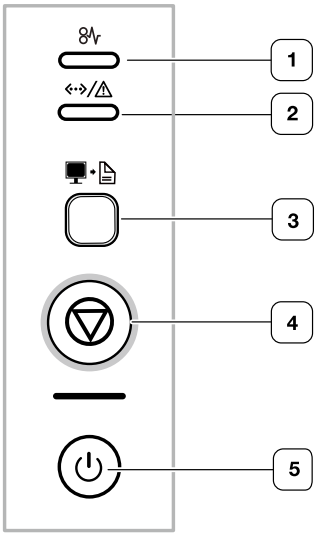
4. Alignment and Troubleshooting

4.1 Alignment and Adjustments

This chapter describes the main functions for service, such as the product maintenance method, the test output related to maintenance and repair, Jam removing method, and so on.
It includes the contents of manual.

4.1.1 Control Panel

The ML-1910/2825/2850 series printers have 3 keys(1910/2525) or 2 keys (2580N) and 2 LEDs.
The 'User Interface' module handles the processing of the 'Key Press' and 'LED control' at different states of the machine.



1		**Jam**	Shows the status of jam occurance of your machine.
2		**Online/ Error**	Shows the status of your machine.
3	[a]	**Print Screen**	Prints the displayed screen in the monitor. * In ML-2580 Series, this button ( ) works differently. It prints a demo page by pressing this button only.
4		**Cancel**	Stops an operation at any time and there are more functions.
5		**Power**	You can turn the power on and off with this button.

a. ML-1910 Series, ML-2525 Series only.

4.1.2 Understanding The Control Panel

The color of the LEDs indicates the machine's current status.

LED	STATUS		DESCRIPTION
Jam	Orange	On	A paper jam has occurred.
Online/ Error	Off		• The machine is off-line. • The machine is in power saver mode. When data is received, it switches to on-line automatically.
	Green	On	• The machine is in power saver mode. • The machine is on-line and can receive data from the computer.
		Blinking	• When the LED slowly bilnks, the machine is receiving data from the computer. • When the LED rapidly blinks, the machine is printing data.
	Red	On	• The cover is opened. Close the cover. • There is no paper in the tray. Load paper in the tray. • The machine has stopped due to a major error. • Your system has some problems. If this problem occurs, contact your service representative. • A toner cartridge has almost reached its estimated cartridge lifea.
		Blinking	• A minor error has occurred and the machine is waiting for the error to be cleared. When the problem is cleared, the machine resumes. • Small amount of toner is left in the cartridge. The estimated cartridge life of toner is close. Prepare a new cartridge for replacement. You may temporarily increase the printing quality by redistributing the toner.

4.1.3 JAM Removal

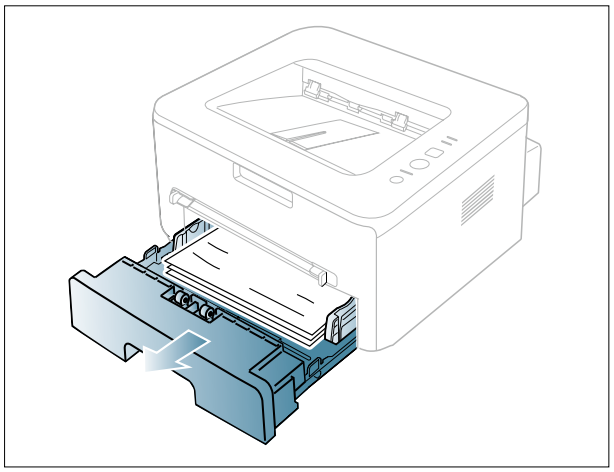
4.1.3.1 Clearing Paper Jams

If a paper jam occurs, the LED on the control panel lights orange. Find and remove the jammed paper.
To resume printing after clearing paper jams, you must open and close the front cover.

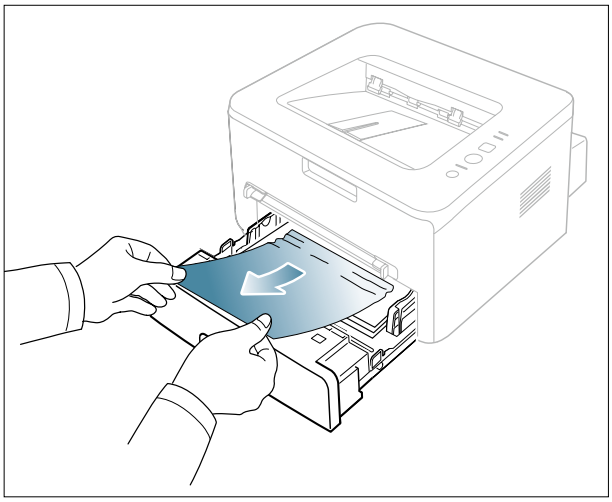
In tray 1

1. Open and close the front cover. The jammed paper is automatically ejected from the machine. If the paper does not exit, go to the next step.

2. Pull out tray.



3. Remove the jammed paper by gently pulling it straight out.

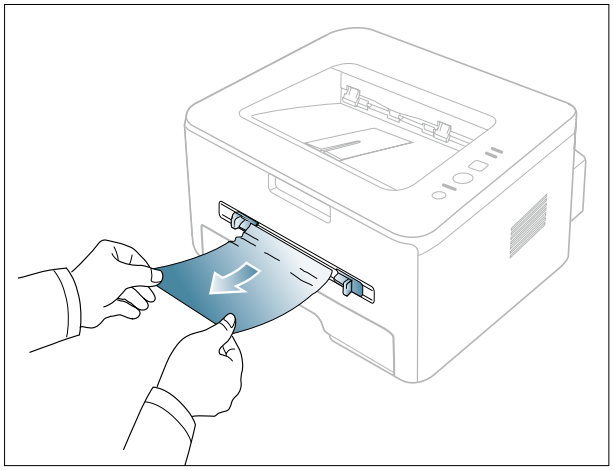


If the paper does not move when you pull, or if you do not see the paper in this area, check the fuser area around the toner cartridge.

4. Insert tray back into the machine until it snaps into place. Printing automatically resumes.

In the manual tray

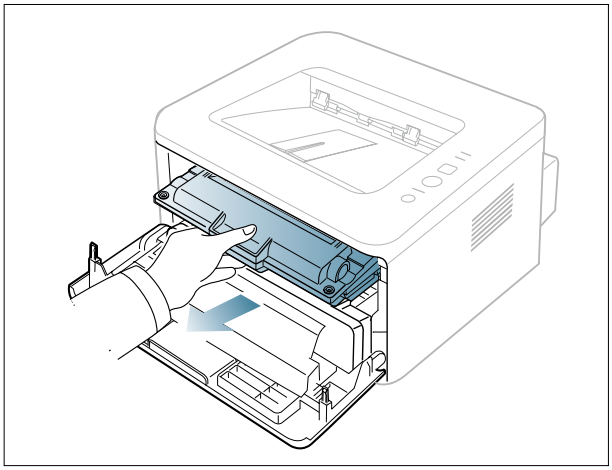
1. If the paper is not feeding properly, pull the paper out of the machine.



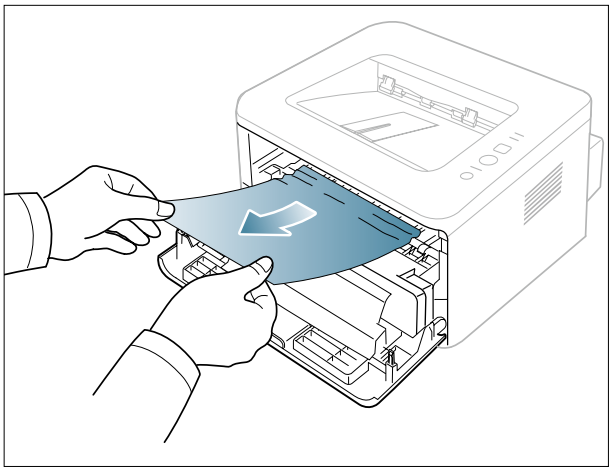
2. Open and close the front cover to resume printing.

Inside the machine

1. Open the front cover and pull the toner cartridge out, lightly pushing it down.



2. Remove the jammed paper by gently pulling it straight out.

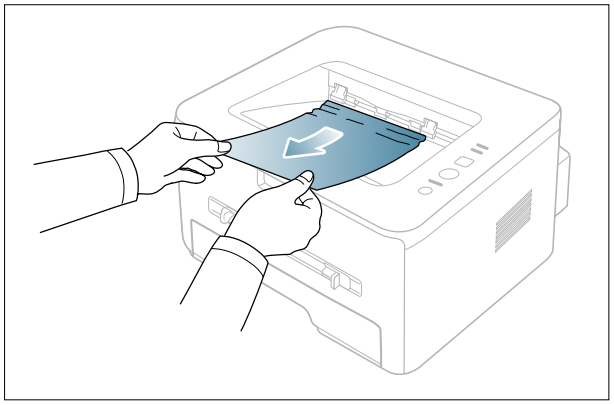


3. Insert the toner cartridge and close the front cover. Printing automatically resumes.

In exit area

1. Open and close the front cover. The jammed paper is automatically ejected from the machine. If you do not see the jammed paper, go to next step.

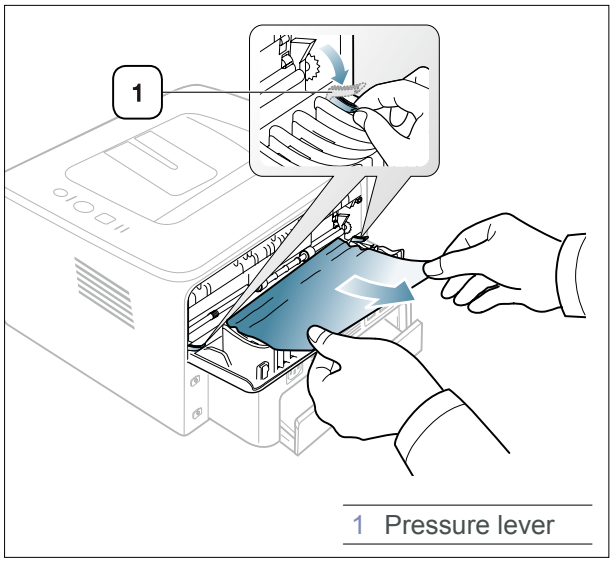
2. Gently pull the paper out of the output tray.



If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

3. Open the rear cover.

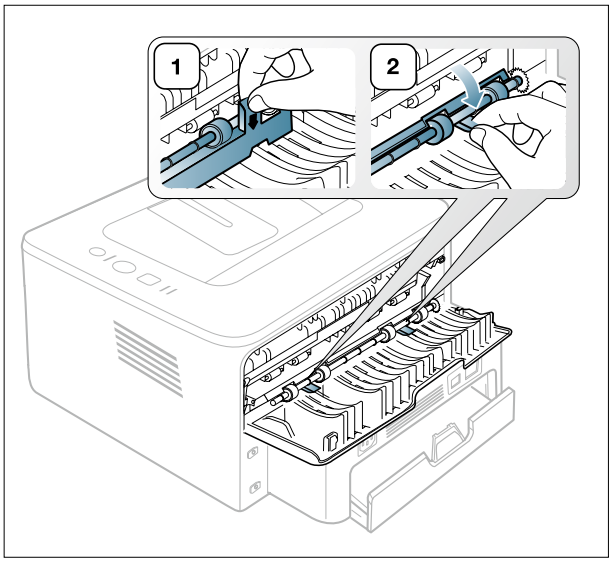
4. Pull the pressure levers down and remove the paper.
Return the pressure levers to their original position.



1 Pressure lever

If you do not see the jammed paper, go to next step.

5. Pull the fuser cover levers down and remove the paper.
Return the fuser cover levers to their original position..



6. Close the rear cover.

7. Open and close front cover, printing automatically resumes.

4.1.4 Printing a report

This product provides several printable reports for maintenance purposes. These reports can be used to aid the diagnosis of print quality problems.

By pressing the Cancel button, you can print these reports.

Report	Description	How to print
Printing demo page	Print a demo page to make sure that the machine is operating correctly.	In Ready mode, press and hold this button for about 2 seconds until the status LED blinks slowly, and release.
Printing configuration sheet	Print a configuration page to view current printer settings, or to help troubleshoot printer problems.	In Ready mode, press and hold this button for about 5 seconds until the status LED blinks fast, and release.
Printing a cleaning sheet	If you are experiencing blurred or smeared printouts, you can clear the problem by printing a cleaning sheet, provided by your machine.	In Ready mode, press and hold this button for about 8 seconds until the status LED blinks fast, and release.
Printing a supply information report and event log report.	Print a supply information report to view supply life indicators and event log report to view error log, count.	In Ready mode, press and hold this button for about 10 seconds until the status LED blinks fast, and release.

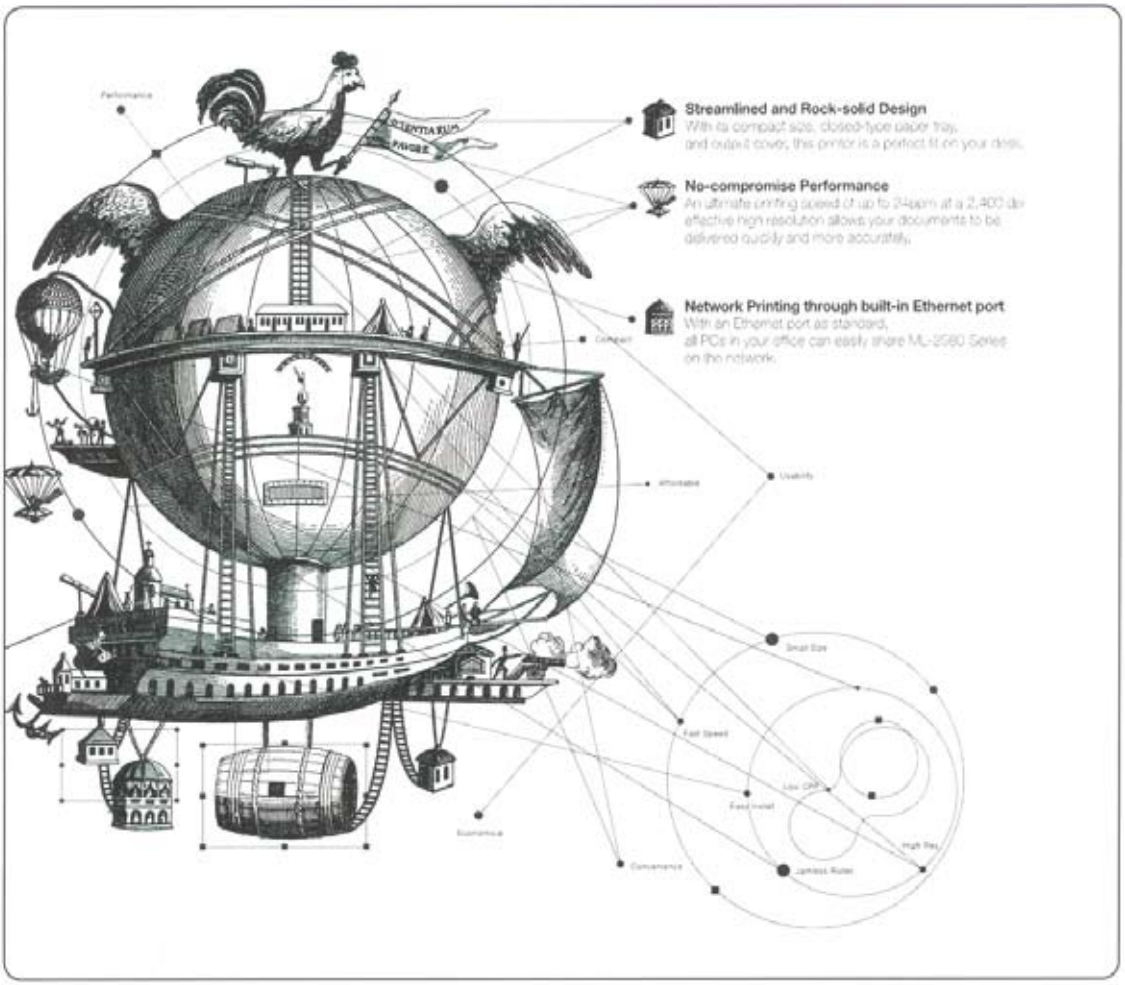
■ Demo Page

Samsung Laser Printer ML-2580 Series

Imagine a perfect fit for your desk

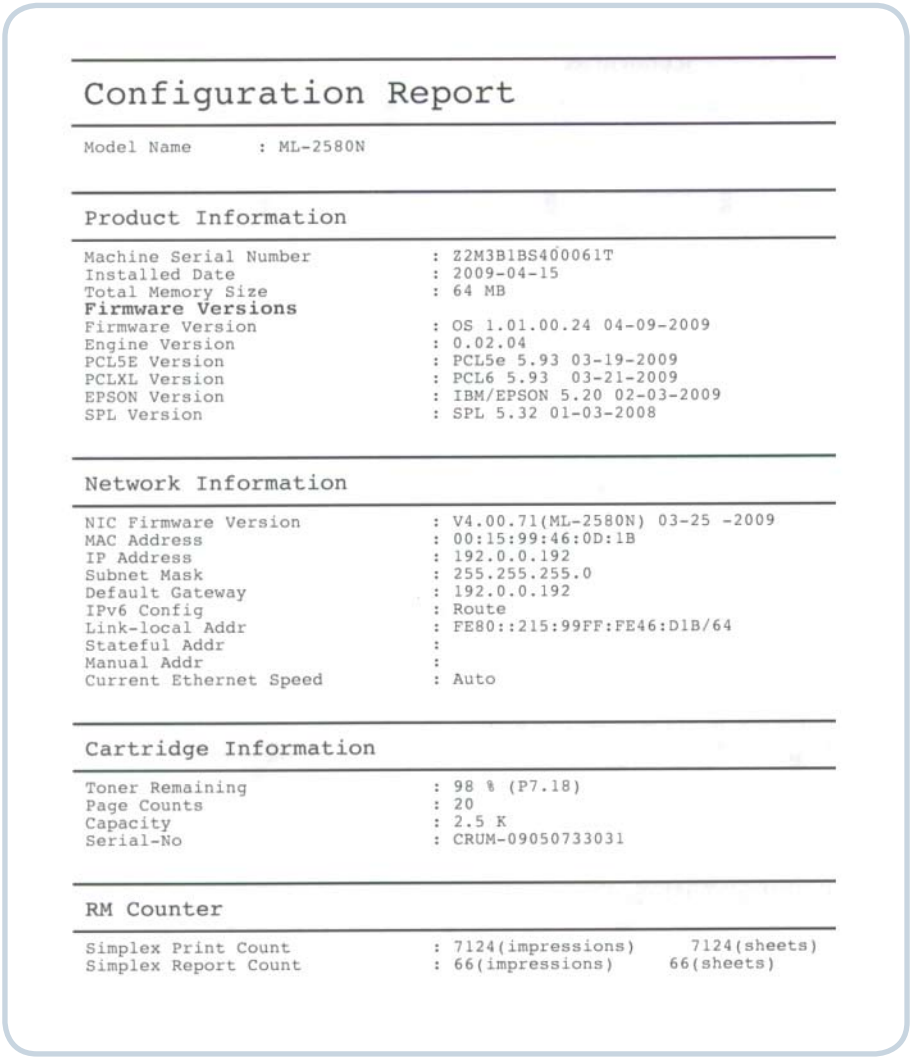
Ctrl P

Imagine a laser printer that's a perfect fit for your work.
This compact laser will fit anywhere and its consistent performance will meet all your printing needs.
Samsung's ML-2580 Series features a sleek design that will suit your office and provide the freedom of convenience and space.
Also, there's more to this packed performer. It improves your bottom line by providing a reliable and economical solution.
Compact and dependable to fit your needs.



