

## 4. Alignment & Troubleshooting

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### 4.1 Alignment and Adjustments

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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

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##### 4.1.1.1 Overview

- The CLP-31x series printers do not have LCD panel which is used in other color model printers. On the contrary to other models of color printers, they show the status of the printer only with their LEDs.
- The CLP-31x series printers have 1 keys and 6 LEDs. The 'User Interface' module handles the processing of the 'Key Press' and 'LED control' at different states of the machine.

##### 4.1.1.2 Architecture

KEY (1 key): Stop key

LED (6 LEDs):

4 LED for CMYK toners : toner-low(cyan, magenta, yellow, black) LEDs

2 LED for status : ready (green) or error(red) status LED (two color LED)

1 LED for JAM display (WiFi status display at wireless model)

##### 4.1.1.3 Data and Control Flow

User interface (panel) is made up of

- KEY input detection & process
- LED control

The initial process to use the panel checks register's values of key and LED.

If user input key value, the operation to be defined by key value is processed and the LED operation to be defined by printer status is controlled.

## 4.1.2 Function

### 4.1.2.1 KEY Function

There are one keys present. The one is Stop key.

If users input key value, the key input is transferred via GIP (General Input Port) and the operation to be defined by key value is processed.

#### 4.1.2.1.1 Functions

Stop key function is made up of

- Demo page/Configuration sheet printing function
- Job cancels function
- Start manual feeding function
- Firmware downloads mode function

#### 4.1.2.1.2 Detail Description

KEY input detection & process order

1) User KEY input

2) KEY input detection

: If the key input is detected when the key input check per timer tick 10ms, The 10ms interrupt service routine sends the key detection event to panel task.

3) KEY input process

##### - Stop key input process

: After the panel task is received the Stop key detection event, it checks the engine error status two times and process the operation to be defined by key value.

##### - Demo page/Configuration sheet function

This button will have multiple functions when the printer is in idle state.

Demo page printing

Press and hold this button for about 2 seconds until the control panel lights blink slowly to print a demo page.

Configuration sheet printing

Press and hold this button for about 5 seconds until the control panel lights blink rapidly to print a configuration sheet.

##### - Job cancels function

When the printer is printing an active printing job, press and holds this button until the control panel lights blink to cancel a job the printer is currently except the manual job.

##### - Start manual feeding function

When you select manual feed for paper source, press this button each time you feed a sheet of paper manually.

The application of manual feeding function in CLP-310 series will be determined

##### - Firmware downloads mode function

Turn on the printer at the same time that the button is pressed.

If all LEDs scroll, release the button and download the firmware ROM file via USB port

### 4.1.2.2 LED Function

There are five LEDs present. Status led indicate the error/online status of the printer in idle mode. In error mode, the status LED glows by red color and in ready mode, it glows by green color. The other four LEDs indicate the toner status. If the black toner needs to change, the toner-low (black) LED glows and if the color (yellow, magenta, cyan) toners need to change, the toner-low (yellow, magenta, cyan) LED glows.

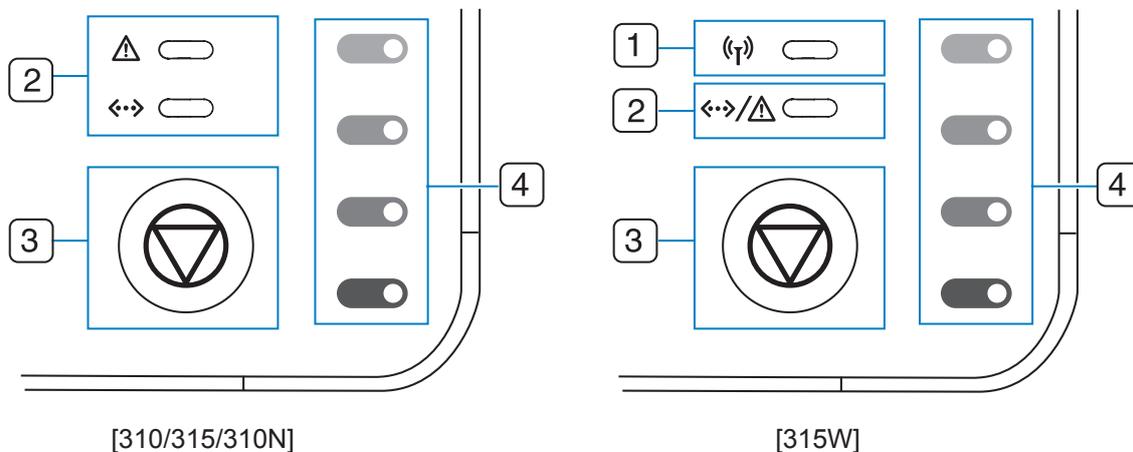
#### 4.1.2.2.1 Functions

- LED function is made up of
- Ready/Printing status display
  - Error status display
  - Toner low status display

#### 4.1.2.2.2 Detail Description

LED control order

- 1) Control LED according to current printer state  
: After the panel task is received each event, the LED operation is controlled by current printer status.
- 2) Write LED value to GOP (General Output Port)



1	Wireless LED	Shows the status of wireless network. When the LED on, the machine is ready. (Wireless models only)
2	Status LED	Shows the status of your machine.
3	Stop	Stops an operation at any time and there are more functions.
4	Toner colors	Show the status of each toner cartridge.

LED behavior

STATUS LED	TONER COLORS LED	DESCRIPTION
lights green	all LEDs off	The machine is ready to print.
slowly blinks green	all LEDs off	The machine is receiving data from the computer.
fast blinks green	all LEDs off	The machine is printing data.
lights red	all LEDs off	<ul style="list-style-type: none"> <li>The machine is experiencing an error, such as jammed paper, open cover, empty paper, installed waste toner container, or full waste toner container.</li> <li>The machine is experiencing a service required error, such as LSU error, fuser error, or Contact your sales or service representative.</li> </ul>
lights orange	all LEDs off	The machine is experiencing an error such as jammed paper.
lights green	each LED blinks red	Each toner cartridge is near the end of its life.
blinks red	each LED lights red	Each toner cartridge is almost empty. You can print, but the quality is not reliable.
lights red	each LED lights red	<ul style="list-style-type: none"> <li>Each toner cartridge is totally exhausted. You can not print.</li> <li>Each toner cartridge is wrong.</li> </ul>
lights green	each LED blinks red in a repeated order	The machine is warming up.

All printing errors will be appear in the Smart Panel program window.

Assert Error LED Operation	
The panel LED operation display the line number of assert error occurrence.	
Line number	LED operation
start & end	All LEDs(Toner low LEDs, Status(Red) LED) turn ON for approximately 2 seconds and then All LEDs turn OFF for approximately 3 seconds.
1	After Status (Red) LED blinks one time, Toner low LEDs blink one time.
2	After Status (Red) LED blinks two times, Toner low LEDs blink one time.
3	After Status (Red) LED blinks three times, Toner low LEDs blink one time.
4	After Status (Red) LED blinks four times, Toner low LEDs blink one time.
5	After Status (Red) LED blinks five times, Toner low LEDs blink one time.
6	After Status (Red) LED blinks six times, Toner low LEDs blink one time.
7	After Status (Red) LED blinks seven times, Toner low LEDs blink one time.
8	After Status (Red) LED blinks eight times, Toner low LEDs blink one time.
9	After Status (Red) LED blinks nine times, Toner low LEDs blink one time.

## 4.1.3 Jam Removal

### TIPS FOR AVOIDING PAPER JAMS

By selecting the correct media types, most paper jams can be avoided. When a paper jam occurs.

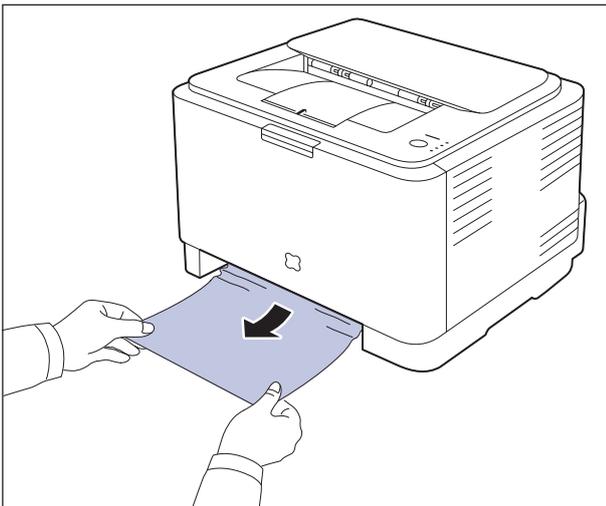
- Follow the procedures on page 30. Ensure that the adjustable guides are positioned correctly.
- Do not overload the tray. Ensure that the paper level is below the paper capacity mark on the inside of the tray.
- Do not remove paper from the tray while your machine is printing.
- Flex, fan, and straighten paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print media.
- Ensure that the recommended side of the print media is facing up in the tray.

### 4.1.3.1 Clearing Paper Jams

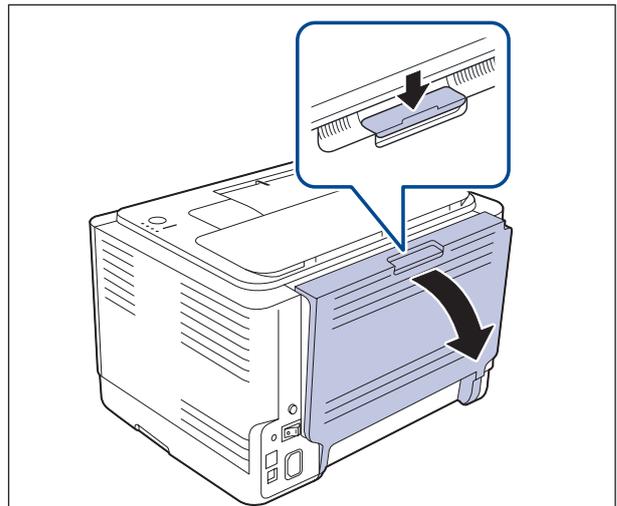
**NOTE:** When removing paper that is jammed in the printer, if possible always pull the paper in the direction that it normally moves so as not to damage internal components. Always pull firmly and evenly; do not jerk the paper. If the paper tears, ensure that all fragments of paper are removed; otherwise a jam will occur again.

