VUTEk® HS125 Pro Series

Digital Inkjet Printers

Maintenance Guide

EFI Inkjet Solutions

United States

1 Vutek Place

Meredith, New Hampshire 03253 USA

http://www.efi.com

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United States: 855-EFI-4HLP (855-334-4457) 412-690-4321 Customer.Care@efi.com Canada/Mexico/South America: +1 650 357 4790 InternationalOrders@efi.com	+31 20 658 8070 Email EuroInk@efi.com Part Orders EuroParts@efi.com	+1 650 357 4790 Email InternationalOrders@efi.com
Technical Support	**Technical Support**	**Technical Support**
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Revision History

D	11/10/16	• Added 5. Check facility air compressor water trap. (per Mark's write-up using pendant) to 8-hour tasks • Added 11. Perform carriage lift (print gap) calibration. to 40-hour tasks. • Added Doc ID to footers.	
E	12/08/16	Moved "Replace Arc Lamp Bulbs" from Every 40 Hours to Semi-Annually (with note that it's only done approx. every 1,000 hours as needed) in text and removed entirely from Maintenance Log.	
F	01/12/2017	Added info about adjustable grease gun fitting adapter in section 2.8. DR 4004	
G	04/11/2017	Corrected callouts 5, 6, and 7 in figure 2-7 in section 2.2.	
H	05/11/2017	Added Belt Steering paddle maintenance and added photos; changed Pinning Lamp cleaning procedure - do not use any abrasive material on the LED lamp glass.	
I	06/12/2017	Changed wear strip maintenance; 2. Check wear strips on vacuum purge wiper and replace if worn. Wear strips are not reversible. Added 45129178 to Maintenance Log.	
J	07/20/2017	Clarified Every Four Hours wiping print heads with wipe and wand and hand wiping; added part number 45074615, Cotton Swab.	
K	08/21/2017	Updated document for language localization.	
L	12/20/2017	Changed Firejet Filter kit. Use 45171055 KIT, AIR FILTER, FJ100 2X75, 2X150, 4X225	
M	07/10/2018	Moved "Verify Print Gap" to Every 4 Hours and moved "Calibrate Print Gap" to Every 8 hours.	DR 5145.
N	08/30/2018	Added HS Pro Fast4 printer to Available Models; added Collision Detect Bar cleaning.	
O	10/01/2018	• Moved print gap calibration back to every 40 hours. • Corrected text of step 9a, pg. 36. • Added printer model to top of Maintenance Log. Removed contact table and instruction text from Log.	• DR 5235 • DR 5236 • DR 5292
P	12/12/18	• Added 3. Clean the Four FOD (Foreign Object and Debris) Trays in Monthly Maint. and Log.	• DR 5394
Q	03/07/19	Edits throughout, from the field.	DR 5525
R	07/08/19	• Added purge tray to Every 8 Hours 1. Clean vacuum purge wiper assembly, rails, and tray. • Added 5. Clean carriage camera lens. to Every 40 Hours	• DR 5769 • DR 5768

S	07/26/2019	Added Quarterly task to clean carriage fan filters	DR 5869
T	06/08/2023	Added video links.	DR 7416

Table of Contents

1.0 Introduction

This guide contains a list of maintenance tasks, and procedures for completing each task.

1.1 Maintenance Procedures

The maintenance log contains maintenance procedures that are performed every four hours of production, every 8 hours of production, every 40 hours of production, monthly, quarterly, semi-annually and annually.

Caution! You must read and understand the following documents prior to operating or servicing this printer.

- http://inkjet.support.efi.com/doc.php?doc=683 - **Inkjet Solutions Printer Safety Guide**
- http://inkjet.support.efi.com/doc.php?doc=3190 - **HS125 Operations Guide**
- http://inkjet.support.efi.com/doc.php?doc=3192 - **HS125 Maintenance Guide**

These documents are available at http://inkjet.support.efi.com/.

1.2 Before Starting

Follow these guidelines for the most efficient maintenance routine.

- Verify that you have all the materials required to complete each maintenance procedure.
- Perform all maintenance tasks on a routine schedule.
- When filling out the HS125 Pro Maintenance Log, record the current date and time (if applicable), and write your initials in the space provided.
- Perform maintenance activities either before or after printing.
- The maintenance guidelines are based on an eight hour print production schedule, five days per week. Adjust your maintenance intervals if your operating shifts are longer than eight hours, five days per week.

1.3 About the Maintenance Log

Please keep your HS125 Pro Series Printer Maintenance Log. During service visits, a field engineer will often review your maintenance records.

The HS125 Pro Series Maintenance Log provides you with a list of preventative maintenance tasks, as well as the means for tracking the completion of each task. The log has sections for hourly, daily, weekly, monthly quarterly, semi-annual, and annual maintenance procedures.

Note: Use the maintenance log to record your **completed** maintenance tasks.

1.4 Available Models

There are three HS Pro Series printer models available:

- HS100 Pro Series Printer - A hybrid printer with six color channels and two white channels.
- HSr Pro Series Printer - A roll-to-roll printer (web media only) with six color channels and two white channels.
- HS Pro Fast4 - A hybrid printer with two sets of CMYK color channels and no white channels.

1.5 HS Pro Fast4 Additional Maintenance

High production facilities operating an HS Pro Fast4 may require additional maintenance, for example high-volume sheet printing on materials that contain debris, dust, or other contaminants.

2.0 Periodic Maintenance Procedures

2.1 At Startup and Every 1-4 Hours of Production

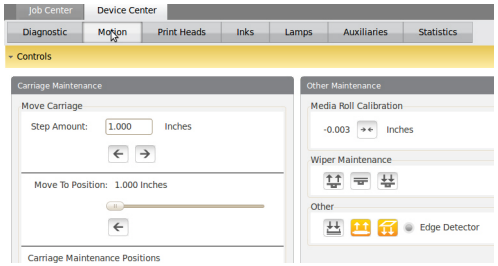
Under normal printing circumstances, Clean print heads and print head plate. every four hours, unless it is a High Demand Printing Applications or Print Head Recovery which requires cleaning the print heads and print head plate ***HOURLY****. If excessive buildup has occurred, it may require operator to Clean print heads and print head plate by hand if normal wiping is ineffective.*

1. Clean print heads and print head plate.

How-to Video: CLICK TO PLAY

Caution! Always wear PPG (personal protective gear) when working with inks and fluids.

A. Click **Device Center** tab, then click **Motion** tab.



B. In **Carriage Lift Panel** pane, click **Move Carriage to Top Position** button. Carriage moves to **Top** position.

C. **Loosen** two carriage access panel thumbscrews and open panel downward.

Figure 2-1: Carriage Access Panel thumbscrew

D. Grasp purge tray cover and remove.

Figure 2-2: Opening purge tray access panel

E. Stack two 45090057 foam wipes together.

F. Open clamps on 45112459 wiper tool and insert wipe ends into clamps.

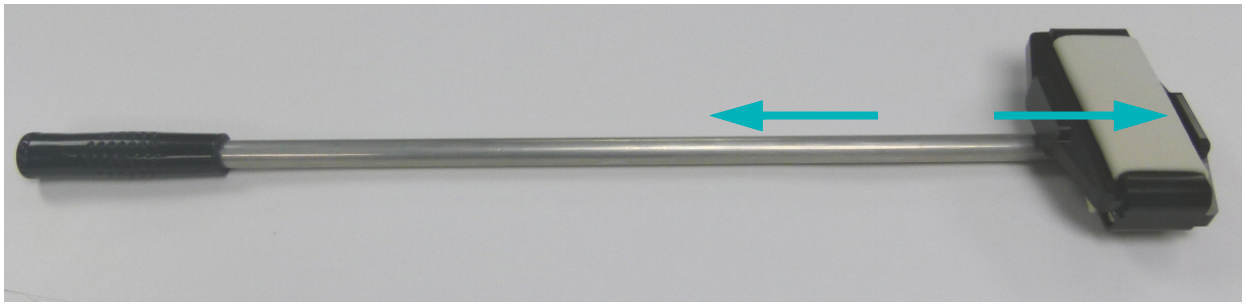


Figure 2-3: Wiper tool

G. Dampen wipes with Print Head Cleaning fluid.

H. Press wiper tool head down gently on a lint-free wipe to remove excess fluid.

I. Starting at carriage left, wipe tool from back to front across one color channel.

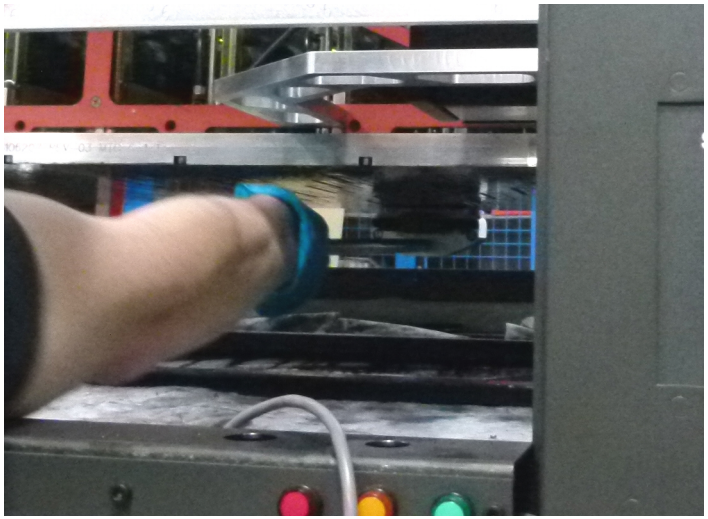


Figure 2-4: Cleaning the Print Head Faces

J. Repeat for first half of color channels (to center of carriage).

K. Repeat steps E to I for other half until print head plate is completely wiped.

L. View print head plate for residue. Repeat wiping process at step E. if additional residue is observed.

M. Replace Purge Tray cover, close carriage access panel and close end cap.

N. Press the **Motion Resume** button to reset printer and resume printing.

O. Perform a **Purge All** in the VUI. Set **Wipe** value to **1**.

P. Print a jet test to verify print quality.

Q. Repeat print head and print head plate wiping for channels with nozzles out, starting at step E.

2.1.1 High Demand Printing Applications or Print Head Recovery

High demand printing applications can cause excessive ink build-up and a degradation of print quality. Usually a combination of the following factors leads to this situation.

- Printing on wavy, non-flat materials with high print gap (Carriage gaps in excess of the recommended 0.060”)
- MEG (Material Edge Guide*) applications
- Thick materials with sharp edge drop offs
- High speed printing (Light or No Smoothing, e.g., Minimum or no print effect adjustments for faster printing)

Note: Material Edge Guide is a rail, ski and bracket system that guides and holds sheet media flat against the media vacuum table.

The high speeds and large gaps produce a fine ink mist. The larger gaps also increase the availability of reflected UV energy. Together the result is cured or partially cured ink mist building up on the face of the print heads, as well as other places. Such applications demand an enhanced head wiping schedule to control this potential build-up. Manual print head wiping frequency may be increased from **EVERY FOUR HOURS** to as often as **HOURLY** based on the severity of contributing factors. Follow these instructions to maintain optimal print quality.

1. Clean print heads and print head plate by hand if normal wiping is ineffective.

A. Prepare one clean room wipe at a time for each print channel, B., folding the wipe 4 times.

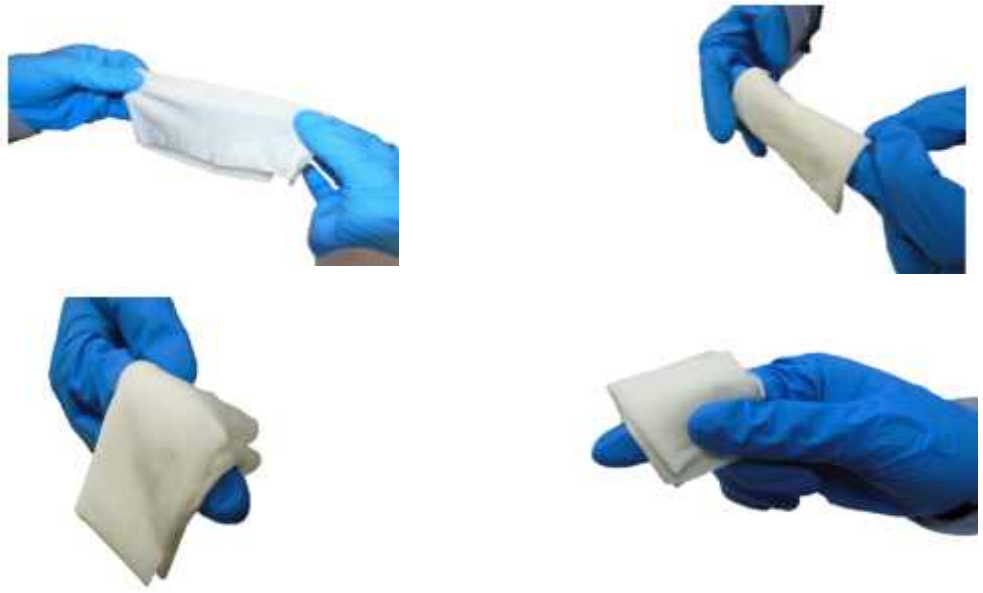


Figure 2-5: Folding wipe

B. Dampen wipe in print head cleaning fluid.

C. Hold the wipe as indicated in Figure 2-6.

Figure 2-6: Holding wipe

D. Place the dampened wipe at the rear of a print head.

E. Being extremely careful, slide the wipe along the face of the print head, moving slowly and with precision so that the cleaning solution has time to soften the dried up ink while the wipe absorbs the softened ink, removing the ink buildup.

F. Reposition the dampened wipe frequently as the wipe absorbs ink, so that a clean area of the wipe always absorbs the ink.

G. When the wipe is used up, prepare another wipe and repeat the previous steps; continue until all the areas around the print heads, and the edges of all the print heads are completely clean.

Important! Do not use the same wipe for more than one color channel during this procedure!

H. Perform a Purge All in the VUI. Set Wipe value to 1.

I. Print a jet test to verify print quality. If nozzles are still missing, repeat hand wiping procedure.

2. Verify carriage print gap (carriage height).

A. Remove media and MEG system from printer, if present.

B. From the printer VUI, click **Device Center** > **Motion** tab.

C. Set the print gap to 0.060.

D. Choose the **Move Carriage to Middle Position** button.

Note: ENABLE/DISABLE Button: Press button half-way down to go to the ENABLE position; the safety interlock system allows doors to be opened in this position. Press button completely down, or release button, to go to the DISABLE position; the safety system is activated. Opening a door at either DISABLE position causes a MOTION error in printer VUI.

E. Choose the **Move Carriage Lift to Calibrated Position** button on the Carriage Lift Panel.

F. On the Service Pendant, press the ENABLE/DISABLE button to go to the ENABLE (middle) position. DO NOT FULLY press button. **See above Note.**

G. Continue to hold the ENABLE/DISABLE button and open the printer FRONT door.

H. Using the 0.060 side of the carriage shim, slide the shim under the front of the carriage. If the carriage is set to the correct height, the shim should slide under with slight resistance.

I. Close the front door and release the service pendant.

J. Choose the **Move Carriage to Home Position** button, and the carriage returns to home position.

K. If the gap is correct, no further action is required. If the gap needs adjusting, see Perform carriage lift (print gap) calibration. on page 31.