SAMSUNG

■ Configuration Reprot



Configuration Report

Model Name : ML-2580N

Product Information

Machine Serial Number	: Z2M3B1BS400061T
Installed Date	: 2009-04-15
Total Memory Size	: 64 MB
Firmware Versions	
Firmware Version	: OS 1.01.00.24 04-09-2009
Engine Version	: 0.02.04
PCL5E Version	: PCL5e 5.93 03-19-2009
PCLXL Version	: PCL6 5.93 03-21-2009
EPSON Version	: IBM/EPSON 5.20 02-03-2009
SPL Version	: SPL 5.32 01-03-2008

Network Information

NIC Firmware Version	: V4.00.71(ML-2580N) 03-25 -2009
MAC Address	: 00:15:99:46:0D:1B
IP Address	: 192.0.0.192
Subnet Mask	: 255.255.255.0
Default Gateway	: 192.0.0.192
IPv6 Config	: Route
Link-local Addr	: FE80::215:99FF:FE46:D1B/64
Stateful Addr	:
Manual Addr	:
Current Ethernet Speed	: Auto

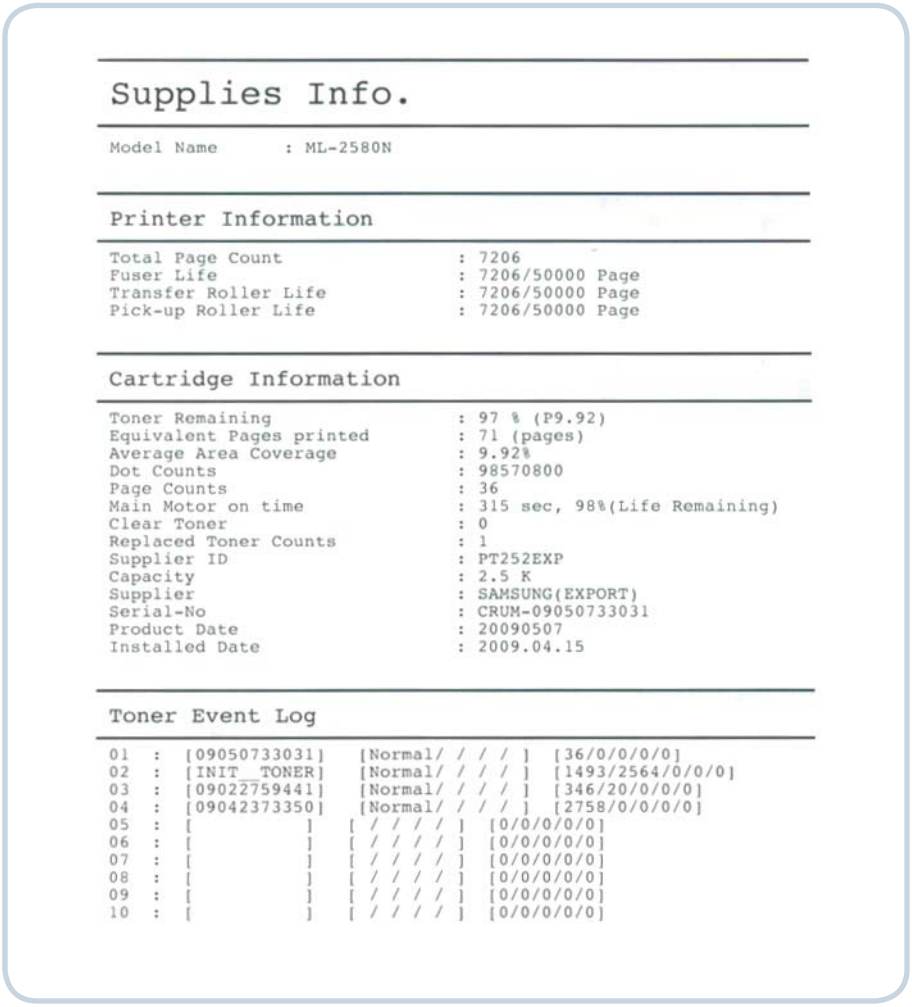
Cartridge Information

Toner Remaining	: 98 % (P7.18)
Page Counts	: 20
Capacity	: 2.5 K
Serial-No	: CRUM-09050733031

RM Counter

Simplex Print Count	: 7124(impressions)	7124(sheets)
Simplex Report Count	: 66(impressions)	66(sheets)

■ Supplies Information Report



Supplies Info.

Model Name : ML-2580N

Printer Information

Total Page Count	: 7206
Fuser Life	: 7206/50000 Page
Transfer Roller Life	: 7206/50000 Page
Pick-up Roller Life	: 7206/50000 Page

Cartridge Information

Toner Remaining	: 97 % (P9.92)
Equivalent Pages printed	: 71 (pages)
Average Area Coverage	: 9.92%
Dot Counts	: 98570800
Page Counts	: 36
Main Motor on time	: 315 sec, 98%(Life Remaining)
Clear Toner	: 0
Replaced Toner Counts	: 1
Supplier ID	: PT252EXP
Capacity	: 2.5 K
Supplier	: SAMSUNG(EXPORT)
Serial-No	: CRUM-09050733031
Product Date	: 20090507
Installed Date	: 2009.04.15

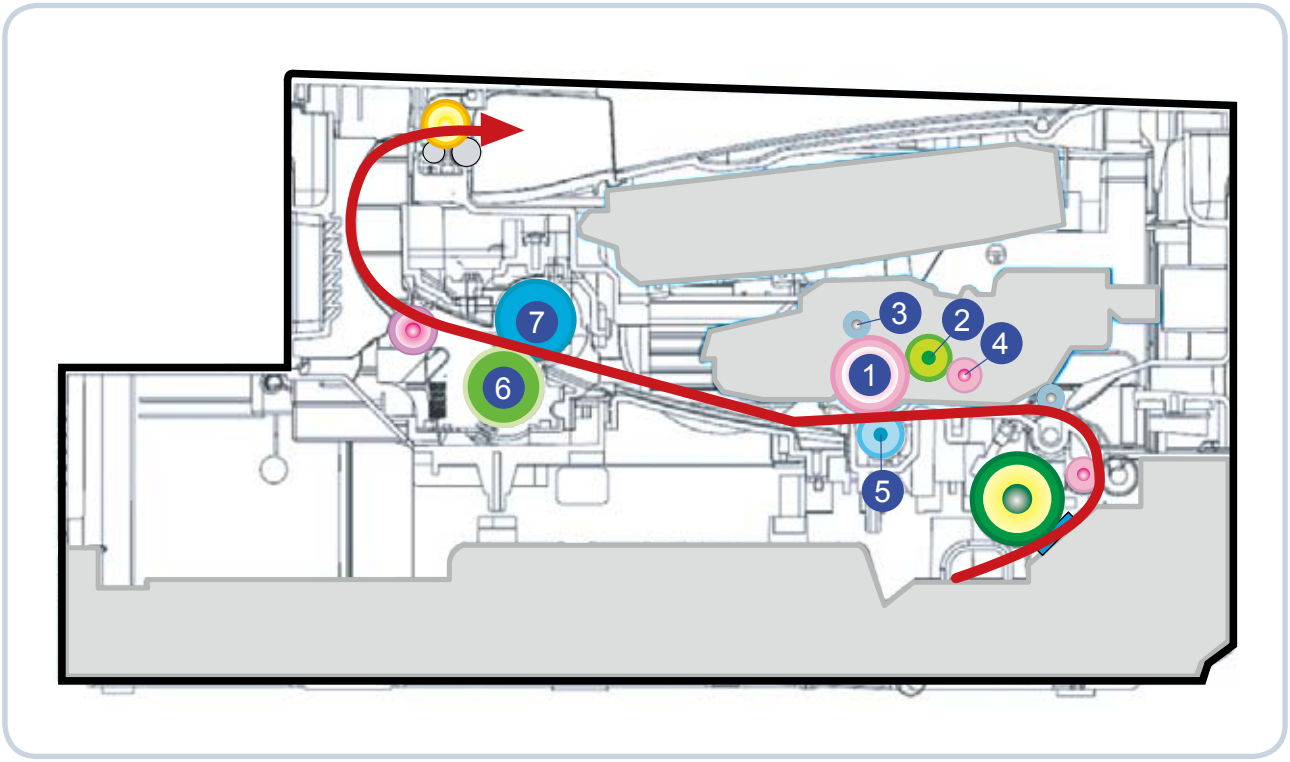
Toner Event Log

01	[09050733031]	[Normal/ / / /]	[36/0/0/0/0]
02	[INIT TONER]	[Normal/ / / /]	[1493/2564/0/0/0]
03	[09022759441]	[Normal/ / / /]	[346/20/0/0/0]
04	[09042373350]	[Normal/ / / /]	[2758/0/0/0/0]
05	[ ]	[/ / / /]	[0/0/0/0/0]
06	[ ]	[/ / / /]	[0/0/0/0/0]
07	[ ]	[/ / / /]	[0/0/0/0/0]
08	[ ]	[/ / / /]	[0/0/0/0/0]
09	[ ]	[/ / / /]	[0/0/0/0/0]
10	[ ]	[/ / / /]	[0/0/0/0/0]

4.1.5 Periodic Defective Image

If an image defects appears at regular intervals on the printed-paper, it is due to a faulty or damaged roller. Refer to the table below and check the condition of the appropriate roller.

Roller	Period (mm)	Phenomenon	Defective part
OPC Drum	75.6mm	White and Black Spots	Toner Cartridge
Developing Roller	35mm	White spot, Horizontal black band	
Charging Roller	37.5mm	Black Spot and line and periodic band	
Supply Roller	49mm	Periodic Band by little difference of density	
Transfer Roller	47mm	Ghost, Damaged image by abnormal transfer	Transfer roller
Pressure Roller	75.4mm	Background	Fuser
Fusing Roller	77.5mm	Black spot and image ghost	

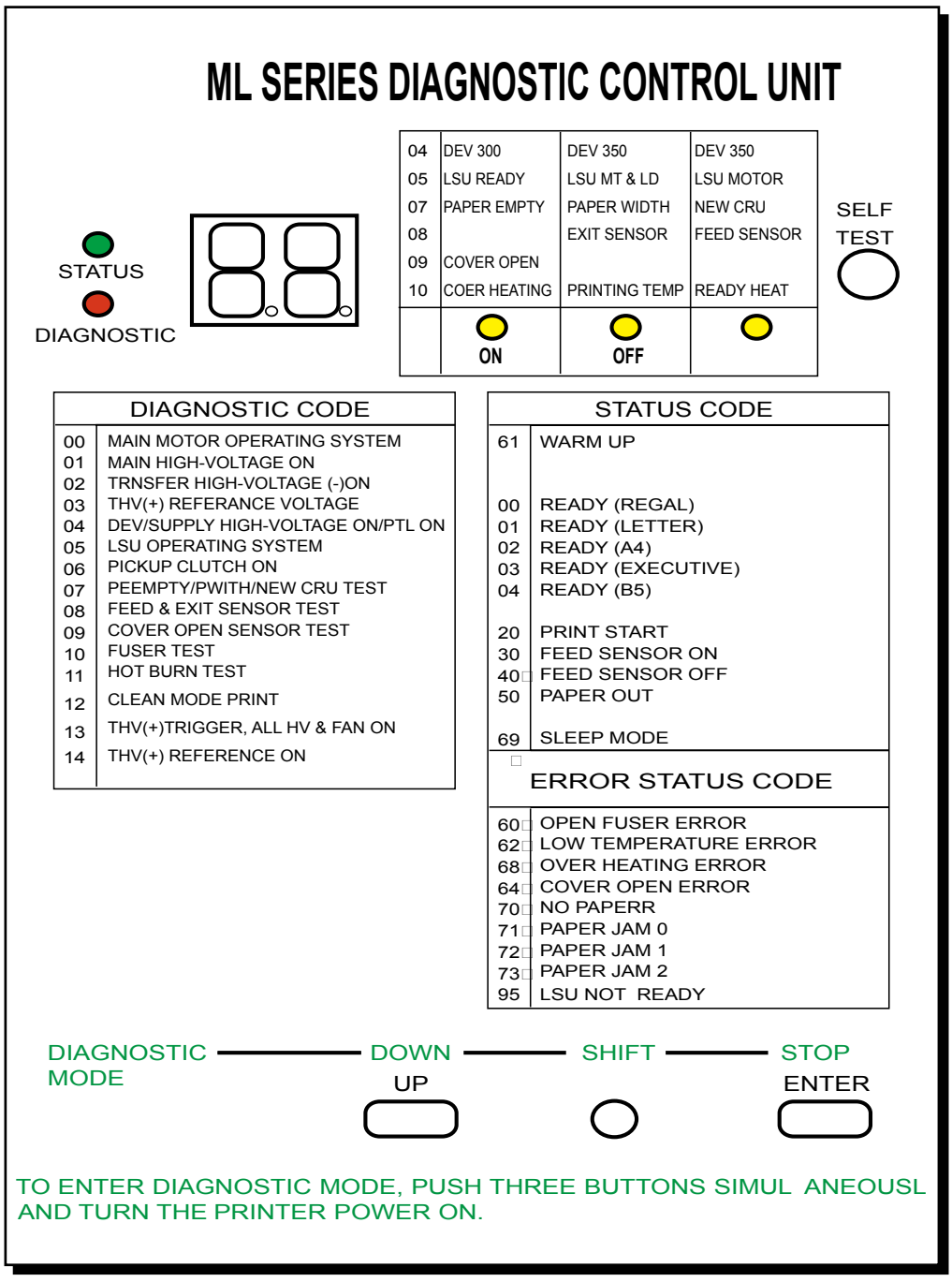


1	OPC	5	Tranfer roller
2	Developing Roller	6	Pressure roller
3	Charging roller	7	Fusing roller
4	Supply Roller		

4.1.6 How to use DCU

4.1.6.1 DCU Setup

You can examine the malfunction of the printer. To perform DCU, remove the rear cover and connect the DCU on DCU con of the Main control board.



04	DEV 300	DEV 350	DEV 350
05	LSU READY	LSU MT & LD	LSU MOTOR
07	PAPER EMPTY	PAPER WIDTH	NEW CRU
08		EXIT SENSOR	FEED SENSOR
09	COVER OPEN		
10	COER HEATING	PRINTING TEMP	READY HEAT

DIAGNOSTIC CODE	
00	MAIN MOTOR OPERATING SYSTEM
01	MAIN HIGH-VOLTAGE ON
02	TRNSFER HIGH-VOLTAGE (-)ON
03	THV(+) REFERANCE VOLTAGE
04	DEV/SUPPLY HIGH-VOLTAGE ON/PTL ON
05	LSU OPERATING SYSTEM
06	PICKUP CLUTCH ON
07	PEEMPTY/PWITH/NEW CRU TEST
08	FEED & EXIT SENSOR TEST
09	COVER OPEN SENSOR TEST
10	FUSER TEST
11	HOT BURN TEST
12	CLEAN MODE PRINT
13	THV(+)TRIGGER, ALL HV & FAN ON
14	THV(+) REFERENCE ON

STATUS CODE	
61	WARM UP
00	READY (REGAL)
01	READY (LETTER)
02	READY (A4)
03	READY (EXECUTIVE)
04	READY (B5)
20	PRINT START
30	FEED SENSOR ON
40	FEED SENSOR OFF
50	PAPER OUT
69	SLEEP MODE

ERROR STATUS CODE	
60	OPEN FUSER ERROR
62	LOW TEMPERATURE ERROR
68	OVER HEATING ERROR
64	COVER OPEN ERROR
70	NO PAPERR
71	PAPER JAM 0
72	PAPER JAM 1
73	PAPER JAM 2
95	LSU NOT READY

4.1.6.2 Code

Connect DCU to the printer and turn the power on. It show 7 Segment FND on the panel and each code tells the function of the printer.

1) Normal Code

While printing or warming up, it indicate the position of the paper.

Code	State	Description
61	Warm up	The printer is on, the cover is open or close.
00~05	Ready(kind of paper)	The printer is ready, the paper is detected 00: Legal, 01: Letter, 02: A4, 03: EXEC, 04: B5, 05: Folio, 06: A5/A6
20, 21, 22	Print Start	The engine controller received the print order from the video controller. 20: 1st, 21: MP, 22: SCF
30	Feed Sensor On	The paper is passing out of the Feed Sensor.
40	Feed Sensor off	The paper has passed out of the Feed Sensor.
50	Paper Out	The paper has passed out of Exit Sensor.
69	Sleep Mode	The fuser power turned off to minimize the power consumption.

2) Error Code

When detecting the malfunction, the printing is stopped to indicate error code.

Code	State	Description
60, 62, 68	Fuser Error	The error in the fuser occurred. There is a short circuit in the thermistor and the thermostat while printing, Low Temperature Error occurs. • 60: Open Fuser Error • 62: Low Heat Error • 68: Over Heat Error
64	Cover Open	The Printer Cover is open.
65	CRU Error	The Toner Cartridge not installed.
70	No Paper	No paper in the paper cassette.
71	Paper Jam 0	The front part of paper is jammed between pickup unit and Feed sensor.
72	Paper Jam 1	The front part of paper is jammed between the Discharge sensor and Feed sensor.
73	Paper Jam 2	The front part of paper is jammed just after passing through the discharge sensor.
76	Out Bin Full	The Out bin is filled with paper.
95	LSU Not Ready	LSU Scanner Motor not ready or Hsync signal not output.

4.1.6.3 Self Diagnostic Mode

If Error code occurs due to malfunction of the printer, perform

Self Diagnostic Mode to solve the problem.
The printer works only in the self-test mode to solve the malfunction problem.
To enter the self-test mode, turn the power on pressing the buttons of [Down], [Shift] and [Stop] at the same time.
Release the button within 2 or 3 seconds if 78 shows in the DCU. If 00 shows in the DCU, press the button [Up] or [Shift] to select the self+test , and press the button of [Enter] to operate. To stop, press the button of [shift] and [Enter] together.

