nut fasteners are over tightened they compress the rubber "O" rings which eventually pushes inward on the Ink Tubes causing a slight restriction in the ink flow. Over time the wall of the ink tube collapses even further causing a greater restriction in ink flow and a slight backward pressure on the ink. Eventually during printing when the print head is demanding ink from the damper the print head has difficulty replenishing itself with ink which results in nozzle loss.

**This procedure requires that all the normal Nozzle Issues in the Field Repair Guide have been identified and that all the normal Parts and Procedures have been followed to correct the nozzle issues, and the Chronic Nozzle Loss has not been resolved.**

This resolution removes approxamaly 1/4 inch of damaged ink tube where the rubber "O" ring has dented the ends of each ink tube.



## Parts Required

As this resolution requires that the ink be drained, and an initial ink charge be performed we are replacing the following consumable for the customer:

1418565, (X1) ,Photo Black-110ml

**OR**

T566800. (X1) ,Matte Black 110 ml

**AND**

1418566,(X1) ,Cyan-110ml

1418567,(X1) ,Magenta-110ml

1418568,(X1) ,Yellow-110ml

1418569,(X1) ,Light Cyan-110ml

1418570,(X1) ,Light Magenta-110ml

1418571,(X1) ,Light Black-110ml

1418572,(X1) ,Light Light Black-110ml

1402073,(X1) ,POROUS PAD INK EJECT

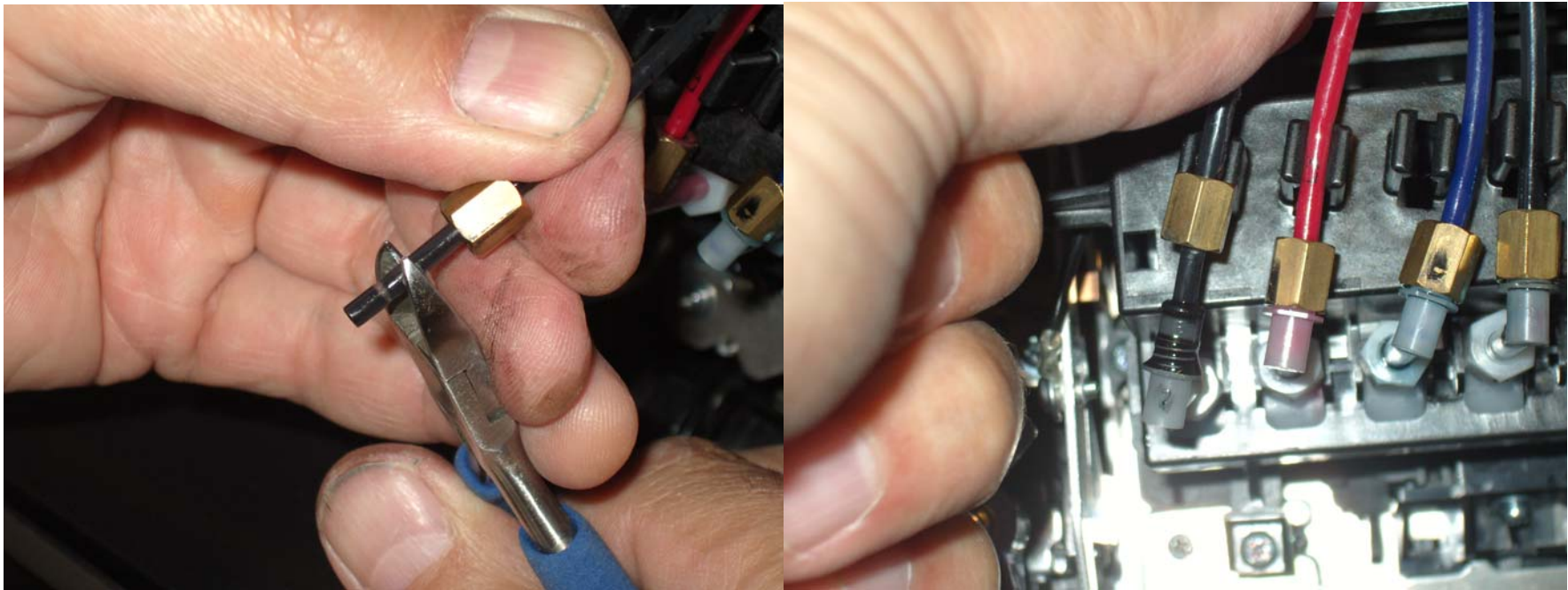
## Procedure

*Refer to the Stylus Pro 7800/9800 Field Repair Guide for detailed instructions to perform the following actions:*

1. Remove the **H Top Cover**.
2. Remove the **Cover (Left Side)**.
3. Remove the **Cover (Right Side)**.
4. Perform the “**Ink Draining Procedure**”.

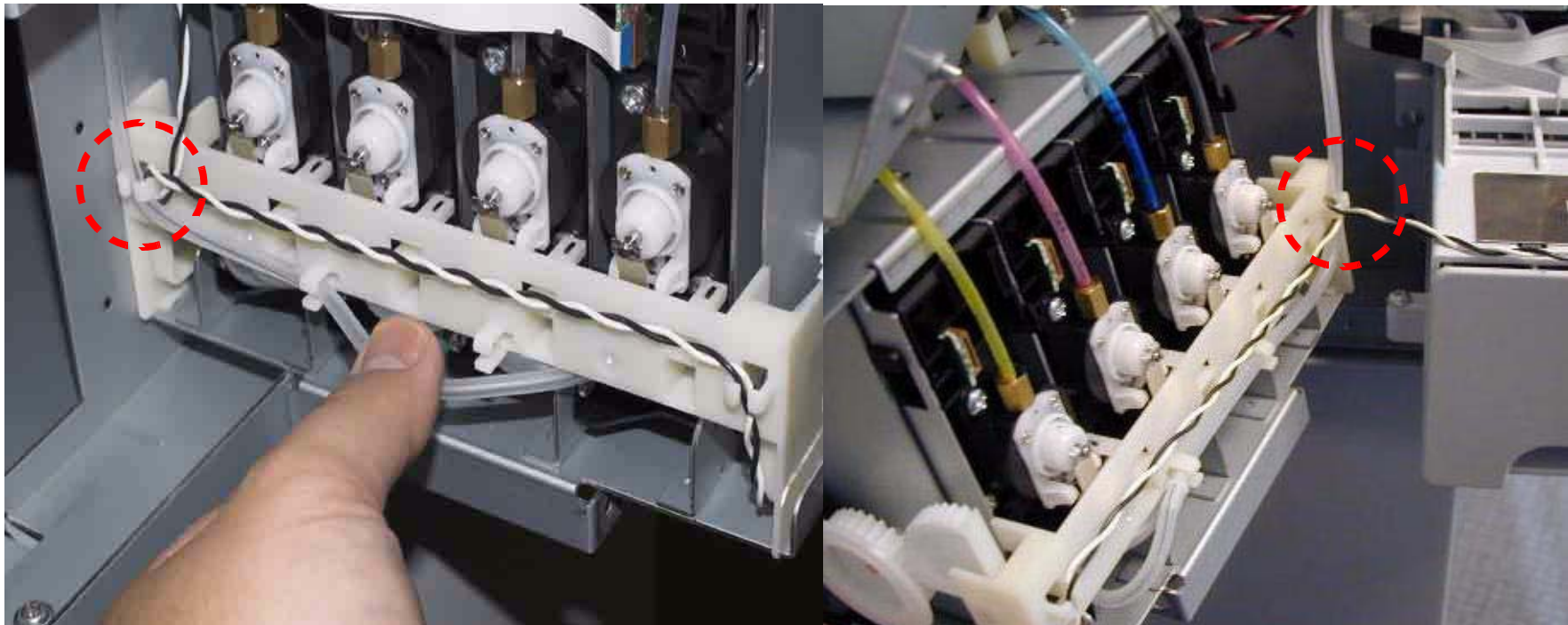
On step 7. when “**Set Cleaning I/C**” is displayed you can **Power OFF** the printer instead of inserting the Cleaning I/C's to complete the ink drain process.

5. Remove and trim approximately 1/4 inch off each ink tube at the damper end of each ink tube. After the ink tube is trimmed slide the “O” Ring down to almost the end of the ink tube. When the ink tube is inserted into the fitting the “O” Ring will be pushed up into the correct position so when the Nut is lightly tightened the “O” Ring will seat correctly. When the Nut is against the “O” Ring tighten the nut 1/4 to 1/3 of a turn so the “O” Ring will not spread out and collapse the ink tube.



6. Remove and trim approximately 1/4 inch off each ink tube at both the Left and Right Ink Bay end of each ink tube. After the ink tube is trimmed slide the “O” Ring down to almost the end of the ink tube. When the ink tube is inserted into the fitting the “O” Ring will be pushed up into the correct position so when the Nut is lightly tightened the “O” Ring will seat correctly. When the Nut is

against the “O” Ring tighten the nut 1/4 to 1/3 of a turn so the “O” Ring will not spread out and collapse the ink tube.



You will find it helpful in reaching the ink tubes by removing the 4 screws securing the Ink Bay to the printer. After the Ink Tubes have been cut make sure the Black and White wire is not compressing the Clear Air Pressure tubes.

7. Perform an Initial Ink Charge.
8. While the ink is charging check for Ink Leaks at both end's of each Ink Tube.
9. Replace the COVER (Left Side).
10. Replace the COVER (Right Side).



## 11. Replace the H Top Cover.

### Tips and Tricks

After all the steps above are completed occasional nozzle loss will still occur, this is normal. Below are some suggestions that are proven to further reduce most common nozzle loss issues:

1. Another issue that can cause this same issue is the gear timing of the ink housing lever. If the lever is not allowing the ink valves to fully open it is similar to a restriction in the ink line causing nozzle loss. This type of issue is usually associated with all colors in the Left or Right ink bay.
2. Kinks or compression of the ink tube walls anywhere in the length of the ink tube can also cause nozzle loss. If the ink tube cannot be straightened then the ink tube will need to be replaced.
3. For work flows where the **Auto Cut** feature is turned **OFF** in the driver and at the printers control panel, printing long job in this fashion will cause ink to build up on the Wiper, Cap Assy, Flushing Box and the Print Head and Carriage face because no cleaning is performed during this type of workflow which will cause nozzle loss due to excessive ink buildup. To resolve this issue wipe or pat down the head cleaner, flushing box, and cap assembly then perform a control panel cleaning this should resolve the missing nozzles. To prevent the build up of ink during this type of work flow

upgrade the printers firmware to at least 0286B or higher, 01475 is currently posted. Then turn on custom mode 4 in the printers control panel by:

- 3.1 Powering **OFF** the printer.
- 3.2 Holding the **PAUSE** button and Powering **ON**.
- 3.3 Press the **DOWN** arrow button until **CUSTOM** is displayed
- 3.4 Press the **RIGHT** Arrow then the **Up** or **Down** Arrow until "**4**" is displayed.
- 3.5 Press the **ENTER** button to set custom mode **4\***

By setting Custom Mode 4 the printer will automatically perform a cleaning cycle after 5 hours of printing when the cutter is turned OFF. Another work around to cause the printer to perform more frequent cleaning during this type of workflow is to send a Cleaning job from the drivers utility tab at more frequent intervals then 5 hours, this can vary with the type of media being used the humidity of the environment and how clean the environment it is.

4. For any workflow and after the above procedure if a nozzle check or cleaning is performed after 35ft. of media the chance of nozzle loss is reduced.
5. It is not uncommon for a nozzle to be lost after approx. a roll of media. The nozzle should be able to be cleared by a control panel cleaning.
6. Over time ink builds up on the Wiper, Flushing Box, Cap, Print Head and Carriage. We have found that if it requires more then 3 standard cleanings to recover nozzles it is most likely due to ink build up on these parts. In most cases simply cleaning the Wiper blade of all excess ink and debris may be enough to recover the lost nozzles. After cleaning the wiper perform another standard cleaning and check the nozzles with a nozzle check.

## Color Shift

**Note:** *Most color shift issues are not caused by a printer problem, but by the customers “work flow”. “work flow” refers to the customers color management. Usually the printer will accurately print the image that it is sent. If the customer is un-aware of the true color of the image, because of a “work flow” issue, the customer will blame the Printer for the perceived color inaccuracy.*

Missing **Nozzles** can impact color, so they should be checked. Verify that 8 colors are printed, and all the nozzles for each color are working.

Use your computer, driver, image, and paper to verify the operation of the **Printer**. Ensure that you use the proper driver setting for the media being used. If the color appears normal, then the user’s “work flow” is the issue.

Verify that the Printer is filled with Epson Ink. Non-Epson Ink can cause a color shift.

If the color is incorrect using your materials, and the customers, replacing the **Main Board** and the **Print Head** at the same time may correct the issue.

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## Command Error

**Note:** *Command Error usually is generated when the Printer contains Photo Black Ink, and the driver expects Matte Black (or vice versa).*

1. Remove hubs and other devices on the USB bus.
2. Test the **Printer** using another **Computer** and **Driver**.
3. Verify that the **Printer Driver** reflects the correct ink type.
  - 3.1 Access the **Printer Driver** from the Windows: **Start: Settings: Printers and Faxes** menu.
  - 3.2 Access the **Utility: Printer Option and Information** section of the **Driver** and verify that the correct ink type is picked.
4. Reinstall the **Printer Driver** and **Status Monitor 3**.
5. Replace the **Main Board**.



# Communication Errors, Macintosh

## Description:

**Status Monitor 3** reports a **Communication Error**.

## Reason:

The **Printer** and the **Driver** / **Computer** are not communicating.

## Troubleshooting process:

1. Check the **Printer's Control Panel** and verify.
  - 1.1 The **Printer** is turned on.
  - 1.2 The **Printer** is **Ready**.
    - 1.2.1 The **Printer** is not **Paused**.
    - 1.2.2 No **Error Lights** or messages on the **LCD**.
2. Check the **Printer's** settings.
  - 2.1 Is the **Printer's** proper **Interface** enabled.
    - 2.1.3 If the **Interface** is set to **Auto**, try setting the **Port** to the connected type.
3. Test the **Printer** with your **Computer**, **Driver**, **Cable**, and **Application**.
4. Send a test print from a simple application, such as **Text Edit**.
5. Verify the **I/F Cable** is working properly.
  - 5.1 Reseat **I/F Cable** on both ends.

- 5.2 Verify that the **I/F Cable** is not excessively long (over 10 -15 feet) (Spec. is 10 feet).
- 5.3 Remove any **HUBS** or **Switch Boxes** from the **Cabling**.
- 5.4 Verify that the **I/F Cable** is not the problem.
  - 5.4.1 Use another **Cable** or test the **Cable** with another **Device**.
- 5.5 If the Interface is Ethernet, verify that the **Cable** is:
  - 5.5.1 A “straight through” **Cable** for most connections.
  - 5.5.2 A “crossover” **Cable** for direct **Computer** to **Printer** connections.

6. Delete the **Driver** and reinstall.

## Other Considerations

- Custom Dongles attached to RIP Servers could cause a problem.
- Epson **Printers** use USB 2.0. **Computer Ports** that use USB 1.0, may cause a problem.
- Status Monitor 3 can report an error on a Windows 2000 system, that does not exist. Turn off the **Error Monitoring** (**Printer Driver: Utility: Speed & Progress: Monitoring Preferences** Un-checked the **Error** box).

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# Communication Errors, PC

## Description:

**Status Monitor 3** reports a **Communication Error**.

## Reason:

The **Printer** and the **Driver** / **Computer** are not communicating.

## Troubleshooting process:

1. Check the **Printer's Control Panel** and verify.
  - 1.1 The **Printer** is turned on.
  - 1.2 The **Printer** is **Ready**.
    - 1.2.1 The **Printer** is not **Paused**.
    - 1.2.2 No **Error Lights** or messages on the **LCD**.
2. Check the **Printer's** settings.
  - 2.1 Is the **Printer's** proper **Interface** enabled.
    - 2.1.3 If the **Interface** is set to **Auto**, try setting the **Port** to the connected type.
3. Test the **Printer** with your **Computer**, **Driver**, **Cable**, and **Application**.
4. Check the **Printer Driver**.
  - 4.1 Is the **Printer** set as the **Default Printer**.
  - 4.1 Is the proper **Port** assigned to the **Printer**.
  - 4.2 Does the **Port** see the **Printer**.

5. Send a test print from a simple application, such as **Wordpad**.
6. Verify the **I/F Cable** is working properly.
  - 6.1 Reseat **I/F Cable** on both ends.
  - 6.2 Verify that the **I/F Cable** is not excessively long (over 10 -15 feet) (Spec. is 10 feet).
  - 6.3 Remove any **HUBS** or **Switch Boxes** from the **Cabling**.
  - 6.4 Verify that the **I/F Cable** is not the problem.
    - 6.4.1 Use another **Cable** or test the **Cable** with another **Device**.
  - 6.5 If the Interface is Ethernet, verify that the **Cable** is:
    - 6.5.1 A “straight through” **Cable** for most connections.
    - 6.5.2 A “crossover” **Cable** for direct **Computer** to **Printer** connections.
7. Delete the **Driver** and reinstall.

## Other Considerations

- Custom Dongles attached to RIP Servers could cause a problem.
- Epson **Printers** use USB 2.0. **Computer Ports** that use USB 1.0, may cause a problem.
- Status Monitor 3 can report an error on a Windows 2000 system, that does not exist. Turn off the **Error Monitoring** (**Printer Driver: Utility: Speed & Progress: Monitoring Preferences** Un-checked the **Error** box).



## Cover Open

**Note:** The **Cover Open** error indicates that the Printer's Front Cover is open, or the Cover Sensor is defective.

1. The **Cover Sensor** can be tested in the **SERVICEMAN MODE: SELF TESTING: TEST: SENSOR: Cover**



## Drop of Ink

**Note:** A *Drop of Ink* refers to ink dripping onto the media.

Ink drips on the media come from two separate causes. The most common reason is a build up of ink on the nose of the **Print Head**. The second reason is a leak in the ink delivery system, in the **Print Head** area.

Excessive ink build up on the **Print Head Nozzle Plate** is caused by problems with the **Cap, Pump, Wiper Blades,** and **Wiper Blade Cleaner**.

Leaks in the ink delivery system (in the **Print Head** area), usually are caused by a bad connection between the **Ink Supply Tube** and the **Damper**. Sometimes a leaking **Damper** will cause the issue.



## Empty Ink Cartridges / Displays Ink Left

**Note:** *Empty Ink Cartridges/Displays Ink Left*, refers to *Printers that drain Cartridges while displaying ink left.*

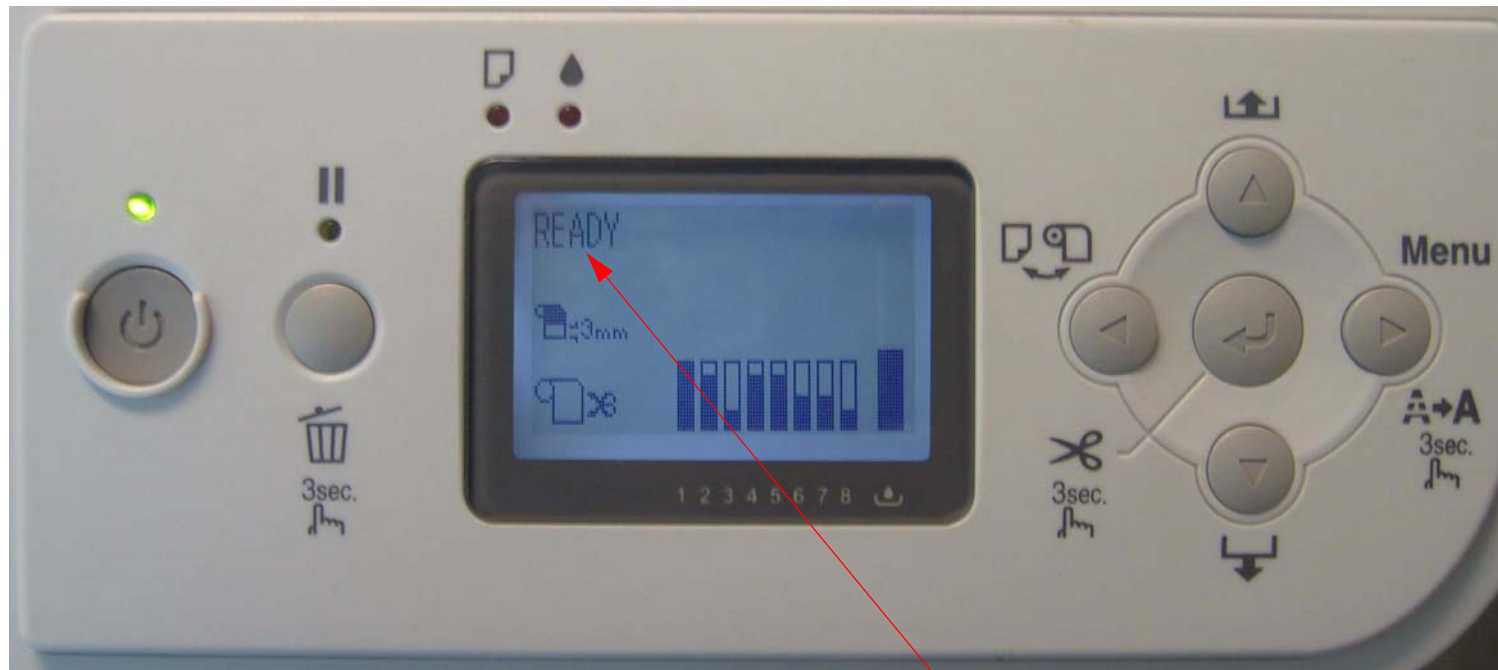
1. Check the **Printer's** serial number against the following list. If the **Printer's** serial number is on the list:
  - 1.1 Perform the Ink Bay Spring Upgrade located in the Component Replacement Section.
  - 1.2 Replace all **Ink Cartridges**.
  - 1.3 Replace the **Waste Ink Tank** (and the **Right Waste Ink Tank** on the **9800**).

Pro 7800 Serial Number Ranges	Pro 9800 Serial Number Rangers
GLL0000001 - GLL0007350	GLL0000001 - GLL0005206
GLL0007352	GLL0005208 - GLL0005210
GLL0007360	GLL0005212 - GLL0005235
GLL0007362 - GLL0007368	GLL0005256 - GLL0005257
GLL0007386	GLL0005260
GLL0007406 - GLL0007408	GLL0005276
GLL0007426 - GLL0007428	

# Ethernet Card (Epson) Troubleshooting

**Note:** This procedure explains how to diagnose the Epson Ethernet Card(s) using DHCP (auto IP addressing).

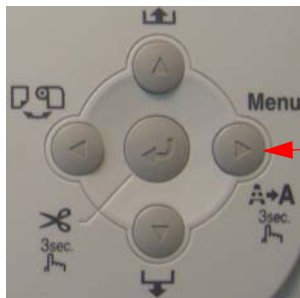
1. Turn on the **Printer** and verify that the **Printer** is **READY**.



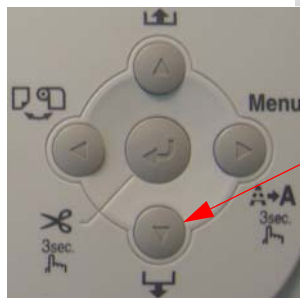
Verify that the **Printer** displays **READY**.



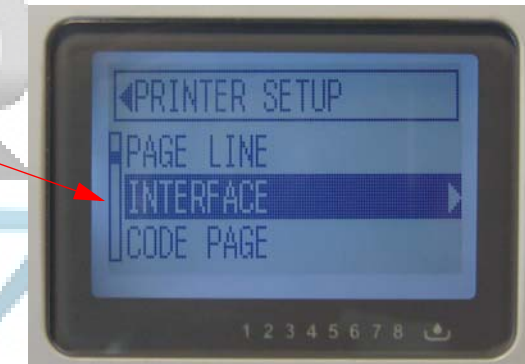
## 2. Verify that the **Printer** has the **Ethernet Card** enabled.



1. Press the **Menu** button (**Right Arrow**) 1 time. **PRINTER SETUP** will be highlighted.



2. Press the **Down Arrow** 3 times. **INTERFACE** will be highlighted.



3. Verify that **AUTO** has an \* next to it indicating that all the **Printer Ports** are enabled.

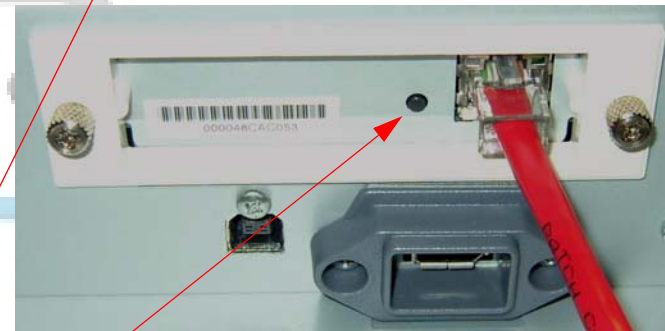
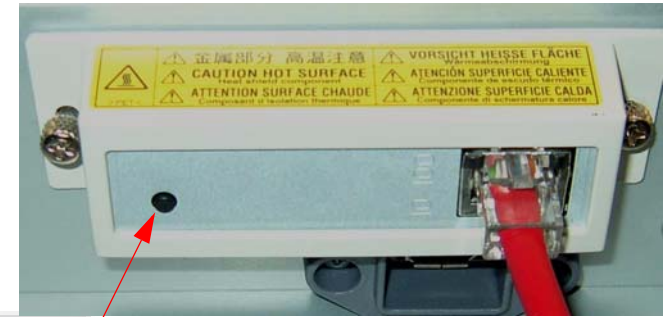


4. Press the **Pause** button to return the **Printer** to **READY**.

### 3. Reset the **Ethernet Card**.

**Note: 3 different Ethernet Cards are shown.**

1. Disconnect the **Ethernet Cable** from the **Ethernet Card**.



2. Hold down the **Black** Button on the **Ethernet Card** while turning on the **Printer**. Continue to hold the **Black** Button until 10 seconds after the **Printer** begins to initialize (moving the **Print Head**).

4. Print out the **Ethernet Card's** Status Sheet.

1. Load paper into the **Printer**.

- 2. Press the **Black** Button on the *Ethernet Card*.**

- 3. The *Printer* will print out the Status Sheet.**

- 4. Verify that “Get IP Address” is set to “Auto”**

- 5. Verify that the “IP Address” is set to “(None)”**

- 6. Turn off the *Printer*.**

```

#####
HH EPSON Ethernet I/F Card Status Print (1/1) HH
#####
<General Information>
Card Type                EPSON Type-B 10Base-T/100Base-TX Print Serv
Serial Number            000048CAC053
MAC Address              00:00:48:CA:C0:53
Hardware                 01.00
Software                 01.11
Printer Model            Stylus Pro 7800

<Ethernet>
Network Status           Auto(Disconnect)

<Netware(R)>
Network Address          (NONE)
Primary Frame Type       (NONE)
Mode                     Standby
Print Server Name        (NONE)
NDS Tree                 (NONE)
NDS Context              (NONE)
Primary File Server Name (NONE)
Primary Print Server Name(NONE)
Printer Port Number      (NONE)

<TCP/IP>
Get IP Address           Auto
IP Address               (NONE)
Subnet Mask              (NONE)
Default Gateway          (NONE)

<AppleTalk(R)>
Printer Name             Stylus_Pro_7800-CAC053
Zone Name                *
Network Number Set       Auto
Network Number           65534
Node ID                  31

<MS Network(R)>
Print Server Name        EPCAC053
Workgroup Name           WORKGROUP
Share Name               EPSON

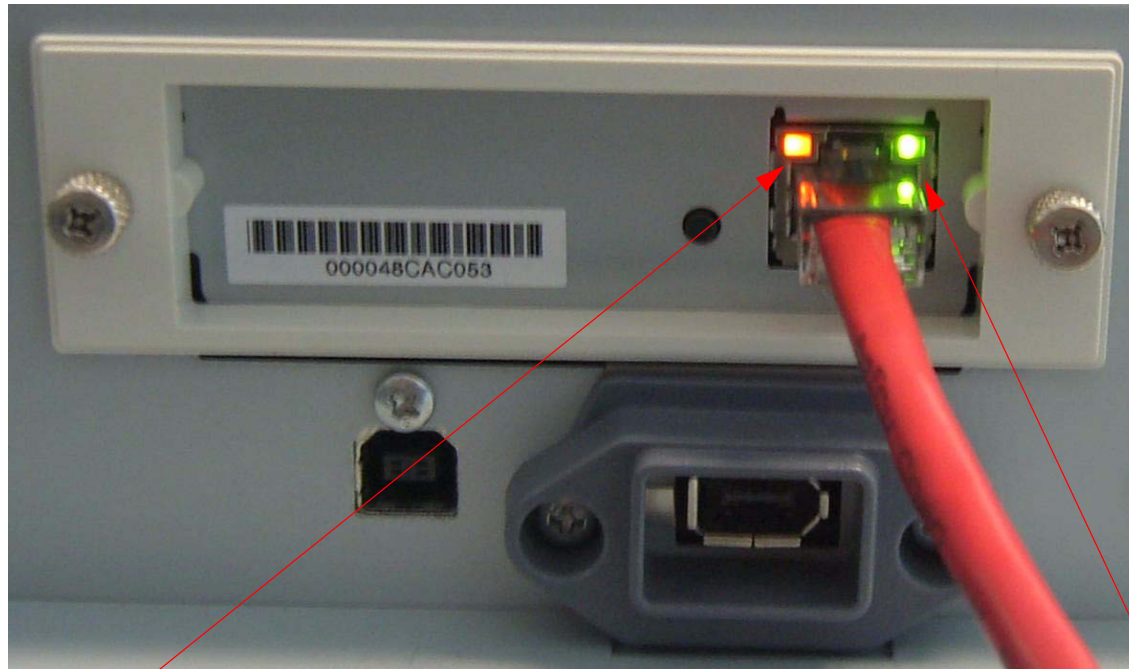
<IPP>
IPP URL                  (NONE)
Printer Name             EPSON_IPP_Printer

```

```
<TCP/IP>
Get IP Address      Auto
IP Address          (NONE)
Subnet Mask         (NONE)
Default Gateway     (NONE)
```

5. Connect the **Ethernet Card** to a Network, turn on the **Printer**, and verify that the **Status Lights** on the **Ethernet Card** are correct.

1. Turn on the **Printer**.
2. Plug in an active **Ethernet Cable**.



3. Verify that the **Left LED** is amber. An amber led indicates a 100 mega bit connection. The led will be another color with a 10 mega bit connection.

4. Verify that the **Right LED** is blinking green.





# Grainy or Ghosting

**Note:** *Grainy refers to an image that does not have smooth tonal transitions, or sharp resolution.*

**Note:** *Ghosting refers to components of an image that are intended to be on top of each other (or adjacent) but are offset.*

**Note:** *A low resolution image can be mis-diagnosed as Grainy.*

Using your **Computer**, **Driver**, and **Application**, verify that it is not the users equipment that is causing the print quality issue.

- Non-Epson media or improper media settings in the driver can cause grainy images.
- Non-Epson Ink can cause Grainy print quality.
- A non-Epson Driver can cause Grainy print quality.

Grainy or ghosted images are usually caused by electronic or mechanical adjustments. The following is a list of adjustments that should be checked.

- **Print Head Slant Adjustment (CR)**
- **Print Head Slant Adjustment (PF)**
- **Auto Bi-D Adjustment**
- **Auto Uni-D Adjustment**

Additionally the proper **Print Head** to media gap should be verified (Standard, Narrow, Wide, Wider, and Widest). Most media prints best at the Standard Gap (one gap away from the closest).

Intermittent or missing Nozzles may also be a factor.

The following components occasionally cause the issue.

- **Carriage Encoder**
- **Carriage Encoder Strip**
- **Carriage Motor**
- **Carriage Belt Tension**

# Horizontal Banding

**Note:** *Horizontal Banding is either paper feed related, or Print Head related.*

*Horizontal Banding is caused by vertical dot placement errors.*

## Feed Related

Feed related horizontal banding is always spaced at the same interval as the **MicroWeave** step. Observe the area of the image that is currently being printed (the image directly under the **Print Head**). That area exhibits the **MicroWeave** step. Compare the interval of the **MicroWeave** step with the interval of the horizontal banding. If the two have the same interval, the banding is probably feed related.

Increase or decrease (increase or decrease to the extreme limit) the feed step and observe the impact on the banding. Use the **Paper Config** section of the driver, or **Custom Paper** section of the **Printer's** user menu, and increase or decrease the feed step all the way. If the banding is affected, it is feed related. If the banding is not changed, or a new banding is added, it is not feed related.

Use another **Computer** with the Epson **Driver** and Epson Media to eliminate the users equipment.

Verify that the proper **Spindle** is being used (**High Tension** or **Low Tension Spindle**)

Verify that the media does not bind coming off the roll.

Perform the **Clear Micro Feed PF Adjustment (Bi-D)**. **Clear Micro Feed PF Adjustment (Bi-D)** clears the user paper feed tables. It is prudent to back up parameters before clearing, to set a restore point.

## Print Head Related

If the horizontal banding is **Print Head** related, it is usually due to missing, deflected or sympathetic **Nozzles**. the service level **Nozzle Check**, is the best way to inspect the **Print Head's** accuracy. A slightly deflected **Nozzle** can cause horizontal banding, depending on the **Nozzle's** location in the **Nozzle** array.

Missing or deflected **Nozzles** may be caused by problems with the **Cleaning Station**. Before attempting to clear **Nozzle** issues, the **Cap**, **Wiper Blade**, **Wiper Blade Cleaner**, and the **Print Head Nozzle Plate** should be cleaned. Additionally the **Borderless Pads** and **Flushing Box** should be checked to verify that they are not out of position or dirty. If a build up of contaminants makes contact with the **Nozzle Plate**, it will cause reoccurring **Nozzle** drop out.

A **Nozzle** with a slight inaccuracy can cause horizontal banding. The **M/W ADJ:** feature located in the User **Custom Paper** menu, is designed to change the **Nozzle** use pattern. Changing the **Nozzle** use pattern can minimize the frequency that a problem **Nozzle** is used, impacting the horizontal banding. Try all 3 settings (**Standard, 1, and 2**) and pick the best.





# Install Ink Cartridge

**Note:** *The Install Ink Cartridge error indicates that the Printer does not detected one or more Ink Cartridges.*

The error is usually generated when:

- The **Ink Cartridge** is defective.
- The **Ink Cartridge Release Sensor** is defective.
- The **Ink Bay CSIC Contacts** are defective.
- The **Ink Cartridge CSIC Chip** is defective.
- The **Cables to Sub Board A or B** are defective.
- The **Sub Board A or B** is defective.
- The **Main Board** is defective (least likely).



## Invalid Ink Cartridge

**Note:** *The Invalid Ink Cartridge error indicates that the Printer detects an Ink Cartridge that does not match the Ink type expected.*

1. Check the **Cartridge** for the proper type and color.
  - 1.1 Replace the **Cartridge** with the proper type and color.



# Load Paper Properly

**Note:** *The Load Paper Properly error indicates that the Printer recognizes paper in the Printer, but can not sense it's size or location properly.*

The Load Paper Properly error can be generated if the paper is loaded beyond the alignment marks (paper loading alignment marks).

The Load Paper Properly error can be generated if the paper width is a non-standard size. Always measure the paper and verify that it is the correct size. A 1/4" variance can generate the error.

The Load Paper Properly error can be generated if the paper is skewed.

A Load Paper Properly error can be generated if the leading edge of the media loaded has a dark image or "blotch" on it.

A Load Paper Properly error can be generated if the user is trying to print borderless on an unsupported media size (width). Supported sizes: (8, 8.3, 10, 12, 13, 14, 16, 17)

1. Verify that the **Edge Sensor** is working, and adjust it.

**The Edge Sensor measures the width, detects the leading edge, and measures the skew of the media.**

- 1.1 Test the **Edge Sensor** using the **SERVICEMAN: SELF TESTING: TEST: SENSOR** menu
  - 1.1.1 Test the **EdgeAD**
- 1.2 Adjust the **Edge Sensor** by performing the **Ink Mark Sensor Level** adjustment, located in the Adjustment Wizard.

2. Perform the **T&B&S [Roll Paper]** adjustment.

3. Test the **Carriage Encoder** and **Encoder Strip**.

***The Carriage Encoder is used in conjunction with the Edge Sensor to measure the width of the media.***

- 3.1 Test the ***Carriage Encoder*** and ***Encoder Strip*** using the **SERVICEMAN MODE: SELF TESTING: TEST: ENCODER: CR** menu item.





## Lower Ink Lever

**Note:** *The Lower Ink Lever message indicates that the Ink Lever is in the up position, or that the Ink Lever Sensor is Defective.*

1. Check the position of the ***Ink Cartridge Release Lever***.
2. Check the operation of the ***Ink Cartridge Release Lever Sensor*** using the **SERVICEMAN MODE: SELF TESTING: TEST: SENSOR: INKLVR** menu.



# Missing Nozzle Diagnosis and Repair

**Note:** *Inspect the printer and media for dust or fiber accumulation. Excessive “dirt” will cause missing nozzles.*

## Reoccurring Nozzle Drop Out While Printing

1. Check the **Printer's** components for mechanical problems and “dirt”.
  - 1.1 Clean **Cap**.
  - 1.2 Replace the **Wiper Blade**.
  - 1.3 Clean the **Nose of the Print Head**.
  - 1.4 Check the **Borderless Pads** for proper installation and dirt.
  - 1.5 Check the **Flushing Box** for dirt.

**Note:** *Many technicians prefer to replace the Cap and Pump instead of cleaning them.*

2. Replace **Dampers**.

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## Some Missing Nozzles, one or more colors

1. Check the **Printer's** components for mechanical problems and “dirt”.
  - 1.1 Clean **Cap**.
  - 1.2 Replace the **Wiper Blade**.
  - 1.3 Clean the **Nose of the Print Head**.
  - 1.4 Check the **Borderless Pads** for proper installation and dirt.
  - 1.5 Check the **Flushing Box** for dirt.
2. Puddle the **Cap** and park the **Print Head** for 30 minutes.

- 2.1 Fill the **Cap** with as much water as possible.
- 2.2 Park the **Printhead** on the **Cap**.
3. Perform 2 cleaning cycles.
  - 3.1 Re-test the **Nozzles**.
  - 3.2 Repeat step 3 if there is progress.
4. Replace the **Print Head**.

### All Nozzles Missing, One Color Only

1. Perform a **Power Clean**
  - 1.1 User **Menu: Maintenance: Power Clean**
2. Check the following components of the ink system for full starvation
  - 2.1 Remove corresponding **Damper** and attempt to draw ink with a syringe.
    - 2.1.1 If the **Damper** is empty, check for air leaks in the **Tubes, Joints (O-rings and Fittings), or Dampers**.
    - 2.1.2 If ink can not be drawn, remove **Damper** and attempt to draw ink through the **Tube**. If ink can be drawn, replace the **Damper**.
    - 2.1.3 If Ink can not be drawn through the **Tube**, check the **Ink Valve** on the **Cartridge Bay** for correct operation
    - 2.1.4 If the **Ink Valve** is working properly, replace the **Tube**.

### All Dark or All Light Nozzles Missing

1. Check the corresponding **Valve Release Assembly**.

## All Nozzles Missing

**Note: Steps 1 and 2 must be run in sequence.**

1. Check the **Pump's** operation.
  - 1.1 Run a cleaning cycle.
    - 1.1.1 When the **Printhead** moves off of the **Cap**, and the **Pump** is running, inject water into the **Cap** with a syringe.
      - 1.1.1.1 If the water is drawn through the **Cap**, the **Pump** is good.
      - 1.1.1.2 If water is not drawn through the **Cap**, check the **Pump Tube** connections to the **Cap**.
      - 1.1.1.3 If the **Pump Tube** connection is good, replace the **Pump**.
2. Check the **Cap's** seal with the **Printhead**
  - 2.1 Check the amount of ink in the **Cap** (it should be clean because of step 1).
  - 2.2 Run a cleaning cycle
  - 2.3 Check the amount of ink in the **Cap** (there should be clear signs of ink compared to step 2.1).
    - 2.3.1 If there is no ink:
      - 2.3.1.1 The **Cap** is not sealing with the **Printhead**.
        - 2.3.1.1.1 Check the **Cap Assembly** for mechanical problems.
3. Check **Print Head Fuses** on **Main Board**.
  - 3.1 If the **Fuses** are blown, replace the **Main Board**.
  - 3.2 If the **Fuses** are good, replace the **Printhead**.



## No Control Panel Display

**Note:** *No Control Panel Display* refers to the *Control Panel LCD* not displaying any data.

**Note:** *Historically, this symptom has been caused by a poorly seated Control Panel Cable.*

1. Re-seat the **Control Panel Cable** at both ends.
2. Replace the **Control Panel Cable**.
3. Replace the **Control Panel**.
4. Replace the **Main Board**.



# Paper Not Cut

**Note:** *The Paper Not Cut error indicates that the Printer detected that the paper did not separate, after cutting.*

Paper cutting errors occur:

- When the **Cutter Blade** is defective.
- When the **Cutter Blade** does not have white nylon wheels.
- When the **Cutter Guide** is damaged or out of position.
- When the **Cut Pressure** is turned down too low.
- When the paper is too thick (out of specification).
- When the **Suction Fans** do not hold the paper properly.
- Mechanically jammed (corroded) **Cutter Solenoid**.



# Paper Jam Error

**Note:** *The Paper Jam Error indicates that the Carriage Encoder detects movement of the Carriage, but the Carriage Motor draws too much current.*

1. Clean the **Carriage Rail**.
2. Check the **Carriage Belt Tension**.
3. Manually move the **Carriage Mechanism** along the **Carriage Rail**, feeling for unusual drag, or bad **Bearings**.
4. Manually spin the **Carriage Motor** and feel for binding.
5. Replace the **Carriage Motor**.

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## Paper Release Won't Stay Open

This symptom is caused by a worn **Paper Release Lever** that is slipping on the **Paper Release Shaft**. It is more prevalent on **Pro 9800s**. This is because of the extra tension that the wider mechanism places on the **Lever/Shaft** junction.





# Random Nozzle Firing

**Note:** *Random Nozzles refers to Nozzles that fire when they are not commanded to.*

Random **Nozzle** firing is caused by 1 of 4 components

- Head Cables**
- Print Head**
- Main Board**
- Power Supply**
- Carriage Encoder and Encoder Strip**

## Head Cable

Inspect the **Head Cables** for worn insulation. Place tape over the worn area or replace the **Cable**.

## Print Head or Main Board

If the random **Nozzle** firing is caused by serial communication problems between the **Main Board** and the **Print Head**, the frequency of the random **Nozzle** firing changes when the printing resolution is changed. If changing the printing resolution affects the random **Nozzle** firing, change the **Main Board** and the **Print Head**. Change them one at a time in any order. Test between each change.

## Power Supply

Sometimes (very rare) a noisy **Power Supply** causes random **Nozzle** firing.

## Encoder and Encoder Strip

There is some evidence that random nozzle firing (especially yellow nozzles) can be triggered by a dirty **Carriage Encoder Strip** or a **Carriage Encoder** that is not properly aligned to the **Encoder Strip**.

# Scratch

**Note:** *A scratch is damage to the media surface caused by contact with a roller or other Printer components. Sometimes scratches occur before the media is inserted into the Printer.*

Some media is very sensitive to surface abrasions. Contact between the **Pinch Rollers**, the **Paper Feed Roller**, and the media is necessary to support and move it. If the media's coating is too fragile, the **Pinch Rollers** (the **Rollers** that contact the media's coating) can scratch the coating.

Inserting the scratched media back into the paper path, and compare the location of the scratch on the media to adjacent rollers. Check the adjacent rollers for issues.

If the **Print Head** makes contact with the media, it can cause scratching. Usually **Print Head** contact leaves ink residue as well. **Print Head** contact is usually because of excessive media curl, or incorrect platen gap.

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# Smudge

**Note:** *A smudge is a mark left on the media by contact. It can be caused by contact with the **Print Head**, or contact with a dirty **Roller**.*

## Dirty Roller

A dirty **Roller** usually leaves a mark that repeats at an interval that is equal to the circumference of the **Roller**. Placing the image with the smudge back into the paper path, and aligning the smudge with the **Printer's Rollers** will indicate which **Roller** is dirty.

## Print Head

Most **Print Head** contact with the media is the result of the media curling up to meet the **Print Head**. It can also be caused by a build up of contaminants on the **Print Head**, that decrease the distance between the **Print Head** and the media.

Sometimes the platen gap (the distance between the **Print Head** and the media) is set improperly. It can be incorrect because of user settings or because of incorrect measurement of the media thickness. Most media uses the **Standard** platen gap. The **Standard** platen gap is always one step back from the closest platen gap. If the platen gap is incorrect, the **Paper Thickness Sensor** should be checked, as well as the user platen gap settings found in the user menu.

Sometimes there is a build up of contaminants on the nose of the **Print Head** which makes contact with the media. Check for a dirty **Cap**, **Wiper**, **Flushing Box** (left or right), or **Borderless Pads**.

# Smear

**Note:** A smear is caused by something “smearing” the intended image, after the image is printed.

Many times smearing is a result of non-Epson media or ink. Non-Epson ink or media may dry too slowly, resulting in a smear after the image leaves the **Printer**. Adjusting the **User Menu: Custom Paper: Drying Time:** setting can slow down the **Printer**, allowing the image to dry properly.

Inspect the image while it is being printed. Look for any component or object that is making contact with the image while the image is still in the **Printer**.

Use another **Computer** with the Epson **Driver** and Epson Media to eliminate the user's equipment over saturating the media.

If the **Print Head** makes contact with the media, it can cause smearing. **Print Head** contact is usually because of excessive media curl, or incorrect platen gap.

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## Stuck In Cut Sheet Mode

**Note:** *Stuck In Cut Sheet Mode* refers to the Printer always returning to sheet mode after loading paper.

**Note:** *Historically, this symptom has been caused by the Paper Thickness Sensor registering very thick media. The Printer assumes that very thick media must be cut sheet media.*

**Note:** *If the symptom is caused by the Paper Thickness Sensor, the Printer will print at the “Wide”, “Wider”, or “Widest” platen gap.*

1. Verify that the **Paper Thickness Sensor** is not mechanically binding.
2. Perform the **Paper Thickness Sensor** Adjustment.



# Vertical Banding

**Note:** *Vertical Banding is caused by horizontal dot placement errors.*

## Saturation Related Vertical Banding

If the vertical banding is caused by paper over saturation, the banding will correspond to rippling of the media. The rippling will be visible on the back of the media. This kind of vertical banding is usually about an inch wide.

Under saturated images causes a type of vertical banding that is usually about 1/3 of an inch wide. Use another **Computer** with the Epson Driver and Epson Media to eliminate the users equipment. Non-Epson drivers effect vertical banding if the amount of ink that is applied to the media is too low. Using the Epson driver should look better, if that is the case. Non-Epson media can impact vertical banding if the amount of ink that is required to correctly saturate the media is not applied by the Epson driver or a non-Epson driver.

## Alignment Related Vertical Banding

Print an image in bi-directional mode, and in uni-directional mode (**High Speed** checked = bi-directional mode). If the vertical banding is more evident in bi-directional mode, the most likely cause is an improper **Bi-D** alignment. The **Uni-D** adjustment effects vertical banding in both bi-directional mode, and in uni-directional mode.

## Carriage Motor Related Vertical Banding

If the vertical banding is more evident in uni-directional mode, the most likely cause is **Carriage Motor** vibration. Replacing the **Carriage Motor** may improve the banding.

## Dirty Rails or Encoder Strip

Clean the Carriage Encoder and the Carriage Rails.

## Bad Carriage Bearings

Manually move the **Carriage Assembly** and feel for proper **Carriage Bearing** operation.

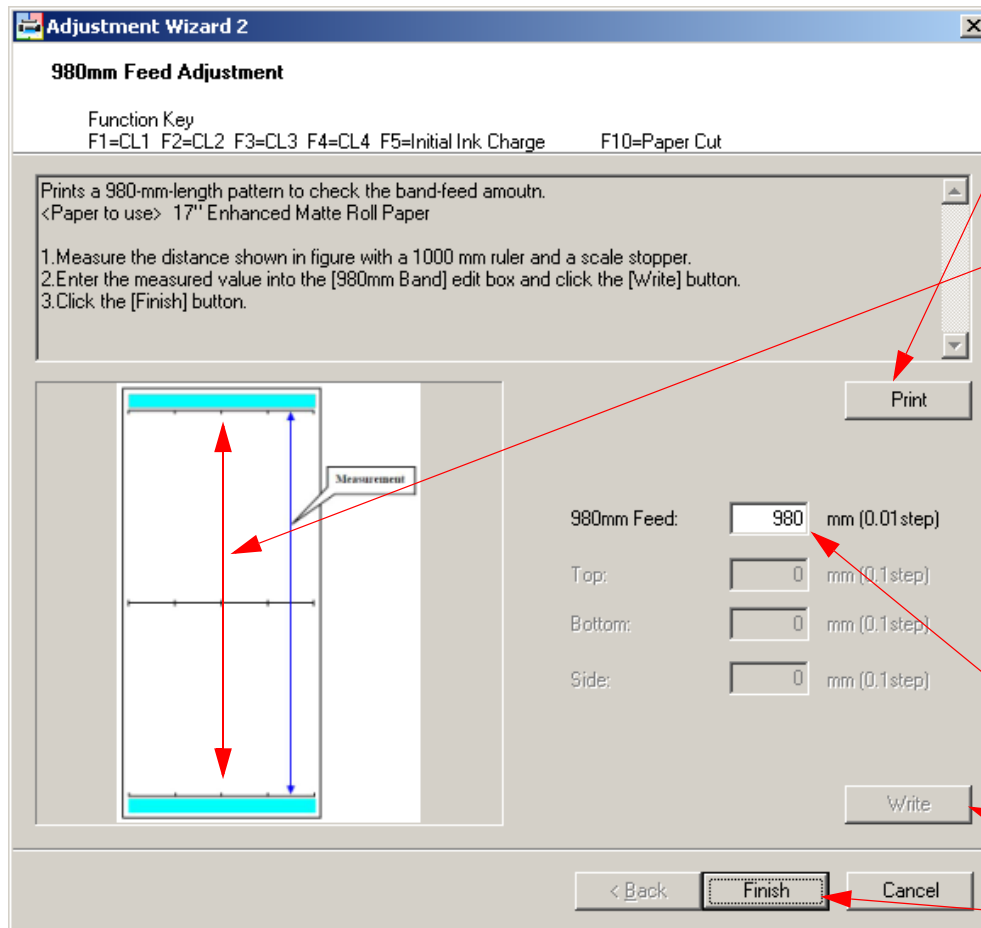
# Adjustments

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# 980mm Feed Adjustment

**Note:** The 980mm Feed Adjustment calibrates the Paper Feed Mechanism.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800/9800, select the **980mm Feed Adjustment**.



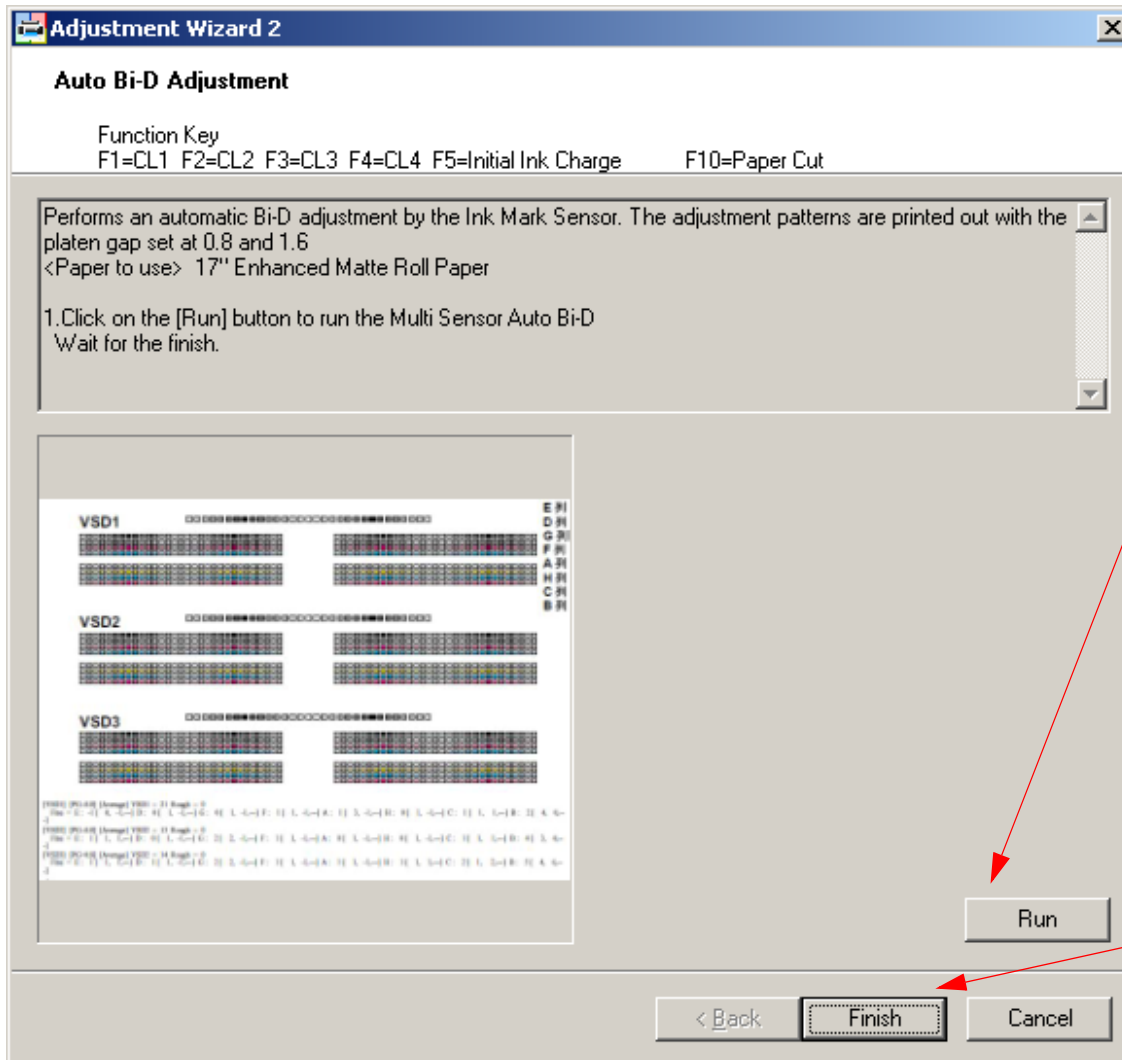
1. Click on the **Print** button.
2. The **Printer** will print the 980mm alignment pattern.
3. Align a 1000mm ruler with the center vertical hash marks, and the leading edge horizontal line (see the Red Line on the example graphic). The "0" end of the 1000mm ruler should be touching, but not covering the leading edge horizontal line.
4. Use a lens to align the 1000mm ruler exactly with the horizontal and vertical lines.
5. Using a lens, measure the exact distance between the 2 horizontal lines. Be as accurate as possible
6. Enter the value that was measured.
5. Click on the **Write** button.
6. Click the **Finish** button.



# Auto Bi-D Adjustment

**Note:** The Auto Bi-D Adjustment ensures that the Printer can print accurately from both (Bi) directions.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800/9800, select the **Auto Bi-D Adjustment**.



1. Click on the **Run** button.

2. The **Printer** will print out these patterns. It will take approximately 12 minutes

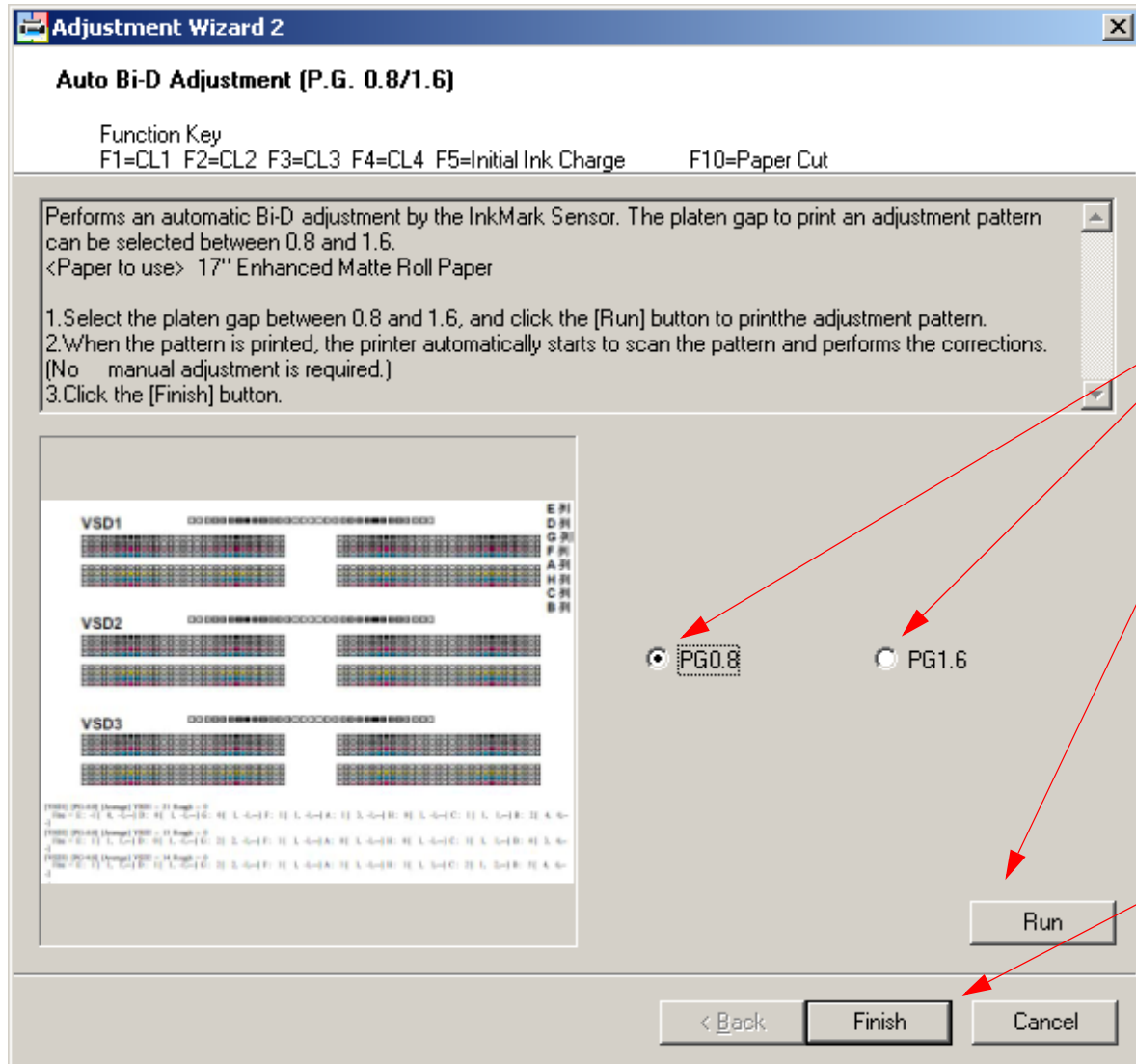
3. The **Printer** will read the alignment patterns automatically (using the **Ink Mark Sensor**), and write the appropriate values to the board.

4. Click the **Finish** button.

## Auto Bi-D [P.G. 0.8/1.6]

**Note:** The Auto Bi-D [P.G. 0.8/1.6] adjustment performs an auto bi-d adjustment at narrow (0.8mm) and Wide (1.6mm) Platen Gaps.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Auto Bi-D [P.G. 0.8/1.6]**.