Figure 2-7: Move Carriage to Middle Position

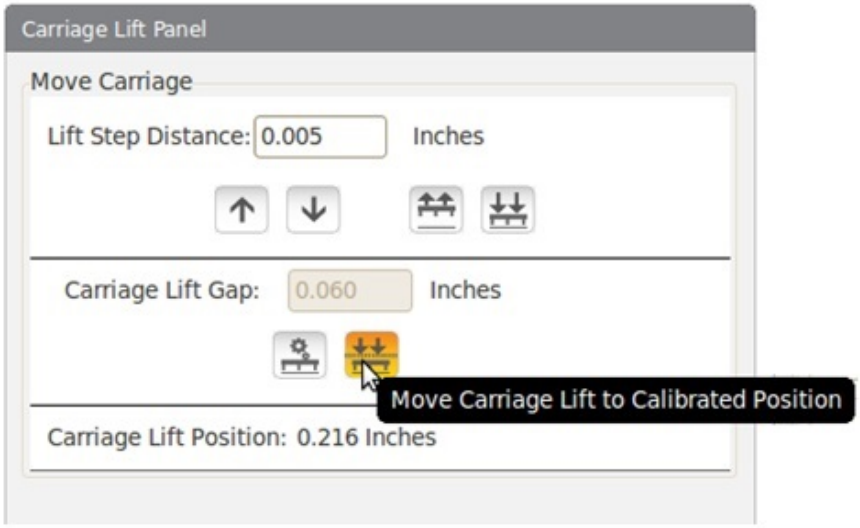


Figure 2-8: Move Carriage Lift to Calibrated Position

2.2 Every 8 Hours of Production

1. Clean vacuum purge wiper assembly, rails, and tray.

How-to Video: CLICK TO PLAY

A. From **Device Center** tab, click **Motion** tab.

B. Expand **Carriage Maintenance.**

C. In **Wiper Maintenance** pane, click **Center Maintenance Position** button.

D. Under **Wiper Maintenance** in **Device Center** tab, click **Uncover Wiper** button.

E. Click **Wiper Lift** button.

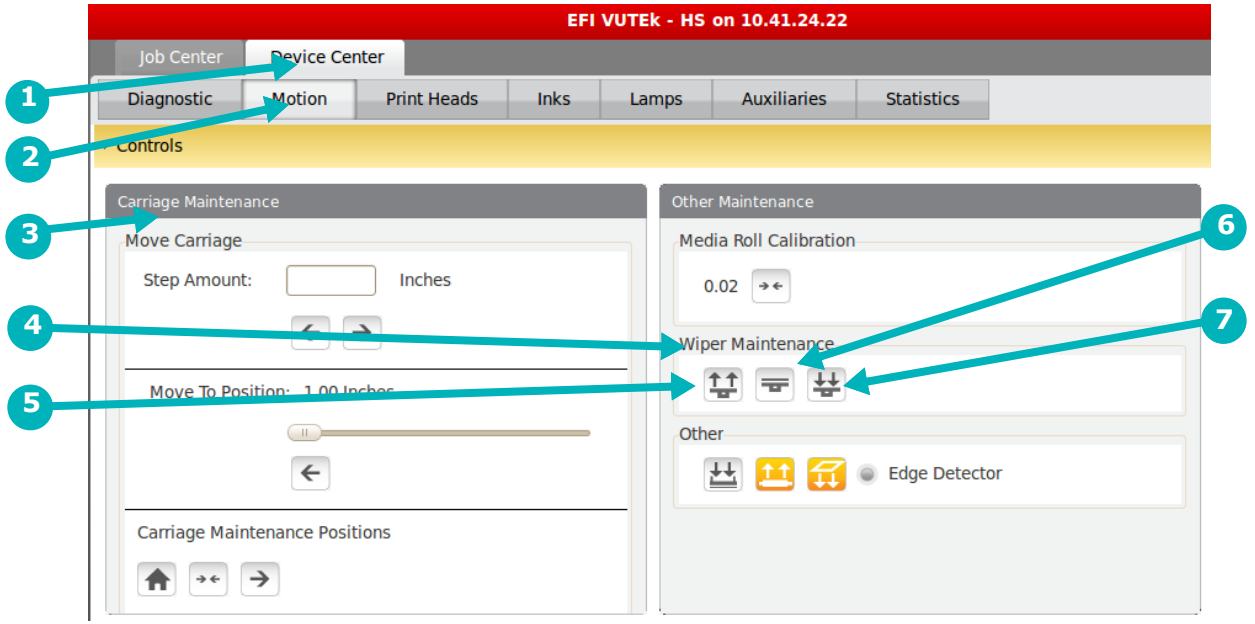


Figure 2-9: Device Center - Motion Tab

1	Device Center tab	5	Wiper lift/lower
2	Motion tab	6	Wiper Cover/Uncover
3	Carriage Maintenance pane	7	Wiper vacuum
4	Wiper Maintenance pane		

F. Clean wiper tops, sides, and underside, , using a lint-free wipe dampened with Print Head Cleaning fluid.

Note: Do not pour or spray solvent into the purge openings; use wipe(s) dampened in print head cleaning fluid.

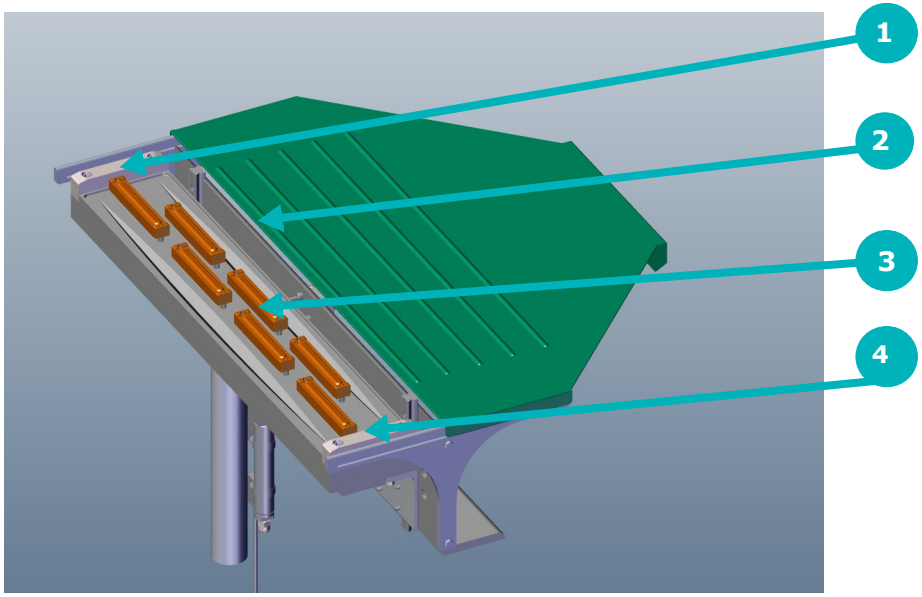


Figure 2-10: Vacuum Purge Wiper assembly

1 Left Wiper Rail
2 Wiper cover
3 Vacuum Purge Wiper head (x7) with vacuum holes
4 Right Wiper Rail

G. Clean wiper tray with lint-free wipes dampened with Print Head Cleaning fluid. Ensure that the drain tube is not clogged.

Figure 2-11: Purge Wiper Tray

2. Clean carriage rail ends.

How-to Video: CLICK TO PLAY

A. Click **Carriage (Center) Maintenance Position**.
B. Open end caps, ensuring that they are fully raised such that the safety struts lock.
C. Wipe down carriage rail ends with a dry, lint-free wipe to remove debris.

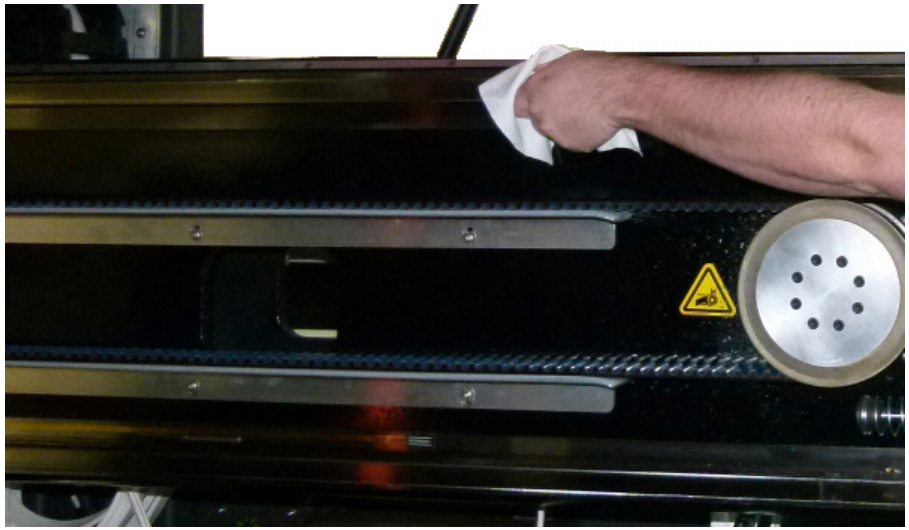


Figure 2-12: Cleaning the carriage rail ends

D. Close end caps.

3. Check ink tank levels.

How-to Video: CLICK TO PLAY

A. Click the **Inks** tab. Ink levels for the Secondary and Primary Ink Tanks display.

B. Refill low/empty ink tanks as outlined in the printer *Operations Guide*.

Note: Check ink tank levels more often during times of increased print production.

Figure 2-13: Ink tab

1 Secondary Ink Tank Levels

2 Primary Ink Tank Levels

3 Percentage of ink remaining

4. Check waste container level.

How-to Video: CLICK TO PLAY

A. Open waste container compartment.

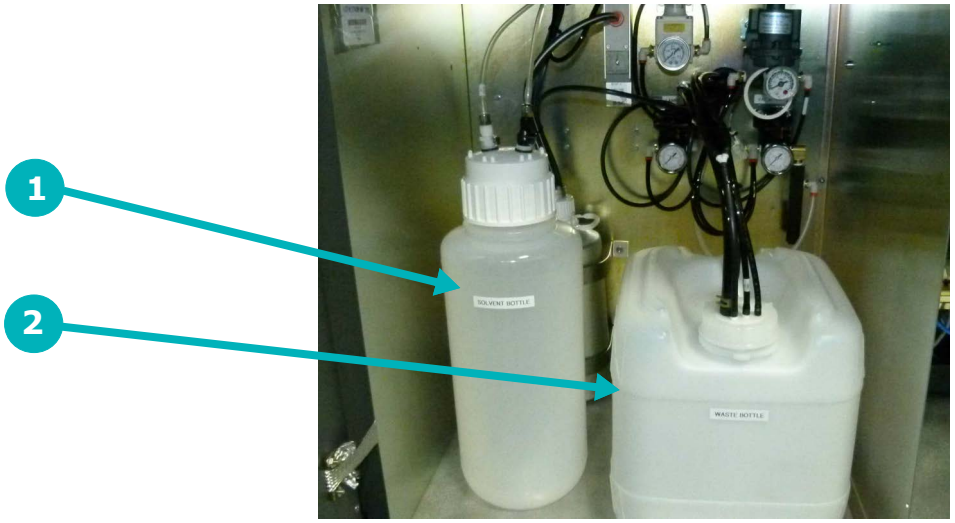


Figure 2-14: Waste container compartment

1 Maintenance Fluid Container

2 Waste container

B. Check waste container level. If tank is greater than 3/4 full, proceed to the next step. If less than 3/4 full, no action is necessary.

C. Unscrew waste container cover.

D. Remove waste container and empty into an approved waste container.

E. Reinstall waste container and cover.

5. Check facility air compressor water trap.

Caution! Water in the air system is a major cause of print defects.

A. Contact your facilities manager and compressor manufacturer's documentation for information on checking and emptying water trap.

2.3 Every 40 Hours of Production

1. Replace UV arc lamp filters.

How-to Video: CLICK TO PLAY

Note: Perform a lockout/tagout prior to removing or installing a lamp filter.

A. Open Carriage Home end cap.

B. With two hands, pull open filter cover (1) and remove.

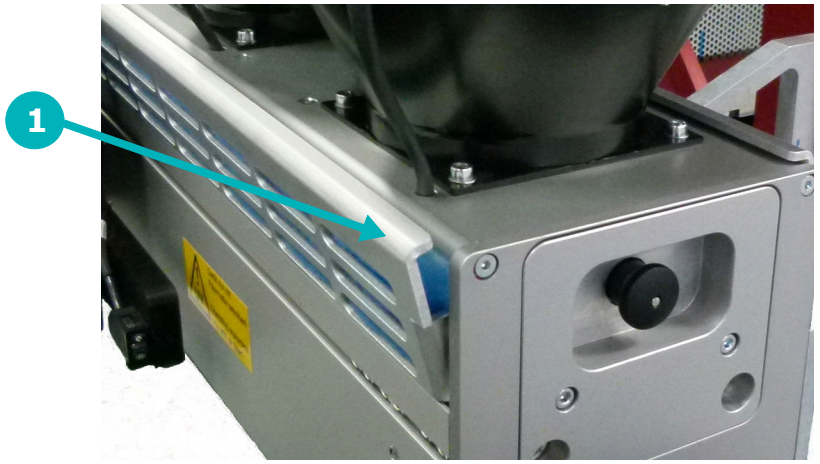


Figure 2-15: Lamp showing filter retainers

C. Remove filter from cover.

D. Cut bulk roll filter, P/N (part number) 45116069 to 1.75” x 16.5” (4.5 cm x 42 cm). Remove stray fibers.

Hint: Make a template and use a sharp blade.

Important! Only install whole pieces of filter material.

E. Install replacement filter.

F. Reinstall filter cover.

G. Repeat steps for all filters on all lamps.

Note: Filter material varies in color based on installation date.

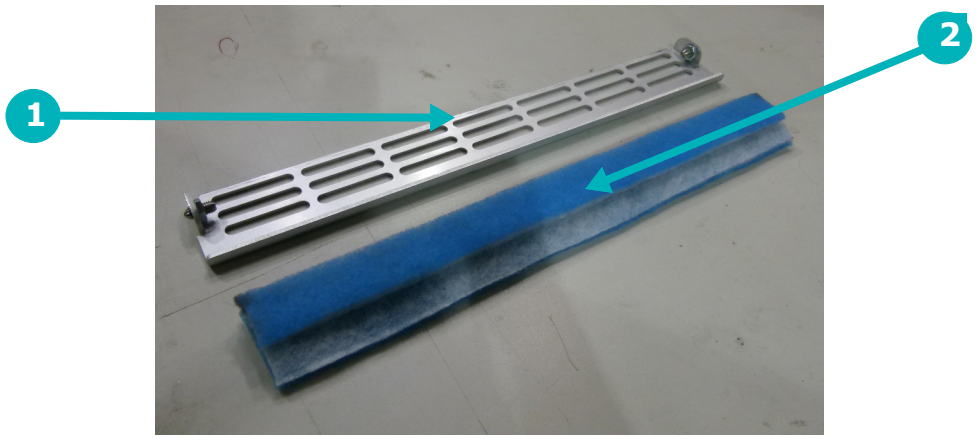


Figure 2-16: Filter retainer and filter

1	Filter housing
2	Filter

2. Wipe UV arc lamp quartz lenses.

How-to Video: CLICK TO PLAY

A. Wipe the quartz lenses with a lint-free wipe and IPA (isopropyl alcohol).

B. Ensure there are no fingerprints on lenses.

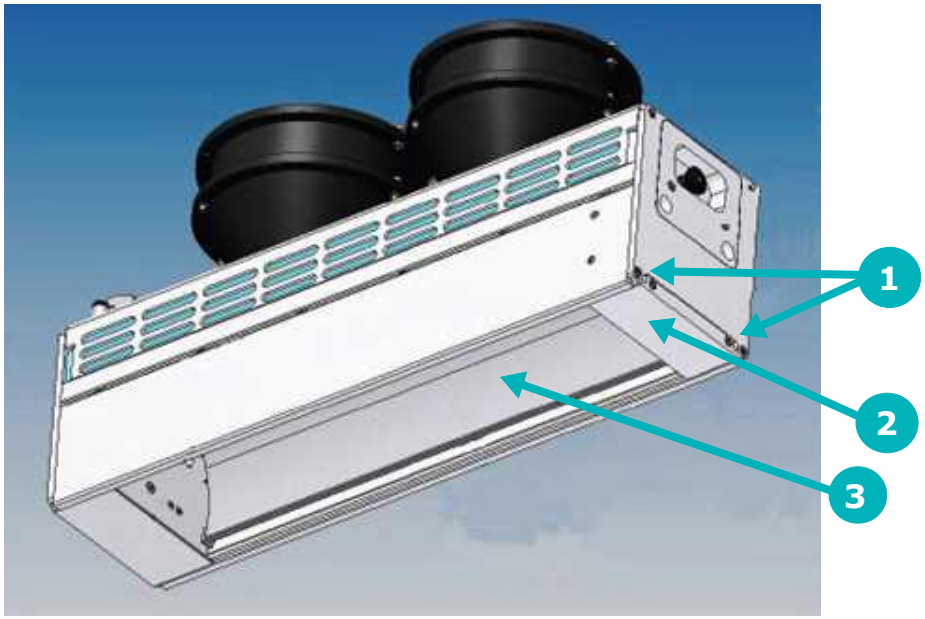


Figure 2-17: Clean the Quartz lenses

1	Retaining block screws
2	Quartz glass retaining block
3	Quartz glass filter

3. Check and replace LED pinning lamp intake filters.

How-to Video: CLICK TO PLAY

Four LED pinning lamps are located on each side of the carriage.

A. Unscrew the filter housing at the top and remove.
B. Remove old filter and dispose of properly.
C. Insert new filter into filter housing and reinstall.
D. Repeat for all lamps, (9) total per lamp assembly.
E. Reference - 45171055 KIT, AIR FILTER, FJ100 2X75, 2X150, 4X225. This is a complete set to replace all pinning lamp filters.