Code	Description
00	**Main Motor Operating System** Only the main motor is in operation.
01	**Main High Voltage On(THV-)** -1400 voltage output by MHV terminal. *Caution : High voltage probe should be used.*
02	**Transfer High Voltage(-)On(THV-)** -1000 voltage output by MHV terminal. *Caution : High voltage probe should be used.*
03	**Transfer High Voltage (+)Reference on (THV +)** +1300 voltage output by MHV terminal. *Caution : High voltage probe should be used.*
04	**DEV/supply High Voltage :** DEV/Supply High Voltage Test. The left one of the three LEDs in the self-test panel is on when DEV high voltage Supply high voltage output by each HV terminal. Press the [Up] button to switch the voltage. The middle and right one of the three LEDs are on and -350 voltage output by DEV HV terminal. *Caution : High voltage probe should be used.*
05	**LSU Operating System** The scanning motor of LSU is in operation, the right LED of the three buttons on. Press the [Up] button to Check LD. LD is functioning and the middle button is on. If the LD is normal, all LEDs are on.
06	**Pickup clutch on** The Solenoid in the printer is in operation. To stop the operation, Press the button [shift] and [Enter] together.
07	**Paper Empty Sensor Test :** If activate the Actuator of the PEMPTY Sensor, the left and right of the three LEDs are on. Paper Empty Sensor ON/OFF 1st LED ON/OFF
08	**Feed & Exit Sensor Test** Test the Feed sensor and Discharge sensor in the same way as '07'. Feed Sensor ON/OFF 2nd LED ON/OFF Exit Sensor ON/OFF 3rd LED ON/OFF
09	**Cover Open Sensor Test** Test the Cover Open Sensor in th same way as code '07' Cover Open Sensor ON/OFF 1st LED ON/OFF

Code	Description
10	**Fuser Test** If the [Enter] button pressed, the right LED is on and temperature of the fuser is up to READY Mode. If the [Up] button pressed, the middle LED is on and temperature of the fuser is up to Printing Mode. If you press the button once more, the left LED is on and temperature of the fuser is up to overheat Mode.
11	**Hot Burn Test** If the [enter] button pressed, the printer is continuously printing without detection. Turn the power off to stop operation.
12	**Cleaning Mode Print Mode** Print the paper to clean the OPC Drum in the Cartridge.
13	**THV(+) TRIGGER. ALL HV :** All high voltage output by each HV terminal and LSU and the fan is in operation. In this mode, electronic resistance of transfer roller and high voltage is detected.
14	**PTL Test : (ML-1610 : not design)** Indicates the function of the PTL, same method of the code '07'.
15	**Fan Test :** Indicates the function of the Fan, same method of the code '07'.
16	**Manual Pickup Test :** Indicates the function of th Manual Pickup, same method of the code '07'.
17	**Manual Sensor Test :** Indicates the function of the Manual Sensor, same method of the code '07'.

No.	Function	Enter	Up/Down	Stop	Remark
00	Motor	Motor Run		Motor Stop	
01	MHV	Mhv On		Mhv Off	-1300V
02	THV(-)	Thv Negative On		Thv Negative Off	-1000V
03	THV(+)	Thv On		Thv Off	+1300V
04	DEV	Dev On	Supply: 0 : -550V; DEV: 0: -350V	Dev Off	-350V
05	LSU	LSU Run	● On ● Off ● Ready	LSU Stop	020mV
06	PickUp	Pickup On		Pickup Off	
07	PEmpty		● Paper Empty ● ●		
08	Sensor		● ● Exit ● Feed		
09	Cover		● Cover Open ● ●		
10	Fuser	Fuser On		Fuser Off	
11	HotBurn	HotBurn On			
12	Clean Print	Clean Printing			
13	Thv Reference		● low ● adequate ● high		
14	PTL	PTL On		PTL Off	PTL No.
15	FAN	Fan On		Fan Off	
16	Manual PickUp	Manual Pickup On		Manual Pickup Off	
17	Manual Sensor		● Manual Sensor ● ●		

4.1.6.4 Self Test Button

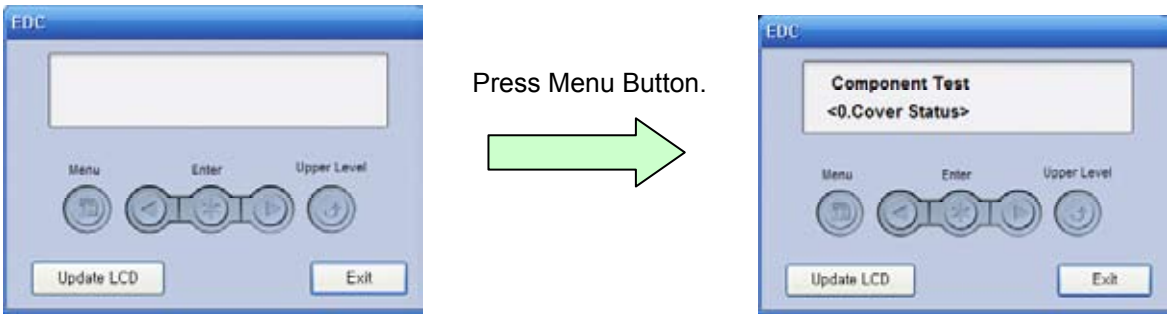
If the Self-Test button pressed, vertical lines are printed.

Turn the power on while pressing this button, ‘89’ shows in the DCU and the printer is warming up. After warmingup the printer is in READY Mode, and ‘88’ shows in the DCU. In this mode, without any detection, the printer begins printing(trial printing and data from the PC). It is convenient to use this mode when the engine malfunction is detected in the control board.

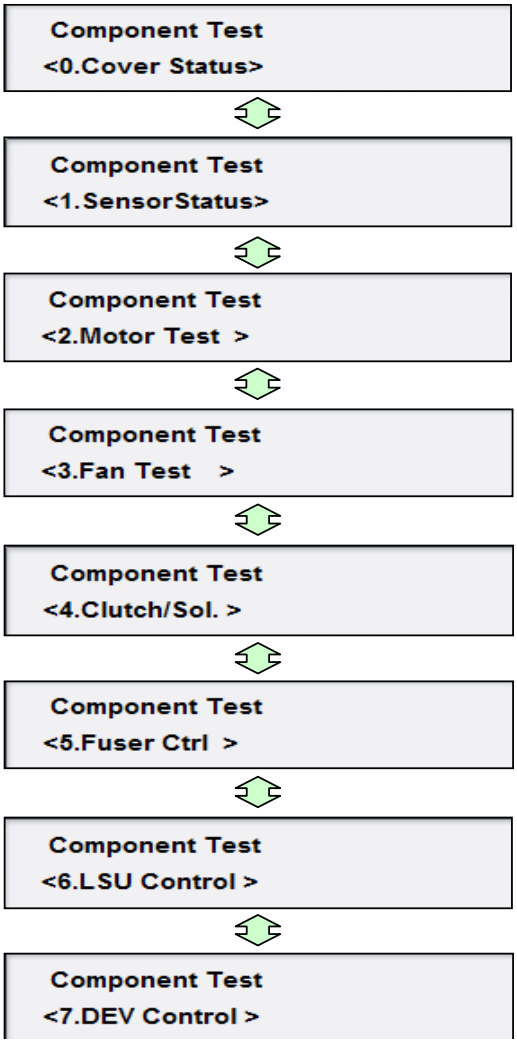
4.1.7 EDC Mode (Only ML-2580)

■ Method to enter

1. Connect only one printer to the computer using USB cable.
2. Power up the printer and wait for the printer to finish initializing.
3. Start EDC utility.
4. To get out of the EDC Mode, Press the “Exit” button.



* Use the only ML-2580 EDC program. Do not use the CLP-310 series EDC program.



■ EDC Mode Menu

0. Cover Status

Item	Description
Front Cover	When the front cover opened, “Open” message display LCD. If the front cover closed, “Closed” message display LCD.

1. Sensor Status

Item	Description
Regi/Feed/Exit Sensor	Manually open and close the actuator of the sensor [Regi, Feed, and/or Exit Sensor] you wish to check, the message “Without Paper” and “With Paper” message will be displayed.
Empty	Manually open and close the actuator of the Empty Sensor, the message “Present” and “Empty” message will be displayed.

2. Motor Test

Item	Description
Main Mtr Nor.	If “OK” key is pushed after “ON” displayed, motor will be run. Main motor will auto - stop after 60 seconds and ”OFF” message will be displayed.
Slow	If “OK” key is pushed after “ON” displayed, motor will be slowly run. Main motor will auto - stop after 60 seconds and ”OFF” message will be displayed.

3. Fan Test

Item	Description
Fuser Fan	If “OK” key is pushed after “ON” displayed, fan will be run. Fuser fan will auto - stop after 10 seconds and ”OFF” message will be displayed.

4. Clutch Test

Item	Description
Pick up Clutch	When “OK” key is pushed after ”ON” message displayed, clutch turns on. Pick up Clutch will be turn off after 3 seconds and ”OFF” message will be displayed.
Regi Clutch	When “OK” key is pushed after ”ON” message displayed, clutch turns on. Regi Clutch will be turn off after 3 seconds and ”OFF” message will be displayed.

5. Fuser Ctrl

Item	Description
Temp Control	Fuser on and off. “ON” is selected, fuser will be active and display the fuser temperature [XXX] but “OFF” is selected, fuser will be stop.
Fuser Temp.	Fuser temperature displayed on LCD (example: [170])

6. LSU Control

Item	Description
LD Power	When “OK” key is pushed after ”ON” message displayed, ”OFF” message will be displayed after 10 seconds
LSU Motor	If “OK” key is pushed after “ON” displayed, motor will be run. LSU motor will auto - stop after 10 seconds and ”OFF” message will be displayed.
LSU Ready	If “OK” key is pushed after “ON” displayed, motor will be run. ”1” message will be displayed.
Hsync	If “OK” key is pushed after “ON” displayed, motor will be run. ”1” message will be displayed.

7. DEV Control

Item	Description
THV (+)	If “OK” key is pushed after “ON” displayed, THV (+) will be turned on.
THV (-)	If “OK” key is pushed after “ON” displayed, THV (-) will be turned on.
Dev Bias	If “OK” key is pushed after “ON” displayed, Dev Bias will be turned on.
MHV Bias	If “OK” key is pushed after “ON” displayed, MHV Bias will be turned on.

■ ACRONYMS AND Explanation

- DEV – Developing High Voltage
- EDC – Embedded Diagnostic Control
- F/W – Firmware
- HVPS – High Voltage Power Supply
- H/W – Hardware
- LD – Laser Diode
- LSU – Laser Scanning Unit
- MHV – Main High Voltage (Charge Voltage)
- OPC – Optical Photo Conductor
- SCF – Second Cassette Feeder
- THV – Transfer High Voltage

4.1.8 Firmware upgrade

Normal Download method	ML-1910 ML-2525	1. In DOS prompt types “Usbprns [rom file name]” and press enter. 2. When download start, LED behavior will be as bellow. - Erase: Error(red) status LED will be on. - Write: Ready and error status LED will be both on(orange). 3. When download complete automatically power off/on.
	ML-2580	1. In DOS prompt types “Usblist2 [rom file name]” and press enter. 2. When download mode start, LED behavior will be as bellow. - Erase & Write: Status (orange) and JAM(orange) LED will be both blink. 3. When download complete automatically power off/on.
Boot Download method	ML-1910 ML-2525	1. Press ‘Stop’ key when power on 2. When boot download mode ready, LED behavior will be as bellow. - Ready(green) and error(red) status LED will be blink. 3. In DOS prompt types “Usbprns [rom file name]” and press enter. 4. When download start, LED behavior will be as bellow. - Erase: Error(red) status LED will be on. - Write: Ready and error status LED will be both on(orange). 5. When download complete automatically power off/on.
	ML-2580	1. Press ‘Stop’ key when power on 2. When boot download mode ready, LED behavior will be as bellow. - Status (orange) and JAM(orange) LED will be on. 3. In DOS prompt types “Usblist2 [rom file name]” and press enter. 4. When download start, LED behavior will be as bellow. - Erase & Write: Status (orange) and JAM(orange) LED will be both blink. 5. When download complete automatically power off/on.

4.1.9 Using the smart panel program

Smart Panel is a program that monitors and informs you of the machine status, and allows you to customize the machine's settings. Smart Panel is installed automatically when you install the machine software.

To use this program, you need the following system requirements:

- Windows. Check for windows operating system(s) compatible with your machine.
- Mac OS X 10.3 or higher
- Linux. Check for Linux systems that are compatible with your machine.
- Internet Explorer version 5.0 or higher for flash animation in HTML Help.

If you need to know the exact model name of your machine, you can check the supplied software CD.

4.1.9.1 Understanding Smart Panel

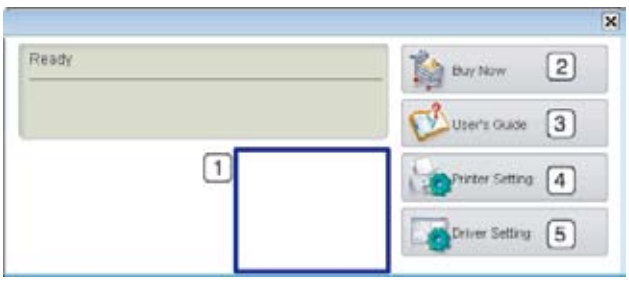
If an error occurs while printing, you can check the error from the Smart Panel.
You can also launch Smart Panel manually. Double-click the Smart Panel icon on the Windows task bar (in Windows), or Notification Area (in Linux).
You can also click it on the status bar (in Mac OS X).

Windows	Double-click this icon in Windows.
Macintosh	Click this icon in Mac OS X.
Linux	Click this icon in Linux.

Or, if you are a Windows user, you can launch it from the Start menu, select Programs or All Programs > Samsung Printers > your printer driver name > Smart Panel.

- If you have already installed more than one Samsung machine, first select the correct machine model you want in order to access the corresponding Smart Panel.
  Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select your machine.
- The Smart Panel window and its contents shown in this user's guide may differ depending on the machine or operating system in use.

The Smart Panel program displays the current status of the machine, the level of toner remaining in the toner cartridge(s), and various other types of information. You can also change settings.



1	**Toner Level**	View the level of toner remaining in the toner cartridge(s). The machine and the number of toner cartridge(s) shown in the above window may differ depending on the machine in use. Some machines do not have this feature.
2	**Buy Now**	Order replacement toner cartridge(s) online.
3	**User's Guide**	View User's Guide. This button changes to Troubleshooting Guide when error occurs. You can directly open troubleshooting section in the user's guide.
4	**Printer Setting (ML-2580 Series only)**	Configure various machine settings in the Printer Settings Utility window. Some machines do not have this feature. If you connect your machine to a network, the SyncThru™ Web Service window appears instead of the Printer Settings Utility window.
5	**Driver Setting**	Set all of the machine options you need in the Printer Preferences window. This feature is available only for Windows.

4.1.9.2 Opening the Troubleshooting Guide

Find solutions for problems by using the Troubleshooting Guide.
Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select Troubleshooting Guide.

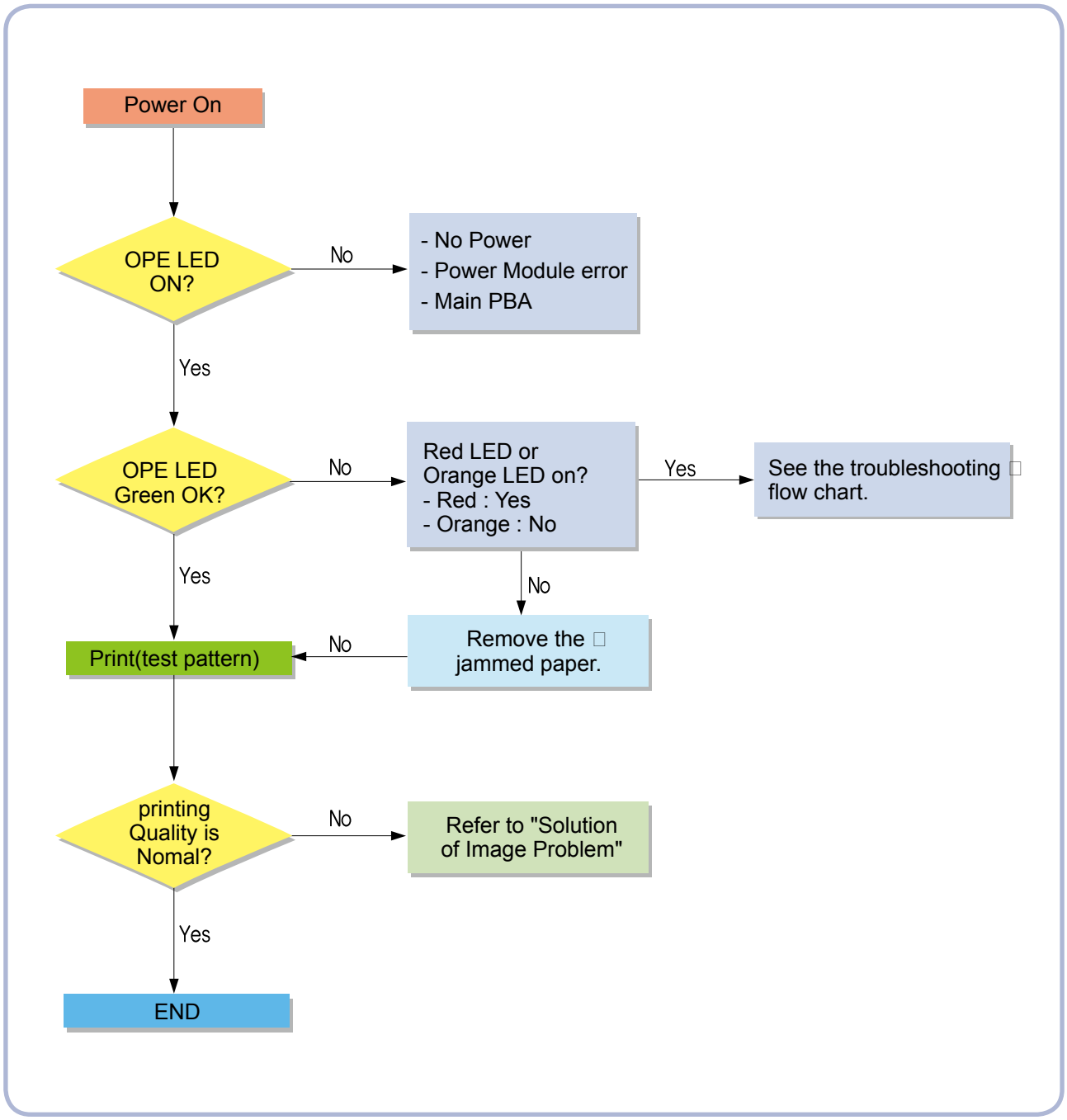
4.1.9.3 Changing the Smart Panel Program Settings

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select Options. Select the settings you want from the Options window.

4.2 Troubleshooting

4.2.1 Procedure of Checking the Symptoms

Before attempting to repair the printer first obtain a detailed description of the problem from the customer.



4.2.1.1 Basic Check List

1. Check the Power.

• Check that the power switch is turned on.
• Check that the power cable is plugged into the outlet and the printer.
• Check the voltage of the power outlet.

2. Check the LED of Panel.

• Is there OPE LED ON?
--> If not check power cable, switch SMPS or Main board.

• Is the abnormal Lamp?
--> Check the main PBA and cable harness.

3. Check the Paper Path

• Is there a Paper Jam?
--> Remove any paper fragments caught in the paper path.

• Paper Jam occurs repeatedly at a specific point in the Paper Path
--> Open the fuser cover, Jam clear.
--> Dismantle the machine and carefully inspect the region where the jam occurs.
(Especially, check if paper fragments are caught in the Fuser

4. Print the Information Page (Configuration).

• Try printing a test page from a computer.
--> If there is an error check cables and driver installation.

