



DURAFLEX™

Troubleshooting Guide

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Revision History

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4.05	R5.2.2	30-May-22	<ul style="list-style-type: none"> • Updated Section 2.3 as QIM board presence is no longer checked. Removed former Figure 1. • Added Section 2.4 – System Fails to Initialize After Upgrade • Updated Section 2.5 Insertion Test Failure with FFC failures and technical bulletin references • Updated Section 2.13 Print Job Running but No Ink Ejected. • Added Section 2.22 Printhead Encap Damage • Added Section 2.23 System Fails to Prime • Added Section 2.24 System Fails to Hold a Prime • Former Section on Moderate Color Mixing moved to Print Quality section. • Removed former Section 2.27 Moderate Color Mixing, it is described in more detail in Section 3.3 • Added Section 2.34 TOF Delay Parameter Missing • Updated Section 3 throughout • Added Section 3.4 Horizontal Banding on Output • Updated Table 4 with Critical category • Updated Section 4.7 with improved QA chip fixes • Added Section 5 – Troubleshooting LEDs • Added Section 6 – Common RIP Errors and System Error Codes • Minor editorial updates
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1 Introduction

This document is part of the OEM technical 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

The aim of this document is to provide Original Equipment Manufacturers (OEMs) with the basic troubleshooting information for a DuraFlex-based printing system.

This document is intended for any OEM personnel troubleshooting a DuraFlex printing system.

1.2 Prerequisites and Scope

The reader is expected to be familiar with Memjet inkjet printing technology, its applications, and implementation.

This document does not cover the design, installation, or servicing of a DuraFlex-based printing system.

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.
Bold	Text that appears on-screen in the user interface is shown in bold font . 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.
- *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.

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- *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.

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), or contact your Technical Account Manager.



2 Symptoms

This section includes solutions to some common issues seen during DuraFlex printing operations. Review the headings to find a symptom related to your issue. This is not a comprehensive troubleshooting list. Contact your Memjet TAM if you require more information for a particular issue.

2.1 System Does Not Power On

System cannot be turned on or does not respond when power button is pressed.

2.1.1 Possible Cause(s)

- Electrical power disconnected.
- E-stop button is pressed in.

2.1.2 Resolution

1. Check all power connections and verify they are connected.
2. Check whether the E-stop button is pressed in.
3. Retry the power button.

2.2 System Stays in Offline State

When the power button on the GUI is pressed, the printer status changes from Off to Idle. There is no error or fault, and the system stays in an Offline state.

2.2.1 Possible Cause(s)

Possible file syntax or file configuration errors in the `hwparamstore.json` file.

2.2.2 Resolution

Check the `hwparamstore.json` file for syntax/typing/configuration errors.

2.3 System Fails to Initialize

System attempts to initialize after being in Idle or Powered Off but fails to initialize. An error message may or may not be provided. The RIP GUI will provide more information on where the problem has occurred.

2.3.1 Possible Cause(s)

- Wiper Cartridge Missing. The following message may be displayed:

RIP Fault Message:

`HARD FAULT: Engine reported FAULT state. Location: ENGINE`

- Wiper Communication Loss

RIP Fault Message:

`<E> [#4] PerformWipe: preTest failure: localhost:9210:Dyn-ultron:WIPER_PRESENT not active`



- Cap Sensor Faulty or Disconnected

RIP Fault Message:

```
HARD_FAULT: Engine reported. Location: ENGINE: operation CalibrateHardware failed:  
RESULT_ERROR: Operation CalibrationHardware failed
```

2.3.2 Resolution

1. Confirm the wiper cartridge is in place and that it is correctly seated in position.
2. Confirm the Wiper Home Switch and Wiper Present Switch are working properly.
3. Confirm that the cap sensor is connected.
4. With the wiper cartridge removed, use the following commands to confirm the “wiper cartridge present” switch is functioning:
 - a. Use SSH to log in to DuraFlex:

```
ssh duraflex@192.168.100.200
```
 - b. Change directory:

```
cd /opt/memjet/PDL/test_rigs/latest/bin
```
 - c. Stop the delegation service:

```
sudo systemctl stop delegation
```
 - d. Start the Python app in combined mode:

```
python start.py -mode=combined
```
 - e. Run the following `ntp` command:

```
ntp.ss.wiper._getSENSOR_VAL_PRESENT()
```

If the command response is `active`, that means the presence of wiper cartridge. If the response is `inactive`, that means the absence of wiper cartridge.
 - f. Compare the command response with the actual state of wiper cartridge to determine if the “wiper cartridge present” switch is working properly.
5. Verify if the wiper cartridge is used up by checking the wiper cartridge flag. If the flag is active, replace wiper.
 - a. In the combined mode, run the following `ntp` command:

```
ntp.ss.is_wiper_microfibre_out()
```

 - If the command response is `True`, that means the flag is active.

The wiper cartridge is used up and needs a replacement.
 - If the response is `False`, that means the wiper cartridge can still be used.
6. Exit combined mode and return the system to a safe state:

```
sudo systemctl start delegation
```
7. Shut down the print engine, then initialize the system.



8. Restart the RIP.
9. If the problem persists, contact your Memjet TAM for assistance.

2.4 System Fails to Initialize after Software Upgrade

During initialization following a software upgrade, the following error displays in the GyMEA log:

```
2021-04-09T02:56:46.973509+10:00 rs20300019 GyMEA0: <E> [] QaLssMgr: initialize()  
BAD_DATA, Failed to parse Printer Key Store certificate:  
/var/run/gyMEA/data/certificates/current/pks/._PrinterKeyStore_Llxxx_v1.signed-  
3305132572.bin
```

2.4.1 Possible Cause(s)

The OEM printer keystore file was not included in the liveUSB. This is required for all software versions 4.2.3 or greater.

2.4.2 Resolution

Manually load the printer Keystore file to `/var/run/gyMEA/data/certificates/current/pks`. For detailed instructions refer to the *DuraFlex Installation Guide*.

2.5 Printhead Insertion Test Failure

The Printhead insertion test will verify PSU behavior and connectivity down to each individual printhead segment. During a successful insertion test the LEDs LD1, LD2 and LD11 (see Section 5.1 and [Figure 34](#) for the locations) on each Printhead Interface Board will be turned on, in that order before being turned off in the reverse order. These LEDs corresponds to the QA 2V5 rails being turned on, then Vdd and the Vpos. This test also checks the printhead is functional and has a good electrical connection.

2.5.1 Symptom

The `INSERTION_TEST_FAILED` error message displays in the GyMEA log. The printhead insertion test is performed at initialization, and subsequently prior to and during printing operations, depending on which component fails during the printhead insertion test the issue can manifest with different error codes.

2.5.2 Possible Cause(s)

- Poor connectivity between printhead and Printhead Power PCA contacts, due to misalignment, insufficient contact force, or exposure to debris
- Printhead Power PCA failure
- Cables and connectors not properly connected, or failed cable(s)
- Persistent insertion test failure errors may indicate the FFC retainer clips (if fitted) are not keeping the FFC cable in sufficient contact with the PCA. Refer to the *DuraFlex Technical Bulletin TB009 FFC Retainer* document on how to install the FFC retainer clips, if they are not installed, and instructions on reseating or replacing the FFC clips.
- **Damaged Printhead**



2.5.3 Resolution

The steps listed for resolution are listed from least to most invasive. Replacing the printhead is considered as a last resort.

To find out more information on the initialization failure:

1. Use SSH to log in to DuraFlex:

```
ssh duraflex@192.168.100.200
```

2. Run the commands, this forces a printhead insertion test:

```
nc localhost 9000
tcl hh ph_prepare_for_use
```

The correct response is `#Oktcl#`. If any other response, there is a printhead connection issue.

3. To check the I2C cable (CBL_EM_TO_PH_BOARD_COMM) connections:

- a. For the lagging side, run the commands:

```
nc localhost 9200
Dyn-ultron:Ph-LAGGING:get "headboard_type"
```

The correct response is `0:"Meander"`, which means the cable is working.

If any other response, there is an issue with the lagging I2C cable or Printhead Power PCA.

- b. For the leading side, run the commands:

```
nc localhost 9200
Dyn-ultron:Ph-LEADING:get "headboard_type"
```

The correct response is `0:"Meander"`, which means the cable is working.

If any other response, there is an issue with the leading I2C cable or Printhead Power PCA.

To recover from the initialization failure:

4. Try to reinitialize the system, use clear error if available.
5. Power cycle the system.
6. From capped or home position, pull and push the green printhead latch to disengage and re-engage. Detailed procedures are found in [**DuraFlex Technical Bulletin TB0010 Printhead Reengagement Procedure**](#).
 - a. If this does not resolve the issue, proceed to the next step
7. Perform the following steps:
 - a. Depribe the system.
 - b. Remove the printhead.
 - c. Power off the system
 - d. Carefully clean printhead contacts with isopropyl alcohol.
 - e. Clean the Printhead Power PCA contacts with isopropyl alcohol and confirm that there are no bent pins.
 - f. Reinstall the printhead. Be sure to push down firmly on the printhead latch before inserting the printhead.
 - g. Power on the system and prime it.
 - h. Repeat the commands to run a printhead insertion test.



8. If either of the commands from [2.5.3](#) Step [2](#) returned expected response, and the previous steps have not resolved the issue perform the following:
 - a. Power down DuraFlex. **Never hot plug these cables**
 - b. Reseat the I2C cables and power cables, power on the Mech and run the test again.
 - c. Power down the mech, replace the failed cables (if any) and run the test again.
9. If the commands from [2.5.3](#) Step [2](#) did not return the expected response, and the previous steps have not resolved the issue then the FF cables may need to be reseated. This procedure is explained in detail in the *DuraFlex Technical Bulletin TB0009 FFC Retainer* document. If you have not installed the FFC retainer clips the document should still be read as it contains detailed instructions on how to reseat the FFC.

Caution: The FF cables can be damaged very easily and the instructions in *Technical Bulletin TB0009* must be followed carefully.

10. As a last resort, you may opt to install a new printhead or contact your Memjet TAM for assistance

2.6 System Faults During Cap Move

Cap attempts to move to HOME while in the HOME position. It then hits the wall and continues to hit the wall while re-trying the move. This may continue for 60 seconds until the actuator times out.

2.6.1 Possible Cause(s)

- Cap sensor fault faulty or missing.

RIP Fault Message:

```
HARD FAULT: Engine reported FAULT state. Location: ENGINE: Timed-out waiting for:
Actuator move completion. Outstanding actuators: localhost:9210:Dyn-ultron:CAP
(Waiting for startNamedMove completion) Outstanding actuators: localhost:9210:Dyn-
ultron:PUMP
```

2.6.2 Resolution

11. Confirm the cap sensor is connected.
12. Reinitialize the system.

2.7 Printhead Moves into Print Zone and then Printer Resets

Printer attempts to start printing. Printhead moves into the print zone then the printer resets without printing. This may also happen during printing if the web speed is changed in real-time.

2.7.1 Possible Cause(s)

Data underrun caused by media web speed set too fast or changing speed during a print run.

2.7.2 Resolution

1. Ensure the media web is up to speed before printing and ensure the web speed is maintained during printing.
2. Do not attempt to adjust the media web speed while printing.



2.8 Printhead Moves to Print Zone and Then Back Out

The printer starts printing a job, the printhead moves into print zone then moves straight back out again.

2.8.1 Possible Cause(s)

The lifter sensor in the print zone is unplugged or non-functioning.

2.8.2 Resolution

1. Check the lift sensor connectivity and function.
2. Replace the sensor if required.

2.9 System Faults During Printhead Service

Systems fails to start printhead maintenance service, or partially completes printhead services and faults.

2.9.1 Possible Cause(s)

- Wiper Communication Loss

RIP Fault Message:

```
HARD FAULT: Engine reported FAULT state. Location: PRINT_MODULE. preTest failure:  
localhost:9210:Dyn-ultron: WIPER_PRESENT not active. Outstanding actuators:  
localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO
```

- WIMM Vacuum Pump Fault

RIP Fault Message:

```
HARD FAULT: Engine reported FAULT state. Location: ENGINE: operation  
CalibrateHardware failed: RESULT_ERROR: Operation CalibrationHardware failed
```

- WIMM Pressure Sensor Fault

RIP Fault Message:

```
HARD FAULT: Engine reported FAULT state. Location: ENGINE: Operation  
RecoverPrinthead failed: RESULT_ERROR: RecoverPrinthead: perform service failed
```

2.9.2 Resolution

1. Check the wiper is connected. Remove and then reinstall the wiper into the cradle to ensure it is seated correctly.
 - d. Restart the RIP.
 - e. Reinitialize the system.
2. Check connectivity and operation of the WIMM pressure sensor.
 - a. Restart the RIP.
 - b. Reinitialize the system.
 - c. If the problem persists the WIMM pressure sensor may need replacing.
3. Check the connectivity and operation of the WIMM vacuum pump.
 - a. Restart the RIP.
 - b. Reinitialize the system.



- c. If the problem persists the WIMM vacuum pump may need replacing.

2.10 System Faults While Printing

The system faults while printing.

RIP Fault Message:

```
Event Type: ENGINE_STATUS, Engine State: FAULT, Fault Location: FRONT_INK_SUPPLY,  
Ready for Print Data: False, Fault Details: localhost:9210:Dyn-ultron:PUMPTWO reports  
error UltronActuatorState::ERROR. Outstanding actuators: localhost:9210:Dyn-  
ultron:PUMP Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-  
ultron:PUMPTWO
```

2.10.1 Possible Cause(s)

- The circulation pumps may have been unplugged or failed during printing.
- The WIMM vacuum pump may have been unplugged.

2.10.2 Resolution

1. Check that the circulation pumps are both connected. Reconnect them if necessary.
2. Check that the WIMM vacuum pump is connected. Reconnect it if necessary.
3. Restart the RIP.
4. Reinitialize the system.

2.11 System Fault When Restarting Print Job from Pause

While the printer is in paused state, unpausing the job before moving the printhead into the print position results in a fault.

2.11.1 Possible Cause(s)

The printhead is not in the PRINT position when the `pes.startPrinting()` command is called to resume from the pause state.

2.11.2 Resolution

Ensure the print head is in the print position before resuming from pause.

2.12 Print Job Will Not Start Printing or Stops Printing

Job will not start printing, or will not stay spooled, and no error message displayed but the refill pump can be heard running.

2.12.1 Possible Cause(s)

Bulk ink supply is empty or disconnected.

2.12.2 Resolution

1. Check the bulk ink supply connection.



- a. Reconnect the bulk ink supply if necessary.
2. Check the bulk ink supply level.
 - a. If the bulk ink supply is empty, replace it with a new one.
 - b. Restart the RIP.
 - c. Reinitialize the system.
3. If the bulk ink supply is not empty, check that the ink tubing is securely connected.
 - a. Restart the RIP.
 - b. Reinitialize the system.

2.13 Print Job Running but No Ink Ejected

A print job seems to be working, but the only ink ejected is the declog spit. There is no ink ejection from KWS or inter-page spit bars, and no job data is printed. However, the Gynea log shows the job being “consumed”, the job finishes the proper number of pages, and it is completed.

2.13.1 Possible Cause(s)

Ink temperature setting is higher than normal. Usually, this value should be around 220 (i.e. 22°C) or the room temperature where the print unit is operating.

2.13.2 Resolution

1. Check the ink temperature sensor output:
 - a. Open a PuTTY terminal on the Client PC and connect to Gynea:

```
nc localhost 9200
```

- b. Enter the following command:

```
Dyn-ultron:INK_TEMP_SENSOR:set# "force_sample",true
```

The command response should be:

```
0:
```

- c. Enter the following command:

```
Dyn-ultron:INK_TEMP_SENSOR:get "value"
```

- d. Observe the response. The 22.000000 is the temperature in °C:

```
0:22.000000
```

- e. A Gynea response of “5100” usually indicates a connectivity issue with the ink temp sensor

```
2021-03-31T12:57:59.688760+11:00 rs20300179 Gynea0: <I> [TelnetServer]
ResourceMgr: Ink temperature set by printer controller 5100
2021-03-31T12:57:59.689481+11:00 rs20300179 Gynea0: <D> [TelnetServer]
ResourceMgr: Ink sensor not accessible/available (RESULT_NOT_SUP)
```

Check all the cables between IDS and Print Module and ensure that they are fully inserted. For example, a loose cable from BIDS Passthrough PCA to Print Module might cause the issue. Prime the system to get ink ejection working.



2.14 System Fails to Print

After a job is submitted, the printhead moves to the PRINT position. The system fails to print and shows a fault message in the Kareela log.

2.14.1 Possible Cause(s)

Printhead communication problem.

Fault Message:

`PRINT_SIGNAL_ERROR`

2.14.2 Resolution

Remove and re-insert the printhead.

2.15 Printhead Moves to PRINT Position but Does Not Print

At the start of print job, printhead moves to the PRINT position but nothing prints and printhead stays in the PRINT position. After several minutes there is no fault registered and operator needs to cancel job to continue.

2.15.1 Possible Cause(s)

Media encoder or TOF sensor communication issue.