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

1. Pull the tray out of the printer and remove the jammed paper.

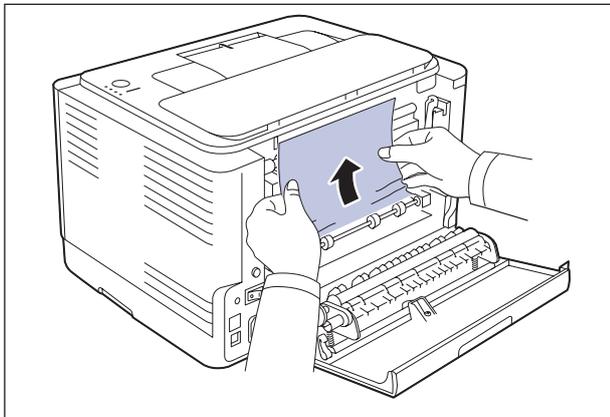


2. To remove the jammed paper, open the rear cover.



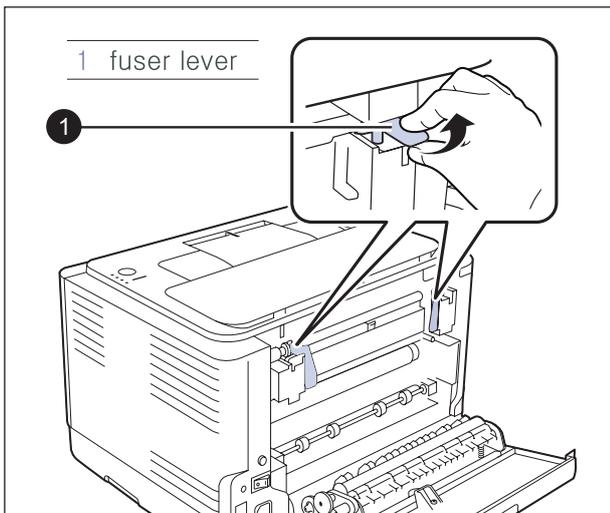
If you can not find the jammed the paper,Go to the next step.

3. Carefully remove the paper by pulling in the direction as shown below. Most of the jammed paper can be removed in this step.

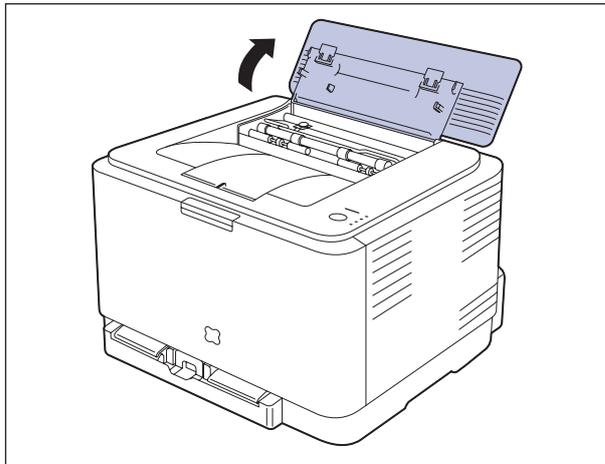


If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to the next step.

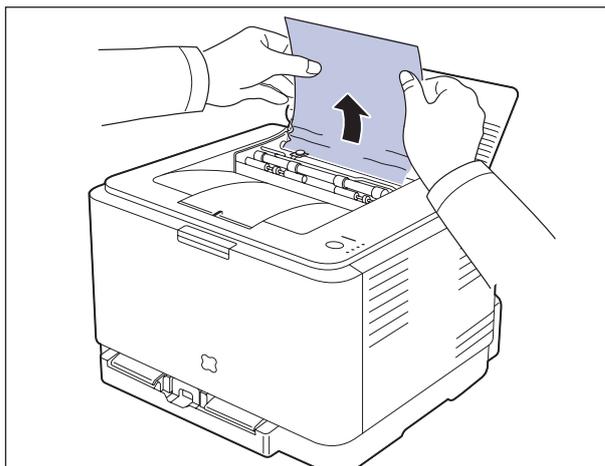
4. Push the fuser levers upwards.



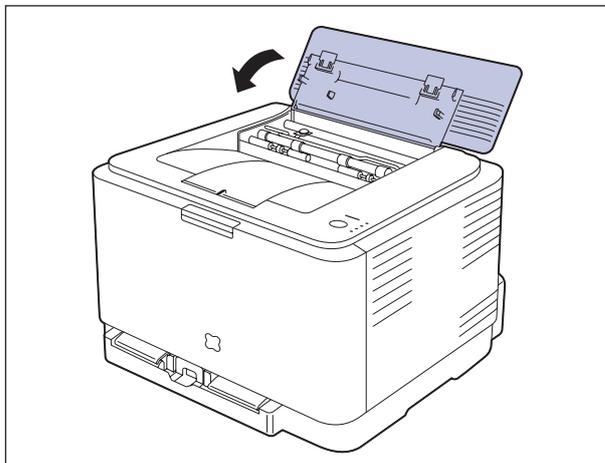
5. Open the top cover and inner cover.



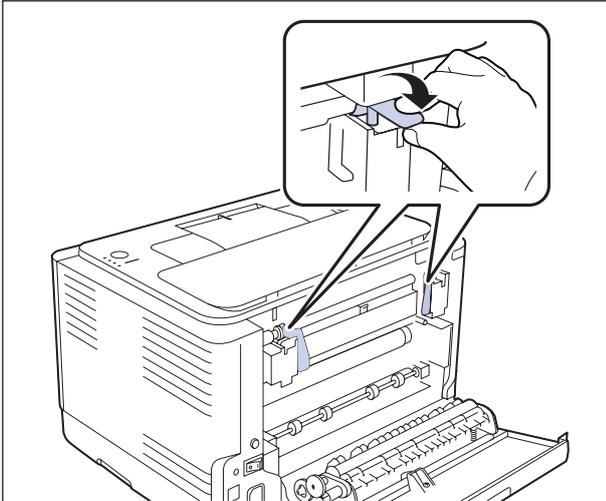
6. Holding the inner cover open, carefully take the jammed paper out of the printer. The inner cover will then close automatically.



7. Close the top cover. Make sure that it is securely closed.



8. Push the fuser levers downwards.



9. Open and then close the rear cover or front cover to resume printing.

## 4.1.4 Sample Pattern

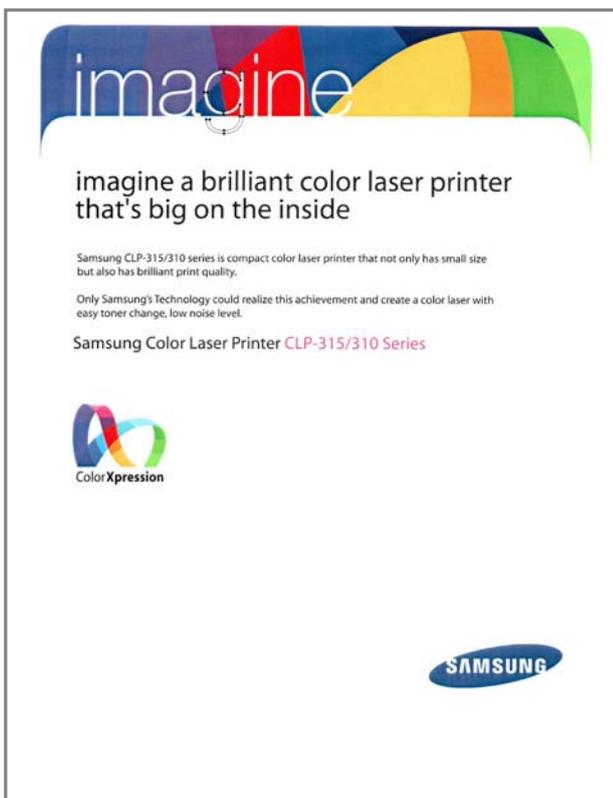
This product provides several printable test patterns for maintenance purposes. These patterns can be used to aid the diagnosis of print quality problems.

### 4.1.4.1 Printing a Demo Page

Print a demo page to make sure that the printer is operating correctly.

To print a demo page: In ready mode, press and hold the Stop button for 2 seconds.

A demo page showing the printer's features and capabilities is printed.



#### 4.1.4.2 Printing a Configuration Page

You can print a configuration page from the printer's control panel. Use the configuration page to view the current settings, to help troubleshoot problems.

To print a configuration page: In ready mode, press and hold the Stop button on the control panel for 5 seconds.

A configuration page prints out.

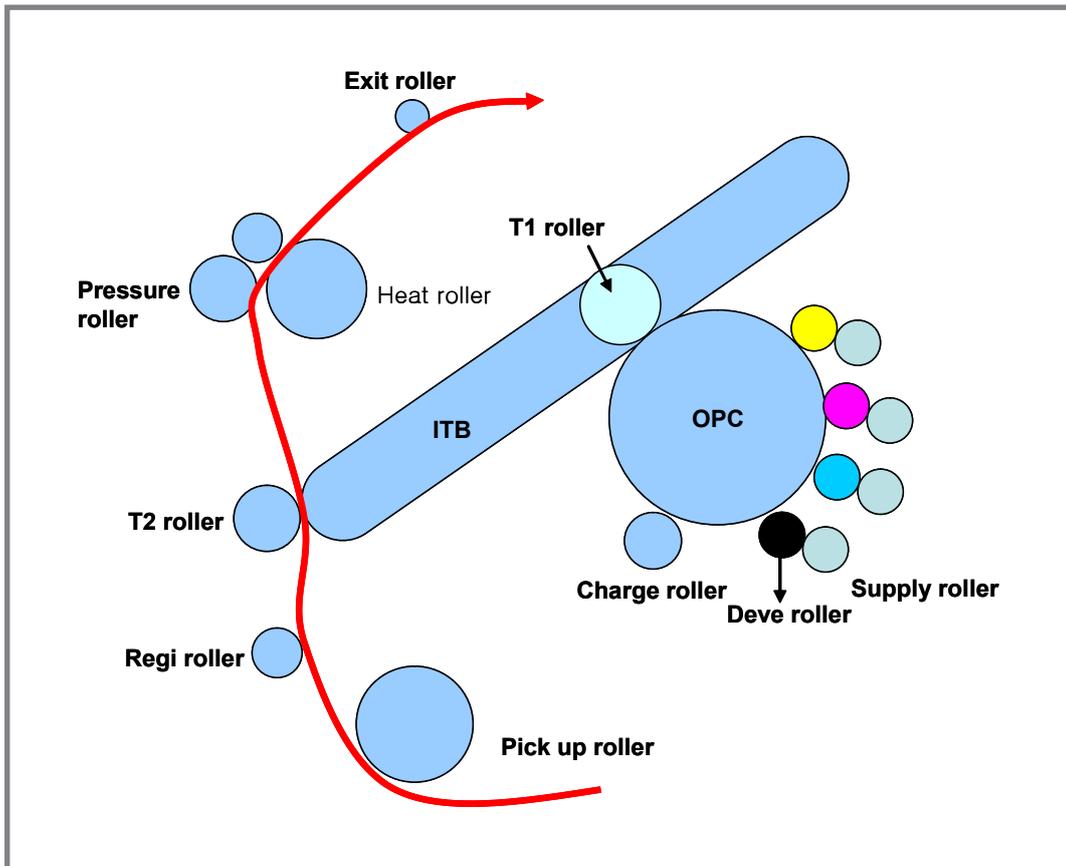
Configuration Report				
Model Name	: CLP-310 Series			
[ General Information ]				
OS Version	: V1.01.00.89.01.N Jan-14-2008			
SPL-C Version	: SPL-C 5.35 11-20-2007			
Engine Version	: 0.62.98.T			
Installed Date	: 2008. 1. 17			
USB Serial Number	: 4M21B1BPC00072R			
Total Page Count	: 159/55 Page(s) (color/mono)			
Total Image Count	: 694 Image(s)			
[ Options ]				
RAM Size	: 32 Mbytes			
USB	: Connected (HIGH)			
NPC	: Installed			
[ Consumables Life ]				
Fuser Life	: 426 Page(s)			
Transfer Roller Life	: 213 Page(s)			
Tray Roller Life	: 214 Page(s)			
Transfer Belt Life	: 118 Image(s)			
[ Setup Menu ]				
Power Save	: 5 Min			
Auto Continue	: On			
Altitude Adj.	: Normal			
Custom Color	: Manual Adjust ( YMCK : 0,0,0,0 )			
[ Toner Information ]				
	Yellow	Magenta	Cyan	Black
Toner Remaining	: 60%	64%	33%	75%
Page Count	: 159 Page(s)	159 Page(s)	159 Page(s)	207 Page(s)
Serial-No	: CRUM-000000000000	CRUM-000000000000	CRUM-000000000000	CRUM-000000000000
Supplier	: INI( INI)	INI( INI)	INI( INI)	INI( INI)
Product Date	: INI	INI	INI	INI
Last Used Date	: 2008.01.18	2008.01.18	2008.01.18	2008.01.18
First Installed Date	: 2007.09.17	2007.09.17	2007.09.17	2007.09.17
[ Imaging-Unit Information ]				
Maker	: Mitsu			
Remaining	: 98%			
Image Count	: 694 Image(s)			
Last Used Date	: 2008.01.29			
First Installed Date	: 2007.09.17			