1. Load the appropriate media for **Narrow** or **Wide** platen gap.

2. Click on **PG0.8 (Narrow)** or **PG1.6 (Wide)** depending on the media loaded.

3. Click on **Run**.

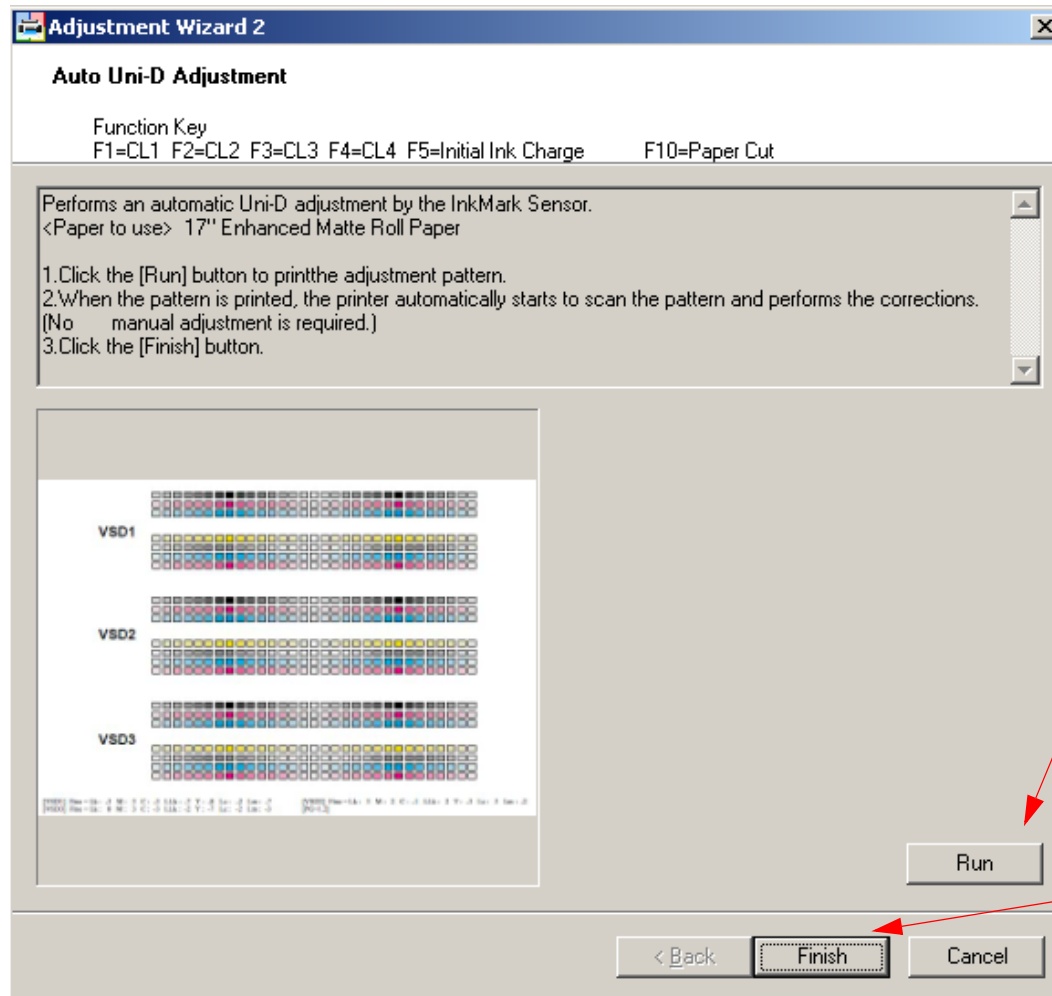
4. The **Printer** will print the auto alignment pattern, and read it with the **IM Sensor**.

5. Click on **Finish** when the **Printer** has completed the alignment.

# Auto Uni-D Adjustment

**Note:** The Auto Uni-D Adjustment calibrates the horizontal dot timing between each color and black.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800/9800, select the **Auto Uni-D Adjustment**.



1. Click on the **Run** button.

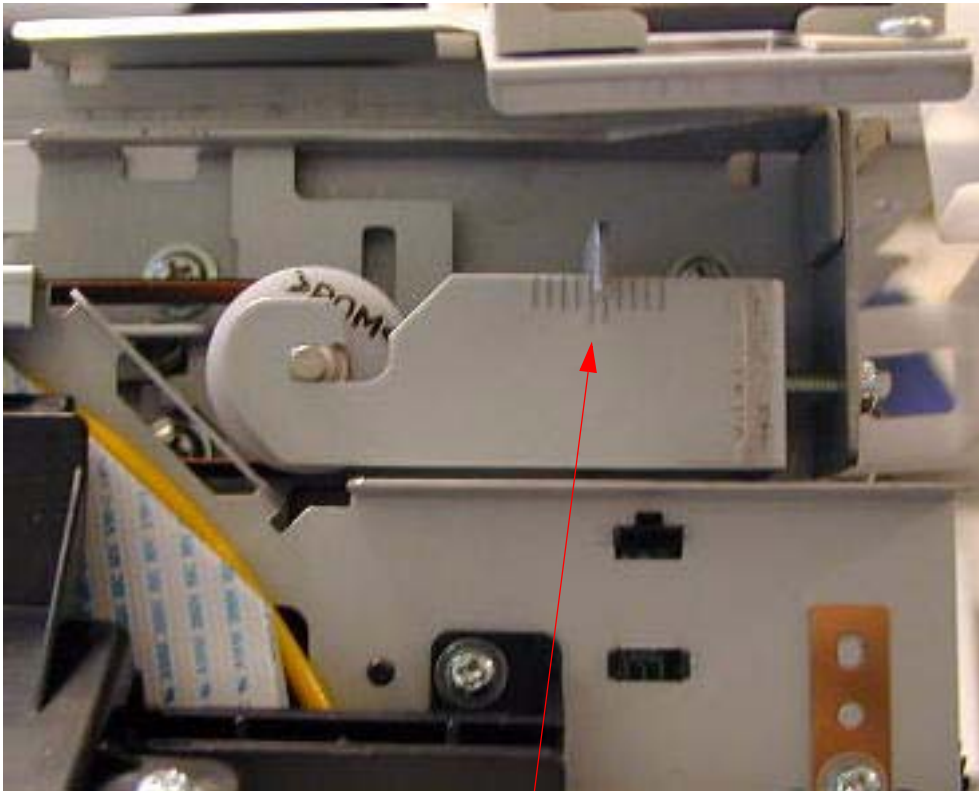
2. The **Printer** will print out these patterns. It will take approximately 12 minutes

3. The **Printer** will read the alignment patterns automatically (using the **Ink Mark Sensor**), and write the appropriate values to the board.

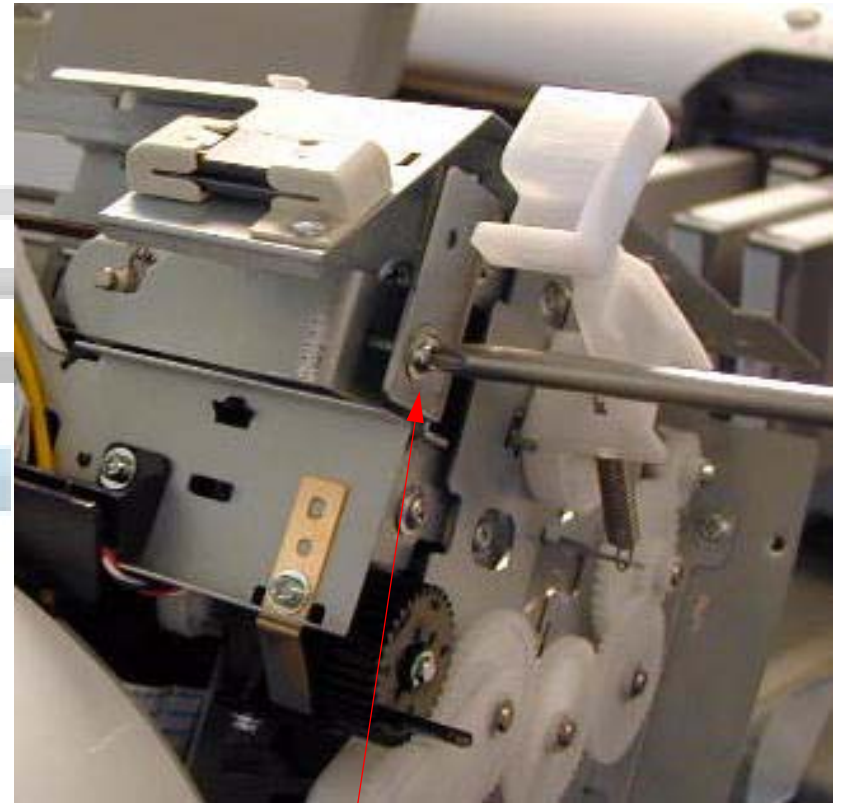
4. Click the **Finish** button.

# Carriage Timing Belt Tension Adjustment

1. Remove the **Right Side Cover**.
2. Turn the **Adjustment Screw** until the **Belt Bracket** is positioned between **2 long marks** in the center.



**2 long marks** in the center.



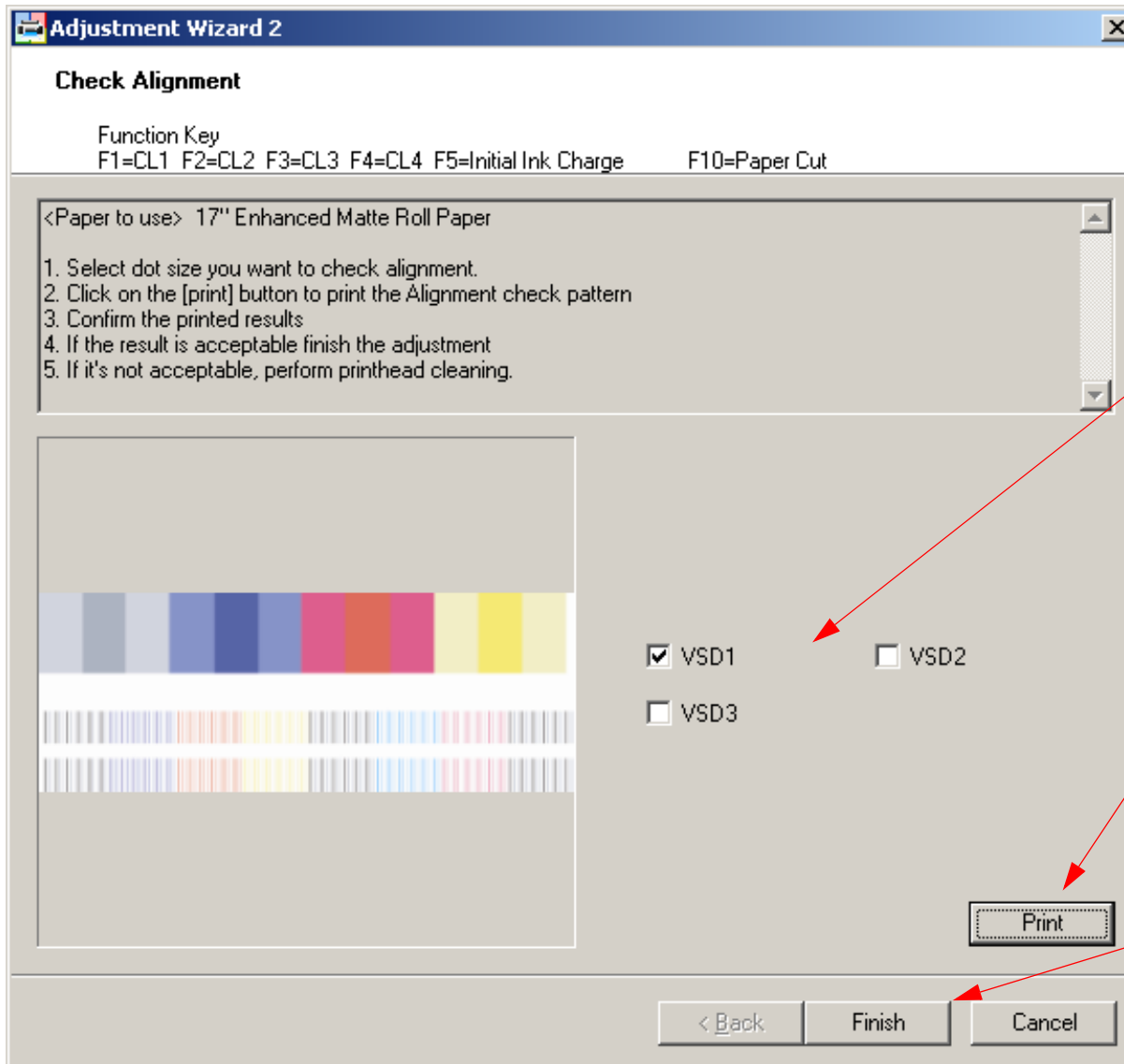
Turn the Adjustment Screw.



# Check Alignment

**Note:** Check Alignment will print a service nozzle check, to check nozzle alignments.

1. From the **Adjustment Wizard** for the Pro 7800/9800, select **Check Alignment**.



1. Click on the dot size to be checked (**VSD1**, **VSD2**, **VSD3**). Check all 3 to test all 3 dot sizes.

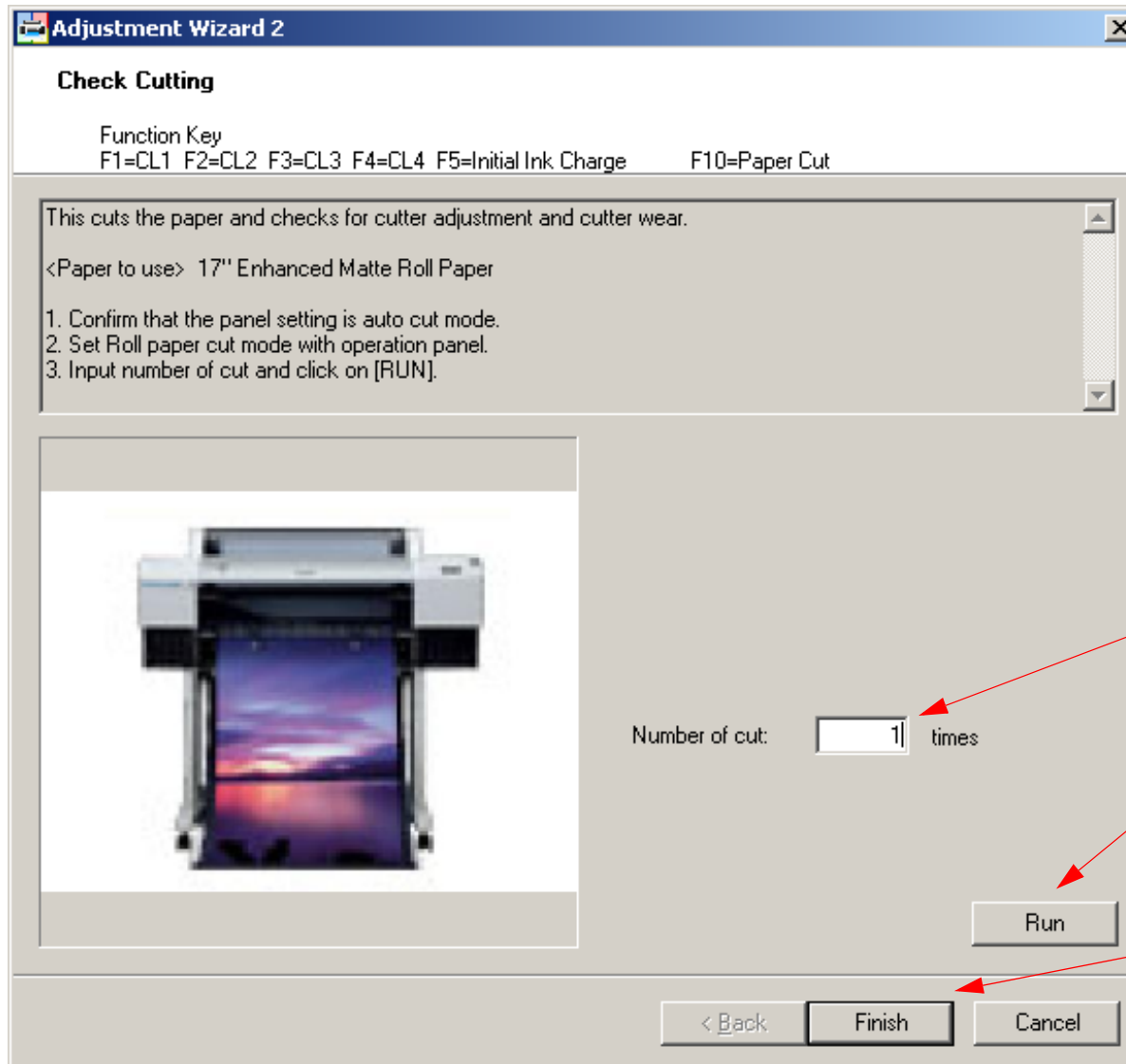
2. Click on **Print**.

3. Click on **Finish**.

# Check Cutting

**Note:** Check Cutting performs a paper cut operation the number of times selected.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Check Cutting**.



1. Load media.

2. Ensure that the **Printer** is set to Roll Paper, Auto Cut enabled

3. Enter the number of times to cut the media.

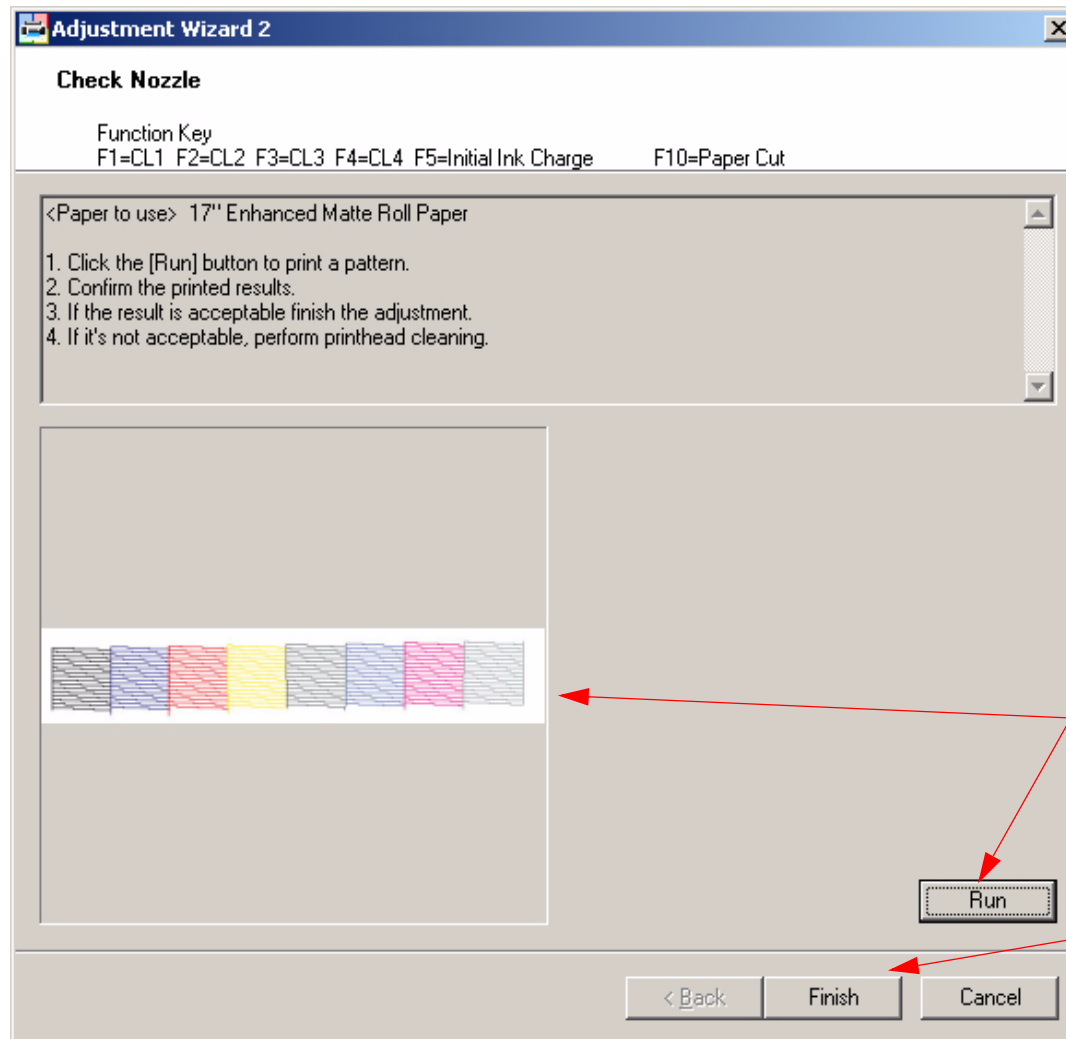
4. Click on **Run** to print the pat-

5. Click on **Finish** when done.

# Check Nozzle

**Note:** Check Nozzle performs a user Nozzle Check.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Check Nozzle**.



1. Load paper.

2. Click on **Run** to print the pattern.

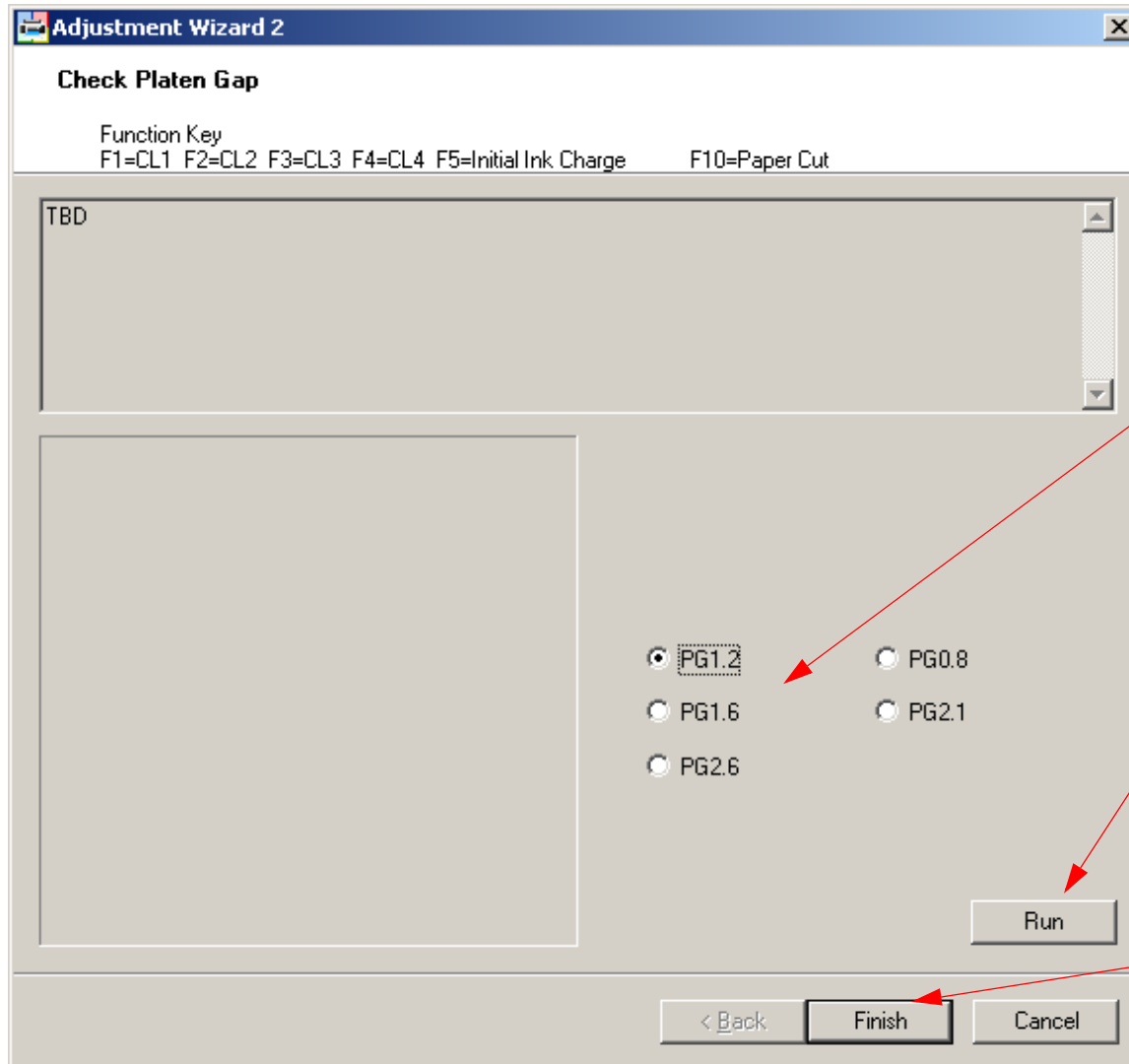
The nozzle check pattern should look like this.

3. Click on **Finish** when done.

# Check Platen Gap

**Note:** *Check Platen Gap* allows physical verification of the proper operation (setting) of the platen gap.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Check Platen Gap**.



1. Click on one of the 5 platen gap choices.

2. Click on **Run**.

3. The **Printer** will set the platen gap chosen.

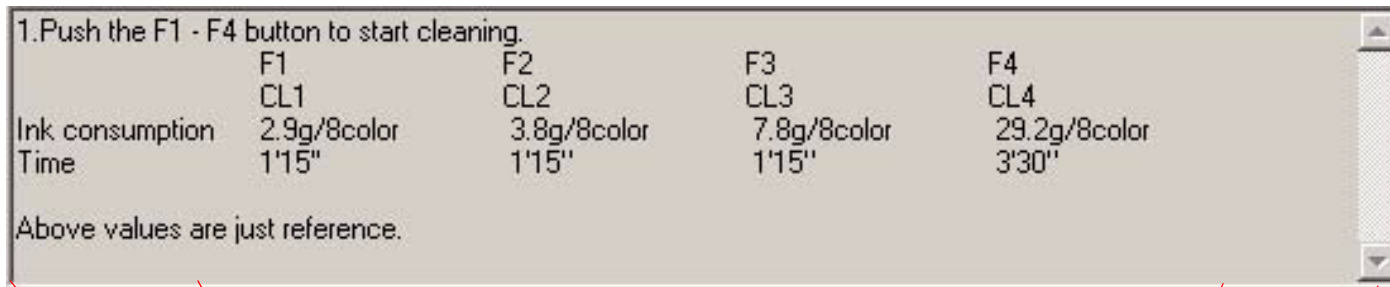
4. Click **Finish** when done.



# Cleaning / Charging (Priming)

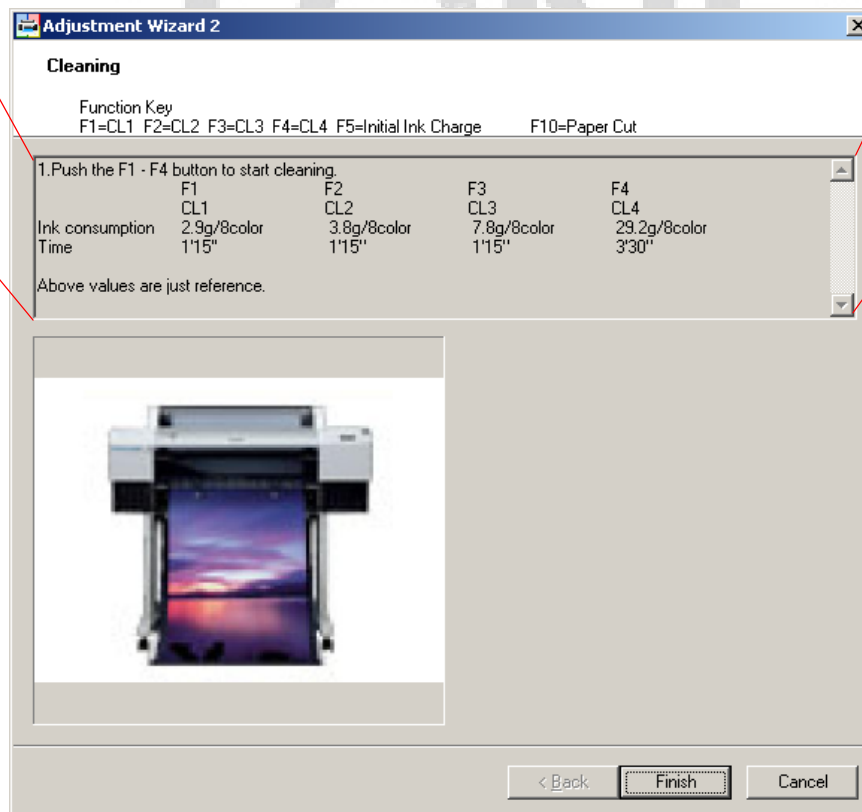
**Note:** *Cleaning explains the function of the various cleaning cycles accessed with the function keys.*

- From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Cleaning**.



**F5** forces a Prime.

**F10** forces a paper cut.

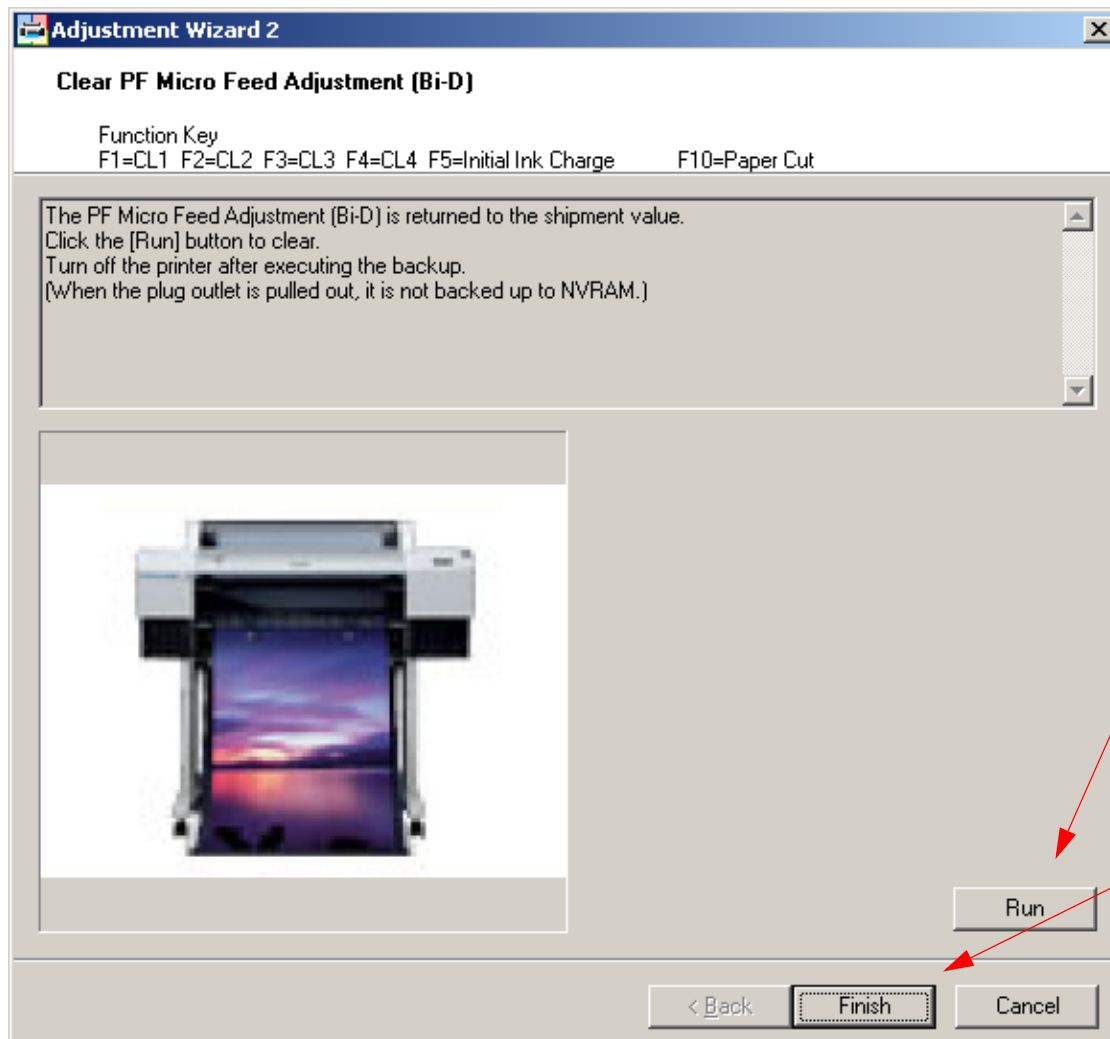


CL1 (5.3ml)  
CL2 (6.3ml)  
CL3 (10.4ml)  
CL4 (?)

## Clear PF Micro Feed Adjustment [Bi-D]

**Note:** The Clear PF Micro Feed Adjustment [Bi-D] resets the user paper feed adjustments that modifies the paper feed tables. It should be reset every time the 980mm Adjustment is performed.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Clear PF Micro Feed Adjustment [Bi-D]**



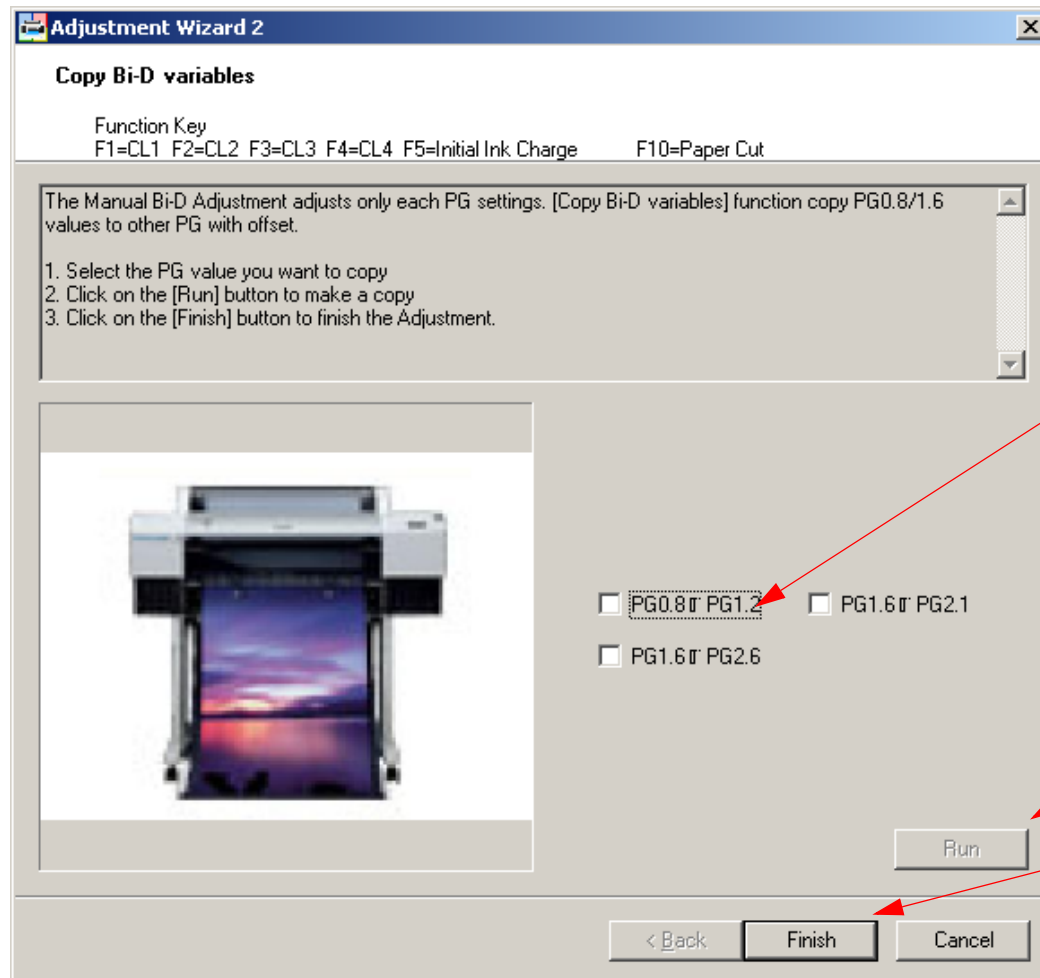
1. Click on **Run**.

2. Click on **Finish**.

# Copy Bi-D Variables

**Note:** Copy Bi-D Variables transfers the data from the Manual Bi-D Adjustment at standard platen gap, to the memory locations that correspond to the other 3 platen gaps. The ink must travel different distances for each platen gap, and the timing must be adjusted to compensate for the different “flight times”.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Copy Bi-D Variables**.



1. Click on the 3 Check Boxes

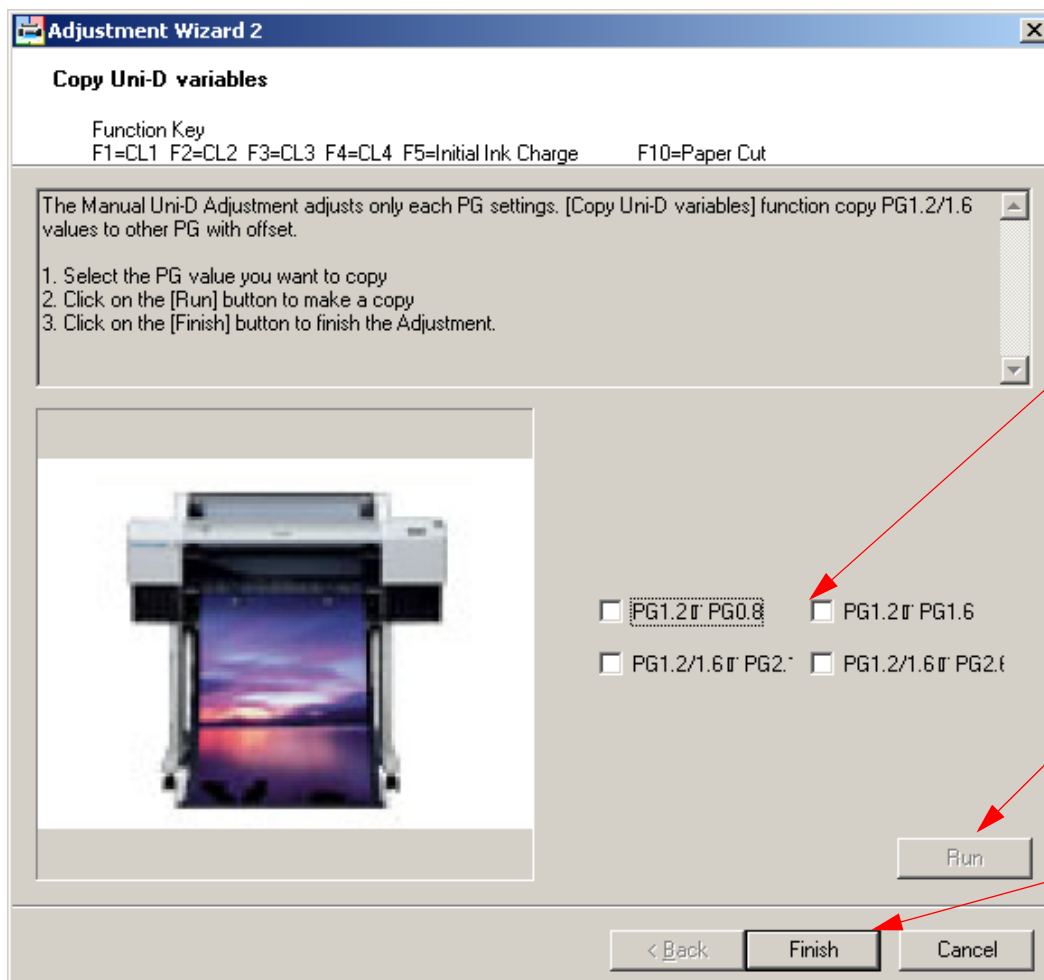
2. Click on **Run**.

3. Click on **Finish**

# Copy Uni-D Variables

**Note:** Copy Uni-D Variables transfers the data from the Manual Uni-D Adjustment at standard platen gap, to the memory locations that correspond to the other 4 platen gaps. The ink must travel different distances for each platen gap, and the timing must be adjusted to compensate for the different “flight times”.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Copy Uni-D Variables**.



1. Click on the 4 Check Boxes

2. Click on **Run**.

3. Click on **Finish**

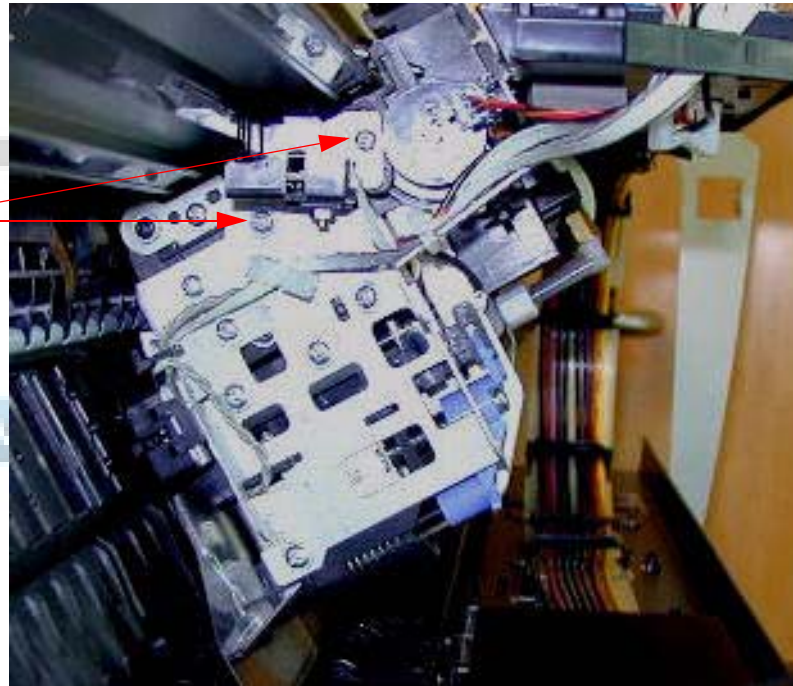
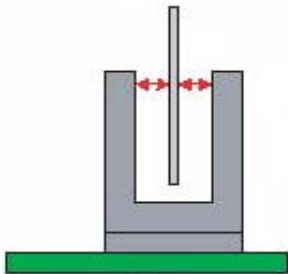


# CR Encoder Sensor Position Adjustment

**Purpose:** The **Carriage Encoder Sensor Position** Adjustment is used to ensure that the **Carriage Encoder Timing Strip** is centered in the **Carriage Encoder Sensor** across the entire length of the **Printer Mechanism**.

1. Remove the **Top and Left Side Cover**.
2. Adjust the **Carriage Encoder Sensor**, until it is centered on the **Carriage Encoder Strip**.

1. Loosen **2 Screws** so that the **Carriage Encoder** can be shifted forward and back.



2. Sight down the **Encoder Strip** and adjust the position of the **Carriage Encoder** until it is centered on the **Encoder Strip**.

Note: Move the **Carriage Assembly** and sight down the **Strip**. If the **Encoder** is not centered, the **Strip** will subtly shift position. Adjust until the shifting is minimized.

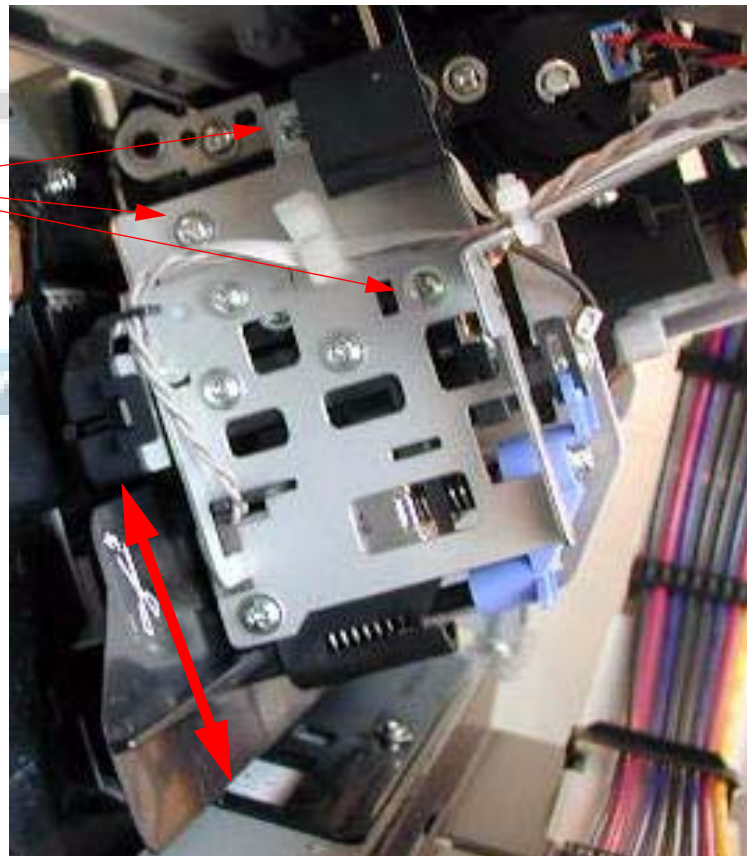
3. Tighten **2 Screws** when adjusted.

# Cutter Blade Position Adjustment

**Note:** *The Cutter Position Adjustment sets the Cutter Blade .5mm away from the Cutter Guide. If the Cutter Position Tool is not available, adjust the Cutter Blade until it almost, but does not touch the Cutter Guide along the entire length of the Platen.*

1. Remove the **Top Cover**.
2. Loosen **3 Screws** that fasten the **Cutter Blade Assembly**.

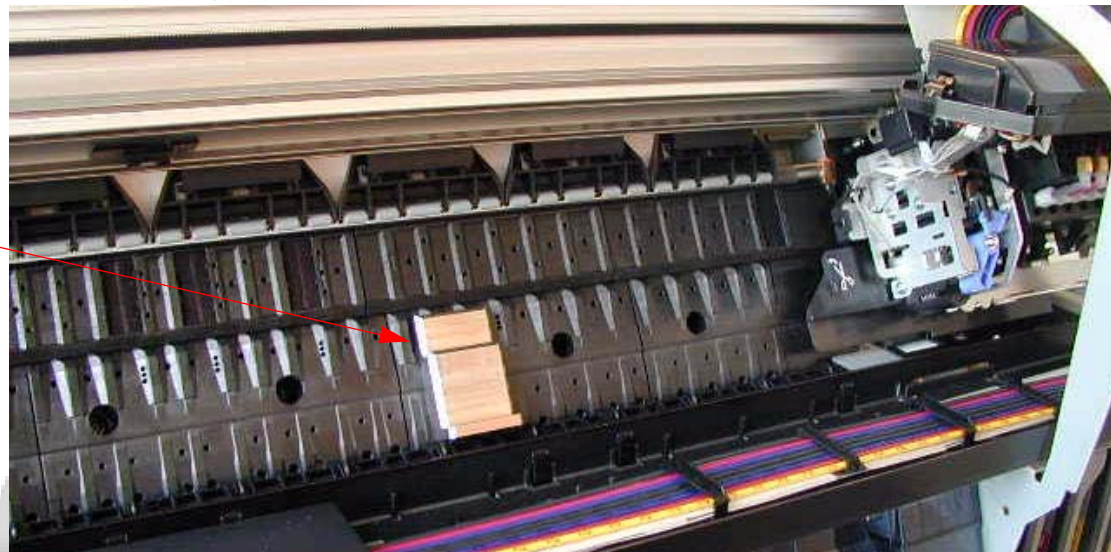
Loosen these **3 Screws** until the **Cutter Blade Assembly** can move in the directions shown by the red arrows.



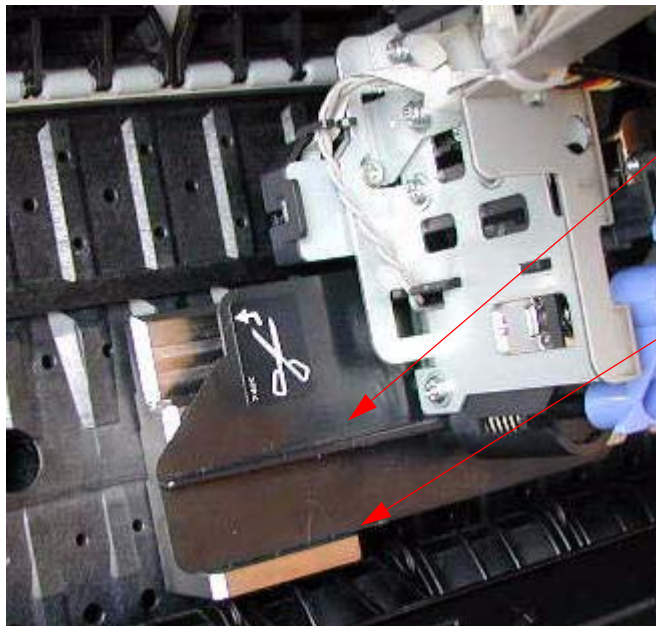


3. Place the **Cutter Blade Assembly Adjustment Tool** on the **Platen** as shown.

Place the **Cutter Blade Assembly Adjustment Tool** here.



4. Move the Carriage Mechanism until the **Cutter Blade Assembly** is positioned over the **Cutter Blade Assembly Adjustment Tool**, and follow the directions below.

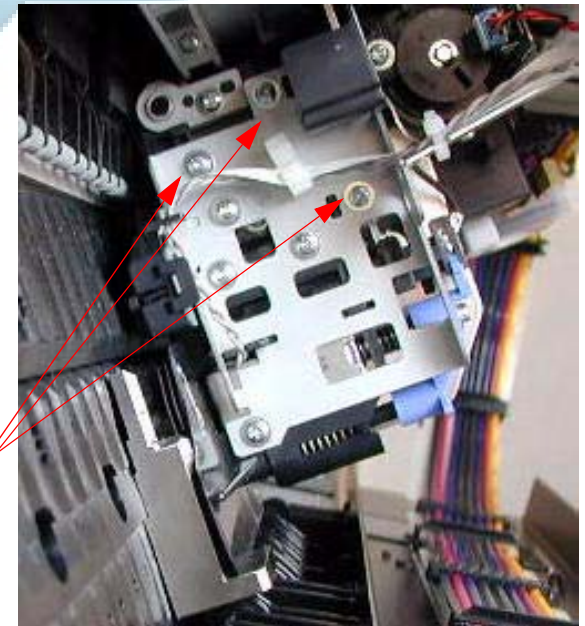


1. Place the **Cutter Blade Assembly** over the **Tool**, and ensure that it is positioned as shown, with the **Bottom Edge** making contact with the **Tool**.

Parallel contact between the assembly and tool.

2. Tighten these **3 Screws** while the **Cutter Blade Assembly** is still in contact with the **Tool**.

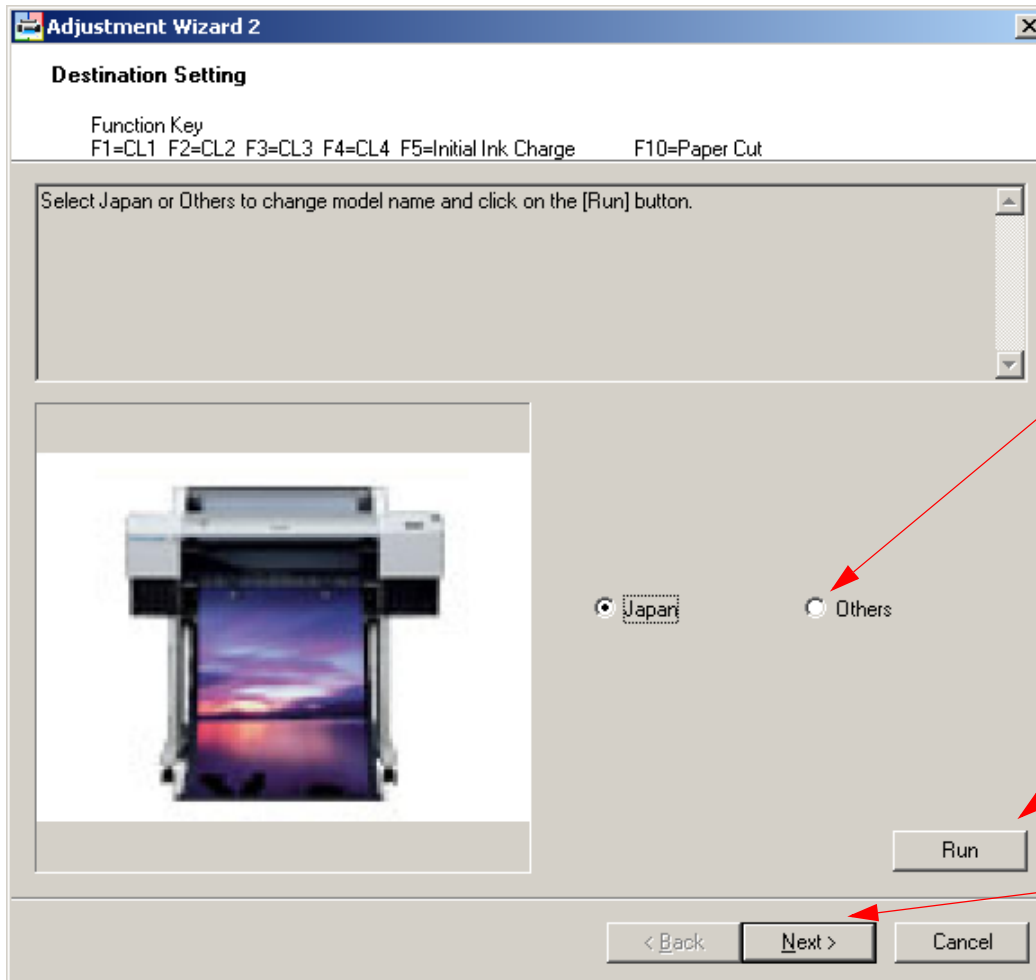
3. Move the **Carriage Assembly** back to the capped position.



# Destination Setting

**Note:** Destination Setting will write Stylus Pro 7800 / 9800 to the Main Board (Plug and Play name).

1. From the **Adjustment Wizard** for the Pro 7800/9800, select **Destination Setting**.



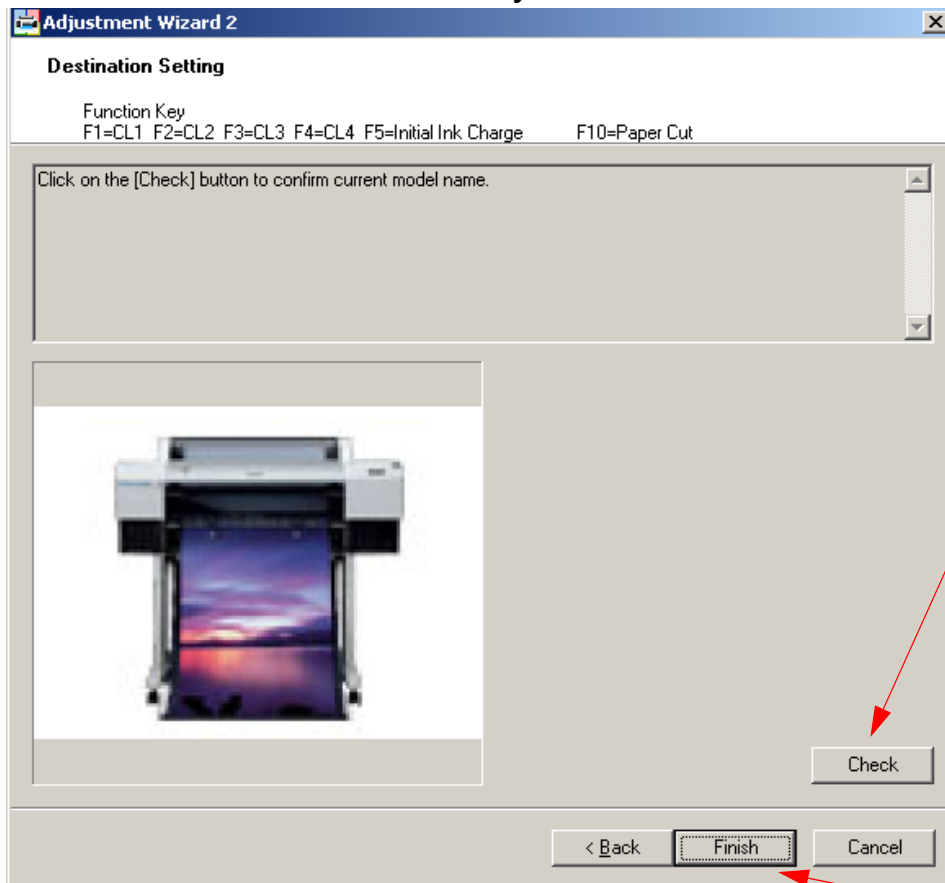
1. Click on **Other**.

2. Click on **Run**.

3. Click on **Next**

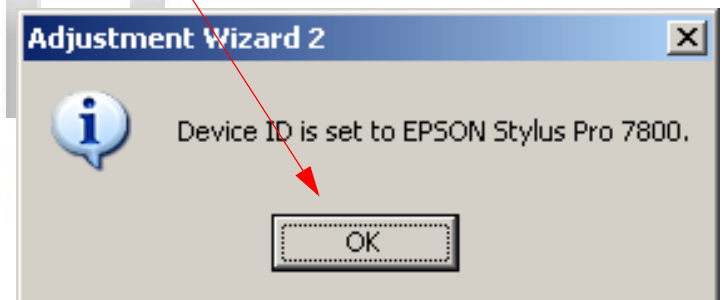


## 2. Click on **Check** to verify the current name.



1. Click on **Check**.

2. Verify the Printer is named **Epson Stylus Pro 7800 / 9800**, then click on **OK**.



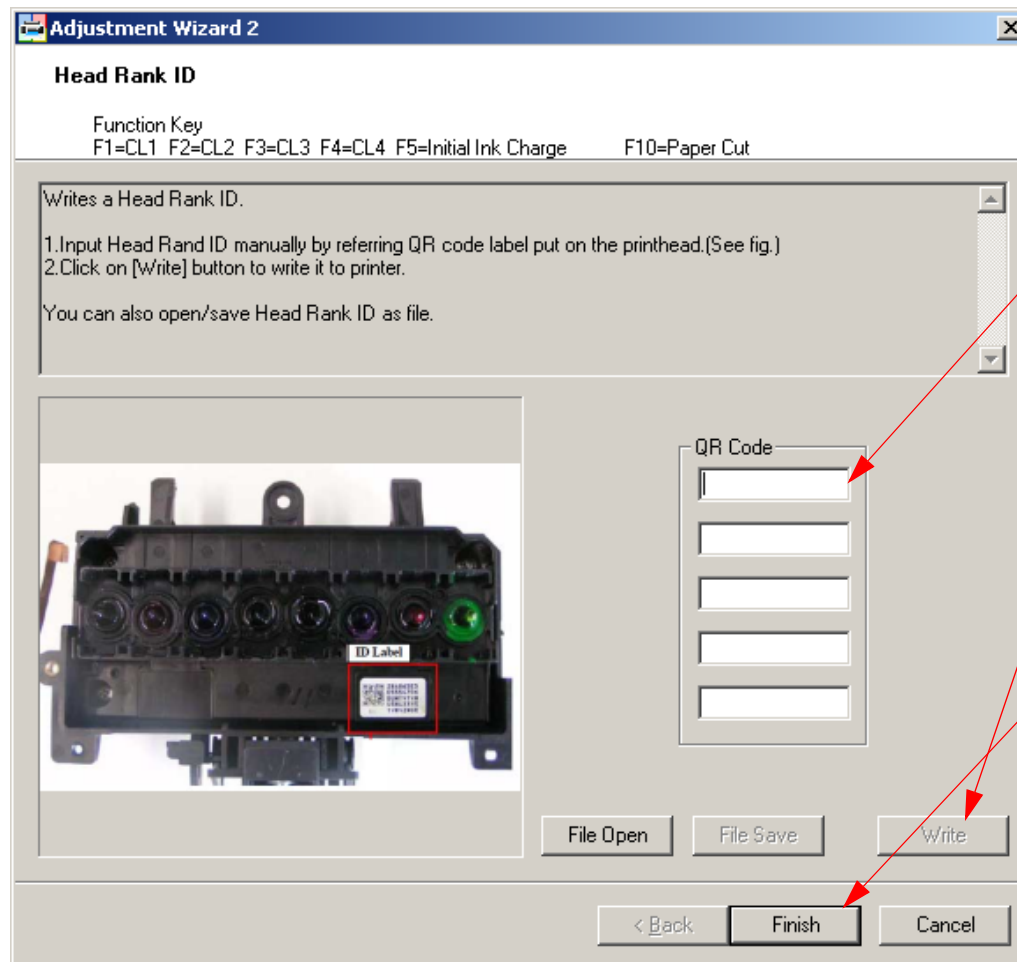
3. Click on **Finished**

# Head Rank ID

**Note:** The Head Rank ID Adjustment 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. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Head Rank ID**.