2.15.2 Resolution

1. Check the media encoder/TOF sensor is connected.
2. Check the media encoder/TOF sensor is functioning and is communicating with the print engine.
3. Restart the RIP.
4. Reinitialize the system.
5. If the problem persists, replace the media encoder/TOF sensor.

2.16 System Unresponsive to Encoder Signal

The system does not respond to the encoder signal.

2.16.1 Possible Cause(s)

- Encoder is not connected
- Encoder is broken
- Mechanical Controller PCA is not working
- There are bent pins on connection to Mechanical Controller PCA
- Datapath PCA is not working

2.16.2 Resolution

Check if the system is responding to encoder signal by connecting to Gynea and running the commands.

1. Open a PuTTY terminal on the Client PC and connect to Gynea:



```
nc localhost 9000
```

2. Use the TCL commands to test the encoder signal, for example,

```
tcl npsc set_encoder SINGLE_POS_EDGE 1 FORWARD DEBOUNCE_ALL 1000
tcl npsc get_encoder_period
```

Note: The `tcl npsc get_encoder_period` command measures the most recent period in units of 5ns clock ticks (200 MHz). This register cannot overflow, and it will stick at the maximum count. The maximum returned is `MeMaxPeriod`. Only 24 bits of this register is used. This will allow a maximum used period between the encoder edges of $2^{24} \times 5\text{ns}$, which equals to 84ms.

3. Use the TCL commands to test row syncs, for example,

```
tcl npsc set_row_sync ENABLE 1.0
tcl npsc get_row_sync_running
```

The command response should be `running` or `stopped`.

4. If the command response is `stopped`, perform the following operations as needed:

- Reconnect the encoder
- Replace the encoder if it is broken
- Check the Mechanical Controller PCA
- Check the encoder pins connected to Mechanical Controller PCA
- Check the Datapath PCA

2.17 Incomplete Printing Results in Unresponsive State

If a job does not complete due to a media jam, media misfeed, or other reasons, the printhead will remain at the PRINT position and the printer may remain unresponsive.

2.17.1 Possible Cause(s)

Printhead remains in PRINT position.

2.17.2 Resolution

To recover functionality after an incomplete job:

1. Issue a **Finish Printing** command to stop or abort the printing.
2. Issue a **Shutdown Engine** command. The engine status should change to `OFF`.
3. In the PES Operation pane, click **Initialize Engine**.
4. In the Status Bar field, click **Get Status** to retrieve the print engine status.

2.18 System Fault During Shutdown

Attempting to shut down the system, system faulted with no error message.

RIP Fault Message:

```
HARD FAULT: Engine reported FAULT state. Location: ENGINE: Operation PreJobFinish
failed. RESULT_ERROR: Operation PreJobFinish failed
```



2.18.1 Possible Cause(s)

Wiper home position sensor fault or failure.

2.18.2 Resolution

1. Check wiper home position sensor is connected.
2. Restart the RIP.
3. Reinitialize the system.
4. If problem persists, replace the wiper home position sensor.

2.19 Cannot Control Printer Mechanical Movement

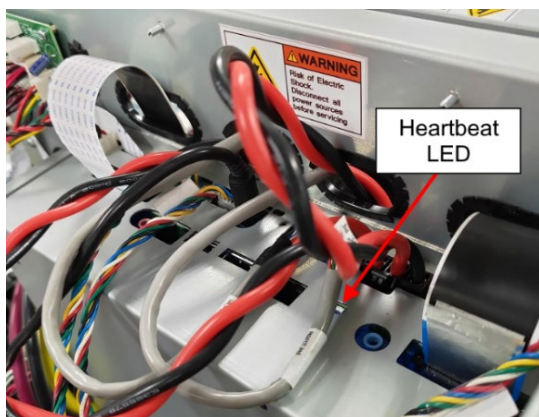
2.19.1 Possible Cause(s)

- Electrical power not connected.
- 24 power supply is not working.

2.19.2 Resolution

1. Verify that the heartbeat LED, as shown in [Figure 1](#) is flashing once per second.
2. If the heartbeat LED is not flashing:
 - a. Check connections to the 24V power supply unit (see [Figure 1](#)).
 - b. Check connections to the mechanical controller PCA.

Figure 1 – Heartbeat LED and 24V Power Supply Unit



2.20 Printer Software Services Not Running

2.20.1 Possible Cause(s)

- Some or all the printer services software have crashed.

2.20.2 Resolution

Enable the Embedded or the External RIP mode and run the `ntpStatus` command to verify the printer software services are running. If the output does not show a hierarchy of services.

1. Check the heartbeat LED ([Figure 1](#)) on the mechanical controller PCA (top right) to verify that the board is functioning properly. Heartbeat LED should be blinking once per second.
2. Open a PuTTY terminal, remotely log into DuraFlex, and use the following command to test the connection to mechanical controller PCA:

```
ping -c 1 ultron
```

The response should be as shown below:

Figure 2 – Command Result (ping -c 1 ultron)

```
PING ultron (192.168.3.2) 56(84) bytes of data.  
64 bytes from ultron (192.168.3.2): icmp_seq=1 ttl=255 time=28.7 ms  
  
--- ultron ping statistics ---  
1 packets transmitted, 1 received, 0% packet loss, time 0ms  
rtt min/avg/max/mdev = 28.732/28.732/28.732/0.000 ms
```

3. Run the `ntpStatus` command to check that the software services are running in the PuTTY terminal:

If the services are running, the output should show a hierarchy of services with a green dot at the beginning of each line.

If any of these services are not running, perform the following steps to restart the services:

- a. Open a new PuTTY terminal and remotely log into DuraFlex, using “`duraflex`” for both the username and password.

Note: The process requires `duraflex` user account privileges (not `printing` user account).

- b. Restart any stopped or inactive services by stopping all services in the PuTTY terminal.

- Run `ntpStop`
- Then, run either of the following commands to start/restart the services:
 - For internal RIP: `ntpUseInternalRip`
 - For external RIP: `ntpUseExternalRip`

If you are prompted for a password, enter `duraflex`

If the services do not start successfully, recheck the hardware (as described above) and then repeat the restart steps.



2.21 Media Hitting Printhead

Media is hitting the printhead resulting in degraded print quality or media jams.

2.21.1 Possible Cause(s)

- The media vacuum across the platen is too low or not switched on.
- Obstructions between the media and the platen.
- Media is damaged or has been reused.
- Media tension and/or thickness has changed (if applicable)
- PPS is set incorrectly.

2.21.2 Resolution

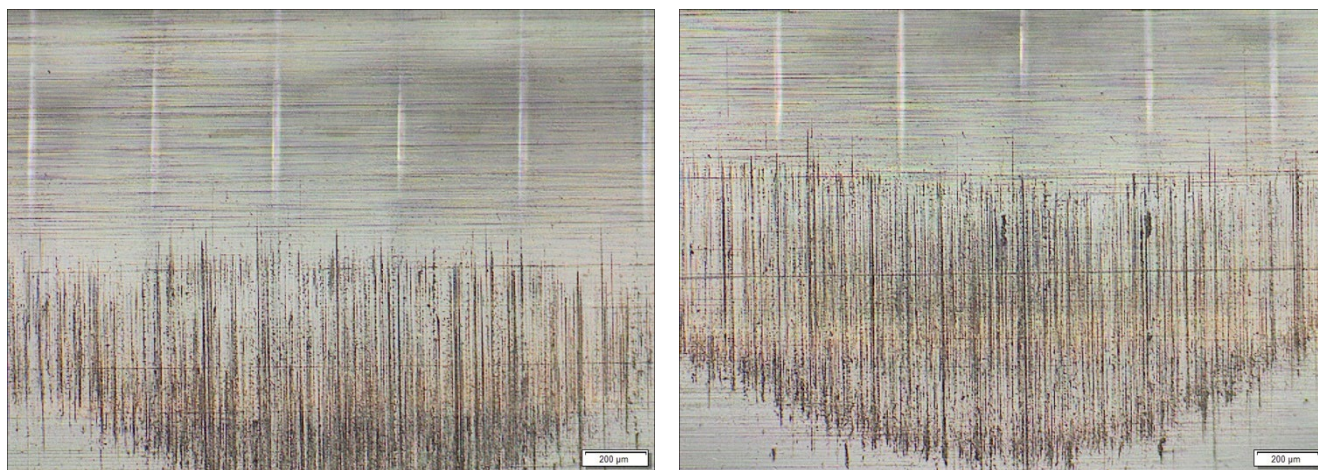
1. Check the media vacuum.
 - a. Make sure the vacuum knob is turned on.
 - b. Increase vacuum to ensure media is flat on the surface.
2. Check for any obstructions or debris between the platen and the media and remove them if present.
3. Check to see if the edge of the media is curled or damaged.
 - a. Do not reuse media.
4. For a roll-to-roll media system, check the media tension and media thickness.
5. Check the PPS is within specifications, see the *DuraFlex Mechanical and Fluidics Databook and Design Guide* for more details.

2.22 Printhead Encap Damage

If the PPS is lower than the specified 0.7mm, the media may contact the encap material on the Printhead and cause damage that can expose the electrical bond wires to ink and cause a hard printhead failure.

Figure 3 shows magnified images of printhead encap with repeated paper strikes.

Figure 3 – Examples of Printhead Damage Caused by Media Contact



2.22.1 Resolution

- Set PPS as specified in the Installation guide
- A 0.3 mm feeler gauge should easily fit between the paper and the encap all the way along the printhead.

2.23 System Fails to Prime

The system will not be able to fully prime if there is an obstruction in the system, or if one of the mechanical components has failed. These may include:

- Circulating pump is not running
- Pinch valve not opening or others.

An error message will indicate which component has failed in the startup routine.

2.23.1 Possible Cause(s)

- Pinch valve tubing is kinked.
- Cap is not completely covering the printhead.

2.23.2 Resolution

Check fluidic couplings for leakage.

- Visually inspect and confirm all the fluidic and coupling o-rings are fully inserted.
- Check to ensure that the black tube underneath the Pinch Valve is not kinked or twisted.
- Check to ensure that the Cap is fully covered (there should be no leakage).

2.24 System Fails to Hold a Prime

A system may complete the priming process without issue, but one or more ink channels do not maintain pressure and the tubing depletes ink.

2.24.1 Possible Cause(s)

- There is a leak in the fluidic circuit of the IDS

2.24.2 Resolution

Prime the printhead to get the ink as close to the PH as possible. Once the ink is higher than its resting position, pinch off tubing at the following locations to determine which one stops the ink level dropping down.

Once the location has been identified, use the number in the table below to identify leaking component in the IDS circuit.

1. Between the circulation pump and the compliance chamber
2. Between the compliance chamber and the entry into the PH Module
3. Between the outlet tube entry into the PH Module and the PH couplings
4. Just above the PH inlet coupling
5. The tubing on the PH side of the pinch valve

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6. The tubing on the inlet side of the pinch valve

Once you have used the steps above and found the level where ink no longer drops, use that step number with [Table 1](#), to determine which component is failing.

Note: Do not pinch or kink the tubing after the circulation pump

Table 1 – Troubleshooting Priming Failure Locations

#	Pinch position that stopped the leak	Possible Fault
1	Between the circulation pump and the compliance chamber	Leaky tube connection to pump or leaky peristaltic pump tube
2	Between the compliance chamber and the entry into the PH Module	Leaky tube connection to compliance chamber or leaky compliance chamber
3	Between the outlet tube entry into the PH Module and the PH couplings	Leaky outlet tube connection at the tube coupling at the top of the PHM OR damaged tube on the outlet side of the PHM
4	Just above the PH inlet coupling	Leaky PH inlet OR PH outlet coupling assembly (o-rings, split tube at couplings, damaged coupling)
5	The tubing on the PH side of the pinch valve	Leaky inlet tube connection at the tube coupling at the top of the PHM OR damaged tube on the inlet side of the PHM
6	The tubing on the inlet side of the pinch valve	Leaky tube connection at the pinch valve or damaged pinch valve tubing

2.25 System Fails to Deprime

When a deprime occurs, depriming does not occur, or a deprimed printhead still contains ink.

2.25.1 Possible Cause(s)

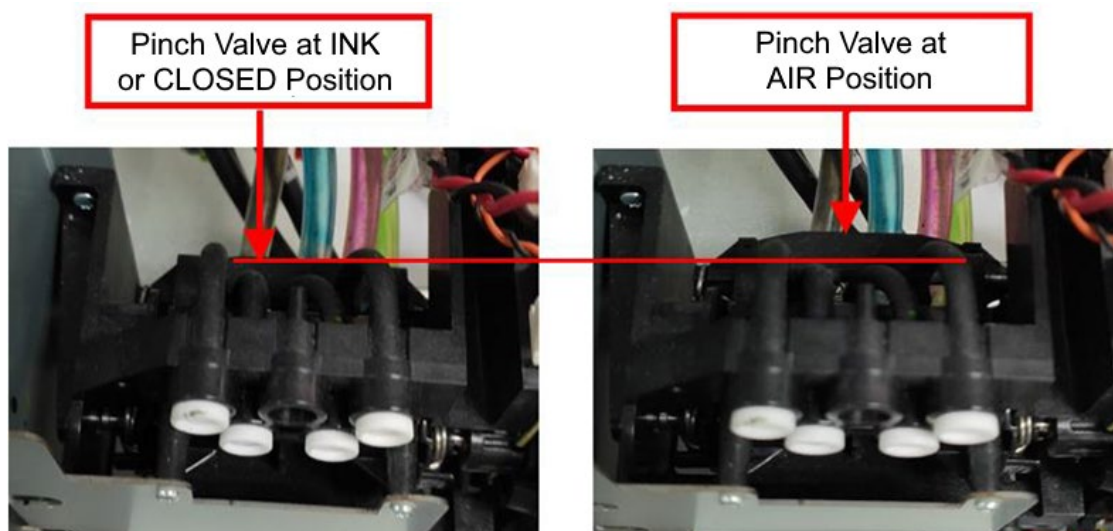
Pinch valve is not in the correct position to allow depriming to occur.

2.25.2 Resolution

To resolve this issue,

1. Initialize the print engine.
2. Initiate **Deprime** to remove ink from printhead.
3. Visually inspect and confirm that the pinch valve is at the AIR position during deprime, see [Figure 4](#).



Figure 4 – Pinch Valve at the Air Position

2.26 Wiper Jams

During system priming, the wiper unit may jam while travelling.

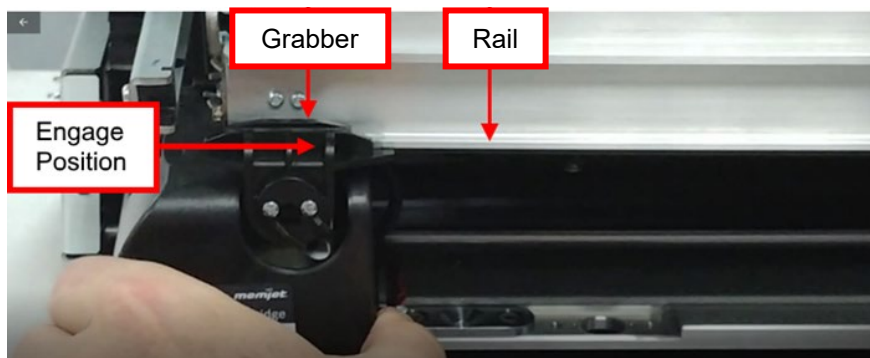
2.26.1 Possible Cause(s)

A heavy service is performed at the end of the priming process. In some cases, the waste ink vacuum pump fails to build the pressure because the wiper is not at the correct position.

CAUTION: A heavy service consumes significant waste ink and time and is not needed during normal operations. Perform rarely and only if light and medium services do not recover print quality.

2.26.2 Resolution

- Manually push the wiper to the engage position (see arrow in [Figure 5](#)) so that the waste ink pump can achieve the target pressure.
- Verify that the wiper grabber is hooked on the printhead cradle rail.

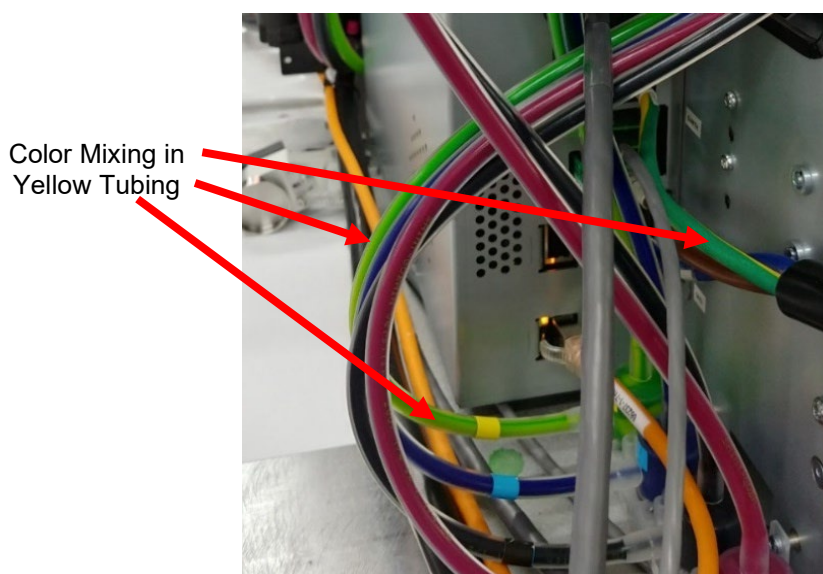
Figure 5 – Manual Wiper Movement to Check Engagement

2.27 Major Color Mixing

Color mixing is a serious problem and requires immediate attention to prevent ink contamination throughout the printer. Major color mixing is defined as any uncontrolled ink mixing inside the printer or ink tubing. If any color mixing has occurred, the OEM must drain the contaminated ink from the system and replace it with new ink using the instructions provided below.