- 1. General Information** : shows OS/SPL-C/Engine version , Installed Date, Total page/image count.
- 2. Options** : shows options set up in the printer. ( Memory size, USB, NPC)
- 3. Consumables life** : shows the life of Fuser, T2 roller, Tray roller, Transfer belt. ( Count : Pages)
- 4. Setup Menu** : shows the menu items set up in the printer. (power save, auto continue etc.)
- 5. Toner Information** : shows toner remaining (%), page count ( pages ) , serial number, last used date, first installed date.
- 6. Imaging-unit Information** : shows image count, last used date, first installed date.
- 7. Network configuration report** : shows network information set up in the printer. (Mac address, NIC F/W version, TCP/IP, IPP etc. )

### 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.

No	Roller	Period	Phenomenon
1	OPC Drum	188.5mm	White and Black Spots
2	Charge Roller	37.7mm	Black Spot and line and Periodic Band
3	Supply Roller	47.5mm	Periodic Band by little difference of density
4	Developing Roller	26.0mm	White Spot, Horizontal black band
5	1 <sup>st</sup> Transfer Roller	43.8mm	Ghost, Damaged Image by abnormal tranfer
6	2 <sup>nd</sup> Transfer Roller	54.64mm	Ghost, Damaged Image by abnormal tranfer
7	Pressure Roller	50.3mm	Background
8	Heat Roller	86.4mm	Black Spots or Vertical Black Band



## 4.1.6 How to use EDC (Engine Diagnostic Control) Mode

EDC Mode is feature that allows the engineer to check the condition of the print engine. It can check the operating condition of the motors, sensors, solenoids and clutches, measure the High Voltage from the HVPS and check the operation of the fuser and LSU.

### 4.1.6.1 Enterecence

When trying to check the CLP-310N EDC Mode, additional EDC execution program needed.

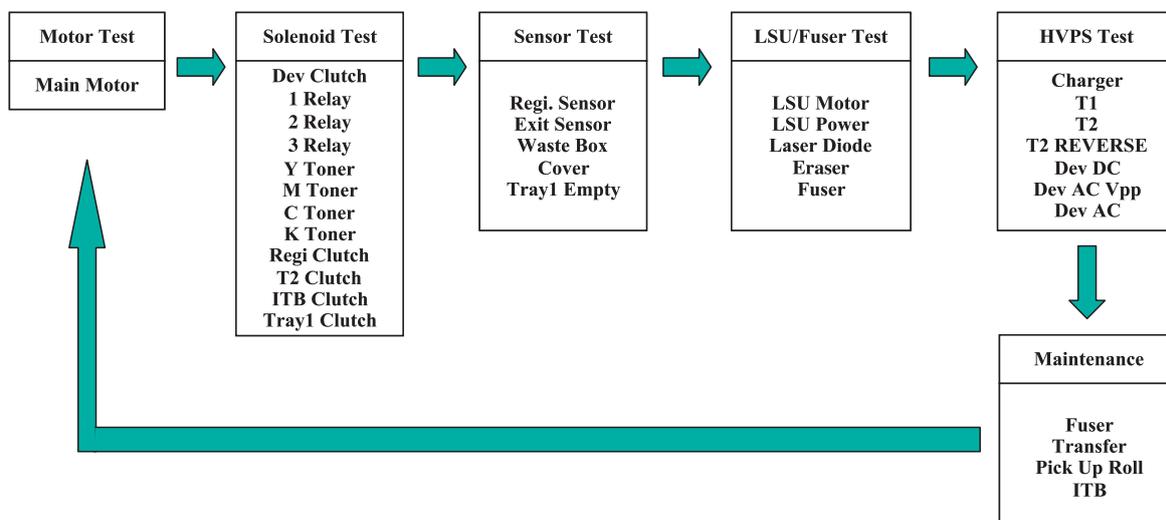
#### [ Procedure of EDC Mode operation ]

- a) First, turn on the Power of Printer, wait until Ready state
- b) In this state, Run the EDC program on the computer
- c) After that, click the menu of screen
- d) Then <Motor Test> appears on the initial screen
- e) Should you get out of this program, press Exit of screen

### 4.1.6.2 Keys

Key	Discription
Exit	Close program
Update LCD	Update value (ex : sensor value)
Menu	Move to the top menu
Left/Right arrow	Move test item
Enter	Start testing or select Sub-item
Upper level	Stop testing or the upper menu

### 4.1.6.3 EDC Map



#### 4.1.6.3(a) Motor Test

Item	Discription
Main Motor	If motor lock signal is normal, "Succesed" message will be displayed. When motor lock signal is abnormal, "failed" message will be displayed. When "Upper Level" is pushed, "off" message will be displayed.

#### 4.1.6.3(b) Solenoid Test

Item	Discription
Dev Clutch	When "select" key is pushed, "Dev Clutch ON" message will be displayed. "Upper Level" is pushed, "Dev Clutch Off" message will be displayed.
Relay 1	When "select" key is pushed, "1 Relay ON" message will be displayed. "Upper Level" is pushed, "1 Relay Off" message will be displayed on.
Relay 2	When "select" key is pushed, "2 Relay ON" message will be displayed. "Upper Level" is pushed, "2 Relay Off" message will be displayed.
Relay 3	When "select" key is pushed, "3 Relay ON" message will be displayed. "Upper Level" is pushed, "3 Relay Off" message will be displayed.
Y Toner	When "select" key is pushed, "Y Toner ON" message will be displayed. "Upper Level" is pushed, "Y Toner Off" message will be displayed.
M Toner	When "select" key is pushed, "M Toner ON" message will be displayed. "Upper Level" is pushed, "M Toner Off" message will be displayed.
C Toner	When "select" key is pushed, "C Toner ON" message will be displayed. "Upper Level" is pushed, "C Toner Off" message will be displayed.
K Toner	When "select" key is pushed, "K Toner ON" message will be displayed. "Upper Level" is pushed, "K Toner Off" message will be displayed.
Regi Clutch	When "select" key is pushed, "REGI Clutch ON" message will be displayed. "Upper Level" is pushed, "REGI Clutch Off" message will be displayed.
T2 Clutch	When "select" key is pushed, "T2 Clutch ON" message will be displayed. "Upper Level" is pushed, "T2 Clutch Off" message will be displayed.
ITB Clutch	When "select" key is pushed, "ITB Clutch ON" message will be displayed. "Upper Level" is pushed, "ITB Clutch Off" message will be displayed.
Tray1 Clutch	When "select" key is pushed, "Tray1 Clutch ON" message will be displayed. "Upper Level" is pushed, "Tray1 Clutch Off" message will be displayed.
Tray2 Clutch	When "select" key is pushed, "Tray1 Clutch ON" message will be displayed. "Upper Level" is pushed, "Tray1 Clutch Off" message will be displayed.
Regi. Sensor	If actuator is checked by sensor, "Without Paper" message will be displayed. if not, "With Paper" message will be.
Exit Sensor	If actuator is checked by sensor, "Without Paper" message will be displayed. if not, "With Paper" message will be.
Waste Box	If waste Box exists , "Installed" message will be displayed. If not, "Not Installed" message will be.

Item	Discription
Cover	If cover is opened, " Opened" message will be displayed. If not, "Closed" message will be.
Tray1 Empty	If paper exists in the tray, "With Paper" will be displayed. If not, "Without Paper" message will be.
Tray2 Empty	If paper exists in the tray, "With Paper" will be displayed. If not, "Without Paper" message will be.

#### 4.1.6.3(b) Solenoid Test

Item	Discription
LSU Motor	If LSU motor lock signal is normal, "Succesed" message will be displayed. When LSU motor lock signal is abnormal , "failed" message will be displayed. When "Upper Level" is pushed, "off" message will be displayed.
LSU Power	When "select" key is pushed, "LSU Power On" message will be displayed. If not, "LSU Power Off" message will be.
Laser Diode	When select key is pushed, Laser Diode On message will be displayed. If not, Laser Diode Off message will be.
Eraser	When select key is pushed, Eraser On message will be displayed . If not, Eraser Off message will be.
Fuser	When select key is pushed, Fuser On message will be displayed. If not, Fuser Off message will be.

#### 4.1.6.3(d) HVPS Test

Item	Discription
Charger	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
T1	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
T2	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
T2 REVERSE	When “select” key is pushed, “T2 REVERSE On” message will be displayed. If not, “T2 REVERSE Off“ will be.
Dev DC	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
Dev AC Vpp	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
Dev AC	When “select” key is pushed, “DUTY : x%*” message will be displayed. And then Left/Right arrow is selected, x% is increased or decreased. And “DUTY : x%” message will be displayed. * is disappeared. And then “select” key is pushed, x%*” message will be displayed. When “Upper Level” is pushed, * is disappeared.
Charger	Duty : 50% -> “-789V”, Range : -81V ~ -1689V
T1	Duty : 50% -> “1159V”, Range : 122V ~ 2188V
T2	Duty : 50% -> “2552V”, Range : 264V ~ 4730V
Supply DC	Duty : 50% -> “-269V”, Range : -1V ~ -591V
AC, Vpp	Duty : 50%-> “1210V” , Range : 800V ~ 2160V

### 4.1.6.3(e) Maintenance

Item	Discription
Fuser	When "select" key is pushed, "Initialized" message will be displayed. When "Upper Level" is pushed, "Off" message is disappeared.
Transfer	When "select" key is pushed, "Initialized" message will be displayed. When "Upper Level" is pushed, "Off" message is disappeared.
FCF Pick Up Roll	When "select" key is pushed, "Initialized" message will be displayed. When "Upper Level" is pushed, "Off" message is disappeared.
SCF Pick Up Roll	When "select" key is pushed, "Initialized" message will be displayed. When "Upper Level" is pushed, "Off" message is disappeared.
ITB	When "select" key is pushed, "Initialized" message will be displayed. When "Upper Level" is pushed, "Off" message is disappeared.