5. Check the Print Quality.

• Is there are a Print Quality Problem?
--> Refer to section 4.2.5

6. Check consumables (toner etc.).

• Using the keys print the Test Pattern.
--> Expected life of various consumable parts, compare this with the figures printed and replace as required

4.2.1.2 Initial Inspection

1. Check Power part

1. The printer does not work no matter how long you wait.
   A. Is the Power Switch (printer and wall socket) turned on ?
   B. Is the Power Cord connected to the printer correctly ?
   C. Is the Power cord connected to the wall socket correctly ?
   D. Is wall socket working ?
   E. Is the unit rated at the same voltage as the supply ?
2. Does the Fan work when power is turned on?
   A. Check the connectors on the SMPS.
   B. Check the fuses in the SMPS.(F1)

2. Check the Installation Environment.

1. Ensure the installation surface is flat, level and free from vibration.
   If necessary move the printer.
2. Ensure that the temperature and humidity of the surroundings are within specification
   If necessary move the printer.
3. Ensure that the printer is position away from any air conditioning or other heating or cooling equipment.
   Also ensure that is not positioned in a direct draft from any air conditioning, fan or open window.
   If necessary move the printer.
4. Ensure the printer is not positioned in direct sunlight.
   If it is unavoidable use a curtain to shade the printer.
5. Ensure the printer is installed in a clean dust free environment.
   Move the printer to clean area if necessary.
6. Some industrial or cleaning processes give of fumes which can affect the printer.
   Move the printer away from this type of air pollution

3. Check paper type.

1. Use only paper which is of a suitable quality, weight and size?
   See the user guide.

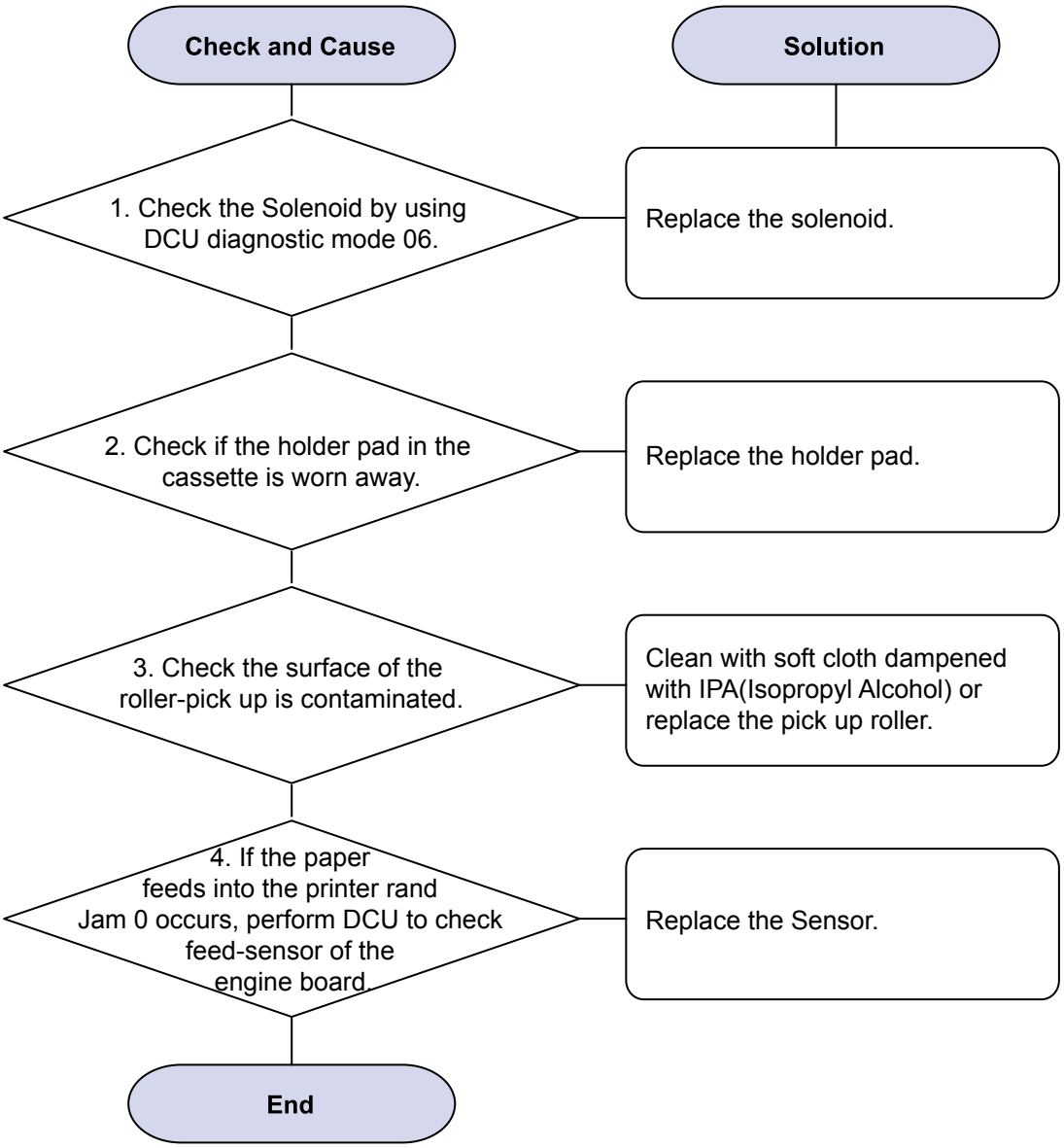
4. Check the overall condition of the printer

1. Is the printer properly maintained ?
   Clean the Paper Transport Passages.
   Any rollers with dirt surfaces should be cleaned or replaced.

4.2.2 Bad discharge

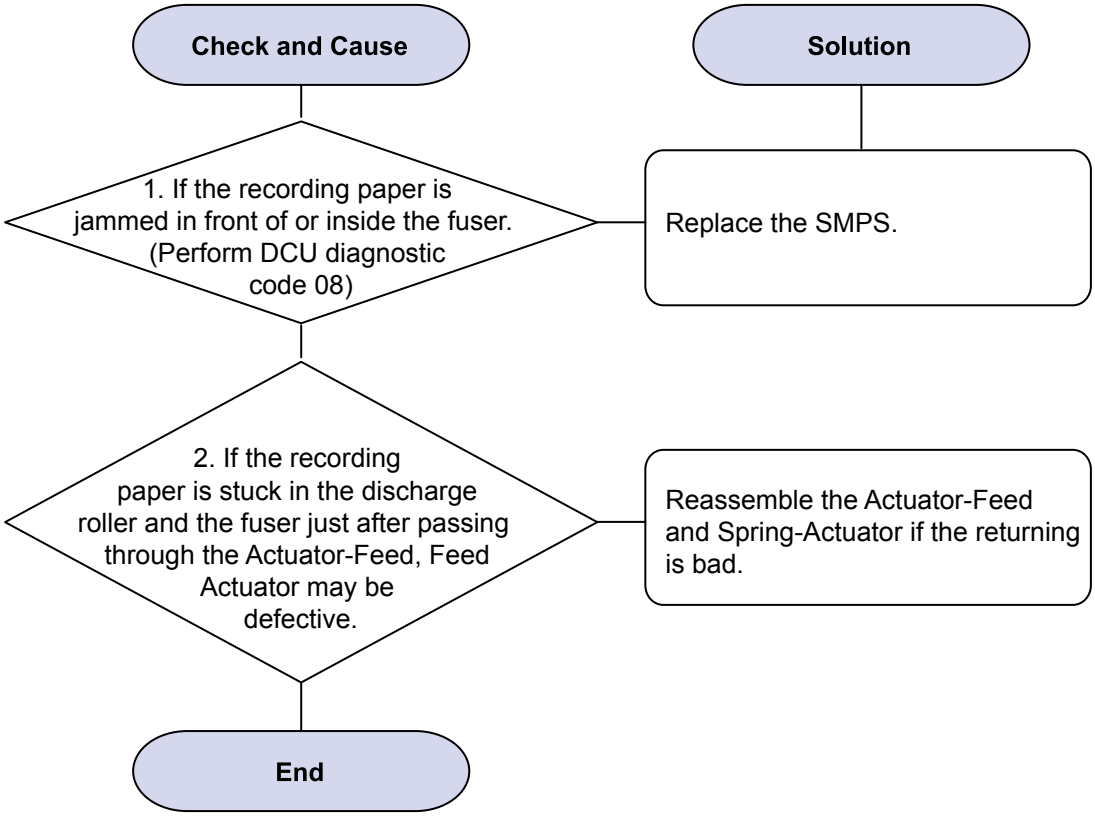
1) JAM 0

Description : 1. Paper is not exited from the cassette.
2. Jam-0 occurs if the paper feeds into the printer.



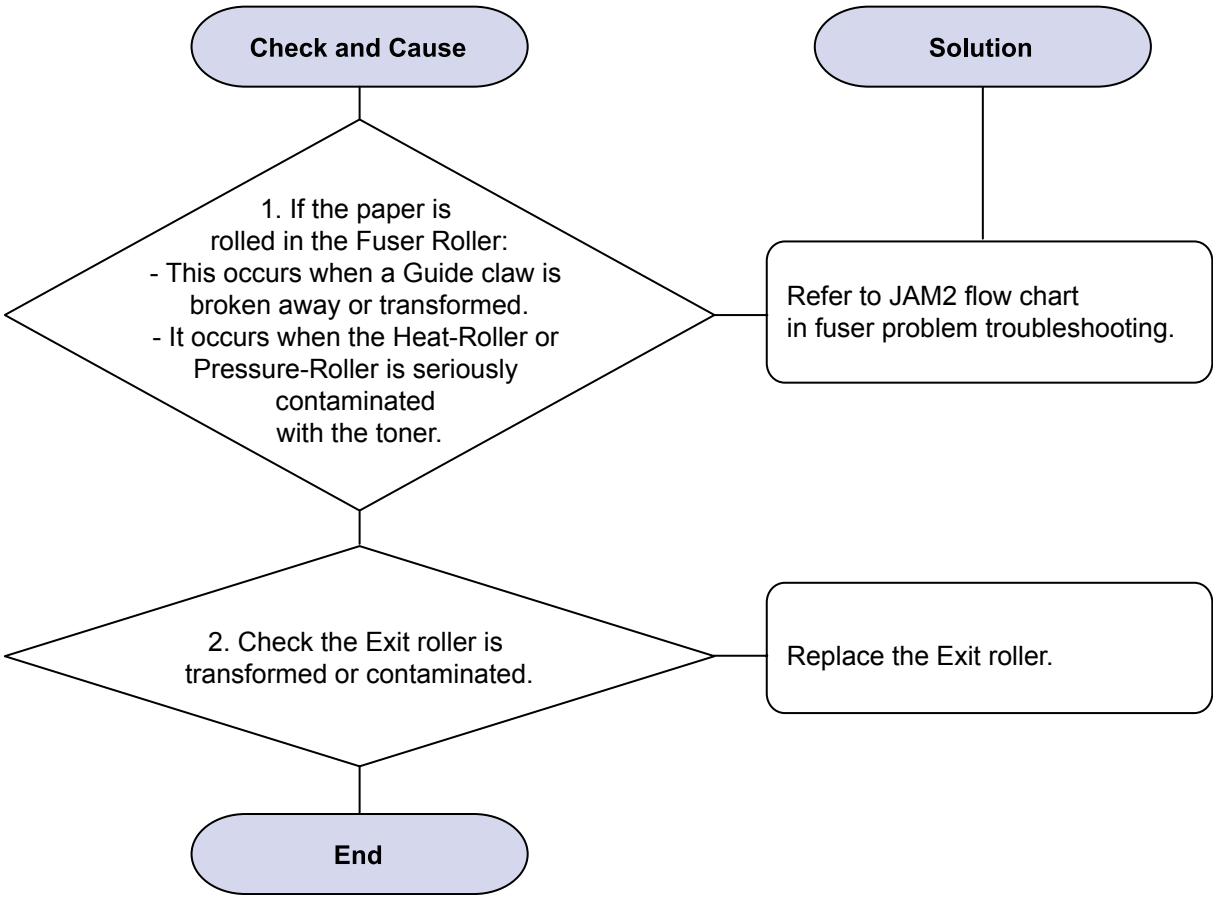
2) JAM 1

Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.



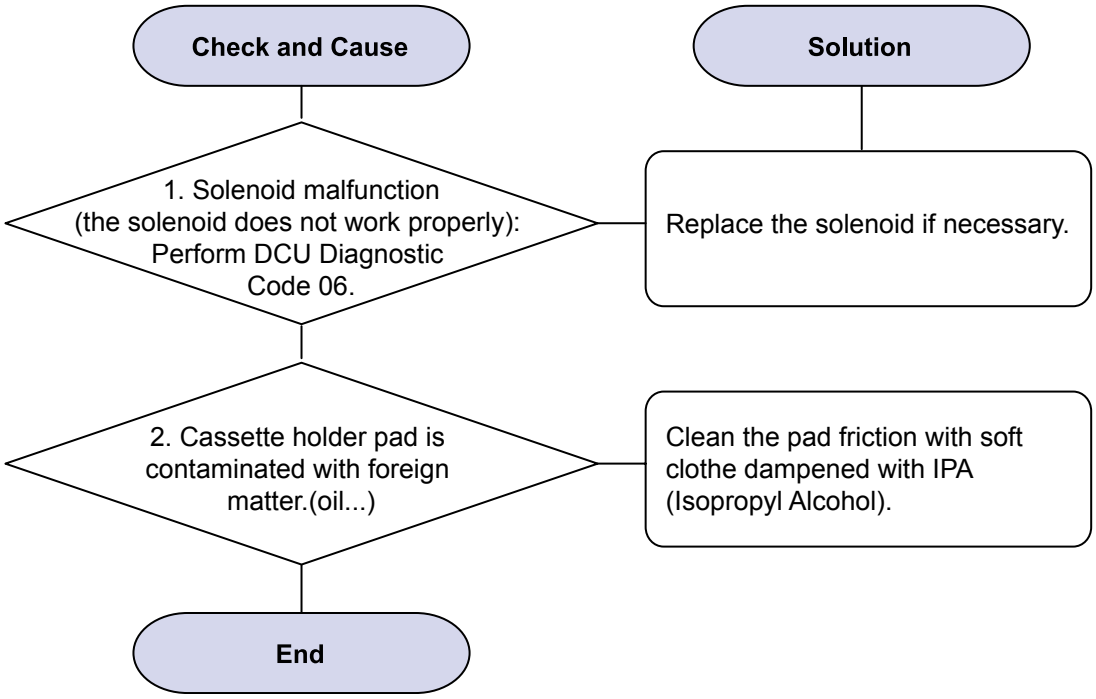
3) JAM 2

Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.



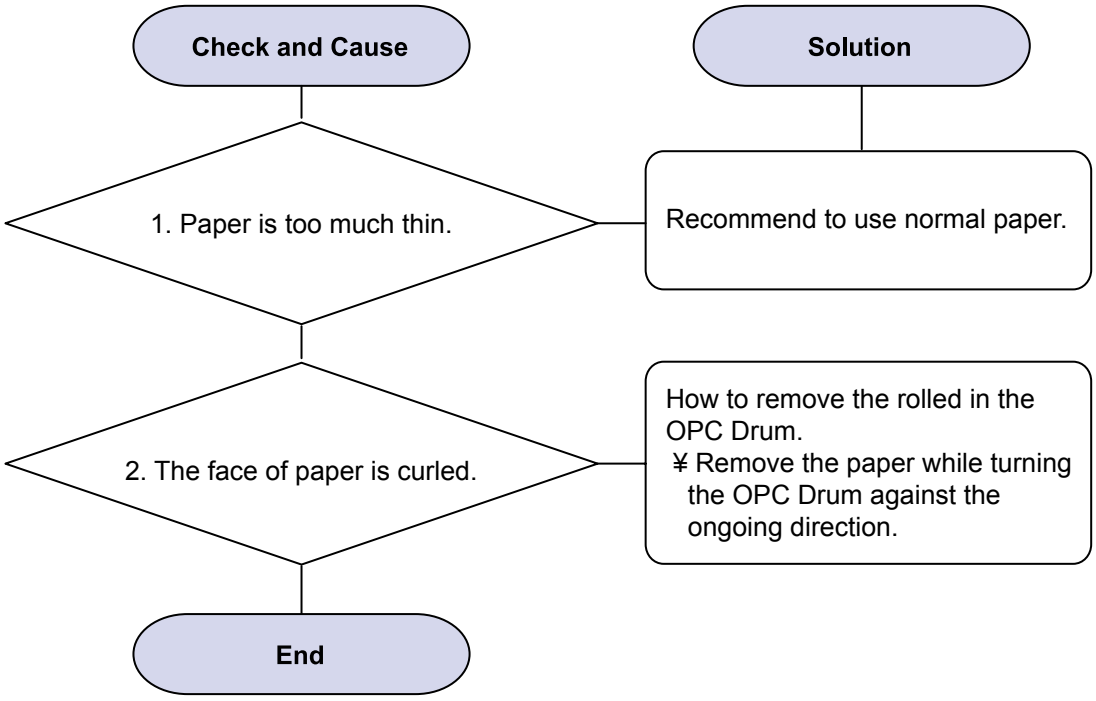
4) Multi-Feeding

Description : Multiple sheets of paper are fed at once.



5) Paper rolled on the OPC Drum

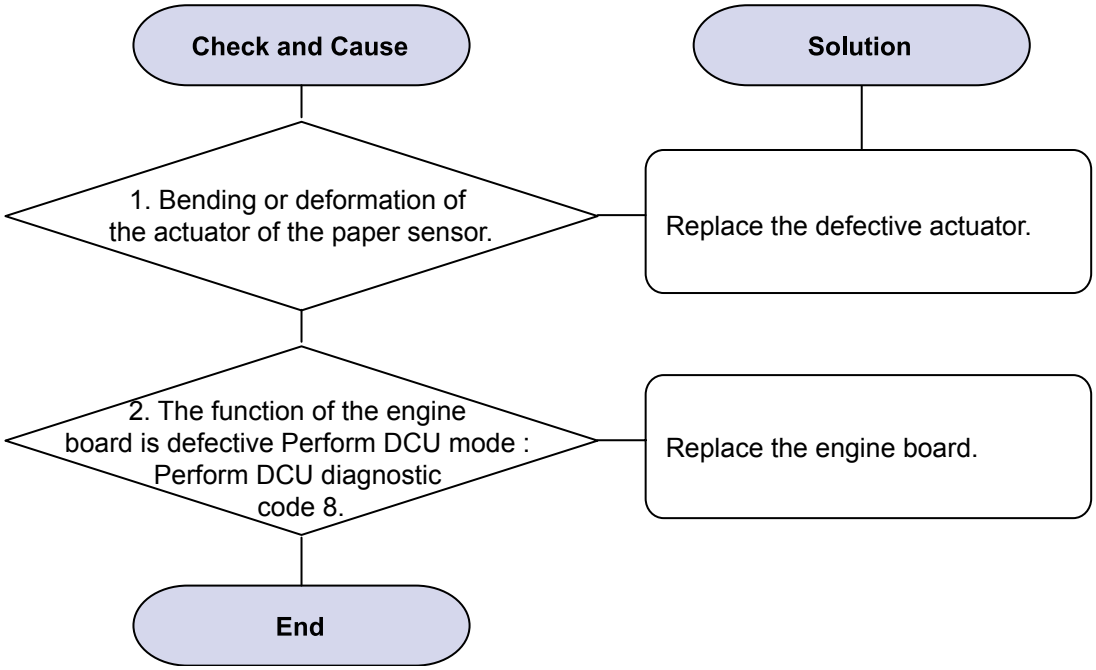
Description : Paper is rolled up in the OPC.