1. Enter the Head Rank data located on the **Print Head**.

2. Click on the **Write** button.

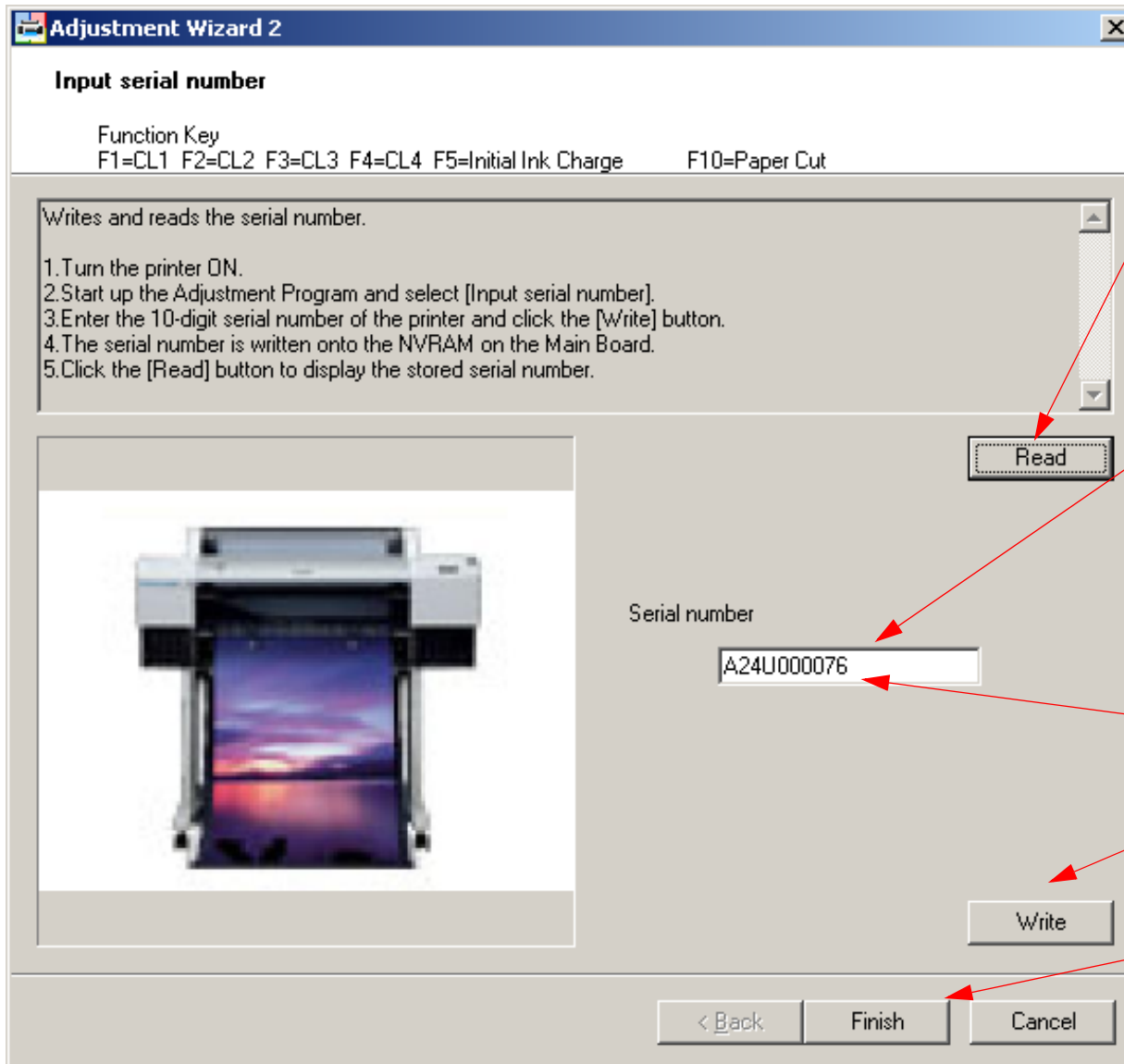
3. Click on the **Finish** Button.

**Note:** If the utility displays:  
**“Incorrect Head Rank ID [QR Code] Input”**, one or more of the digits entered is incorrect. Check that an Zero was not entered as a O, etc.

# Input Serial Number

**Note:** *Input Serial Number reads or writes the Printer's serial number to the Main Board.*

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Input Serial Number**.



## To Read Serial Number

1. Click on **Read**, to retrieve the **Printer's** serial number from the **Main Board**.

The **Printers** serial number will be displayed here.

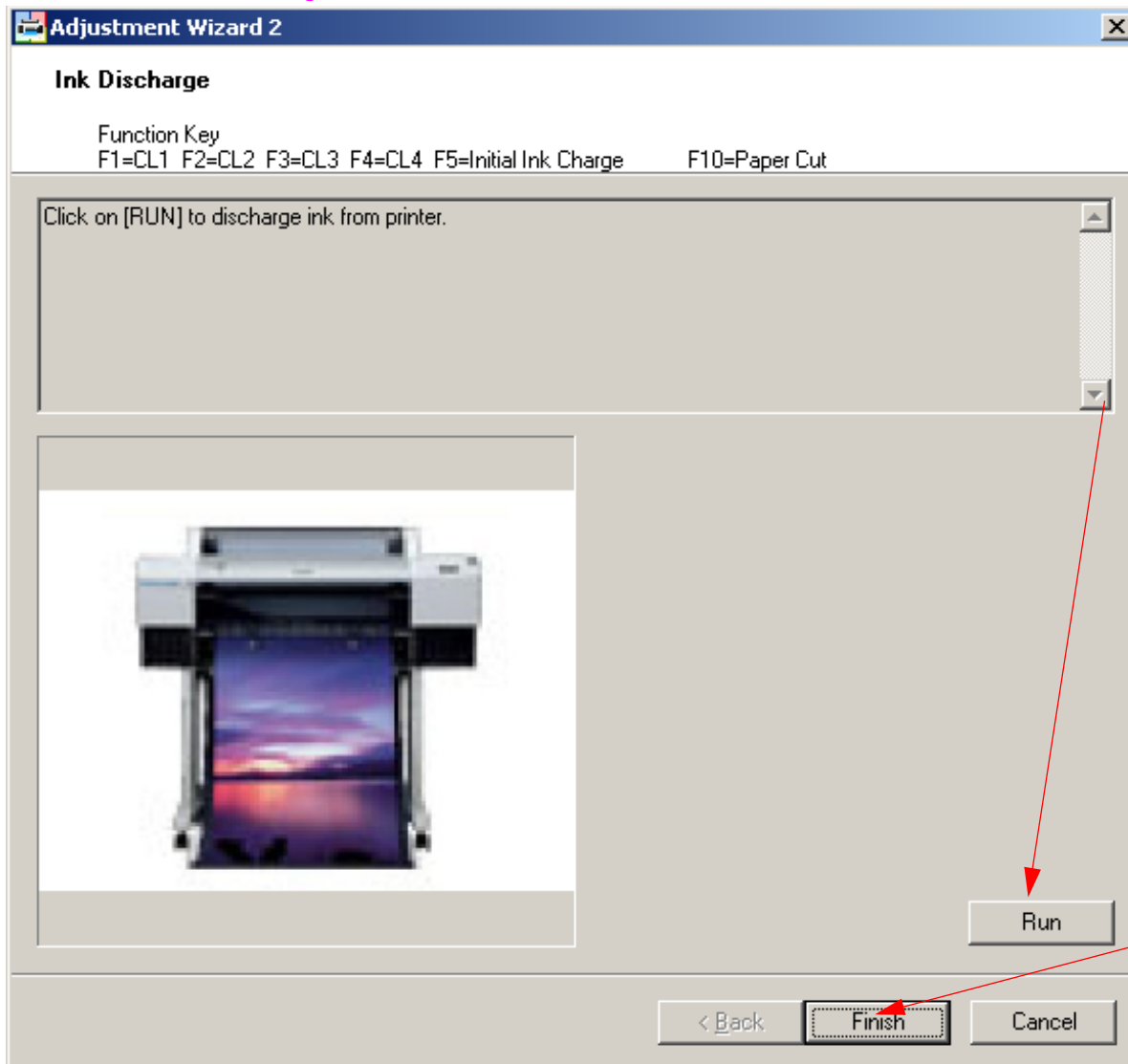
## To write Serial Number

1. Enter the **Printer's** Serial Number.
2. Click on **Write**.
3. Click on **Finish** when completed.

# Ink Discharge

**Note:** Ink Discharge sets the Initial Charge Flag. The Printer will prime the next time it is turned on.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Ink Discharge**.



1. Click on

2. Click on **Finish** when completed.

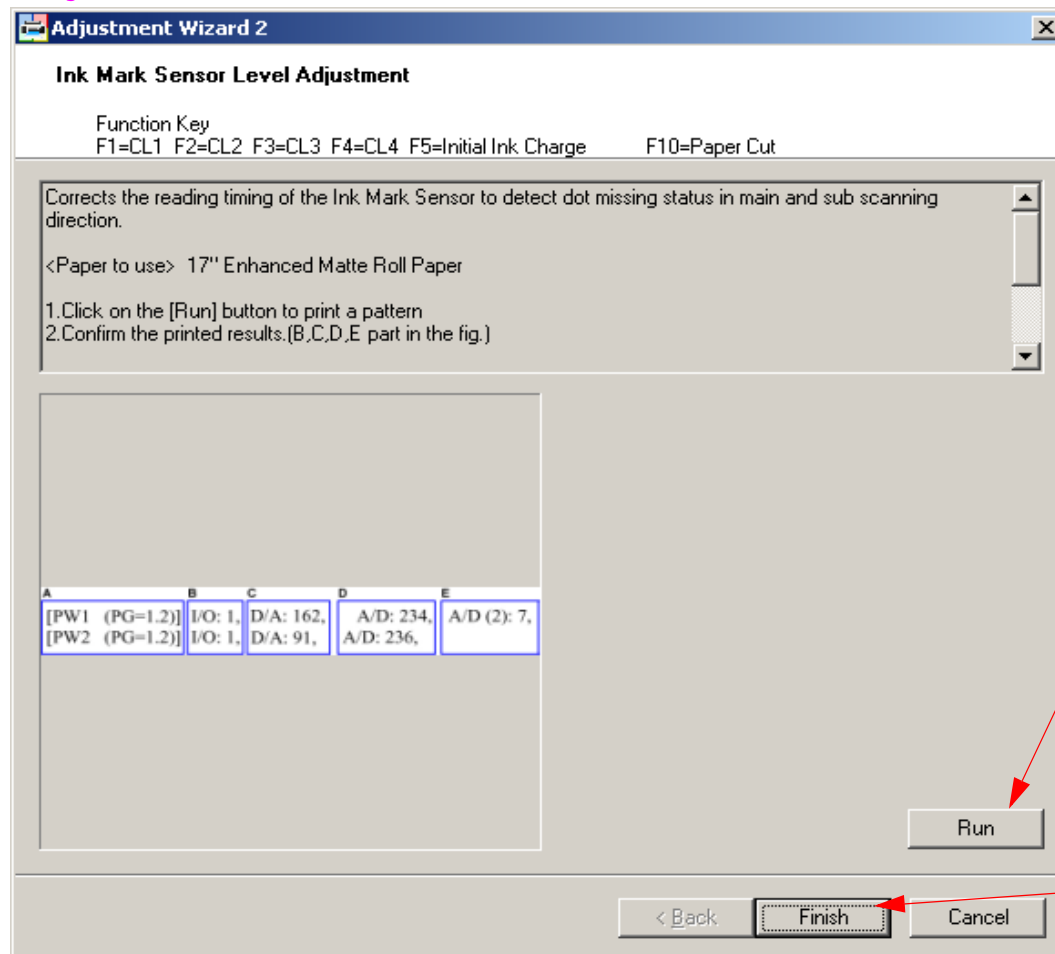


# Ink Mark Sensor Level Adjustment

**Note:** This adjustment sets the “White Level” for the EdgeAD Sensor (sensitivity calibration).

**Note:** This adjustment should be titled EdgeAD Sensor Level Adjustment.

1. Load 24” Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800/9800, select the **Ink Mark Sensor Level Adjustment**

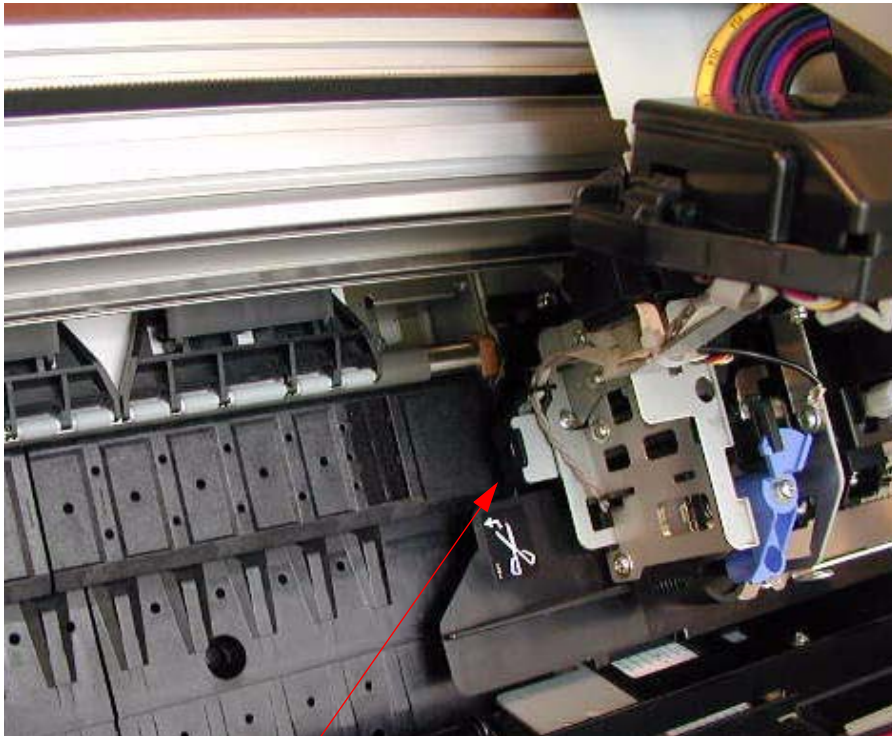


1. Click on the **Run** button.
2. The **Printer** will sample the paper with the **EdgeAD Sensor** to set a reference level.
3. The Printer will print out the data that was written to the board. It will look like this.
4. Click the **Finish** button.

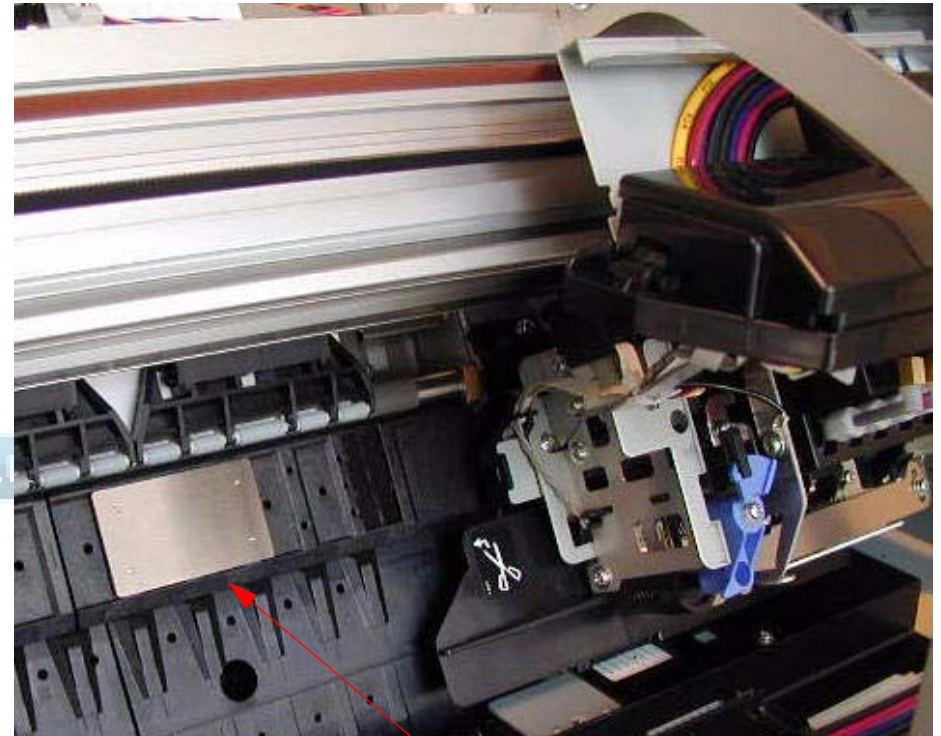
# IM (Ink Mark) Sensor Position Adjustment

**Note:** This mechanical adjustment fixes the physical position of the Ink Mark Sensor. The Ink Mark Sensor is used for Auto Alignments and Auto Nozzle Check.

1. Place the **IM Sensor Adjustment Tool** as shown below. The **IM Sensor Adjustment Tool** is 3mm thick.

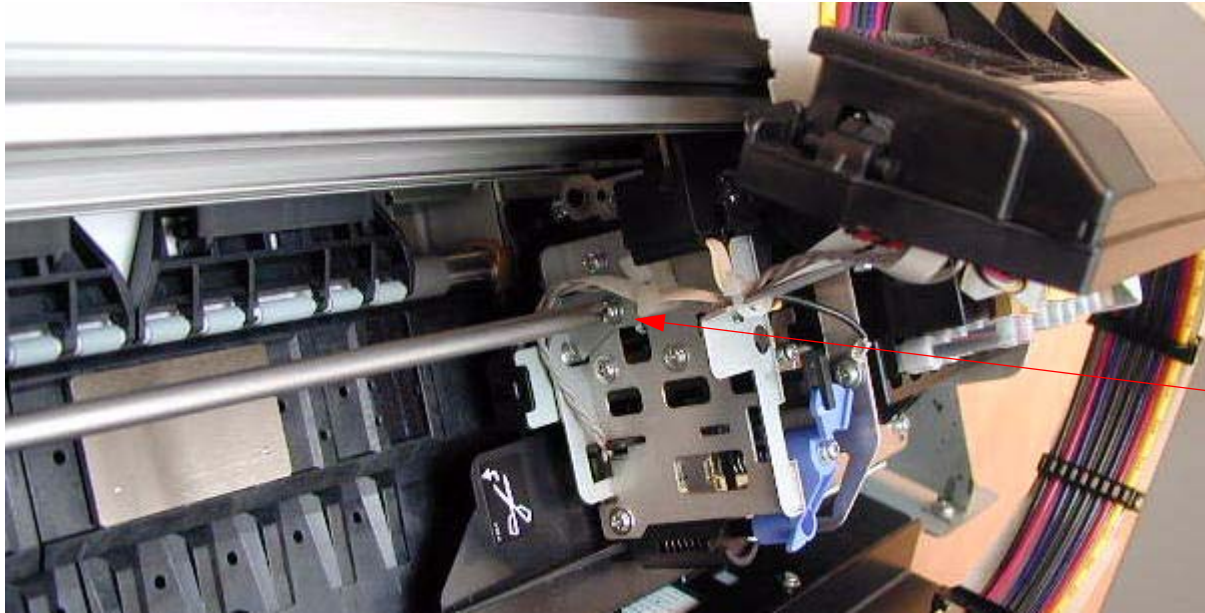


**Carriage** at the capped position, at the gap that is set when the **Printer** is powered off.



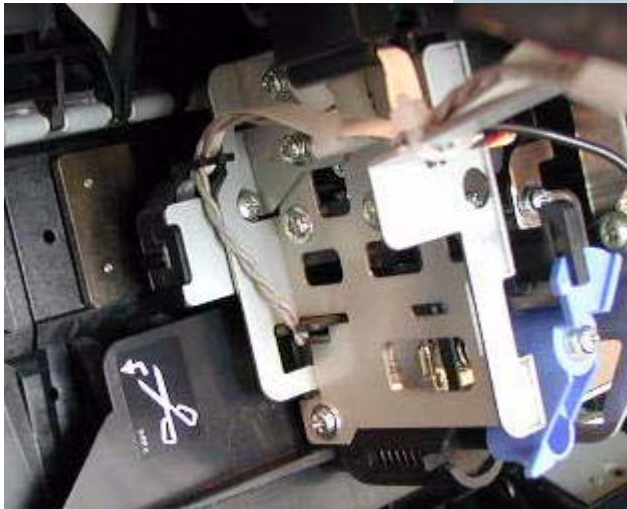
Place the **IM Sensor Adjustment Tool** here. Use a 3mm feeler gauge if the **IM Sensor Adjustment Tool** is not available.

2. Loosen the **IM Sensor Set Screw**, until the **IM Sensor** can be moved closer to, or farther from the **Platen**

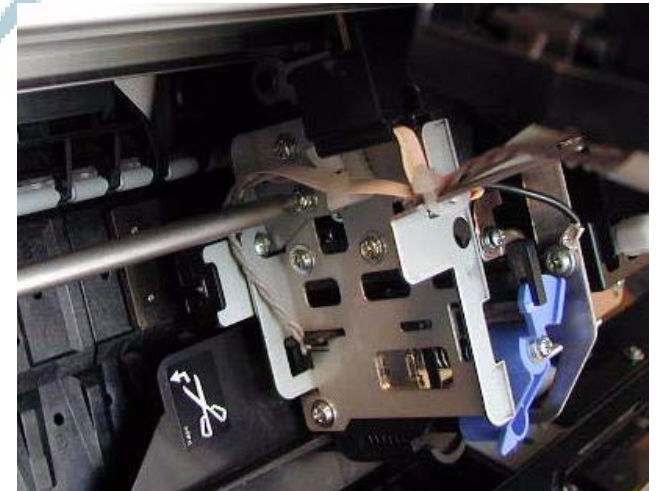


Loosen this Screw, until the **IM Sensor** can move closer to, or farther from the **Platen**

3. Move the **IM Sensor** over the **IM Sensor Adjustment Tool**



1. Move the **Carriage / IM Sensor** over the **IM Sensor Adjustment Tool**.
2. Move the **IM Sensor** until it touches the **IM Sensor Adjustment Tool**
3. Tighten the **IM Sensor Set Screw**.
4. Move the **Carriage** back to the capped position.

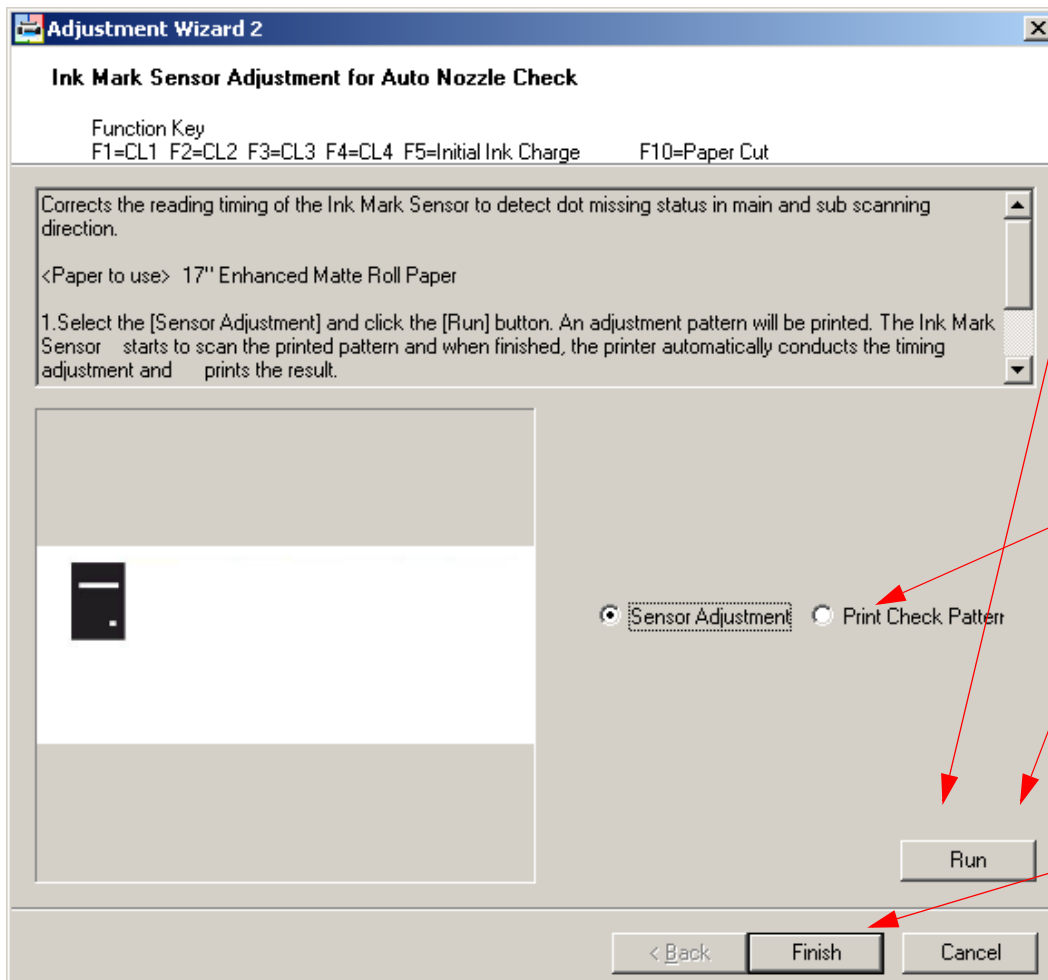




# Ink Mark Sensor Adjustment for Auto Nozzle Check

**Note:** The *Ink Mark Sensor Adjustment for Auto Nozzle Check* calibrates the Auto Nozzle Check function.

1. Load 24" Doubleweight roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Ink Mark Sensor Adjustment for Auto Nozzle Check**.



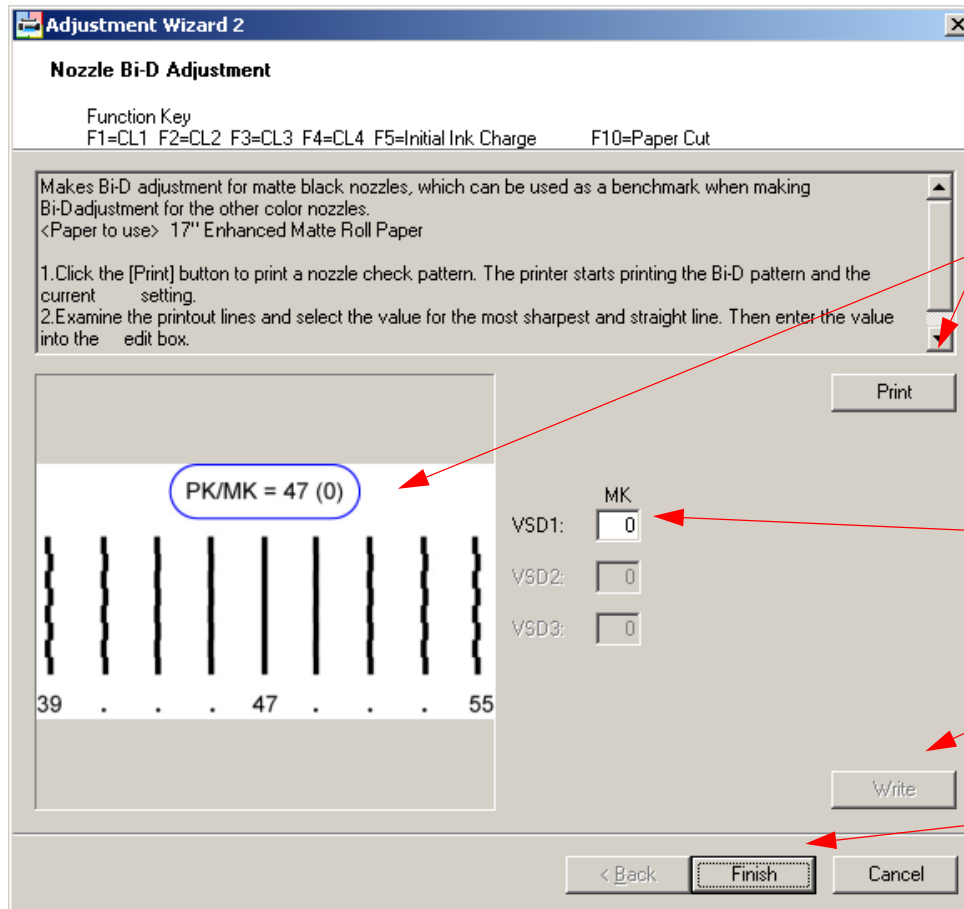
1. Click on the **Run** button.
2. The **Printer** will print out these patterns.
3. The **Printer** will read the alignment patterns automatically (using the **Ink Mark Sensor**), and write the appropriate values to the board.
4. Click on the **Print Check Pattern** button.
5. Click on the **Run** button.
6. The Printer will Print a check pattern, followed by a nozzle check pattern.
7. Click the **Finish** button.



# Nozzle Bi-D Adjustment

**Note:** The Nozzle Bi-D Adjustment calibrates the Auto Bi-D Adjustment routine.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Nozzle Bi-D Adjustment**.



1. Click on the **Print** button.

2. The **Printer** will print out this pattern.

3. Inspect the pattern and identify the value that represents the most vertically straight line. It is possible to choose an odd number that would represent a value between the even printed

4. Enter the value from step 3 here.

5. Click the **Write** button.

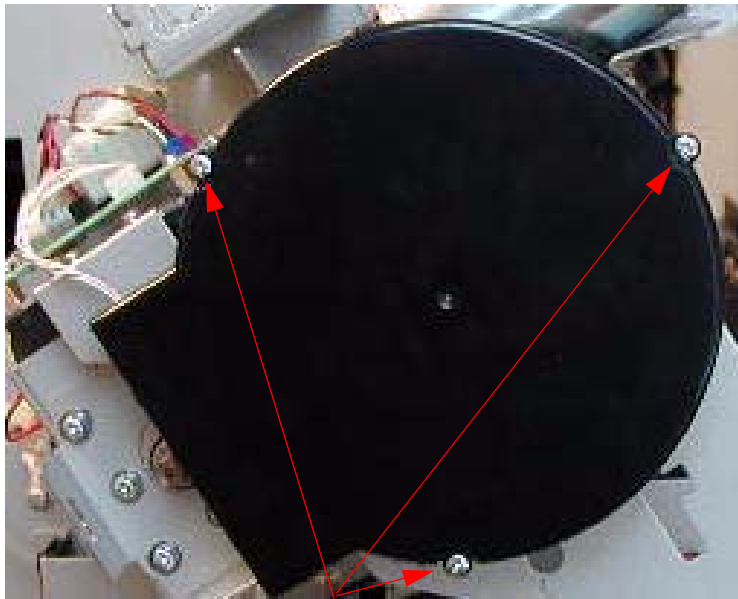
6. Click the **Finish** button.

**Note:** If none of the lines are straight, pick the line that is closest to straight, and write the value. Then reprint and try again. Each time the patterns should be closer. Repeat again if necessary, until there is a straight line. Pick and write that value.

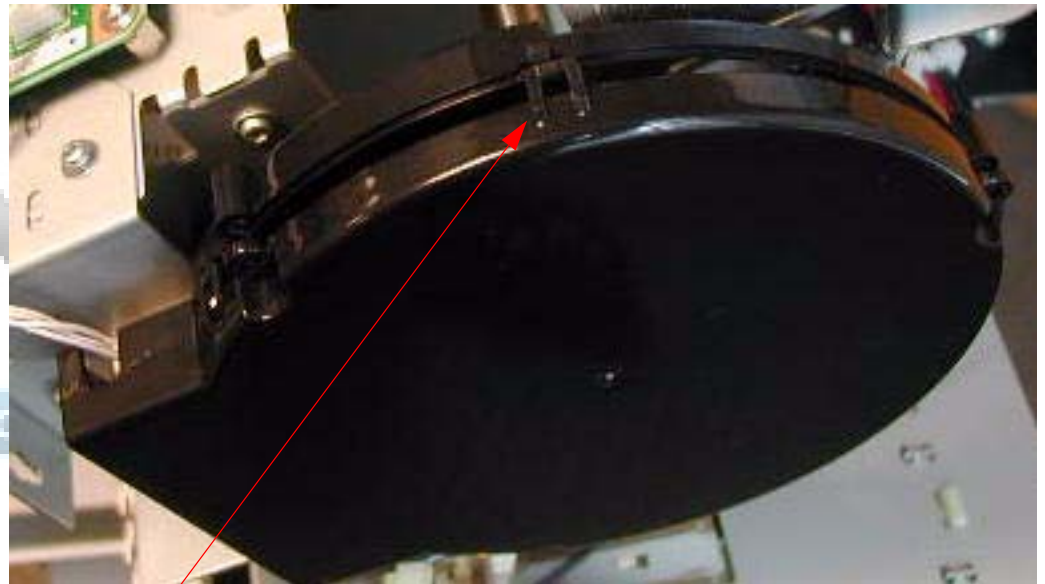
# Paper Feed Belt Adjustment

**Note:** The Paper Feed Belt Adjustment sets the proper Paper Feed Belt tension.

1. Remove the **Left Side Cover**.
2. Remove the **Paper Feed Encoder Scale Cover**.



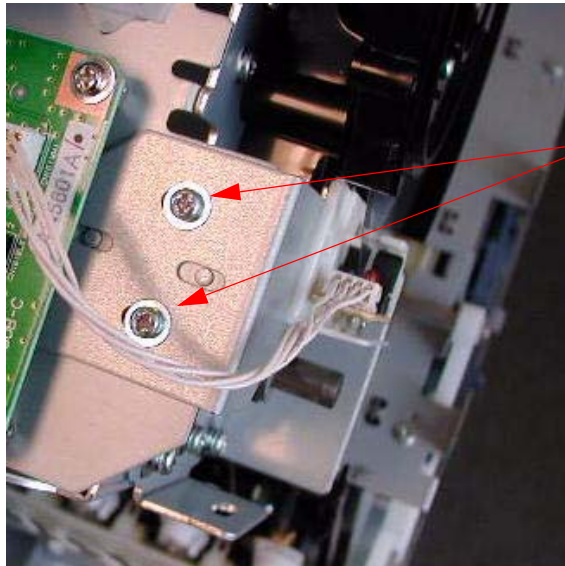
1. Remove **3 Screws**.



2. Release **4 Interlocks**.

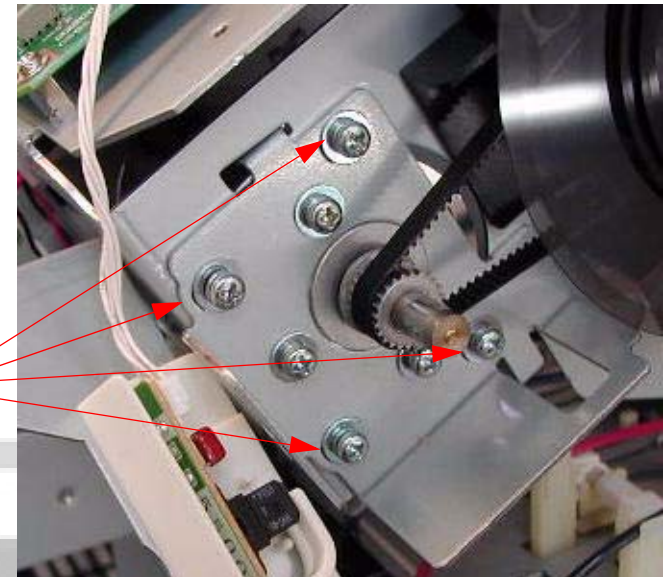
3. Remove the **Cover**.

3. Remove the **Paper Feed Encoder**, and loosen the **Paper Feed Motor Bracket**.

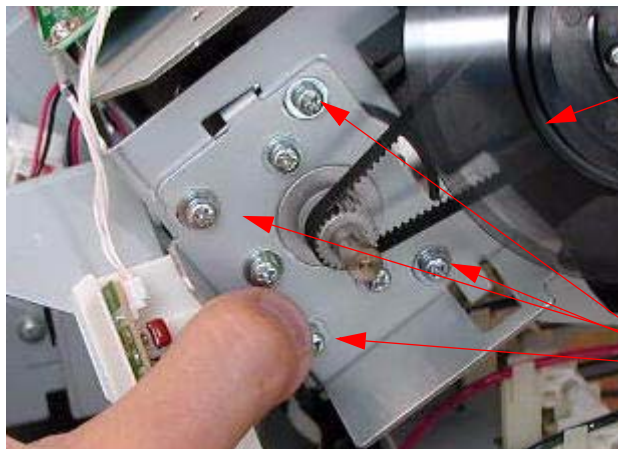


1. Remove **2 Screws** and the **Paper Feed Encoder** and **Bracket**.

2. Loosen **4 Screws** that fasten the **Paper Feed Motor Bracket**.



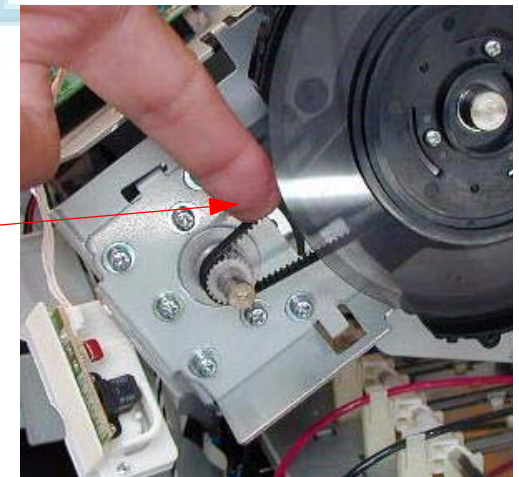
4. Slide the **Paper Feed Motor Bracket** until the **Paper Feed Belt** has 1/8" of deflection.



1. Apply tension to the **Paper Feed Belt** by sliding the **Paper Feed Motor Bracket**.

1/8" of deflection

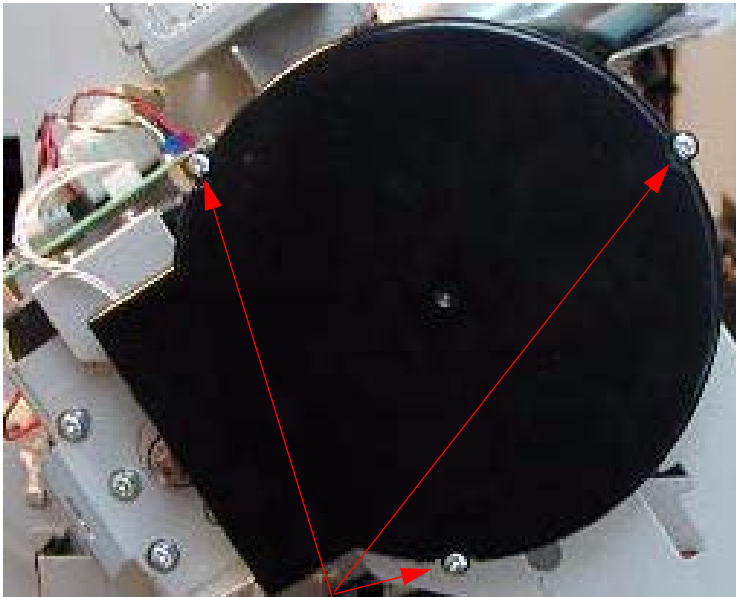
2. Tighten **4 Screws** while maintaining tension.



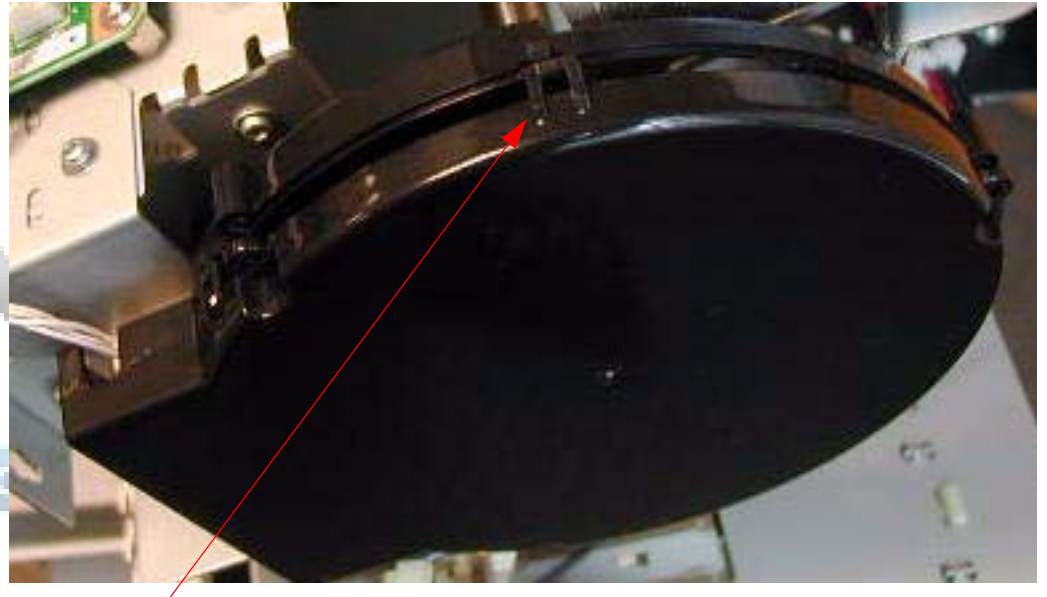
5. Install and align the **Paper Feed Encoder**.
6. Install the **Encoder Scale Cover**, and **Side Cover**.

# Paper Feed Encoder Alignment

1. Remove the ***Left Side Cover***.
2. Remove the ***Paper Feed Encoder Scale Cover***.



1. Remove **3 Screws**.

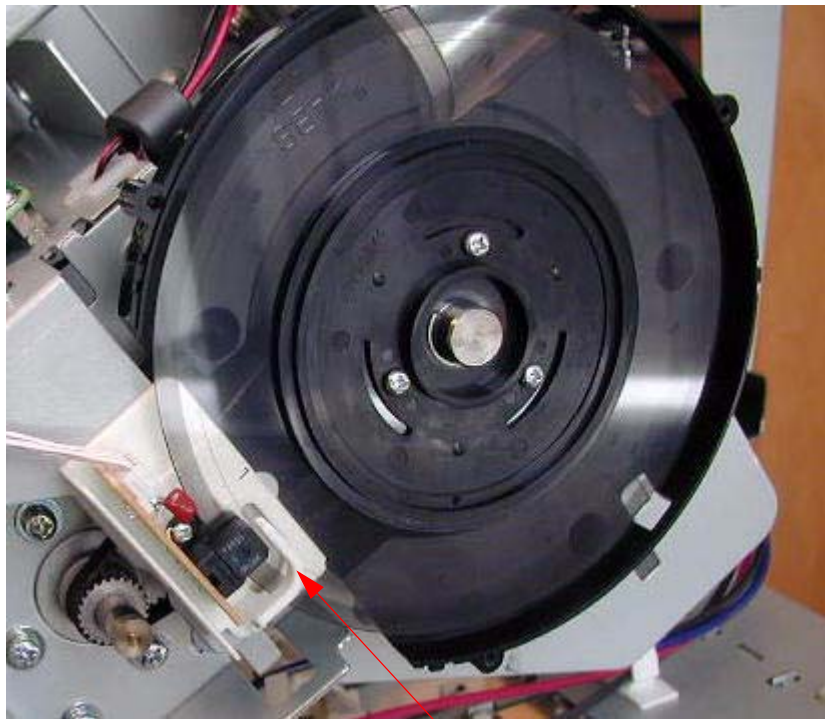


2. Release **4 Interlocks**.

3. Remove the **Cover**.

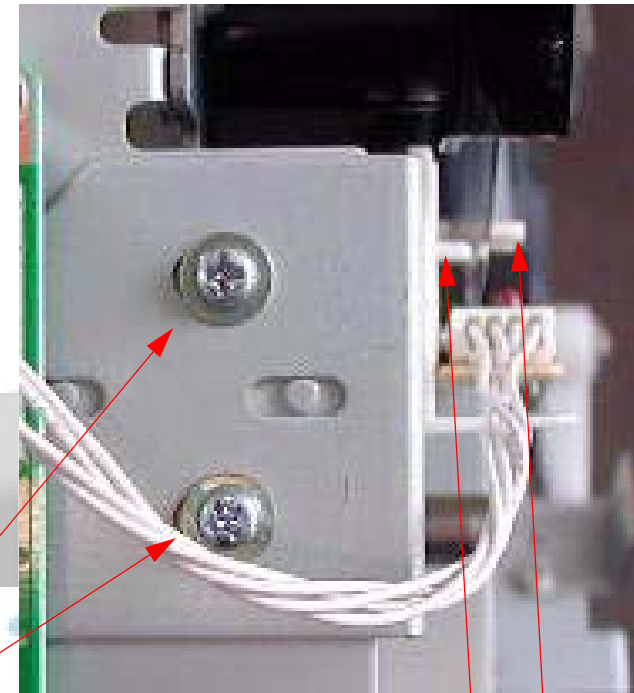


### 3. Center the **Paper Feed Encoder** on the Scale.



The **Paper Feed Encoder Bracket** has two **White Plastic Alignment Guides**. 1 on each side of the **Encoder Scale**.

1. Loosen **2 Screws**.



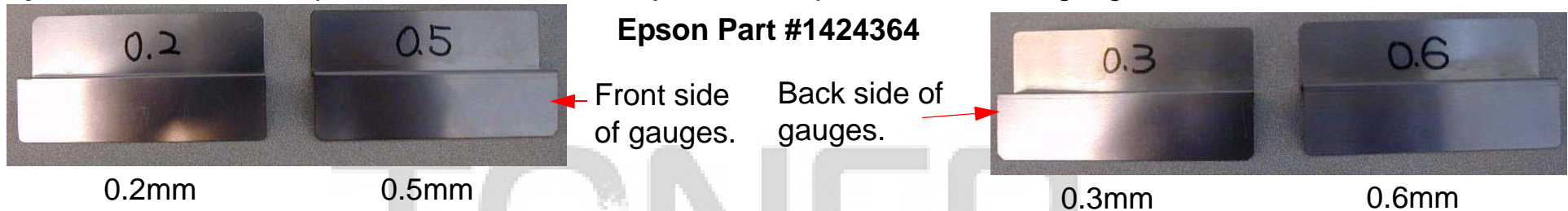
2. Slide the **Paper Feed Encoder Bracket** until the **Encoder Scale** is centered between the **2 White Plastic Guides**.

3. Tighten **2 Screws** when the **Encoder** is centered.

# Paper Thickness Sensor Adjustment

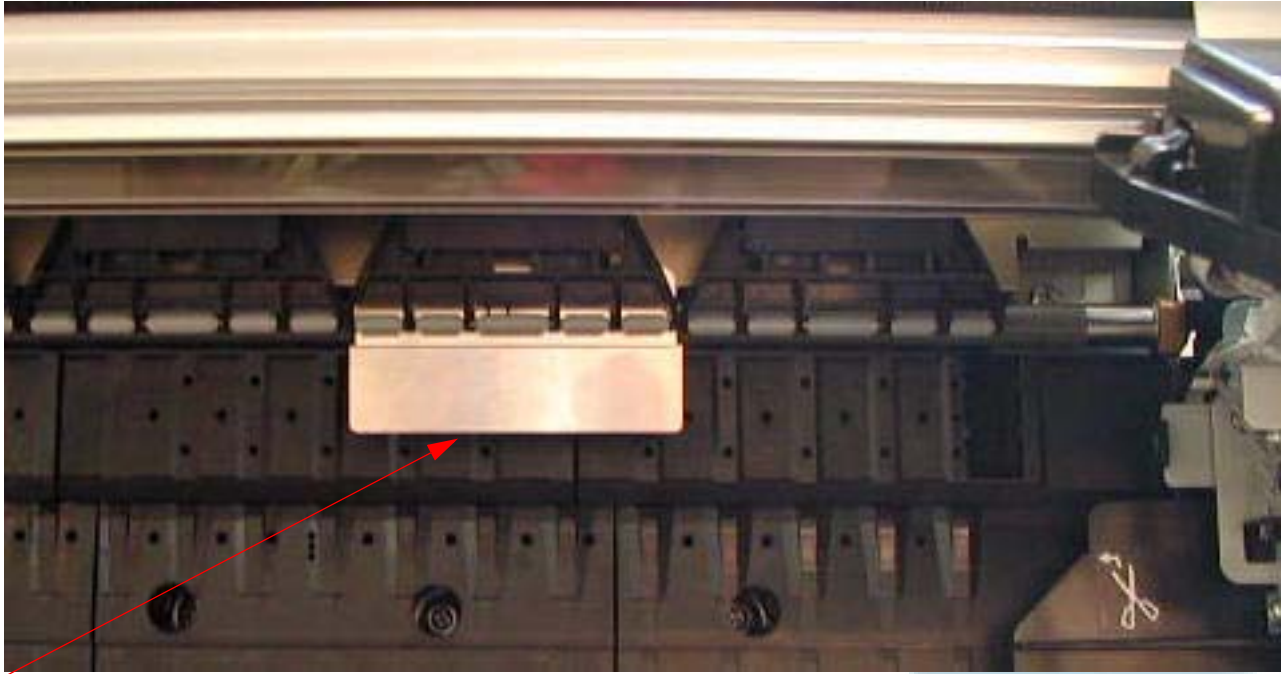
**Purpose:** The **Paper Thickness Sensor** Adjustment calibrates the **Paper Thickness Sensor** so that it correctly recognizes 3 different thickness ranges of media. The **Paper Thickness Sensor** does not measure the thickness of inserted media, it determines the “thickness range” of the media.

**Special Tools:** The Paper Thickness Sensor Adjustment requires 4 thickness gauges.



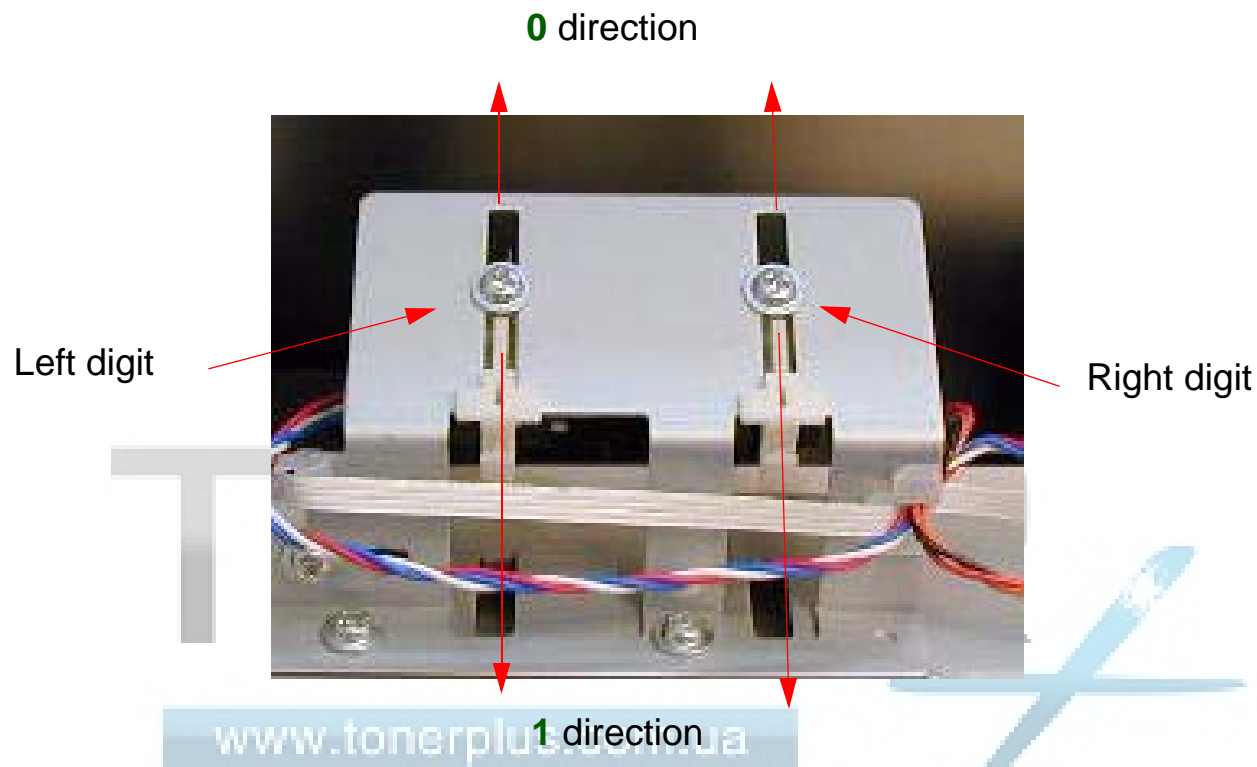
1. Remove the **Top Cover**.
2. Press and hold the **Down**, **Right**, and **Pause** buttons, and turn on the **Printer** (**SERVICEMAN MODE**).
3. Using the **Down** button, navigate to **Self Testing: Test:** and press the **Menu** button.
4. Using the **Down** button, navigate to **Test: Sensor:** and press the **Menu** button.
5. Using the **Down** button, navigate to **Sensor: Paper 00** (May read **01**, **10**, or **11**)

6. Using the **Paper Release Lever**, place the 0.2mm thickness gauge in position.



Place the 0.2mm thickness gauge between the 2nd from the right **Pinch Rollers** and the **Paper Feed Roller**.

7. The the **LCD** display for the **Paper Thickness Sensor** should display the values listed below when the gauges are inserted.
- 7.1 **00** = When the 0.2mm thickness gauge is inserted.
  - 7.1 **10** = When the 0.3mm thickness gauge is inserted.
  - 7.1 **10** = When the 0.5mm thickness gauge is inserted.
  - 7.1 **11** = When the 0.6mm thickness gauge is inserted.



**00** = When the 0.2mm thickness gauge is inserted.

**10** = When the 0.3mm thickness gauge is inserted.

**10** = When the 0.5mm thickness gauge is inserted.

**11** = When the 0.6mm thickness gauge is inserted.

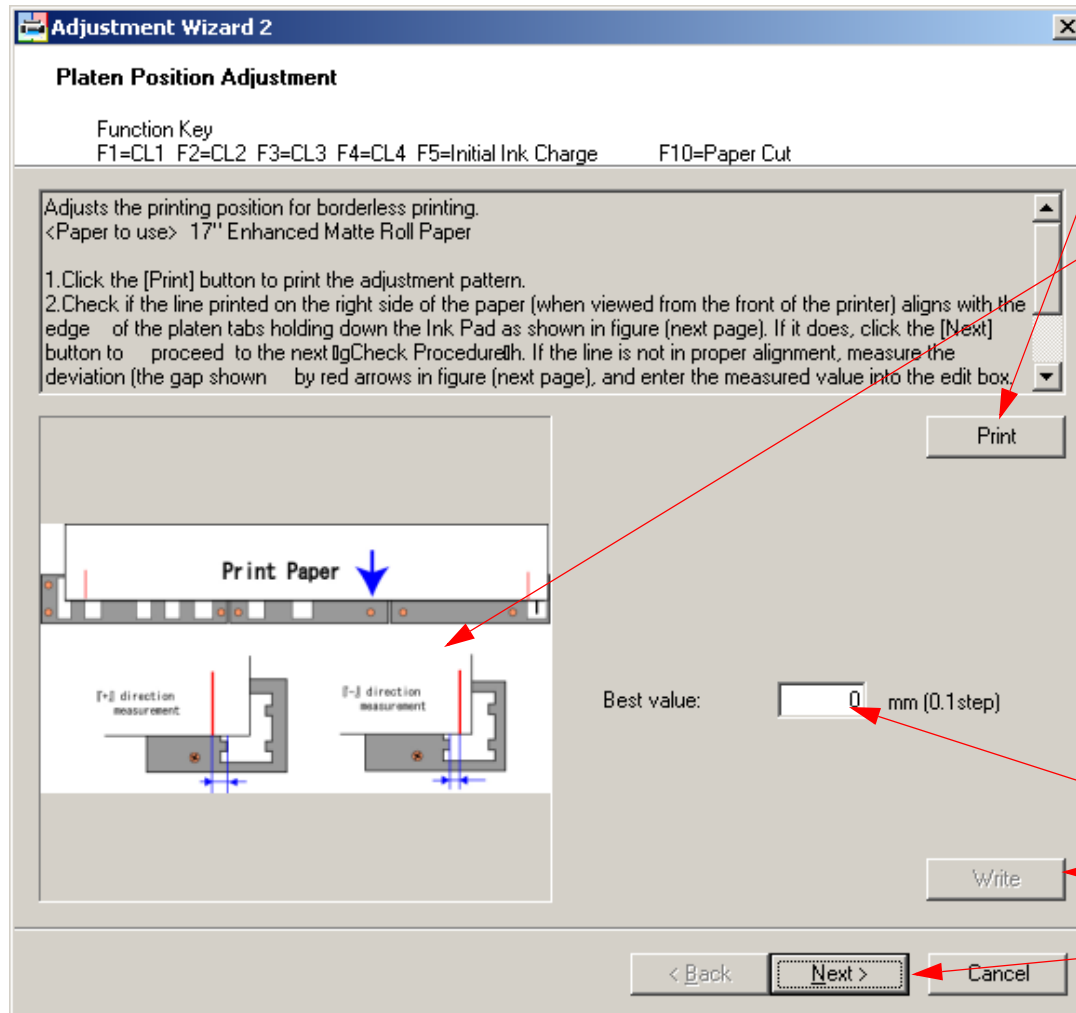
1. Insert the 4 gauges and check that the 4 conditions listed above are true.
2. If the conditions listed are not true, loosen the fastening screws, and move the sensor positions until they are true.



# Platen Position Adjustment

**Note:** The Platen Position Adjustment measures the position of the Borderless “over spray” Pads horizontal location. This is necessary to properly perform borderless printing.

1. Load 24” Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Platen Position Adjustment**.

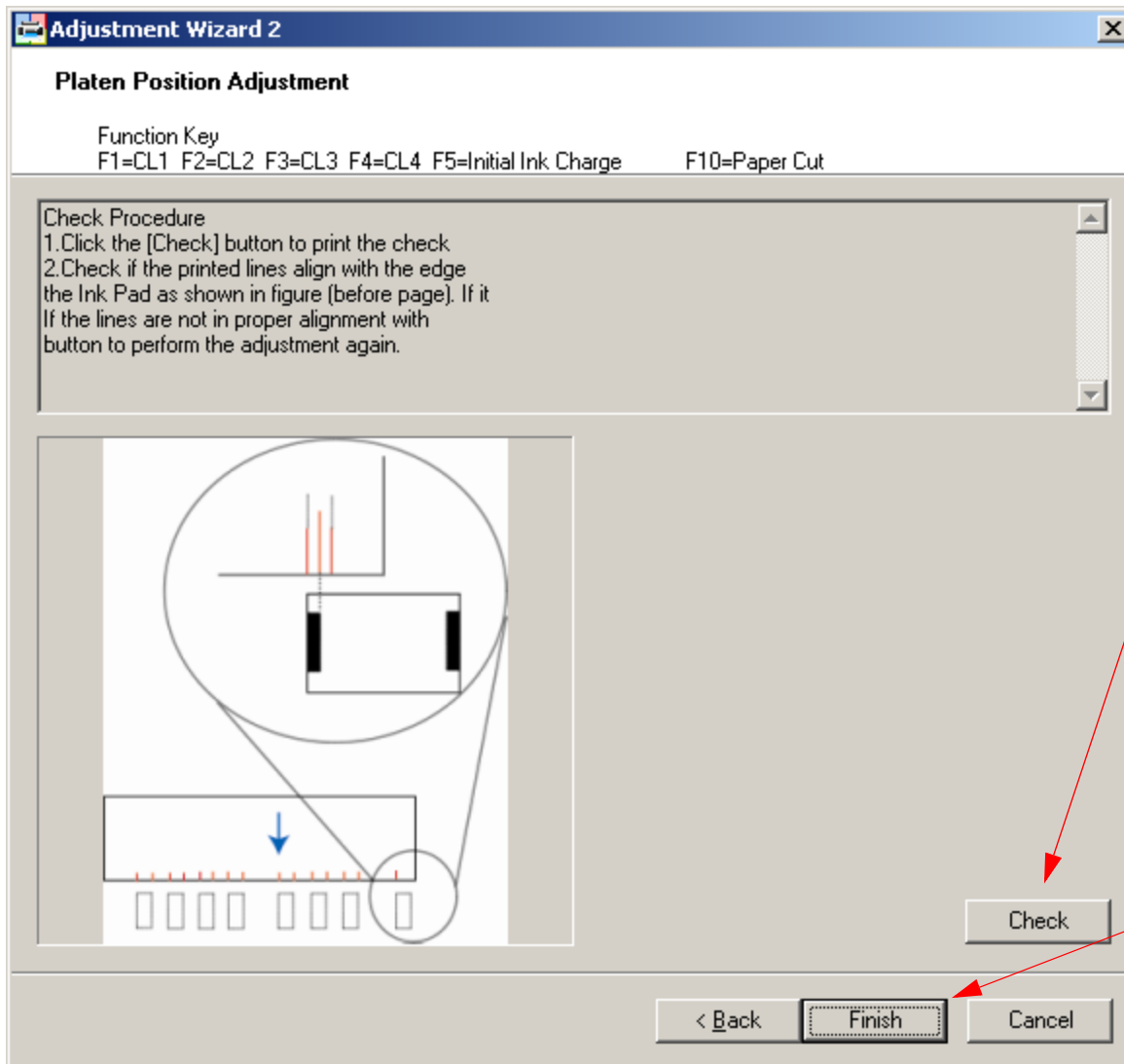


1. Click on the **Print** button.
2. The **Printer** will print the alignment pattern.
3. Measure the distance between the printed line, and the tab at the edge of the borderless printing pad as shown.

**Note:** If the alignment mark is **1mm** to the **right** of the tab at the edge of the borderless pad, the correct offset value would be **1**.

**Note:** If the alignment mark is **1mm** to the **left** of the tab at the edge of the borderless pad, the correct offset value would be **-1**.