### 4.1.6.3(e) Maintenance

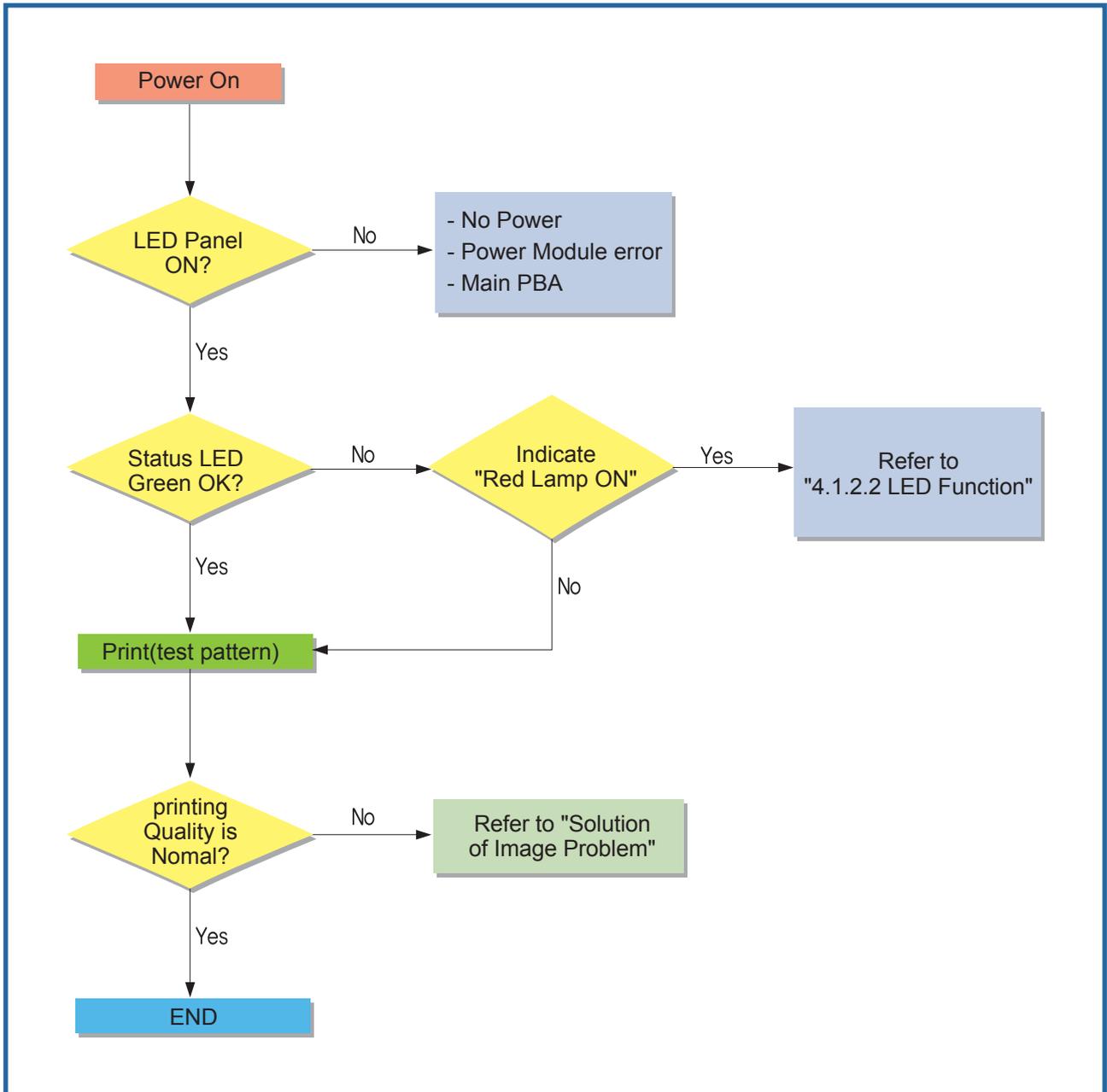
- ▶ Paper Empty / Paper Mismatch
  - Load specified paper in the tray 1
    - Paper does not exist in the tray1
    - Load Paper, When you still want to continue printing
  - Paper mismatch in the tray 1
    - Paper is mismatched
    - Press stop key for a while, When you still want to continue printing
- ▶ Cover Open
  - Cover Open
    - Cover is opened
    - Close the door, When you still want to continue printing
- ▶ Waster Tank Full or not installed
  - Waste Tank Full
    - Toner of Waste toner box is full
    - Empty or Insert the waste toner box
- ▶ Paper Jam
  - Paper Jam at the tray1
    - Paper is not picked up
    - Cover Open /Close, When you still want to continue printing
  - Paper Jam inside printer
    - There is a paper inside printer
    - After cover Open , Paper must be removed, and then close the cover

- Paper Jam at the paper exit area
  - There is a paper at exit area
  - After cover Open , Paper must be removed, and then close the cover
  
- Motor Lock Error
  - Motor does not run or runs abnormal speed
  - Motor or Main board must be checked
  
- LSU Motor Lock Error
  - LSU motor does not run or runs abnormal speed
  - Hsync is not detected
  - LSU or Main board must be checked
  
- Transfer Belt Error
  - ITB home sensor is not checked for a normal time
  - ITB must be checked
  
- Fuser Over Heat error
  - Temperature of fuser is high
  - Fuser or Main board must be checked
  
- Fuser Low Heat error
  - Temperature of fuser is low
  - Fuser or Main board must be checked
  
- Fuser Open Heat error
  - Temperature of fuser is less than 50 in warmup state.
  - Fuser or Main board must be checked
  
- Dev. Home error
  - Home of Development is not checked or checked at the abnormal time
  - Clutch of Development or Main board must be checked
  
- ADC not Confirm Error
  - Signal of confirmation for ADC is not detected
  - Main board must be checked

## 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.



## 4.2.2 Troubleshooting Checklist

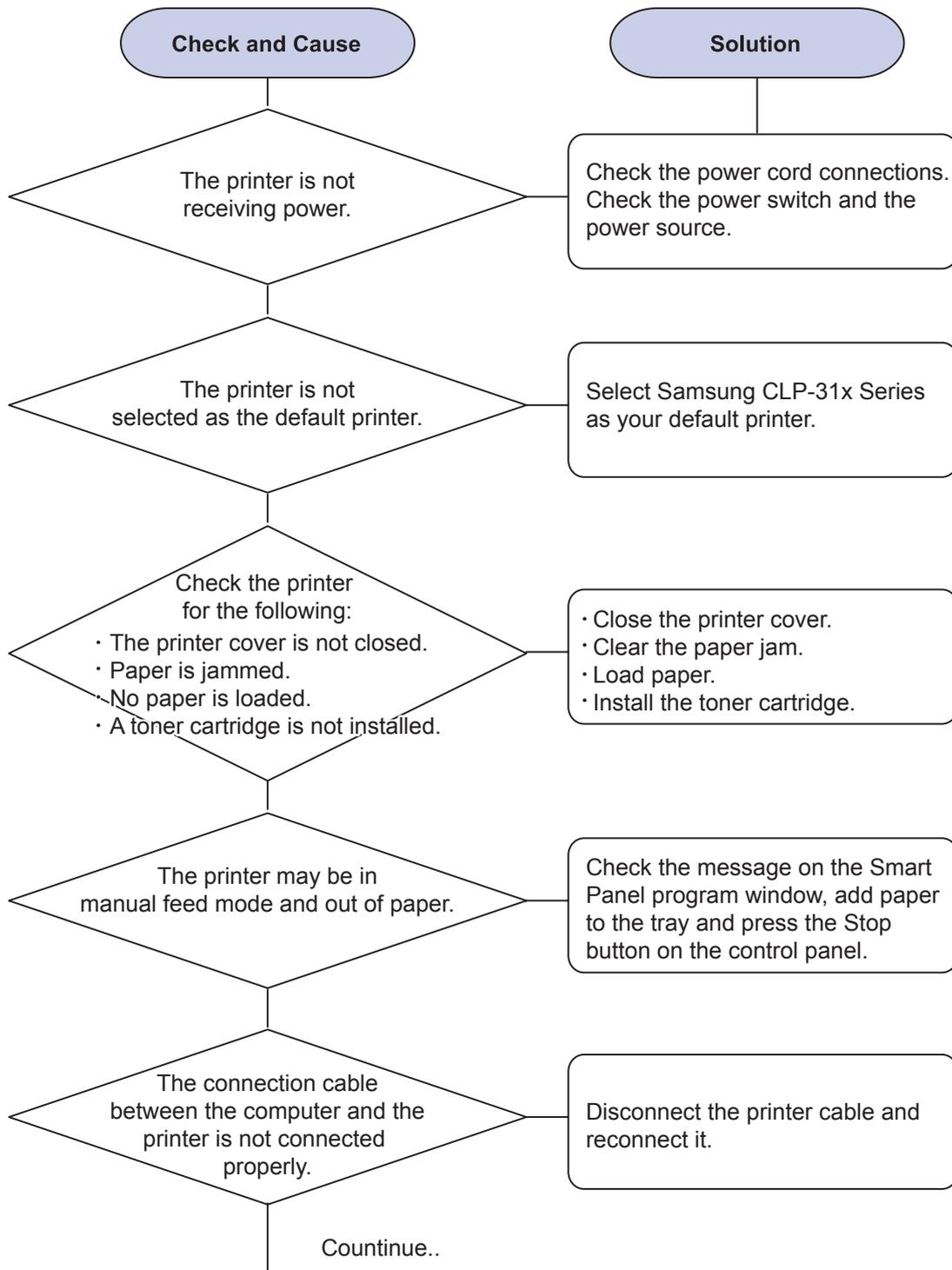
If the printer is not working properly, consult the following checklist. If the printer does not pass a step, follow the corresponding troubleshooting suggestions.

