

# Linx 10



## Troubleshooting Flow Charts

**LINX**

**THINKING ALONG YOUR LINES**



# LINX 10 DIAGNOSTIC FLOW CHARTS

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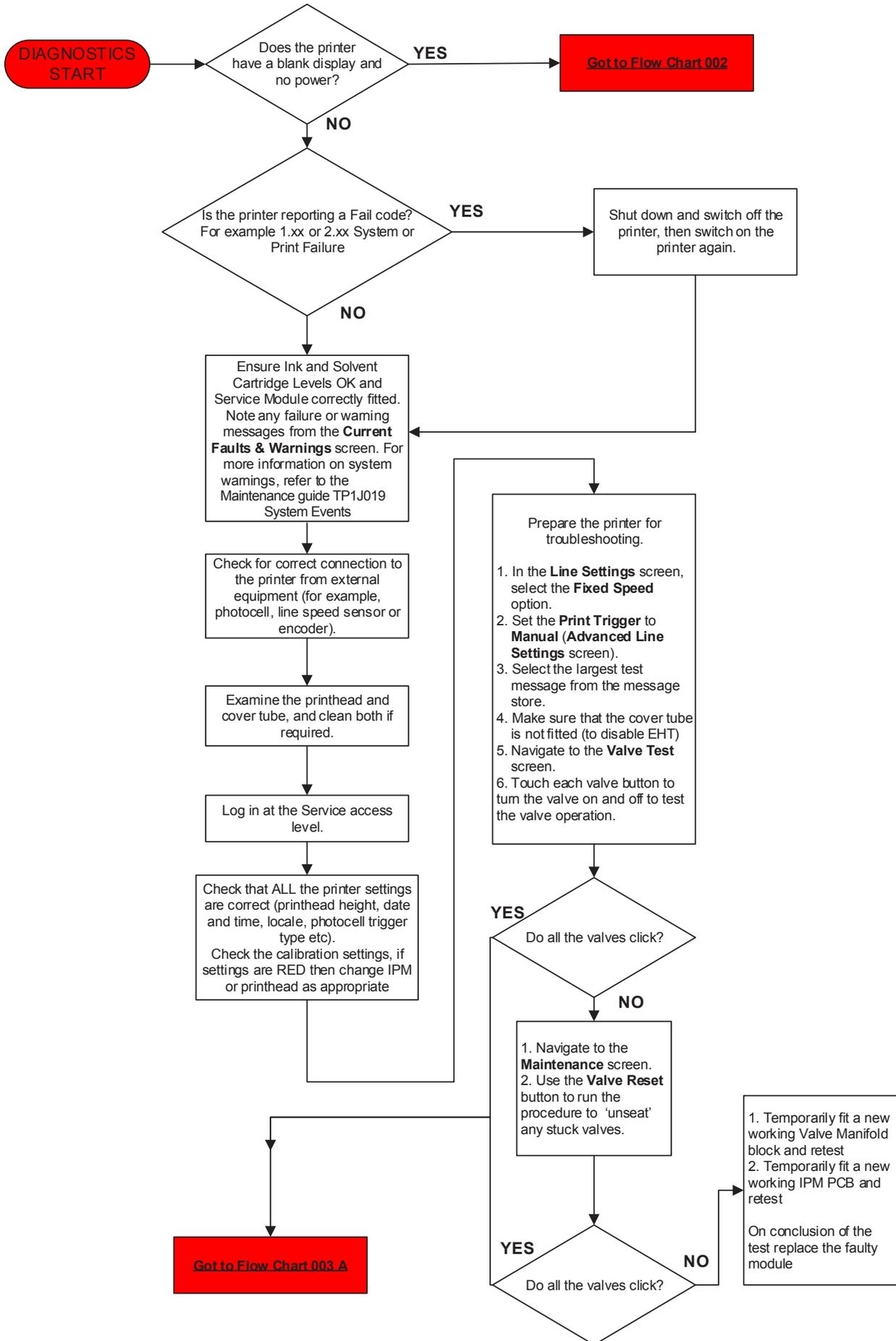
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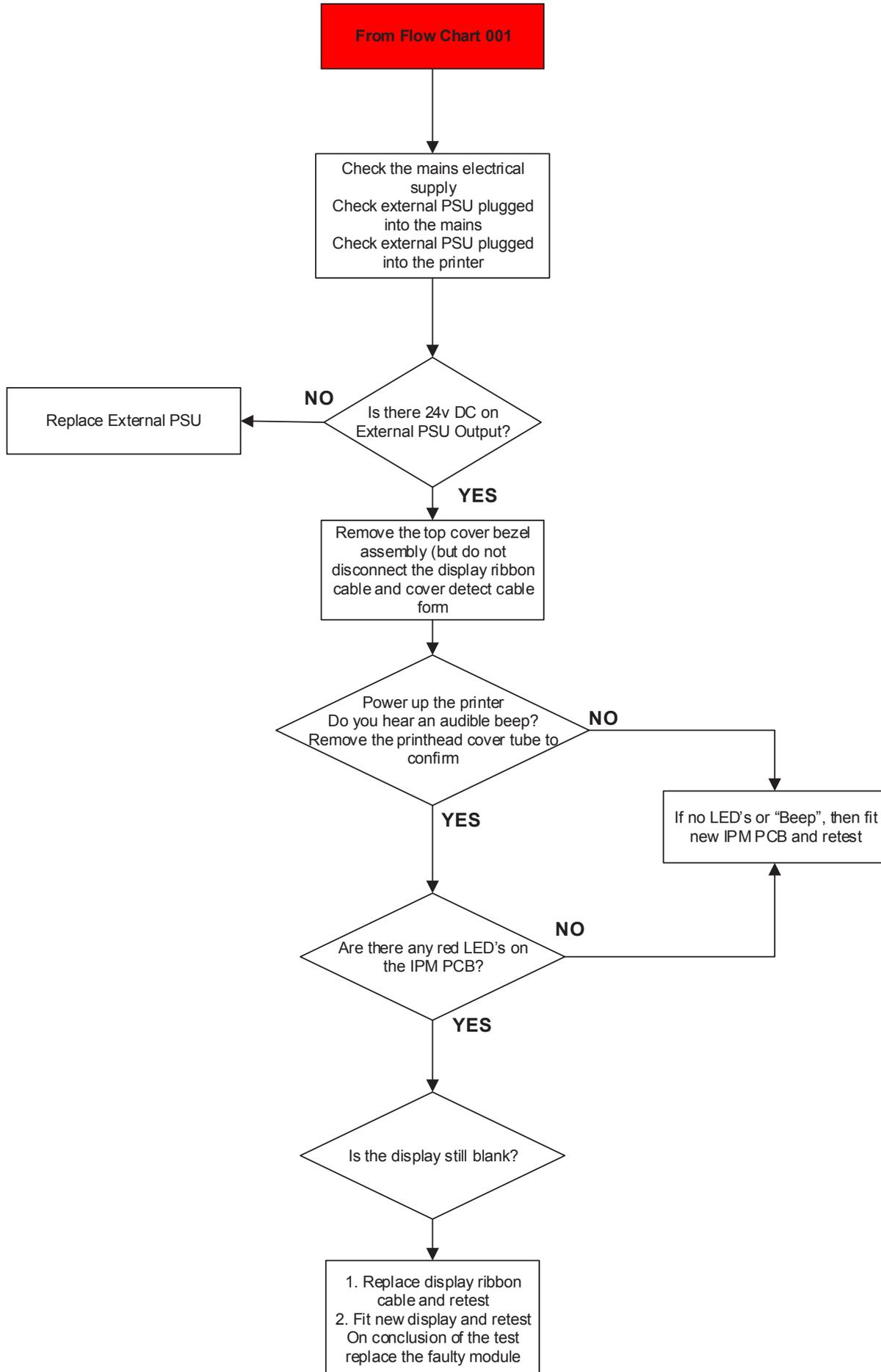