4. Enter the offset value.
5. Click on the **Write** button.
6. Click the **Next** button.



7. Click on the **Check** button.

8. The Printer will print and alignment check sheet.

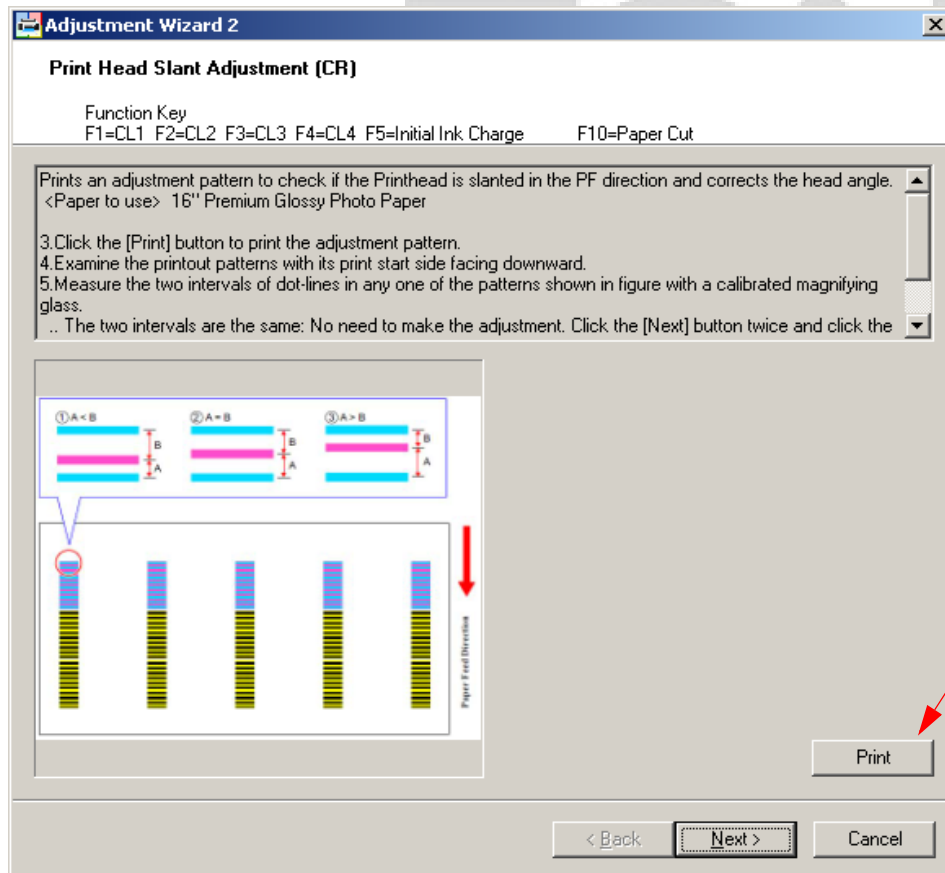
9. Verify that the alignment marks are centered over the Borderless Printing Pads. (If they are not click on the **Back** button and repeat steps 1 - 5.

10. Click on the **Finish** button.

## Print Head Slant Adjustment (CR)

**Note:** The Print Head Slant Adjustment (CR) adjusts the Print Head rotation, ensuring that Nozzle 1 for black is linear with Nozzle 1 for yellow (same vertical position).

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Print Head Slant Adjustment (CR)**.
2. Load 24" Doubleweight Matte roll paper.
3. Print the alignment pattern.

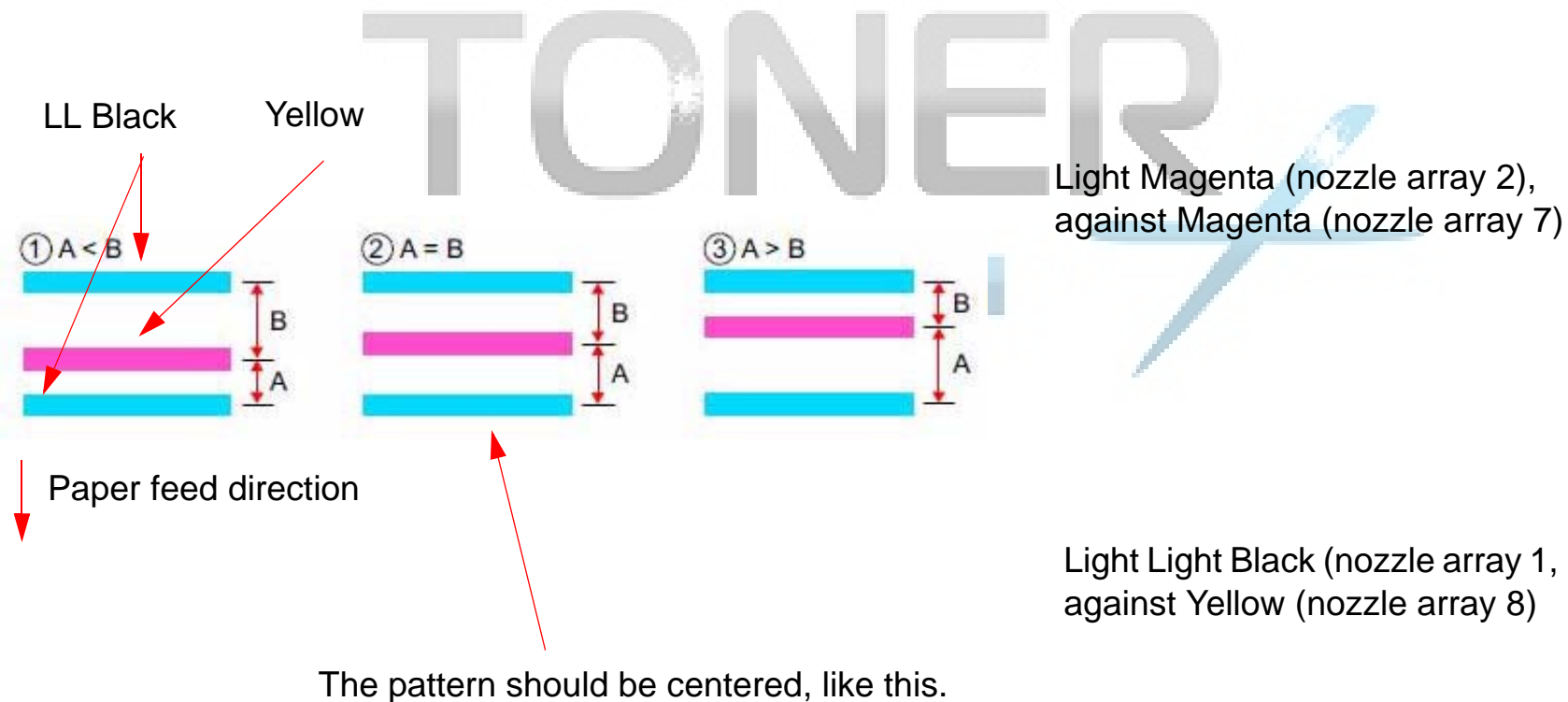


1. Click on **Print**.

#### 4. Inspect the printed pattern.

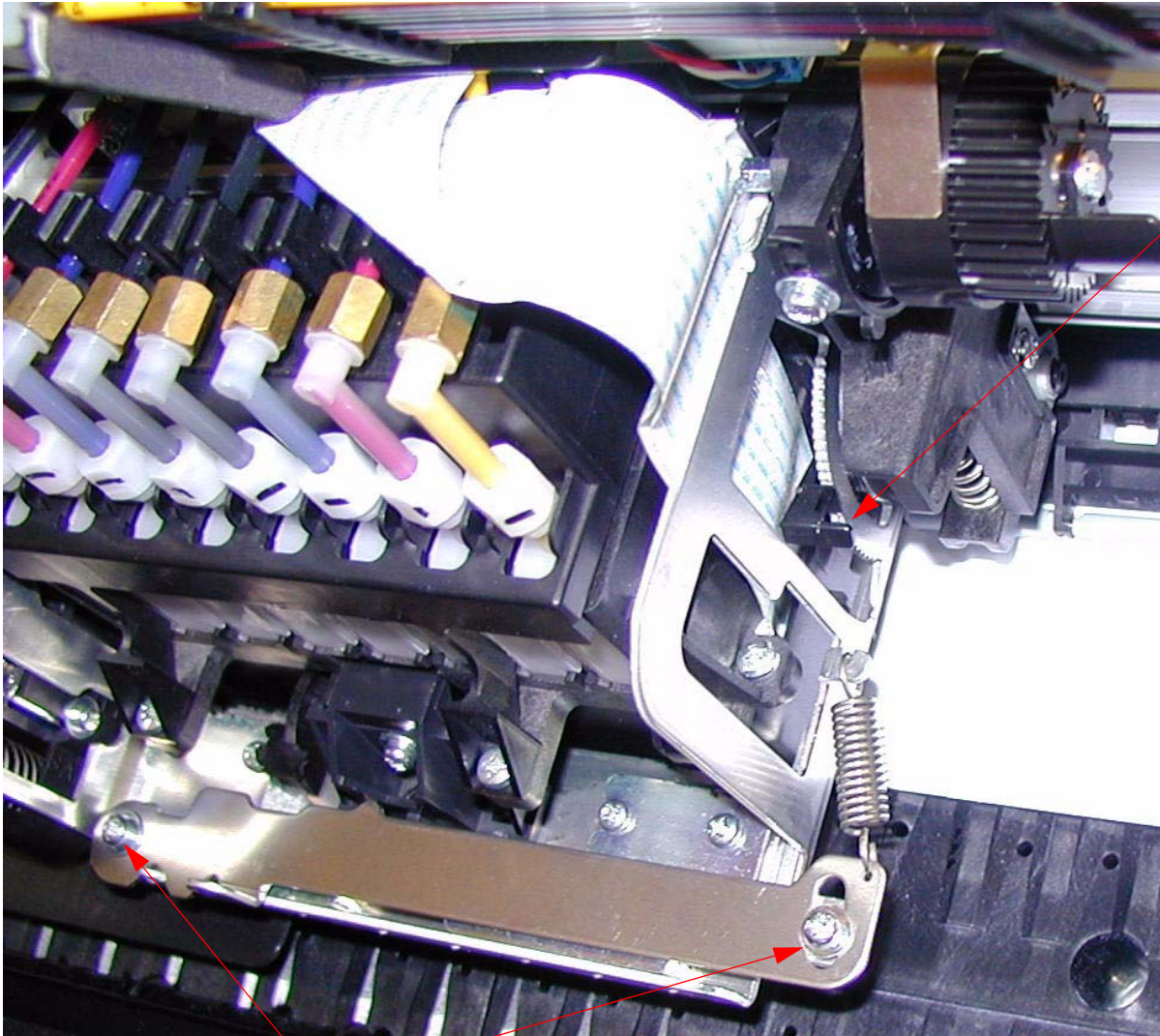
- Using a strong lens, inspect the Yellow pattern. Verify that the Light Light Back lines are centered between the Yellow lines.

**(Note: the Yellow pattern is the best pattern to use, because it compares nozzle arrays from opposite sides of the Print Head).**





5. If the Yellow and Light Light Black lines are not centered, adjust until they are.



1. Loosen these **2 Screws**.

2. Adjust with this **Lever**.

3. Re-print and adjust, until the pattern is centered.

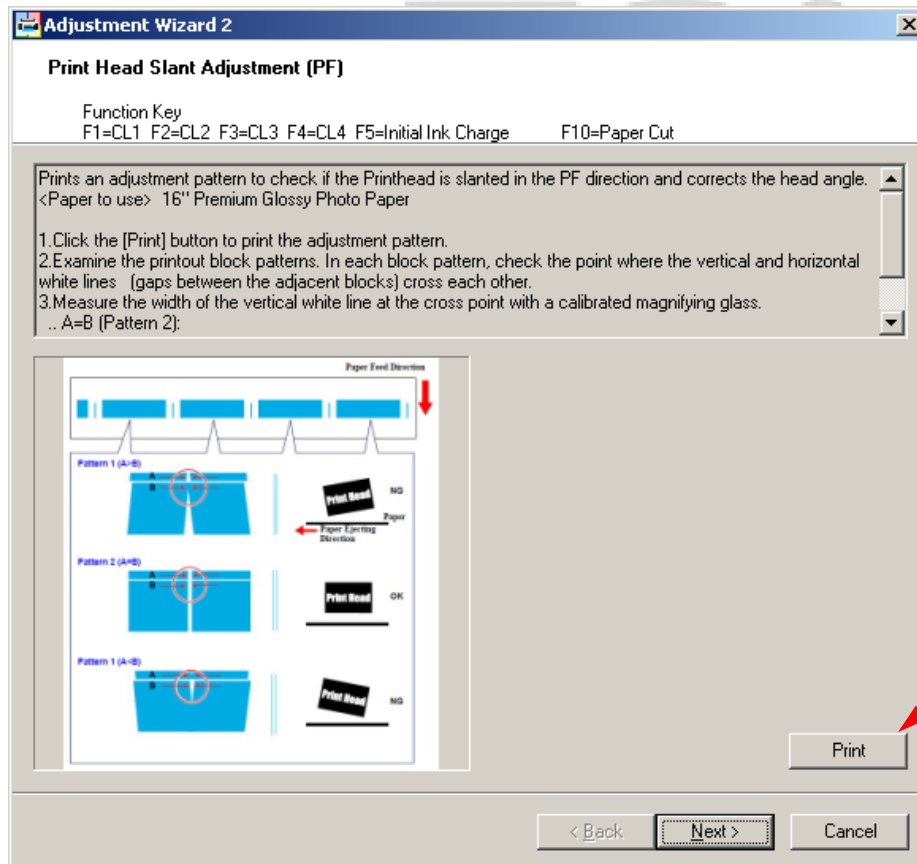
4. Tighten the **2 Screws**.

5. Re-print to verify that the **Print Head** did not shift when the **2 Screws** were tightened.

# Print Head Slant Adjustment (PF)

**Note:** The **Print Head Slant Adjustment (PF)** adjusts the Print Head's "heel / toe" parallelism (for each color, Nozzle 1 and Nozzle 180 are equal distance from the media).

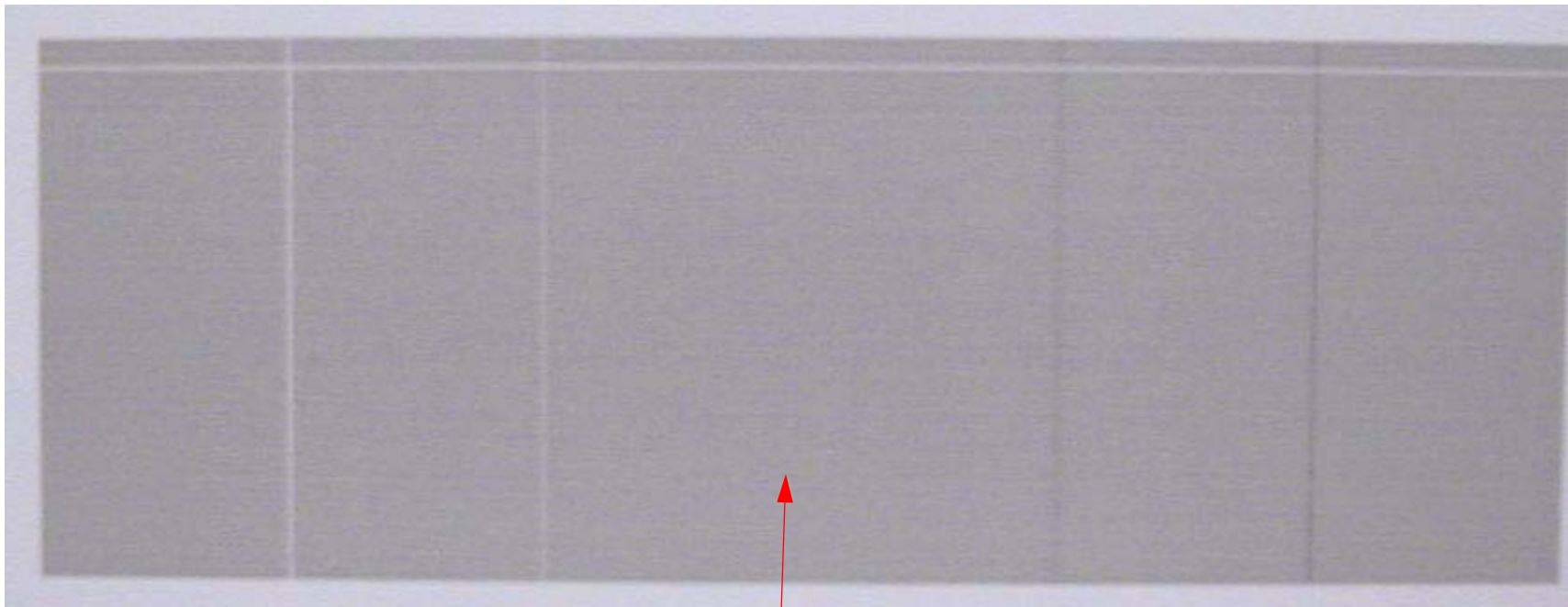
1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Print Head Slant Adjustment (PF)**.
2. Load 24" Doubleweight Matte roll paper.
3. Print the adjustment pattern.



Click on **Print** to print the adjustment pattern.

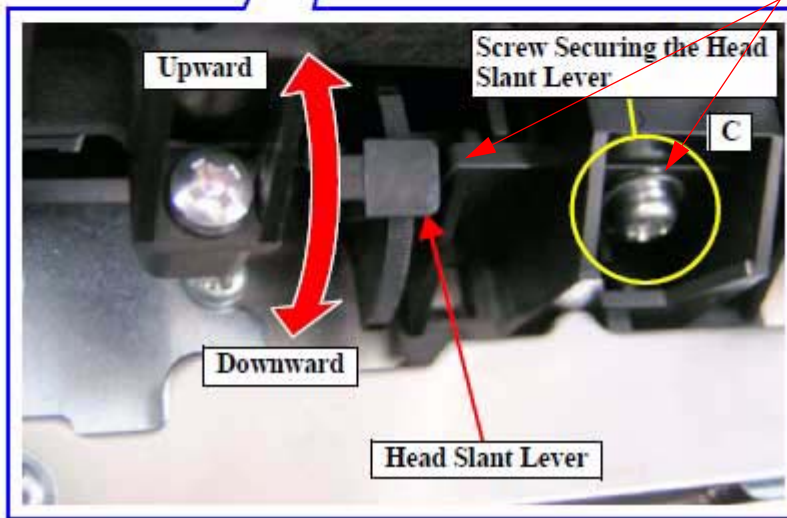
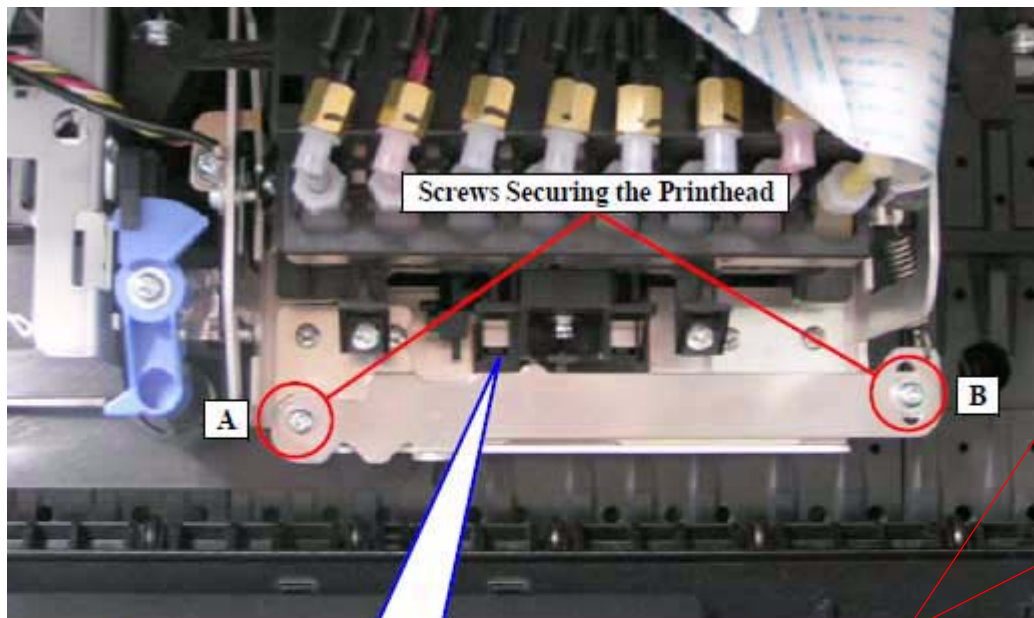
#### 4. Using a lens, inspect the printed pattern.

The pattern should look like this, when adjusted properly.



A perfect blend here (no gap or overlap).

5. Adjust, and reprint, until the pattern is correct.



1. Loosen **1 Screw** to adjust the **Print Head**.

2. Adjust with this **Lever**.

3. Re-print and adjust, until the pattern is correct.

4. Tighten the **1 Screw**.



- From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **Nozzle Bi-D Adjustment**.

**Adjustment Wizard 2**

**Nozzle Bi-D Adjustment**

Function Key  
F1=CL1 F2=CL2 F3=CL3 F4=CL4 F5=Initial Ink Charge F10=Paper Cut

Makes Bi-D adjustment for matte black nozzles, which can be used as a benchmark when making Bi-D adjustment for the other color nozzles.  
<Paper to use> 17" Enhanced Matte Roll Paper

1. Click the [Print] button to print a nozzle check pattern. The printer starts printing the Bi-D pattern and the current setting.  
2. Examine the printout lines and select the value for the most sharpest and straight line. Then enter the value into the edit box.

Top of pattern

PK/MK = 47 (0)

VSD1:  MK  
VSD2:   
VSD3:

Pick any of the 9 lines

Bottom of pattern

39 . . . 47 . . . 55

Print

Write

< Back Finish Cancel

- Click on **Print** to print the adjustment pattern.
- Compare the horizontal timing between the top of the pattern with the bottom of the pattern. Use any of the 9 vertical lines. The important point is that the line you choose is equally straight, or "un-straight".
- Adjust the PF Slant Adjustment lever until the line is equal at the top and bottom.
- Re-print and adjust, until the pattern is correct.
- Tighten the **1 Screw** that fastens the **PF Slant Adjustment Lever**.

## RearAD Sensor Calibration

**Note:** This adjustment sets the “White Level” for the **RearAD Sensor** (sensitivity calibration).

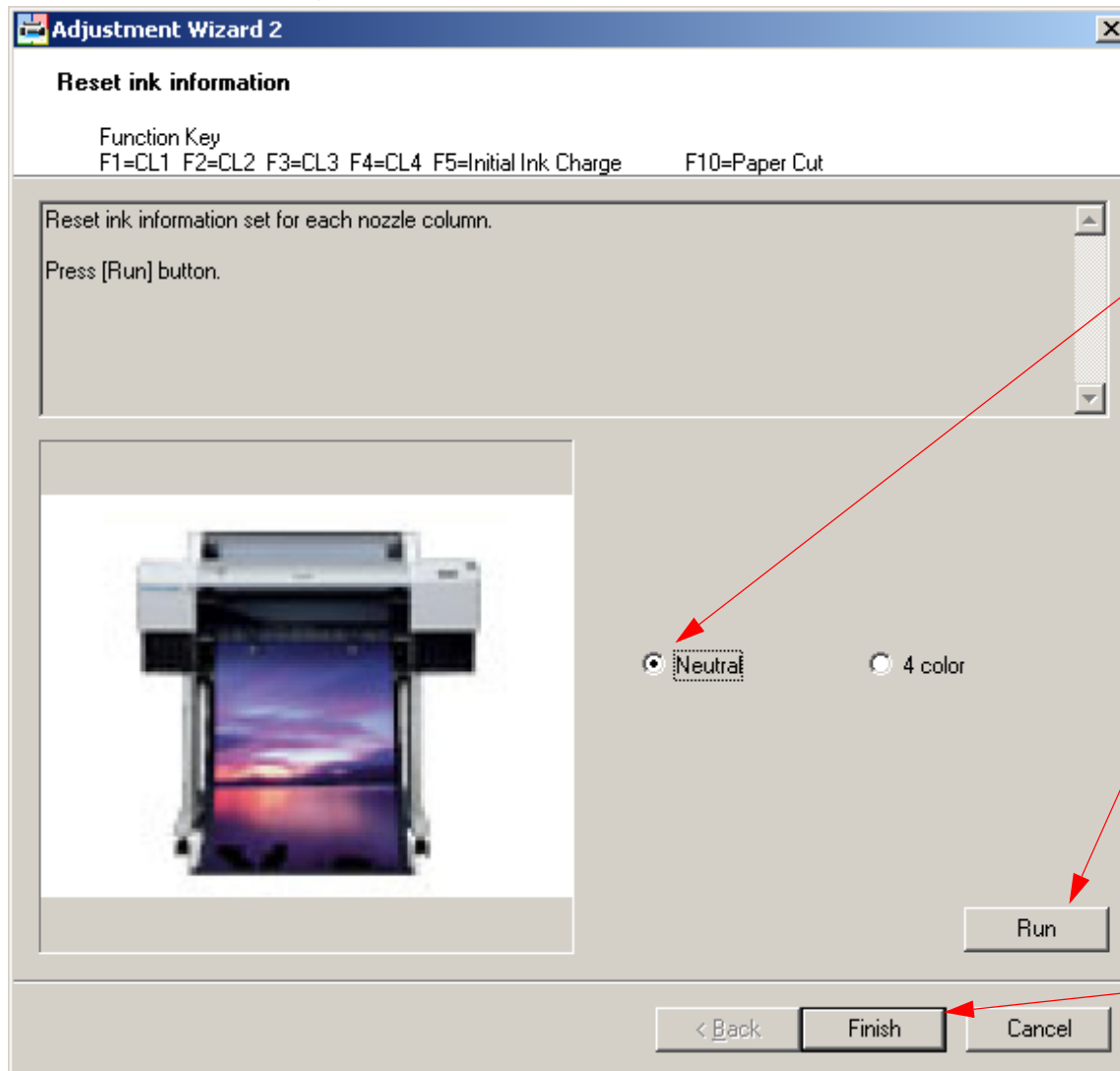
**Note:** This adjustment can be performed using the customer’s media if it is non-standard (transparent, etc.).

1. Place paper in the paper path, ensuring that it is located adjacent to the **RearAD Sensor**. (The **RearAD Sensor** is at the 6” mark).
2. Press and hold the **Down**, **Right**, and **Enter** buttons, and turn on the **Printer** (**Self Testing** mode).
3. Using the **Down** button, navigate to **Self Testing: Adjustment:** and press the **Right** button.
4. Using the **Down** button, navigate to **RearAD:** and press the **Right** button.
5. The **Printer’s LCD** will display **[ENTER] Start**. Press the **Enter** button to start.
6. The **Printer** will sample the media setting the white level (sensor sensitivity).

# Reset Ink Information

**Note:** *Reset Ink Information allows changing the Printer from 8 color to 4 color. (4 color printing is not supported (allowed) in North and South America.)*

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset Ink Information**.



1. Click on **Neutral**.

2. Click on **Run** to reset the **Ink Information**.

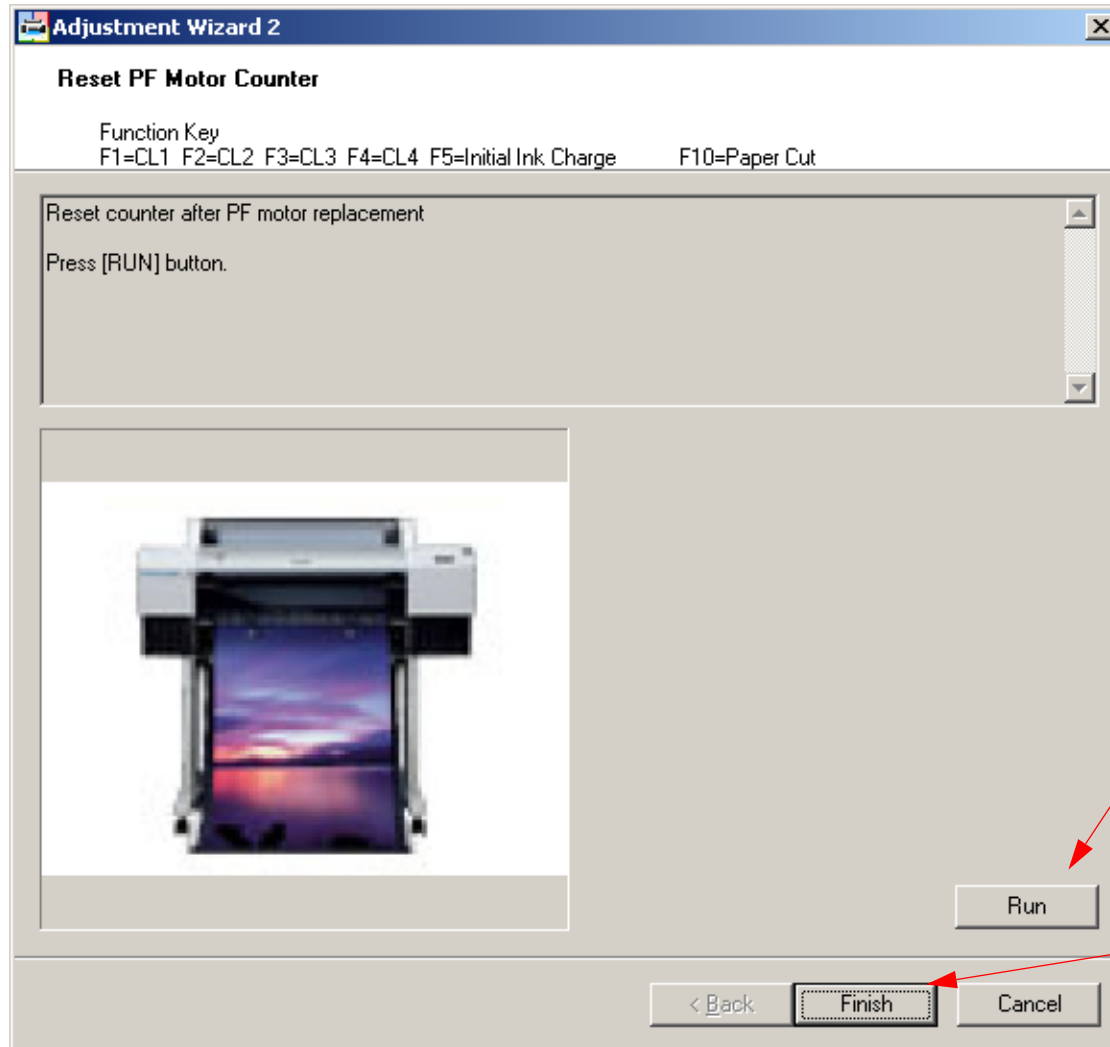
3. Click on **Finish** when done.

## Reset PF Motor Counter

**Note:** Reset PF Motor Counter is used to reset the Paper Feed Motor counter.

**Note:** Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset PF Motor Counter**.



1. Click on **Run** to reset the **Paper Feed Motor** counter.

2. Click on **Finish** when done.

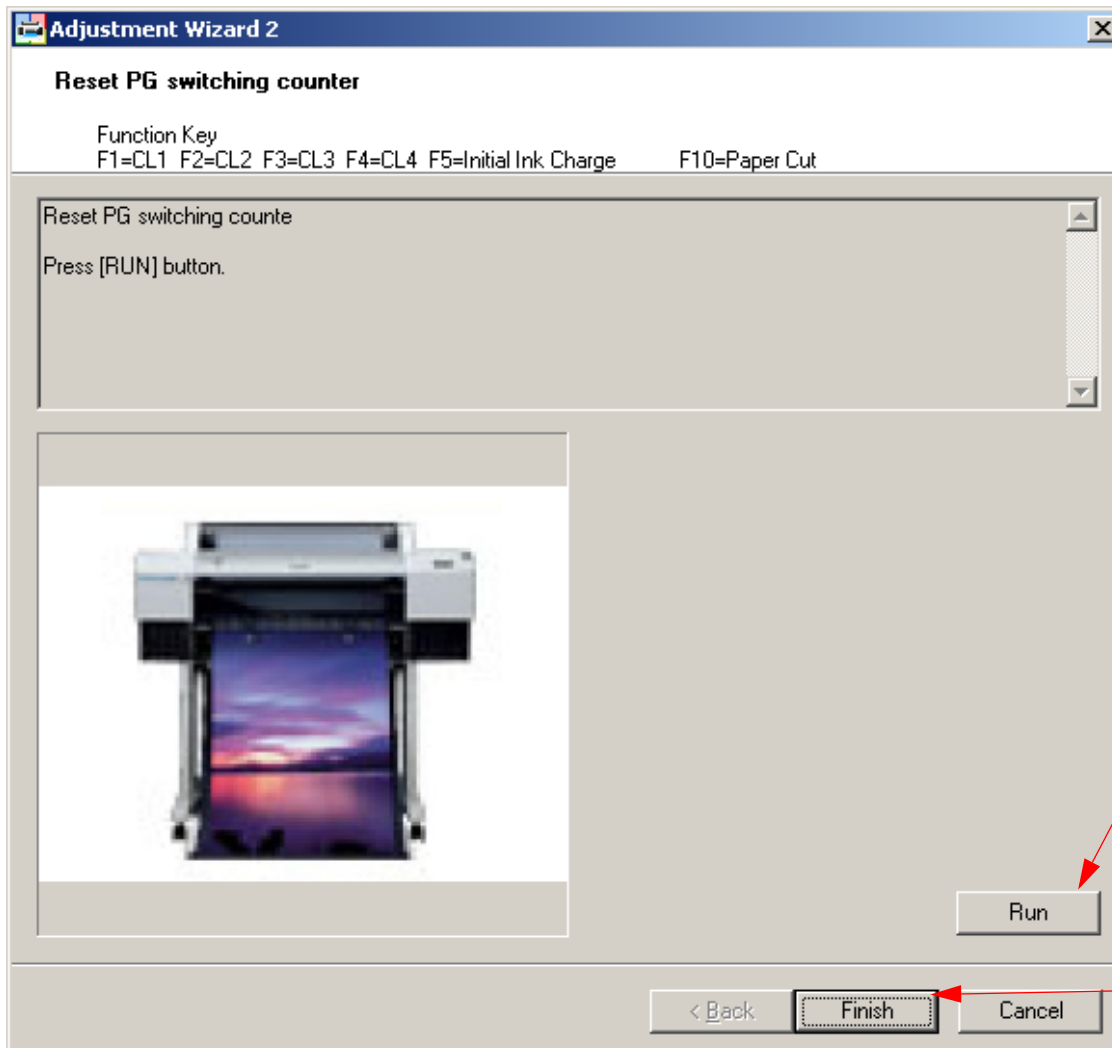


## Reset PG Switching Counter

**Note:** Reset PG Switching Counter is used to reset the Platen Gap Counter.

**Note:** Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.

1. From the **Adjustment Wizard** for the Pro 7800 /9800, select **Reset PG Switching Counter**.



1. Click on **Run** to reset the **Platen Gap** counter.

2. Click on **Finish** when done.

# Reset When Cleaning Unit Change

**Note:** *Reset When Cleaning Unit Change* is used to reset the *Cleaning Unit* counter.

**Note:** *Initialize the Printer in Serviceman Mode* to allow the *Adjustment Wizard* to function with the *Printer*, when the *Printer* is in an error condition.

1. From the **Adjustment Wizard** for the Pro 7800 /9800, select **Check Nozzle**.



1. Click on **Run** to reset the **Cleaning Unit** counter.

2. Click on **Finish** when done.

# Reset When CR Unit Change

**Note:** *Reset When CR Unit Change is used to reset the Carriage Unit counter.*

**Note:** *Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.*

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset When CR Unit Change**.



1. Click on **Run** to reset the Carriage Unit counter.

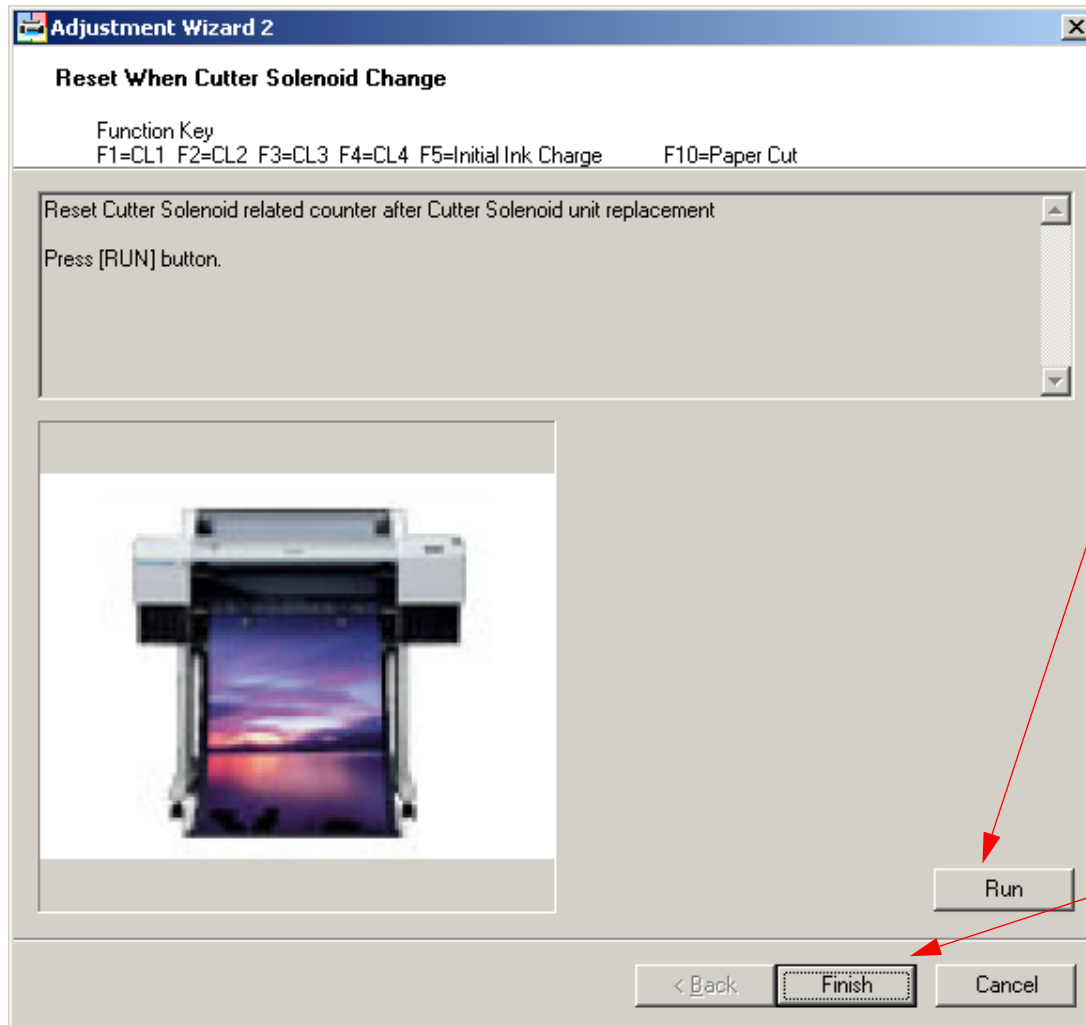
2. Click on **Finish** when done.

## Reset When Cutter Solenoid

**Note:** Reset When Cutter Solenoid change resets the Life Counter for the Cutter Solenoid.

**Note:** Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset Ink Information**.



1. Click on **Run** to reset the Cutter Solenoid life counter.

2. Click on **Finish** when done.

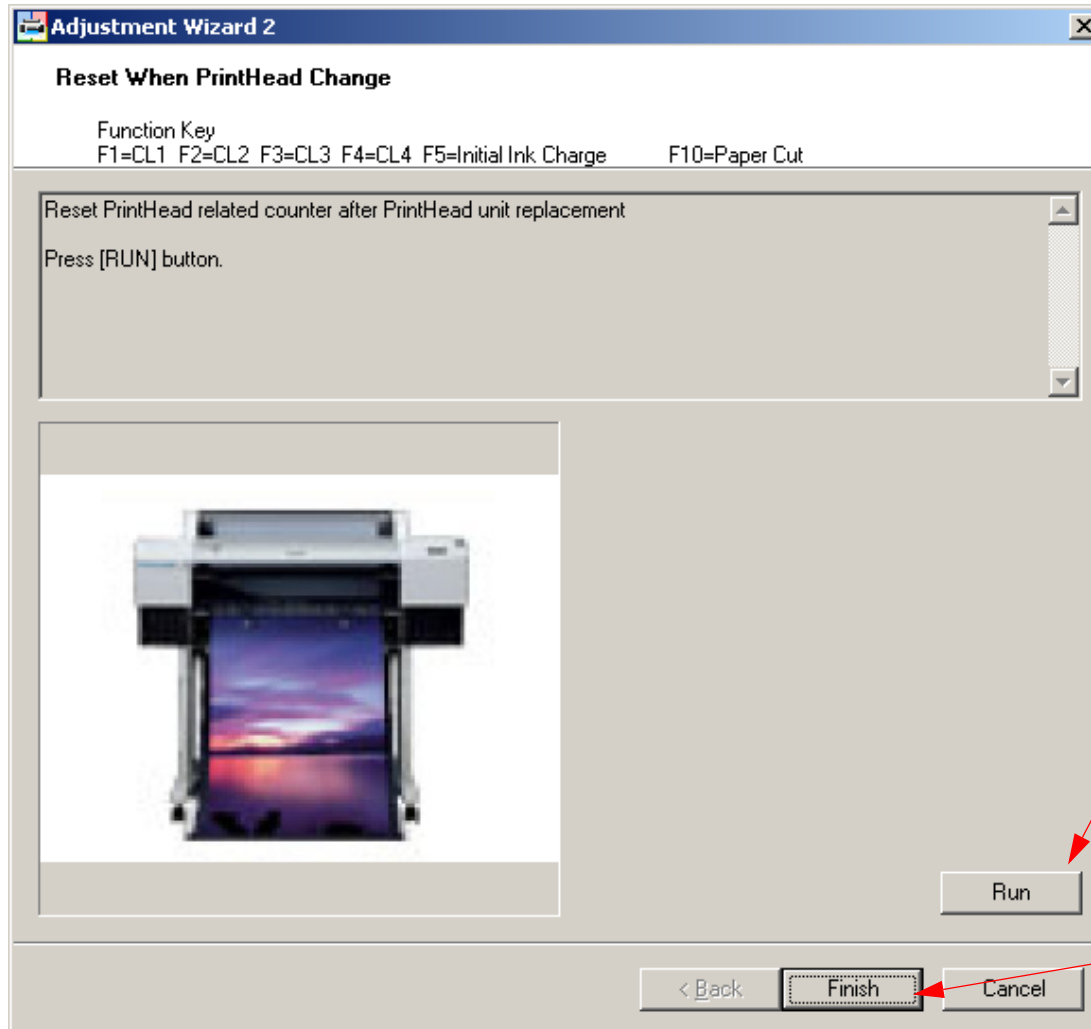


# Reset When Print Head Change

**Note:** *Reset When Print Head Change is used to reset the Print Head life counter.*

**Note:** *Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.*

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset When Print Head Change**.



1. Click on **Run** to reset the **Print Head** life counter.

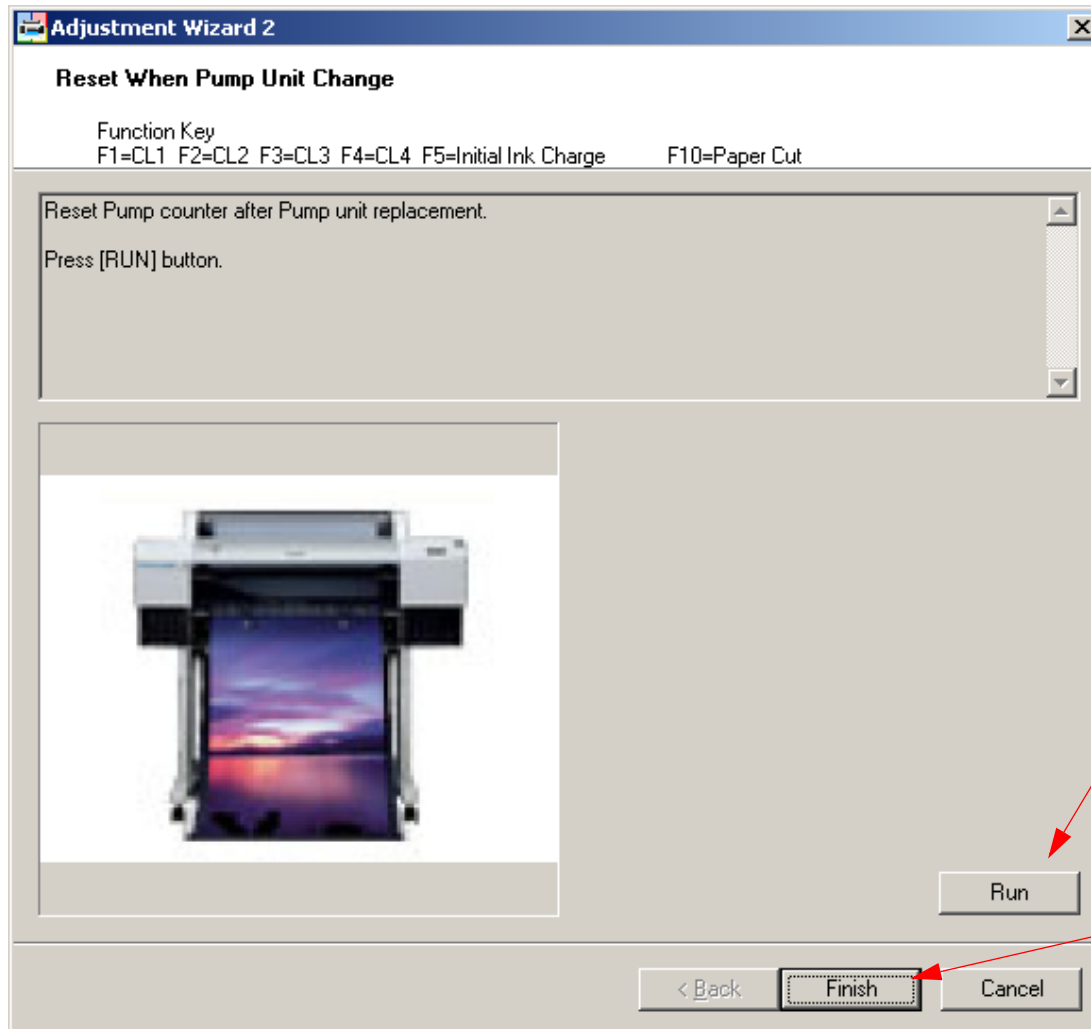
2. Click on **Finish** when done.

## Reset When Pump Unit Change

**Note:** *Reset When Pump Unit Change is used to reset the Air Pressure Pump Assembly Counter.*

**Note:** *Initialize the Printer in Serviceman Mode to allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.*

1. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **Reset When Pump Unit Change**.



1. Click on **Run** to reset the **Pump Unit** life counter.

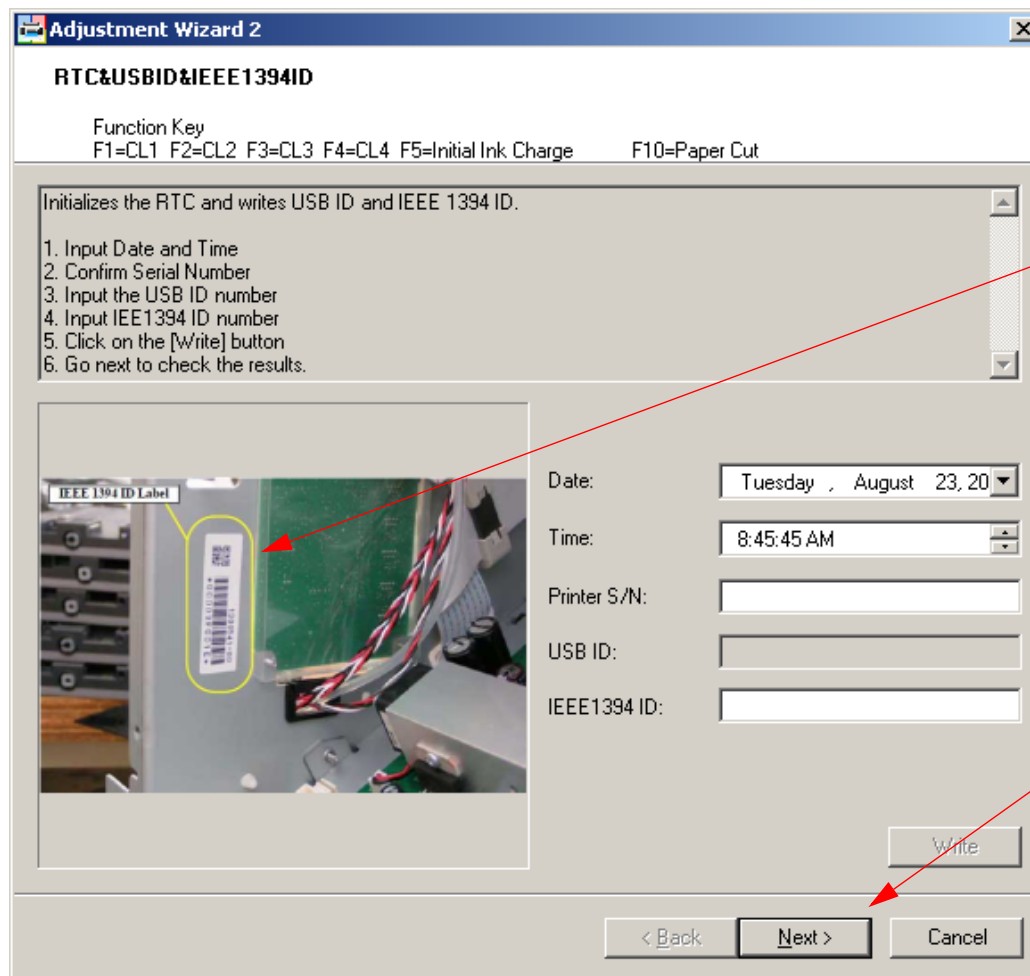
2. Click on **Finish** when done.

## RTC & USB & IEEE1394ID Adjustment

**Note: The Printer must be in Serviceman Mode for the RTC & USB & IEEE1394ID Adjustment to work.**

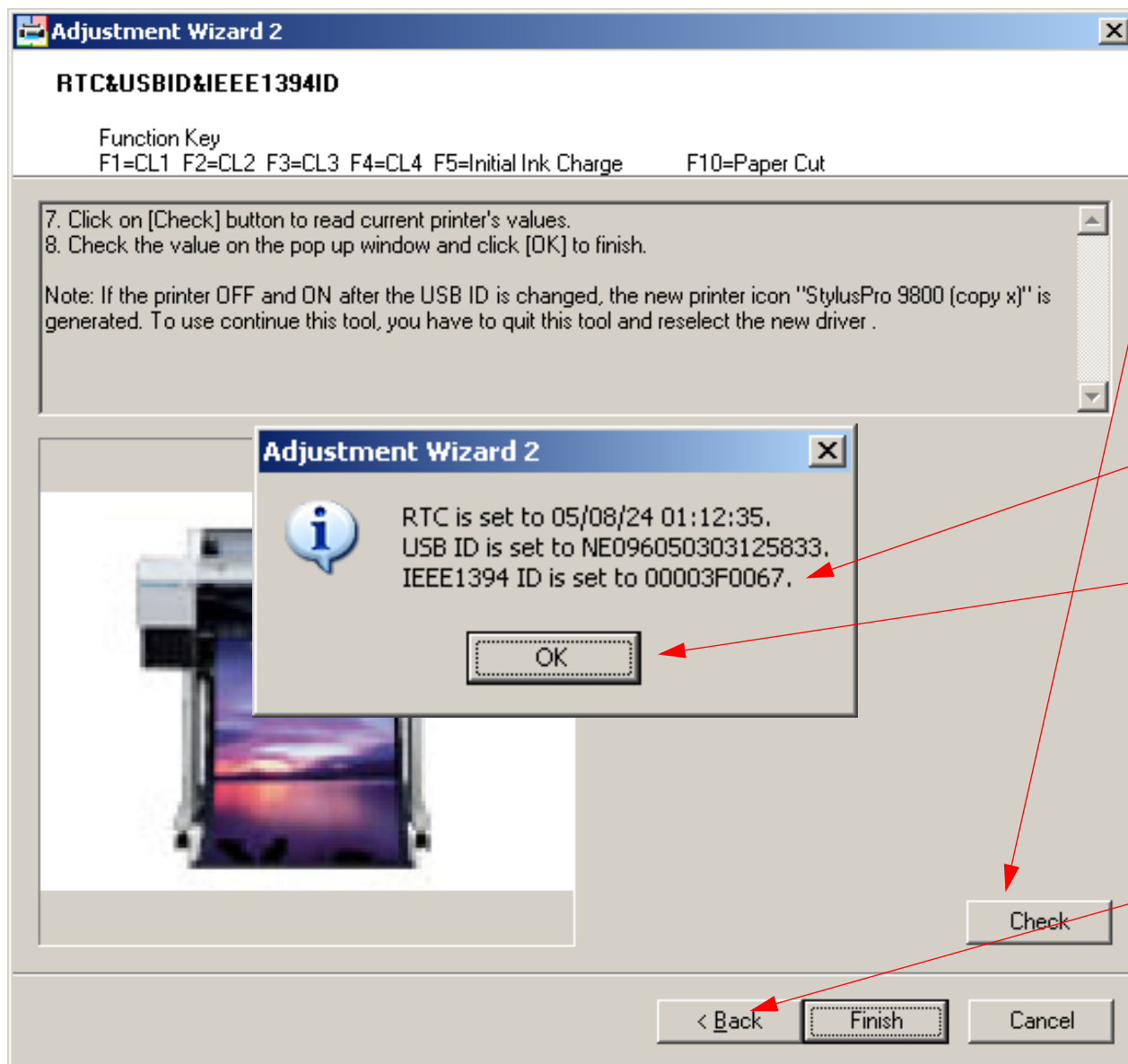
**Note: The RTC & USB & IEEE1394ID Adjustment is used to write the correct time USB ID, and FireWire ID to the Main Board.**

1. From the **Adjustment Wizard** for the Pro 7800 /9800, select the **RTC & USB & IEEE1394ID Adjustment**.



The FireWire ID (IEEE1394ID) is written on a label in the **Board Cavity** by the **Main Board**.

1. Before entering any data, click on the **Next** button.



2. Click on the **Check** button to display the IEEE1394 I.D.

3. Write down the **IEEE1394 I.D.**

4. Click on the **OK** button.

5. Click on the **Back** button.

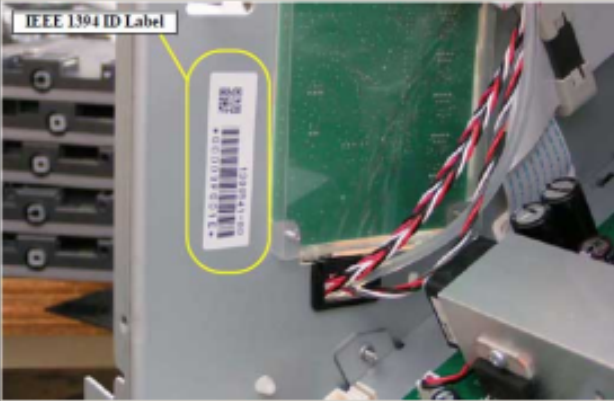
**Adjustment Wizard 2**

**RTC&USBID&IEEE1394ID**

Function Key  
F1=CL1 F2=CL2 F3=CL3 F4=CL4 F5=Initial Ink Charge F10=Paper Cut

Initializes the RTC and writes USB ID and IEEE 1394 ID.

1. Input Date and Time
2. Confirm Serial Number
3. Input the USB ID number
4. Input IEEE1394 ID number
5. Click on the [Write] button
6. Go next to check the results.



Date: Tuesday , August 23, 20

Time: 9:00:16 AM

Printer S/N: 0000000076

USB ID: 000000007668N9370

IEEE1394 ID: 00003F0067

Write

< Back Next > Cancel

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

7. Enter the **Printer's** serial number.

8. Enter the IEEE1394 I.D.

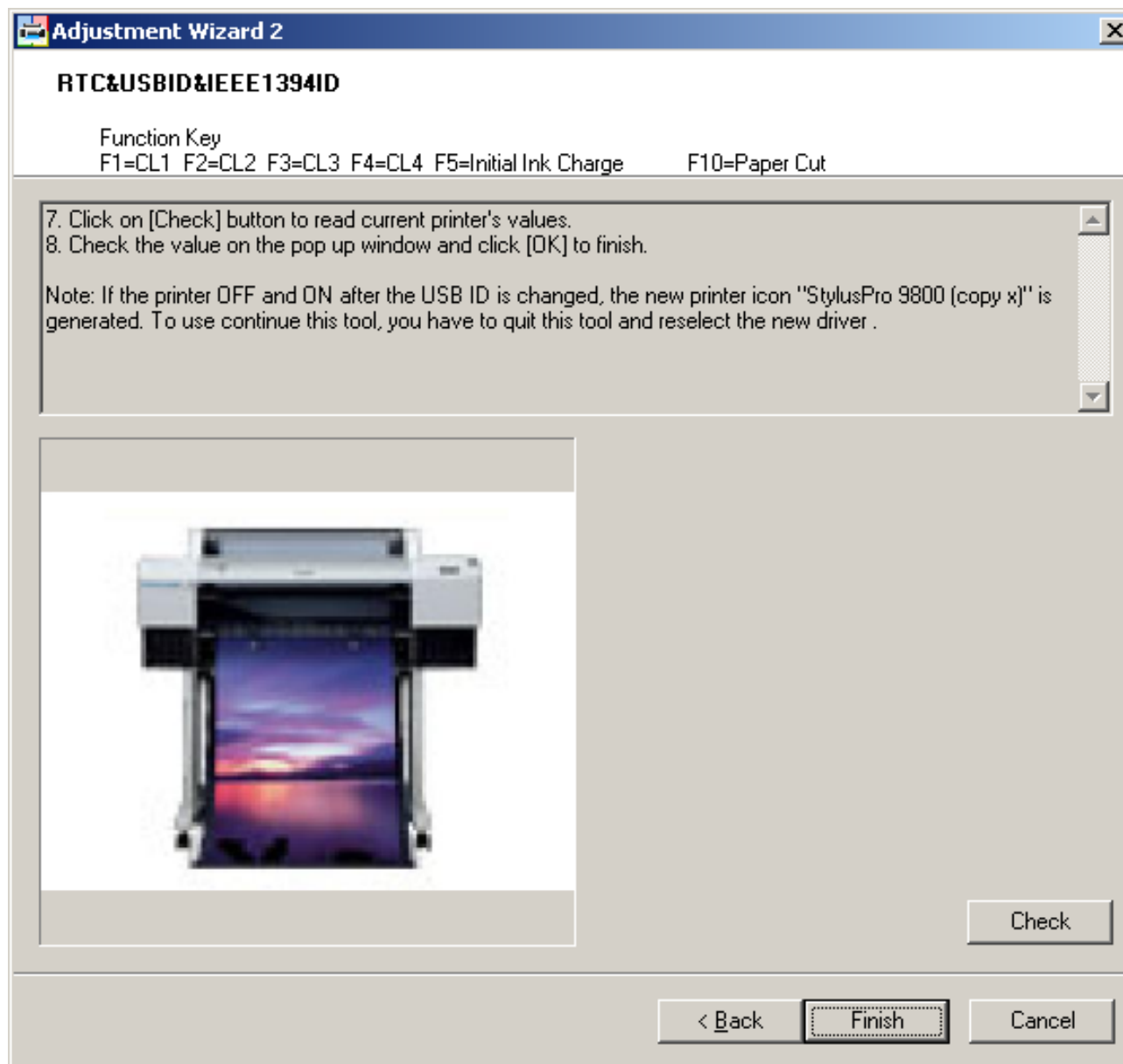
9. Click on the **Write** button to send the data to the printer.

**Note:** An IEEE1394 I.D. can be generated by using the following syntax: **0003FXXXX**, where XXXX = the last 4 digits of the **Printer's** serial number.