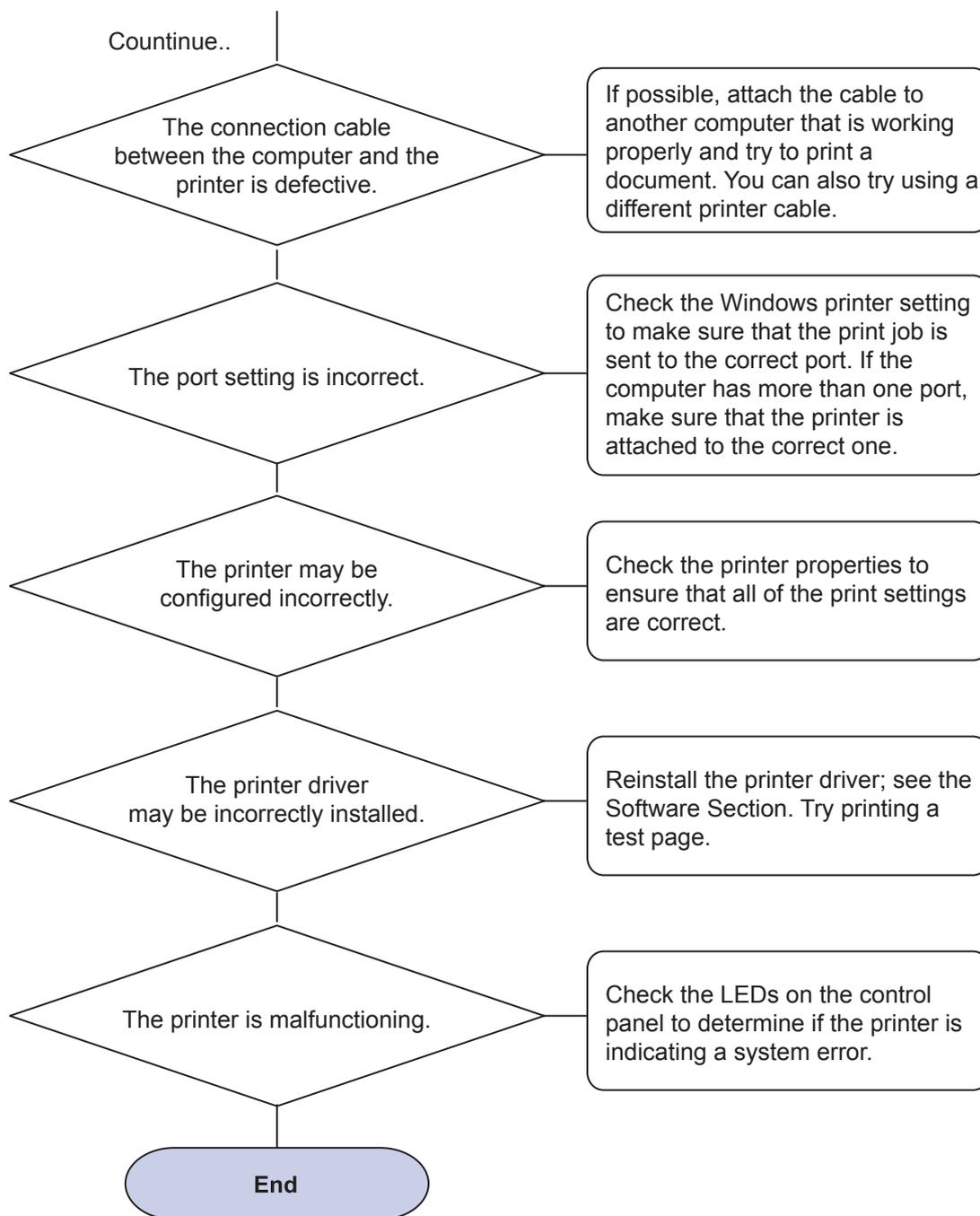
Status	Response
Make sure that the Status LED on the control panel green and "Ready" is shown on the Smart Panel program window.	<ul style="list-style-type: none"> <li>• If the Status LED is off, check the power cord connection. Check the power switch. Check the power source by plugging the power cord into another outlet.</li> <li>• If the Status LED blinks or lights red, solve the problems.</li> </ul>
Print a demo page to verify that the printer is feeding paper correctly.	<ul style="list-style-type: none"> <li>• If a demo page does not print, check the paper supply in the paper tray.</li> <li>• If the paper jams in the printer, go to "Clearing Paper Jams"</li> </ul>
Check the demo page to see if it is printed correctly.	If there is a print quality problem, go to "Solving Print Quality Problems"
Print a short document from a software application to verify that the computer and printer are connected and communicating correctly.	<ul style="list-style-type: none"> <li>• If the page does not print, check the cable connection between the printer and the computer.</li> <li>• Check the print queue or print spooler to see if the printer has been paused.</li> <li>• Check the software application to ensure that you are using the proper printer driver and communication port. If the page is interrupted during printing, go to "Solving General Printing Problems"</li> </ul>
If completing the checklist does not resolve the printer problem, check the following troubleshooting sections.	<ul style="list-style-type: none"> <li>• See "Solving General Printing Problems"</li> <li>• See "Solving Print Quality Problems"</li> <li>• See "Common Windows Problems"</li> <li>• See "Common Macintosh Problems"</li> <li>• See "Common Linux Problems"</li> </ul>

### 4.2.3 Solving General Printing Problems

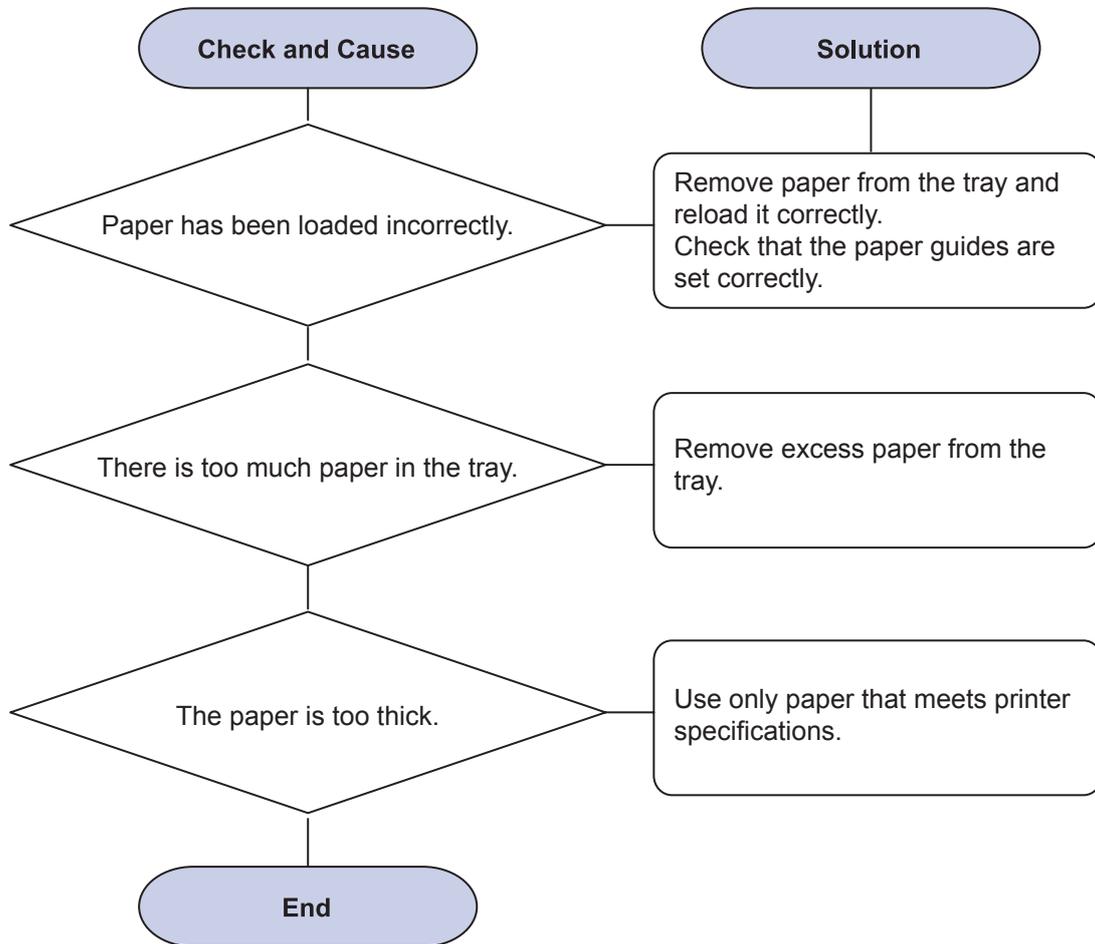
For problems with the operation of your printer, refer to the table for suggested solutions..

<b>Description</b>	The printer does not print.
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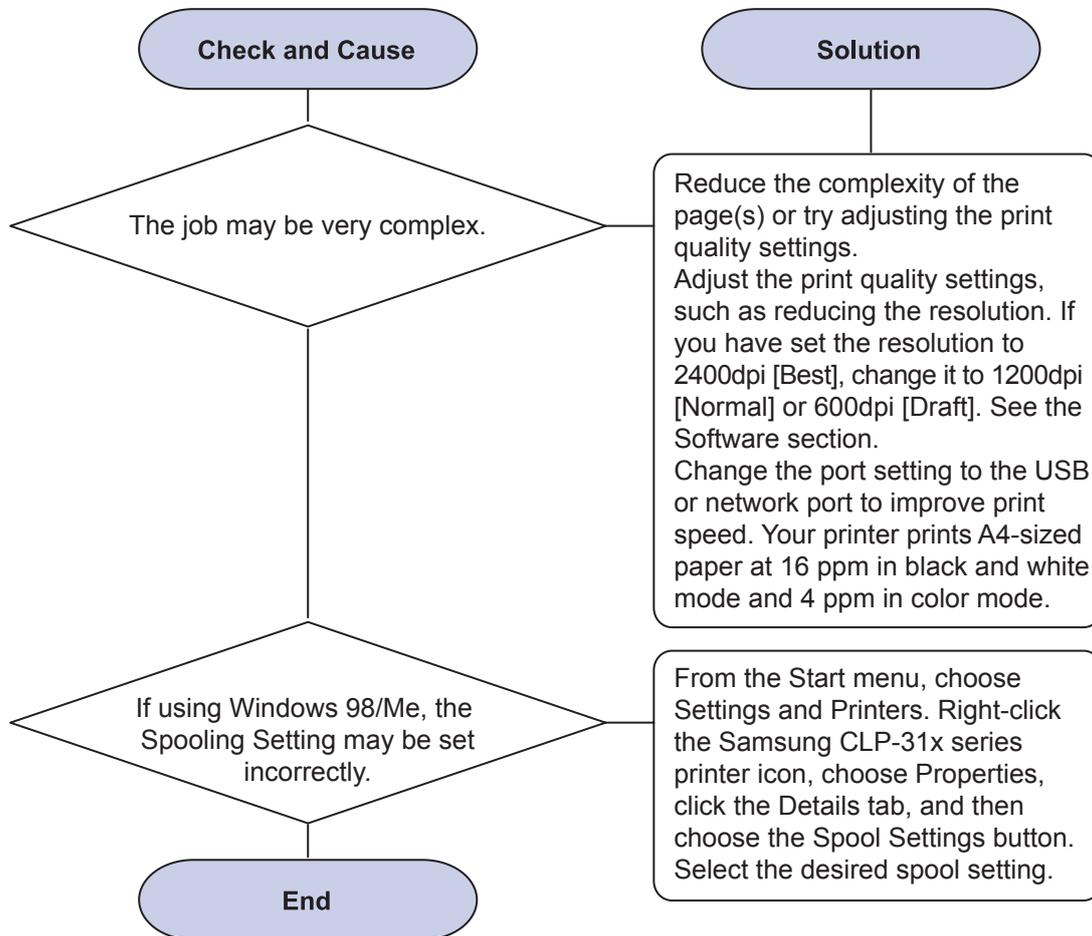