4.2.3 Malfunction

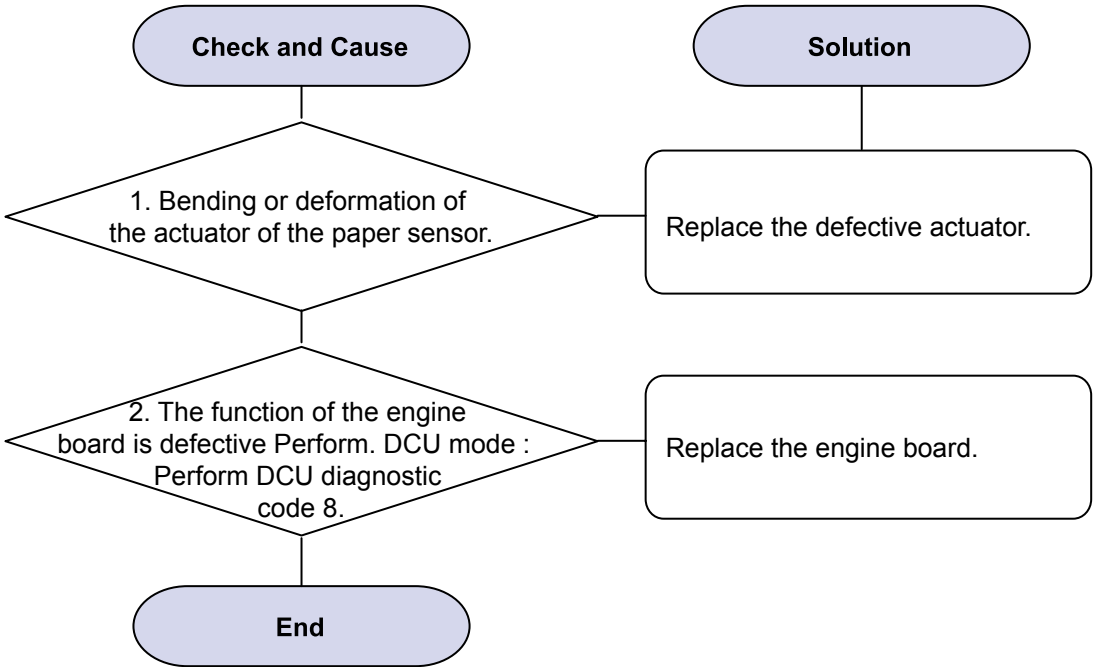
1) Paper Empty

Description : The paper lamp on the operator panel is on even when paper is loaded in the cassette.



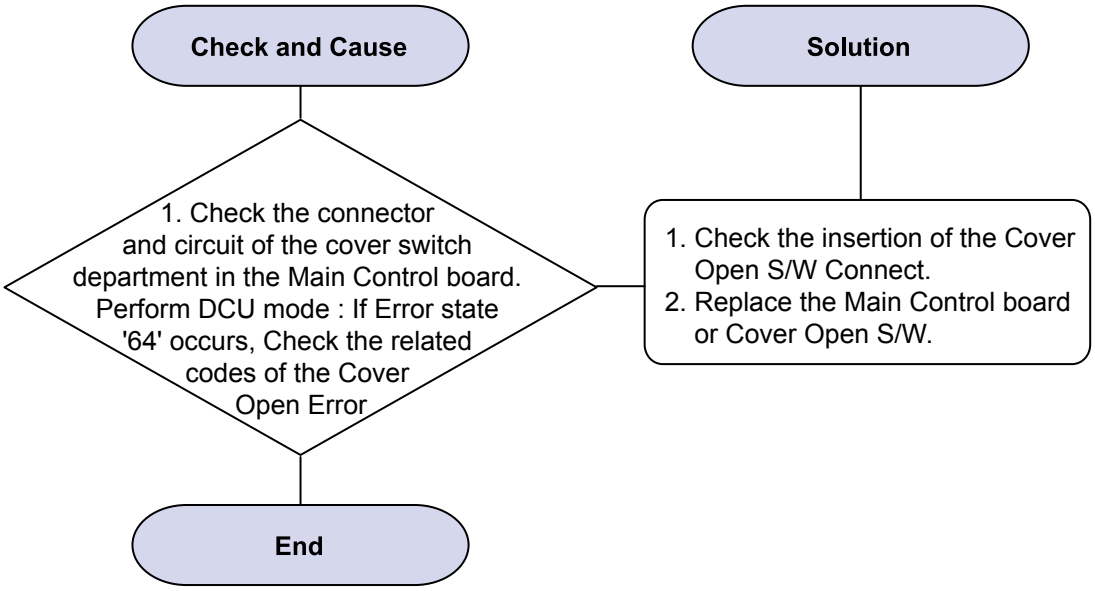
2) Paper Empty without indication

Description : The paper lamp on the operator panel does not come on when the paper cassette is empty.



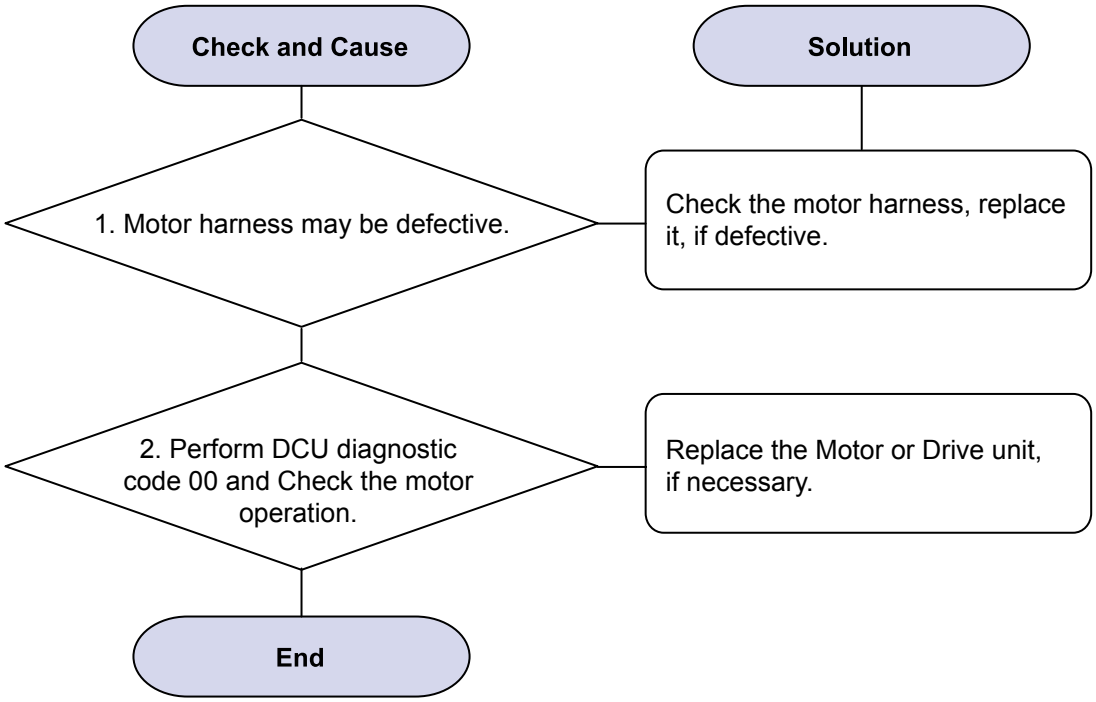
3) No lamp on when the cover is open

Description : The ERROR lamp does not come on even when the printer cover is open



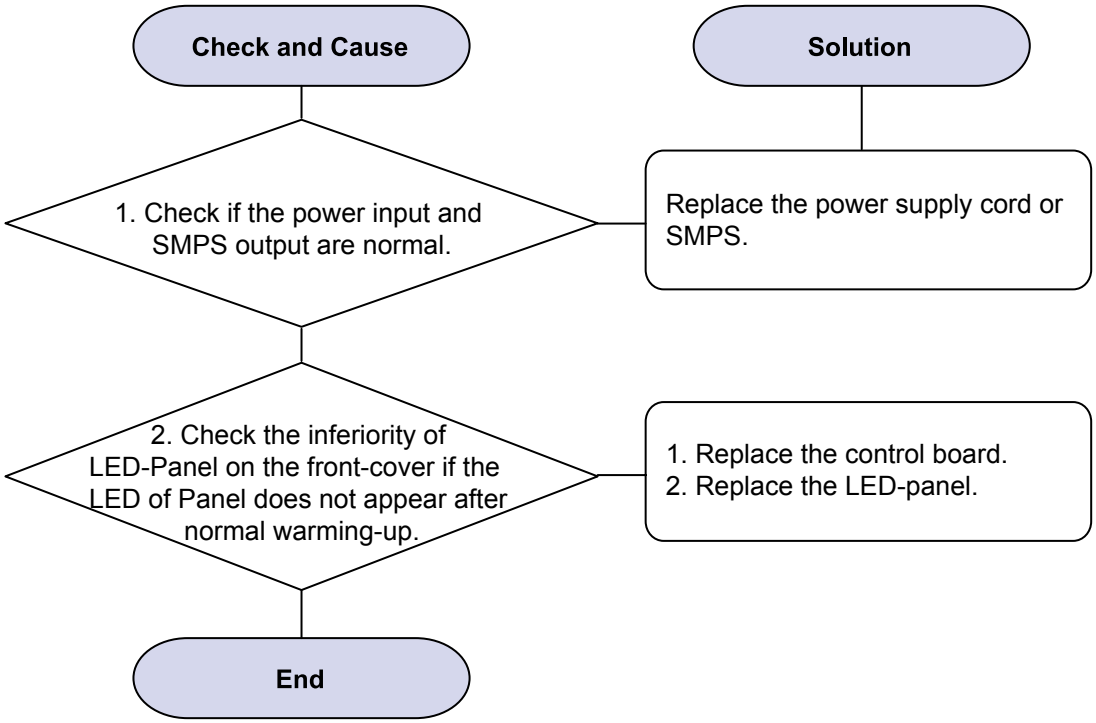
4) Defective motor operation

Description : Main motor is not driving when printing, and paper does not feed into the printer, resulting 'Jam 0'.



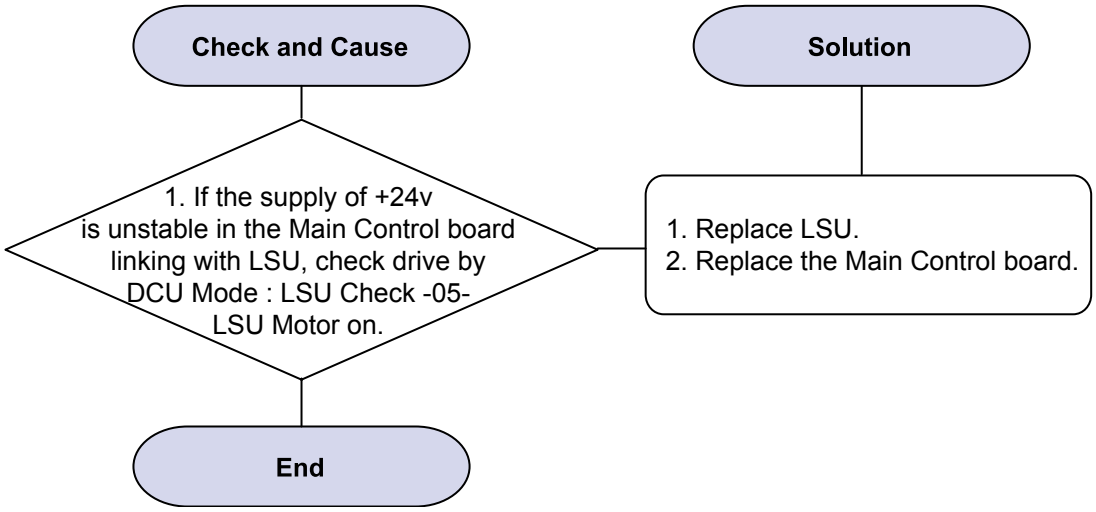
5) No Power

Description : When system power is turned on, all lamps on the operator panel do not come on.



6) Vertical Line Getting Curved

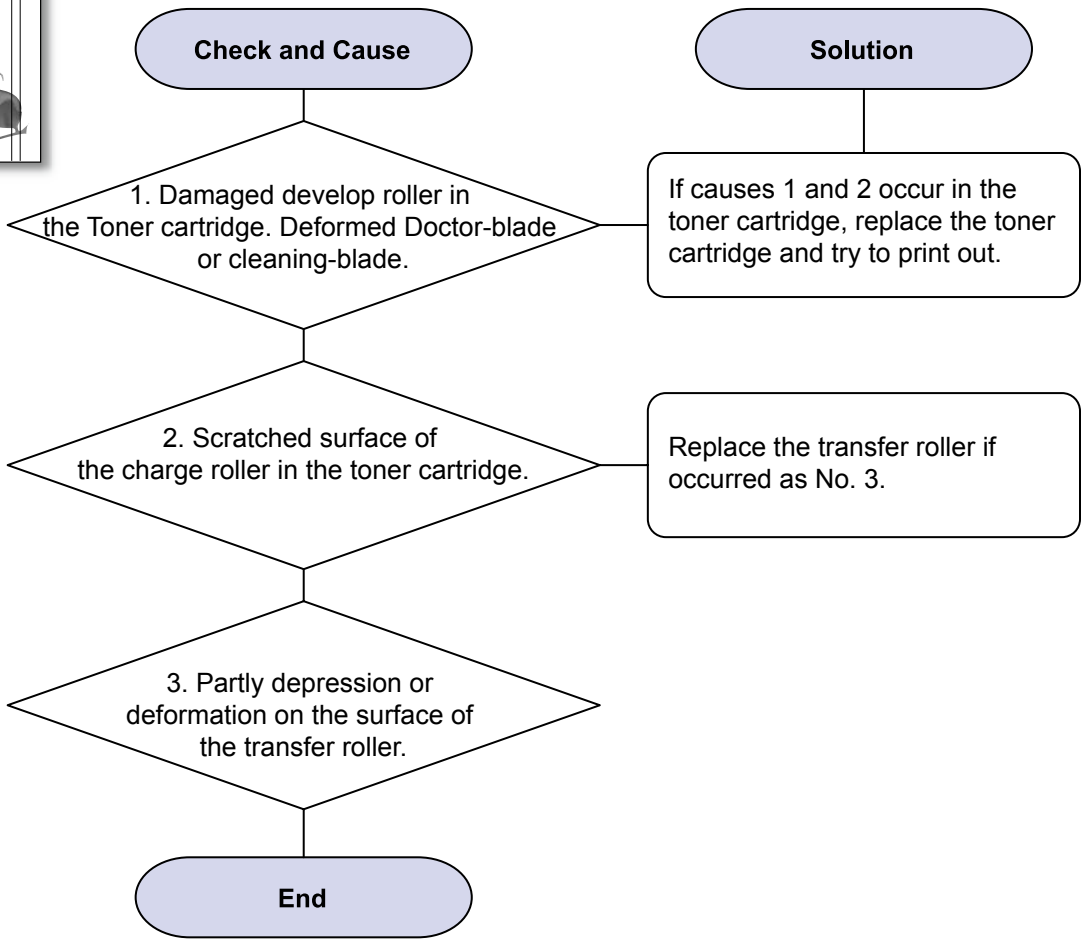
Description : When printing, vertical line gets curved.



4.2.4 Bad image

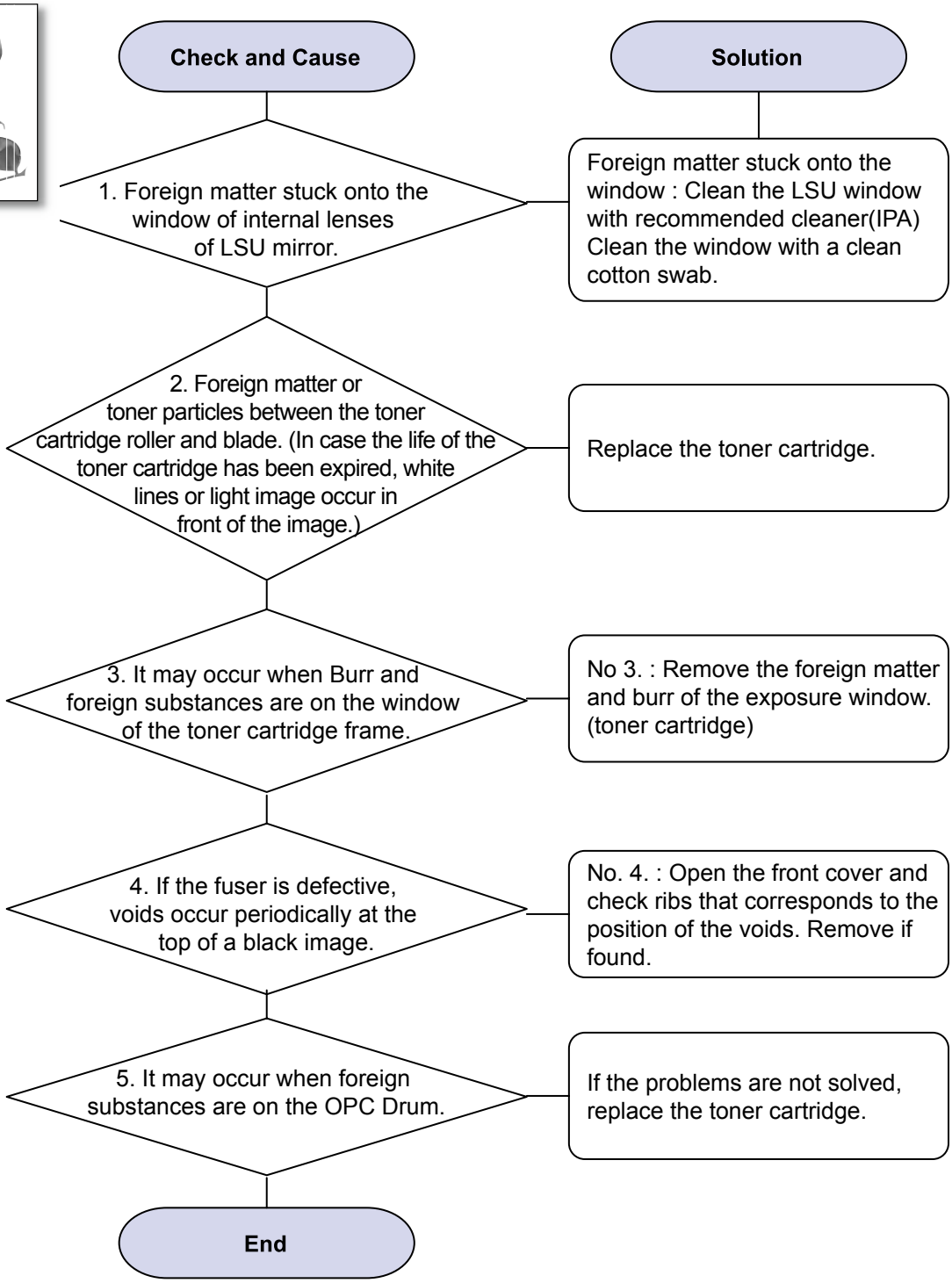
1) Vertical Black Line and Band

Description : 1. Straight thin black vertical line occurs in the printing.
2. Dark black vertical band occur in the printing.