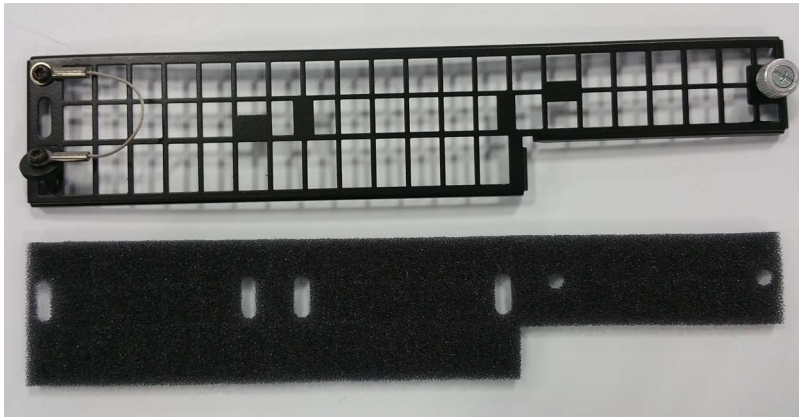


Figure 2-18: Large filter and frame

Figure 2-19: Removing filter cover, Medium filter

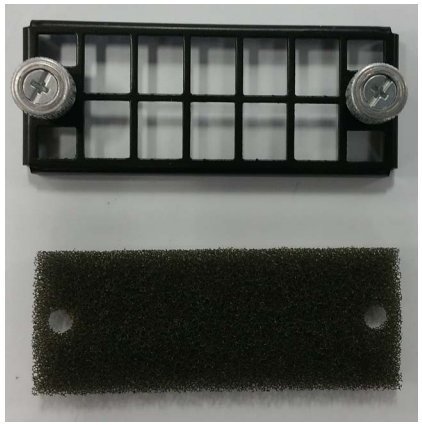


Figure 2-20: Small filter and frame

4. Clean LED pinning lamp lenses.

How-to Video: CLICK TO PLAY

A. In the printer VUI, open Service Aids.

B. Ensure there is nothing in the path of the carriage and click **Right Maintenance Position** button.

Note: Avoid skin contact with ink. Use Nitrile gloves and protective clothing to prevent skin contact and wear normal work clothing (long-sleeved shirts and long pants).

C. When carriage stops, open RH end cap.

Important! Stop the procedure now and resume only when the lamps are cool to the touch. Cooling times vary based on site conditions.

D. Put on personal protective equipment and wipe down the RH lamp window with a clean room wipe to remove any uncured ink.

E. Insert a new razor blade into handle.

Important! Always use a new blade to ensure ideal cleaning conditions.

F. Hold razor at a 20-30 degree angle to the lamp glass and carefully scrape large debris off the LED lamp glass using the sharp edge of the razor, Figure 2-23

Figure 2-21: Pinning lamps, full assembly, Top view

G. Wipe down the LED Lamp glass using a clean room wipe moistened with IPA to remove any remaining dust or debris left on the window during the cleaning process.

H. Close end cap, press **Motion Resume** button and clear any Interlock errors from the printer VUI.

I. In the **Service Aids** software screen, use the **Step** functions to move the left lamp to an accessible position in the carriage compartment above the terminal cover.

J. Repeat cleaning steps for the LH lamp. When complete, return carriage to **Home** position.

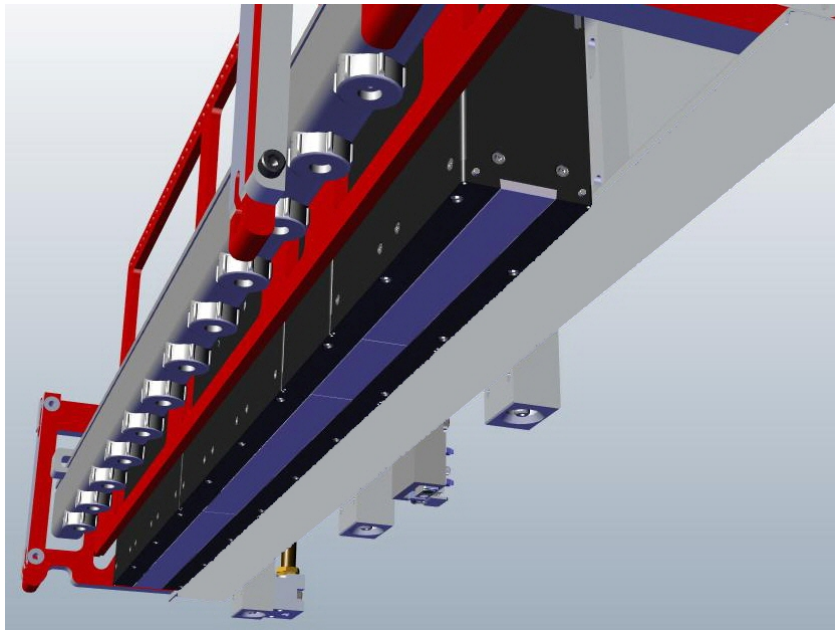


Figure 2-22Pinning lamps, bottom view

:

Figure 2-23: Scraping LED lamp glass

5. Clean carriage camera lens.

A. Wipe down the LED Lamp glass using a clean room wipe moistened with IPA to remove any dust or debris

Figure 2-24

6. Clean UV light deflectors.

A. Move carriage to the center maintenance position.

B. On each printer end, wipe down UV light deflectors with a clean wipe and IPA to remove debris and ink.

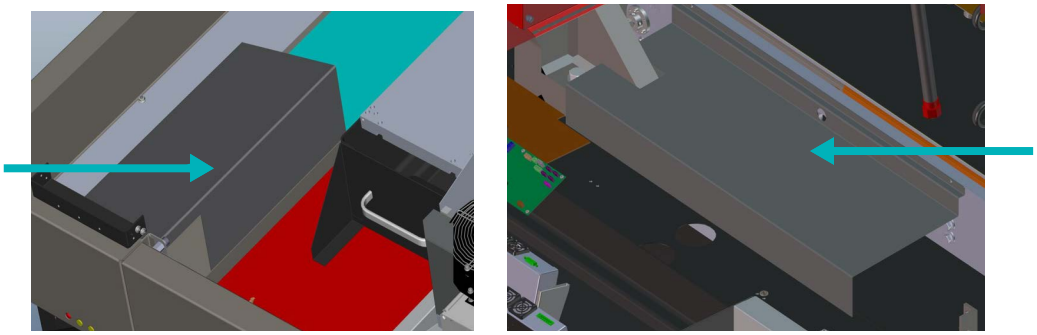


Figure 2-25: Home End UV Light Deflectors, L and R

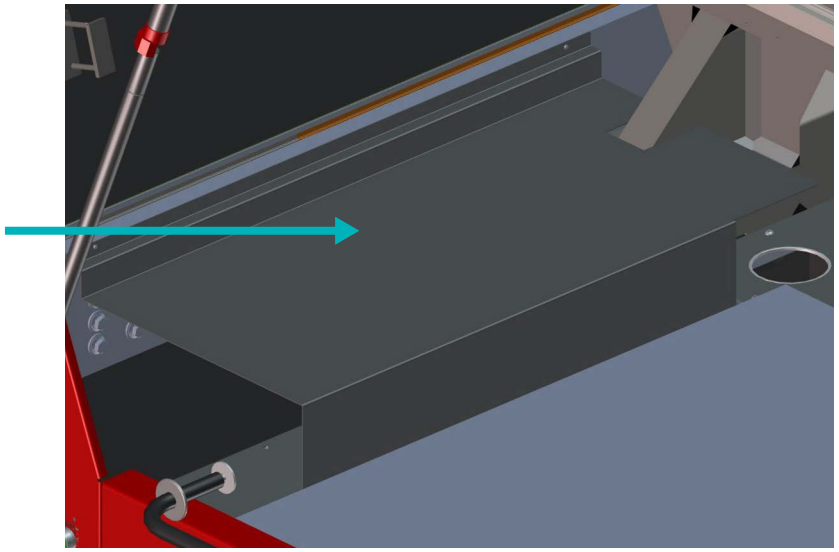


Figure 2-26: UV Light Deflector Work Station End

7. Clean media edge detector.

How-to Video: CLICK TO PLAY

A. Clean media edge detector lens located at left bottom rear of carriage, Figure 2-27 using a wipe dampened with IPA.

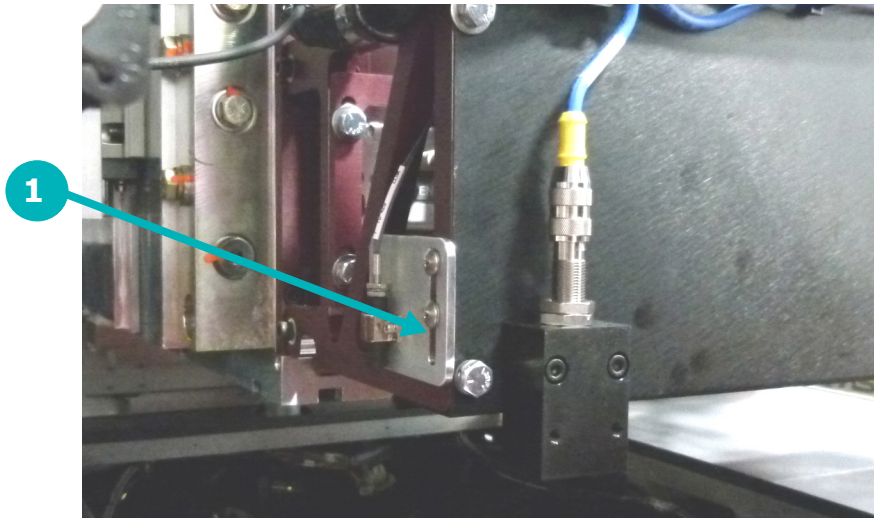


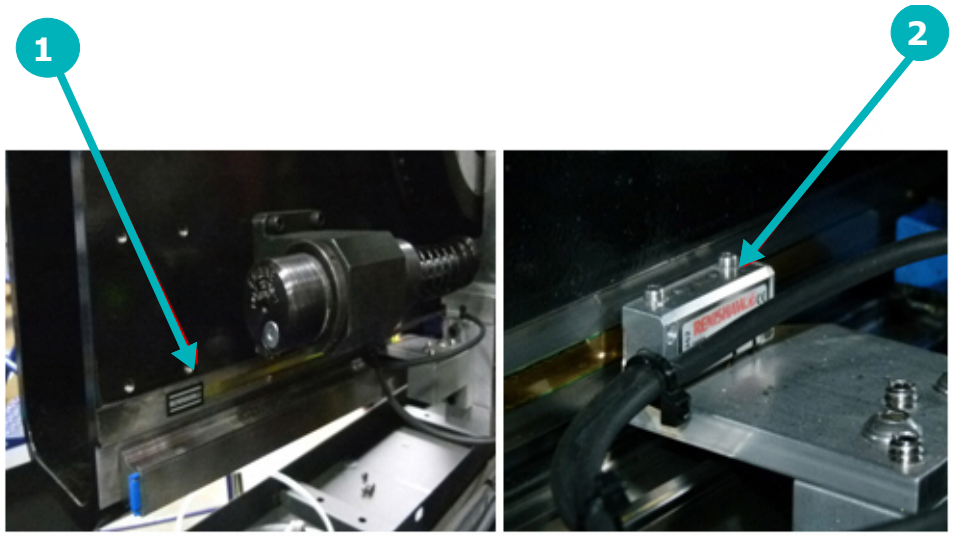
Figure 2-27: Media edge detector, carriage rear

1 Media Edge Detector

8. Clean linear encoder strip.

How-to Video: CLICK TO PLAY

A. Wrap clean room wipe around the end of 45112459 wiper tool and clamp, Figure 2-29.
B. Dampen the wipes with IPA.
C. Wipe entire length of linear encoder strip to remove ink and debris, moving carriage as necessary.



1 Linear Encoder strip
2 Encoder read head

Figure 2-28: Left side of carriage

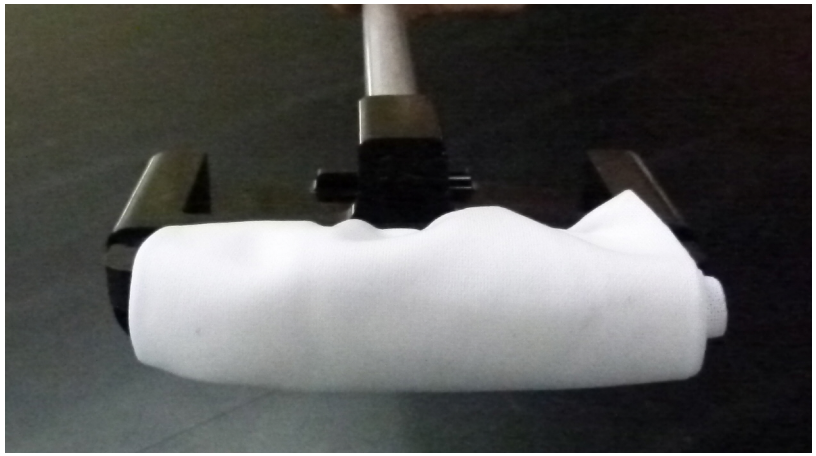


Figure 2-29: Wipes on end of Wiper tool

9. Clean media infeed and outfeed rollers.

How-to Video: CLICK TO PLAY

A. Using a clean wipe dampened with IPA, wipe down the metal media infeed and out feed rollers to remove any ink, debris and contaminants.

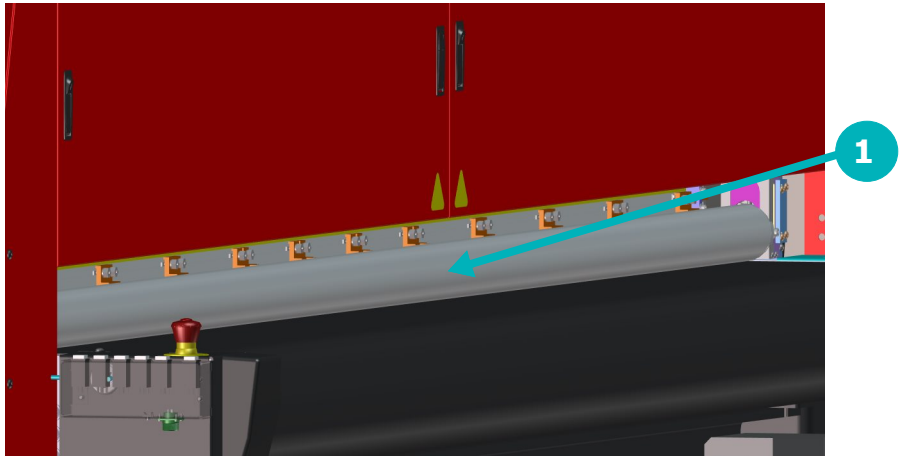


Figure 2-30: Media infeed roller, Top, Media out feed roller, bottom

1 Infeed roller

10.Check arc lamp bulb life.

How-to Video: CLICK TO PLAY

A. In **Diagnostic** tab, click **Timers and Counters** tab. UV Arc Lamp bulb usage displays.

B. If UV lamp bulb life is near or at the 1,000 hour life (95%), skip to Replace UV arc lamp bulbs..

Important! Arc lamp bulbs that are approaching 1,000 hours may cure ink less than new lamps.

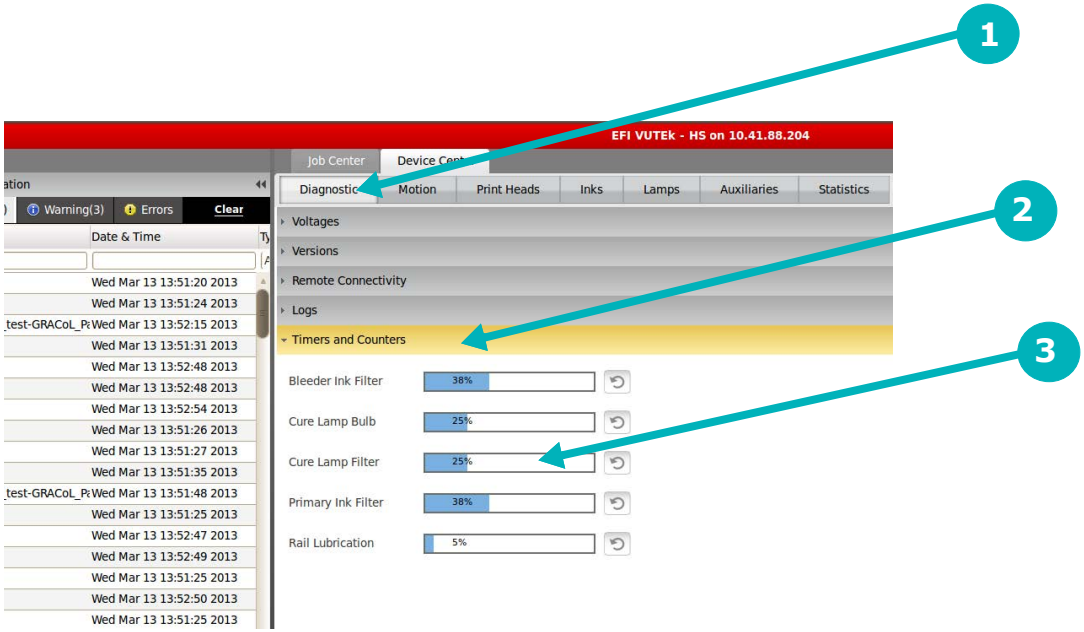


Figure 2-31: Lamp Controller Unit

1 Diagnostic tab
2 Timer and Counters
3 Cure lamp bulb life percentage

11. Perform carriage lift (print gap) calibration.

How-to Video: CLICK TO PLAY

To ensure consistent operation of the carriage lift a calibration must be performed. Always use the 45069429, SHIM CARRIAGE HEIGHT, which has 0.060”, 0.075”, and 0.090" thick-nesses.