**Note:** The IEEE1394 I.D. is written on a label, that is located in the **Main Board Cavity**.

10. Click on **Next**.



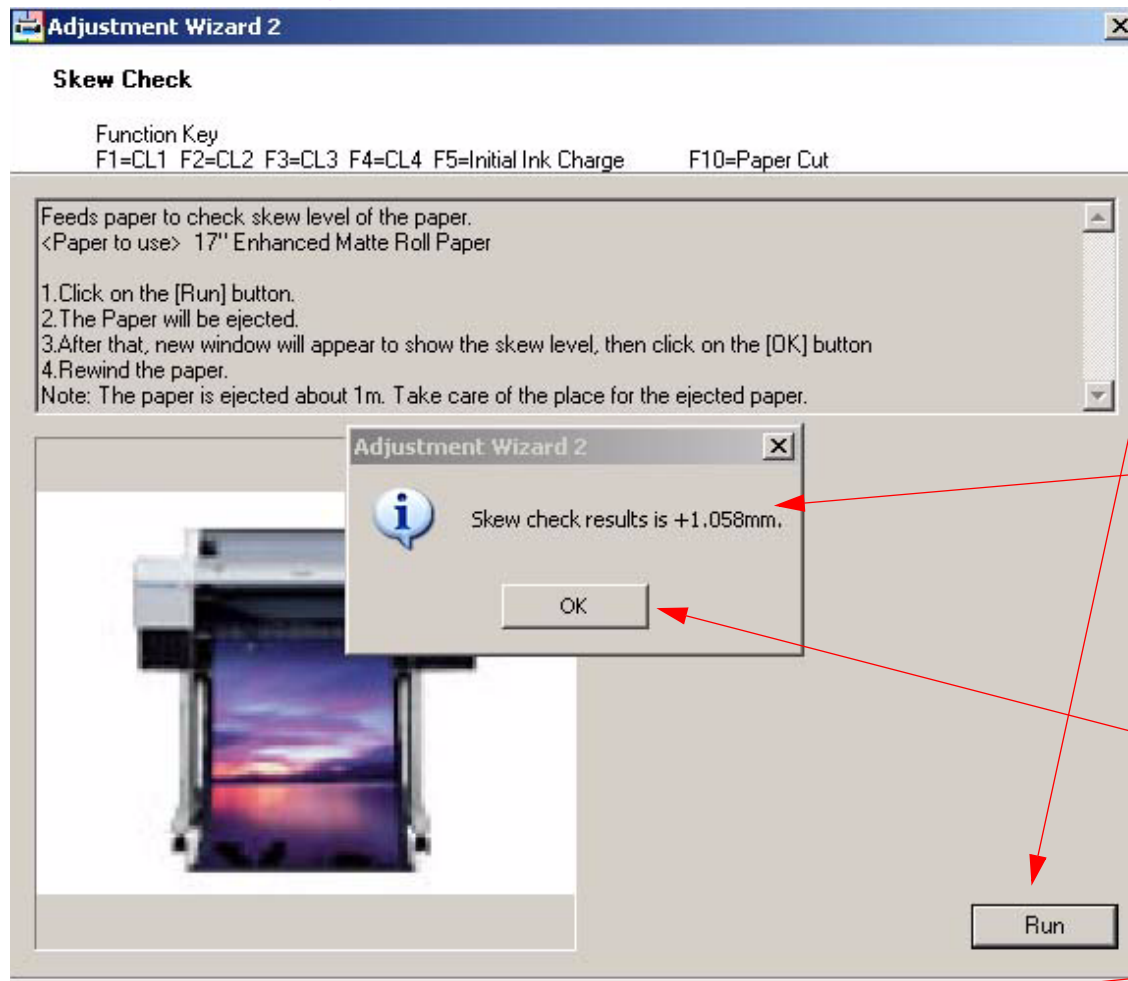


11. Click on **Finish**.

# Skew Check

**Note:** Skew Check measures the amount of paper skew the Printer exhibits.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 980000, select **Skew Check**.



1. Click on the **Run** button.

2. The **Printer** will feed 1 meter of paper.

3. The **Printer** measure the amount of paper skew using the **Edge AD Sensor**, and display the results.

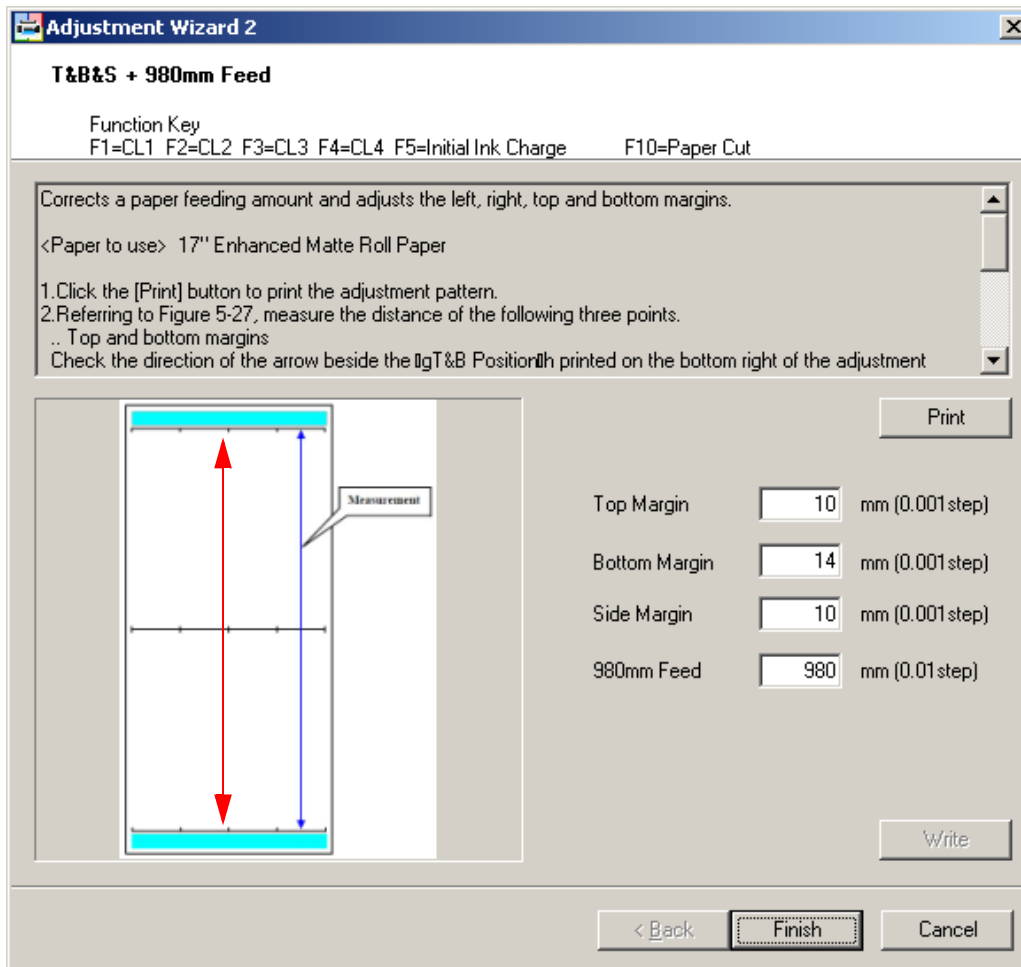
4. Click on the **OK** button.

5. Click the **Finish** button.

# T&B&S + 980mm Feed Adjustment

**Note:** The T&B&S + 980 Feed adjustment calibrates all margins and the Paper Feed Mechanism.

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 9800, select the **T&B&S + 980mm Feed**.

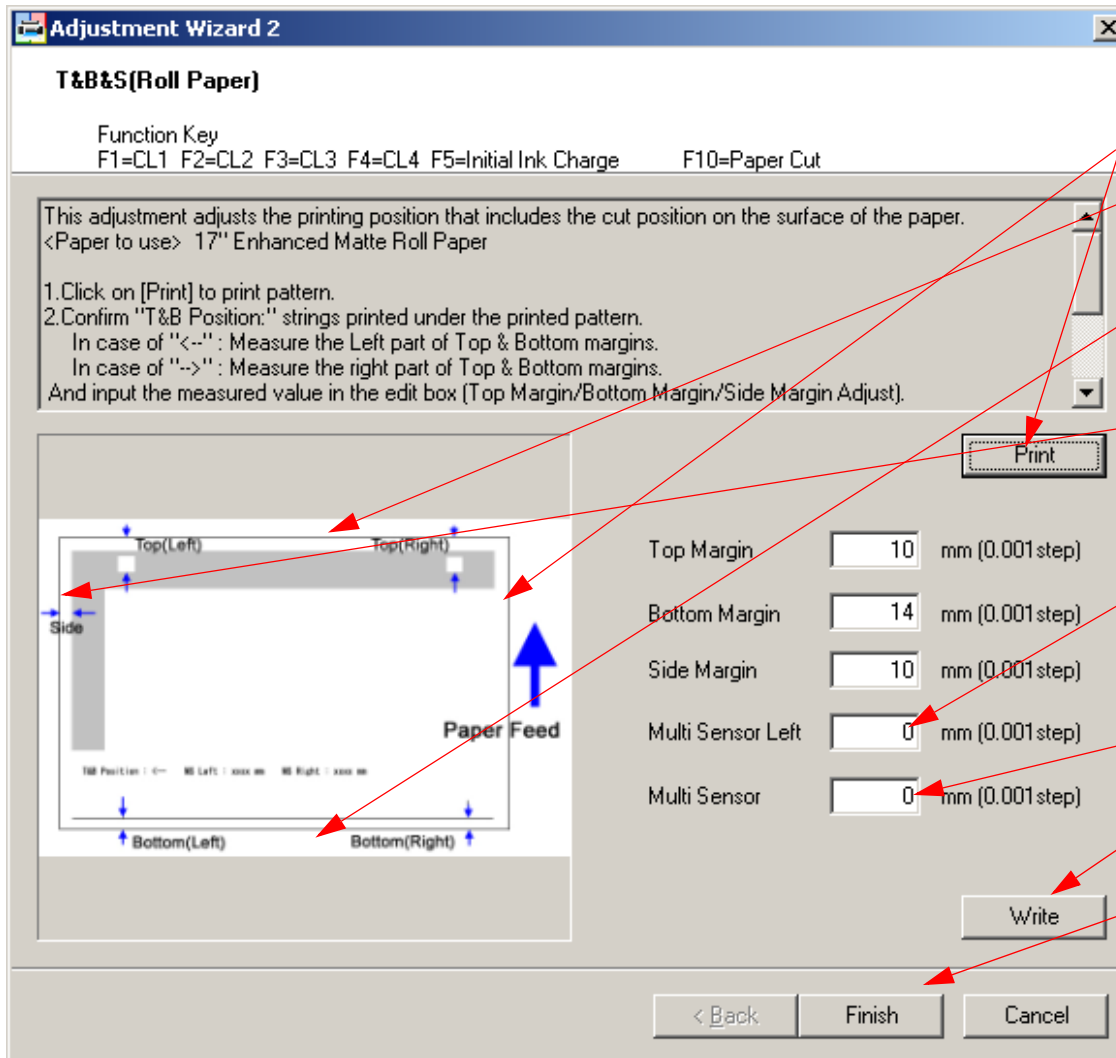


1. Click on the **Print** button.
2. The **Printer** will print out this pattern.
3. Measure the top (leading edge) margin, and enter the value measured.
4. Measure the bottom (trailing edge) margin, and enter the value measured.
5. Measure the side margin (home position side), and enter the value measured.
6. Align a 1000mm ruler with the center vertical hash marks, and the leading edge horizontal line (see the Red Line on the example graphic). The "0" end of the 1000mm ruler should be touching, but not covering the leading edge horizontal line.
7. Using a lens, measure the exact distance between the 2 horizontal lines. Be as accurate as possible
8. Enter the value that was measured.
9. Click the **Write** button.
10. Click the **Finish** button.

# T&B&S (Roll Paper) Adjustment

**Note:** The T&B&S Roll Adjustment calibrates the margins and "Top Of Form".

1. Load 24" Doubleweight Matte roll paper.
2. From the **Adjustment Wizard** for the Pro 7800 / 9800, select **T&B&S (Roll Paper)**.



1. Click on the **Print** button.
2. The **Printer** will print out this pattern.
3. Measure the top (leading edge) margin, and enter the value measured.
4. Measure the bottom (trailing edge) margin, and enter the value measured.
5. Measure the side margin (home position side), and enter the value measured.
6. Enter the MS Left value printed on the print out into the **Multi Sensor Left** field.
7. Enter the MS Right value printed on the print out into the **Multi Sensor** field.
8. Click the **Write** button.
9. Click the **Finish** button.

## Washing Head

**Note:** *Do Not Use. Not intended for Nozzle cleaning.*





# Component Pictures



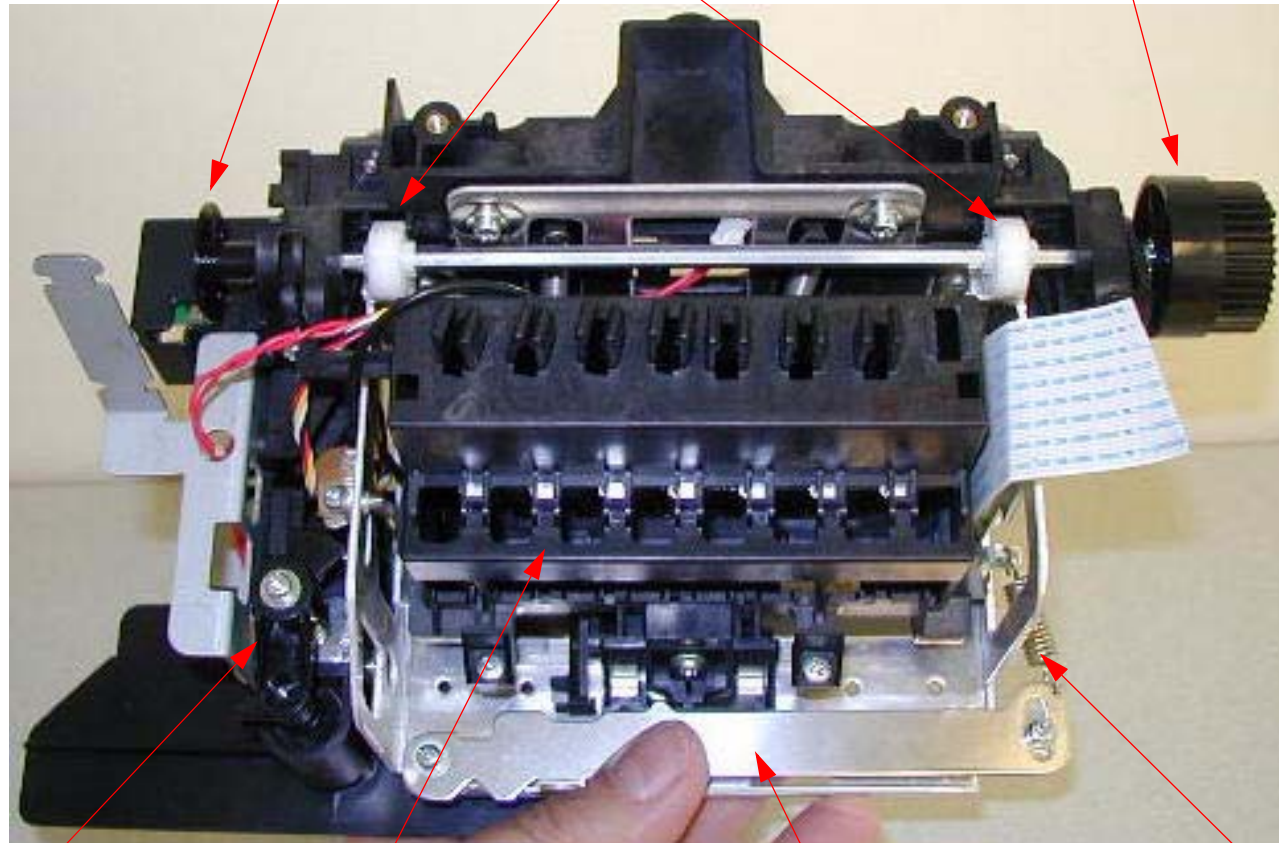
# Carriage Assembly

## Front View

*Platen Gap Sensor Home Position*

*Platen Gap Cams*

*Platen Gap Actuator Gear*



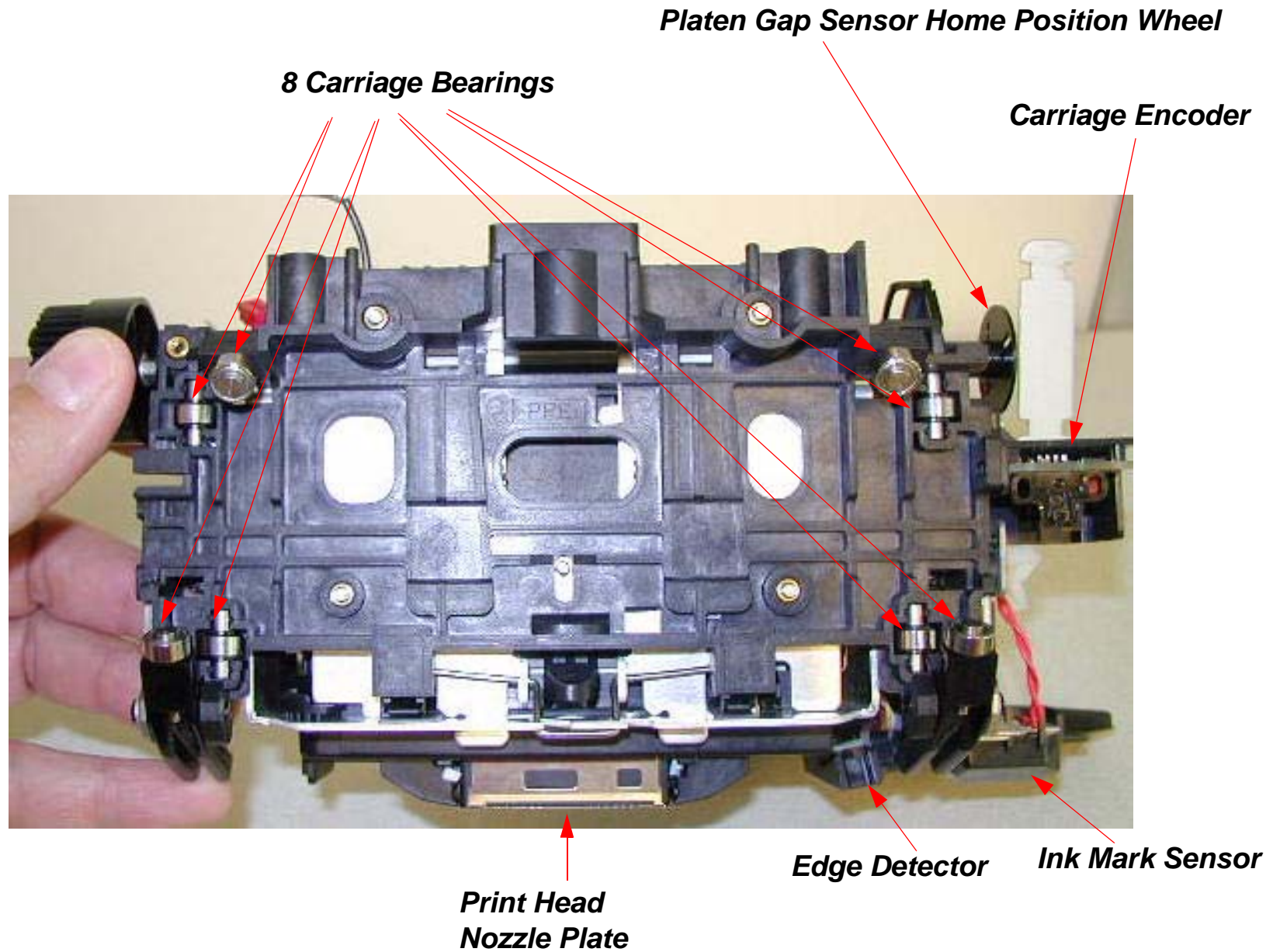
*Cutter/Carriage  
Lock Solenoid*

*Damper and Print  
Head Assembly*

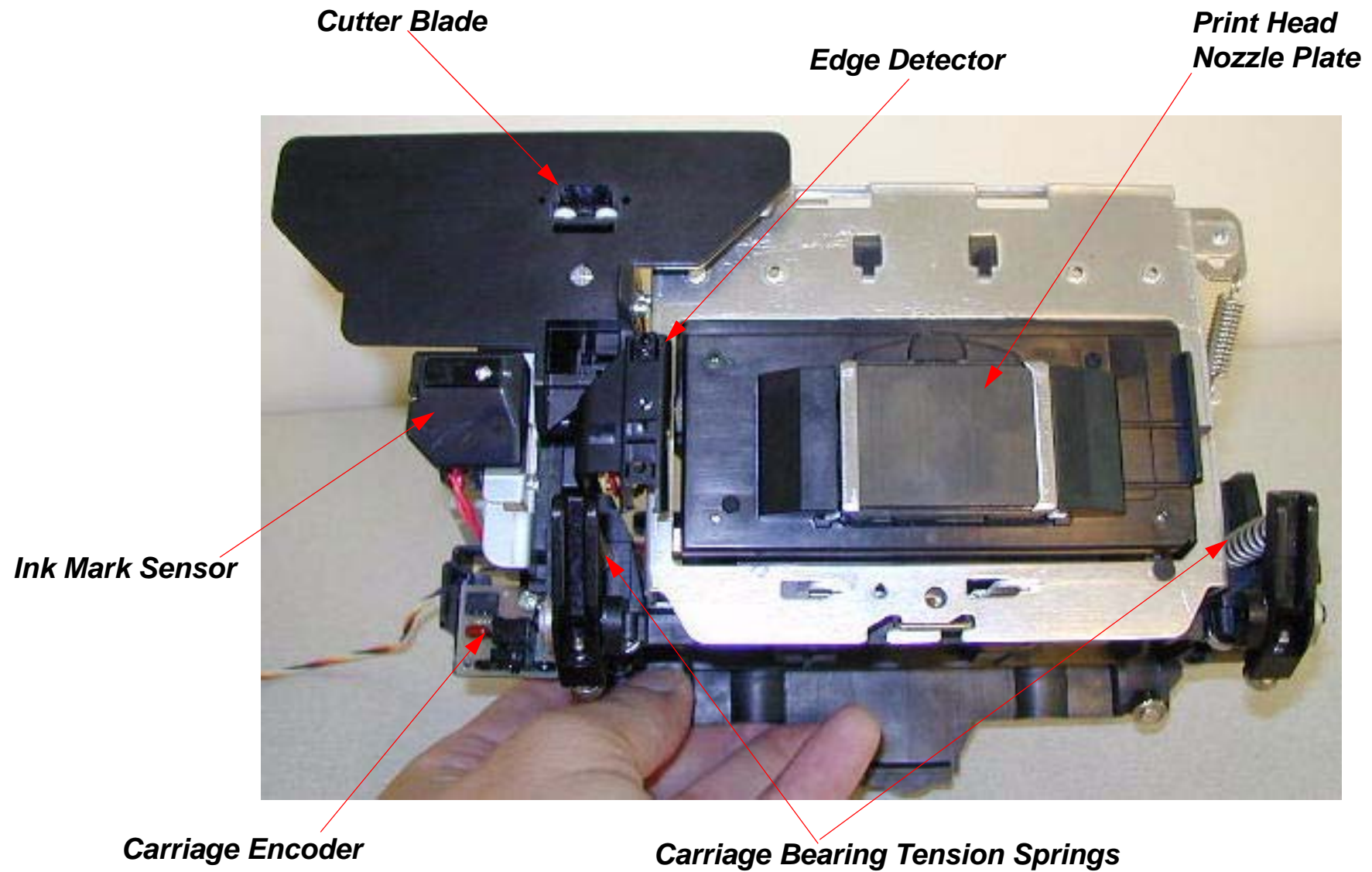
*Print Head Tension Spring*

*Print Head Fastener and Tension Bar*

## Back View

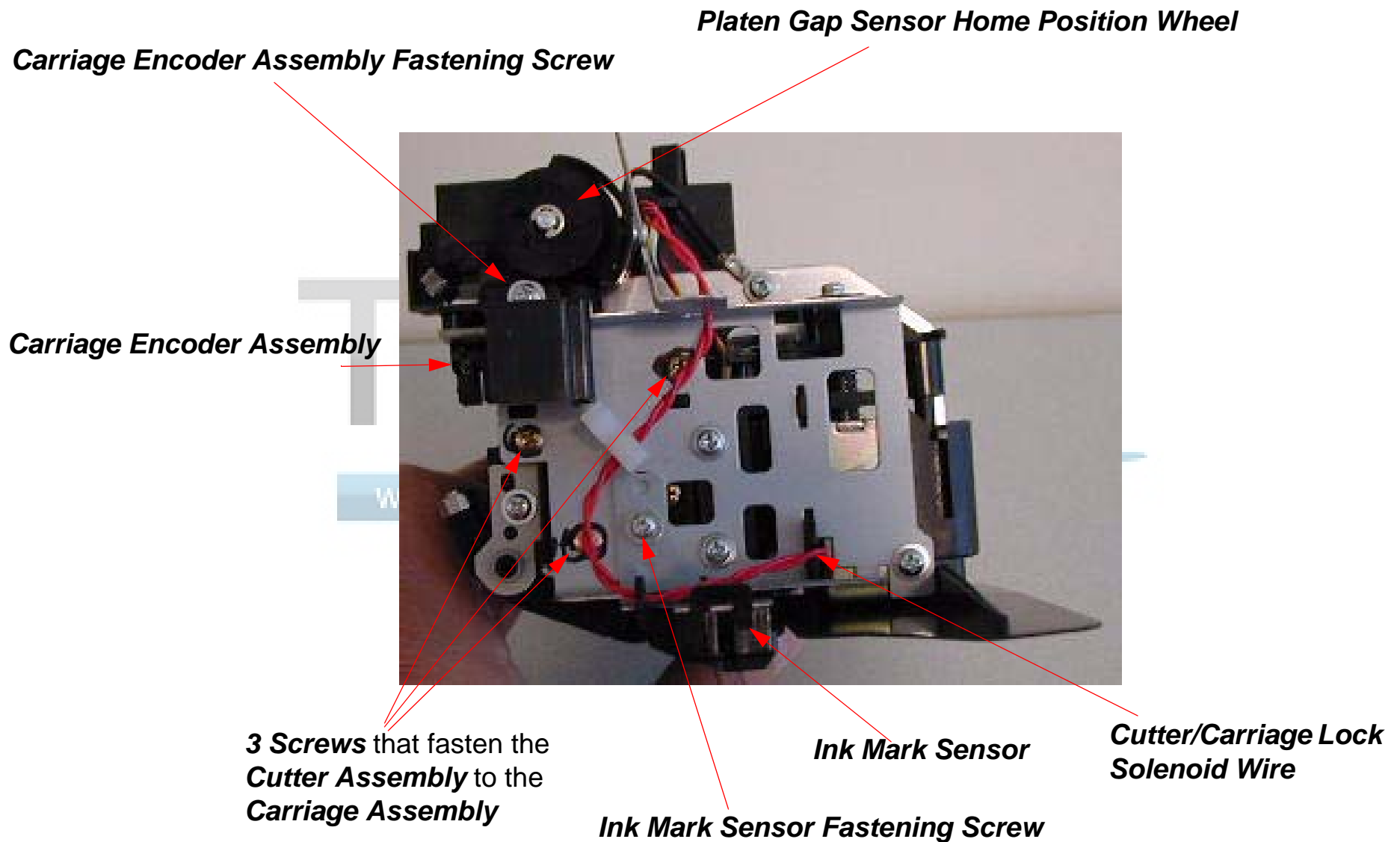


## Bottom View





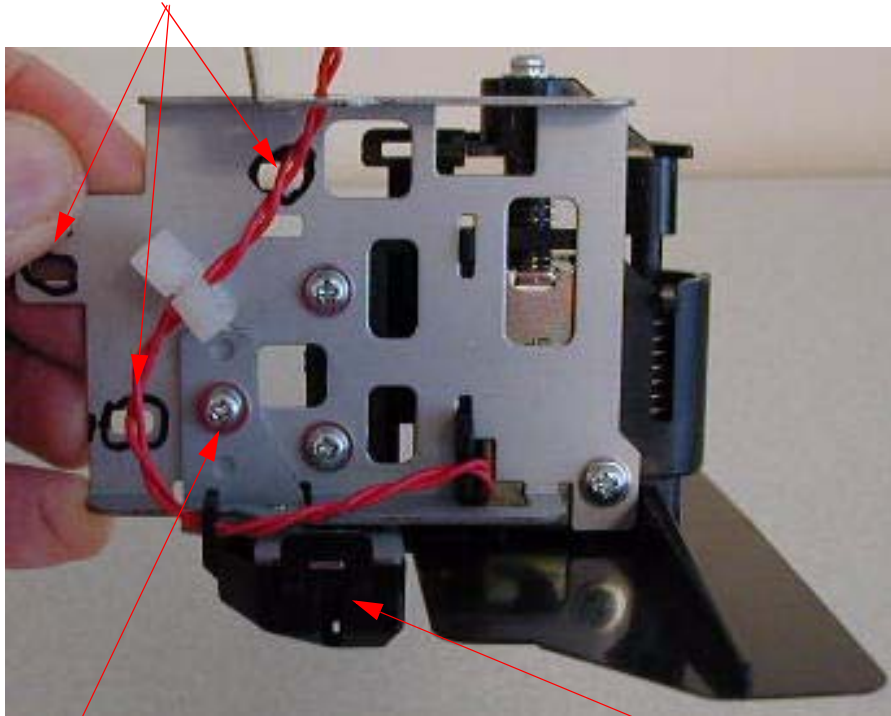
## Left Side View





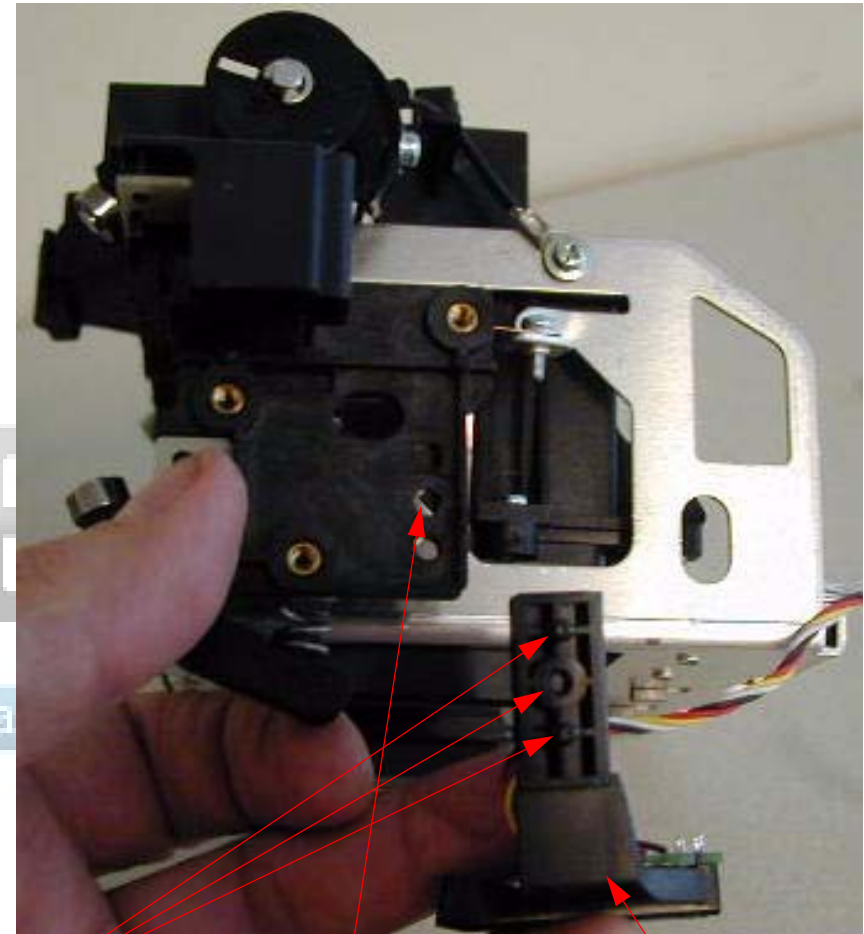
## Cutter Assembly, Edge Detector, and Ink Mark Sensor

**3 Screw Holes** for the **3 Screws** that attach the **Cutter Assembly** to the **Carriage Assembly**.



**Ink Mark Sensor Fastening Screw.**

**Ink Mark Sensor**



**Edge Detector Alignment Pins and Screw Hole**

**Edge Detector**

**1 Screw Hole** for the **Screw** that fastens the **Edge Detector**

# Carriage Board

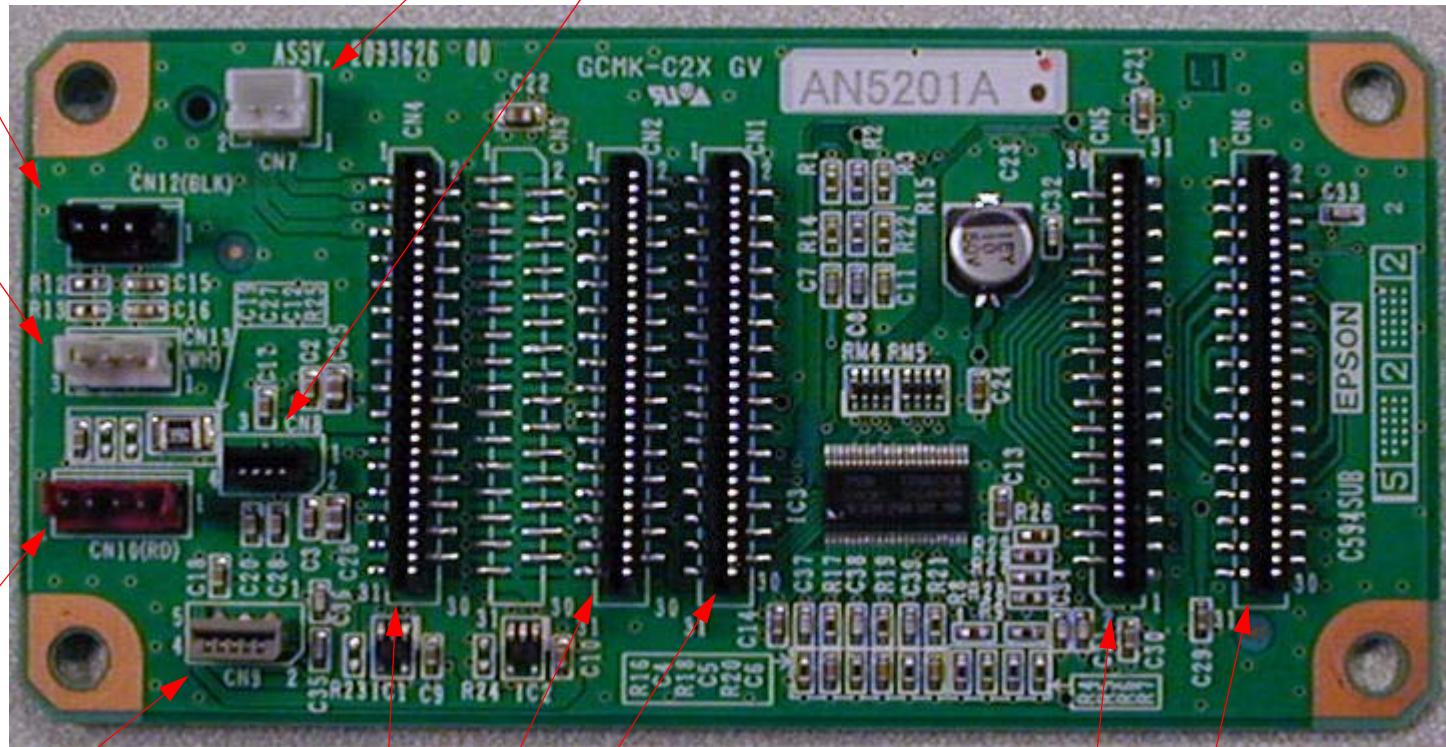
Located on the top of the Carriage Mechanism

**(CN13) Carriage Home Position Sensor**

**(CN7) Cutter Solenoid**

**(CN12) Platen Gap Home Position**

**(CN8) Ink Mark Sensor**



**(CN1) To Main Board CN17**

**(CN6) Print Head**

**(CN9) Carriage Encoder**

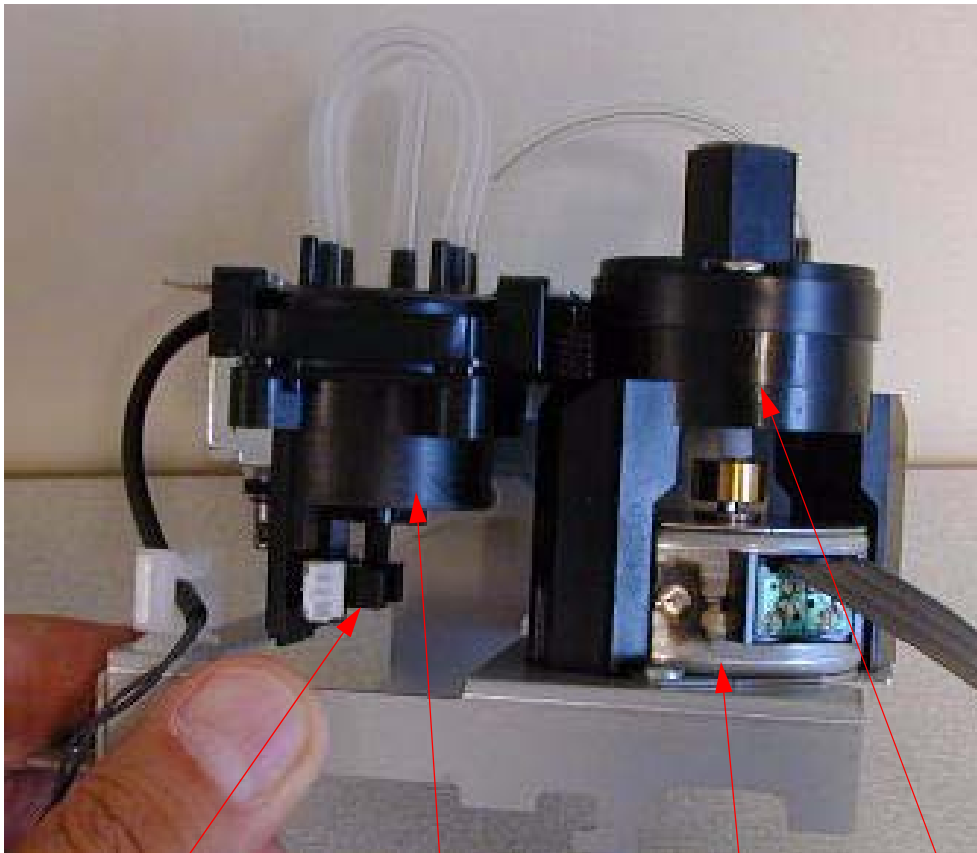
**(CN2) to Main Board CN18**

**(CN5) Print Head**

**(CN10) EdgeAD Sensor**

**(CN4) Main Board CN20**

# Ink System Pressurization Assembly Components

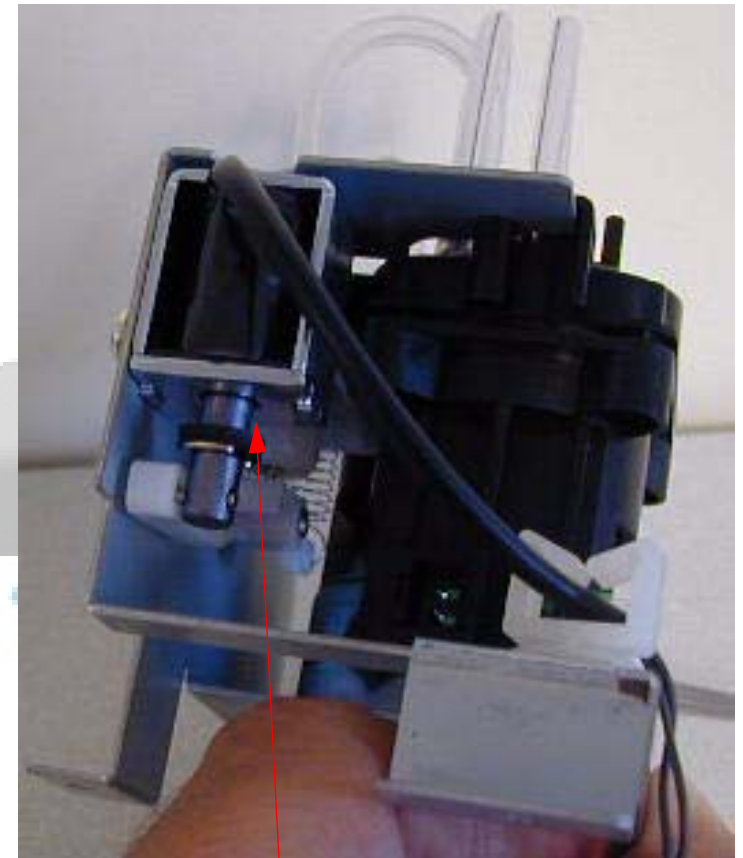


***Air Pressure Sensor***

***Air Pressure Regulator.***

***Air Pump Motor***

***Air Pump***



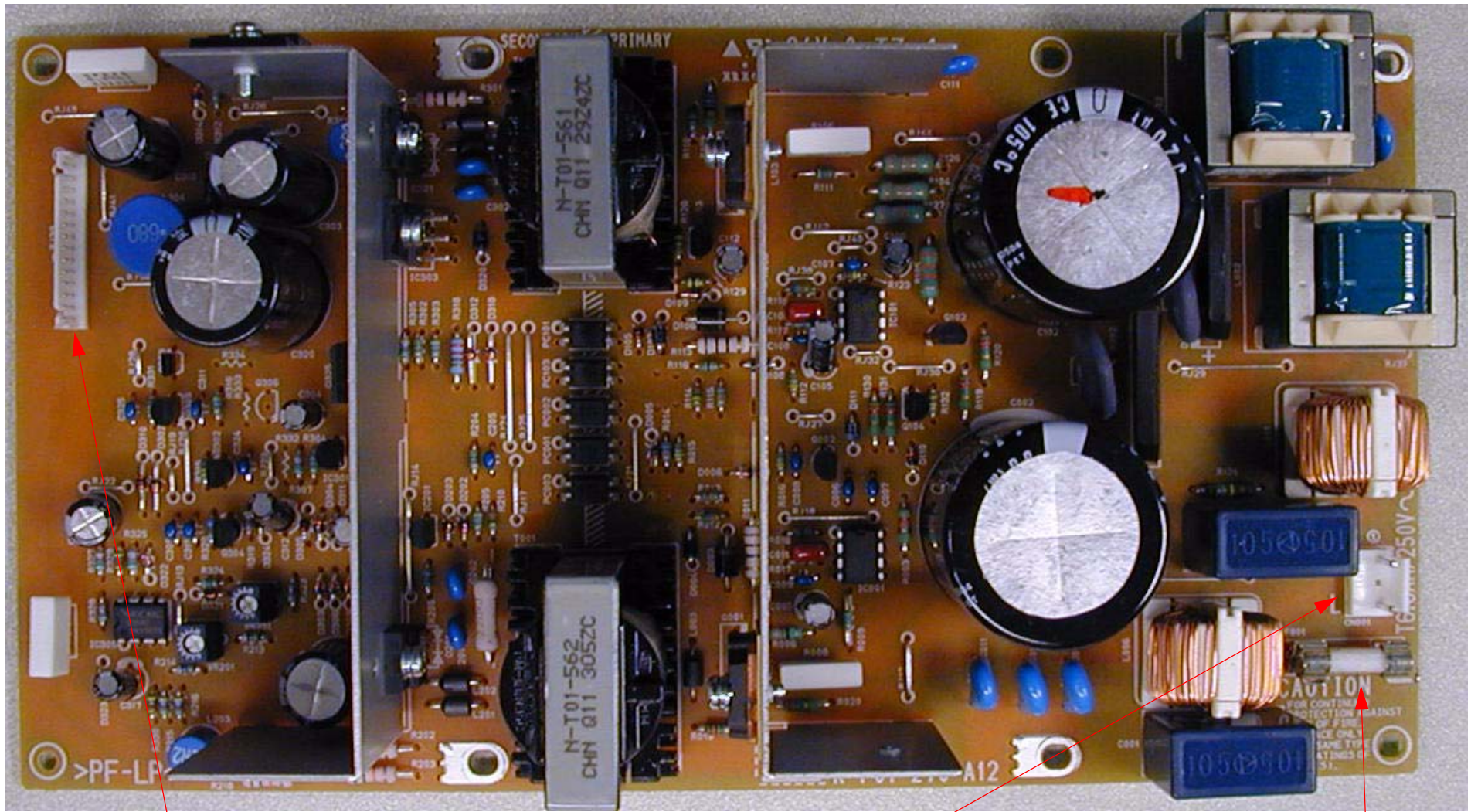
***Air Pressure Release Solenoid***







# Power Supply



(CN301) to Main Board

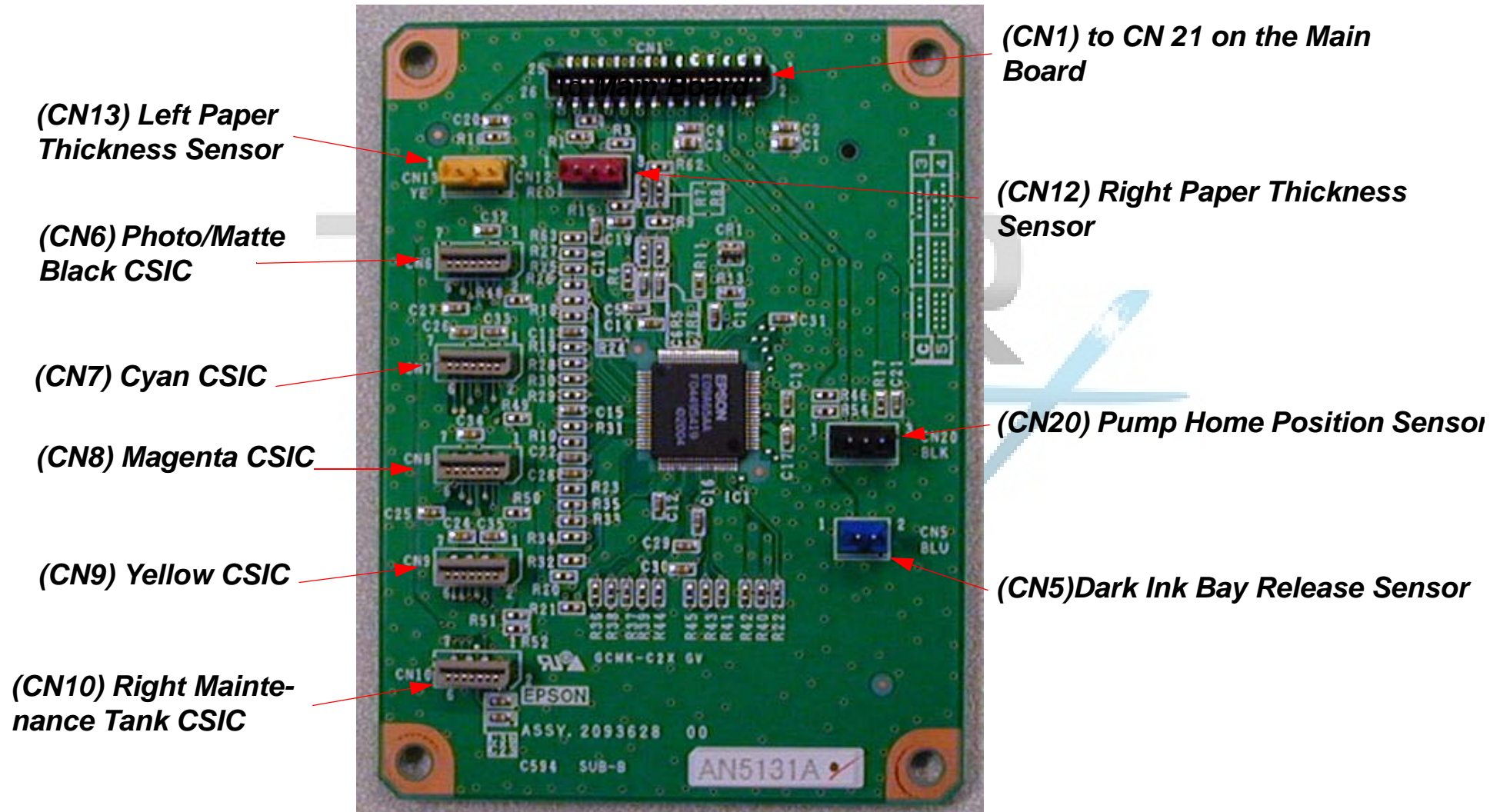
(CN001) AC input

(F001) 6.3amp,  
250 Volt



## Sub Board B

Located under the Right Side Cover, above the Maintenance Tank.



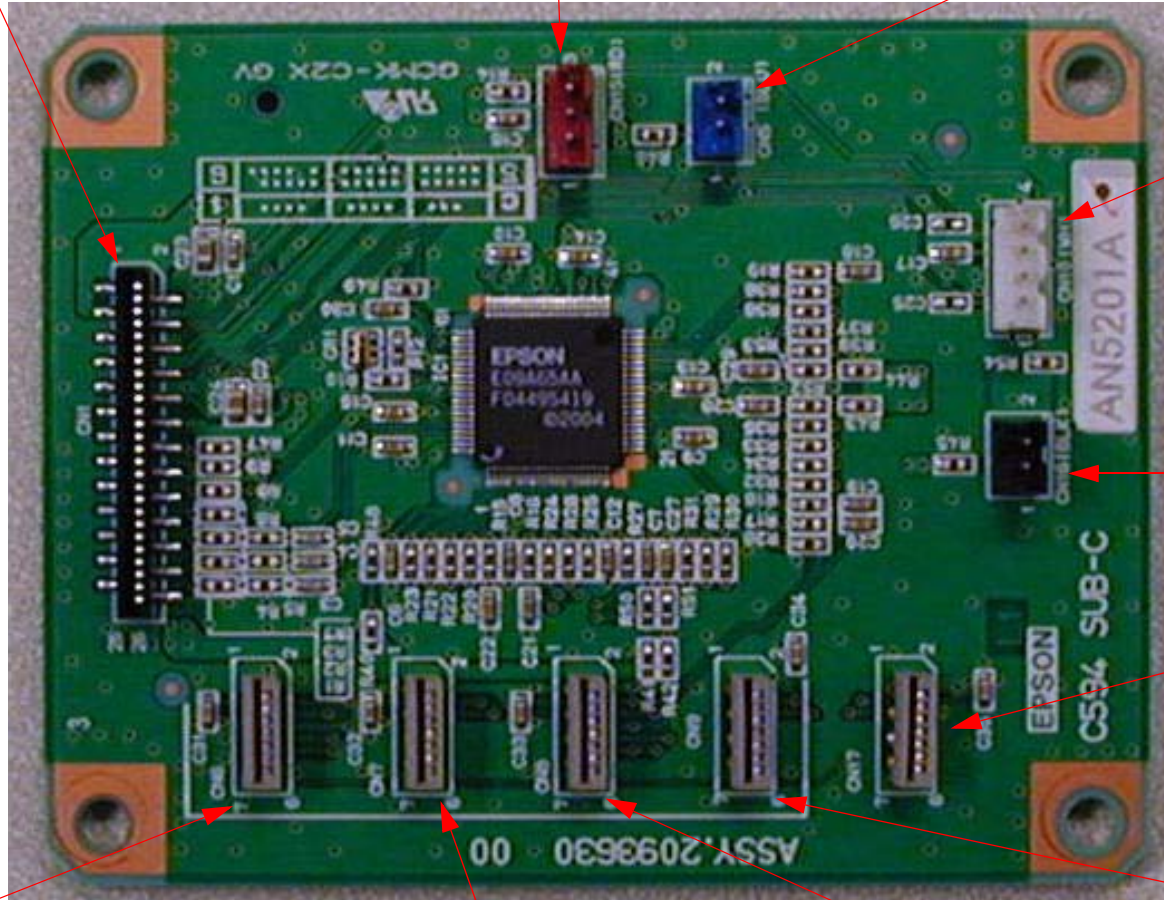
## Sub Board C

Located under the Left Side Cover, above the back of the Left Ink Bay.

(Cn21) To Main Board CN 21

(CN15) Air Pressure Sensor

(CN5) Right Ink Bay Release Sensor



(CN10) Paper Feed Encoder

(CN16) Front Cover Sensor

(CN17) Left Maintenance Tank  
(9800 only)

(CN6) Light Light Black CSIC

(CN7) Light Magenta CSIC

(CN8) Light Cyan CSIC

(CN9) Light Black CSIC



# Accessories List

## Accessories

Sales Part Number	Description
<b>C815121</b>	Replacement 44-inch Take-up Reel Core (9800 only)
<b>C815182</b>	Manual Media Cutting System (for thick media) (9800 only)
<b>C12C815231</b>	Manual Media Cutting System (for thick media) (7800 only)
<b>C815192</b>	Replacement Manual Cutting Blade (for Manual Media Cutting System)
<b>C12C811151</b>	2" or 3", 44" Normal Tension Media Spindle (9800 only)
<b>C12C811161</b>	2" or 3", 24" Normal Tension Media Spindle (7800 only)
<b>C12C811152</b>	2" or 3", 44" High Tension Media Spindle (9800 only)
<b>C12C811155</b>	2" or 3", 24" High Tension Media Spindle (7800 only)
<b>C12C815291</b>	Cutter Blade
<b>C12C824341</b>	EpsonNet Internal 10/100 Base-TX (Ethernet) Print Server Interface Card
<b>C12C8890071</b>	Maintenance Tank
<b>C12C890191</b>	Automatic Take-up Reel System (9800 only)



## All Erase Procedure (Main Board)

**Note:** This procedure erases all data and firmware on the Main Board returning it to the factory default condition. Back up the Printers parameters using the Nvram.exe utility prior to erasing the Main Board. If the parameters can not be “backed up”, print out the Printer’s Print Head Calibration. The Print Head Calibration value is printed on the Service Level Nozzle Check (**ServiceMan Mode: Self Testing: Adjustment: Check Nozzle**).

1. Lift the **Left and Right Ink Levers**, and remove the **Maintenance Tank**.
2. Turn on the **Printer** while depressing the **Up**, **Down**, **Left**, and **Right** buttons.
  - 2.1 The **Printer** will display **UPDATE FIRMWARE**
3. Using **FWupdate.exe** transmit the “all erase” file to the **Printer** (**7800 All Erase.upg or 9800 All Erase.upg**).
  - 3.1 The Printer will display **UPDATING FIRMWARE**.
  - 3.2 The Printer will display **Flash ROM Erase (S\*\*\*\*\*E)**.
  - 3.3 The Printer will display **Flash ROM Erase End [SUCCESS]**.
4. Turn off the **Printer**.
5. Turn on the Printer.
  - 5.1 The Printer will display **UPDATE FIRMWARE**.
6. Upload firmware following the Firmware Update Procedure Using **FWUpdate.exe**.
7. Copy Parameters to the printer using the **Nvram.exe** utility.

- 7.1 Upload the *Printers Parameters* if available.
- 7.2 Upload *Generic Parameters* if the Printer's parameters are not available.



# Cleaning Fluid

**Note: 8 Cartridges are required to flush the system.**

Part #: **1404261**

Description: ***Cleaning Liquid Cartridge.***

Price: **\$39.30 Retail**

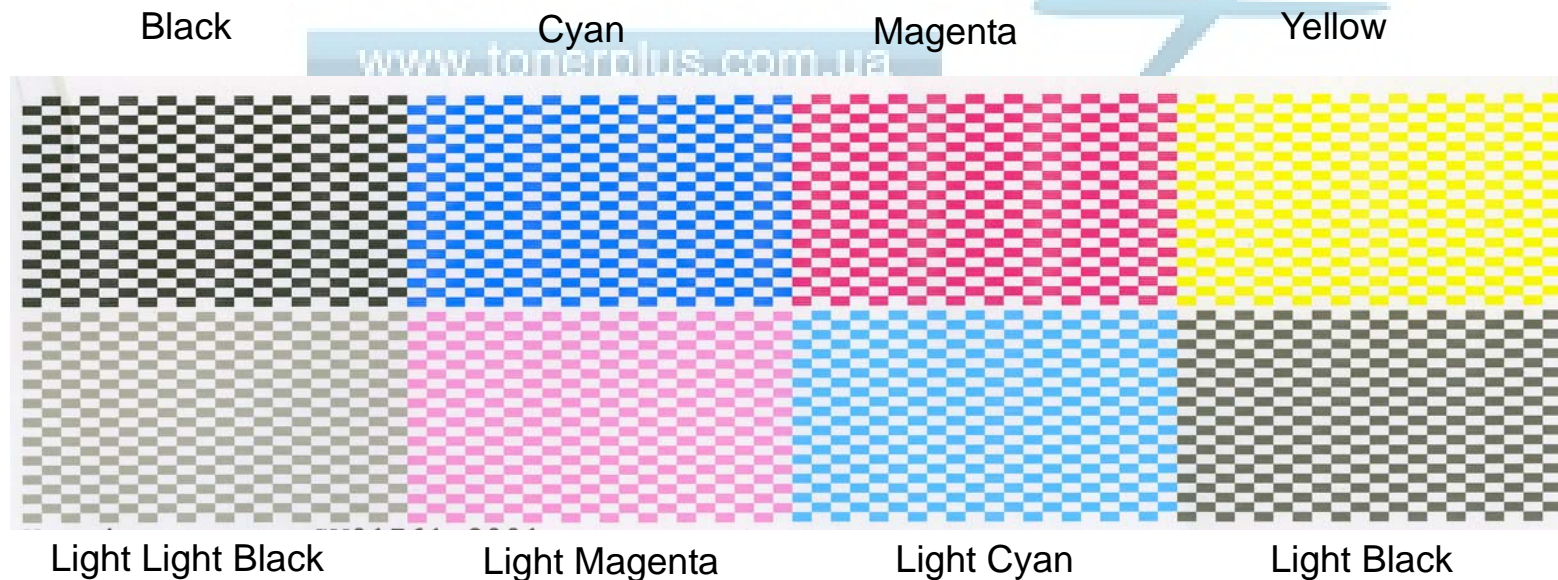


## Color Order

### Color Order on the Print Head and installed Cartridges (Listed Left to Right)

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

### Auto Nozzle Check Color Order





## User Nozzle Check Color Order (Stair Step) (Listed Left to Right)

1. *Photo Black/Matte Black*
2. *Cyan*
3. *Magenta*
4. *Yellow*
5. *Light Black*
6. *Light Cyan*
7. *Light Magenta*
8. *Light Light Black*



# Connectors / Wiring

## Main Board Connectors

Connector #:	Connected To:	Pins:
<b>CN 1</b>	Power Supply <b>CN 1</b>	14
<b>CN 5</b>	Type-B Interface	36
<b>CN 6</b>	USB 2.0	4
<b>CN 7</b>	IEEE1394	8
<b>CN 8</b>	Auto Take -Up Reel Unit	15
<b>CN 9</b>	Control Panel	20
<b>CN 10</b>	Rear AD Paper Sensor	3
<b>CN 13</b>	Carriage Motor	3
<b>CN 14</b>	Paper Feed Motor	2
<b>CN 15</b>	Ink System Pressure Motor	4
<b>CN 16</b>	Pump Motor	4
<b>CN 17</b>	Carriage Board (C594 Sub Board) <b>CN 1</b>	31
<b>CN 18</b>	Carriage Board (C594 Sub Board) <b>CN 2</b>	31
<b>CN 20</b>	Carriage Board (C594 Sub Board) <b>CN 4</b>	31
<b>CN 21</b>	Sub Board B <b>CN 1</b>	26
<b>CN 23</b>	Sub Board C <b>CN 1</b>	26
<b>CN 25</b>	Vacuum Fan #1 (Right Side)	3

Connector #:	Connected To:	Pins:
<b>CN 26</b>	Vacuum Fan #2	3
<b>CN 27</b>	Vacuum Fan #3 (9800 only)	3
<b>CN 29</b>	Cooling Fan	2
<b>CN 30</b>	Head Driver Cooling Fan	2
<b>CN 31</b>	Air Pressure Bleed Solenoid	3

## Carriage Board (C594 Sub Board)

Connector #:	Connected To:	Pins:
<b>CN 1</b>	Main Board <b>CN 17</b>	31
<b>CN 2</b>	Main Board <b>CN 18</b>	31
<b>CN 4</b>	Main Board <b>CN 20</b>	31
<b>CN 5</b>	Print Head <a href="http://www.tonerplus.com.ua">www.tonerplus.com.ua</a>	31
<b>CN 6</b>	Print Head	31
<b>CN 7</b>	Cutter Solenoid	2
<b>CN 8</b>	Ink Mark Sensor	4
<b>CN 9</b>	Carriage Encoder Sensor	5
<b>CN 10</b>	EdgeAD Sensor	4
<b>CN 12</b>	Platen Gap Home Position Sensor	2
<b>CN 13</b>	Carriage Home Position Sensor	2

## C594 Sub-B Board

Connector #:	Connected To:	Pins:
<b>CN 1</b>	Main Board <b>CN 21</b>	26
<b>CN 5</b>	Ink Cartridge Release Sensor (Right)	2
<b>CN 6</b>	Photo / Matte Black CSIC	7
<b>CN 7</b>	Cyan CSIC	7
<b>CN 8</b>	Magenta CSIC	7
<b>CN 9</b>	Yellow CSIC	7
<b>CN 10</b>	Right Maintenance Tank CSIC	7
<b>CN 12</b>	(Right) Paper Thickness Sensor	3
<b>CN 13</b>	(Left) Paper Thickness Sensor	3
<b>CN 20</b>	Pump Home Position Sensor	3

## C594 Sub-C Board

Connector #:	Connected To:	Pins:
<b>CN 1</b>	Main Board <b>CN 23</b>	26
<b>CN 5</b>	Ink Cartridge Release Sensor (Left)	2
<b>CN 6</b>	Light Light Black CSIC	7
<b>CN 7</b>	Light Magenta CSIC	7
<b>CN 8</b>	Light Cyan CSIC	7
<b>CN 9</b>	Light Black CSIC	7

Connector #:	Connected To:	Pins:
<b>CN 10</b>	Paper Feed Encoder	7
<b>CN 15</b>	Ink System Pressure Sensor	3
<b>CN 16</b>	Cover Sensor	3
<b>CN 17</b>	Left Maintenance Tank CSIC (9800 only)	3

## Power Supply

Connector #:	Connected To:	Pins:
<b>CN 001</b>	AC Power	2
<b>CN 301</b>	Main Board <b>CN 1</b>	14

## Control Panel

Connector #:	Connected To:	Pins:
<b>CN 20</b>	Main Board ( <b>CN 9</b> )	2



## 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.*

<b>Service Part #</b>	<b>Sales Part #</b>	<b>Ink 110 ML (Pro 4800)</b>	<b>ECCC Cost after 40% discount</b>
<b>WAT602100</b>	<b>T602100</b>	UltraChrome K3 Photo Black	<b>Warranty use only</b>
<b>WAT602200</b>	<b>T602200</b>	UltraChrome K3 Cyan	<b>Warranty use only</b>
<b>WAT602B00</b>	<b>T602B00</b>	UltraChrome K3 Magenta	<b>Warranty use only</b>
<b>WAT602400</b>	<b>T602400</b>	UltraChrome K3 Yellow	<b>Warranty use only</b>
<b>WAT602500</b>	<b>T602500</b>	UltraChrome K3 Light Cyan	<b>Warranty use only</b>
<b>WAT602C00</b>	<b>T602C00</b>	UltraChrome K3 Light Magenta	<b>Warranty use only</b>
<b>WAT602700</b>	<b>T602700</b>	UltraChrome K3 Light Black	<b>Warranty use only</b>
<b>WAT566800</b>	<b>T602800</b>	UltraChrome (K3) Matte Black	<b>Warranty use only</b>
<b>WAT602900</b>	<b>T602900</b>	UltraChrome K3 Light Light Black	<b>Warranty use only</b>

<b>Service Part #</b>	<b>Sales Part #</b>	<b>Paper Type</b>	<b>ECCC Cost after 40% discount</b>
<b>WAS041385</b>	<b>SO41385</b>	Double Weight Matte Paper 24" x 82' roll	<b>\$42.00</b>
<b>WAS041387</b>	<b>SO41387</b>	Double Weight Matte Paper 44" x 82' roll	<b>\$64.64</b>
<b>WAS041393</b>	<b>S041393</b>	Premium Semimatte Photo Paper(170) 24" x 100" roll	<b>\$69.96</b>
<b>WAS041395</b>	<b>S041395</b>	Premium Semimatte Photo Paper(170) 44" x 100" roll	<b>\$123.00</b>

<b>Service Part #</b>	<b>Sales Part #</b>	<b>Paper Type</b>	<b>ECCC Cost after 40% discount</b>
<b>WAS041603</b>	<b>S041603</b>	Enhanced Matte Paper size A4 (250 sheets)	<b>\$106.32</b>
<b>WAS041725</b>	<b>S041725</b>	Enhanced Matte Paper 17" x 100' roll	<b>\$38.50</b>
<b>WAS041737</b>	<b>S041737</b>	Premium Luster Photo Paper(250) 16" x 100' roll	<b>\$66.00</b>
<b>WAS041779</b>	<b>S041779</b>	Photo Semigloss 16.5" x 100" roll	<b>\$59.97</b>
<b>WAS041827</b>	<b>S041827</b>	Premium Semimatte Photo Paper 17" x 22" (25 sheets)	<b>\$53.97</b>

**Maintenance Tank And 220 ml Ink Cartridges are available through Sales Channels only.**

<b>Sales Part Number</b>	<b>Description</b>
<b>C12C890191</b>	Maintenance Tank
<b>C12C815291</b>	Cutter Blade

<b>Sales Part Number</b>	<b>Ink 220 ML</b>
<b>T603100</b>	UltraChrome K3 Photo Black
<b>T603200</b>	UltraChrome K3 Cyan
<b>T603B00</b>	UltraChrome K3 Magenta
<b>T603400</b>	UltraChrome K3 Yellow
<b>T603500</b>	UltraChrome K3 Light Cyan
<b>T603C00</b>	UltraChrome K3 Light Magenta
<b>T603700</b>	UltraChrome K3 Light Black
<b>T607800</b>	UltraChrome K3 Matte Black

<b>Sales Part Number</b>	<b><i>Ink 220 ML</i></b>
<b>T563900</b>	UltraChrome K3 Light Light Black



## Firmware History (7800)

This chart explains the meaning of the firmware version characters.