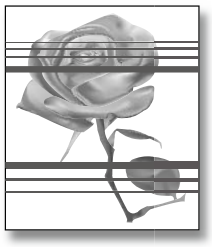
2) Vertical White Line

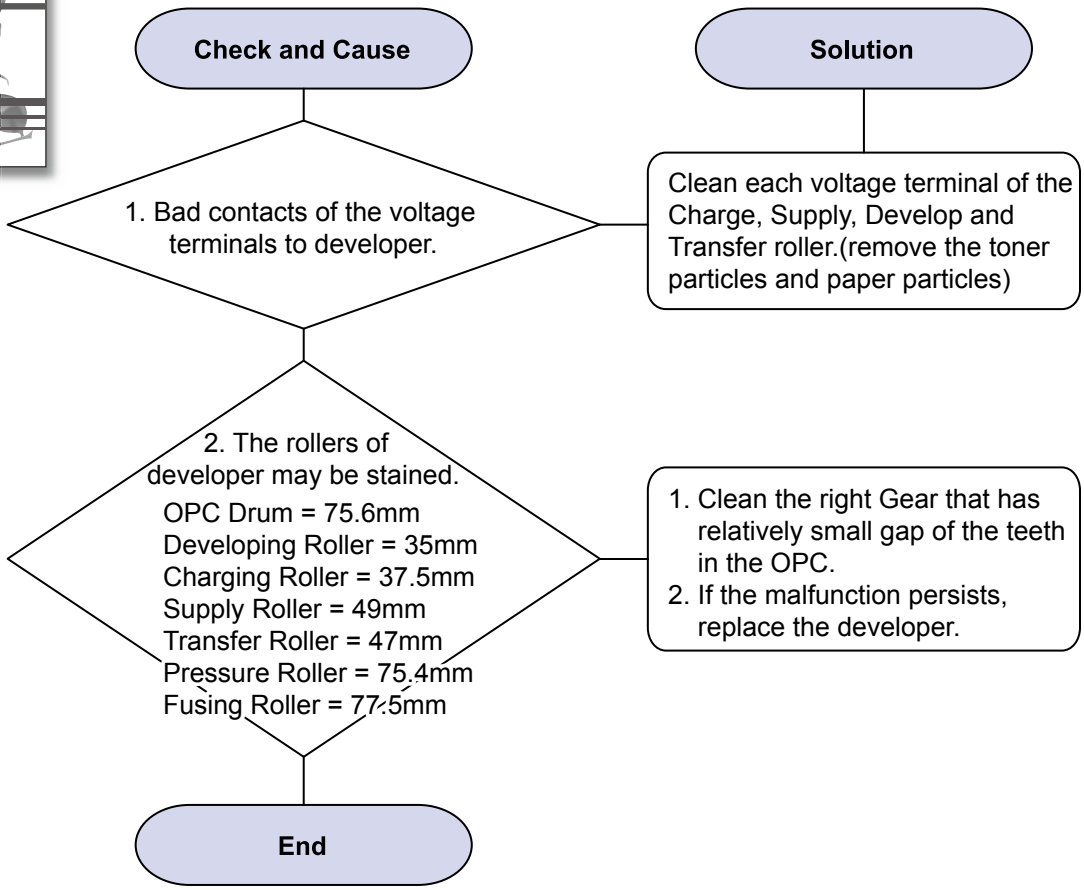
Description : White vertical voids in the image.



3) Horizontal Black Band

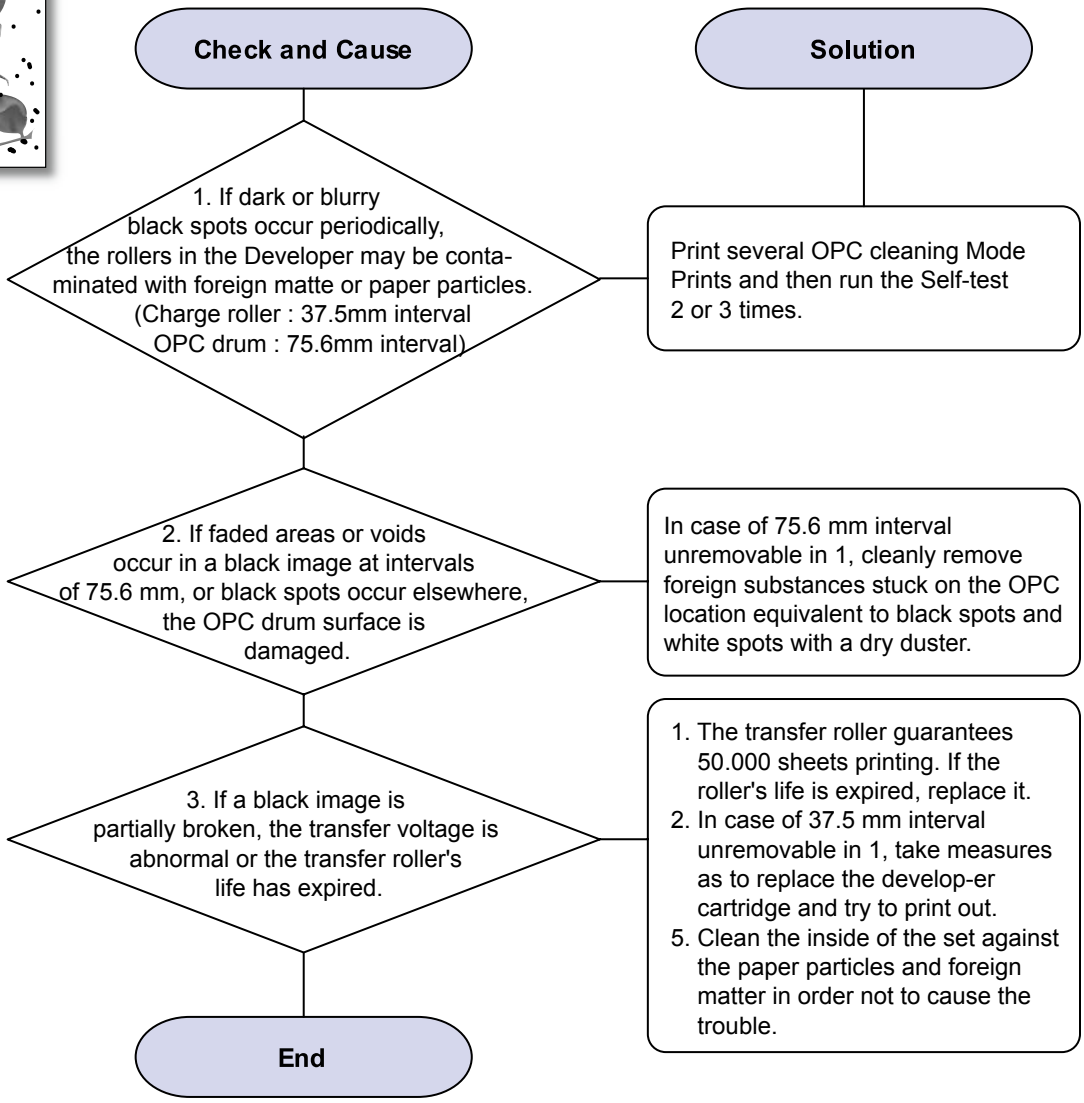
Description : Dark or blurry horizontal stripes occur in the printing periodically. (They may not occur periodically.)





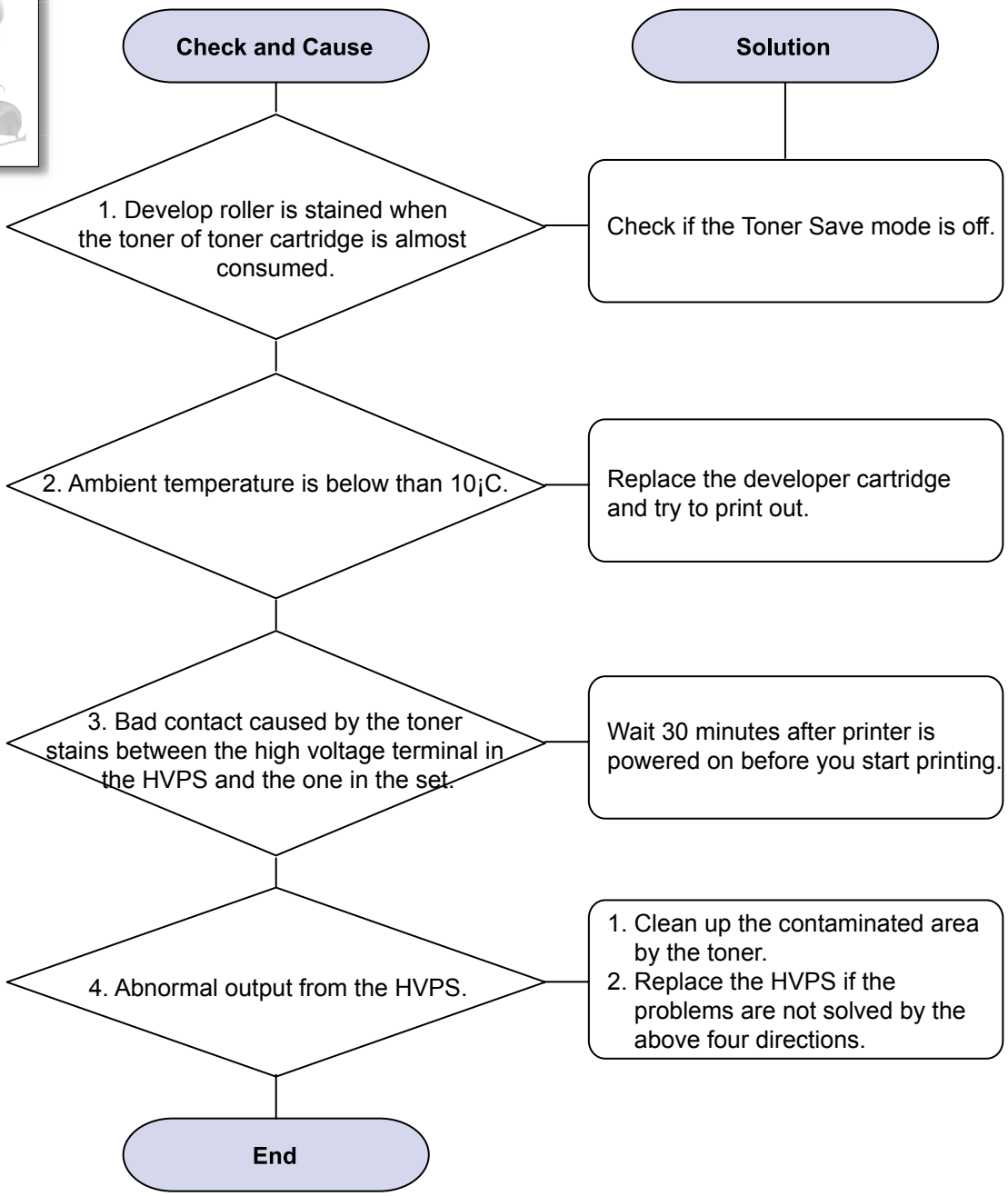
4) Black/White Spot

Description : 1. Dark or blurry spots occur periodically in the printing
2. White spots occur periodically in the printing



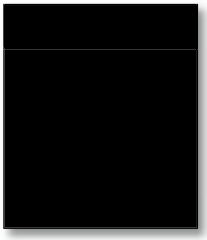
5) Light Image

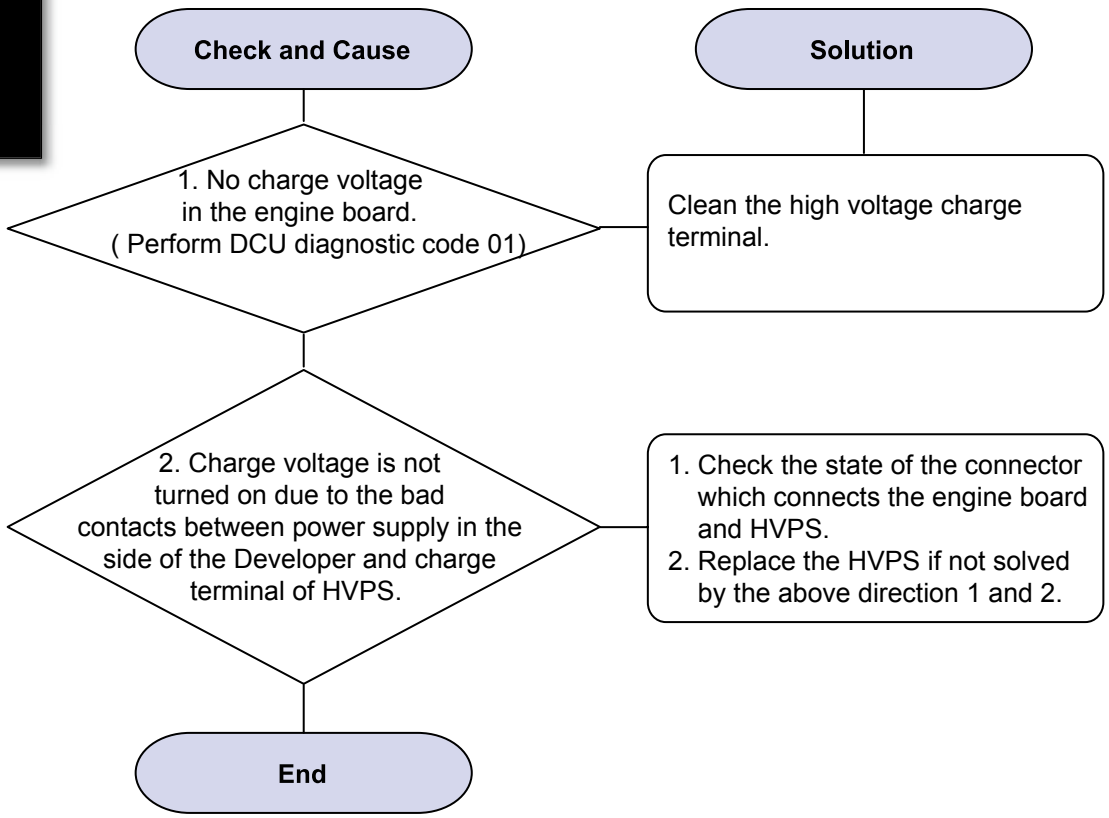
Description : The printed image is light, with no ghost.



6) Dark Image or a Black Page

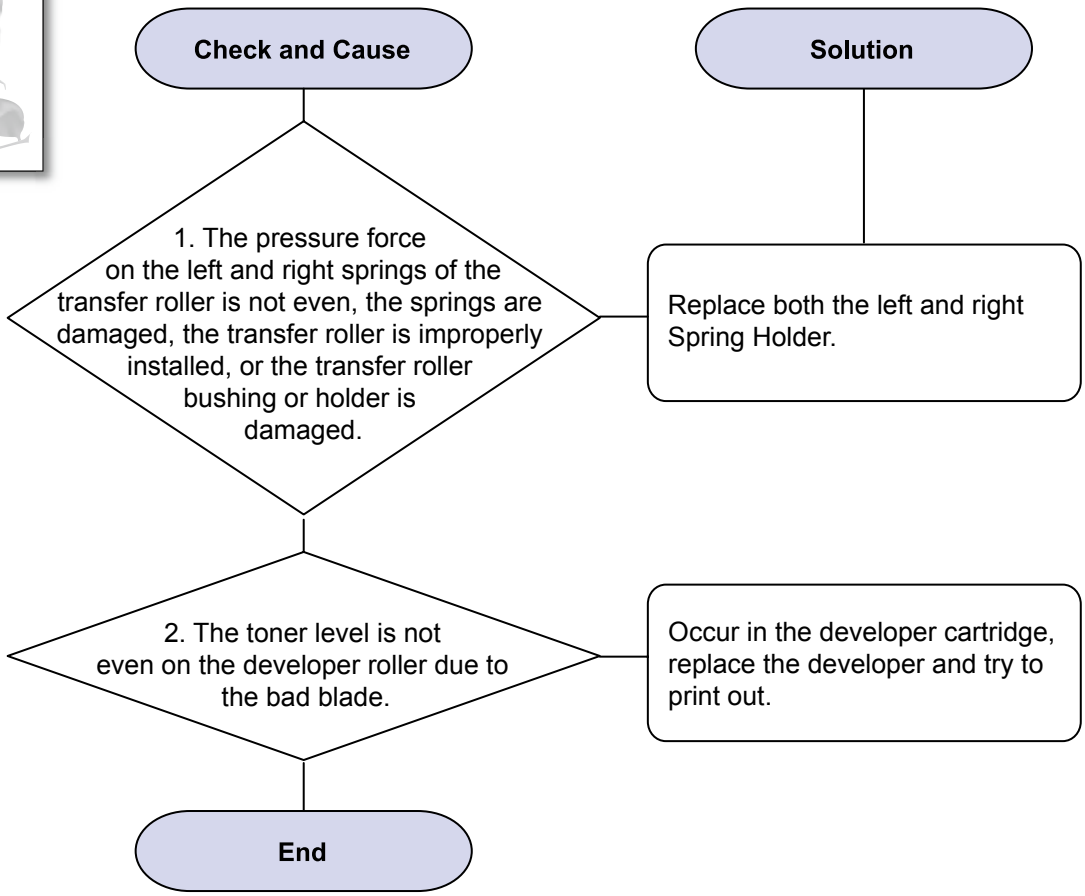
Description : The printed image is dark.