A. From the printer VUI, click **Device Center** > **Motion** tab.

B. In the **Other Maintenance** panel, click the **Media Roll Calibration** button.

C. The rear Media Roll raises and drops the infeed media roll three times.

Note: Acceptable calibration tolerance values range between +/-0.002".

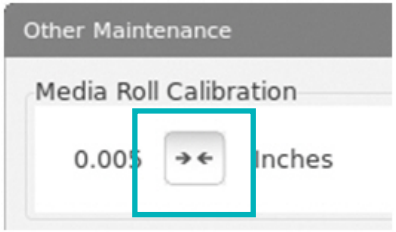


Figure 2-32: Media Roll Calibration

D. From the **Carriage Lift Panel** click **Calibrate Carriage Lift** button.

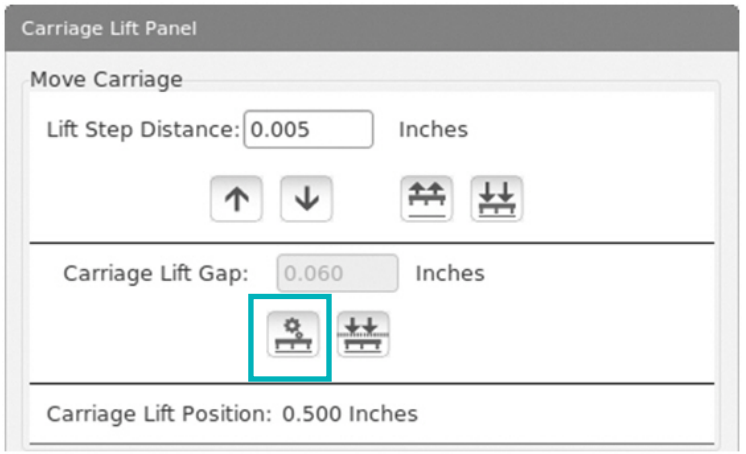


Figure 2-33: Carriage Lift Panel

E. The Wizard begins with a welcome screen.

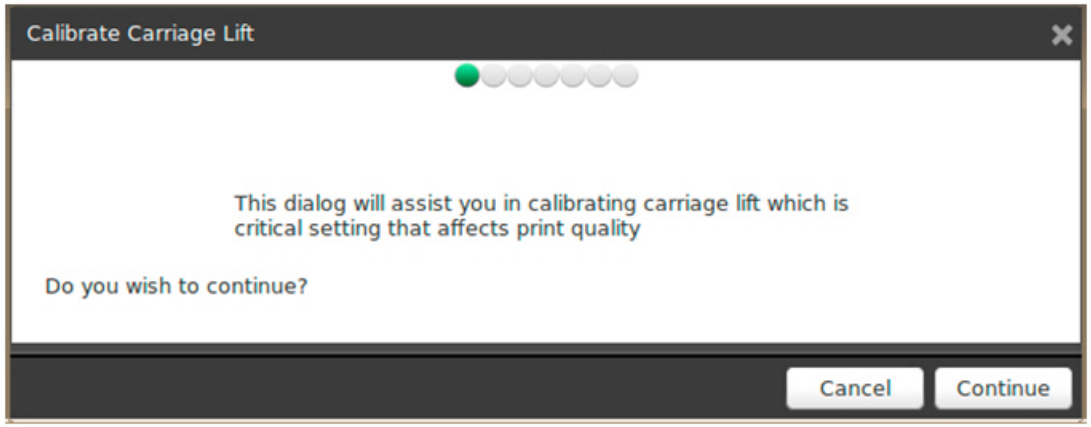


Figure 2-34: Welcome screen

F. Remove media as instructed and click Continue.

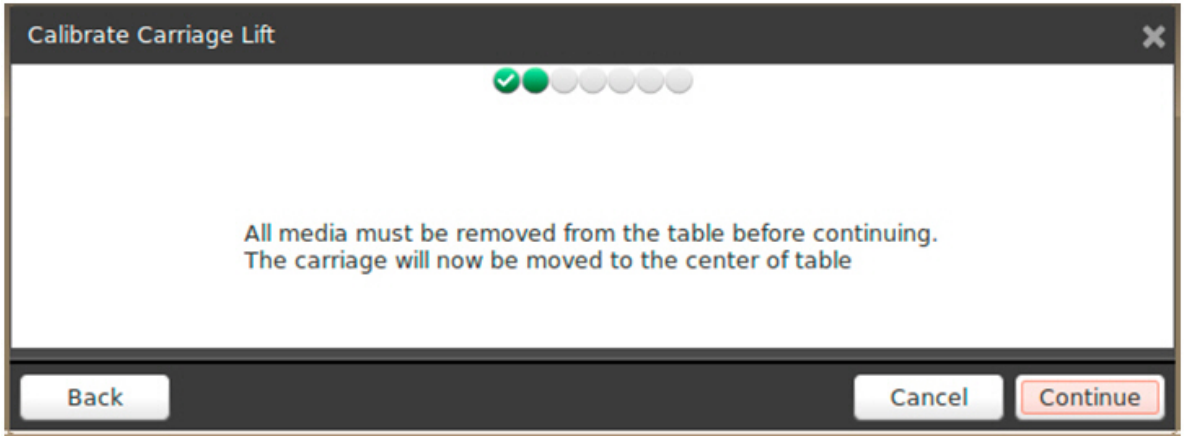


Figure 2-35: Remove media

G. In the Shim Thickness field enter 0.060 if not already and click Continue.

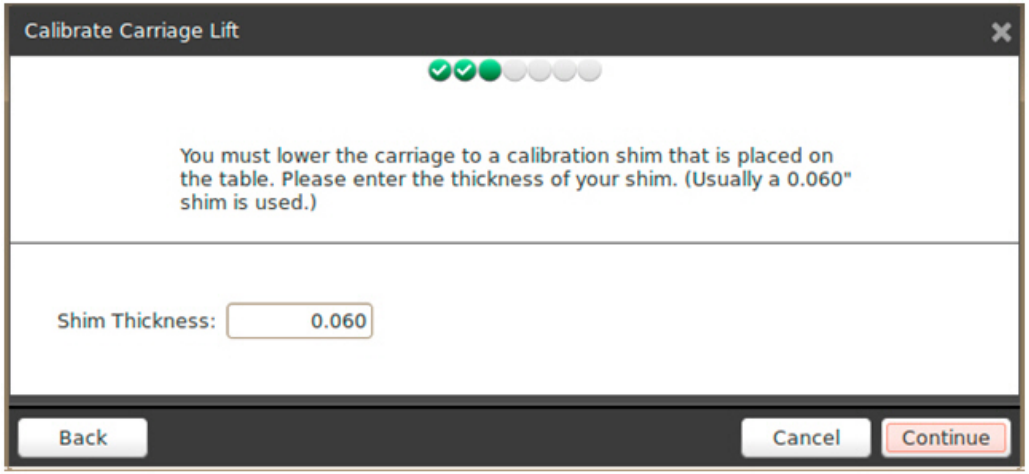


Figure 2-36: Use Calibration Shim

H. The carriage moves to the center of the media belt and then lowers to about 0.50”.

I. In the Wizard change the Step Distance to 0.44” and click the down arrow one time. This lowers the carriage closer to the set point.

Figure 2-37: Setting carriage position

J. Change the **Step Distance** to 0.005.

K. On the Service Pendant, press the **ENABLE/DISABLE** (top button to the ENABLE (middle) position. DO NOT FULLY press button.

L. Continue to HOLD the ENABLE/ DISABLE button and open the printer FRONT door.

M. Using the 0.060” side of the carriage shim, slide the shim under the front center of the carriage.

N. When the carriage is set to the correct height the shim should slide under with slight resistance. Remove shim from under the carriage.

O. Use the **+** and **-** on the service pendant until the proper gap is achieved. Re-check the gap with the shim after each change. If needed change the move value to 0.002 for a finer adjustment. When the desired gap is achieved click **Continue**.

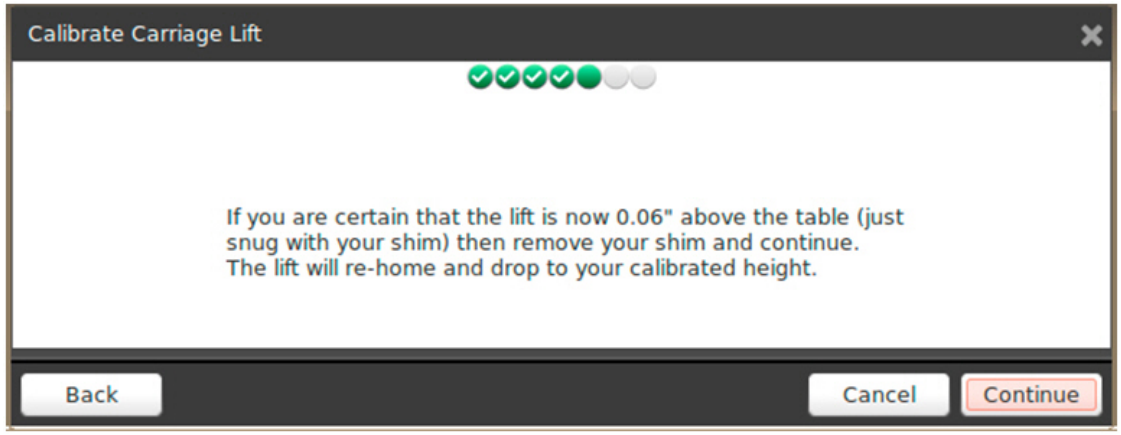


Figure 2-38: Re-positioning carriage

P. The carriage raises fully and then lowers to the set print gap value. Check the gap again with the 0.060 side of the carriage shim. If the gap is the same as before click continue if not click Try Again. Then repeat the previous step.

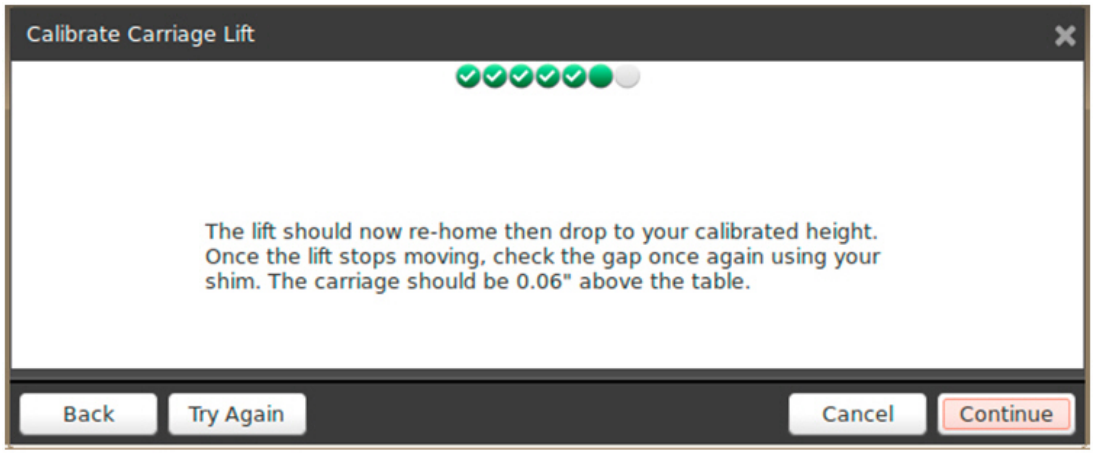


Figure 2-39: Calibrate Carriage Lift

Q. The wizard asks if you would like to calibrate the wrinkle detect sensors. Select **NO**.

R. The carriage lift calibration is now complete. Reset print gap to the desired value.

S. Perform the Bidirectional Alignment procedure.

2.4 Monthly Maintenance

1. Clean cable carrier assemblies and shelf.

How-to Video: CLICK TO PLAY

A. Place carriage in **Home** position.
B. Remove operator station end rear panel, Figure 2-40.
C. Open operator station end cap.
D. Wipe down cable support shelf, Figure 2-41, at operator station end with a clean room wipe dampened with IPA.

Figure 2-40: HS Pro Series Printer Rear

Figure 2-41: Cable carrier and shelf

1 Work Station end rear panel
2 Carriage Home end rear panel
3 Cable carrier and ink bundle
4 Cable and ink bundle shelf

2. Clean front door rollers.

How-to Video: CLICK TO PLAY

A. Wipe down front door rollers with a clean wipe and IPA to remove ink and debris, Figure 2-42.

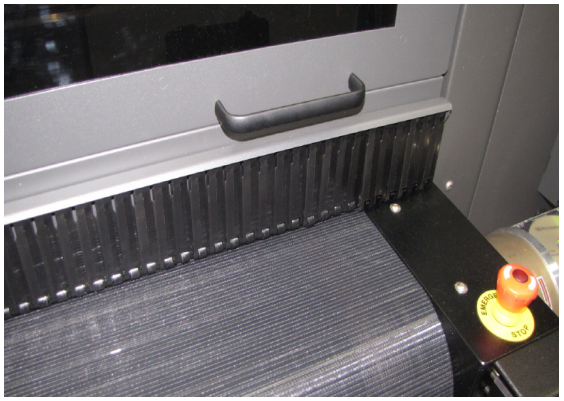


Figure 2-42: Door rollers

3. Clean the Four FOD (Foreign Object and Debris) Trays

How-to Video: CLICK TO PLAY

A. Open the printer FRONT door.

B. Wipe down the inside of the LEFT and RIGHT Print Bed side trays to remove debris.

Danger! Ensure the FOD tray is fully seated after cleaning.

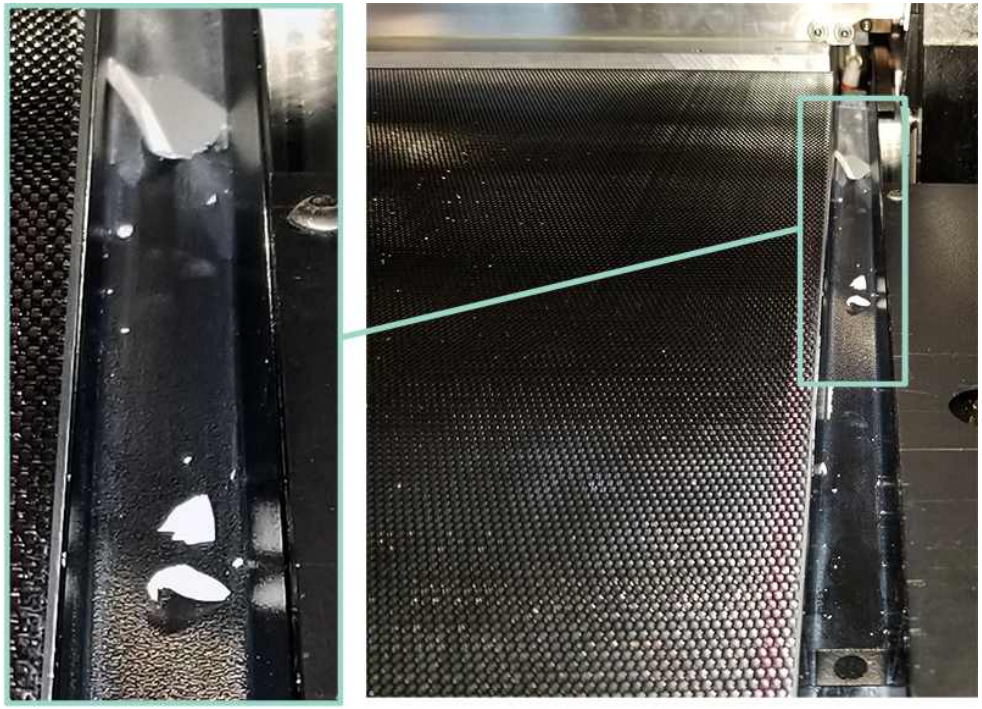


Figure 2-43

4. Inspect two exhaust fans located over the print area.

How-to Video: CLICK TO PLAY

A. Vacuum fan guard with a vacuum cleaner wand and/or cloth as needed.

B. For excessively dirty fans, fully power down the printer remove fan guard, then clean and reinstall.

Important! Do not apply excessive concentrated pressure to media table.