# DFC001 INITIAL CHECKS



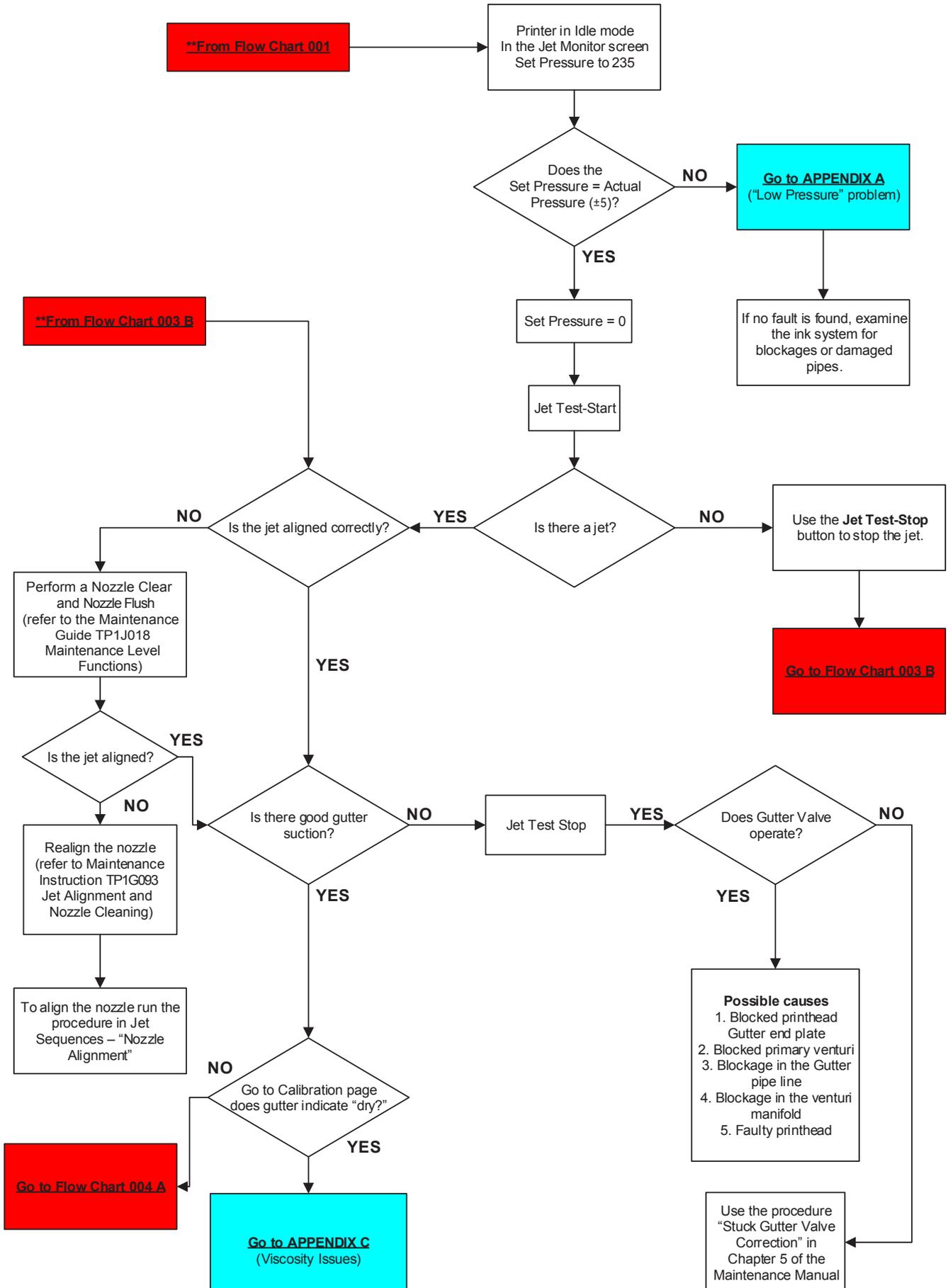


# DFC002 NO POWER/BLANK SCREEN



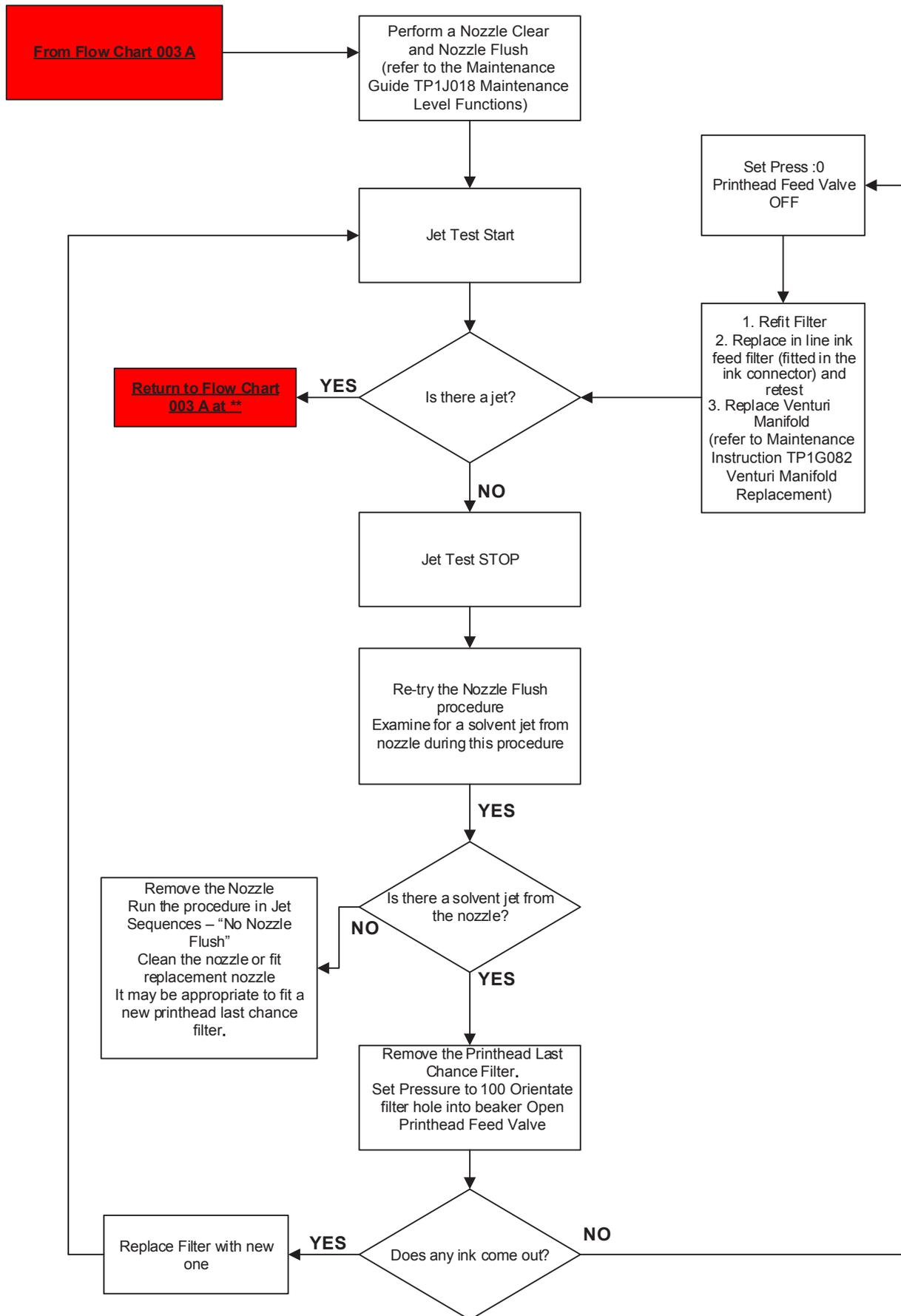


# DFC003A OBTAINING AN INK JET



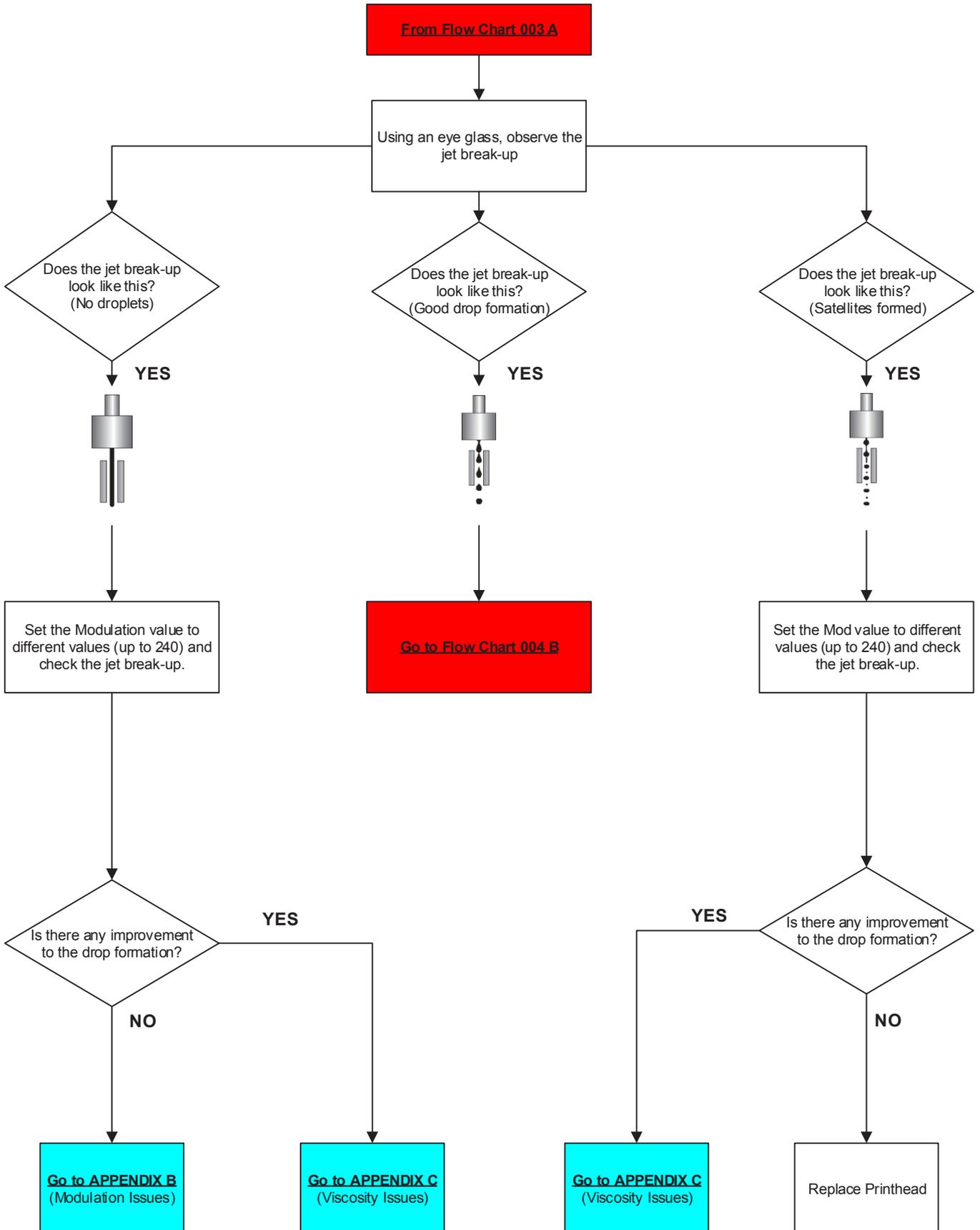


# DFC003B INVESTIGATING NO INK JET



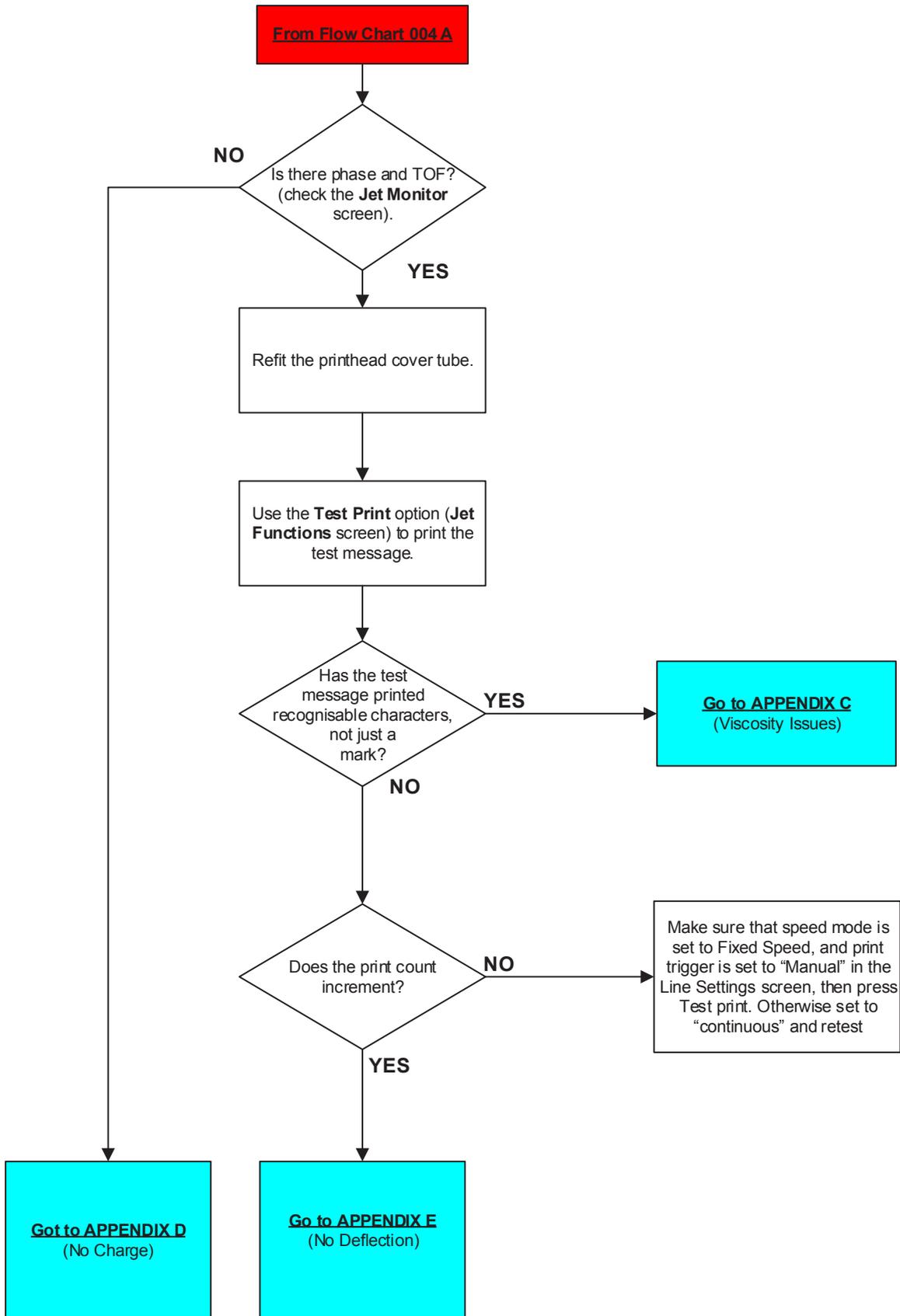


# DFC004A INK JET PRODUCED BUT WITH MODULATION PROBLEMS





# DFC004B INK JET PRODUCED BUT WITH PHASE/TOF/ DEFLECTION