



**DURA***FLEX*<sup>TM</sup>

## Service and Repair Guide

**Rev #: 1.02**

**Date: 17 September 2021**

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## Revision History

Doc. Version	SW/HW Release	Date	Details
1.02	R4.2.3	17-Sep-21	<ul style="list-style-type: none"> <li>• Updated 4.1 Estimated Time for Replacement Tasks – deleted these rows from Table 4:           <ul style="list-style-type: none"> <li>• BIDS PassThrough PCA</li> <li>• BIDS PassThrough PCA Cable</li> <li>• IR Tank</li> <li>• Refill Pump</li> <li>• Refill Pump Cable</li> </ul> </li> <li>• Updated 4.4.1 Initialize the System – added a step to change directory when starting PES interface</li> <li>• Deleted the previous sections:           <ul style="list-style-type: none"> <li>• 29 BIDS PassThrough PCA Replacement</li> <li>• 30 BIDS PassThrough PCA Cable Replacement</li> <li>• 31 IR Tank Replacement</li> <li>• 32 Refill Pump Replacement</li> <li>• 33 Refill Pump Cable Replacement</li> </ul> </li> <li>• Updated 29.2 Wiper Cartridge Replacement to include the <a href="#">MICROFIBRE_OUT</a> condition</li> <li>• Updated 29.3 Bulk Ink Supply Replacement – deleted a step to deprime the system in the Removal procedure</li> <li>• Added 30 Shipping – moved Print Module shipping and printhead shipping into this section</li> <li>• Minor editorial updates</li> </ul>
1.01	R4.2.3	09-Jul-21	<ul style="list-style-type: none"> <li>• Updated Table 1 – Component Life Estimation – corrected values for Circulation Pumps and Pinch Valve</li> </ul>
1.00	R4.2.3	05-Jul-21	Initial release

17-Sep-21

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# 1 Introduction

This document is part of the OEM-facing documentation suite for Memjet DuraFlex® module-based printing systems. It references, and therefore requires access to, additional documentation available for download from your Memjet Partner Site.

## 1.1 Aim and Audience

This guide is intended for engineers and technicians at Original Equipment Manufacturers (OEMs) who are responsible for maintenance and servicing of DuraFlex components in a DuraFlex-based printing system.

## 1.2 Prerequisites and Scope

The reader is expected to be familiar with DuraFlex-based printing systems.

This document contains inspection and maintenance tasks, detailed replacement procedures for parts and consumables, and shipping instructions.

A general list of required Personal Protective Equipment (PPE) is provided in [2.3 Personal Protective Equipment \(PPE\)](#). Additional PPE, if required for specific tasks, is listed at the beginning of each replacement procedure.

Refer to [Table 3 – Estimated Time to Complete Replacement Tasks](#) to estimate the length of time needed to perform various tasks and then skip to the appropriate replacement section(s) to complete the task(s). Each replacement section includes a list of tools and supplies specific to that task so OEMs can gather the necessary items before starting a procedure. At the end of each replacement procedure, a testing section helps to verify successful replacement. Since many replacement procedures use similar verification checks, detailed steps are provided in section [4.4 Frequently Used System Commands](#) and linked to the appropriate procedure(s) instead of repeated for each task.

This document does not include operations information or troubleshooting content.

## 1.3 Typographic Conventions

Throughout this document, the following typographic conventions are used:

Code Character	<code>Courier</code> font is used to identify HTTP GET and POST commands with associated arguments, as well as references to source code, job states, registry settings, directory/file names, XCI commands, and XML settings.
<b>Bold</b>	Text that appears on-screen in the user interface is shown in <b>bold font</b> . This includes UI buttons, engine states, warning codes, and fault codes.
Yellow Highlighting	Yellow highlighting indicates sections that are new or updates in this version of the document, compared to the previous version.

## 1.4 Related Documentation

Other documents, besides this guide, provide further details for specific readers:

- *System Overview* – For OEM managers and non-technical personnel charged with evaluating the DuraFlex components for use within their products. This document describes the DuraFlex concept and Memjet-supplied DuraFlex components and gives an overview of the operational considerations.



- It introduces the components an OEM is required to design and manufacture to ensure the DuraFlex Modules function as designed in a DuraFlex-based print engine.
- *Mechanical and Fluidic Databook and Design Guide* – For mechanical design engineers and developers, providing details of the Memjet hardware modules and components (including printhead and maintenance system) and specifications of the ink delivery system fluidics.
  - *Electrical Databook and Design Guide* – For electrical design engineers and developers, providing details of the Memjet power requirements, electronic assemblies, and connections.
  - *Software Databook and Design Guide* – For software and firmware engineers who need to understand the software interfaces, commands, scripts, and reference software applications.
  - *Demo GUI User Guide* – For OEM personnel using the DuraFlex Demo GUI reference application.
  - *Installation and Commissioning Guide* – For OEM personnel who are installing and commissioning a new printing system.
  - *Operations Guide* – For OEM engineers and operators to perform operational tasks.
  - *Troubleshooting Guide* – For OEM engineers and technicians to identify symptoms and resolve issues.
  - *Service and Repair Guide* – For OEM engineers and technicians to perform DuraFlex inspection and maintenance tasks and component and consumable replacement.
  - *Job Submission Library Guide* – For OEM software engineers to incorporate the Job Submission Library (JSL) into their chosen Raster Image Processor (RIP).
  - *Technical Bulletins* – For various audiences to announce product or process update or to provide specifics on single-subject technical topics.
  - *CAD and Schematics* – For various audiences to provide detailed dimensions related to specific areas.

---

Note: All technical documentation is available on your Memjet Partner Site.

---

## 1.5 Glossary

For terms, acronyms, and abbreviations used in this guide and some product-specific terms, see the [DuraFlex Glossary](#).

---

Note: This document is hyperlinked to the glossary. For offline reading, download the DuraFlex Glossary file from your Memjet Partner Site.

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## 1.6 Additional Documentation or Access

For additional product-related technical documents, go to your Memjet Partner Site.

If you need Partner Site access, enter a case in Service Desk (<https://OEMsupport.memjet.com>), send an email to Memjet Customer Support ([customer.support@memjet.com](mailto:customer.support@memjet.com)), or contact your Technical Account Manager.



## 2 Safety

This section identifies design considerations and practices for working safely with the DuraFlex print engine.

### 2.1 Electrical

#### 2.1.1 System Power Supply Unit

The DuraFlex print engine requires a single 24 VDC power source capable of delivering at least 2 Amps.

### 2.2 ESD Guidelines

---

**CAUTION:** Follow these precautions to avoid immediate or latent catastrophic failure of semiconductor devices in the print components.

As supplied, the print components are well protected against electro-static discharge (ESD). However, precautions must be taken to minimize the potential for ESD when working around harness interconnects and exposed interface connectors.

- Use static-free workstations for procedures when protective covers are removed.
- Wear grounded wrist straps when touching any exposed circuit assemblies.
- Transport electronic subassemblies in sealed, static-shielding packaging (metalized mylar).

**WARNING:** Always power down the printing system before any cable connections or harness interconnects are connected or disconnected. The printing system runs off of a 24-volt DC supply. Although this is considered low voltage, sufficient current to cause serious injury is present.

---

### 2.3 Personal Protective Equipment (PPE)

---

**WARNING:** In order to avoid personal injury, always use appropriate PPE when performing maintenance, servicing, and replacement tasks. Remove all jewelry and watches before working with the printing system. Serious burns may result from contact with energized components.

---

All technicians should wear personal protective equipment (PPE) when servicing the printing system, such as:

- Safety glasses
- Powder-free, nitrile gloves
- Clothing protection (smock, jacket, etc.)

**Note:** Details of additional required PPE, specific to the given task, are listed at the beginning of each procedure.

---

Technicians shall use proper lifting equipment and techniques when handling heavy components and media rolls or stacks.



## 2.4 Required Tools and Supplies

Details of the required tools and supplies are listed at the beginning of each procedure in this guide.

Refer to Section [3.2.2 Surface Cleaning](#) for details regarding cleaning materials for ink removal.

## 2.5 Waste Disposal

Discard all maintenance waste, including soiled gloves and wipes, electrical waste, and ink disposal, according to local regulations.



## 3 Maintenance

### 3.1 Component Life Expectancy

The life of a DuraFlex printing system is approximately 5 years. The estimated component life varies for specific applications. More frequent usage may lead to the replacement of individual components within 5 years.

The table below lists the expected life of the DuraFlex modules based on intensive testing.

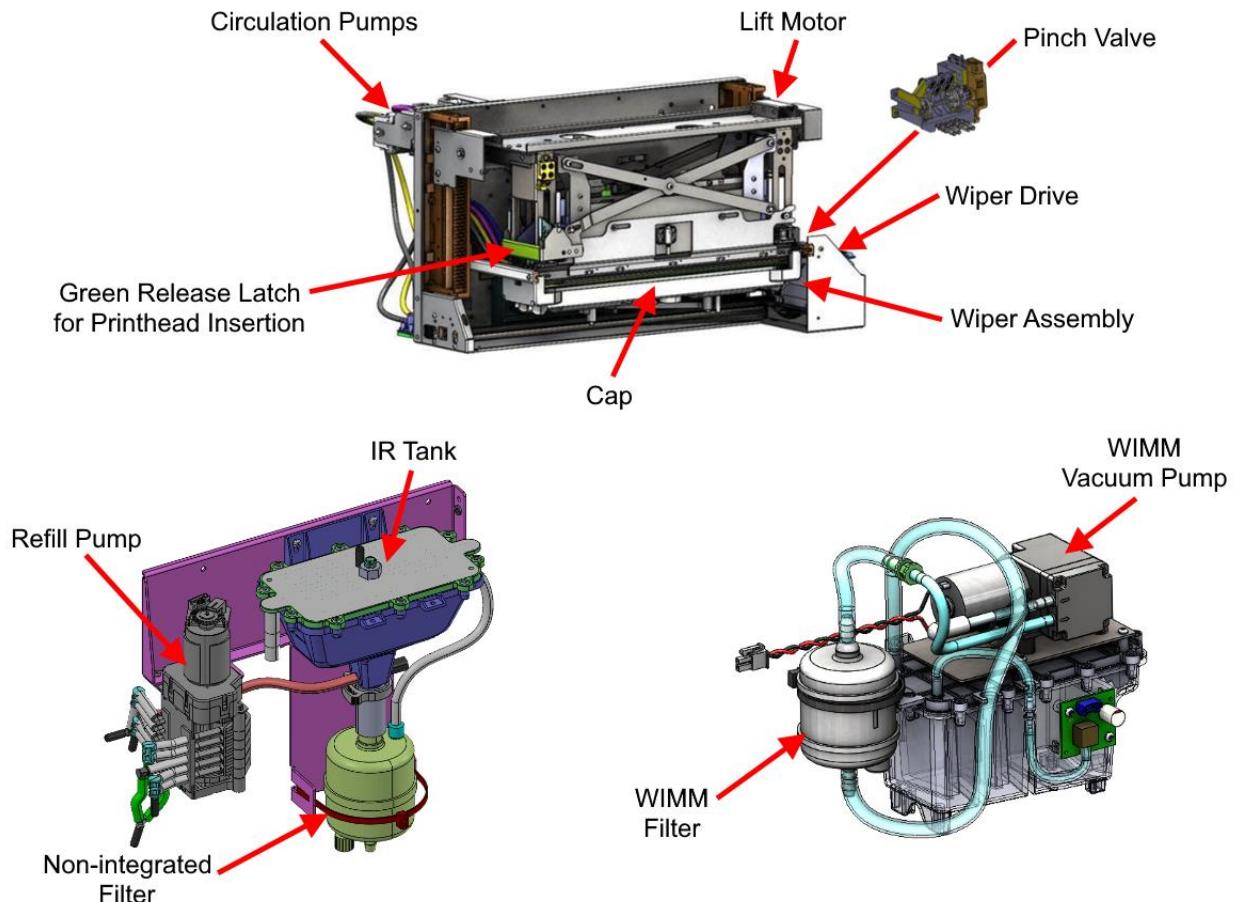
**Table 1 – Component Life Estimation**

DuraFlex Module	Replaceable Component	Approximate Component Life
Ink Delivery System (IDS)	Circulation Pumps	600 hours
	Refill Pump	750 hours
	Ink Filter Assembly (incorporated into the IR Tank)	442 Liters
	Pinch Valve	38,400 cycles
Waste Ink Management Module (WIMM)	WIMM Vacuum Pump	750 hours
	WIMM Filter	442 Liters
Maintenance Module	Wiper Assembly, including Cap, Wiper Drive, Belt, and Cap Solenoid	135k cycles
	Wiper Cartridge	6,300 wipes
Printhead Cradle Assembly	Lift Mechanism, including motor	300k cycles
	Printhead	50 insertions



The picture below shows each replaceable component in the printing system. These are also known as Field Replaceable Units or FRUs.

**Figure 1 – DuraFlex Replaceable Components**



## 3.2 Inspection Tasks and Frequency

Perform the following inspection and replacement tasks at the time interval specified in the table below.

Note: All items in the table are dependent on system usage and application.

**Table 2 – Inspection and Replacement Tasks**

Task	Check Daily	Check Monthly	Check Every 750 hours	Check Every 5 Years	Replace As Needed
Area/Surface Cleaning	x				N/A
System Inspection:					
• Bulk Ink Supply Connection	x				N/A
• Printhead (any ink drooling or leaking)					
Fittings and Tubing					
Wiper Cartridge	x				x
Fan Filter		x			x
Maintenance Module		x			x
Kinematic Mounts		x			x
Refill Pump			x		x
Circulation Pumps			x		x
Wiper Assembly				x	x
WIMM				x	x
Printhead Cradle Lift Mechanism					x



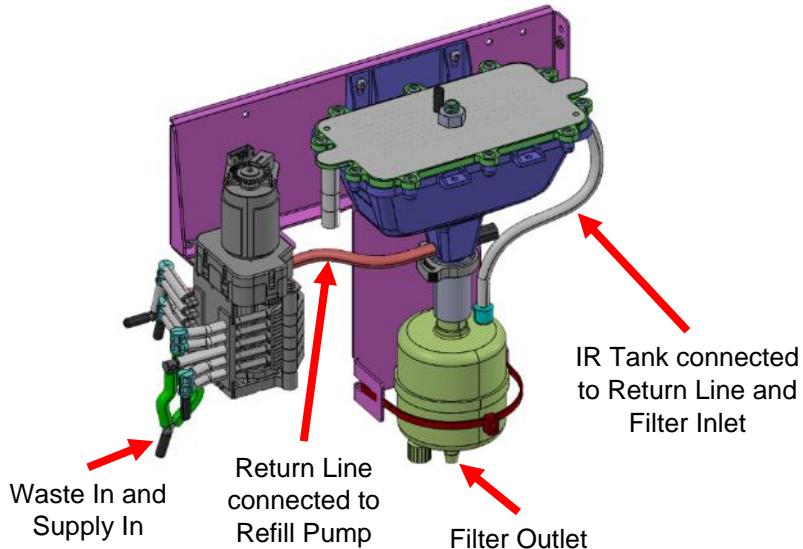
### 3.2.1 System Inspection

1. Walk around the printing system and visually inspect for issues such as:

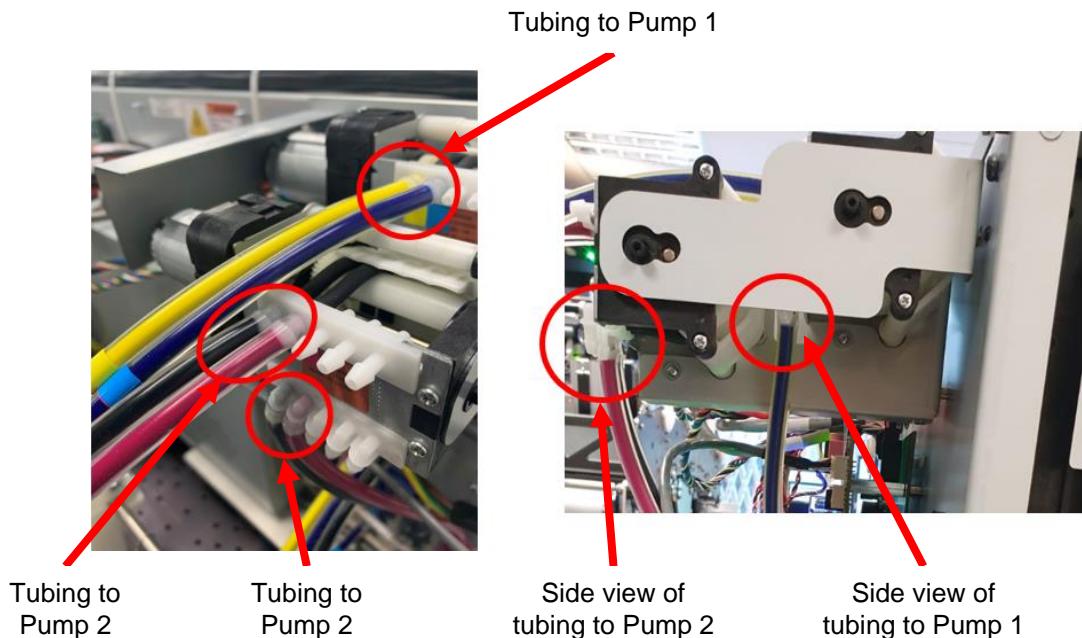
- Drips, leaks, puddles on the floor
- Kinked or damaged tubing
- Disconnected or loose tubing/cables

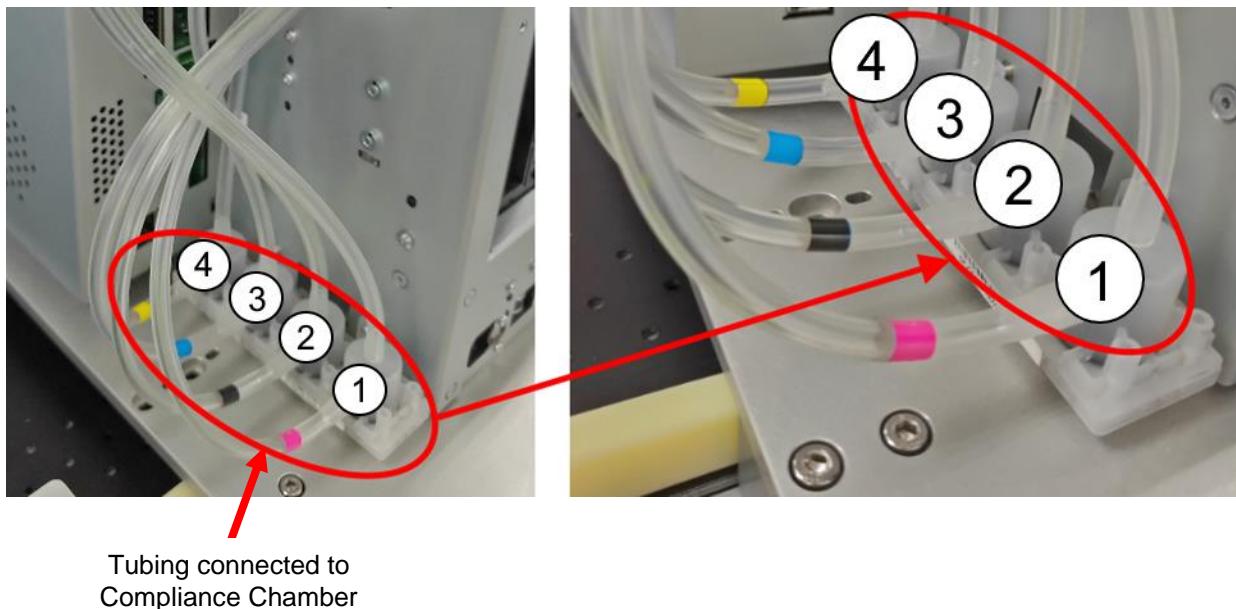
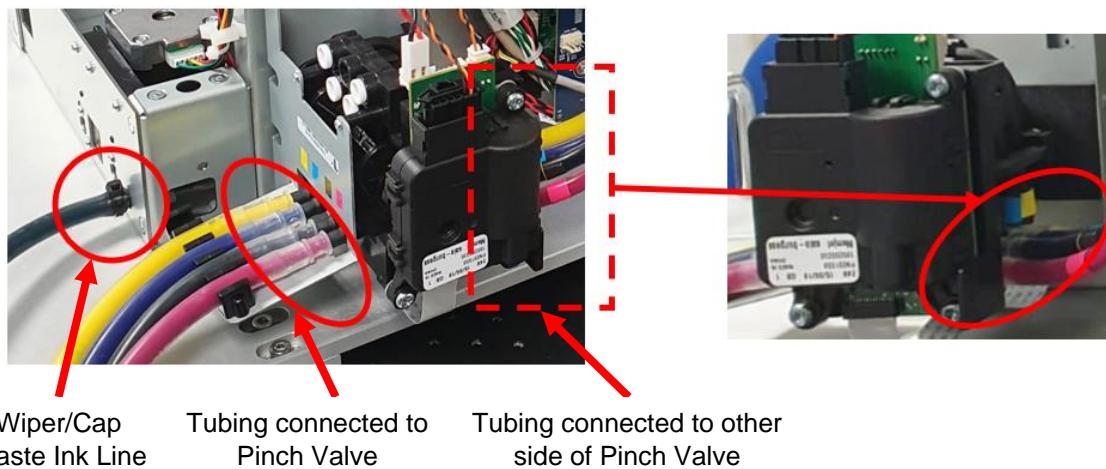
2. Pay special attention to the areas highlighted in the following figures.

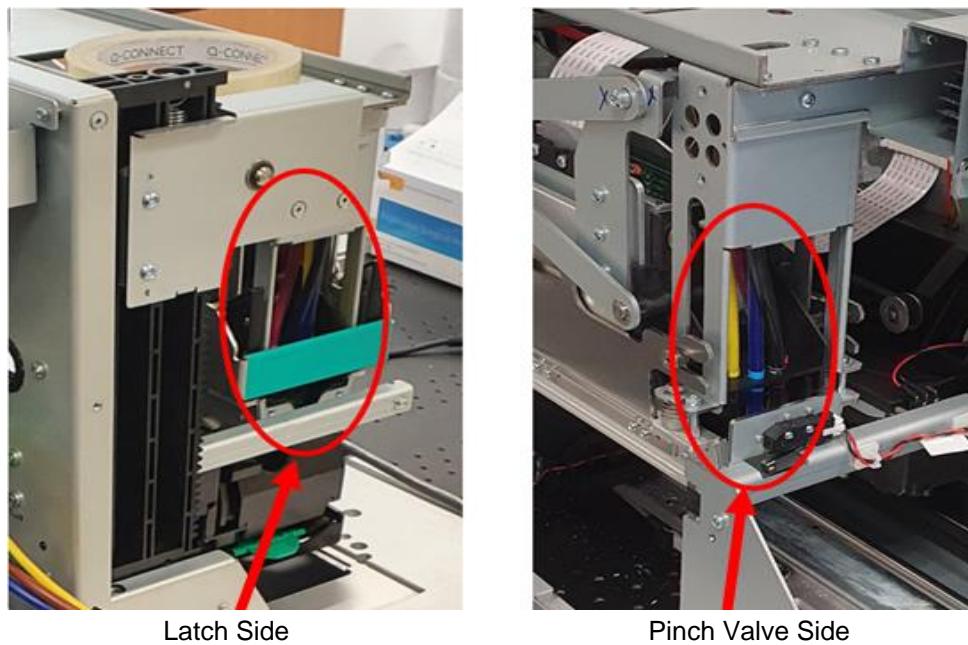
**Figure 2 – IDS Blade with Non-Integrated Filter**



**Figure 3 – Circulation Pump Area**



**Figure 4 – Compliance Chamber Area****Figure 5 – Pinch Valve Area**

**Figure 6 – Printhead Fluidic Couplings**

3. Resolve any issues found, including:

- cleaning up spills (refer to Section [3.2.2 Surface Cleaning](#))
- unkink tubing, replace any damaged tubing (refer to Section [4.2 Contamination Prevention Guidelines](#))
- disconnect and reconnect tubing or cables that are not properly attached.

### 3.2.2 Surface Cleaning

To reduce system contamination, remove ink residue and debris from horizontal surfaces at the beginning of each shift.

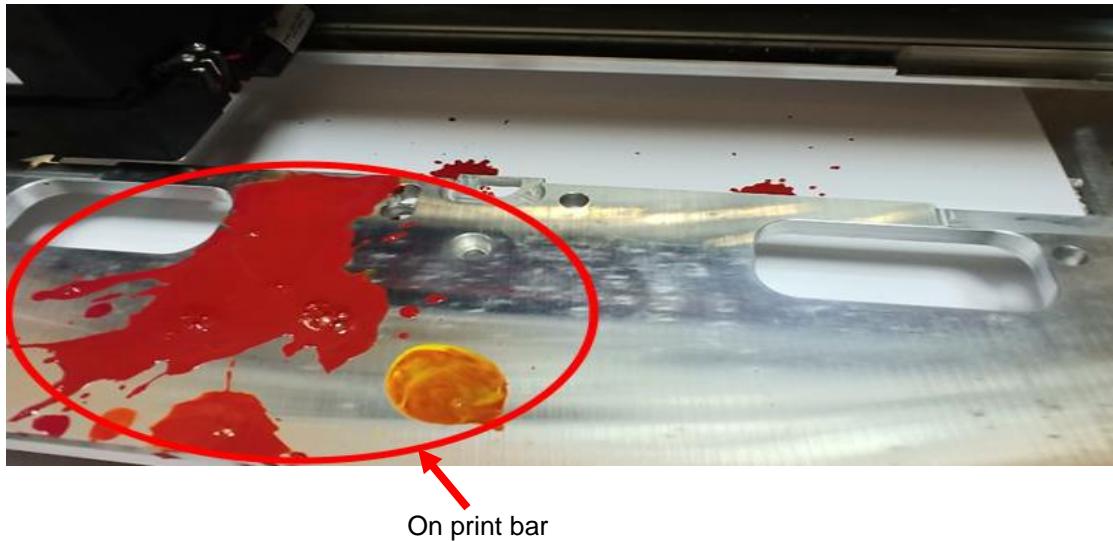
**CAUTION:** Do not manually clean the printhead!

Wear powder-free, nitrile gloves and use **only** the following supplies to clean printing system surfaces:

1. De-ionized (DI) water or electronics grade distilled water
2. Lint-free cloth wipes (clean and fragrance-free)
  - Berkshire Choice 700, 800, 900 cleanroom wipes
  - Texwipe TechniCloth TX600 series
  - Texwipe TX300 series

**CAUTION:** Do not reuse ink-soiled gloves or cloths. Discard used gloves or cloths according to local regulations.



**Figure 7 – Ink Drops on Printhead Cap****Figure 8 – Ink Puddles on Print Bar**

**Figure 9 – Ink Puddles at Bulk Ink Supply**

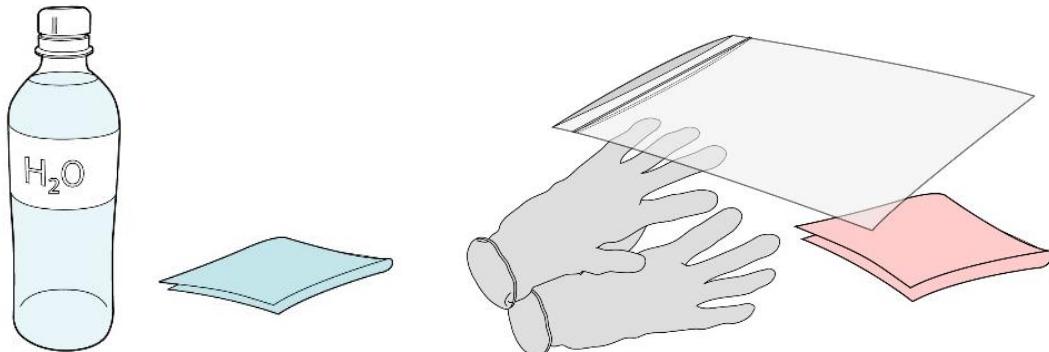
### 3.3 Printhead Cleaning and Storage

This section provides cleaning and storage procedures for the DuraFlex printhead. For shipping instructions, refer to Section [30.2 Printhead Shipping](#).

The printhead does not require periodic cleaning, but must be cleaned before storing for any period of time.

#### 3.3.1 Required Tools and Supplies

Gather the items listed below before beginning this procedure.

**Figure 10 – Printhead Cleaning Supplies**

**Table 3 – Required Tools and Supplies**

<b>Quantity</b>	<b>Type</b>	<b>Item</b>	<b>Description</b>
As needed	Supply	Filtered or DI water	<ul style="list-style-type: none"> <li>Water used to clean any surface of the printhead must be:           <ul style="list-style-type: none"> <li>Colorless</li> <li>Odorless</li> <li>Free of any obvious impurities</li> </ul> </li> <li>Clean, room-temperature tap water and non-carbonated, non-mineral drinking water are suitable.</li> <li>Never use mineral water, soap, cleaning fluids, solvents or hot water to clean the printhead.</li> </ul>
As needed	Supply	Lint-free cloths	<ul style="list-style-type: none"> <li>Must be clean and free of any contaminants including lint, chemicals, cleaning fluids or scents. Examples include:           <ul style="list-style-type: none"> <li>Clean, lint-free cloth</li> <li>Microfiber cloth such as spectacle/glasses cloth</li> <li>Clean sponge (new)</li> </ul> </li> <li>The cloth used to wipe the printhead will likely become stained with ink and should be discarded appropriately, after use.</li> <li>The following must not be used for cleaning printheads:           <ul style="list-style-type: none"> <li>Tissue paper, paper towels or newspaper</li> <li>Any wipes that may contain lint, chemicals, cleaning fluids or scent</li> </ul> </li> </ul>
As needed	Supply	Powder-free, nitrile gloves	N/A
1	Supply	Resealable plastic bag	Should be large enough for the printhead and cover.
1	Supply	DuraFlex printhead protective case	Shipped with every DuraFlex printhead ( <a href="#">Figure 13</a> )
2	Supply	Ink port covers	Shipped with every DuraFlex printhead ( <a href="#">Figure 12</a> )

### 3.3.2 Cleaning

**Note:** Read these instructions carefully before removing a printhead from the printer. Ensure all tools and equipment are ready for use and are nearby. A printhead must not remain outside of the printer or its packaging for longer than 30 minutes.

1. Wearing a pair of powder-free, nitrile gloves moisten a cleaning cloth with clean water. The cloth should be damp but not dripping wet.
2. Remove the printhead from the printer. See the [Removal](#) steps in section [29.1 Printhead Replacement](#).

**Note:** After removal from the printer, some residual ink may leak from the printhead. Ink will stain clothes or furnishings and can be difficult to wash off the skin.

3. Keep the ink couplings in an upright position to minimize any leakage.

**CAUTION:** Avoid touching the unprotected ink couplings, nozzle surface or electrical contacts. Avoid wetting the electrical contacts with ink.



4. Carefully wipe any ink from top of the contact pads area, if visible, with the damp cloth. Make sure there is no more ink dripping from the ink coupling after wiping.

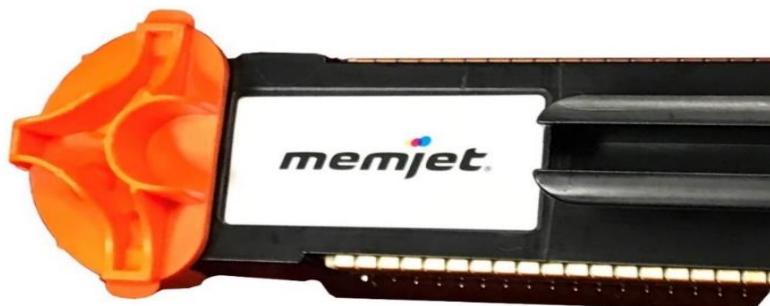
**Figure 11 – Remove Excess Ink with Damp Cloth**



### 3.3.3 Preparing for Storage

1. Install the ink port covers on both ends of the printhead as shown in [Figure 26](#). There should be no ink dripping outside the protective cover or ink stains on the electrical contacts.

**Figure 12 – Ink Port Covers Installed**



2. Place the printhead into the protective case as shown in [Figure 27](#) and close the case.

**Figure 13 – Printhead in Protective Case**



---

**CAUTION:** All DuraFlex printheads ship with a protective case. If a protective case is not available, skip this step and proceed to the next one. However, there is a very high chance of damaging the printhead nozzles. There will likely be ink stains on clothing, skin, or surrounding areas.

3. To maintain printhead hydration during storage, moisten a clean cloth, fold it, and place it into the zip bag with the printhead in the protective case as shown in [Figure 14](#). The cloth only needs to be damp, there should be no excess water in the bag. Remove air from the bag and seal the zip bag.

**Figure 14 – Printhead Prepared for Storage or Shipping**



4. Ensure that the printhead is stored with the nozzles facing down. Do not store in direct sunlight. Store at room temperature (5°C to 30°C).

---

**Note:** This storage method is dependent on ensuring the cloth stays wet and remains free of biological growth.

---

**Note:** Memjet recommends that printheads only be stored for up to 30 days using this technique. Storing a printhead for longer than 30 days may cause non-recoverable issues and render the printhead unusable for production printing. Ensure shipped printheads will arrive at their destination within 30 days or earlier to ensure RMA testing can be performed on functioning printheads.



## 4 Replacement Task Preparation

### 4.1 Estimated Time for Replacement Tasks

Use the following table to determine the length of time required to complete a specific replacement task in this guide. It is assumed that the task is being completed by a technician using the tools from the required tools list provided.

**Table 4 – Estimated Time to Complete Replacement Tasks**

Component (or Consumable)	Approximate Time (in minutes)
Print Module	35
Print Module Cable	10
Print Module PassThrough PCA	30
Print Module Lift Motor	30
Printhead Cradle Assembly	65
EASM Lift Raise Switch	25
EASM Lift Cap Switch	25
EASM Lift Print Switch	25
Datapath PCA – 1GB	30
Mechanical Controller PCA	40
10G Card (on Datapath PCA)	25
Fan Assembly	25
FFCs: • 2 – Printhead Cradle • 1 – Pinch Valve	15 (per cable)
Cap	15
Wiper Carrier	40
WIMM	25
WIMM Cable	10
WIMM Pressure Sensor PCA	15
Circulation Pump Assy	25
Circulation Pumps Cable	10
Compliance Chamber	25
Pinch Valve Assembly	25
Pinch Valve Cable	10
IDS Blade	30
Printhead	10
Wiper Cartridge	10
Bulk Ink Supply	10



## 4.2 Contamination Prevention Guidelines

**CAUTION:** The printhead is a precision instrument. Clean assembly practices are critical to avoid permanent printhead contamination from particles entering the ink tubing.

Follow all the contamination prevention guidelines in this section:

1. Install ink tubing in a clean, dust-free environment.
2. Wear nitrile, powder-free gloves and use lint-free cloths and clean water to wipe down all work surfaces before beginning ink tubing assembly. After cleaning, discard soiled gloves and cloths/wipes according to local regulations.
3. Plan to finish tubing assembly within one session without interruption. If a delay is unavoidable, provide approximately 2 cm extra length at the end of each unconnected tube and install a clean cap on the open tube end. When installation resumes, use a tubing cutter to remove the excess length from the exposed ends before connecting.
4. Wear a clean lab coat to avoid contamination from clothing.
5. Wear new, powder-free nitrile gloves when handling and inserting tubing. Fit gloves only when preparation is complete so that the gloves are not contaminated by handling fibrous or dusty surfaces, hair, skin, clothing, or tissue paper during tube assembly.
6. Store tubing in its original packaging. Only remove as much tubing as needed for each connection and reseal the package after the required tubing is removed.
7. Do not leave tubing ends open to the environment. Cap or plug open ends of tubing, fittings, and connectors to avoid exposure to contaminants.
8. To ensure precise, straight tubing ends, cut tubing with a tubing cutter only! Do not use scissors or razor blades to cut tubing! Store tubing cutters in clean packaging when not in use.
9. Do not touch critical ink surfaces (barb fittings and tubing ends) with bare hands. Do not leave critical ink tubing or connector exposed for longer than necessary to remove them from packaging, apply lubricant, and connect tube to fitting.
10. Use only new, clean CPC connectors. Memjet-supplied connectors are provided clean. Any replacement connectors must undergo ultrasonic cleaning before use. Refer to the DuraFlex Service and Repair Guide for ultrasonic cleaning instructions.
11. To ease connection of tubing to barbed fittings ([Figure 15](#)), apply a small amount of lubricant to the barb and tubing end.

To apply this fluid, extract a small amount of fluid using a syringe ([Figure 16](#)), attach a new 0.8 µm syringe filter to the syringe, and apply sparingly to the coupling surfaces.

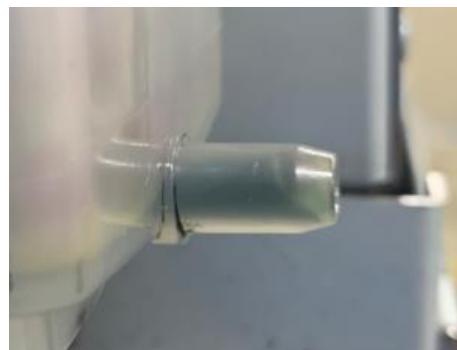
- See approved lubricants and syringe details in the *DuraFlex Installation and Commissioning Guide*.
- Apply one 2-3 drops to fittings. Do not apply too much lubricant.
- Keep the tip of the syringe clean and do not touch it to any surface.
- Cap the syringe tip and lubricant container when not in use.

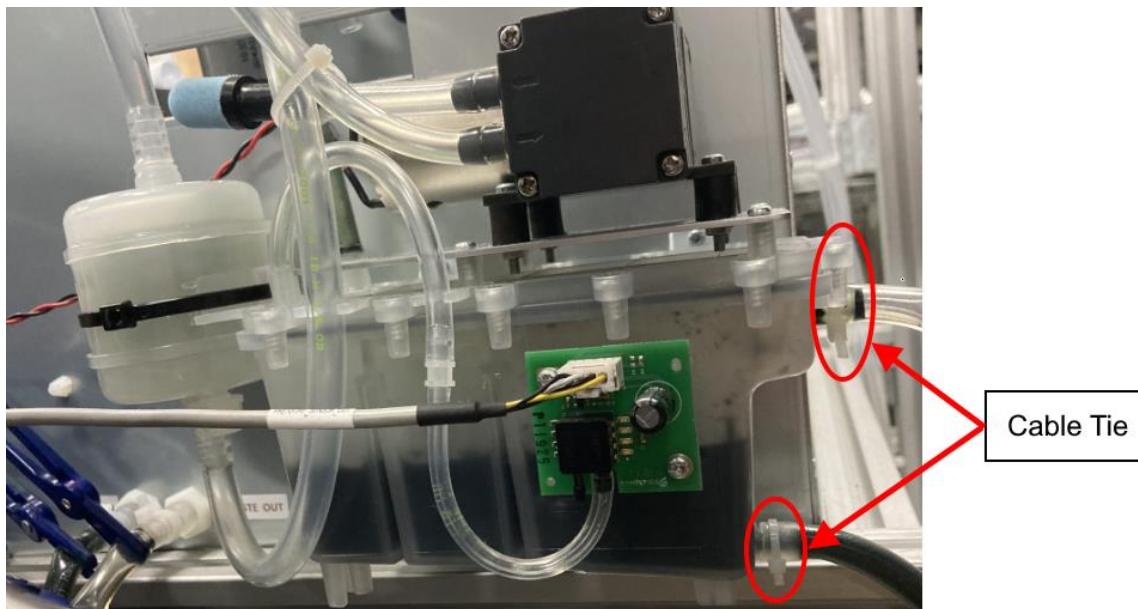
**CAUTION:** The lubricant syringe should only be uncapped and exposed for a minimal time period to prevent contamination of the inside of the cap or wet tip of the syringe from dust in the air.



**Figure 15 – Barbed Fitting****Figure 16 – Syringe Filled with Lubricant**

12. When connecting tubing, press each tube completely onto all fittings to ensure full connection. This is especially important for non-barbed fittings ([Figure 17](#)) molded into components such as the WIMM. For the most secure attachment, apply a constrictive device such as a cable tie ([Figure 18](#)) or hose clamp after the tube is connected and cut off the excess tail.

**Figure 17 – Non-Barbed Fitting**

**Figure 18 – Cable Tie Securing Tube to Non-Barbed Fitting**

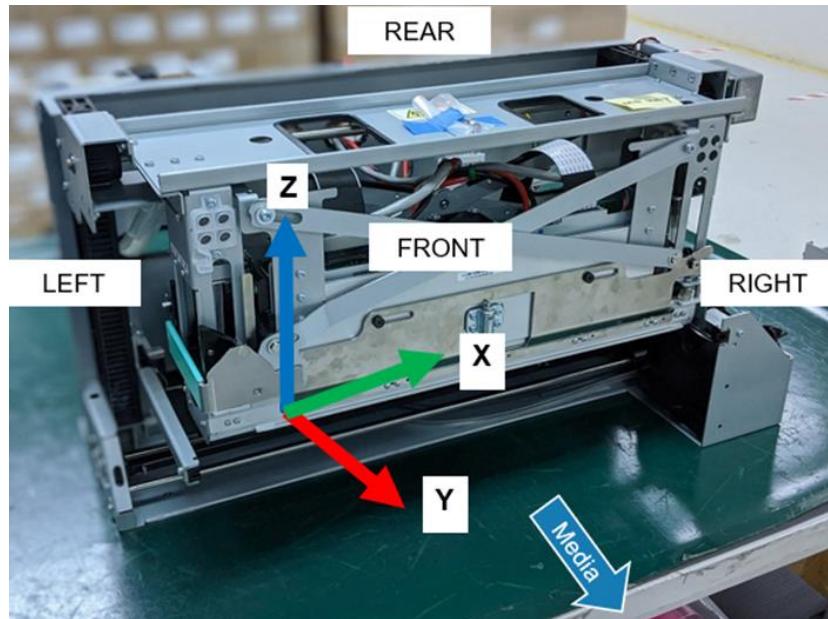
13. Ink tubing is either numbered or color coded at both ends of each tube. Ensure that the correct connections are made.
14. During tube routing, position ink tubing away from sharp edges to avoid cutting the tubing. If a sharp edge cannot be avoided, apply tape to the sharp edge to protect the tube from being cut.
15. Check to ensure that all sections of the tubes do not have kinks or any restriction of fluid or airflow.

## 4.3 Module Orientation

The Print Module and Printhead share the same XYZ coordinates and orientation (left, right, front, and rear):

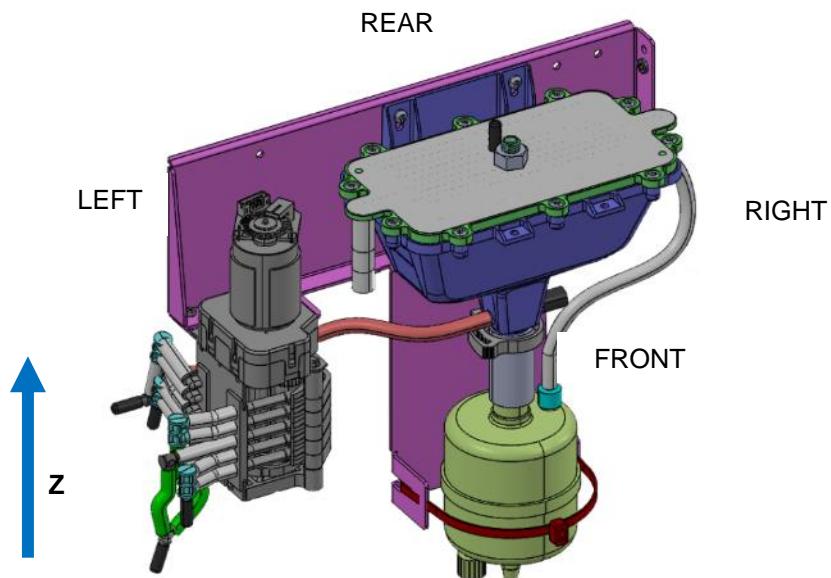
- X-axis is across the media, parallel to the printhead, considered “page width”
- Y-axis is the media travel direction, considered “page length”
- Z-axis is perpendicular to the plane of the media and is the direction of PPS

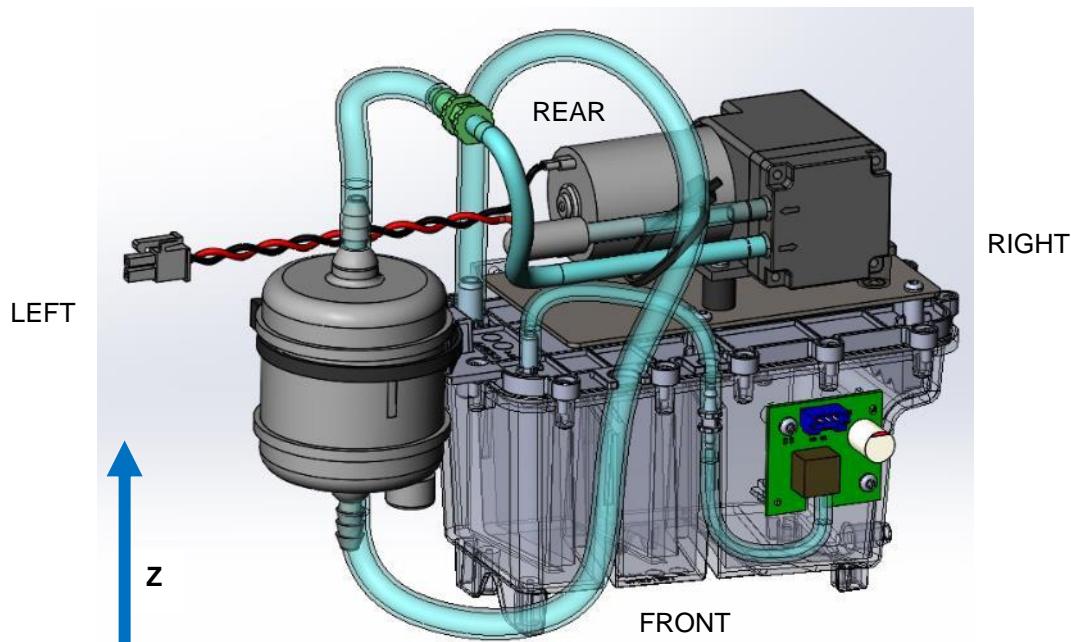
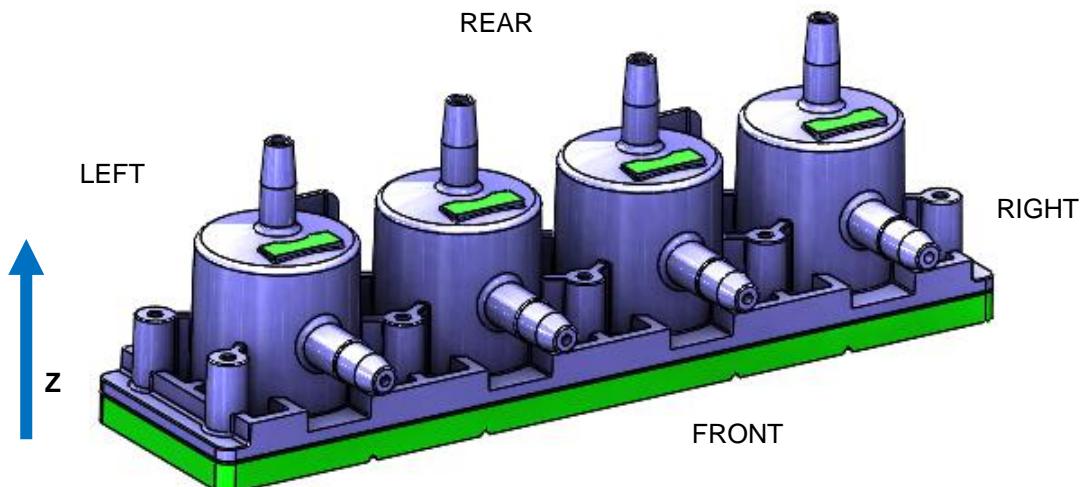
**Figure 19 – Print Module Directions**



The figures below show the orientation of IDS Blade, WIMM, and Compliance Chamber.

**Figure 20 – IDS Blade Directions**



**Figure 21 – WIMM Directions****Figure 22 – Compliance Chamber Directions**

## 4.4 Frequently Used System Commands

These software commands are required throughout the replacement and testing procedures in this document. To perform any of the tasks listed, use the OEM printer control software, PES commands (in this section), or Demo GUI:

- [Initialize the System](#)
- [Enable External RIP Mode](#)
- [Enable Internal RIP Mode](#)
- [Deprime the System](#)
- [Prime the System](#)
- [Perform a Light Service](#)
- [Perform a Medium Service](#)
- [Move the Printhead Cradle](#)
- [Move the Pinch Valve](#)
- [Move the Cap](#)
- [Circulate Ink Through the System](#)
- [Run the Circulation Pumps \(Custom Flush\)](#)

Note: Refer to the *DuraFlex Demo GUI User Guide* for detailed instructions using Demo GUI.

### 4.4.1 Initialize the System

1. On the Client PC, log in to DuraFlex using PuTTY with username `duraflex`

2. Open a Terminal window to start the PES interface:

```
cd /opt/memjet/PDL/test_rigs/latest/bin/  
python start.py --mode=frontend
```

3. Shut down the print engine:

```
pes.shutdownEngine()
```

4. Check the print engine status:

```
pes.getStatus()
```

5. When the print engine status is `OFF`, run the following command:

```
printing.initialise()
```

6. Initializing the print engine may take a few minutes.

7. Check the print engine status again:

```
pes.getStatus()
```

If initialization is successful, the status will become `PRIMED_IDLE` or `DEPRIMED_IDLE`.

### 4.4.2 Enable External RIP Mode

1. On the Client PC, log in to DuraFlex using PuTTY with username `duraflex`

2. Open a Terminal window to disable the current print mode:

```
dtpStop
```



3. Run the following command:

```
dtpUseExternalRip
```

#### **4.4.3 Enable Internal RIP Mode**

1. On the Client PC, log in to DuraFlex using PuTTY with username `duraflex`
2. Open a Terminal window to disable the current print mode:

```
dtpStop
```

3. Run the following command:

```
dtpUseInternalRip
```

#### **4.4.4 Deprime the System**

1. Initialize the system.
2. Run the following PES command:

```
pes.startDepriming([])
```

3. Wait a minute and check the print engine status:

```
pes.getStatus()
```

The status should be `DEPRIMED_IDLE`.

#### **4.4.5 Prime the System**

1. Initialize the system.
2. Run the following PES command:

```
pes.startPriming([])
```

3. Wait a minute and check the print engine status:

```
pes.getStatus()
```

The status should be `PRIMED_IDLE`.

#### **4.4.6 Perform a Light Service**

1. Ensure that the system is powered on and the printhead is capped.
2. Run the following PES command:

```
pes.startServicing([], ServiceType.LIGHT)
```

#### **4.4.7 Perform a Medium Service**

1. Ensure that the system is powered on and the printhead is capped.
2. Run the following PES command:

```
pes.startServicing([], ServiceType.MEDIUM)
```



#### 4.4.8 Move the Printhead Cradle

- Run the following PES commands to move the printhead cradle to RAISE, CAP, and PRINT positions:

```
pes.startMovingPrintheads([], Position.MAINT)
pes.startMovingPrintheads([], Position.CAP)
pes.startMovingPrintheads([], Position.PRINT)
```

#### 4.4.9 Move the Pinch Valve

Note: This procedure can only be performed with commands.

Enter combined mode and use commands to:

- Change directory:

```
cd /opt/memjet/PDL/test_rigs/latest/bin
```

- Stop the delegation service:

```
sudo systemctl stop delegation
```

- Start the Python app in combined mode:

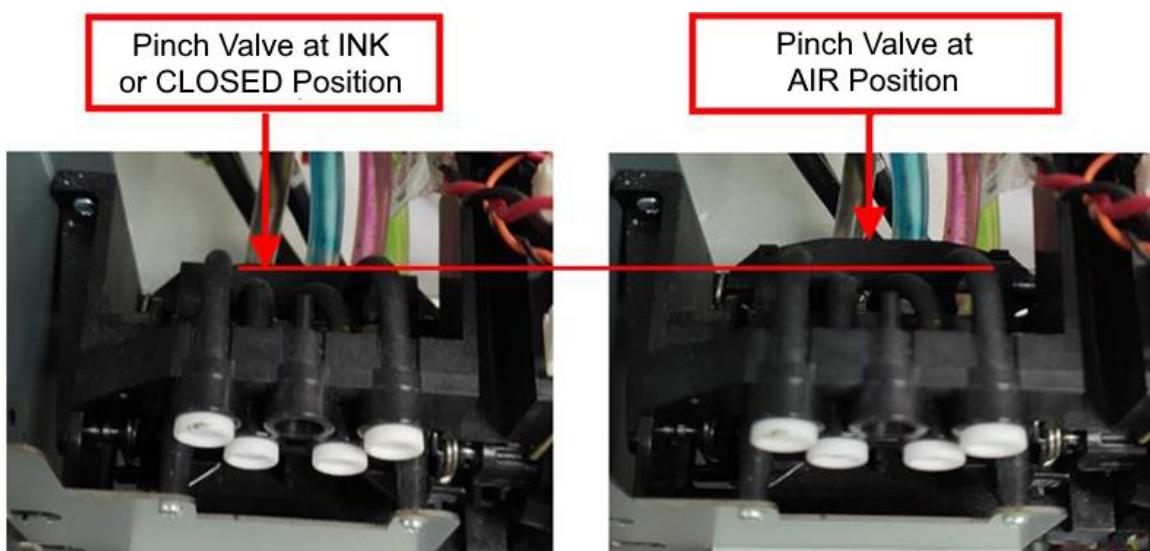
```
python start.py --mode=combined
```

- Run the following `dtp` commands to move the pinch valve to INK, AIR, and CLOSED positions:

```
dtp.ids.valve.go_ink()
dtp.ids.valve.go_air()
dtp.ids.valve.go_closed()
```

- Observe the pinch valve to see that it moved after each command as shown in the figure below.

Figure 23 – Pinch Valve Positions



- In the PuTTY terminal, exit combined mode and return the system to a safe state:

```
sudo systemctl start delegation
```



#### 4.4.10 Move the Cap

Note: This procedure can only be performed with commands.

Enter combined mode and use commands to:

1. Change directory:

```
cd /opt/memjet/PDL/test_rigs/latest/bin
```

2. Stop the delegation service:

```
sudo systemctl stop delegation
```

3. Start the Python app in combined mode:

```
python start.py --mode=combined
```

4. Run the following `dtp` commands to move the cap to CAP and HOME positions:

```
dtp.ss.go_cap()  
dtp.ss.go_home()
```

#### 4.4.11 Circulate Ink Through the System

Note: This procedure can only be performed with commands.

The following procedure provides steps to circulate two (2) liters of ink.

CAUTION: Wait 24 hours after successful initial printing and priming before circulating ink.

To circulate ink through all IDS blades:

1. Open SSH or PuTTY and execute the following commands:

```
cd /opt/memjet/PDL/test_rigs/latest/bin  
sudo systemctl stop delegation
```

2. With the printer status in `PRIMED_IDLE`, run the following command to enter the combined mode:

```
python start.py --mode=combined
```

3. From within combined mode, run:

```
dtp.ids.do_custom_flush(volume=2000, speed=52, wait=False)
```

4. Wait for the circulation process to complete. The complete circulation process will take approximately 40 minutes.

If needed, the circulation process can be stopped with the following command:

```
dtp.ids.circ_pump.stop()
```

Note: Before pausing, keep track of how much of the 40 minutes total circulation time has elapsed. Then, restart the circulation by executing the commands above and allow ink to circulate for the remaining time.

5. When the circulation process is complete, the pump will stop running. Run the following commands to exit combined mode and return the system to a safe state:

```
quit()  
sudo systemctl start delegation  
printing.initialise()
```



#### 4.4.12 Run the Circulation Pumps (Custom Flush)

Note: This procedure can only be performed with commands.

Enter the combined mode and run the circulation pumps for four (4) minutes.

1. Open a PuTTY terminal, log in to DuraFlex, and stop delegation service using these commands:

```
cd /opt/memjet/PDL/test_rigs/latest/bin  
sudo systemctl stop delegation
```

2. Run the following command to start the combined mode:

```
python start.py --mode=combined
```

3. From within the combined mode, run the following command ([240](#) means 240 seconds):

```
dtp.ids.do_custom_flush(240,60)
```

This will pull all the ink from IR Tank into the waste ink container through the disconnected Return Line.

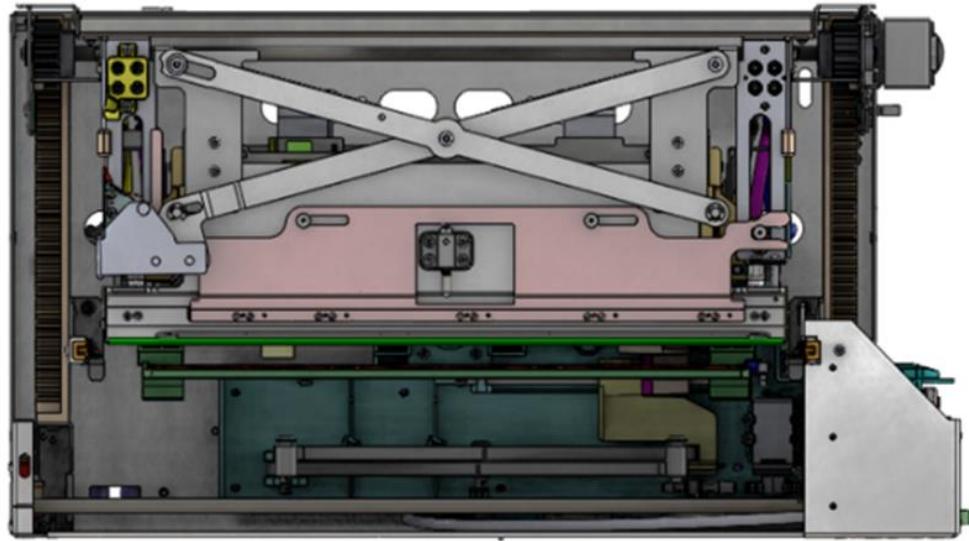


## 5 Print Module Replacement

This section provides replacement instructions for the Print Module.

The part number for this item is OEM-specific. Contact your Memjet representative for details.

**Figure 24 – Print Module**



### 5.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 5.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 5 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	Print Module – part number is OEM-specific
As needed	Supply	Lint-free cloth
1	Tool	Allen key set
1	Tool	Diagonal cutter
1	Tool	Tubing cutter
1 pair	Tool	Scissors
4	Tool	Hemostat
4	Supply	Cap – Vinyl, ID 0.25", length 0.5"
4	Supply	Cap – Vinyl, ID 0.125", length 0.5"
As needed	Supply	Large zip-type plastic bag
2	Supply	Printhead Ink port covers ( <a href="#">Figure 26</a> )
1	Supply	Printhead protective case ( <a href="#">Figure 27</a> )
2	Supply	Fluidic coupling covers ( <a href="#">Figure 25</a> )



**Figure 25 – Green Fluidic Coupling Cover**

## 5.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

This section provides the removal procedures for the Print Module. For shipping instructions, refer to Section [30.1 Print Module Shipping](#).

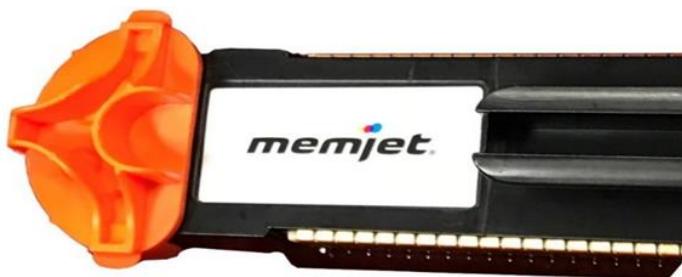
### 5.3.1 Prerequisites

- Copy the `hwparamstore.json` and save the file in a USB drive.

### 5.3.2 Procedure

To remove the Print Module:

- Deprime the DuraFlex printing system.
- Use the OEM printer control software to move the Printhead Cradle to RAISE position and the Cap to HOME position.
- Remove the printhead according to the [Removal](#) steps in Section [29.1 Printhead Replacement](#).
- Store the printhead temporarily until the new Print Module is installed and the printhead can be reinserted.
  - Install the ink port covers on both ends of the printhead to prevent ink dripping outside the protective cover.

**Figure 26 – Ink Port Covers Installed**

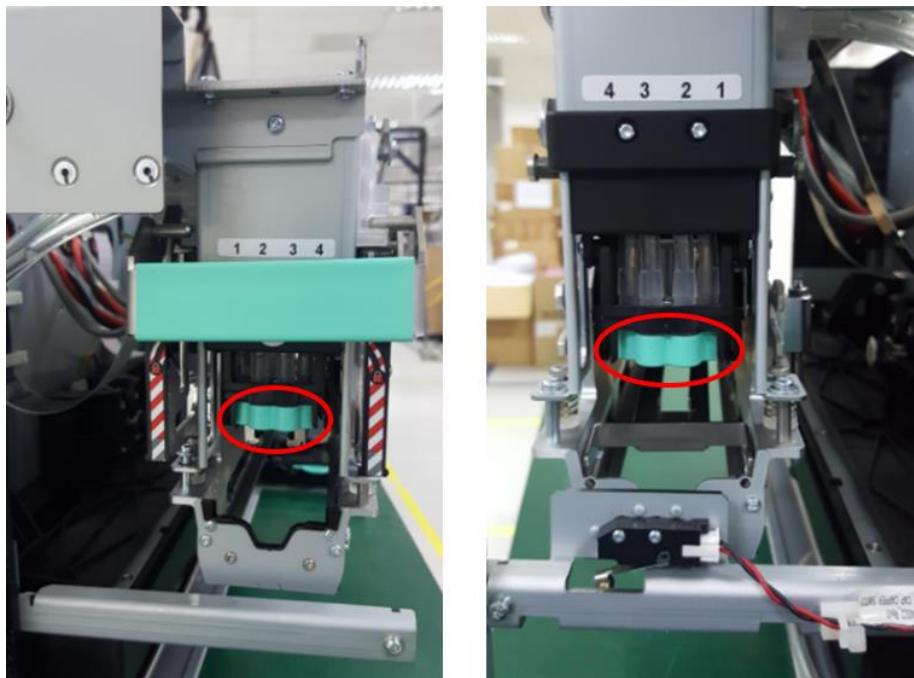
- b. Place the printhead into the protective case and close the case.

**Figure 27 – Printhead in Protective Case**



- c. Ensure that the protective case stays oriented with the printhead nozzles facing down. Do not store in direct sunlight and keep at room temperature (5°C to 30°C).
5. Install the fluidic coupling covers (qty: 2, one on each side) to protect the fluidic couplings from contamination.

**Figure 28 – Fluidic Coupling Covers Installed**

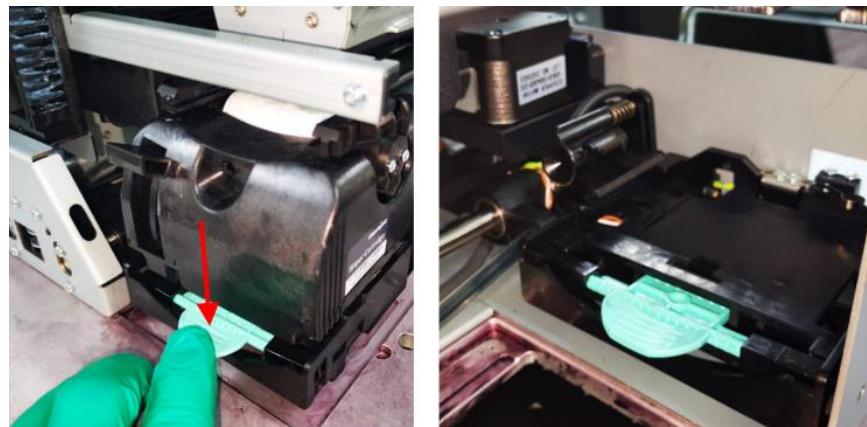


6. Power down the DuraFlex printing system.



7. Push down on the green tab to release the wiper cartridge from the wiper carrier.

**Figure 29 – Wiper Cartridge Release**

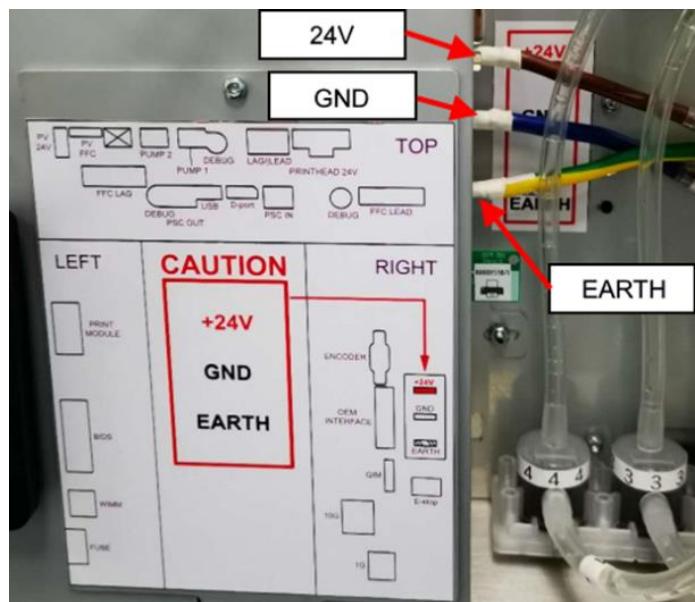


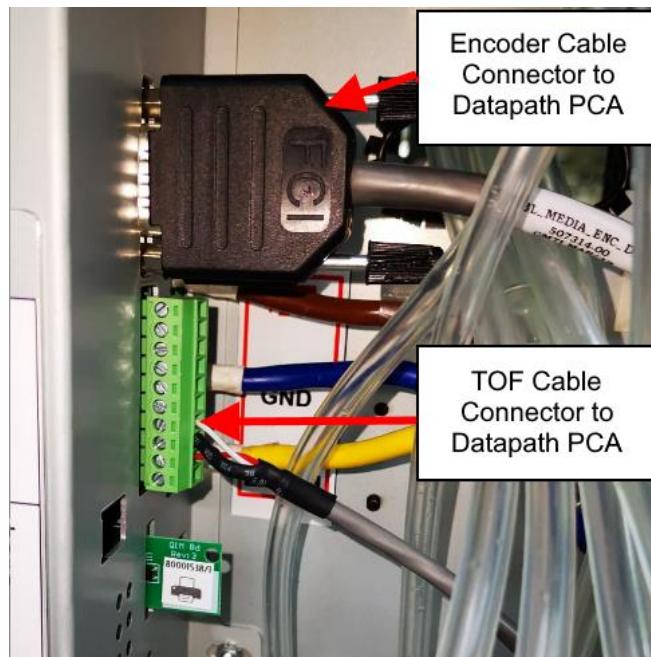
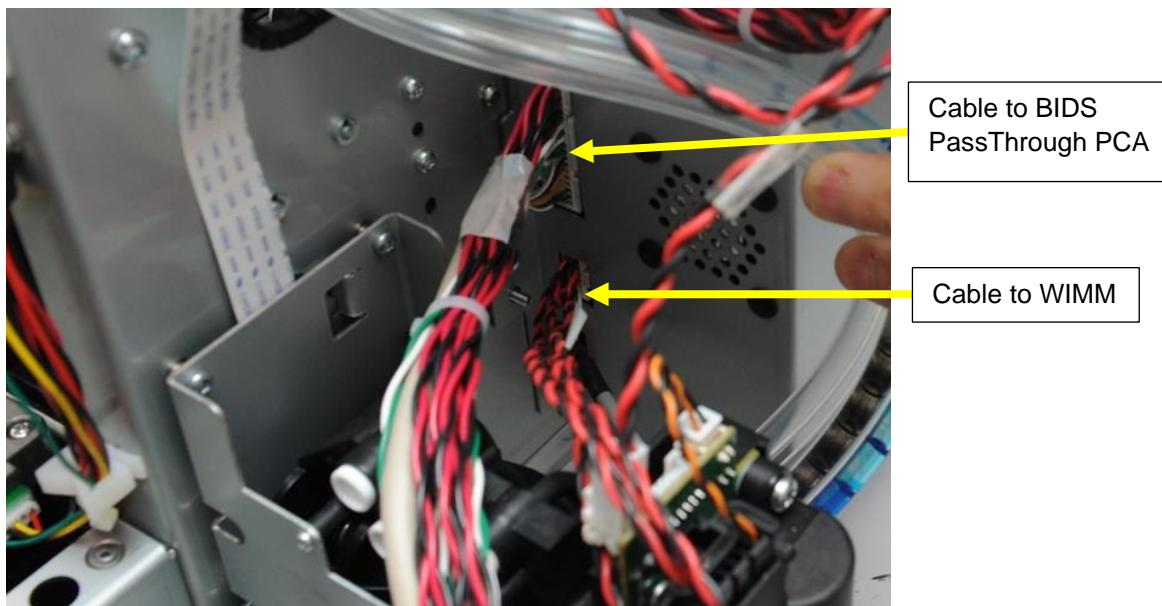
8. Store the wiper cartridge in its original packaging or a clean plastic bag at room temperature (5°C to 30°C) until it can be reinserted.

9. Disconnect all external cables that are connected to the Print Module, including:

- Power Supply Unit (PSU) cable (x1)
- Encoder cable (x1)
- TOF sensor cable (x1)
- 1 GbE Ethernet cable (x1)
- 10 GbE Ethernet cable (if present) (x1)
- BIDS PassThrough PCA cable (x1)
- WIMM cable (x1)
- WIMM Pressure Sensor PCA cable (x1)

**Figure 30 – Power Supply (PSU) Cable**

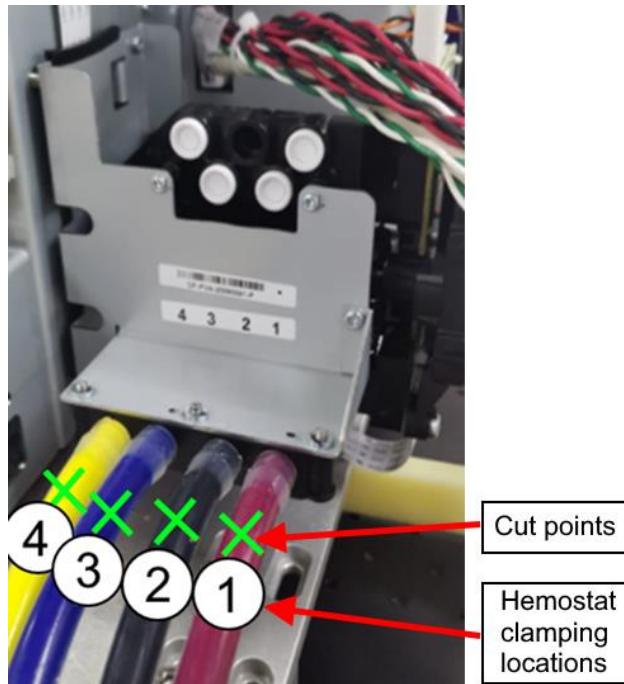


**Figure 31 – Encoder Cable and TOF Cable****Figure 32 – Cable to BIDS and Cable to WIMM**

10. Use four (4) hemostats to clamp all the Feed Line tubes the Pinch Valve inlet, labeled 1-4 in the figure below.

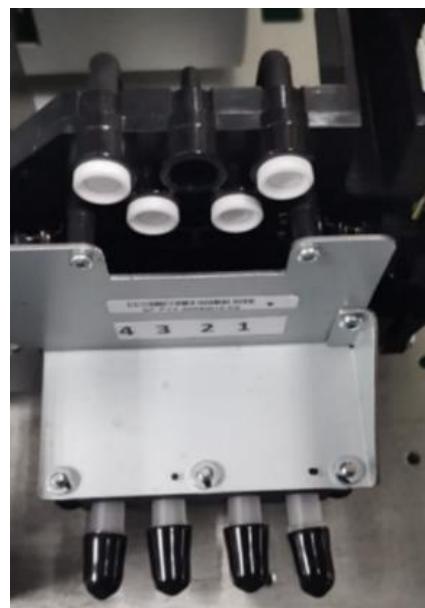
11. Use a tubing cutter to cut the four (4) tubes at the locations shown by the green "X" in the next figure.

**Figure 33 – Feed Line Tubing Clamp Locations**



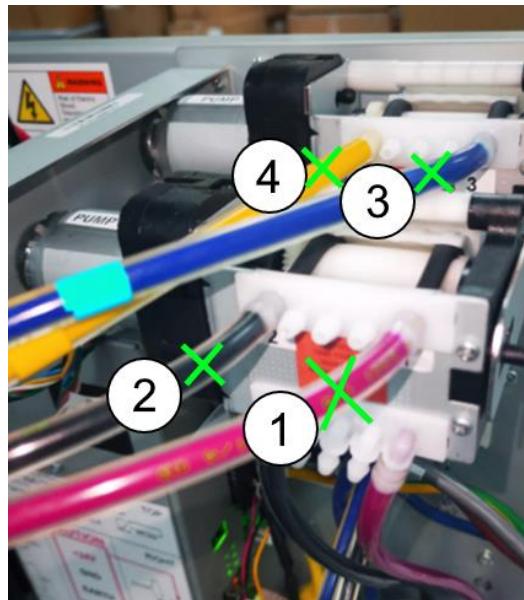
12. Immediately install a clean cap (vinyl, ID 0.25", length 0.5") onto each of the cut feed line tubes to prevent contamination from entering the Pinch Valve.

**Figure 34 – Caps Installed on Pinch Valve Ports**



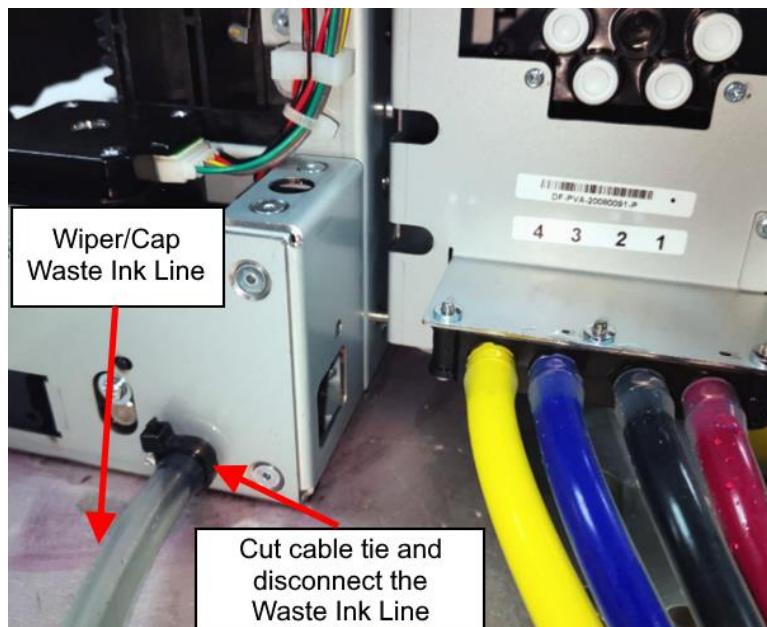
13. Use a clean tubing cutter to cut the four (4) Return Line tubes near the outlets of the Circulation Pumps. The cutting points are shown as "X" in the figure below.

**Figure 35 – Return Line Tubes Cut Locations**



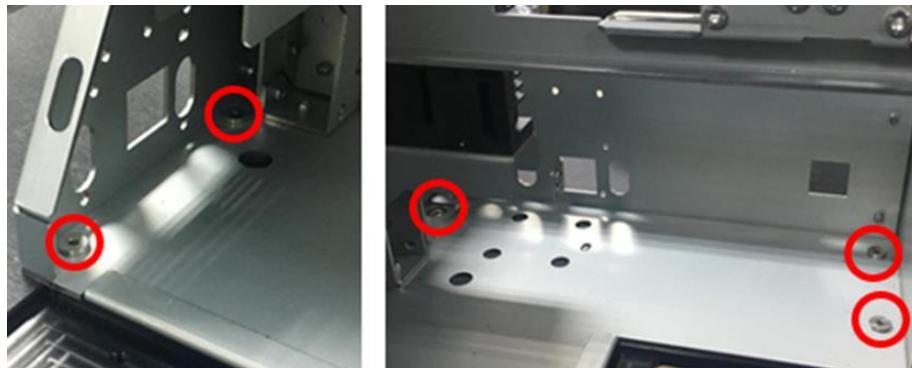
14. Immediately install a clean cap (vinyl, ID 0.125", length 0.5") onto each of the Circulation Pump outlet barbs to prevent contamination from entering the Circulation Pumps.
15. Locate the Waste Ink Line on the right side of the Print Module and carefully cut the cable tie.
16. Disconnect the Waste Line tube from the Print Module.

**Figure 36 – Cable Tie on Waste Line**



17. Remove the five (5) ultra-flathead mounting screws that mount the Print Module to the print bar. Keep all the original hardware, do not discard.

**Figure 37 – Print Module Mounting Screws**



18. Discard the Print Module according to local disposal recommendations.

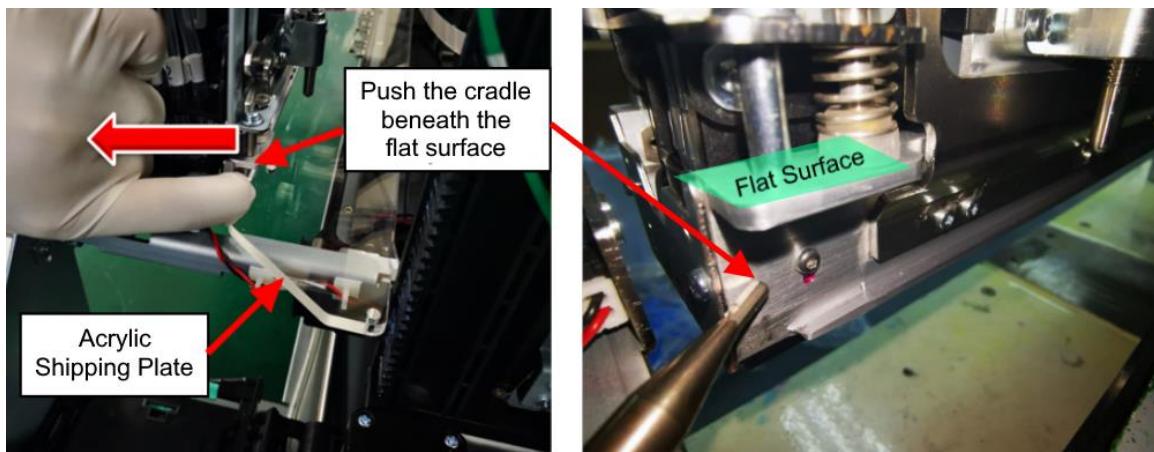
## 5.4 Installation

### 5.4.1 Remove Shipping Plate

The Print Module ships with a protective plate installed. The grooves on the shipping plate secure it between the Printhead Cradle and the Print Module's lift mechanism. Remove the shipping plate before installing the Print Module.

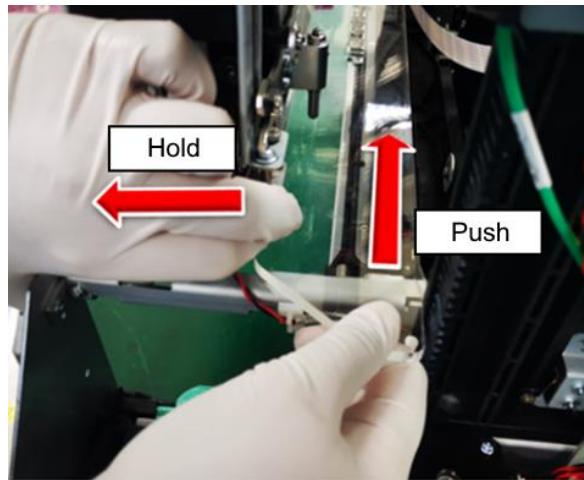
1. Unpack the Print Module and remove all packing material.
2. Inspect the Print Module for any damage.  
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).
3. From the **right** side of the Print Module, locate the shipping plate.
4. With a finger below the flat surface of the Printhead Cradle (*Figure 38*), slightly push it towards the **front** of the Print Module.

**Figure 38 – Printhead Cradle Contact Point**



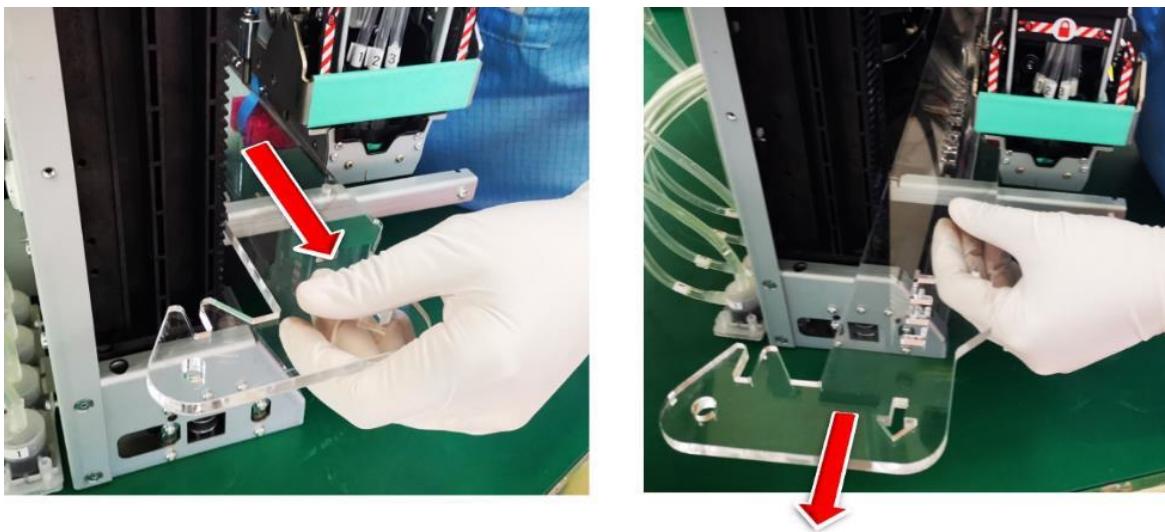
5. While holding the Printhead Cradle in the slightly pushed position, use your other hand to push the shipping plate towards the **left** side of the Print Module to disengage it.

**Figure 39 – Disengage Shipping Plate**



6. Carefully slide the shipping plate out from the **left** side of the Print Module to remove it.

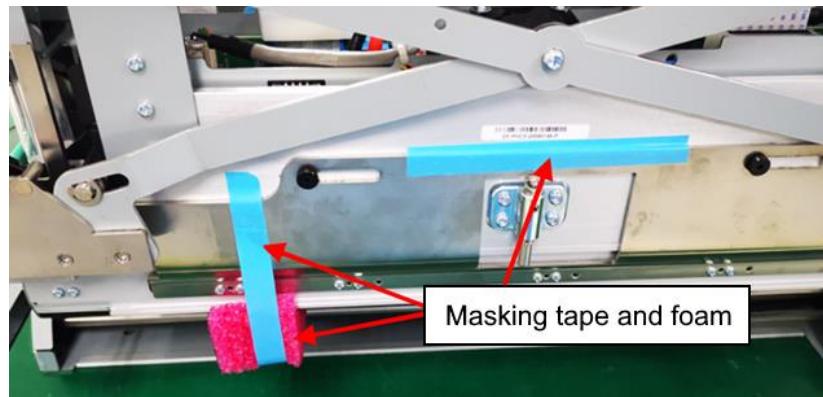
**Figure 40 – Remove Shipping Plate**



7. Keep the shipping plate with the Print Module packaging and shipping box for future shipping.

8. Remove the tape and foam. Keep the foam for future shipping. Discard the tape.

**Figure 41 – Remove Tape and Foam**



#### 5.4.2 Mount Print Module to Print Bar

This section lists the main steps that the OEM needs to perform after replacing the Print Module.

Note: For more information about mounting the print module to the print bar, refer to the *DuraFlex Installation and Commissioning Guide*.

To mount the DuraFlex Print Module onto the Print Bar:

1. Align the Print Module in XY axis with two locating pins on the Print Bar and two locating holes/slots on the Print Module frame base.
2. Secure the Print Module with five (5) M4 x 8 ultra-low head mounting screws (CBSTSR4-8). Move the wiper cradle from its HOME position as needed to access the mounting holes underneath.

#### 5.4.3 Connect Modules, Cables, and Tubing

This section lists the main steps that the OEM needs to perform after replacing the Print Module. For complete details of each step, see the *DuraFlex Installation and Commissioning Guide*.

1. Maintain the correct relative height between the datum tab of each IDS blade and the bottom surface of the Print Module.
2. Connect all the cables to the new Print Module, including:
  - Power Supply Unit (PSU) cable (x1)
  - Encoder cable (x1)
  - TOF sensor cable (x1)
  - 1 GbE Ethernet cable (x1)
  - 10 GbE Ethernet cable (if present) (x1)
  - BIDS PassThrough PCA cable (x1)
  - WIMM cable (x1)
  - WIMM Pressure Sensor PCA cable (x1)
3. To reapply the configuration settings, paste the previously copied `hwparamstore.json` file from USB drive to the following folder on Client PC:

`/opt/memjet/kareela/data/`

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**DURA***FLEX*<sup>TM</sup>

4. Remove the fluidic coupling covers and insert the setup printhead.
5. Verify the Pen-to-Paper Spacing (PPS) after replacing the Print Module.

## 5.5 Testing

### 5.5.1 Test Print After Replacement

Follow these steps to confirm the Print Module replacement is successful:

1. Power on DuraFlex.
2. Install setup printhead.
3. Install the wiper cartridge.
4. Initialize the print engine.
5. Prime the printing system.
6. Print a test file.

---

Note: This is a quick check to confirm print module replacement is successful. Perform the Contamination Control procedure (below) any time the Print Module is replaced.

---

### 5.5.2 Contamination Control Procedure

To minimize contamination, perform this procedure any time the print module is replaced.

---

CAUTION: The system can be used at this point, but the OEM must wait for at least 24 hours before proceeding with the following steps.

---

1. Confirm that the setup printhead is installed.
2. Deprime the printing system.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

3. Re-prime the printing system.
4. Circulate two (2) liters of ink through the system.
5. Deprime the printing system.
6. Re-prime the printing system.
7. Deprime the printing system.
8. Replace the setup printhead with the printing printhead.
9. Re-prime the printing system.

System is ready for use.

10. Select a desired test chart, perform printing, label as "final printhead, first print".

If there are no print quality defects (streaks) observed, the Print Module replacement is successful.



## 6 Print Module Cable Replacement

This section provides replacement instructions for the Electronics Print Module Cable (PN 10005292).

**Figure 42 – Print Module Cable**



### 6.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 6.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 6.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 6 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	Print Module Cable – PN 10005292
As needed	Supply	Anti-static wrist strap

### 6.4 Removal

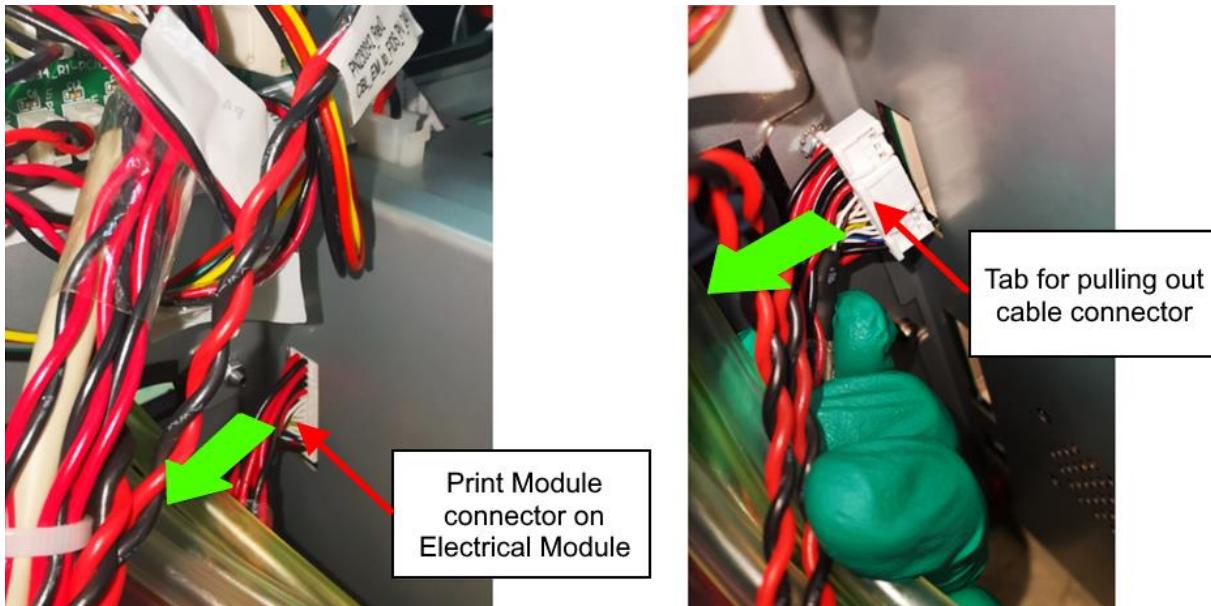
**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.



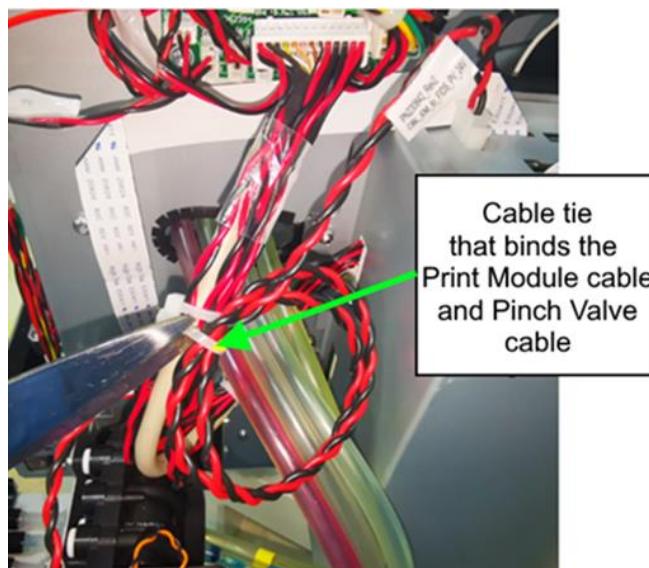
1. Remove any covers or panels to expose top of the DuraFlex components and create sufficient access to the components.
2. Wear an anti-static wrist strap when performing this procedure.
3. Power down the DuraFlex system.
4. Disconnect the Print Module cable from the Electrical Module. Press the tab on the cable connector to disengage it.

**Figure 43 – Print Module Cable Disconnected from Electrical Module**



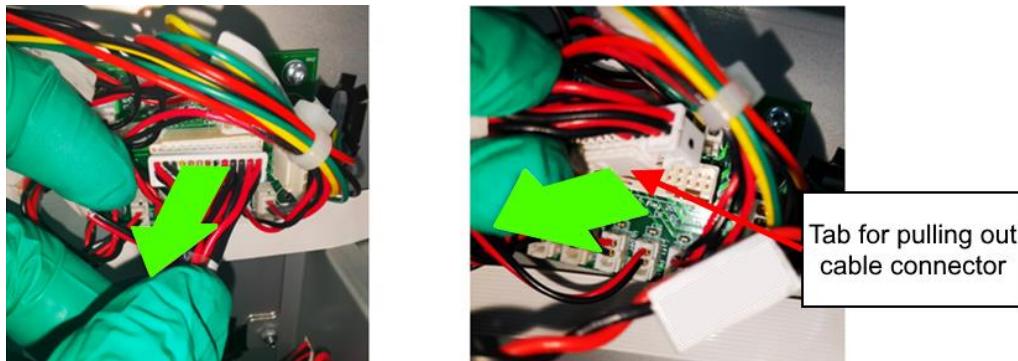
5. Cut the cable tie that binds the Print Module cable and the Pinch Valve cable.