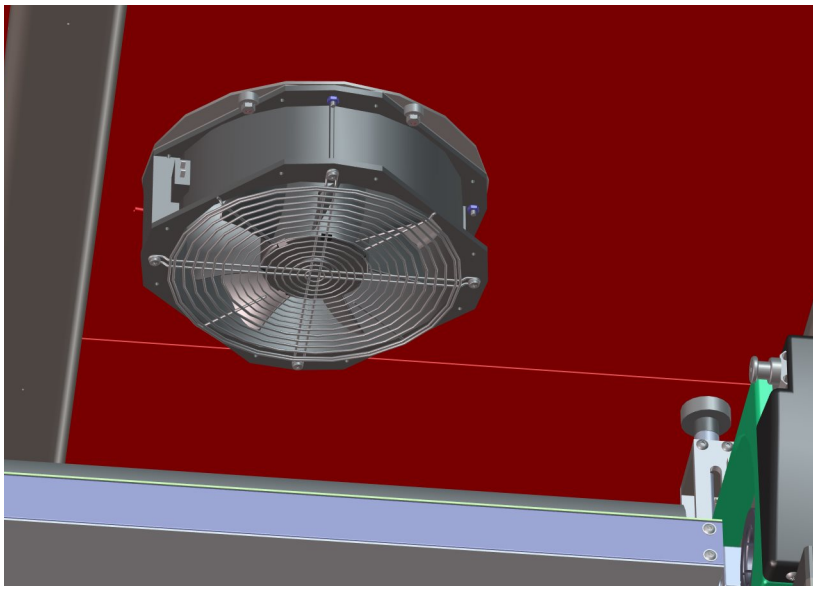


Figure 2-44: Exhaust Fan

5. Check print head purge and long term storage fluid level.

How-to Video: CLICK TO PLAY

A. Refer to Figure 2-45 for location.
B. Unscrew Solvent Bottle top and place on a clean room wipe.
C. Add fluid as needed.
D. Re-tighten Solvent Bottle top.

Figure 2-45: Waste compartment

1 Maintenance Fluid Container

6. Clean Belt Steering Paddle.

How-to Video: CLICK TO PLAY

A. The belt steering paddle is located on the capper infeed side of the printer on the bottom of the e-stop cover.
B. If the printer has belt guides on the bottom side of the belt under the media table, white debris can be noticed occasionally.
C. Using compressed air from the printer air nozzle, blow into and around the slot that this paddle travels.
D. Pushing paddle into/away from the belt edge and allowing it come back to the belt 2-3 times helps clear debris.
E. Ensure that the belt steering paddle is clean and moving freely. If the paddle is pushed away from the belt's edge, it should return back to the edge of the media belt.

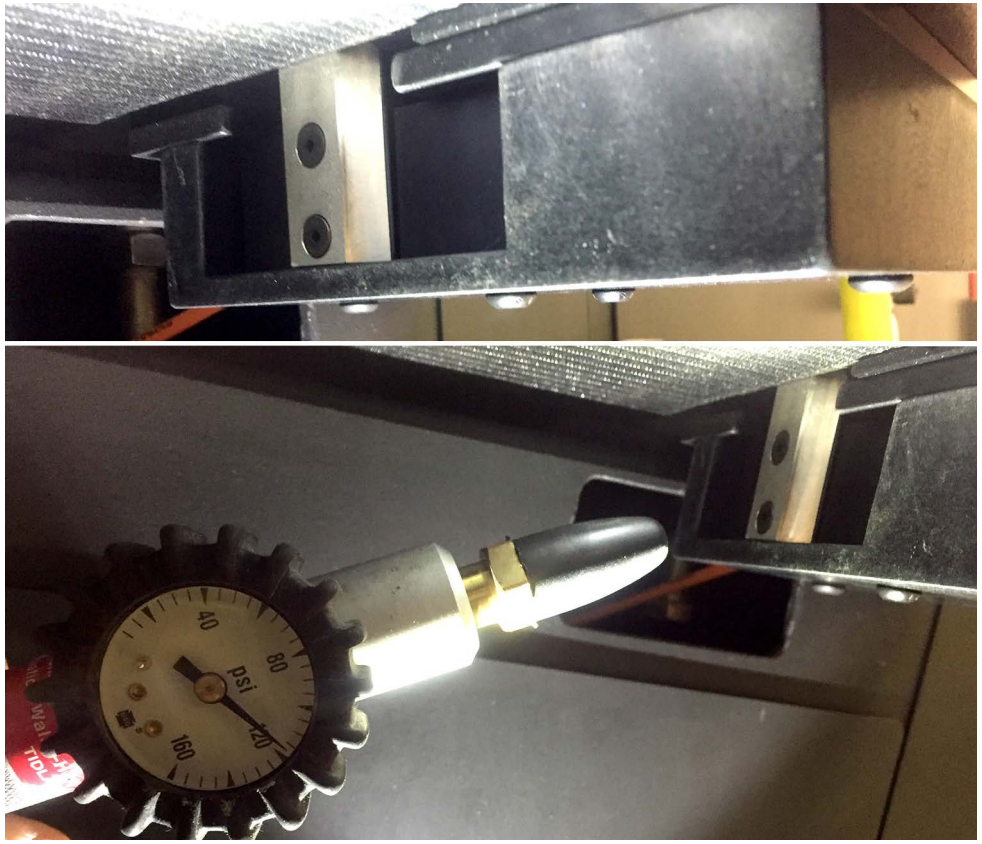


Figure 2-46: Belt steering paddle, TOP and air nozzle, (BOTTOM)

7. Wipe Collision Detect Bars.

A. From **Device Center** tab click the **Motion** tab.
B. Open **Carriage Maintenance.**
C. In **Wiper Maintenance** pane, click the **Center Maintenance Position** button.
D. Open the printer Front Door.
E. Wipe down the LH collision detection bar, item 1 in Figure 2-47, with a wipe dampened with IPA.
F. Repeat for the RH collision detection bar and HOME the carriage.

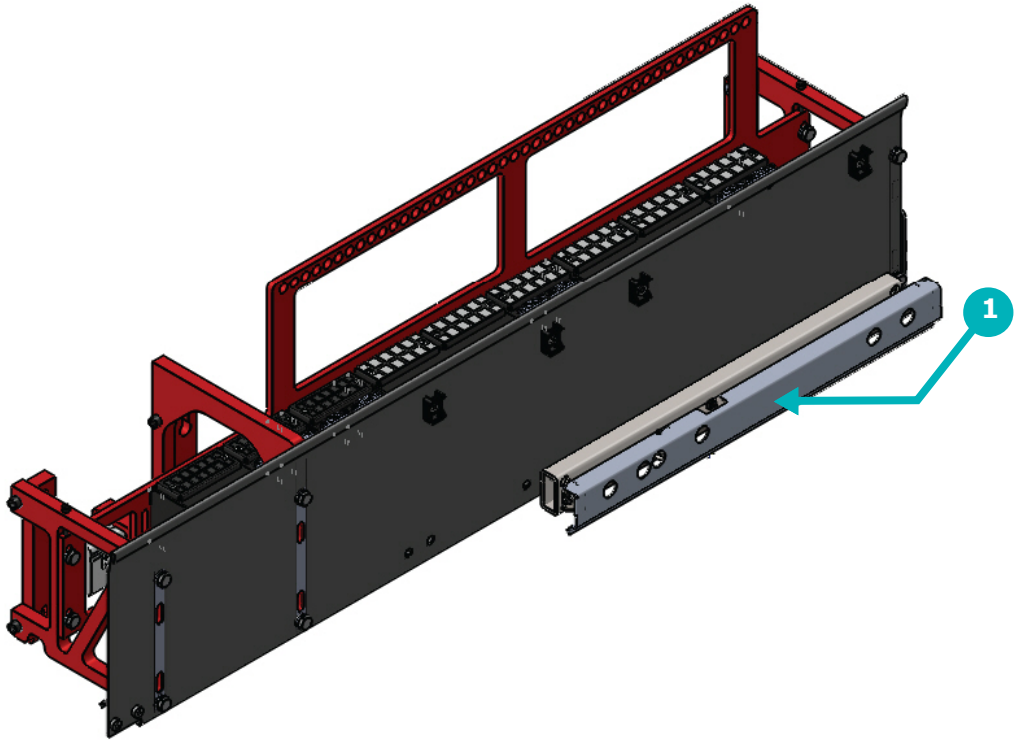


Figure 2-47: Collision Detection Bar (items removed for clarity)

2.5 Quarterly Maintenance

Perform the following tasks every three months of printer operation.

1. Check smoke detector.

A. Vacuum the smoke detector above the printer media table.

B. Turn black knob from center position CCW (Counterclockwise) to test smoke detector. Printer should enter an e-stop error state.

Important! If the test fails, do not operate printer and contact Field Service immediately!

C. Turn black knob to center to end test.

D. Turn black knob CW (clockwise) to perform sensitivity test. If the alarm sounds in this position, the unit is dirty and needs cleaning.

E. After cleaning, perform sensitivity test again.

Important! If the test fails again, do not operate printer and contact Field Service immediately!

F. Return knob to center position.

Figure 2-48: Smoke detector

2. Clean printer compartments and components.

How-to Video: CLICK TO PLAY

A. Power OFF printer and perform a lockout/tagout procedure.

B. In power distribution, motion, ink and waste cabinets, remove used/soiled gloves, wipes and other large debris. See Figure 2-49 through Figure 2-54.

C. Using a brush attachment, gently vacuum dust and debris from components, fans, boards, and any other location where dust and debris collects, such as cabinet corners.

Note: After performing these steps, ensure that all cabling is still connected securely. Reconnect any connections that may have come loose during vacuuming.