TESTS PROBLEMS





## APPENDIX - LOW PRESSURE

### **APPENDIX A: (low Pressure Problem)**

LOW PRESSURE WARNING 3.18  
Set Pressure 235: Read Pressure not 235 +/-5 ?

Examine all cables, sockets and plugs for damage and correct position  
Faulty Pressure Transducer/calibration  
Service Module (filter Blocked)  
Low Ink Level In Service Module  
Faulty pump  
Damper blocked

### **APPENDIX B: (Modulation Issues)**

Check the pressure calibration is correct  
Manually increase/decrease the modulation value to obtain drop break up  
Manually increase/decrease the Pressure value to obtain drop break up  
Examine the blue modulation coax cable for damage  
Examine printhead conduit for physical damage  
Consider faulty:  
HVPM  
IPM PCB  
Printhead  
10 way HVPM to IPM cable form  
Poor viscosity ink – note that if this is the case further investigation is need to verify reason

### **APPENDIX D: (No Charge)**

Check Printhead calibration readings  
Check pressure transducer calibration is correct  
Recheck for clean printhead  
Recheck jet alignment  
Produce a test print  
Check Phase and TOF readings  
Examine the Printhead connections for damage  
Examine the yellow charge coax cable for damage  
Consider faulty:  
HVPM  
IPM PCB  
Printhead