**Figure 44 – Remove Cable Tie**



6. Disconnect the Print Module cable from the Print Module PassThrough PCA. Press the tab on the cable connector to disengage it.

**Figure 45 – Print Module Cable Disconnected from Print Module PassThrough PCA**



7. Discard the Print Module Cable according to local disposal recommendations.

## 6.5 Installation

1. Inspect the new Print Module cable.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 46 – Print Module Cable**



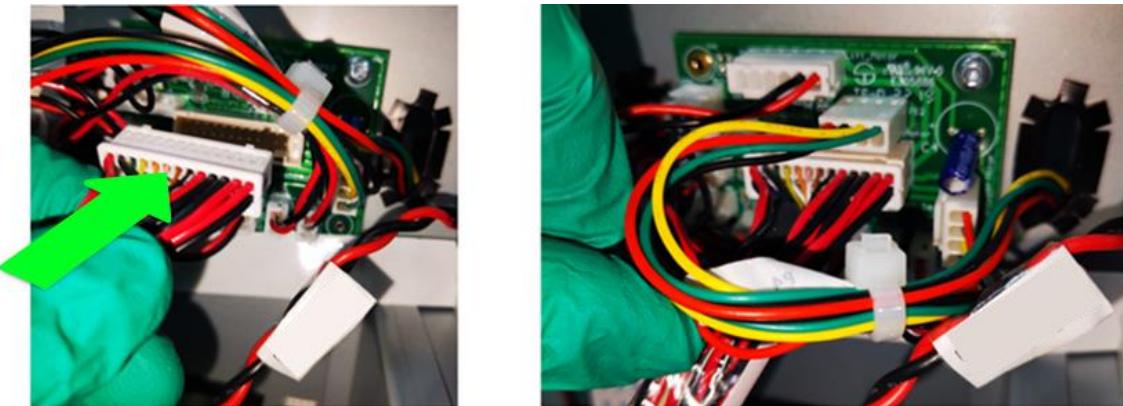
2. Connect the Print Module cable to the Electrical Module.

**Figure 47 – Print Module Cable Connected to Electrical Module**



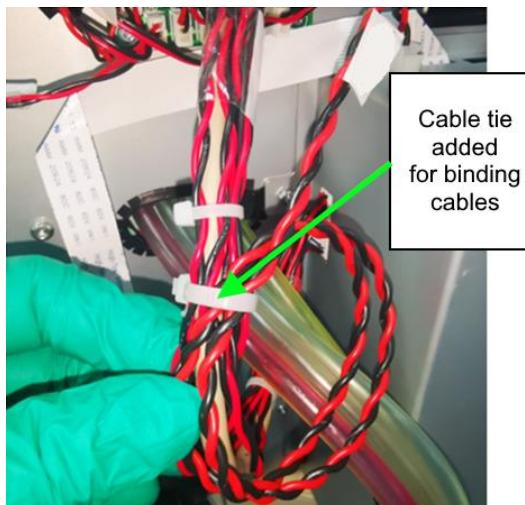
3. Connect the Print Module cable to the Print Module PassThrough PCA.

**Figure 48 – Print Module Cable Connected to PCA Connector**



4. Secure the Pinch Valve cable and the Print Module cable together with a cable tie and cut off the excess tail.

**Figure 49 – Print Module Cable and Pinch Valve Cable Bundled with Cable Tie**



## 6.6 Testing

1. Power up the DuraFlex system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. If there is no error observed, the Print Module cable replacement is successful.

## 7 Print Module PassThrough PCA Replacement

This section provides replacement instructions for the Electronics Print Module PassThrough PCA (PN 10005291).

## Figure 50 – Print Module PassThrough PCA



## **7.1 Personal Protective Equipment (PPE)**

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

## **7.2 ESD Guidelines**

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

## 7.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

### **Table 7 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	Print Module PassThrough PCA – PN 10005291
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)



## 7.4 Removal

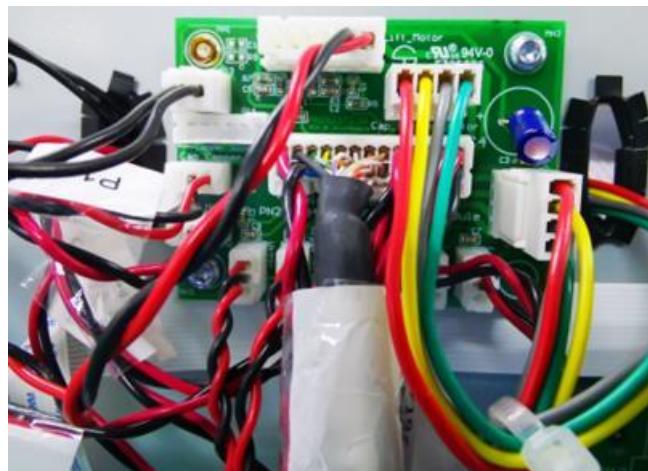
**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

To remove the Print Module PassThrough PCA from the Print Module:

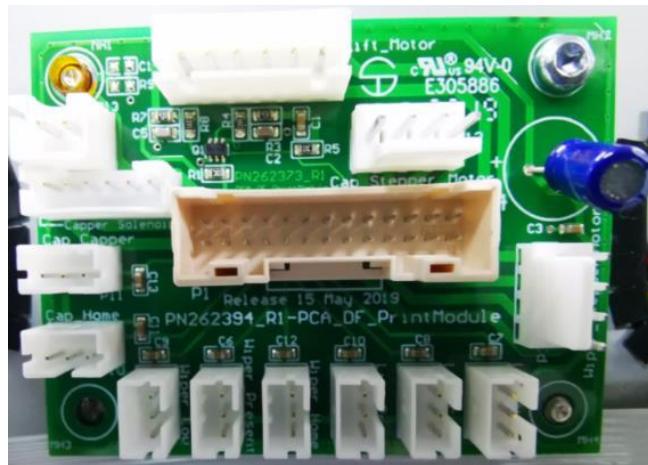
1. Ensure the printhead is capped and the system is in [PRIMED\\_IDLE](#) state (shown in OEM printer control software).
2. Power down the printing system.
3. Locate the Print Module PassThrough PCA on the back of the Print Module.

**Figure 51 – Print Module PassThrough PCA with Cables Connected**



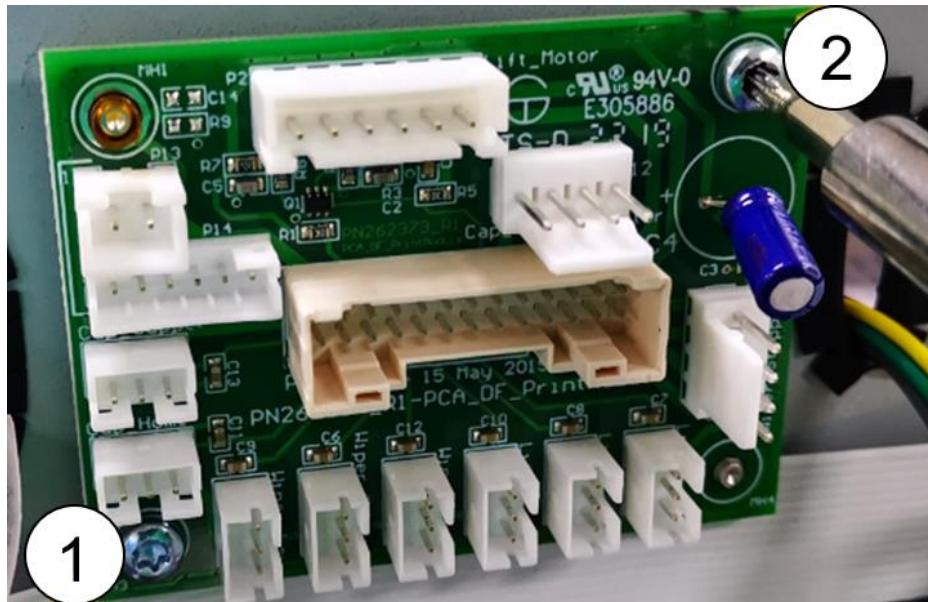
4. Confirm that all cables attached to the PassThrough PCA are labelled. Add labels as needed.
5. Disconnect all the cables from the PassThrough PCA.

**Figure 52 – Print Module PassThrough PCA without Cables**



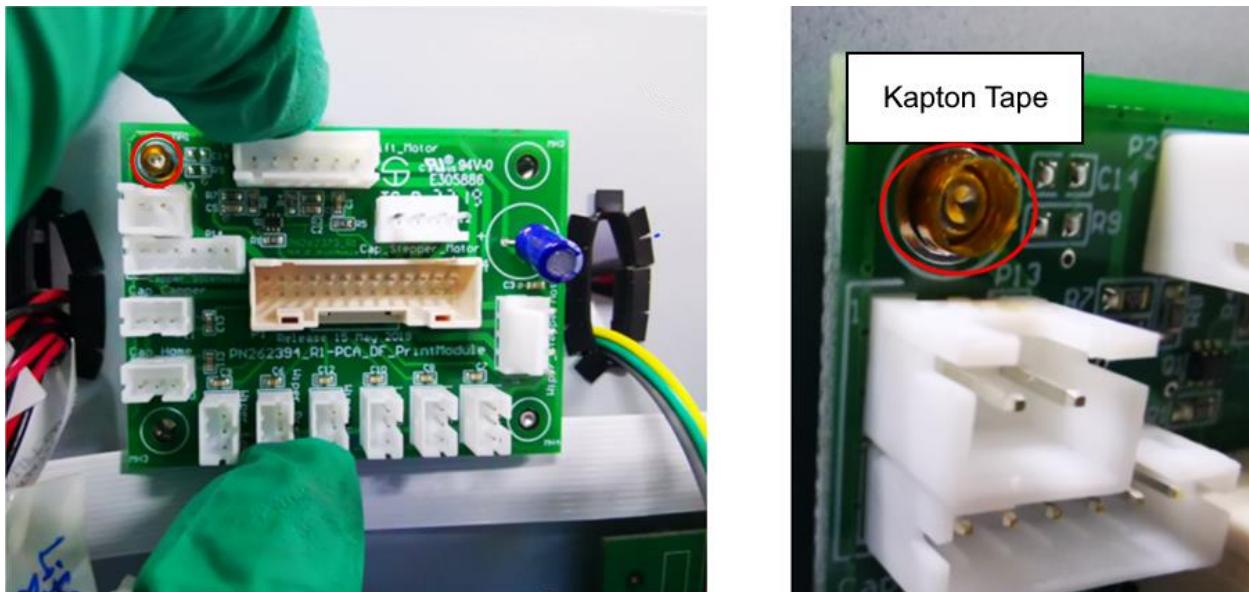
6. Use a T10 screwdriver to loosen the two (2) screws that secure the PassThrough PCA to the back of Print Module.

**Figure 53 – Loosen Screws that Secure the Print Module PassThrough PCA**



7. Locate the Kapton Tape on the top left corner.
8. Carefully remove the PassThrough PCA and ensure that the Kapton Tape on the top left corner locating pin does not drop.

**Figure 54 – Locating Pin and Kapton Tape on Top Left Corner**



9. Discard the PassThrough PCA according to local disposal recommendations.



## 7.5 Installation

1. Visually inspect the new Print Module PassThrough PCA to ensure that all components are attached without any damage.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

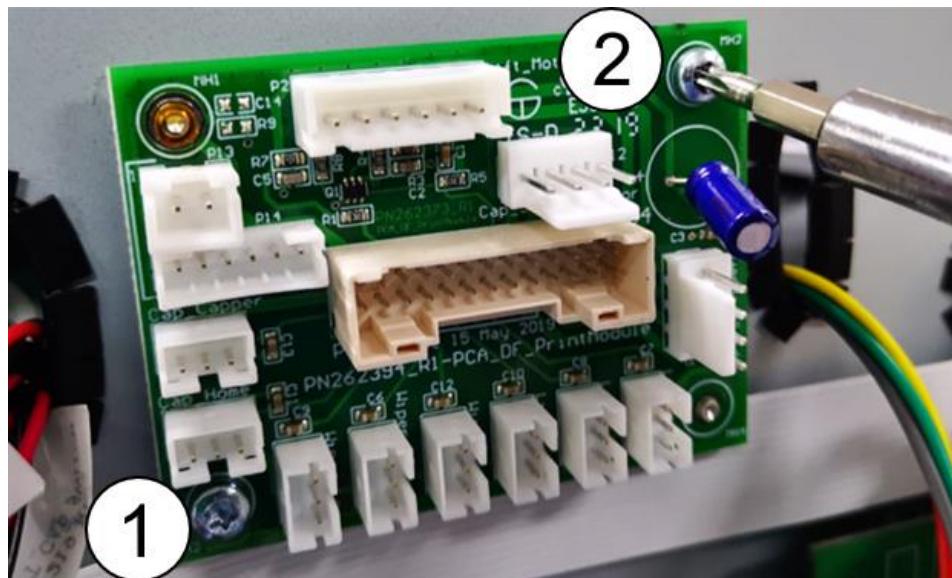
**Figure 55 – Print Module PassThrough PCA**



2. Align the PassThrough PCA with the locating pins and install the two (2) screws to secure it.

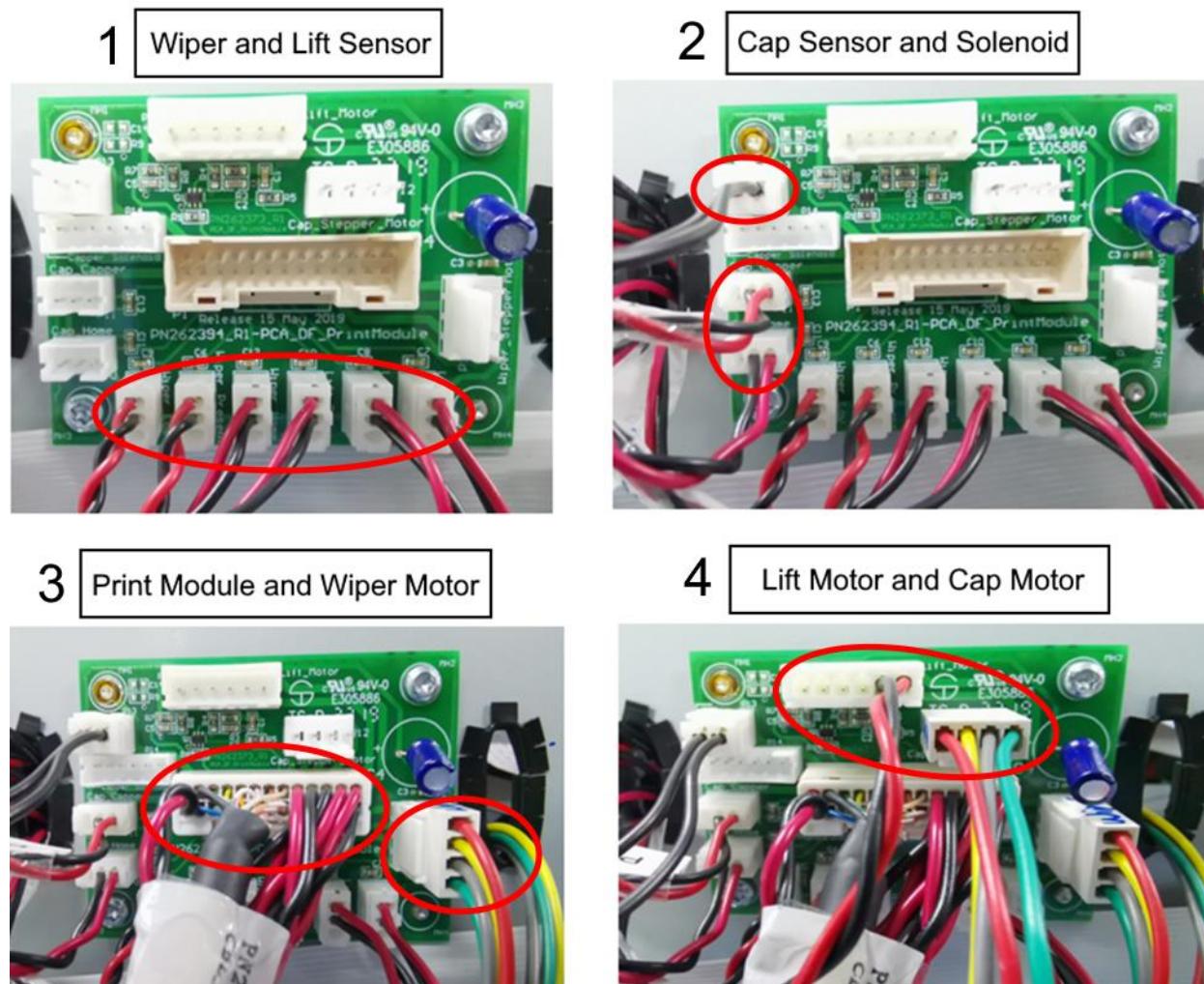
Note: Ensure that the Kapton Tape is attached to the top left corner locating pin.

**Figure 56 – Print Module PassThrough PCA Mounting Screws**



3. Connect all the cables in the recommended sequence.



**Figure 57 – Print Module PassThrough PCA Cable Connections**

Note: Refer to the *DuraFlex Electrical Databook and Design Guide* for cable and connector details.

## 7.6 Testing

To test the new Print Module PassThrough PCA:

1. Power on the DuraFlex printing system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

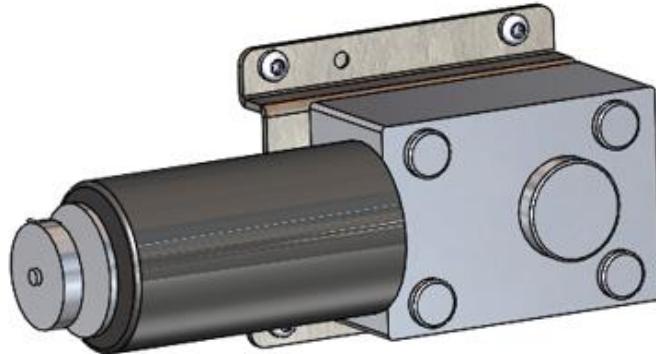
3. Move the Printhead to the RAISE, CAP, and PRINT positions and observe to confirm that the mechanism moves to the correct locations.
4. Prime the system.



## 8 Print Module Lift Motor Replacement

This section provides replacement instructions for Print Module Lift Motor (PHLM Motor Lift – PN 10005283).

**Figure 58 – Lift Motor Assembly**



### 8.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 8.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 8 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	Lift Motor – PN 10005283
1	Tool	T10 – M3 Screwdriver (with 150-200 mm extension)
1	Tool	1.5-bit Hexagon Screwdriver
As needed	Supply	Loctite 290 thread locking adhesive



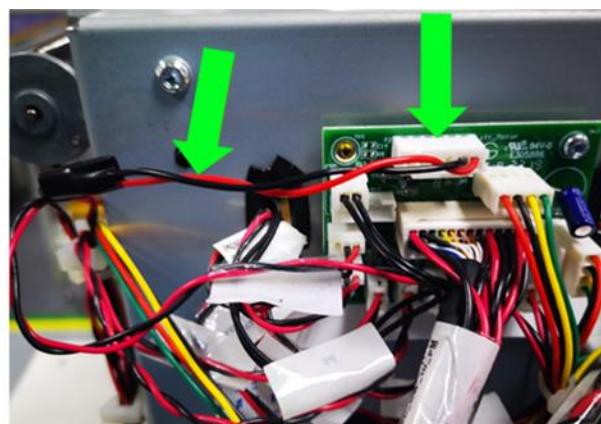
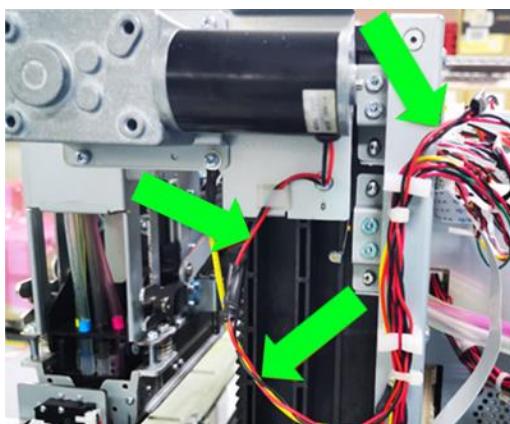
## 8.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

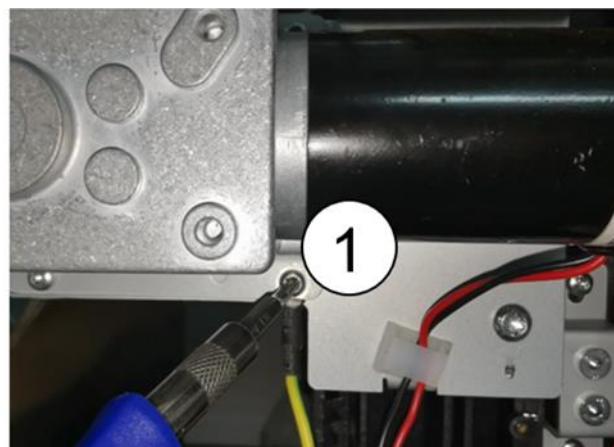
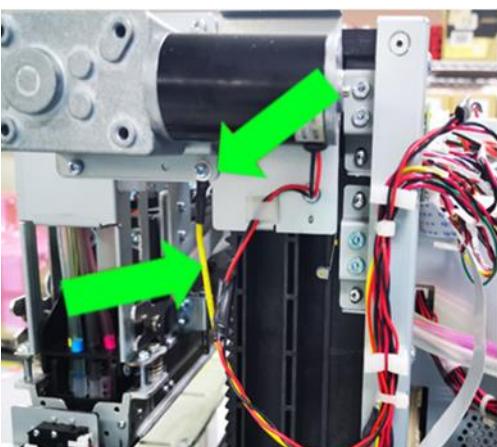
1. Move the printhead cradle to the RAISE Position.
2. Power down the system.
3. Locate the lift motor and disconnect the lift motor cable from the Print Module PassThrough PCA at the back of the print module frame.

**Figure 59 – Lift Motor Cable**



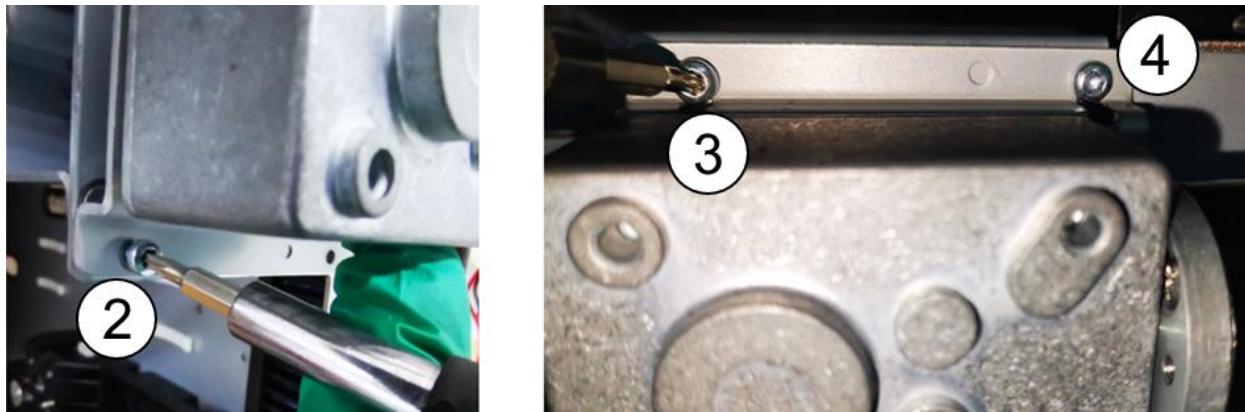
4. Loosen the bottom right screw to remove the ground cable. The screw is labelled 1 in the next figure.

**Figure 60 – Ground Cable Mounting Screw**



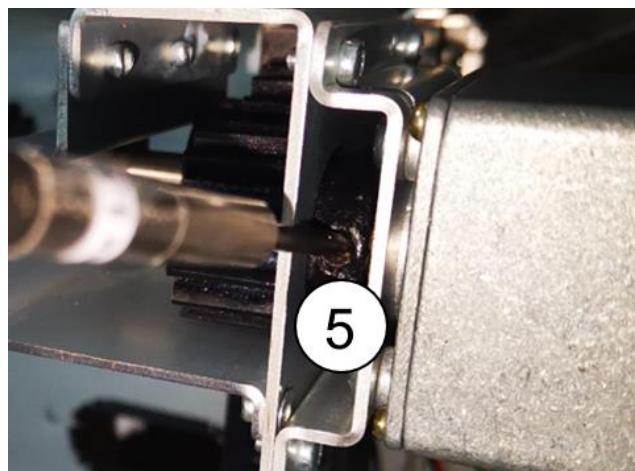
5. Loosen the three (3) screws that mount the Lift Motor Bracket. The screws are shown as 2, 3, and 4 in the next figure.

**Figure 61 – Lift Motor Bracket Mounting Screws**



6. Use a 1.5-bit hexagon screwdriver to loosen the set screw inside the pulley gear. The screw is labelled 5 in the next figure.

**Figure 62 – Screw Inside Pulley Gear**



7. Grasp the lift motor assembly and pull it out of the lift mechanism.

**Figure 63 – Removing Lift Motor Assembly**



8. Discard the lift motor according to local disposal recommendations.

## 8.4 Installation

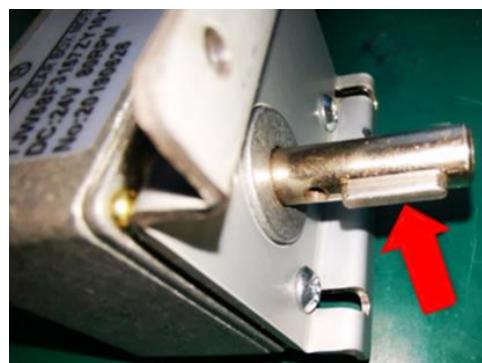
1. Visually inspect the new lift motor assembly to confirm that the cable is attached, the positioning key is installed on the lift motor shaft, and there is no damage.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 64 – Lift Motor Cable**

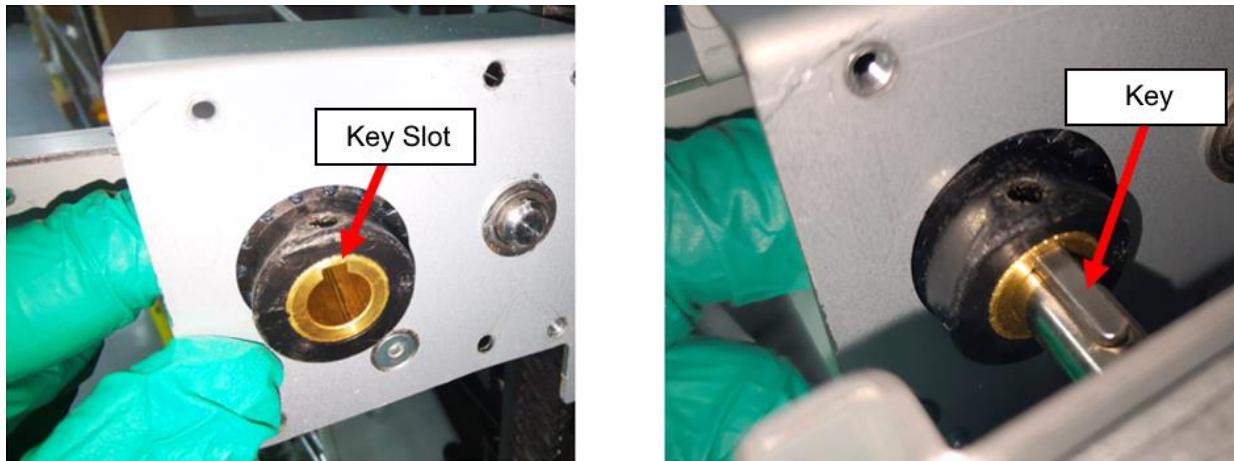


**Figure 65 – Lift Motor Shaft Key**



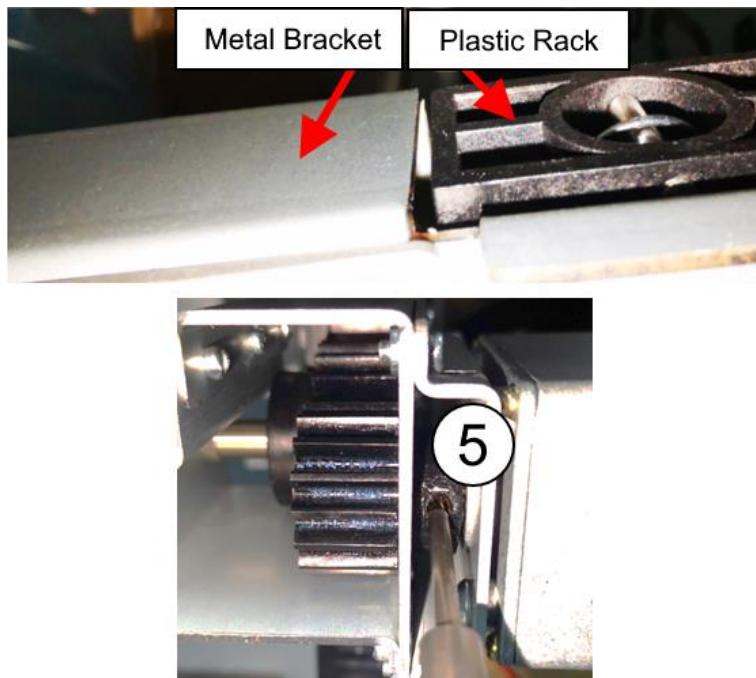
2. Align the key on the lift motor shaft with the key slot on the lift gear nut and slide it into the lift mechanism until fully seated.

**Figure 66 – Key Aligned in Key Slot**



3. Align the top surface of the metal bracket to the surface of the plastic rack, then hold the lift motor and tighten the set screw. Ensure that the set screw is fully tightened until flush with the bracket (the screw is labelled 5 in the next figure).

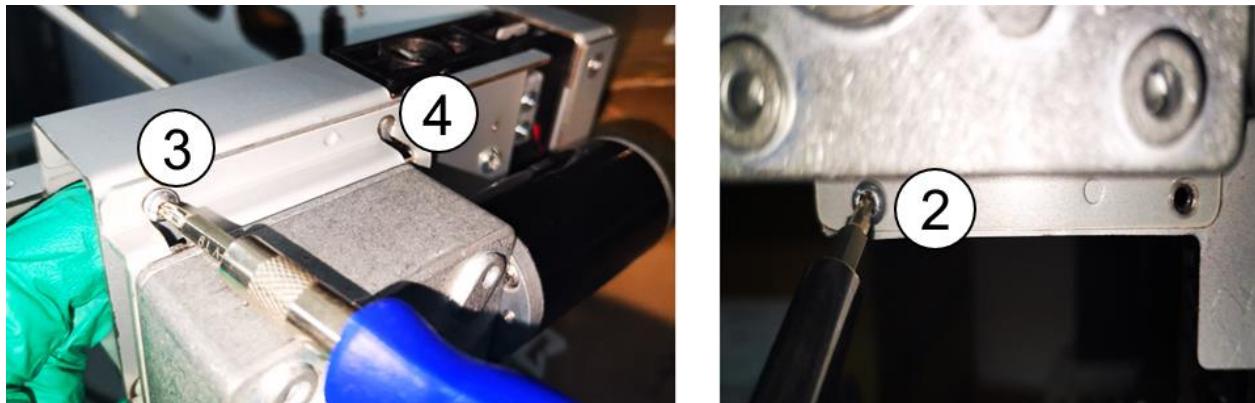
**Figure 67 – Lift Motor Bracket and Plastic Rack**



4. Apply Loctite 290 thread locking adhesive to the set screw after it is fully tightened.

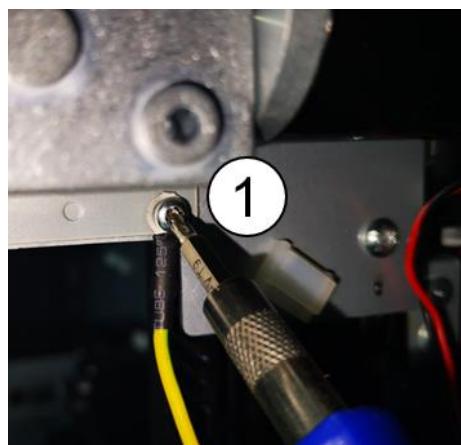
5. While holding the lift motor in position, tighten the screws that secure the lift motor to the lift mechanism. The screws are labelled 2, 3, and 4 in the next figure.

**Figure 68 – Lift Motor Mounting Screws**



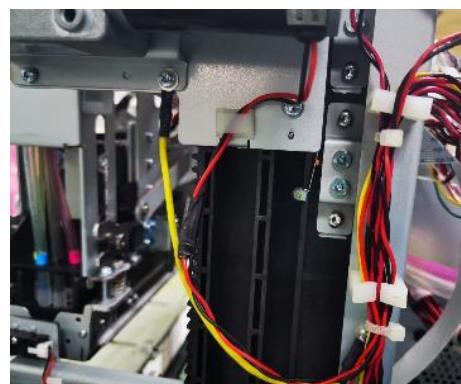
6. Reinstall the ground cable by tightening the screw that secures the ground cable. The screw is labelled 1 in the next figure.

**Figure 69 – Screw that Secures Ground Cable Lug**



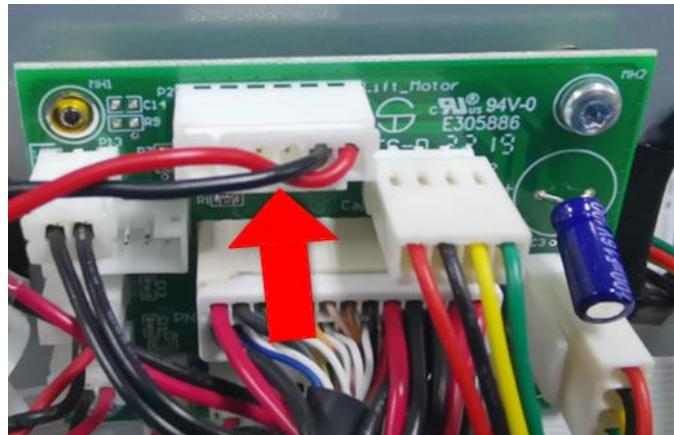
7. Route both the ground cable and lift motor cable through the cable clips.

**Figure 70 – Cable Routing**



8. Attach the lift motor cable connector into the P2 connector on the Print Module PassThrough PCA.

**Figure 71 – Lift Motor Cable**



## 8.5 Testing

1. Power on the DuraFlex system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

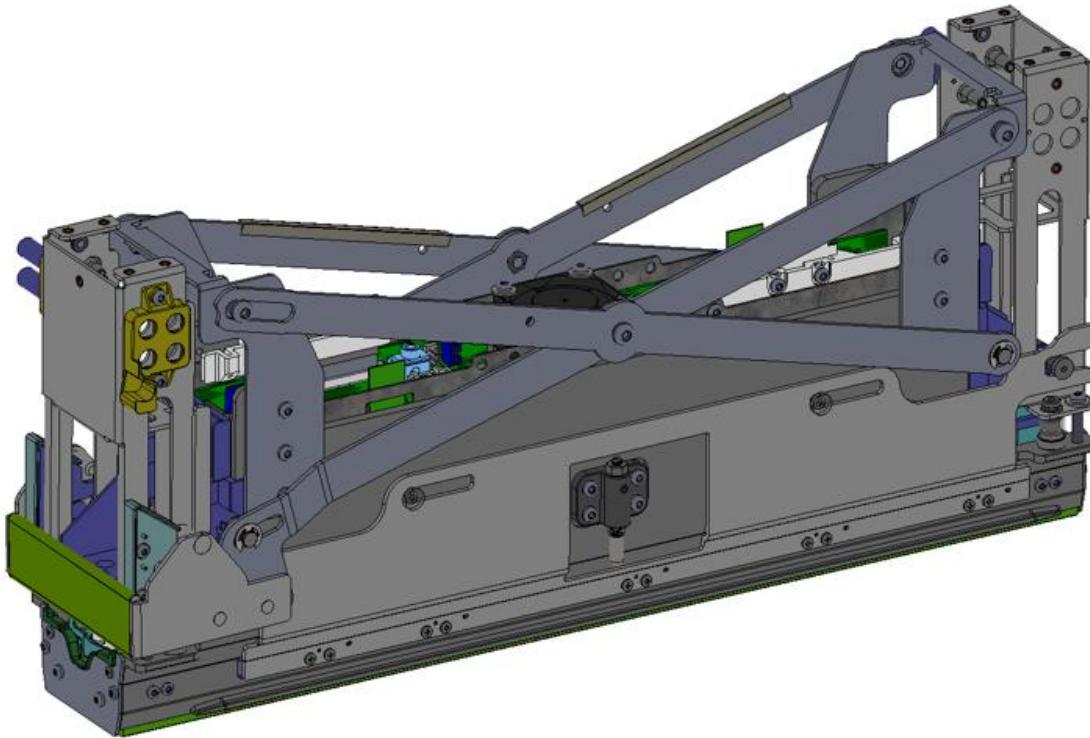
3. Move the Lift Mechanism to RAISE, CAP, and PRINT positions. Repeat ten (10) times for each position.
4. Perform light service five (5) times.
5. If there is no error observed during testing, the replacement is successful.



## 9 Printhead Cradle Assembly Replacement

This section provides replacement instructions for the Printhead Cradle Assembly (PHCL PH Cradle Module – PN 10005287).

**Figure 72 – Printhead Cradle**



### 9.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 9.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 9 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	Printhead Cradle Assembly – PN 10005287
1	Tool	Flat-head tweezer
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Diagonal cutter
1	Tool	Tubing cutter
1	Tool	Flat-blade or slotted screwdriver (3/16")



## 9.3 Removal

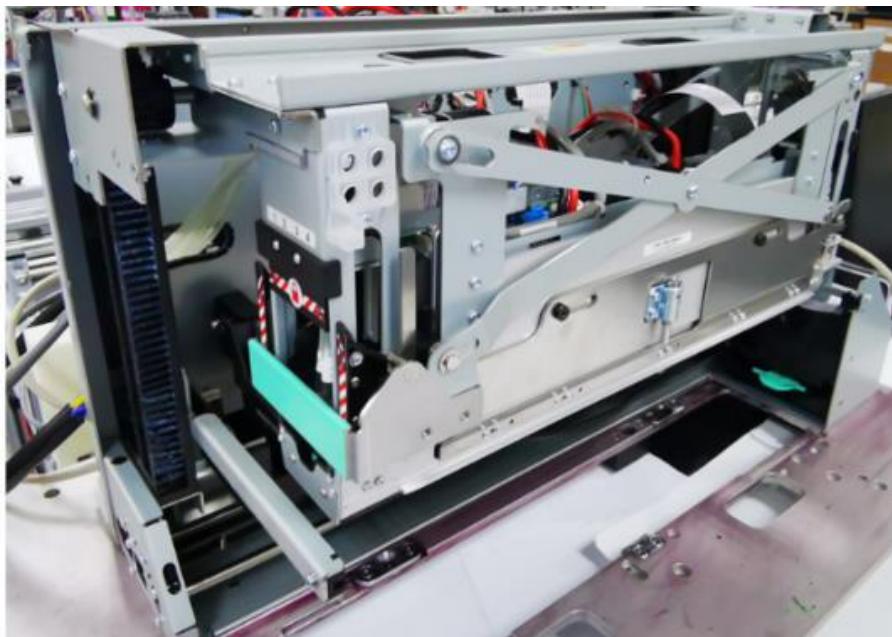
**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

To remove the Printhead Cradle from the Print Module:

1. Print a test chart to have a baseline to compare the print quality before and after replacing the Printhead Cradle.
2. Deprime the system.
3. Command the Printhead Cradle to RAISE position and Cap to HOME position.

**Figure 73 – Printhead Cradle and Cap**



4. Remove the printhead and store it in the protective printhead case temporarily while this procedure is being performed.

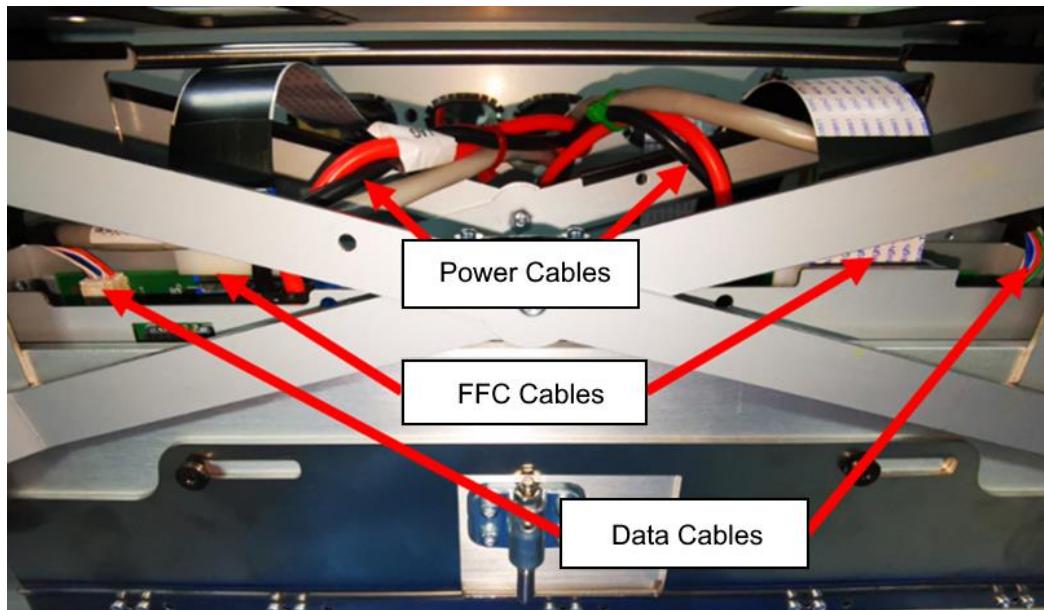
**Figure 74 – Protective Printhead Case**



5. Power down the system.
6. From the front of the Print Module, disconnect all cables that are connected to the Printhead Power PCA.
  - Printhead Power PCA power cable (x2)
  - Printhead Power PCA data cable (x2)
  - Electronics FFC (x2)

**CAUTION:** The Electronics FFC (flat flexible cable) is fragile and can be easily damaged. Take care when connecting or disconnecting it.

**Figure 75 – Print Module Cables**

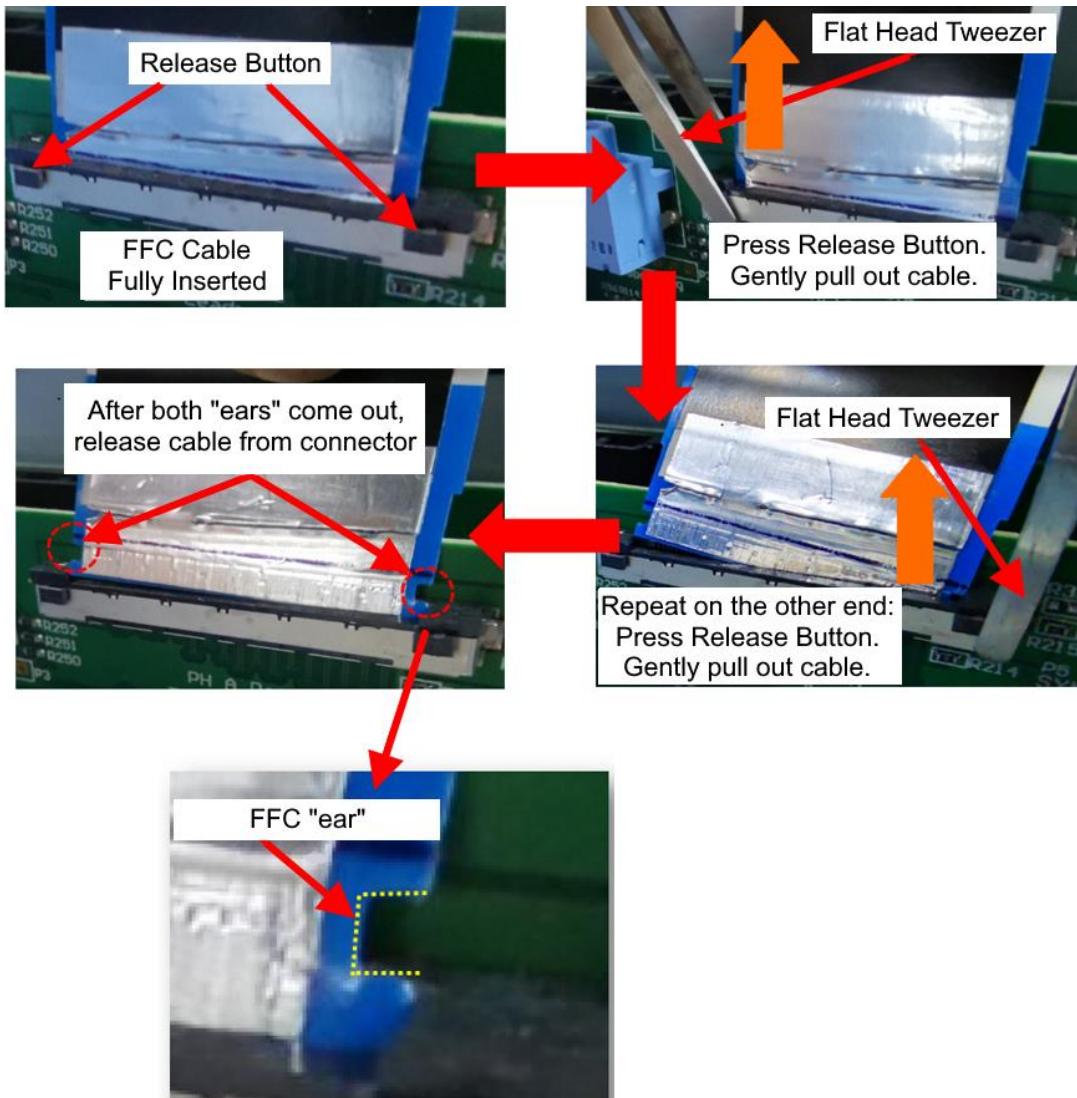


7. To remove the leading end of the Electronics FFC, perform the following steps with extra care:

**CAUTION:** To avoid cutting wires or cables or damaging hardware, use appropriate tools that are not sharp for the next steps. Do not use a knife, razor blade, or scissors!

- a. Use a flat-head tweezer or similar tool that can be used to release the FFC connectors.
- b. Use the tweezers to press down one of the release buttons on the FFC connector.
- c. Apply slight force on the pressed side and gently pull on the FFC to disconnect it.
- d. Repeat these steps to disconnect the other end of the FFC.

**Figure 76 – Remove Leading End of FFC**

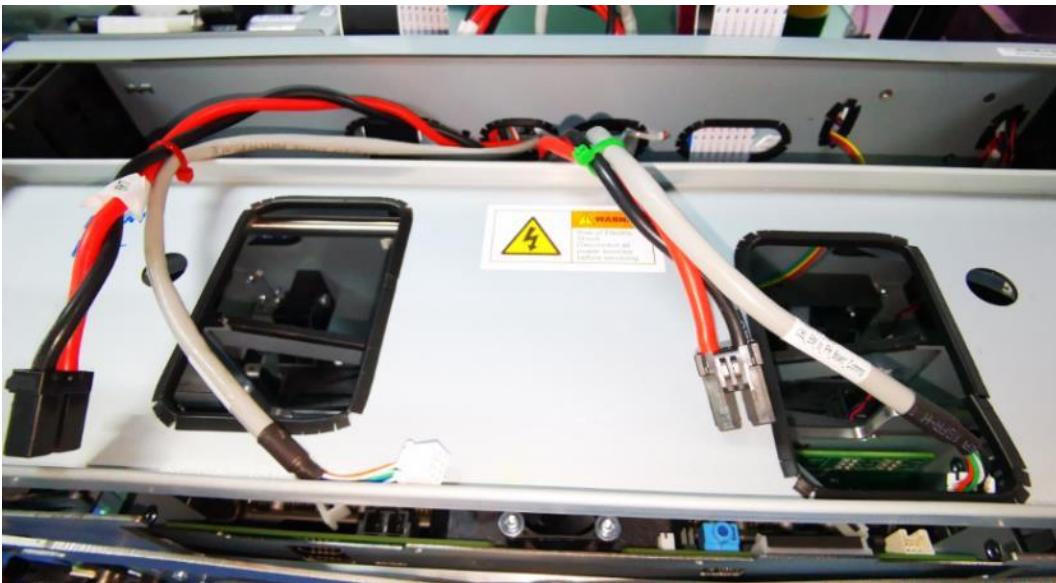


8. To release the lagging end of the FFC from its connector, repeat the previous step.

**Figure 77 – Remove Lagging End of the FFC**



**Figure 78 – FFCs Removed from Printhead Power PCA**



9. On the right side of the Print Module, locate the four (4) ink tubes between the Pinch Valve and the Printhead Cradle.
10. Position a tubing cutter 50-60 mm from the Pinch Valve barb and cut one ink tube at where the green "X" shows in the figure below.

**Figure 79 – Pinch Valve Ink Tubing Cut Location**



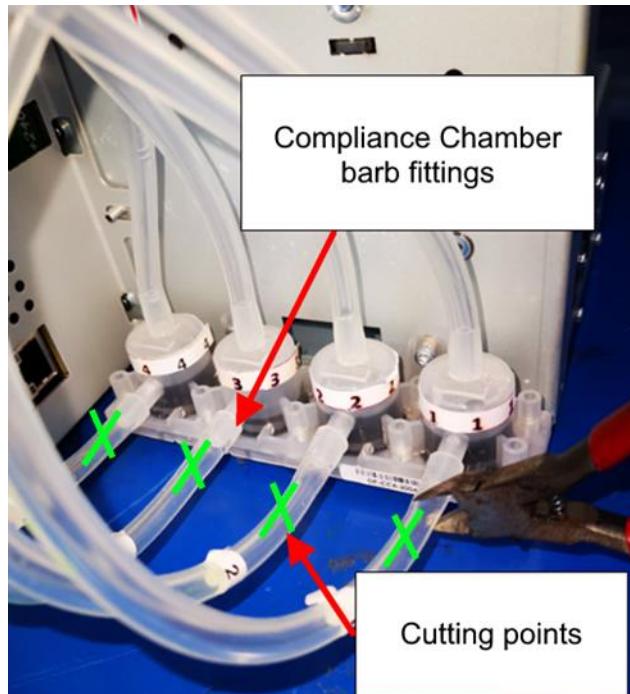
11. Remove the short piece of cut tubing from the Pinch Valve barb and install a vinyl cap on the barb.

**Figure 80 – Vinyl Caps Installed**



12. Repeat this process (Steps [10](#) and [11](#)) for the remaining ink tubes.
13. Discard the cut tubing pieces.
14. At the rear of the Print Module, locate the four (4) ink tubes between the Printhead Cradle and the Compliance Chamber ([Figure 81](#)).
15. Position a tubing cutter 50-60 mm from the Compliance Chamber barb and cut one ink tube. The cut locations are shown in "X" in the figure below.

**Figure 81 – Compliance Chamber Ink Tubing Cut Location**



16. Remove the left over pieces of tubing from the Compliance Chamber barbs and install vinyl caps.

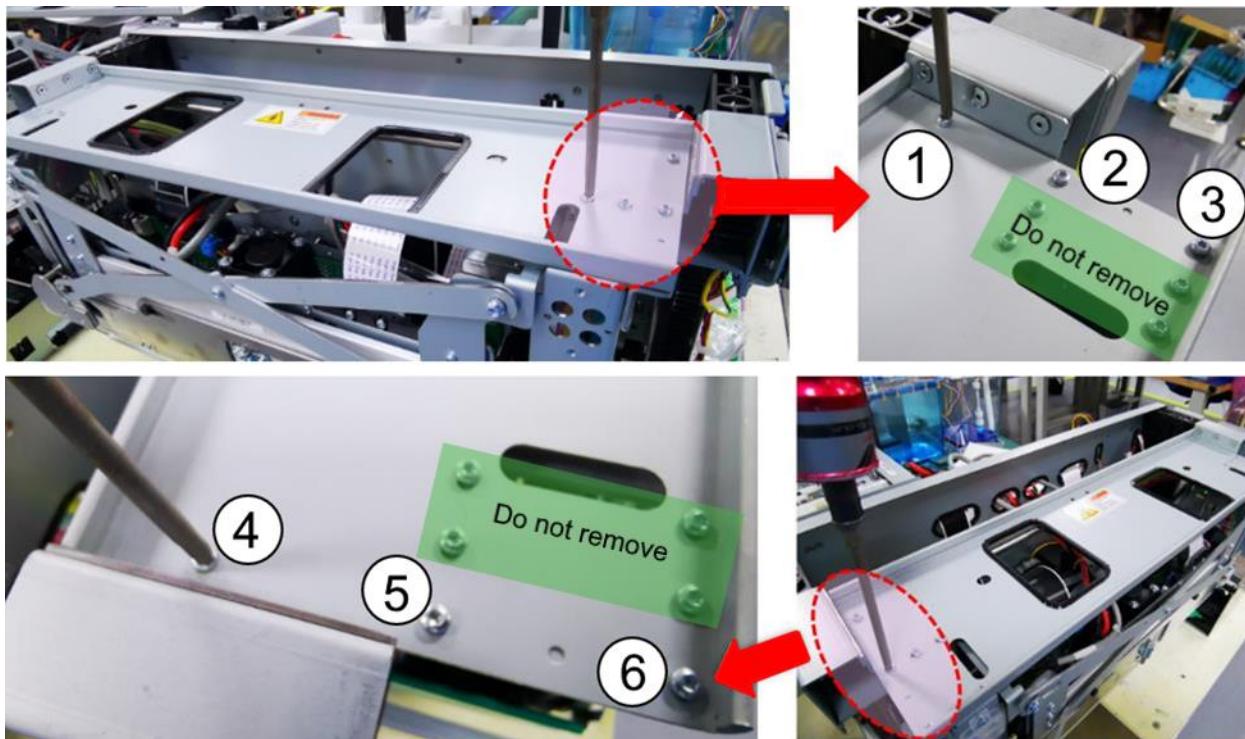
**Figure 82 – Compliance Chamber Barbs Capped**



17. Remove the six (6) screws that mount the Printhead Cradle to the Print Module Lift Mechanism.

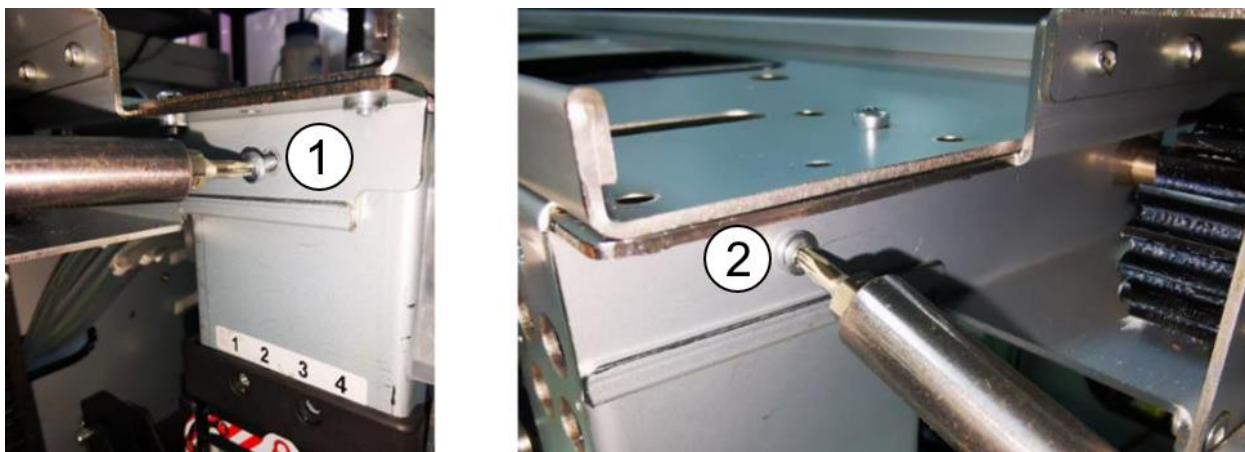
Do not remove the four (4) screws shown in the green areas in the next figure ([Figure 83](#)).

**Figure 83 – Printhead Cradle Mounting Screws**



18. Remove two (2) screws (one from each side) of the Printhead Cradle.

**Figure 84 – Screws on Both Sides of Printhead Cradle**

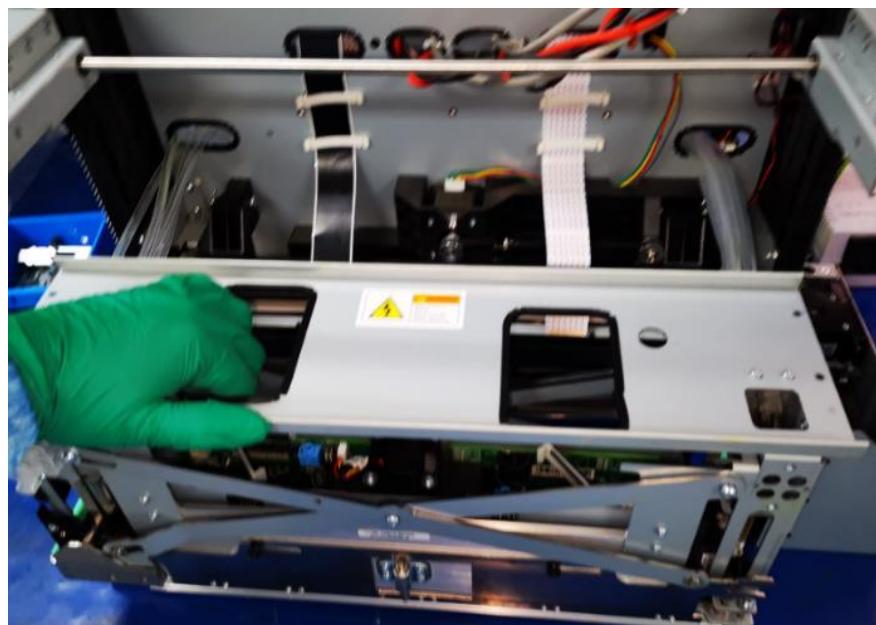


19. Place two hands in the openings in the top plate of the Printhead Cradle, and slowly lift it up and set it gently on the surface in front of the Print Module.

**Figure 85 – Lift Printhead Cradle by the Top Plate**

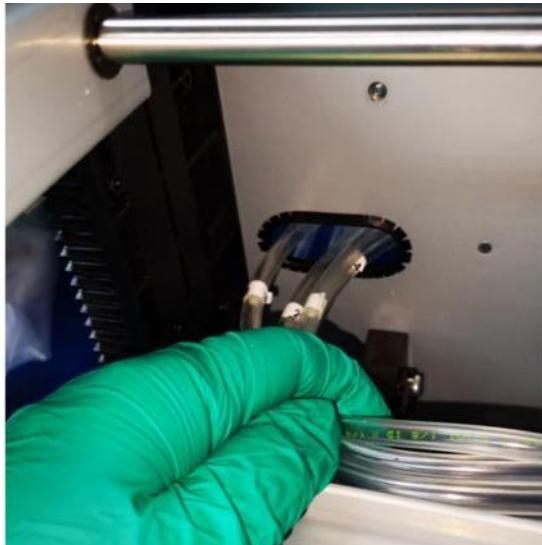


**Figure 86 – Place Printhead Cradle in Front of Print Module**



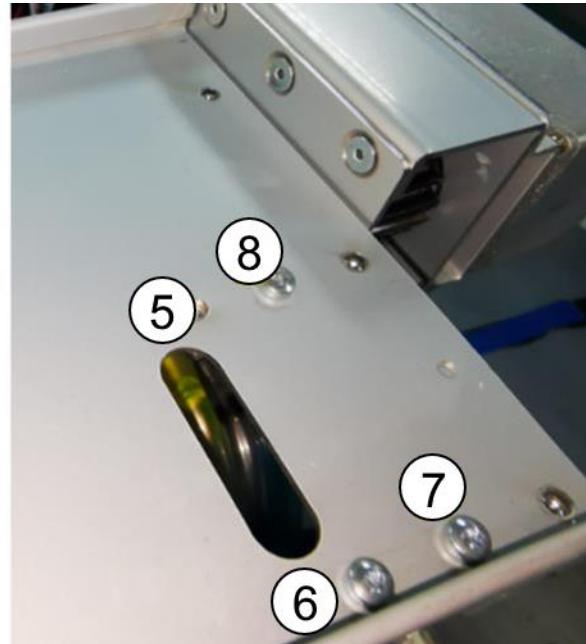
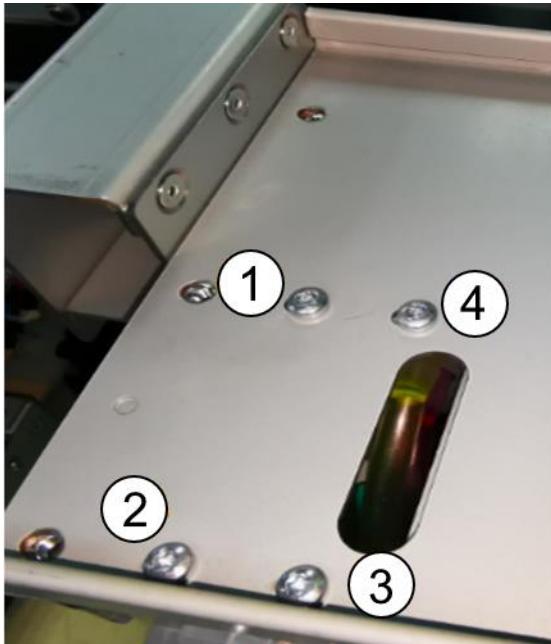
20. Gently pull on tubing to thread it through the holes in the Print Module frame on both left and right sides.

**Figure 87 – Thread Tubing Through Frame**



21. Remove the eight (8) screws that secure the Top Plate to the Printhead Cradle.

**Figure 88 – Printhead Cradle Top Plate Mounting Screws**



22. Discard the Printhead Cradle Assembly according to local disposal recommendations.

## 9.4 Installation

1. Visually inspect the new Printhead Cradle to verify there is no damage to it:

- Tubing is not kinked or cut
- Components are intact with no loose or missing parts

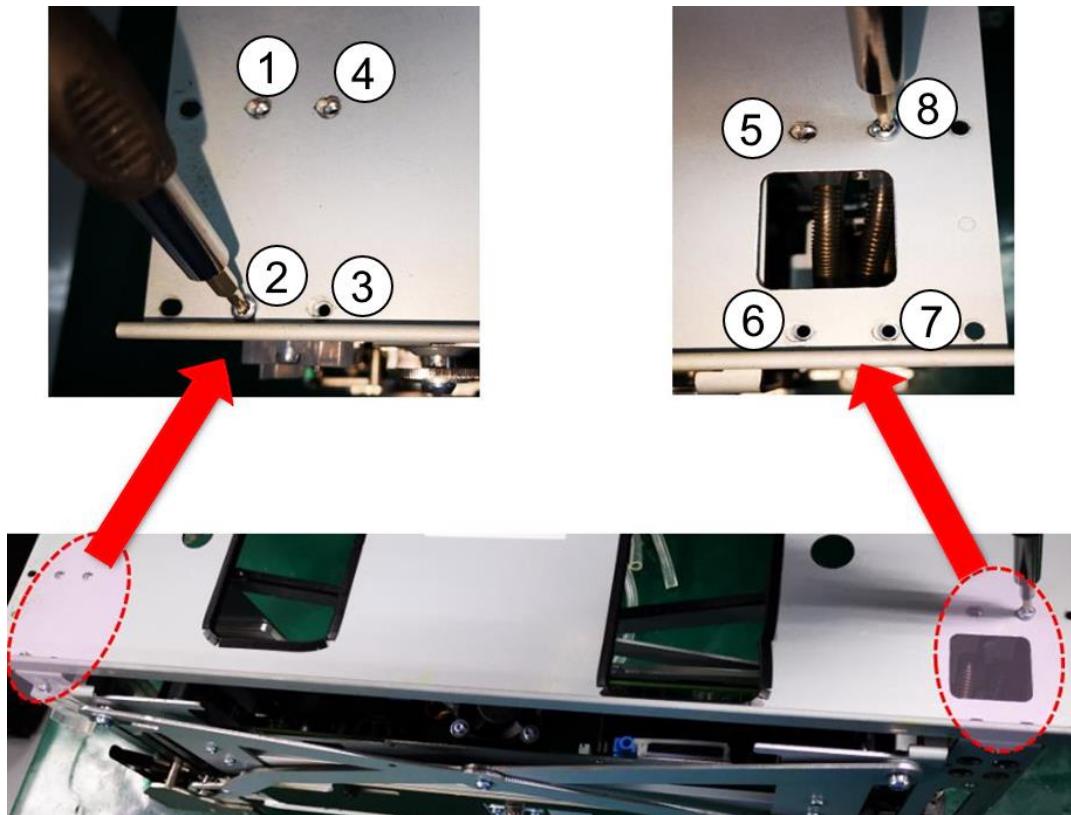
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 89 – Printhead Cradle**



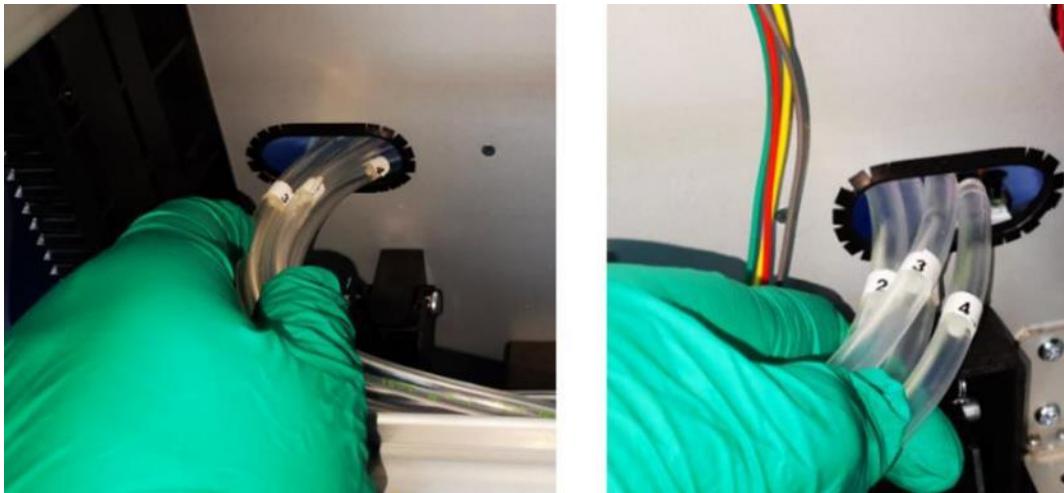
2. Align and secure the Top Plate with the eight (8) screws shown in the next figure ([Figure 90](#)).

**Figure 90 – Install Top Plate**



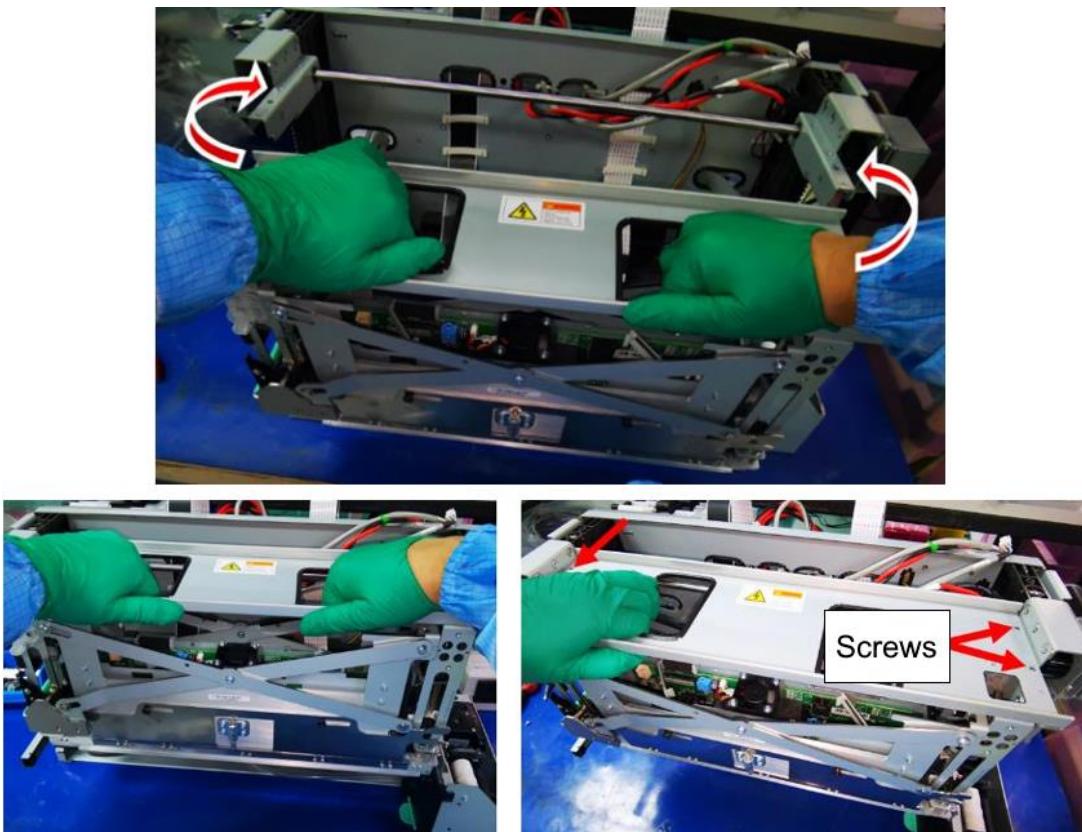
3. Route the corresponding tubes and cables through the holes in the Print Module frame.

**Figure 91 – Route Tubes and Cables**



4. Hold the top plate of the Printhead Cradle with two hands, lift it, and carefully place it on both ends of the Print Module lift arm (left and right). Adjust the position until the screw holes are aligned.

**Figure 92 – Top Plate Alignment**



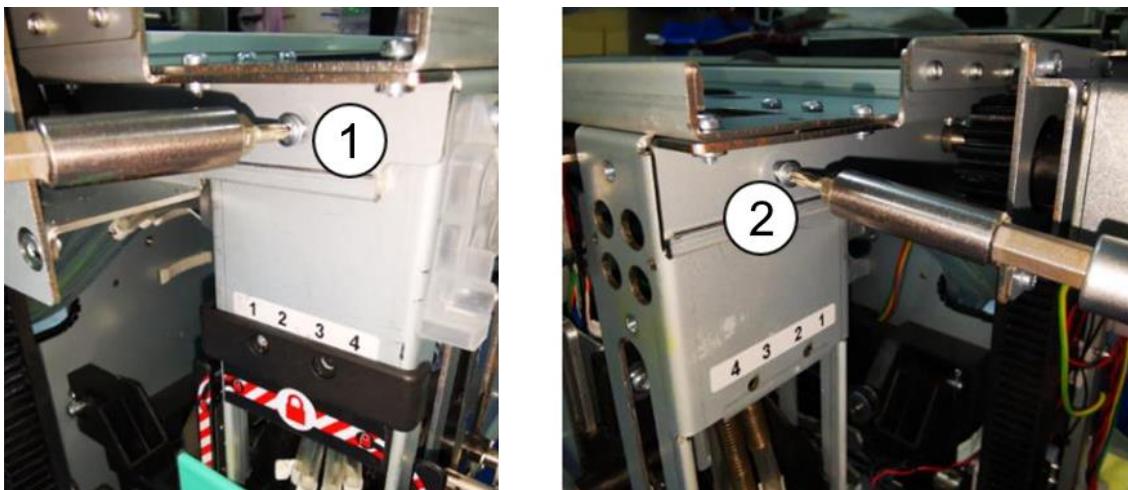
5. Tighten the six (6) screws mounting screws to secure the Printhead Cradle to the Print Module Lift mechanism.

**Figure 93 – Printhead Cradle Mounting Screws**



6. Tighten two (2) screws; one on each side of the Printhead Cradle.

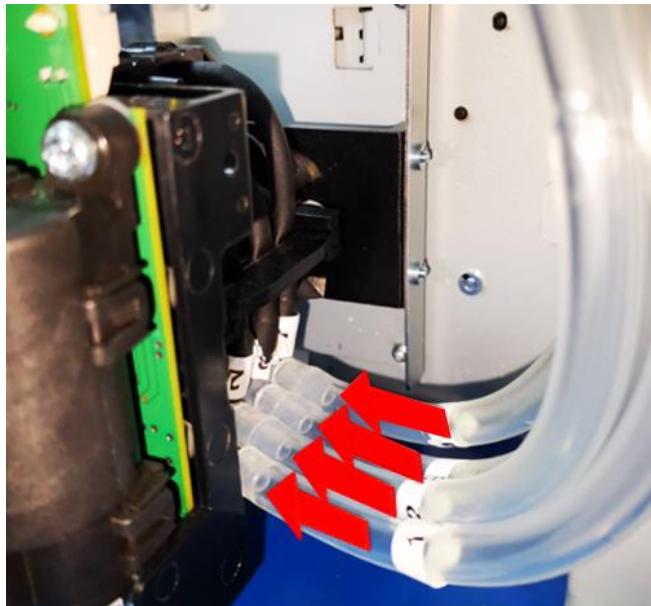
**Figure 94 – Screws on Two Sides of Printhead Cradle**



7. Remove the vinyl cap from one (1) Pinch Valve barb. Connect one (1) tube from the new Printhead Cradle to the Pinch Valve barb.

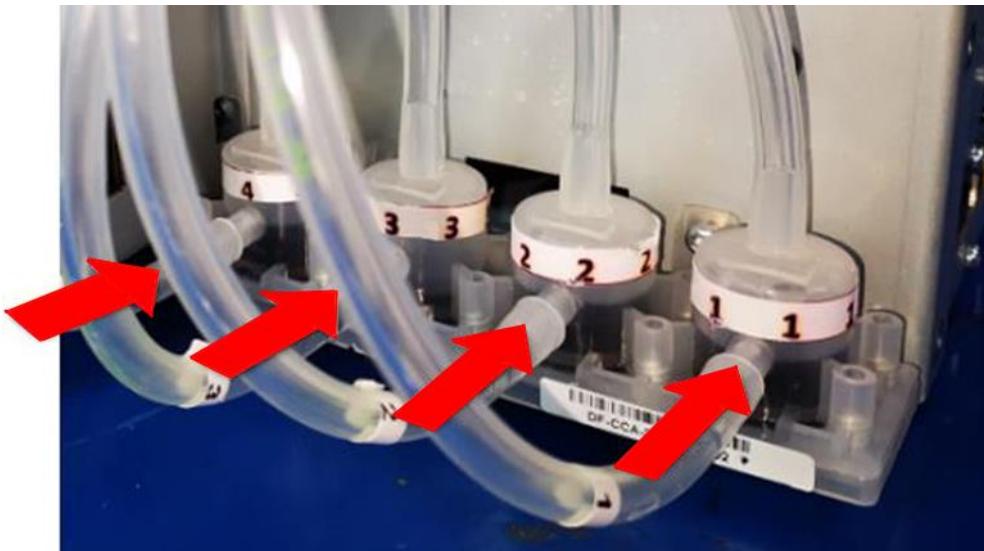
- Remove 1 vinyl cap at a time, and immediately insert the tube to the Pinch Valve barb to minimize any possibility of contamination.
- Apply LEG-1 on the inner side of the tubes before inserting it into Pinch Valve.
- Repeat until all four (4) tubes are connected.
- Make sure the correct color tubes are inserted to the Pinch Valve barbs.
- Ensure no twisting of Pinch Valve tubes (black tubes underneath the Pinch Valve).

**Figure 95 – Tubing Installed on Pinch Valve Barbs**



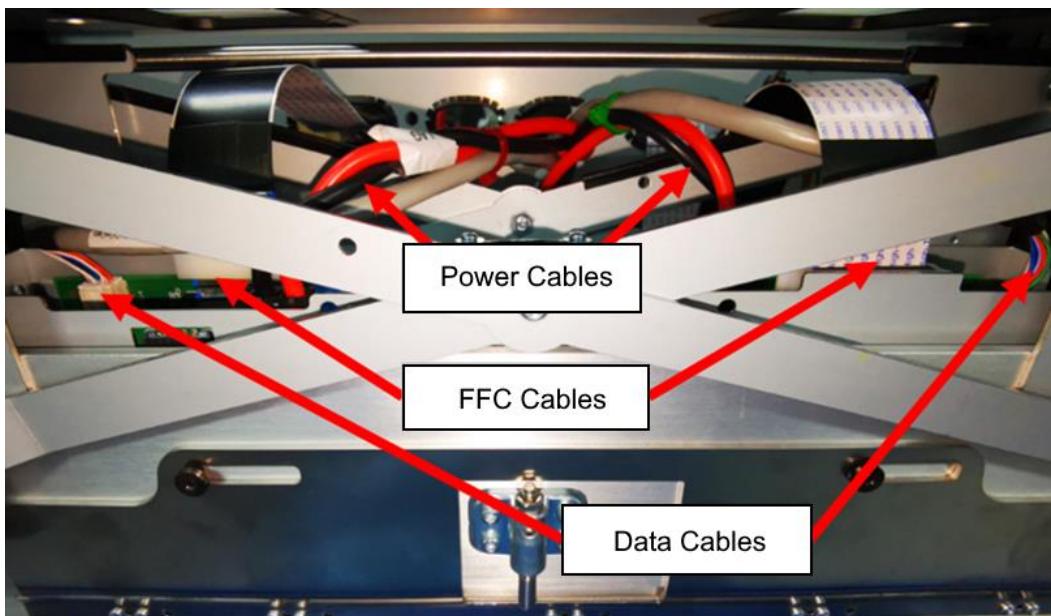
8. Remove the vinyl cap from one of the Compliance Chamber barbs.
9. Immediately connect the tube from the new Printhead Cradle to the Compliance Chamber barbs.
10. Repeat this process on tube at a time until all four (4) tubes are connected.

**Figure 96 – Tubes to Compliance Chamber Barbs**



11. Connect all the cables (Power, Data and FFC) from the Datapath PCA and Mechanical Controller Board to the new Printhead Cradle.

**Figure 97 – Cables to the Printhead Cradle**



**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), review [Figure 98](#) and strictly follow the steps below.

12. To install the Leading FFC:

- Carefully align the end of the FFC with the open slot of the connector.

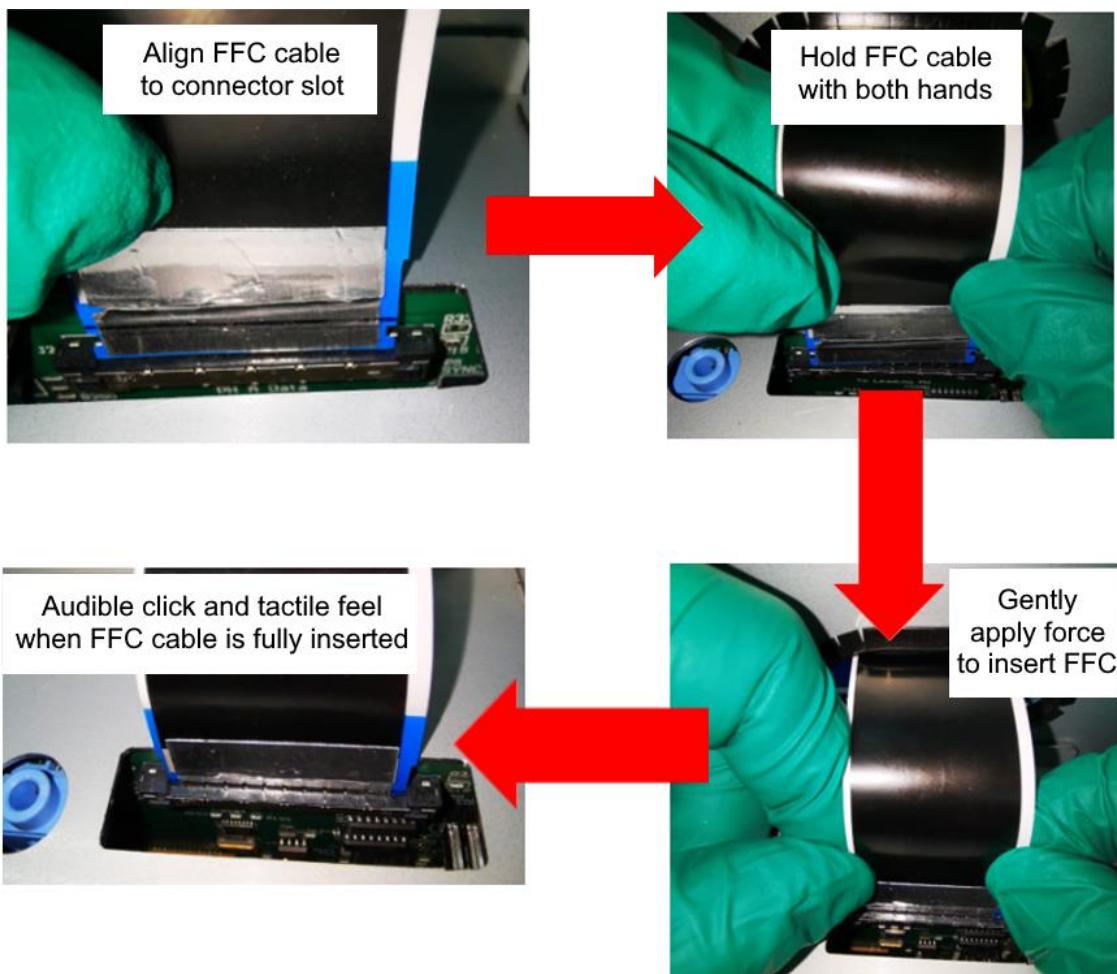
For proper connection and to avoid damage, ensure that the edge of the FFC is parallel to the connector and not tilted to one side or at an angle!

- Hold the end of the FFC with both hands and gradually apply gentle force to insert the FFC into the connector.

You will be able to feel the when the FFC is fully inserted and will hear a click to indicate the proper mating and positive locking of the FFC with the connector.

- Repeat the process for the other FFC.

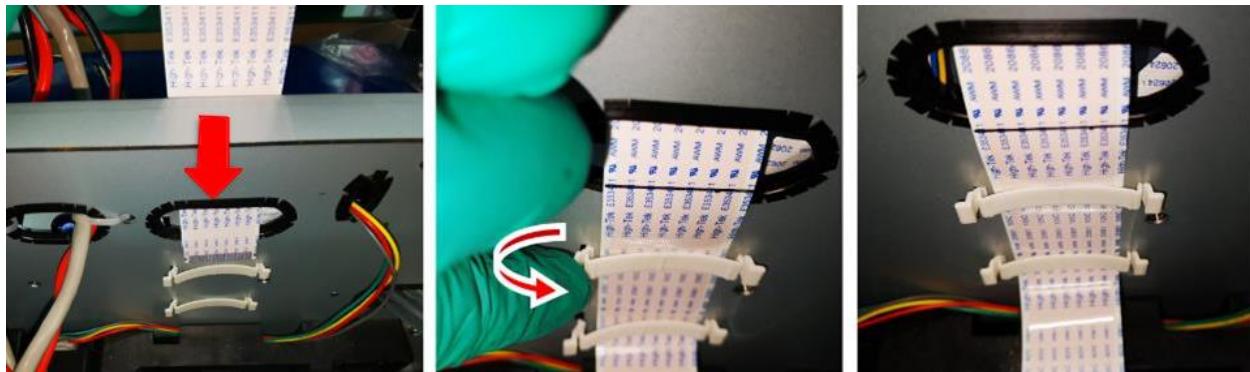
**Figure 98 – Insert FFC**



13. At the right side, attach the Lagging FFC to the connector on the Printhead Power PCA:

- Insert the cable into the hole in the rear of the Print Module frame.
- Secure it with the FFC holders.

**Figure 99 – Lagging FFC (Right Side of Print Module)**



14. Insert the FFC into the connectors on the Printhead Power PCA, by following the FFC insertion steps in [Figure 98](#).

15. Snap the cable clip around the FFC.

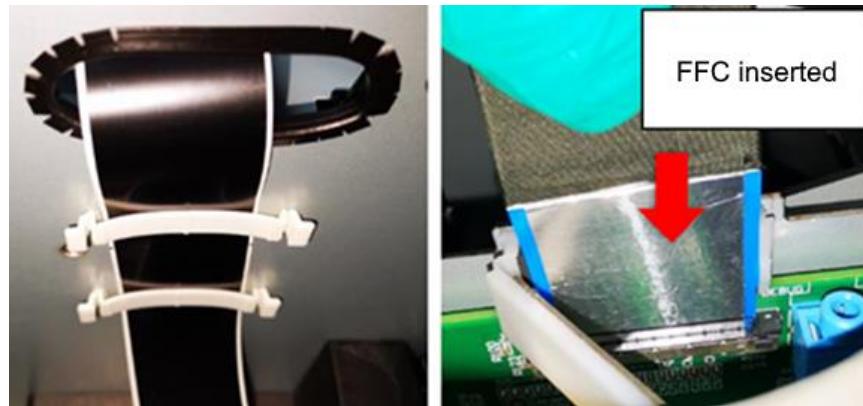
**Figure 100 – Lagging FFC Inserted (Right Side)**



16. At the left Side, attach the leading FFC to the connector on the Printhead Power PCA:

- Insert the cable into the hole in the rear of the Print Module frame.
- Secure it with the FFC holder.

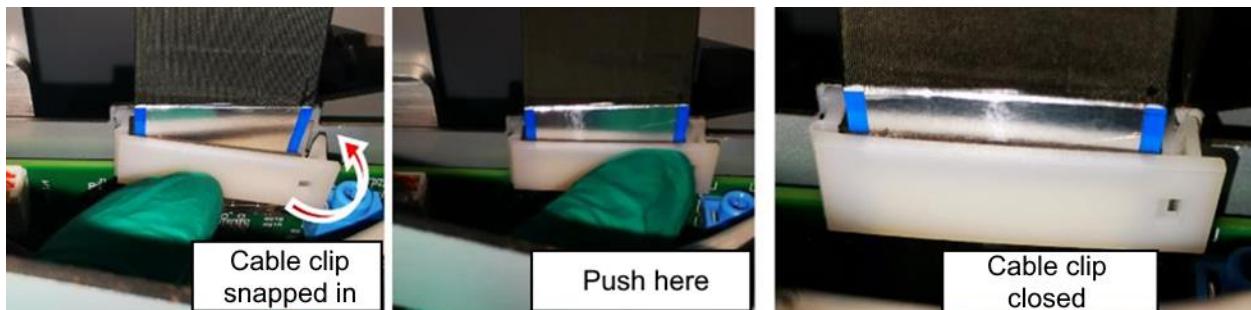
**Figure 101 – Leading FFC Installed (Left Side of Print Module)**



17. Insert the FFC into the connectors on Printhead Power PCA according to the FFC insertion steps in [Figure 98](#).

18. Snap the cable clip together.

**Figure 102 – Leading FFC Clipped in Place (Left Side)**



## 9.5 Testing

1. Install the Setup Printhead into the DuraFlex system.
2. Power on the system.
3. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

4. Check that the Printhead Lift Mechanism is working properly by moving it to RAISE, CAP, and PRINT positions. Repeat 5 times for each.
5. Check that the Pinch Valve is working properly and it can move to the INK, CLOSED, and AIR positions.
6. With the Setup Printhead in the system, prime the system repeatedly 3 times.
7. Observe if the priming can be done successfully and all ink tubes are filled with ink.
8. Check for any leakage of ink at all barbs of the Pinch Valve and the Compliance Chamber.
9. Print the test chart to compare with the baseline printed with the old Printhead Cradle.
10. If there is no print quality defect (streaks) observed from the printing, that means the Pinch Valve should be clean from any particles.
11. Deprime the system.
12. Remove the Setup Printhead. Place the Printhead into the storage case properly.
13. Insert the original Printhead that is used before the Printhead Cradle replacement.
14. Print another test chart to compare with the baseline. There should be no print quality defects (streaks) observed.

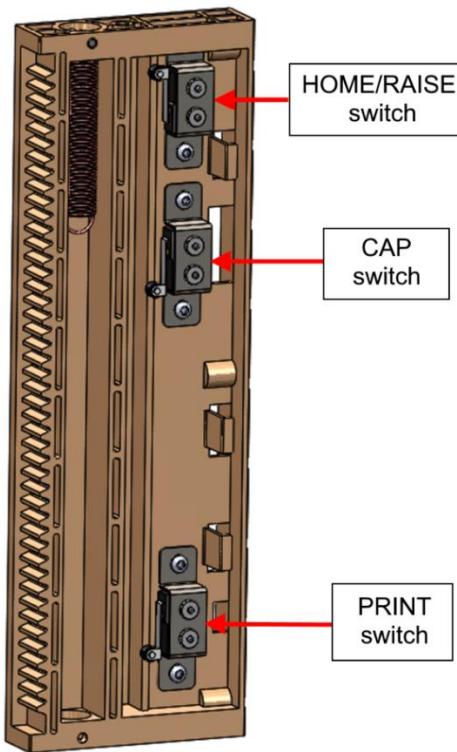


## 10 EASM Lift Home Switch Replacement

This section provides replacement instructions for the PHLM EASM Lift Home switch (PN 10005284).

Note: In the Demo GUI PES Operation pane, the Lift Home Switch correlates to the RAISE option. This is also the `POSITION.MAINT` PES command to raise the printhead cradle.

**Figure 103 – EASM Lift Home/Raise Switch**



### 10.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 10.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 10 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	EASM Lift Home Switch with cable and metal bracket – PN 10005284
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Diagonal cutter
2	Supply	Cable tie
1	Supply	Permanent marker, silver



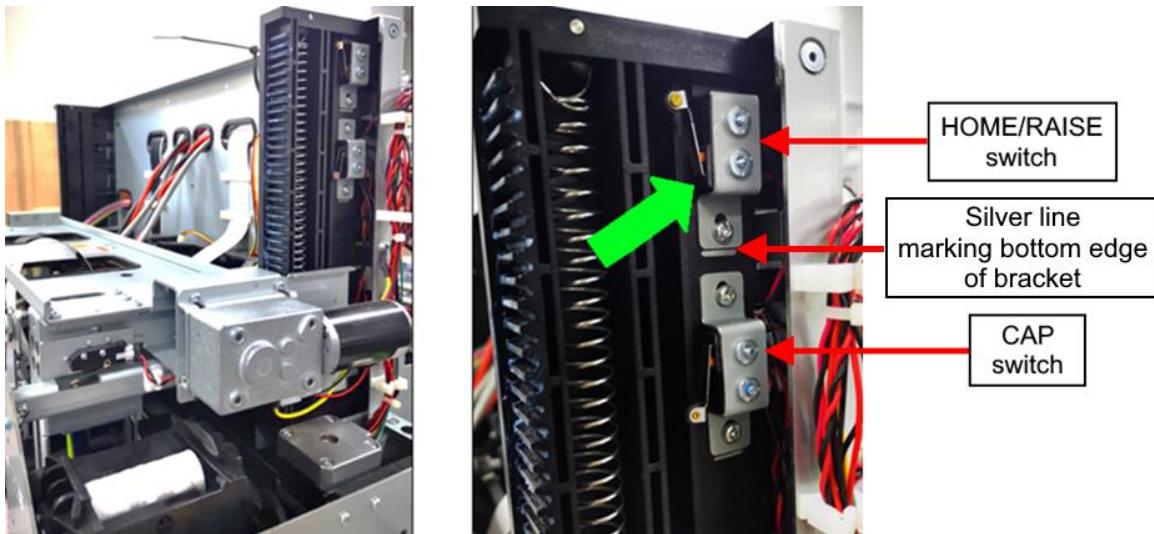
## 10.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

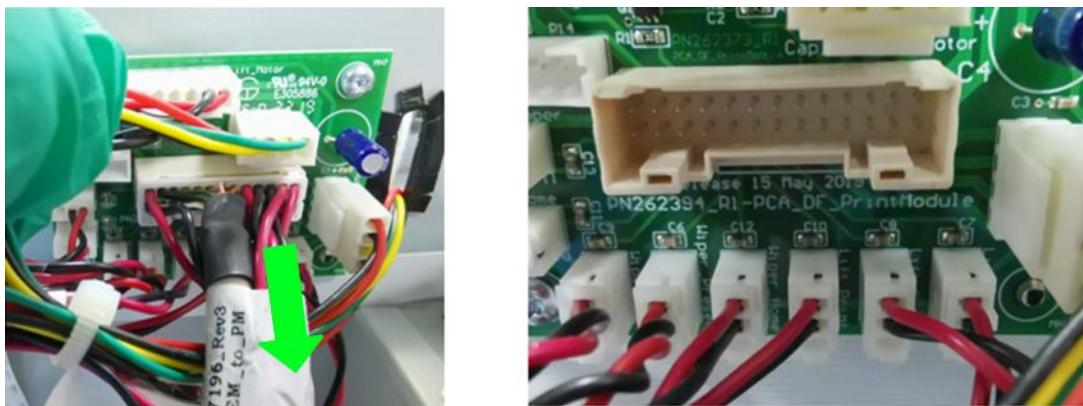
1. Remove any covers or panels to expose the top of the Print Module and create sufficient access to the components.
2. Move the Printhead Cradle to PRINT position, then power down the system.