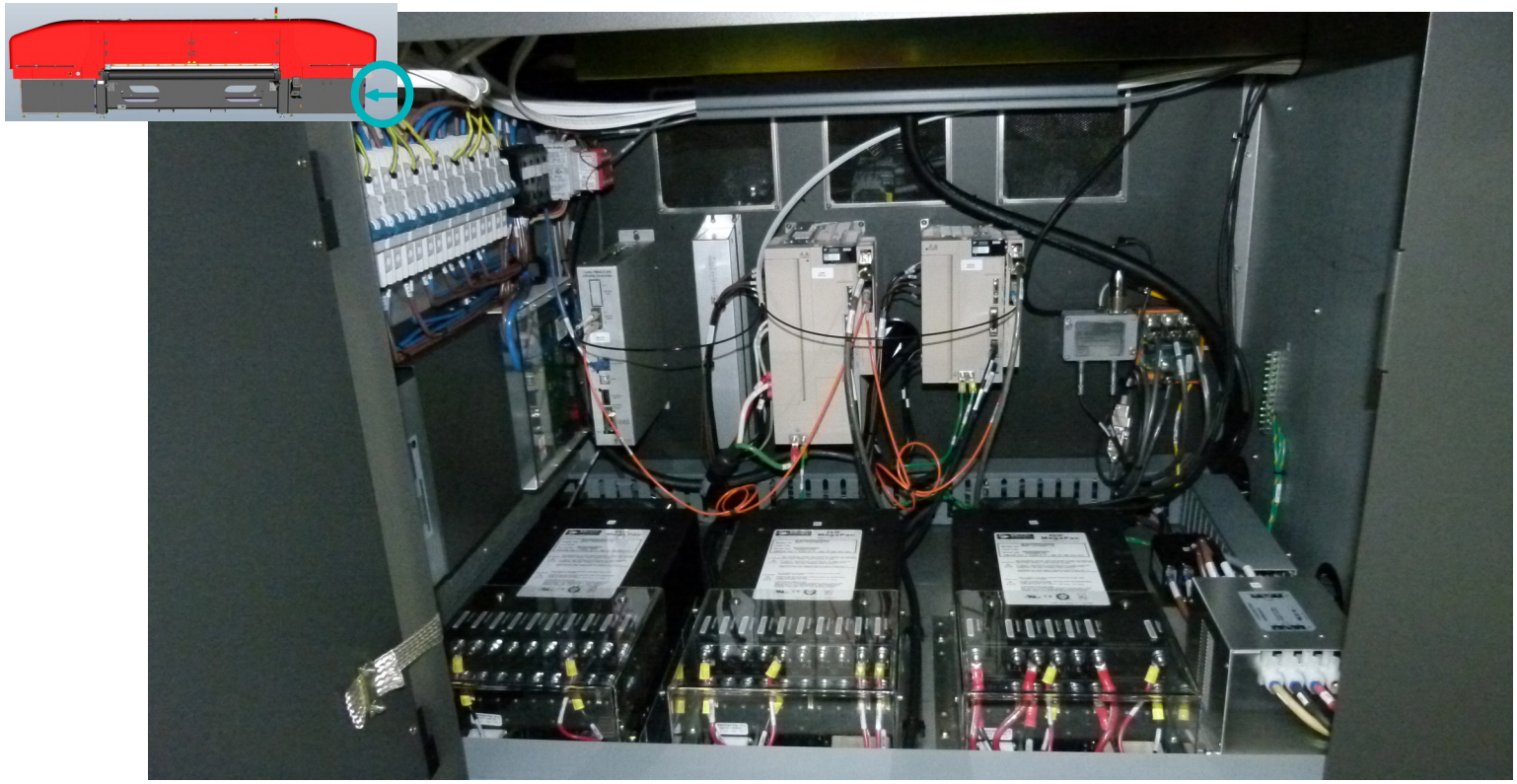


Figure 2-49: Power Supply & Servo Compartment

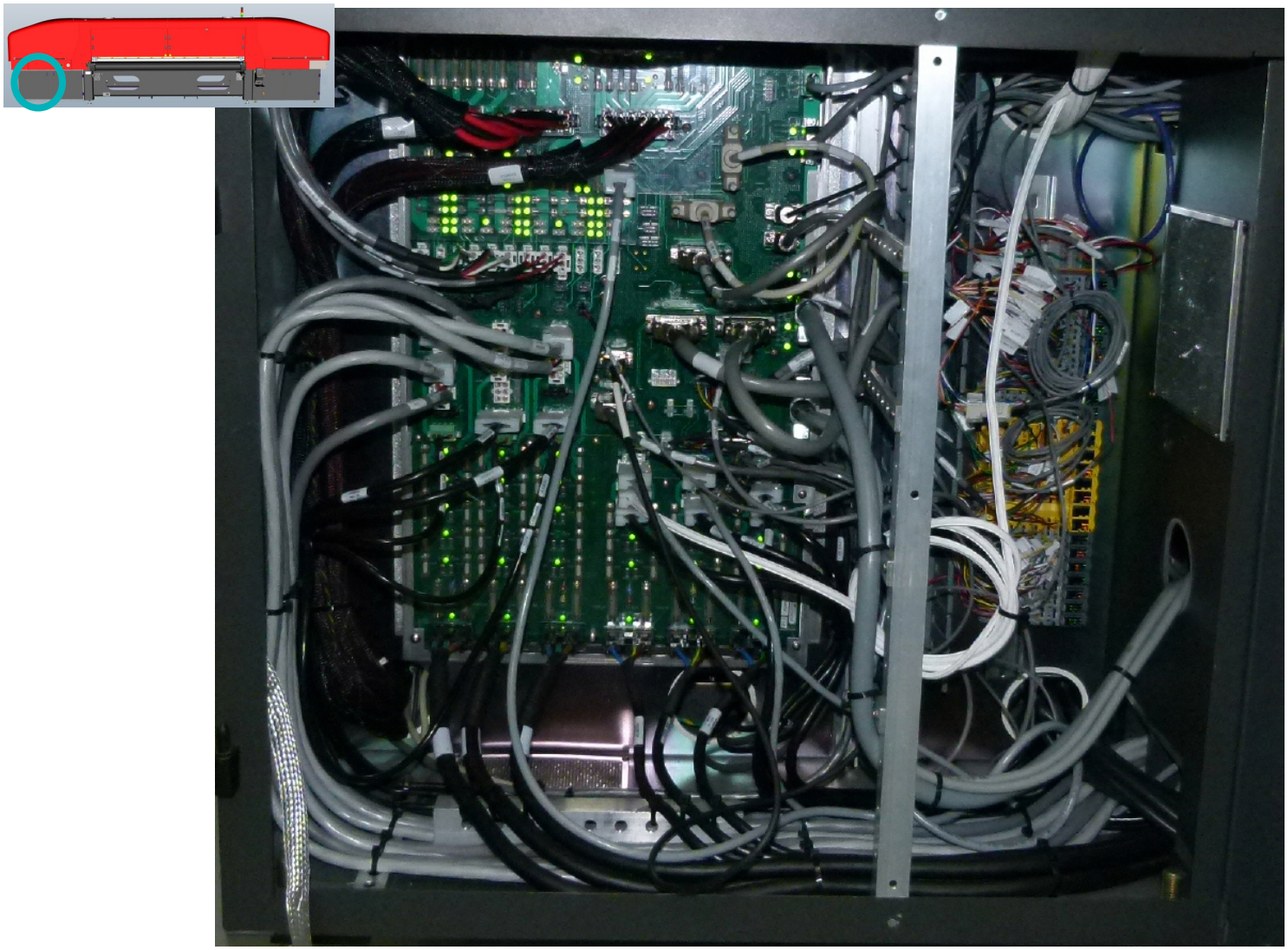


Figure 2-50: Electronics Compartment

Ink Cabinet Sections and Ballast Compartment

Figure 2-51: Air Regulator/PLC Section

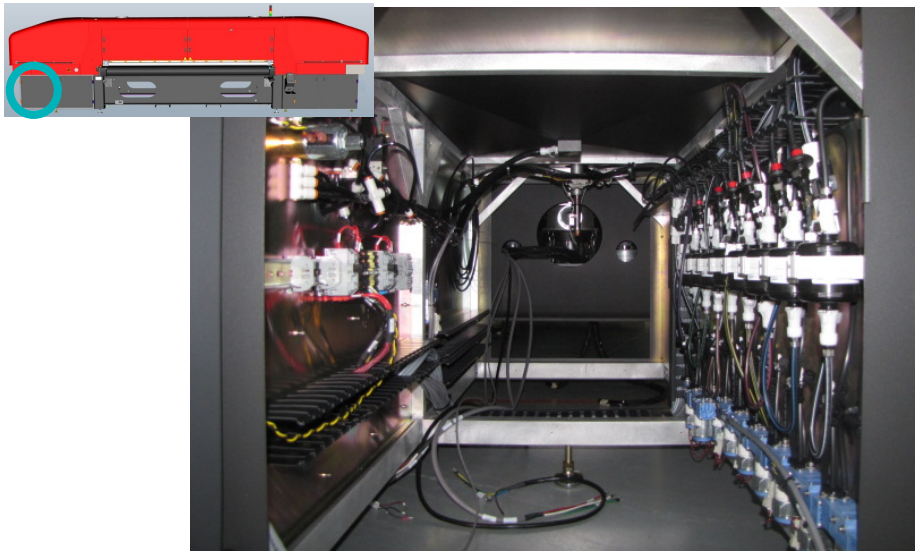


Figure 2-52: Mid section

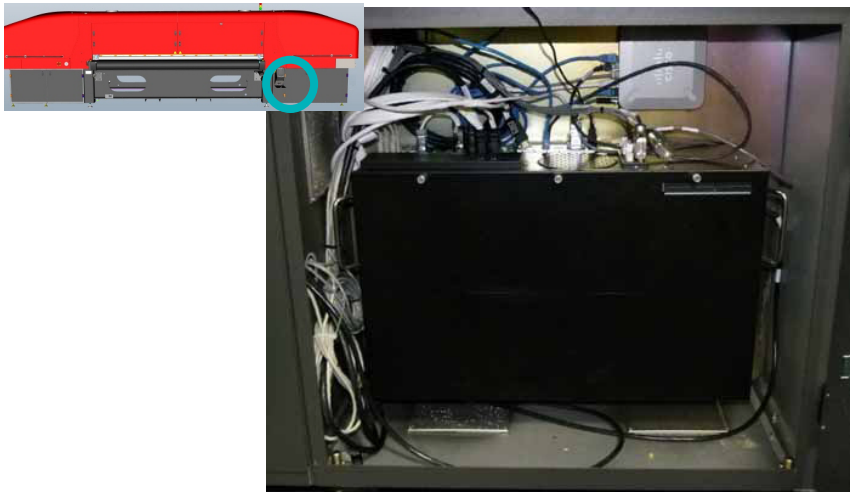


Figure 2-53: Computer compartment

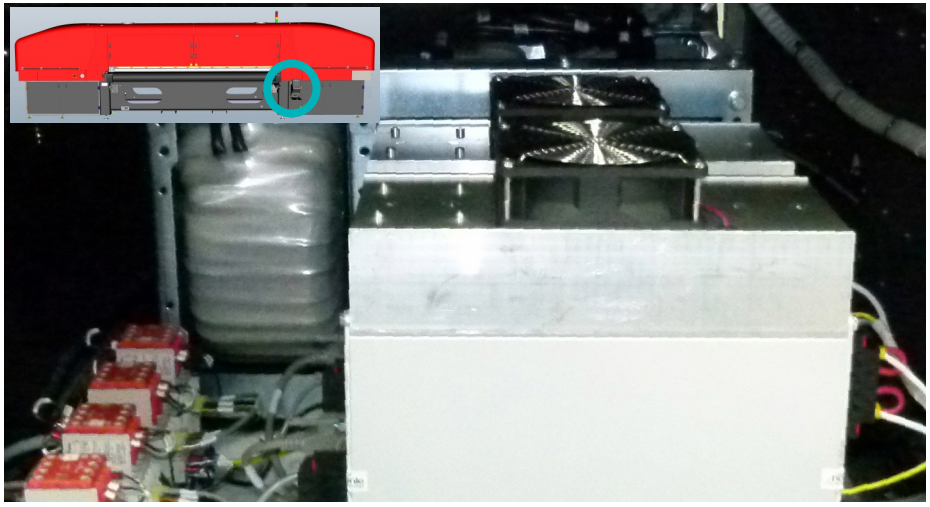


Figure 2-54: Ballast compartment

3. Clean bulb, reflectors and lens inside Arc lamps.

How-to Video: CLICK TO PLAY

Danger! Ensure printer lamps are OFF and lenses have cooled before wiping.

A. Remove the two hex fastening screws on front of the lamp housing, item 1.

B. Slide insertion plate (item 2) out of lamp body and set aside.

Caution! At this point, put on a pair of cotton gloves.

C. Carefully slide the quartz (item 3) out of housing, holding by edges.

Note: If quartz has cured ink, soak in mild soapy water, then perform step D.

Caution! Never scrape the quartz.

D. Wipe the quartz with a dry clean room wipe. Ensure that there are no fingerprints.

E. Wipe down the interior lamp shutters with a dry clean room wipe.

F. Carefully slide quartz back into lamp housing and reinstall quartz container plate.

G. Tighten screws.

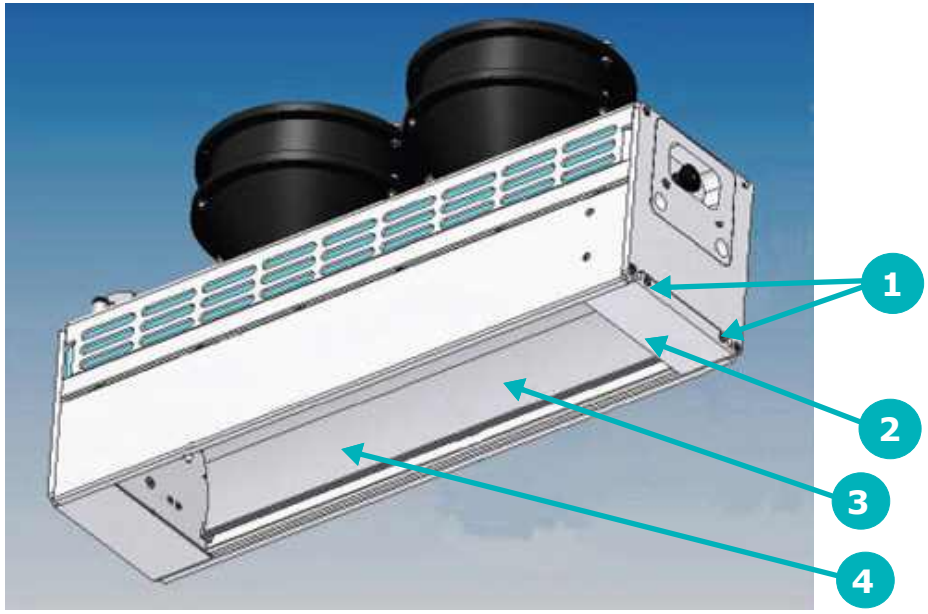


Figure 2-55: Removing the quartz

1	Hex screws
2	Insertion Plate
3	Quartz glass filter
4	Lamp Shutter

4. Change servo cabinet filters.

How-to Video: CLICK TO PLAY

A. There are two Power supply/servo cabinet filters, Figure 2-56. Slide filters out and replace with P/N 45106299 filters.

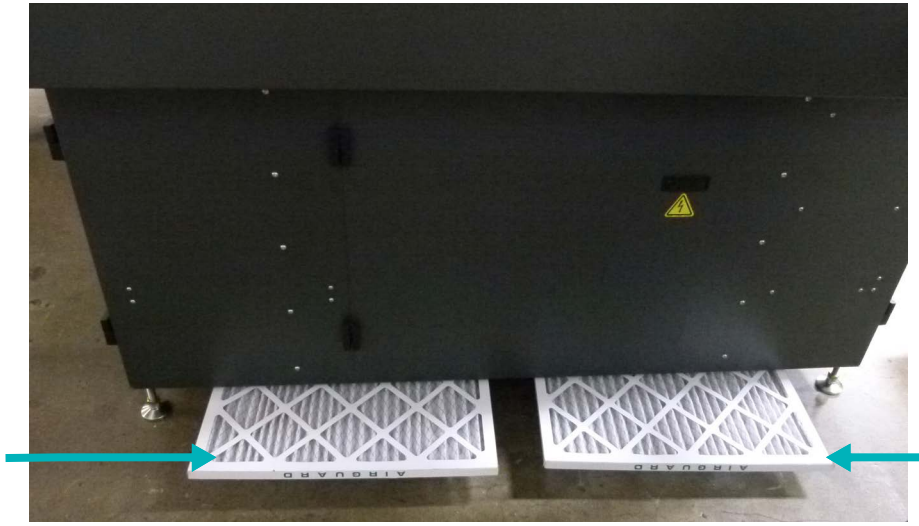


Figure 2-56: Power Supply/Servo Cabinet Filters

1 LH wear strip

5. Replace carriage fan filters

For each of the five (5) fans on the printer carriage:

A. Remove the four (4) screws and the fan guard covering the carriage fan filter.
B. Replace the carriage fan filter (P/N P4970-A FILTER FOR 2.36 IN FAN).
C. Return the fan guard and screw it back in place.

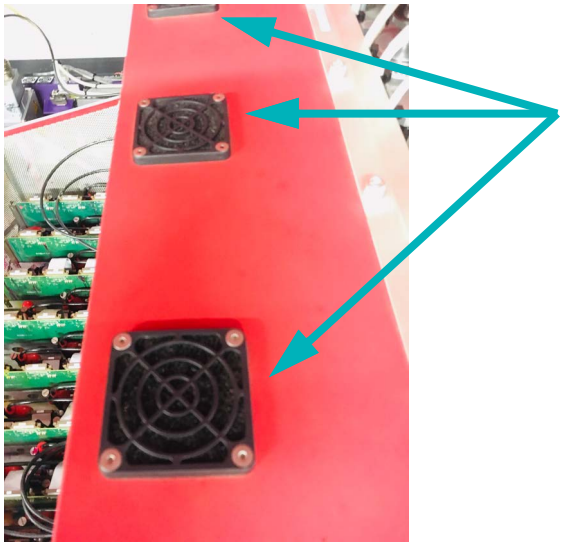


Figure 2-57 Carriage Fans

2.6 Semi-Annual Maintenance

Perform the following tasks every six months of printer operation.

1. Replace all primary ink filters.

How-to Video: CLICK TO PLAY

A. Locate primary ink filter for each color, Figure 2-58.

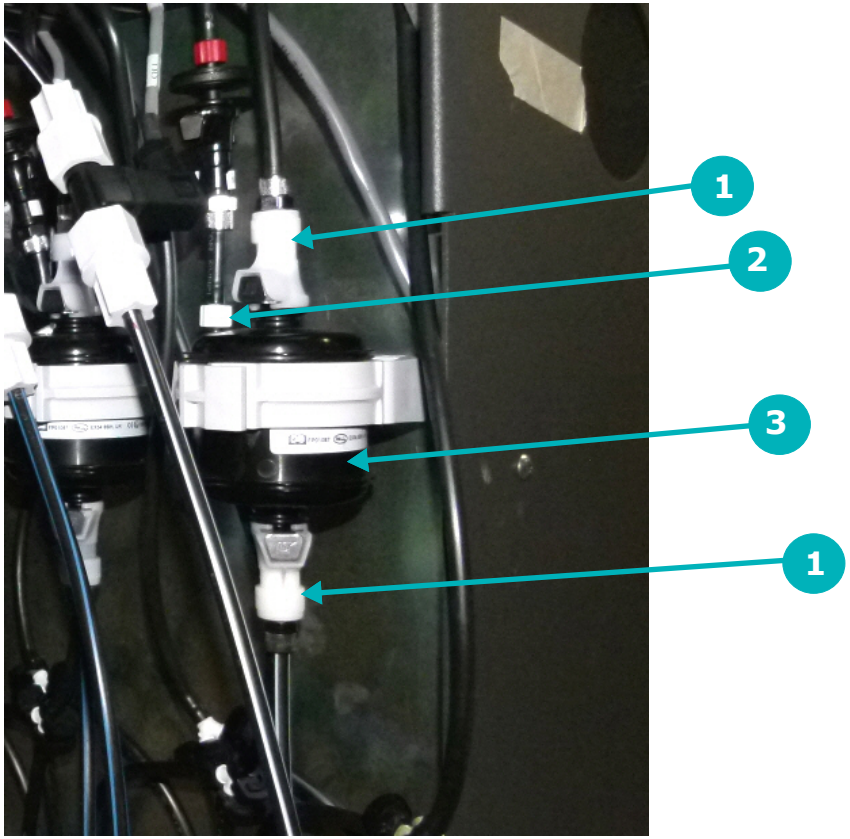


Figure 2-58: Primary Ink Filters

1	Quick disconnect
2	Bleeder port
3	Primary Ink Filter

B. Insert flat blade screwdriver into filter clamp at location 1 in Figure 2-59 and twist to release clip.

C. Disconnect the bleeder hose fitting from the filter top and connect to top of new filter.

D. Disconnect top ink line connector and connect to top of new ink filter.

E. Repeat for bottom ink line connections

F. Discard old filter in accordance with facilities' guidelines.

G. Repeat process for all filters one at a time.

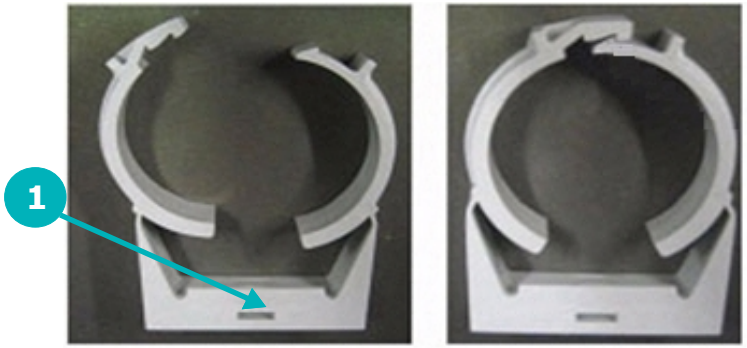


Figure 2-59: Primary Ink filter Clamp

1 Insert flat blade screwdriver at this point

2. Replace 20 micron Luer Simriz filter on each bleeder hose.

A. Release bottom quick disconnect (2) on the Simriz filter, (1).

B. Unscrew filter at top and remove old filter.

C. Screw in new filter to top of bleeder line and attach quick connector.

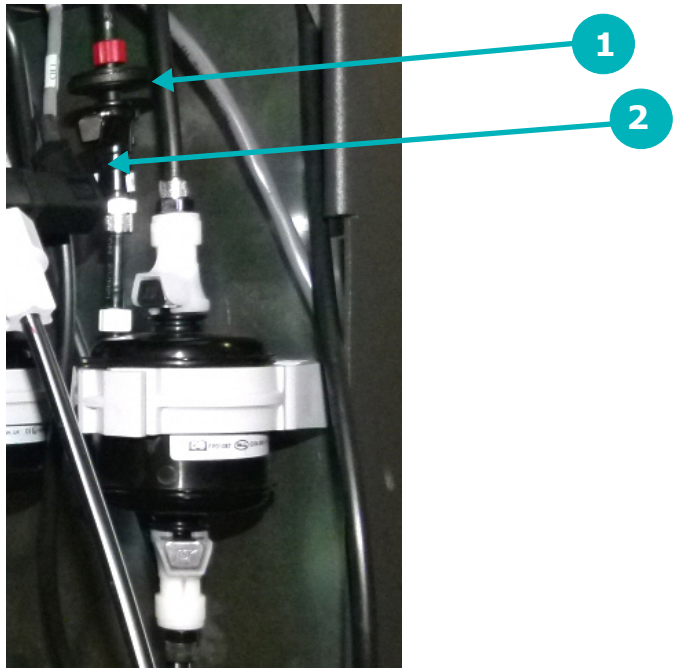


Figure 2-60: Simriz filter

3. Grease carriage bearings.

How-to Video: CLICK TO PLAY

A. Open end cap.
B. Insert needle into grease fitting at carriage bearing ends, Figure 2-61, item 1.
C. Apply until grease is visibly exiting bearing at position 2 in Figure 2-61.
D. Wipe off excess grease.
E. Place carriage in RH Maintenance Position to access and grease the opposite side bearings.