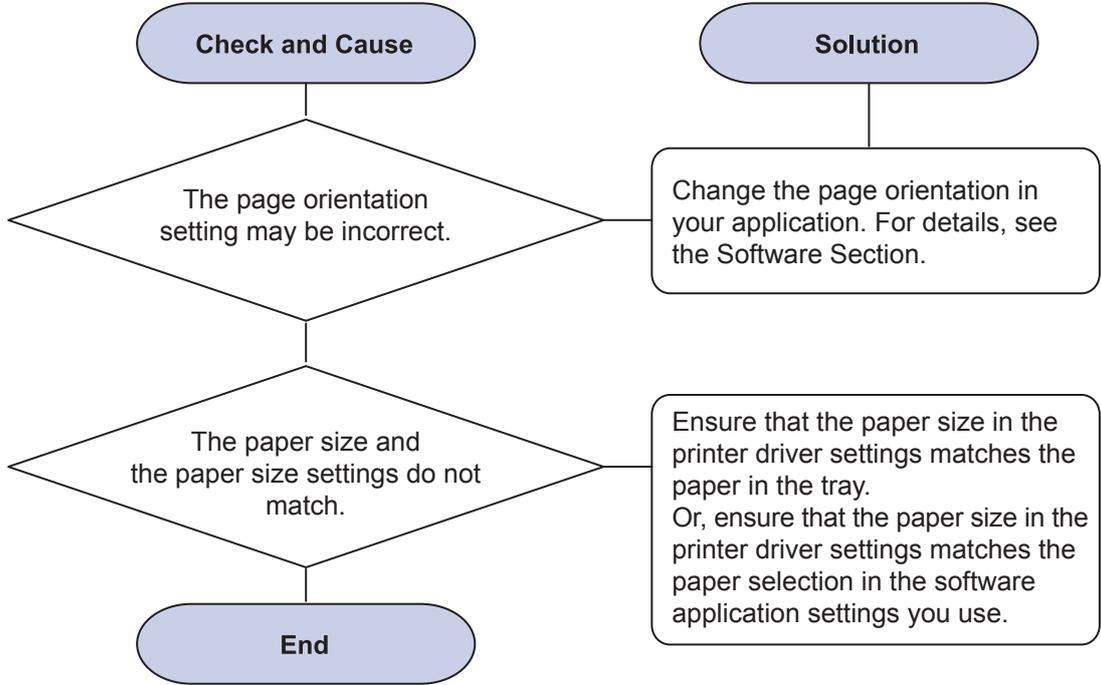
**Description** Paper does not feed into the printer..



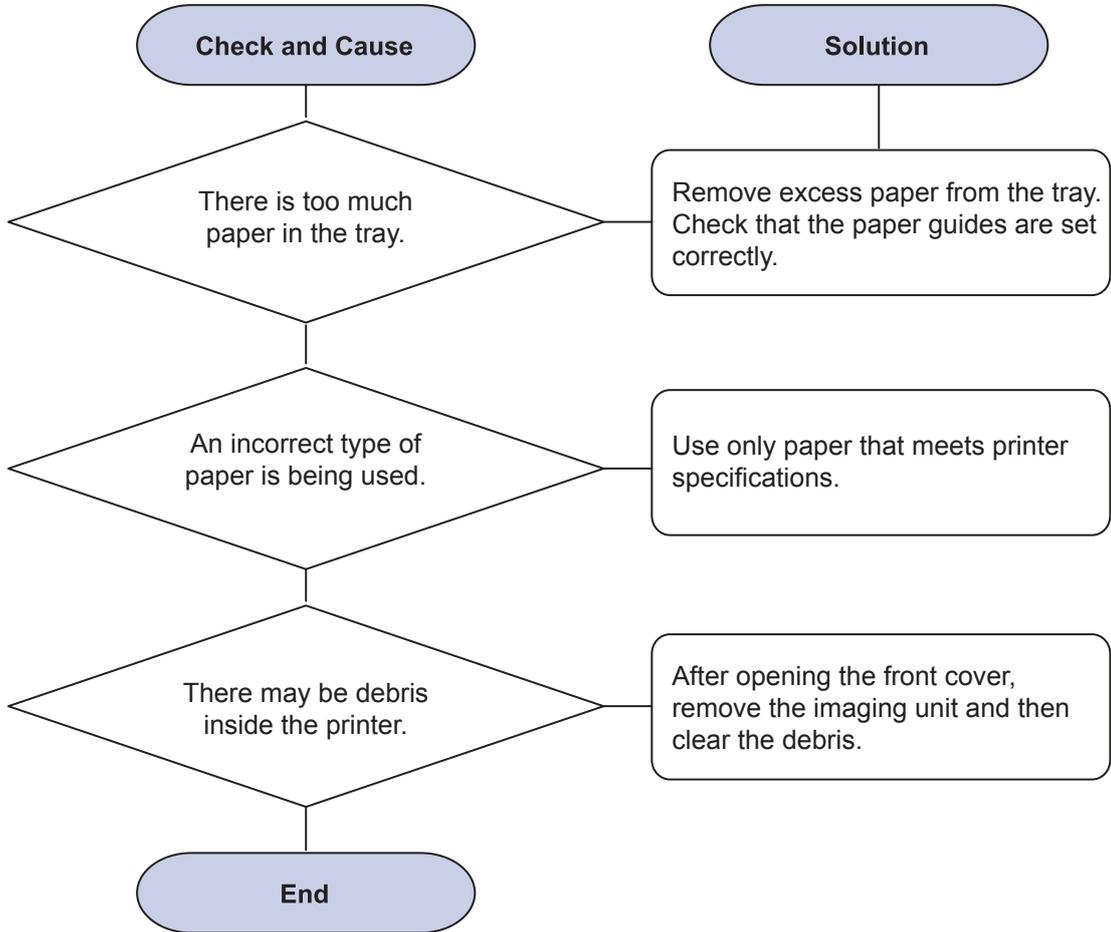
**Description** A print job is extremely slow.



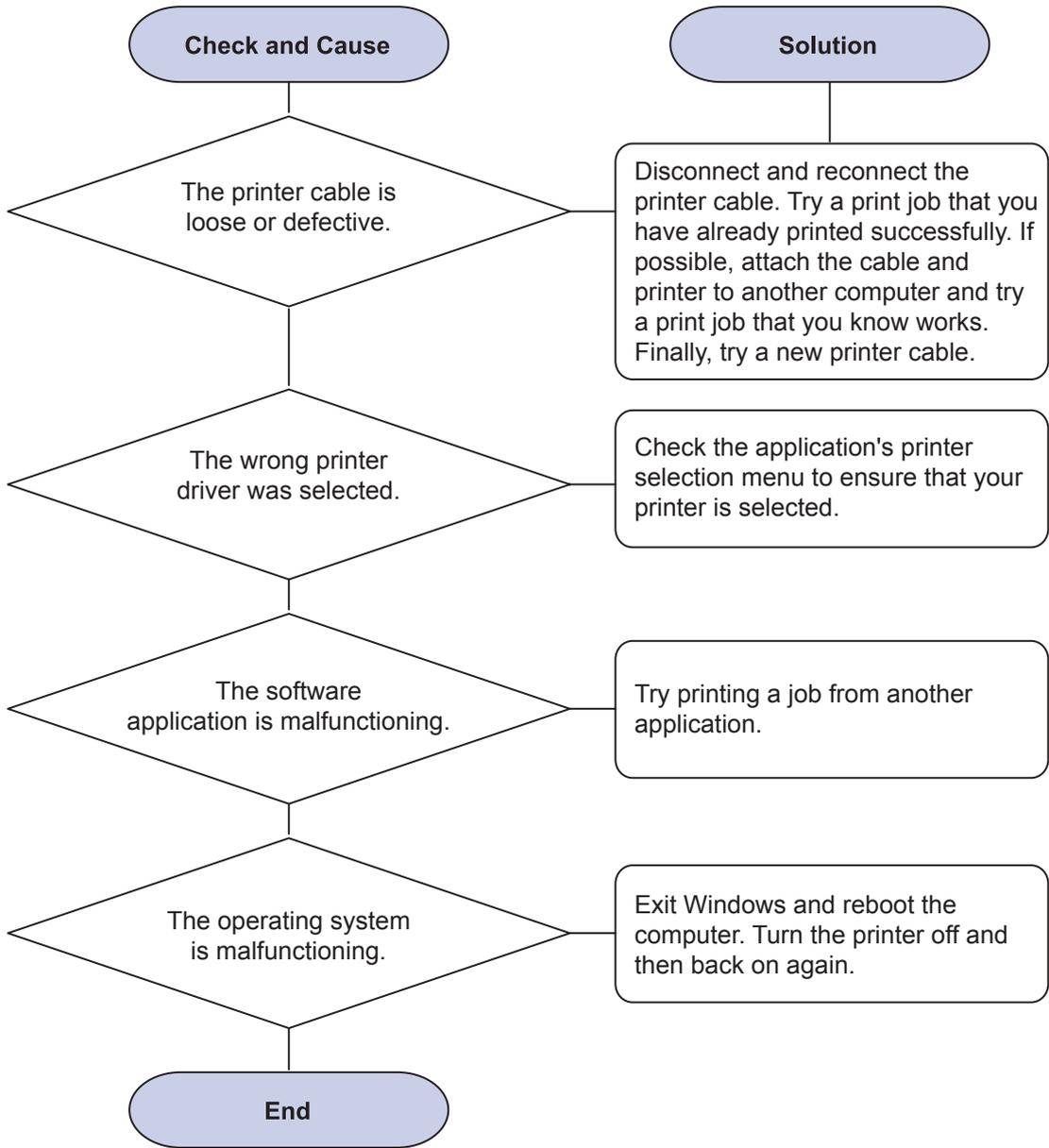
**Description** Half the page is blank.