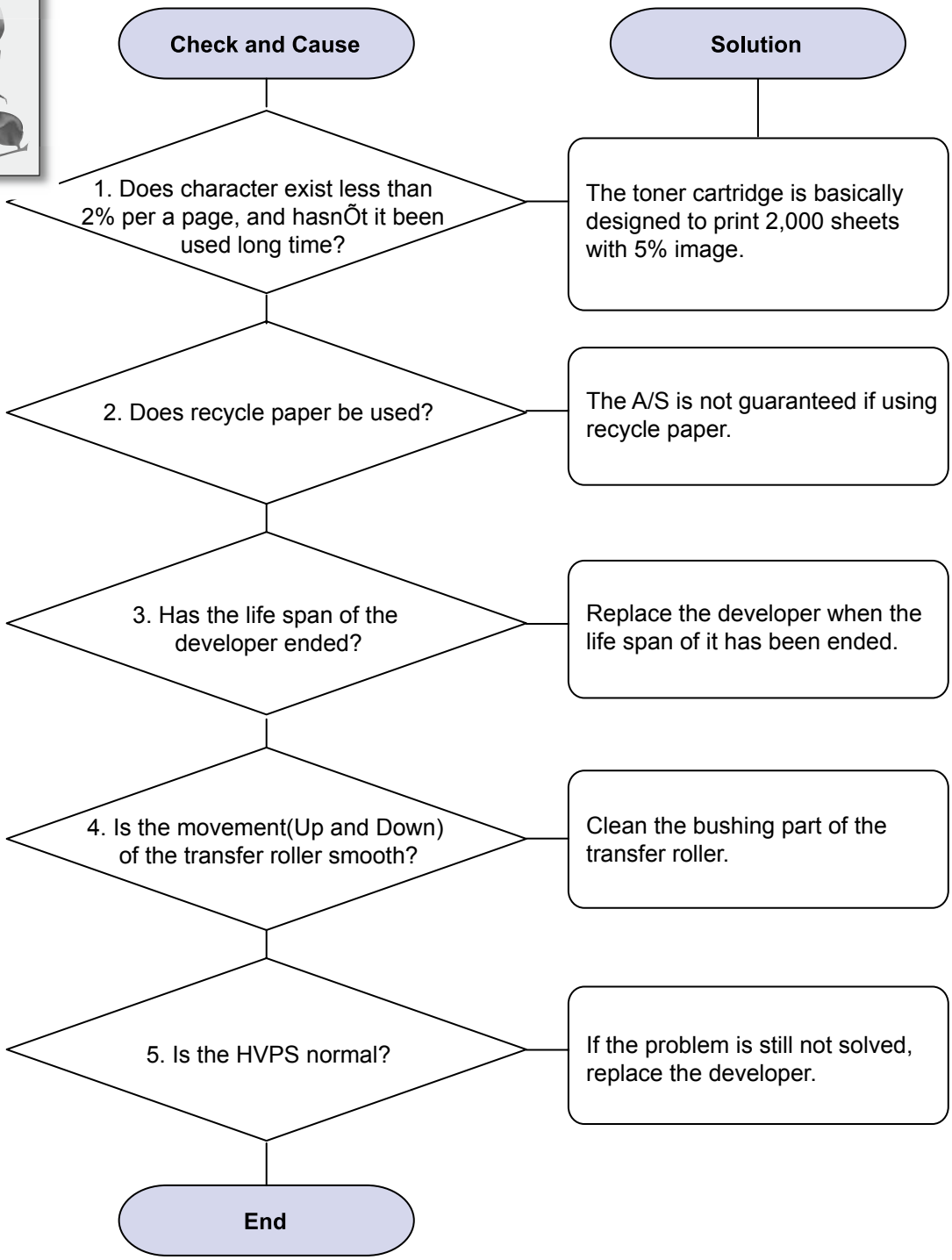
7) Uneven Density

Description : Print Density is uneven between left and right.



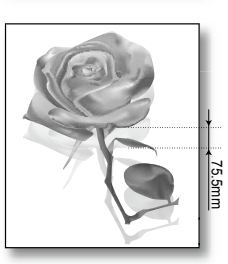
8) Background

Description : Light dark background appears in whole area of the printing.



9) Ghost (1)

Description : Ghost occurs at 75.5 mm intervals of the OPC drum in the whole printing.

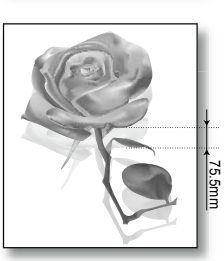


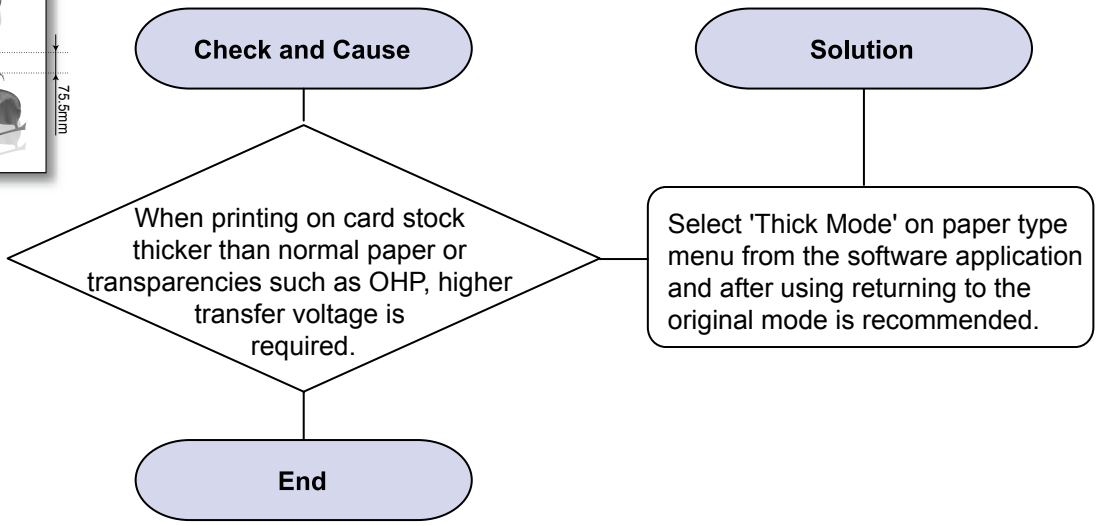
Check and Cause	Solution
1. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the electrode of the Developer.	Clean the terminals when contaminated by toner particles.
2. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the one in the HVPS board.	Occur in the developer cartridge, replace the developer and try to print out.
3. The life of developer is expired.	Replace the engine board if not solved by the above directions 1-2.
4. Transfer roller lifetime (50.000 sheets) has expired.	If not solved by the direction 3, check the transfer roller lifetime and replace it.
5. Abnormal low temperature (below 10¡C).	Wait about 1 hour after power on before using printer.

End

10) Ghost (2)

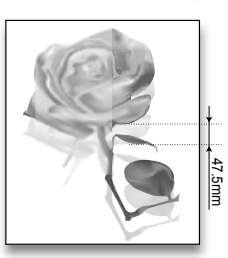
Description : Ghost occurs at 75.5 mm intervals of the OPC drum in the whole printing. (When printing on card stock or transparencies using manual feeder)

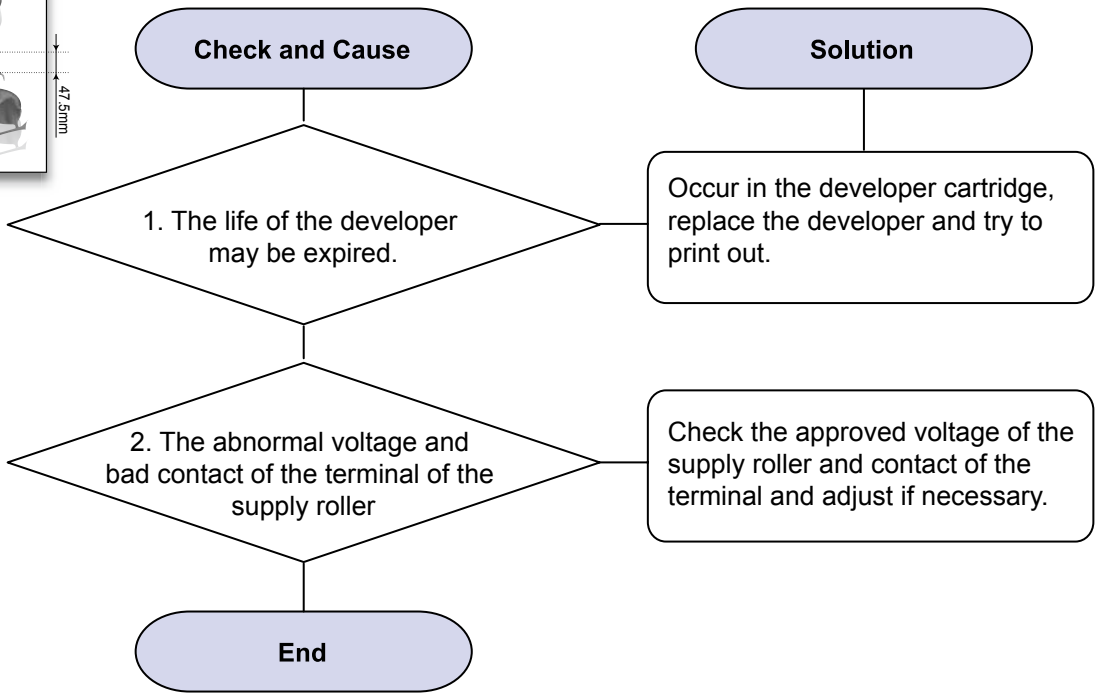




11) Ghost (3)

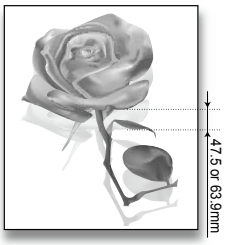
Description : White ghost occurs in the black image printing at 47.5mm intervals.

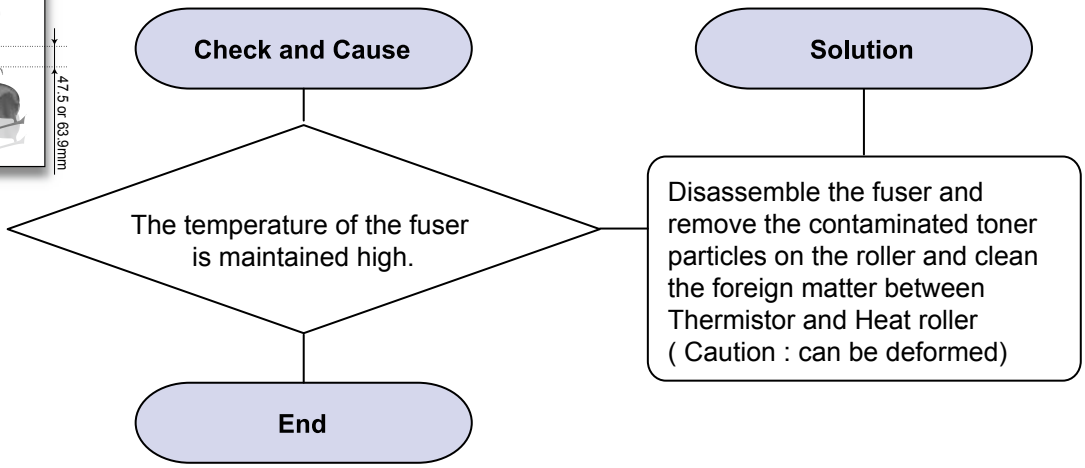




12) Ghost (4)

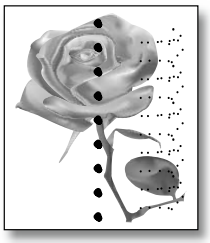
Description : Ghost occurs at 47.5mm(or 63.9mm) intervals.

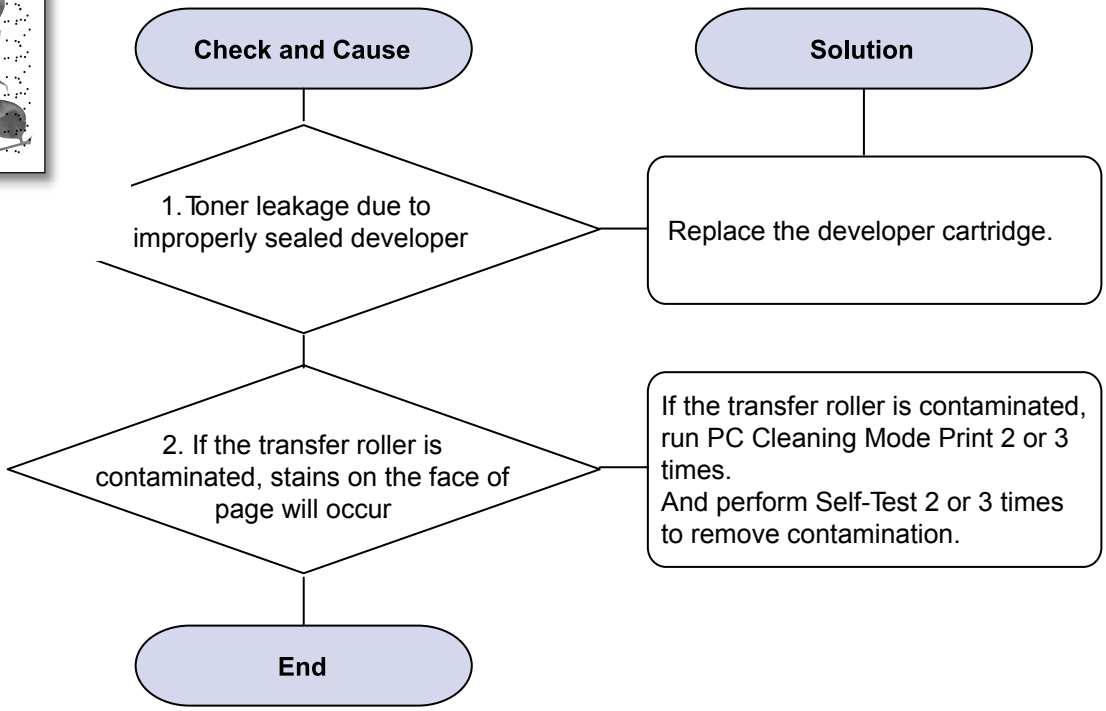




13) Stains on the Face of Page

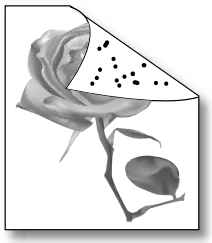
Description : The background on the face of the printed page is stained.

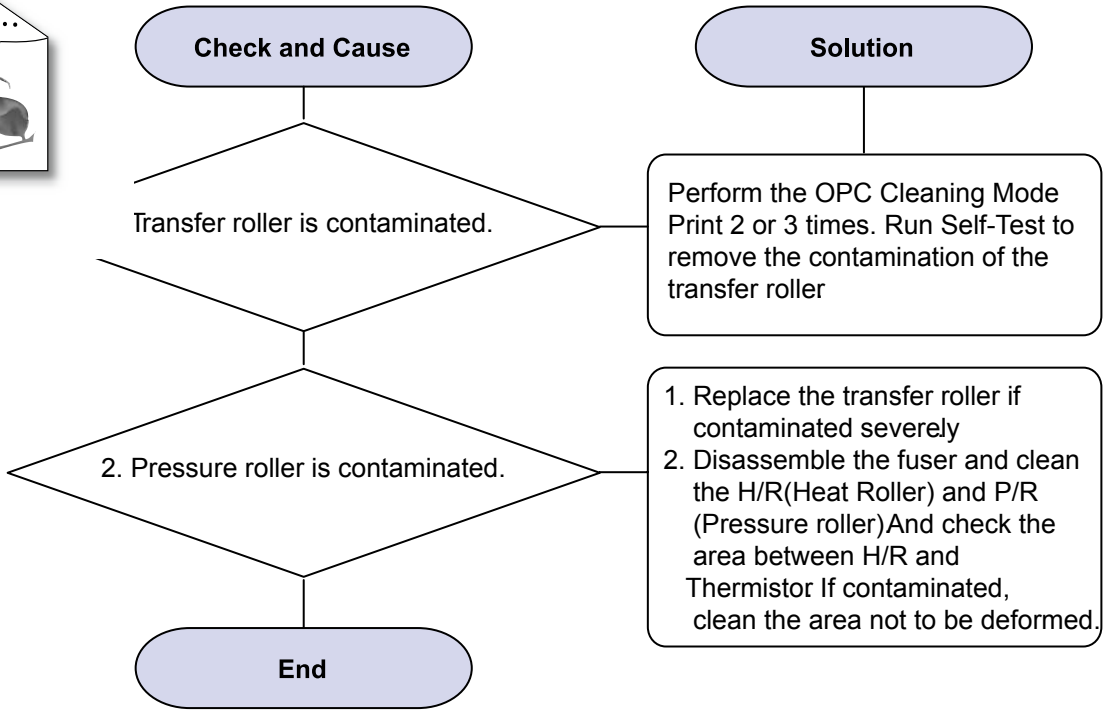




14) Stains on Back of Page

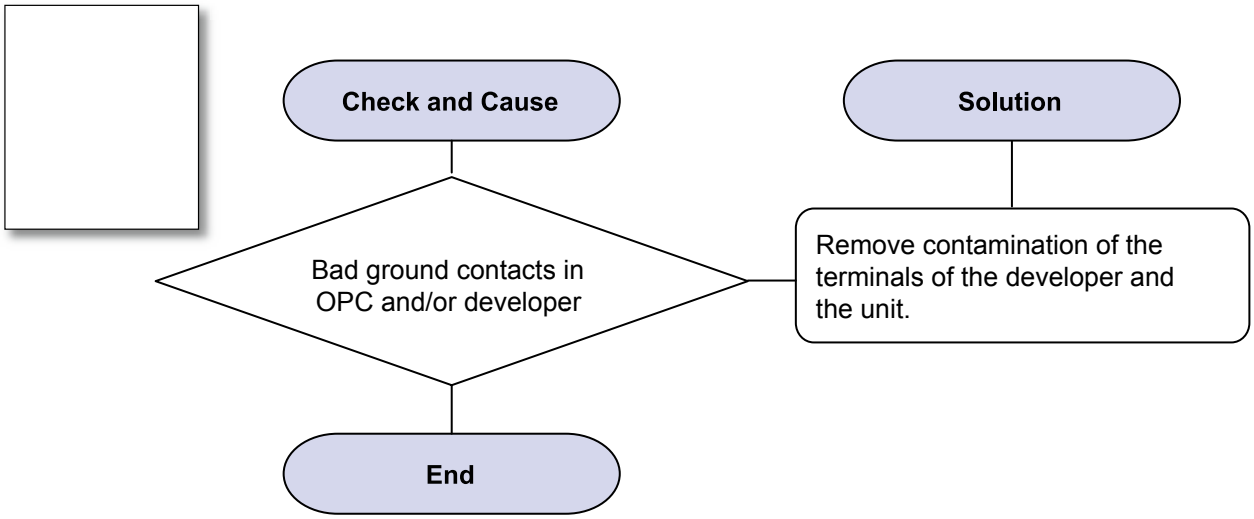
Description : The back of the page is stained at 47 mm intervals.