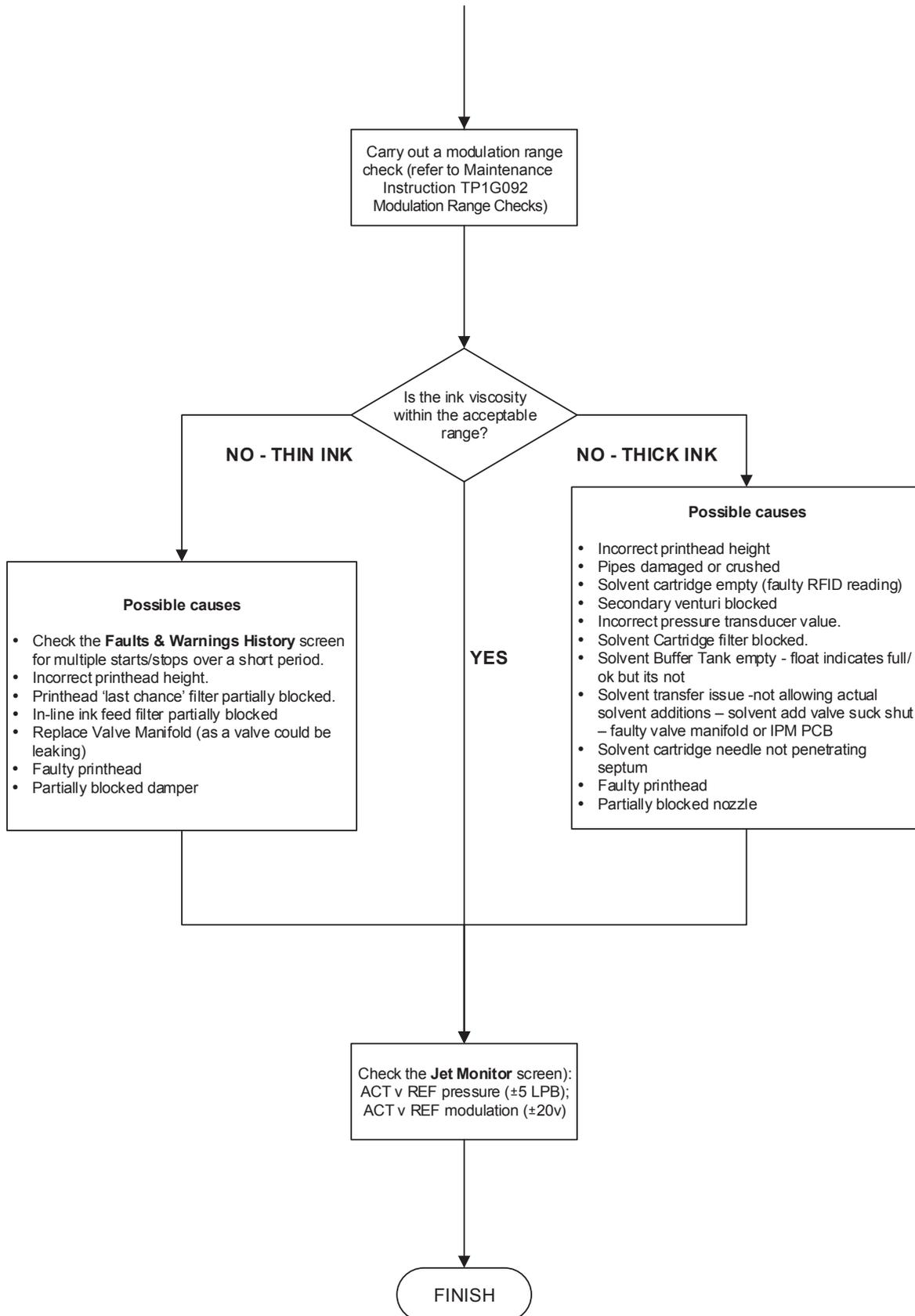
### **APPENDIX E: (No Deflection)**

Check electrical resistance of positive and negative high voltage (HV) cables to the deflector plates on the printhead (expect 20 Mohm to 25 Mohm)  
Examine the HV cables for correct connection and orientation to the HVPM  
Examine all other electrical connections  
Consider faulty:  
HVPM  
IPM PCB  
Printhead



# APPENDIX C - VISCOSITY ISSUES

## APPENDIX C: (Viscosity Issues)





## SCENARIOS

### **Ink/solvent leaking out of catcher vent to outside of printer?**

Causes:

1. Due to the service module being over full e.g. multiple stops and starts
2. Multiple manually draining of solvent buffer tank routine
3. Solvent Add Valve leaking
4. Secondary venturi outlet partially or fully blocked resulting in positive pressure at the ink vent valve – when this opens, ink under pressure enters the catcher.

### **Fails to fill service module?**

Causes:

1. Ink cartridge filter blocked
2. Ink add valve not working
3. Venturi blocked
4. Ink Vent valve not working - stuck open
5. Ink cartridge needle damaged or not penetrating the septum seal



## Solvent buffer tank empty?

Causes:

1. Float faulty says ok but tank is empty (ink viscosity will get thick and ultimately the printer will fail)
2. No solvent getting from solvent cartridge to solvent buffer tank
3. Solvent buffer fill valve not working
4. Solvent cartridge needle damaged or not penetrating the septum seal

## Very thick or thin ink in Service Module?

Causes: Printer malfunction (do not proceed with the removal of the ink in the service module until you have found out the reason for poor ink viscosity)

There are two methods to remove ink from the service module under these conditions.