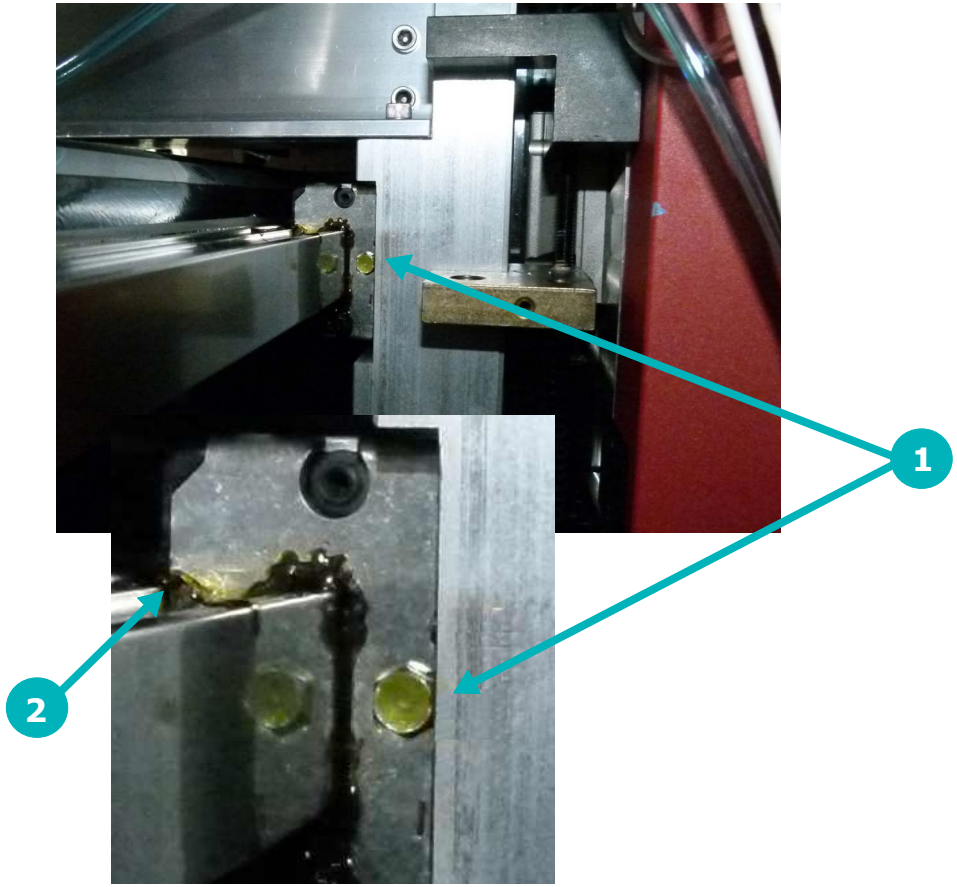


Figure 2-61: Greasing the carriage bearings

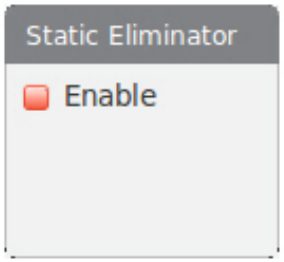
4. Clean static eliminator probes.

How-to Video: CLICK TO PLAY

A. Raise carriage to TOP position to gain access to the static eliminators next to left and right pinning lamp arrays.

B. In printer VUI, go to Device Center and click on Lamps.

C. Clear the **Static Eliminator Enable** checkbox for left and right sides.



D. Twist to remove the first static eliminator electrode probe, Figure 2-65.

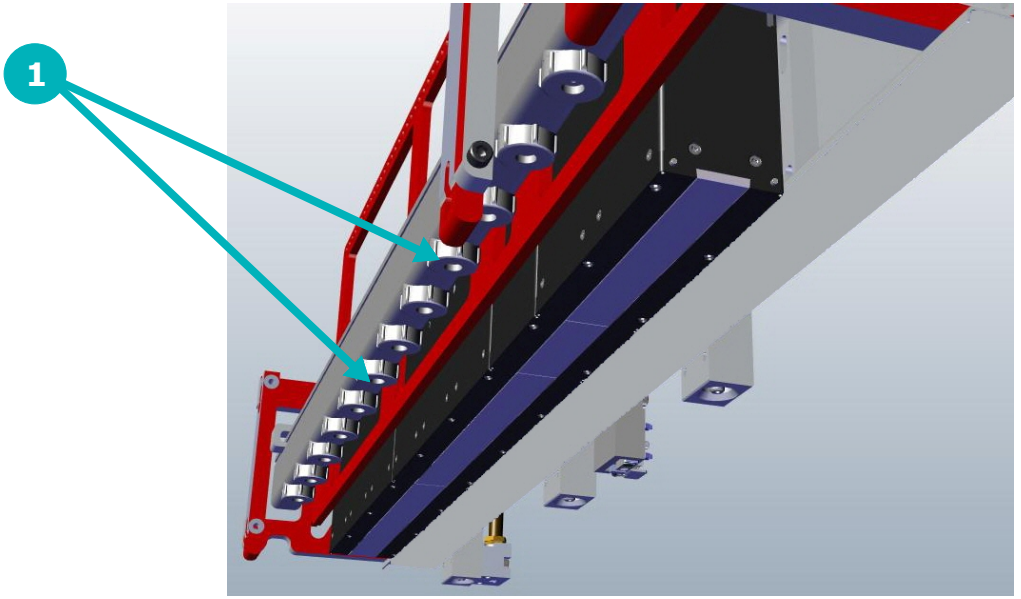


Figure 2-62: Static eliminator heads

1 Static Eliminator heads

E. Insert a P/N45074615 cotton swab with IPA into probe center to clean it Figure 2-65, item 1.

F. Optionally, insert probe into Probe Cleaner, Figure 2-63 and Figure 2-64.

G. Reinstall probe onto static eliminator. Twist probe until it locks in place.

Note: The probes have alignment keys, Figure 2-65, item 2.

H. Repeat steps for the remaining probes, both carriage sides.

Figure 2-63: Static Probe (L) Probe Cleaner (R)

Figure 2-64: Static Probe (L) in Probe Cleaner (R)

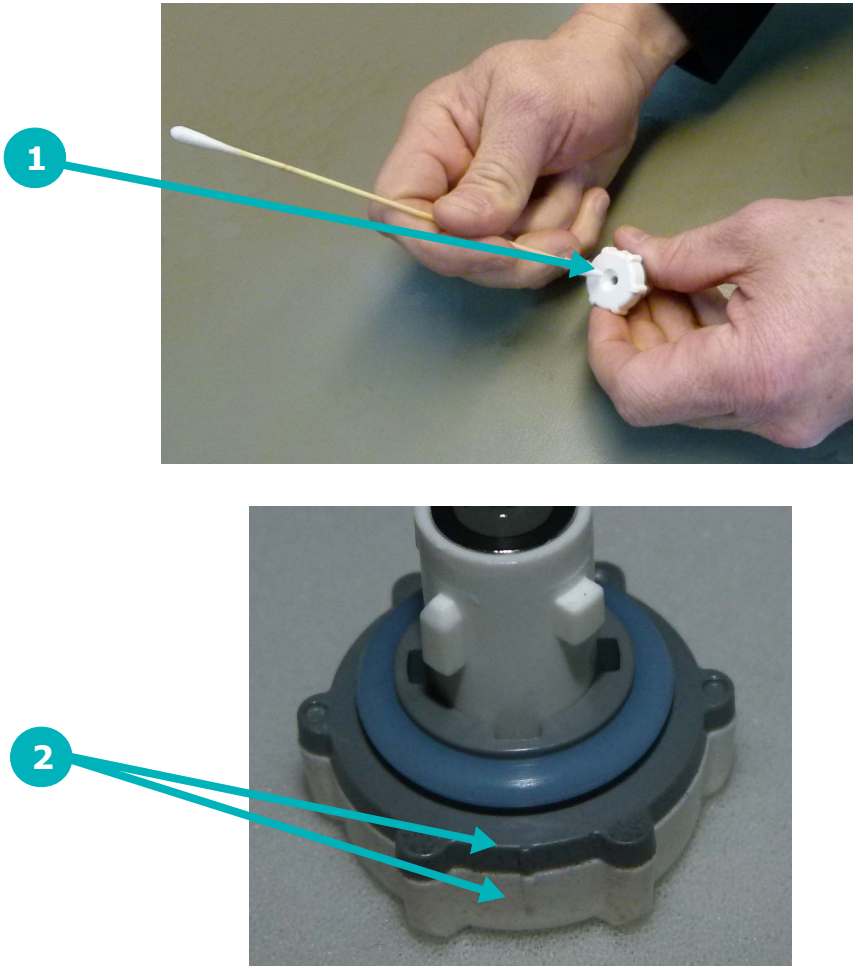


Figure 2-65: Static Eliminator Electrode Probe

1 Clean probe with cotton swab
2 Alignment keys

I. Check the **Static Eliminator Enable** checkbox for left and right sides to re-enable static eliminator functionality.

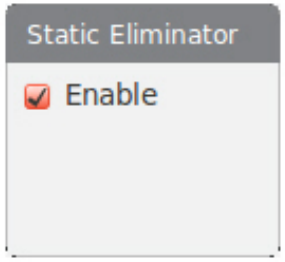


Figure 2-66: Enabling Check box

5. Replace UV arc lamp bulbs.

How-to Video: CLICK TO PLAY

Replace Arc lamp bulbs every 1,000 hours of lamp operation, or as needed.

Caution! Wear cotton gloves before touching lens or UV bulb. Failure to wear cotton gloves deposits oil from your skin onto the lens and bulb, causing premature failure.

Warning: Arc lamp bulbs contain mercury powder. If an arc lamp bulb breaks, treat the accident as a hazardous spill. Immediately contact a Material Safety expert and follow your company's protocol for hazardous material handling.

Danger! Ensure printer lamps are OFF and have cooled before servicing.

A. Move carriage to center **Maintenance** position.
B. Power printer OFF and perform a lockout/tagout.
C. Loosen the two captive screws on lamp housing end plate front, Figure 2-67, left.
D. Grab end plate knob and slide UV bulb housing out of lamp housing, Figure 2-67, right.

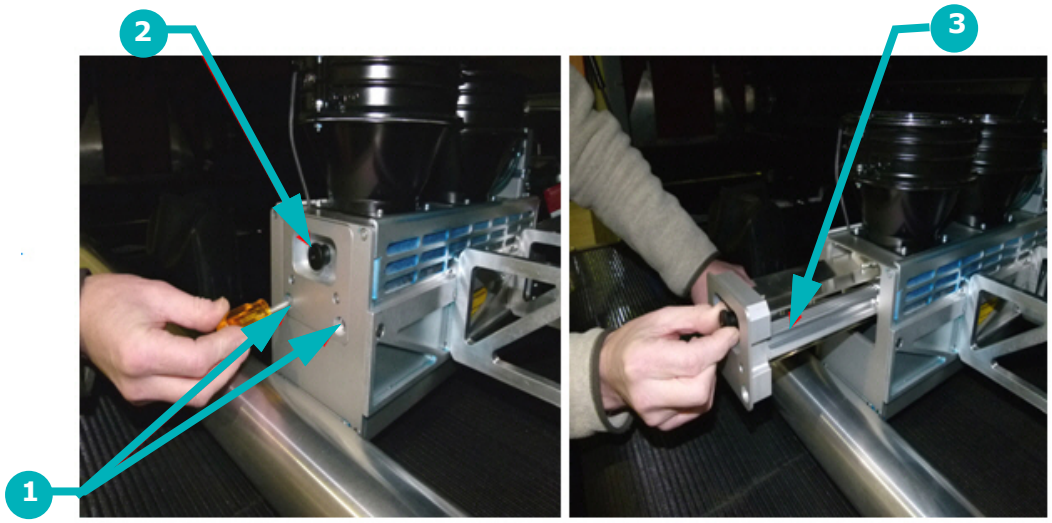


Figure 2-67: Removing the UV lamp housing

E. Loosen inner screw on the electrical block, Figure 2-68, item 1, and pull wire (item 3) out of block.

F. At opposite end, loosen the screw Figure 2-68, item 2, and pull wire out.

G. With cotton gloves on, and holding bulb by the ends only, remove bulb from housing clips.

Caution! Never touch bulb without wearing cotton gloves.

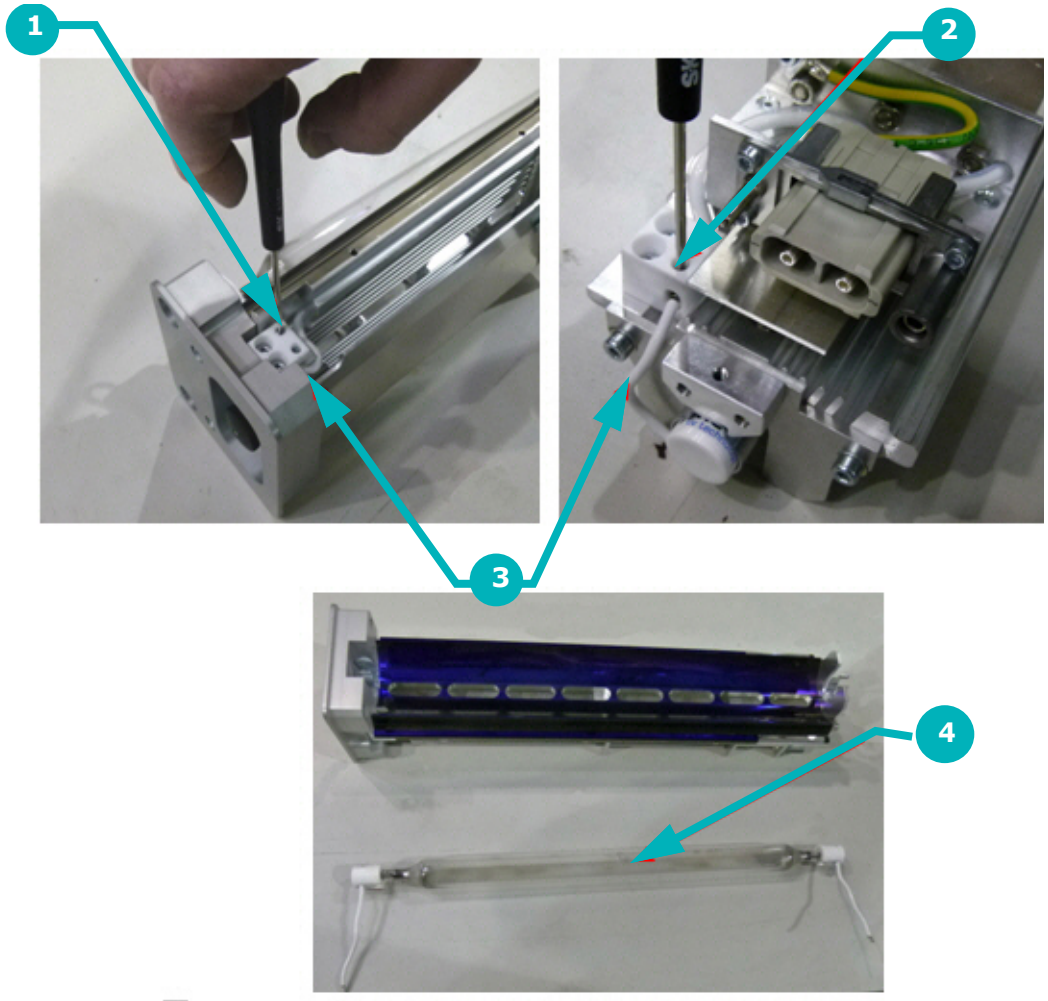


Figure 2-68: Removing the lamp bulb

1 Loosen screws in electrical block (one end)
2 Loosen screws in electrical block (opposite end)
3 Wires to be removed
4 Bulb removed from housing

H. Install the new bulb.

1. Clean new bulb with a clean room wipe and IPA.
2. Clean reflector with a clean room wipe and IPA.
3. Place bulb into housing clips.

Caution! Never touch the bulb without wearing cotton gloves.

I. Bend bulb wires to shape and insert into the electrical block screw holes. Tighten the screws.

Note: Ensure that the ferrules on the ends of the wires are properly seated in block.

J. Shape wires so that they are tucked snugly up against block and housing (Figure 2-69, item 2) so that they will not catch when bulb housing is reinstalled.

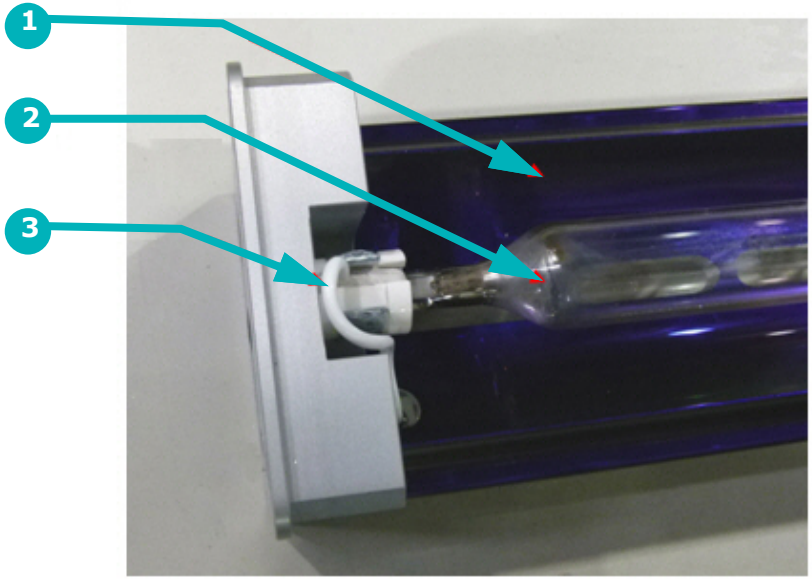


Figure 2-69: Installing new bulb

1 Reflector
2 Bulb, installed
3 Wire, tucked up against block and housing

K. Reinstall the UV bulb housing as follows:

1. Locate two edge guides in lamp housing end, Figure 2-70.
2. Slide UV bulb housing into lamp using edge guides.
3. Pull knob and push UV bulb housing until end power connector is seated. See Figure 2-71.