**Figure 104 – Lift Home Switch**



3. Use a silver permanent marker to draw a line along the bottom edge of the Home Switch bracket. This will be used for alignment when installing the switch later.
4. Disconnect the Electrical Module to Print Module cable from the Print Module PassThrough PCA to expose the Lift Home Switch connector for easier cable removal.

**Figure 105 – Remove Electrical Module to Print Module Cable for Access**



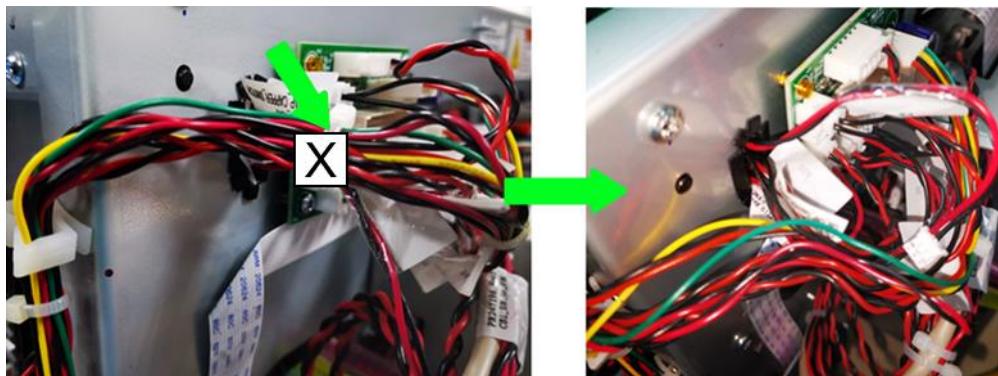
5. Disconnect the Lift Home Switch connector from the Print Module PassThrough PCA.

**Figure 106 – Lift Home Switch Connector**



6. Use diagonal cutters to carefully cut and remove the cable tie to release the switch cables. The cut location is shown in "X" in the figure below. Be careful not to cut the wire insulation.

**Figure 107 – Cable Tie Cut Location**



7. Loosen the screw securing the Lift Home Switch and metal bracket.

**Figure 108 – Lift Home Switch Bracket Mounting Screw**



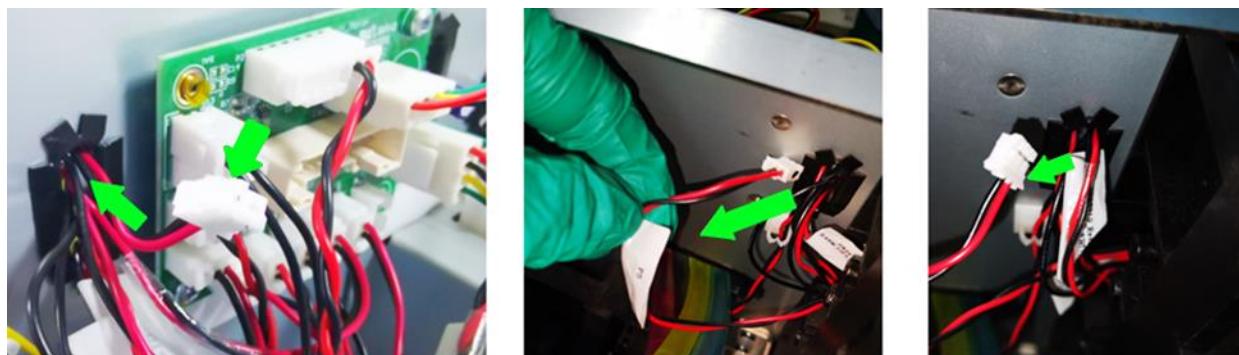
8. Carefully remove the Lift Home Switch and bracket assembly.

**Figure 109 – Lift Home Switch and Metal Bracket**



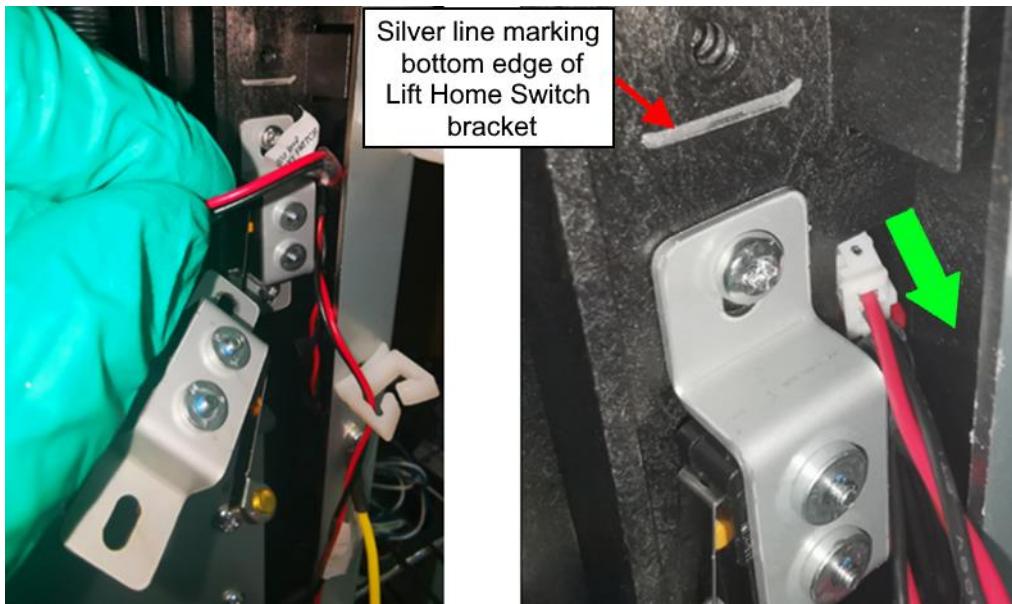
9. From the top of the Print Module, locate the Lift Home Switch cable, and carefully pull it through the hole in the Print Module metal frame.

**Figure 110 – Pull the Lift Home Switch Cable**



10. Pull the cable out from the gap between the lift plastic rack and Print Module metal frame.

**Figure 111 – Pull Cable Out of Gap**



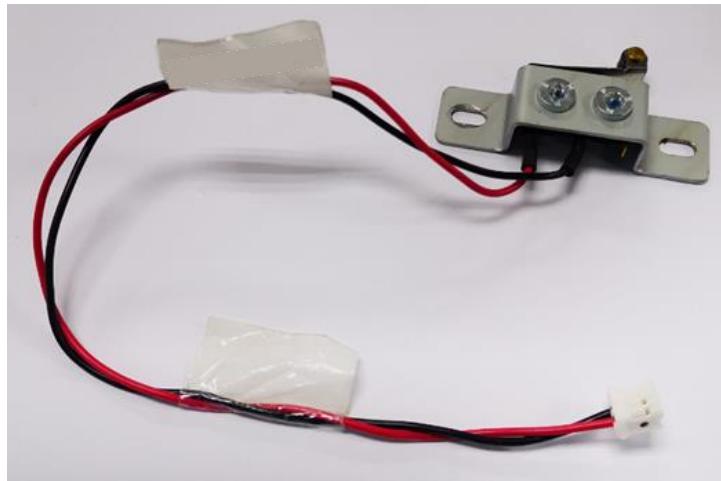
11. Discard the faulty switch according to local disposal recommendations.

## 10.4 Installation

1. Visually inspect the new Lift Home Switch assembly to confirm there is no damage to the switch or cable. Ensure that the switch lever is not deformed or bent.

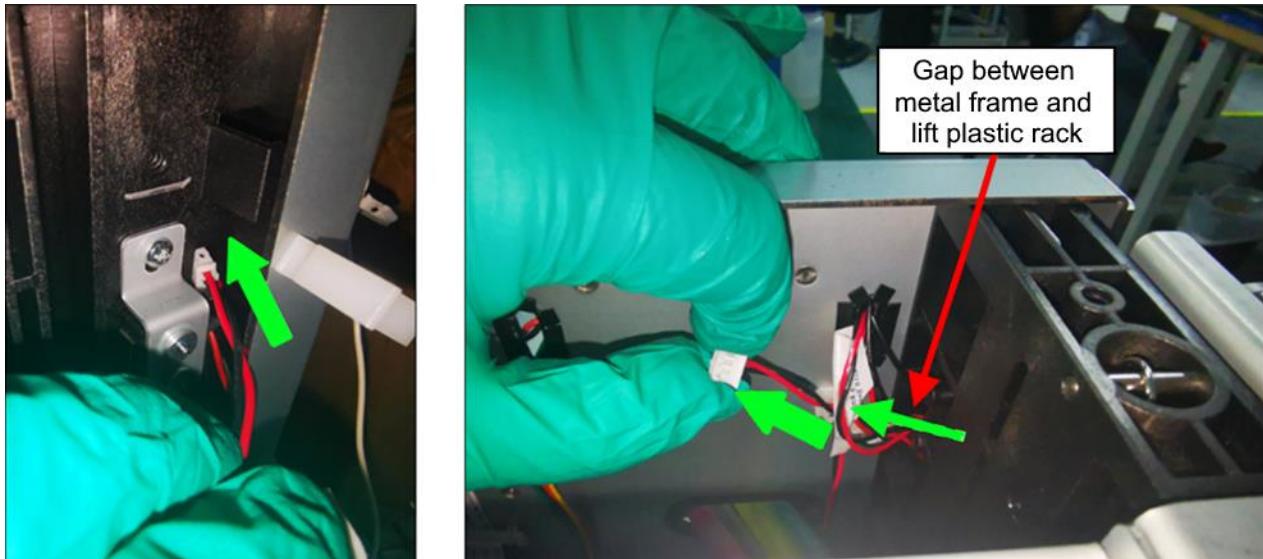
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 112 – Lift Home Switch Assembly**



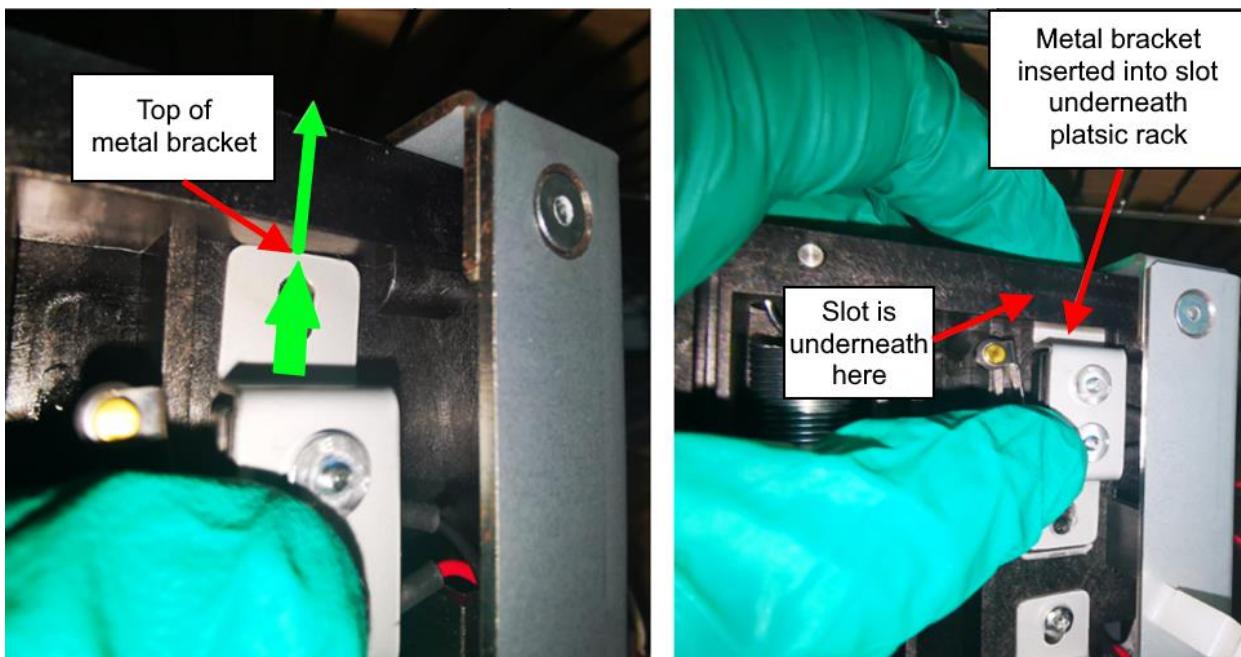
2. Route the Lift Home Switch cable to the rear of the Print Module following the path of the original cable:
  - a. Insert the cable connector into the gap between Print Module metal frame and the lift plastic rack.
  - b. From the top of the Print Module, gently pull the connector out of the gap.

**Figure 113 – Lift Home Switch Cable Routing**



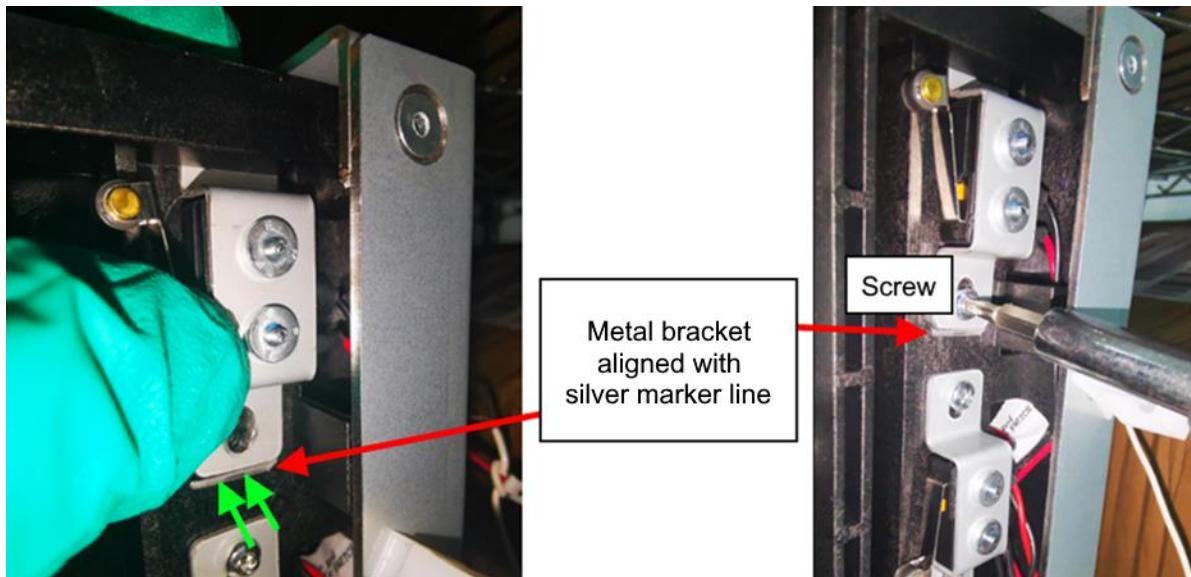
3. Insert the top of the metal switch bracket into the slot.

**Figure 114 – Switch Bracket in Slot**



4. Align the bottom edge of the bracket with the silver marker line on the lift rack ([Figure 115](#)).
5. Hold the switch bracket in place while tightening the mounting screw.

**Figure 115 – Switch Bracket Alignment**



6. Insert the cable connector into the hole in the Print Module and gently pull it out from the rear of the Print Module metal frame.

**Figure 116 – Cable Connector Routed Through Print Module Frame**



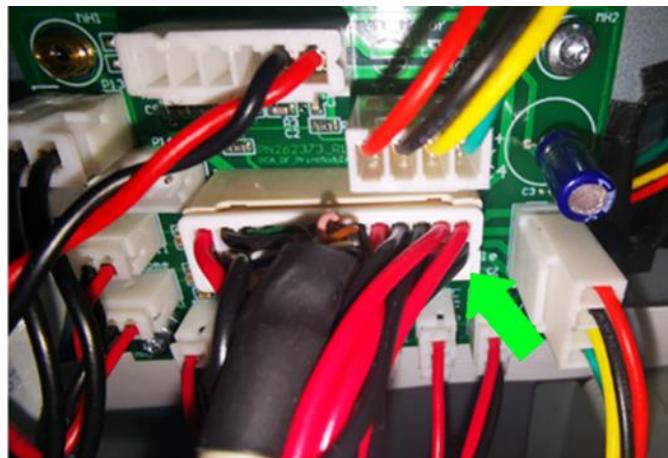
7. Connect the Lift Home Switch cable to the connector on the Print Module PassThrough PCA.

**Figure 117 – Lift Home Switch Cable Connected**



8. Connect the Electrical Module to Print Module cable to the connector on the Print Module PassThrough PCA.

**Figure 118 – Electrical Module to Print Module Cable Connected**



9. Bundle the cables together, secure with a cable tie, and cut off the excess tail.

## 10.5 Testing

1. Power up the DuraFlex system.

2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. Move the Printhead Cradle to RAISE, CAP, and PRINT positions.

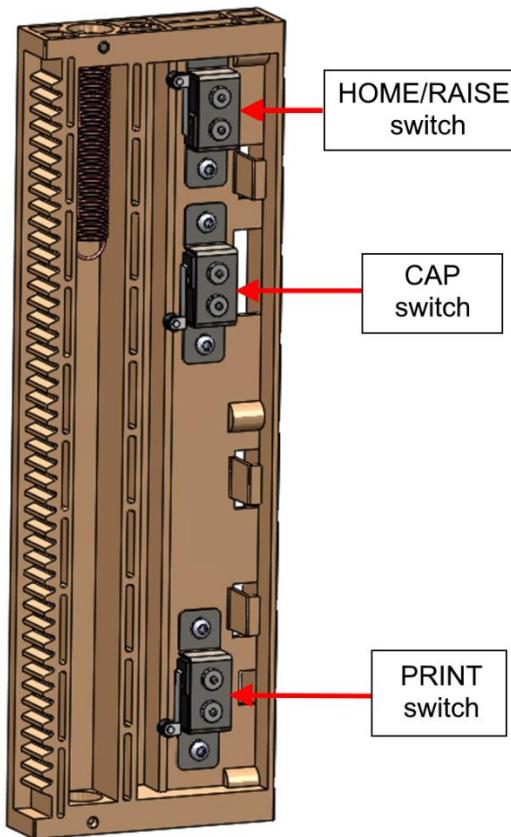
4. If there is no error, the replacement is successful.



## 11 EASM Lift Cap Switch Replacement

This section provides replacement instructions for the PHLM EASM Lift Cap Switch (PN 10005285).

**Figure 119 – EASM Lift CAP Switch**



### 11.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 11.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 11 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	EASM Lift Cap Switch with cable and metal bracket – PN 10005285
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Diagonal cutter
2	Supply	Cable tie
1	Supply	Permanent marker, silver



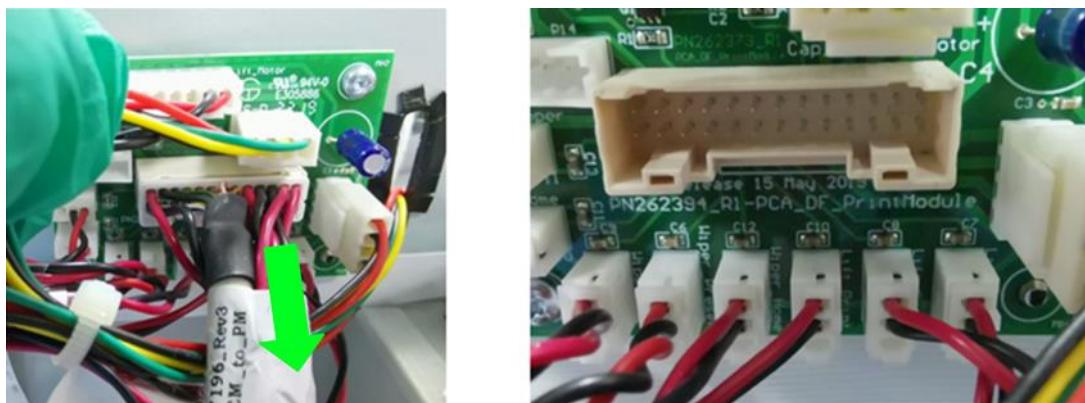
## 11.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

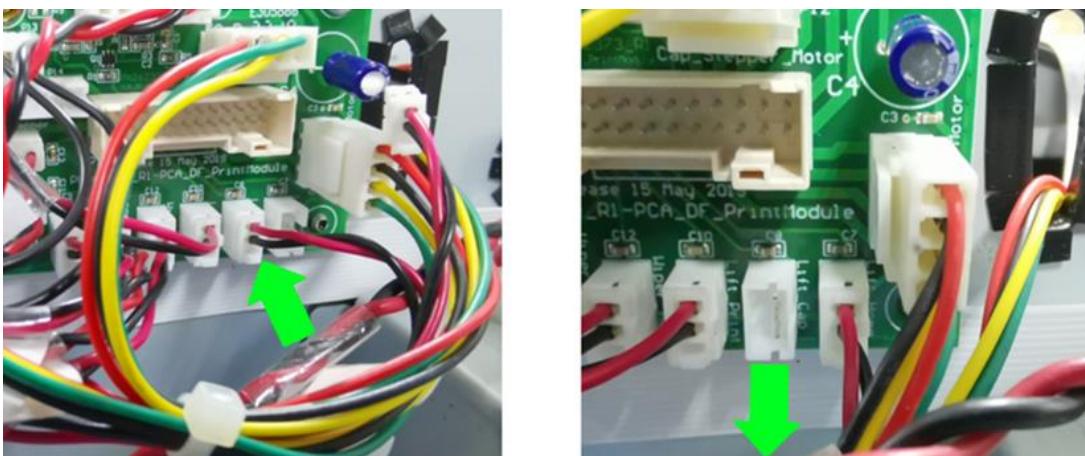
1. Remove any covers or panels to expose the top of the Print Module and create sufficient access to the components.
2. Move the Printhead Cradle to the RAISE Position, then power down the system.
3. Use a silver permanent marker to draw a line along the bottom edge of the Cap Switch bracket. This will be used for alignment when installing the switch later.
4. Disconnect the Electrical Module to Print Module cable from the Print Module PassThrough PCA to expose the Lift Cap Switch connector for easier cable removal.

**Figure 120 – Disconnect Electrical Module to Print Module Cable**



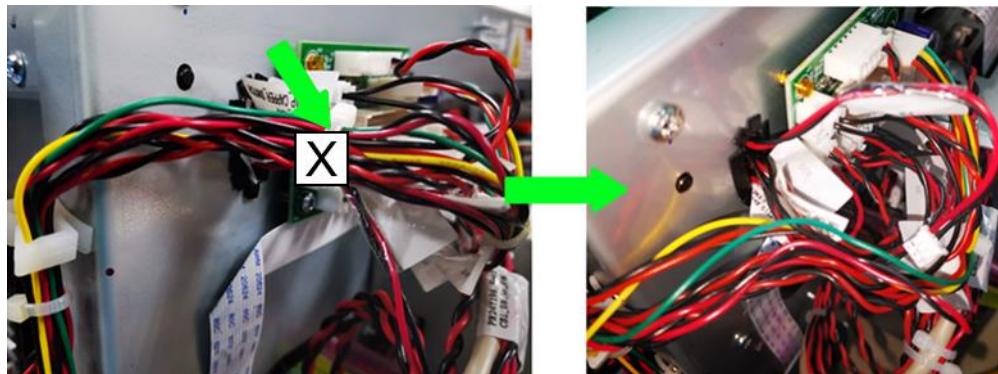
5. Disconnect the Lift Cap Switch connector from the Print Module PassThrough PCA.

**Figure 121 – Lift Cap Switch Connector**



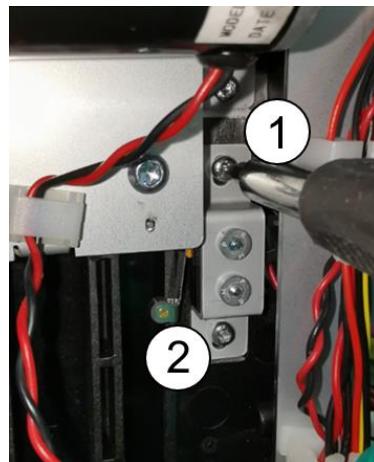
6. Use diagonal cutters to carefully cut and remove the cable tie to release the switch cables. The cut location is shown in "X" in the figure below. Be careful not to cut the wire insulation.

**Figure 122 – Cut Cable Tie**



7. Loosen the two (2) screws securing the Lift Cap Switch metal bracket.

**Figure 123 – Lift Cap Switch Bracket Mounting Screws**



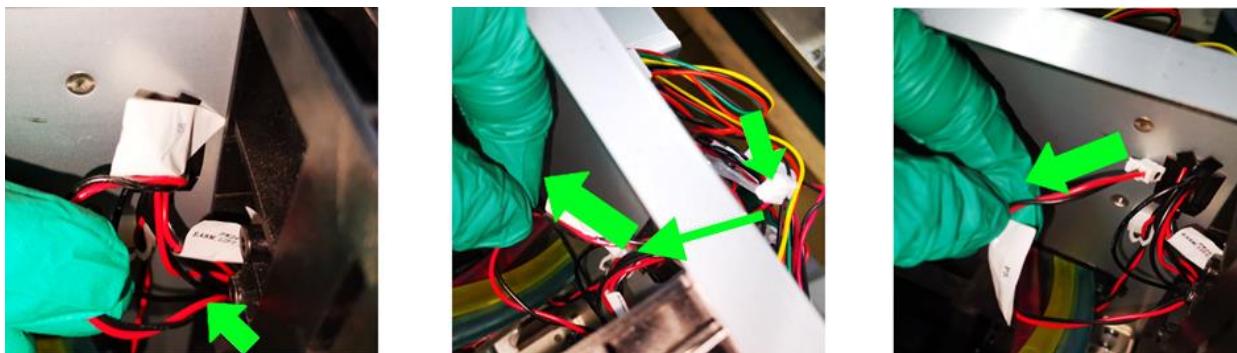
8. Carefully remove the Lift Cap Switch and bracket assembly.

**Figure 124 – Lift Cap Switch and Metal Bracket**



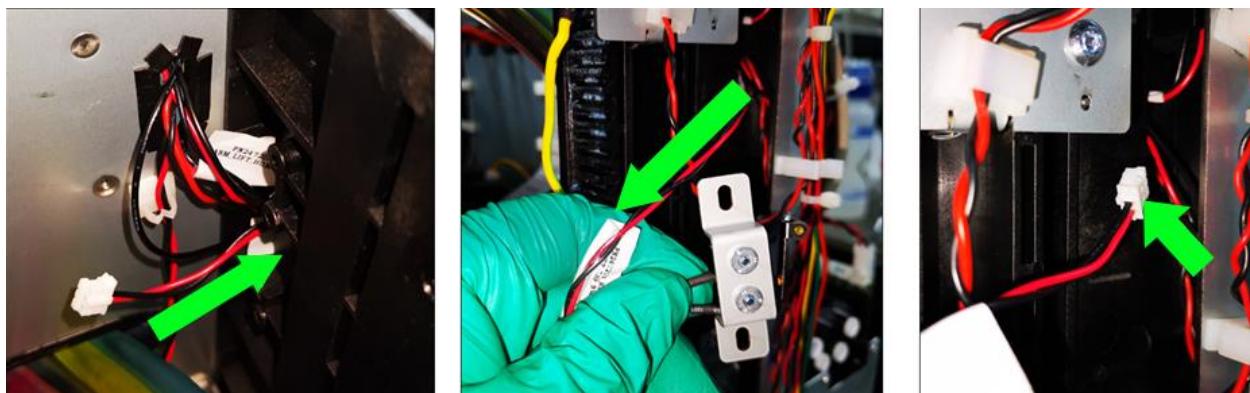
9. From the top of the Print Module, carefully pull the Lift Cap Switch cable, through the hole in the Print Module frame.

**Figure 125 – Route the Lift Cap Switch Cable**



10. Pull the cable out from the gap between lift rack and Print Module frame.

**Figure 126 – Pull Cable Out of Gap**



11. Discard the faulty switch assembly according to local disposal recommendations.

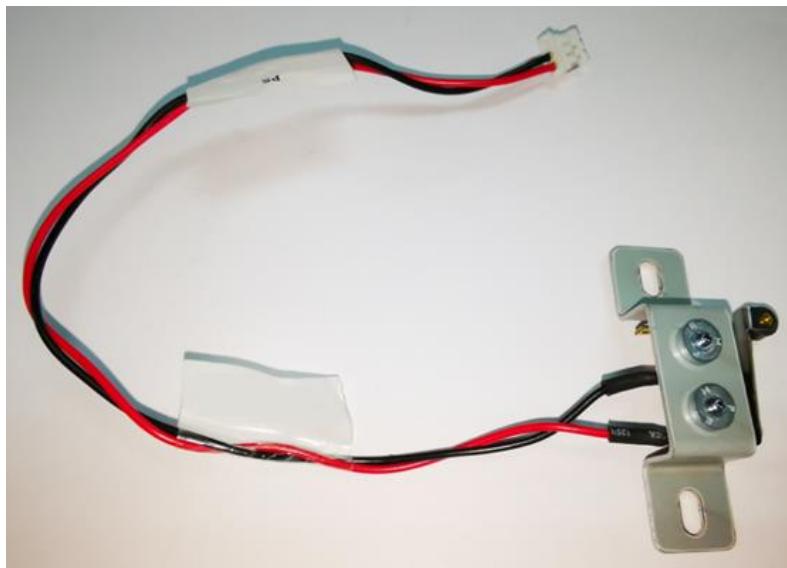


## 11.4 Installation

1. Visually inspect the new Lift Cap Switch assembly to confirm there is no damage to the switch or cable. Ensure that the switch lever is not deformed or bent.

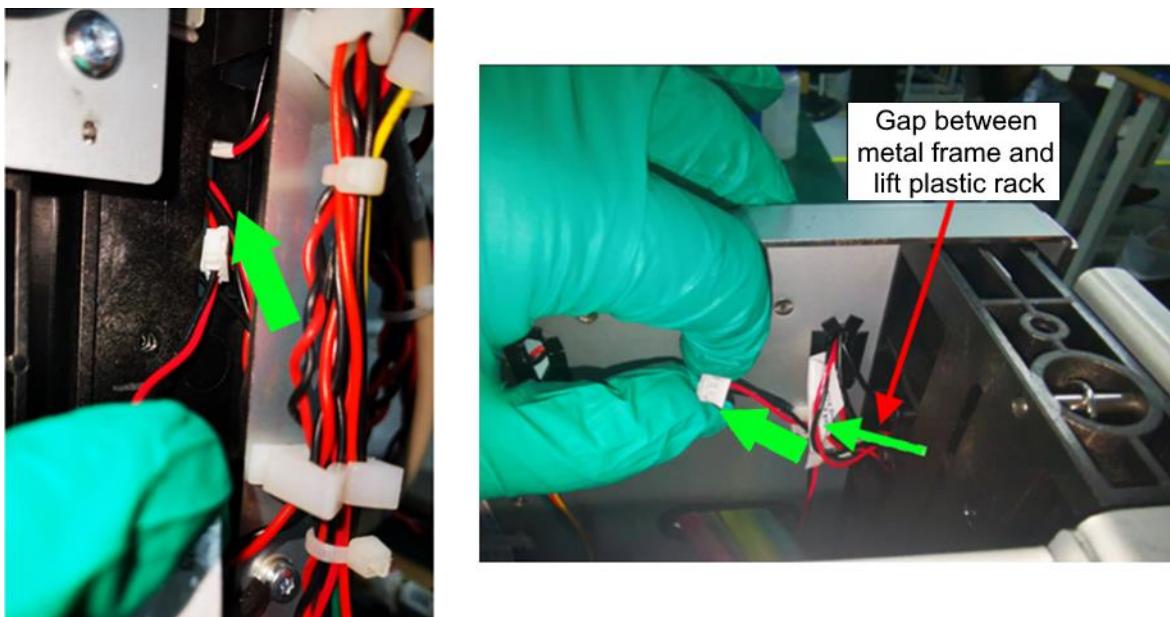
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 127 – Lift Cap Switch**



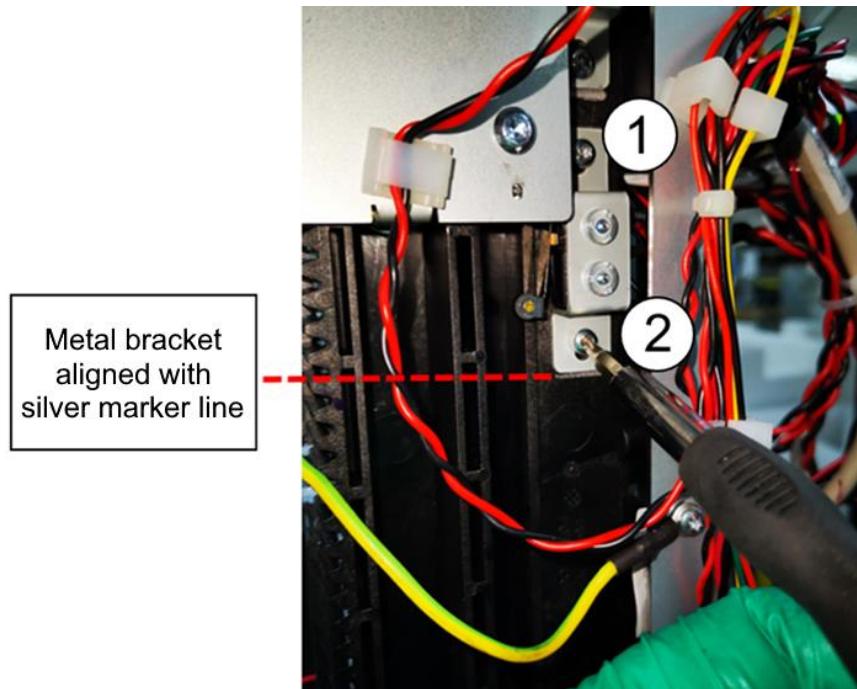
2. Route the Lift Cap Switch cable to the rear of the Print Module following the path of the original cable:
  - a. Insert the cable connector into the gap between Print Module metal frame and the lift plastic rack.
  - b. From the top of the Print Module, gently pull the connector out of the gap.

**Figure 128 – Lift Cap Switch Cable Routing**



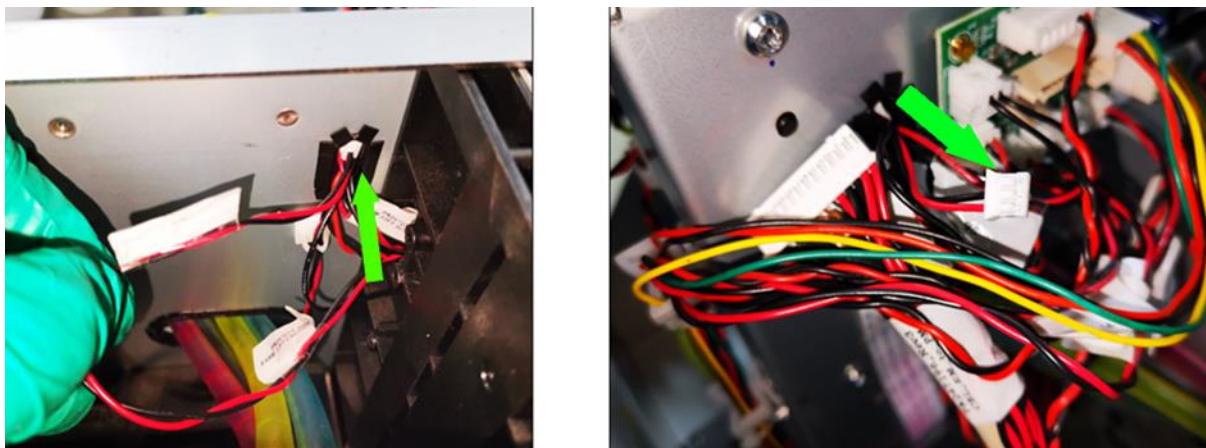
3. Align the bottom edge of the metal bracket with the silver marker line on the lift plastic rack.
4. Hold the switch bracket in place while tightening the two (2) mounting screws.

**Figure 129 – Lift Cap Switch Mounting Screws**



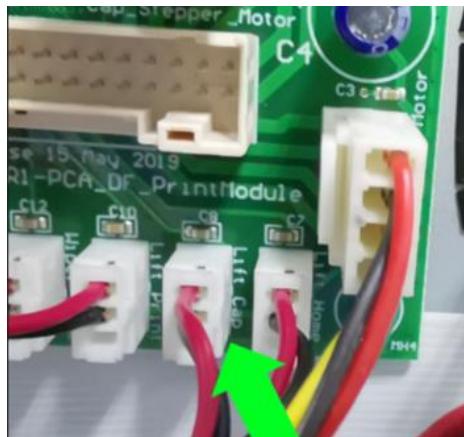
5. Insert the cable connector into the hole in the Print Module and gently pull it out from the rear of the Print Module metal frame.

**Figure 130 – Cable Connector Routed Through Print Module Frame**



6. Connect the Lift Cap Switch cable to the connector on the Print Module PassThrough PCA.

**Figure 131 – Lift Cap Switch Connector on PCA**



7. Connect the cable between Electrical Module and Print Module back to the connector on the Print Module PassThrough PCA.

**Figure 132 – Electrical Module to Print Module Cable Connected**



8. Bundle the cables together, secure with a cable tie, and cut off the excess tail.

## 11.5 Testing

1. Power up the DuraFlex system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

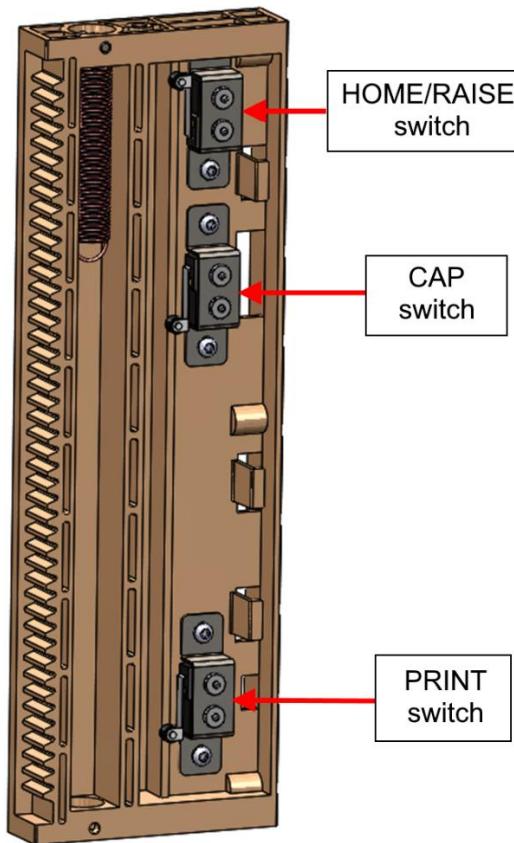
3. Move the Printhead Cradle to RAISE, CAP, and PRINT positions.
4. If there is no error, the replacement is successful.



## 12 EASM Lift Print Switch Replacement

This section provides replacement instructions for the PHLM EASM Lift Print Switch (PN 10005286).

**Figure 133 – EASM Lift Print Switch**



### 12.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 12.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 12 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
1	Part	EASM Lift PRINT Switch with cable and metal bracket – PN 10005286
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Diagonal cutter
2	Supply	Cable tie
1	Supply	Permanent marker, silver

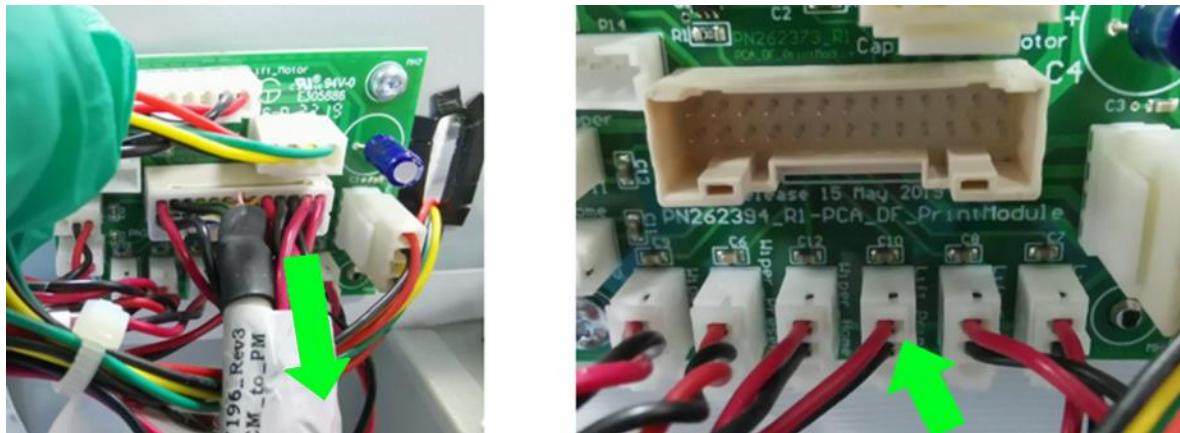
## 12.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Remove any covers or panels to expose the top of the Print Module and create sufficient access to the components.
2. Move the Printhead Cradle to RAISE Position, then power down the system.
3. Use a silver permanent marker to draw a line along the bottom edge of the Print Switch bracket. This will be used for alignment when installing the switch later.
4. Disconnect the Electrical Module to Print Module cable from the Print Module PassThrough PCA to expose the Lift Print Switch connector for easier cable removal.

**Figure 134 – Disconnect Electrical Module to Print Module Cable**



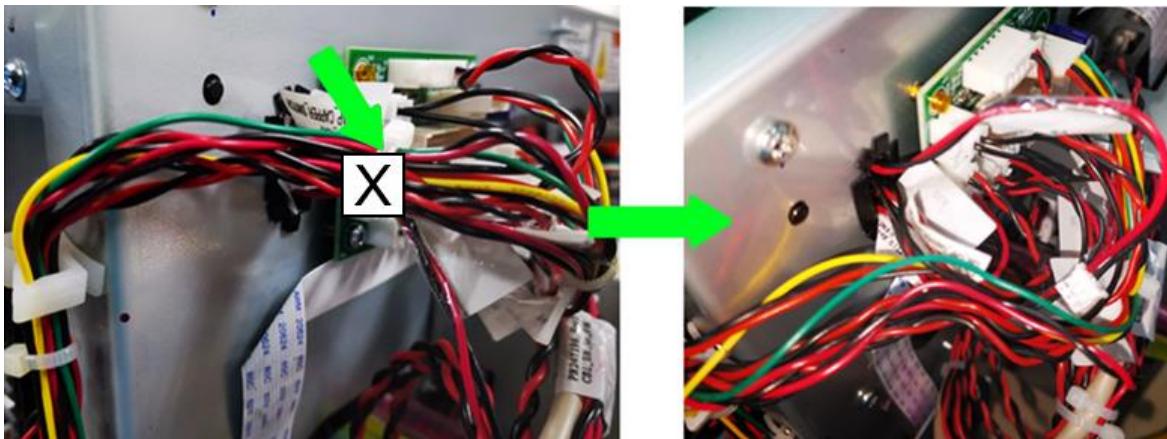
5. Disconnect the Lift Print Switch connector from the Print Module PassThrough PCA.

**Figure 135 – Lift Print Switch Connector**



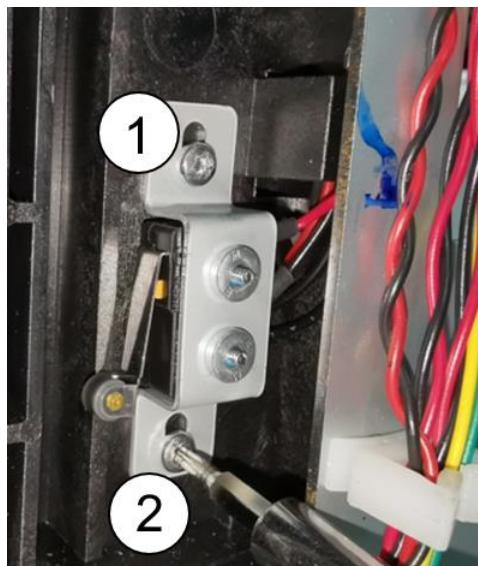
6. Use diagonal cutters to carefully cut and remove the cable tie to release the switch cables. The cut location is shown in "X" in the figure below. Be careful not to cut the wire insulation.

**Figure 136 – Cut Cable Tie**



7. Loosen the two (2) screws securing the Lift Print Switch metal bracket.

**Figure 137 – Lift Print Switch Mounting Screws**



8. Carefully remove the Lift Print Switch and bracket assembly.

**Figure 138 – Lift Print Switch and Bracket**



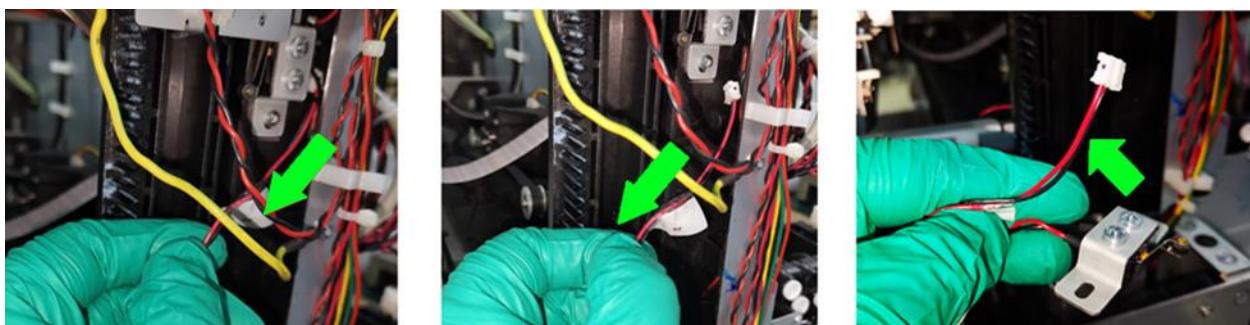
9. From the top of the Print Module, carefully pull the Lift Print Switch cable through the hole in the Print Module frame.

**Figure 139 – Pull the Lift Print Switch Cable**



10. Pull the cable out from the gap between lift plastic rack and Print Module metal frame.

**Figure 140 – Pull Cable Out of Gap**



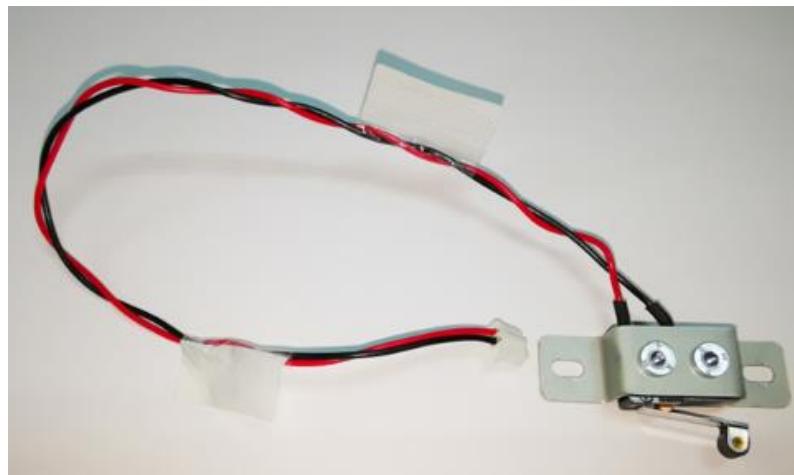
11. Discard the faulty EASM Lift Print Switch according to local disposal recommendations.

## 12.4 Installation

1. Visually inspect the new Lift Print Switch assembly to confirm there is no damage to the switch or cable. Ensure that the Sensor Lever is not deformed or bent.

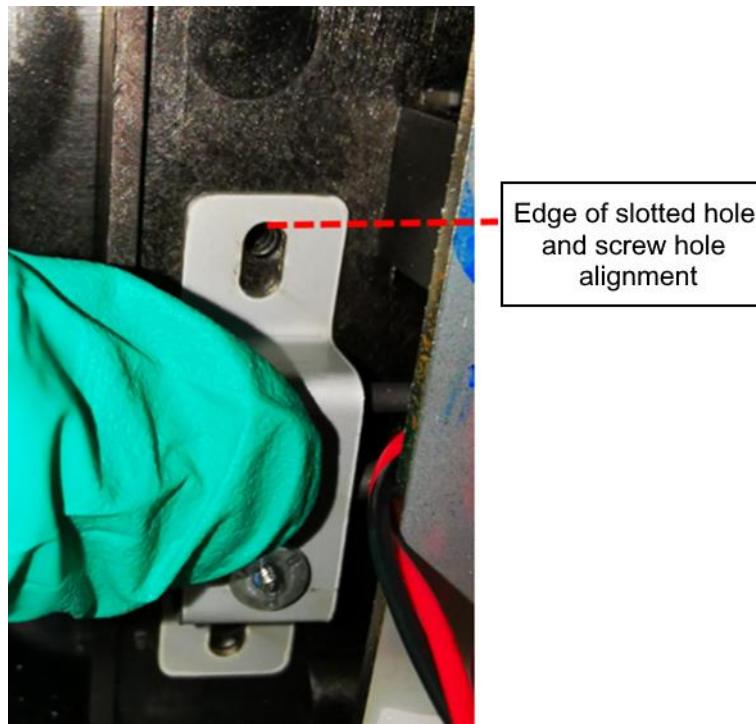
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 141 – Lift Print Switch Assembly**



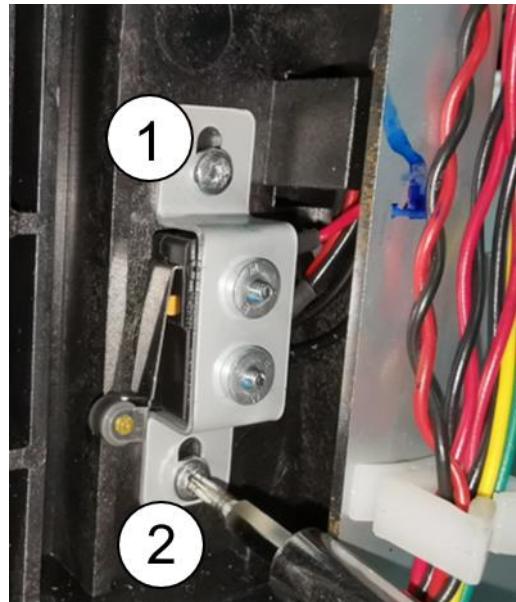
2. Align the edge of the slotted hole on the Lift Print Switch bracket with the screw hole edge.

**Figure 142 – Metal Bracket Aligned with Screw Hole Edge**



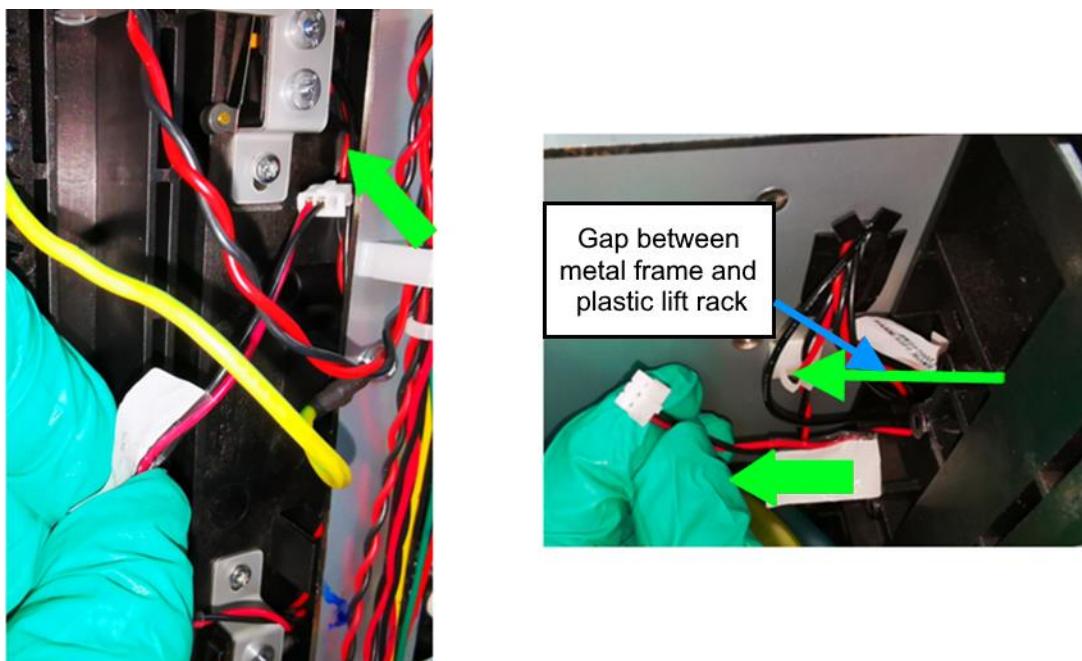
3. Hold the switch bracket in place while tightening the two (2) mounting screws.

**Figure 143 – Lift Print Switch Mounting Screws**



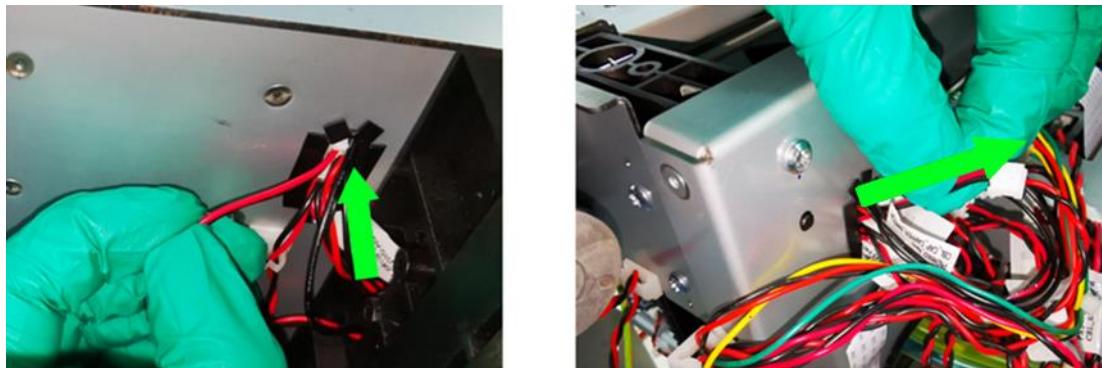
4. Route the Lift Print Switch cable to the rear of the Print Module following the path of the original cable:
  - a. Insert the cable connector into the gap between Print Module metal frame and the lift plastic rack.
  - b. From the top of the Print Module, gently pull the connector out of the gap.

**Figure 144 – Lift Print Switch Cable Routing**



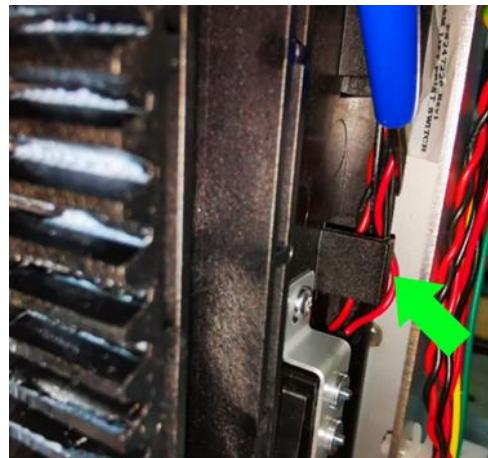
5. Insert the cable connector into the hole in the Print Module and gently pull it out from the rear of the Print Module metal frame.

**Figure 145 – Cable Connector Routed Through Print Module Frame**



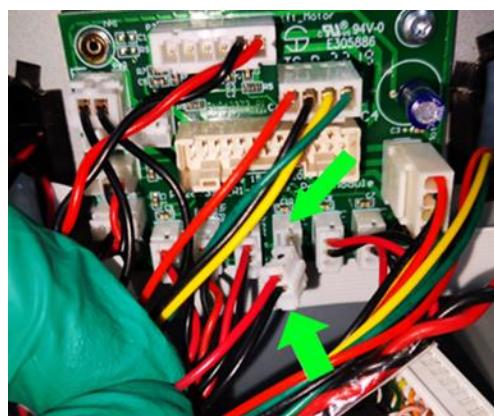
6. On the inside of the Lift Rack, dress the cable into the cable holder on the rack.

**Figure 146 – Cable Tucked into Holder**



7. Connect the Lift Print Switch to the connector on the Print Module PassThrough PCA.

**Figure 147 – Lift Print Switch Connector**



8. Connect the cable between the Electrical Module and the Print Module to the connector on the Print Module PassThrough PCA.

**Figure 148 – Electrical Module and Print Module Cable Connected**



## 12.5 Testing

1. Power up the DuraFlex system.
2. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

3. Move the Printhead Cradle to RAISE, CAP, and PRINT positions.
4. If there is no error, the replacement is successful.



## 13 Datapath PCA Replacement

This section provides replacement instructions for the Electronics Ross Board (1G or 10G), also known as the Datapath PCA.

The part number for this item is OEM-specific. Contact your Memjet representative for details.

**Figure 149 – Datapath PCA**



### 13.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 13.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section [2.2 ESD Guidelines](#) for details.

### 13.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 13 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Datapath PCA – part number is OEM-specific
1	Tool	Flat-head tweezer
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	M3 nut driver (with 200-300 mm extension)
1	Tool	M6 standoff driver

## 13.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

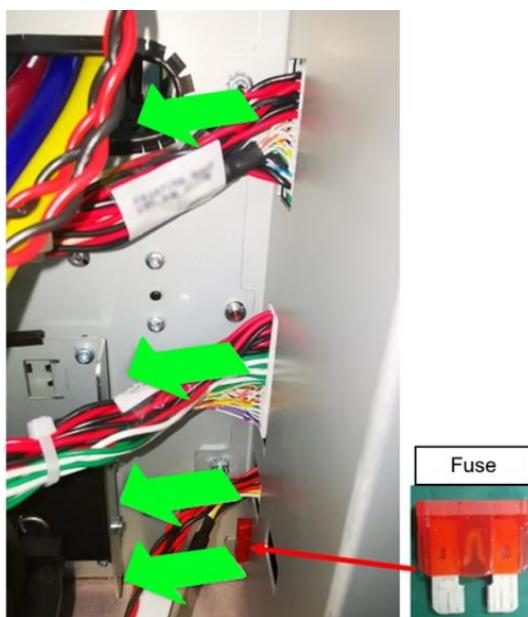
**Note:** Unless otherwise noted, keep all original hardware for installation.

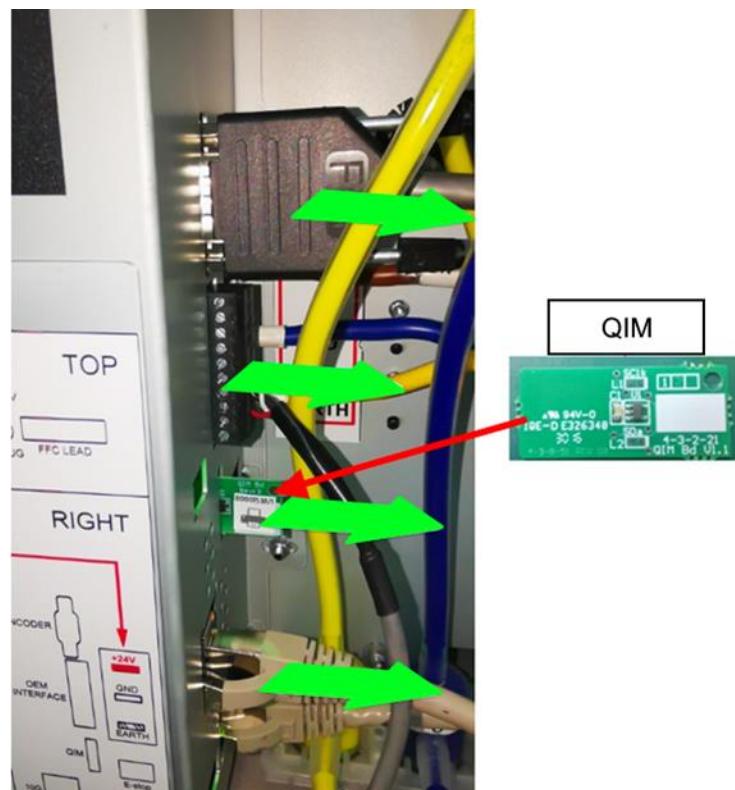
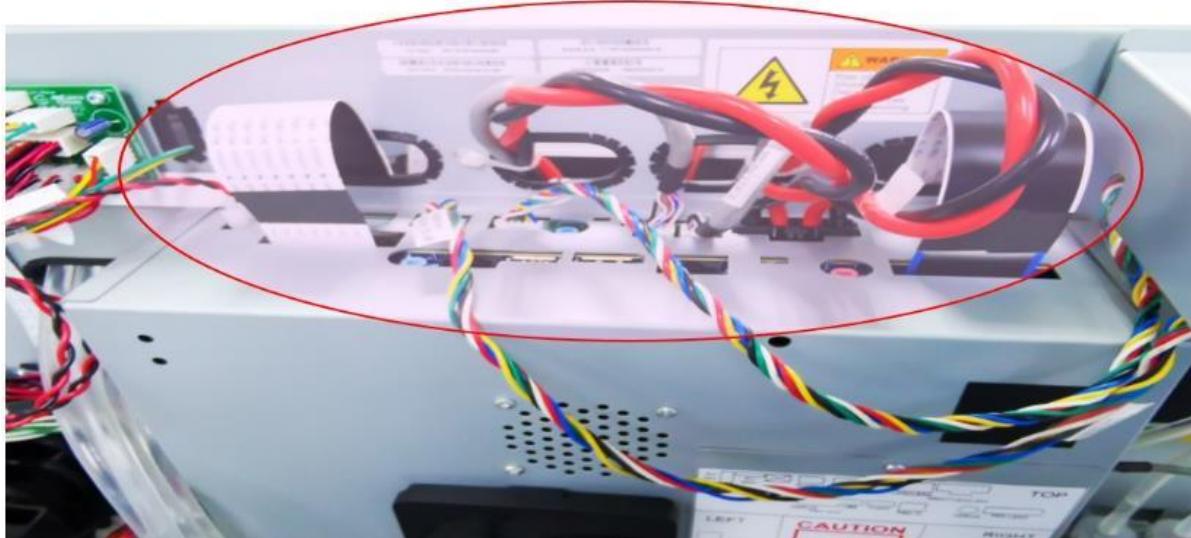
1. Power down the system.
2. Wear an anti-static wrist strap when performing this procedure.
3. Disconnect the following cables.

**Note:** Some cable connectors are secured with a tab. If needed, press the tab to disengage it.

- 24V power cable (x1)
- 1G Ethernet cable (x1)
- 10G Ethernet cable (x1, if present)
- TOF sensor cable (x1, if present)
- Encoder cable (x1)
- Pinch Valve power cable (x1)
- Pinch Valve FFC (x1)
- Circulation Pump cables (x2)
- Printhead Power PCA power cables (x2)
- Printhead Power PCA data cable (x2)
- Electronics FFC (x2)
- BIDS PassThrough PCA cable (x1)
- Main board cable (x1)
- Fuse (x1)
- QIM (x1)

**Figure 150 – Cables on the Left Side of Electrical Module Enclosure**



**Figure 151 – Cables on the Right Side of Electrical Module Enclosure****Figure 152 – Cables on Top of Electrical Module Enclosure**

**CAUTION:** To avoid cutting wires or cables or damaging hardware, use appropriate tools that are not sharp for the next steps. Do not use a knife, razor blade, or scissors!

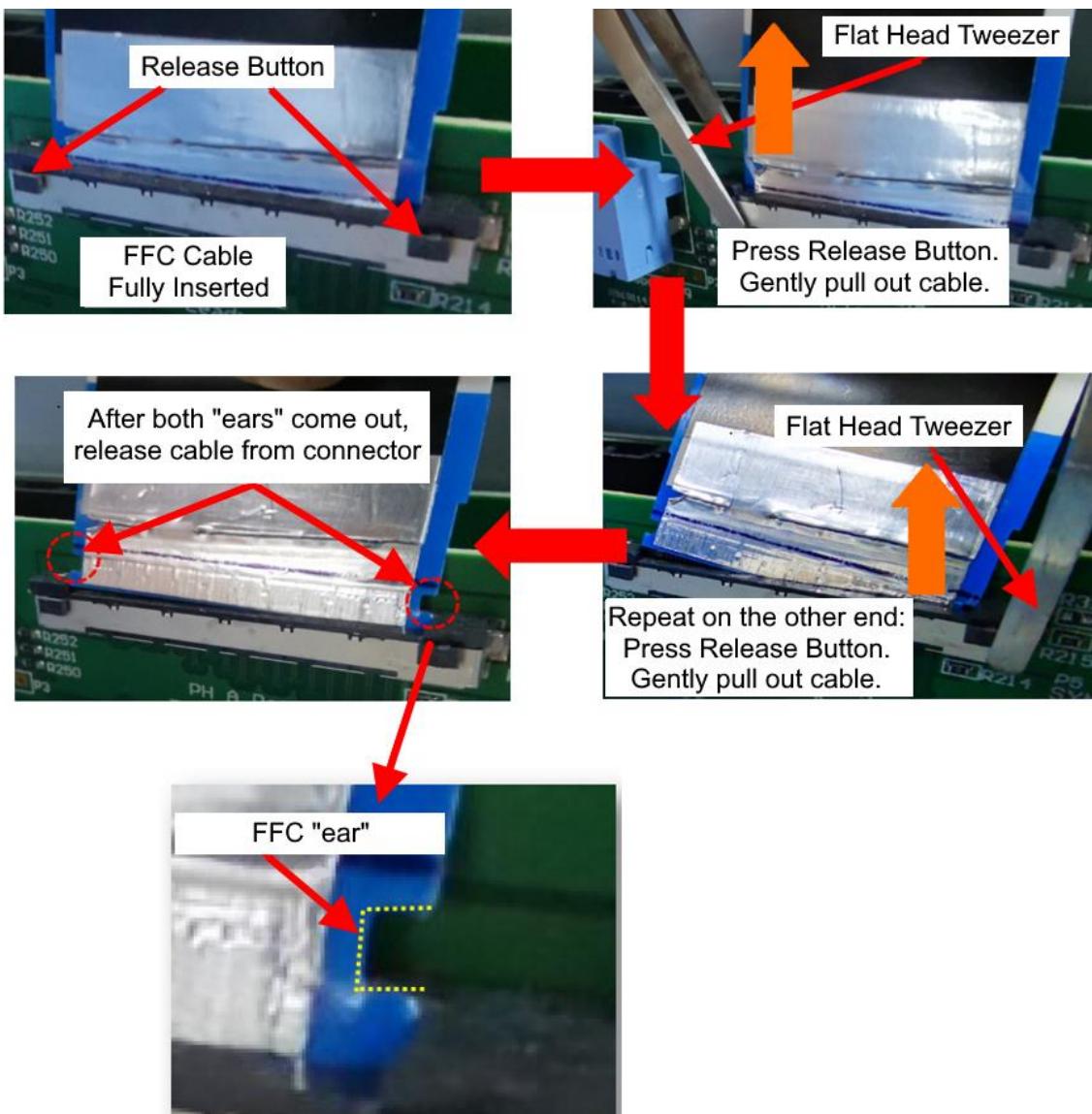
4. Disconnect the ends of both Electronics FFCs (leading and lagging) from the Electrical Module.

**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), strictly follow the steps below ([Figure 153](#)).

To disconnect the Electronics FFC:

- Use a flat-head tweezer (or similar tool) to release the FFC connectors.
- Use tweezers to press down one of the release buttons on the FFC connector.
- Apply slight force on the pressed side and gently pull on the FFC to disconnect it.
- Repeat these steps to disconnect the other FFC.

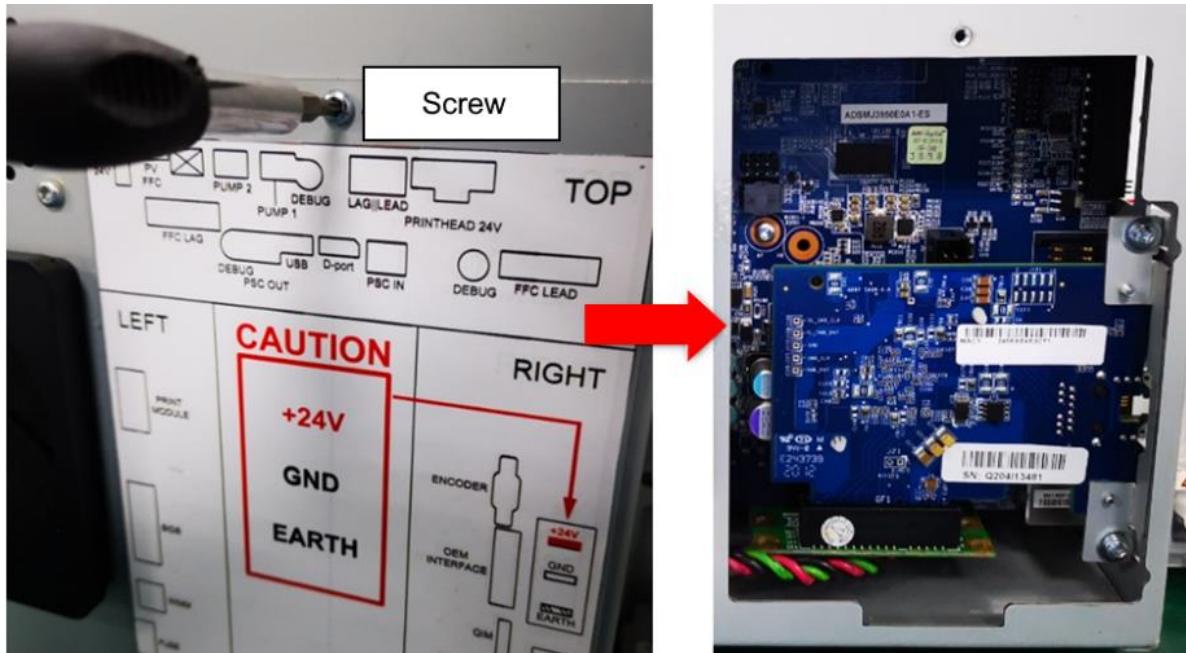
**Figure 153 – Remove Electronics FFC**



5. If the Datapath PCA has a 10G card installed, perform the following steps:

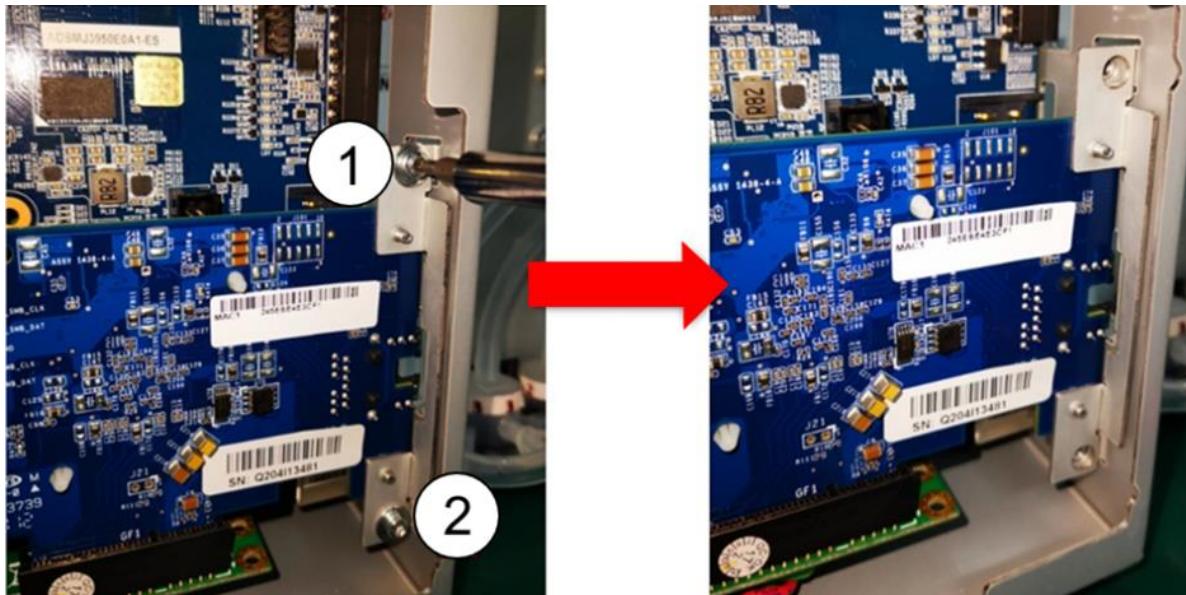
- Loosen the screw to remove the Electronics Module Cover over the 10G card.

**Figure 154 – Remove Cover over 10G Card**



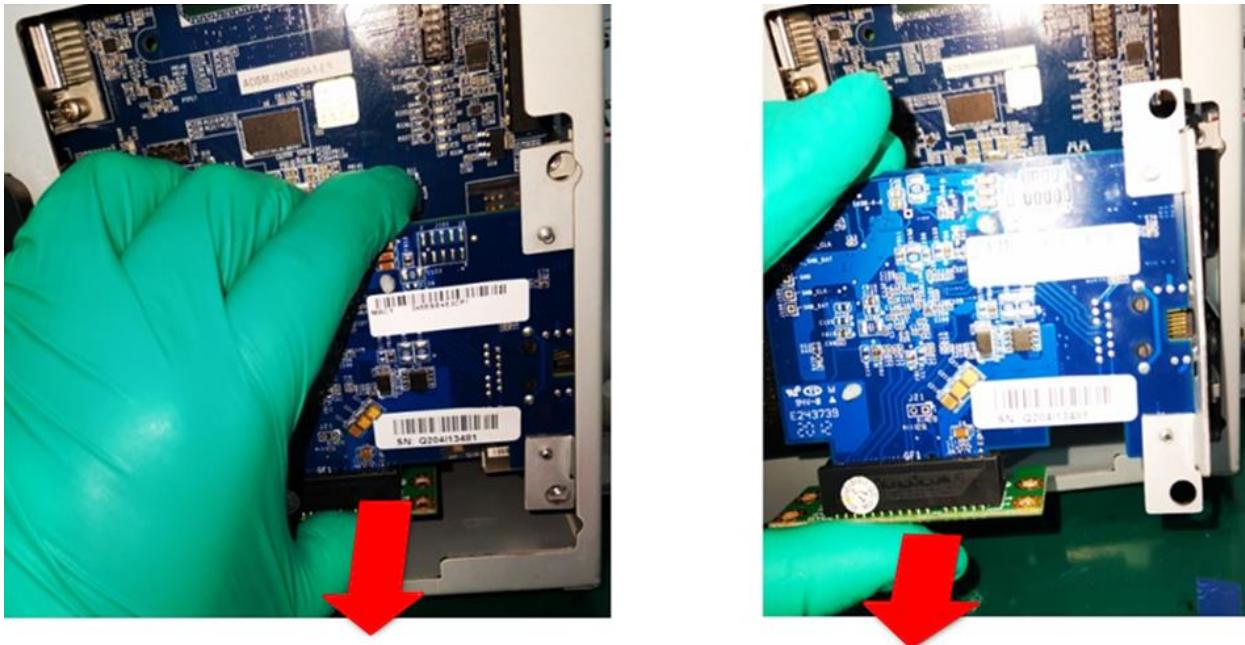
- Loosen the two (2) screws to remove the 10G card.

**Figure 155 – 10G Card Mounting Screws**

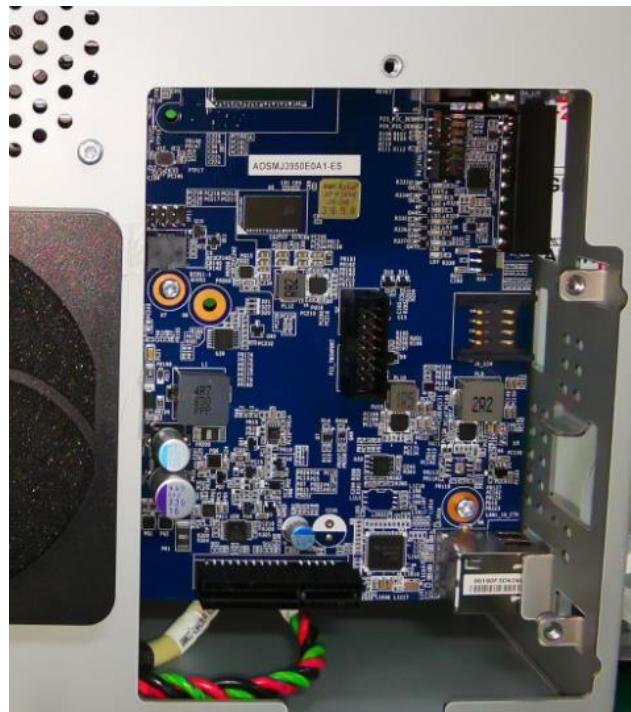


c. Gently remove the 10G card from the enclosure.

**Figure 156 – Remove 10G Card**

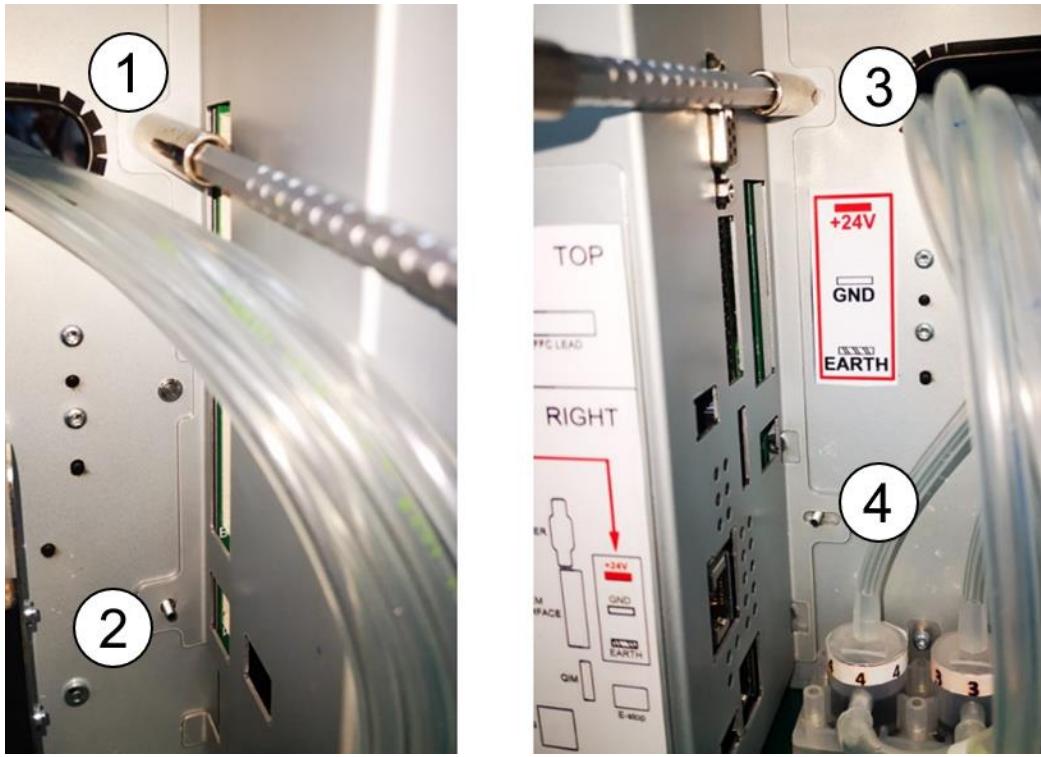


**Figure 157 – 10G Card Removed**



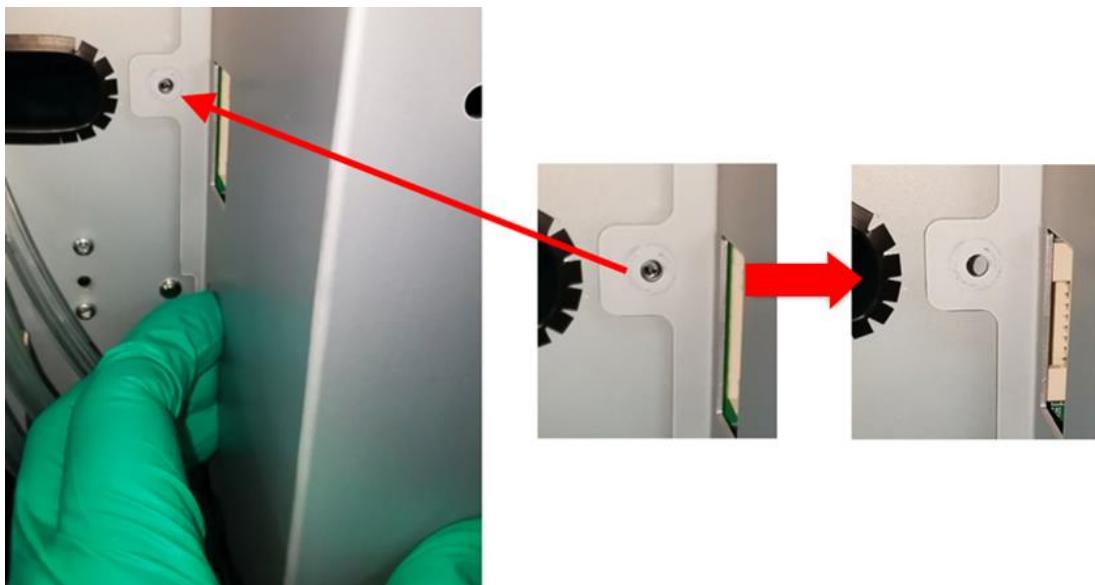
6. Loosen the four (4) nuts to remove the Electrical Module enclosure.

**Figure 158 – Electrical Module Enclosure Nuts**



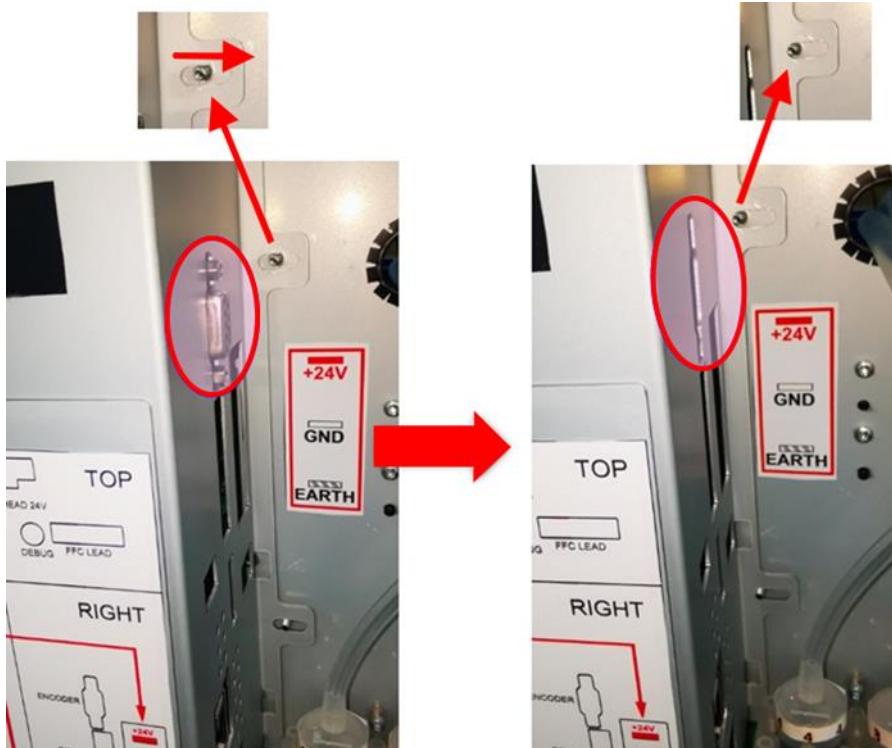
7. Lift the RIGHT side of the Electrical Module enclosure, until the metal screw locating pin is fully released.

**Figure 159 – Metal Screw Pin Released**



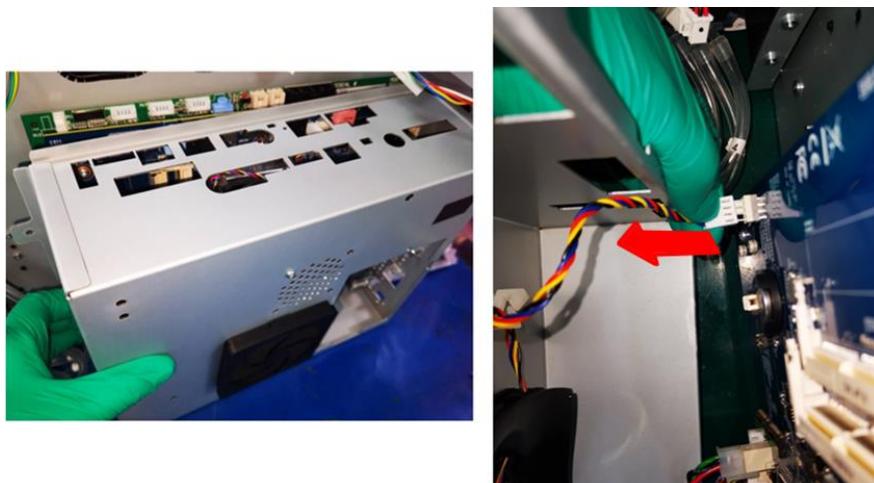
8. Three (3) of the electrical module enclosure mounting screws have slotted holes. Refer to 1, 3, and 4 in [Figure 158](#).
9. To free the bracket, with one hand holding the RIGHT side of Electrical Module enclosure, use the other hand to push the enclosure towards the LEFT side and release the DB9 connector.

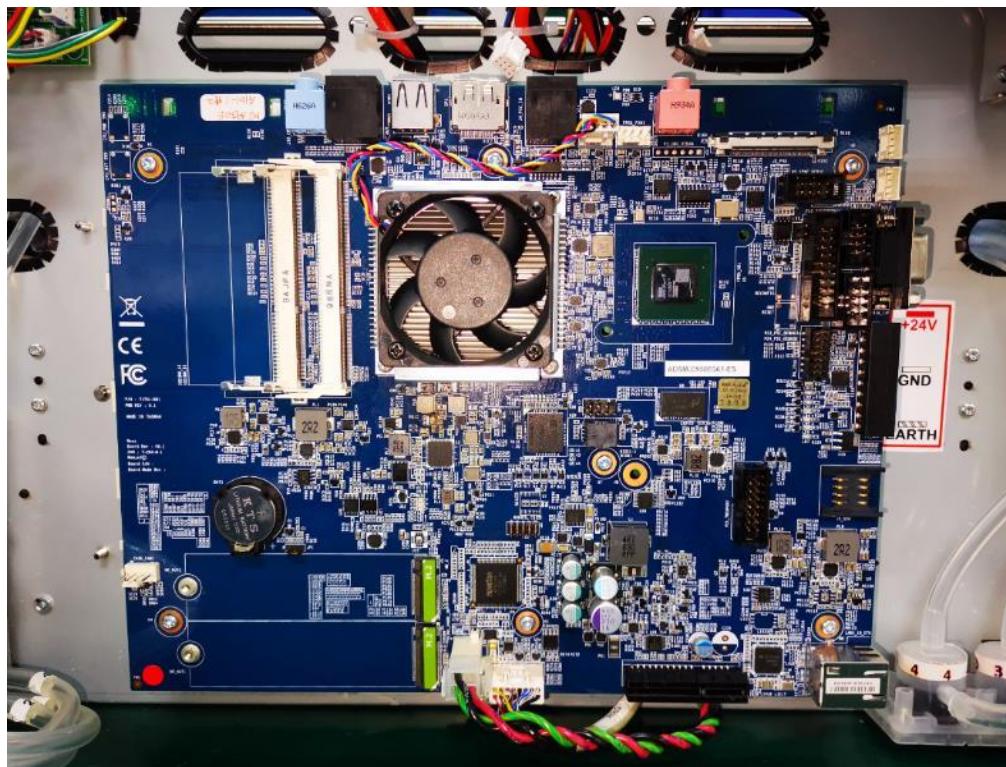
**Figure 160 – Push Electrical Module Cover**



10. While holding the loosened Electrical Module enclosure on an angle, press the tab on the fan connector to disconnect it from the Datapath PCA.

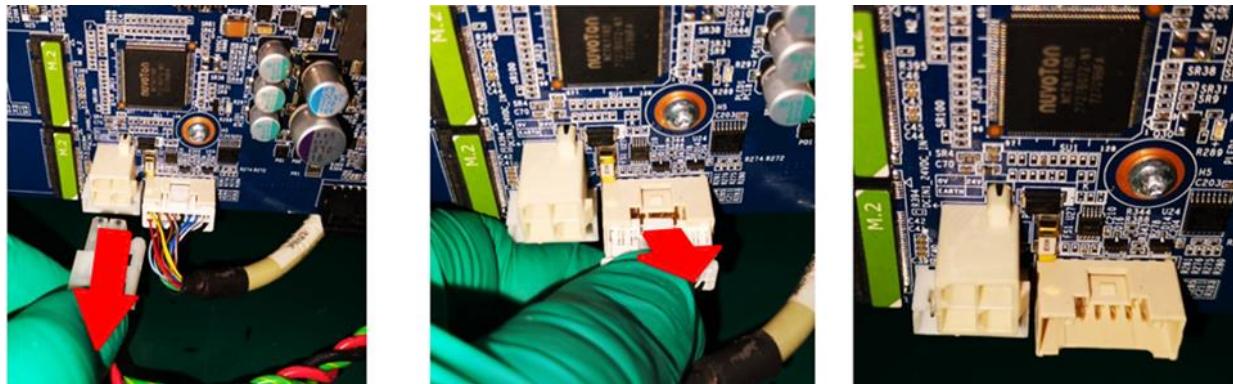
**Figure 161 – Fan Connector**



**Figure 162 – Electrical Module with Cover Removed****Figure 163 – Electrical Module Cover (inside view)**

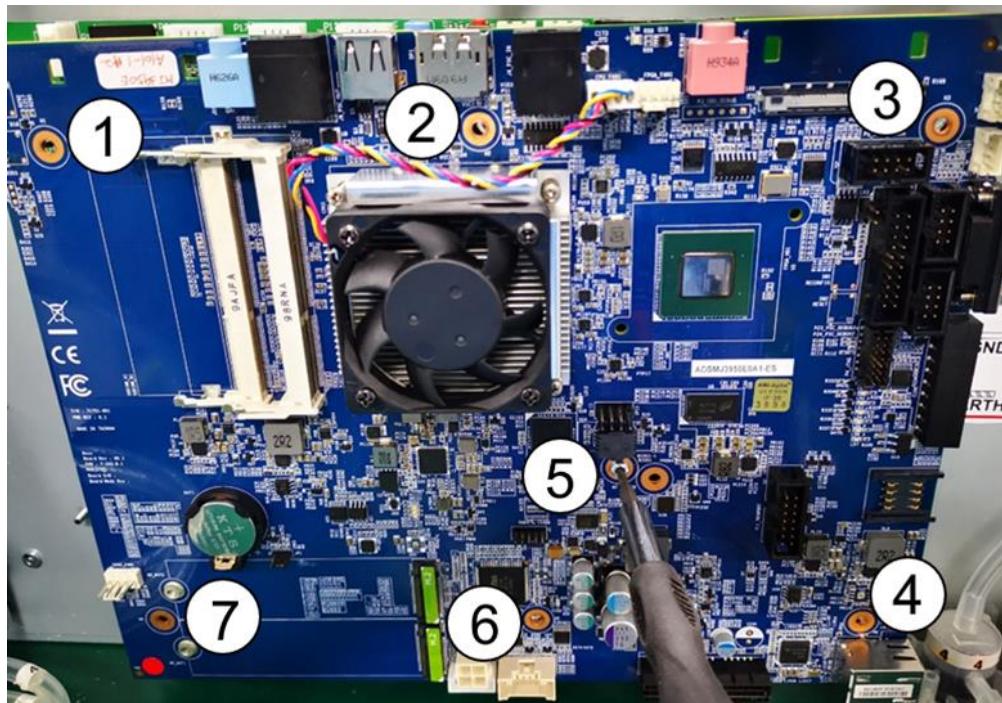
11. Press the tabs on the cable connectors to disconnect the PSU cable and data cable from the Datapath PCA.