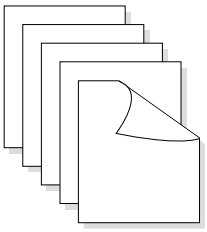
15) Blank Page Print out (1)

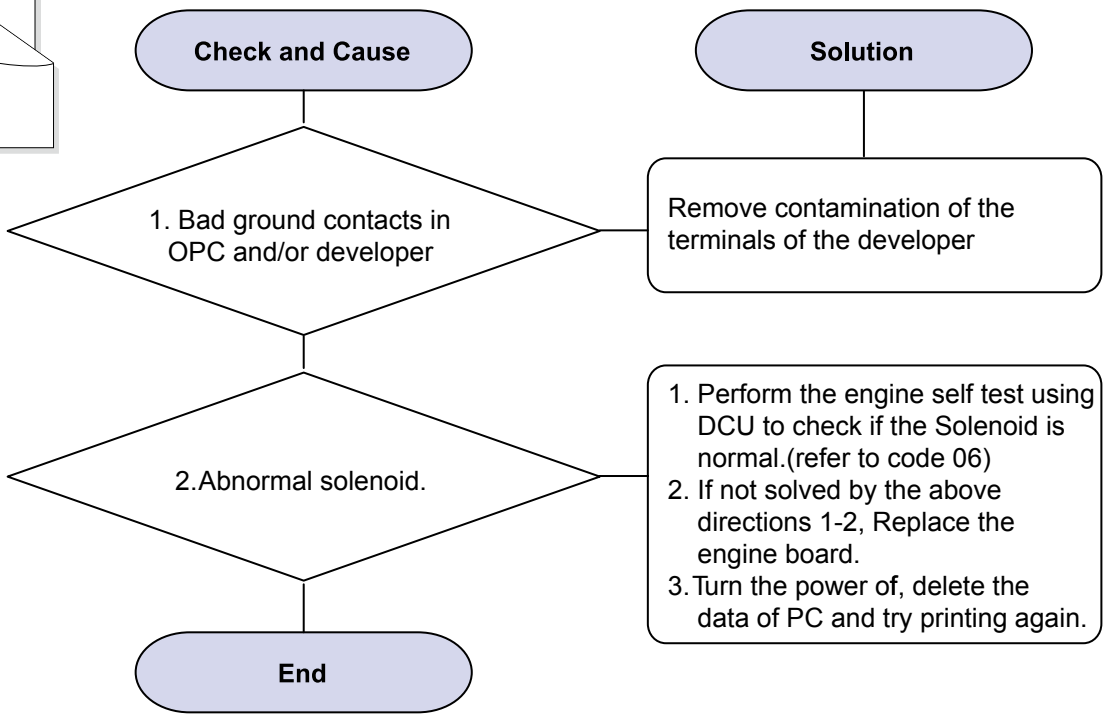
Description : Blank page is printed.



16) Blank Page Print out (2)

Description : 1. Blank page is printed.
2. One or several blank pages are printed.
3. When the printer turns on, several blank pages print.





4.2.5 Network problems and solutions (Only ML-2580N)

Before Troubleshooting, check below check point.

Check Point	Action
LAN cable check	A. Connected or Not connected B. Wrong cable (defected cable, crossover cable) C. Connection connector (Link partner check)
Network LED check	A. Link LED check (Link LED On when connected) B. Activity LED check (No packet Regularly blinking, packet random blinking depend on Printer Model)
Print Network test page	A. Printed correctly. If not, NIC is in lock up state or NIC can not communicate with printer B. Network address value check : IP address, Subnet Mask, Gateway, MAC address C. NIC F/W version (Correct or not) 1) V1.0x.xx : NPC3 2)V2.0x.xx : NPC3H 3)V3.0x.xx : PHY Board 4)V4.0x.xx : On Board D. Protocol Enable / Disable E. WLAN module / Status check if WLAN available.
Printer SET status check	A. Toner Empty, Paper Empty and so on : Hard Stop cases (Job can be finished completely)

Network Printer Configuration check

1. Address Conflict check
   A. IP address Conflict : Same IP address in a network
      • Unplug network cable and PING test
   B. MAC address Conflict : Same MAC address in a physical network
      • Default MAC address or same MAC address (PING and ARP –a)

2. IP get method check (Panel or SWS)
   A.DHCP/BOOTP : IP can be changed after rebooting
   B. Auto IP address : Xerox Model default on

3. Protocol Enable / Disable, Port Number (In SWS)

4. IP filtering On/Off

5. SNMP community name check (When SNMP no response)

Host PC Configuration check

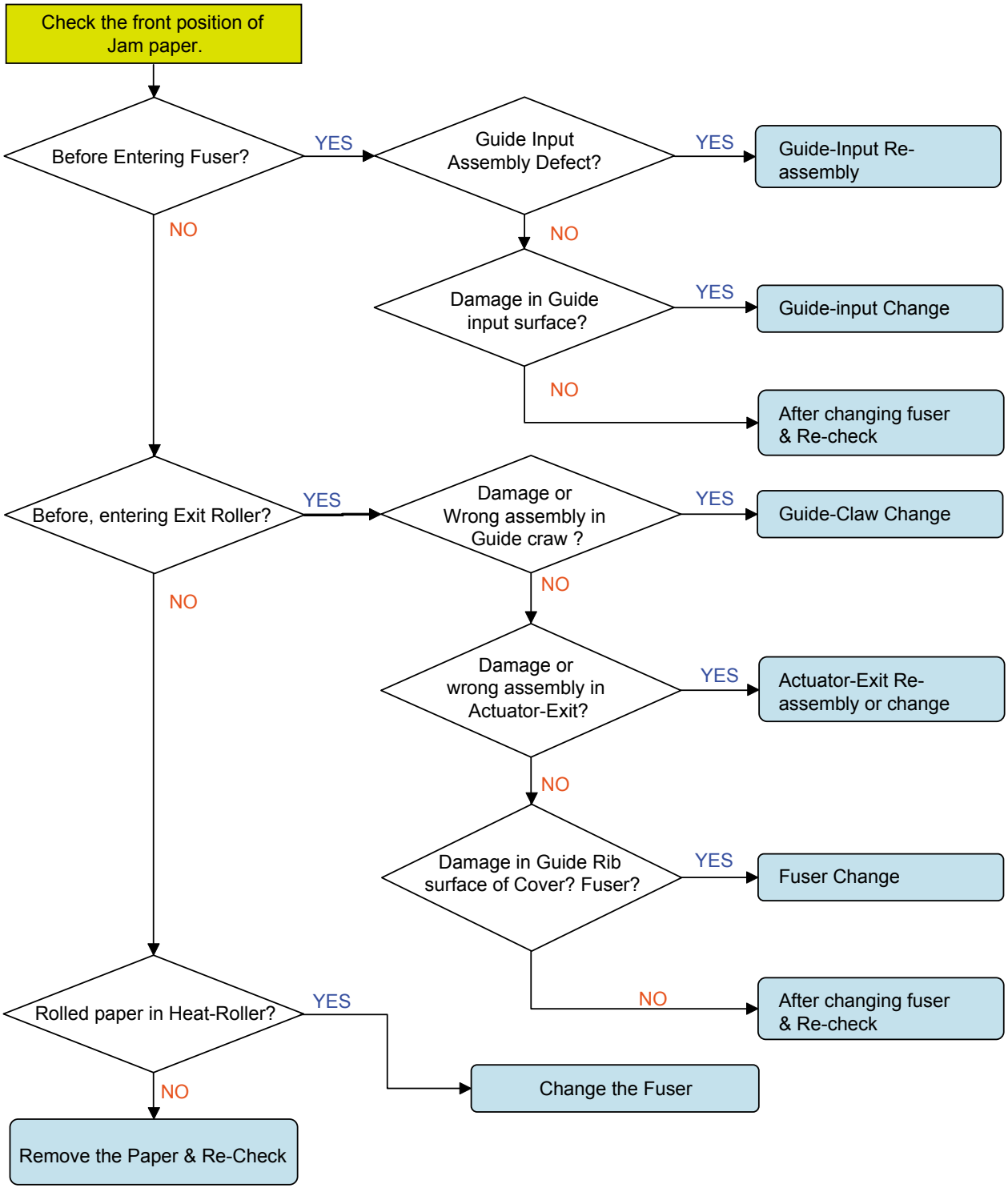
1. Address Conflict check
   A. IP address Conflict : Same IP address in a network
      • Unplug network cable and PING test at other PC
2. Protocol Enable / Disable, Port Number in printer driver

Factory Default

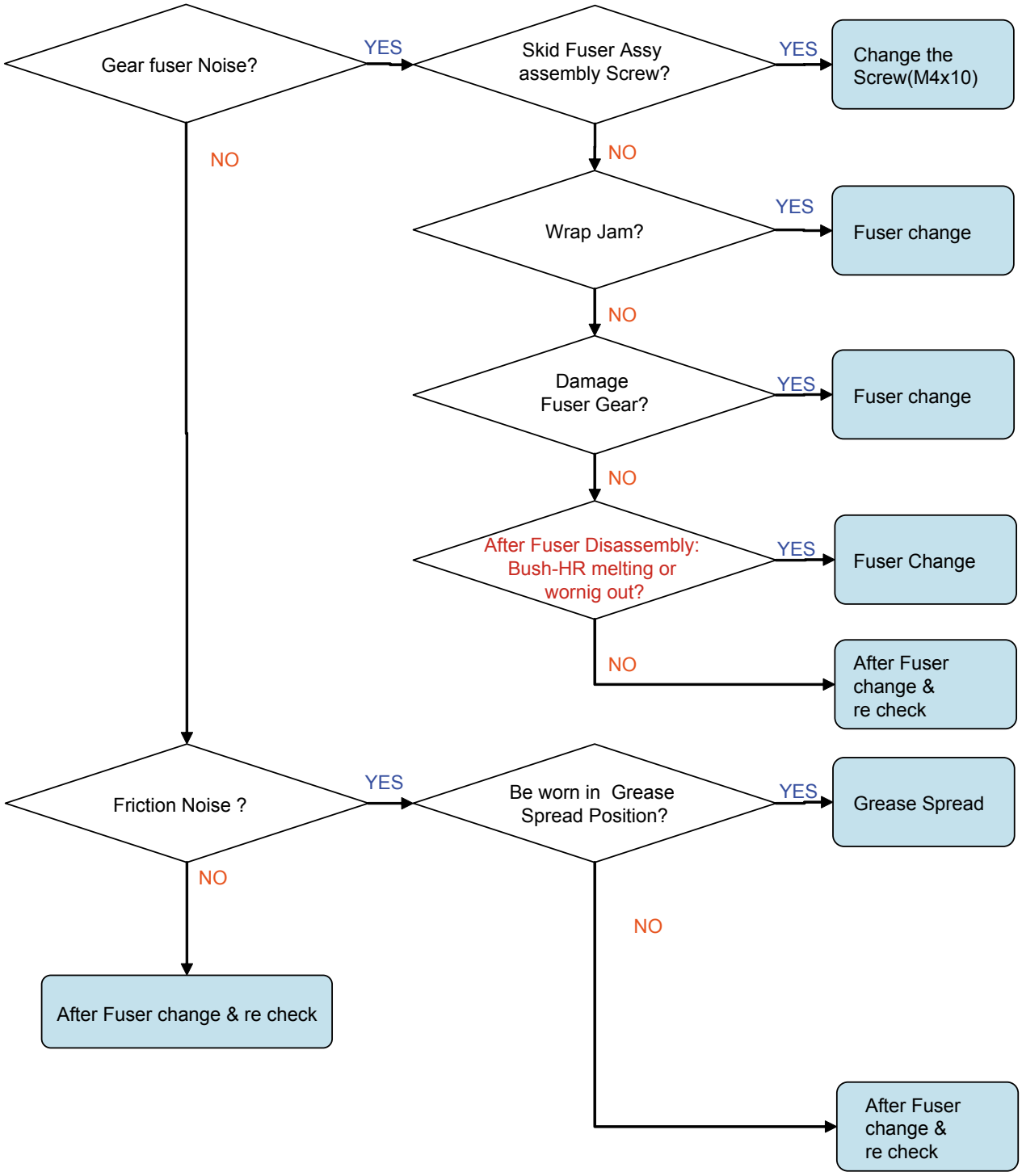
1. Network Value changed to default value
   A. Some of Network value will not be changed immediately.
   B. Factory default operation will be done after Power Off / Power On

4.2.6 Fuser Problems and solutions

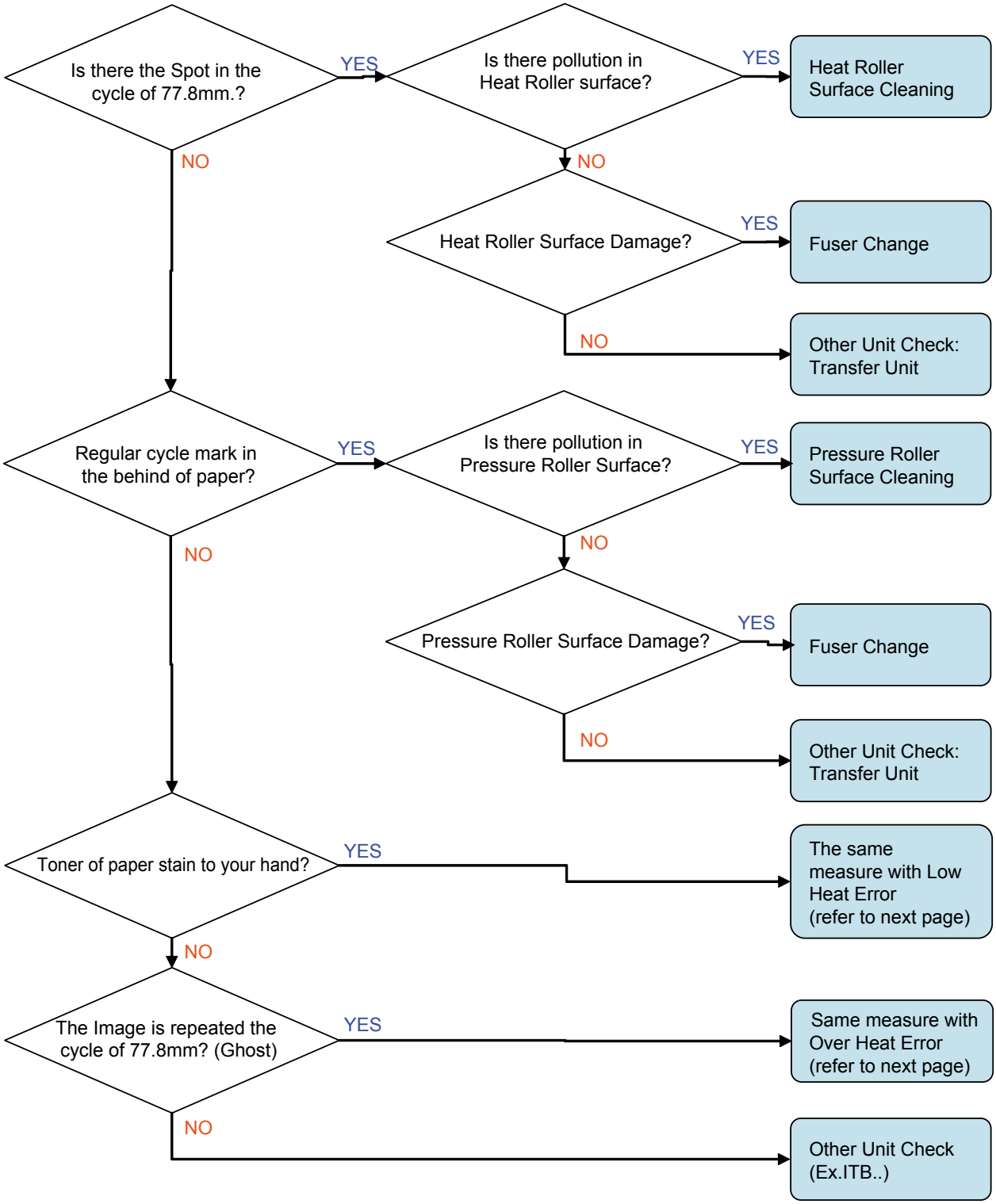
1. Jam 2



2. Abnormal Noise

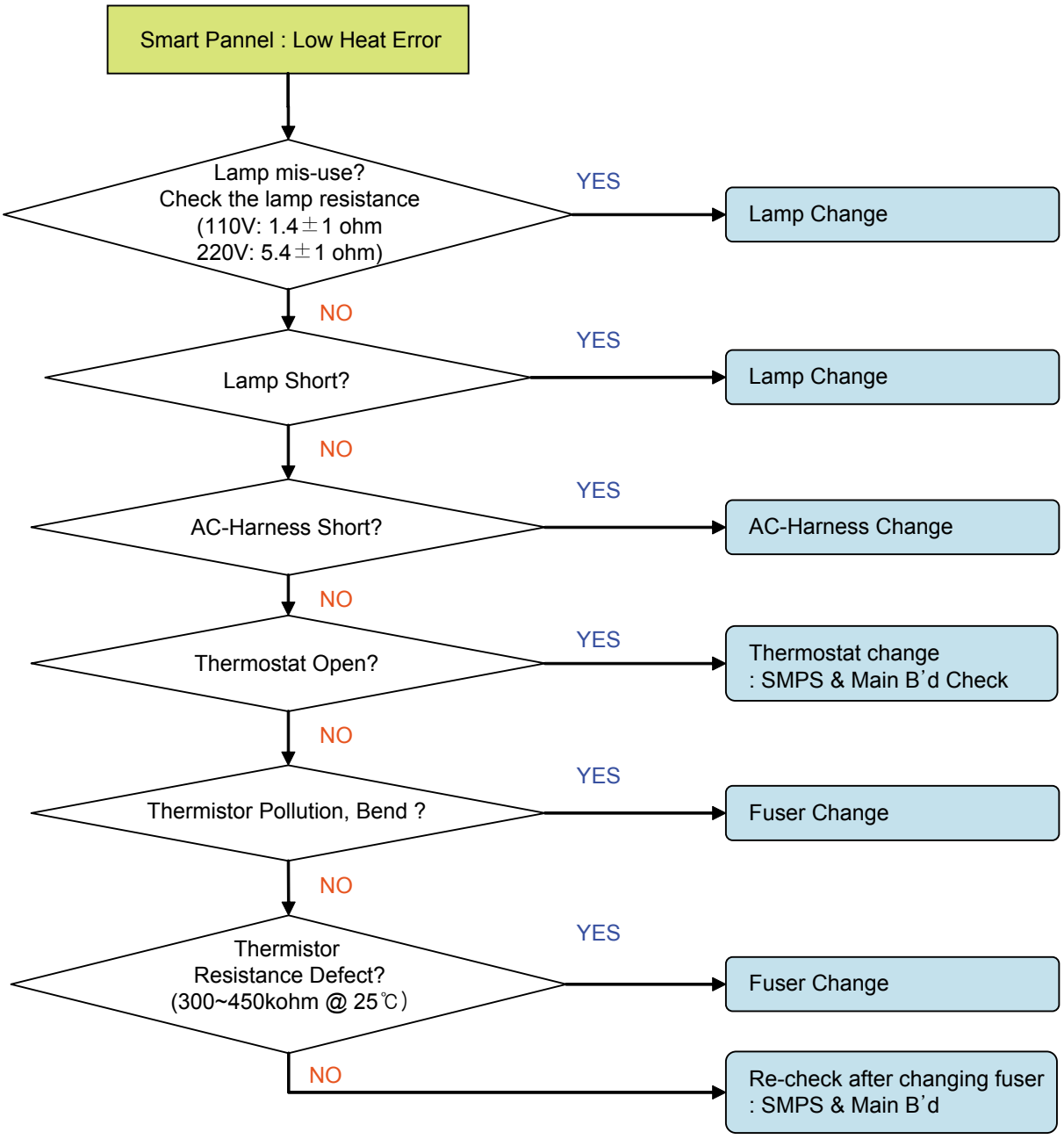


3. Image Defect



4. System Defect

1) Low Heat Error



2) Except Low Heat Error