[Figure 6](#) shows an extreme example of ink color mixing, where cyan ink is in the yellow ink return line.

Figure 6 – Color Mixing in Ink Tubing



2.27.1 Possible Cause(s)

There are several possible causes of major color mixing, which include one or more of the following:

- Fibers or external debris bridging across color channels
- Wiper not indexing, and flooded with ink
- Printhead nozzle plate is touching the wick in the cap, which causes cross ink flow
- Pinched or twisted ink tubing in the system
- Damaged or incorrectly seated o-ring coupling seals on the printhead
- Incorrectly connected or routed ink tubing
- The height of IR tank is incorrect, which leads to flooding across all colors.
- The height of the IR tank for cyan is higher than the IR tank for yellow.
- Ink foaming creates a meniscus in vent tubing or vent tank filter blockage, which builds up pressure.
- Wiper vacuum tubing is pinched.
- Cap is not draining properly.
- Internal printhead failure

2.27.2 Resolution

When color mixing occurs, the contaminated ink tubing must be drained before the problem can be assessed. Drain the contaminated ink from the system and replace it with new ink.

Note: This procedure may consume a significant amount of ink.

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Gather the items in the table before beginning this procedure.

Table 2 – Required Tools and Supplies

Quantity	Type	Description
1 set	PPE	Clothing protection (smock, jacket, etc.)
1 pair	PPE	Safety glasses
As needed	Supply	Powder-free, nitrile gloves
As needed	Supply	Lint-free wipes
As needed	Supply	Additional bulk ink supply
As needed	Tool	Waste Ink Container
1	Tool	Tubing cutter
Minimum 4	Tool	Hemostat

2.27.2.1 Assess Severity of Color Mixing

See [Figure 7](#) for ink tubing identification and locations.

- Supply Line runs from the bulk ink supply to the IR tank (in the IDS blades) via the refill pump.
- Feed Line runs from the IR tank to the printhead via the pinch valve.
- Return Line is from the printhead to the circulation pumps then IR tank.

Figure 7 – Ink Tubing Overview

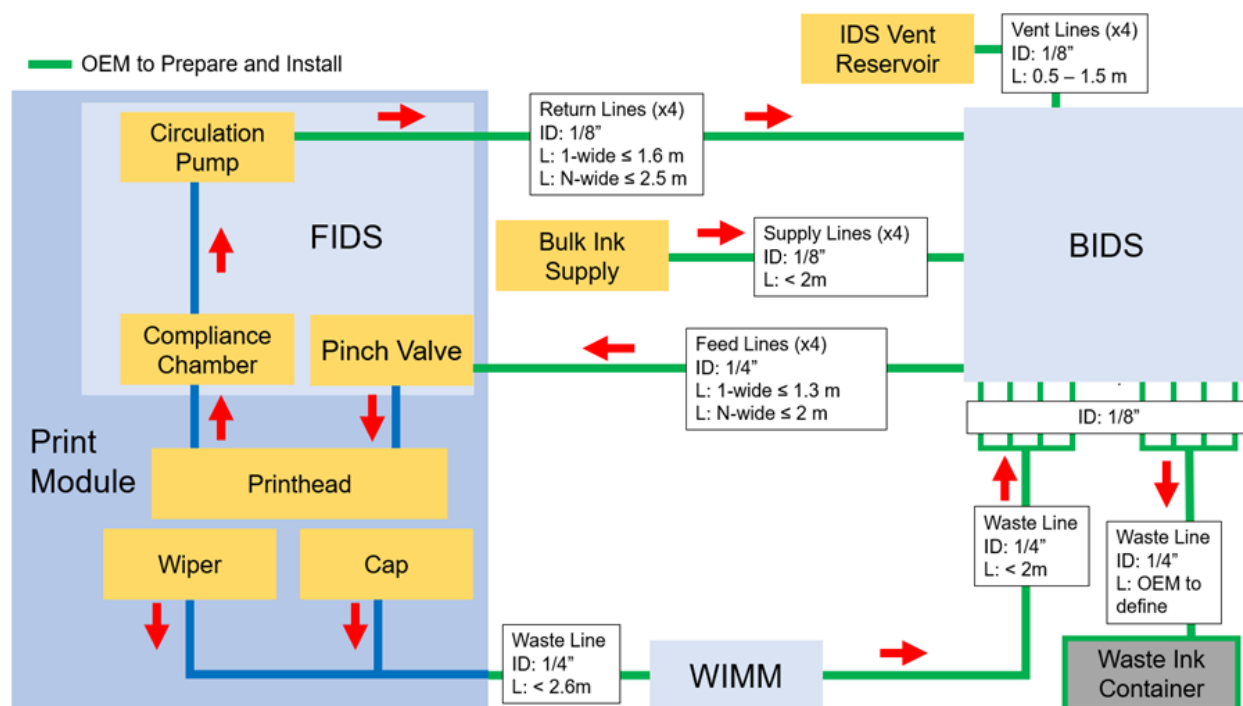
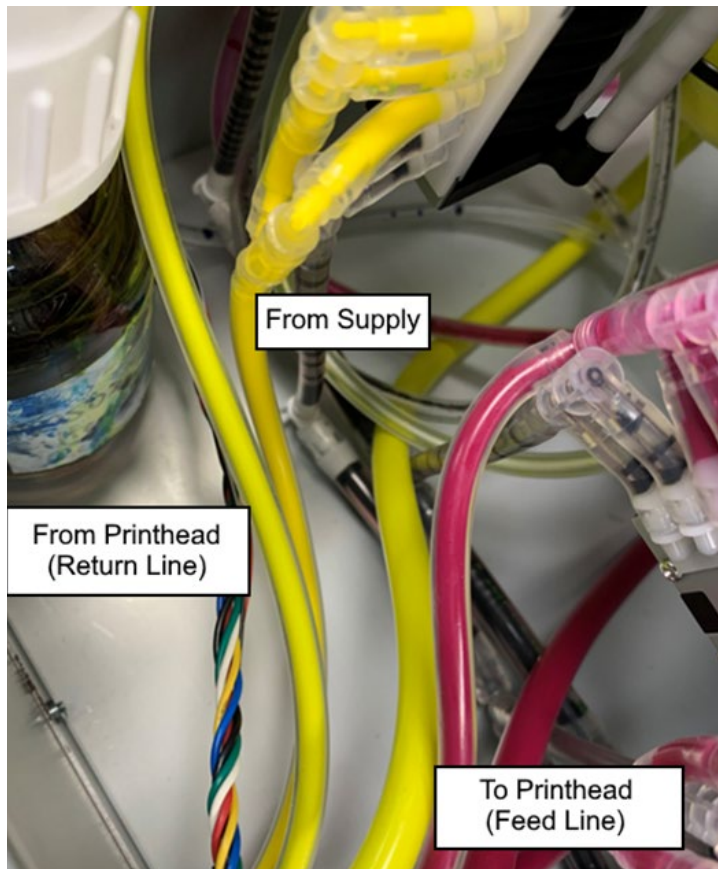


Figure 8 – Possible Contamination Locations and Tubing Names

Ink contamination will be first seen in the return line. To assess how much contaminated ink has circulated in the system, check the IDS blades/BIDS, and compare the ink color in the supply line to the ink color in the feed and return lines.

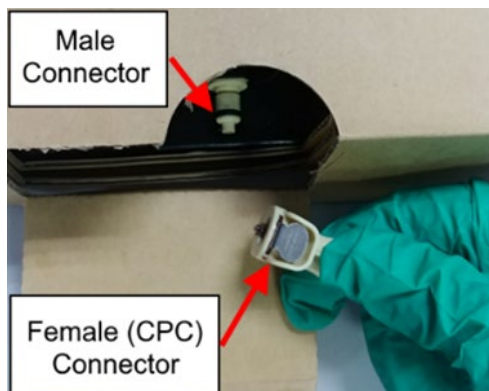
To resolve the major color mixing issue, complete the following procedure.



2.27.2.2 Ink Draining Procedure

1. Disconnect the fluidic coupling connector from the bulk ink supply. See [Figure 9](#). This will prevent the IR tank from being refilled.

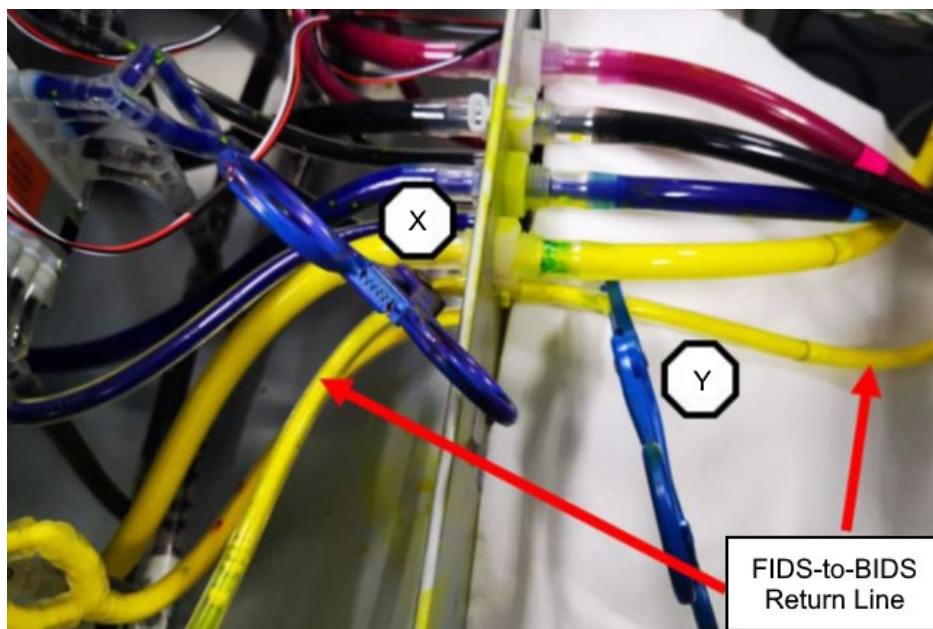
Figure 9 – Bulk Ink Supply Connectors



Note: It is easiest to see the color mixing in yellow ink. Steps in this procedure show yellow ink tubing for demonstration purposes. This method applies to all ink colors.

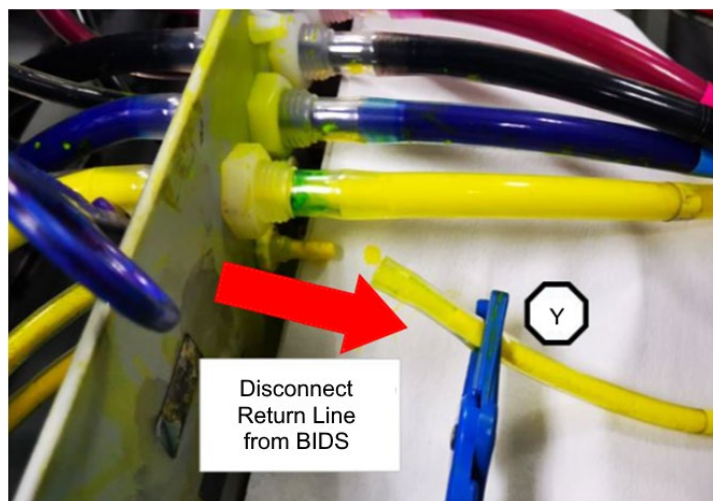
2. Install 2 hemostats to the return line at points X and Y of the color you wish to drain. This will minimize the ink leakage when disconnecting the FIDS to BIDS return line tube. See [Figure 10](#).

Figure 10 – Use Hemostats to Block Return Line (IDS Blades in Frame)



3. Keep both hemostats in place at points X and Y. Disconnect the return line only at Point Y from the BIDS. See [Figure 11](#).

Figure 11 – Disconnect Return Line (IDS Blades in Frame)



4. Insert the return line tube into a waste ink container and remove the hemostat at Point Y.
5. Insert and fix the end of the tube firmly in the waste ink container to prevent it spilling or overflowing while draining the ink tubes. See [Figure 12](#). Try to minimize contamination inside the tubing.

Figure 12 – Return Line Tubing in Foam Arrestor



6. Start the python app in the combined mode:
 - a. Open a new PuTTY terminal and remotely log in to DuraFlex using “[duraflex](#)” for both the username and password.
 - b. In the PuTTY terminal, stop the delegation service using the command:

```
systemctl stop delegation
```



- c. Enable the combined mode using the command:

```
/opt/memjet/PDL/test_rigs/latest/bin/start.py -mode=combined
```

To empty the IR tank, start circulating ink using the command: `ntp.ids.do_custom_flush(60,60)`
The contaminated ink in the system will flow into the waste ink container, the process takes approximately 1 minute. If any ink is left in the IR tank and the inlet tubes, run the command:

```
ntp.ids.do_custom_flush(10,60)
```

7. Refill the IR tank:

Reconnect the fluidic coupling connector to the bulk ink supply. This will refill the IR tank with fresh ink.

8. To flush the ink filter with fresh ink:

- a. Start circulating ink using the command: `ntp.ids.do_custom_flush(150,60)`

The circulation pumps will run for approximately 2 minutes and 30 seconds.

- b. Repeat this process until clean ink can be seen in the return line.
c. When the contaminated ink has been flushed out, exit the python app by typing: `exit()`

9. Connect the return line back to BIDS. See [Figure 13](#).

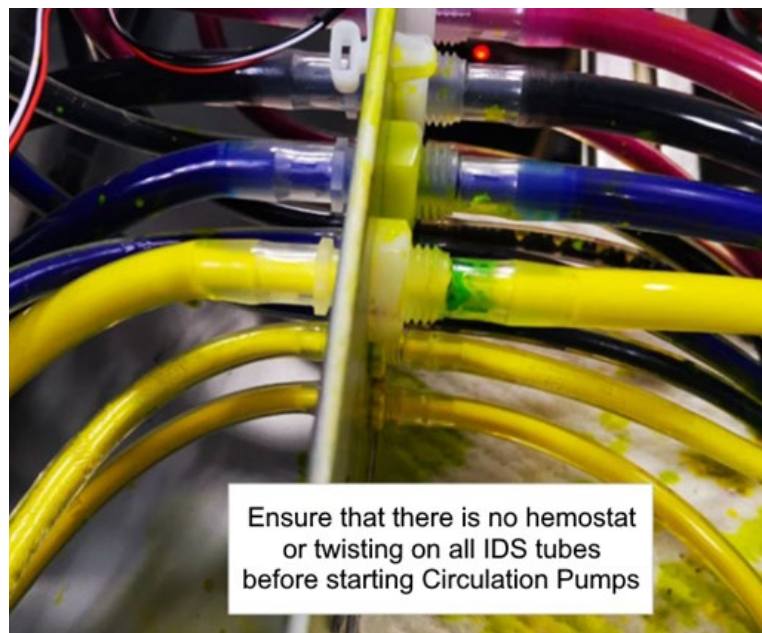
Note: Contaminated ink from the BIDS connection (inside) to the "T" connection of the supply line cannot be drained; a small amount of contaminated ink will remain.

Figure 13 – Connect Return Line (IDS Blades in Frame)



10. Remove all hemostats.
11. Check all IDS tubes to ensure that tubes are not twisted, pinched, or blocked. See [Figure 14](#).

Figure 14 – Remove Hemostats (IDS Blades in Frame)



12. In the PuTTY terminal, start the delegation service using the command:

```
systemctl start delegation
```
13. Then start priming again:
 - a. Prime the print engine.
14. Perform a light service to remove any air that may be trapped in the tubes:
 - a. Run a light service on the printhead
15. Discard all contaminated waste ink according to your local regulations.

2.27.2.3 Troubleshooting Color Mixing

1. Check for any ink drooling by visually inspecting the printhead surface and the cap wick, for any signs of excess ink.
2. Check to ensure that the IDS relative height follows the guidelines provided in the *DuraFlex Installation and Commissioning Guide*.
3. Replace the printhead with a new one that has been previously tested as internal ink mixing may have occurred inside the printhead.