**Figure 164 – PSU and Data Cable Connectors Disconnected**



12. Loosen and remove the seven (7) screws that secure the Datapath PCA to the Mechanical Controller PCA.

**Figure 165 – Datapath PCA Mounting Screws**



13. Lift the Datapath PCA off the standoffs to uninstall it.

**Figure 166 – Datapath PCA Removed**



14. Discard the Datapath PCA according to local disposal recommendations.



## 13.5 Installation

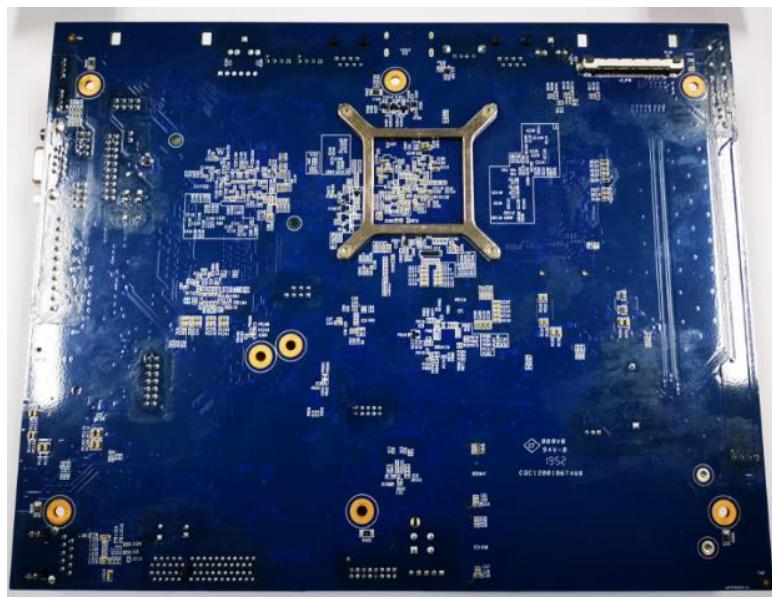
1. Visually inspect the new Datapath PCA to ensure that all components are installed and there is no damage.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 167 – Front of Datapath PCA**

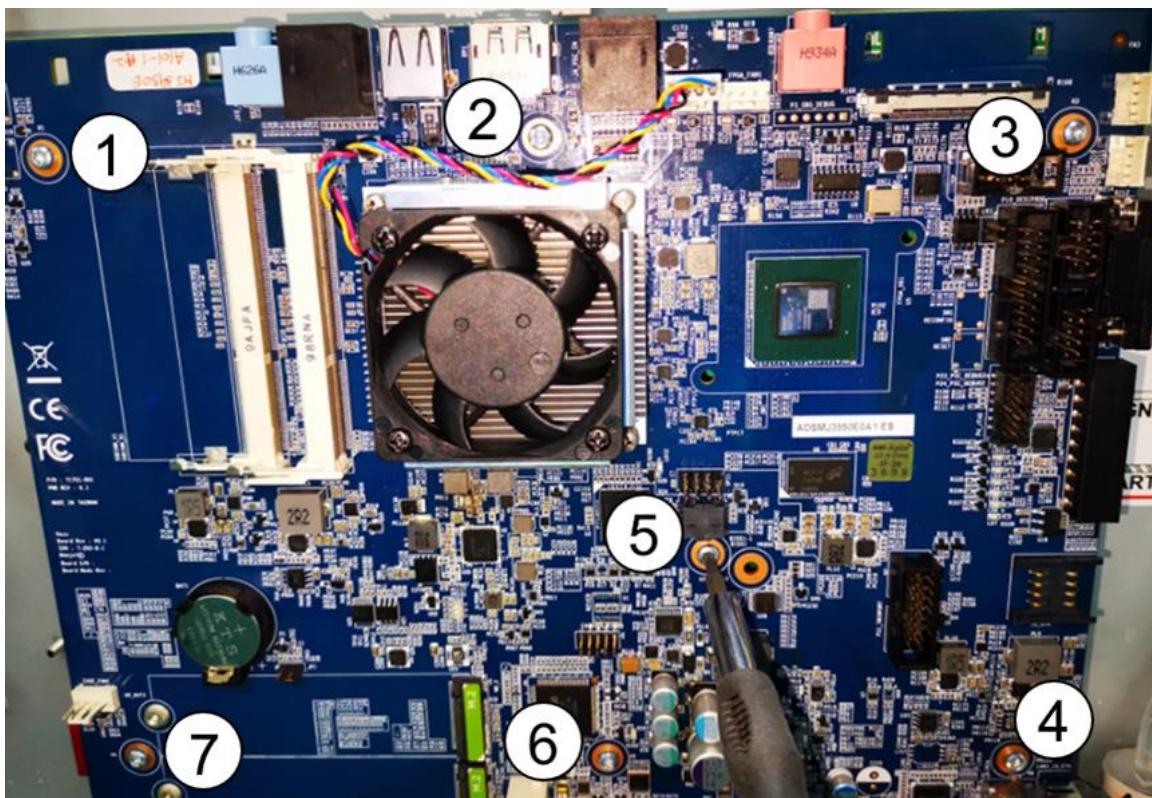


**Figure 168 – Back of Datapath PCA**



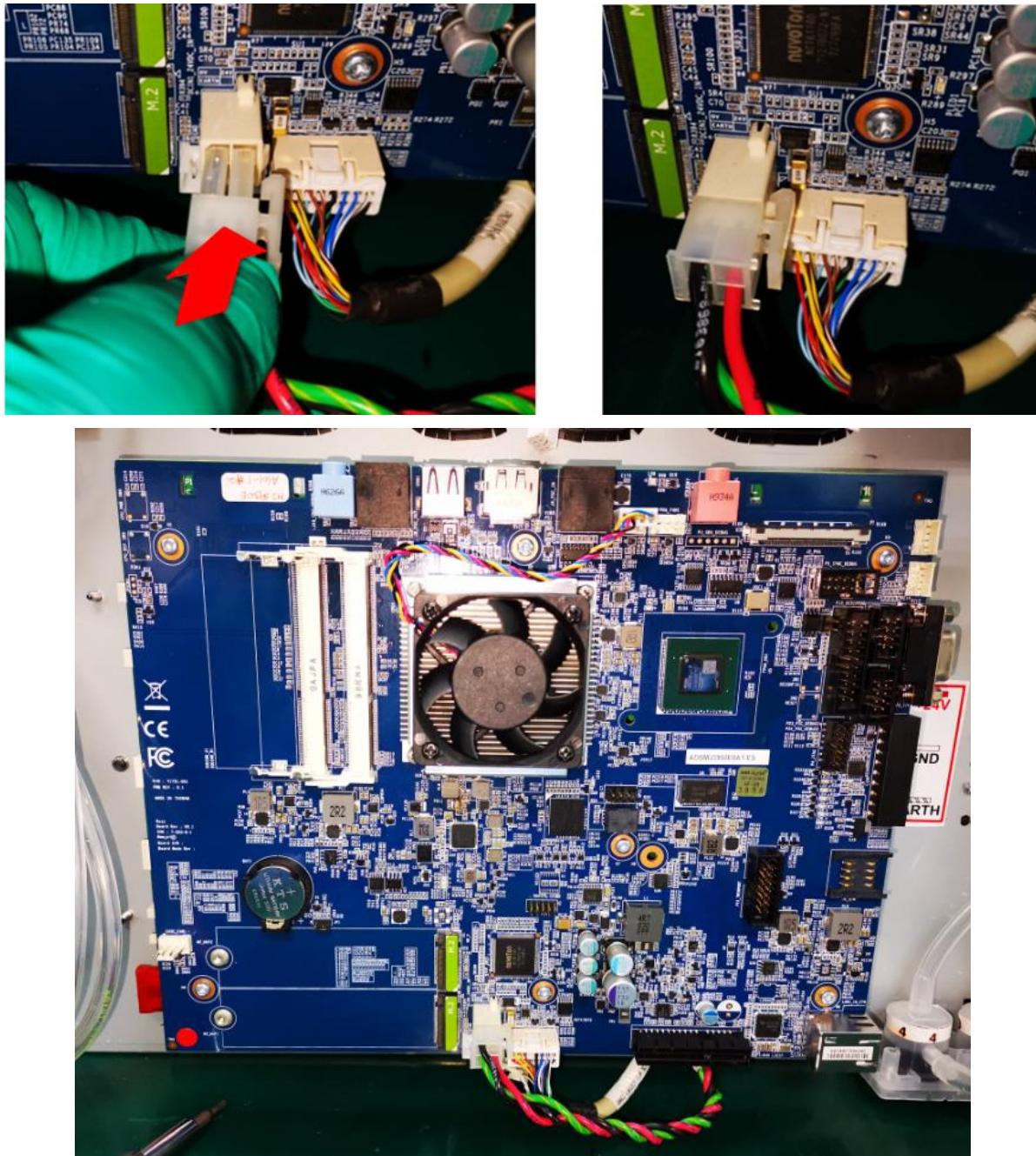
2. Align the Datapath PCA screw holes with the standoffs on the Mechanical Controller PCA.
3. Tighten the seven (7) screws that secure the Datapath PCA to the Mechanical Controller PCA.

**Figure 169 – Datapath PCA Mounting Screw Locations**



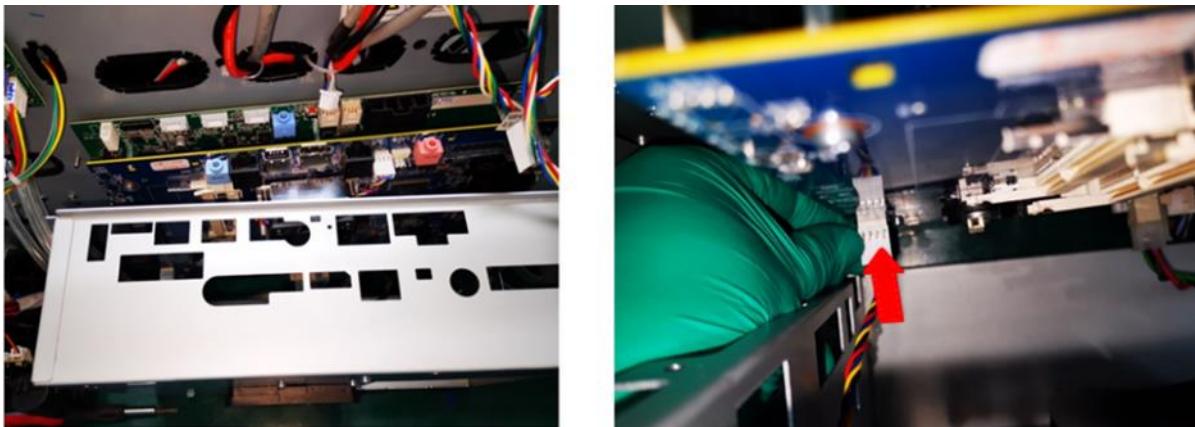
4. Connect the 24V power cable and data cable to the Datapath PCA.

**Figure 170 – Connect PSU Cable and Data Cable**



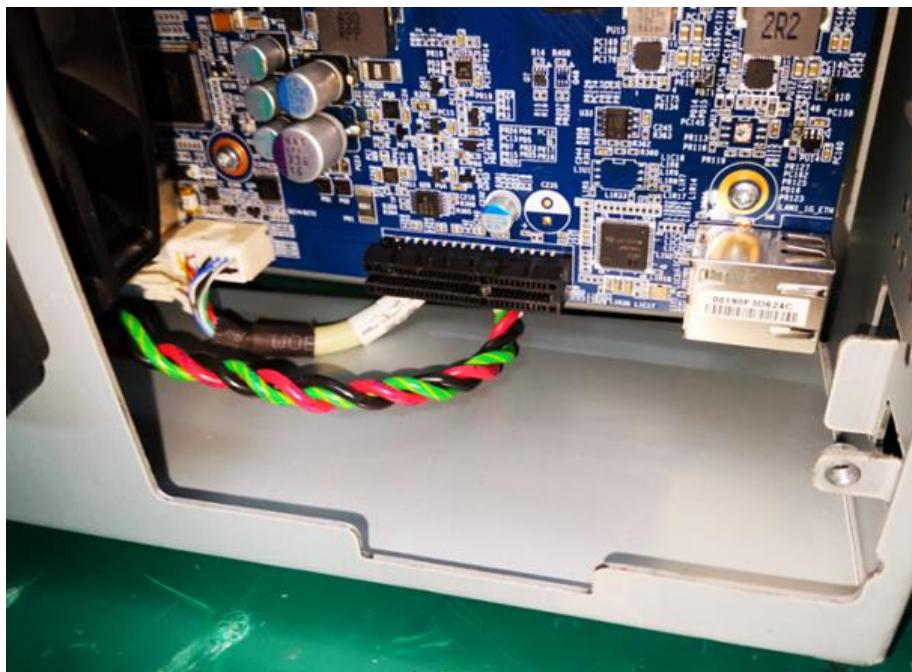
5. While holding Electrical Module enclosure with one hand, use the other hand to plug the Fan Connector into the Datapath PCA.

**Figure 171 – Fan Connector**



6. Push in the Electrical Module enclosure. Ensure that the bottom of the enclosure is not pinching the 24V PSU cable or data cable.

**Figure 172 – Electrical Module Enclosure Pushed In**

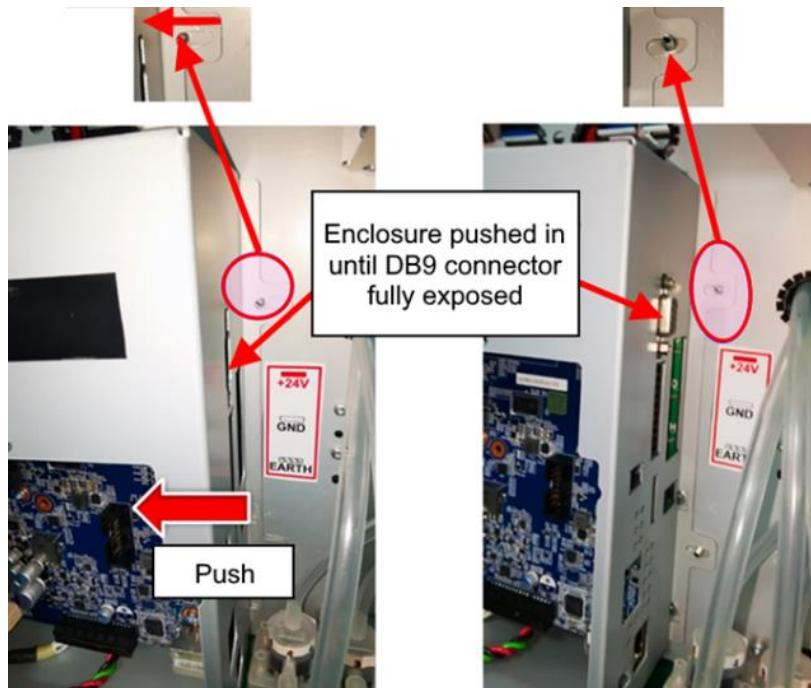


7. With one hand holding the RIGHT side of Electrical Module enclosure, align and push the holes into the screw locating pins on the LEFT side (at Encoder DB9 connector side).



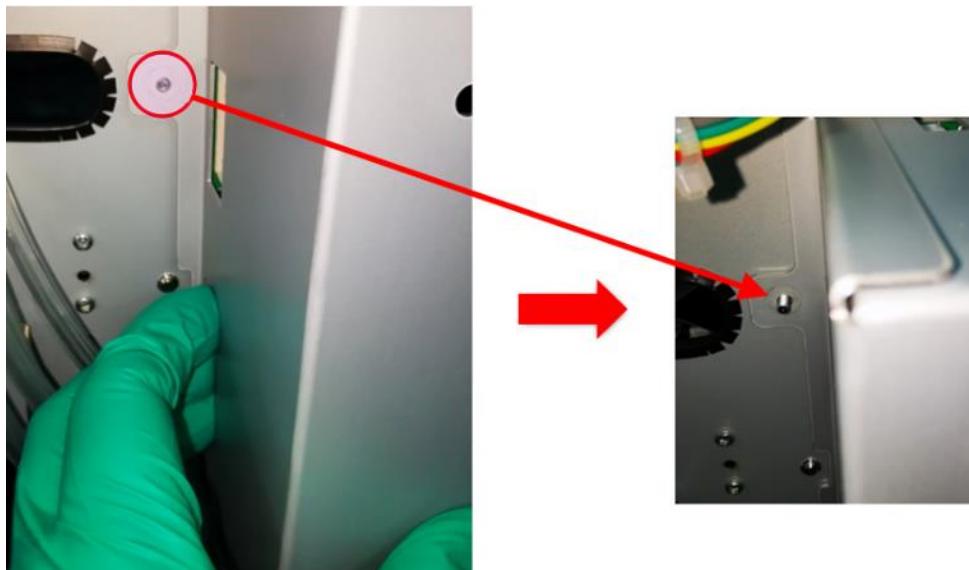
8. Push the Electrical Module Enclosure toward the RIGHT side so that the Encoder DB9 connector is fully exposed.

**Figure 173 – DB9 Connector Exposed**



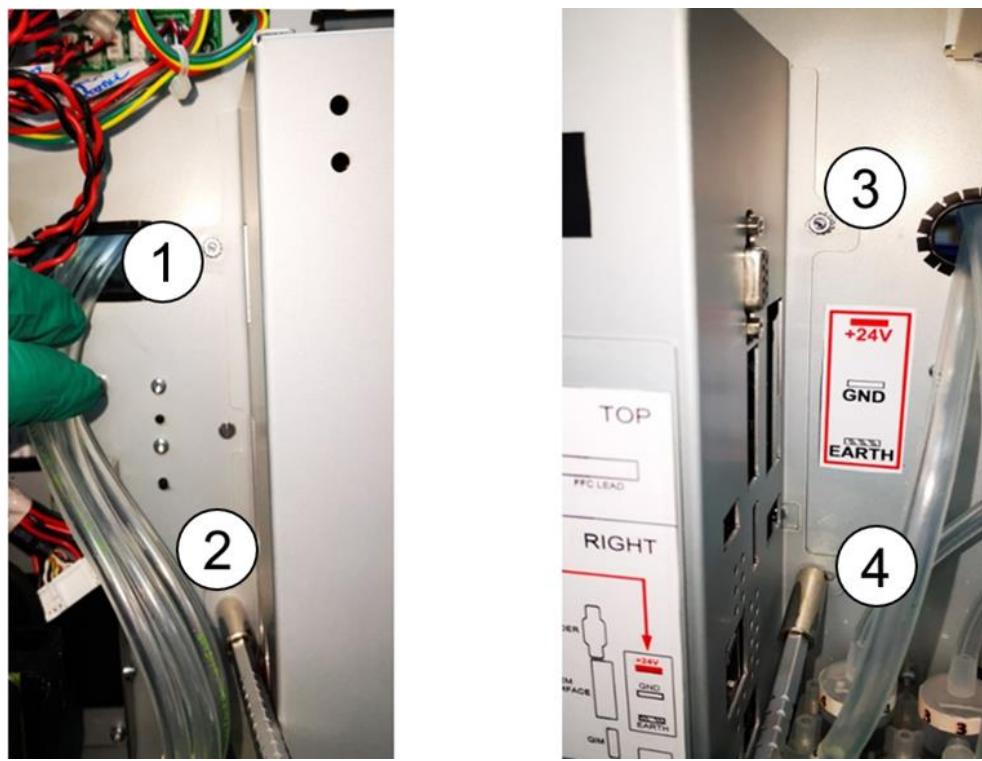
9. Install the RIGHT side of the Electrical Module enclosure by aligning and pushing the holes into the screw locating pins on the Print Module metal frame.

**Figure 174 – Screw Locating Pin on Print Module Metal Frame**

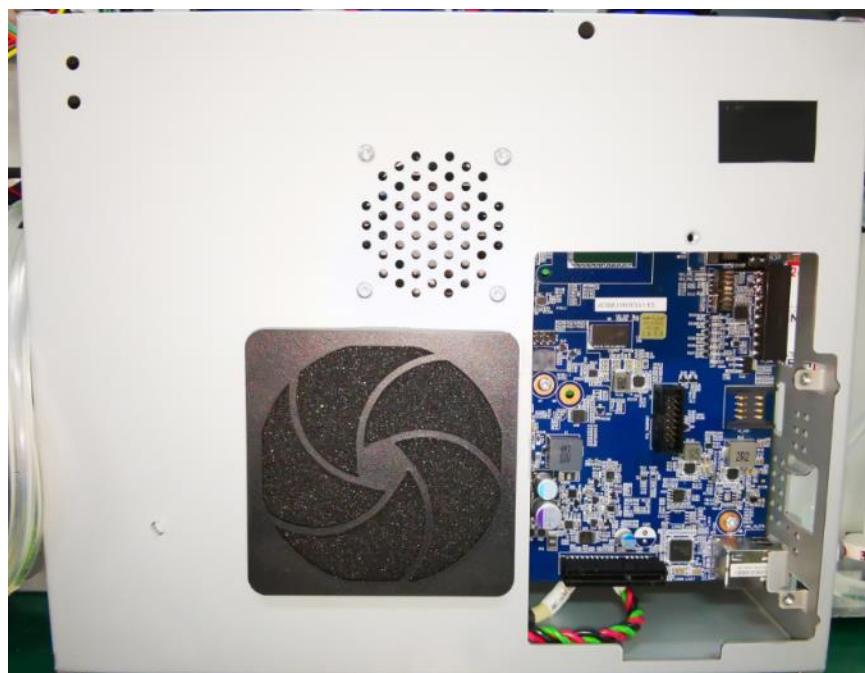


10. Tighten the four (4) nuts to secure the Electrical Module enclosure.

**Figure 175 – Electrical Module Nuts**



**Figure 176 – Electrical Module Enclosure Mounted**

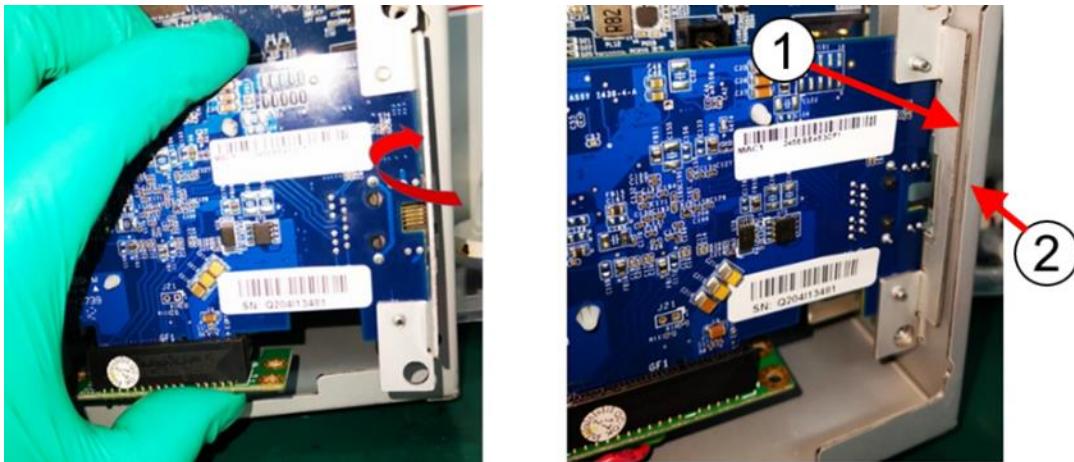


11. Skip this step if there is no 10G card.

a. Install 10G card.

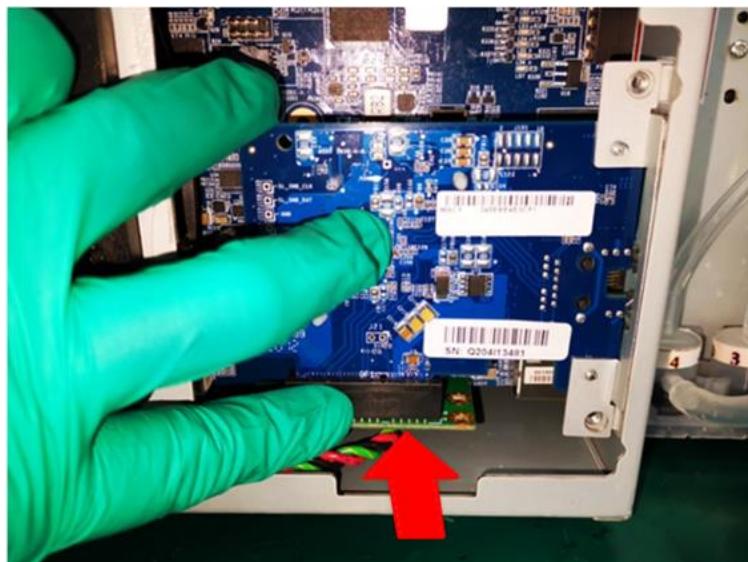
- Position the bracket of the 10G Card (#1 in [Figure 177](#)) within the Electrical Module enclosure (#2).
- Align it with the holes on the tabs on the inside of the enclosure.

**Figure 177 – Install 10G Card**



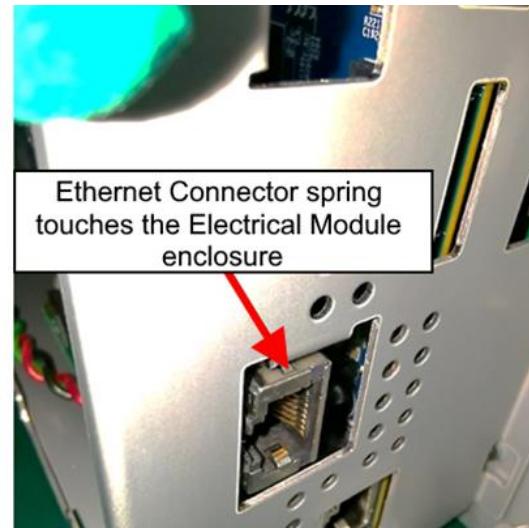
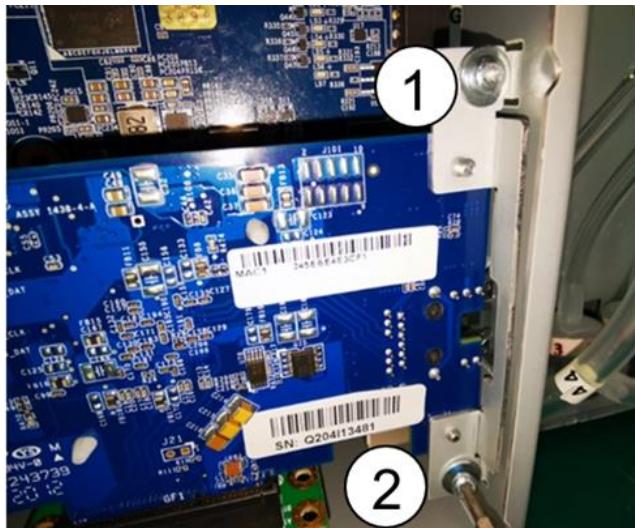
b. Gently push the contact pin into the corresponding connector slot.

**Figure 178 – 10G Card Contact Pin Areas**



- c. Install the two (2) mounting screws and tighten them to secure the 10G Card.
- d. confirm that the 10G Ethernet connector spring is touching the Electrical Module enclosure.

**Figure 179 – 10G Card Mounting Screws**

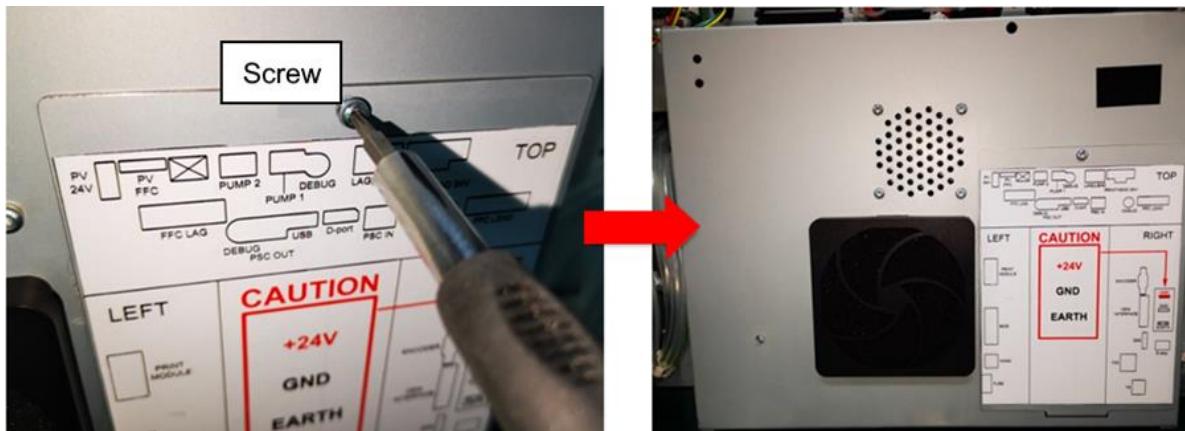


**Figure 180 – 10G Card Installed**



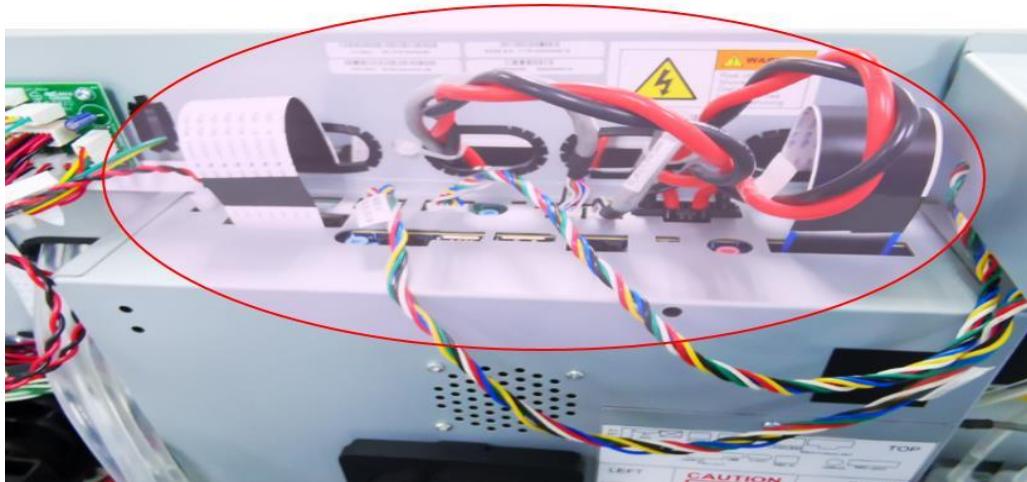
- e. Align the Electrical Module cover over the 10G card and secure with one (1) screw.

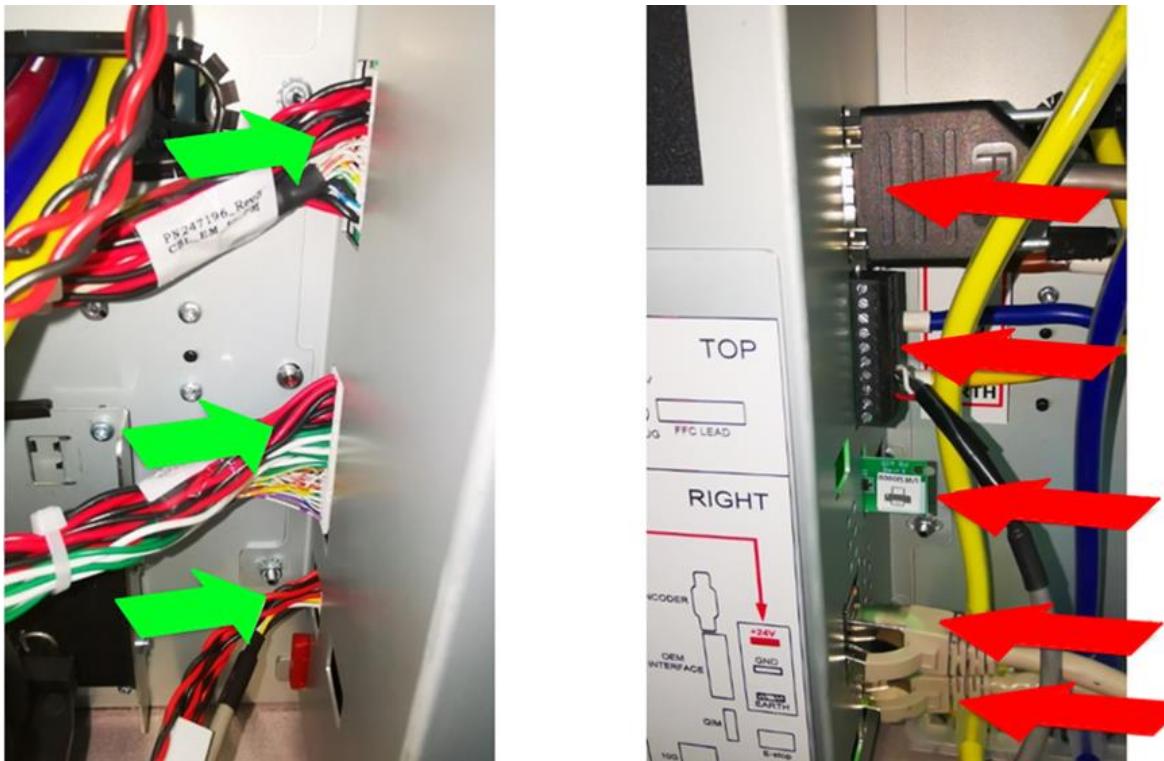
**Figure 181 – Electrical Module Cover Mounting Screw**



12. Connect all the cables, QIM, and fuse.

**Figure 182 – Electrical Module Enclosure Cables – Top View**



**Figure 183 – Mechanical Controller PCA Cables – Both Sides**

**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), review [Figure 184](#) and strictly follow the steps below.

13. To install the Electronics FFCs:

- Carefully align the end of the FFC with the open slot of the connector.

For proper connection and to avoid damage, ensure that the edge of the FFC is parallel to the connector and not tilted to one side!

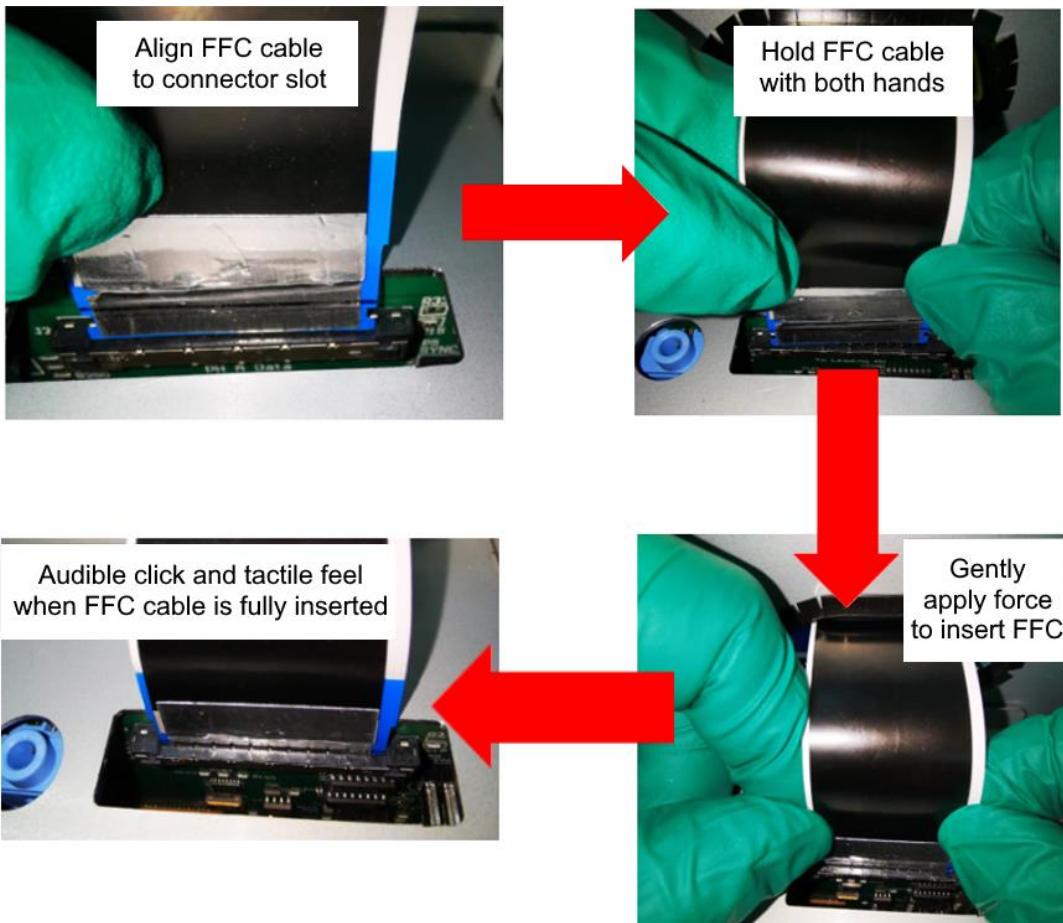
- Hold the end of the FFC with both hands and gradually apply gentle force to insert the FFC into the connector.

You will be able to feel the when the FFC is fully inserted and will hear a click to indicate the proper mating and positive locking of the FFC with the connector.



- c. Repeat the process for the other Electronics FFC.

**Figure 184 – Insert FFC**



14. Check that all cables are fully connected.

## 13.6 Testing

1. Power on the system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. Check that the Printhead Cradle Lift Mechanism is working properly by moving it to RAISE, CAP and PRINT positions. Repeat for 5 times.
4. Check that the Pinch Valve is working properly by moving it to INK, CLOSED, and AIR position.
5. Check the functionality of the Circulation Pumps by priming the system two (2) times.
6. Check the functionality of the Wiper and WIMM by performing light service three (3) times and medium service two (2) times.
7. Print the desired test chart to verify that the system can print properly.



## 14 Mechanical Controller PCA Replacement

This section provides replacement instructions for the Mechanical Controller PCA (Electronics Ultron Board – PN 10005279).

**Figure 185 – Mechanical Controller PCA**



### 14.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 14.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section [2.2 ESD Guidelines](#) for details.

### 14.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 14 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Mechanical Controller PCA – PN 10005279
1	Tool	Flat-head tweezers
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	M3 nut driver (with 150-200 mm extension)
1	Tool	M6 standoff driver



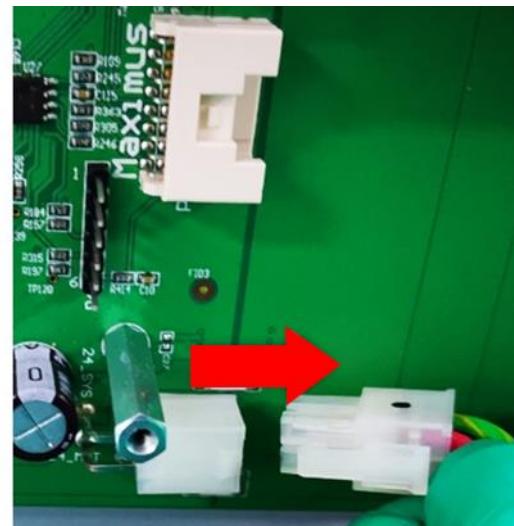
## 14.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

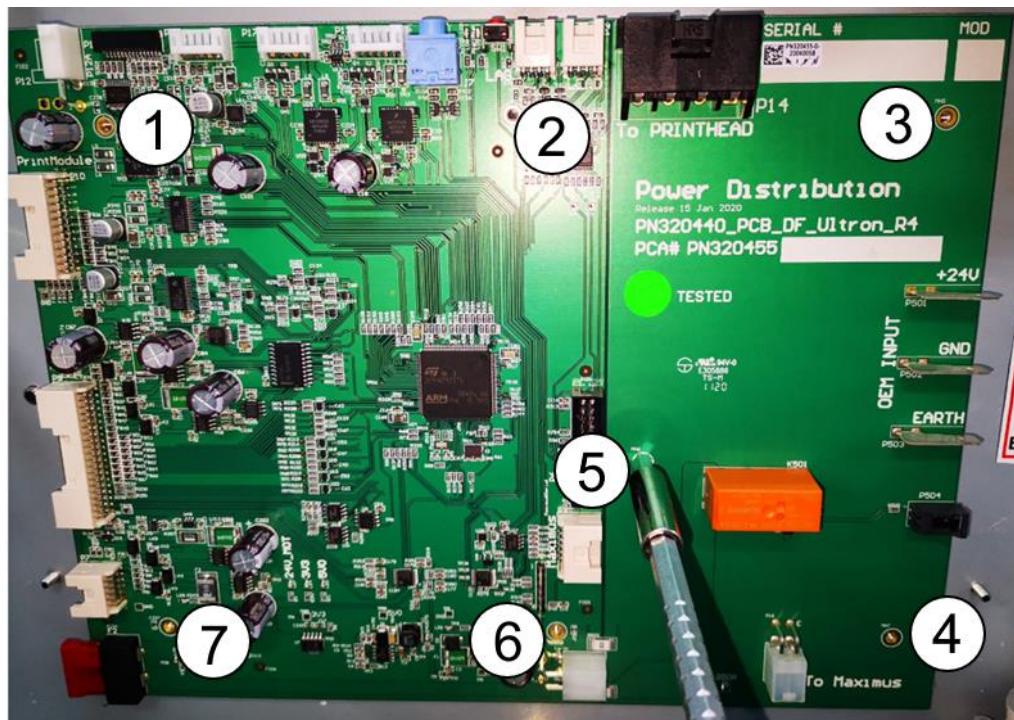
1. Wear an anti-static wrist strap while performing this procedure.
2. Perform all the steps in Section [13.4 Removal](#) to disconnect cables and remove the Datapath PCA.
3. Press the tab to disconnect the PSU and data cable connectors from the Mechanical Control PCA.

**Figure 186 – PSU and Data Cables Disconnected**



4. Loosen the seven (7) standoff that secure the Mechanical Controller PCA to the Print Module metal frame.

**Figure 187 – Mechanical Controller PCA Standoffs**



**Figure 188 – Mechanical Controller PCA Removed**



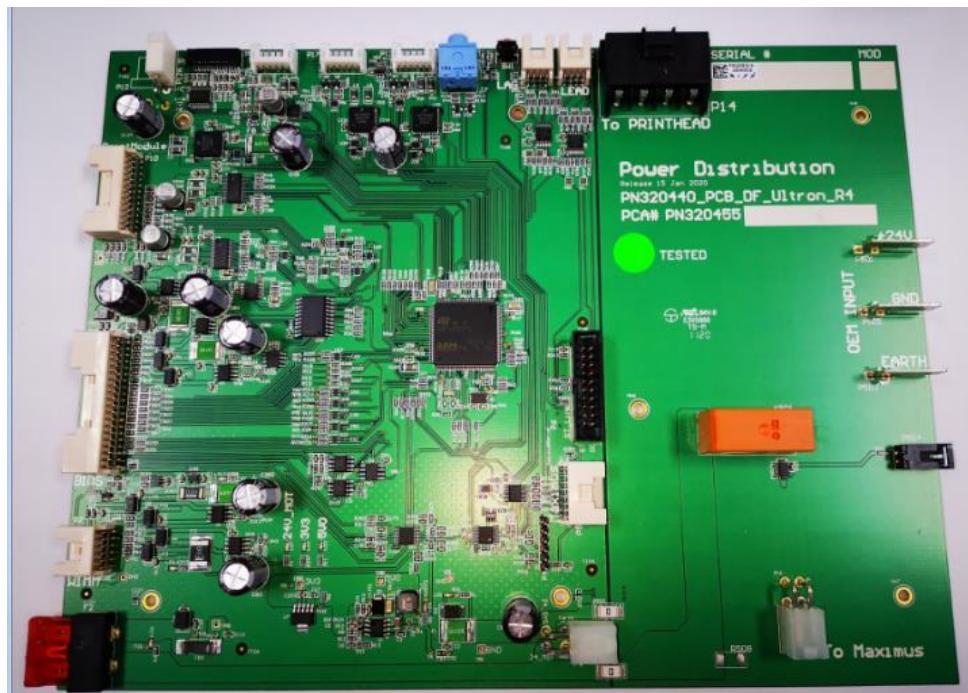
5. Discard the Mechanical Controller PCA according to local disposal recommendations.

## 14.5 Installation

1. Visually inspect the new Mechanical Controller PCA to ensure that there is no damage.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 189 – Front of Mechanical Controller PCA**

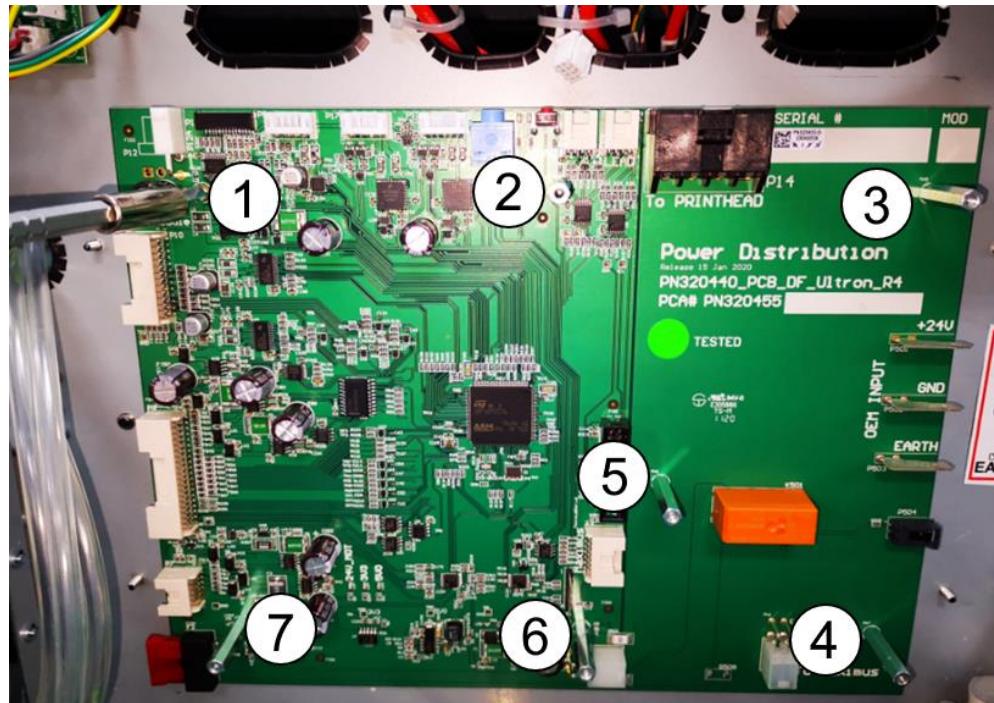


**Figure 190 – Back of Mechanical Controller PCA**



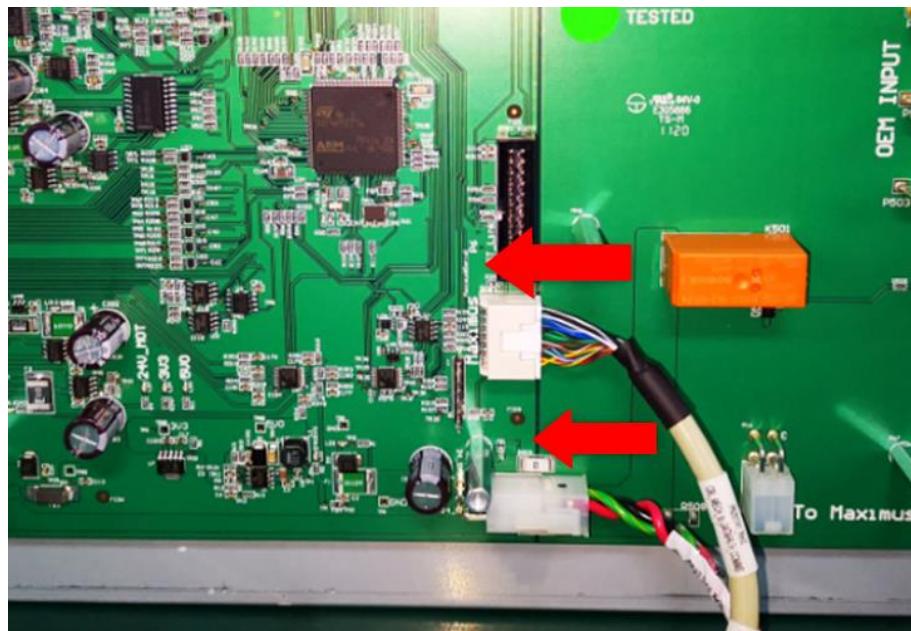
2. Install the seven (7) standoffs and tighten them to secure the Mechanical Controller PCA to the Print Module metal frame.

**Figure 191 – Standoffs Reattached**



3. Connect the PSU cable and data cable to the connectors on the Mechanical Controller PCA.

**Figure 192 – Connect PSU and Data Cable Connectors**



4. Perform all the steps in Section [13.5 Installation](#) to install the Datapath PCA and connect cables.

## 14.6 Testing

1. Power on the system.
2. Initialize the print engine.

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Note: See Section [4.4 Frequently Used System Commands](#) for detailed instruction.

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3. Check that the Printhead Cradle Lift Mechanism is working properly by moving it to RAISE, CAP and PRINT position. Repeat for 5 times.
4. Check that the Pinch Valve is working properly by moving it to INK, CLOSED, and AIR positions.
5. Check the functionality of the Circulation Pumps by priming the system for two (2) times.
6. Check the functionality of the Wiper and WIMM by performing light service three (3) times and medium service two (2) times.
7. Print the desired test chart to verify that the system can print properly.



## 15 10G Card Replacement

This section provides replacement instructions for the 10G card (Electronics Ross Board 10G Upgrade Kit – PN 10005281).

**Figure 193 – 10G Card**



### 15.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 15.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 15.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 15 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	10G Card – PN 10005281
1	Tool	T10 – M3 screwdriver



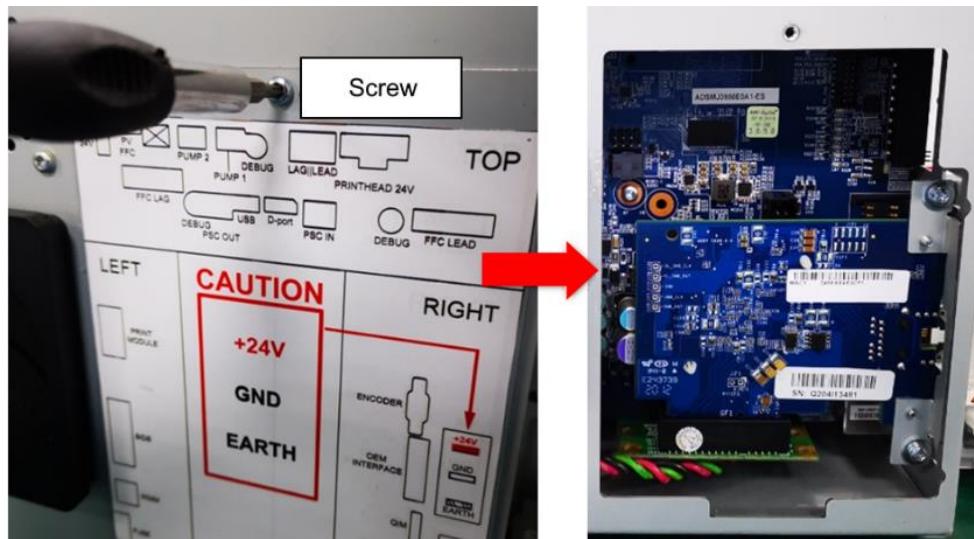
## 15.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

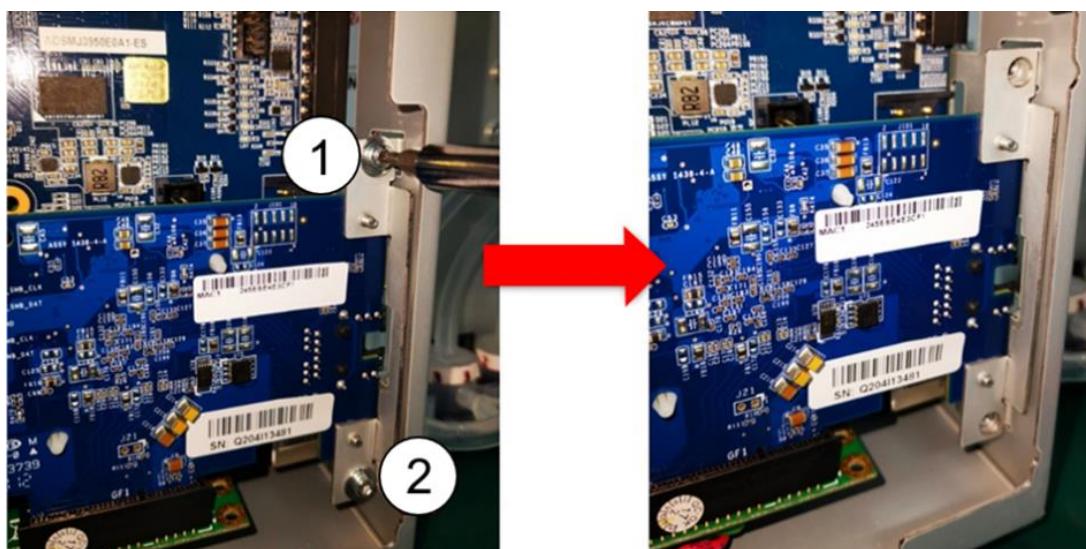
1. Power down the system.
2. Wear an anti-static wrist strap when performing this procedure.
3. Loosen the screw to remove the 10G card cover.

**Figure 194 – 10G Card Cover Mounting Screw**



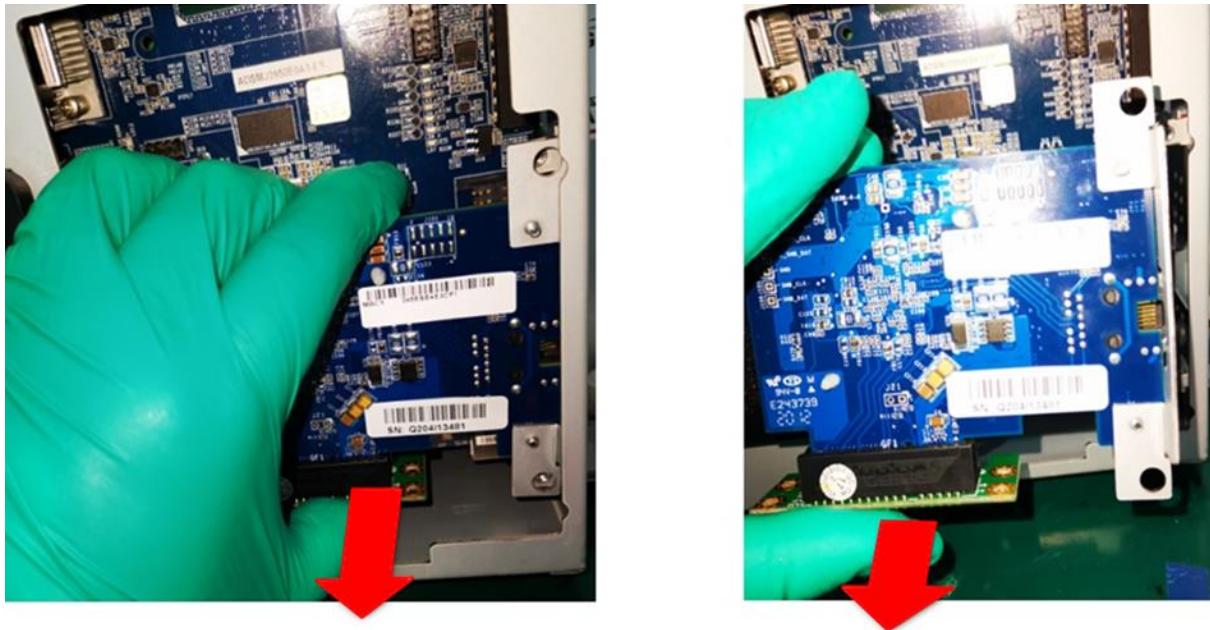
4. Loosen two (2) screws to remove the 10G Card.

**Figure 195 – Screws for 10G Card**

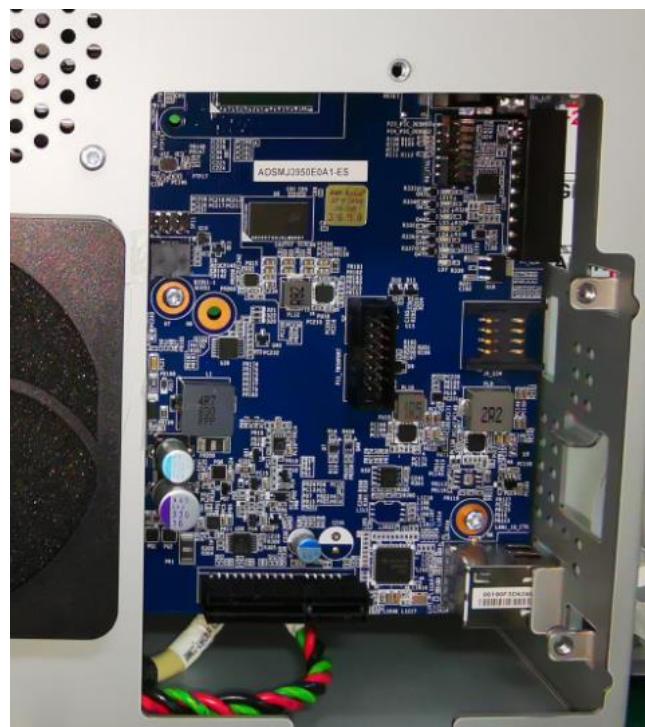


5. Carefully remove the 10G card.

**Figure 196 – 10G Card Removed**



**Figure 197 – 10G Card Removed**



6. Discard the 10G Card according to local disposal recommendations.

## 15.5 Installation

1. Visually inspect that new 10G Card to ensure that there is no damage.

**Figure 198 – 10G Card**



2. Install the 10G card.

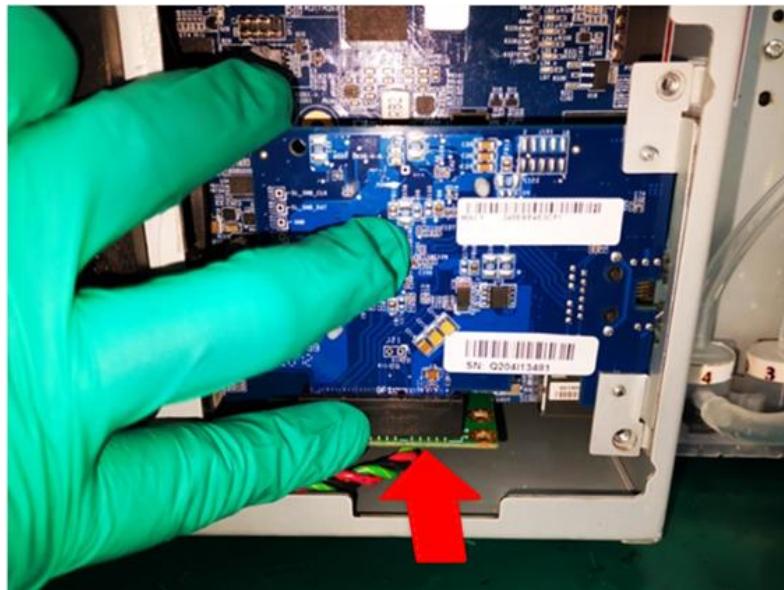
- Position the bracket of the 10G Card (#1 in [Figure 199](#)) within the Electrical Module enclosure (#2).
- Align it with the holes on the tabs on the inside of the enclosure.

**Figure 199 – Install 10G Card**



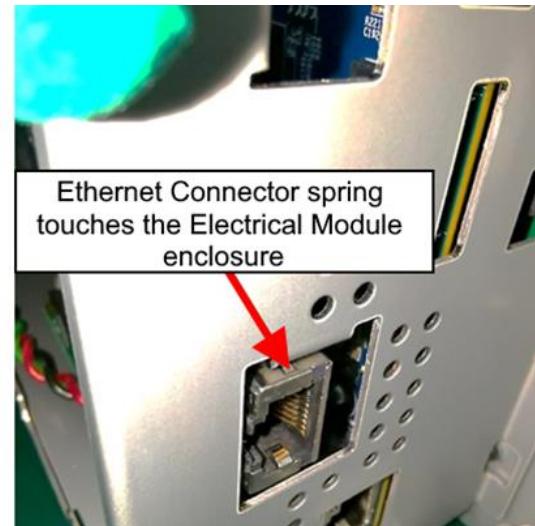
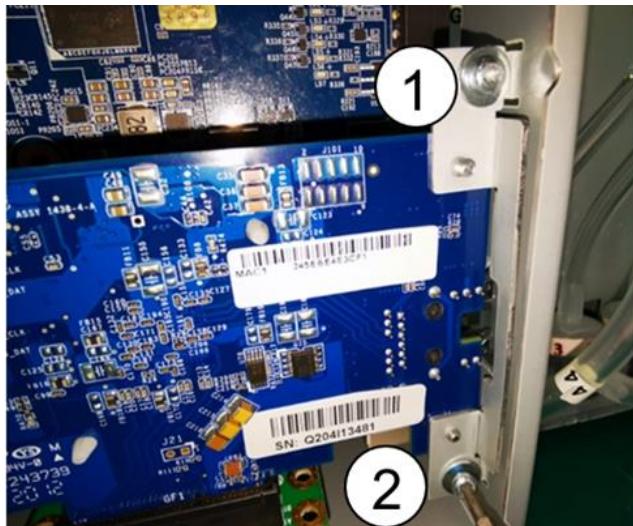
3. Gently push the contact pin into the corresponding connector slot.

**Figure 200 – 10G Card Contact Pin Areas**



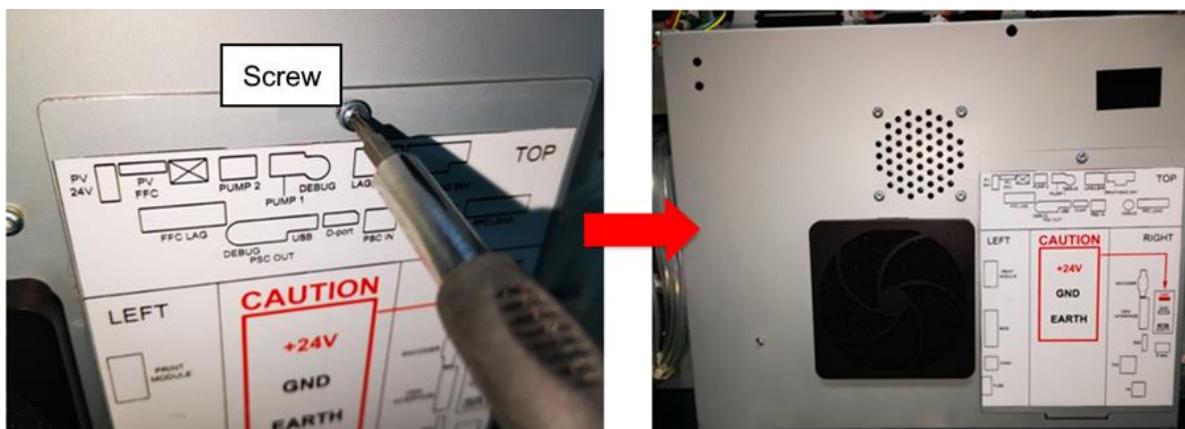
4. Install the two (2) mounting screws and tighten to secure the 10G Card.
5. Confirm that the 10G Ethernet connector spring is touching the Electrical Module enclosure.

**Figure 201 – 10G Card Mounting Screws**



**Figure 202 – 10G Card Secured**

6. Tighten the screw to secure the 10G card cover to the Electrical Module enclosure.

**Figure 203 – Screw that Secures the 10G Card Cover**

7. Check that all cables are fully connected.

## 15.6 Testing

1. Power on the DuraFlex system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

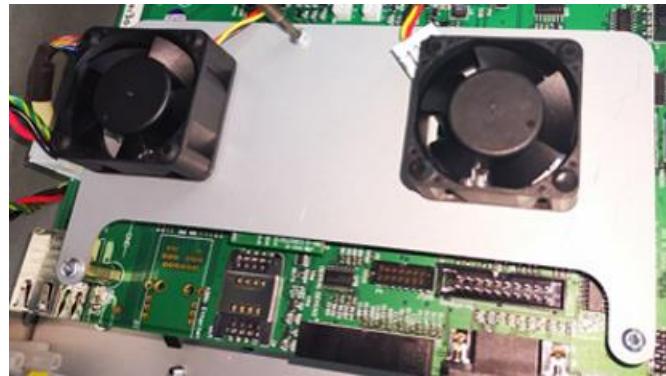
3. Enable the External RIP mode.
4. Print a desired test chart (in GBOR format) to verify the system can print properly using the new 10G card.



## 16 Fan Assembly Replacement

This section provides replacement instructions for the Electronics Fan Assembly for Ross 10G (PN 10005282), which is provided for the Datapath PCA with 10G card.

**Figure 204 – Fan Assembly**



### 16.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 16.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section [2.2 ESD Guidelines](#) for details.

### 16.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 16 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Fan Assembly – PN 10005282
1	Tool	T10 – M3 screwdriver
1	Tool	M3 nut driver (extra-long, 200-300 mm extension)
1	Tool	Philips head screwdriver

## 16.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

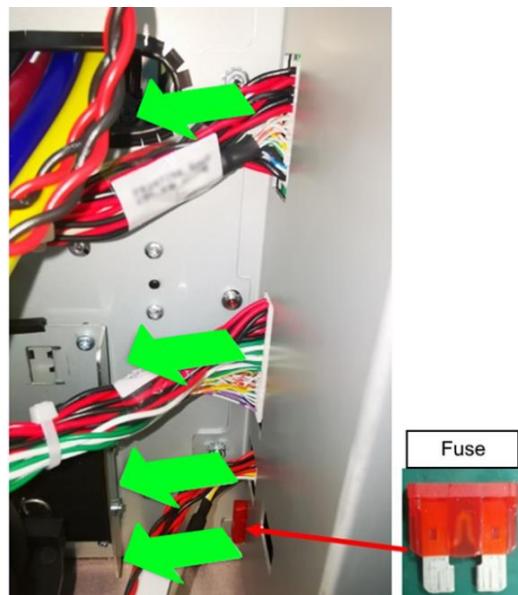
**Note:** Unless otherwise noted, keep all original hardware for installation.

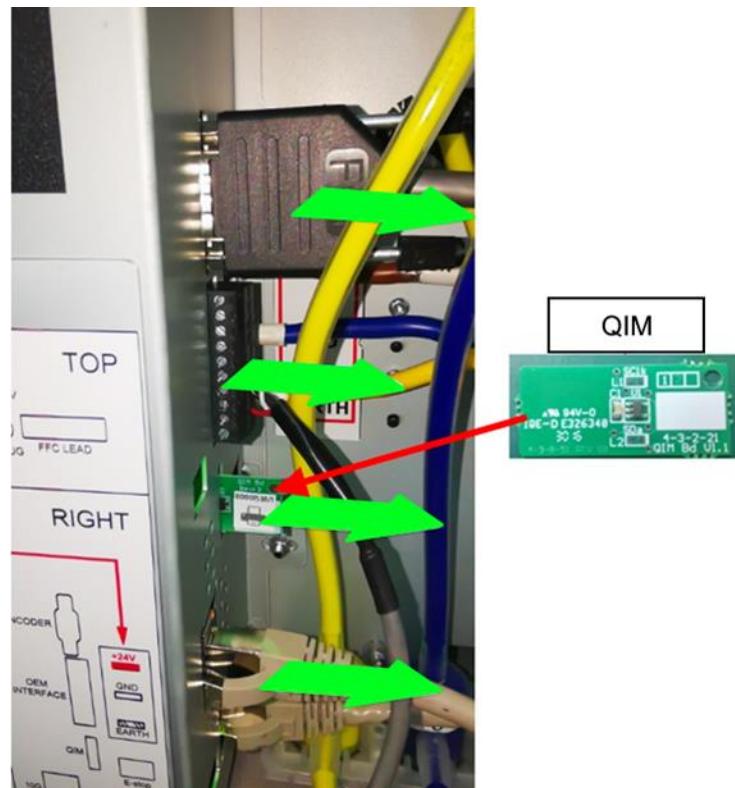
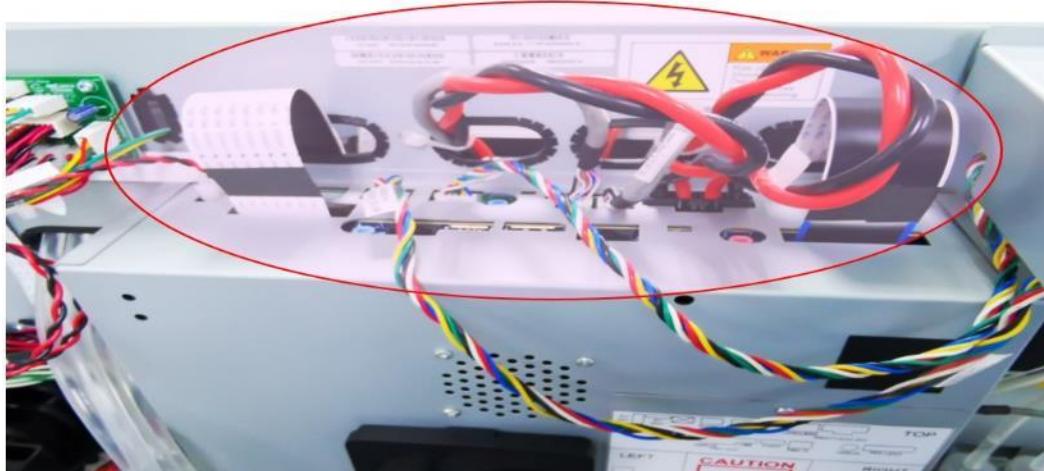
1. Power down the system.
2. Wear an anti-static wrist strap when performing this procedure.
3. Disconnect the following cables.

**Note:** Some cable connectors are secured with a tab. If needed, press the tab to disengage it.

- 24V power cable (x1)
- 1G Ethernet cable (x1)
- 10G Ethernet cable (x1, if present)
- TOF sensor cable (x1, if present)
- Encoder cable (x1)
- Pinch Valve power cable (x1)
- Pinch Valve FFC (x1)
- Circulation Pump cables (x2)
- Printhead Power PCA power cables (x2)
- Printhead Power PCA data cable (x2)
- Electronics FFC (x2)
- BIDS PassThrough PCA cable (x1)
- Main board cable (x1)
- Fuse (x1)
- QIM (x1)

**Figure 205 – Cables and Fuse – Left Side of Electrical Module Enclosure**



**Figure 206 – Cables and QIM – Right Side of Electrical Module Enclosure****Figure 207 – Cables on Top of Electrical Module Enclosure**

**CAUTION:** To avoid cutting wires or cables or damaging hardware, use appropriate tools that are not sharp for the next steps. Do not use a knife, razor blade, or scissors!

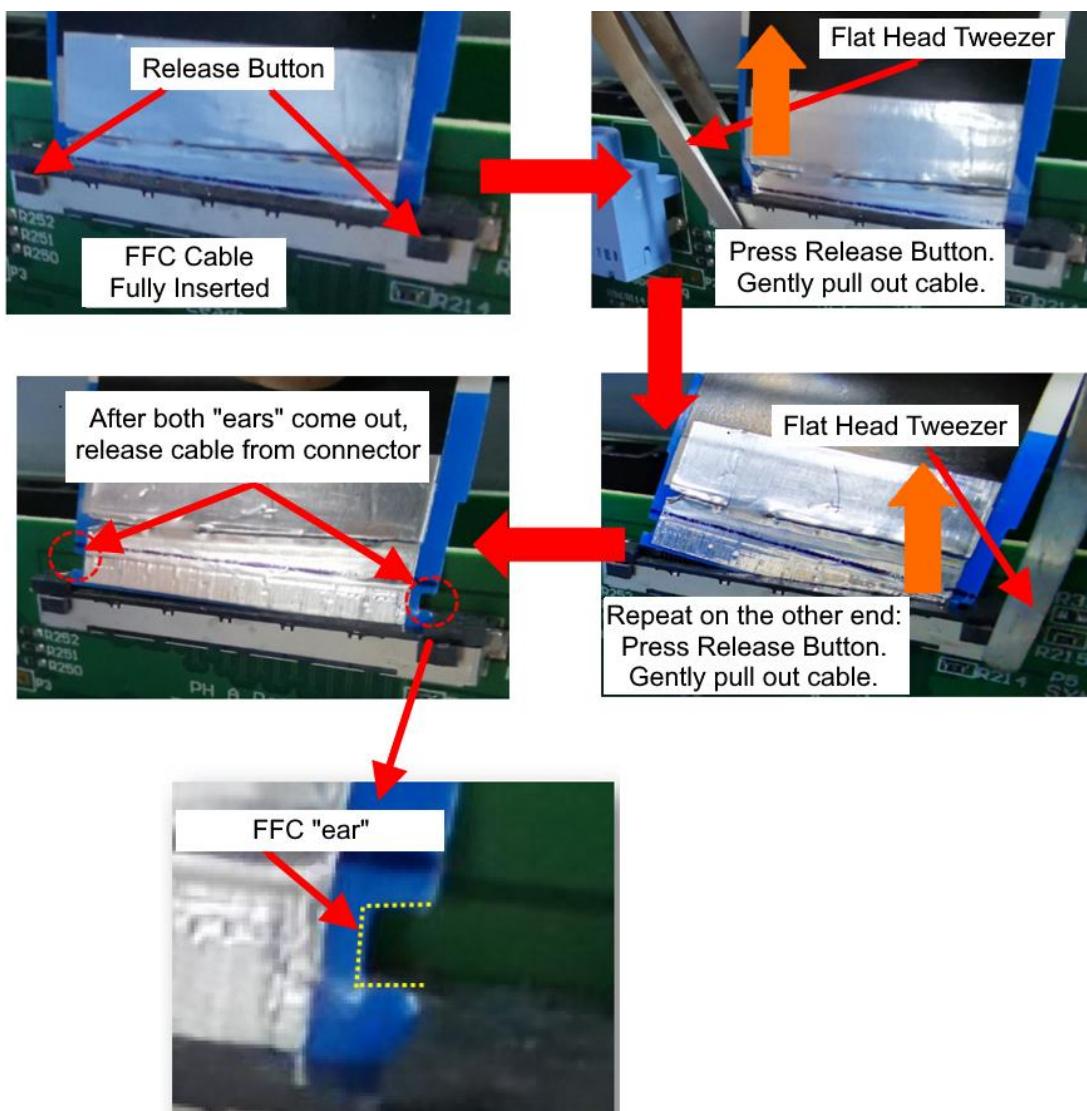
4. Disconnect the ends of both Electronics FFCs (leading and lagging) from the Electrical Module ([Figure 208](#)).

**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), strictly follow the steps below.

To disconnect the Electronics FFC:

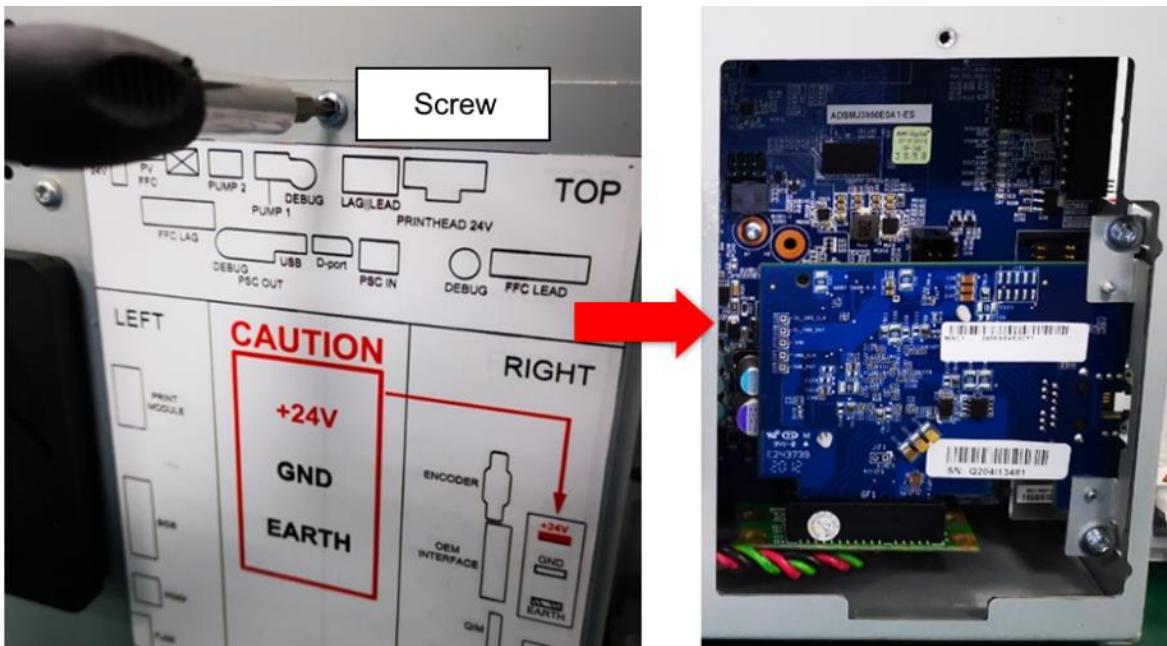
- Use a flat-head tweezer (or similar tool) to release the FFC connectors.
- Use tweezers to press down one of the release buttons on the FFC connector.
- Apply slight force on the pressed side and gently pull on the FFC to disconnect it.
- Repeat these steps to disconnect the other FFC.

**Figure 208 – Remove FFC**



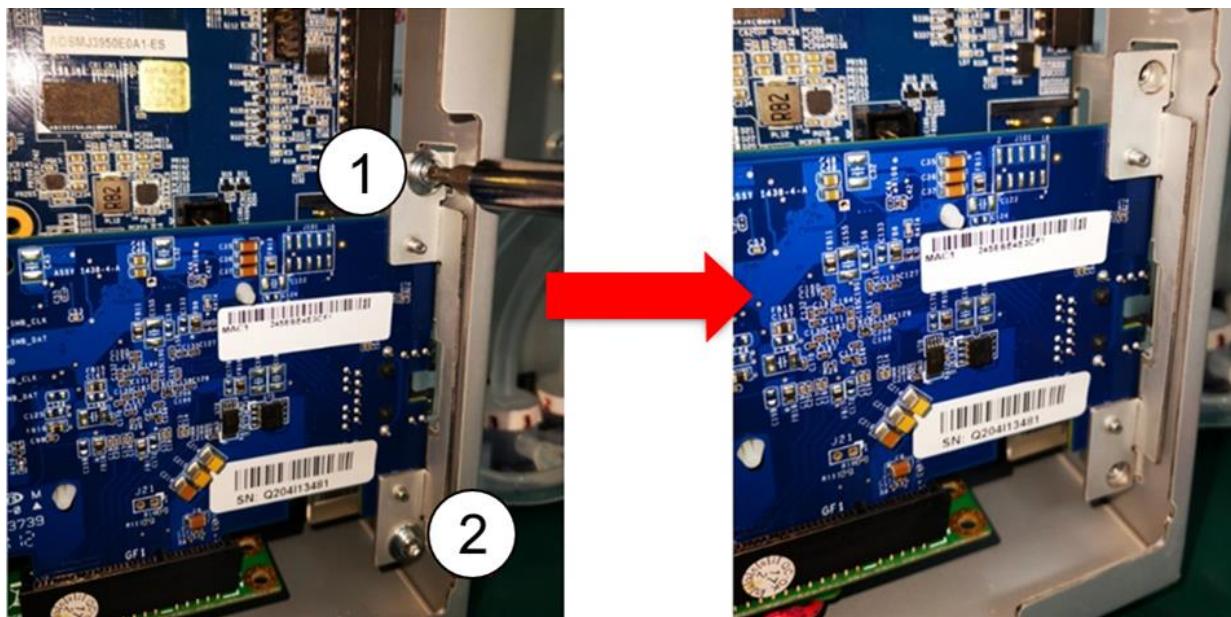
5. Loosen the screw on the Electronics Module cover over the 10G card.
6. Remove the cover and set it aside.

**Figure 209 – Electronics Module Cover**



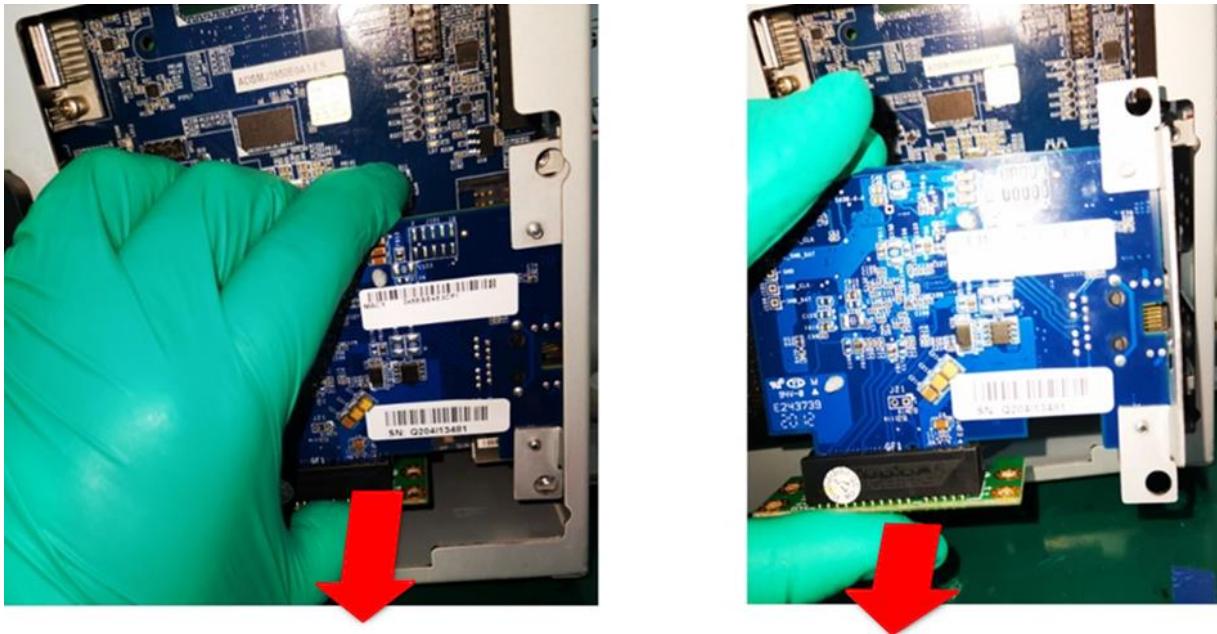
7. Loosen the two (2) screws that secure the 10G card to the enclosure.

**Figure 210 – 10G Card Mounting Screws**



8. Carefully remove the 10G card.

**Figure 211 – 10G Card Removed**

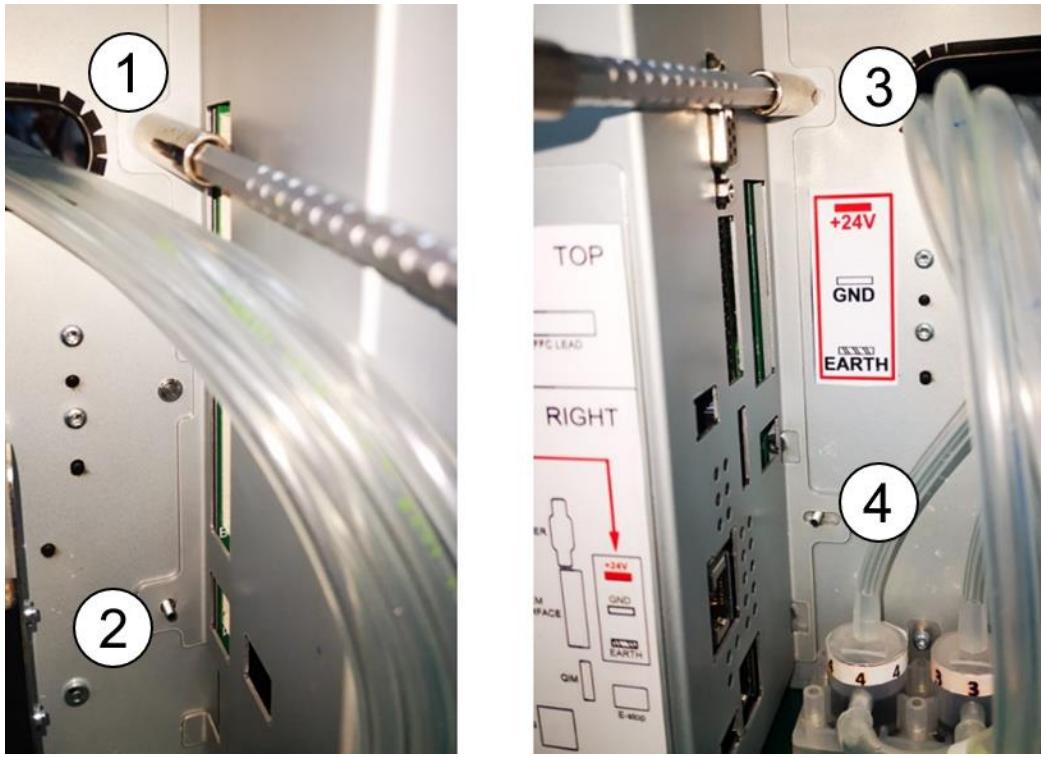


**Figure 212 – 10G Card Removed**



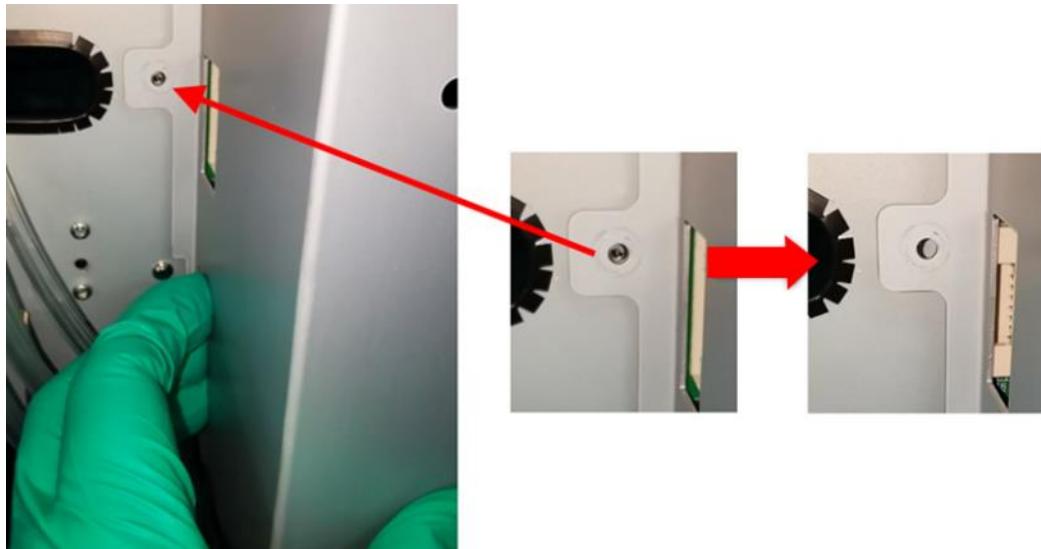
9. Loosen the four (4) nuts to remove the Electrical Module enclosure.

**Figure 213 – Nuts on Electrical Module Enclosure**



10. Lift the right side of the Electrical Module enclosure, until the metal screw locating pin is fully released.

**Figure 214 – Metal Screw Locating Pin Released**



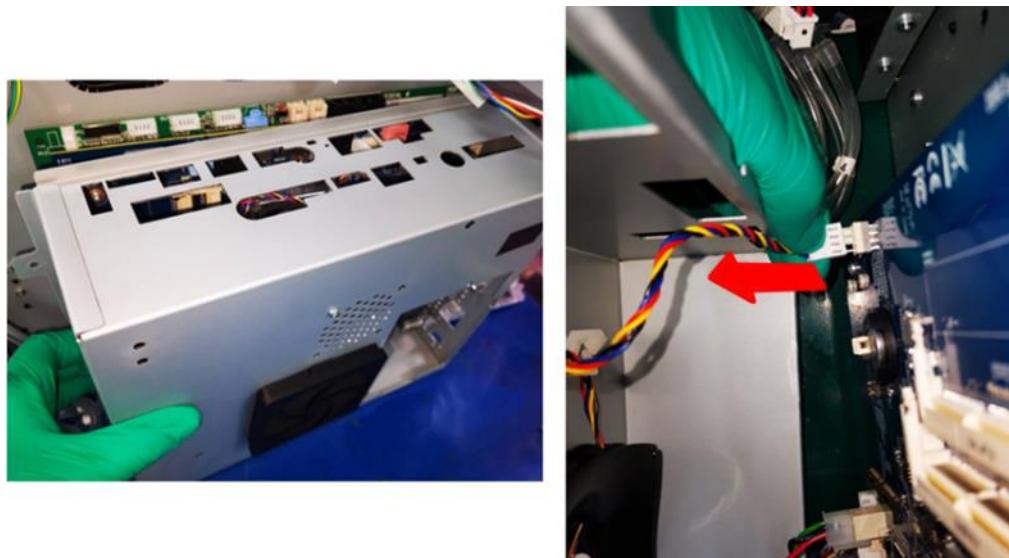
11. With one hand holding the right side of Electrical Module enclosure, use your other hand to push the enclosure to the left to release the DB9 connector ([Figure 215](#)).