Epson firmware version is represented as: Model and the Release Date.				The values are represented in Hexadecimal	
Example <b>SN00458</b>				<b>HEX</b>	<b>= Decimal</b>
<b>SN0</b>	<b>04</b>	<b>5</b>	<b>8</b>	1	= 1
<b>SP7800</b>	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	2	= 2
	4	2005	Aug	3	= 3
Example <b>SN00157</b>				4	= 4
<b>SN0</b>	<b>01</b>	<b>5</b>	<b>7</b>	5	= 5
<b>SP7800</b>	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	6	= 6
	01	2005	Jul	7	= 7
Example:				8	= 8
				9	= 9
	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	A	= 10
				B	= 11
				C	= 12
				D	= 13
				E	= 14
				F	= 15

### Stylus Pro 7800 Current Firmware Ver. SN01475.upg

Release date: 05/1040

1. Enabled the display of the Energy Star logo when the Printer is turned on.
2. Added a media/driver mismatch error to be displayed when driver and Printer settings do not match.

## **Stylus Pro 7800 Firmware Ver. SN01068.upg**

**Release date: 08/10/06**

1. The periodic (20 day) Power Clean request was changed to a periodic (20 day) Auto Nozzle Check request. If the Auto Nozzle Check detects missing nozzles, the Printer will perform a Power Clean.

## **Stylus Pro 7800 Firmware Ver. SN01965.upg**

**Release date: 05/19/06**

1. Support for additional media types was added.

## **Stylus Pro 7800 Firmware Ver. SN01761.upg**

**Release date: 1/17/06**

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1. Corrected paper recognition errors for the optional Auto Take Up Reel (9800 only)

## **Stylus Pro 7800 Firmware Ver. SN0185B.upg**

**Release date: 11/18/05**

1. Ink consumption management was improved.
2. The memory map was modified to provide support for the Ink Bay Modification Flag.
3. The Firmware Version was modified to support the Ink Bay Modification Flag (SN0185.800 = Flag not set) (SN0185.800<sup>1</sup> = Flag set)



**Stylus Pro 7800 Firmware Ver. SN0185A.upg****Release date:10/18/05**

4. Ink consumption management was improved.

**Stylus Pro 7800 Firmware Ver. SN0075A.upg****Release date:10/07/05**

1. Ink consumption management was improved.

**Stylus Pro 7800 Firmware Ver. SN00458.upg****Release date:8/04/05**

1. The computation method used by the "Colorimetric Calibration Utility" to calculate the weight of an ink droplet has been corrected.
2. "Super MicroWeave" now functions normally.
3. Ink out calculation was corrected.
4. The Auto Nozzle Check routine works completely.

**Stylus Pro 7800 Firmware Ver. SN00157.upg****Release date:7/01/05**

Initial Release.

## Firmware History (9800)

This chart explains the meaning of the firmware version characters.

Epson firmware version is represented as: Model and the Release Date.				The values are represented in Hexadecimal	
Example <b>SN00458</b>				<b>HEX</b>	<b>= Decimal</b>
<b>SN0</b>	<b>04</b>	<b>5</b>	<b>8</b>	1	= 1
<b>SP7800</b>	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	2	= 2
	4	2005	Aug	3	= 3
Example <b>SN00157</b>				4	= 4
<b>SN0</b>	<b>01</b>	<b>5</b>	<b>7</b>	5	= 5
<b>SP7800</b>	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	6	= 6
	01	2005	Jul	7	= 7
Example:				8	= 8
				9	= 9
	<b>DAY</b>	<b>YEAR</b>	<b>MONTH</b>	A	= 10
				B	= 11
				C	= 12
				D	= 13
				E	= 14
				F	= 15

### Stylus Pro 9800 Current Firmware Ver. SW01475.upg

Release date: 05/1040

1. Enabled the display of the Energy Star logo when the Printer is turned on.
2. Added a media/driver mismatch error to be displayed when driver and Printer settings do not match.

## **Stylus Pro 9800 Firmware Ver. SW01068.upg**

**Release date: 08/10/06**

1. The periodic (20 day) Power Clean request was changed to a periodic (20 day) Auto Nozzle Check request. If the Auto Nozzle Check detects missing nozzles, the Printer will perform a Power Clean.

## **Stylus Pro 9800 Firmware Ver. SW01965.upg**

**Release date: 05/19/06**

1. Support for additional media types was added.

## **Stylus Pro 9800 Firmware Ver. SW01761.upg**

**Release date: 1/17/06**

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1. Corrected paper recognition errors for the optional Auto Take Up Reel.

## **Stylus Pro 9800 Firmware Ver. SW0185B.upg**

**Release date: 11/18/05**

1. Ink consumption management was improved.
2. The memory map was modified to provide support for the Ink Bay Modification Flag.

The Firmware Version was modified to support the Ink Bay Modification Flag (SN0185.800 = Flag not set) (SN0185.8001 = Flag set)

## **Stylus Pro 9800 Firmware Ver. SW0185A.upg**

**Release date:10/18/05**

3. Ink consumption management was improved.

## **Stylus Pro 9800 Firmware Ver. SW0075A.upg**

**Release date:10/07/05**

1. Ink consumption management was improved.

## **Stylus Pro 9800 Firmware Ver. SW00458.upg**

**Release date:8/04/05**

1. The computation method used by the "Colorimetric Calibration Utility" to calculate the weight of an ink droplet has been corrected.
2. "Super MicroWeave" now functions normally.
3. Ink out calculation was corrected.
4. The Auto Nozzle Check routine works completely.

## **Stylus Pro 9800 Firmware Ver. SW00157.upg**

**Release date:7/01/05**

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 re-initialize and display **EPSON**.
  - 2.4 The Printer will display **PRESS PAUSE BUTTON**.
  - 2.5 The Printer will display **PLEASE WAIT**.
  - 2.6 The Printer display **READY**.

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# Firmware Update Procedure Using PRNPRINT

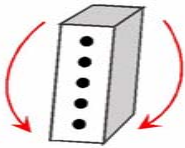
**Note:** *This procedure is used to update or install firmware. It is the service method because it does not require the Printer to be "Online" to work.*

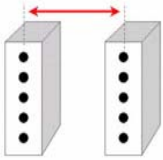
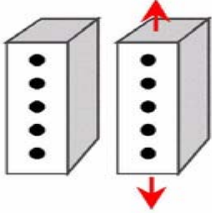
1. Turn on the **Printer** while depressing the **Up**, **Down**, **Left**, and **Right** buttons.
  - 1.1 The **Printer** will display **UPDATE FIRMWARE**
2. Using **PRNPRINT.EXE** transmit the current firmware to the **Printer**.
  - 2.1 The Printer will display **UPDATING FIRMWARE.**
  - 2.2 The Printer will display **FIRMWARE UPDATE COMPLETE.**
  - 2.3 The Printer will re-initialize and display **EPSON.**
  - 2.4 The Printer will display **PRESS PAUSE BUTTON.**
  - 2.5 The Printer will display **PLEASE WAIT.**
  - 2.6 The Printer display **READY.**

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# 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 an 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:	<p>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.</p> 

<b>Head Gap Adjustment:</b>	<p>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...</p> 
<b>Head ID:</b>	<p>The calibration value written on the print head that allows the printers electronics to compensate for the print heads “personality” (inaccuracies).</p>
<b>Head Linear Adjustment:</b>	<p>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.</p> 
<b>Home Position:</b>	<p>The print head's horizontal reference position, as determined by the Home Position Sensor</p>
<b>Horizontal Banding:</b>	<p>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.).</p>
<b>Horizontal Over-lap:</b>	<p>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.</p>



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 an image during printing.
Moiré Pattern:	A repetitive pattern, within an image, which is not intended. It 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 an 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 Procedure

1. Turn on the **Printer** in **SELF TESTING** Mode.
  - 1.1 Press and hold the **Down**, **Right**, and **Enter** buttons, and turn on the **Printer**.
2. Navigate to the **Adjustment** menu, and press the **Menu** button.
3. Navigate to **Clean Head**, and press the **Menu** button.
  - 3.1 The **Printer** will display **Please Remove Ink**.
4. Remove the **Ink Cartridges**, and press the **Enter** button.
  - 4.1 The **Printer** will display **Set Ink Lever (L/R)**
5. Lower both **Ink Levers**, and press **Enter**.
  - 5.1 The **Printer** will display **Discharge Ink**.
6. The **Printer** will evacuate the ink (Approximately 5 minutes).
7. The **Printer** will display **Set Cleaning I/C**, when the ink is evacuated.
  - 7.1 Install Cleaning Cartridges if you want to flush the system.
  - 7.2 Turn off the **Printer** to end the Ink Draining Procedure.

# Ink System Flushing Procedure

**Note:** This procedure describes the process of draining the ink from the Printer, and flushing the Ink System with cleaning fluid.

**Cleaning Cartridge Part # 1404261 (8 Cartridges required)**

1. Turn on the **Printer** in **SELF TESTING** Mode.
  - 1.1 Press and hold the **Down**, **Right**, and **Enter** buttons, and turn on the **Printer**.
2. Navigate to the **Adjustment** menu, and press the **Menu** button.
3. Navigate to **Clean Head**, and press the **Menu** button.
  - 3.1 The **Printer** will display **Please Remove Ink**.
4. Remove the **Ink Cartridges**, and press the **Enter** button.
  - 4.1 The **Printer** will display **Set Ink Lever (L/R)**
5. Lower both **Ink Levers**, and press **Enter**.
  - 5.1 The **Printer** will display **Discharge Ink**.
6. The **Printer** will evacuate the ink (Approximately 5 minutes).
7. The **Printer** will display **Set Cleaning I/C**.
  - 7.1 Raise both ink levers, install Cleaning Cartridges, and press **Enter**
  - 7.2 The **Printer** will display **Set Ink Lever (L/R)**.
8. Lower both **Ink Levers**, and press **Enter**.
  - 8.1 The **Printer** will display **Head Cleaning**.



- 8.2 The Cleaning takes about 5 minutes, then printer will display **Please Remove CL. I/C**
9. Remove Cleaning Cartridges, Press **Enter**.
- 9.1 The **Printer** will display **Set Ink Lever (L/R)**
10. Lower both **Ink Levers**, and press **Enter**.
- 10.1 The **Printer** will display **Dischg. Washfluid(1)**
11. The **Printer** will evacuate the Washfluid(Approximately 5 minutes).
12. Step 7-10 is repeated.
13. Lower both **Ink Levers**, and press **Enter**.
- 13.1 The **Printer** will display **Dischg. Washfluid(2)**
14. Step 7-10 is repeated
15. Lower both **Ink Levers**, and press **Enter**.
- 15.1 The **Printer** will display **Dischg. Washfluid(3)**
16. When the final Flushing is done, the printer will display **Clean Head**.

# Ink Tube Order

**Note:** *This chapter documents the order that the Ink Tubes are connected to the Print Head.*

The Ink Tube/Print Head color order is listed left to right.

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

User Nozzle Check Color Order (Stair Step) (Listed Left to Right)

1. *Photo Black/Matte Black*
2. *Cyan*
3. *Magenta*
4. *Yellow*
5. *Light Black*
6. *Light Cyan*
7. *Light Magenta*
8. *Light Light Black*

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# Prime, On or Off

***Prime, Initial Fill, and Charge mean the same thing. They all refer to filling the Ink System with ink. Controlling the Prime function requires Setting, or Resetting the Init.Fill Flag.***

***Init.Fill: Reset*** = The Printer is already primed.

***Init.Fill: Set*** = the Printer will prime the next time it is turned on.

1. Press and hold the **Down**, **Right**, and **Enter** buttons and turn on the **Printer** (**Self Testing** mode).
2. Using the **Down** button, navigate to the **Parameter** menu, and press the **Right** button.
3. Using the **Down** button, navigate to the **Update** menu, and press the **Right** button.
4. Using the **Down** button, navigate to the **InkParameter** menu, and press the **Right** button

***Note: the Printer will always display SET. This does not mean that the Init.Fill Flag is SET.***

- 4.1 Change to **Reset**, and press the **Enter** button, to **turn off the Prime** routine.
  - 4.1.1 The **Printer** will display **Update Param?**
  - 4.1.2 Press the **Enter** button.
- 4.2 Change to **Set**, and press the **Enter** button, to **start a Prime** routine.
  - 4.2.1 The **Printer** will display **Update Param?**
  - 4.2.2 Press the **Enter** button.

# Revision History

## January 7, 2008

1. The Consumable Service Parts chapter was updated to correct ink part number errors.

## June 20, 2007

1. The Color Order chapter was modified to include the Auto Nozzle Check Pattern.
2. A chapter titled Ink System Flushing Procedure was added.
3. The Firmware History chapters were updated for the 7800 and 9800.
4. A chapter titled Chronic Nozzle Loss Explanation and Resolution was added to the Troubleshooting Section.
5. A chapter on how to troubleshoot an Epson Ethernet Card was added.

## April 3, 2007

1. The Parameter Backup and Restore chapter was updated.
2. The All Erase chapter was updated.
3. The Maintenance Error Code chapter was updated.
4. The Pump and Cap Installation chapter was updated.

5. The Left Ink Bay Removal chapter was updated.
6. The Right Ink Bay Removal chapter was.

## **February 28, 2007**

1. The Consumable Service Parts chapter was updated to reflect new papers and prices.
2. The Paper Thickness Sensor Adjustment chapter was corrected.

## **January 11, 2007**

1. The Firmware History Chapters were updated.

## **September 26, 2006**

1. The Firmware History Chapters were updated.
2. A chapter on Carriage Replacement was added.

## **April 12, 2006**

1. A chapter titled Empty Ink Cartridges / Displays Ink Left was added to the Troubleshooting Section.
2. A chapter titled Ink Bay Spring Upgrade was added to the Component Replacement Section.
3. A chapter titled No Control Panel Display was added to the Troubleshooting Section.
4. A chapter titled Stuck In Cut Sheet Mode was added to the Troubleshooting Section.



5. A chapter titled Paper Release Won't Stay Open was added to the Troubleshooting Section.
6. A chapter titled 00010000 was added to the Troubleshooting Section.
7. A chapter titled 00010002 was added to the Troubleshooting Section.
8. A chapter titled 00010004 was added to the Troubleshooting Section.
9. A chapter titled 00010005 was added to the Troubleshooting Section.
10. A chapter titled 0001000C was added to the Troubleshooting Section.
11. A chapter titled Load Paper Properly was added to the Troubleshooting Section.
12. A chapter titled Install Ink Cartridge was added to the Troubleshooting Section.
13. A chapter titled Lower Ink Lever was added to the Troubleshooting Section.
14. A chapter titled Invalid Ink Cartridge was added to the Troubleshooting Section.

## **March 23, 2006**

1. The firmware History Chapter was updated.
2. A chapter documenting the new firmware update utility was added.
3. A chapter documenting the Main Board's all erase procedure was added.
4. The Main Board Replacement chapter was modified to reflect new parameter installation and firmware procedures.

5. A chapter displaying and labeling the components of the Carriage Mechanism was added.
6. A chapter documenting Edge Detector replacement was added.

### **January 5, 2006**

1. The Service Procedure Chapter was updated to reflect the service/ink policy.

### **October 27, 2005**

1. The Firmware History Chapter was updated to reflect new firmware.
2. The Print Head Slant Adjustment (PF) chapter was updated
3. The 100014 Error Chapter was added.
4. Various spelling, format, and content errors were corrected.

### **October 14, 2005**

1. The Firmware History Chapter was updated to reflect new firmware.
2. Various spelling, format, and content errors were corrected.

### **September 29, 2005**

1. A Borderless Printing Errors chapter was added.
2. Various spelling, format, and content errors were corrected.

## September 23, 2005

1. Various spelling, format, and content errors were corrected.
2. A ***Paper Feed Encoder Scale*** replacement chapter was added.

## September 1, 2005

1. Initial release.



# Sensors, Motors, Solenoids, and Fans

<b>Home Position Sensors:</b>	<b>Carriage HP Sensor (CR Origin)</b> <b>Platen Gap HP Sensor (Head Slide)</b> <b>Pump HP Sensor(Pump)</b> (Wiper Blade position)
<b>Maintenance/Waste Ink Tank Sensor</b>	<b>Waste Ink CSIC (MainteTank)</b>
<b>Ink Cartridge Sensors:</b>	<b>CSIC's</b> (Customer Satisfaction Ink Cartridge (qty-8) <b>Ink Cartridge Lock Lever Sensor (2)(InkLvr)</b>
<b>Encoders:</b>	<b>Carriage Encoder (CR Encoder)</b> (Carriage position and dot timing) <b>Paper Feed Encoder (PF Encoder)</b> (Paper advance timing).
<b>Paper Sensors:</b>	<b>Paper Empty Sensor (RearAD)</b> <b>Edge Detector (EdgeAD)</b> (Width, Leading Edge) <b>Paper Thickness Sensor (Paper)</b> (2 Sensors)
<b>Safety Sensors:</b>	<b>Cover Sensor(Cover)</b>
<b>Auto Alignment Sensors:</b>	<b>Ink Mark Sensor (Edge2AD)</b> (Nozzle test, Auto alignments)
<b>Pressure Sensor</b>	<b>Ink System Pressure Sensor (Ink Press)</b>
<b>Temperature Sensors:</b>	<b>Head Temperature Sensor (Head Temp)</b> <b>Head Driver Temperature Sensor (Drv Temp)</b>

<b>Motors</b>	<p><b>Carriage Motor:</b> moves the Carriage Assembly.</p> <p><b>Paper Feed Motor:</b> turns the <b>Paper Feed Roller</b></p> <p><b>Pump Motor:</b> (<b>Pump Motor</b>) Runs the <b>Pump</b> and sets platen gap.</p> <p><b>Pressure Pump Motor:</b> (<b>Ink Press Motor</b>) (Runs the <b>Ink System Pressure Pump</b>)</p>
<b>Solenoids</b>	<p><b>Cutter Solenoid:</b> (<b>Cutter Sol</b>) Cuts media and unlocks the <b>Carriage Lock</b>.</p> <p><b>Pressure Bleed Solenoid:</b> (<b>Regulator Sol</b>) (When energized, closes the <b>Pressure Bleed Valve</b>).</p>
<b>Fans</b>	<p><b>Head Drive Cooling Fan</b> (<b>Head Drv</b>) (Cools the Print Head Driver Transistors)</p> <p><b>Paper Suction Fans:</b> 7800 (<b>Paper 1, Paper 2</b>) 9800 (<b>Paper 1, Paper 2, Paper 3</b>)</p>

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## Service Procedure

**Note:** *Because of the large amount of ink that some service procedures require, please use your Ink and Waste Tank, not the customers.*

1. Observe the customer's service issue.
2. Clean the **Carriage Rails** with a dry cloth or paper towel
3. Check the User Menu: **Printer Status: Service Life: Cleaning Unit Counter:**
  - 3.1 If  $\leq$  \*\*, then replace the **Cleaning Unit** and **Wiper Blade**.
    - 3.1.1 Perform the **Reset When Cleaning Unit Change**.
  - 3.2 If  $\geq$  \*\*\*, then Clean the **Cap**, **Wiper Blade**, and **Wiper Blade Cleaner**.
    - 3.2.1 Clean the **Print Head Nozzle Plate** if necessary.
    - 3.2.2 Perform the **Reset When Cleaning Unit Change**.
4. Check the **Carriage Motor** life counter: **Serviceman Mode:View Counters: CR Motor**.
  - 4.1 If  $\leq$  \*:
    - 4.1.1 **Copy the counter data to your fix notes**.
    - 4.1.2 Then replace the **Carriage Motor**.
    - 4.1.3 Perform the **Reset When CR Unit Change**.
  - 4.2 If  $\geq$  \*\*:
    - 4.2.1 **Copy the counter data to your fix notes**.
    - 4.2.2 Perform the **Reset When CR Unit Change**.
5. Clean and check the **Borderless Pads** and replace if necessary.
6. Blow off the **IM Sensor**

7. Blow off the **Carriage Encoder**.
8. Clean the **Timing Strip (Encoder Strip)**
9. Update the Firmware to the current version if necessary.
10. Repair the customer's service issue, if cleaning did not fix it.
11. Check the **Print Head's** mechanical alignments
  - 11.1 Perform the **Print Head Slant Adjustment (CR)**
  - 11.2 Perform the **Print Head Slant Adjustment (PF)**
12. Perform the **T&B&S + 980mm Feed Adjustment**.
  - 12.1 Perform the **Clear Micro Feed PF Adjustment (Bi-D)**

**Note: Step 12.1 clears the user paper feed tables. It may not be necessary to clear, but should be considered. It is prudent to back up parameters before clearing, to set a restore point.**
13. Perform the **Auto Bi-D Adjustment**
14. Perform the **Auto Uni-D Adjustment**
15. Perform the **Reset When Pump Unit Change**.

## Service Tools

Service Part Number	Description
1047746	1000mm Scale (meter stick)
1057723	Kimoto Micro Trace #300, A-3
1060744	Tension Gauge (40N)
1080614	Grease G-26 (40GR)
1401952	Tension Gauge (10N)
1404261	Cleaning Cartridge (qty-1)
1418613	Black Conversion Kit
1424364	Paper Thickness Sensor Position Jig
1424365	Ink Mark Sensor Position Jig
1424366	Cutter Position Jig

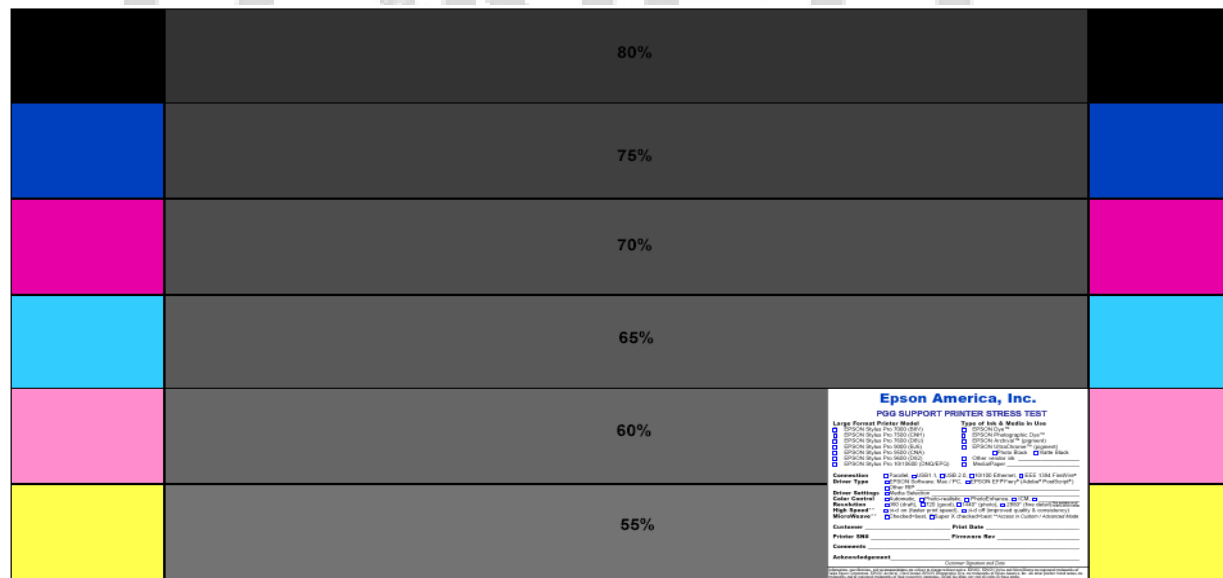
# Stress Test (Test Image)

## Purpose:

The Printer Stress Test was designed to amplify any print quality issues. It is for diagnosis purposes only. It never looks perfect. There is always some horizontal and vertical banding.

## Use:

1. Use it to compare Non-Epson Drivers against the Epson Driver.
2. Use it to look for image quality variances across the entire printable area of the printer.



Is the vertical banding consistent across the entire image?

Is the horizontal banding consistent across the entire image?

Is the density consistent across the entire image?

If the answer to any of the above questions is no, **Contact Epson**. It may be a parallelism issue.





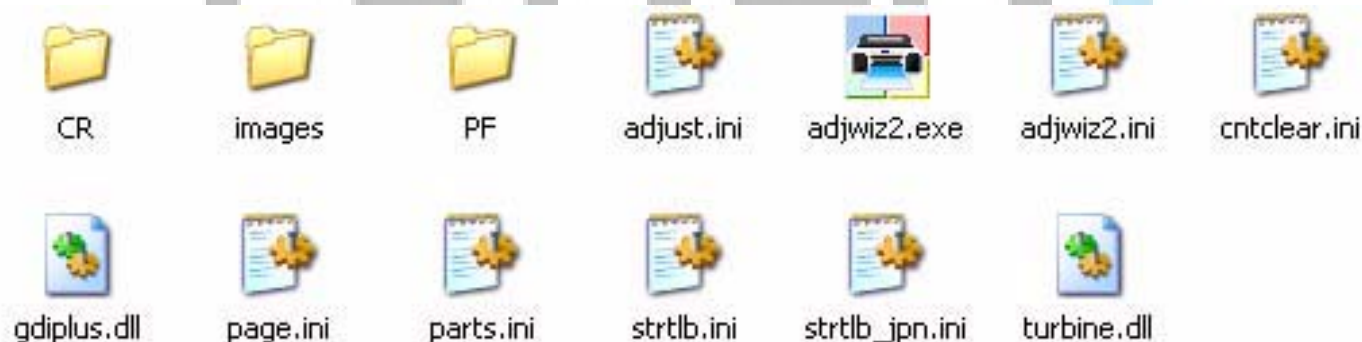
# Adjustment Wizard2

**Note:** The Adjustment Wizard is the utility that enables electronic and mechanical alignments of the Pro 9800.

**Note:** The Adjustment Wizard will work when the Printer is in “Ready” mode, or in SERVICEMAN MODE.

**Note:** Serviceman Mode will allow the Adjustment Wizard to function with the Printer, when the Printer is in an error condition.

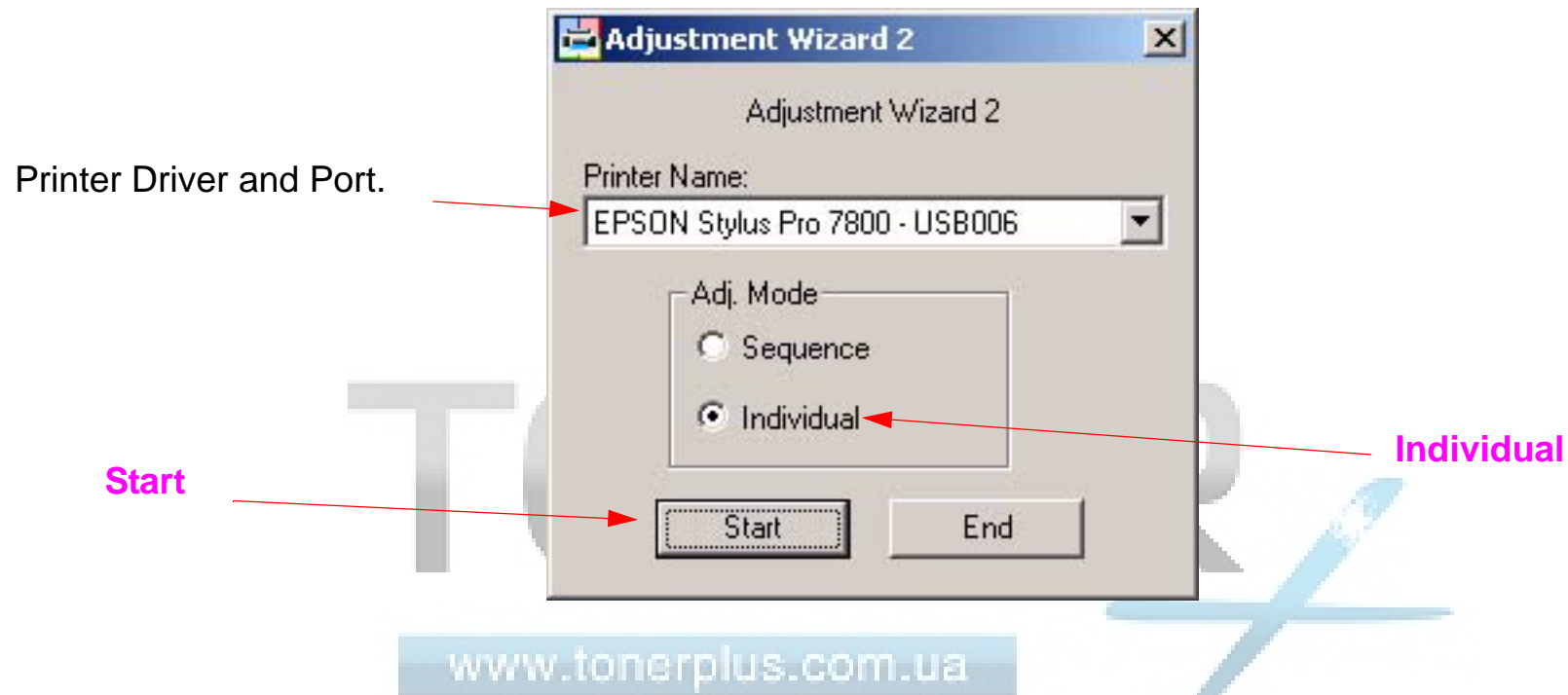
1. Ensure that the Pro 7800 or 9800 Printer Driver and Status Monitor 3 is installed on the system that will be running the Adjustment Wizard2.
  - 1.1 Verify that the Driver and Status Monitor 3 are functional, by opening the Driver and verifying that Status Monitor 3 can report on ink levels.
2. Create a folder and copy the Adjustment Wizard 2 files into it.



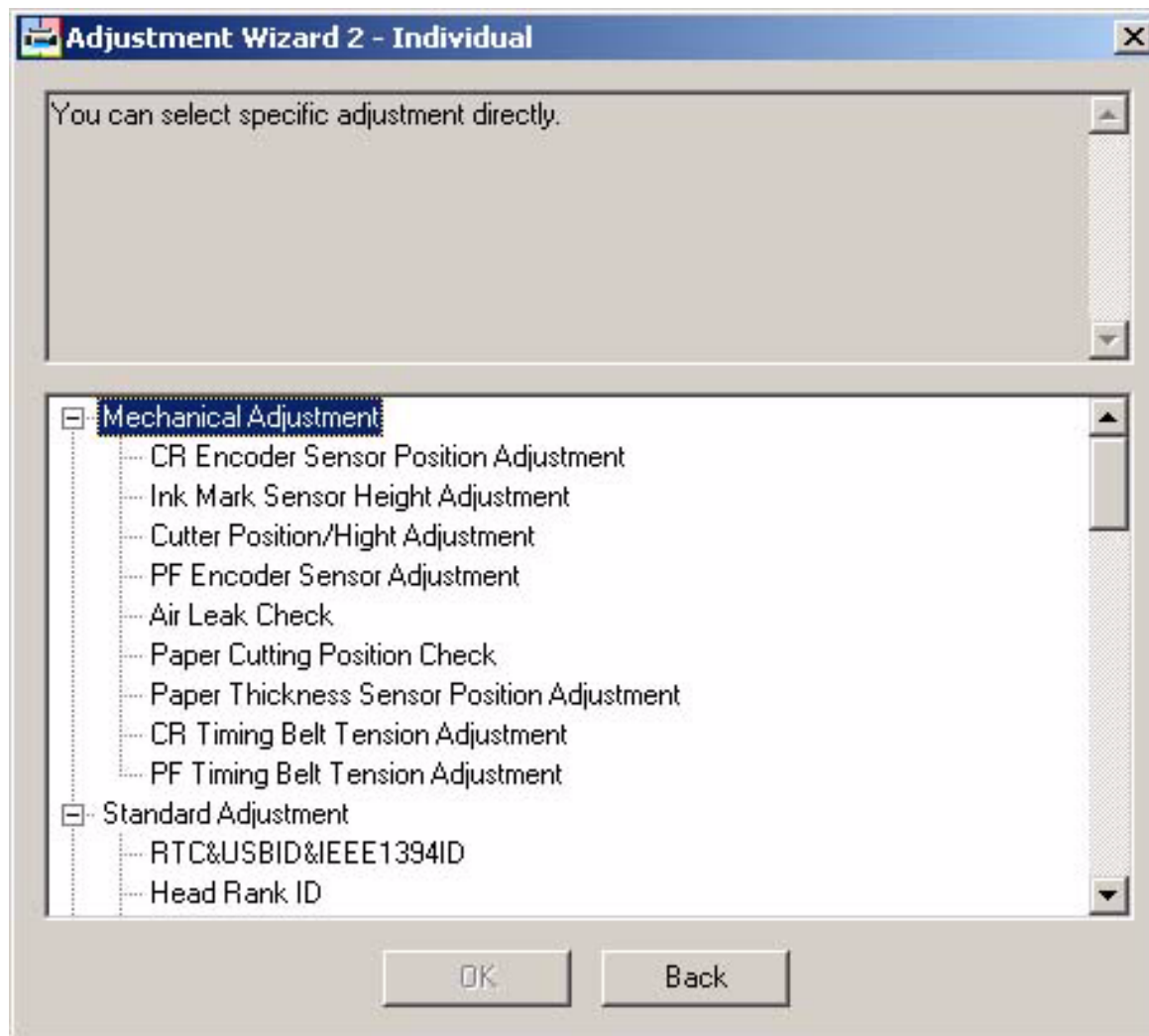
3. Double Click on Adjwiz2 to start the utility.



4. Pick the correct printer driver/port, **Individual**, and click **Start**.



5. The utility will look like this.



6. Double click on the individual line items to perform each adjustment.

# Colorimetric Calibration Procedure

**Note:** *Colorimetric Calibration is designed to standardize color between all 78/9800's*  
*Colorimetric Calibration should be performed after replacing the Main Board, Print Head, or Power Supply.*

*Colorimetric Calibration requires ink cartridges that are at least 10% full.*

*Colorimetric Calibration must be performed in sequence. If the procedure "locks up", it must be restarted from the beginning.*

*Colorimetric Software can not be run from a CD. It must be copied to your computer.*

**Required Equipment:** GretagMacbeth Eye-One color measuring device

1 Computer with 2 USB Ports (or a USB HUB)

Eye-One USB Driver

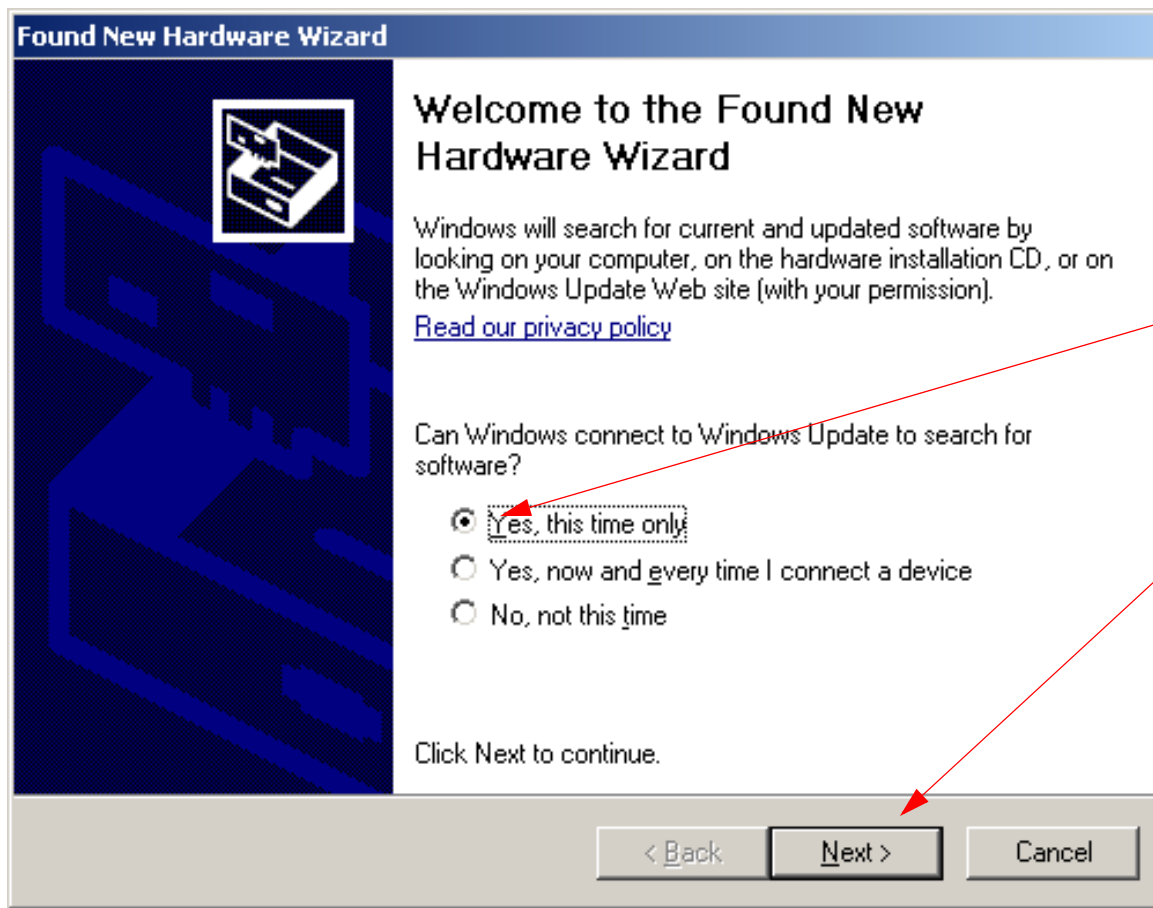
Colorimetric Utility

8.5x11 or A4 Enhanced Matte Media

Black Backing Sheet

1. Install the **78/9800 Printer Driver** and **Status Monitor 3**.
2. Install the **Eye-One** and **USB Driver**.
  - 2.1 Connect the **Eye-One** to the **USB Port** on your Computer.

## 2.2 Install the **USB Driver** using the **New Hardware Wizard**

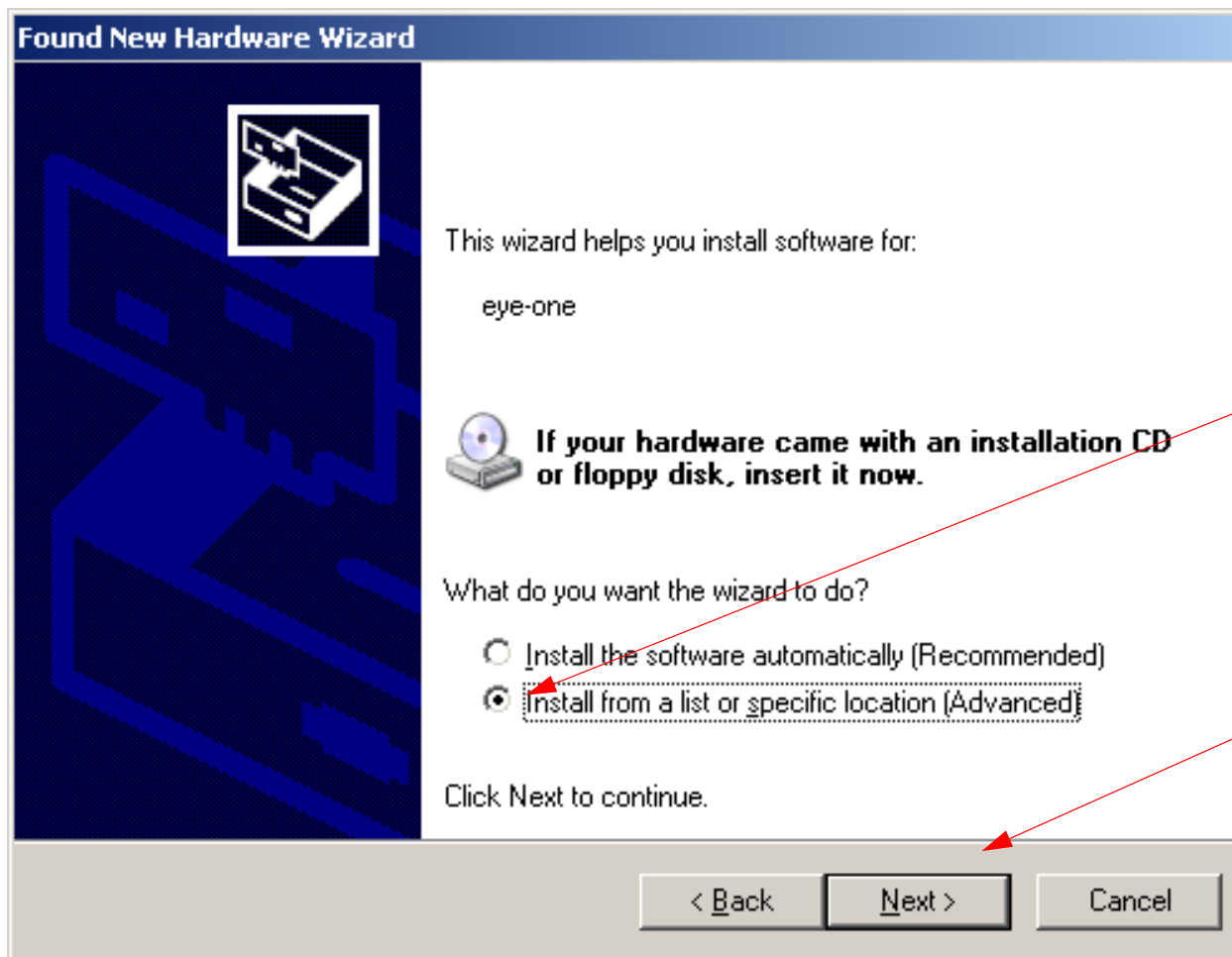


1. Click on **Yes, this time only**

2. Click on **Next**

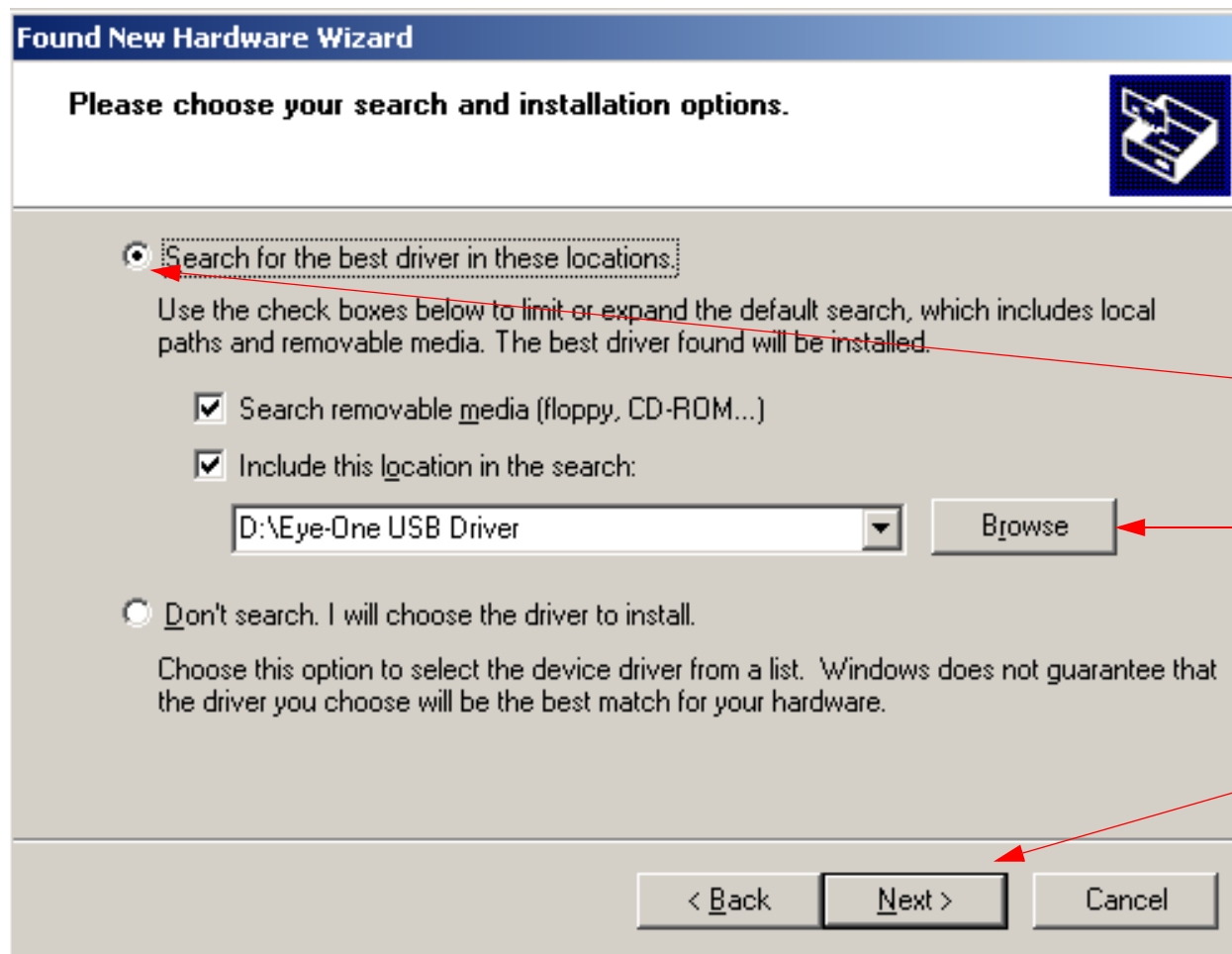


### 2.3 Point the **Wizard** to the **EYE-One USB Driver**.



1. Click on **Install from a list of specific location [Advanced]**

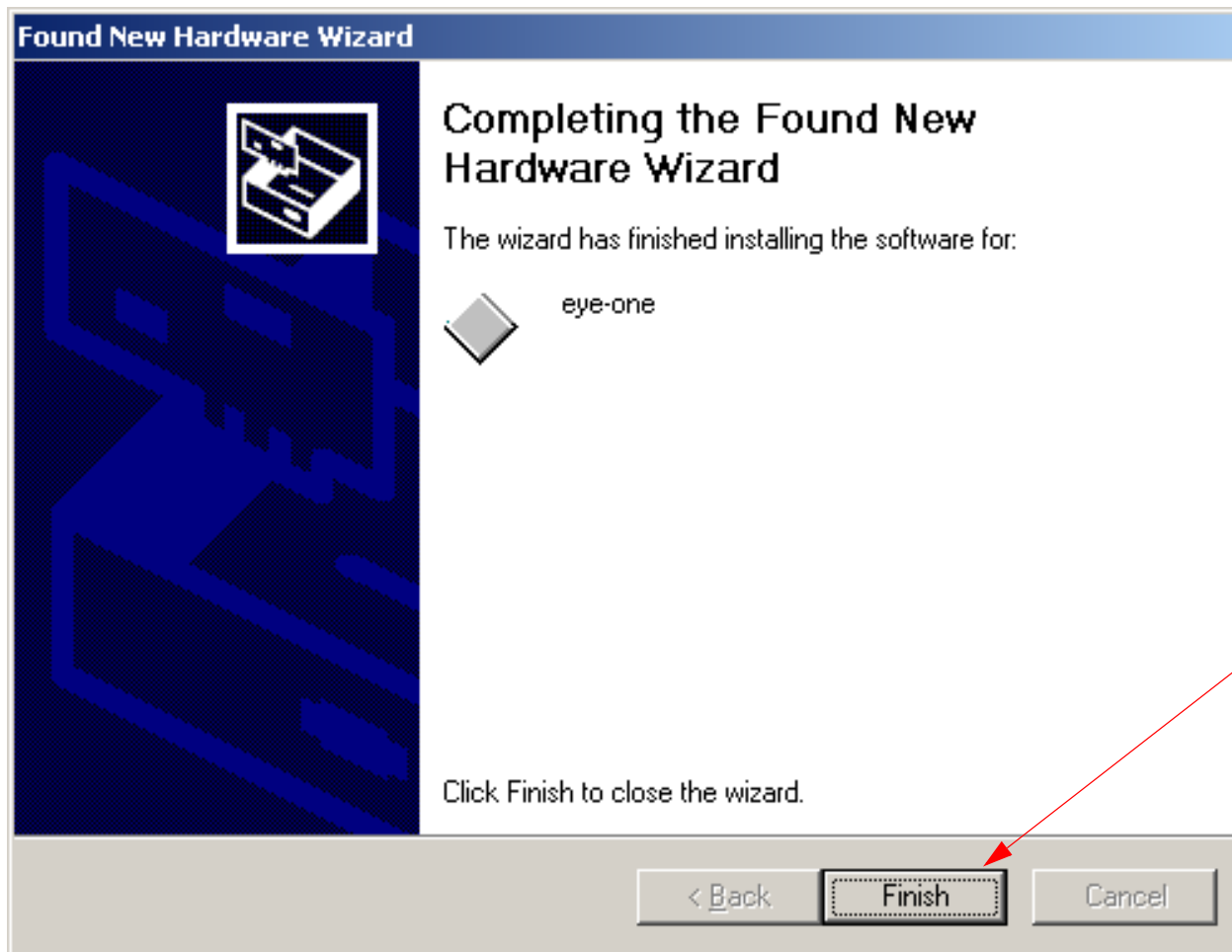
2. Click on **Next**.



3. Click on **Search for the best driver in these locations.**

4. Click on **Browse**, and navigate to the **Eye-One USB Driver** folder.  
**CD:\Eye-One USB Driver**

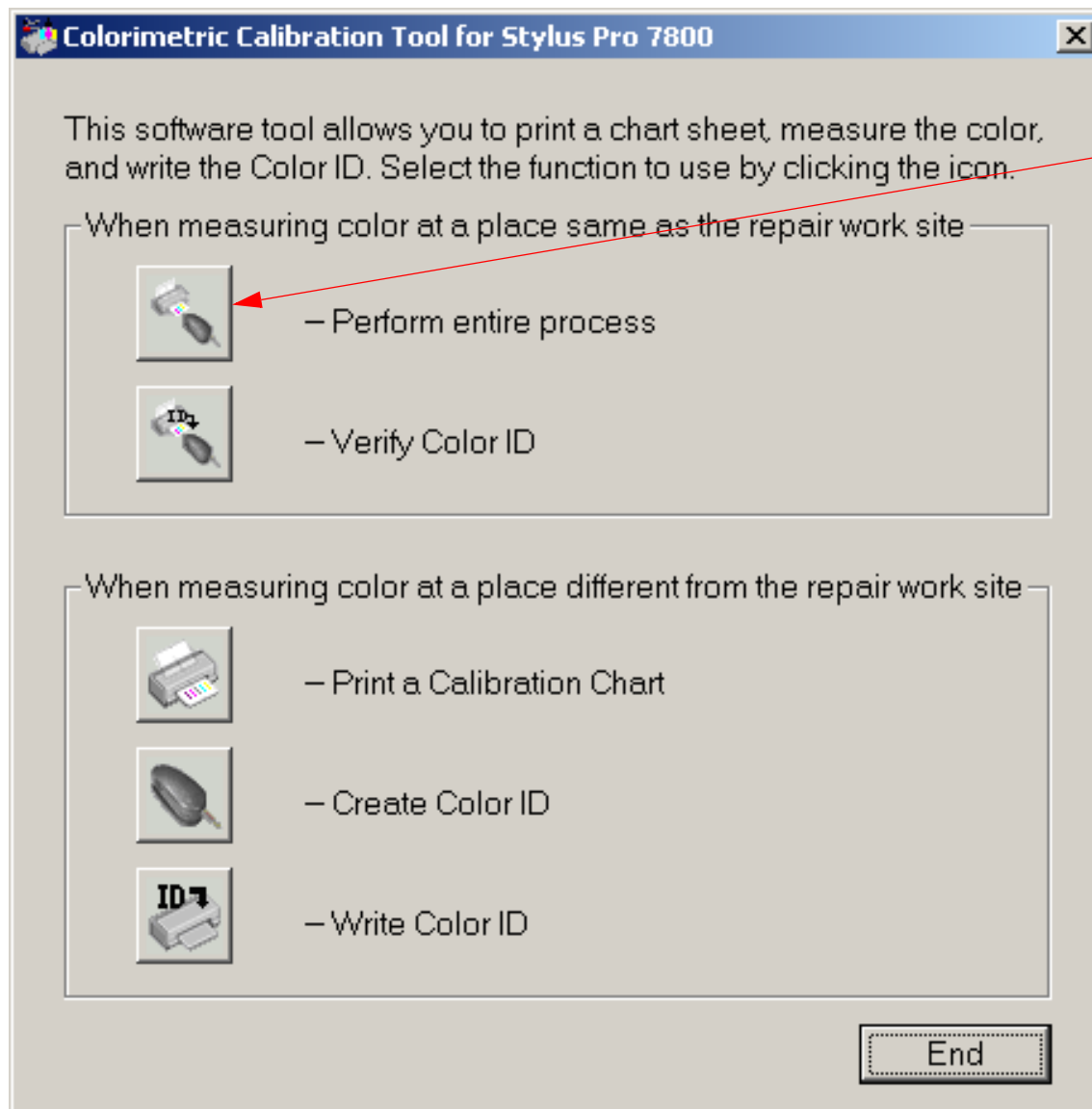
5. Click on **Next**.



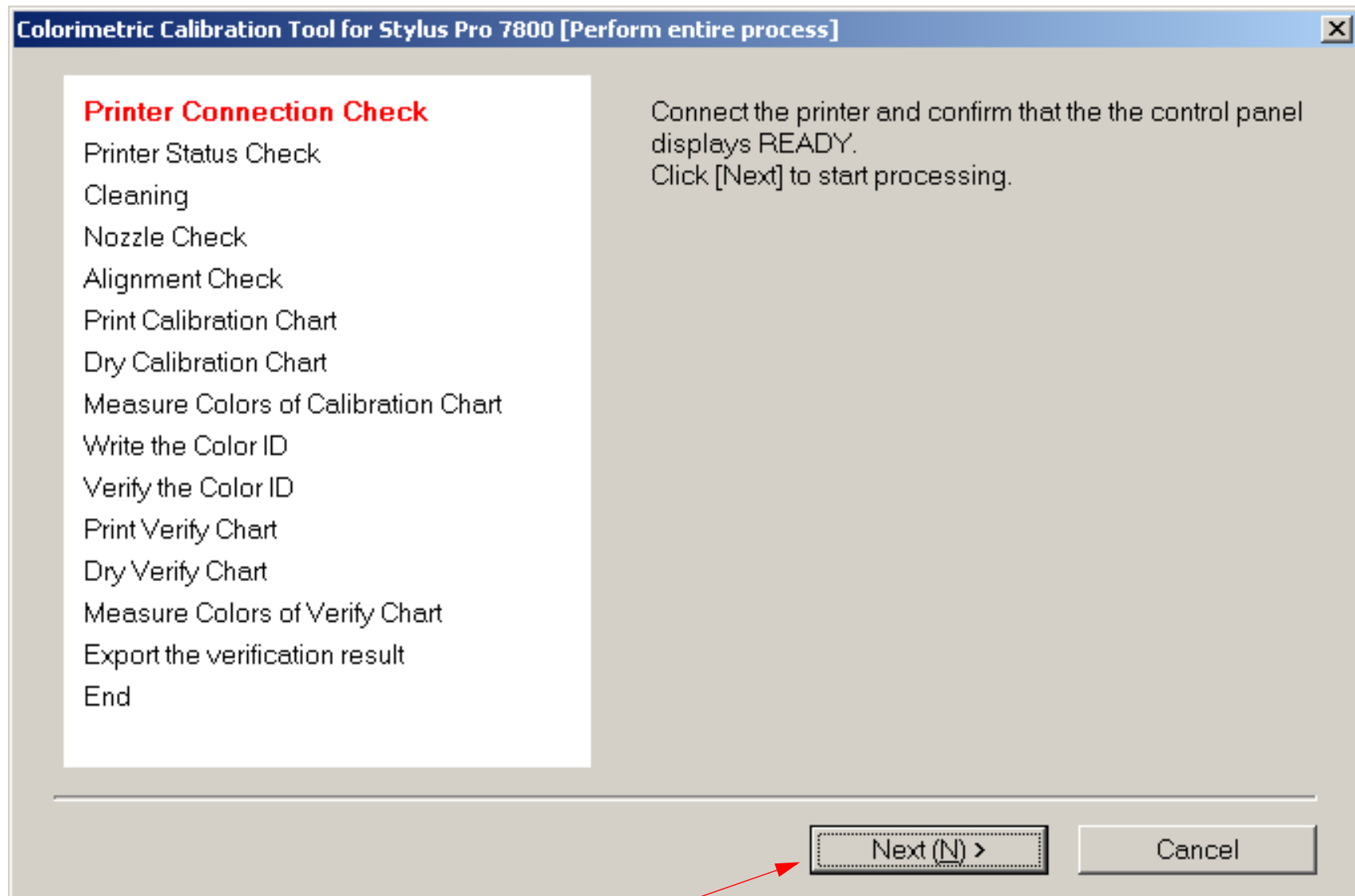
6. The **New Hardware Wizard** will locate and install the **Eye-One USB Driver**.