2.28 Ink Foaming

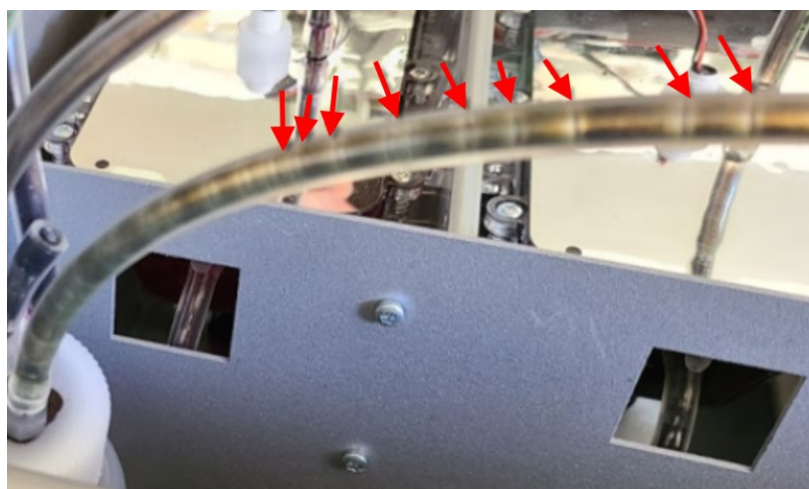
Ink foaming is a rare issue that might occur in the DuraFlex printing system. Ink foam can travel down vent tubes, fill up the IDS vent reservoir, or travel up the vent lines of other colors. This might lead to a color mixing issue.

Figure 15 – Ink Foaming (Cyan)



Ink foam can also leave multiple menisci in the vent line, which might build pressure deltas in the IR tank.

Figure 16 – Menisci in Vent Line



2.28.1 Possible Cause(s)

Multiple cycles of priming and depriming or a sustained refill pump running with an empty bulk ink supply may trigger the ink foaming issue.



2.28.2 Resolution

To minimize the chances of ink foaming, use one of the following prevention methods.

Note: The OEM must provide tubing, absorbent pad material, and separate IDS vent reservoirs (if used).

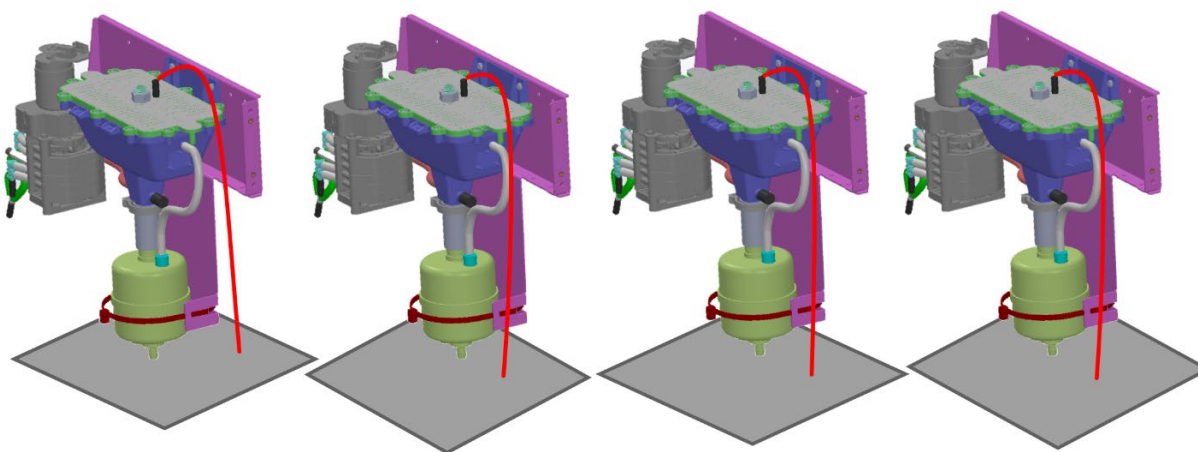
2.28.2.1 Method 1 – Absorbent Pad Under Tubes

To position the vent tubes over an absorbent pad:

1. Remove the IDS vent reservoir.
2. Place absorbent pad under each vent tubing end.

The absorbent material will catch the foam and the ink will evaporate over time.

Figure 17 – Absorbent Pads



3. Be sure that the vent tube is 250-350 mm long (maximum), which will reduce the menisci buildup.
4. Leave 30 mm radius of open space at the bottom of tubes, which will prevent the ink foam from interacting.

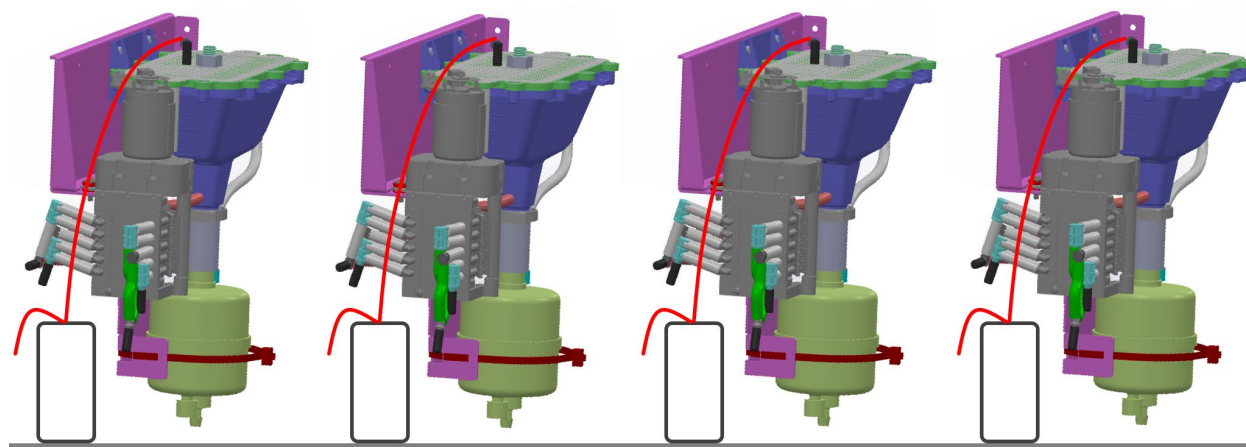


Figure 18 – Leave a 30mm Radius of Clear Space at the End of Tubing

2.28.2.2 Method 2 – Separate IDS Vent Reservoirs

To install separate IDS vent reservoirs:

1. Connect each of the four (4) tubes to a separate IDS vent reservoir. This will help prevent ink color mixing.

Figure 19 – Vent Reservoirs Connected to Each Tube

2. Place an absorbent pad under the IDS vent reservoirs in case the ink foam exceeds the volume of vent reservoir.
3. If a secondary tube is attached to the vent reservoir, be sure to maintain the total vent tubing lengths within 350 mm.



2.29 Barcode Printing Issue

The barcode print output does not reach Symbol ANSI Grade A.

2.29.1 Possible Cause(s)

The barcode width affects the print quality.

2.29.2 Resolution

Perform the following steps to reduce the barcode width:

1. Download Bartender or any other similar software application that allows barcode editing.
2. Create a blank document in Bartender.
3. Click **Barcode** and select **UPC-A** to insert a UPC-A barcode.

You may need to adjust the data source value in the Embedded Data column to generate the desired barcode (for example, 1234567890).

Figure 20 – Insert Barcode

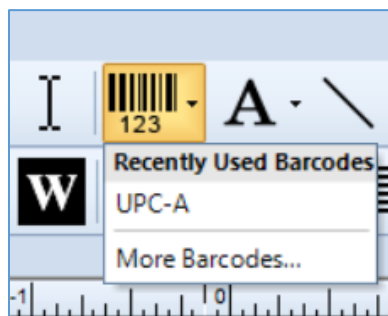
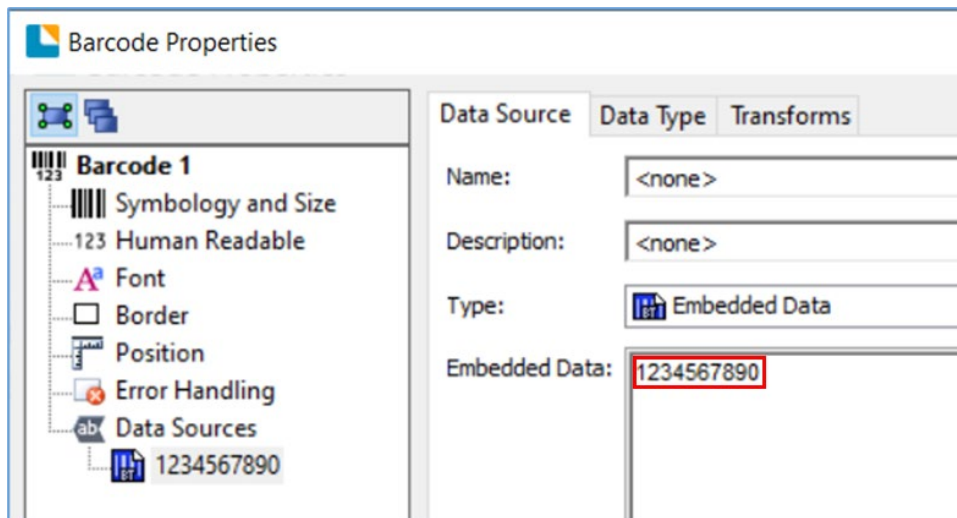
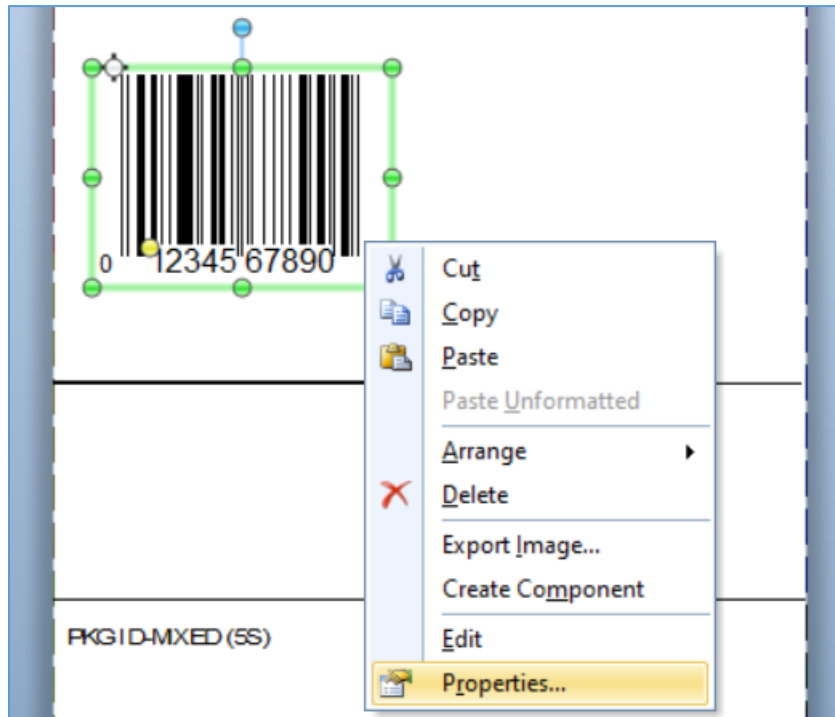


Figure 21 – Barcode Properties Window (Data Sources)



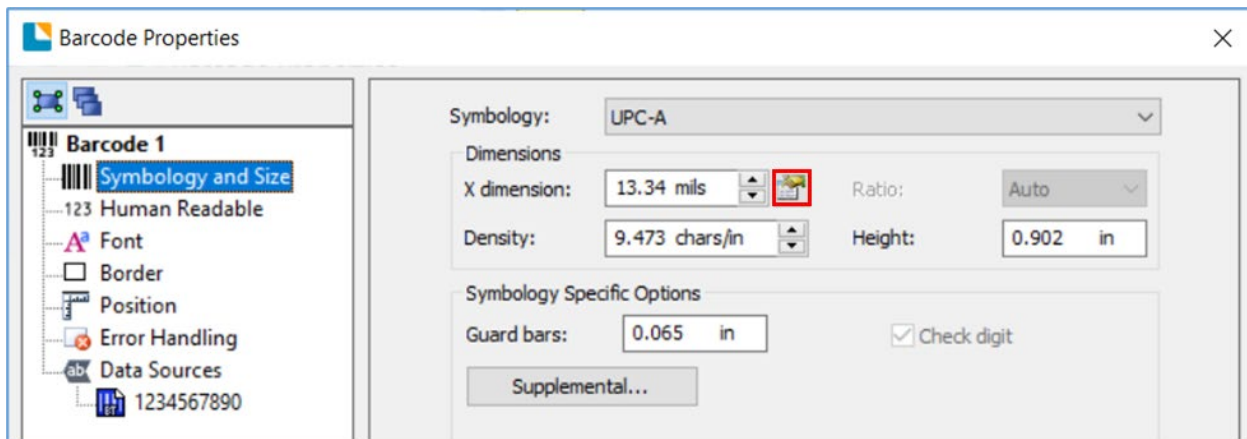
4. Right-click the UPC-A barcode and click **Properties**.

Figure 22 – Barcode Right-Click Menu



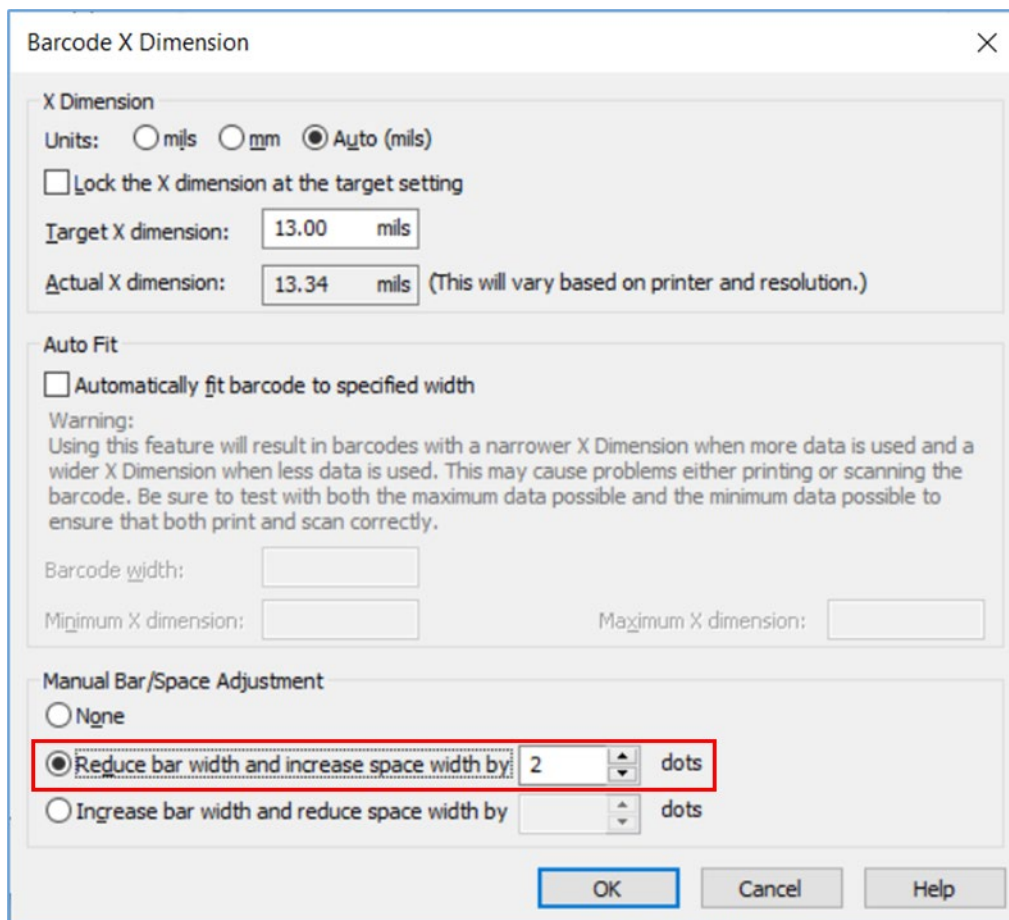
5. In the Barcode Properties window, click **Symbology and Size**.
6. Click the button at the right side of **X dimension**.

Figure 23 – Barcode Properties Window (Symbology and Size)



7. In the Barcode X Dimension window, reduce bar width by 2 dots. Click **OK**. Click **Close**.

Figure 24 – Barcode X Dimension Window

The image shows a software window titled "Barcode X Dimension" with a close button (X) in the top right corner. The window is divided into several sections. The "X Dimension" section at the top has three radio buttons for "Units": "mils", "mm", and "Auto (mils)", with "Auto (mils)" selected. Below this is a checkbox for "Lock the X dimension at the target setting", which is unchecked. There are two input fields: "Target X dimension:" with the value "13.00" and "mils", and "Actual X dimension:" with the value "13.34" and "mils". A note next to the actual dimension says "(This will vary based on printer and resolution.)". The "Auto Fit" section has a checkbox for "Automatically fit barcode to specified width", which is unchecked. Below this is a "Warning:" message: "Using this feature will result in barcodes with a narrower X Dimension when more data is used and a wider X Dimension when less data is used. This may cause problems either printing or scanning the barcode. Be sure to test with both the maximum data possible and the minimum data possible to ensure that both print and scan correctly." There are three input fields: "Barcode width:", "Minimum X dimension:", and "Maximum X dimension:". The "Manual Bar/Space Adjustment" section has three radio buttons: "None", "Reduce bar width and increase space width by:", and "Increase bar width and reduce space width by:". The "Reduce bar width and increase space width by:" option is selected and highlighted with a red rectangle. It has a numeric input field with the value "2" and a "dots" unit label. The "Increase bar width and reduce space width by:" option has an empty numeric input field and a "dots" unit label. At the bottom of the window are three buttons: "OK", "Cancel", and "Help".