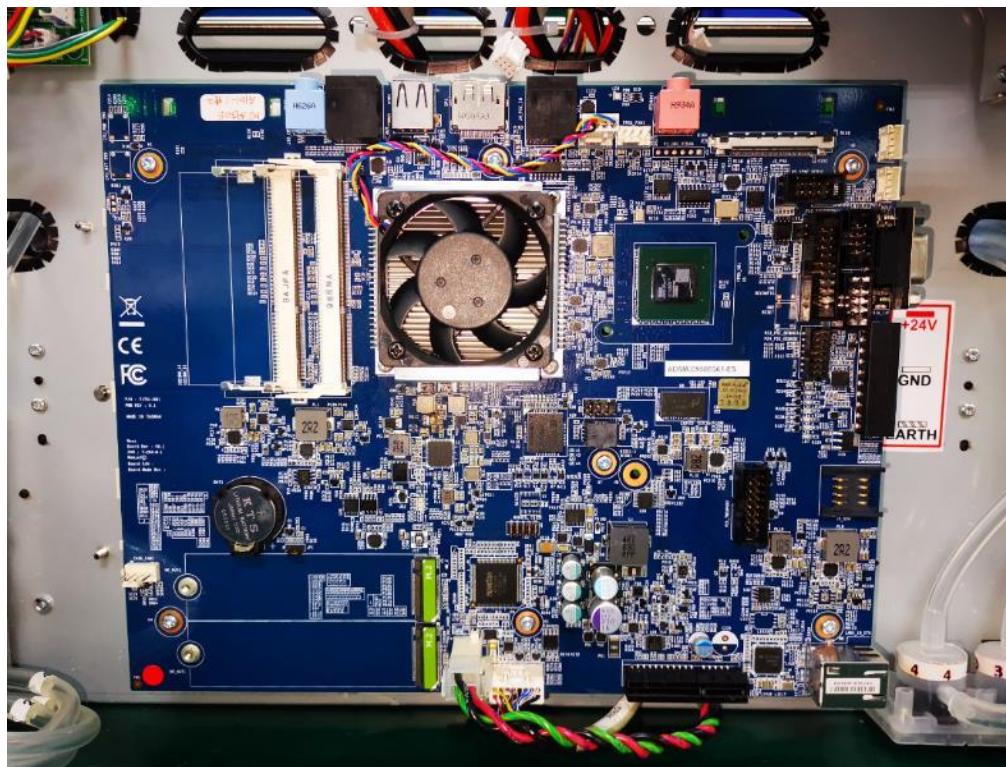
**Figure 215 – Push Electrical Module Enclosure**



12. While holding the loosened Electrical Module enclosure at an angle, press the tab to disconnect the fan connector from the Datapath PCA.

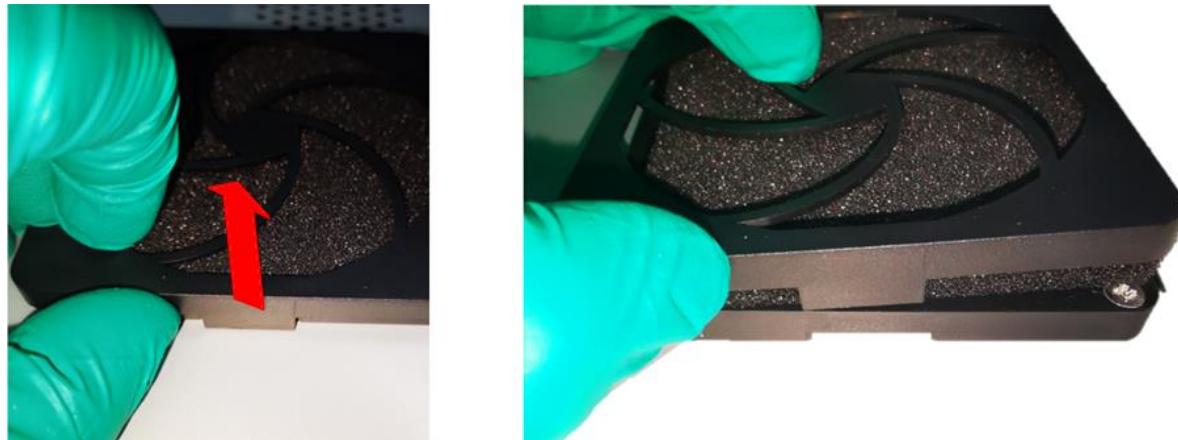
**Figure 216 – Disconnect the Fan**



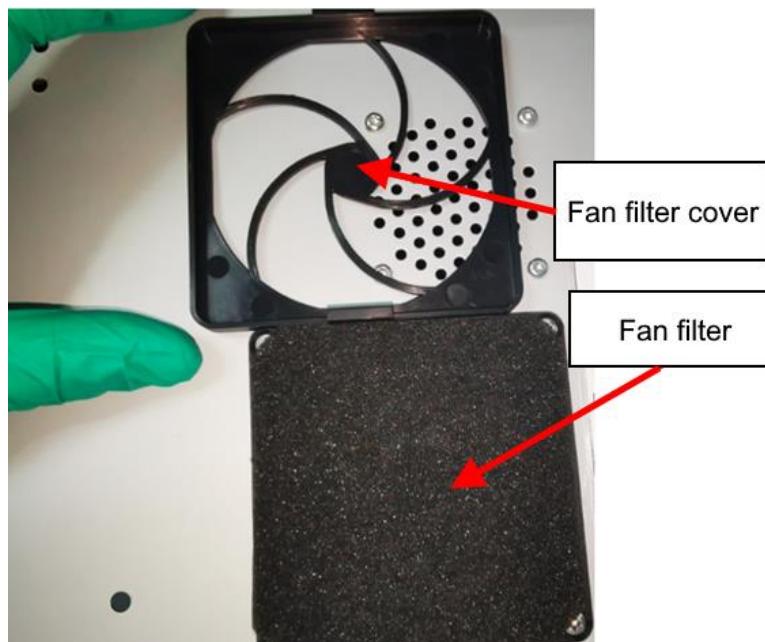
**Figure 217 – Electrical Module Enclosure Removed****Figure 218 – Electrical Module Enclosure Cover with Fan**

13. Remove the fan filter cover by releasing the two (2) hooks.

**Figure 219 – Hooks on Fan Filter Cover**

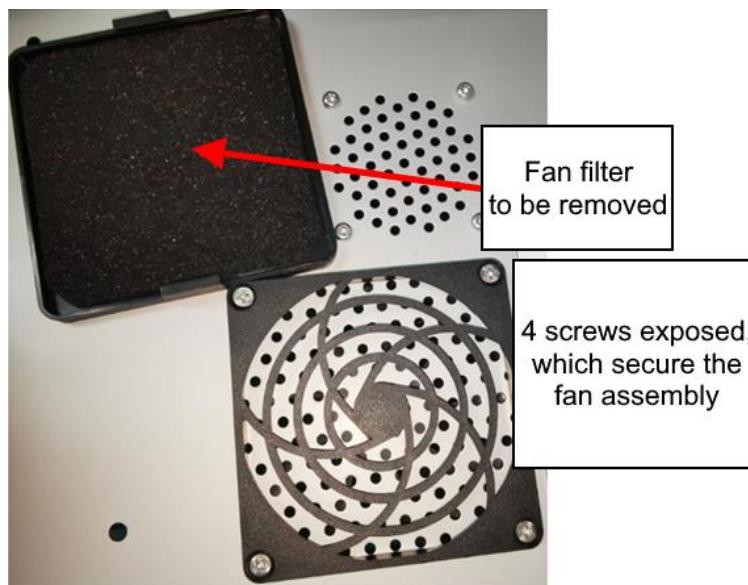


**Figure 220 – Fan Filter Cover Removed**



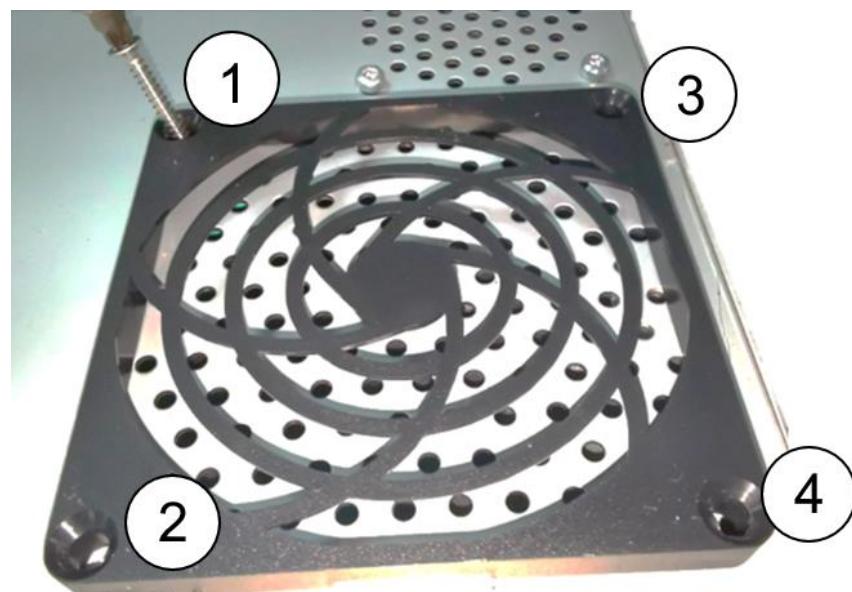
14. Remove the fan filter to expose the four (4) screws that mount the fan assembly to the Electrical Module enclosure.

**Figure 221 – Screws Exposed on Fan Filter**



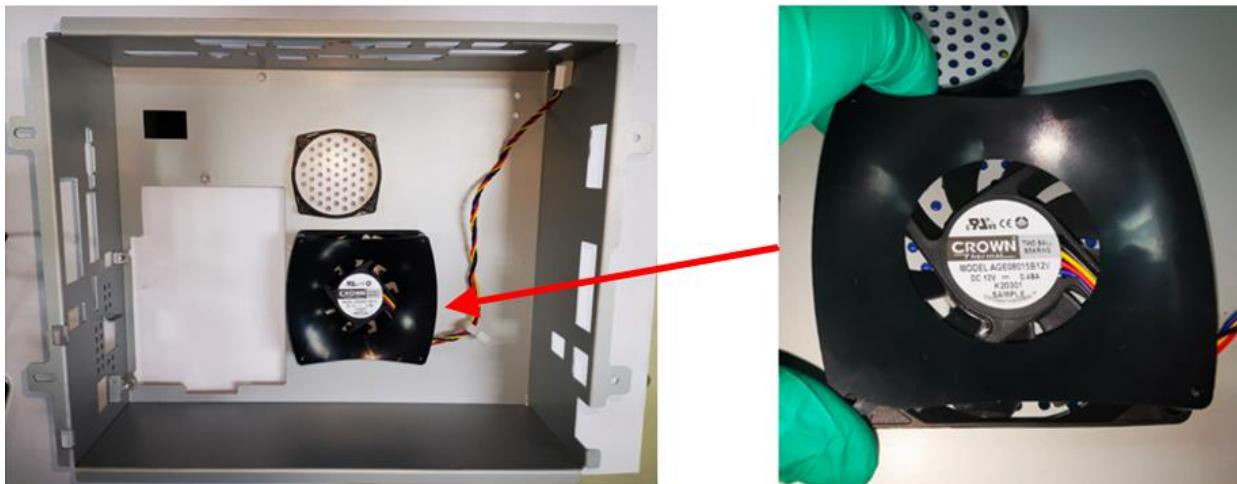
15. Loosen the four (4) screws.

**Figure 222 – Screws H1, H2, H3, and H4**



16. Remove the fan cable from the cable holder.
17. Remove the fan assembly from inside of the Electrical Module enclosure.

**Figure 223 – Fan Assembly Inside Electrical Module**



18. Discard the Fan Assembly according to local disposal recommendations.

## 16.5 Installation

1. Visually inspect that new fan assembly to ensure that it has no damage.

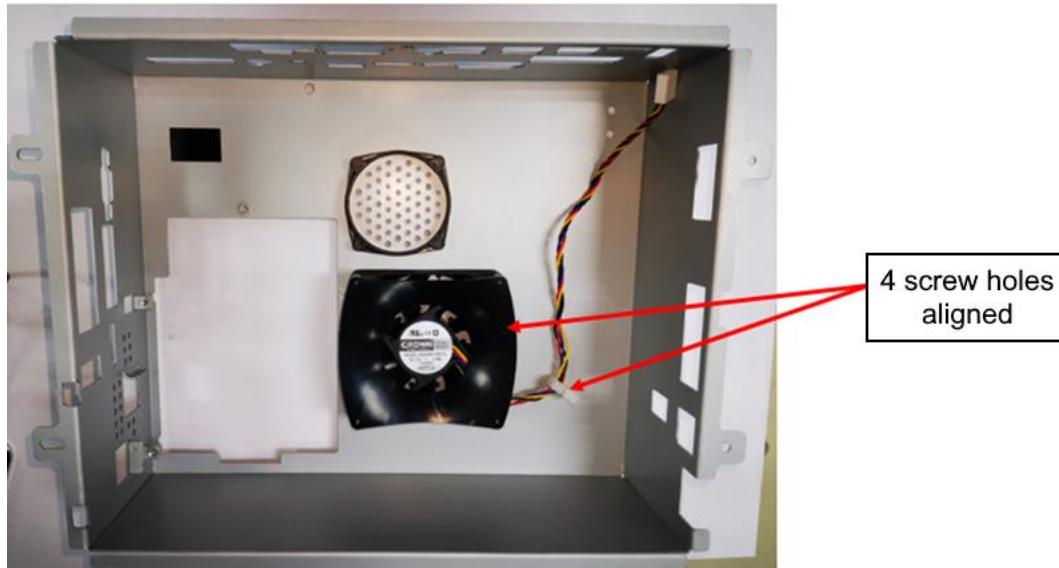
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 224 – Fan Assembly**



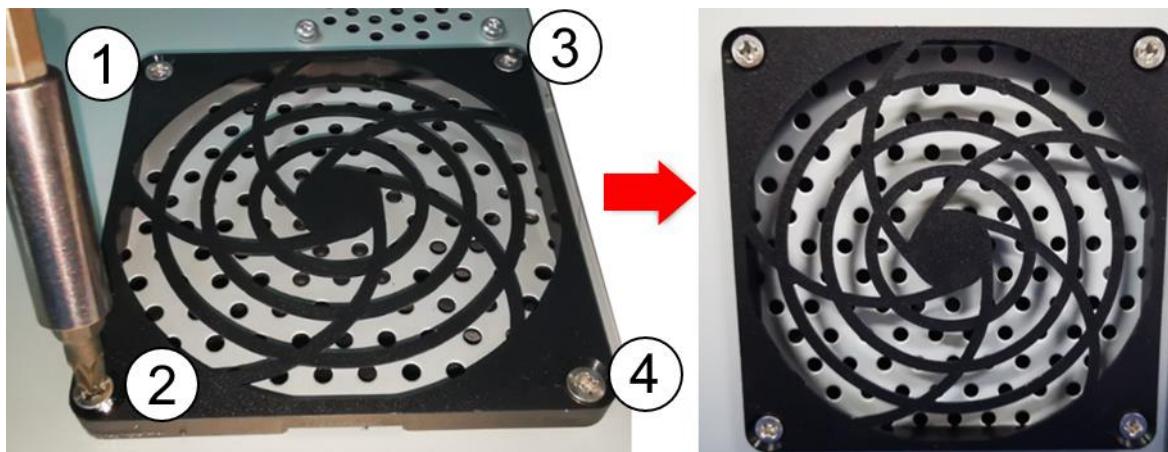
2. Route the fan assembly cable into the cable holder.
3. Align the four (4) screw holes on the new fan assembly to the holes on the Electrical Module enclosure.

**Figure 225 – Fan Cable Installed and Fan Assembly Aligned**



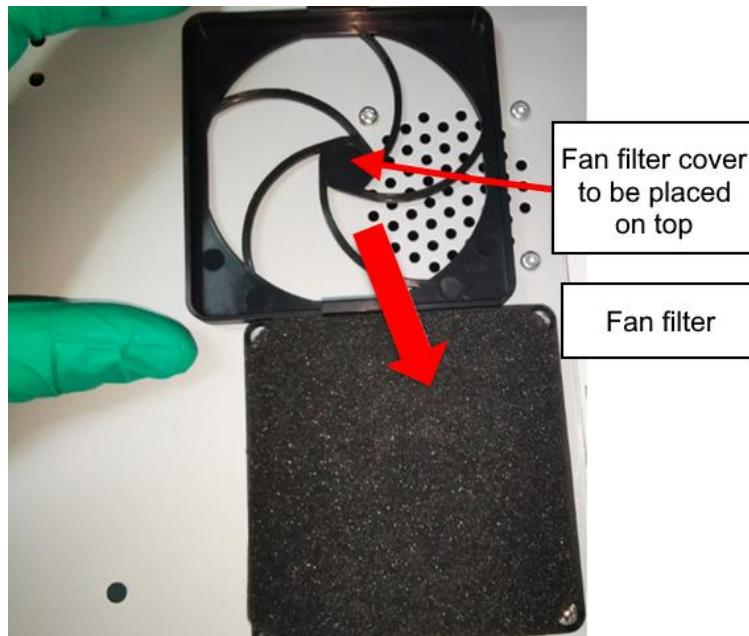
4. From the outside of the Electrical Module enclosure, tighten the 4 screws to secure the fan assembly.

**Figure 226 – Screws Tightened**



5. Place the fan filter cover on top of the fan filter.

**Figure 227 – Fan Filter Cover**



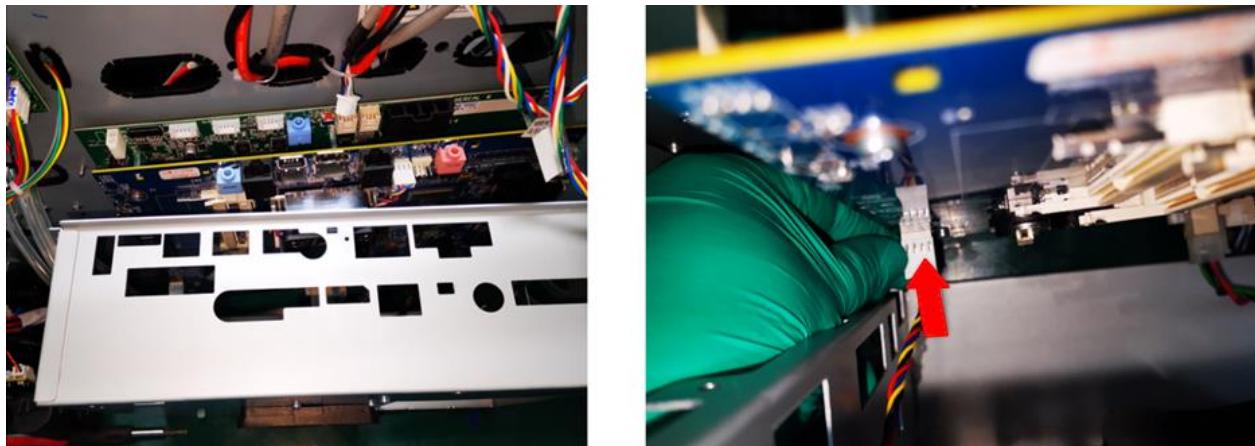
6. Snap in the fan filter cover.

**Figure 228 – Fan Filter Cover Placed On Top**



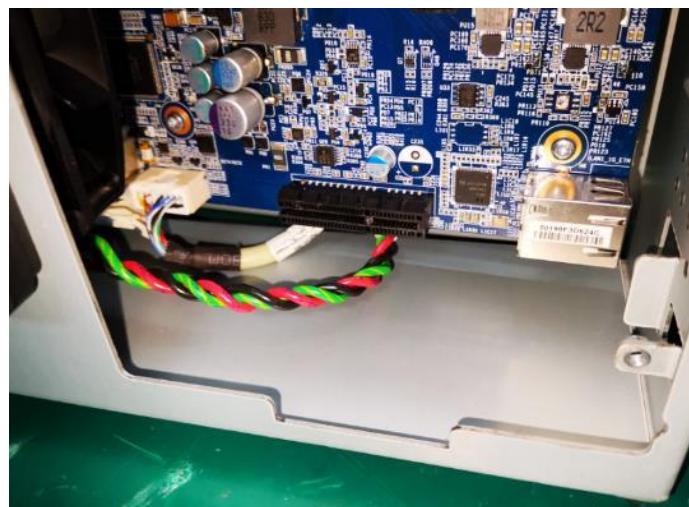
7. While holding the Electrical Module enclosure with one hand, use your other hand to connect the fan assembly cable to the fan connector on the Datapath PCA.

**Figure 229 – Fan Assembly Cable Connected**



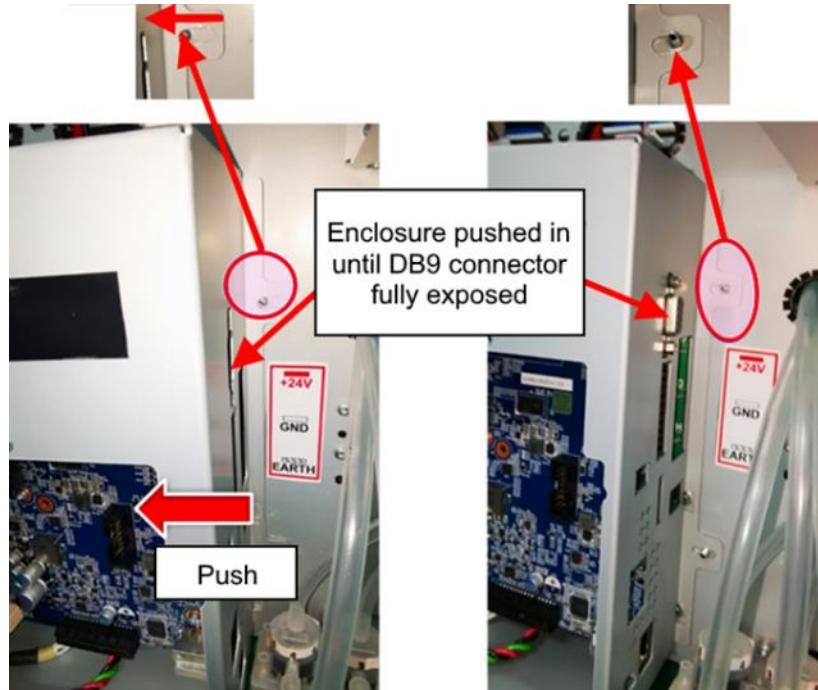
8. Adjust and manage the 24V PSU cable and data cable, so that they will not be cut by the sharp edge of Electrical Module enclosure.

**Figure 230 – Adjust PSU Cable and Data Cable**



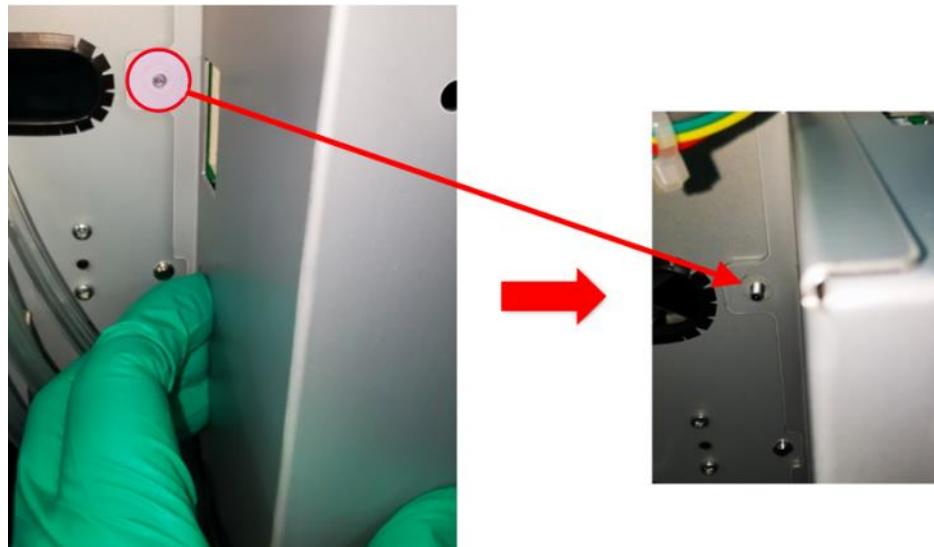
9. With one hand holding the RIGHT side of the Electrical Module enclosure, use your other hand to align the holes to the screw locating pins on the LEFT side (at the encoder DB9 connector side).
10. Push the Electrical Module enclosure towards the RIGHT side to fully expose the encoder DB9 connector.

**Figure 231 – DB9 Connector Exposed**



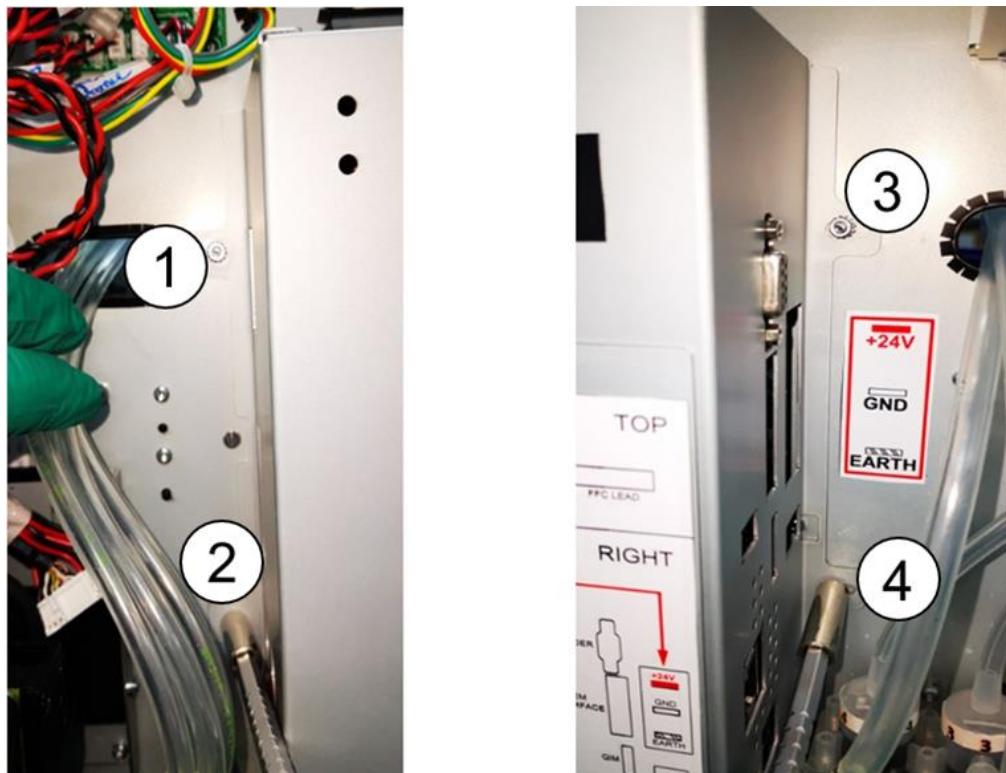
11. Attach the RIGTH side of the Electrical Module by aligning and pushing the holes into the screw locating pins on the Print Module metal frame.

**Figure 232 – Screw Locating Pin on Print Module Metal Frame**

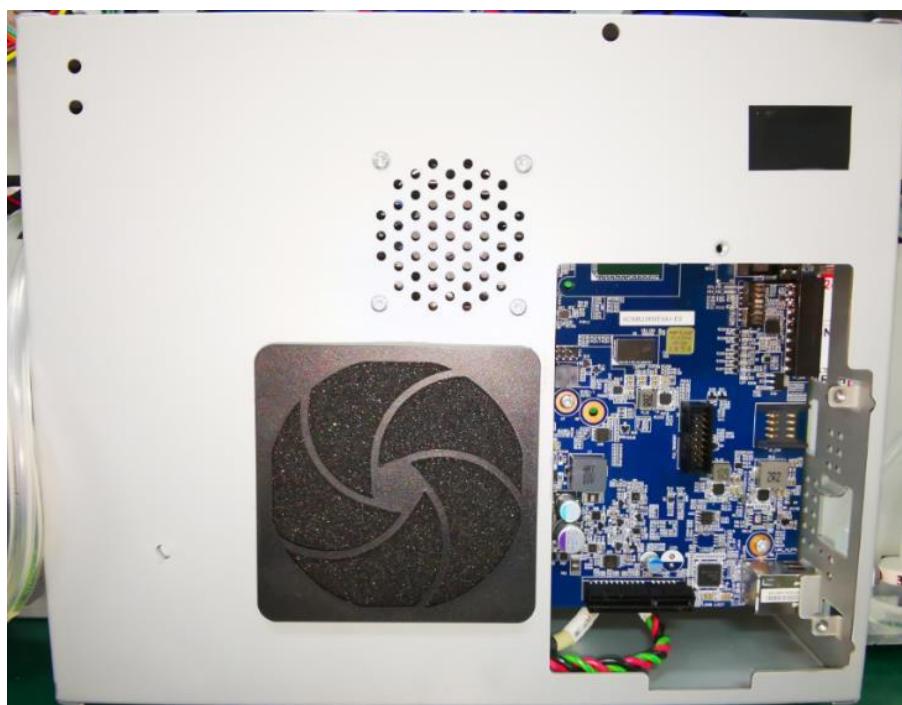


12. Tighten the four (4) nuts to secure the Electrical Module enclosure.

**Figure 233 – Nuts Tightened**



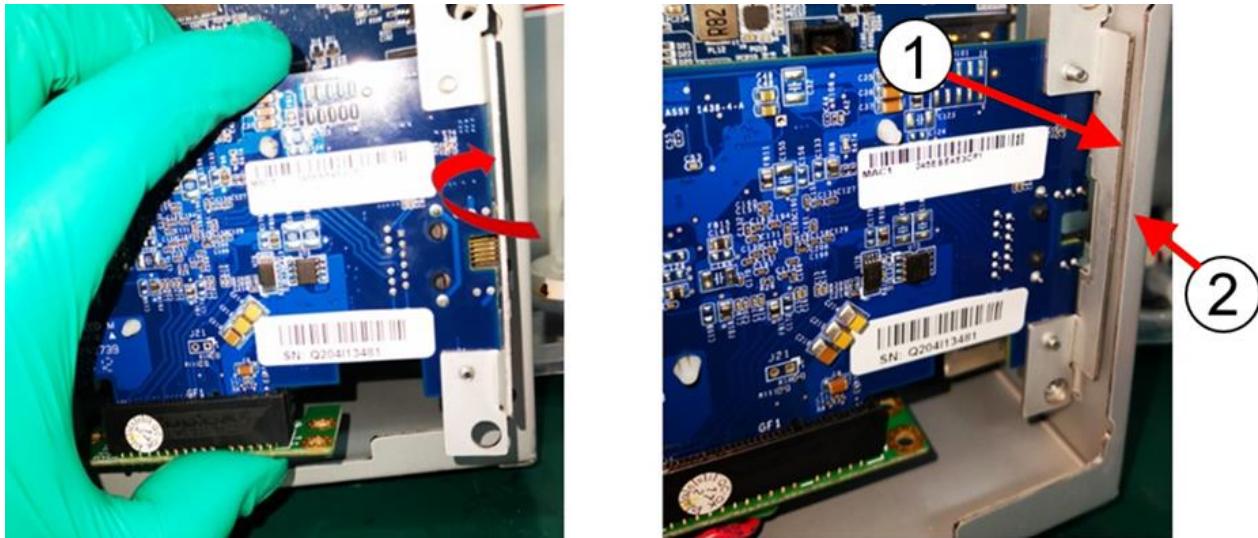
**Figure 234 – Electrical Module Enclosure Installed**



13. Install the 10G card.

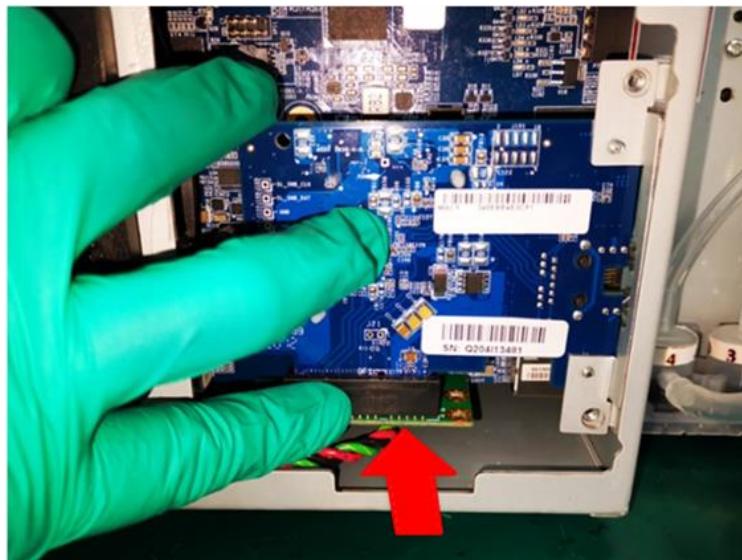
- a. Position the bracket of the 10G Card (#1 in [Figure 235](#)) within the Electrical Module enclosure (#2).
- b. Align it with the holes on the tabs on the inside of the enclosure.

**Figure 235 – Install 10G Card**



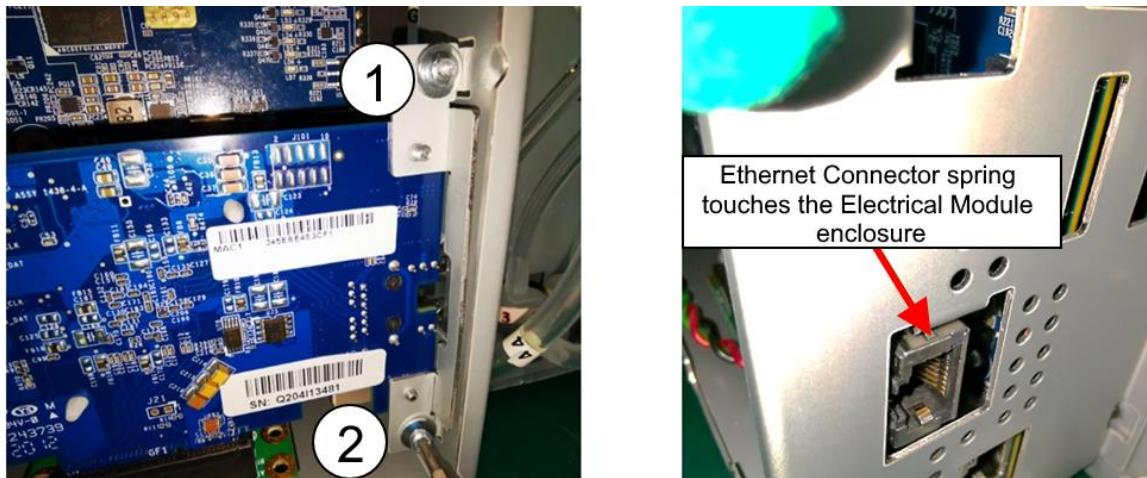
14. Gently push the contact pin into the corresponding connector slot.

**Figure 236 – 10G Card Contact Pin Areas**



15. Install the two (2) mounting screws and tighten to secure the 10G Card.
16. Confirm that the 10G Ethernet connector spring is touching the Electrical Module enclosure.

**Figure 237 – 10G Card Mounting Screws**

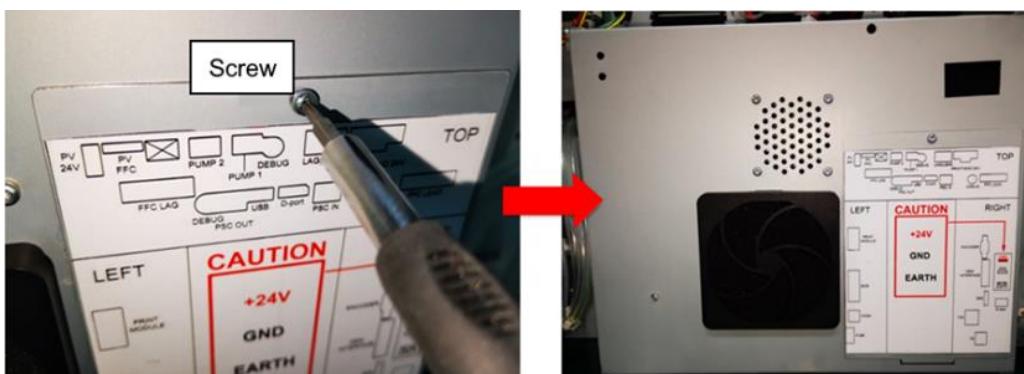


**Figure 238 – 10G Card Secured**



17. Tighten the screw to secure the 10G card cover to the Electrical Module enclosure.

**Figure 239 – Screw that Secures the 10G Card Cover**



17-Sep-21

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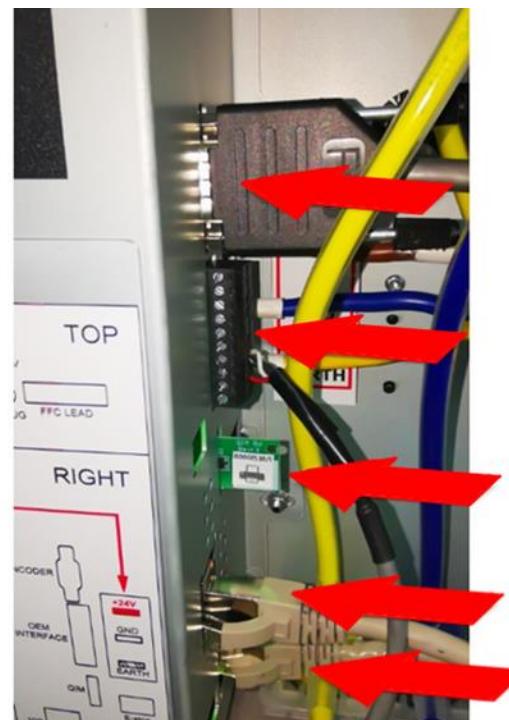
**DURAFLEX™**

18. Connect all the cables, QIM, and Fuse.

**Figure 240 – Cables Connected**



**Figure 241 – Cables Connected to Both Sides of Mechanical Controller PCA**



**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), review [Figure 242](#) and strictly follow the steps below.

19. To install the Electronics FFCs:

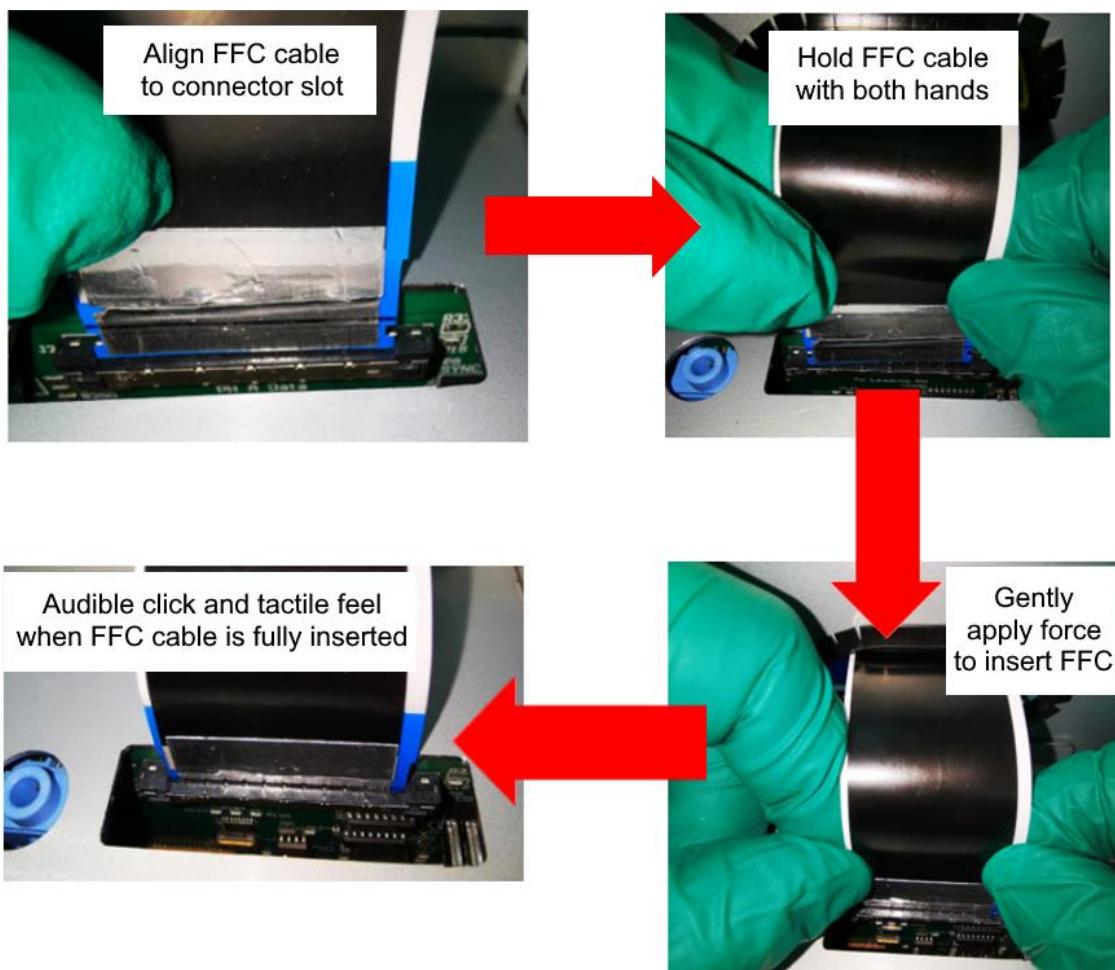
- Carefully align the end of the FFC with the open slot of the connector.

For proper connection and to avoid damage, ensure that the edge of the FFC is parallel to the connector and not tilted to one side or at an angle!

- Hold the end of the FFC with both hands and gradually apply gentle force to insert the FFC into the connector.

You will be able to feel the when the FFC is fully inserted and will hear a click to indicate the proper mating and positive locking of the FFC with the connector.

**Figure 242 – Insert FFC**



20. Check that all cables are fully connected.



## 16.6 Testing

1. Power on the system.
2. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

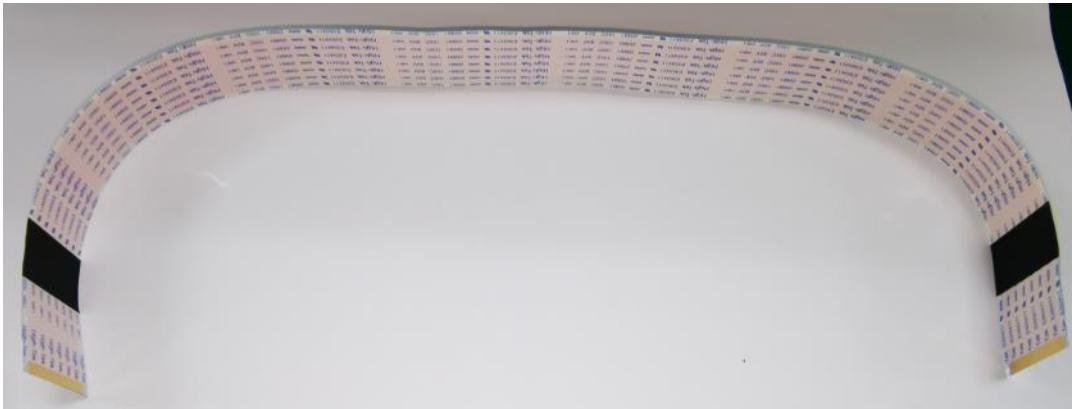
3. Check that the Printhead Cradle Lift Mechanism is working properly by moving it to RAISE, CAP and PRINT positions. Repeat for five (5) times each.
4. Check that the Pinch Valve is working properly by moving it to INK, CLOSED, and AIR positions.
5. Check the functionality of the Circulation Pumps by priming two (2) times.
6. Check the functionality of the Wiper and WIMM by performing light service three (3) times and medium service two (2) times.
7. Print the desired test chart to verify that the system can print properly.



## 17 Electronics FFC Replacement

This section provides replacement instructions for the Electronics FFC (PN 10005293). There are two (2) cables used in the DuraFlex system; one leading and one lagging. The instructions cover replacement steps for both cables.

**Figure 243 – Electronics FFC (Flat Flexible Cable)**



### 17.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 17.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 17.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 17 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Electronics FFC – PN 10005293
1	Tool	Slotted screwdriver (3/16")
1	Tool	Flat-head tweezer

### 17.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.



---

Note: Unless otherwise noted, keep all original hardware for installation.

1. Remove any covers or panels to expose the top ([Figure 244](#)) and rear of the Electronics Module and create sufficient access to the components.

**Figure 244 – Electronics FFC Access from Top**



2. Wear an anti-static wrist strap while performing this procedure.
3. Power down the DuraFlex system.

---

**CAUTION:** To avoid cutting wires or cables or damaging hardware, use appropriate tools that are not sharp for the next steps. Do not use a knife, razor blade, or scissors!



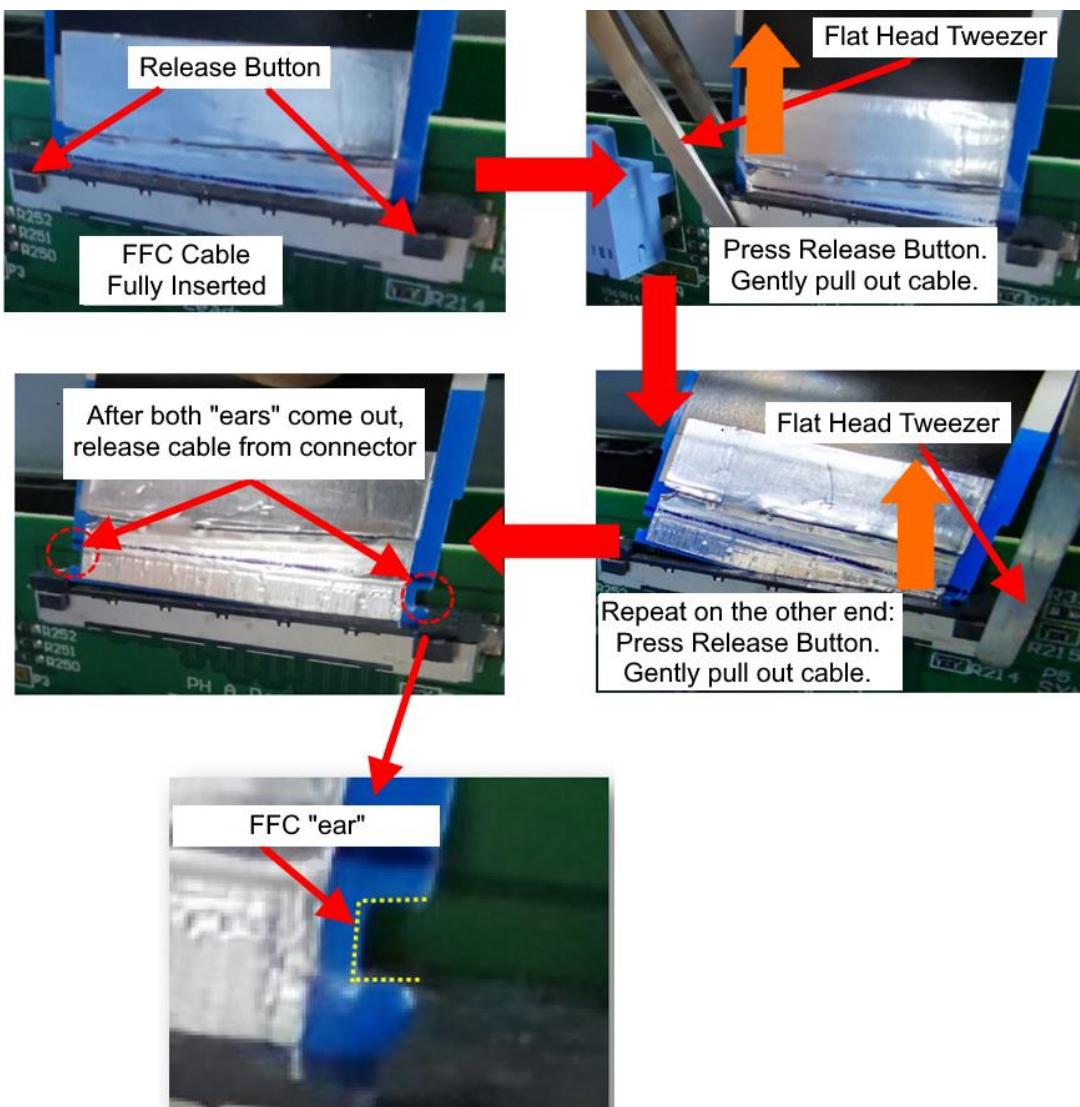
4. Disconnect the ends of both Electronics FFCs (leading and lagging) from the Electrical Module ([Figure 245](#)).

**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), strictly follow the steps below.

To disconnect the Electronics FFC:

- Use a flat-head tweezer (or similar tool) to release the FFC connectors.
- Use tweezers to press down one of the release buttons on the FFC connector.
- Apply slight force on the pressed side and gently pull on the FFC to disconnect it.
- Repeat these steps to disconnect the other FFC.

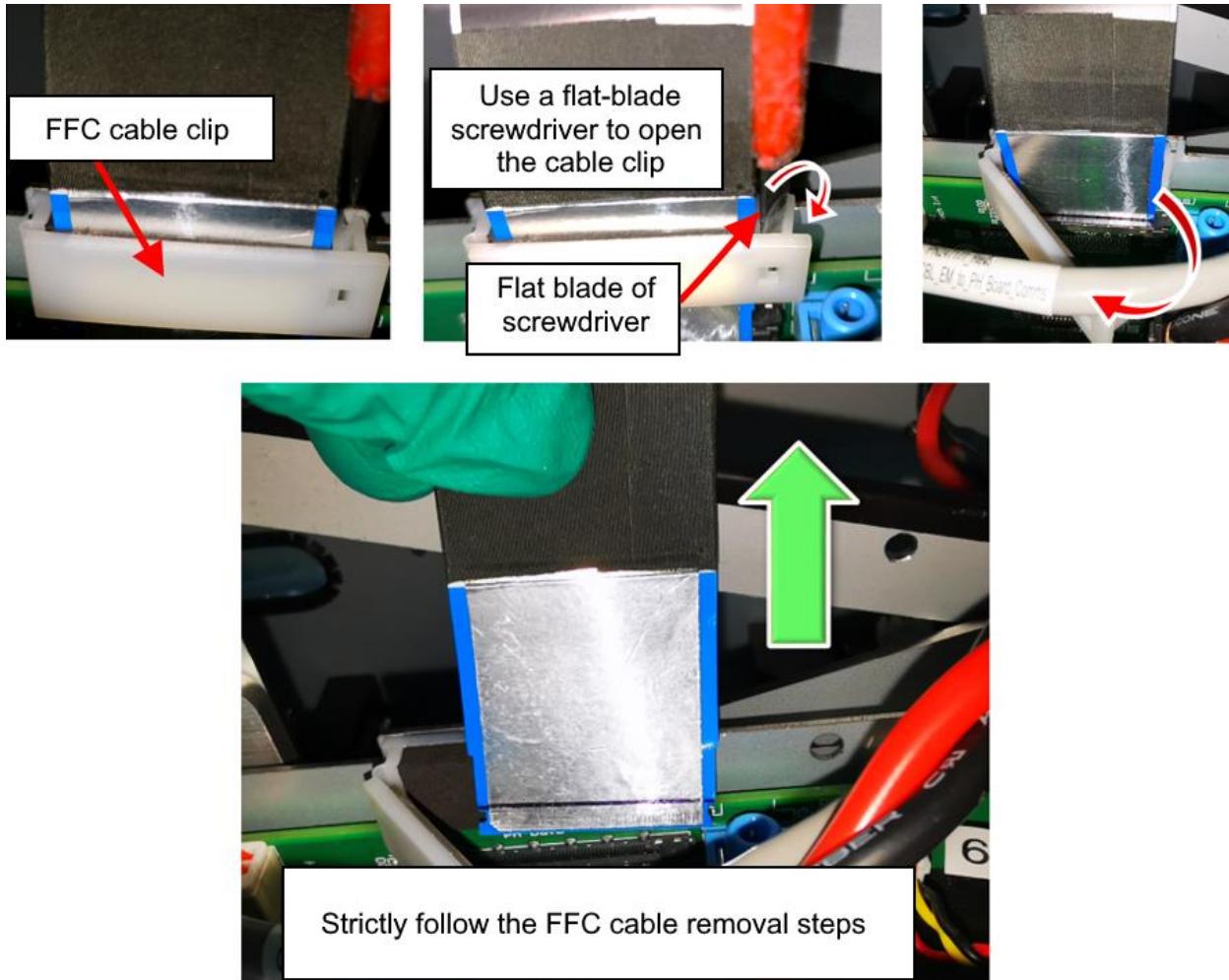
**Figure 245 – Remove Electronics FFC**



5. From the front of the DuraFlex unit, release the leading FFC from the Printhead Power PCA connector:

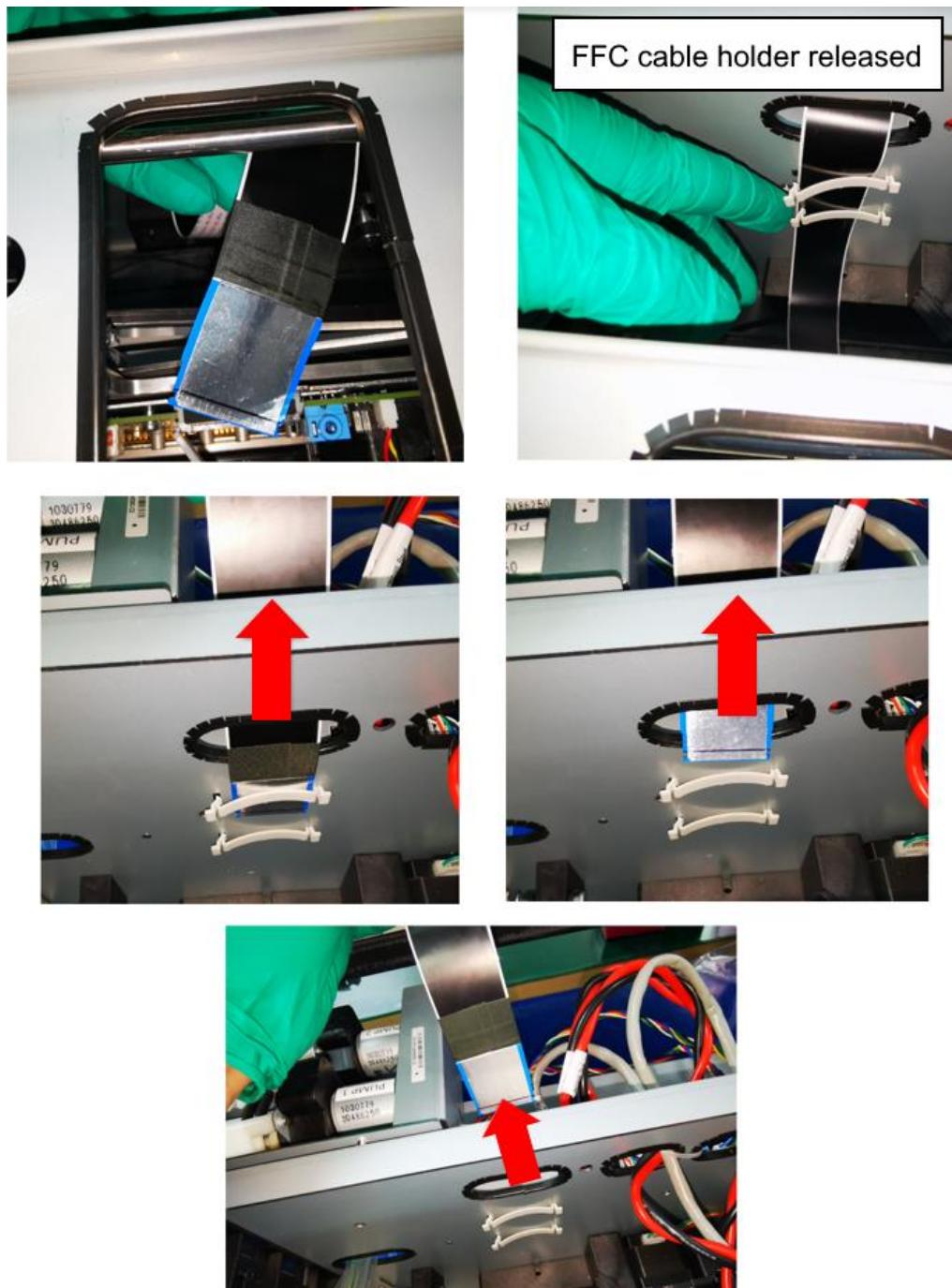
- Use a 3/16" slotted screwdriver to open the leading FFC clip ([Figure 246](#))
- Follow the instructions in the previous step to safely disconnect the FFC.

**Figure 246 – Release the Leading FFC**



6. Release the leading FFC from the FFC holder and thread the cable through the openings in the Print Module to free it.

**Figure 247 – Leading FFC Removed**



7. Repeat Steps 4 to 6 to release the Lagging FFC from its connector at the other side of Print Module.

**Figure 248 – Release and Remove the Lagging FFC**



8. Discard the FFCs according to local disposal recommendations.

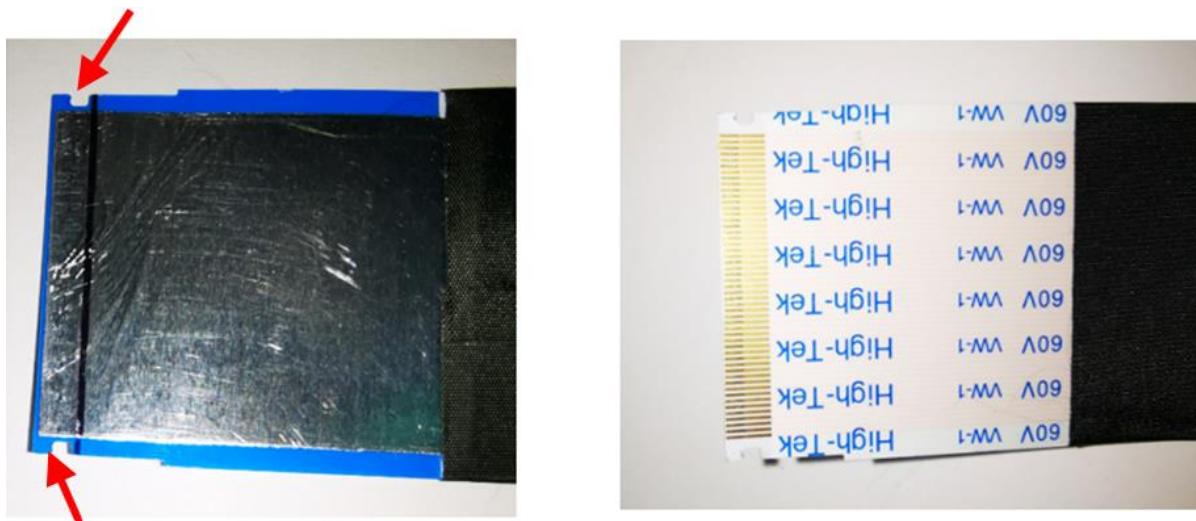
## 17.5 Installation

1. Inspect the new Electronics FFC.

- Ensure that there is no bend, twist, or damage.
- Ensure that all the contact pads are not damaged.
- Ensure that the “ears” are intact at both ends (no damage or tears).

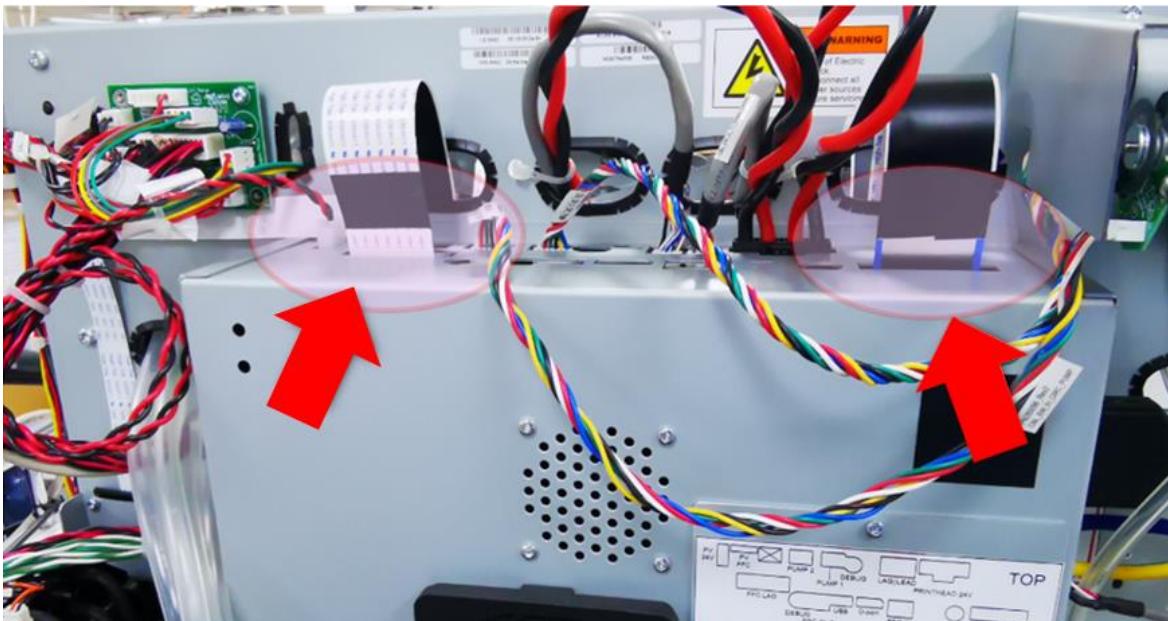
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 249 – Electronics FFC Inspection**



2. Insert both the FFCs (leading and lagging) into the FFC connectors on the Electrical Module enclosure ([Figure 250](#)).

**Figure 250 – FFC Locations on Electrical Module Enclosure**



**CAUTION:** To avoid damaging the flat, flexible cables (FFCs), review [Figure 251](#) and strictly follow the steps below.

- a. Carefully align the end of the FFC with the open slot of the connector.

For proper connection and to avoid damage, ensure that the edge of the FFC is parallel to the connector and not tilted to one side or at an angle!

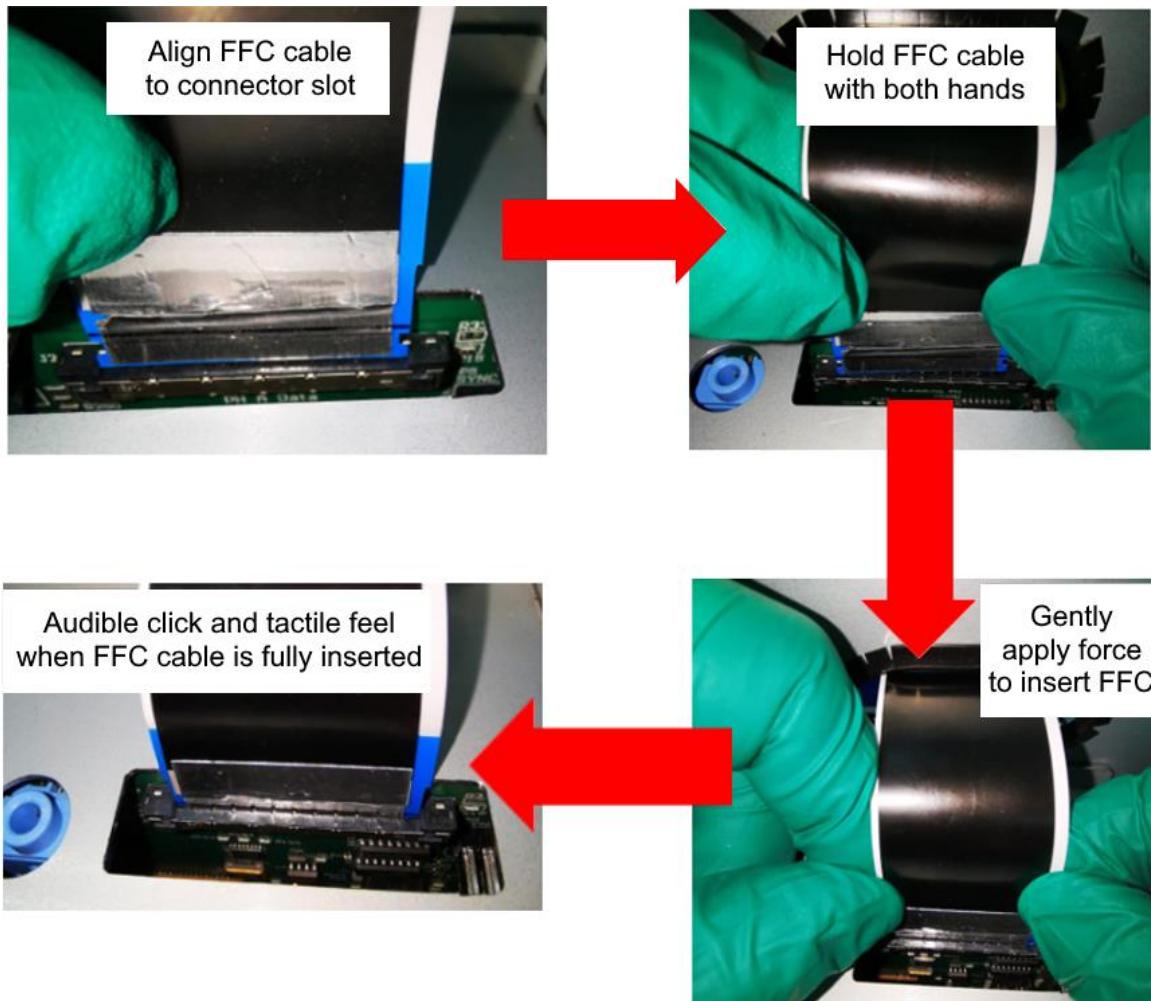
- b. Hold the end of the FFC with both hands and gradually apply gentle force to insert the FFC into the connector.

You will be able to feel the when the FFC is fully inserted and will hear a click to indicate the proper mating and positive locking of the FFC with the connector.



c. Repeat the process for the other Electronics FFC.

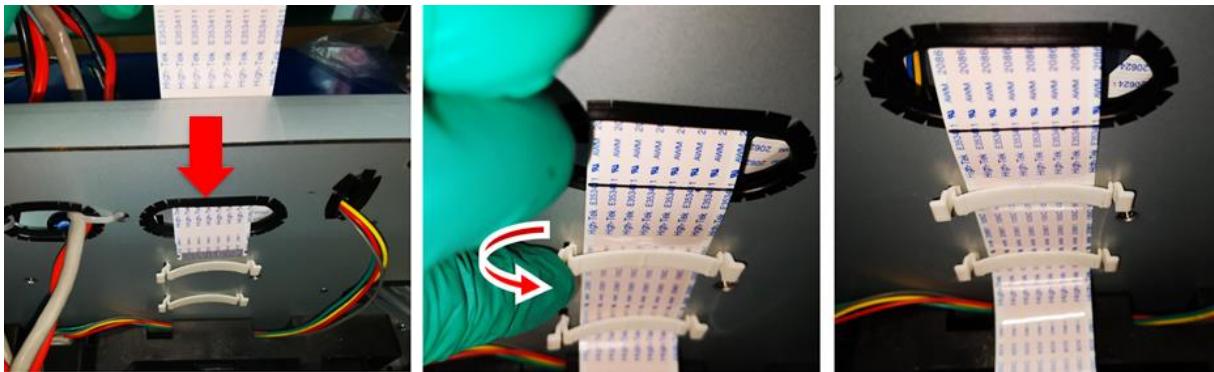
**Figure 251 – Insert Electronics FFC**



3. At the right side, attach the Lagging FFC to the connector on the Printhead Power PCA:

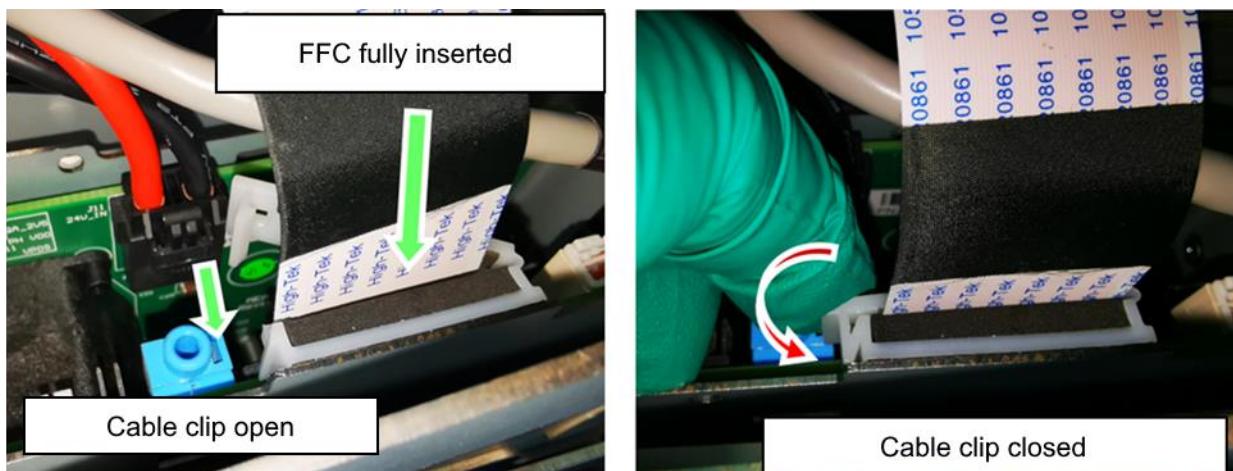
- Insert the cable into the hole in the rear of the Print Module frame.
- Secure it with the FFC holders.

**Figure 252 – Lagging FFC Inserted through Frame**



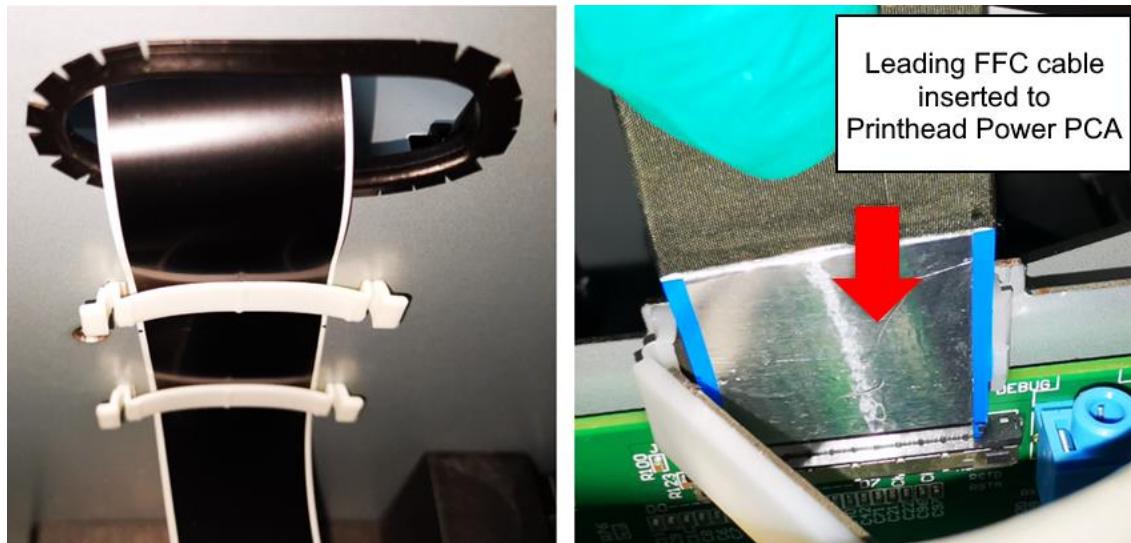
- Insert the FFC into the connector on the Printhead Power PCA by following the FFC insertion steps in [Figure 251](#).
- Snap the cable clip around the FFC.

**Figure 253 – Lagging FFC Installed**



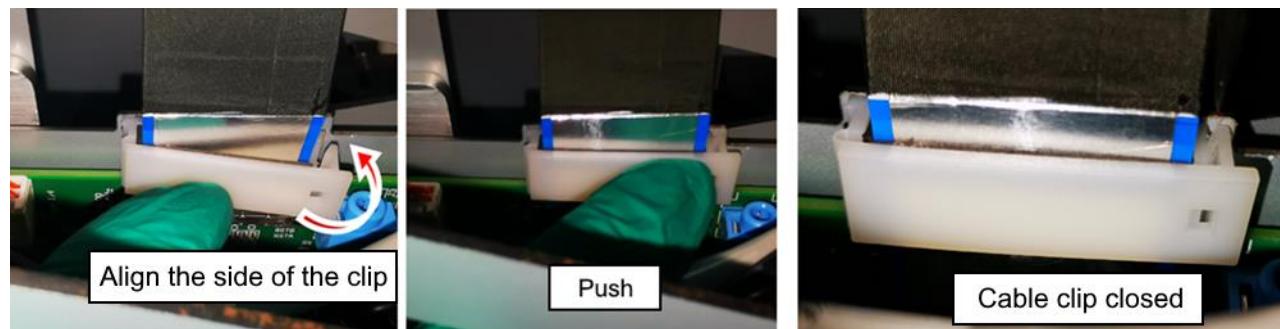
4. At the left Side, attach the leading FFC to the connector on the Printhead Power PCA:
  - a. Insert the cable into the hole in the rear of the Print Module frame.
  - b. Secure it with the FFC holder.

**Figure 254 – Leading FFC Inserted from Frame Hole**



- c. Insert the FFC into the connector on the Printhead Power PCA by following the FFC insertion steps in [Figure 251](#).
- d. Snap the cable clip around the FFC ([Figure 255](#)).

**Figure 255 – Leading Electronics FFC Installed**



## 17.6 Testing

1. Power up the DuraFlex system.
2. Initialize the print engine.

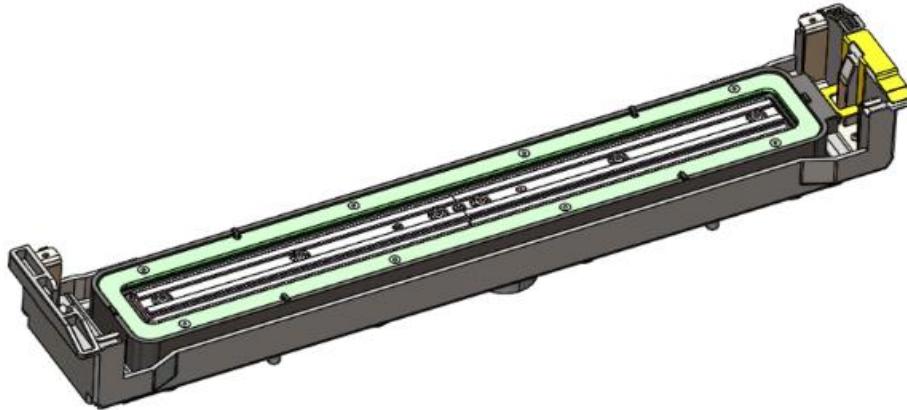
Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. Start a print job and check the print output.
4. If there is no error, the Electronics FFC replacement is successful.

## 18 Cap Replacement

This section provides replacement instructions for the Cap (Capper Assembly – PN 10005278).

**Figure 256 – Cap**



### 18.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 18.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 18 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	Cap assembly – PN 10005278
1	Tool	T10 – M3 screwdriver



## 18.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

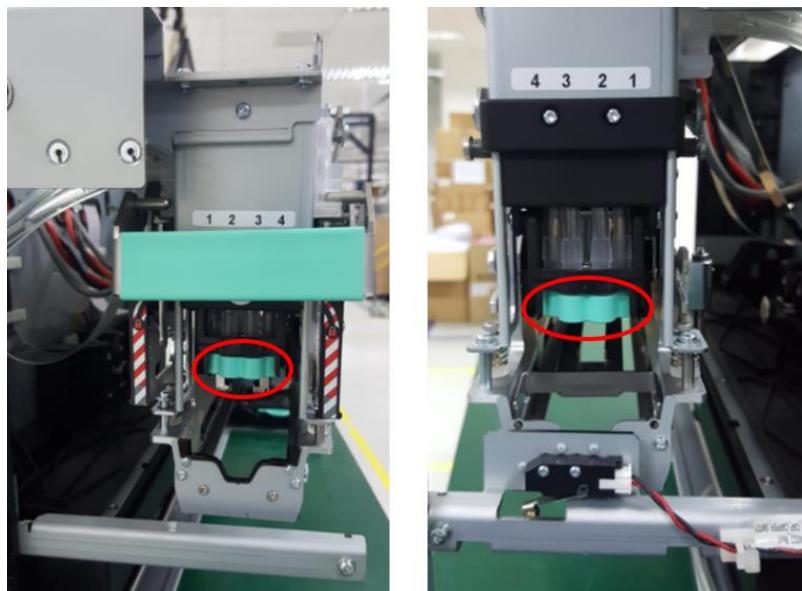
1. Deprime the system.
2. Move the Printhead Cradle to RAISE position.

**Figure 257 – Printhead Cradle at Raise Position**



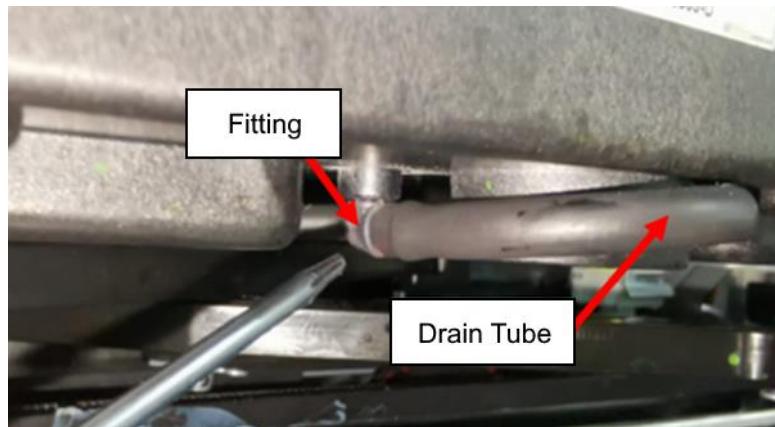
3. Power down the system.
4. Remove the Printhead. Place the Printhead into the storage case properly.
5. Install the fluidic coupling covers (qty: 2, one on each side) to protect the fluidic couplings from contamination.

**Figure 258 – Fluidic Coupling Covers**



6. Locate the drain tube barb fitting on the underside of the Cap.

**Figure 259 – Barb Fitting**



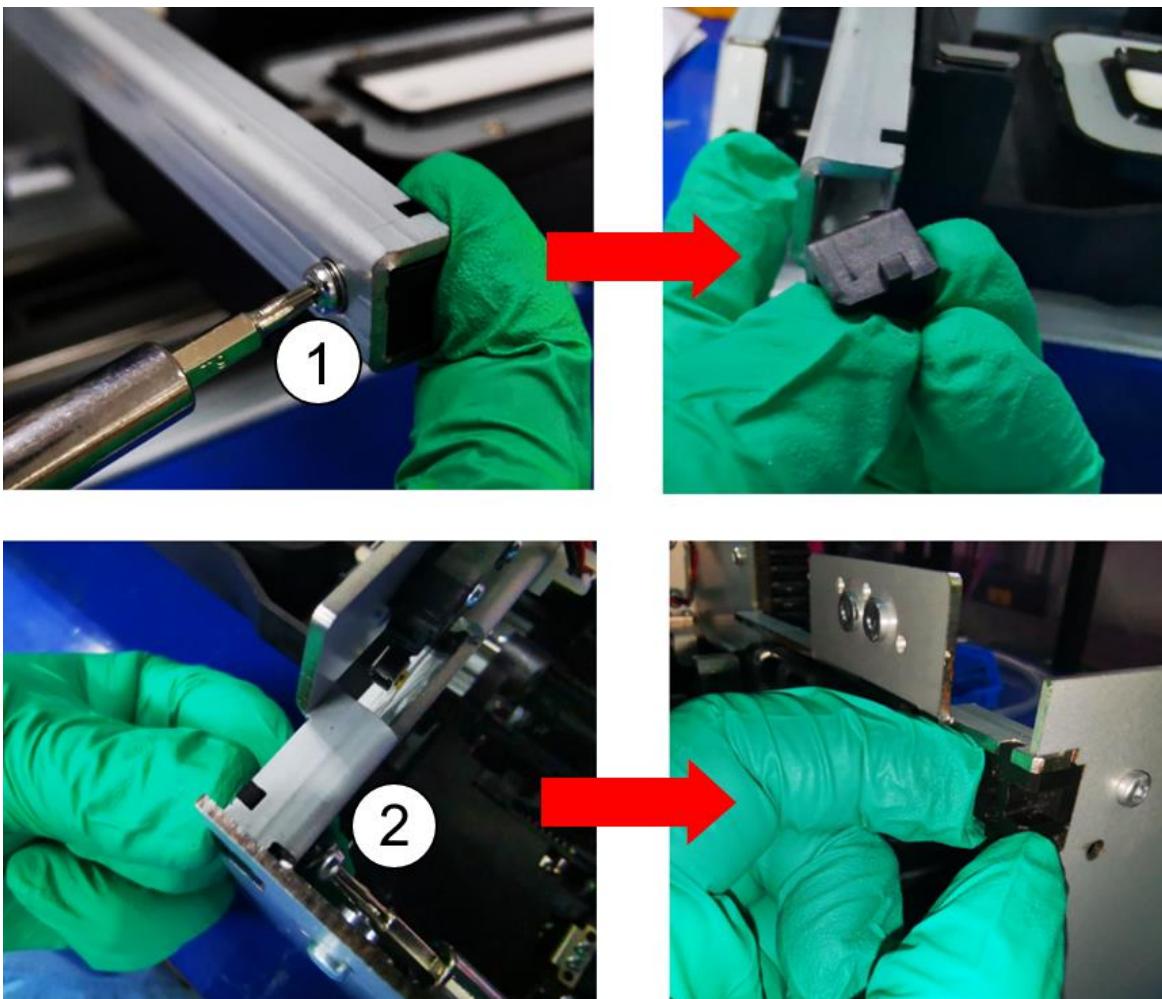
7. Gently pull the drain tube barb out of the Cap. Be sure not to kink the drain tube.

**Figure 260 – Remove Drain Tube Barb**



8. Loosen the two (2) screws ([Figure 261](#)) to remove the Cap stoppers ([Figure 262](#)) on both ends of the Cap arm.

**Figure 261 – Cap Stoppers**



**Figure 262 – Cap Stopper**



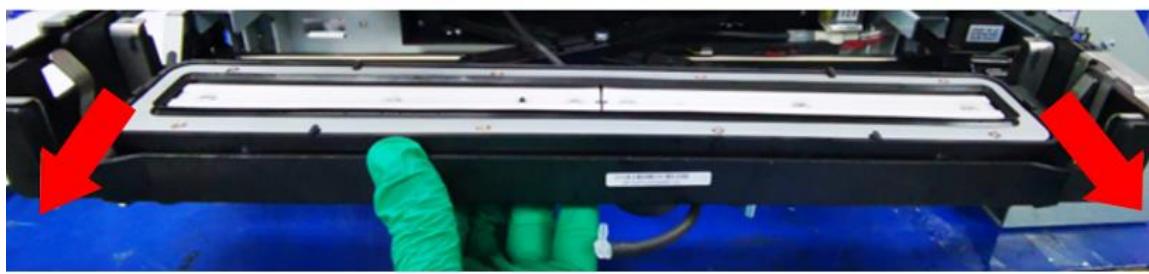
9. Pull to remove the metal clips that lock the Cap scissors mechanism on the left and right ends.

**Figure 263 – Metal Clips**



10. Slowly slide the Cap along the Cap Arm (left and right ends) to remove it.

**Figure 264 – Remove Cap**



11. Discard the Cap according to local disposal recommendations.



## 18.4 Installation

1. Visually inspect the new Cap assembly to ensure that there is no damage, and the wick is clean.

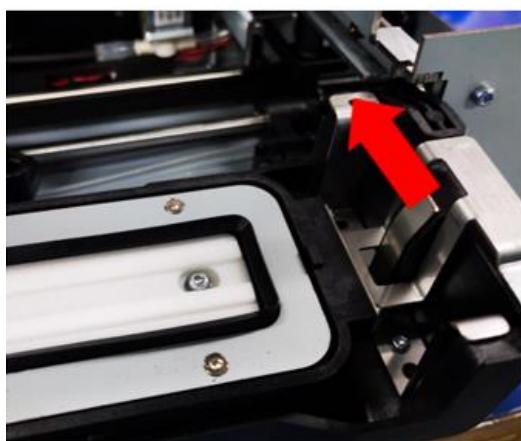
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 265 – Cap Assembly**



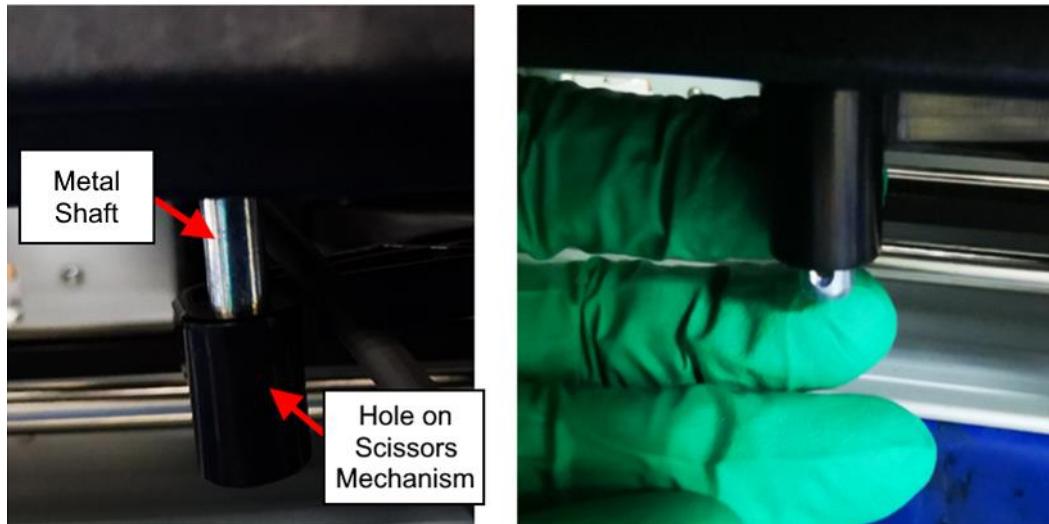
2. Align the Cap to the left and right Cap arms. Slide it into the Home position. Repeat a few times of sliding to ensure that there is no obstruction.

**Figure 266 – Cap Aligned**



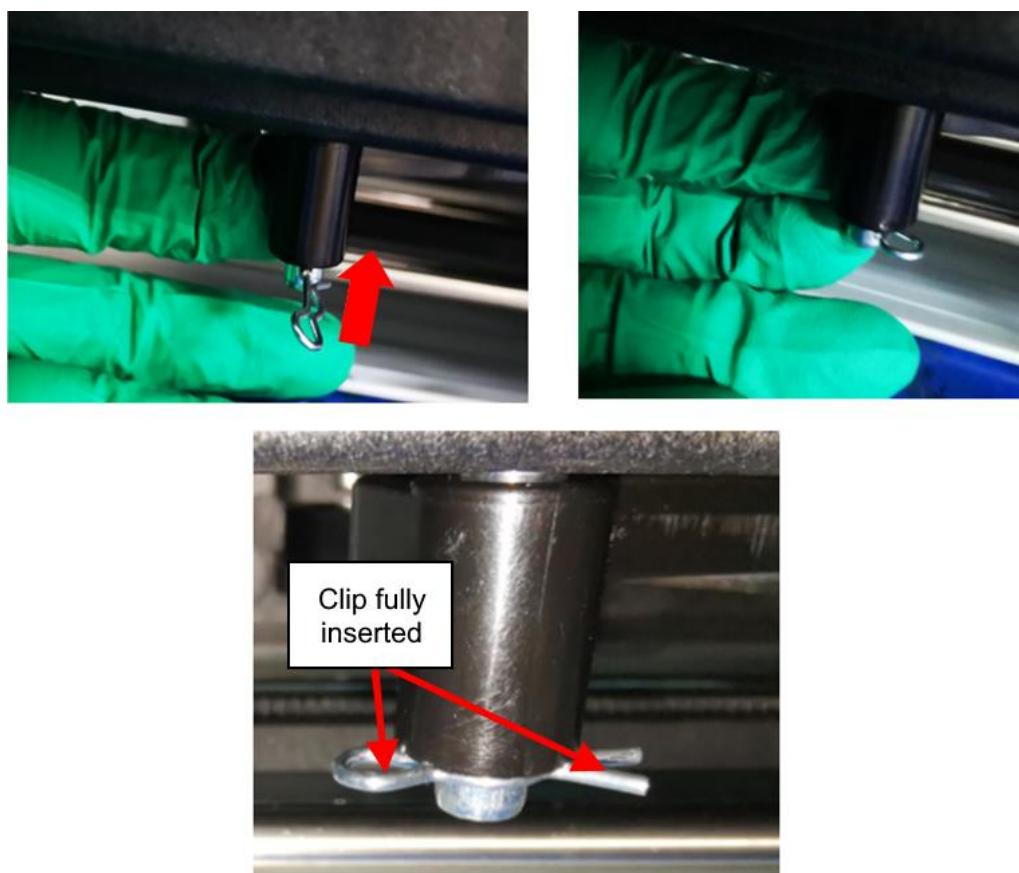
3. Align the Cap metal shaft to the scissors mechanism's arm hole underneath (left and right side).

**Figure 267 – Metal Shaft Aligned**



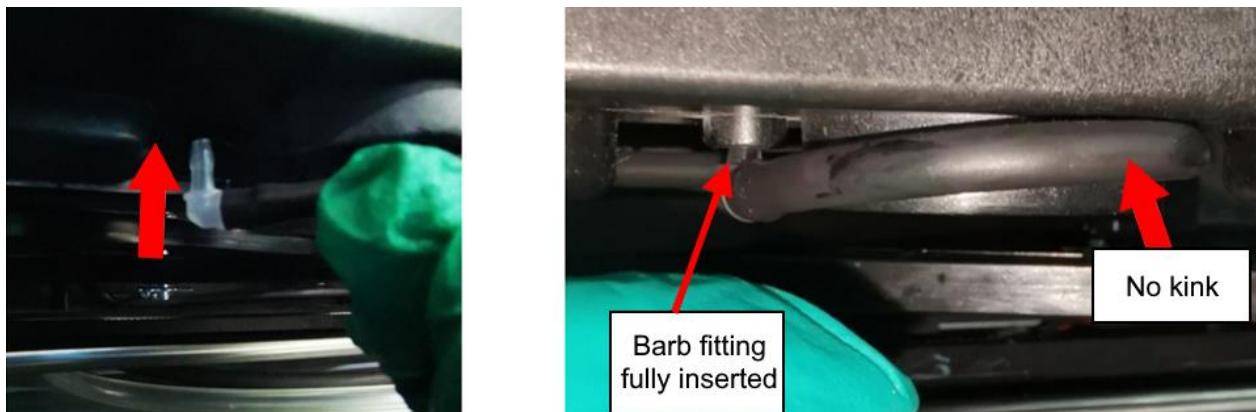
4. Insert the Clip back (left and right side) through the metal shaft hole. Push the clip fully in.