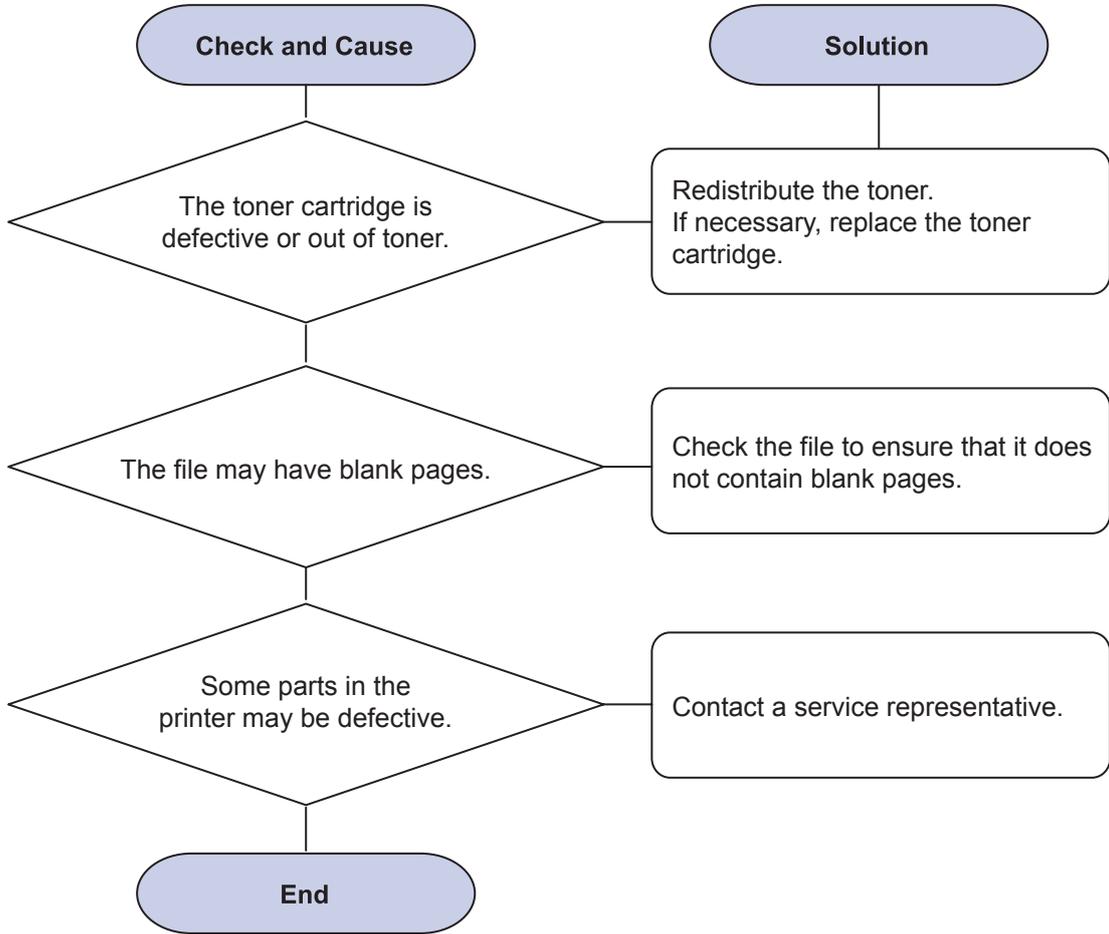
**Description** The paper keeps jamming.



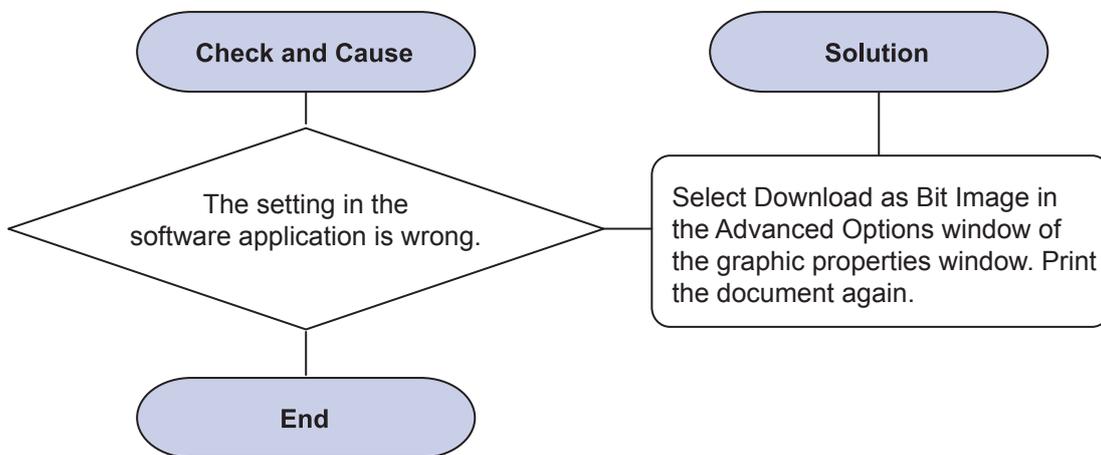
**Description** The printer prints, but the text is wrong, garbled, or incomplete.



<b>Description</b>	Pages print, but are blank.
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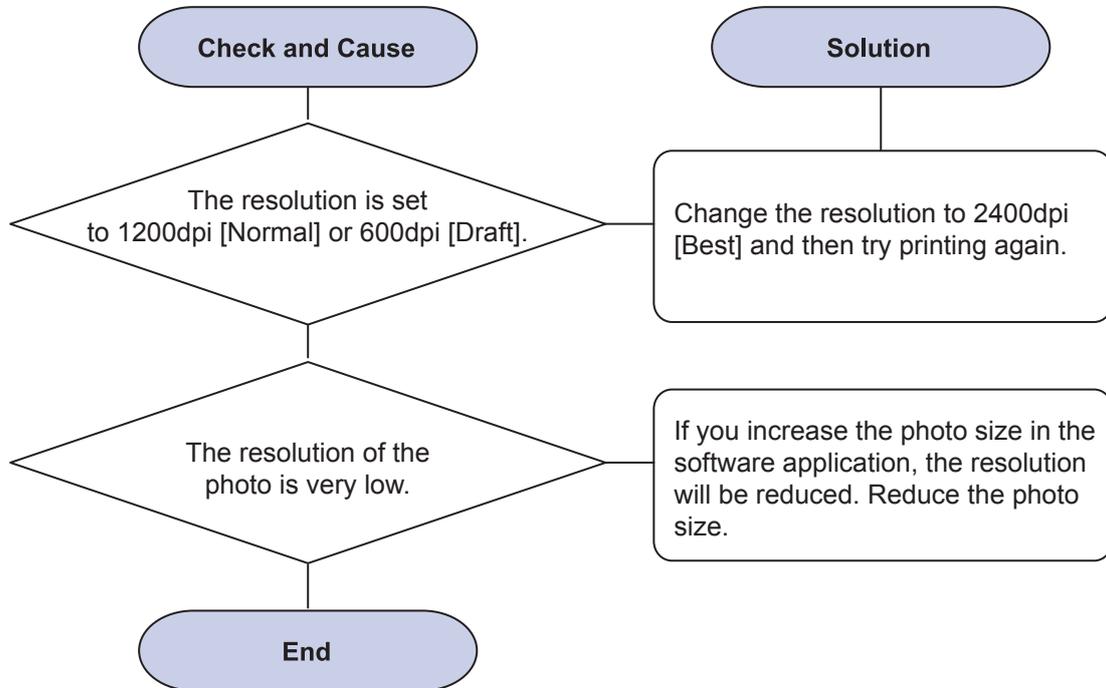


**Description** When you are using Windows 98, the illustrations print incorrectly from Adobe Illustrator.

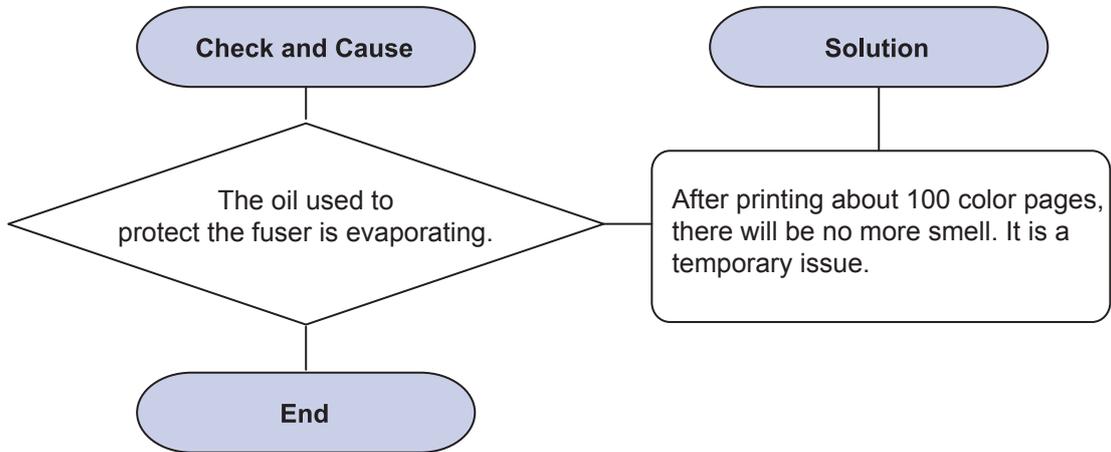


**Description**

The print quality of photos is not good.  
Images are not clear.