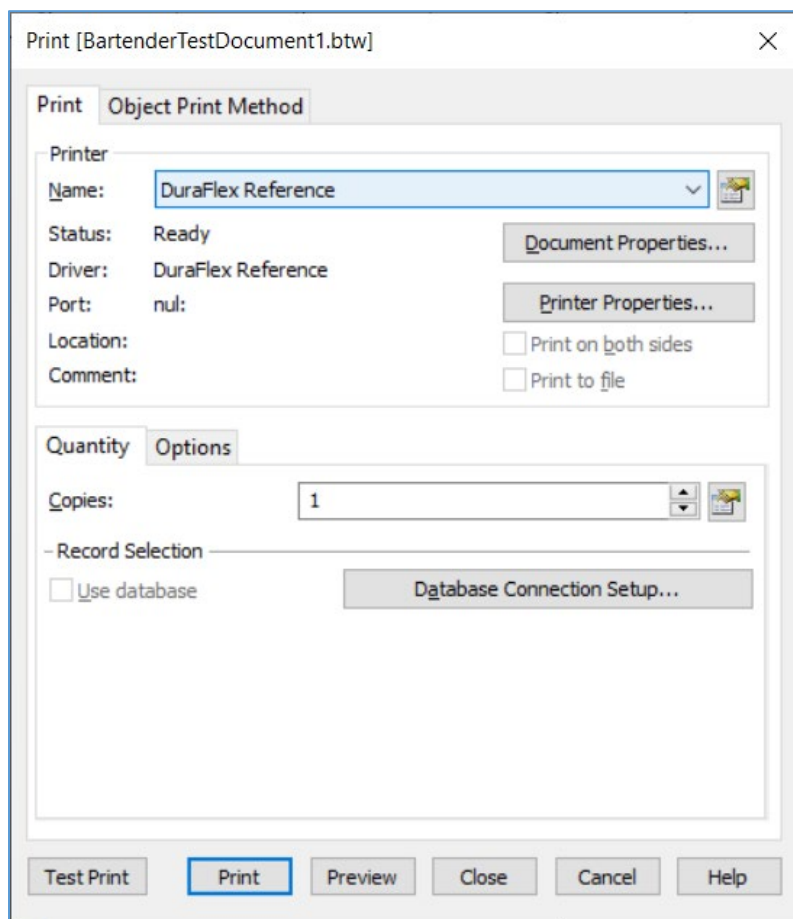
8. Click **Save** in Bartender.



9. Click **Print** on the menu bar. In the Print window, select “**DuraFlex Reference**” as the printer.

Click **Print** in the window. This will enable the Reference Host Driver to print.

Figure 25 – Print Window



10. Make sure the print engine is set to internal RIP mode.

2.30 Unsupported PDF File Name in Unicode

When the OEM is trying to print PDF files in the Internal RIP mode, kenmarecat and kenmaretotext do not support any Unicode file names.

2.30.1 Possible Cause(s)

The kenmarecat and kenmaretotext command line utilities, and the standard environments created by a Linux terminal and a Windows Command Prompt do not support providing command line arguments in Unicode.

2.30.2 Resolution

Use one of the following methods as the workaround.

- Input PDF files read by kenmarecat:



- Rename the PDF file to have an ASCII name.
- Alternatively, copy the PDF file to a temporary file with an ASCII name, and provide that ASCII file name to kenmarecat.
- Output PDF and OEM Data files written by kenmaretotext:
 - Give kenmaretotext an ASCII output file name and rename the generated file if required.

2.31 10 GbE Port Low Performance

The 10GbE port is transferring files too slowly for printing.

2.31.1 Possible Cause(s)

- An ethernet cable which is in lower specification than CAT5e or having extra length can significantly reduce the throughput.

2.31.2 Resolution

To improve the 10 GbE port performance:

1. Change the ethernet cable to CAT5e or shorten the cable.
2. Perform an iperf test. For more information, see the *DuraFlex Operations Guide*.

2.32 System Fails to Clear Job Queue

When the OEM issues a **Clear Queue** PES command `cmd_client.clearJobQueue()`, the system fails to cancel the job queue.

2.32.1 Possible Cause(s)

- The jobs in the queue exceed the maximum value (2 jobs).
- The jobs are having large file size. Therefore, the system fails to rip the files into memory.

2.32.2 Resolution

1. Reduce the number of jobs in the queue. There should be no more than 2 jobs in each queue.
2. Reduce the file size of these jobs.

2.33 Dehydration After a Mid-Job Service

2.33.1 Possible Cause(s)

During long print jobs, the ink will heat up and may cause printhead dehydration during the mid-job service, which can be seen on the first page after the servicing.

2.33.2 Resolution

Turning off the temperature regulation can reduce the chances of dehydration.

Note: It is possible that disabling temperature regulation might affect the precision of thin-line printing (e.g., 1 to 4 dots wide).



2.33.2.1 Prerequisites

Before starting the procedure:

- Request a copy of the file `99-memjet-test.xml.Treg10_60` from your Memjet Technical Account Manager (TAM).

2.33.2.2 Procedure

1. Locate the hostname of the DuraFlex print unit.
2. Use SSH to log in:

```
ssh duraflex@rs20300045.local
```

Note: Replace `rs20300045` with the actual hostname.

3. Change the directory:

```
cd /opt/memjet/duraflex/data/gymea-data-current/common/
```

4. Use the following command to display the folder contents:

```
ls -l
```

5. Review the folder contents and confirm that there is **not** a file titled:

```
99-memjet-test.xml
```

6. Disable the current RIP mode in the Terminal window:

```
dtpStop
```

7. If no such file is found, copy the file `99-memjet-test.xml.Treg10_60` into this folder and rename it:

```
sudo cp /{source_folder}/99-memjet-test.xml.Treg10_60 99-memjet-test.xml
```

Note: You may need root permissions to copy this file and use the `/tmp` folder on DuraFlex Datapath PCA as a temporary directory for file transfer.

8. Check that the new file exists:

```
ls -l
```

The command response should display the file `99-memjet-test.xml`.

9. Enable the external RIP mode:

```
dtpUseExternalRip
```

2.33.2.3 Verification

To verify that the new configuration has taken effect:

1. Print a short file.
2. In a Terminal window, send the following query:

```
echo "tcl mm get_ph_values PRINTHEAD_0" | nc rs20300045.local 9000
```

Note: Replace `rs20300045` with the actual hostname.

3. Check if the command response contains:

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```
- last preheat value: {Configured_Value}
```

- If the response contains “- last preheat value: 60”, the new parameters to disable temperature regulation are implemented. In case of unexpected results, check that the correct file is installed and the system is restarted.
- If the response contains “- last preheat value: 90”, the system is using the original settings for temperature regulation.

2.33.2.4 Recover the Original Settings

To revert to the original temperature setting:

1. Locate the hostname of the DuraFlex print unit.
2. Use SSH to log in:

```
ssh duraflex@rs20300045.local
```

Note: Replace `rs20300045` with the actual hostname.

3. Disable the current RIP mode in the Terminal window:

```
ntpStop
```

4. Remove the `99-memjet-test.xml` file which is copied earlier:

```
cd /opt/memjet/duraflex/data/gymea-data-current/common/  
rm 99-memjet-test.xml
```

5. Enable the external RIP mode in the Terminal window:

```
ntpUseExternalRip
```

The original configurations should be in effect.

6. Perform the verification in Section [2.33.2.3 Verification](#).

2.34 TOF Delay Parameter Missing in R5.0.2

2.34.1 Possible Cause(s)

- `mediaPresentDelayum` is missing in factory `hwparamstore.json` R5.0.2 version 33

2.34.2 Resolution

- The setting `mediaPresentDelayum` has changed to `defaultMediaReadyOffsetUm`, it can also be set in the PES software and Xitron has to be enabled.



3 Print Quality

Print quality (PQ) can be affected by many circumstances related to the printing system and environmental factors.

If PQ issues are present, Memjet may be able to assist by providing a detailed analysis of the prints. If PQ issues occur and diagnostics are required, follow these steps:

1. First, open a case in Service Desk, your Memjet TAM may also be able to provide additional assistance.
2. Before removing the printhead for analysis, print a PQ chart using the suspected printhead.
3. Provide the following information regarding the test print and the printing environment:
 - Media type
 - Printing speed
 - KWS level
 - Details of any induced airflow that may be present around the printhead, i.e. platen vacuum, etc.
4. Provide a clean media sample without ink on it.
5. Send the above to Memjet as per your TAM's instructions.

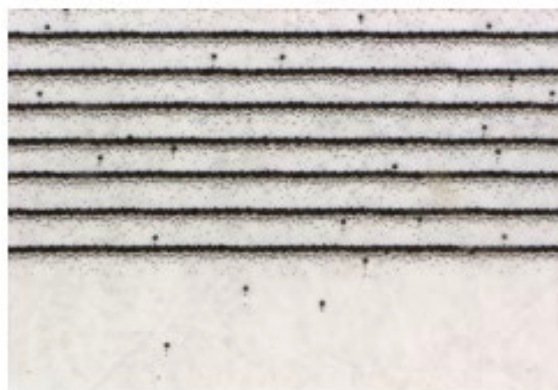
Note: In some cases, your TAM may advise returning a printhead for analysis. If directed to do so, deprime and remove the printhead and prepare and package it for shipping as per the *DuraFlex Printhead Storage and Shipping Guide* and your TAM's instructions.

3.1 Checking PPS

Print quality is sensitive to changes in PPS, the distance between the printhead nozzles and the media surface. As the PPS increases, print quality generally decreases. To ensure optimum print quality, Memjet recommends a PPS setting of:

- 0.7 mm (+0.0 mm, -0.2 mm)

Figure 26 – Print Artifacts Due to Incorrect PPS Setting



Satellites and Ink Mist



Tiger Stripes and Sand Dunes



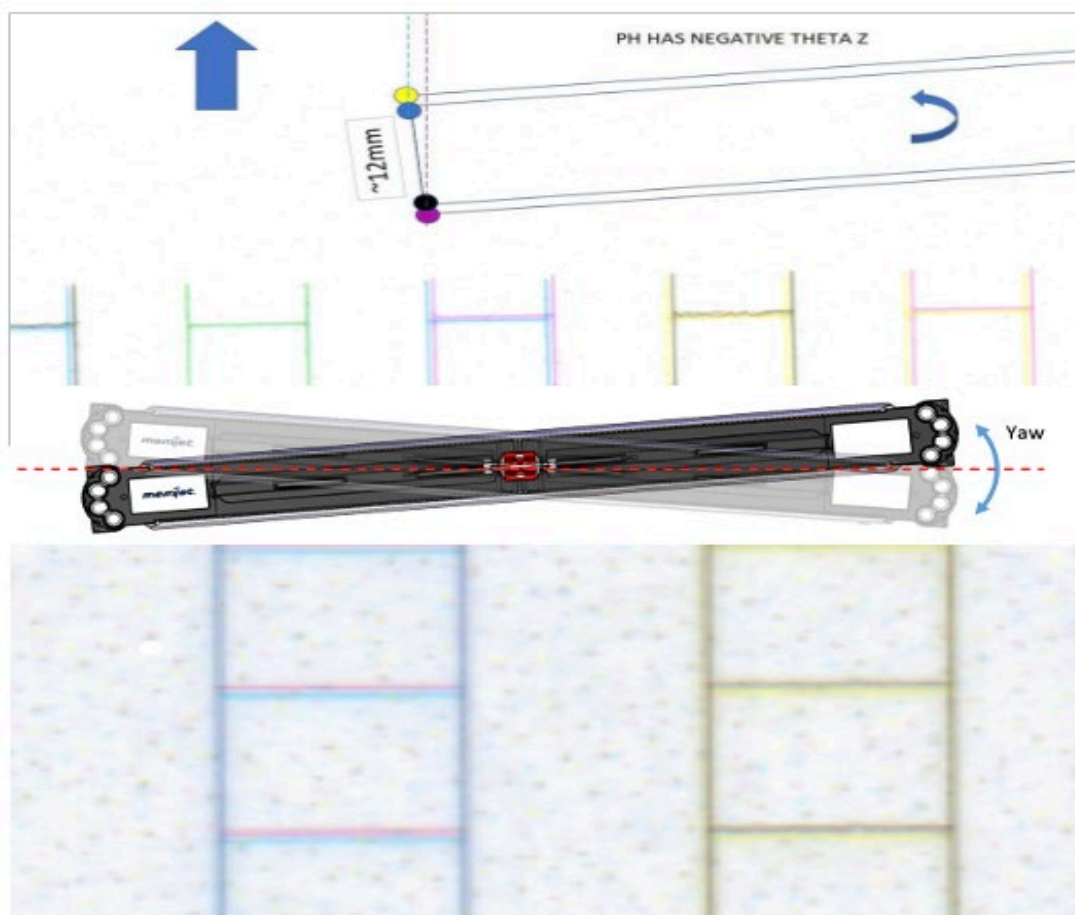
This PPS setting minimizes the detrimental (and unquantified) effects caused by factors such as nozzle directionality, deceleration of ink droplets after ejection, satellite ink droplets, ink mist media velocity, and air currents.

For more details about how to set and maintain PPS, refer to the *DuraFlex Mechanical and Fluidics Databook and Design Guide*.

3.2 Color Fringing Due to Printhead Misalignment

Color fringing occurs when the print bar mounting has exceeded specifications.

Figure 27 – Color Fringing



3.2.1 Possible Cause(s)

The print bar mounting is not within the following specifications:

- Up to $\pm 1.5^\circ$ from horizontal across the page width
- Up to $\pm 5^\circ$ from horizontal in the direction of media travel

3.2.2 Resolution

Adjust the print bar to specification, refer to the *Mechanical and Fluidic Databook and Design Guide*.



3.3 Color Mixing on Printed Output

A small amount of ink mixing occurs on prints as shown in [Figure 28](#).

Figure 28 – Color Mixing on Printed Output



3.3.1 Possible Cause(s)

- Ink flooding on the surface of the printhead.
- A loose IR tank or Ink Blade can cause the IR tank to be at the wrong height and supply the incorrect ink pressure
- The printhead left in the print position could be hit by the media
- Media/paper fibers accumulating across the nozzle face and provide a bridge from one color channel to the next
- The cap wick touching the printhead face
- Printhead leak in the back end fluidic channel, caused by impact or manufacturing damage

3.3.2 Resolution

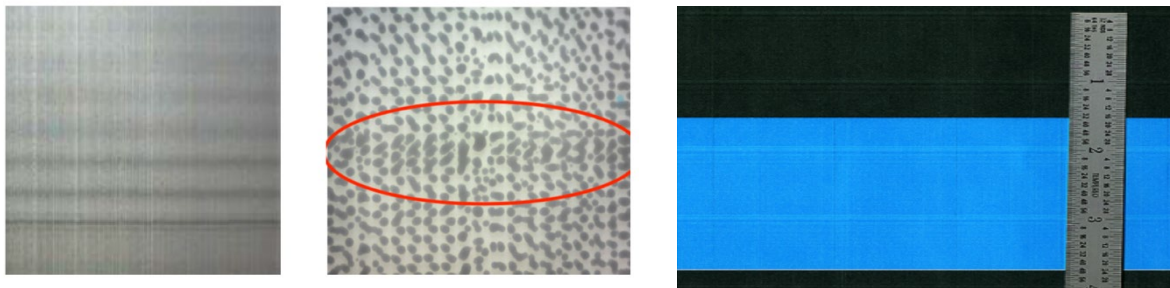
1. Perform medium service, if this resolves the issue, continue to monitor
2. Consider a medium service at the end of shift or completion of printing for the day
3. Check the tank heights to ensure the system is within specifications, look for any obstructions in tubing and correct.
4. After a head strike or paper jam, run a wipe as part of the recovery
5. If the problem persists after performing the listed mitigations, contact customer service for additional assistance.



3.4 Horizontal Banding on Printed Output

This defect is caused by a variation in dot placement due to instability within paper path, or the systems that feed in the paper or a combination of both.

Figure 29 – Example Horizontal Banding



Media Advance Banding

Dot Misplacement/Banding

3.4.1 Possible Cause(s)

- Encoder is slipping against the media, roller, or belt.
- Encoder resolution is not high enough to fulfill the required scaling factor
- This can happen if the encoder wheel gets damaged or dirty.

3.4.2 Resolution

- Ensure the encoder is functioning properly and within specification
- If applicable clean the contact area and the encoder of any debris
- Identify the cause by measuring the location and spacing between banding and identifying the like size component in the paper path causing the issue.

3.5 Image Length Varies with Print Speed

A printed image output is shorter at lower speeds.

3.5.1 Possible Cause(s)

- Encoder is slipping

3.5.2 Resolution

- Ensure the encoder is functioning properly and within specification
- Check the printed length is correct using the following steps
 1. Use the following Memjet-provided ruler files to print a ruler chart to verify print length:
[vertical_ruler_1200mm.bn1600](#)
 2. Measure the length of the printed plot.
 3. If the hard copy print output is longer or shorter than expected, change the [encoderTicksPerInch](#) setting in the [hwparamstore.json](#) file as needed.



4 Log Capturing and Analysis

This section provides guidance on how to use the event logs captured while the system is running, identify error messages, and find corresponding solutions. If you are entering a service desk case for assistance from Memjet, it is extremely useful to include a set of system logs with the service case.

4.1 Prerequisites

Before beginning the log capture process, you will need a file transfer (FTP) client and file editor, see [Table 3](#) for recommendations. Download and install the applications on the Host PC.

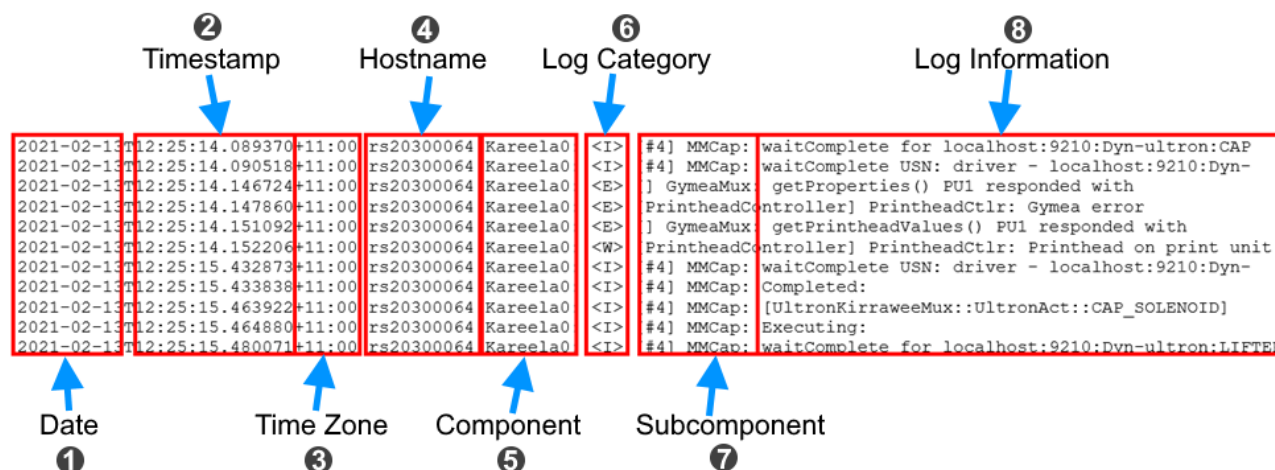
Table 3 – Suggested Applications for Log Capture Analysis

Utility	URL
Notepad++ (plain text editor)	https://notepad-plus-plus.org/downloads/
WinSCP (file transfer)	https://winscp.net/eng/downloads.php

4.2 Log Format

The DuraFlex log file tracks the activities in the printing system. Each entry in the log file records an event. The log file format is shown in Figure 30.

Figure 30 – DuraFlex Log Format



Refer to the table below for details of the data in the log file.

Table 4 – Log File Format Details

#	Item	Description	Example
1	Date	The date the system generated a log event.	2021-02-13
2	Timestamp	The time the log event occurred.	12:25:14.089370
3	Time Zone	The time zone of the print unit.	+11:00
4	Hostname	The hostname of the print unit.	Rs20300064



#	Item	Description	Example
5	Component	The component where the log event occurs. Main components include Kareela, Gynea, Kirrawee, Kenmare, and PDL. For more details, see Table 5 .	Kareela()
6	Log Category	The categories are: <C> = critical <E> = Error <I> = Info <W> = Warning <D> = Debug	<I>
7	Subcomponent	The subcomponent relevant to the log event.	[#4] MMCap:
8	Log Information	Additional details that describe the log event.	waitComplete for localhost:9210:Dyn- ultron:CAP

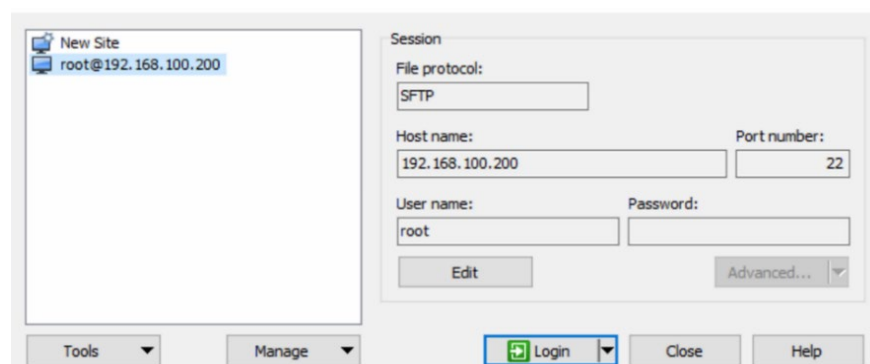
Table 5 – DuraFlex Log Components

Component	Definition
Kareela	Print Engine Supervisor (PES) interface
Gynea	High-level controller interface
PDL	Printer Development Library interface for maintenance operations
Kenmare	Internal RIP interface
Kirrawee	Hardware controller interface

4.3 Capture the Log Files

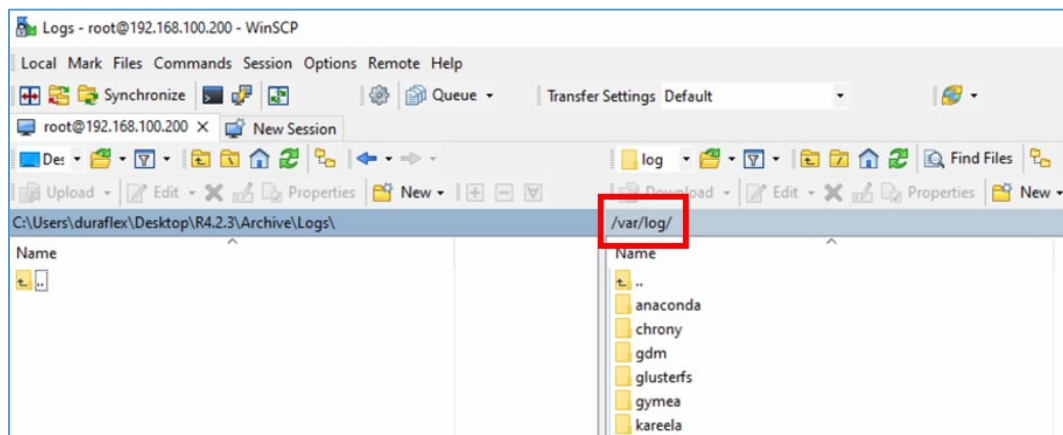
To capture the log files, use WinSCP to log in to DuraFlex.

1. Open WinSCP.
2. In the Login window, enter the values into the fields below:
 - File protocol: SFTP
 - Host name: 192.168.100.200
 - Username: root, Password: root
3. Click **Login**.

Figure 31 – WinSCP Login Window

4. In WinSCP, browse to the `/var/log/` folder to view the subfolders and files.

Figure 32 – Log Folder Location

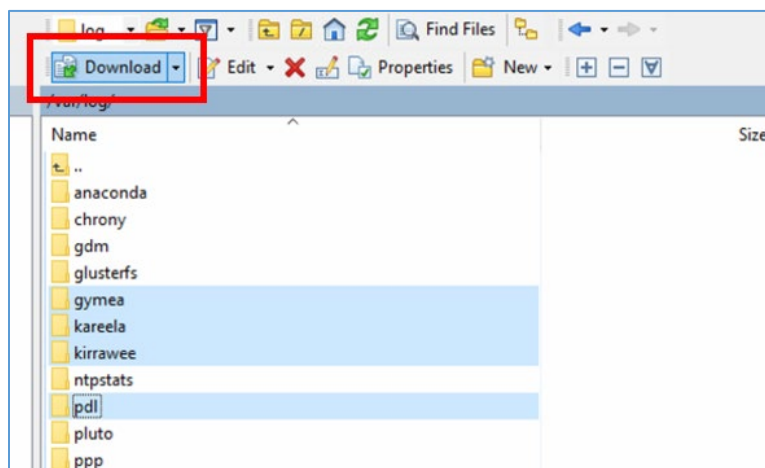


5. Select the folders named `kareela`, `Gymea`, `Kirrawee`, `Kenmare`, and `PDL`, and the file named `messages`.

Note: The `Kenmare` folder will display only when Internal RIP mode is enabled.

6. Click **Download**.

Figure 33 – Folders and Files Selected for Downloading



4.4 Log Analysis

The captured logs can be used to troubleshoot DuraFlex system issues. Troubleshooting is an iterative process and in most cases, it is a good idea to start with the Kareela log. This includes top-level PES interactions. In some cases, the issue will be quickly resolved by looking in the Kareela log, and others may require reviewing the content of the Gymea log as well.

Use the four (4) case studies below as examples of how to analyze a Kareela log or Gymea log to trace an issue back to the cause and possibly resolve it.



4.5 Case Study 1 – System Fails to Connect with Client PC

The DuraFlex system is unable to connect with the Client PC.

4.5.1 Possible Cause(s)

- Cable connection error
- Network setting error
- Comm Port conflict due to misconfigured 1G port

4.5.2 Resolution

1. Open the Kareela log.
2. Start with the most recent entry (at the bottom of the log) and search for "<E>".

Here is an example of a Kareela log error entry:

```
Kareela0: <E> [#4] EngineConductor: Algorithm failed to connect to Kirrawee or
Gymea instances. Make sure applications are accessible e.g. Are running, accessible
on the network, no other instances of Kareela are intercepting
connections.#012Failed to open connection to Gymeas@localhost:
RESULT_COMMS_ERROR.#012Failed to open connection to Ultron@localhost:
RESULT_TIMEOUT.
```

Table 6 – Kareela Log Example 1

Line Number	Log Entry
63	2021-03-11T09:18:46.359022-06:00 rs20300048 Kareela0: <I> [#4] InkTankCtrlr: Changing state from InkTankController::State::IDLE to InkTankController::State::IDLE on InkTankController::stop()
64	2021-03-11T09:18:46.359441-06:00 rs20300048 Kareela0: <I> [#4] PrintheadCtrlr: Changing state from PrintheadController::State::IDLE to PrintheadController::State::IDLE on PrintheadController::stop()
65	2021-03-11T09:18:46.359845-06:00 rs20300048 Kareela0: <I> [#4] StopControl: Finished StopControl - RESULT_OK (Error Location: NONE, Text:).
66	2021-03-11T09:18:46.360238-06:00 rs20300048 Kareela0: <E> [#4] GymeaMux: Failed to open comms to Gymea localhost:9020: Thrift exception: socket open() error: Connection refused
67	2021-03-11T09:18:46.366661-06:00 rs20300048 Kareela0: <I> [#4] InitialiseEngine: Opened connection to Kirrawee@localhost - SessionId:2.
68	2021-03-11T09:18:46.367105-06:00 rs20300048 Kareela0: <I> [#4] KirraweeMux: Added route to Dynamo localhost:Dyn-ultron at host ultron
69	2021-03-11T09:18:57.375149-06:00 rs20300048 Kareela0: <E> [#4] KirraweeMux: Ultron added but did not connect.
70	2021-03-11T09:18:57.375596-06:00 rs20300048 Kareela0: <E> [#4] InitialiseEngine:
71	2021-03-11T09:18:57.375951-06:00 rs20300048 Kareela0: <I> [#4] InitialiseEngine: Finished EstablishControl - RESULT_COMMS_ERROR (Error Location: ENGINE, Text: Failed to connect to Kirrawee or Gymea instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.#012Failed to open connection to Gymeas@localhost: RESULT_COMMS_ERROR.#012Failed to open connection to Ultron@localhost: RESULT_TIMEOUT.#012).



Line Number	Log Entry
72	2021-03-11T09:18:57.376303-06:00 rs20300048 Kareela0: <I> [#4] InitialiseEngine: Finished InitialiseEngine - RESULT_COMMS_ERROR (Error Location: ENGINE, Text: Failed to connect to Kirrawee or GyMEA instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.#012Failed to open connection to GyMEAs@localhost: RESULT_COMMS_ERROR.#012Failed to open connection to Ultron@localhost: RESULT_TIMEOUT.#012).
73	2021-03-11T09:18:57.376663-06:00 rs20300048 Kareela0: <E> [#4] EngineConductor: Algorithm failed to connect to Kirrawee or GyMEA instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.#012Failed to open connection to GyMEAs@localhost: RESULT_COMMS_ERROR.#012Failed to open connection to Ultron@localhost: RESULT_TIMEOUT.
74	2021-03-11T09:18:57.377014-06:00 rs20300048 Kareela0: <I> [#4] EngineConductor: Changing state from EngineConductor::State::INITIALISING to EngineConductor::State::HANDLING_FAULT on failed algorithm or notifyFaultDetected()
75	2021-03-11T09:18:57.377360-06:00 rs20300048 Kareela0: <I> [#4] EngineConductor: Clean-up not required for this algorithm error. (Fault occurred in EngineConductor::State::INITIALISING.)
76	2021-03-11T09:18:57.377722-06:00 rs20300048 Kareela0: <I> [#4] EngineConductor: Changing state from EngineConductor::State::HANDLING_FAULT to EngineConductor::State::FAULT on clean-up complete

- Because the error message above shows the system “Failed to open connection”, continue searching for “<E>”. Move towards the top of the file and look for connection errors.

The next error you find might be:

```
Kareela0: <E> [#4] GyMEA Mux: Failed to open comms to GyMEA localhost:9020: Thrift
exception: socket open() error: Connection refused
```

“GyMEA Mux” in the log entry identifies that the issue might be with the GyMEA multiplexer. This may also be a helpful keyword when searching logs. The phrase “Connection refused” indicates a connection issue, which can be physical, or configuration related.

- Check the cables and network settings on the Client PC to confirm proper connections. For more details, refer to the *DuraFlex Installation and Commissioning Guide*.



4.6 Case Study 2 – System Stops Printing and Enters the Fault State

The system stops printing and enters the fault state while printing a job. The Kareela log shows `RSYNC OVERRUN PEP`.

4.6.1 Possible Cause(s)

- **RSYNC** indicates encoder-related errors, meaning that the encoder is mounted incorrectly, or the web speed is too fast.

4.6.2 Resolution

1. Open the Kareela log.

Table 7 – Kareela Log Example 2

Line Number	Log Entry
9079	2021-03-18T09:57:21.498107+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 40/5, length (m) 4.414520, max media speed (mm/s) 19.375010
9080	2021-03-18T09:57:21.499023+11:00 rs20300058 Kareela0: <I> [#8] EngineConductor: PrintSessionMgr::notifyJobStatus(): 00000000000000000000000006a3131, ACTIVE, pages 40/5, length (m) 4.414520, max media speed (mm/s) 19.375010
9081	2021-03-18T09:57:21.998448+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 42/5, length (m) 4.635246, max media speed (mm/s) 19.375010
9082	2021-03-18T09:57:21.999344+11:00 rs20300058 Kareela0: <I> [#8] EngineConductor: PrintSessionMgr::notifyJobStatus(): 00000000000000000000000006a3131, ACTIVE, pages 42/5, length (m) 4.635246, max media speed (mm/s) 19.375010
9083	2021-03-18T09:57:22.498558+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 43/5, length (m) 4.745609, max media speed (mm/s) 19.375010
9084	2021-03-18T09:57:22.499151+11:00 rs20300058 Kareela0: <I> [#8] EngineConductor: PrintSessionMgr::notifyJobStatus(): 00000000000000000000000006a3131, ACTIVE, pages 43/5, length (m) 4.745609, max media speed (mm/s) 19.375010
9085	2021-03-18T09:57:22.999081+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 45/5, length (m) 4.966335, max media speed (mm/s) 19.375010
9086	2021-03-18T09:57:22.999961+11:00 rs20300058 Kareela0: <I> [#8] EngineConductor: PrintSessionMgr::notifyJobStatus(): 00000000000000000000000006a3131, ACTIVE, pages 45/5, length (m) 4.966335, max media speed (mm/s) 19.375010
9087	2021-03-18T09:57:23.499019+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 48/5, length (m) 5.297424, max media speed (mm/s) 19.375010
9088	2021-03-18T09:57:23.499414+11:00 rs20300058 Kareela0: <I> [#8] EngineConductor: PrintSessionMgr::notifyJobStatus(): 00000000000000000000000006a3131, ACTIVE, pages 48/5, length (m) 5.297424, max media speed (mm/s) 19.375010
9089	2021-03-18T09:57:23.999823+11:00 rs20300058 Kareela0: <I> [#8] JobQueueCtrl: Status change: Job 00000000000000000000000006a3131, ACTIVE, pages 50/5, length (m) 5.518150, max media speed (mm/s) 19.375010



- Kareela0: <I> [#8] JobQueueCtrlr: Completed job 00000000000000000000000006a3131, **FAILED**, JobCondition::RSYNC_OVERRUN_PEP, pages 51, media 5.629m, ejections[CYAN 92728869, MAGENTA 166359697, YELLOW 310732874, BLACK 205136444]

4. As you read through the log entries, notice that the “**FAILED**” line also includes “**RSYNC_OVERRUN_PEP**”. This is a clue that there may be an encoder issue.