**Figure 268 – Clip Inserted**



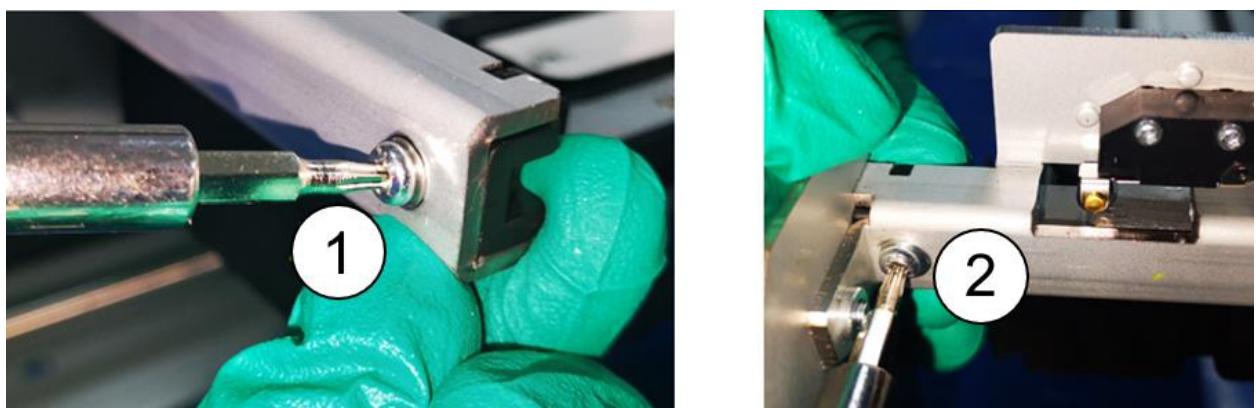
5. Insert the barb of the drain tube into the bottom of the new Cap. Ensure that the drain tube is not kinked and is dressed smoothly around the bottom feature of the Cap.

**Figure 269 – Barb Inserted**



6. Place the stoppers and tighten the screws to the Cap sliding arms at the left and right side.

**Figure 270 – Screws and Stoppers Tightened**



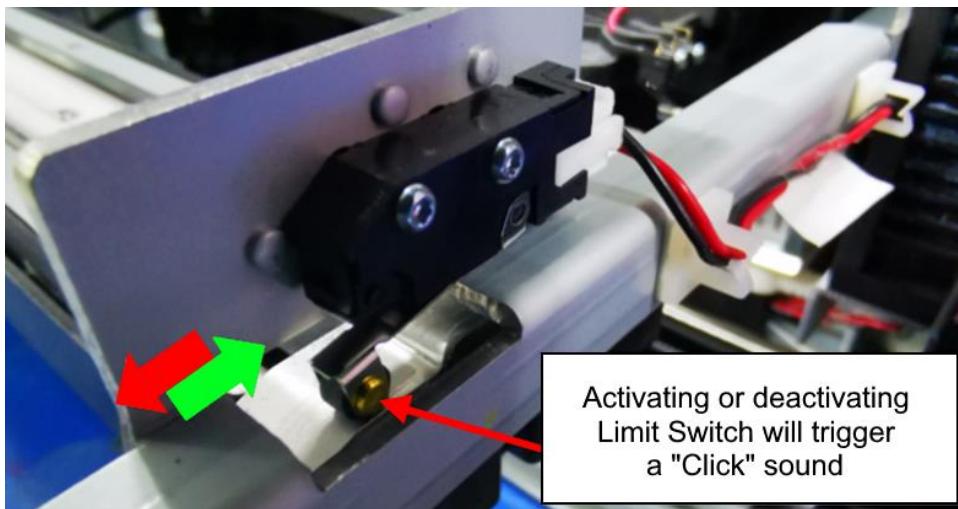
7. Slide the Cap in and out for few times to ensure that it can slide without any obstruction.

**Figure 271 – Perform Sliding Test**



8. When moving the new Cap in and out, ensure that the Sensor (limit switch) can be activated or deactivated. There will be a "Click" sound each time the limit switch is activated or deactivated.

**Figure 272 – Perform Test to Trigger Limit Switch**



## 18.5 Testing

1. Insert the Printhead.
2. Power on DuraFlex.
3. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

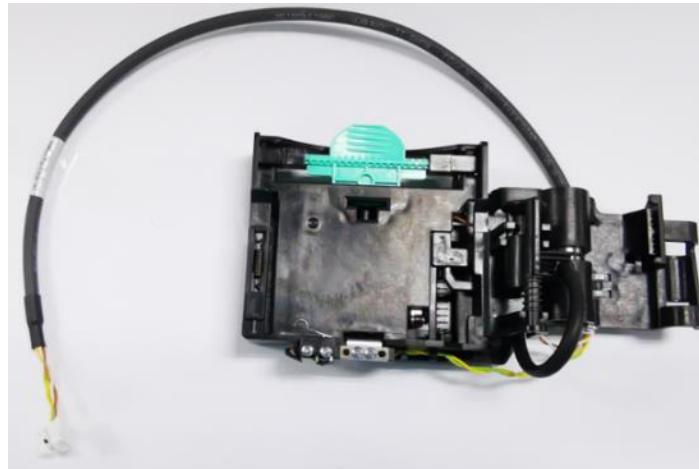
4. Move the Cap to the Cap and Home positions.
5. Move the Printhead to the Cap position.
6. If there is no error, the Cap replacement is successful.



## 19 Wiper Carrier Replacement

This section provides replacement instructions for the Wiper Carrier Sub Assembly (PN 10005294).

**Figure 273 – Wiper Carrier**



### 19.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 19.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 19 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
As needed	Tool	Anti-static wrist strap
1	Part	Wiper Carrier – PN 10005294
1	Supply	Cable tie
1	Tool	Diagonal cutter
1	Tool	Hook tool



## 19.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

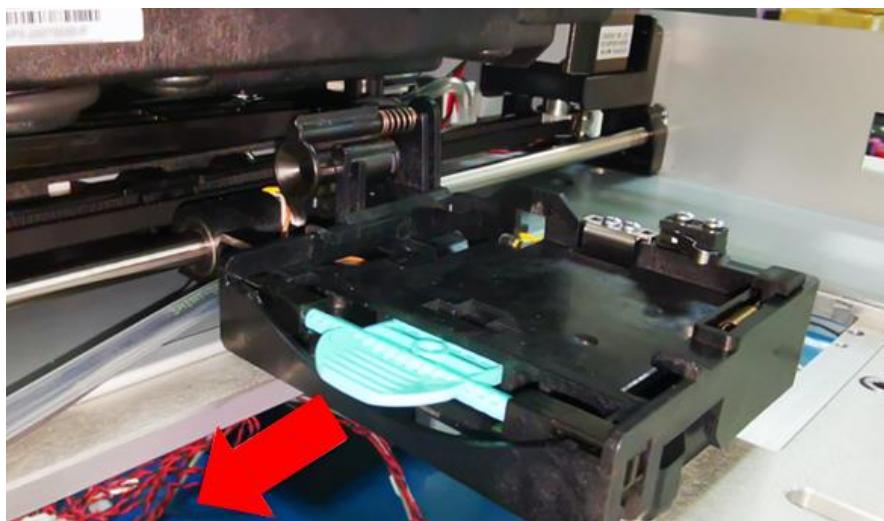
1. Wear an anti-static wrist strap during this procedure.
2. Move the Printhead Cradle to RAISE position and Cap to HOME position.
3. Power down the DuraFlex system.
4. Remove Printhead and keep it in a storage box properly, following the Memjet-recommended procedure.
5. Remove the wiper cartridge from the wiper carrier assembly by pressing the green latch.

**Figure 274 – Remove Wiper Cartridge**



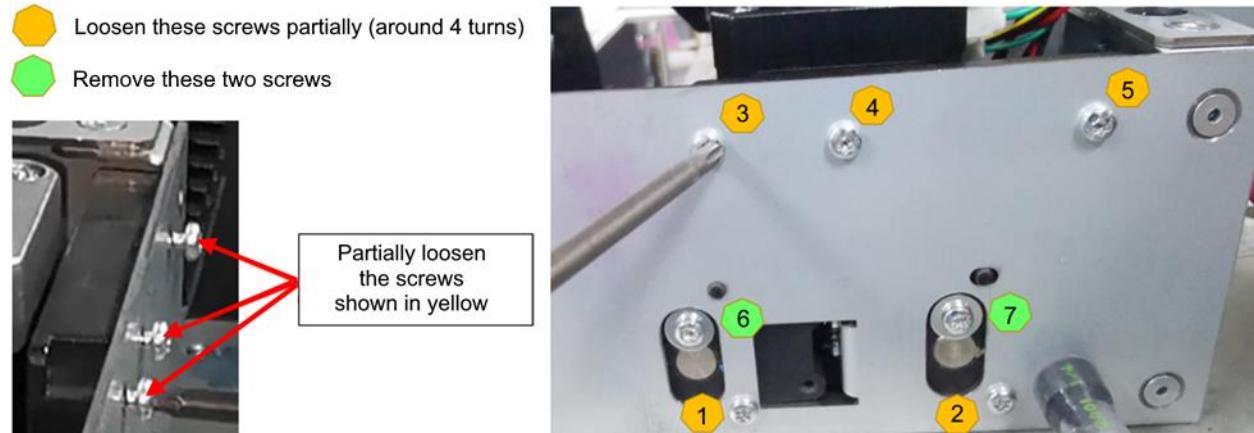
6. Manually push the wiper carrier out from the Home position.

**Figure 275 – Push Out Wiper Carrier**



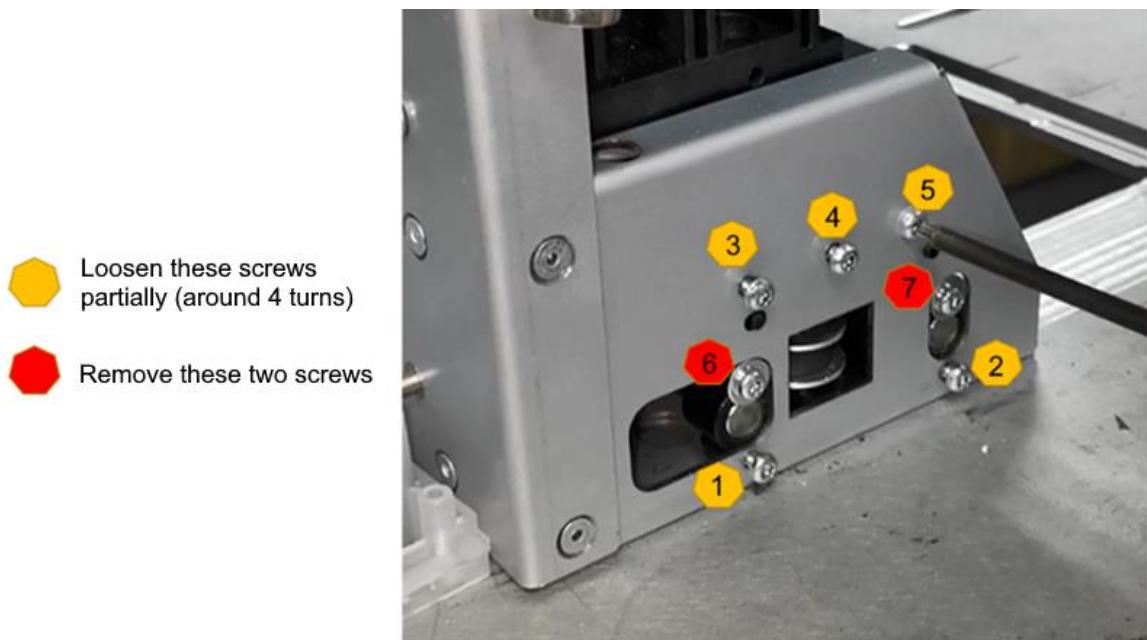
7. Locate the screws on the right side of the Print Module ([Figure 276](#)).
8. Use an M3 screwdriver to partially loosen the five (5) screws (shown in yellow below) that tighten the shaft and belts on the right side. **Only loosen the screws and do not remove them!**
9. Remove the two screws shown in green in the next figure and set aside for re-installation.

**Figure 276 – Print Module – Right Side**



10. On the left side of the Print Module, locate the mounting screws ([Figure 277](#)).
11. Use an M3 screwdriver to partially loosen the five (5) screws (shown in yellow) that tighten the shaft and belts on the left side. **Only loosen the screws and do not remove them!**
12. Remove the two screws shown in red in the next figure and set aside for re-installation.

**Figure 277 – Print Module – Left Side**



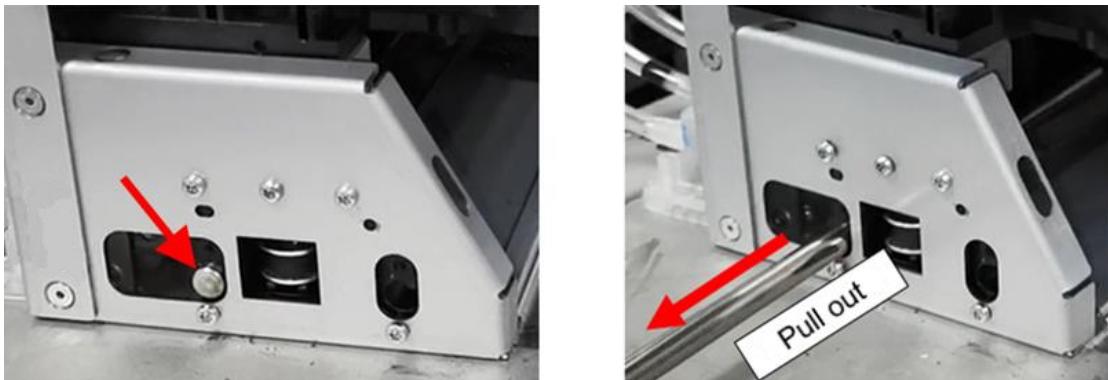
13. Pull the first shaft out of the Print Module and set the shaft aside.

**Figure 278 – Remove the Shaft**



14. Pull the second shaft out of the Print Module and set the shaft aside.

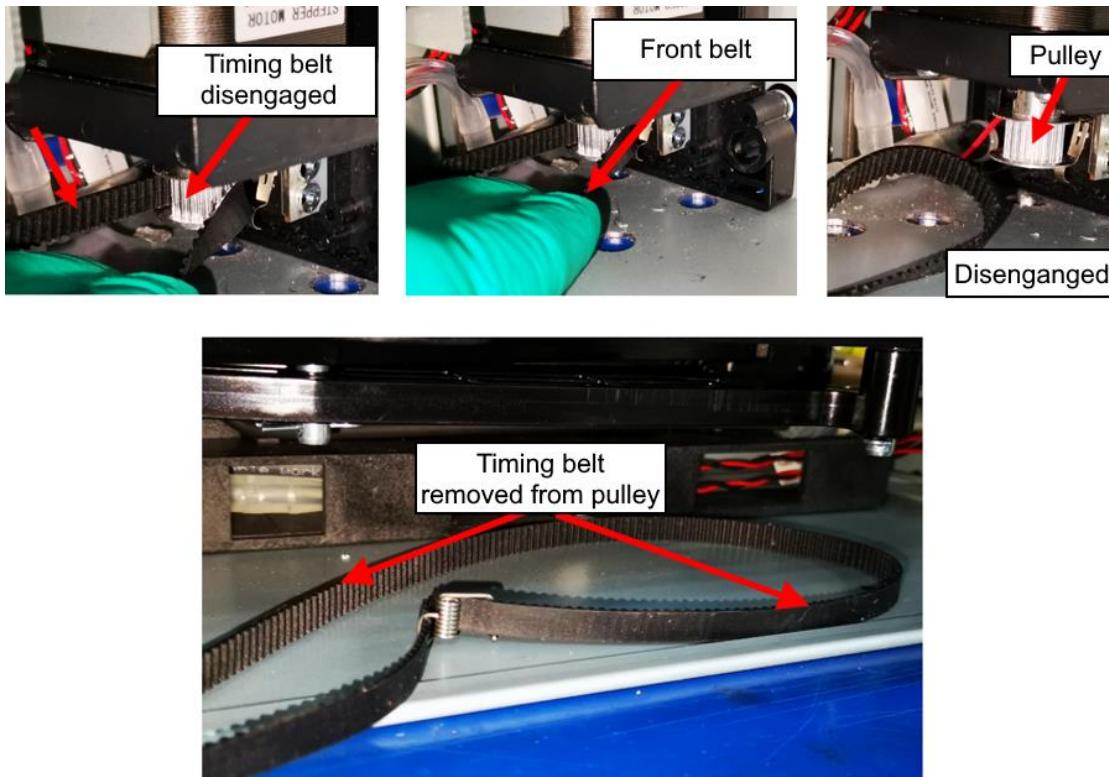
**Figure 279 – Remove the Second Shaft**



15. Remove the wiper timing belt from the pulley.

- Disengage the timing belt from the pulley by pushing down on the front of the belt.
- Disengage the pulley.
- Remove the timing belt from the pulley.

**Figure 280 – Release Wiper Belt from Pulley**



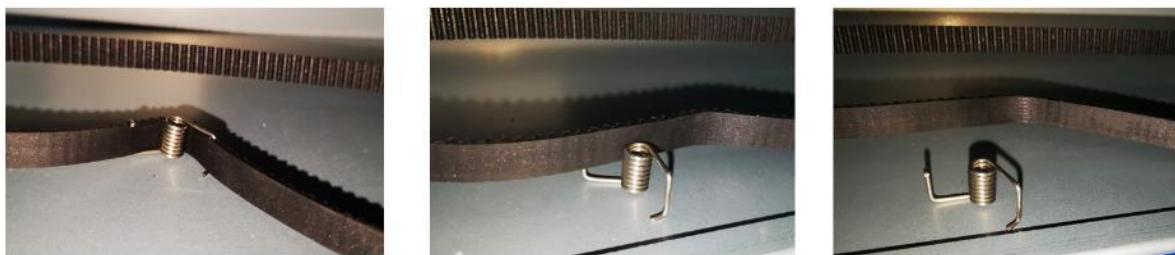
16. Slide the two ends of the timing belt out of the wiper carrier clip.

**Figure 281 – Release Wiper Belt from Wiper Carrier**



17. Remove the spring tensioner from the timing belt.

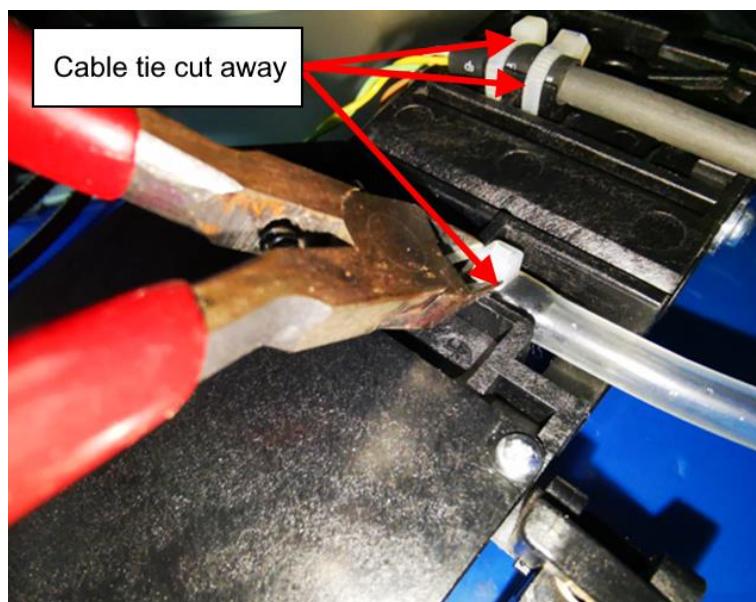
**Figure 282 – Spring Tensioner Removed**



18. Carefully cut the three (3) cable ties from the underside of the wiper carrier.

Caution: Do not cut the tube inside the sleeve.

**Figure 283 – Cable Ties on Bottom of Wiper Carrier**



19. Carefully cut the cable tie from the inner side of the Print Module.

Caution: Do not cut the tube inside the sleeve.

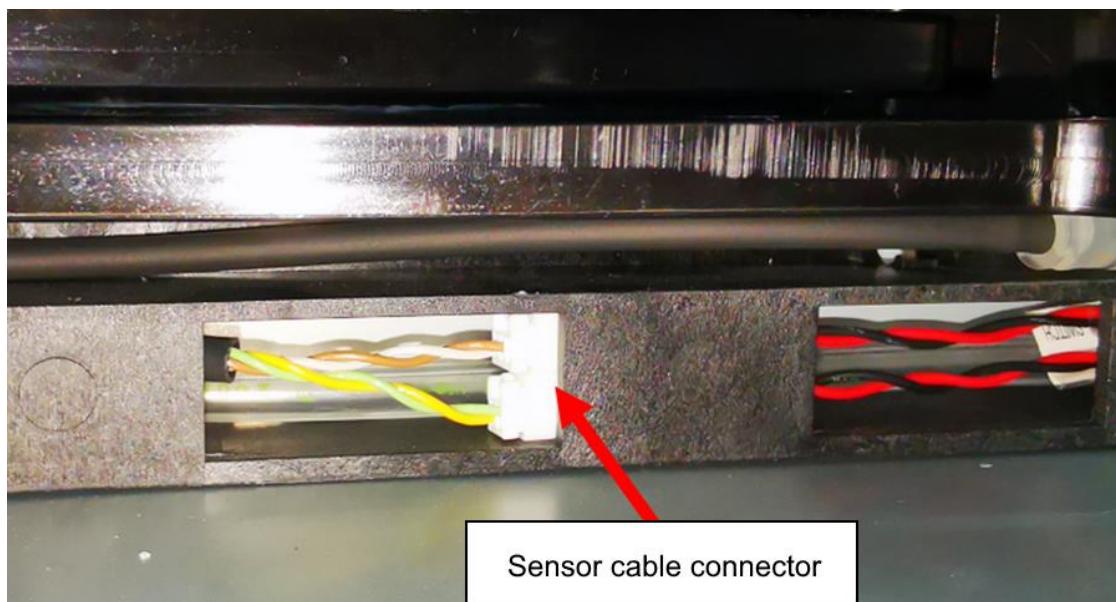
**Figure 284 – Cable Tie at Inner Side of Print Module**



20. Remove the cable tie that attaches the tubing and cable to the Print Module frame base.

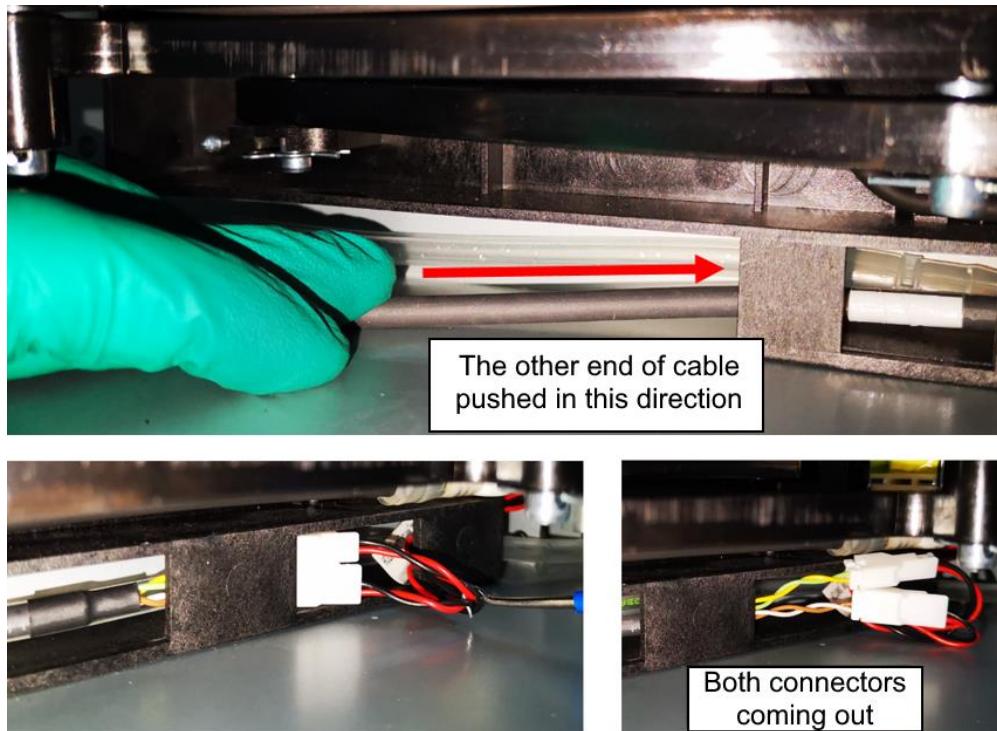
21. Locate the white sensor cable connectors.

**Figure 285 – Sensor Cable Connectors**

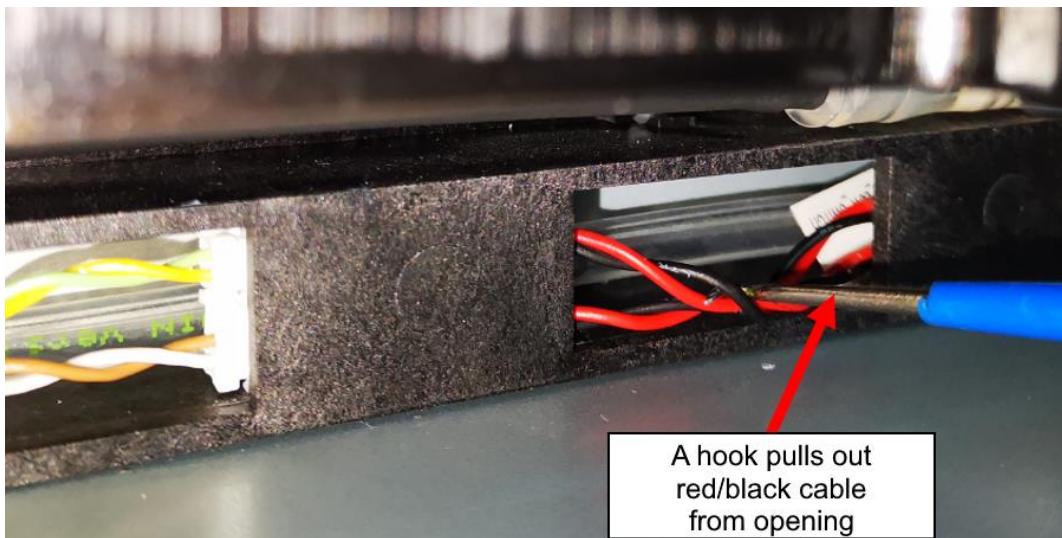


22. Push the red/black cable towards the opening ([Figure 286](#)) while using a hook tool to gently pull the sensor cable connectors out through the opening ([Figure 287](#)).

**Figure 286 – Push Cable to Expose Sensor Cable Connectors**



**Figure 287 – Hook Tool on Sensor Cable**



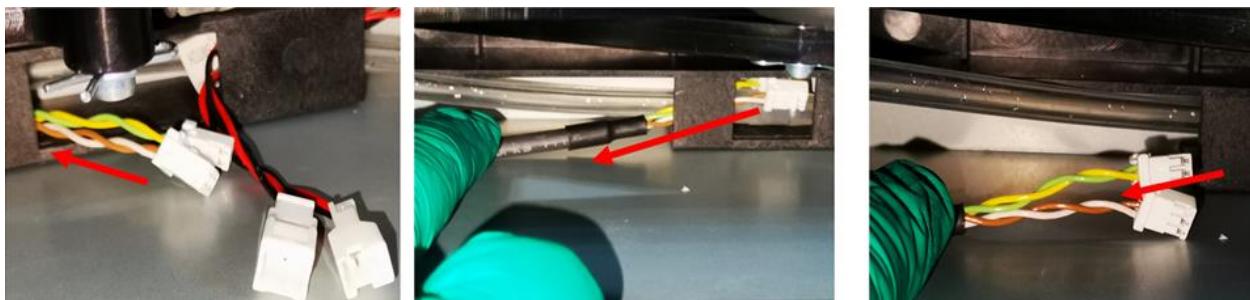
23. Detach the sensor cable connector from the red/black cable.

**Figure 288 – Sensor Cable Connector Detached**



24. Push the loose end of cables back through the frame and around the post then pull it out of the frame as shown in the next figure.

**Figure 289 – Sensor Cable Ends**



25. Remove the Wiper Carrier assembly.

26. Discard the Wiper Carrier assembly according to local disposal recommendations.

## 19.4 Installation

1. Visually inspect the new Wiper Carrier Assembly to ensure:

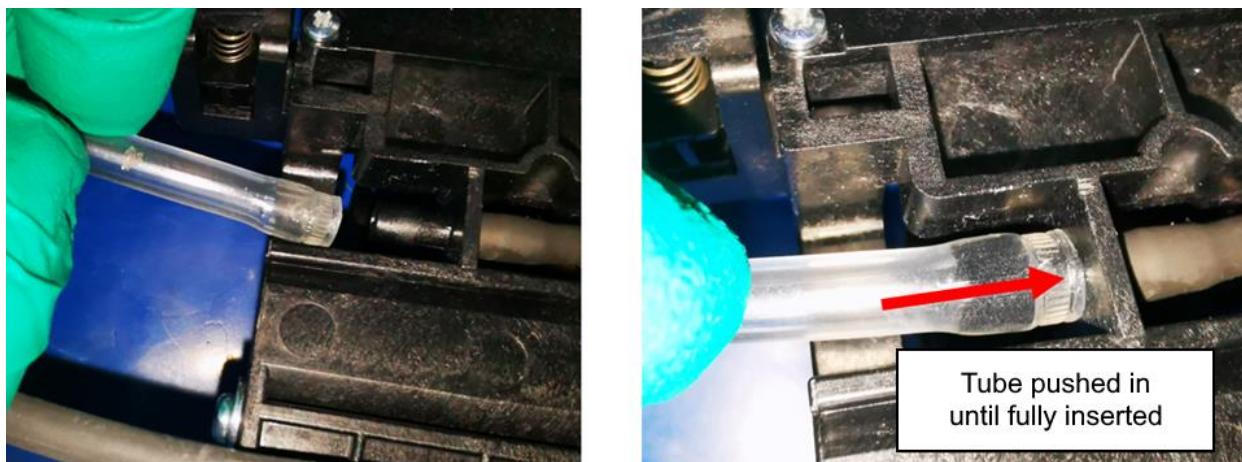
- sensor lever is not deformed
- tube is not kinked
- cables have no damage and are properly assembled with cable ties, etc.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).



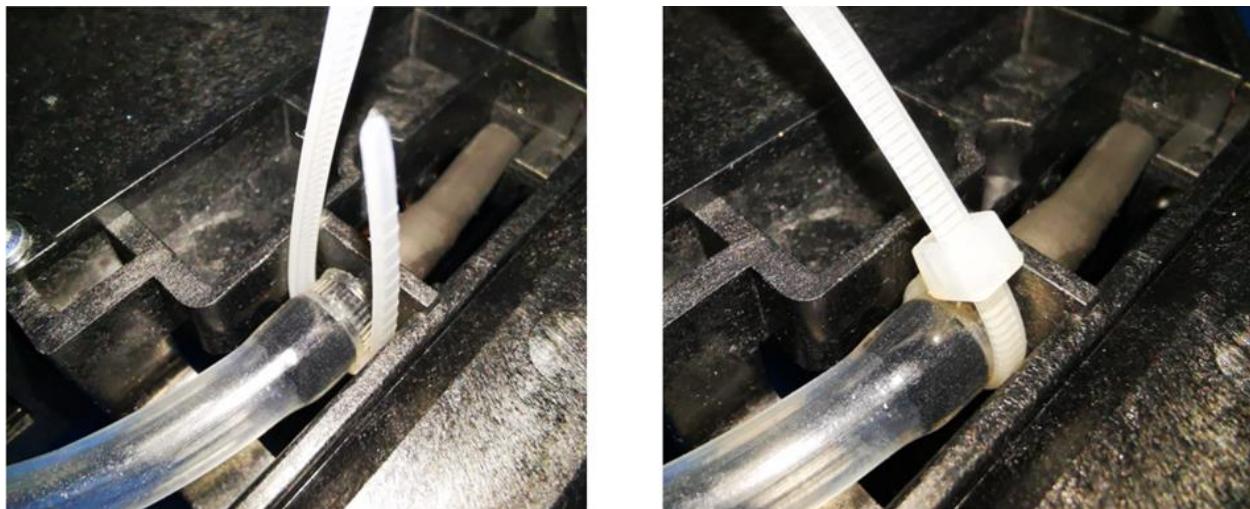
**Figure 290 – Wiper Carrier Assembly Views**

2. Slide the tube onto the barb on the underside of the new Wiper Carrier assembly. Push the tube until it reaches the bracket securing the barb.

**Figure 291 – Tube Fully Inserted**

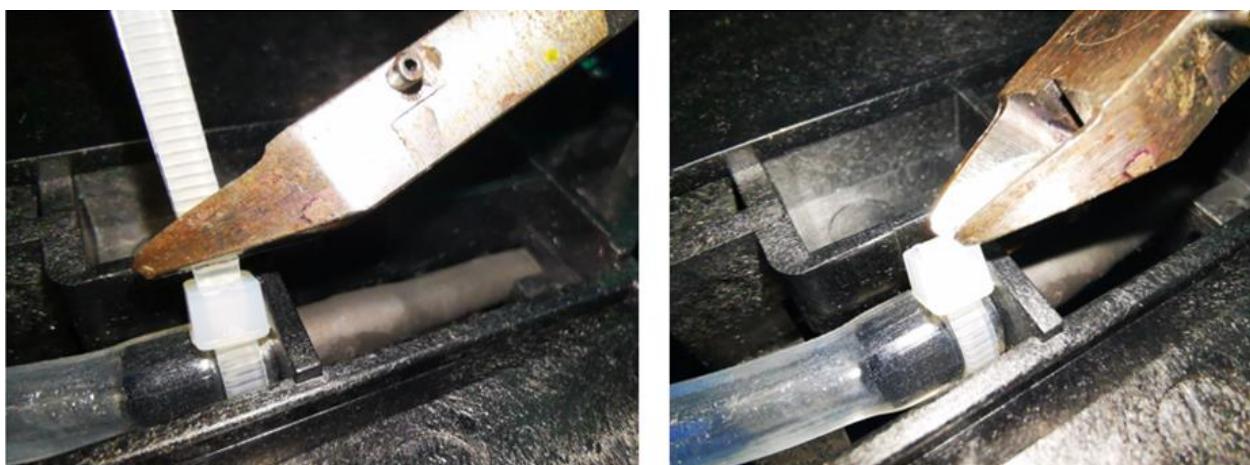
3. Use a cable tie to secure the tube on the barb.

**Figure 292 – Cable Tie Attached**



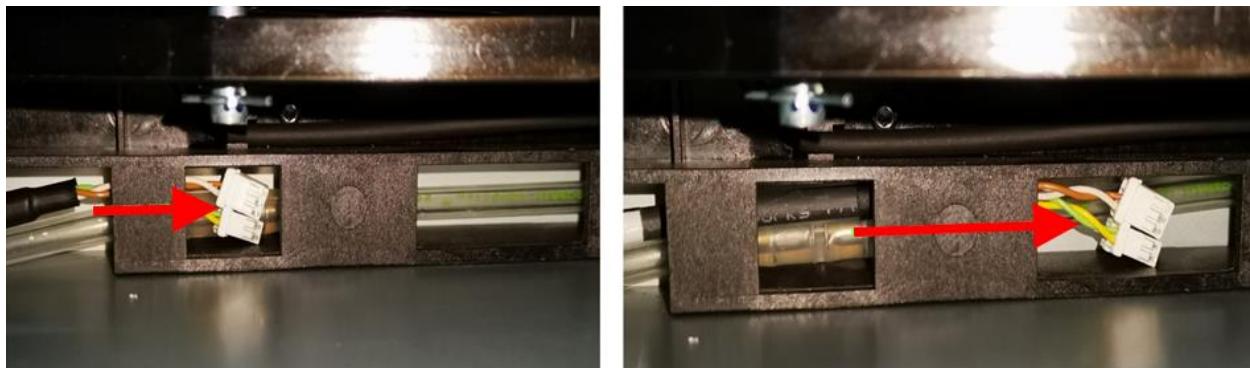
4. Use a diagonal cutter or a pair of pliers to slightly pull and adjust the cable tie tail, until it is tightly binding the tube to the barb.
5. Use the diagonal cutter to cut away the excess length on the tail.

**Figure 293 – Cut Off Excess Cable Tie Tail**



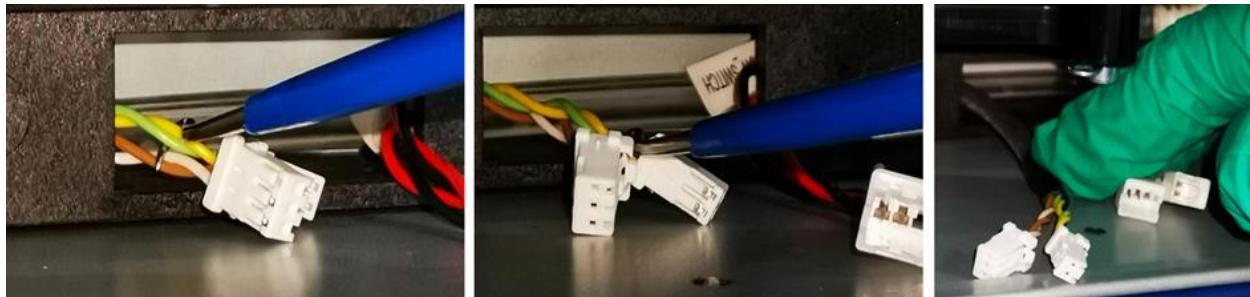
6. Route both sensor cable connectors through the assembly frame.

**Figure 294 – Route Sensor Cable Connectors**



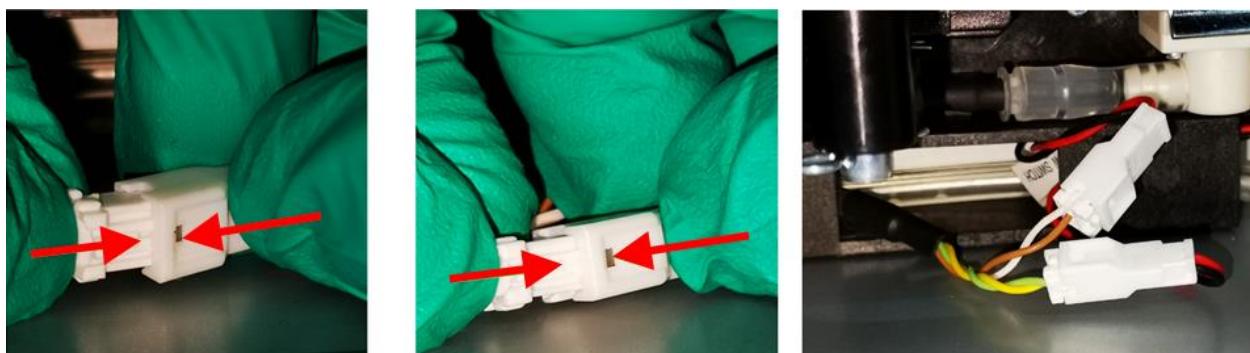
7. Use the hook to gently pull the sensor cable connectors.

**Figure 295 – Sensor Cable Connectors Pulled Out**



8. Check the sensor cable and red/black cable connector orientation. The connectors can only be inserted in one direction. Plug the sensor cable connectors into the red/black cable connector. Ensure that they are fully inserted.

**Figure 296 – Connectors Attached**

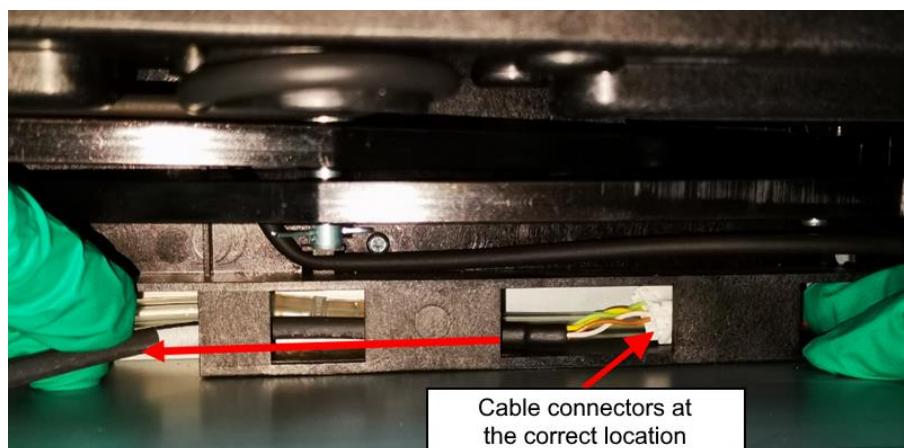


9. Pull the sensor cable from the other end ([Figure 297](#)) until the connectors are at the correct location as shown in [Figure 298](#).

**Figure 297 – Pull Sensor Cable into Position**

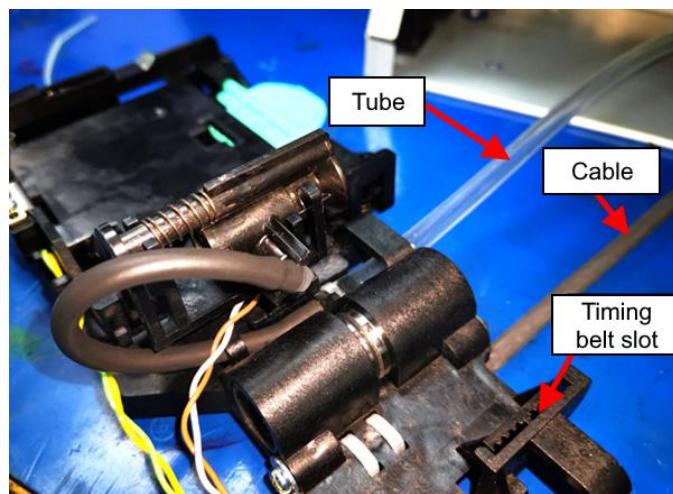


**Figure 298 – Sensor Cable Connectors in Position**



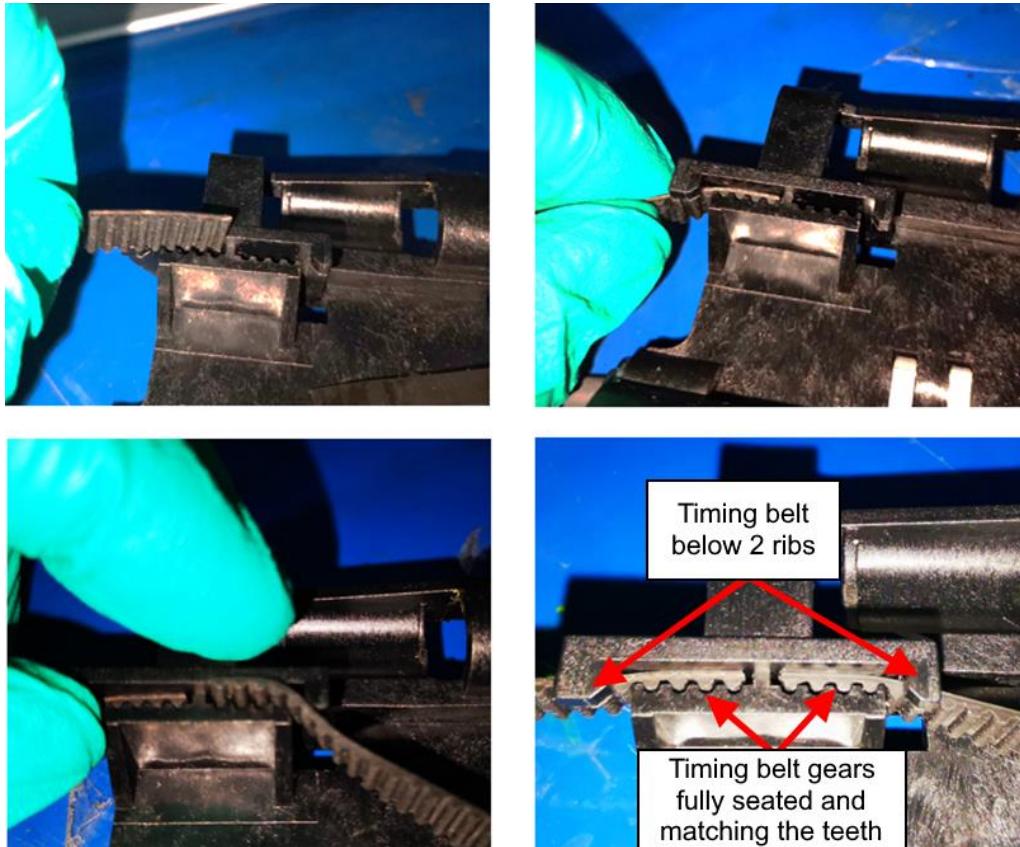
10. At this point in the installation, the assembly should look like the next figure.

**Figure 299 – Wiper Cartridge Assembly Connections**



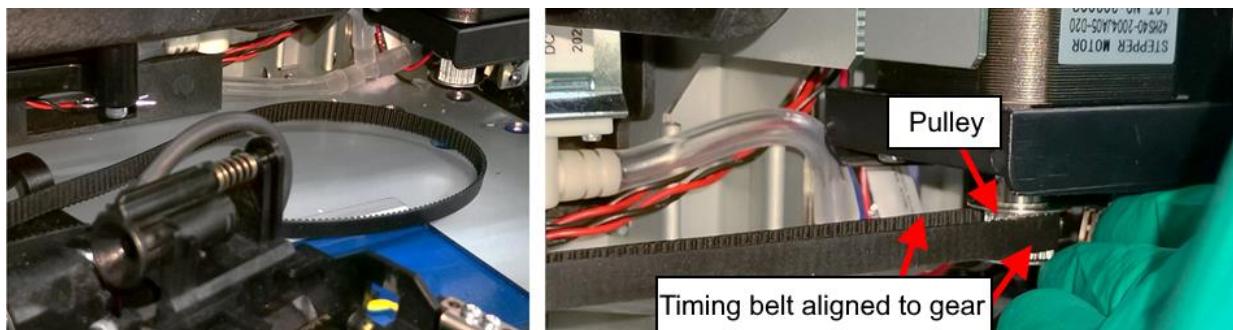
11. Use cable ties as needed to attach the tubing and cable to the Print Module frame base.
12. Insert one end of the timing belt into the toothed slot.
13. Ensure that it is not twisted and install the other end into the slot as shown in the next figure.

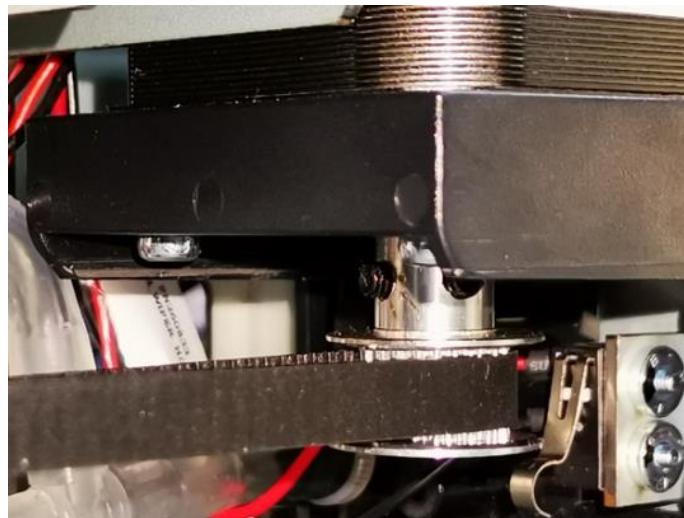
**Figure 300 – Timing Belt Inserted**



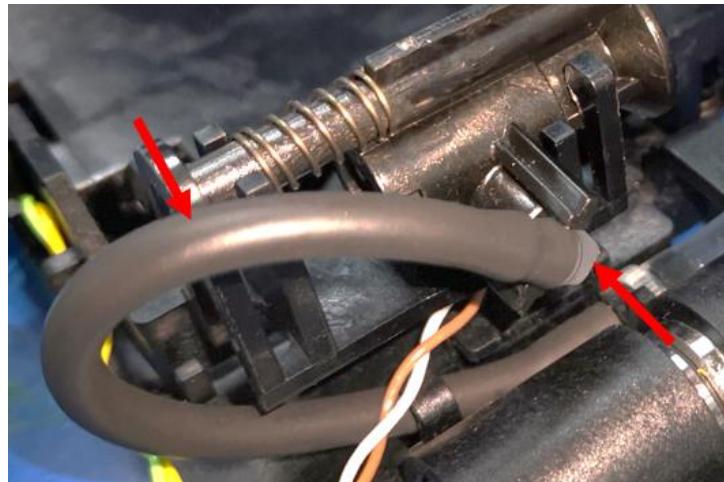
14. Align the timing belt with the gear and install the belt on the pulley. Ensure that the timing belt is not twisted when installing.

**Figure 301 – Installing Timing Belt on Pulley**



**Figure 302 – Timing Belt Not Twisted**

15. Before re-installing the two (2) shafts, inspect the assembly to ensure that there are no kinks in the tubing and the barb is fully inserted.

**Figure 303 – Examine the Tubing and Barb**

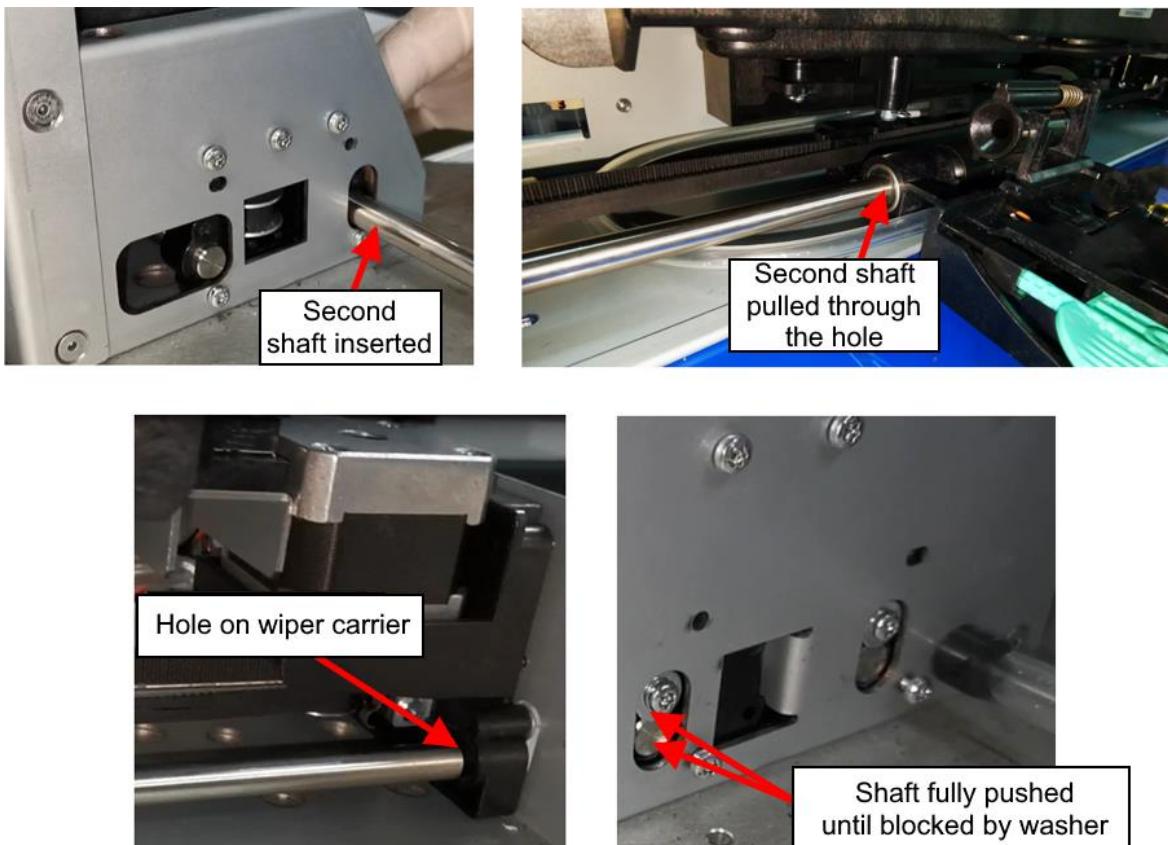
16. From the left side of the Print Module, insert the first shaft and push until the washer makes contact.

**Figure 304 – Install First Shaft**



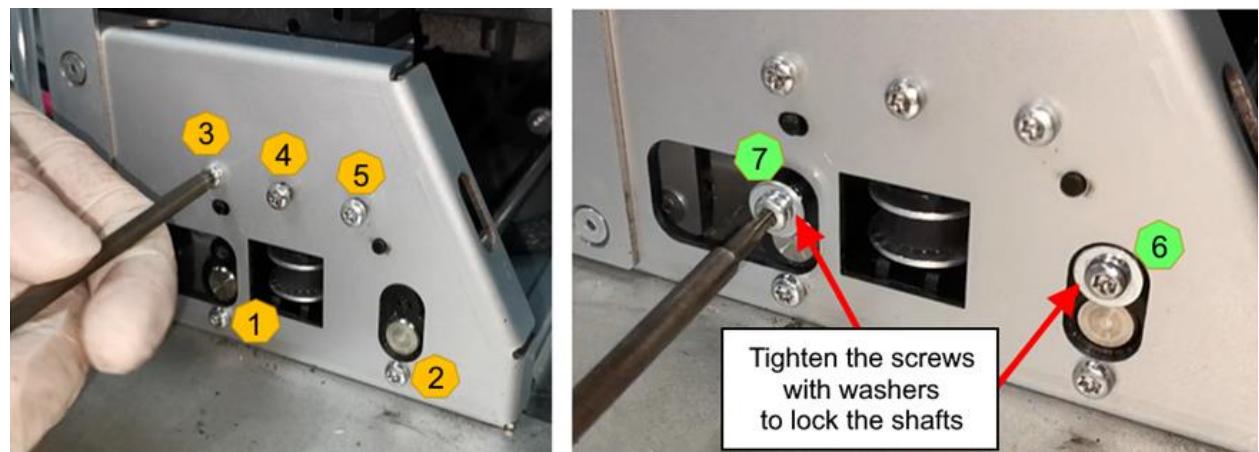
17. Align the second shaft with the hole in the frame. Push the shaft to ensure it is fully inserted. It will mate with the wiper carrier assembly and the washer at the other end will make contact.

**Figure 305 – Install Second Shaft**



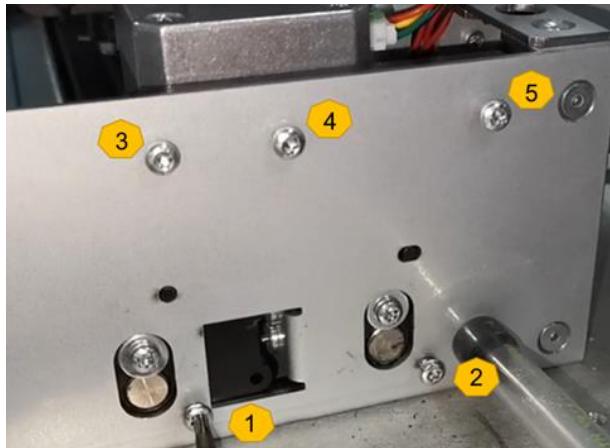
18. Tighten the five (5) screws on the left side of the Print Module.
19. Tighten the two (2) screws with washers to lock the shafts in place.

**Figure 306 – Tighten Screws on Print Module – Left Side**



20. Tighten the five (5) screws on the right side of the Print Module.

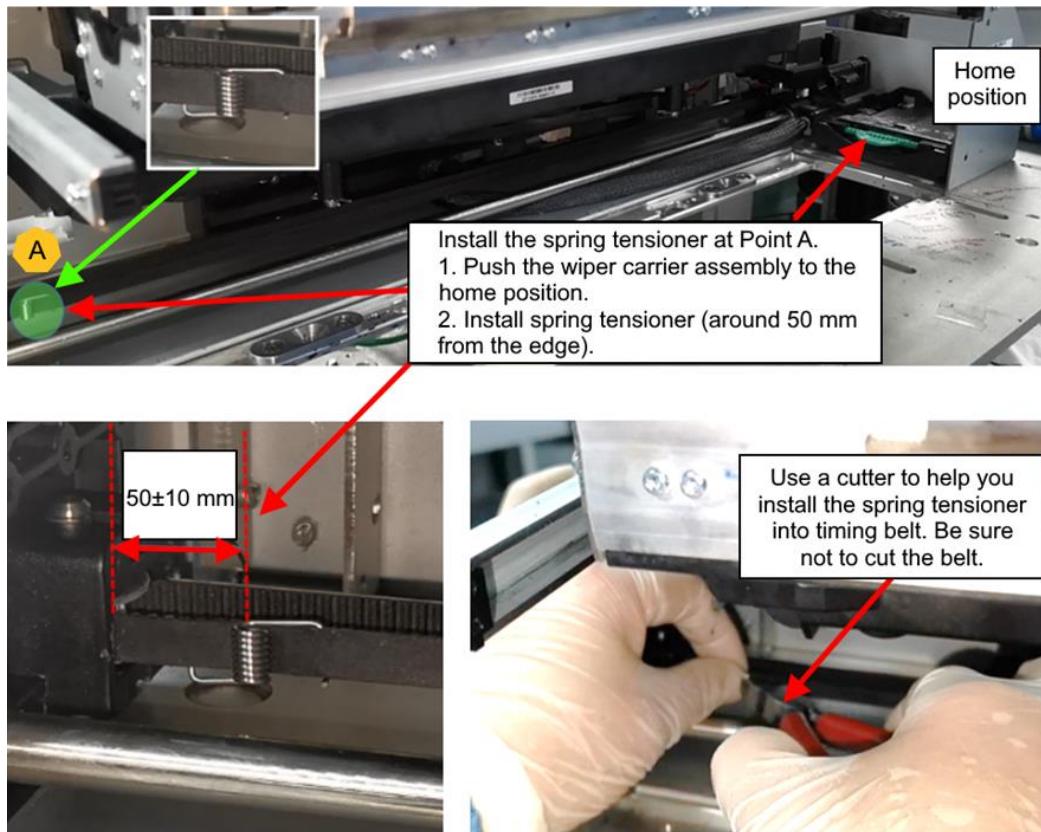
**Figure 307 – Tighten Screws on Print Module – Right Side**



21. Install the spring tensioner on the timing belt. See location A in the next figure ([Figure 308](#)):

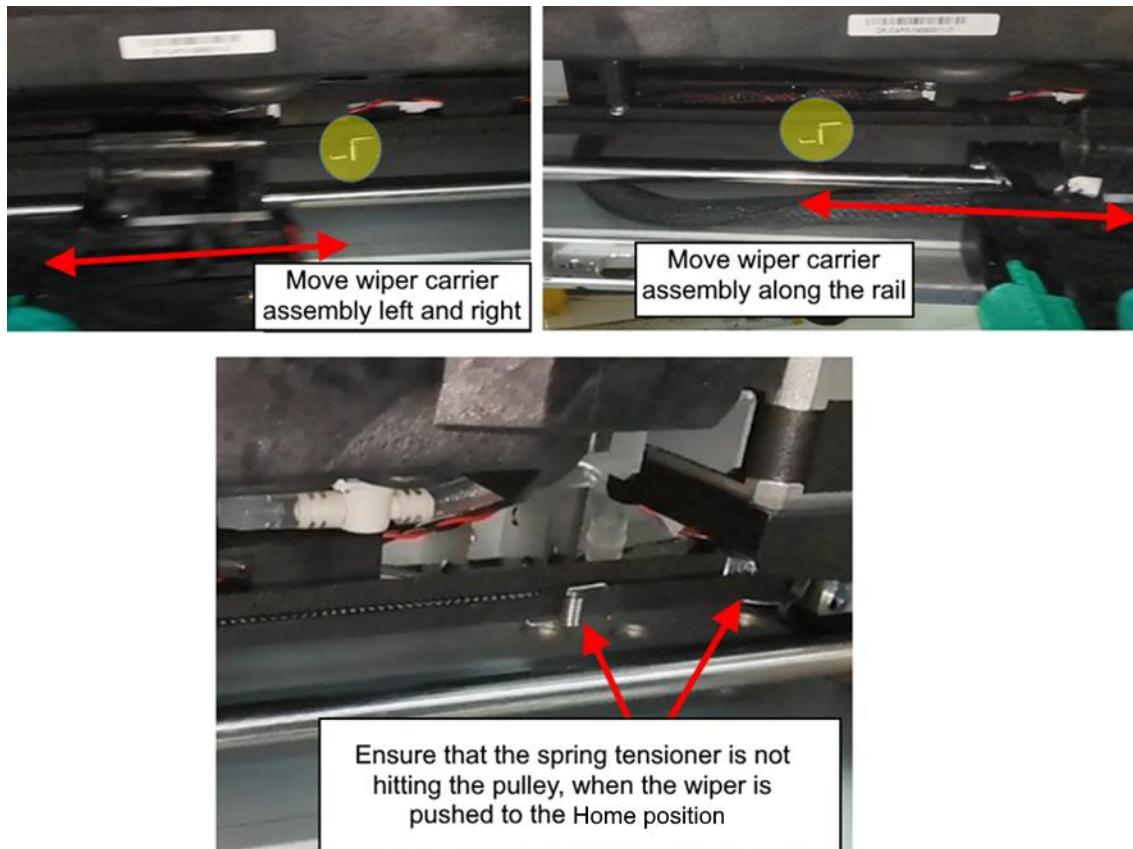
- Push the wiper carrier to the HOME position.
- Use a diagonal cutter to carefully install the spring tensioner ( $50 \pm 10$  mm) and do NOT cut the timing belt.

**Figure 308 – Install Spring Tensioner**



22. Slide the wiper carrier assembly to the left and right along the rail a few times, to confirm that the spring tensioner moves freely within the wiper carrier travel range and does not contact the frame on the left side or the pulley on the right side.

**Figure 309 – Test the Spring Tensioner**



23. Confirm the wiper assembly is back at HOME position before continuing.

## 19.5 Testing

1. Power on DuraFlex.
2. Install the Printhead.
3. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

4. Perform light service five (5) times.
5. If there is no error observed during the light service, the Wiper Carrier is properly replaced.



## 20 WIMM Replacement

This section provides replacement instructions for the WIMM ASM Separator Tank (PN 10005301).

**Figure 310 – WIMM**



### 20.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 20.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 20 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
As needed	Supply	Lint-free cloth
1	Part	WIMM assembly – PN 10005301
4	Supply	Cap – Vinyl, ID 0.25", length 0.5"
4	Tool	Hemostat
1	Tool	T10 – M3 screwdriver (200 mm extension)
1	Tool	Diagonal cutter
1	Tool	Tubing cutter



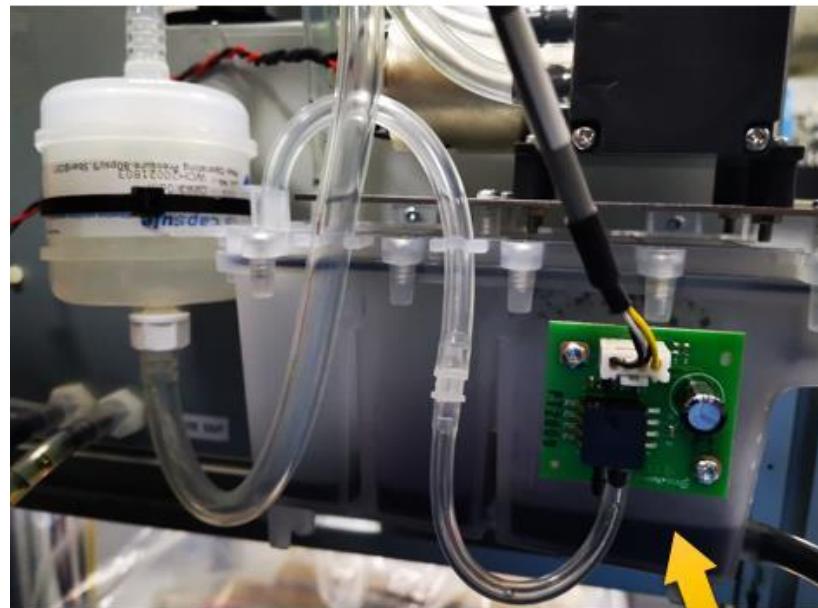
## 20.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Wear an anti-static wrist strap during this procedure.
2. Power down the printing system.
3. Drain all the waste ink in the WIMM tank (if any).

**Figure 311 – Waste Ink in WIMM Tank**



4. Use a hemostat to clamp the waste ink tube from the WIMM to the IDS blade at the WASTE IN barb.

**Figure 312 – Hemostat on Tubing at Waste In Barb**



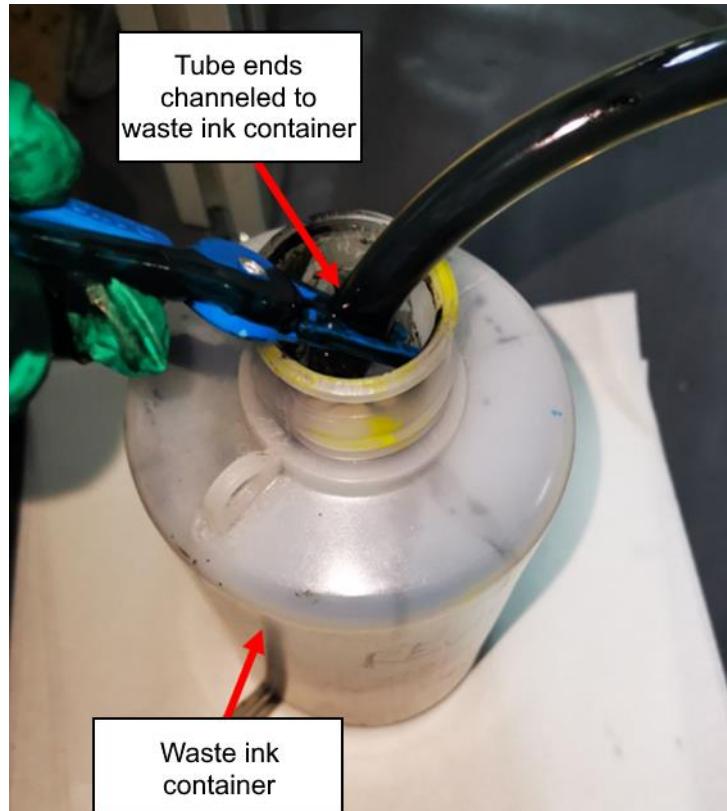
5. Disconnect the tube from the WASTE IN barb.

**Figure 313 – Tube Disconnected from Waste In Barb**



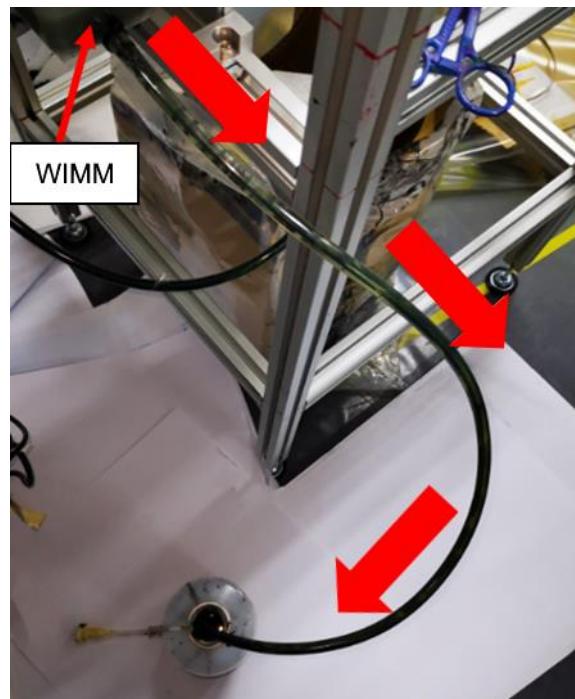
6. Place the end of the tubing into the waste ink container.

**Figure 314 – Waste Ink Container**



7. Remove the hemostat so that the waste ink in the WIMM tank will flow into the waste ink container by gravity.

**Figure 315 – Waste Ink Flowing from WIMM to Waste Ink Container**



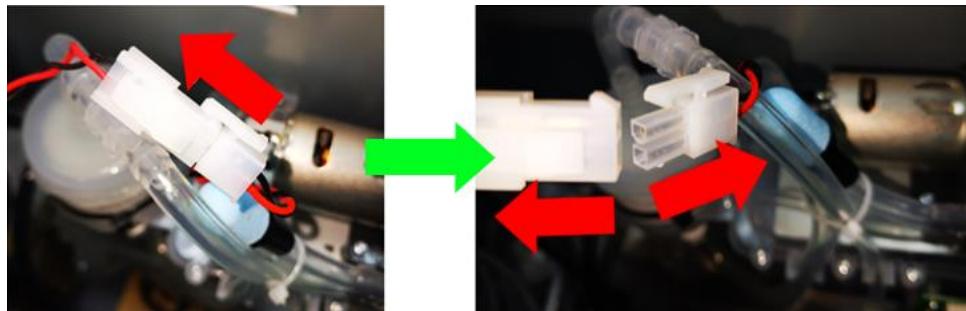
8. After all waste ink is drained from the WIMM tank, connect the Waste Ink Tube from the WIMM to the IDS blade back to the WASTE IN barb.

**Figure 316 – Tube Reconnected to WASTE IN Barb**



9. Disconnect the vacuum pump cable from the WIMM. Be sure to disconnect one end only. Do NOT remove the cable end connected to the Electrical Module.

**Figure 317 – Vacuum Pump Cable Disconnected**



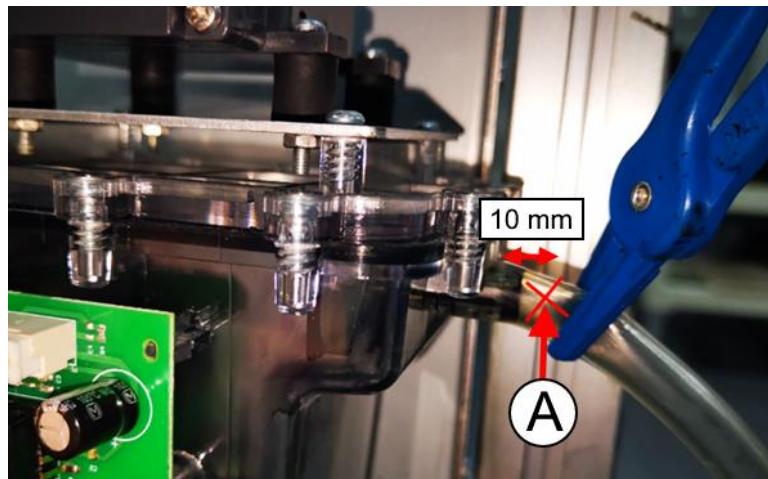
10. Disconnect the Pressure Sensor Cable from the WIMM. Be sure to disconnect one end only. Do not remove the cable end connected to the Electrical Module.

**Figure 318 – Pressure Sensor Cable Disconnected**



11. Use a hemostat to clamp the waste ink tube from the Print Module ([Figure 319](#)).
12. Cut the tube approximately 10 mm from the WIMM barb, at the location labeled A.

**Figure 319 – Cut Print Module Waste Ink Tube at Location A**



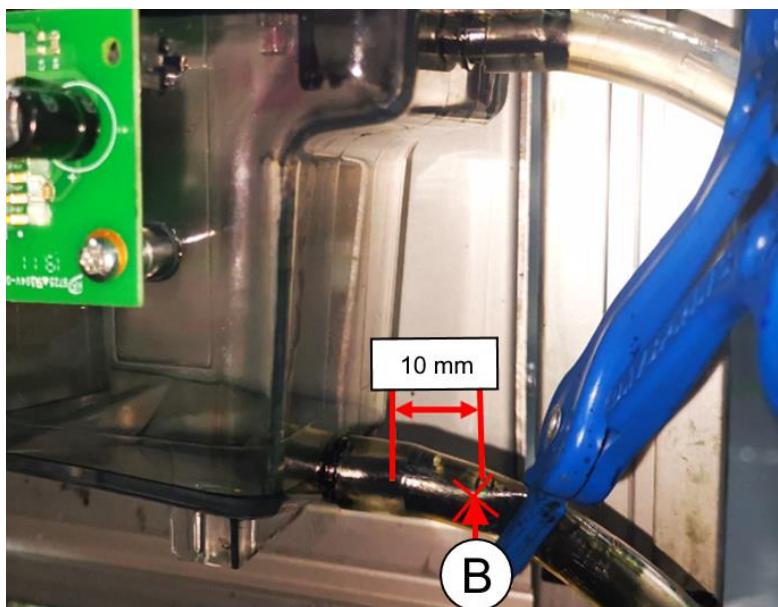
13. Use a hemostat to clamp the waste ink tube from the WIMM to the IDS blade. Place the hemostat near the WIMM barb.

**Figure 320 – Hemostat on Waste Ink Tube (WIMM to IDS)**



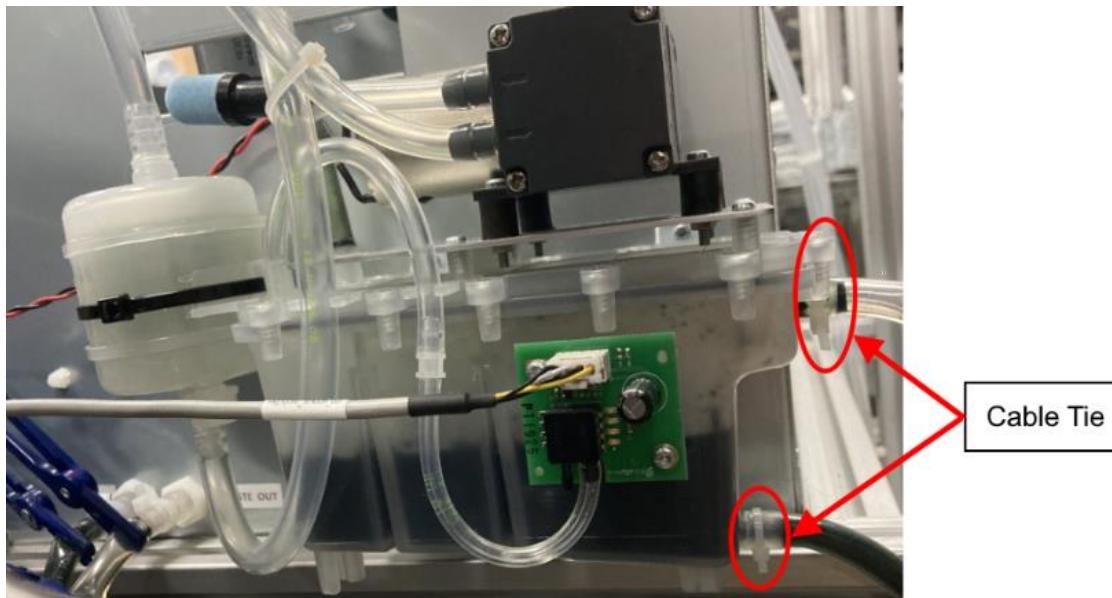
14. Use a tubing cutter to cut the WIMM to IDS waste ink tube at the location labeled B in the next figure.

**Figure 321 – Cut IDS Waste Ink Tube at Location B**



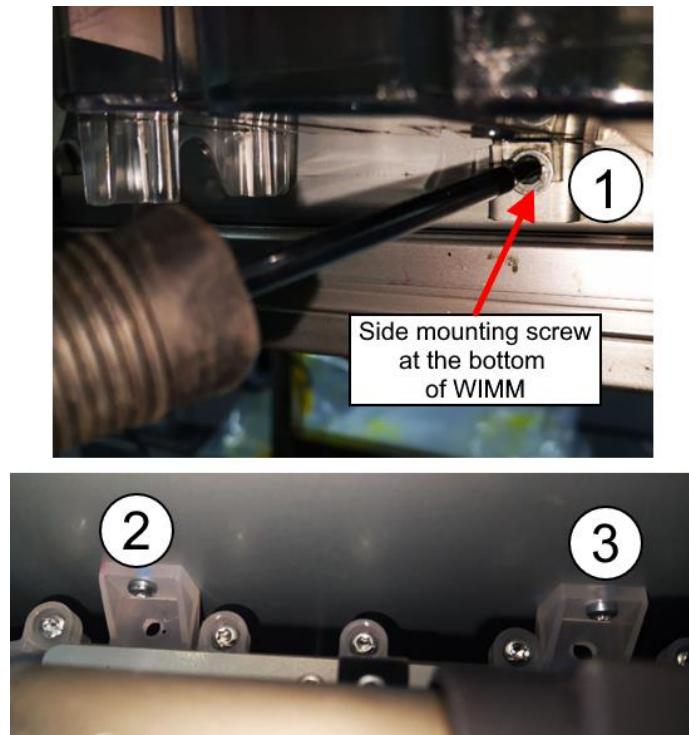
15. If cable ties are present, use a diagonal cutter to remove them.

**Figure 322 – Cable Ties on WIMM**



16. Loosen the three (3) WIMM mounting screws. The figure below shows an example with the WIMM side-mounted. Actual mounting is OEM-specific.

**Figure 323 – WIMM Assembly – Side Mounting Method**



17. Discard the WIMM assembly according to local disposal recommendations.



## 20.4 Installation

1. Visually inspect the new WIMM assembly to ensure that there is no damage; there are no kinks in tubing, PCA components are intact, tank is in good condition, etc.

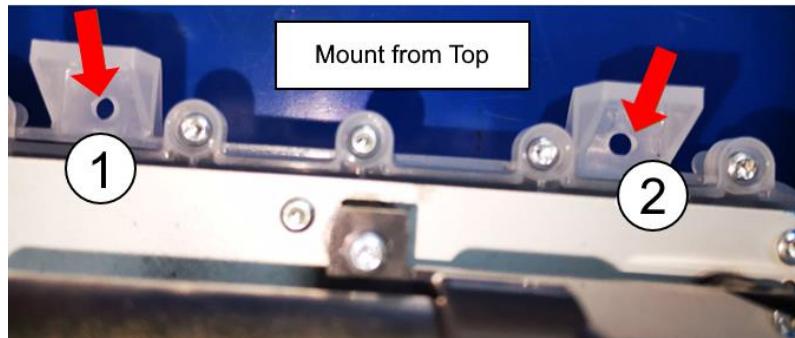
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 324 – WIMM Assembly**

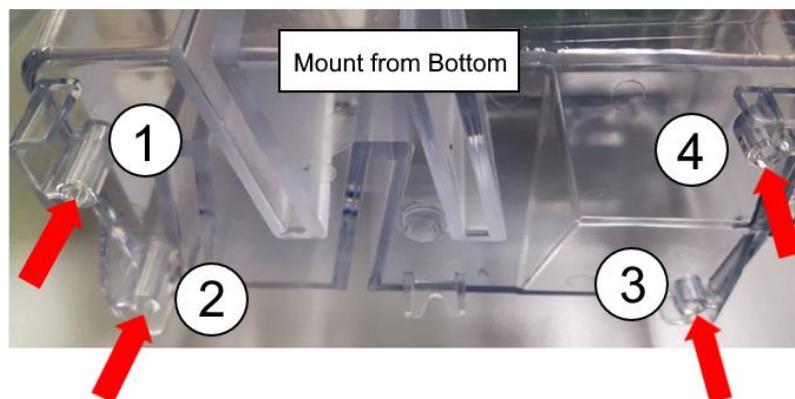


Note: This procedure only shows the side mounting method. OEMs may choose to mount the WIMM on the side or from the top or bottom.

**Figure 325 – WIMM Assembly – Top Mounting Method**

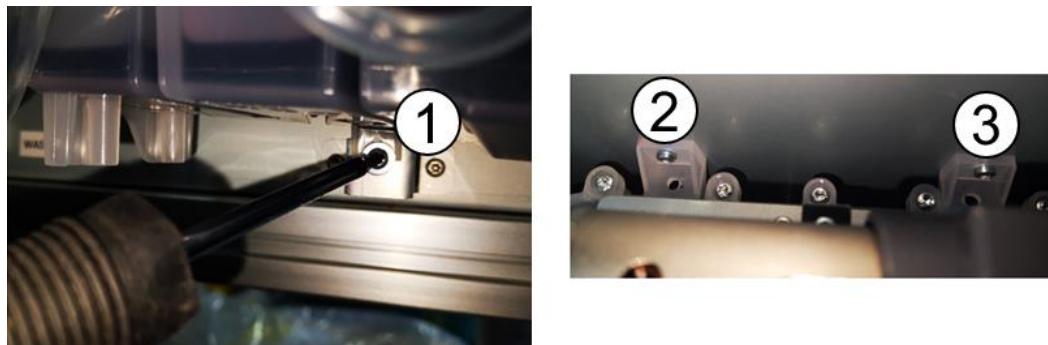


**Figure 326 – WIMM Assembly – Bottom Mounting Method**



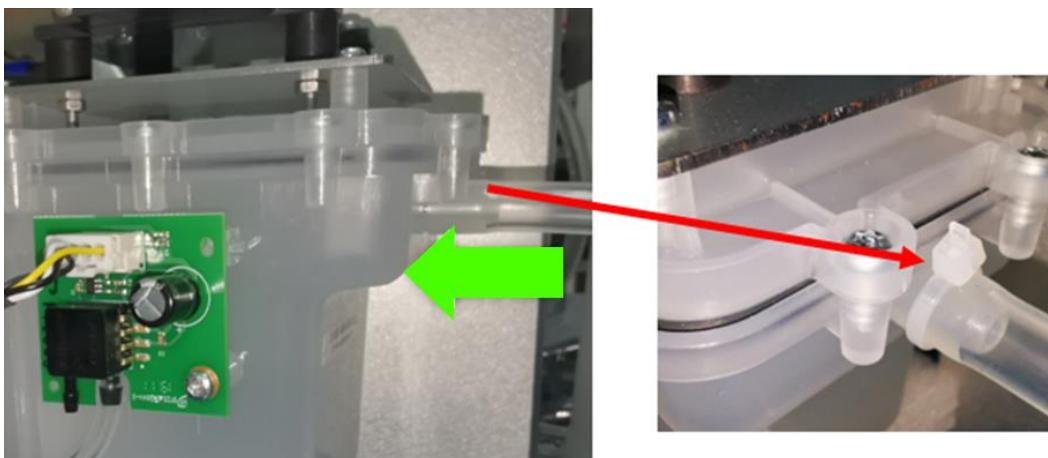
2. Install the new WIMM to the OEM-designed mounting structure by securing the three (3) screws.

**Figure 327 – WIMM Mounting Screws – Side Mount**



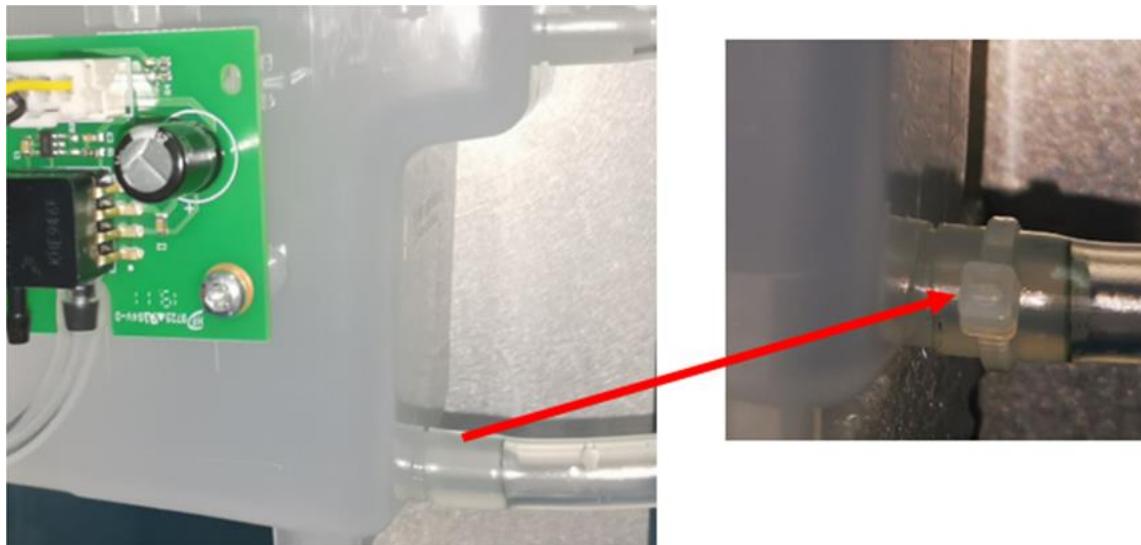
3. Connect the waste ink tube from the Print Module to the WIMM barb. Apply some LEG-1 lubricant to the tube opening to ease insertion.
4. Use a cable tie to secure the tube to the WIMM barb and cut off the excess tail.

**Figure 328 – Print Module Waste Ink Tube Connected to WIMM and Secured**



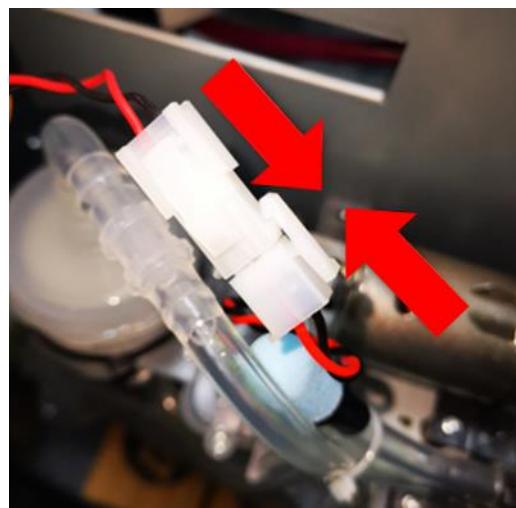
5. Connect the waste ink tube from the IDS blade to the WIMM barb. Apply some LEG-1 lubricant to the tube opening to ease the insertion.
6. Use a cable tie to secure the tube to the WIMM barb and cut off the excess tail.

**Figure 329 – IDS Blade Waste Ink Tube Connected to WIMM and Secured**



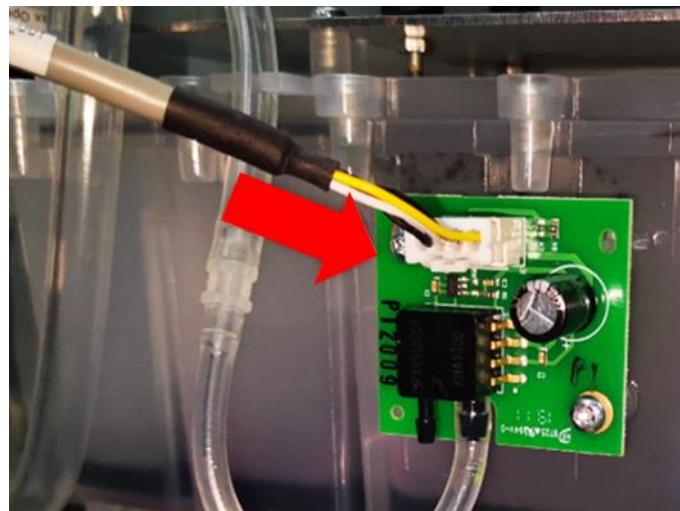
7. Connect the cable from Print Module to the vacuum pump.

**Figure 330 – Cable to the Vacuum Pump**



8. Connect the cable to the Pressure Sensor PCA on the WIMM.

**Figure 331 – Cable to the Pressure Sensor**



## 20.5 Testing

1. Power on DuraFlex.
  2. Perform light service five (5) times.
- 
- Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.
3. Perform medium service two (2) times.
  4. If the system can perform light and medium services per normal, it can build up pressure without any problem. The replacement process is successful.



## 21 WIMM Cable Replacement

This section provides replacement instructions for the WIMM Cable (PN 10005302).

Note: The WIMM cable consists of both the WIMM pump cable and the WIMM pressure sensor cable.

### 21.1 Personal Protective Equipment (PPE)

CAUTION: To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 21.2 ESD Guidelines

CAUTION: To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 21.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 21 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	WIMM Cable – PN 10005302

### 21.4 Removal

CAUTION: To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

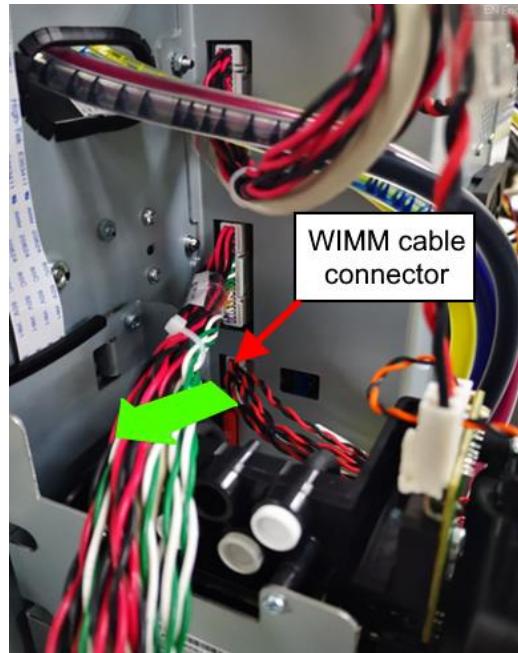
Note: Unless otherwise noted, keep all original hardware for installation.

1. Remove any covers or panels to expose top of the DuraFlex components and create sufficient access to the components.
2. Wear an anti-static wrist strap during this procedure.
3. Power down DuraFlex.



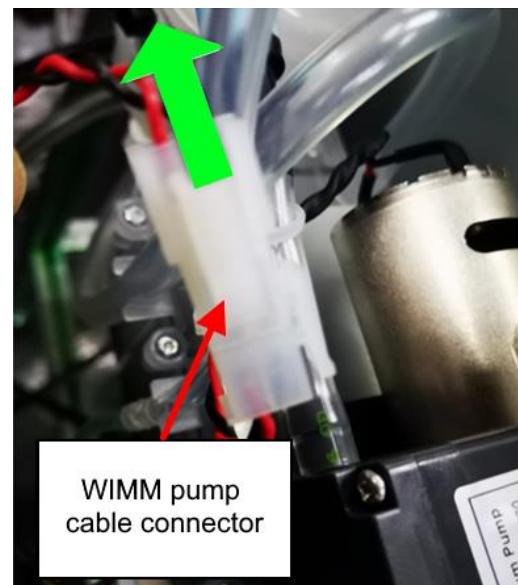
4. Disconnect the WIMM cable from the Print Module (at the RIGHT side of the Electrical Module).

**Figure 332 – WIMM Cable at Print Module**



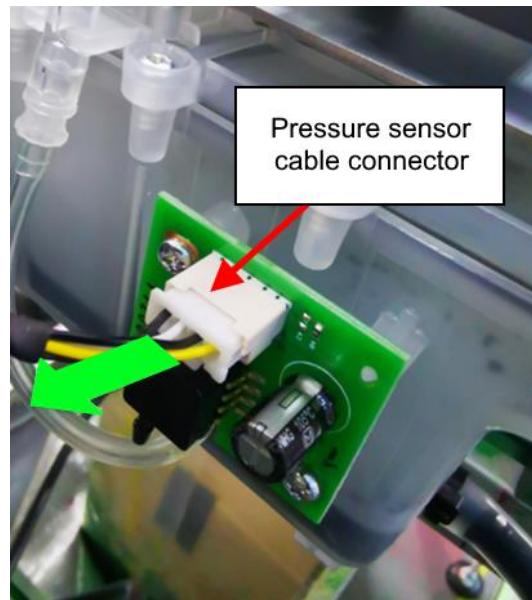
5. Disconnect the WIMM cable from the WIMM pump cable connector.