7. Click on **Finish**.

3. Copy the **Colorimetric Calibration** folder to your **Computer**.
4. Navigate to the Colorimetric Utility (**Colorimetric Utility\CCASSP7800\CCASSP7800.exe**), and double click on it.

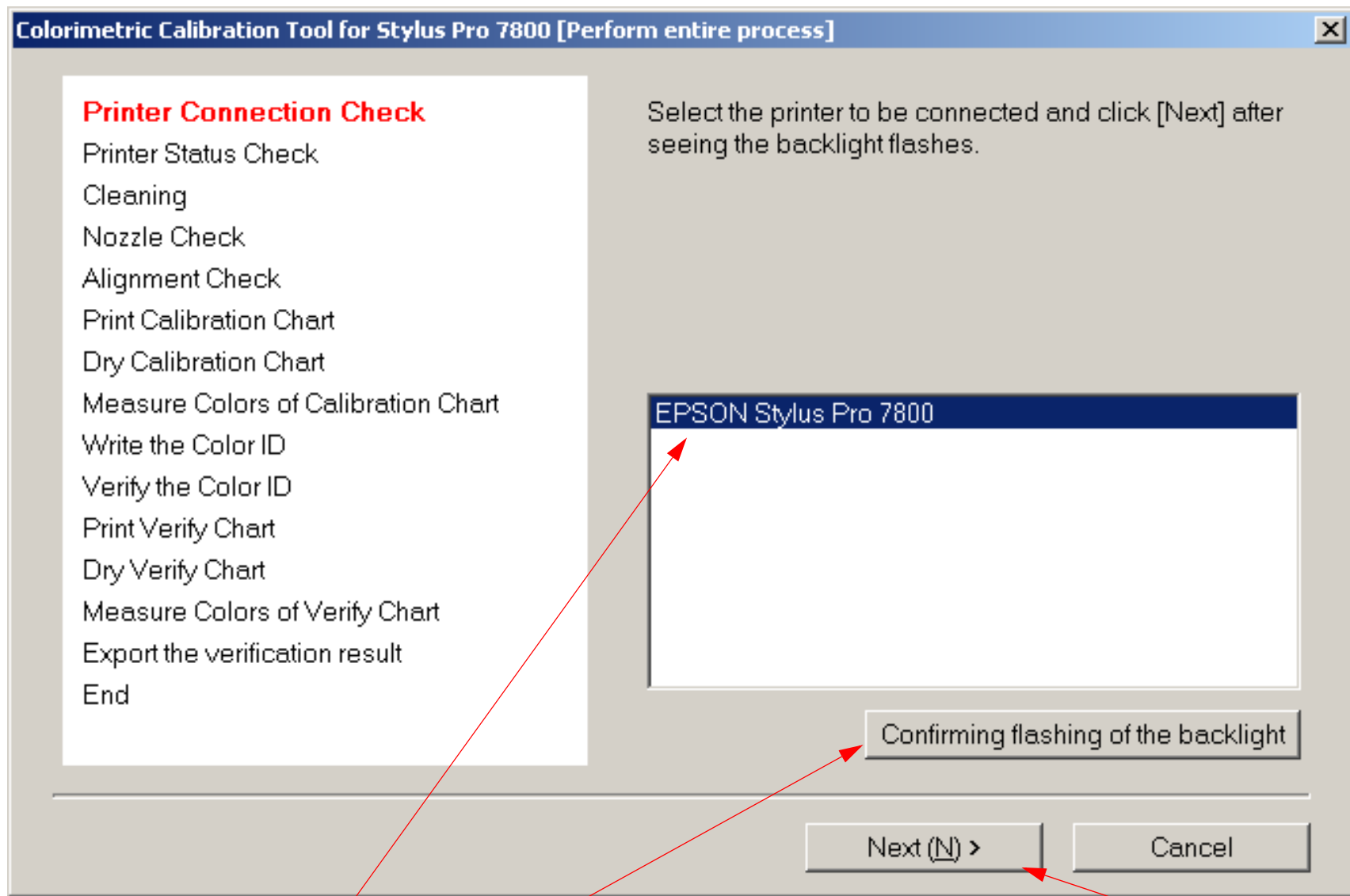


1. Click on **Perform entire process**.

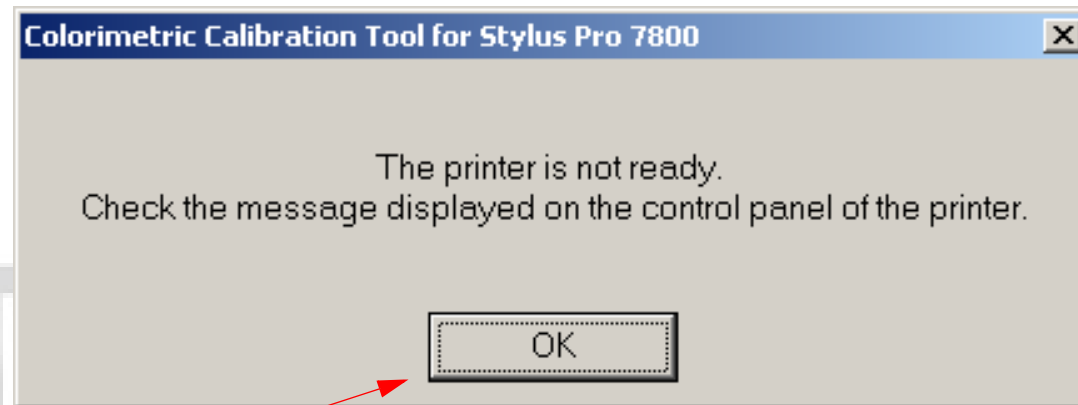


2. Load paper, verify the **Printer** is connected, and **Ready**, then click **Next**.



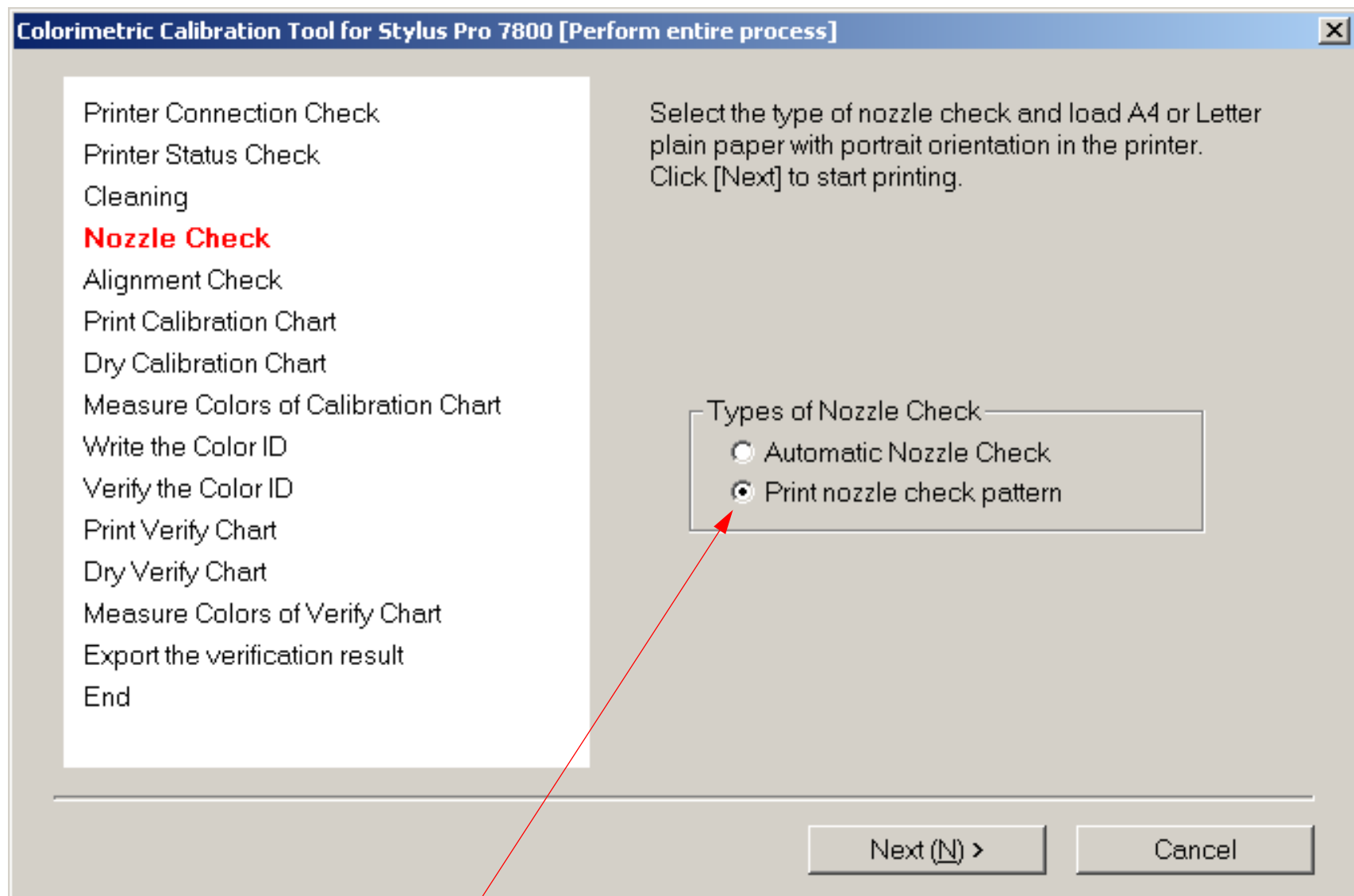


3. Click on **EPSON Stylus Pro 7800** (Or 9800).
4. Click on **Confirming flashing of the backlight**, and verify that the **Printer's LCD Backlight** flashes
5. Click on **Next**.



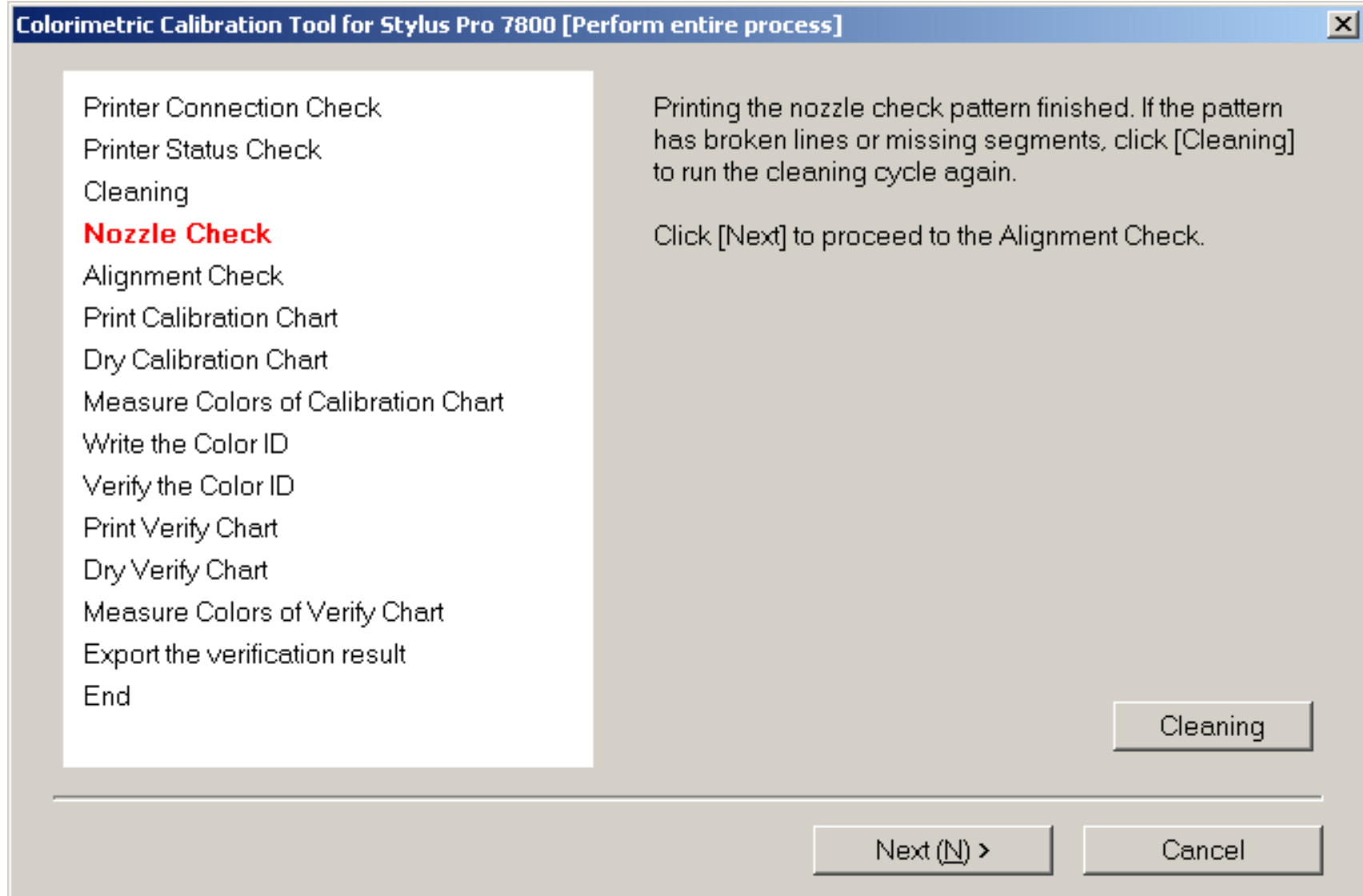
6. Shake the **Ink Cartridges** if necessary, the click on **OK**.

7. The **Printer** will perform a cleaning cycle.

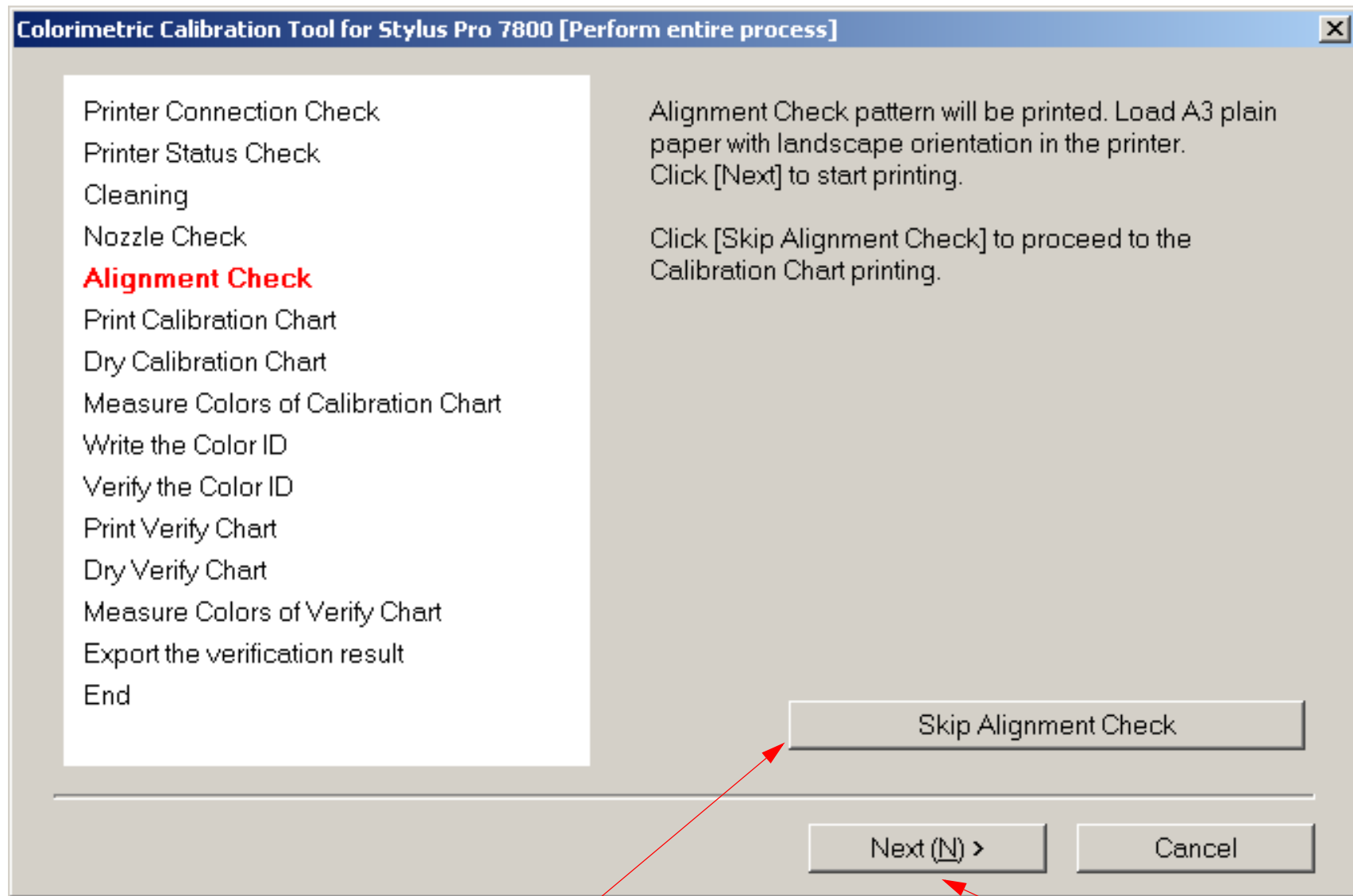


8. Click on **Print nozzle check pattern**.

9. Click on **Next** to **Print nozzle check pattern**.

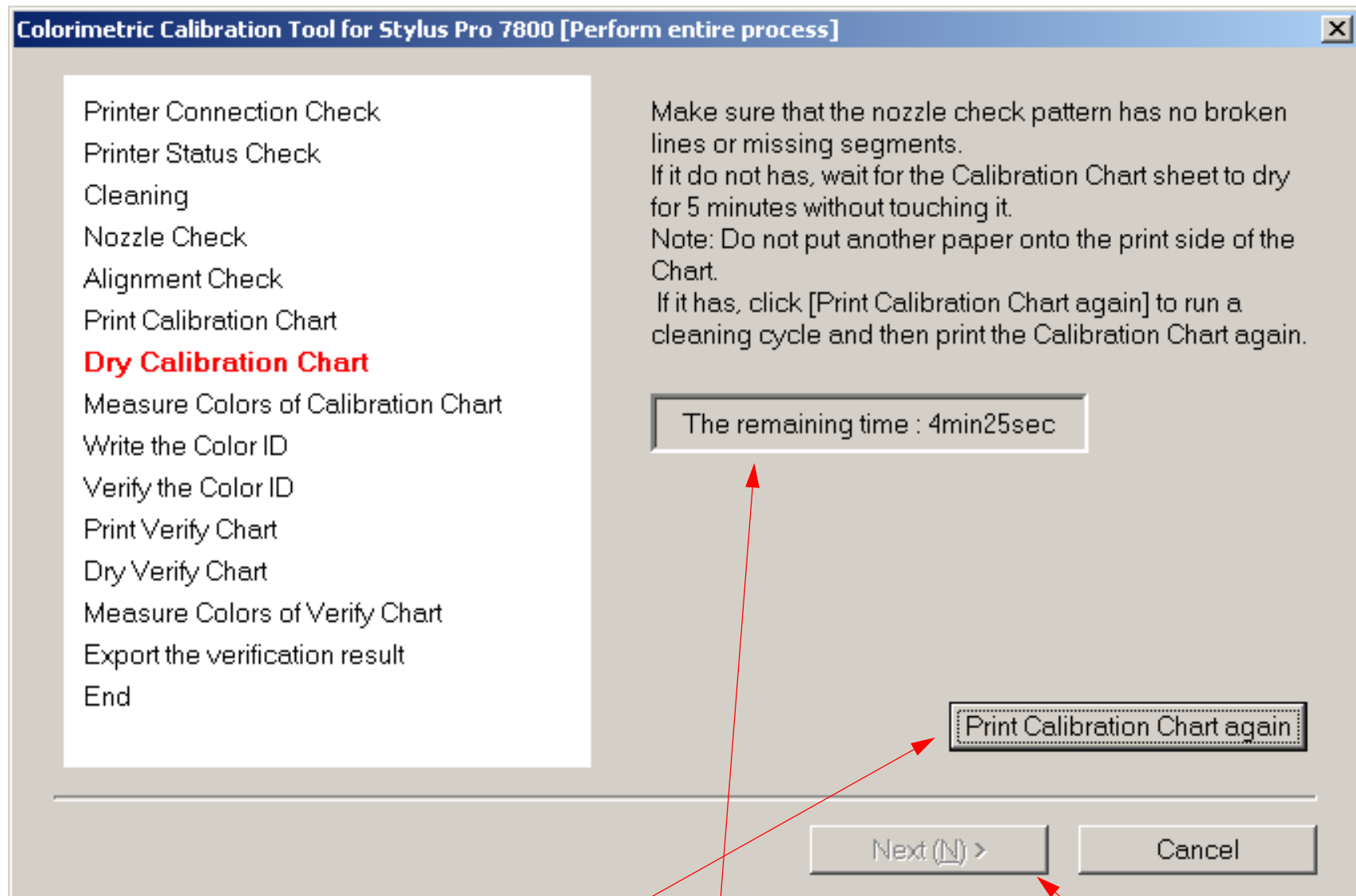


10. Inspect the Nozzle Check Pattern carefully. Missing or deflected nozzles will invalidate the Colorimetric Calibration. Run cleaning cycles as necessary.



11. Load A4 or Letter sized Enhanced Matte paper. 12. Click on **Skip Alignment Check**. 13. Click on **Next** to print the Calibration Chart.

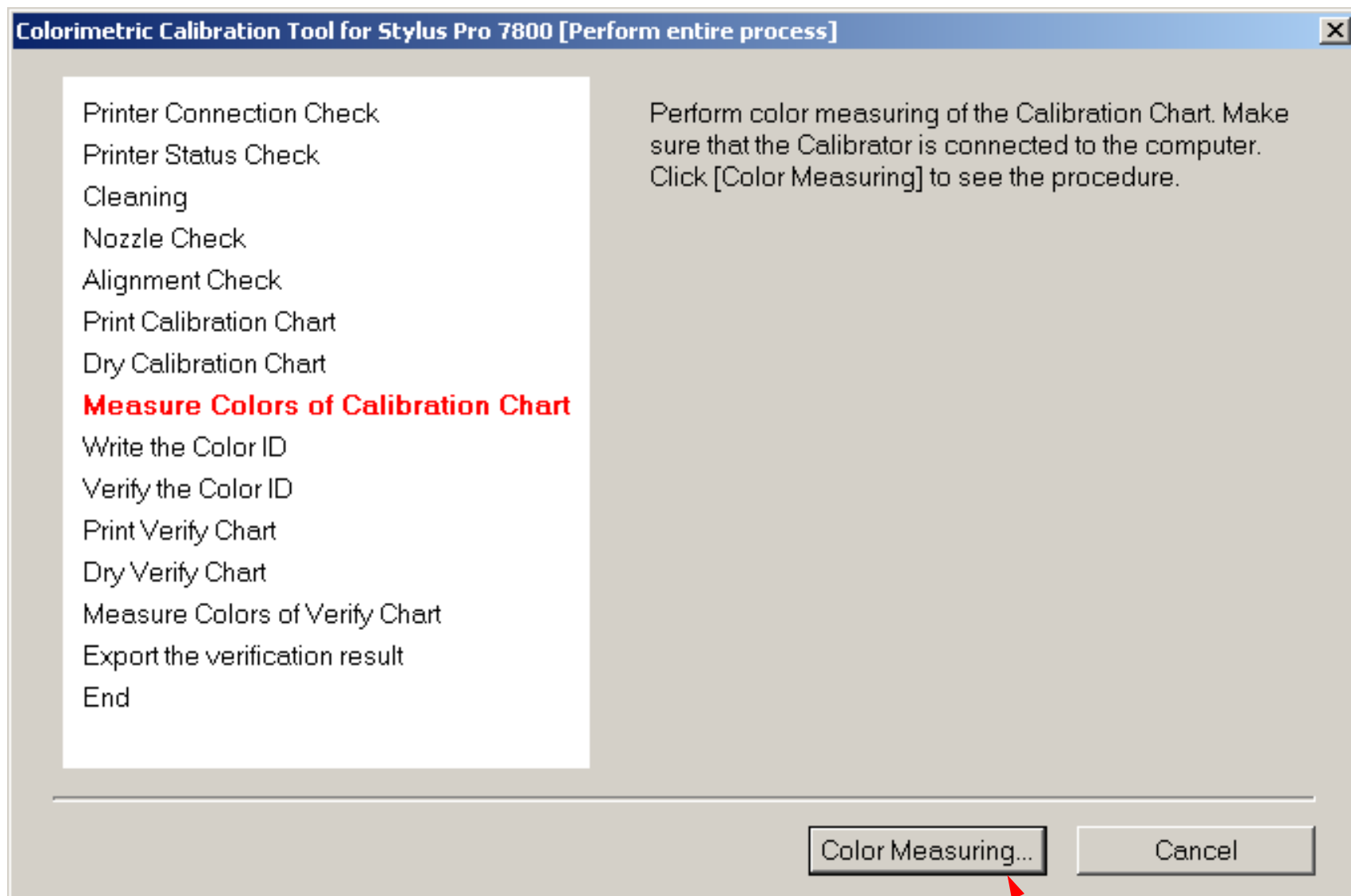




14. Inspect the Calibration Chart, and reprint if the "patches" are not uniform.

15. Wait until the timer has timed 5 minutes.

16. Click on **Next**.

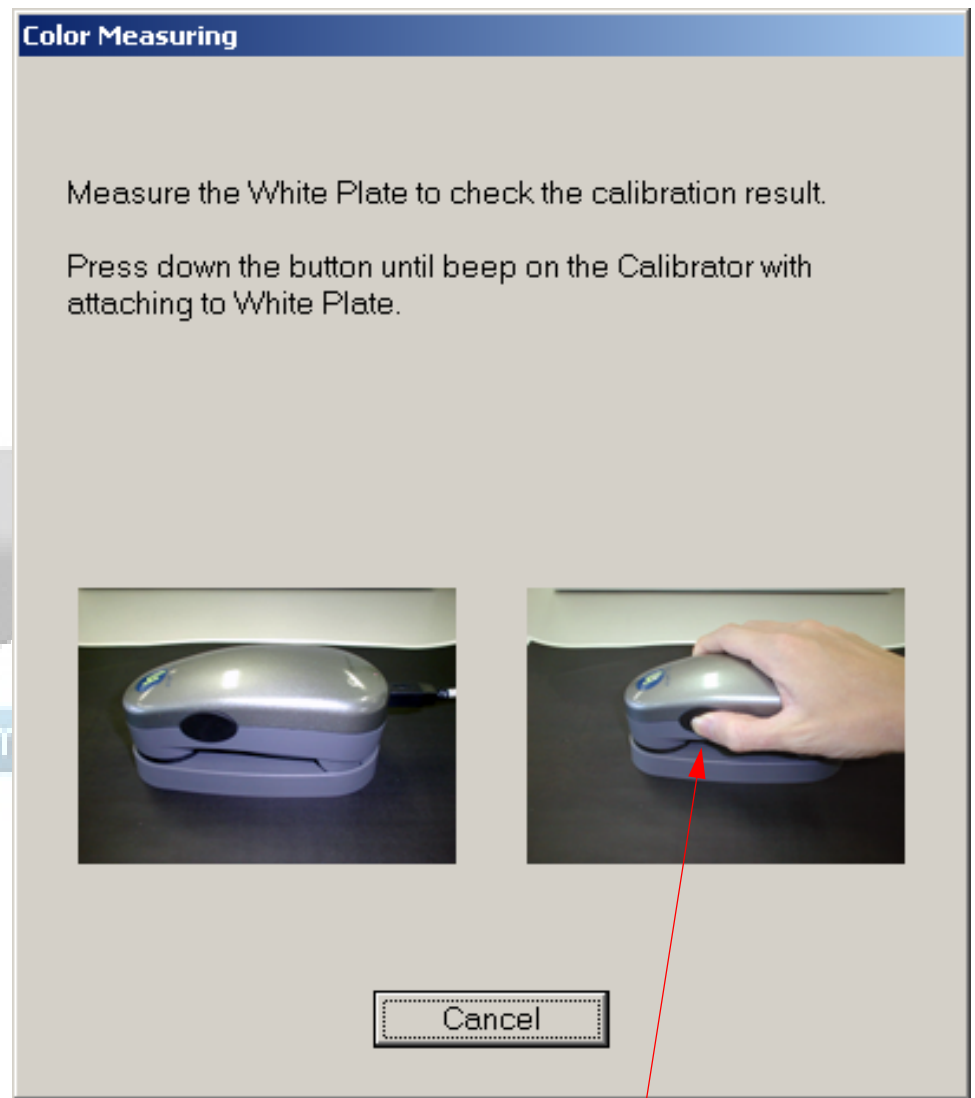


17. Click on **Color Measuring**.

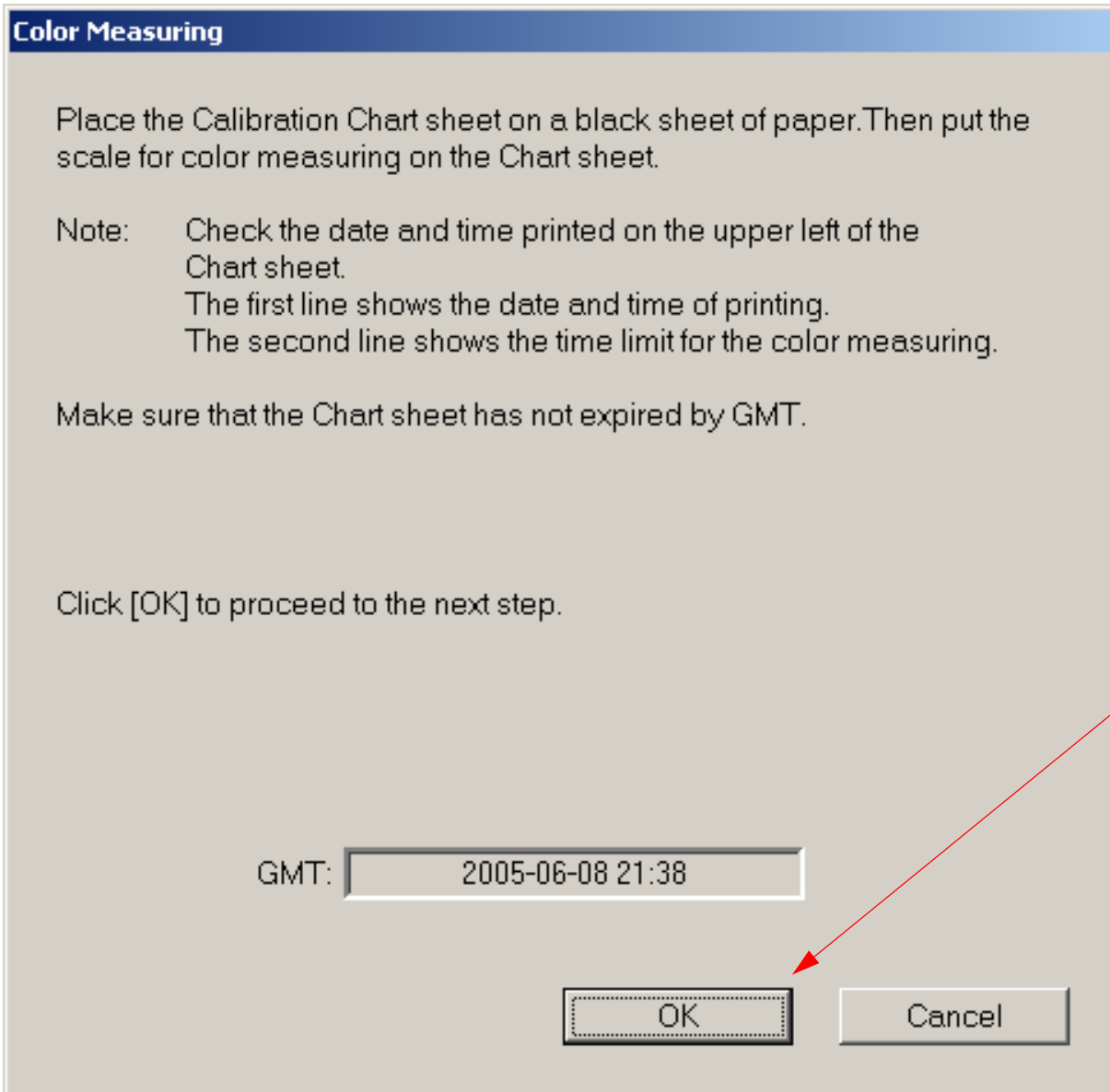


18. Place the **Eye-One** on its **Base**, and click on **Calibrate**.

20. Repeat steps 18 and 19.



19. With the **Eye-One** on its **Base**, Press and hold the **Button** on its left side to sample the **White Patch** on the **Base**.



21. Place the Calibration Chart (print out) on the provided black sheet of media.

**Note: Placing the black sheet behind the Calibration Chart ensures that the background surface does not influence the measurement of the color**

22. Click on **OK**.

**Color Measuring**

Place the Calibrator on the "Start position of Color measuring" (White area). Then, press down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.

**5 seconds per row works better.**

Notes:

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

After finished measuring all rows, click [OK].

**Yellow at the Top**

**Nozzle Check Side**

Upside of the Chart

Downside of the Chart

**Leading edge.**

Start position of Color measuring →

**23. Follow the directions displayed until all patches have been scanned and accepted twice.**

OK Cancel



**Color Measuring**

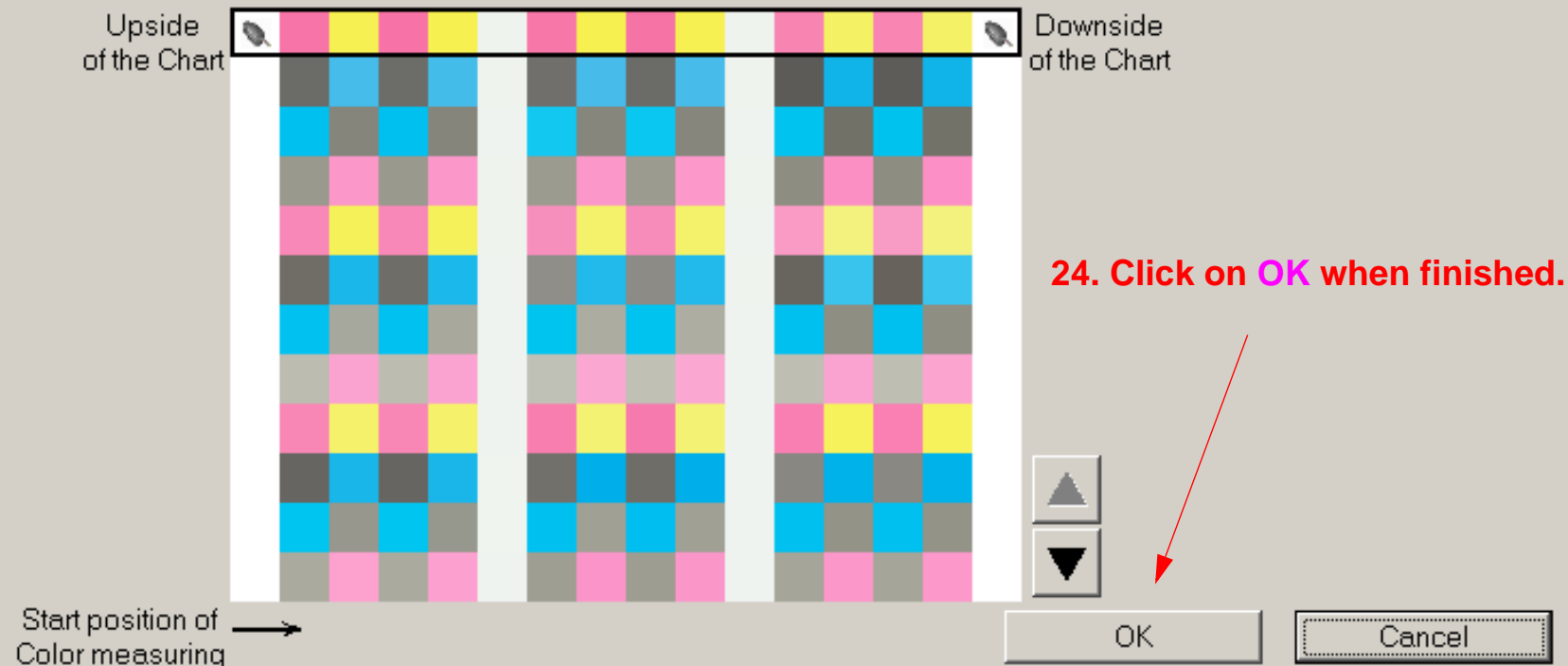
Place the Calibrator on the "Start position of Color measuring" (White area). Then, press down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.

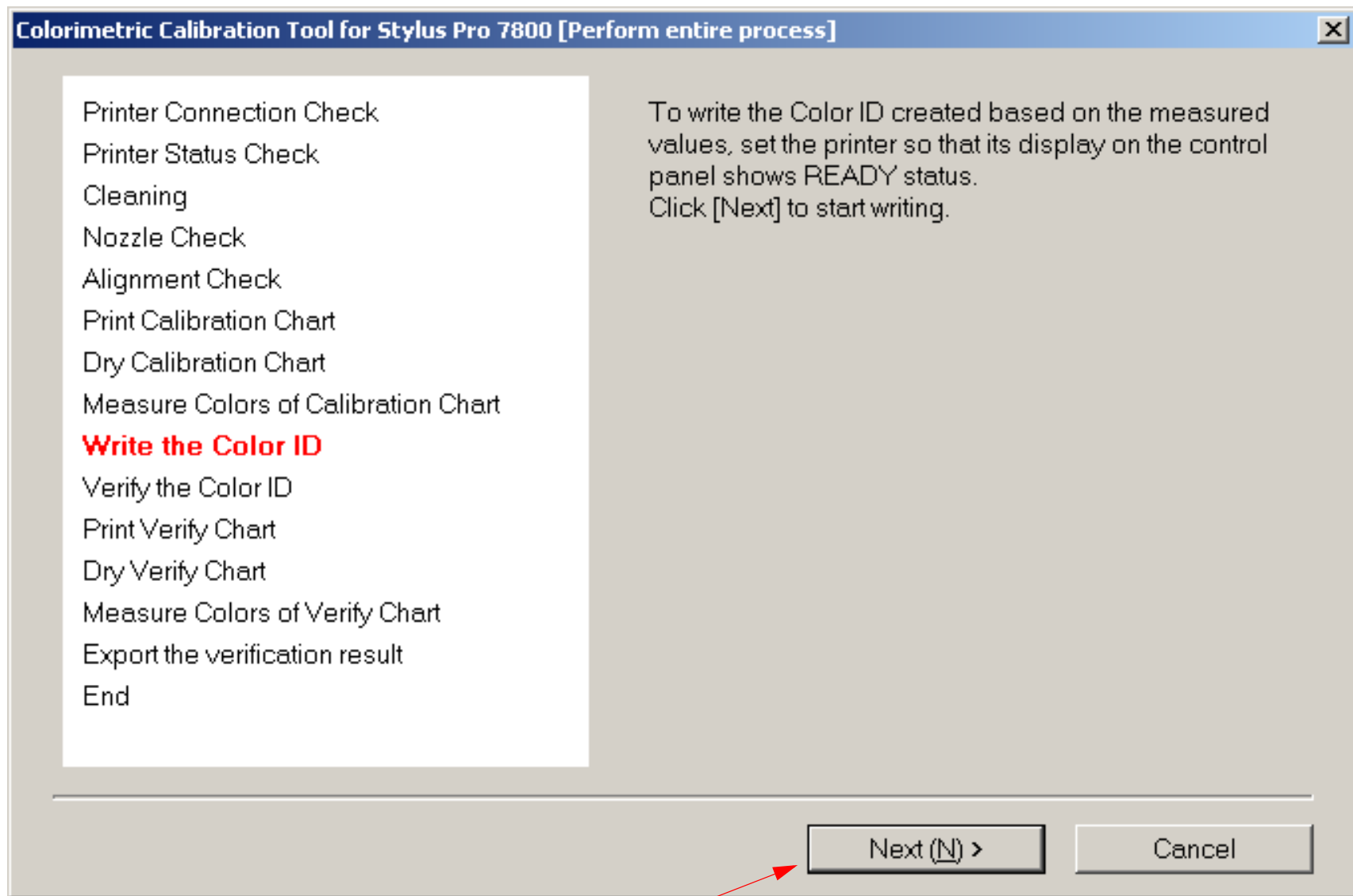
**Notes:**

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

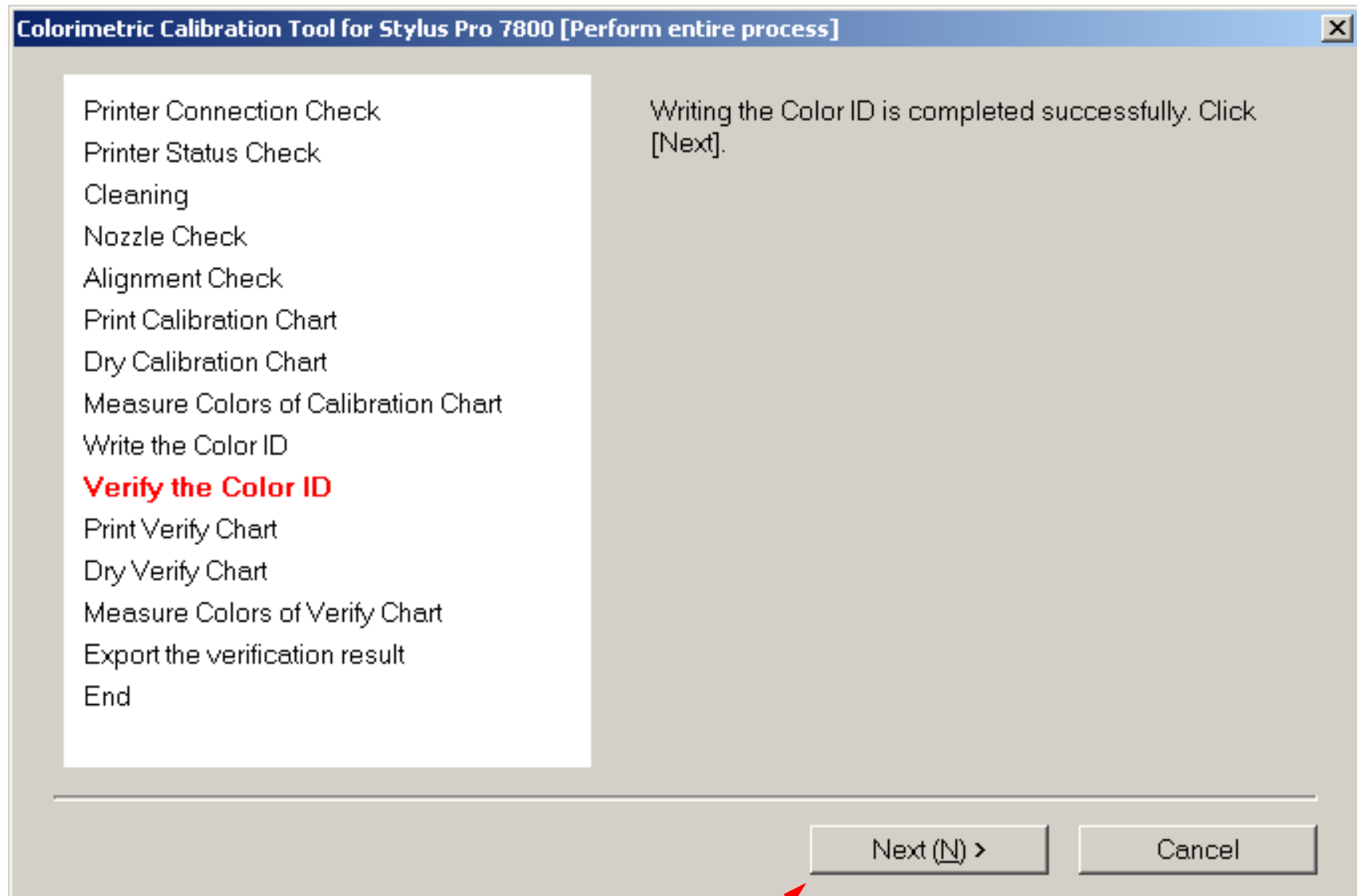
After finished measuring all rows, click [OK].



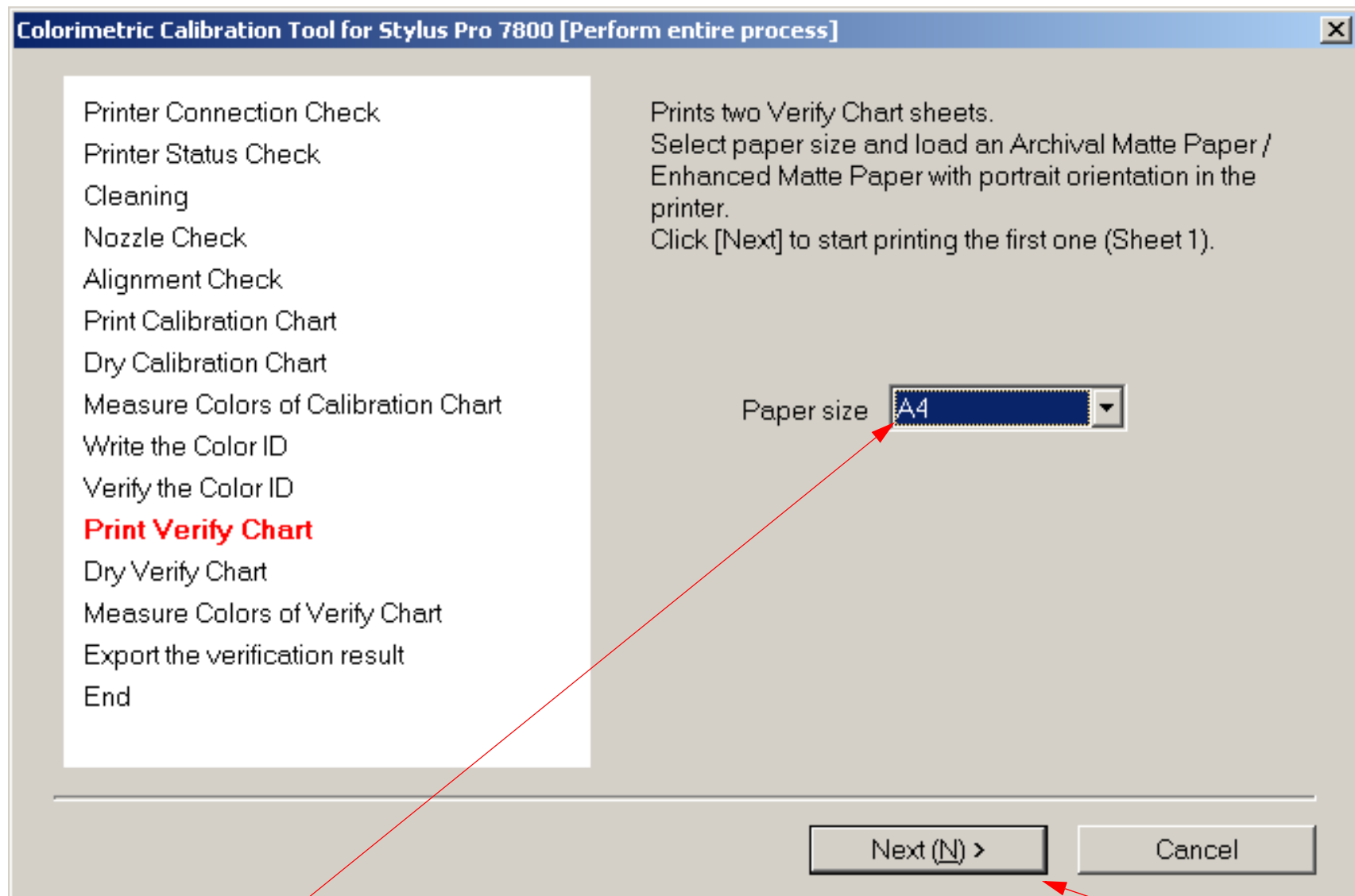


25. Load paper to put the **Printer** in a **Ready** state.

26. Click on **Next** to Write the Color ID information (Color Calibration data) to the **Printer**



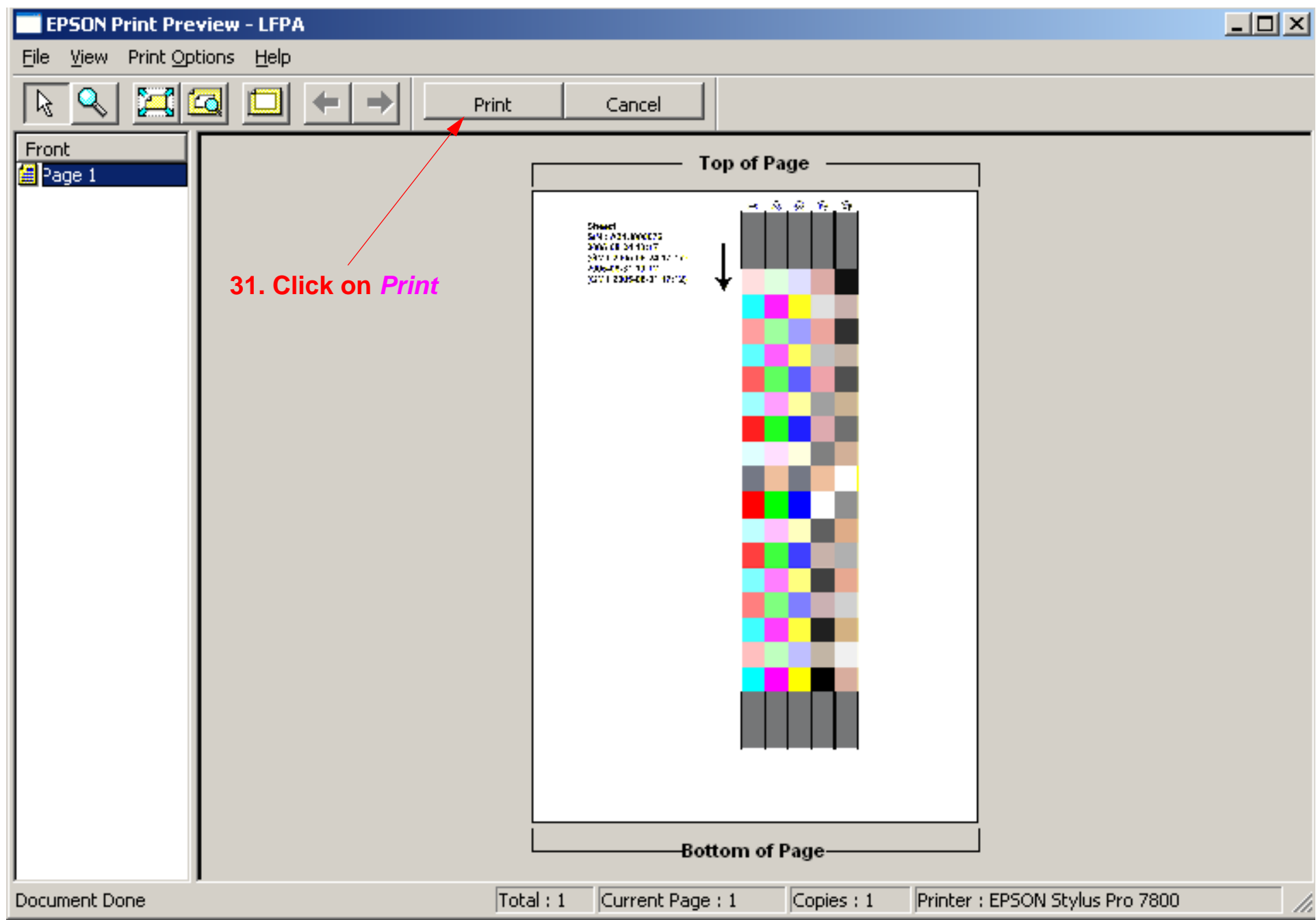
27. Click on **Next** after the **Printer** re-initializes.



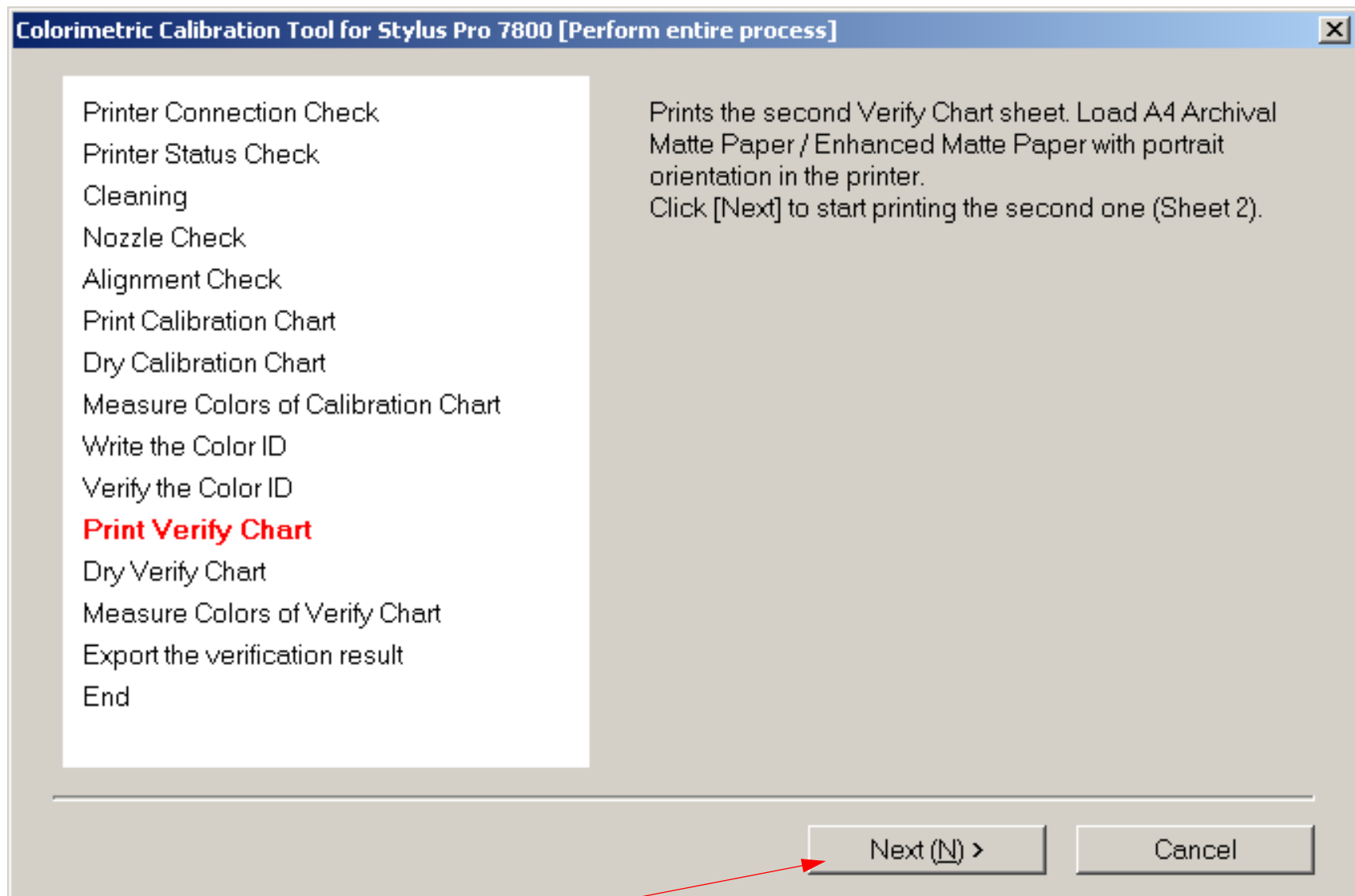
28. Pick the paper size for the Enhanced Matte paper that you are loading.

29. Load Enhanced Matte paper.

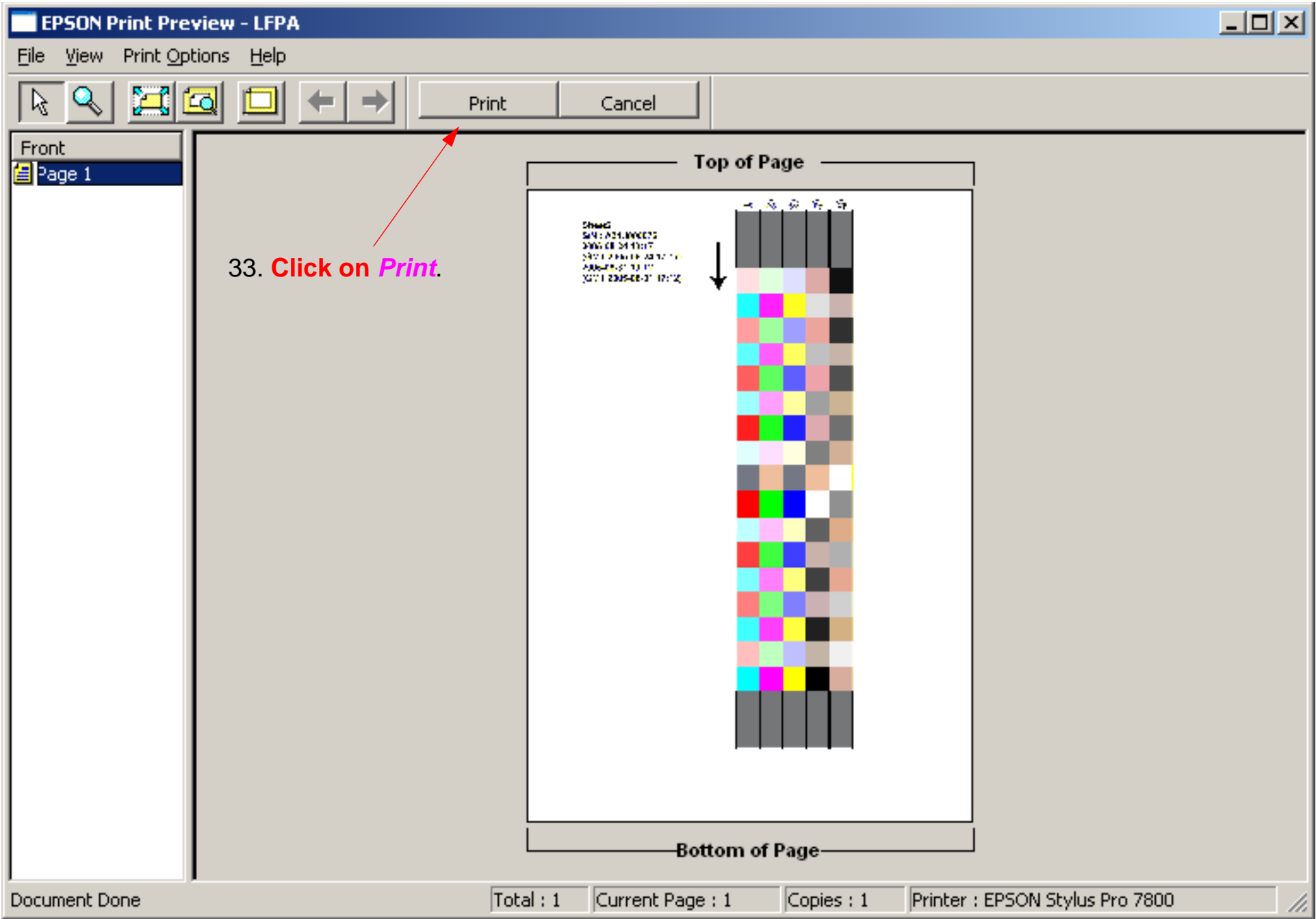
30. Click on **Next**.