1. With the printer in “idle mode” activate the jet sequence “Safely Remove the Service Module”. Once this has been done the module can now be removed, inverted over a suitable container and the ink drained
2. Remove the printhead cover and set the pump pressure to 100. Insert the printhead into the waste ink container of the decommissioning kit open the “Gutter Valve” and the “Flush Start Valve” and the “Nozzle Clear valve”. Run the routine until the service module level indicates Low then all valves off, pump pressure off. The printer will then fill the service module with fresh ink. The printhead will need cleaning after this.



## Service Module over full

### Causes:

1. Customer stops and starts the printer too frequently. (one stop and one start will take 2 hours for the printer to “burn off” the solvent used for start up and shut down).
2. Faulty solvent buffer tank/float/signal says it needs to fill tank. In certain circumstance this could lead to overfilling the solvent buffer tank which in turn spills over into the service module which then spills into the catcher and out of the back of the printer.

### Fix:

Latest version of software will not allow “cause 2” to occur – so ensure latest version is installed

### Symptom:

A Linx 10 service module that is overfull will behave like an 8900 that has an overfull service module. i.e when in this state

1. the printer will not allow solvent to be added
2. the printer will not use solvent during a normal flush start at start up (it will be like a “Jet Test Start”)
3. the printer will not use solvent during a normal shutdown (it will be like a (Jet Test Stop).



## EXPLANATION OF SOME OF THE JET SEQUENCES IN MORE DETAIL

### Drain Capture Tank

Where does it drain to and the reason why would you use it?

1. Normally the printer recovers the condensed solvent vapour in the capture tank back into the solvent buffer tank every hour as per the 8900. The amount of solvent added to the buffer tank is very small (when capture tank is full its 70 ml but normally only around 10 ml of fluid)
2. If the above procedure is run whilst the jet is Idle then the printer will drain the capture tank directly into the service module. In a worse case situation it may cause it to lower the ink viscosity by approx 5 bits.
3. Sequence is used to manually drain if full (e.g. used if you need to replace the tank to avoid spillage).

### No Nozzle Flush

The reason why would you use it?

1. Used as a last resort for wandering jet/misaligned jet/blocked jet. Before you use this function, use Nozzle Clear and Nozzle Flush functions
2. Debris can become trapped in the area between the two last chance printhead filters and the nozzle.
3. The engineer has to remove the nozzle and activate this function. Once the nozzle has been removed the printhead has to be directed into a beaker and the printer will set the pump pressure and a low flow of ink will now come out where the nozzle would normally be fitted – flushing any debris out of the printhead.
4. The nozzle will have to be cleaned (ultrasonically or using the nozzle cleaning accessory) or a new replacement nozzle fitted



## Low Pressure Ink Jet

The reason why would you use it?

1. This routine is run after any invasive work done on the ink system. The printer will run the pump under less pressure than normal.
2. The printer will allow a jet of ink out of the nozzle and into the gutter but will not look for time of flight or phase.
3. The pump is run at 800 rpm. The pressure transducer is ignored.
4. The procedure is simply to allow the engineer to pressure check the ink system to test for any leakage after work done on the ink system for example replacing a printhead or venturi.
5. The procedure runs for a total of 73 seconds unless aborted

## Empty Solvent Buffer Tank

where does it drain to and the reason why would you use it?

You would use this:-

6. If the solvent buffer tank was contaminated (although you could not visually see this in the tank – a Nozzle Flush routine will on inspection determine the presence of ink in the solvent jet)
7. To test the float in the solvent buffer tank from the ok condition to low condition (but during this test the solvent will be transferred to the Service Module thinning the ink in the service module and possibly overflowing the service module)
8. If the solvent buffer tank needs to be replaced – avoids spilling solvent inside the printer.



## Nozzle Alignment

The reason why would you use it?

1. With this function, the gutter valve remains shut and the printer provides a jet of solvent out of the nozzle, similar to Nozzle Flush but longer. Result is its cleaner and easier to see the jet alignment. Technique would be to use this to initially to get the jet into the approximate position in the gutter.
2. To fine tune the jet alignment, either use “Jet Test Start” or set pressure, open feed and gutter valves and then carry out the final adjustments for nozzle alignment.