```
Kareela0: <I> [#8] JobQueueCtrlr: Completed job 00000000000000000000000006a3131,
FAILED, JobCondition::RSYNC_OVERRUN_PEP, pages 51, media 5.629m, ejections[CYAN
92728869, MAGENTA 166359697, YELLOW 310732874, BLACK 205136444]
```

5. Check that the encoder is correctly mounted and connected.
6. Confirm that the web speeds match one of the recommended job speed configurations.

4.7 Case Study 3 – Error During First Prime

Attempts to prime the system from **PRIMED_IDLE** state result in an error shown in the software interface:

```
Ngq: NgqSmsClient:updateDeviceStateImpl(): Device at node0:0,1:15 missing/error
DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1), 15 error: Bus r/w
error=DEVICE_NACK, SMS error: LSS_ERROR[3, 0, 0, 0]
```

4.7.1 Possible Cause(s)

- The cables to the bulk ink supplies are faulty or not properly connected.
- The Quality Assurance (QA) chips on the bulk ink supply are faulty or not properly connected.

The QA chip reports how much ink is left in the bulk ink supply.

4.7.2 Resolution

1. Open the Kareela log.

Table 8 – Kareela Log Example 3

Line Number	Log Entry
1118	2021-06-25T17:26:04.365420+02:00 rs20300188 Kareela0: <I> [#4] Prime: Finished Prime - RESULT_DEV_ERR (Error Location: PIPELINE, Text: Gynea error RESULT_DEV_ERR: responses: Attempt to check VC for color magenta failed.Gynea endpoint - localhost: Failed to get supported consumable properties: RESULT_DEV_ERR Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO).
1119	2021-06-25T17:26:04.366298+02:00 rs20300188 Kareela0: <E> [#4] EngineConductor: Algorithm failed Gynea error RESULT_DEV_ERR: responses: Attempt to check VC for color magenta failed.Gynea endpoint - localhost: Failed to get supported consumable properties: RESULT_DEV_ERR Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO
1120	2021-06-25T17:26:04.367181+02:00 rs20300188 Kareela0: <I> [#4] EngineConductor: Changing state from EngineConductor::State::SERVICING to EngineConductor::State::HANDLING_FAULT on failed algorithm or notifyFaultDetected()



Line Number	Log Entry
1121	2021-06-25T17:26:04.368070+02:00 rs20300188 Kareela0: <I> [#4] EngineConductor: Cleaning-up after fault
1122	2021-06-25T17:26:04.368767+02:00 rs20300188 Kareela0: <I> [#4] DelegatedAlgorithm: Starting AttemptMakeSafe(delegated):#012 maxDurationMs: 300000#012 operation.param: #012 jsonParams_1: #012 printUnits: 1#012 statusStore: { "fileFormatVersion" : 3, "printUnit1" : { "cap_spit_count" : 2147483647, "capped_time_since_last_spit" : 1751.536091, "is_capped" : true, "is_primed" : false, "jobs_since_last_wipe" : 2147483647, "last_cap_spit_event_time" : "2021-06-25T17:25:38.085386+02:00", "last_declog_time" : "1970-01-01T01:00:00.000000+01:00", "last_flush_time" : "1970-01-01T01:00:00.000000+01:00", "last_heavy_service_time" : "1970-01-01T01:00:00.000000+01:00", "last_print_time" : "2021-06-25T15:20:26.153710+02:00", "last_rosc_time" : "1970-01-01T01:00:00.000000+01:00", "last_spit_time" : "1970-01-01T01:00:00.000000+01:00", "meters_since_last_wipe" : 2147483647, "pages_since_last_wipe" : 2147483647, "uncapped_time_since_last_spit" : 5760.395577, "wiper index count" : 0, "wipes since last index" : 2147483647 } }
1123	2021-06-25T17:26:04.371420+02:00 rs20300188 Kareela0: <I> [#4] MaintDelegate: Requesting operation AttemptMakeSafe...
1124	2021-06-25T17:26:04.378698+02:00 rs20300188 Kareela0: <I> [#4] MaintDelegate: Server accepted operation AttemptMakeSafe
1125	2021-06-25T17:26:06.813632+02:00 rs20300188 Kareela0: <I> [#4] DelegatedAlgorithm: Finished AttemptMakeSafe(delegated) - RESULT_OK (Error Location: NONE, Text:).
1126	2021-06-25T17:26:06.814576+02:00 rs20300188 Kareela0: <I> [#4] EngineConductor: Changing state from EngineConductor::State::HANDLING_FAULT to EngineConductor::State::FAULT on clean-up complete
1127	2021-06-25T17:26:06.815427+02:00 rs20300188 Kareela0: <I> [InkTankController] InkTankCtrlr: EngineConductor changed state to EngineConductor::State::FAULT; setting ink fill regulator timeout to: 120
1128	2021-06-25T17:26:06.816276+02:00 rs20300188 Kareela0: <I> [#2] EventAdapter: mapped ErrorInfo::ErrorLocation::PIPELINE to FaultLocation::PIPELINE

2. Start with the most recent entry (at the bottom of the log) and search for "<E>".

Here is an example of a Kareela log error entry:

```
2021-06-25T17:26:04.366298+02:00 rs20300188 Kareela0: <E> [#4] EngineConductor:
Algorithm failed Gymea error RESULT_DEV_ERR: responses: Attempt to check VC for
color magenta failed. Gymea endpoint - localhost: Failed to get supported
consumable properties: RESULT_DEV_ERR Outstanding actuators: localhost:9210:Dyn-
ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO Outstanding actuators:
localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO
```

VC is the abbreviation for virtual consumables. The QA chip reports how much ink is left in the bulk ink supply as VC. The errors associated with QA chip usually display in the Gymea log.

3. Open the Gymea log.

Table 9 – Gymea Log Example 1

Line Number	Log Entry
3840	2021-06-25T17:25:32.145770+02:00 rs20300188 Gymea0: <I> [TelnetServer] TclCmd: tcl npsc set pin function IN MEDIA READY OUTPUT_LOW

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Line Number	Log Entry
3841	2021-06-25T17:25:32.146648+02:00 rs20300188 Gynea0: <I> [TelnetServer] TcIRsp: OUTPUT_LOW (0 ms)
3842	2021-06-25T17:25:33.551830+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3843	2021-06-25T17:25:38.629600+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3844	2021-06-25T17:25:43.707591+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3845	2021-06-25T17:25:48.784528+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3846	2021-06-25T17:25:53.860961+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3847	2021-06-25T17:25:54.232129+02:00 rs20300188 Gynea0: <D> [] QaLssMgr: RIT_M, getSupportedConsumableProperties(), device status NOT_PRESENT
3848	2021-06-25T17:25:54.233111+02:00 rs20300188 Gynea0: <E> [] GyneaThrift: getVcs(RIT M): Failed to get supported consumable properties: RESULT_DEV_ERR
3849	2021-06-25T17:25:58.949826+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3850	2021-06-25T17:26:04.026307+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3851	2021-06-25T17:26:04.364022+02:00 rs20300188 Gynea0: <D> [] GyneaThrift: preparePhForRemovalAsync()
3852	2021-06-25T17:26:04.364728+02:00 rs20300188 Gynea0: <D> [] GyneaThrift: preparePhForRemovalAsync(): RESULT_EXISTS Printhead already removed.
3853	2021-06-25T17:26:04.380282+02:00 rs20300188 Gynea0: <I> [TelnetServer] TcICmd: tcl npsc set media present DISABLE
3854	2021-06-25T17:26:04.380704+02:00 rs20300188 Gynea0: <I> [TelnetServer] TcIRsp: OK (0 ms)
3855	2021-06-25T17:26:04.384743+02:00 rs20300188 Gynea0: <I> [TelnetServer] TcICmd: tcl npsc set row sync DISABLE
3856	2021-06-25T17:26:04.385188+02:00 rs20300188 Gynea0: <I> [TelnetServer] TcIRsp: OK (0 ms)

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Line Number	Log Entry
3857	2021-06-25T17:26:09.102818+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3858	2021-06-25T17:26:14.179898+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3859	2021-06-25T17:26:19.256477+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3860	2021-06-25T17:26:24.332827+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3861	2021-06-25T17:26:29.410015+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)
3862	2021-06-25T17:26:34.487039+02:00 rs20300188 Gynea0: <D> [NgQaLssMgr_Poll] Ngq: NgqSmsClient::updateDeviceStateImpl(): Device at node0:0,1:15 missing/error DEVICE_NOT_PRESENT, DEVICE_ACCESS_HW, Device at bus1(bus1).15 error: Bus r/w error=DEVICE_NACK, SMS error: LSS_ERROR [3, 0, 0, 0] [result=DEVICE_NACK, nack=0, bus=0, address=0] (404:10:405)

4. Look for the log entries within the same timeframe as the error in the Kareela log. In this example, look for: **2021-06-25T17:26:04**.

You may find some entries preceding the timestamp, such as:

- **2021-06-25T17:25:54.232129+02:00 rs20300188 Gynea0: <D> [] QaLssMgr: RIT_M, getSupportedConsumableProperties(), device status NOT_PRESENT**
- **2021-06-25T17:25:54.233111+02:00 rs20300188 Gynea0: <E> [] GyneaThrift: getVcs(RIT_M): Failed to get supported consumable properties: RESULT_DEV_ERR**

The message “Failed to get supported consumable properties: RESULT_DEV_ERR” indicates a QA chip communication issue, which can be physical- or configuration-related.

5. To resolve this issue, perform the following steps:

- Disconnect and reconnect the suspected cable(s) to verify that they are working. If they are still not working, replace the faulty cable(s).
- Confirm the connections to the QA chips on the bulk ink supplies (starting with the one reporting the failed connection).
- Replace any ink tanks that have QA chips that have failed.



4.8 Case Study 4 – Printhead Power Error

The software interface displays the `PRINthead_POWER` error.

4.8.1 Possible Cause(s)

The cables between the Mechanical Controller PCA and the Printhead Power PCAs are faulty or not properly connected.

4.8.2 Resolution

1. Open the Kareela log.

Table 10 – Kareela Log Example 4

Line Number	Log Entry
16908	2021-07-24T09:11:18.128806+10:00 rs20300150 Kareela0: <I> [#5] EngineConductor: Changing state from PrintSessionMgr::State::MID_JOB to PrintSessionMgr::State::PRINT_READY on success
16909	2021-07-24T09:11:18.129672+10:00 rs20300150 Kareela0: <I> [#5] EngineConductor: waiting for mStateTriggerEvent, state: PrintSessionMgr::State::PRINT_READY
16910	2021-07-24T09:11:18.293929+10:00 rs20300150 Kareela0: <E> [] GyneaMux: getPrintheadValues() PU1 responded with RESULT_NOT_READY - Error opening LSS bus
16911	2021-07-24T09:11:18.294789+10:00 rs20300150 Kareela0: <E> [PrintheadController] PrintheadCtrlr: Gynea error RESULT_NOT_READY: responses: Failed to get printhead values. Error at localhost: Error opening LSS bus
16912	2021-07-24T09:11:18.371333+10:00 rs20300150 Kareela0: <I> [] EngineConductor: PrintSessionMgr::startPrinting(): mState PrintSessionMgr::State::PRINT_READY
16913	2021-07-24T09:11:18.374033+10:00 rs20300150 Kareela0: <I> [] EngineConductor: scheduleMidJobService(): pagesSinceLastWipe=0, metersSinceLastWipe=0.000000

2. Start with the most recent entry (at the bottom of the log) and search for “<E>”.

Here is a couple of examples of Kareela log errors:

- 2021-07-24T09:11:18.293929+10:00 rs20300150 Kareela0: <E> [] GyneaMux: getPrintheadValues() PU1 responded with RESULT_NOT_READY - **Error opening LSS bus**
- 2021-07-24T09:11:18.294789+10:00 rs20300150 Kareela0: <E> [PrintheadController] PrintheadCtrlr: **Gynea error RESULT_NOT_READY: responses: Failed to get printhead values. Error at localhost: Error opening LSS bus**

The error message above shows “Gynea”. This is a clue that there is a Gynea issue.

3. Open the Gynea log.

Table 11 – Gynea Log Example 2

Line Number	Log Entry
208346	2021-07-24T09:11:18.144449+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.
208347	2021-07-24T09:11:18.255522+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.

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Line Number	Log Entry
208348	2021-07-24T09:11:18.288029+10:00 rs20300150 Gynea0: <D> [] GyneaThrift: getPrintheadValuesAsync()
208349	2021-07-24T09:11:18.288933+10:00 rs20300150 Gynea0: 21.3.6 unknown-PH2 unknown BLOCKED PH SF Voltage In Range
208350	2021-07-24T09:11:18.289768+10:00 rs20300150 Gynea0: <W> [] Bist: 21.3.6 unknown-PH2 unknown BLOCKED PH SF Voltage In Range
208351	2021-07-24T09:11:18.290598+10:00 rs20300150 Gynea0: 21.3.17 unknown-PH2 unknown FAIL PH SF Communications
208352	2021-07-24T09:11:18.291453+10:00 rs20300150 Gynea0: <C> [] Bist: 21.3.17 unknown-PH2 unknown FAIL PH SF Communications
208353	2021-07-24T09:11:18.292288+10:00 rs20300150 Gynea0: <E> [] ResourceMgr: getPrintheadValues() printhead device guard returned RESULT NOT_READY
208354	2021-07-24T09:11:18.293096+10:00 rs20300150 Gynea0: <D> [] GyneaThrift: getPrintheadValuesAsync(): RESULT NOT_READY Error opening LSS bus
208355	2021-07-24T09:11:18.366382+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.

4. Look for the log entries within the same timeframe as the error in the Kareela log. In this example, look for: **2021-07-24T09:11:18**.

You may find some entries, such as:

- **2021-07-24T09:11:18.293096+10:00 rs20300150 Gynea0: <D> [] GyneaThrift: getPrintheadValuesAsync(): RESULT_NOT_READY Error opening LSS bus**
- **2021-07-24T09:11:18.366382+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.**

5. Because the error message above shows the keyword “Printhead”, search further up the log file for relevant errors.

Table 12 – Gynea Log Example 3

Line Number	Log Entry
208318	2021-07-24T09:11:13.548053+10:00 rs20300150 Gynea0: <I> [TelnetServer] TclRsp: Ink Consumed quanta: Y:12935 (40 ms)
208319	2021-07-24T09:11:16.882821+10:00 rs20300150 Gynea0: 21.3.4 unknown-PH2 unknown FAIL PH Hardware Interface Communications
208320	2021-07-24T09:11:16.883709+10:00 rs20300150 Gynea0: <E> [PrintheadHardware] PrintheadHardware: PH2: Can't getProperty WATCHDOG_RESET of Ph-LAGGING on 59ltron (RESULT COMMS ERROR - Watchdog reset failed)
208321	2021-07-24T09:11:16.884504+10:00 rs20300150 Gynea0: <C> [PrintheadHardware] Bist: 21.3.4 unknown-PH2 unknown FAIL PH Hardware Interface Communications
208322	2021-07-24T09:11:16.885287+10:00 rs20300150 Gynea0: <E> [PrintheadHardware] QaLssMgr: Asynchronous LSS bus segment failure PRINTHEAD 1.
208323	2021-07-24T09:11:16.897143+10:00 rs20300150 Gynea0: <I> [PrintheadHardware] PrintheadHardware: Create printhead driver Ph-LAGGING on 59ltron targeting LAGGING
208324	2021-07-24T09:11:16.898077+10:00 rs20300150 Gynea0: 21.3.4 unknown-PH2 unknown PASS PH Hardware Interface Communications
208325	2021-07-24T09:11:16.898966+10:00 rs20300150 Gynea0: <N> [PrintheadHardware] Bist: 21.3.4 unknown-PH2 unknown PASS PH Hardware Interface Communications
208326	2021-07-24T09:11:16.924841+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.
208327	2021-07-24T09:11:16.925776+10:00 rs20300150 Gynea0: <E> [] ResourceMgr: Printhead error (failed PH set: {1}): RESULT_DEV_ERR (0x20000 = UNKNOWN_ERROR, 0xffff)

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Line Number	Log Entry
208328	2021-07-24T09:11:16.926630+10:00 rs20300150 Gynea0: <C> [] Bist: 21.3.19 unknown unknown FAIL PHs Powered
208329	2021-07-24T09:11:16.927494+10:00 rs20300150 Gynea0: 21.3.19 unknown unknown FAIL PHs Powered
208330	2021-07-24T09:11:16.928341+10:00 rs20300150 Gynea0: <D> [] ResourceMgr: calling onResourceStatusUpdate()
208331	2021-07-24T09:11:16.929162+10:00 rs20300150 Gynea0: <D> [] JobMgr: onResourceStatusUpdate(ERROR PH PWR)
208332	2021-07-24T09:11:16.929999+10:00 rs20300150 Gynea0: <D> [JobMgr] JobMgr: Ignoring ResourceMgr status update because job is currently being cancelled.
208333	2021-07-24T09:11:16.932535+10:00 rs20300150 Gynea0: 21.3.4 unknown-PH2 unknown FAIL PH Hardware Interface Communications
208334	2021-07-24T09:11:16.933399+10:00 rs20300150 Gynea0: <E> [PrintheadHardware] PrintheadHardware: PH2: Can't setProperty RESET_A_OVERRIDE_ACTIVE of Ph-LAGGING on 60ltron (RESULT COMMS ERROR - Error setting reset A override value)
208335	2021-07-24T09:11:16.933793+10:00 rs20300150 Gynea0: <C> [PrintheadHardware] Bist: 21.3.4 unknown-PH2 unknown FAIL PH Hardware Interface Communications
208336	2021-07-24T09:11:17.035843+10:00 rs20300150 Gynea0: <W> [] Memjet: translateHwFault(): Printhead (1) HW Interface reports failure: UNKNOWN HW ERR.

You may find an error message, such as:

```
2021-07-24T09:11:16.885287+10:00 rs20300150 Gynea0: <E> [PrintheadHardware]
QaLssMgr: Asynchronous LSS bus segment failure PRINthead_1.
```

The phrase “Asynchronous LSS bus segment failure” indicates an LSS communication issue over an I2C cable (CBL_EM_TO_PH_BOARD_COMM).

There are two (2) I2C cables for the leading and lagging Printhead Power PCAs. The log shows `Printhead (1)` or `PRINthead_1` for the lagging cable, and `Printhead (2)` or `PRINthead_2` for the leading cable. In this example, the lagging cable is having some issues.

- Confirm that the I2C cable between the Mechanical Controller PCA and the Printhead Power PCA (lagging in this case) is properly connected and working (see Section [2.4 System Fails to Initialize after Software Upgrade](#) for the commands). If not, replace the cable.



5 Troubleshooting LEDs

The DuraFlex system uses various LEDs to assist with monitoring and troubleshooting the system during initialization, operation, and failure modes. The various LEDs are described below.

5.1 Printhead Power PCA LEDs

The Printhead Power PCA is in the Printhead cradle. There are 2 PCAs, and the LEDs are mirrored on each PCA. The status LED for the leading Printhead Power PCA is visible from the rear of the Printhead module. The status LED for the lagging Printhead Power PCA is visible from the front of the Printhead module.

The location of each LED is provided in [Figure 34](#), and [Table 13](#) explains the LED color and details of the LEDs signals.

Figure 34 – DuraFlex Headboard LED Locations

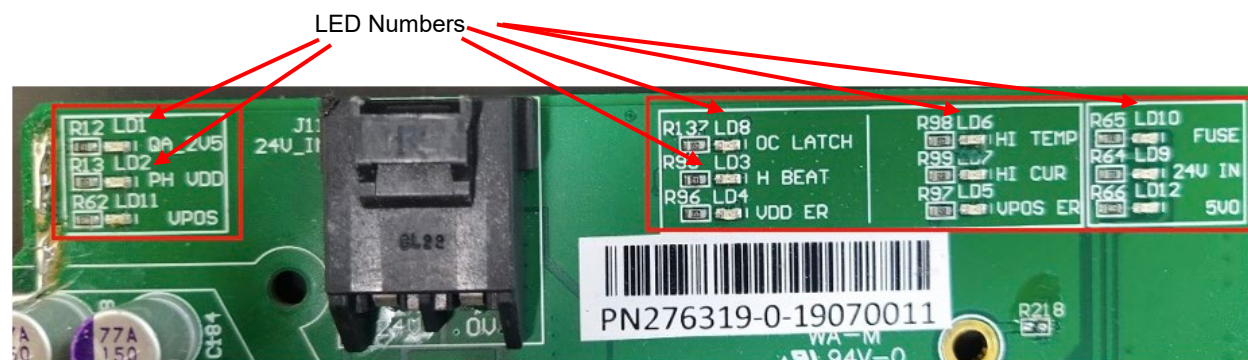


Table 13 – Printhead Power PCA LED Color and Description

#	Definition	Color	Appearance	Status / Description
LD1	QA 2V5	Green	Always on	LED will be lit when QA is being accessed
LD2	PH Vdd	Green	Always on	LED is lit if Vdd voltage on PH is correct
LD11	Vpos	Green	Always on	LED is lit if Vpos voltage to printhead is correct
LD8	OC Latch (Overcurrent)	Red	Steady	If LED is lit, overcurrent has been detected at some point.
LD3	Heartbeat	Yellow	1Hz flash	LED flashes at 1Hz during normal operational
			4Hz flash	If LED flashes 4 Hz, communication has been lost with PES
LD4	Vdd error	Red	Always on	If LED is lit, Vdd voltage error detected
LD6	High Temp	Red	Always on	If LED is lit, high temperature detected
LD7	High current	Red	Always on	If LED is lit, high current fault detected
LD5	Vpos error	Red	Always on	If LED is lit, Vpos error has occurred
LD10	Fuse	Red	Always on	If LED is lit fuse has blown
LD9	24V in	Green	Always on	24V power supply is connected and is active
LD12	5V0	Green	Always on	5V power supply is connected and is active



5.2 Datapath PCA (Ross Board) LEDs

The Datapath PCA is enclosed within the electrical enclosure and the LEDs on the PCA are not visible except when viewed from the top as per [Figure 35](#). The boot process is visible via the LEDs in [Table 14](#).

Figure 35 – DuraFlex Headboard



Table 14 – Datapath PCA LED Color and Description

LED Color	Frequency	Status
Red	4Hz (fast)	On power up, the LED will display this pattern as the boot code is not loaded.
Green	4Hz (fast)	Once the boot code is loaded, the LED will switch to the fast green pattern. If the operating system needs to update the Glenbeigh image, then it may continue to emit a fast green flash until the operating system boots and can update the image.
Green	1 Hz	Software is loaded

5.3 Mechanical Controller PCA (Ultron Board) LEDs

The Mechanical Controller PCA uses an LED to indicate the status of the fuse, shown in [Figure 36](#).

Figure 36 – DuraFlex Mechanical Controller PCA Fuse Indication LED

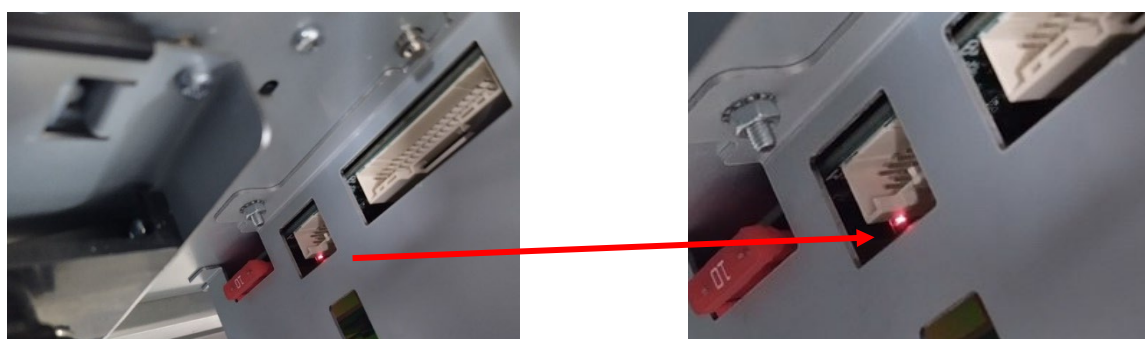


Table 15 – Datapath PCA Fuse Status Indication LED

LED Color	Status	LED Color	Status
Green	Fuse working	Red	Fuse has blown



6 Common Error Codes

6.1 GyMEA, Kareela, and Kirrawee Common Error Codes

Table 16 provides a list of error codes from Gynea, Kareela or Kirrawee logs and a recommendation on how to resolve the issue or a link to the symptom section of the document that outlines a resolution.

See Section [4 Log Capturing and Analysis](#) for log locations and how to retrieve the logs.

Table 16 – Xitron RIP Error Messages and Recommended Fixes

[illegible]

RESULT_BAD_PARAM <ul style="list-style-type: none"> Connectivity issue over the I2C cable, or power or hardware failure with the lagging headboard. See Section 2.5 for more details. 	<pre>2021-05-20T07:01:14.153477+10:00 rs203000xx Kirrawee0: <W> [ProcessCmdThread] CommandInterpreter: Command to "Dyn-ultron" Ph- LAGGING:set "reset_a_override_active",true - Response RESULT_BAD_PARAM:"Error setting reset A override value"</pre>
RESULT_COMMS_ERROR <ul style="list-style-type: none"> PH connectivity issue See Section 2.5 for more details. 	<pre>2021-03-17T13:02:43.324008+11:00 rs203000xxGymea0: <E> [] Memjet: checkStatus(): Status register for ph 0 seg 8 = E8 2021-03-17T13:02:43.324680+11:00 rs203000xx Gymea0: <E> [] Memjet: declogThenConfigure(): PH 0 status check failed during config(RESULT_COMMS_ERROR) 2021-03-17T13:02:43.325300+11:00 rs203000xx Gymea0: <E> [] Memjet: configureNoBlockCallback(): Printhead 0 declog/config failed (RESULT_COMMS_ERROR).</pre>
RESET_A_OVERRIDE_ACTIVE <ul style="list-style-type: none"> PH connectivity issue See Section 2.5 for more details. 	<pre>2021-04-29T11:24:09.346655+08:00 rs213000xx Gymea0: <N> [PrintheadHardware] Bist: 21.3.4 unknown-PH1 unknown FAIL PH Hardware Interface Communications 2021-04-29T11:24:09.394295+08:00 rs213000xx Gymea0: <E> [PrintheadHardware] PrintheadHardware: PH1: Can't setProperty RESET_A_OVERRIDE_ACTIVE of Ph-LEADING on ultron</pre>
Syntax error: JSON syntax <ul style="list-style-type: none"> Correct the issue in hwparamstore.json 	<pre>2021-04-28T10:35:22.330211-07:00 rs203000xx Kareela0: <E> [] MainApplication: Exiting Kareela application: A standard exception occurred. Parse of supplied JSON text failed: Syntax error: JSON syntax error</pre>
Dyn-ultron:PUMPTWO reports error UltronActuatorState::ERROR <ul style="list-style-type: none"> Check cable connection on pump 	<pre>2021-04-27T14:06:24.514099-07:00 rs203000xx Kareela0: <E> [#4] PerformFlush: localhost:9210:Dyn-ultron:PUMPTWO reports error UltronActuatorState::ERROR. 2021-04-27T14:06:24.515039-07:00 rs203000xx Kareela0: <E> [#4] PerformFlush: Outstanding actuators: localhost:9210:Dyn-ultron:PUMP</pre>
Dyn-ultron:PUMP reports error UltronActuatorState::TIMEOUT <ul style="list-style-type: none"> A timeout has occurred 	<pre>2021-05-21T23:52:50.593695+02:00 rs203000xx Kareela0: <E> [#4] PerformFlush: localhost:9210:Dyn-ultron:PUMP reports error UltronActuatorState::TIMEOUT.</pre>
WIMM reports error UltronActuatorState::TIMEOUT	<pre>2021-04-26T14:47:19.459170-07:00 rs203000xx Kareela0: <E> [#4] EngineConductor: Algorithm failed localhost:9210:Dyn-ultron:WIMM reports error UltronActuatorState::TIMEOUT. Outstanding actuators: localhost:9210:Dyn-ultron:PUMP, localhost:9210:Dyn-ultron:PUMPTWO</pre>
Out of Ink at bulk supply: Black	<pre>2021-04-28T09:13:11.041116-07:00 rs203000xx Kareela0: <E> [InkTankController] InkTankCtrlr: Ink fill regulator (localhost:9210:Dyn-ultron:BIDS_FILL_K) in state (UltronActuatorState::TIMEOUT) 2021-04-28T09:13:11.042018-07:00 rs203000xx Kareela0: <E> [InkTankController] InkTankCtrlr: Set errorText to Ink out for colors: black: 1</pre>
Dyn-ultron:LIFTER reports error UltronActuatorState::ERROR <ul style="list-style-type: none"> Check Lifter Sensors 	<pre>2021-04-27T14:23:42.012784-07:00 rs203000xx Kareela0: <E> [#4] MMPrint: localhost:9210:Dyn-ultron:LIFTER reports error UltronActuatorState::ERROR.</pre>

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QIM board missing <ul style="list-style-type: none"> Software revision <5.0.2 only 	2021-04-28T09:00:24.582200-07:00 rs203000xx Kareela0: <E> [#4] EngineConductor: Algorithm failed Failed to connect to Kirrawee or Gynea instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.#012Failed to open connection to Gyneas@localhost: RESULT_COMMS_ERROR.
Encoder is not functioning	2021-04-26T13:45:02.391726-07:00 rs203000xx Kareela0: <I> [#9] JobQueueCtrl: Completed job 00000000000000000000000000006a32, '7.5x10.5 cmyk 20-100_02', CANCELLED, JobCondition::CANCEL, pages 0, media 0.000m, isChainEnd=true, yRes (dpi) 1599.999136, ejections[CYAN 0, MAGENTA 0, YELLOW 0, BLACK 0]
MMCap: Timed-out waiting for: Actuator move completion <ul style="list-style-type: none"> Cap sensor issue at power up. Cap attempts to find position until timeout 	2021-04-27T14:32:12.423921-07:00 rs203000xx Kareela0: <E> [#4] MMCap: Timed-out waiting for: Actuator move completion.. 2021-04-27T14:32:12.424903-07:00 rs203000xx Kareela0: <E> [#4] MMCap: Outstanding actuators: localhost:9210:Dyn-ultron:CAP
Printer Key Store certificate missing or corrupted. <ul style="list-style-type: none"> Will not initialize after software upgrade 	2021-04-09T02:56:46.973509+10:00 rs20300019 Gynea0: <E> [] QaLssMgr: initialize() BAD_DATA, Failed to parse Printer Key Store certificate: /var/run/gynea/data/certificates/current/pks/._PrinterKeyStore_L1021_v1.signed-3305132572.bin

6.2 DFE and RIP log messages

The tables below are a list of some of the possible error messages that can be seen from the DFE (GUI) interface from the Xitron print controller. If you are not using a Xitron RIP, then this section is not applicable.

6.2.1 DFE error messages

Table 17 – Xitron GUI Error Messages and Recommended Fixes

DFE Messages	Possible Root Cause	Recommendation
failed (RSYNC_OVERRUN_PEP)	Web speed too fast	<ul style="list-style-type: none"> Check the web speed Check the encoder for debris, belt contact
Operation PostJob failed: RESULT_ERROR: Operation PostJob failed	Lifter error	<ul style="list-style-type: none"> If PH/lifter is near print zone, likely the lifter errored out. Check cabling to lifter motor Check for physical blockage of lifter New lifter motor may be required
Failed to connect to Kirrawee or Gynea instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.	Network error	<ul style="list-style-type: none"> Check network cabling Check network configuration
localhost:9210:Dyn-ultron:BIDS_FILL_C ink level - low	IR tank was low when restarting print job from pause.	Printer controller should call <code>prepareToPrint()</code> prior to restarting job to ensure the IR tank refills



-XFDebug_20211102000000.log:2021/11/02 09:00:53.172 - SVR - 00a4c:00afc 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: ENGINE. Operation CalibrateHardware failed: RESULT_ERROR: Operation CalibrateHardware failed	Lifter error	<ul style="list-style-type: none"> If PH/lifter is near print zone, likely the lifter errored out. Check cabling to lifter motor Check for physical blockage of lifter May need new lifter motor
-XFDebug_20211102000000.log:2021/11/02 09:55:09.214 - SVR - 00f54:01cb0 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: BACK_INK_SUPPLY. test failure: localhost:9210:Dyn-ultron:BIDS_FILL_M is not active - UltronActuatorState::IDLE	This can occur when cancelling a job after running out of ink. This bug was fixed in R5.2	<ul style="list-style-type: none"> Reinitialize system Upgrade to R5.2 when possible
-XFDebug_20211102000000.log:2021/11/02 10:09:25.035 - SVR - 02584:00a80 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: PRINT_MODULE. localhost:9210:Dyn-ultron:LIFTER reports error UltronActuatorState::ERROR.	Lifter error	<ul style="list-style-type: none"> If PH/lifter is near print zone, likely the lifter errored out. Check cabling to lifter motor Check for physical blockage of lifter May need new lifter motor
-XFDebug_20211102000000.log:2021/11/02 10:29:33.989 - SVR - 02584:00a80 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: ENGINE. Failed to connect to Kirrawee or Gynea instances. Make sure applications are accessible e.g. Are running, accessible on the network, no other instances of Kareela are intercepting connections.	Network error	<ul style="list-style-type: none"> Check network cabling Check network configuration
-XFDebug_20211103000000.log:2021/11/03 11:59:13.082 - SVR - 008ac:00bf8 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: ENGINE. Operation CalibrateHardware failed: RESULT_COMMS_ERROR: Thrift exception: connect() failed: Connection refused	Network error	<ul style="list-style-type: none"> Check network cabling Check network configuration
-XFDebug_20211105000000.log:2021/11/05 07:53:18.968 - SVR - 01cac:01308 00/ 2 CDuraflexInterface::ProcessEngineState: FAULT reported. Location: JOB_QUEUE. Job 0000000000000000000000000000006a3133 failed (RSYNC_OVERRUN_PEP)	Web speed too fast	<ul style="list-style-type: none"> Check the web speed Check the encoder for debris, belt contact