Note: If the UV bulb assembly will not seat properly, slide it back out of the lamp housing and check that the bulb is properly seated in clips and the wires are not interfering with the housing.

L. Tighten the two captive screws.

M. Remove lockout/tagout and power ON printer.

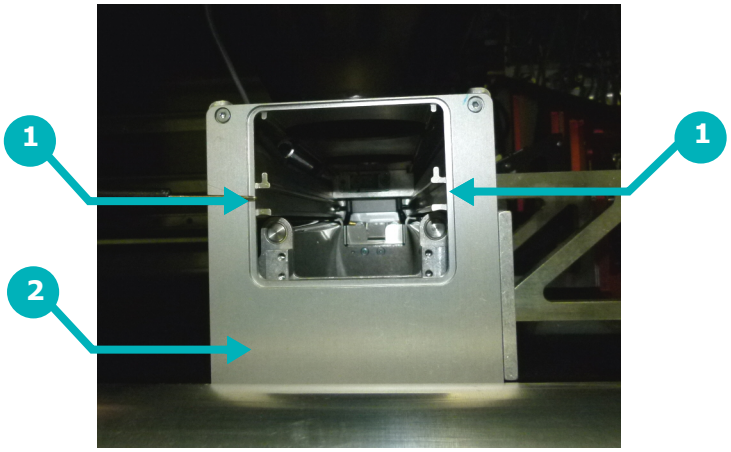


Figure 2-70: Edge Guides on Lamp Housing

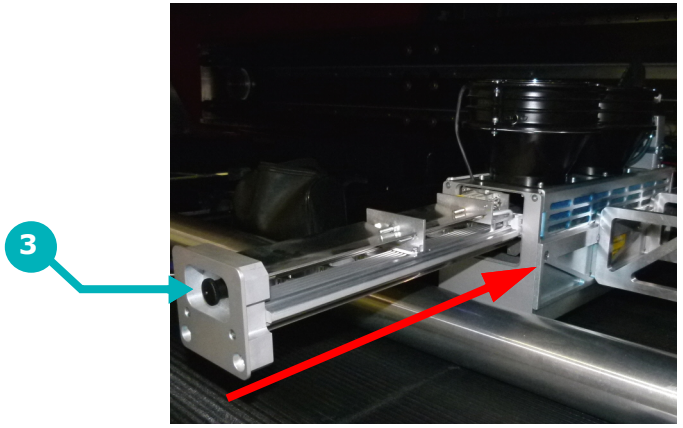


Figure 2-71: Reinstalling the bulb housing

1 Edge Guide
2 Lamp Housing
3 Knob

N. From **Device Center**, click the **Diagnostic** tab. Under **Timers and Counters**, reset **Cure Lamp Bulb** timer by clicking **Refresh** .

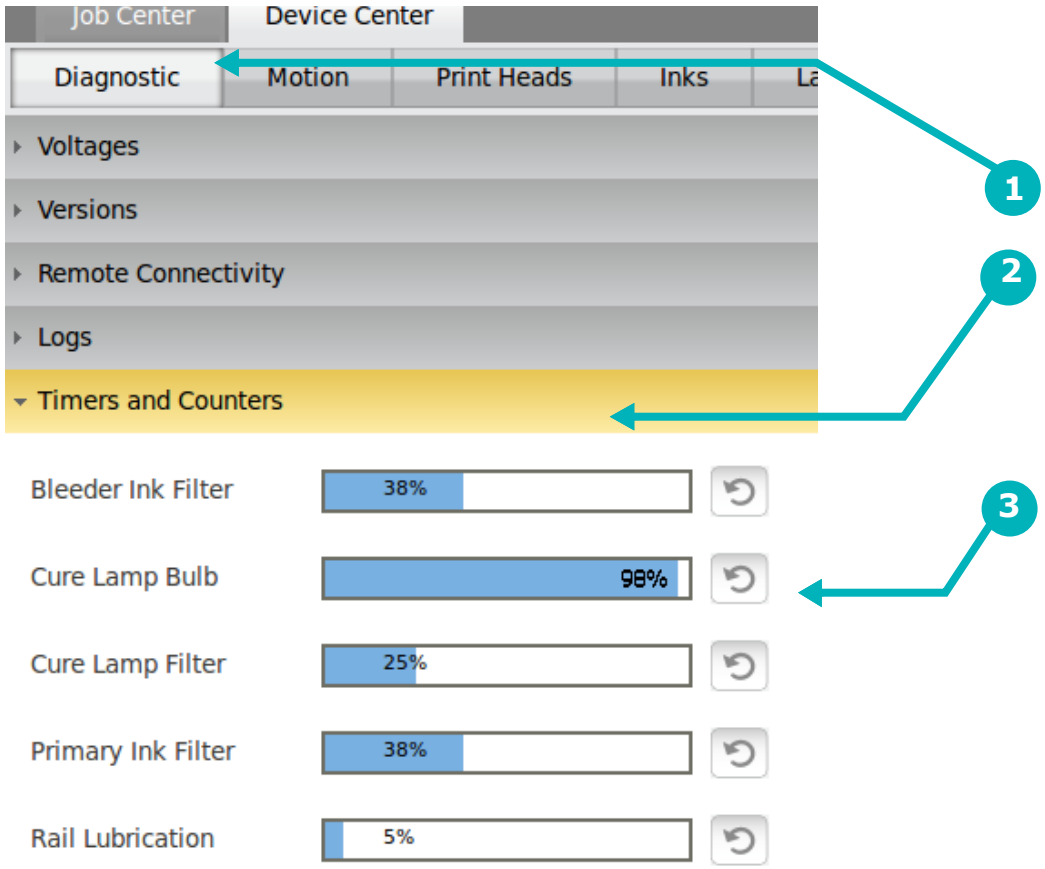


Figure 2-72: Reset Timer in VUI

1 Diagnostics tab
2 Timers and Counters
3 Refresh button

1. Grease carriage lift assembly ball screw.

A. Place carriage in **Home** position.
B. Raise carriage to **Top** position.
C. Open Carriage Home end cover.
D. Place a step ladder at printer end.
E. Identify the grease fitting by looking down through the opening at the carriage top, to the left of the carriage lift knob.
F. Insert grease gun nozzle through notch, item 3, Figure 2-73, and connect nozzle to grease fitting, item 2.
G. Apply downward pressure to hose and squeeze handle 1-2 times to apply grease.

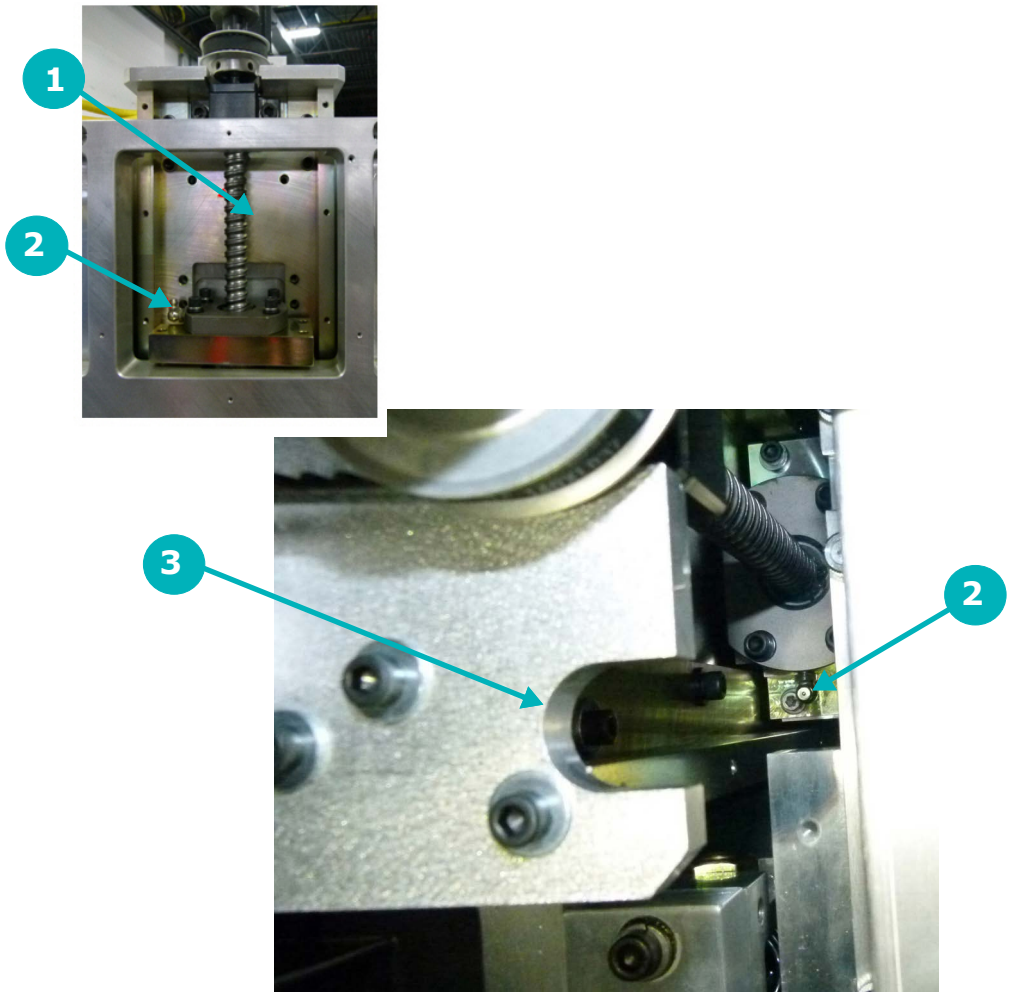


Figure 2-73: Greasing the carriage lift assembly fitting

1 Carriage ball screw
2 Carriage lift assembly grease fitting
3 Access for grease gun nozzle

2. Check wear strips on vacuum purge wiper and replace if worn.

A. Check the two wear strips, Figure 2-74, located on the Vacuum Purge Tray sides.

B. If strips are worn, they must be replaced.with P/N 45129178.

Caution! Only replace wear strips in pairs.

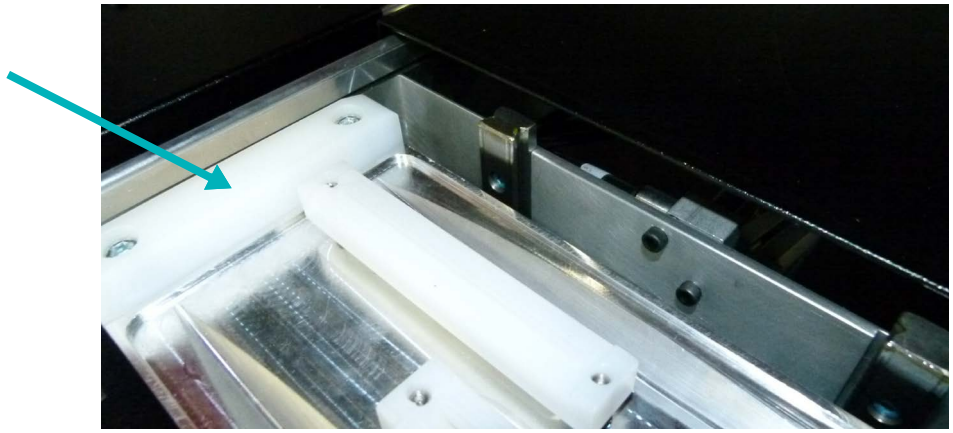


Figure 2-74: Wear strips on Vacuum Purge Tray

2.8 Grease Gun

A grease gun is included with your printer. It contains a 12” (30.5cm) flexible hose for greasing carriage bearings and an 18” (45.7 cm) flexible hose for greasing the ball screw (packed separately). The grease gun has an adjustable adapter that connects to the grease fitting. Turn the end of the adapter connected to the grease fitting to adjust its hold on the fitting. If the grease gun adapter is difficult to connect to the fitting, adjust it by turning the grease gun adapter end to tighten or loosen the connection pressure. If the grease gun adapter becomes stuck on the grease fitting, remove the carriage boards to gain access to the fitting.You can then loosen the end of the grease gun adapter, and it should release from the grease fitting.

Note: Consult product packaging for grease tube preparation procedures.

Important! Use Microlube® GL-261 grease for greasing carriage lift screw and carriage bearings.

Figure 2-75: Bearing grease tip

Figure 2-76: Carriage Lift Screw flexible hose

Figure 2-77: Grease gun

EFI VUTEk HS125 Pro

Printer Maintenance Log

Weekly Maintenance Chart: ____/____/___ to ____/____/___ _

Every 4 Hours of Production	Day 1			Day 2			Day 3			Day 4			Day 5			Day 6			Day 7		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1. Clean print heads and print head plate.																					
2.Verify carriage print gap (carriage height).																					

High Demand Printing Applications or Print Head Recovery	Day 1			Day 2			Day 3			Day 4			Day 5			Day 6			Day 7		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1. Clean print heads and print head plate by hand if normal wiping is ineffective. (For High Demand Printing Applications or Print Head Recovery.) **Important! Wipe print heads and print head plate by hand if printing a high demand printing application or when normal wiping is ineffective.**																					

Every 8 Hours of Production	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr	8 Hr
1. Clean vacuum purge wiper assembly, rails, and tray.																					
2. Clean carriage rail ends.																					
3. Check ink tank levels.																					
4. Check waste container level.																					
5. Check facility air compressor water trap.																					

Every 40 Hours of Production	Date	Initials
1. Replace UV arc lamp filters.		
2. Wipe UV arc lamp quartz lenses.		
3. Check and replace LED pinning lamp intake filters.		
4. Clean LED pinning lamp lenses.		
5. Clean carriage camera lens.		
6. Clean UV light deflectors.		
7. Clean media edge detector.		
8. Clean linear encoder strip.		
9. Clean media infeed and outfeed rollers.		
10. Check arc lamp bulb life.		
11. Perform carriage lift (print gap) calibration.		

Important! The maintenance guidelines are based on a production schedule of eight hours of printing, five days/week.
Adjust your maintenance intervals if your operating shifts are longer than eight hours of printing.

EFI VUTEk HS125 Pro

Maintenance Chart for 20___

Monthly	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1. Clean cable carrier assemblies and shelf.												
2. Clean front door rollers.												
3. Clean the Four FOD (Foreign Object and Debris) Trays												
4. Inspect two exhaust fans located over the print area.												
5. Check print head purge and long term storage fluid level.												
6. Clean Belt Steering Paddle.												
7. Wipe Collision Detect Bars.												

Quarterly	Quarter 1	Quarter 2	Quarter 3	Quarter 4
1. Check smoke detector.				
2. Clean printer compartments and components.				
3. Clean bulb, reflectors and lens inside Arc lamps. **Warning!** Arc lamp bulbs contain mercury powder. If an arc lamp bulb breaks, treat the accident as a hazardous spill and immediately contact a Material Safety expert and follow your company's protocol for hazardous material handling.				
4. Change servo cabinet filters.				
5. Replace carriage fan filters				

Semi-Annually	January	July
1. Replace all primary ink filters.		
2. Replace 20 micron Luer Simriz filter on each bleeder hose.		
3. Grease carriage bearings.		
4. Clean static eliminator probes.		
5. Replace UV arc lamp bulbs.		

Annually	One Year Anniversary of Installation
1. Grease carriage lift assembly ball screw.	
2. Check wear strips on vacuum purge wiper and replace if worn.	

Common Maintenance Items

Description	EFI Part Numbers		Description	EFI Part Numbers		Description	EFI Part Numbers
Power Supply & Servo Cabinet Filters	45106299		Primary Ink Filter	45098981		Polyurethane Foam Wipes	45090057
Microlube® GL-261 grease	45086492		Print Head Purge and Long Term Storage Fluid	See CAB-00497 for latest fluid recommendations.		UV Lamp housing filter	45118474
Print Head Cleaning fluid	See CAB-00497 for latest fluid recommendations.		Clean Room Wipes 9x9	45077321		Bulk Arc Lamp Filter stock	45116069
20 Micron Luer Simriz filter	45072843		Umbilical Shelf Pad Sections	45099108		Cleaning Kit, Static Electrode Probe	45128890
Kit, Air Filter, FJ100 2x75, 2x150, and 4x225	45171055		Umbilical Isolation Strip	45140551		Gloves: Nitrile and Sharp Resistant (i.e. Kevlar)	N/A
Purge Station Wear Strip	45129178		Cotton Swab	45074615		Razor Blade, Handle, and replacement blades	N/A
FILTER FOR 2.36 IN FAN	P4970-A						

Important! These guidelines are based on a production schedule of eight hours of printing, five days/week. Adjust your maintenance intervals if your operating shifts are longer than eight hours of printing