**Figure 333 – WIMM Cable at WIMM Pump Connector**



6. Disconnect the WIMM pressure sensor cable from the Pressure Sensor PCA.

**Figure 334 – Pressure Sensor Cable Disconnected from PCA**



7. Discard the WIMM Cable according to local disposal recommendations.

## 21.5 Installation

1. Inspect the new WIMM cable.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 335 – WIMM Cable**



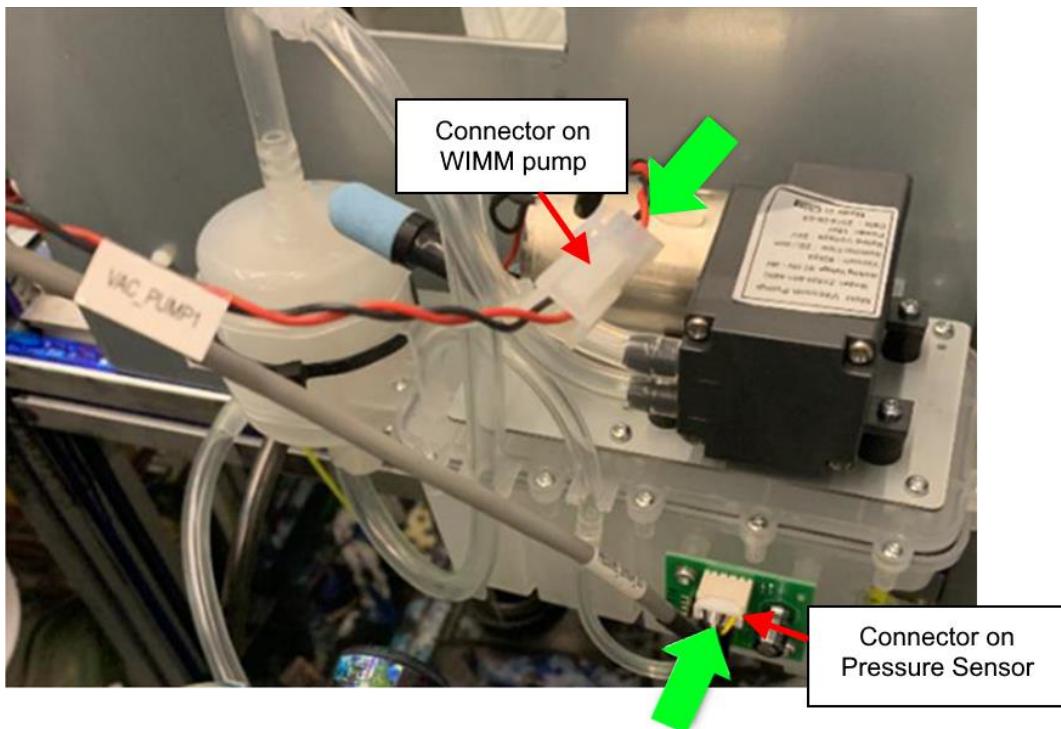
2. Connect the WIMM cable to the Print Module (at the right side of Electrical Module).

**Figure 336 – WIMM Cable Connected to Print Module**



3. Connect the WIMM cable to the connector on WIMM pump and the connector on pressure sensor.

**Figure 337 – WIMM Cable Connected to WIMM Pump and Pressure Sensor**



## 21.6 Testing

1. Power up DuraFlex.
2. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

3. Perform three (3) times of light services and one (1) time of medium service.
4. If there is no error, the WIMM cable replacement is successful.



## 22 WIMM Pressure Sensor PCA Replacement

This section provides replacement instructions for the WIMM Pressure Sensor PCA (PN 10005303).

**Figure 338 – WIMM Pressure Sensor PCA**



### 22.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 22.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 22.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 22 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	WIMM Pressure Sensor PCA – PN 10005303
1	Tool	T10 – M3 screwdriver



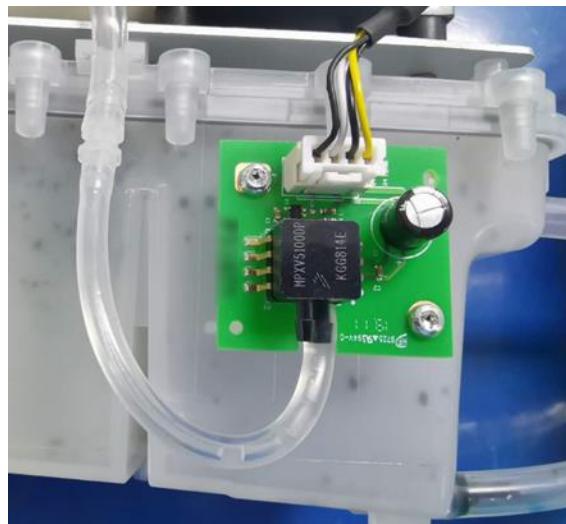
## 22.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Wear an anti-static wrist strap during this procedure.
2. Power down the printing system.
3. Locate the WIMM Pressure Sensor PCA on the WIMM:

**Figure 339 – WIMM Pressure Sensor PCA on WIMM**



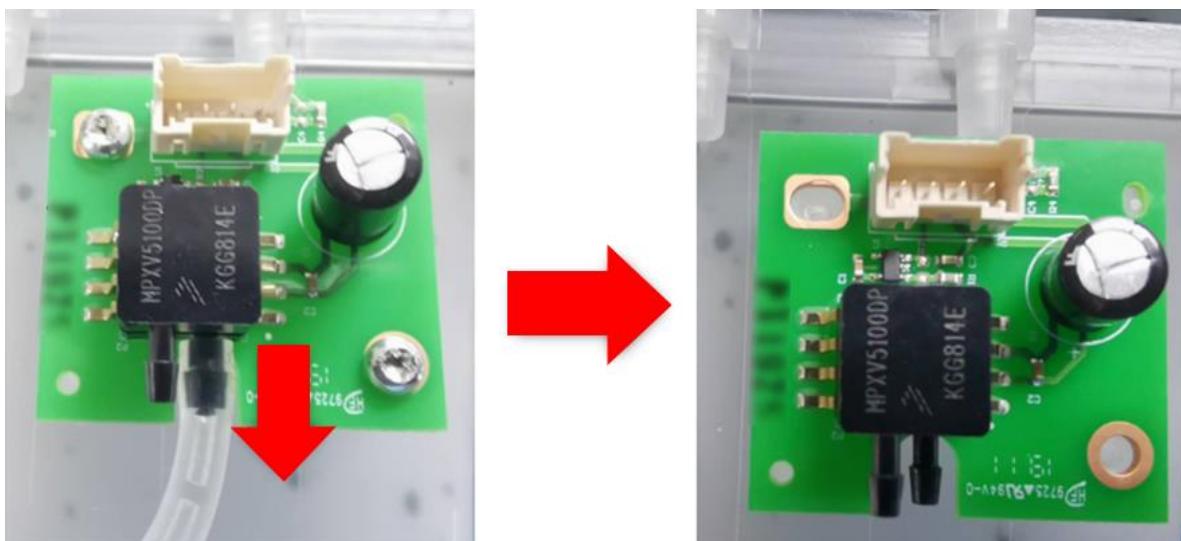
4. Disconnect only one end of the WIMM pressure sensor Cable from WIMM Pressure Sensor PCA. Do not remove the cables connected to Mechanical Controller PCA.

**Figure 340 – WIMM Pressure Sensor Cable on PCA**



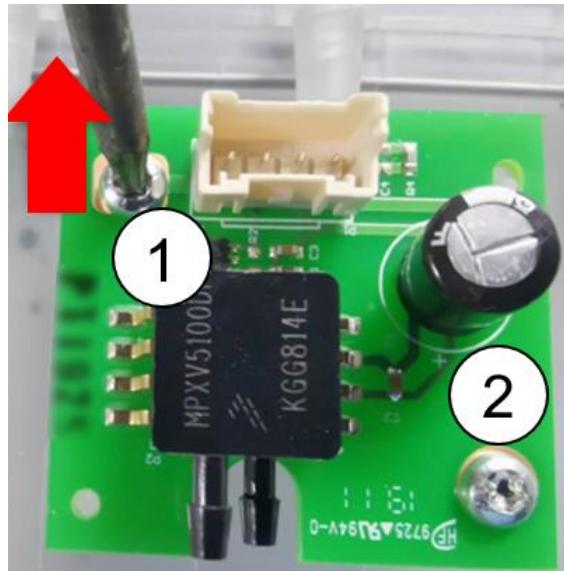
5. Disconnect the tube.

**Figure 341 – Tube Disconnected from WIMM Pressure Sensor PCA**



6. Loosen the two (2) screws that secure the WIMM Pressure Sensor PCA.

**Figure 342 – WIMM Pressure Sensor PCA Mounting Screws**



7. Discard the WIMM Pressure Sensor PCA according to local disposal recommendations.

## 22.5 Installation

1. Visually inspect the new WIMM Pressure Sensor PCA to ensure there is no damage.

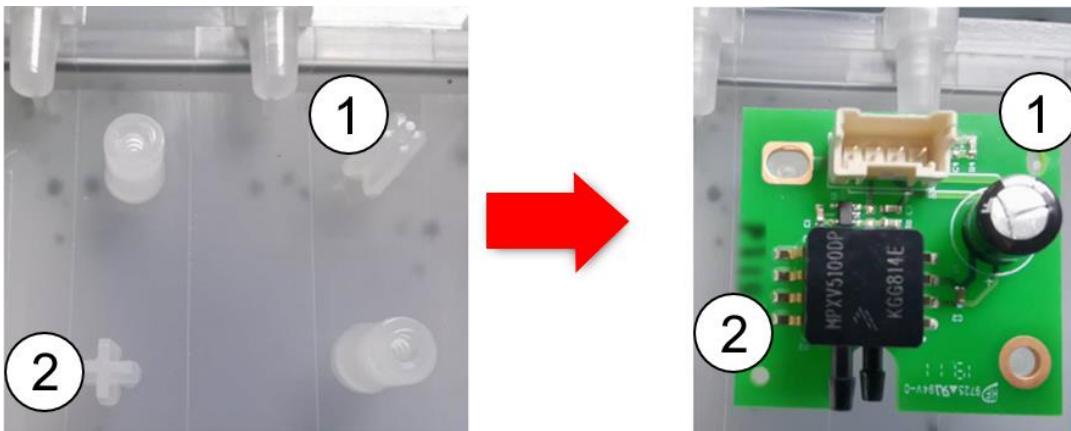
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 343 – WIMM Pressure Sensor PCA**



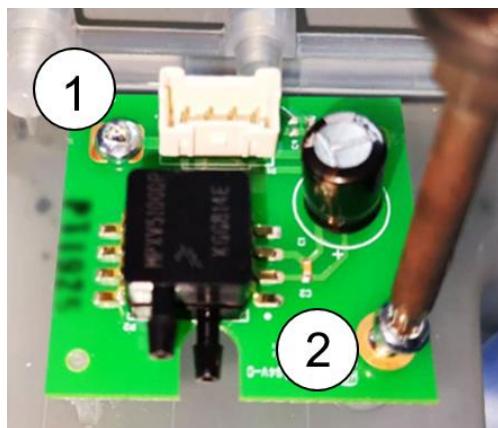
2. Align the new WIMM Pressure Sensor PCA locating holes to the two (2) locating pins on the WIMM.

**Figure 344 – Locating Pins**



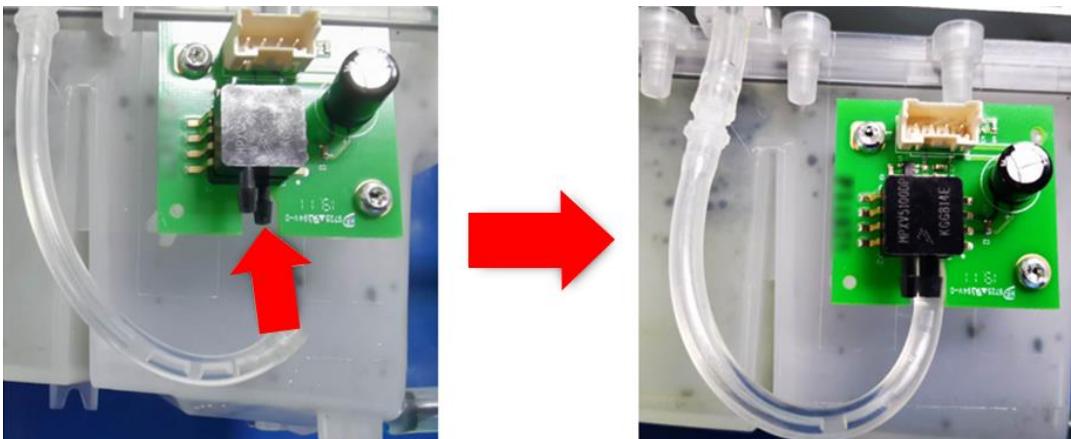
3. Tighten the two (2) screws to secure the WIMM Pressure Sensor PCA.

**Figure 345 – WIMM Pressure Sensor PCA Mounting Screws**



4. Attach the tube onto the WIMM pressure sensor barb.

**Figure 346 – Tube Connected to WIMM Pressure Sensor Barb**



5. Connect the WIMM pressure sensor cable to the connector on the WIMM Pressure Sensor PCA.

**Figure 347 – WIMM Pressure Sensor Cable Connected**



## 22.6 Testing

1. Power on DuraFlex.
2. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

3. Perform a light service.
4. Perform a medium service.
5. If it can perform light and medium services per normal, the replacement is successful.

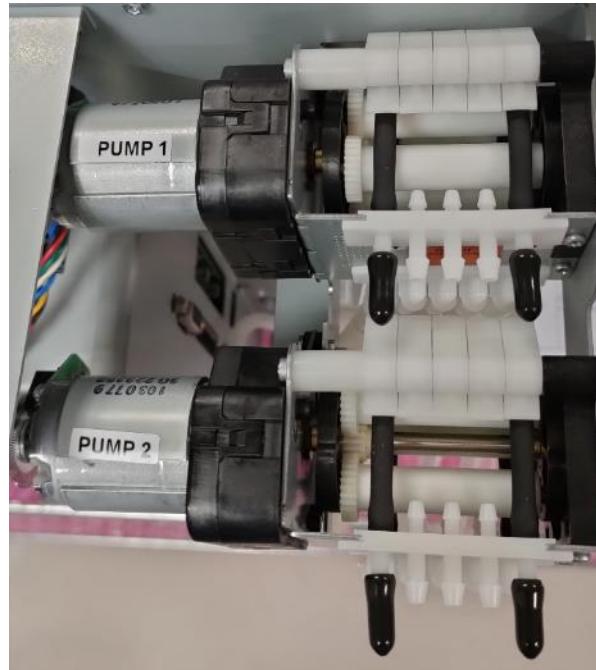


## 23 Circulation Pumps Replacement

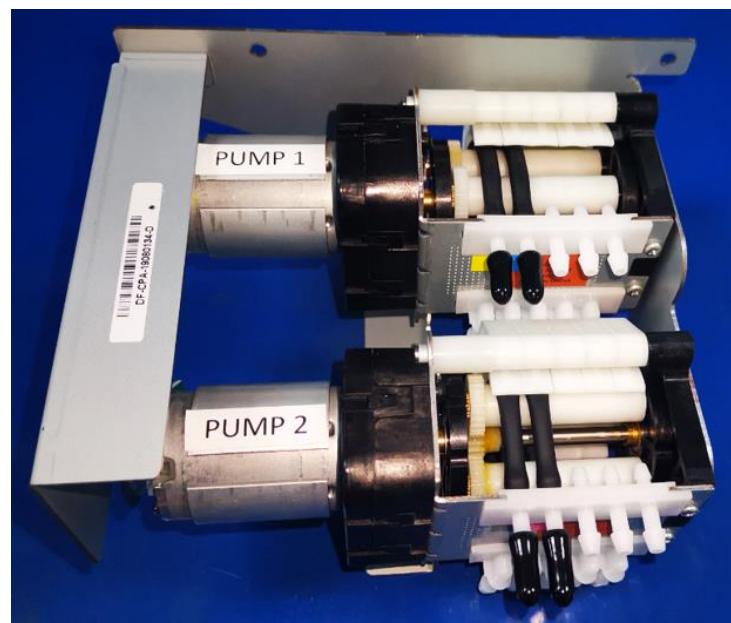
This section provides replacement instructions for the FIDS Circulating Pump Assembly (PN 10005288).

Note: The figures below are examples of the current circulation pumps versus the previous version. The replacement procedure is the same for both versions. Graphics in the remaining instructions reflect the earlier version of the circulation pumps.

**Figure 348 – Circulation Pumps (Current)**



**Figure 349 – Circulation Pumps (Previous)**



## 23.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

## 23.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 23 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	DuraFlex FRU FIDS Circulating Pump Assembly (two channel, two pumps, and mounting bracket) – PN 10005288
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Diagonal cutter
1	Tool	Tubing cutter
8	Tool	Hemostat
4	Supply	Versilon 2001 tubing - 3.175 mm ID, 240 mm

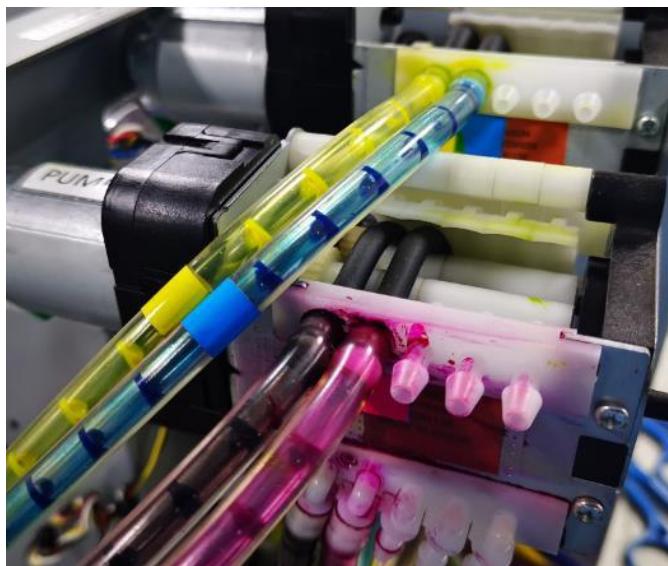
## 23.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Deprime DuraFlex until all tubes from Pinch Valve to IR Tank (through the Return Line) are empty.

**Figure 350 – Empty the Return Line Tubes**

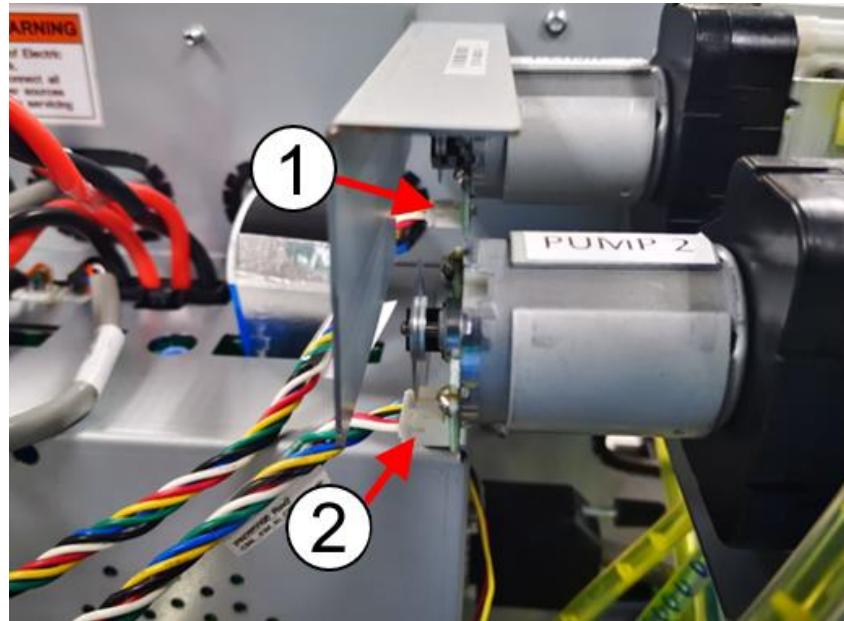


2. Power down the system.



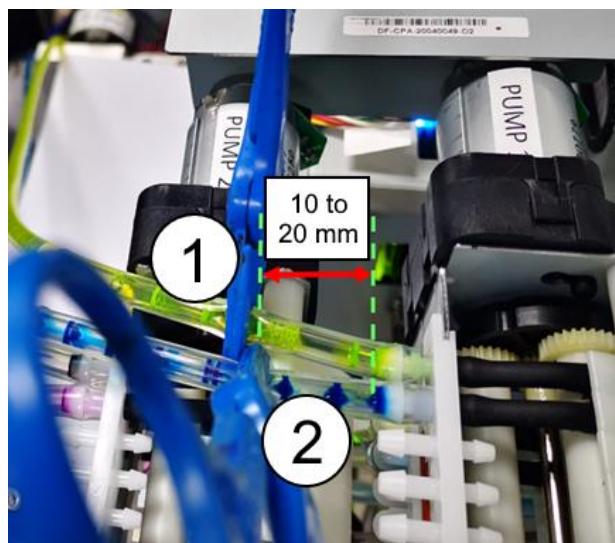
3. Disconnect the two (2) power cables that connect the dual Circulation Pumps to the Mechanical Controller PCA.

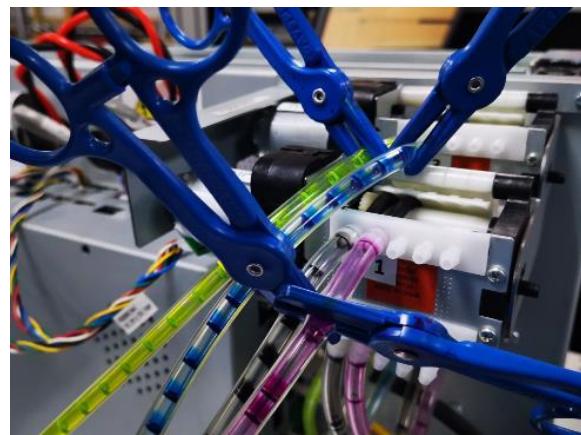
**Figure 351 – Connectors of Circulation Pumps**



4. Hemostat the Return Line tubes at the four (4) locations shown in figure below, around 10-20 mm from the barb end of each Circulation Pump.

**Figure 352 – First Circulation Pump**



**Figure 353 – Second Circulation Pump****Figure 354 – Overall View**

5. Cut the tubes at the four (4) locations shown in "X" in the figure below, which are adjacent to the barbs of Circulation Pumps.

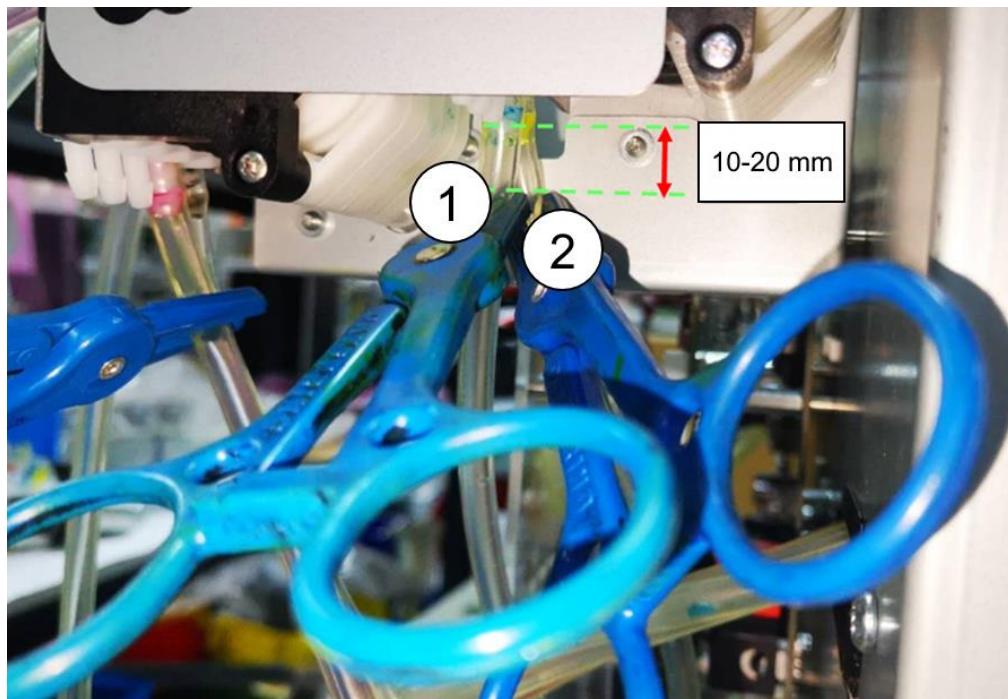
**Figure 355 – Cut Locations**

6. Wipe up any spilled ink with lint-free cloth.

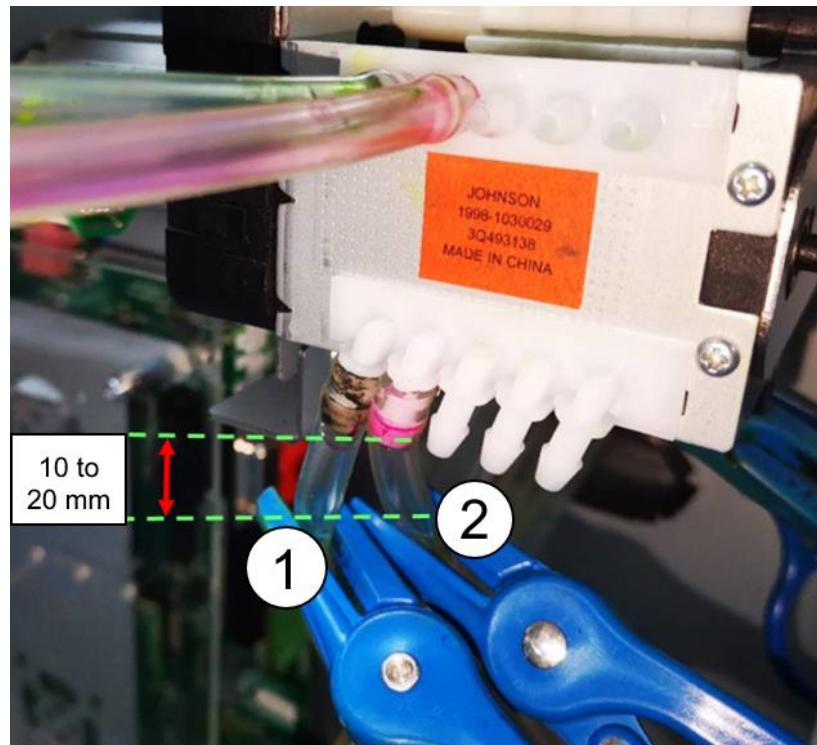


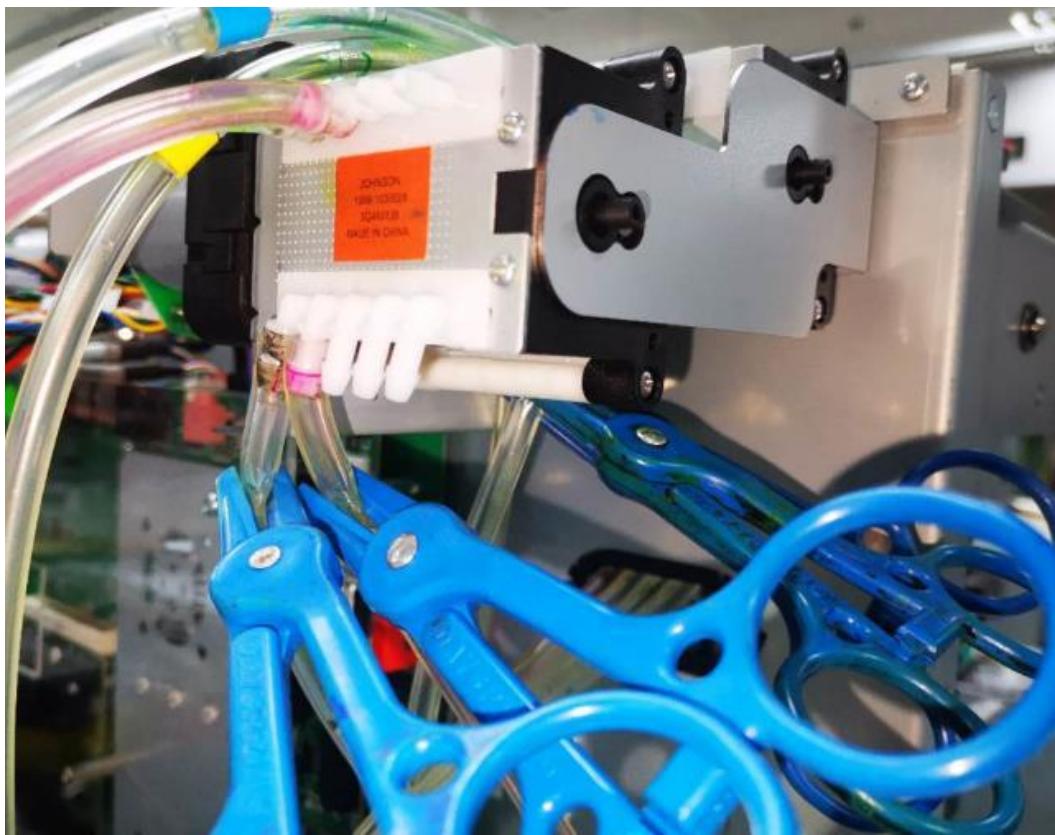
7. Hemostat the tubes between Circulation Pumps and Compliance Chamber, about 10-20 mm from the Circulation Pump barb end.

**Figure 356 – First Circulation Pump**



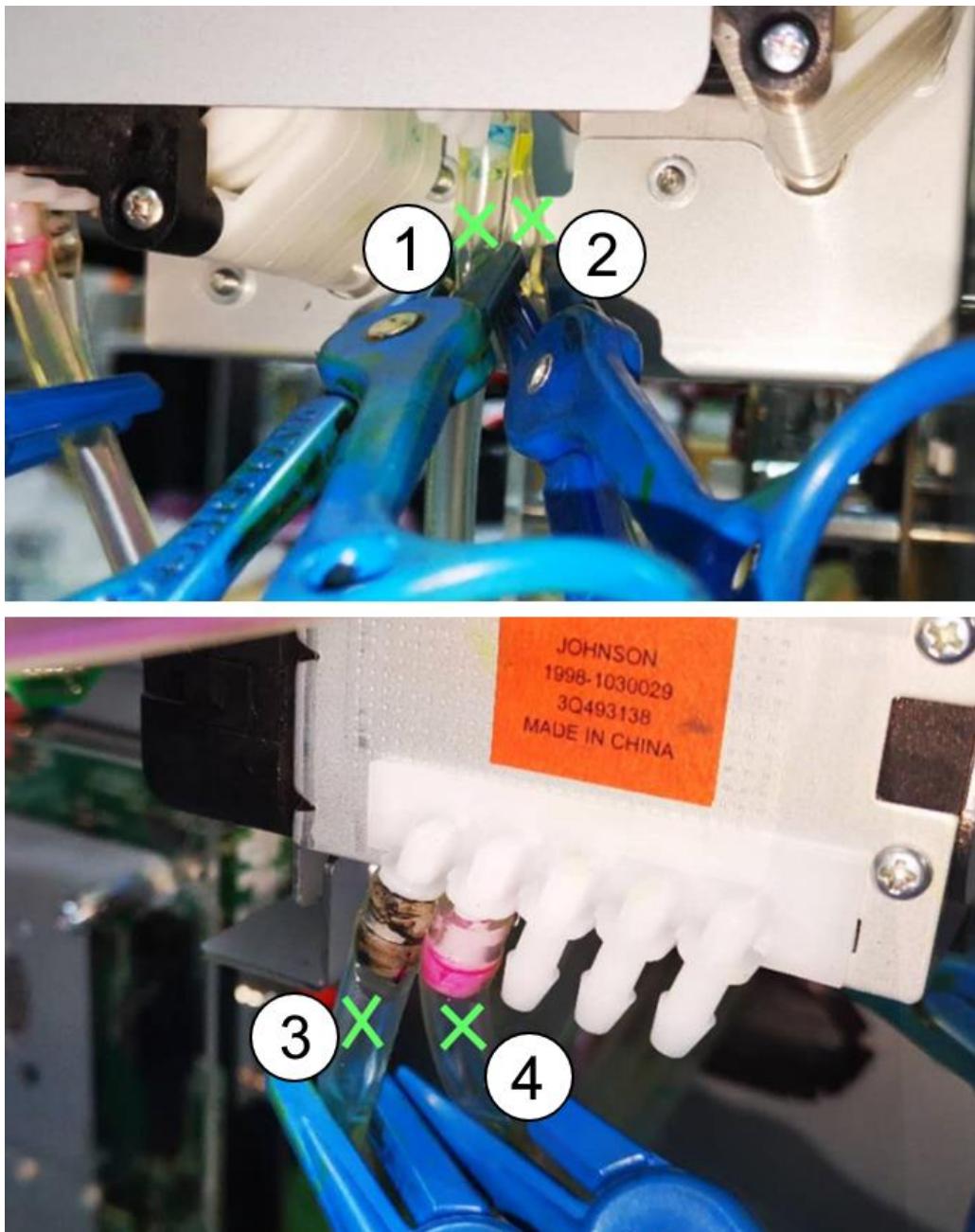
**Figure 357 – Second Circulation Pump**



**Figure 358 – Overall View**

8. Cut the tubes at the four (4) cut locations shown in "X" (nearest to the Circulation Pumps barbs).

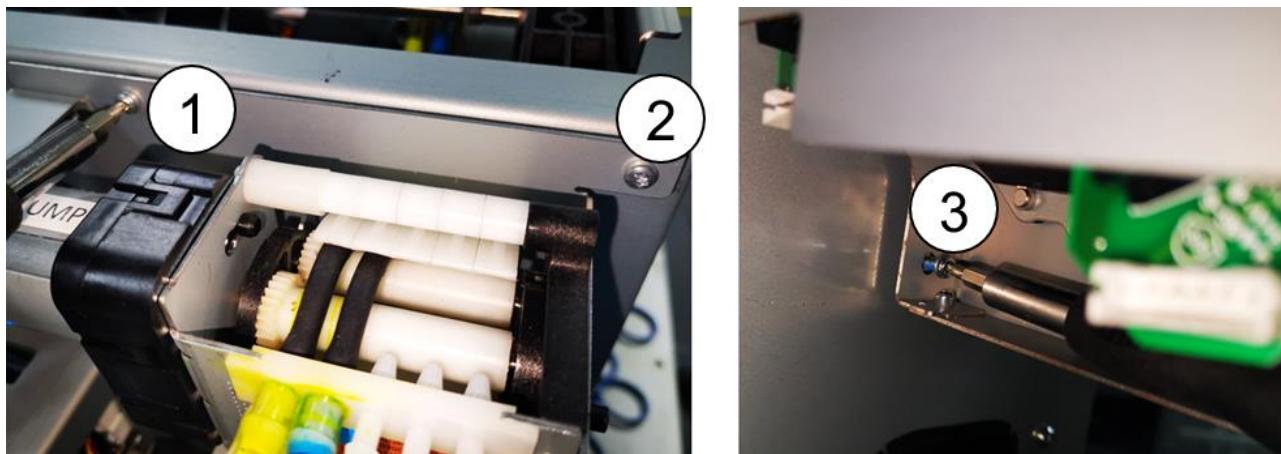
**Figure 359 – Cut Locations**



9. Loosen the three (3) screws that mount the Circulation Pumps Assembly to the Print Module.

Note: Screw #3 is below the Circulation Pumps.

**Figure 360 – Circulation Pump Assembly Mounting Screws**



10. Remove the Circulation Pumps assembly.

11. Disconnect the four (4) tubes from the Compliance Chamber.

**Figure 361 – Disconnect Tubing**



12. Discard the Circulation Pumps according to local disposal recommendations.

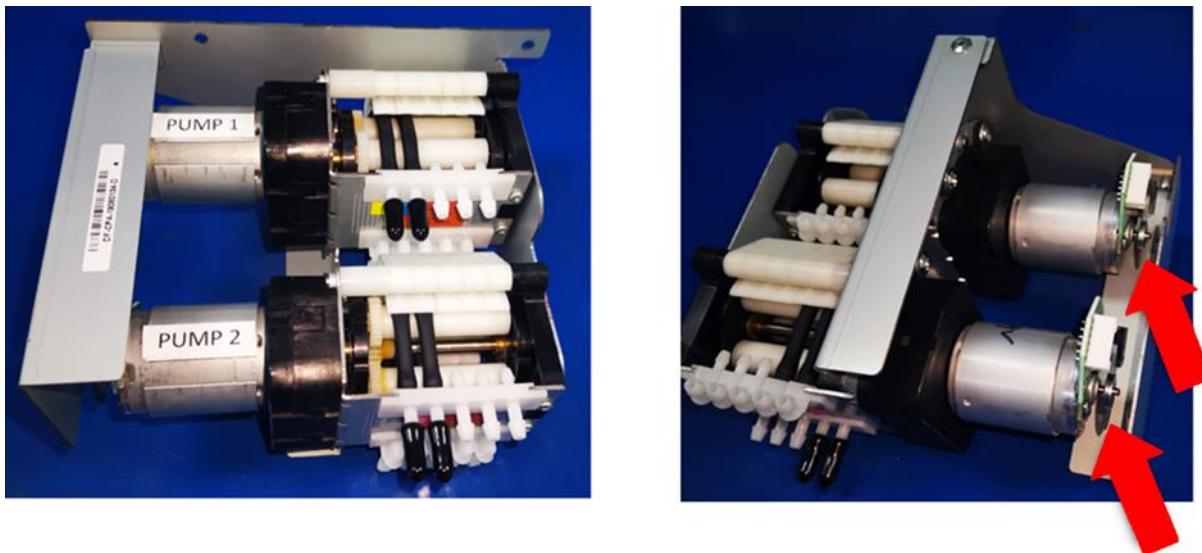


## 23.4 Installation

1. Visually inspect the new Circulation Pumps assembly to ensure that the encoders are not deformed, and the black tubing is not damaged or kinked.

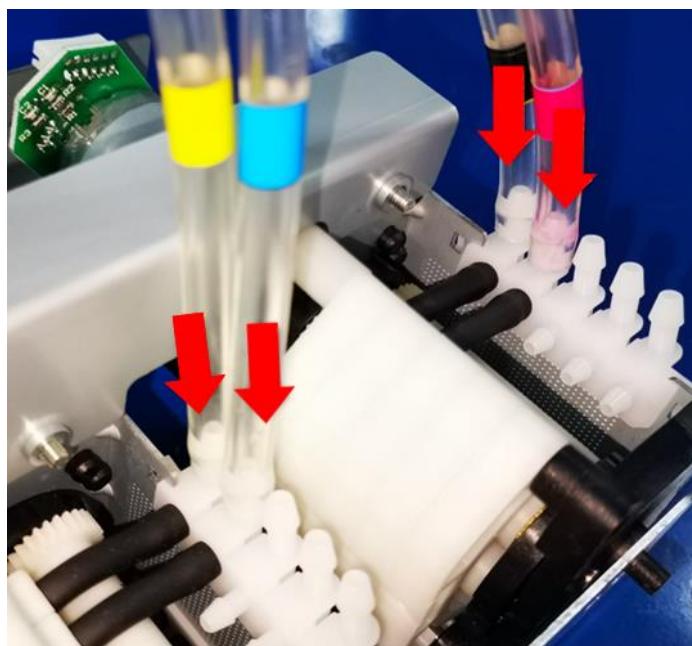
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 362 – Circulation Pumps**



2. Connect the four (4) new tubes from Compliance Chamber to the barbs of Circulation Pumps 1 and 2. Apply some LEG-1 lubricant on the barbs to ease the insertion.

**Figure 363 – Connect Tubes to Circulation Pumps**



3. Connect the four (4) new tubes (240 mm) from the Circulation Pumps to the Compliance Chamber. Be sure to connect to the correct channel by following the numbers labeled on the tubes.

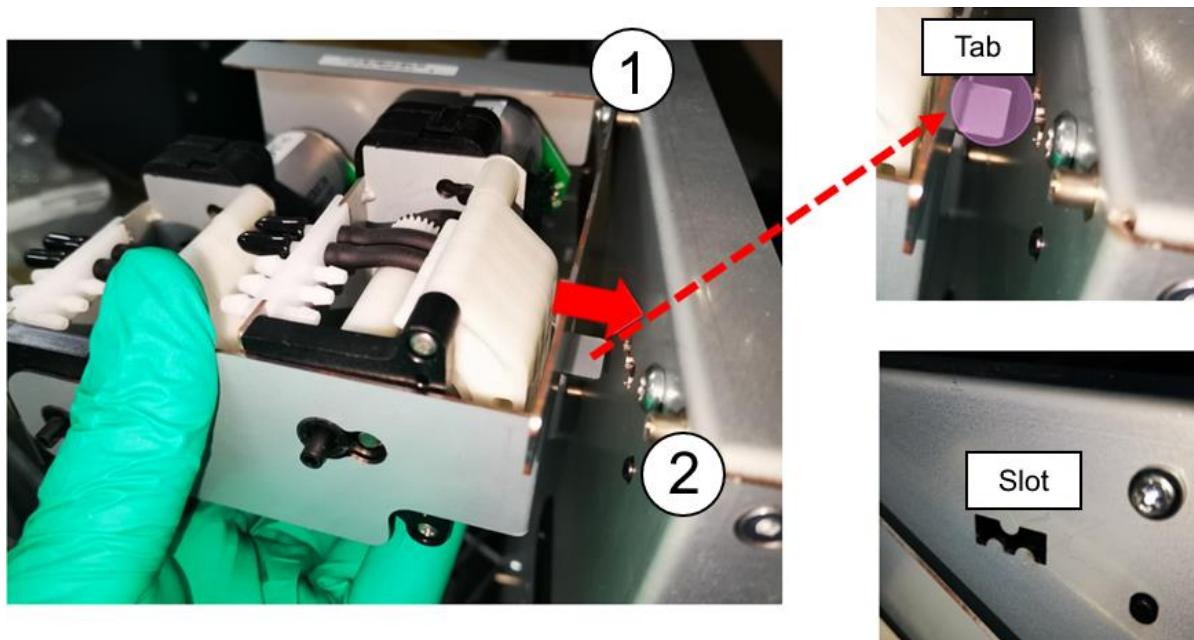
Note: Apply some LEG-1 lubricant on the barbs to ease insertion.

**Figure 364 – Connect Tubes to Compliance Chamber**



4. While holding the Circulation Pump assembly with one hand, use your other hand to align and insert the tab on the Circulation Pump mounting bracket into the slot on the Print Module frame.
5. Meanwhile, align the two (2) screws holes on the Circulation Pumps mounting bracket to the screws locating pin on the Print Module frame.

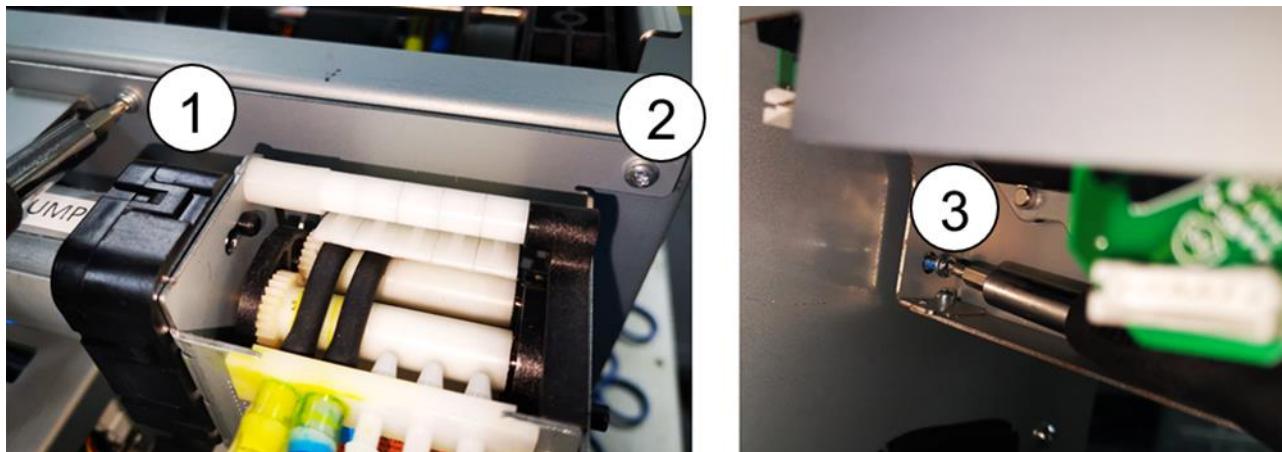
**Figure 365 – Screws, Tab, and Slot**



6. While holding the Circulation Pump assembly in one hand, use your other hand to tighten the three (3) screws that mount it to the print module.

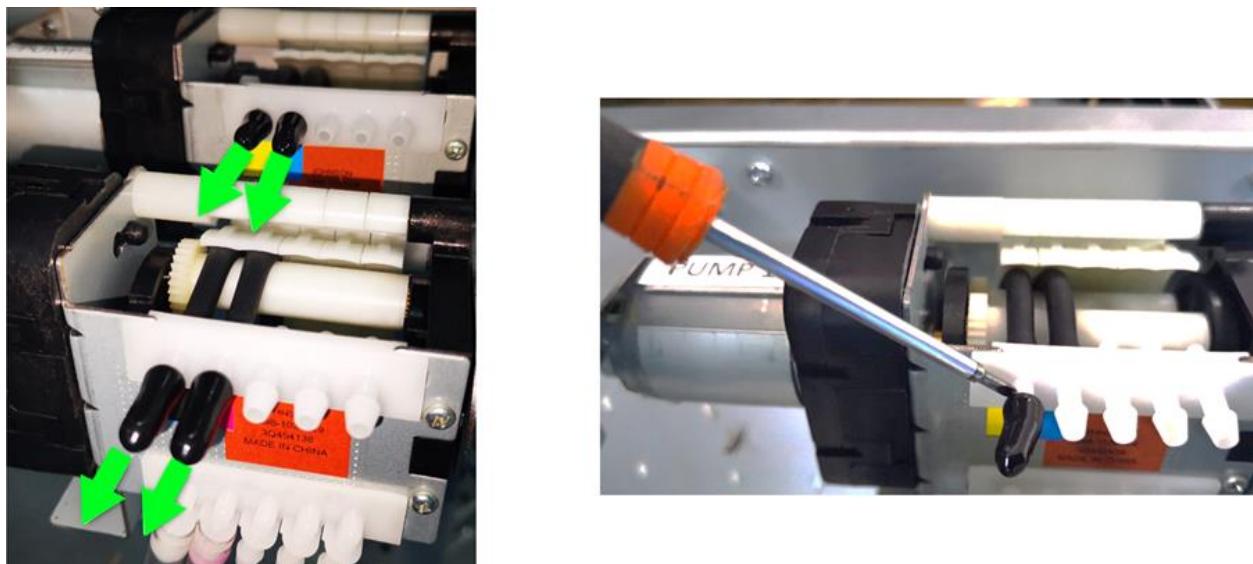
Note: Screw #3 ([Figure 366](#)) is below the Circulation Pumps.

**Figure 366 – Circulation Pump Assembly Mounting Screws**



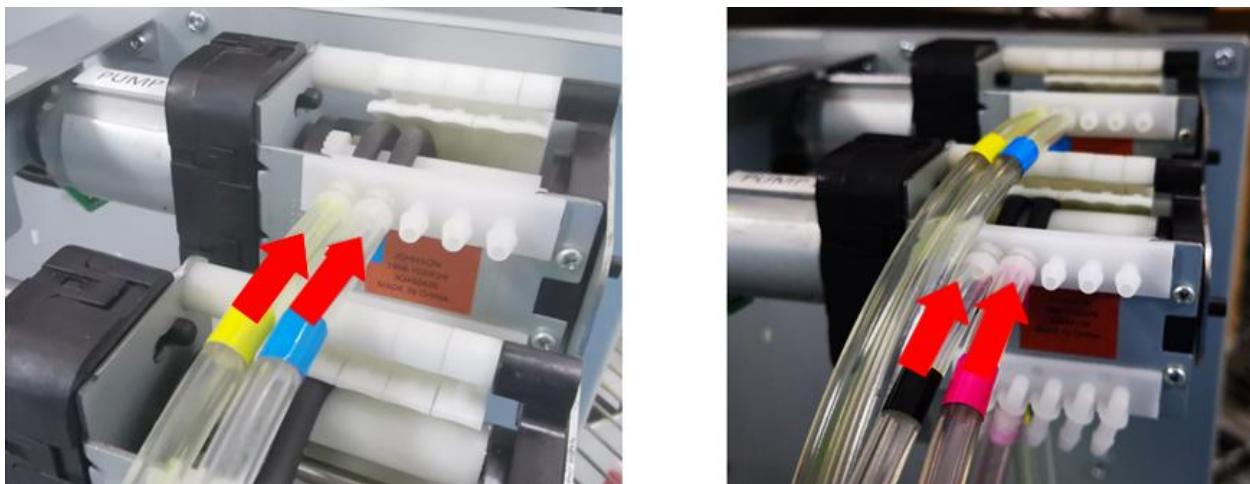
7. Remove the vinyl seal cap from the Circulation Pumps barbs. If needed, use a tool (flat blade screwdriver, etc.) to carefully remove the cap.

**Figure 367 – Remove Vinyl Caps**



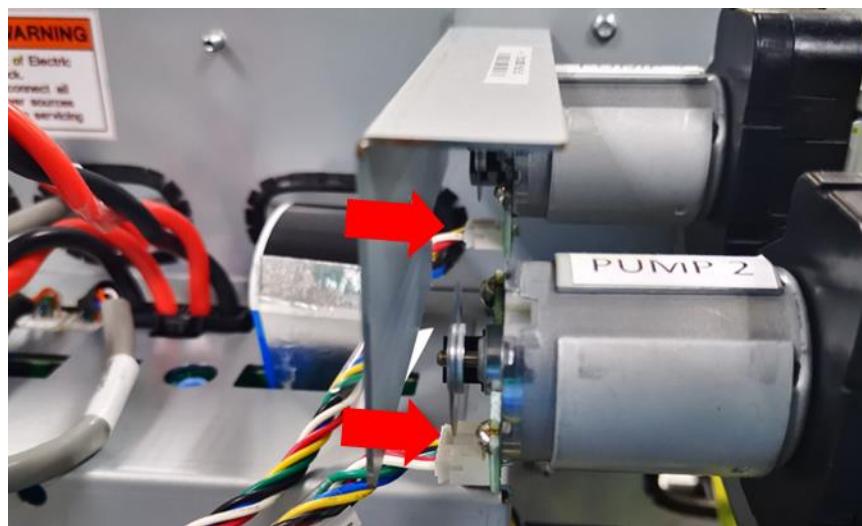
8. Connect the tubes from IDS blade (Return Line) back to the two (2) Circulation Pumps barbs. Apply some LEG-1 lubricant on the barbs to ease the insertion.

**Figure 368 – Connect Tubes Back to Circulation Pumps**



9. Connect the two (2) cables from Mechanical Controller PCA to the dual Circulation Pumps.

**Figure 369 – Connect Cable Back to Circulation Pumps**



## 23.5 Testing

1. Power up the system.
2. Prime the printing system.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

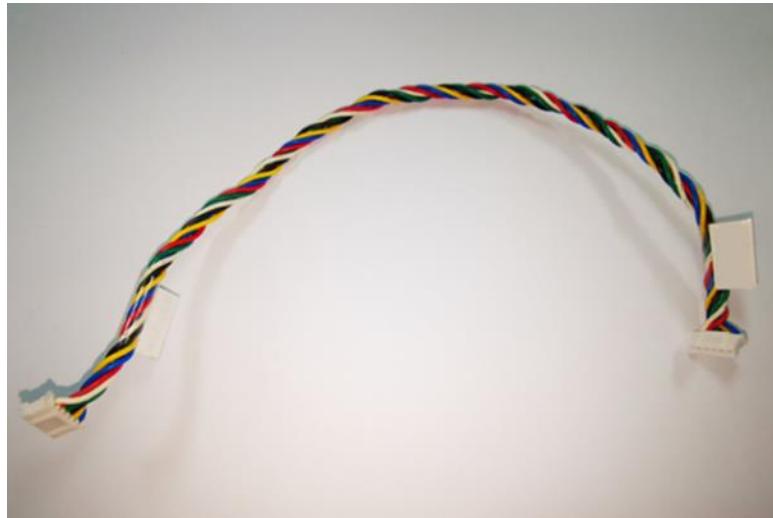
3. Observe that the pumps are circulating per normal, and the ink is drawn from the IR tank then back.
4. Observe if there is any leakage from all the tubing coming in and out of Circulation Pumps and Compliance Chamber.



## 24 Circulation Pumps Cable Replacement

This section provides replacement instructions for the FIDS Circulation Pump Cable (PN 10005276).

**Figure 370 – Circulation Pump Cable**



### 24.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 24.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section 2.2 ESD Guidelines for details.

### 24.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 24 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Circulation Pump Cable – PN 10005276

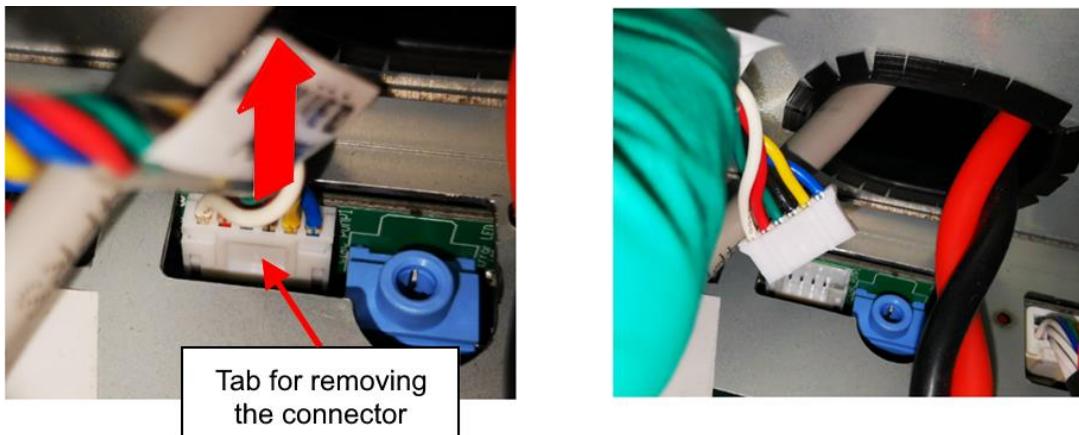
## 24.4 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

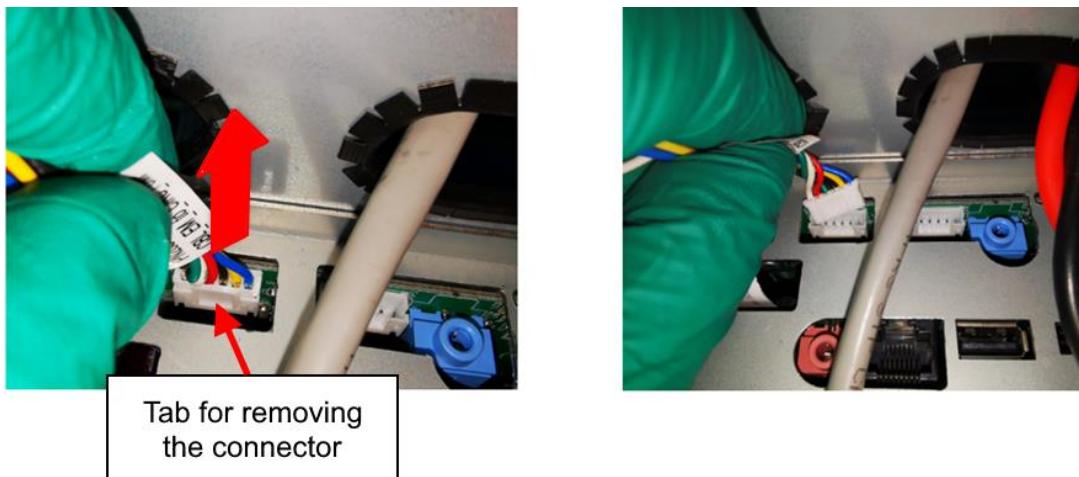
1. Remove any covers or panels to expose top of the DuraFlex components and create sufficient access to the components.
2. Wear an anti-static wrist strap during this procedure.
3. Power down DuraFlex.
4. To disconnect the Circulation Pump 1 cable from the Print Module (at the top of Electrical Module), press the tab as shown in figure below.

**Figure 371 – Circulation Pump 1 Cable Disconnected**



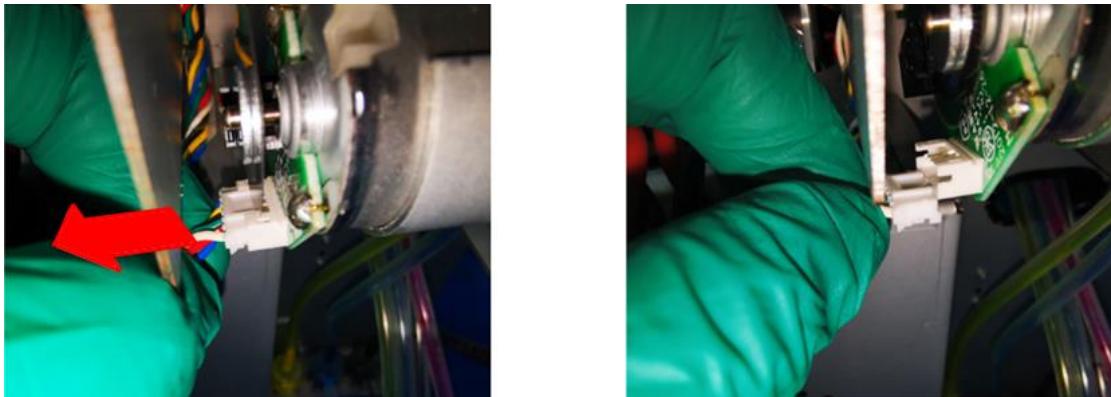
5. To disconnect the Circulation Pump 2 cable from the Print Module (at the TOP of the Electrical Module), press the tab as shown in figure below.

**Figure 372 – Circulation Pump 2 Cable Disconnected**



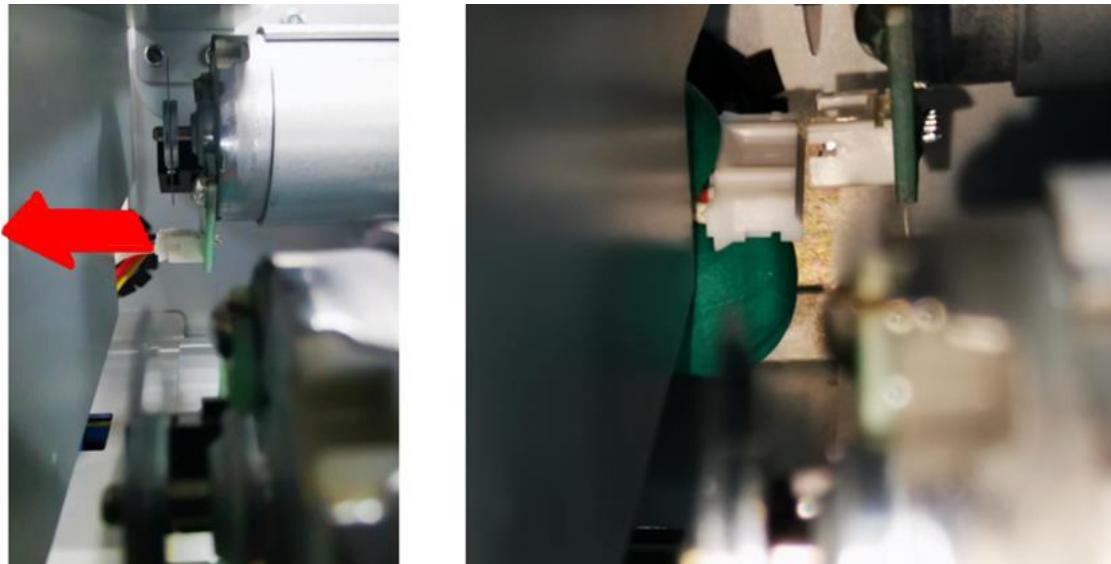
6. Disconnect the Circulation Pump 2 cable from the pump connector.

**Figure 373 – Circulation Pump 2 Cable Removed from Connector**



7. Disconnect the Circulation Pump 1 cable from the pump connector.

**Figure 374 – Circulation Pump 1 Cable Removed from Connector**



8. Discard the Circulation Pumps Cables according to local disposal recommendations.

## 24.5 Installation

1. Inspect the new Circulation Pump cables.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 375 – Circulation Pump Cable**



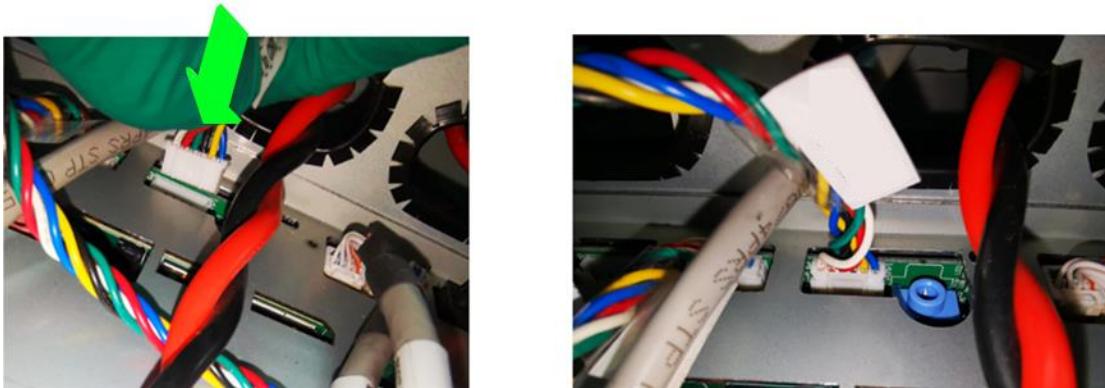
2. Connect the Circulation Pump 2 cable to the Print Module (at the top of Electrical Module).

**Figure 376 – Circulation Pump 2 Cable Connected**



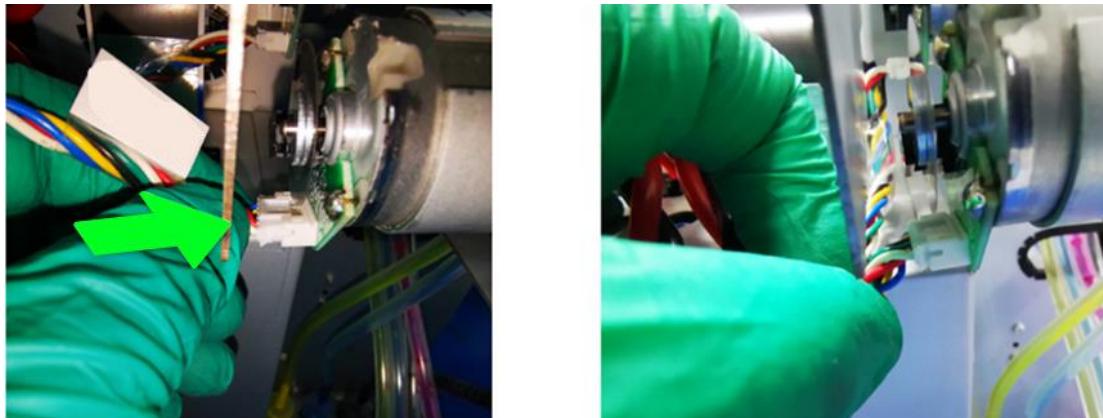
3. Connect the Circulation Pump 1 cable to the Print Module (at the top of Electrical Module).

**Figure 377 – Circulation Pump 1 Cable Connected**



4. Connect the Circulation Pump 2 cable to the pump connector.

**Figure 378 – Circulation Pump 2 Cable Attached to Connector**



5. Connect the Circulation Pump 1 cable to the pump connector.

**Figure 379 – Circulation Pump 1 Cable Attached to Connector**



## 24.6 Testing

1. Power up DuraFlex.
2. Initialize the print engine.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

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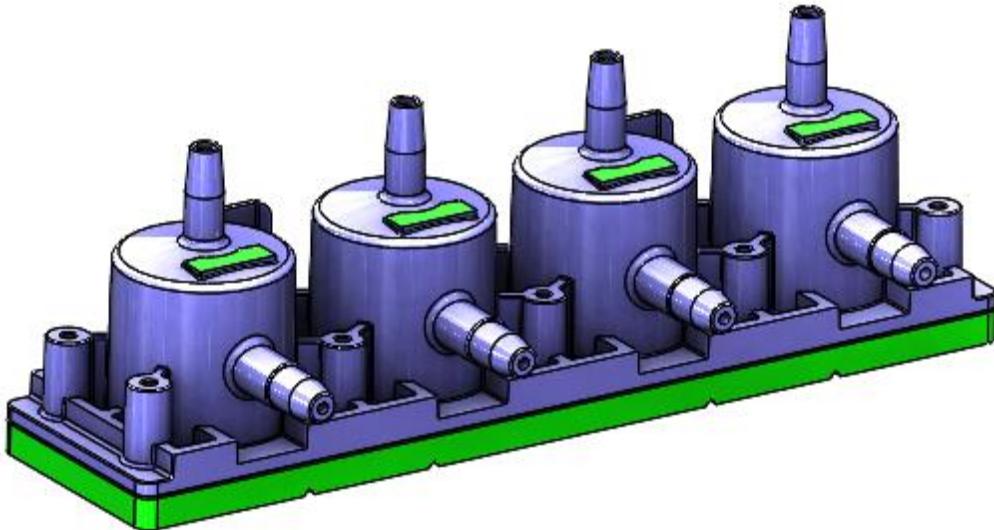
3. Perform priming and depriming two (2) times each.
4. Perform light service two (2) times.
5. If there is no error, the Circulation Pump cable replacement is successful.



## 25 Compliance Chamber Replacement

This section provides replacement instructions for the Compliance Chamber (FIDS Compliance Module – PN 10005289).

**Figure 380 – Compliance Chamber**



### 25.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 25.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 25 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	Compliance Chamber – PN 10005289
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Tubing cutter
4	Tool	Hemostat
4	Supply	Versilon 2001 tubing - 3.175 mm ID, 240 mm

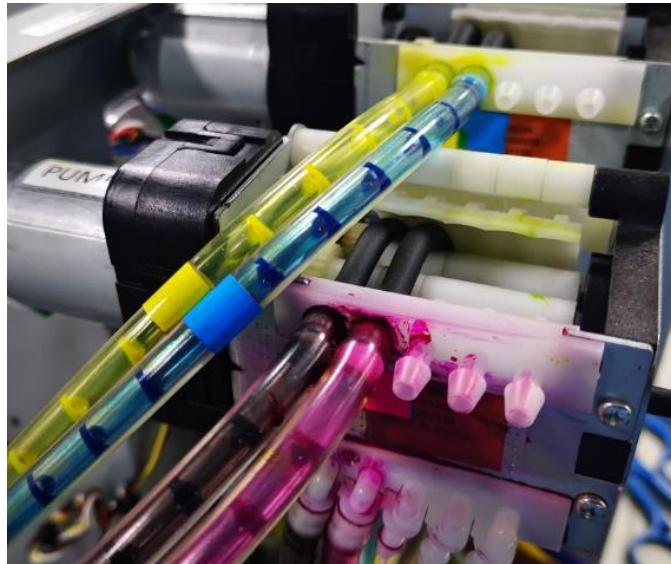
## 25.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

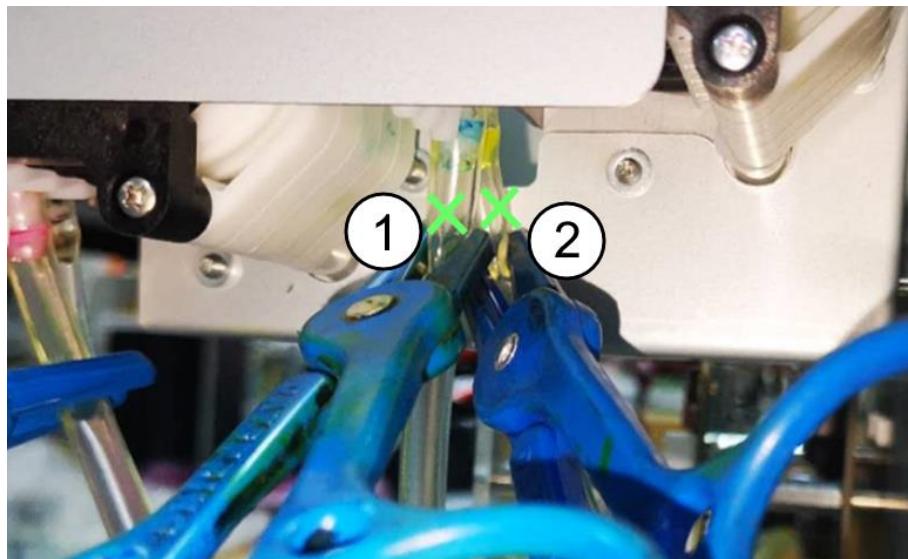
1. Deprime DuraFlex until all tubes from Pinch Valve to IR Tank (through Return Line) are empty.

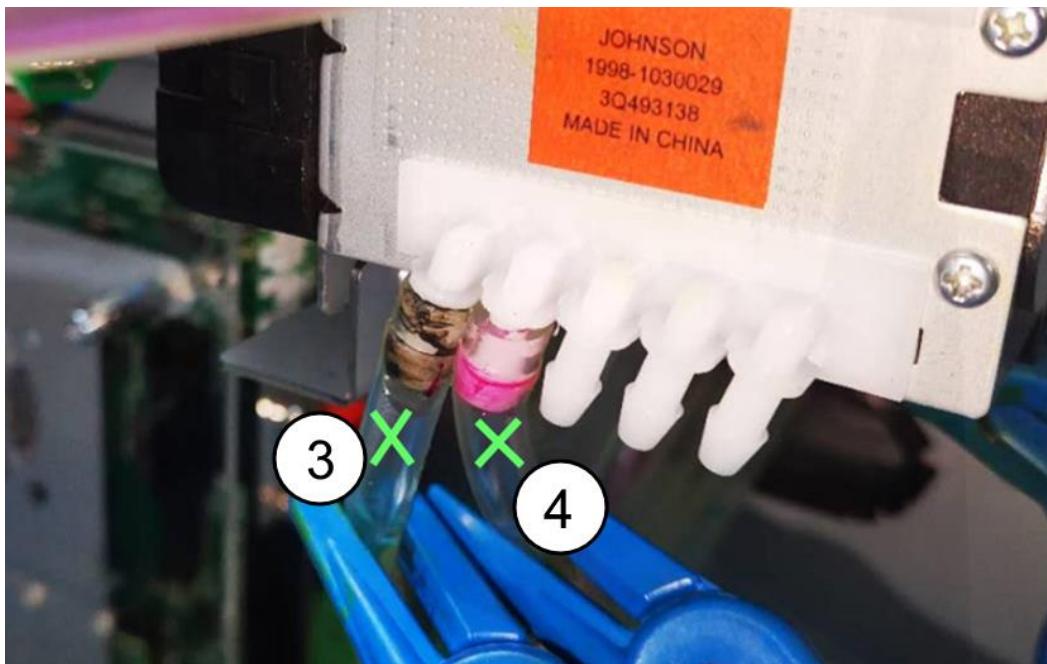
**Figure 381 – Empty Return Line Tubes**



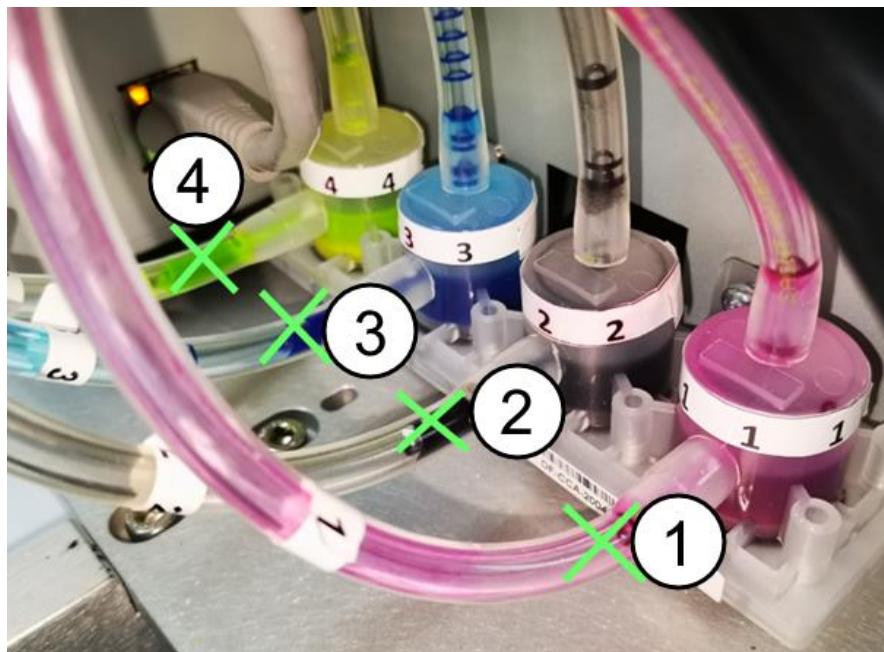
2. Power down the system.
3. Cut the tubes at the four (4) cut locations shown in "X" (nearest to the Circulation Pumps barbs).

**Figure 382 – Cut Locations 1 and 2**



**Figure 383 – Cut Locations 3 and 4**

4. Wipe up any spilled ink with lint-free cloth.
5. Cut the tubes between Circulation Pumps and Compliance Chamber, about 5-10 mm from the Compliance Chamber barb end. The cut locations are shown in "X" in the figure below.

**Figure 384 – Cut Locations**

6. Loosen the two (2) screws that mount the Compliance Chamber to the Print Module.

**Figure 385 – Screws for Mounting Compliance Chamber**



7. Discard the Compliance Chamber according to local disposal recommendations.

## 25.4 Installation

1. Visually inspect the new Compliance Chamber.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

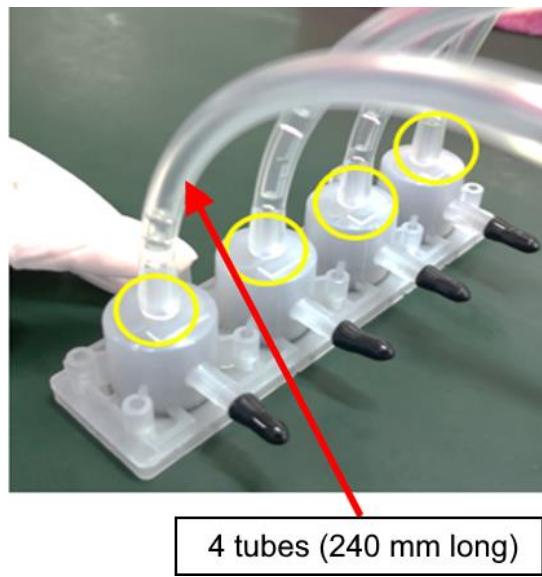
**Figure 386 – Compliance Chamber**



2. Connect the four (4) new tubes (3.25 mm ID and 240 mm long) to the Compliance Chamber. Apply some LEG-1 lubricant on the barbs to ease the insertion.

**Figure 387 – New Compliance Chamber Tubes**

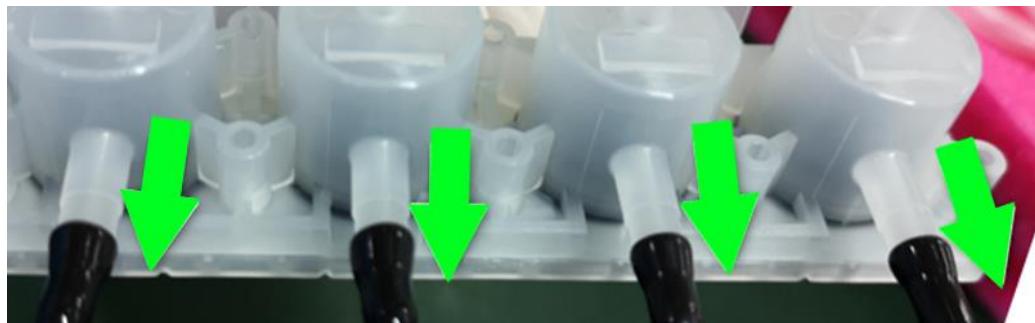


**Figure 388 – New Tubes Connected to Compliance Chamber**

3. Tighten the two (2) screws that secure the Compliance Chamber to the Print Module.

**Figure 389 – Compliance Chamber Mounting Screws**

4. Remove the vinyl seal caps from the Compliance Chamber. If needed, use a tool (a flat blade screwdriver) to carefully remove the seal caps.

**Figure 390 – Vinyl Seal Caps**

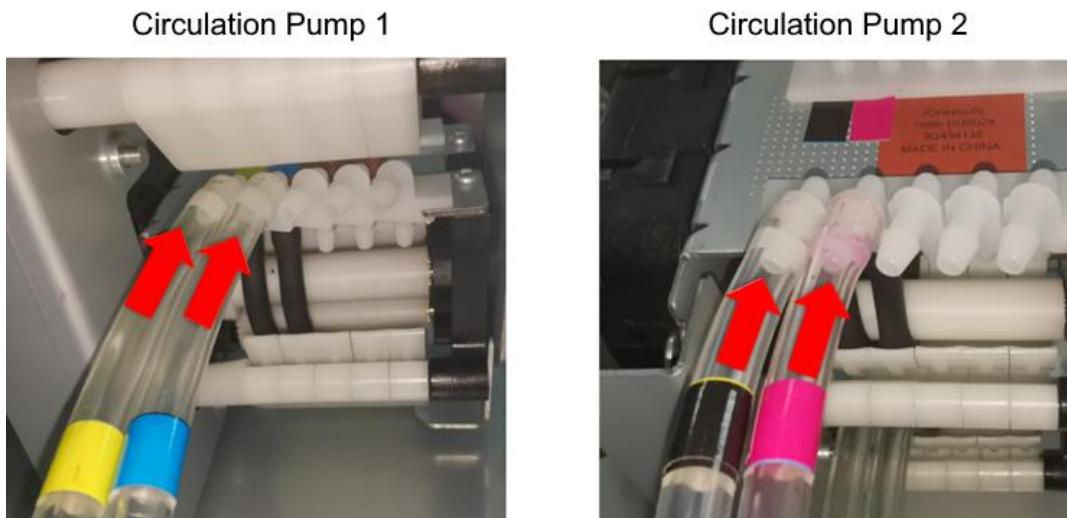
5. Connect the tubes from printhead fluidic couplings back to the Compliance Chamber barbs. Apply some LEG-1 lubricant on the barbs to ease the insertion.

**Figure 391 – Tubes Connected to Compliance Chamber Barbs**



6. Connect the tubing to Circulation Pumps.

**Figure 392 – Tubes Connected to Circulation Pumps**



## 25.5 Testing

1. Power up the system.
2. Perform priming.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

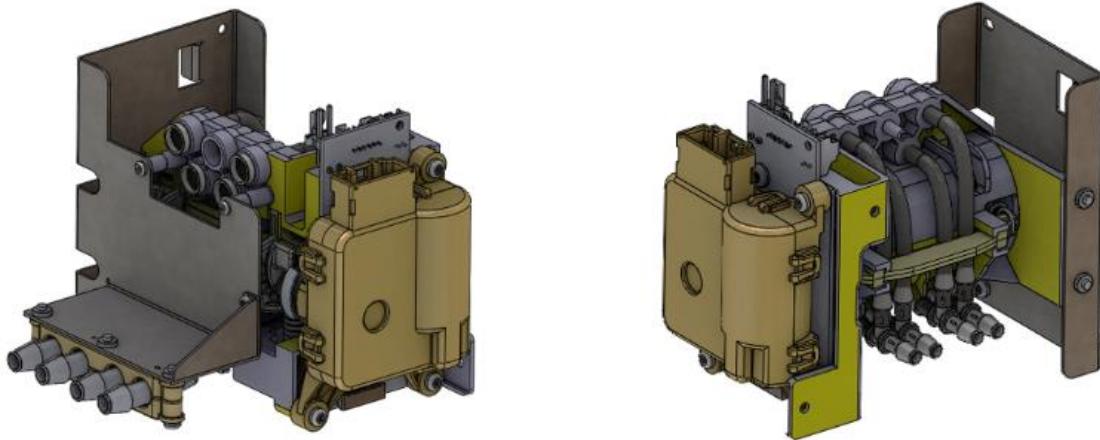
3. Observe the priming runs per normal and the ink is drawn from IR Tank then back to it.
4. Observe if there is any leakage from all the tubing that come in and out of the Compliance Chamber.



## 26 Pinch Valve Replacement

This section provides replacement instructions for the FIDS Pinch Valve Assembly with bracket (PN 10005290).

**Figure 393 – Pinch Valve**



### 26.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 26.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 26 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	Pinch Valve Assembly – PN 10005290
1	Part	Setup Printhead – PN 10005444
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Tubing cutter
4	Tool	Hemostat
4	Tool	Cap – Vinyl, ID 0.25", length 0.5"
As needed	Supply	Filtered (Syringe with 0.8 µm filter) lubrication (Glycerol or LEG-1)



## 26.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Print a test chart to have a baseline to compare the print quality before and after replacing the pinch valve.

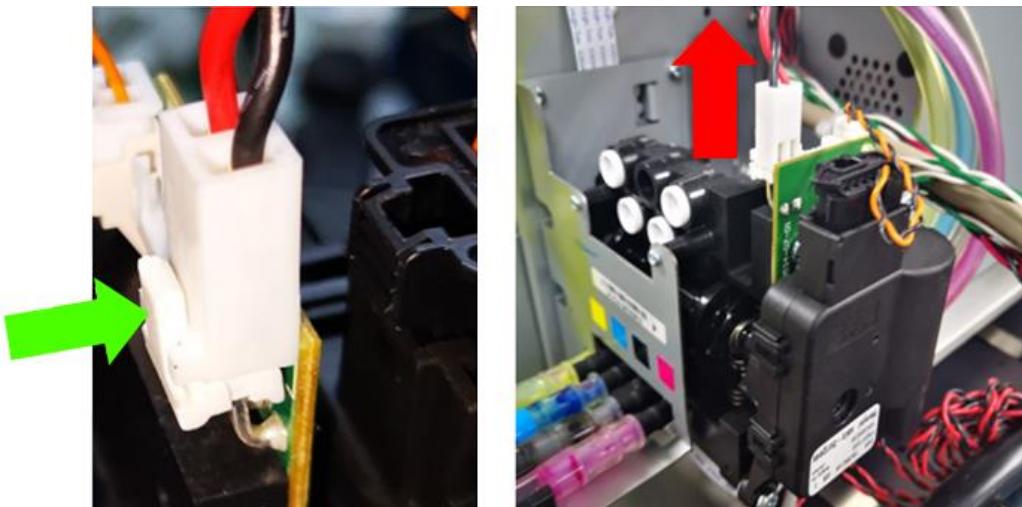
**Note:** Skip Step 1 if the pinch valve is not working.

2. Deprime the system and remove the printhead.

Refer to the *DuraFlex Installation and Commissioning Guide* for proper procedure.

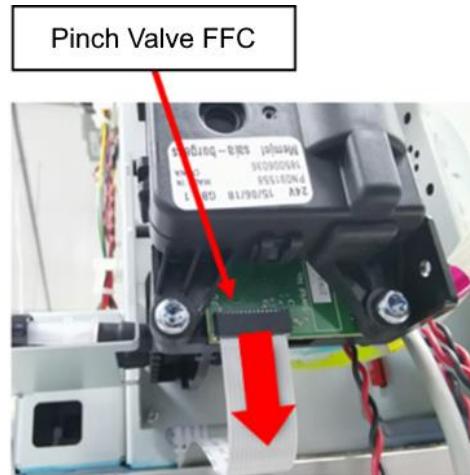
3. Place the printhead into the storage case and store until it can be installed in the system.
4. Push in the power cable connector latch (green arrow) and lift the connector up (red arrow) to disconnect the power cable.

**Figure 394 – Power Cable Connector**



5. Locate the Pinch Valve FFC below the pinch valve. Gently pull the Pinch Valve FFC to disconnect and discard it. New pinch valve assemblies include an FFC.

**Figure 395 – Pinch Valve FFC**

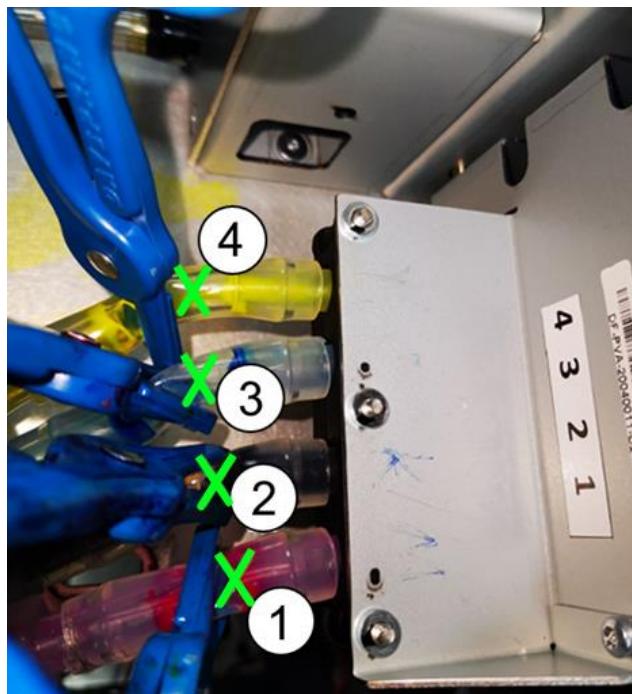


6. Use hemostats to pinch the four (4) Feed Line tubes about an inch away from the inlet (from BIDS to pinch valve) connectors, as shown in [Figure 396](#).

**CAUTION:** Make sure the hemostats are clamped tightly on the tubes.

7. Use a tubing cutter to cut the Feed Line tubes between the hemostat and fitting. The cut locations are shown in "X" in the figure below.

**Figure 396 – Cut Feed Line Tubing**



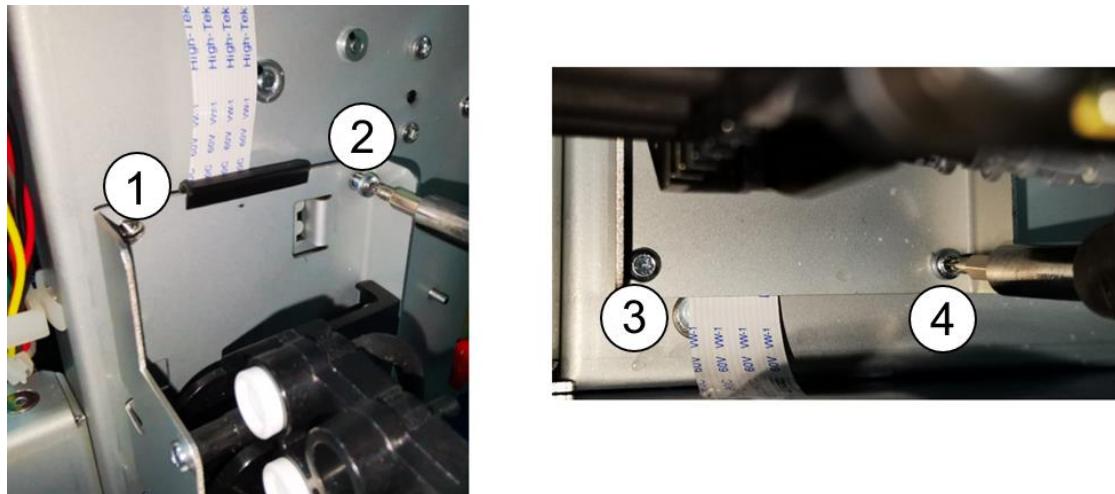
8. Wipe up any spilled ink with lint-free cloth.



9. Loosen the four (4) screws that secure the pinch valve to the metal frame of the print module.

Note: Screws 3 and 4 are on the bracket below the pinch valve.

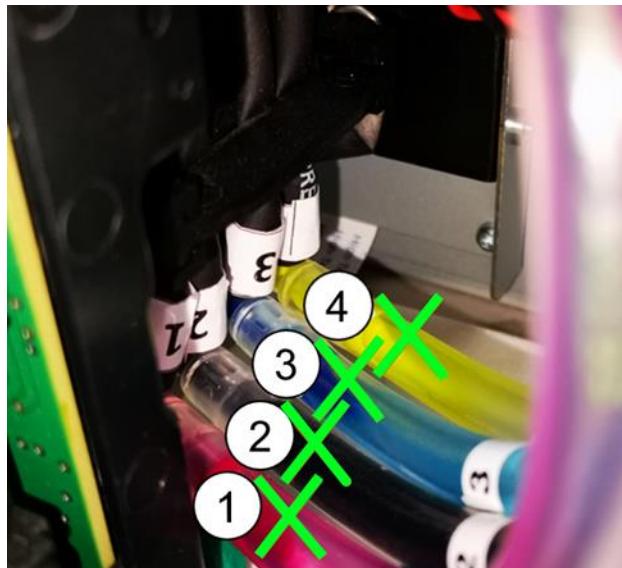
**Figure 397 – Pinch Valve Mounting Screws**



10. Confirm that all tubing is labelled (1-4).

11. Use a tubing cutter to cut the four (4) Outlet tubes (from pinch valve to fluidic coupling) as close to the pinch valve fitting as possible. The cut locations are shown in "X" in the figure below.

**Figure 398 – Cut Outlet Tubing**

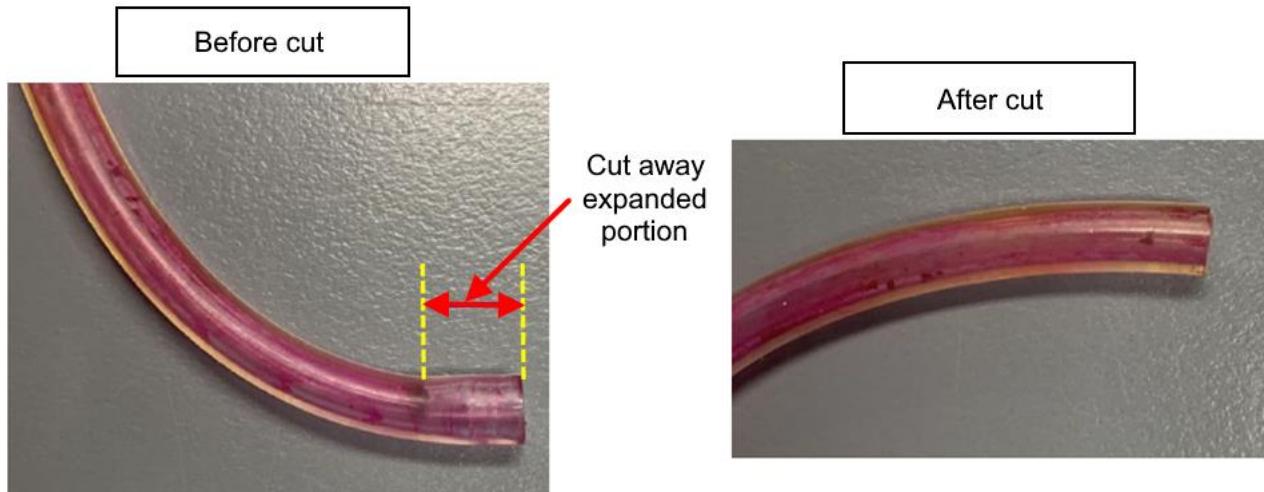


12. Remove the pinch valve.



13. Inspect the ends of the Outlet tubing (pinch valve to fluidic coupling). If the tubing ends are flared and show excessive expansion, use a tubing cutter to remove the expanded section.