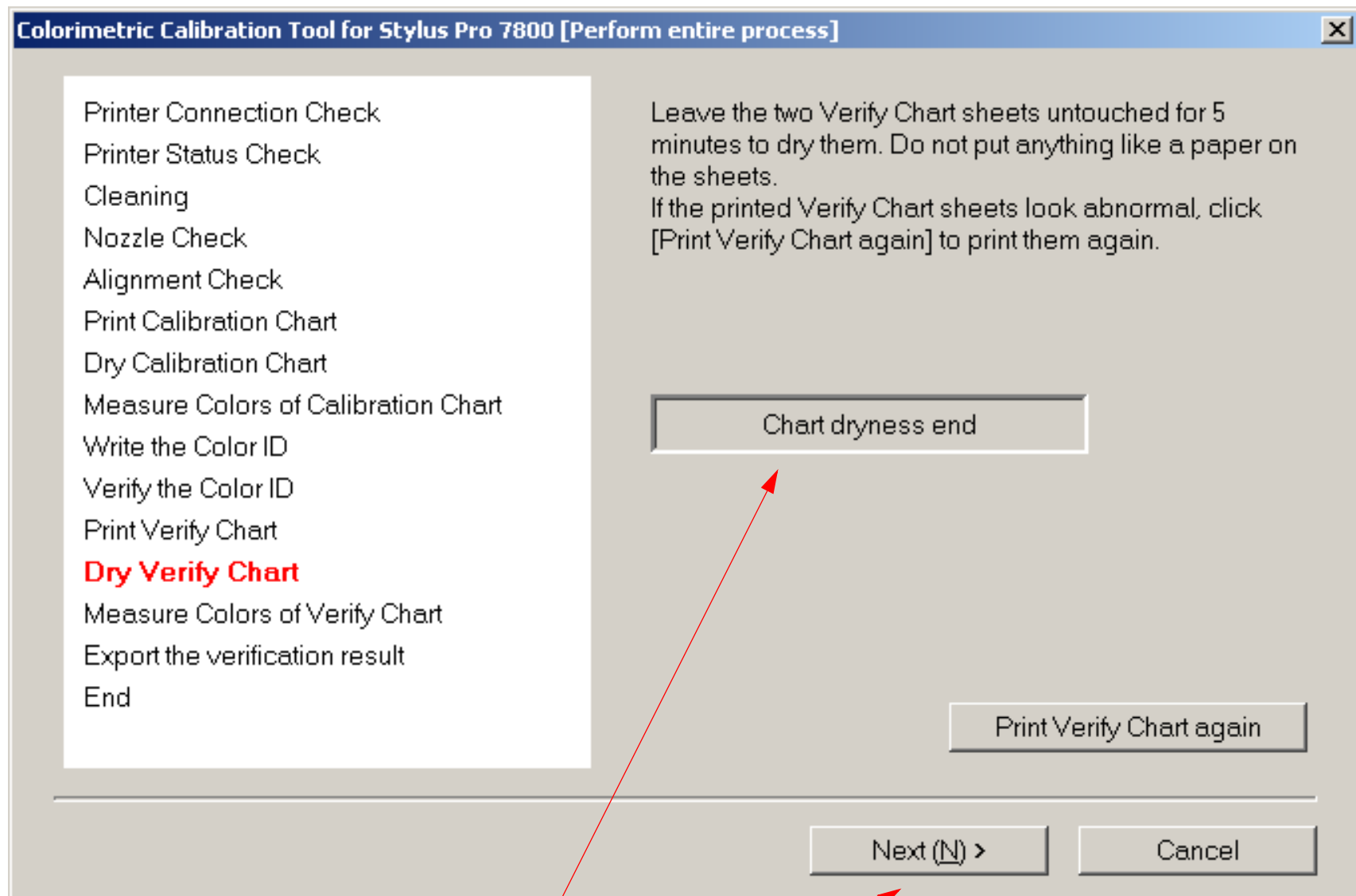




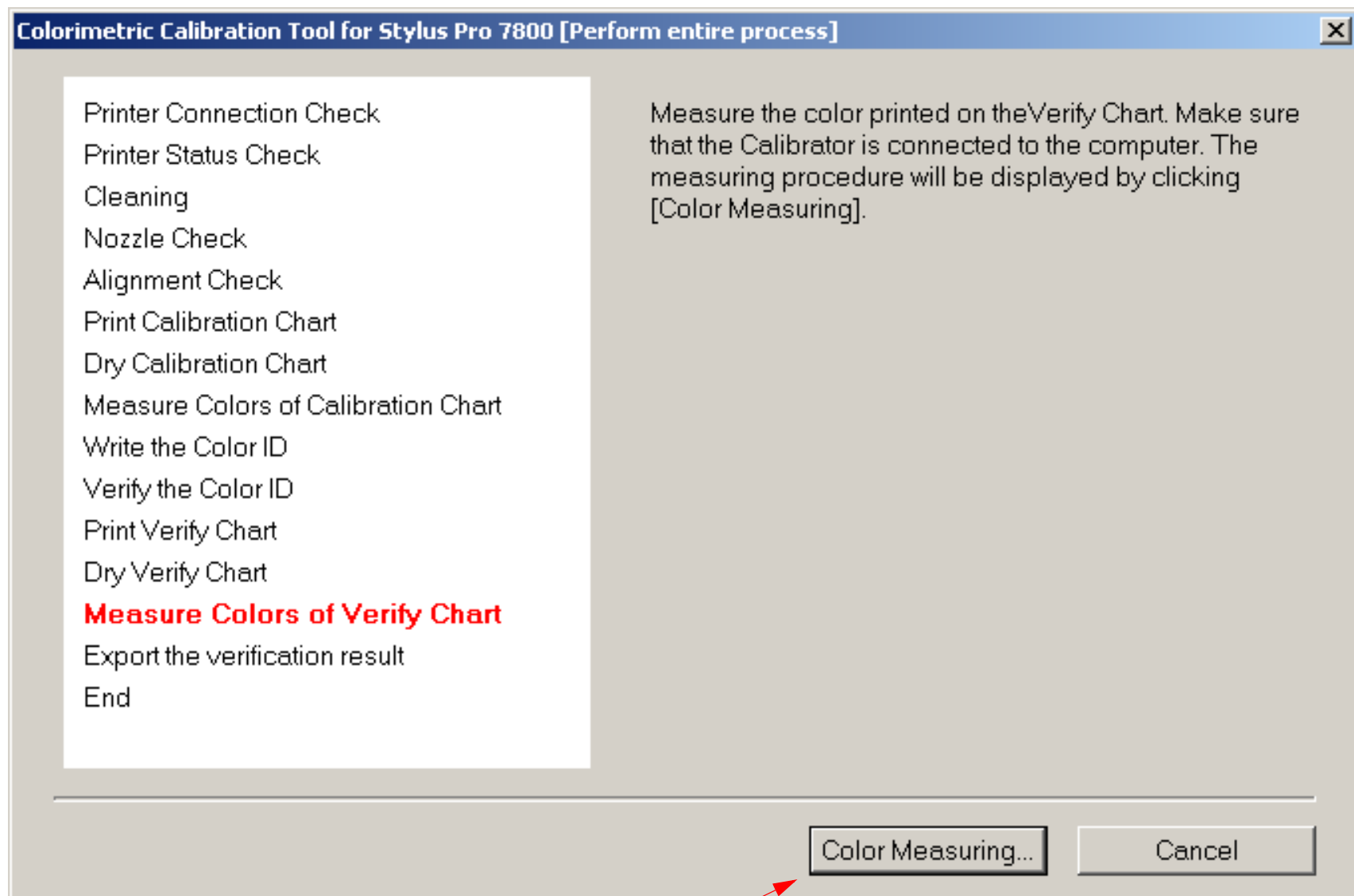
32. Load a 2nd sheet of Enhanced Matte paper, and click on **Next**.



33. Click on *Print*.



34. After the "print timer" has counted down, click on **Next**.

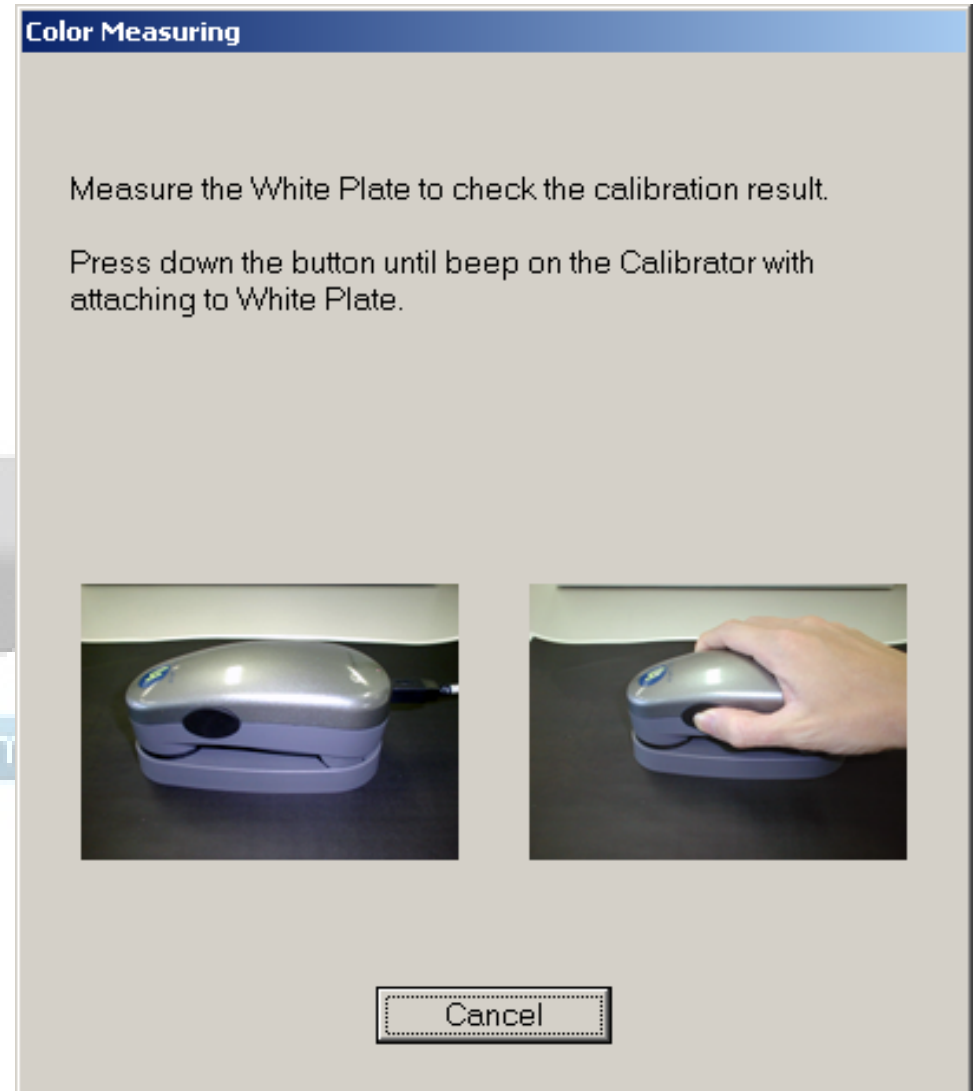


35. Click on **Color Measuring**.



36. Place the **Eye-One** on its **Base**, and click on **Calibrate**.

38. Repeat steps 36 and 37.



37. With the **Eye-One** on its **Base**, Press and hold the **Button** on its left side to sample the **White Patch** on the **Base**.



**Color Measuring**

Place the Calibration Chart sheet on a black sheet of paper. Then put the scale for color measuring on the Chart sheet.

Note: Check the date and time printed on the upper left of the Chart sheet.  
The first line shows the date and time of printing.  
The second line shows the time limit for the color measuring.

Make sure that the Chart sheet has not expired by GMT.

Click [OK] to proceed to the next step.

GMT: 2005-06-08 21:38

OK Cancel

39. Place the first Verification Chart (print out) on the provided black sheet of media.

**Note: Placing the black sheet behind the Calibration Chart ensures that the background surface does not influence the measurement of the color**

40. Click on **OK**.

**Color Measuring**

Place the Calibrator on the "Start position of Color measuring" (Gray area). Then, press down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.


**5 seconds per row works better.**

Notes:

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

After finished measuring all rows, click [OK].



Upside of the Chart

Downside of the Chart

**Leading edge.**

Start position of Color measuring →

**41. Follow the directions displayed until all patches have been scanned and accepted twice.**

OK Cancel

**Color Measuring**

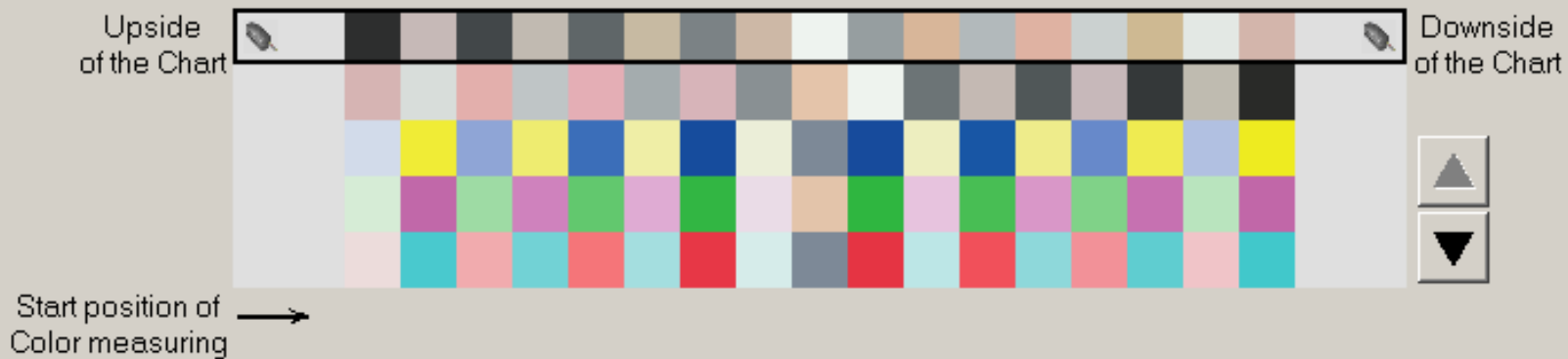
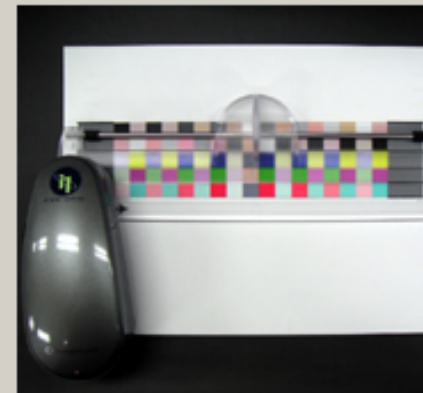
Place the Calibrator on the "Start position of Color measuring" (Gray area). Then, press down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.

**Notes:**

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

After finished measuring all rows, click [OK].



**42. Click on OK when finished.**



**Color Measuring**

Place the Sheet 2 on a black sheet of paper. Then put the scale for color measuring on the Chart sheet.

Note: Check the date and time printed on the upper left of the Chart sheet.  
The first line shows the start time for the color measuring.  
The second line shows the time limit for the color measuring.

Make sure that the Chart sheet has not expired by GMT(Present).

Click [OK] to proceed to the next step.

GMT(Present): 2005-08-24 17:33

OK Cancel

43. Place the second Verification Chart (print out) on the provided black sheet of media.

**Note:** Placing the black sheet behind the Verification Chart ensures that the background surface does not influence the measurement of the color

44. Click on **OK**.

Place the Calibrator on the "Start position of Color measuring" (Gray area). Then, press down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.

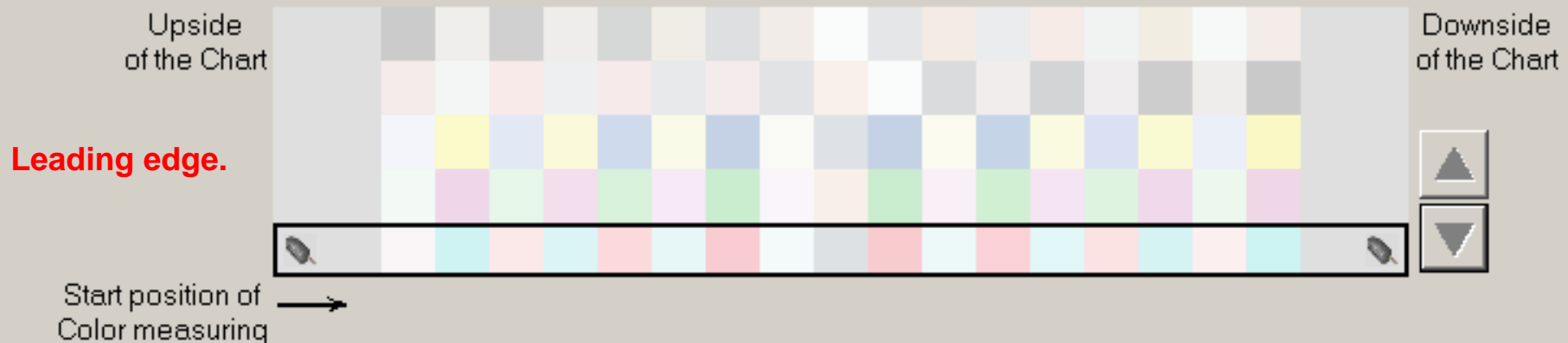
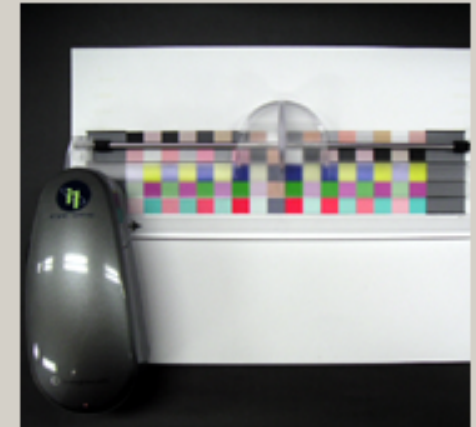
**5 seconds per row works better.**

Notes:

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

After finished measuring all rows, click [OK].



**45. Follow the directions displayed until all patches have been scanned and accepted twice.**

OK

Cancel



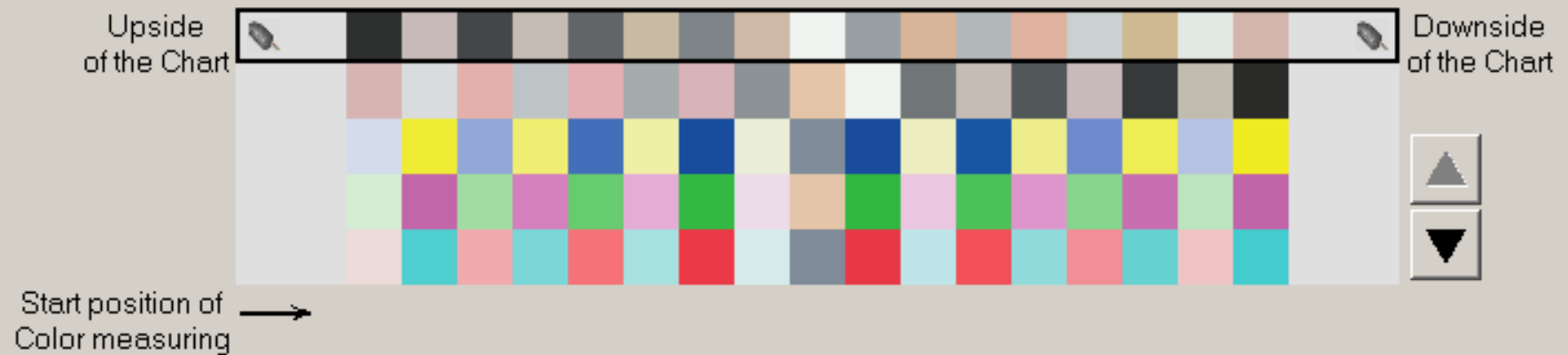
down the button on the Calibrator. After the beep slide it to the right along the scale with the button down.

Notes:

- Spend at least more than 10 seconds to measure one row.
- Slide the calibrator at a constant speed.
- Color measuring two times per row.

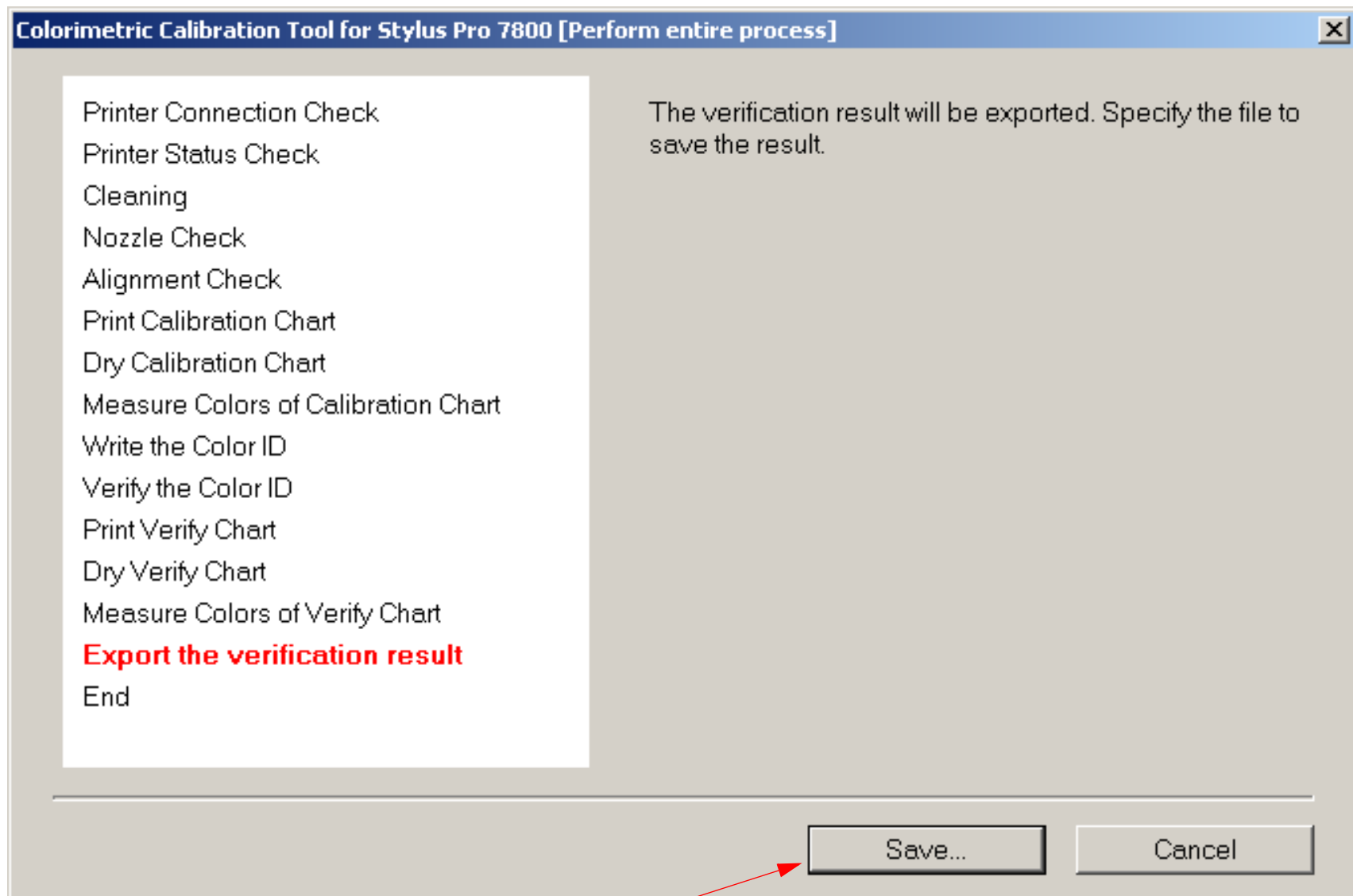
When finished the first bottom row, release the button and press it down again to repeat the same procedure for the next row.

After finished measuring all rows, click [OK].

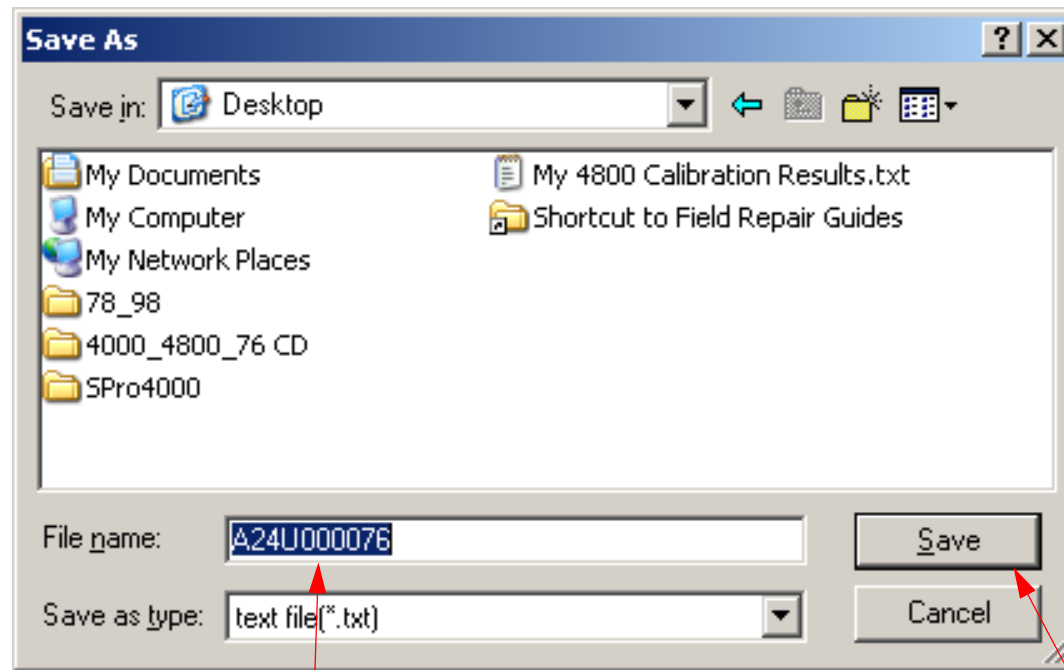


**46. Click on OK when finished.**





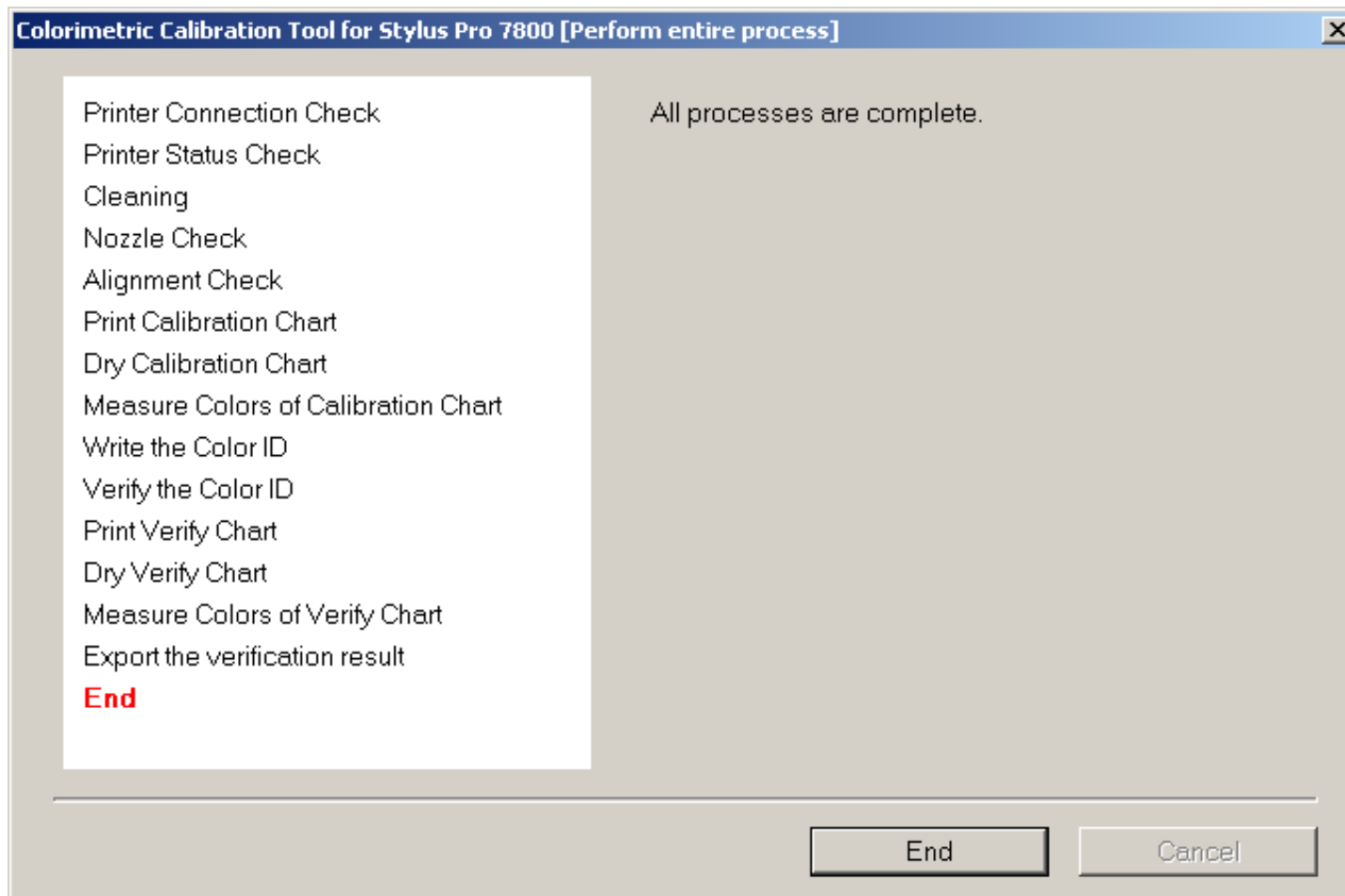
47. Click on **Save** to store the verification results.



48. Navigate to a location on your computer where you want to store the Verification File.

49. Name the file with the serial number printed on the Verification Charts.

Click on **Save** to save the file.



50. Click on **End** to finish the process.

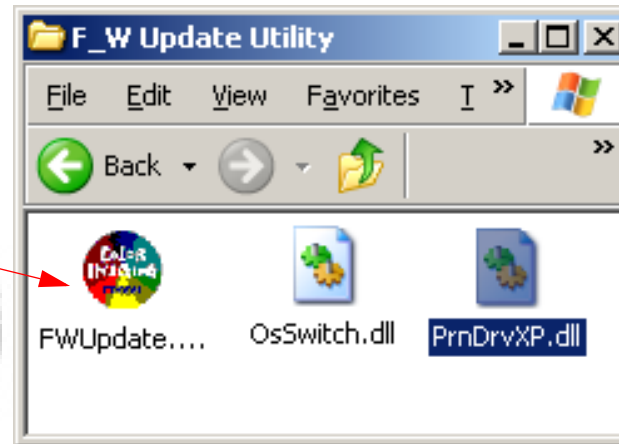
**51. E-mail the Verification file with the Epson Log #  
to [sira\\_arabian@ea.epson.com](mailto:sira_arabian@ea.epson.com)**

# FWUpdate.exe

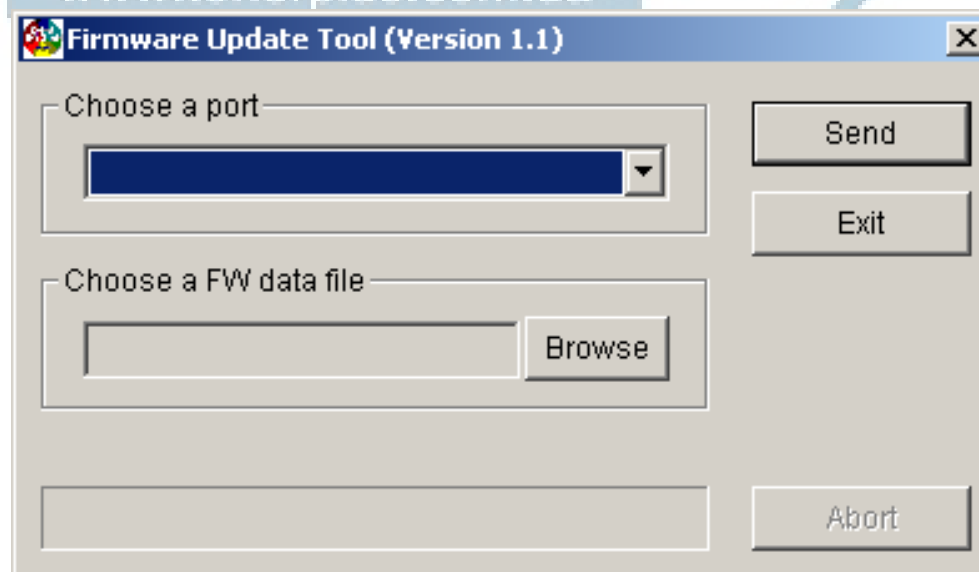
**Note:** *FWUpdate.exe* is used to copy Firmware to the Printer and works without the printer driver being installed.

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

Double Click on this Icon.



2. The utility will open and look like this.

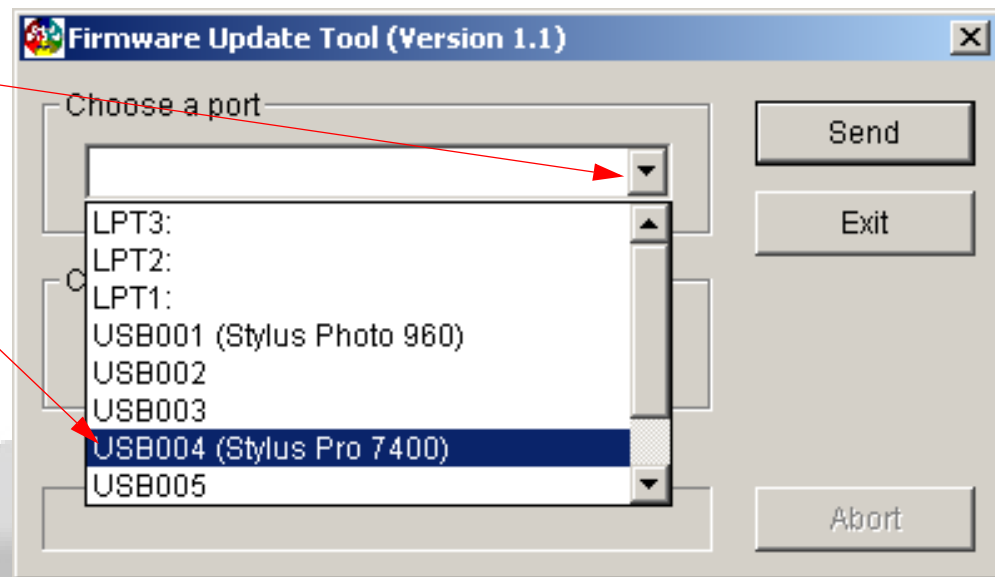




### 3. Choose a **Port/Printer**.

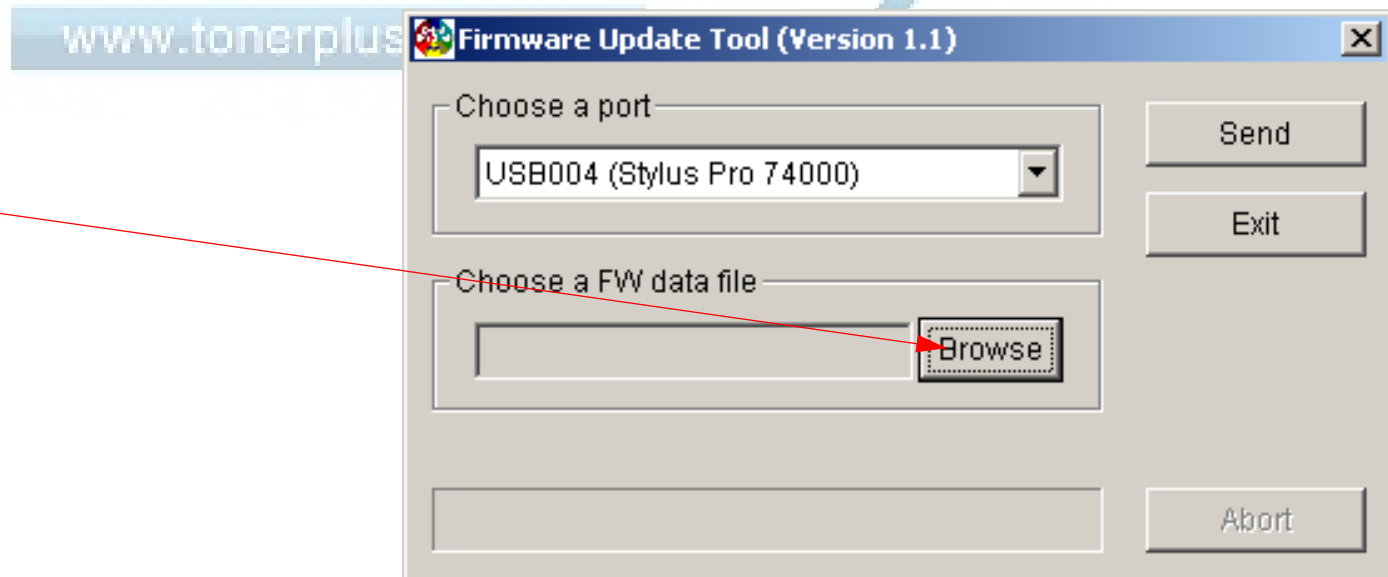
1. Click on the **Down Arrow** to open up the list of **Ports**.
2. Select the **Port** that is connected to the **Printer** that requires firm-

**Note:** Stylus Pro 7400 is the Japanese model name for the Stylus Pro 7800. New boards may display Stylus Pro 7400



4. Click on **Browse** and navigate to the **Firmware File** to be uploaded to the **Printer**.

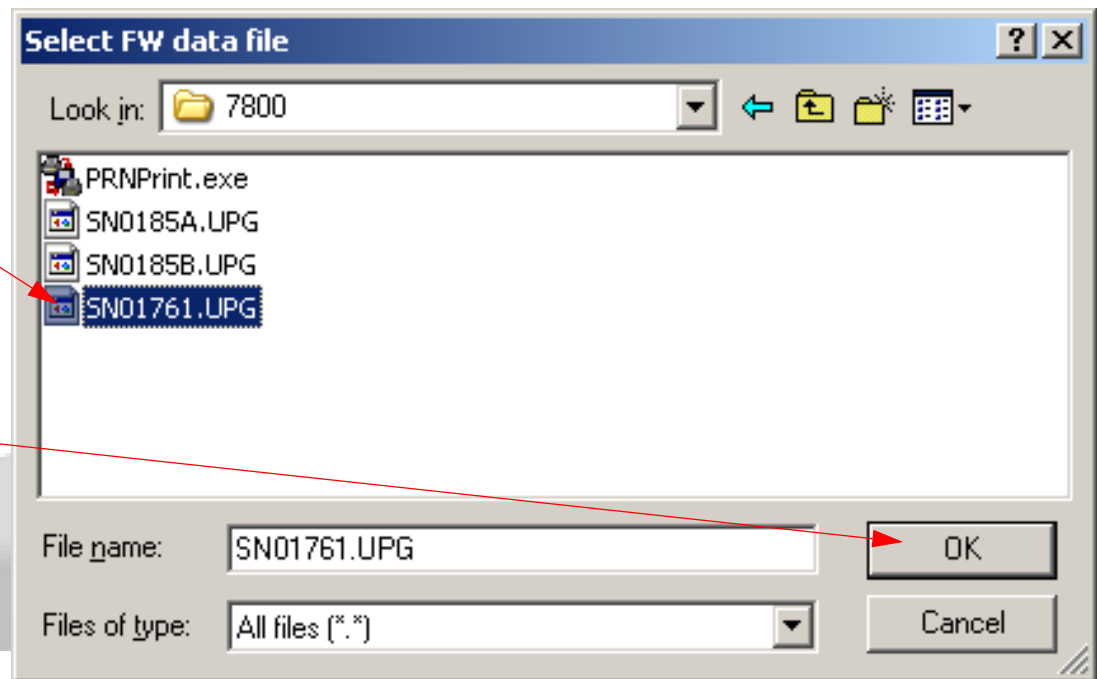
Click on **Browse**.



## 5. Select the correct *Firmware File*.

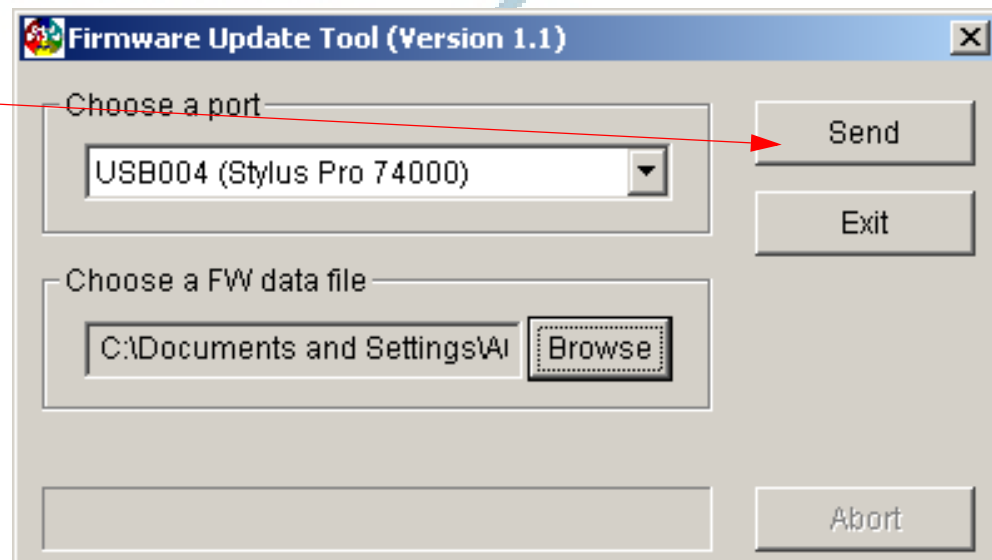
1. Select the correct *Firmware File*.

2. Click on *OK*.



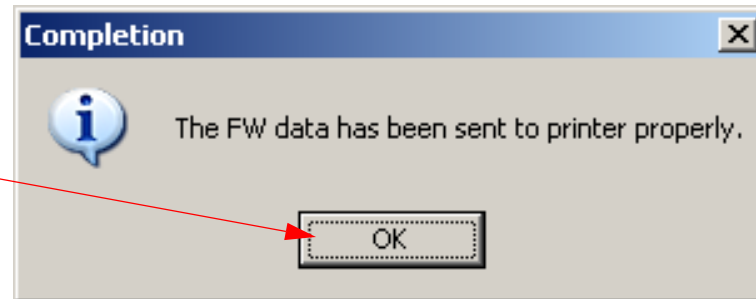
## 6. Click on *Send* to upload the *Firmware* to the *Printer*.

Click on *Send* to upload the *Firmware*.



7. The utility will display this, click on **OK**.

Click on **OK**

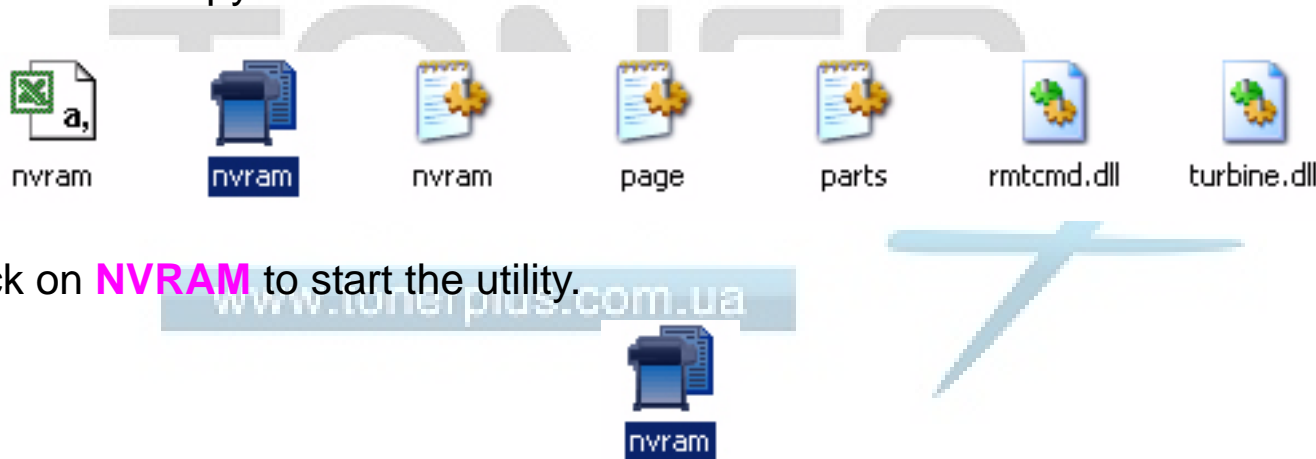


# NVRAM.EXE

**Note:** *NVRAM.EXE is the utility that enables the backup and re-installation of parameters (settings), necessary when exchanging the Main Board of a Pro 7800 or 9800.*

## Installation:

1. Ensure that the appropriate **Printer Driver** and **Status Monitor 3** is installed on the system that will be running the **NVRAM.EXE**.
2. Create a folder and copy the **NVRAM.EXE** files into it.



3. Double Click on **NVRAM** to start the utility.

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

- 4.0.1 Release the **Paper Lever**, lift **2 Ink Levers**, remove the **Maintenance Tank**, hold the **Down, Right,** and **Pause** buttons and turn on the **Printer** (**Ensure that Service Man Mode is displayed on the Printers LCD**).

**Note:** *If the backup procedure fails, try re-booting the Printer and letting it come **Ready**. Then try the backup / restore procedure.*

## Parameter Backup

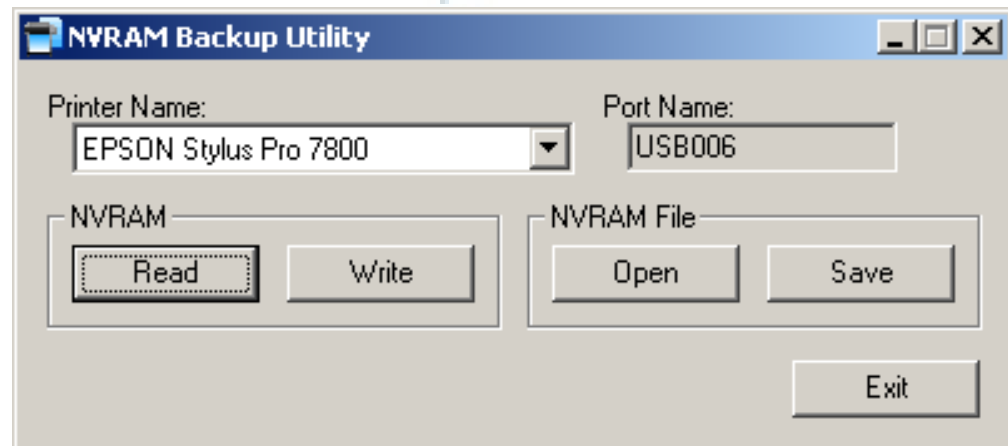
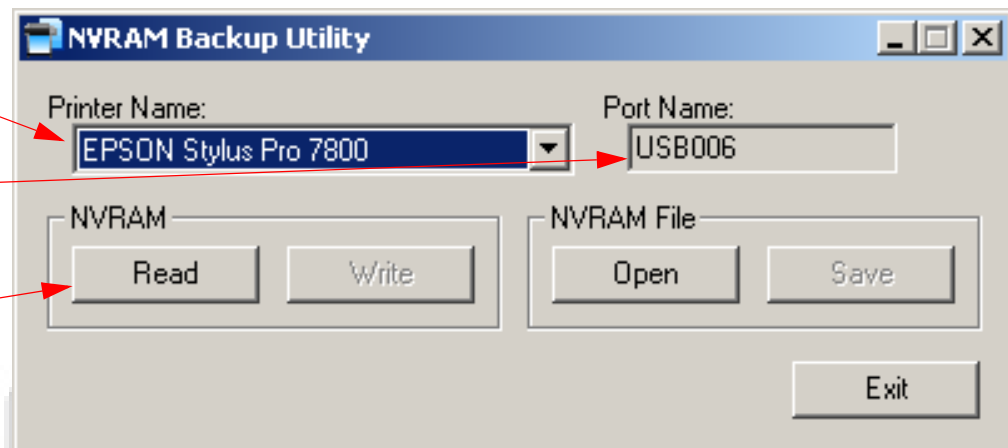
1. Pick the appropriate printer driver.

The port that the driver is associated with, will be displayed.

3. Click on **Read**.

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

4. Click on **Save** to save the parameters, and assign the file a name.





## Parameter Restore.

1. Pick the appropriate printer driver.

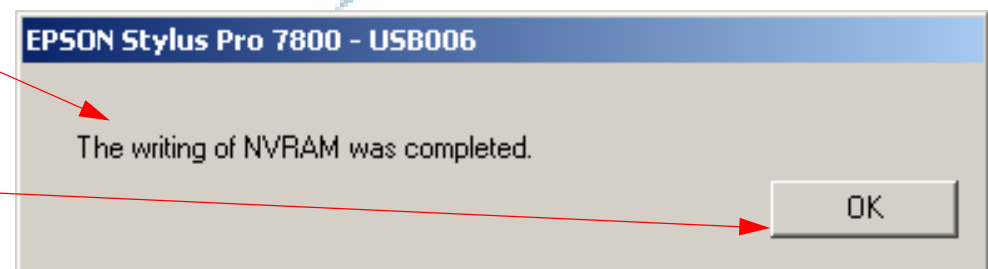
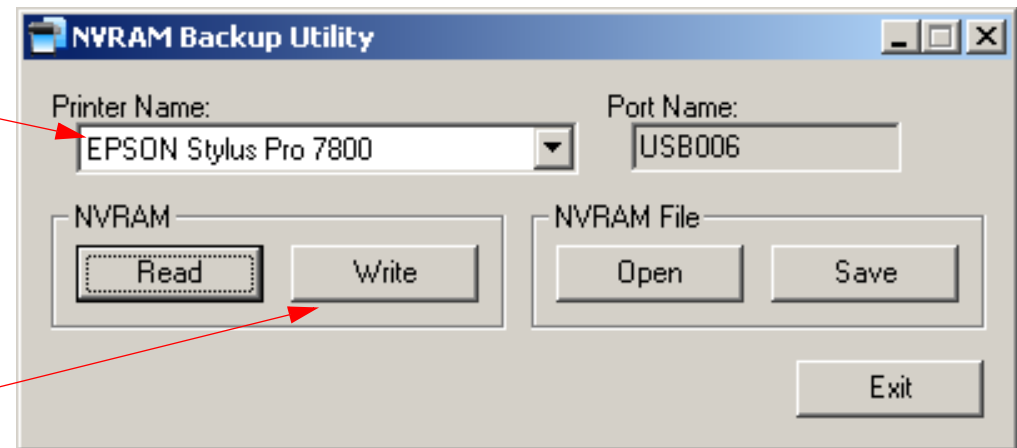
The port that the driver is associated with, will be displayed.

2. Click on **Write** to send previously loaded Parameters to the Printer. (If the Parameters are not loaded, click on **Open** and load saved Parameters, then click on **Write**.)

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

**Do not turn the printer off until the utility displays this screen.**

3. Click on **OK** to finish.



# PRNprint.exe

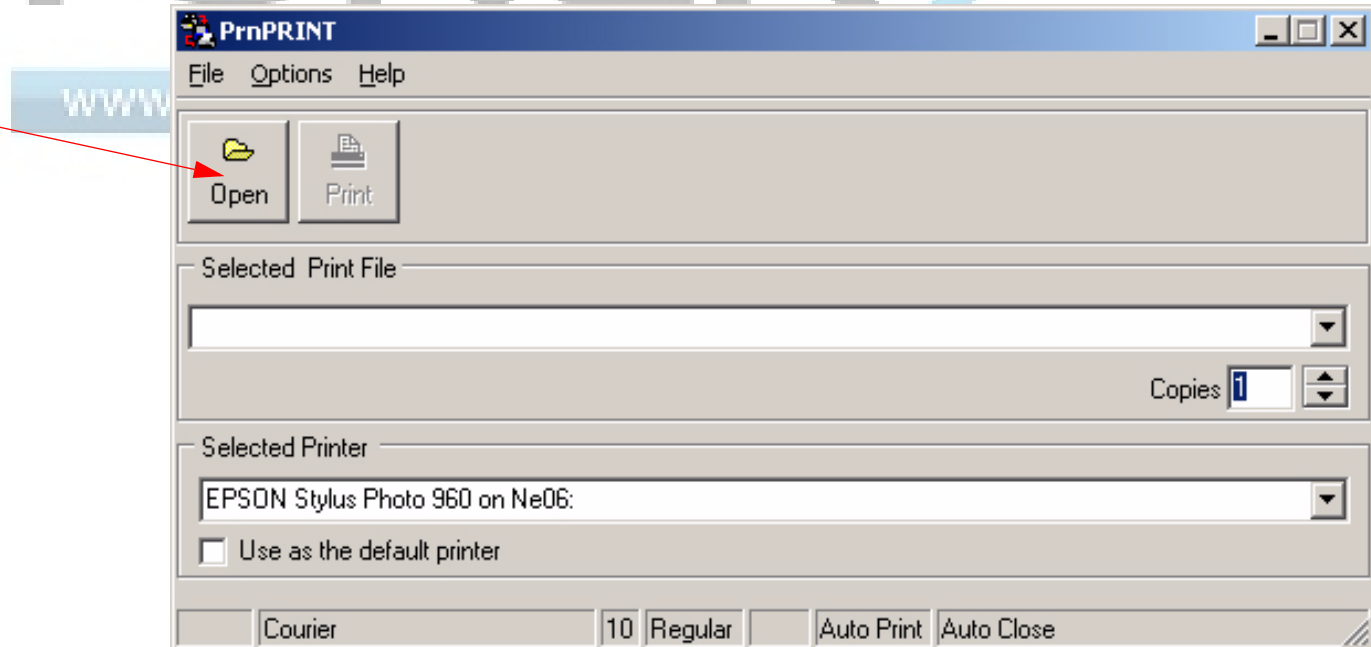
**Note:** *PRNprint.exe* is the utility that is used to copy Firmware to the Printer.

1. Ensure that the **Pro 7800 or 9800 Printer Driver** is installed on the system that will be running the **PRNprint.exe**.
1. Double Click on **PRNprint** to start the utility.



2. Click on **Open**.

1. Click on **Open**

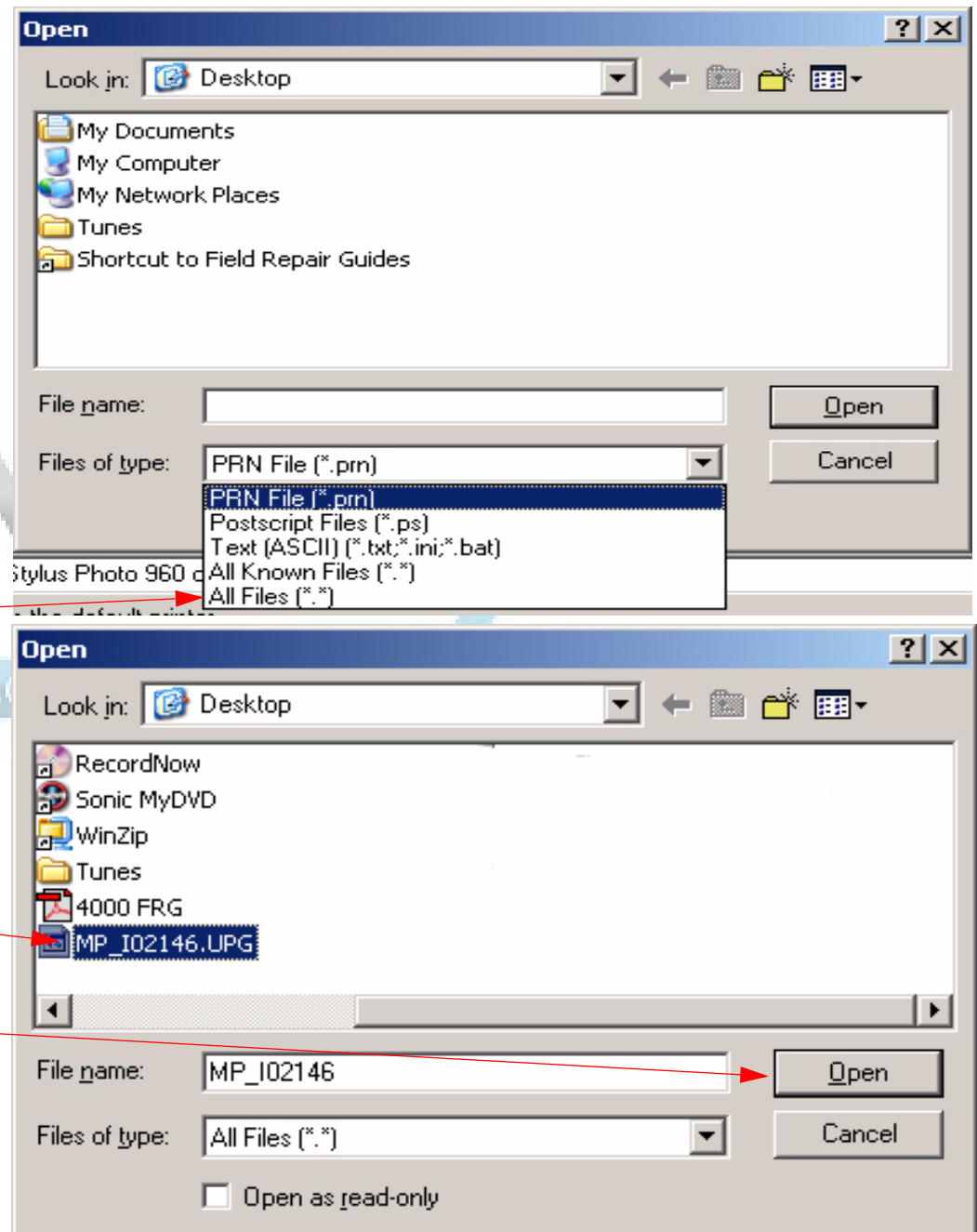


### 3. Select the correct firmware and load it into the utility.

1. Change the file type to **All Files**

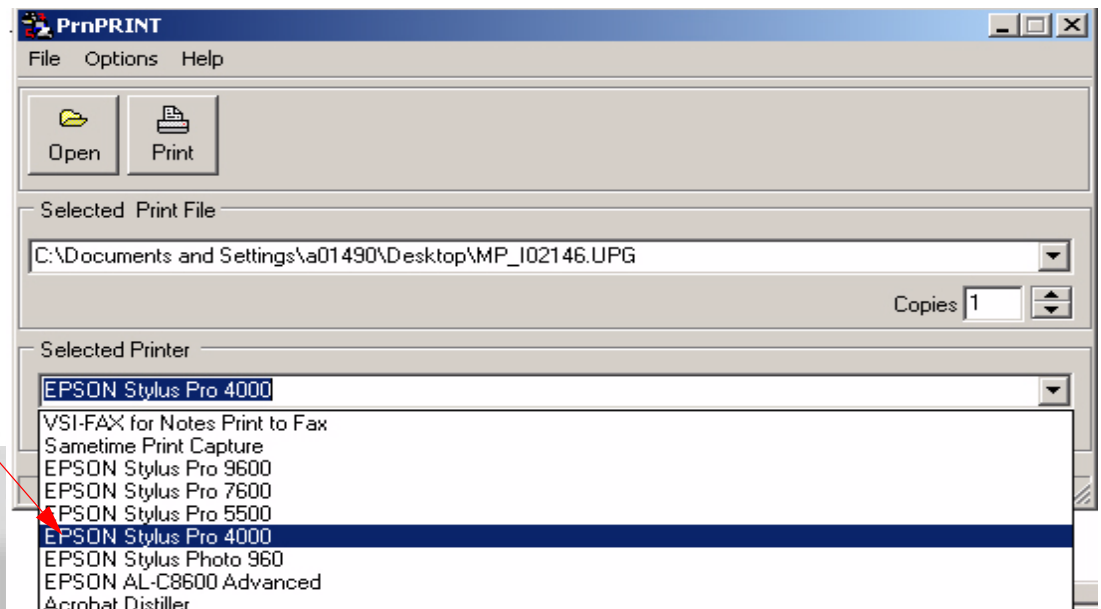
2. Navigate to, and click on the correct firmware file.

3. Click on **Open**



#### 4. Send the firmware to the **Printer**.

1. Select the correct printer driver.



2. Click on **Print**.