**Figure 399 – Flared Outlet Tubing**



14. Immediately seal the ends of the four (4) Outlet tubes with vinyl caps to prevent contamination.

**Figure 400 – Outlet Tube Ends Sealed**



15. Discard the Pinch Valve according to local disposal recommendations.



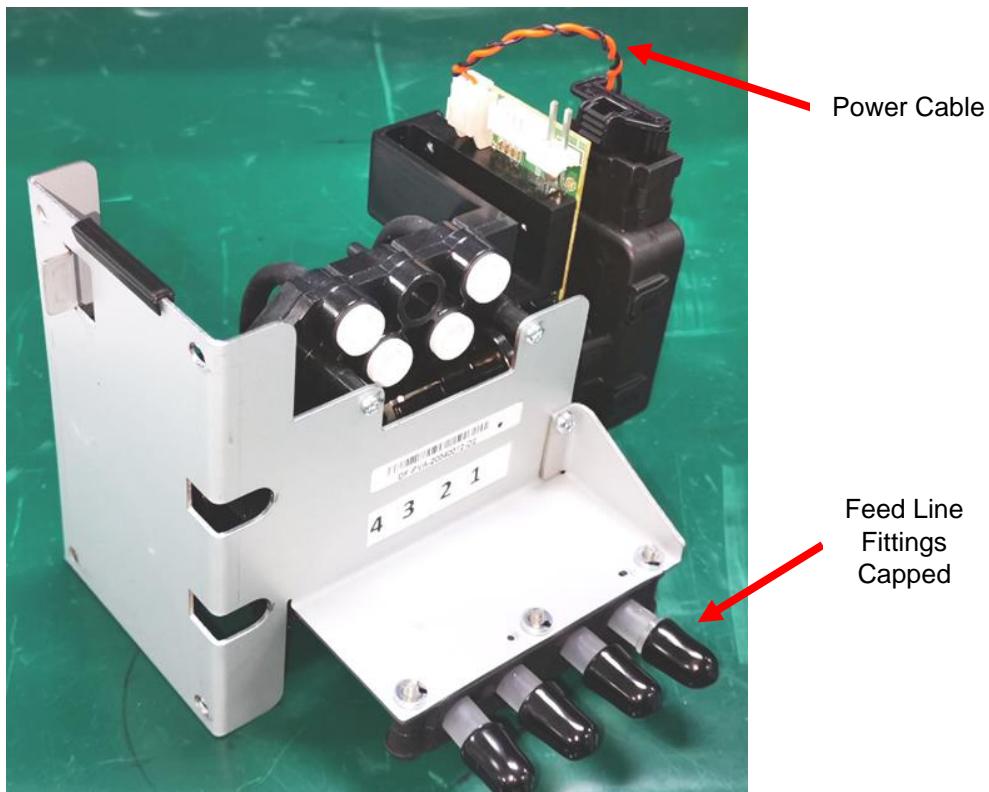
## 26.4 Installation

1. Visually inspect the new pinch valve to ensure:

- there is no physical damage
- feed line fittings are capped
- tubing is not kinked or twisted and there are no holes
- power cable is properly connected
- FFC is included with the pinch valve

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 401 – Pinch Valve Assembly**



2. Prepare the lubrication syringe with filter.

Note: Perform the next two steps one tube at a time to reduce contamination.

3. Remove the cap from Outlet fitting #1 on the new pinch valve and uncap and attach the end of tube #1. This is the tube that runs from the fluidic coupling.
4. Apply a small amount of lubricant to the tubing end and the pinch valve fitting to ease the insertion process.



5. Continue with tubes #2-4 until all four (4) tubes are connected between the pinch valve and the fluidic couplings.

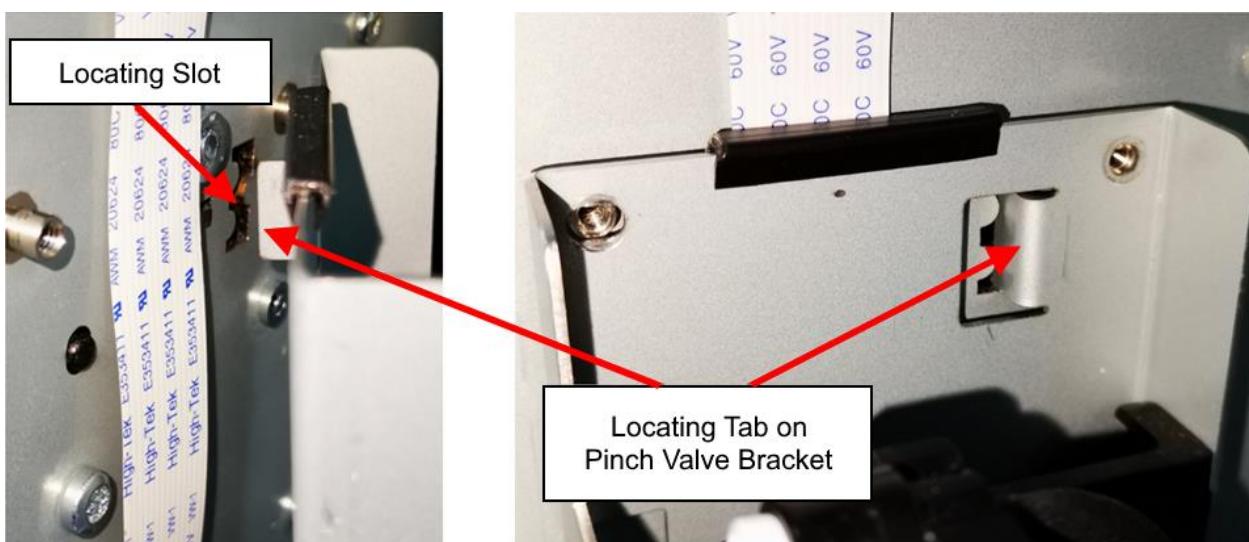
Note: Make sure the numbering on the tubes match the numbering on the pinch valve.

**Figure 402 – Tubes Connected to Pinch Valve**



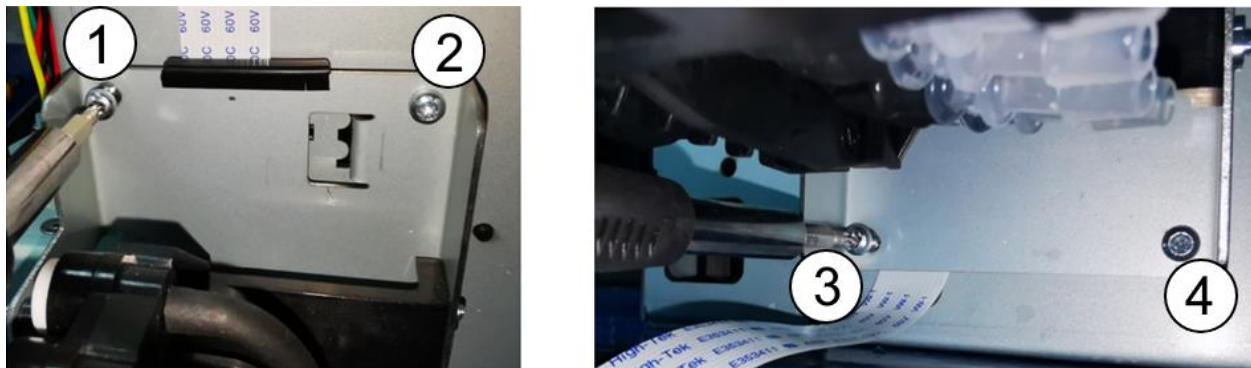
6. Align the locating tab on the pinch valve bracket with the locating slot on the Print Module frame.

**Figure 403 – Locating Tab Aligned**



7. Secure the pinch valve to the Print Module frame with four (4) screws.

**Figure 404 – Pinch Valve Mounting Locations**

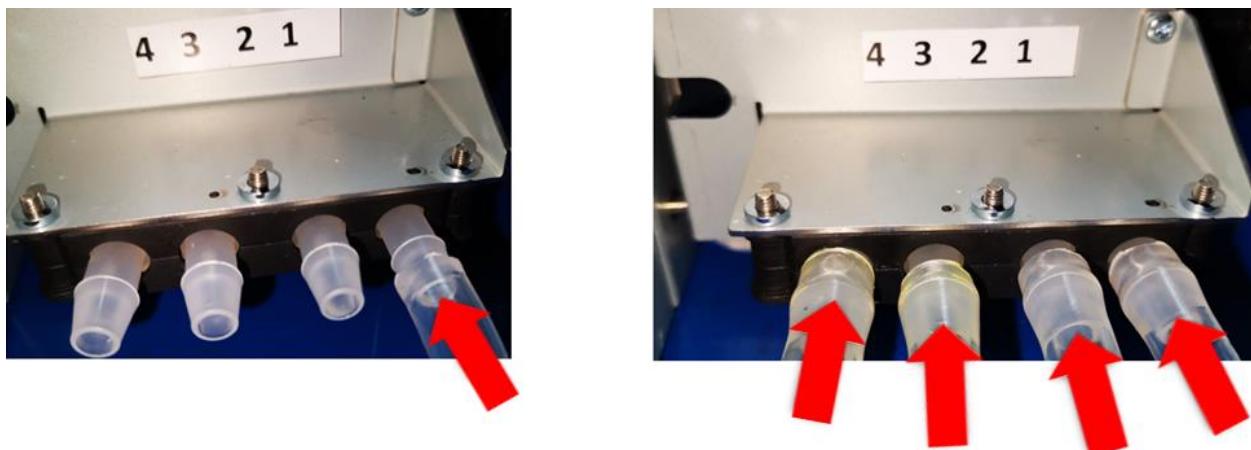


Note: Perform the next two steps one tube at a time to reduce contamination.

8. Remove the cap from Inlet fitting #1 on the new pinch valve and uncap and attach the end of Feed Line #1. This is the tube that runs from the BIDS to the pinch valve.
9. Apply a small amount of lubricant to the tubing end and the pinch valve fitting to ease the insertion process.
10. Continue with tubes #2-4 until all four (4) feed line tubes are connected between the pinch valve and the BIDS.

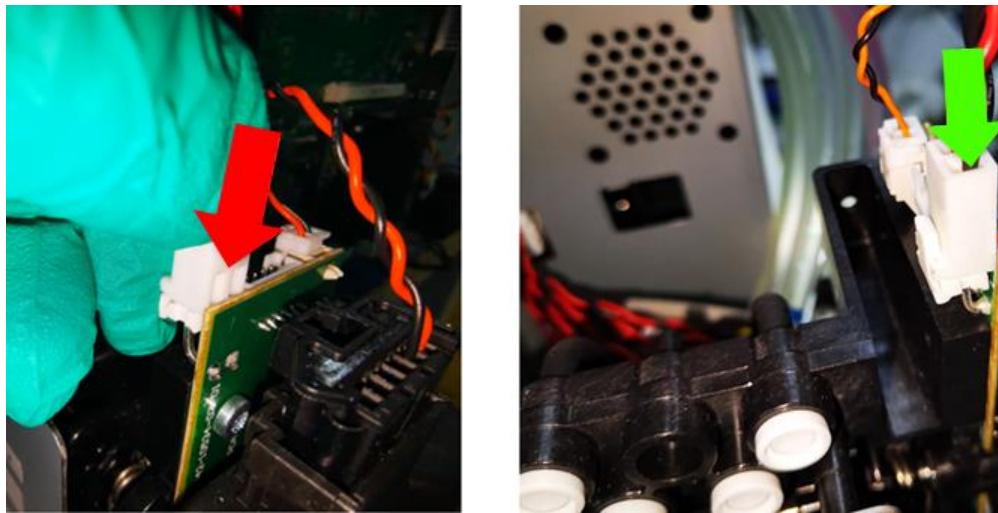
Note: Make sure the number on the tubes match the numbering on the pinch valve.

**Figure 405 – Feed Line Tubes Connected to Pinch Valve**



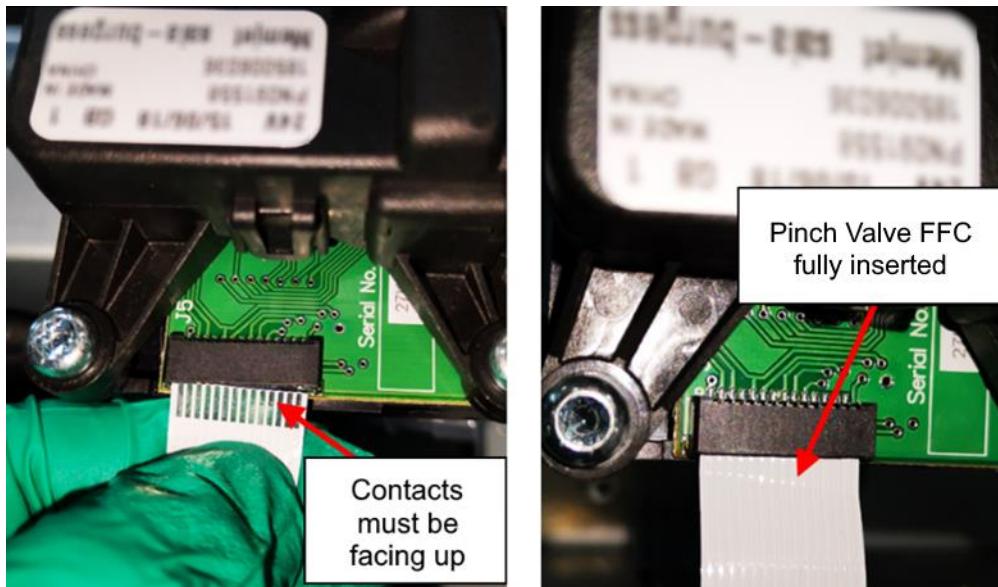
11. To avoid damage, carefully align the power cable connector with the receptacle on the PCA and then connect the power cable. Make sure the power cable connector is fully inserted.

**Figure 406 – Connector Aligned and Power Cable Connected**



12. Carefully align the FFC with the PCA connector on the bottom of the pinch valve. Make sure the contacts are facing up as shown in the figure below. Insert the cable fully into the connector until the contacts are no longer showing.

**Figure 407 – FFC Connected to Pinch Valve**



## 26.5 Testing

1. Install a setup printhead.
2. Power on the DuraFlex unit and initialize the print engine.
3. Check that the pinch valve can move to the INK, AIR, and CLOSED positions.

---

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

---

4. With the setup printhead installed, prime the system repeatedly three (3) times.
5. Observe the tubing to see if priming is successful. All tubes should be filled with ink.
6. Print the test chart to compare with the baseline printed with the old pinch valve.
7. If there are no print quality defects (streaks) seen, the pinch valve is clean and free from any particles.
8. Deprime the system.
9. Remove the setup printhead.
10. Place the setup printhead in the storage case and follow standard storage procedures.
11. Install the original printhead into the system.
12. Print another test chart to compare with the baseline. There should be no print quality defects observed.



## 27 Pinch Valve Cables Replacement

This section provides replacement instructions for the FIDS Pinch Valve Cables (PN 10005277).

Pinch Valve cables consist of the Pinch Valve 24V Power Cable and the Pinch Valve FFC. The OEM needs to replace only the faulty cable.

**Figure 408 – Pinch Valve 24V Power Cable**



**Figure 409 – Pinch Valve FFC**



### 27.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 27.2 ESD Guidelines

**CAUTION:** To avoid equipment damage or injury to personnel, follow all standard ESD practices during this procedure. Refer to Section [2.2 ESD Guidelines](#) for details.

### 27.3 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 27 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Tool	Anti-static wrist strap
1	Part	Pinch Valve Cable – PN 10005277
1	Tool	Diagonal cutter



## 27.4 Pinch Valve 24V Power Cable

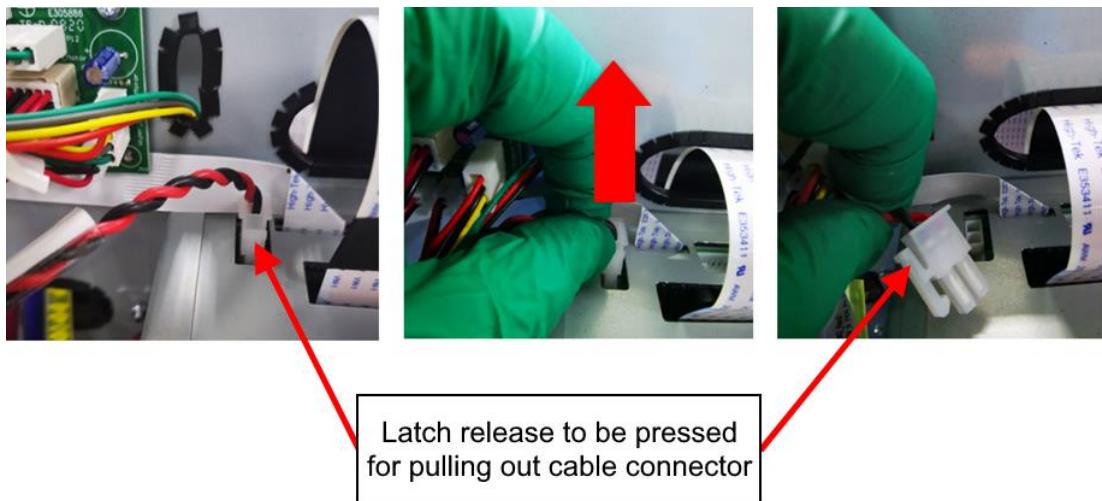
### 27.4.1 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

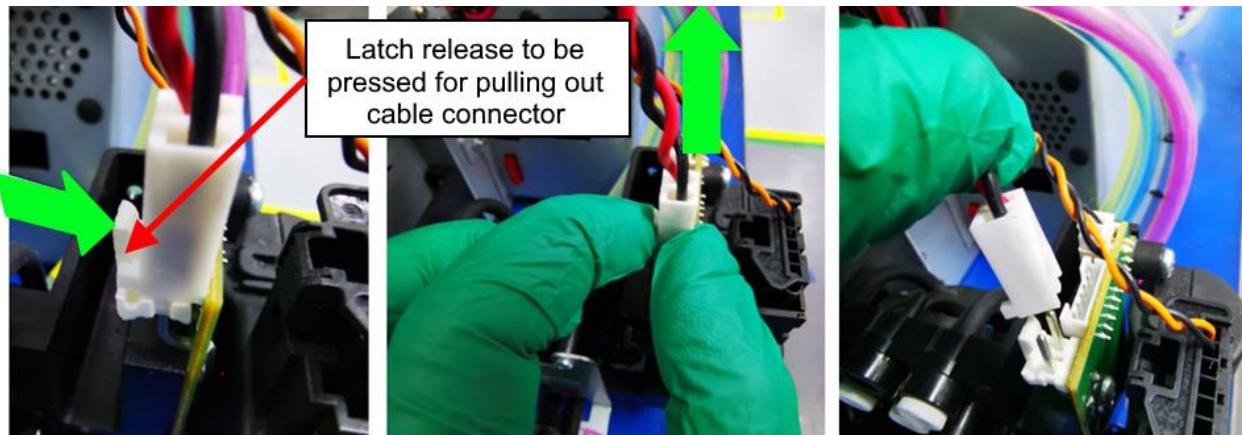
1. Remove any covers or panels to expose top of the DuraFlex components and create sufficient access to the components.
2. Wear an anti-static wrist strap during this procedure.
3. Power down DuraFlex.
4. To disconnect the Pinch Valve 24V Power Cable connector from the Print Module (at the TOP of the Electrical Module), press the latch release to loosen the connector, then pull it out.

**Figure 410 – Pinch Valve 24V Power Cable Disconnected from Print Module**



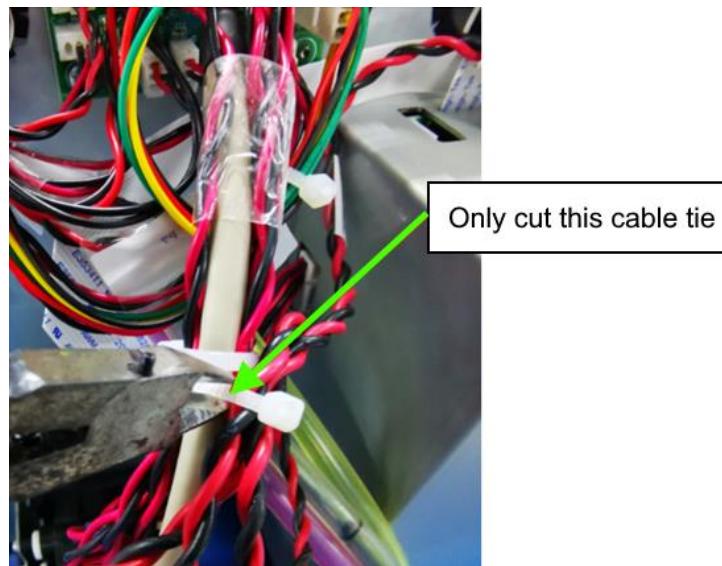
5. Disconnect the Pinch Valve 24V Power Cable connector from the Pinch Valve.

**Figure 411 – Pinch Valve 24V Power Cable Disconnected from Pinch Valve**



6. Cut the cable tie that binds the Pinch Valve 24V Power Cable and Print Module Cable to remove the faulty Pinch Valve cable completely from the Print Module. There is only one cable tie to cut.

**Figure 412 – Cut Cable Tie**



7. Discard the Pinch Valve 24V Power Cable according to local disposal recommendations.

## 27.4.2 Installation

1. Inspect the new Pinch Valve 24V Power Cable.

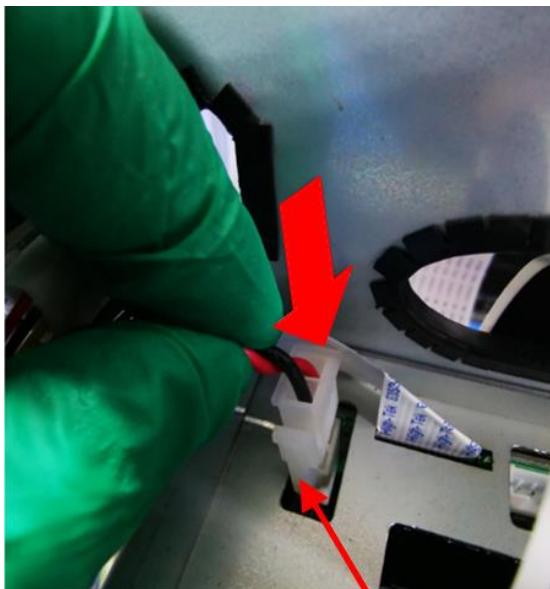
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 413 – Pinch Valve 24V Power Cable**



2. Connect the Pinch Valve 24V Power Cable to the Print Module via the connector (at the TOP side of the Electrical Module).

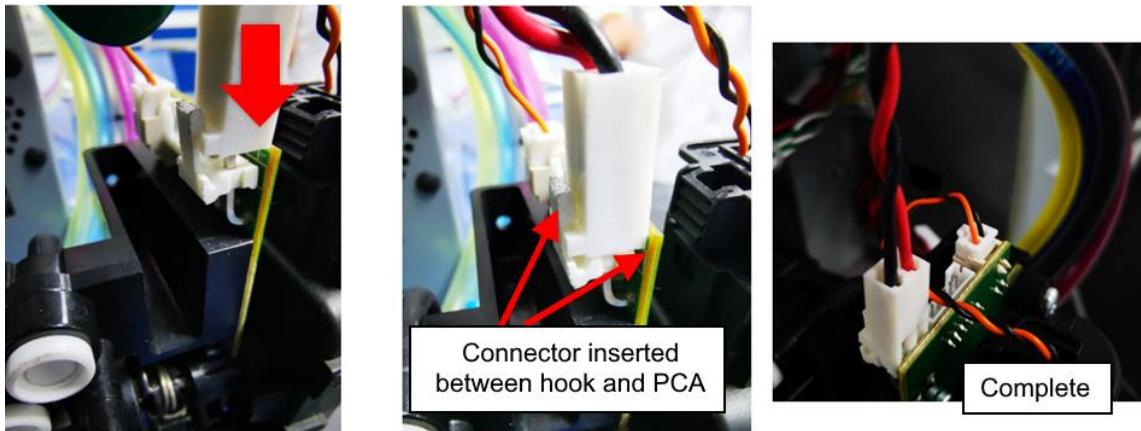
**Figure 414 – Connector on Print Module**



Latch release fully inserted  
and properly hooked to  
cable connector

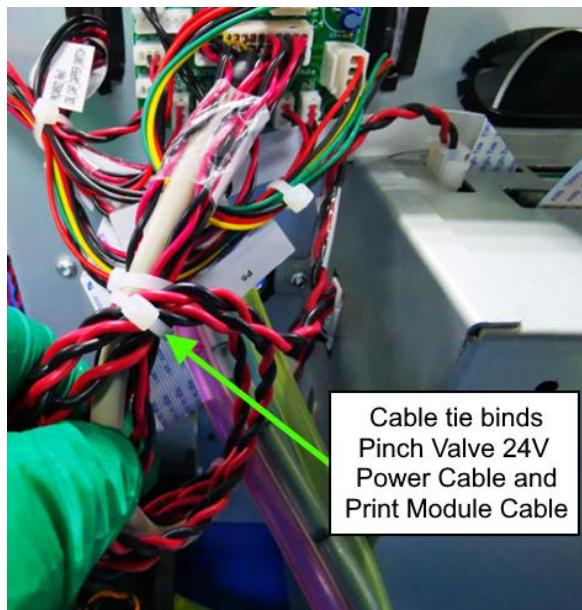
3. Connect the Pinch Valve 24V Power Cable to the Pinch Valve via the connector.

**Figure 415 – Connector on Pinch Valve**



4. Bind the Pinch Valve 24V Power Cable and the Print Module Cable together using a cable tie.

**Figure 416 – Use Cable Tie to Bind Cables**



#### 27.4.3 Testing

1. Power up DuraFlex.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. Perform depriming and priming to ensure that the Pinch Valve is working.
4. If there is no error, the Pinch Valve 24V Power Cable replacement is successful.



## 27.5 Pinch Valve FFC

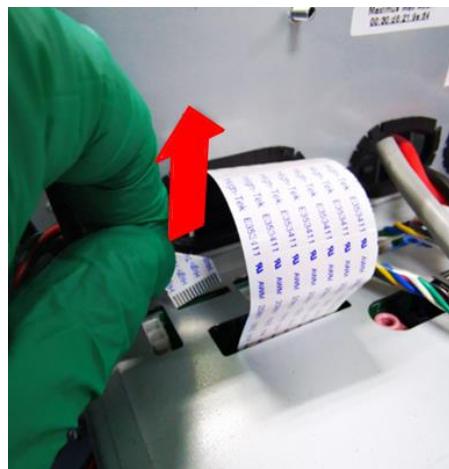
### 27.5.1 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Power down DuraFlex.
2. Disconnect the Pinch Valve FFC from the Print Module (at the TOP of the Electrical Module).

**Figure 417 – Pinch Valve FFC Disconnected from Print Module**



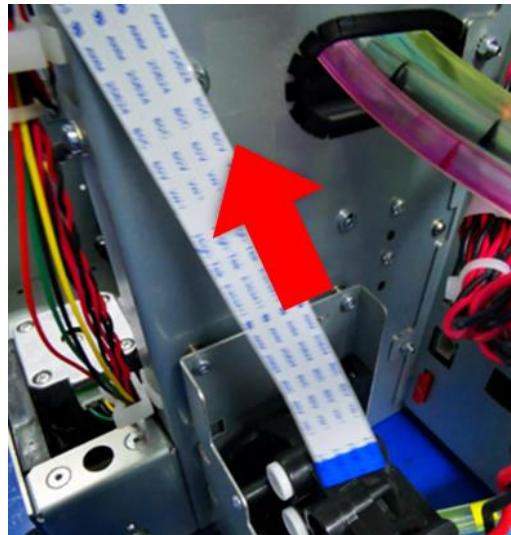
3. Disconnect the Pinch Valve FFC from the Pinch Valve.

**Figure 418 – Pinch Valve FFC Disconnected from Pinch Valve**



4. Remove the whole FFC from the Print Module.

**Figure 419 – Pinch Valve FFC Removed**



5. Discard the Pinch Valve FFC according to local disposal recommendations.

### 27.5.2 Installation

1. Inspect the new Pinch Valve FFC.

If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 420 – Pinch Valve FFC**



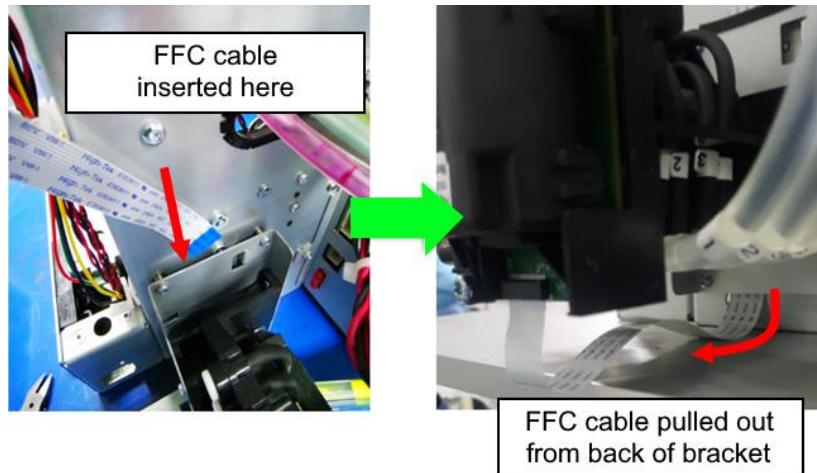
2. Connect the Pinch Valve FFC to the Print Module (at the TOP of Electrical Module).

**Figure 421 – One End of Pinch Valve FFC Connected to Print Module**



3. Insert the other end of the Pinch Valve FFC through the back of the Pinch Valve, and pull it out from the bottom.

**Figure 422 – The Other End of Pinch Valve FFC Inserted**



4. Connect the Pinch Valve FFC to the Pinch Valve.

**Figure 423 – Pinch Valve Cable Connected to Pinch Valve**



### 27.5.3 Testing

1. Power up DuraFlex.
2. Initialize the print engine.

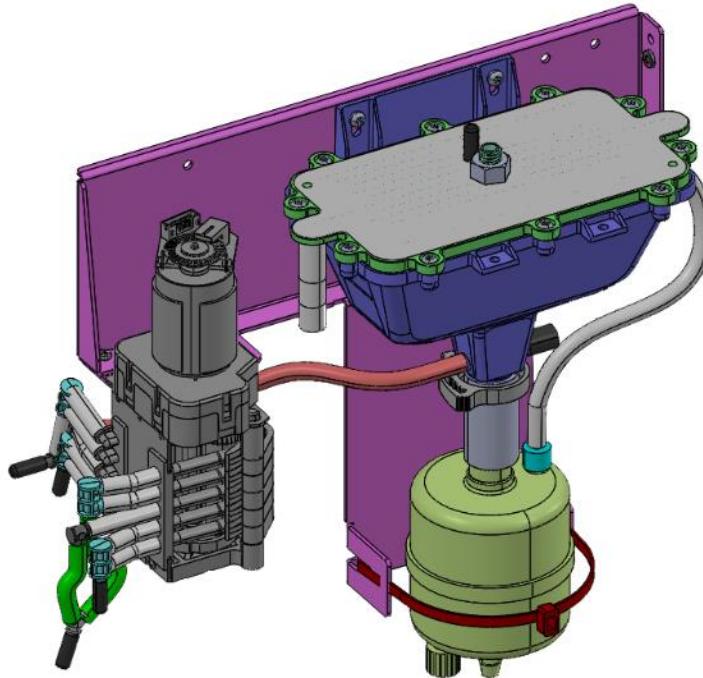
Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. Perform depriming and priming to ensure that the Pinch Valve is working.
4. If there is no error, the Pinch Valve FFC replacement is successful.

## 28 IDS Blade Replacement

This section provides replacement instructions for the IDS blade with non-integrated filter (**DuraFlex Ink Delivery System Single**) (PN 10005641).

**Figure 424 – IDS Blade with Non-Integrated Filter**



### 28.1 Personal Protective Equipment (PPE)

**CAUTION:** To avoid personal injury, always use appropriate PPE when performing maintenance and replacement tasks. Refer to Section [2.3 Personal Protective Equipment \(PPE\)](#) for details.

### 28.2 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 28 – Required Tools and Supplies**

Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1	Part	IDS blade with non-integrated filter – PN 10005641
1	Tool	T10 – M3 screwdriver (with 150-200 mm extension)
1	Tool	Tubing cutter
2	Tool	Hemostat
1	Tool	Waste ink container (minimum volume: 1L)



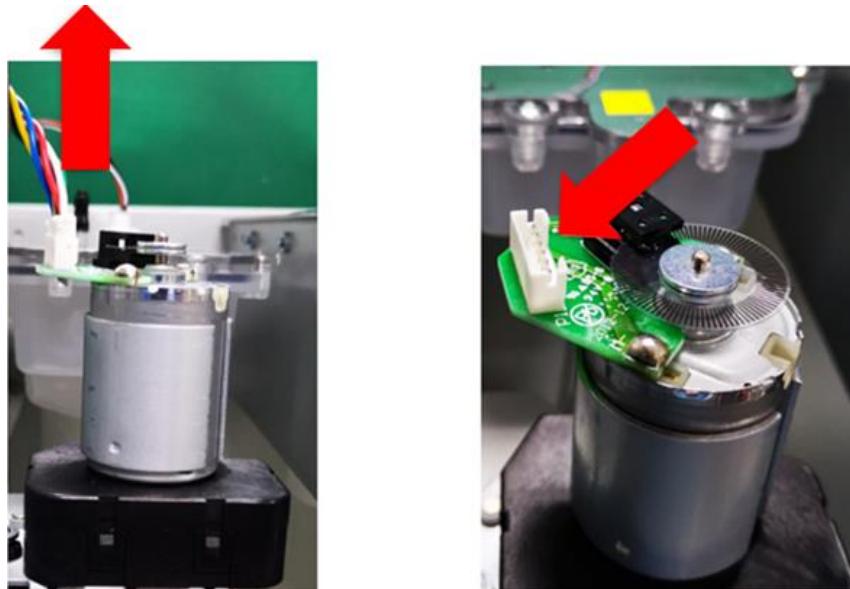
## 28.3 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

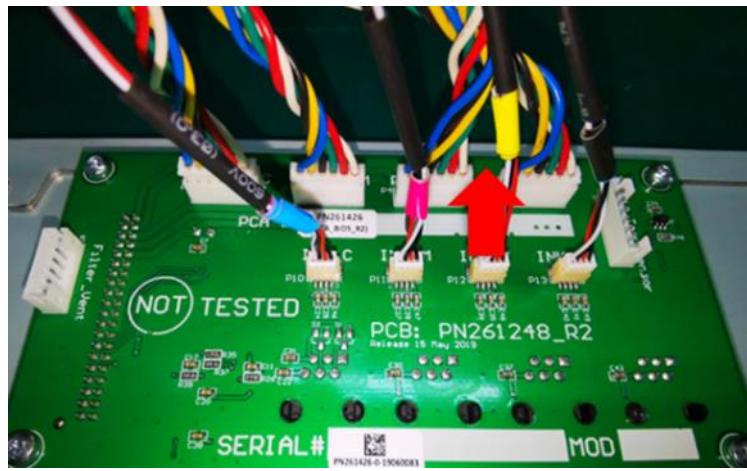
1. Print a test chart to have a baseline to compare the print quality before and after replacing the IDS blade.
2. Deprime the system so that all ink in Return Line tube is pulled back into the IR tank.
3. Disconnect the refill pump cable connector of the faulty IDS blade from the refill pump board.

**Figure 425 – Refill Pump Cable**



4. Disconnect the ink level sensor cable connector from the BIDS PassThrough PCA.

**Figure 426 – Ink Level Sensor Cable**



5. Carefully disconnect the Return Line tube from the refill pump and place the end into a waste ink container.
6. Use a hemostat to pinch the Supply Line tube at a point near the refill pump. Use a tubing cutter to make a straight cut in the tube.
7. Place the loose end into a waste ink container.

Note: Use ink absorber to absorb any ink spill from the refill pump barb.

**Figure 427 – Supply Line Tube Cut Location**



8. Wipe up any spilled ink with lint-free cloth.
9. Enter the combined mode and use commands to run the circulation pumps for four (4) minutes. See Section [4.4 Frequently Used System Commands](#) for details about the custom flush.
10. Power down the system.



11. Disconnect the Feed Line tube from the non-integrated filter on the faulty IDS blade.

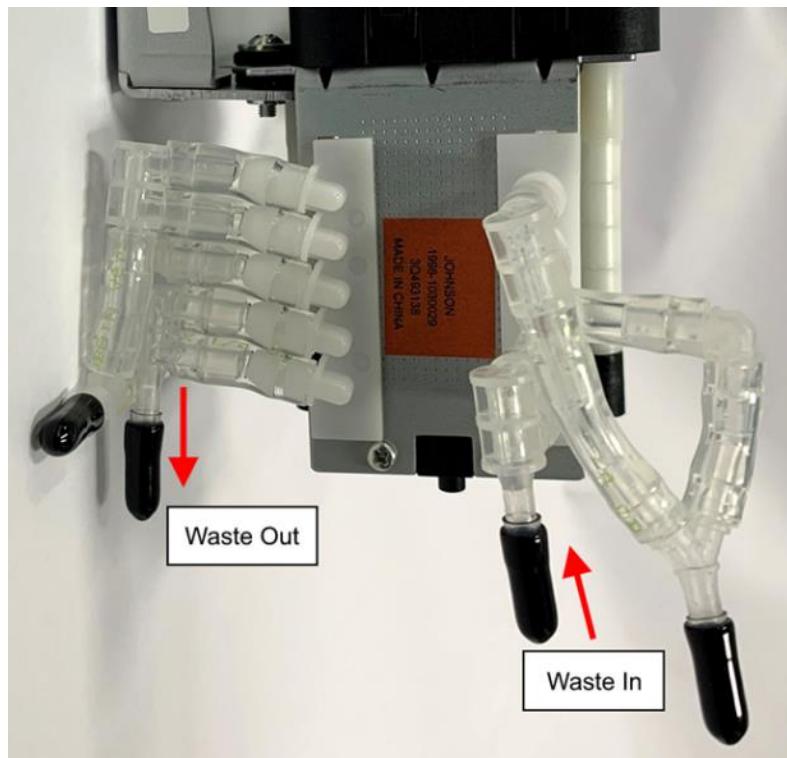
Note: Place ink absorber material under the IR tank barb to absorb any residual ink that might flow out of the IR tank when disconnecting ink tubing.

**Figure 428 – Feed Line Tube**



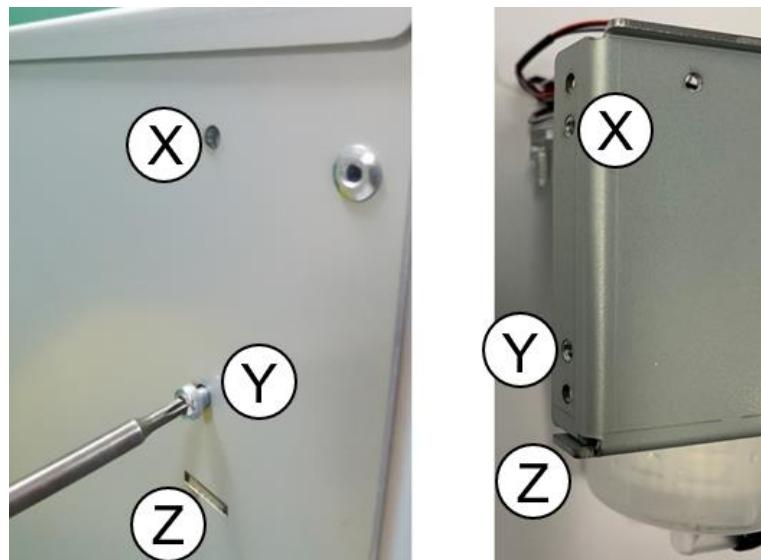
12. Disconnect the Waste In tube and Waste Out tube from the Refill Pump tubes (2 places).

**Figure 429 – Waste In and Waste Out**



13. Remove the IDS blade by loosening the two (2) mounting screws (shown at X and Y in the next figure).

**Figure 430 – IDS Blade Mounting Screws**



14. Discard the IDS blade according to local disposal recommendations.

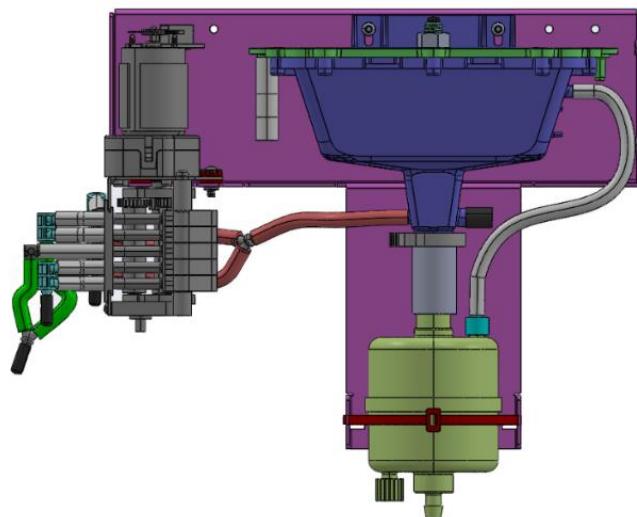
## 28.4 Installation

1. Visually inspect the new IDS blade to confirm that:

- there is no damage (cracks in material, broken hardware, missing screws, etc.) to the major components (pump, IR tank, filter, sensor cable, etc.)
- tubing is fully connected and not kinked or damaged

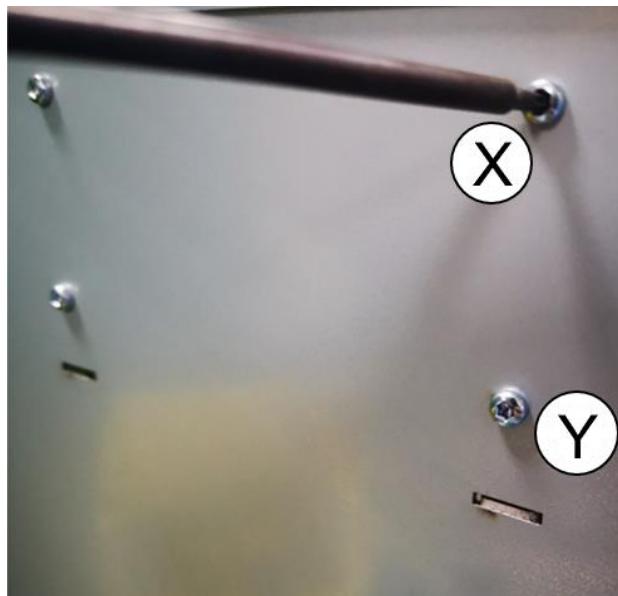
If damaged, enter a case in Memjet's Service Desk (<https://OEMsupport.memjet.com>).

**Figure 431 – IDS Blade**



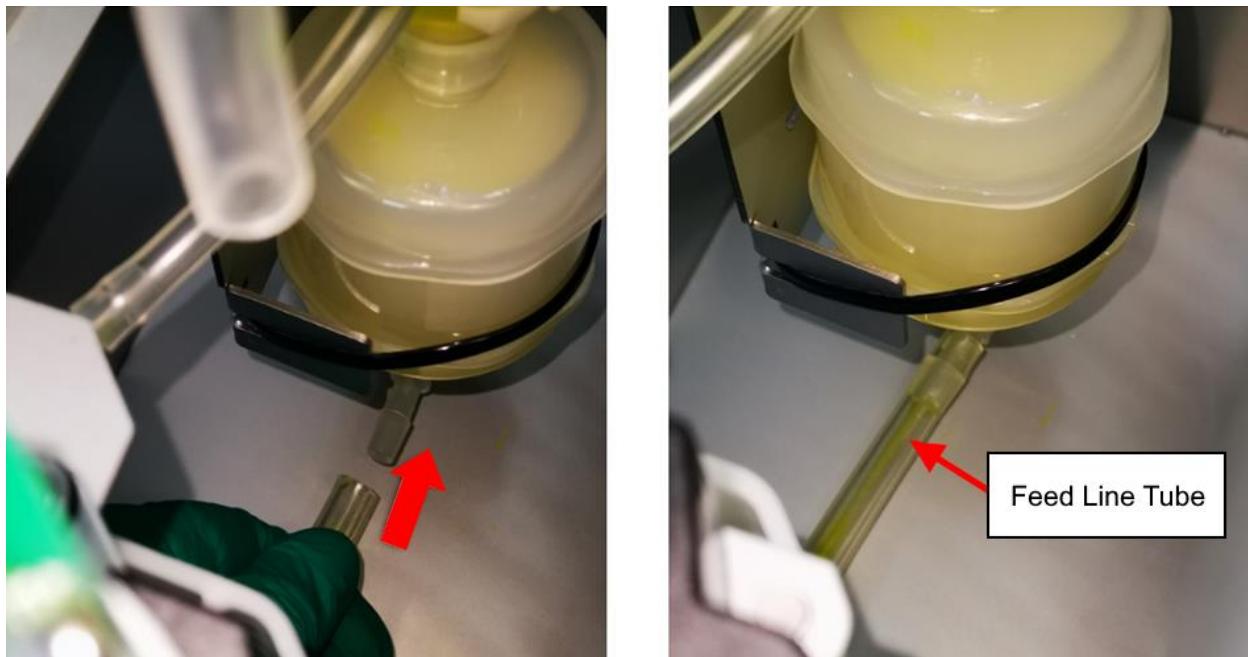
2. Install the new IDS blade with two (2) mounting screws (shown at X and Y in the next figure).

**Figure 432 – IDS Blade Mounting Screws**



3. Inspect the end of Feed Line tube for deformity, flaring, or damage. If found, use a tubing cutter trim away the damaged portion. Trim only a short piece for minimal affect on the overall tubing length.
4. Connect the Feed Line tube to the non-integrated filter on the IDS blade. Use a small amount of the LEG-1 lubricant to ease the tube insertion.

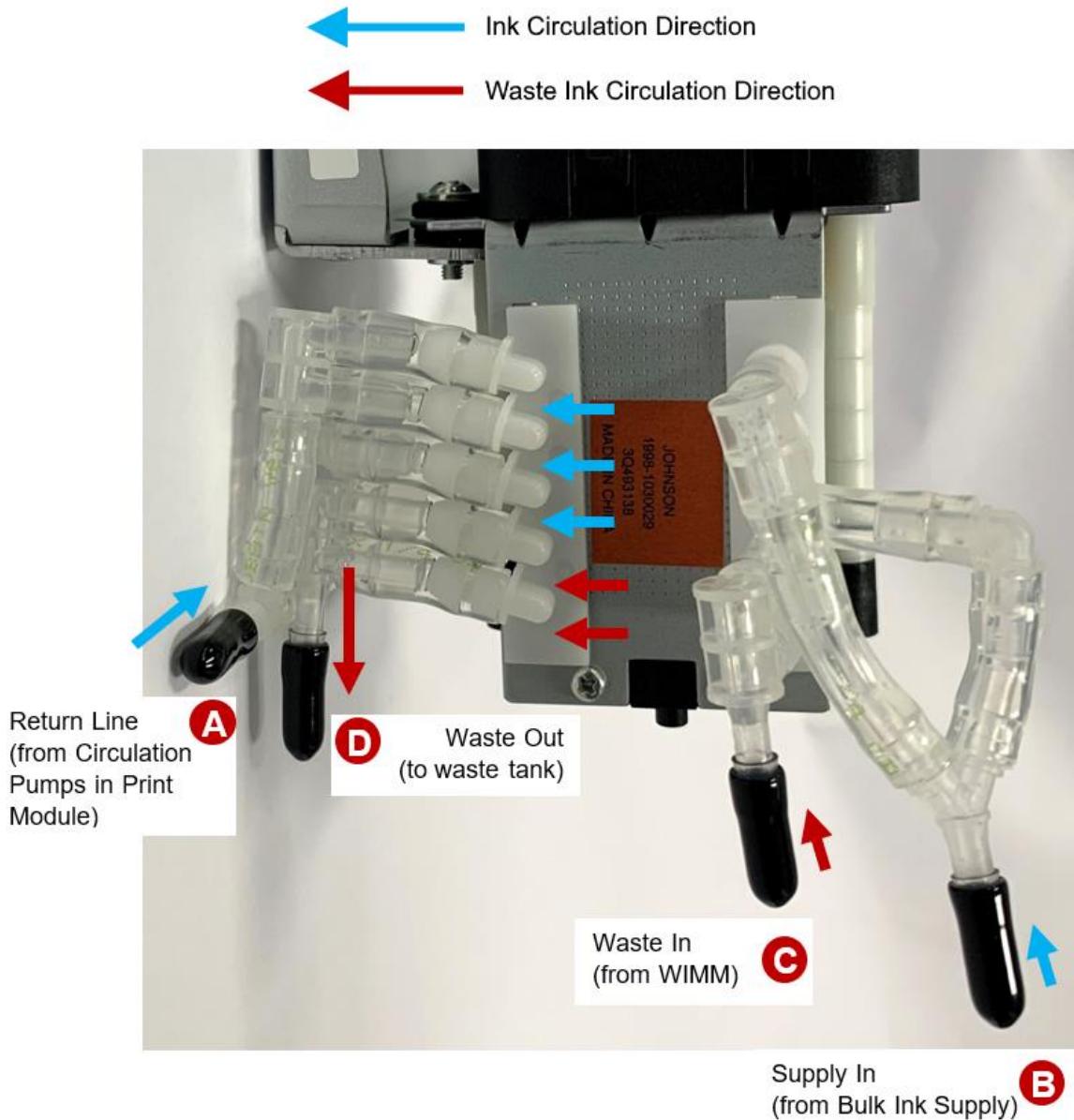
**Figure 433 – Connect Feed Line Tube**



5. Inspect the following tubes for deformity, flaring, or damage. If found, use a tubing cutter trim away the damaged portion. Trim only a short piece for minimal affect on the overall tubing length.

- a. Return Line tube (from Circulation Pump)
- b. Supply Line tube (from Bulk Ink Supply)
- c. Waste Ink IN tube (from WIMM)
- d. Waste Ink OUT tube (to OEM Waste Ink container)

**Figure 434 – Return Line, Supply In, Waste In, and Waste Out**



6. Reconnect all the tubes shown in figure above to the Refill Pump on the new IDS blade.

Use a small amount of the LEG-1 lubricant to ease the tubes insertion.



7. Insert the IDS Vent Reservoir tube of the affected IR Tank. Use the LEG-1 lubricant to ease the insertion.

**Figure 435 – Vent Reservoir Tube Connected**



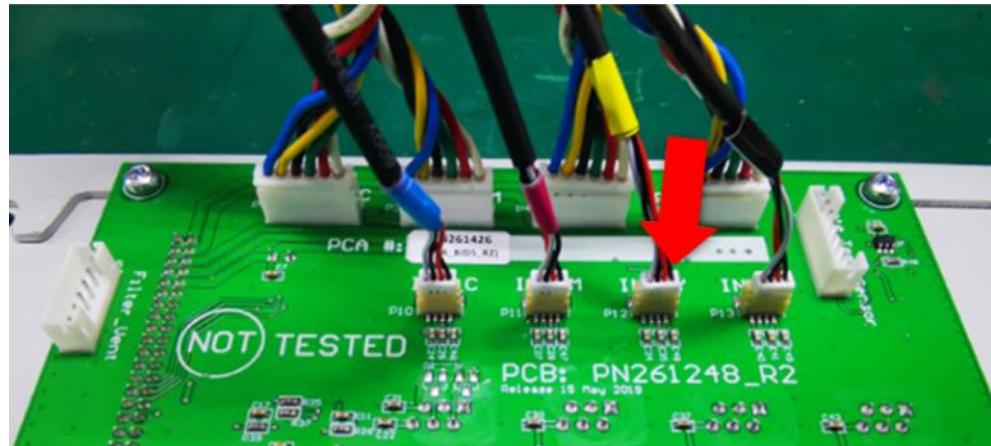
8. Connect the Refill Pump cable to the Refill Pump.

**Figure 436 – Refill Pump Cable Connected**



9. Connect the ink level sensor cable connector to the BIDS PassThrough PCA.

**Figure 437 – Ink Level Sensor Cable Connected**



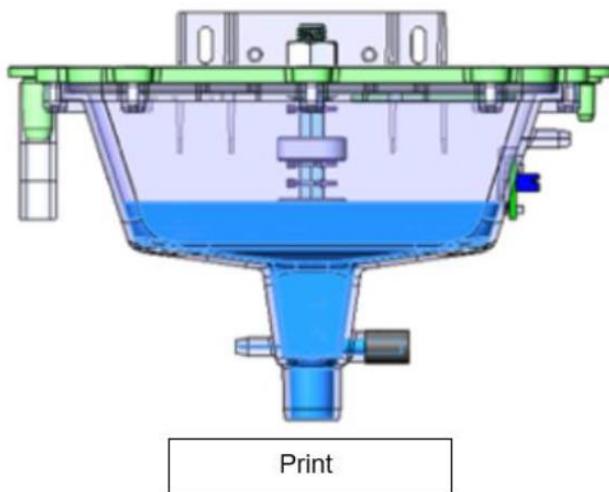
## 28.5 Testing

1. Power on the system.
2. Initialize the print engine.

Note: See Section [4.4 Frequently Used System Commands](#) for detailed instructions.

3. The refill pump should run and fill the IR tank with ink until it reaches the Print level.

**Figure 438 – IR Tank with Ink at Print Level**



4. Deprime the system.
5. Remove the printing printhead and temporarily store it in the protective case.
6. Insert a setup printhead and perform priming.
7. Print a test chart to compare with the baseline printed with the old IDS blade.



8. Inspect the printed chart for print quality defects. If there are no defects, the new IDS blade is free of contamination.
9. Deprime the system.
10. Remove the setup printhead and temporarily store it in the protective case.
11. Reinstall the printing printhead.
12. Print another test chart.
13. Inspect the printed chart for print quality defects.



## 29 Consumable Replacement

### 29.1 Printhead Replacement

For initial printhead installation or how to use a setup printhead, see the *DuraFlex Installation and Commissioning Guide*.

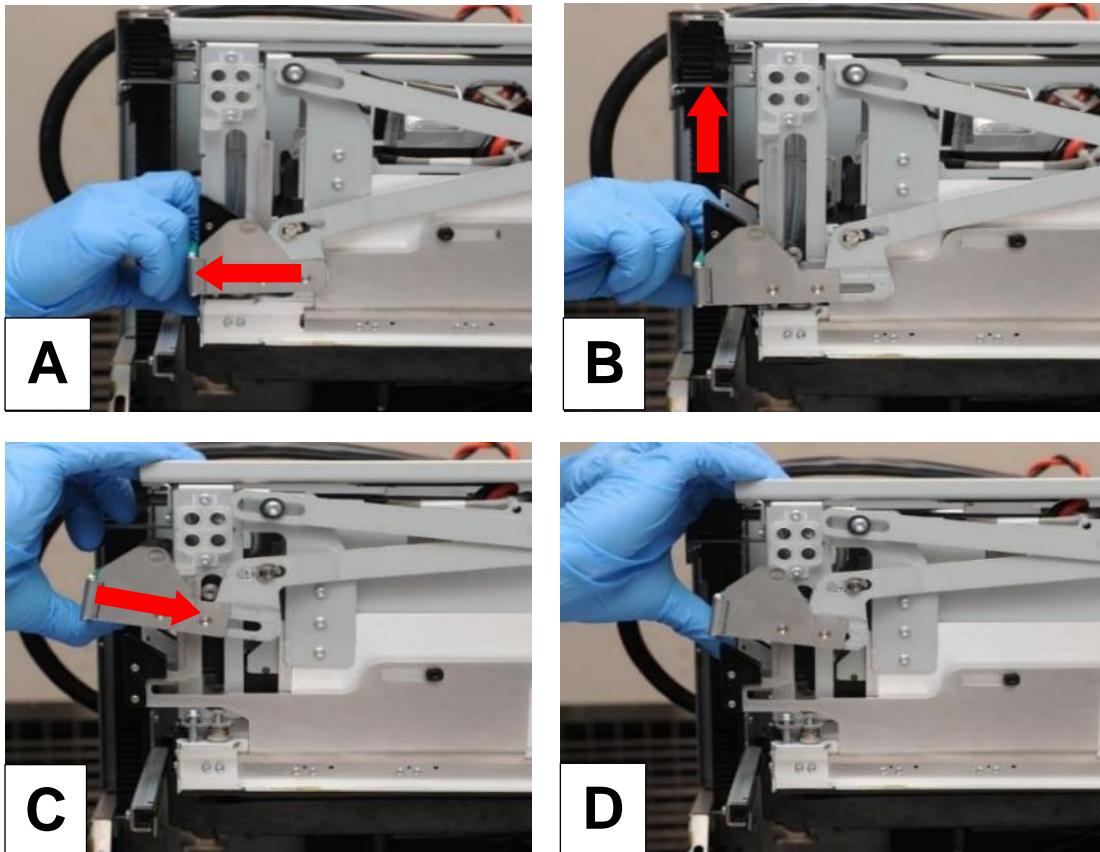
#### 29.1.1 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

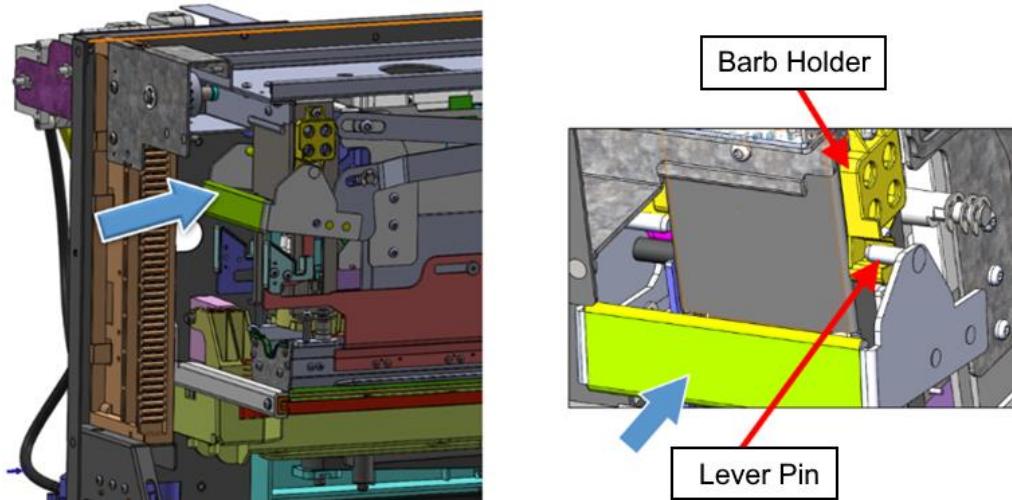
1. Verify that the Printhead Cradle is in the RAISE position before beginning this procedure.
2. To unlock the printhead latch ([Figure 439](#)):
  - a. Pull the green printhead latch out to the side (A) and then raise it (B).
  - b. Slide it inwards on the slot (C) and lock it into place (D).

**Figure 439 – Unlock the Printhead Latch**



- c. Ensure that the lever pin is locked into the barb holder slot.

**Figure 440 – Lock Lever Pin onto Slot**



3. Slide out the used printhead.
4. Discard the used printhead according to local disposal regulations.

### 29.1.2 Installation

To prepare the printhead for installation:

1. Remove the printhead from the cardboard box and foil bag.
2. Open the red printhead protective case.

**Figure 441 – Red Protective Case**



3. On the Print Module, remove the two green covers from the fluidic couplings (one at each end).

**Figure 442 – Remove Fluidic Coupling Covers**

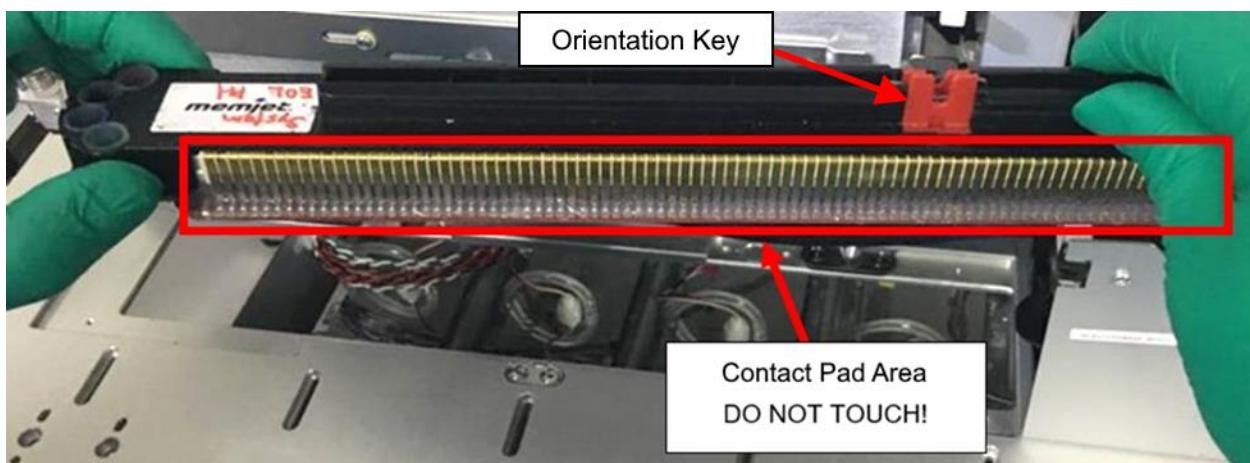


4. Keep the red protective case and fluidic coupling covers for storage and shipping. Close the protective case during storage and put the green fluidic coupling covers in a clean plastic bag to prevent contamination.

**CAUTION:** Avoid contact with the printhead nozzle surface to prevent nozzle damage. Avoid contact with printhead ink ports and print unit couplings to prevent contamination. Do not touch the printhead electrical connectors (pads), nozzles, or contact pin area. **Touch only the black plastic parts of the printhead!**

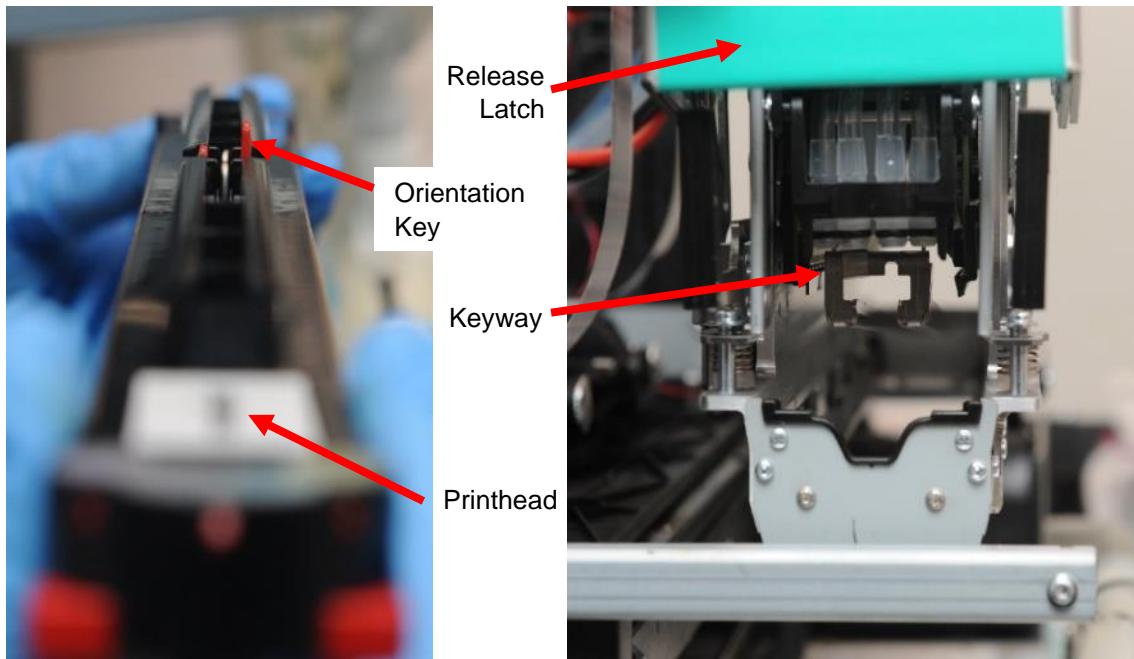
5. With one hand, hold the side of the printhead with your index finger and thumb. With the other hand, hold the handle of the printhead and ensure that the red orientation key is oriented as shown in [Figure 443](#).

**Figure 443 – Hand Position when Holding Printhead**



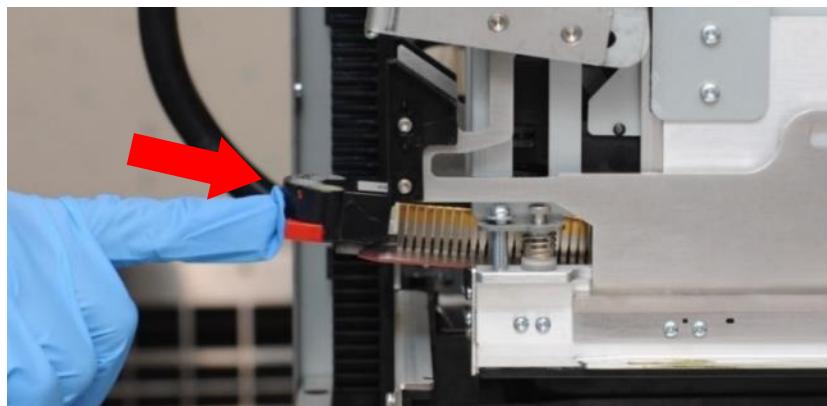
6. Align the red orientation key with the keyway inside the cradle and slide it along the plastic guide.

**Figure 444 – Orientation Key and Printhead Handle Details**



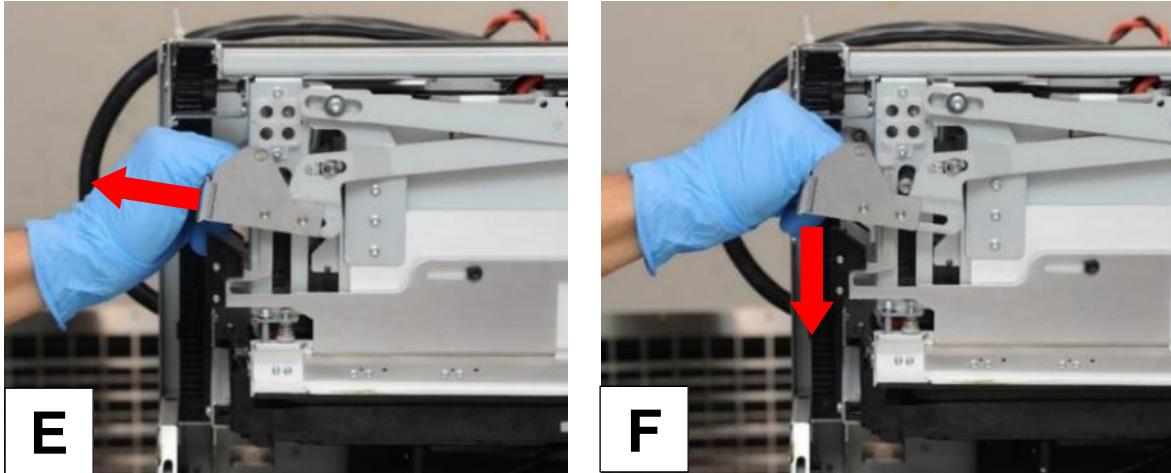
7. After you insert the printhead, push the end of it with one finger to ensure that it is fully seated.

**Figure 445 – Push the Printhead into Position**



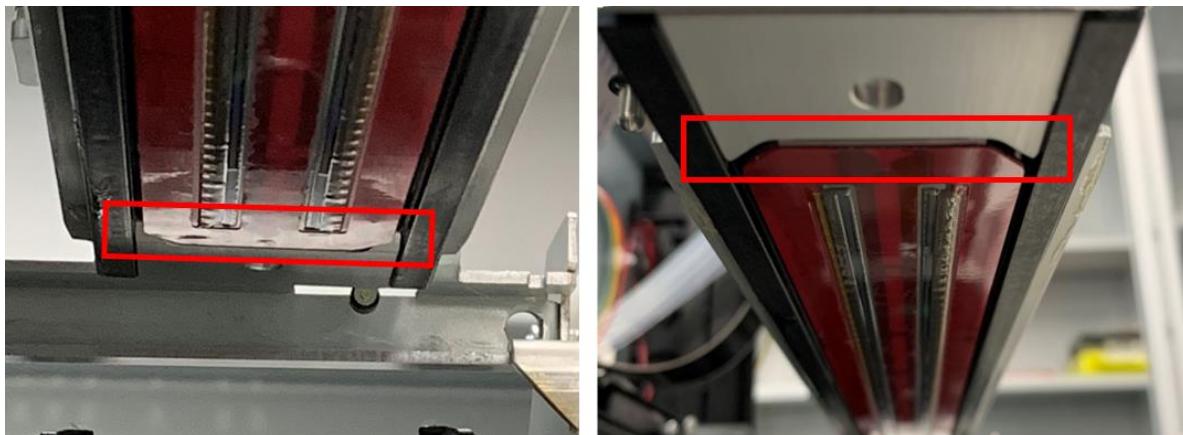
8. Disengage the green printhead latch lever pin from the barb holder slot and pull it out to the side of the print module (E) shown in [Figure 446](#).
9. Push the latch down (F) shown in [Figure 446](#).

**Figure 446 – Disengage the Printhead Latch**



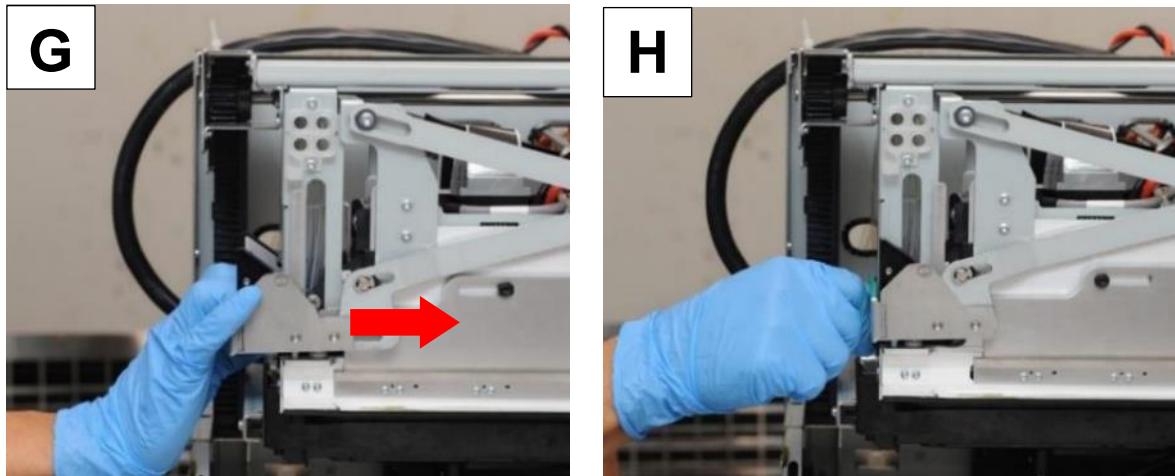
10. From below, visually inspect both ends of the installed printhead to ensure that the lower printhead surface (red) is flush with the frame (silver). If it is not flush, remove the printhead and install again.

**Figure 447 – Printhead Surface Flush with Frame at Both Ends**



11. Slide the latch into the print module (G) until it is fully engaged (H) shown in [Figure 448](#).

**Figure 448 – Engage the Printhead Latch**



12. Verify that the latch is fully engaged.

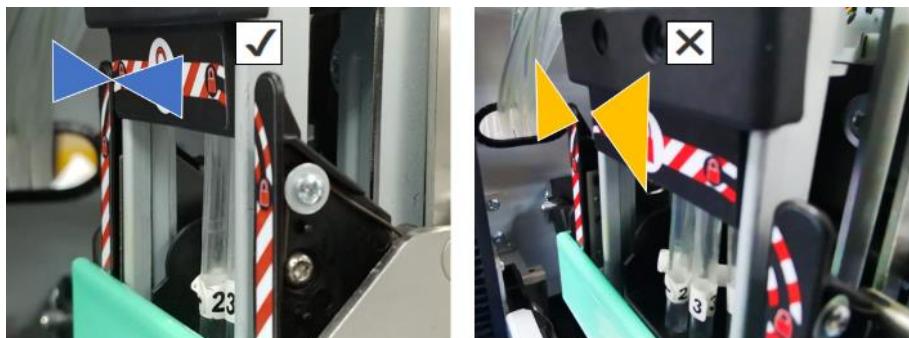
**CAUTION:** If the green release latch is not properly secured, it may get caught on the cap rail and damage the cradle.

**Figure 449 – Release Latch Fully Engaged**



13. Check that the three (3) labels on the Print Module are on the same plane.

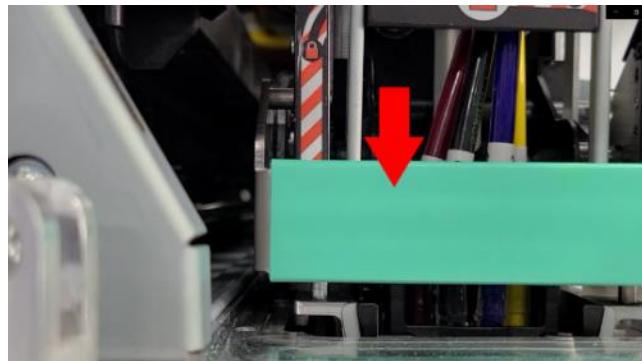
**Figure 450 – Three Labels on the Same Plane**



14. When the Printhead Cradle reaches the PRINT position, verify that it is fully seated into the datum surface by carefully pushing down on the green printhead latch:

- If there is no movement, that means the cradle is correctly seated.
- If there is movement, then the cradle is not fully seated. Contact your Memjet Technical Account Manager.

**Figure 451 – Ensure Printhead Cradle Fully Seated**



### 29.1.3 Testing

Each time a printhead is installed, the printhead insertion test is required.

Use the OEM printer control software to initialize the print engine to test that the printhead is properly inserted.

During initialization, the print module lifts, the cap retracts from the printhead, and then recaps the printhead. This process may take a few minutes.

## 29.2 Wiper Cartridge Replacement

The **MICROFIBRE\_OUT** condition of the Maintenance Module indicates that the microfiber is used up and the wiper cartridge needs a replacement. The OEM printer control software is responsible to notify the users when a replacement is required.

### 29.2.1 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

1. Use the OEM printer control software to move the printhead cradle to its RAISE position.
2. In the OEM printer control software, send the wiper cartridge to its SERVICE position.
3. Use your hand to press the green release latch until you hear a “click”, which means the wiper cartridge is disengaged.
4. Manually remove the wiper cartridge.
5. Dispose of the used wiper cartridge according to local disposal regulations.



Note: The print unit can be initialized without a wiper cartridge being installed. This allows the wiper carrier to move to the wiper insert (SERVICE) position to install the wiper cartridge.

### 29.2.2 Installation

1. Confirm that the Printhead Cradle is in RAISE position.
2. Confirm that the Wiper Carrier is in HOME position.
3. Power on the DuraFlex system and the Client PC.
4. Hold the wiper cartridge in one hand and locate the blue tab protruding from the cartridge.
5. Gently, but firmly, pull down on the tab to remove it from the wiper cartridge.

**Figure 452 – Disposable Tab on New Wiper Cartridge**



6. In the OEM printer control software, move the wiper carrier to SERVICE position.

Insertion only happens at the SERVICE position.



7. Manually insert the wiper cartridge. You will hear a “click” sound when it is fully seated.

**Figure 453 – Insert Wiper Cartridge**



8. In the OEM printer control software, move the printhead to the CAP position.

The wiper will move back to the HOME position.



## 29.3 Bulk Ink Supply Replacement

The QAI detects a low ink level and triggers a notification on the OEM printer control software when the bulk ink supply is low on ink.

To minimize exposure to contaminants, prepare the new bulk ink supply for installation before disconnecting the CPC female connector on the empty bulk ink supply.

- Clean the connector on the bulk ink supply with lint-free wipes and DI water.
- Position the bulk ink supply close to the installation location.

### 29.3.1 Removal

**CAUTION:** To minimize ink contamination, always wear clean, nitrile, powder-free gloves when working on the DuraFlex system.

**Note:** Unless otherwise noted, keep all original hardware for installation.

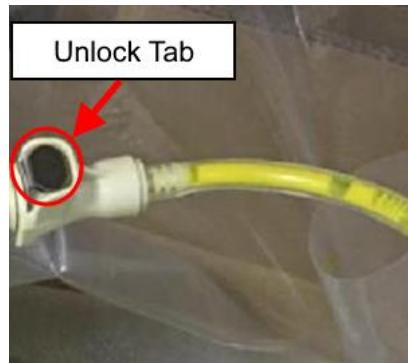
1. Disconnect the QAI Cable (RJ12) from the bulk ink supply.

**Figure 454 – QAI Cables (RJ12)**

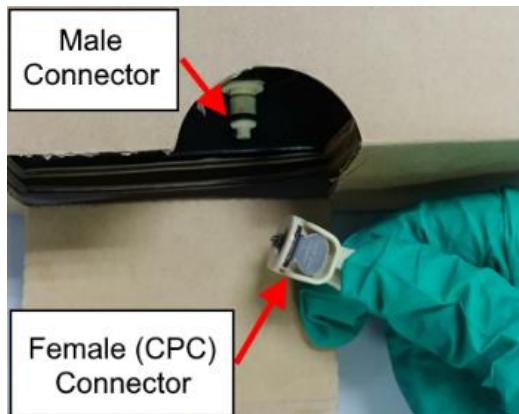


2. Disconnect the CPC connector (female) on the IDS Supply Line from the male connector on the bulk ink supply by pressing the unlock tab ([Figure 455](#)).

**Figure 455 – Unlock Tab on the CPC Connectors**



**Figure 456 – Male and Female (CPC) Connectors Disconnected**



3. Move the bulk ink supply away from the installed location (in the rack, on a shelf, etc.).

**Figure 457 – Bulk Ink Supply Disconnected from Tubing**

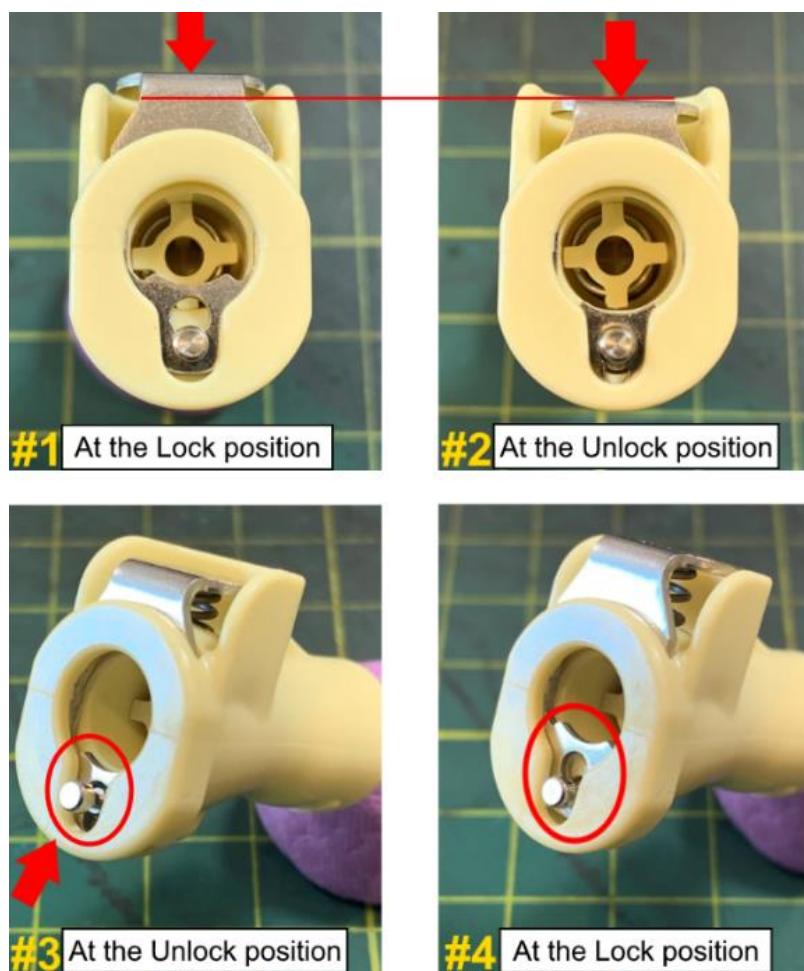


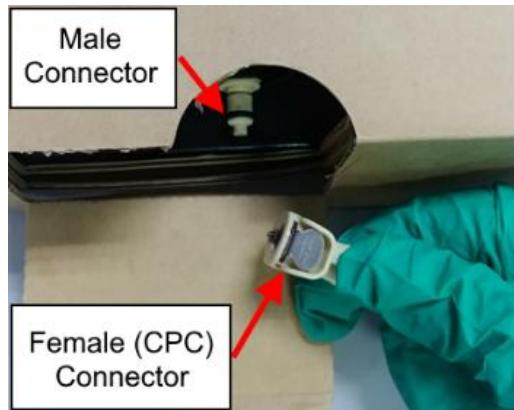
### 29.3.2 Installation

1. Visually inspect the new bulk ink supply to ensure that the connectors are intact.  
If damaged, replace the connectors before attaching them to the IDS Blades.
2. Place the new bulk ink supply in the same location as the previous bulk ink supply (in the rack, on a shelf, etc.)
3. Connect the CPC connector (female) on the IDS Supply Line to the male connector on the bulk ink supply.
  - a. Press the unlock tab (see arrow in #1).
  - b. When the CPC connector (female) is unlocked (#2), insert the male connector.
  - c. The male connector presses the lock button (see arrow in #3) and moves it towards the lock position (#4).

Connectors should not come apart when pulled.

**Figure 458 – CPC Connector (Female) Details**



**Figure 459 – Male and Female (CPC) Connectors Before Connecting****Figure 460 – Male and Female (CPC) Connectors Attached**

4. Connect QAI Cables (RJ12) to each bulk ink supply.



## 30 Shipping

### 30.1 Print Module Shipping

Follow the steps in this section to securely package and ship a Print Module.

For system decommissioning tasks, refer to the *DuraFlex Operations Guide*.

#### 30.1.1 Required Tools and Supplies

Gather the items in the table before beginning this procedure.

**Table 29 – Required Tools and Supplies**

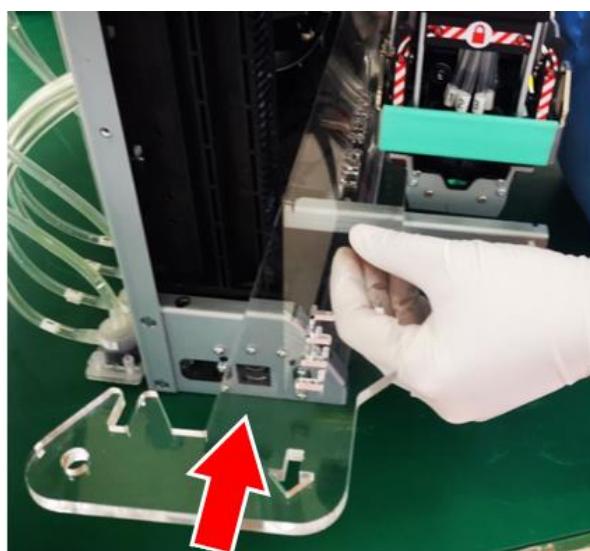
Quantity	Type	Description
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free cloth
1 set	Supply	Original packaging for the Print Module
As needed	Supply	PE anti-static sheet
1	Supply	Shipping plate
As needed	Supply	Tape – low-adhesive
As needed	Supply	Anti-static foam

**Note:** If the original packaging is not available, use a sturdy cardboard box, anti-static wrap, and non-collapsible packaging material to hold the Print Module securely during shipping.

#### 30.1.2 Packaging

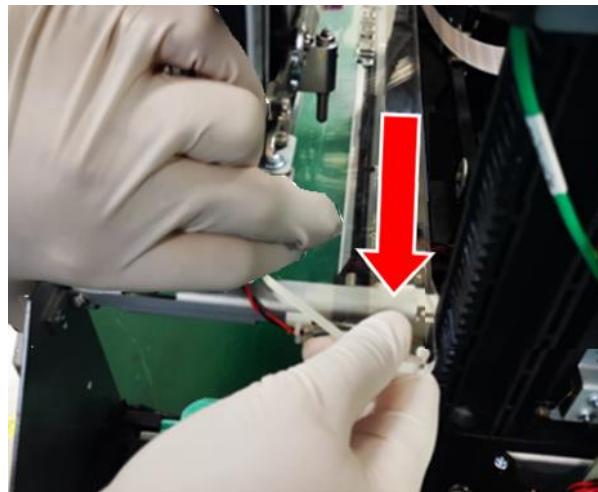
1. Install the shipping plate to protect the Print Module mechanisms during transportation.
  - a. Carefully slide the shipping plate into the **left** side of the Print Module to insert it.

**Figure 461 – Insert Shipping Plate**



- b. Use your other hand to slightly pull the shipping plate towards the **right** side of Print Module to engage it.

**Figure 462 – Engage Shipping Plate**



2. Tape the green printhead latch to the Print Module so that it does not move during shipping.
3. Ensure that:
  - a. the wiper cartridge is removed and stored in its original packaging or a clean plastic bag.
  - b. all external cables are disconnected.
  - c. all external tubing are disconnected and the barbs are capped.
  - d. the five (5) ultra-flathead mounting screws are removed and stored properly.
4. Position the packing foam under the printhead and tape it into place, as shown in the figure below.

The tape should be applied to the front and back of the Print Module.

**Figure 463 – Foam and Tape on Print Module**



5. Place the Print Module packing foam on a clean work surface.

**Figure 464 – Packing Foam**



6. Place the anti-static PE sheet on top of the packing foam and place the Print Module on top of it.

**Figure 465 – Print Module on PE Sheet**

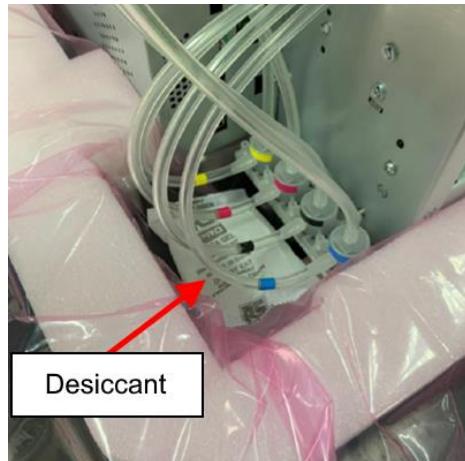


7. Place lint-free, ink-absorbing material close to the Printhead Fluidic Couplings (capped with green covers), Pinch Valve, and Circulation Pumps to minimize the chances of residue ink leaking.



8. Add a pack of desiccant at the location shown in the picture below:

**Figure 466 – Desiccant Placement**



9. Wrap the Print Module using the anti-static PE sheet. Use tape to secure the wrapping in place.

**Figure 467 – Wrapped Print Module**



10. Place the Print Module in a crate.
11. Place the top piece of foam onto the Print Module.
12. Use anti-static bubble wrap to completely cover the wiper cartridge and seal it with transparent tape. Then place the wrapped wiper cartridge into a box and seal it with tape.
13. Place the wiper cartridge box into the compartment in the top piece of foam.
14. Close the crate and secure it.
15. Place the packaged Print Module on a pallet and use straps to secure it to the pallet for shipping.

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**CAUTION: Do not stack pallets.**

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16. Place a Do Not Stack cone on top of the crate.
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## 30.2 Printhead Shipping

### 30.2.1 Packaging for Shipping

Only a printhead stored in a protective case, sealed in a plastic bag, and placed in a sturdy cardboard box can be shipped. Refer to Section [3.3 Printhead Cleaning and Storage](#) for details.

1. Use original printhead packaging (foam and cardboard box) whenever possible for shipping. If not available, use a sturdy box of similar size with non-collapsible packing material to prevent the printhead from moving. If possible, locate one of the original cardboard shipping boxes the printhead was stored in, or a shipping box of similar dimensions.
2. Wrap the zip bag around the protected printhead and insert both ends of the printhead case into the foam shipping blocks.

**Figure 468 – Printhead Case in Foam Blocks to Ensure Proper Orientation**



3. Place the printhead and foam blocks into the cardboard box and ensure the printhead case is resting on the center foam block as shown in [Figure 469](#).

**Figure 469 – Printhead Case Properly Seated in Shipping Box**



4. Seal the cardboard box securely.

## Appendix – Ultrasonic Parts Cleaning

All barb connectors and CPC connectors need to undergo ultrasonic cleaning. OEMs can choose to purchase pre-cleaned connectors or perform ultrasonic cleaning at the OEM site. Follow the instructions in this section to clean IDS components.

### Required Tools/Parts/Supplies

Gather all required supplies before beginning this procedure.

- Ultrasonic bath with adjustable temperature and timer
- Ultrasonic Surfactant such as Triton X-100 or Micro-90
- ASTM Type 3 de-ionized water supply
- Gloves – new, nitrile, powder-free
- Ultrasonic-proof Beaker, 2.5 liter or similar
- Stainless steel strainer/basket
- Part-handling tweezers or similar
- Parts to be cleaned

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Note: This procedure does not have to be performed in a cleanroom environment, although critical component cleaning standards should be applied. These include a dust-free environment during cleaning, transfer, and storage, and the maintenance of clean equipment.

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### Prerequisites

1. Set the ultrasonic tank temperature to 50°C.
2. Ensure that the liquid level in the ultrasonic tank is above the minimum level as per the tank's instruction manual.

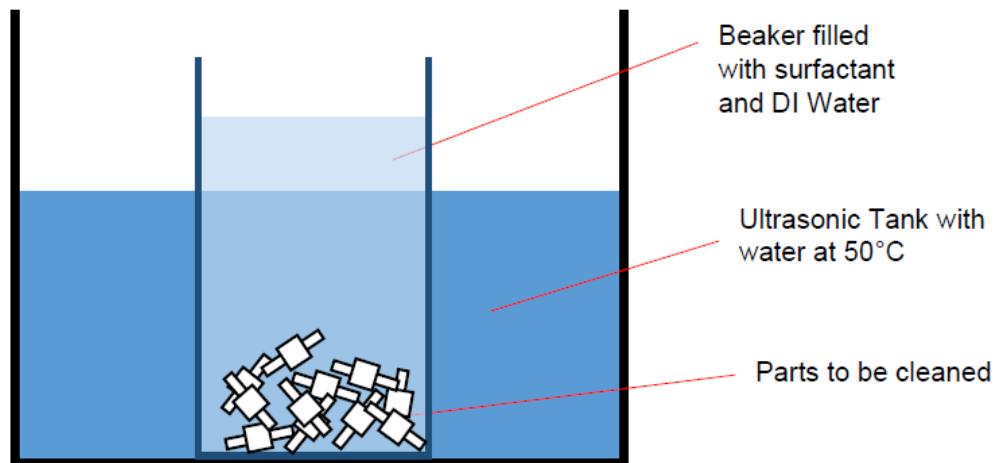
### Cleaning Procedure

1. Choose a beaker that is large enough to hold the parts to be cleaned plus DI water and 0.5% (by volume) of surfactant. For example, 2.5 L of DI water will require 12.5 mL of surfactant.
2. Fill the beaker with the parts, DI water, and surfactant.



3. Once the ultrasonic cleaner is at the correct temperature, place the beaker of parts into the ultrasonic tank ([Figure 10](#)).

**Figure 470 – Recommended Ultrasonic Cleaning Setup**



4. Place the parts into the beaker ensuring they are fully submerged.

Multiple beakers of parts can be placed in the tank at once if space allows, however it will take time for the beakers to get to the correct temperature. When performing this task for the first time, verify that the parts beaker(s) fits into the tank.

5. Turn on the ultrasonic tank and run for 15 minutes.
6. When the cycle is complete, remove the beaker from the ultrasonic tank.
7. Use the stainless-steel strainer to drain the parts from the beaker.
8. Rinse the parts thoroughly under running DI water.
9. Transfer the parts back into the beaker and fill the beaker with DI water. Place the beaker in the ultrasonic tank.
10. Turn on the ultrasonic tank and run for 5 minutes.
11. When the cycle is complete, remove the beaker from the ultrasonic tank.
12. Turn off the ultrasonic cleaner, if no longer required.
13. Use the stainless-steel strainer to drain the parts from the beaker.
14. Rinse the parts thoroughly under running DI water.
15. Transfer the parts onto a drying tray and allow them to air dry overnight.

**Note:** To avoid contamination of clean parts, maintain a dust-free environment during cleaning, transfer, and storage.

16. Use clean tweezers to transfer dry parts into clean storage bags/containers and close the bag/container.