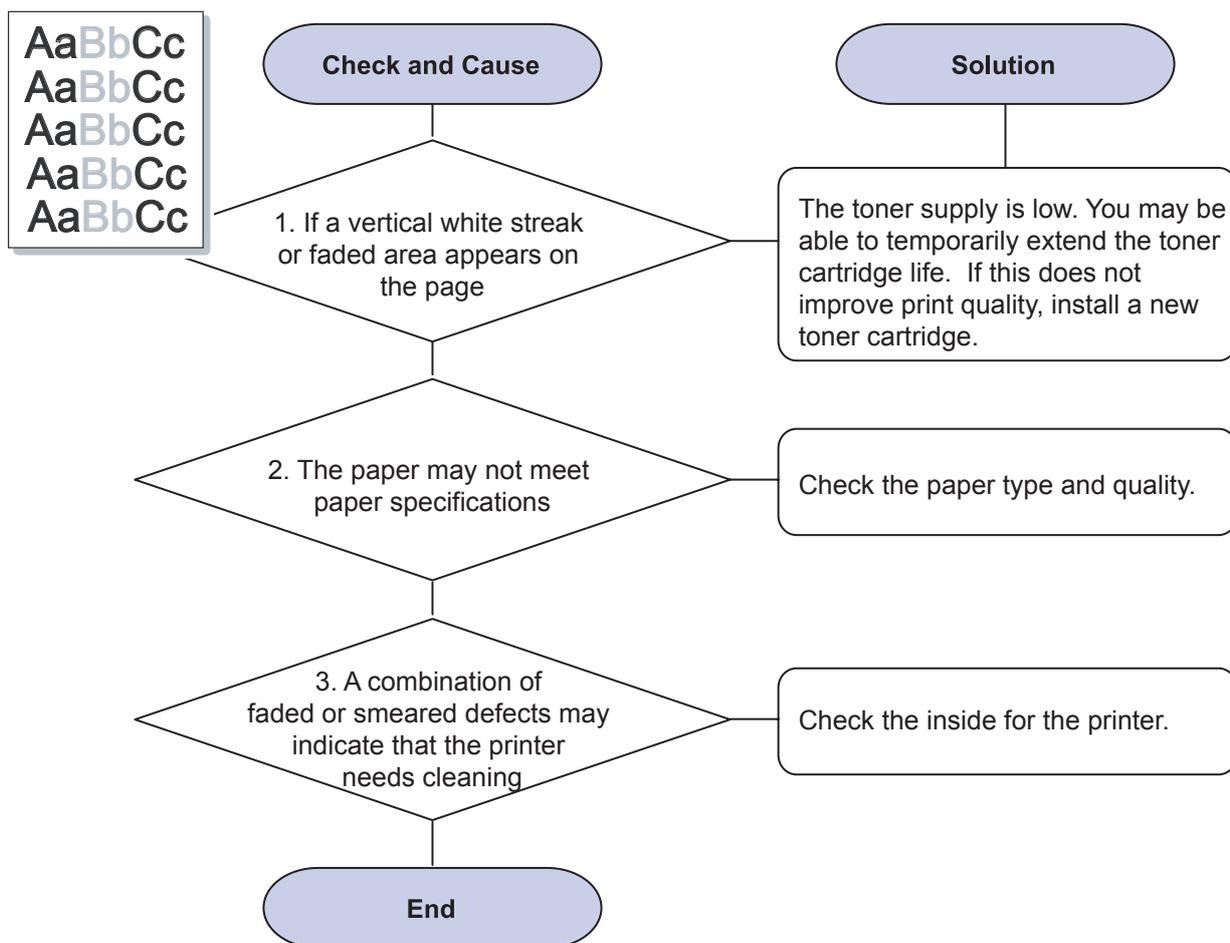
**Description** Your printer has an odd smell during initial use.



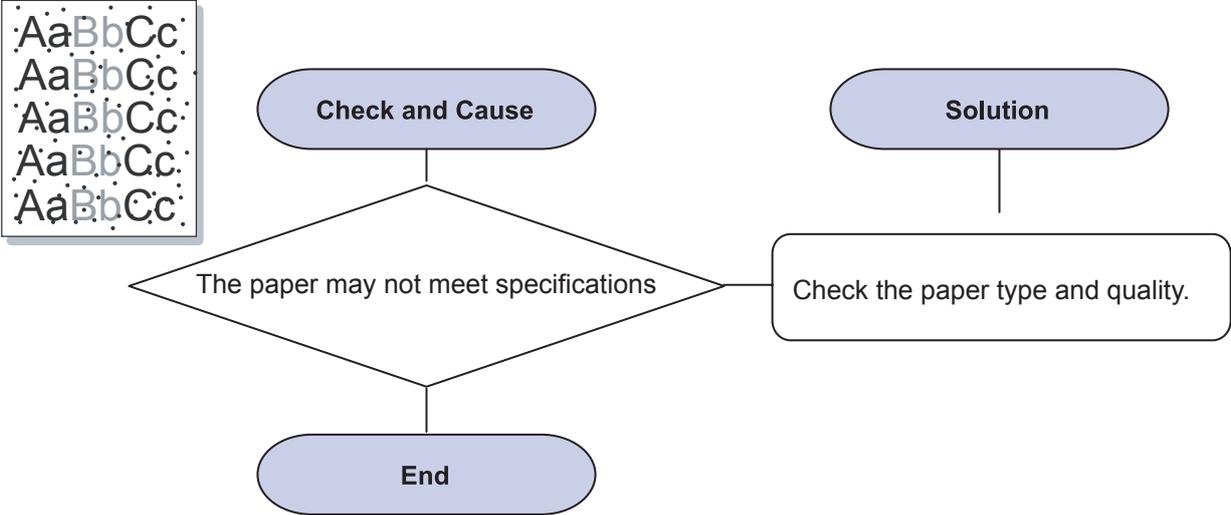
### 4.2.4 Solving Print Quality Problems

Dirt inside of the printer or improper paper loading may reduce print quality. See the table below to troubleshoot problems.

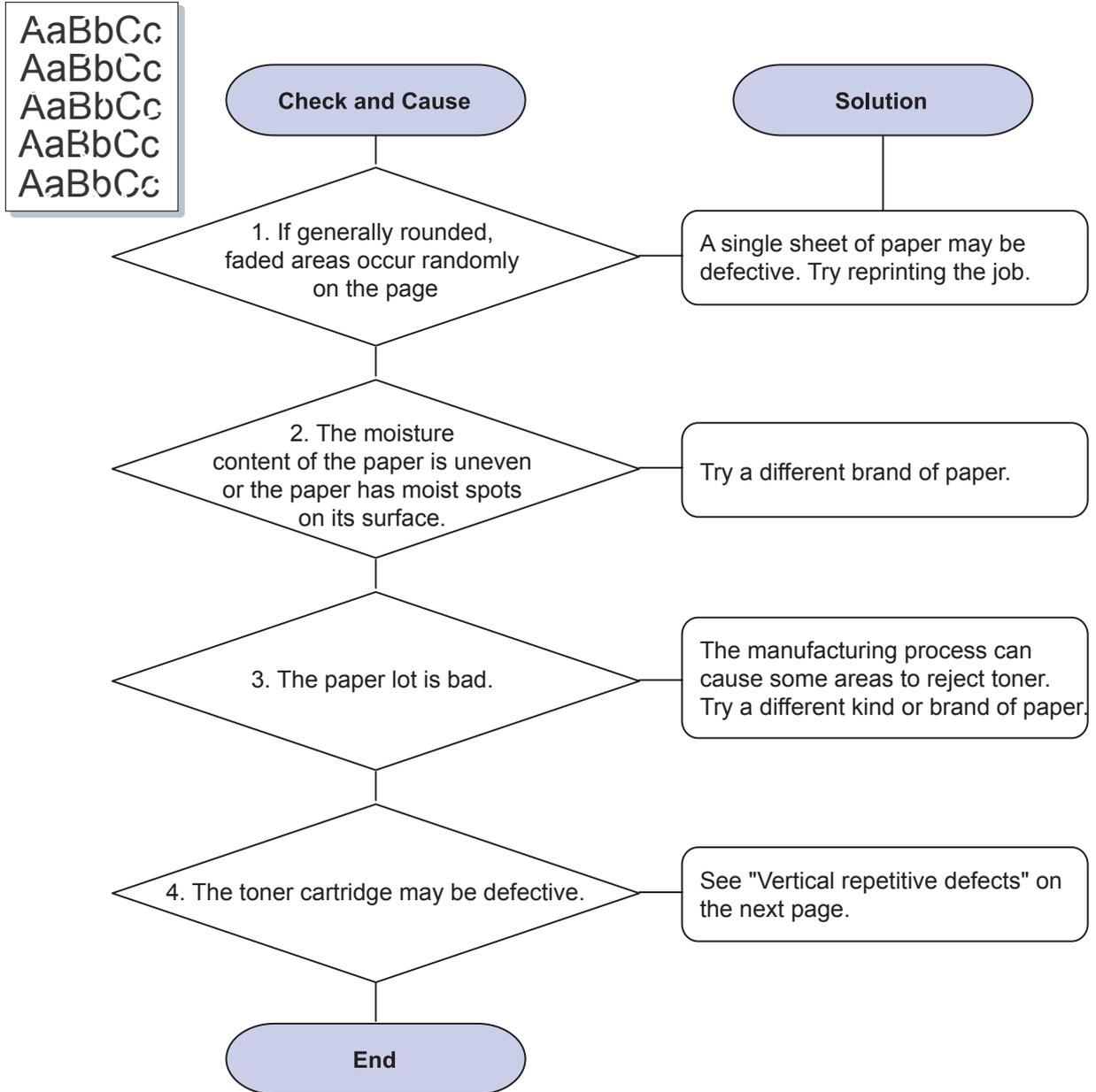
#### 1) Light or faded print



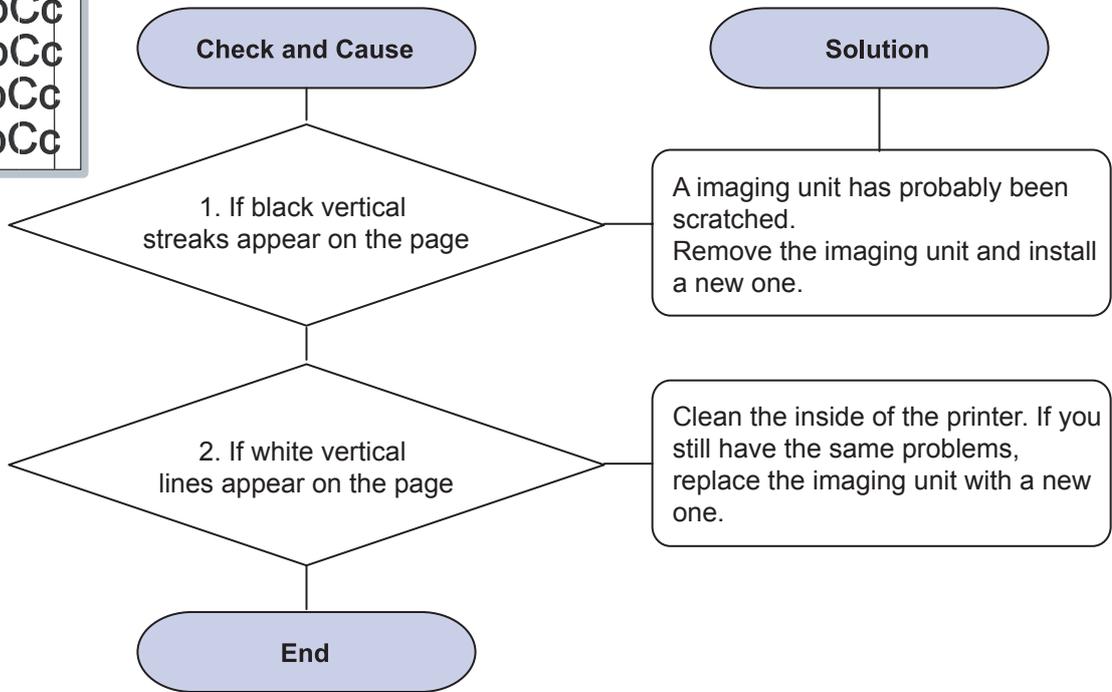
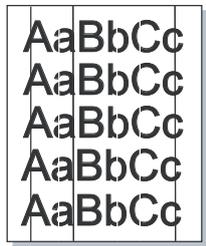
2) Toner specks



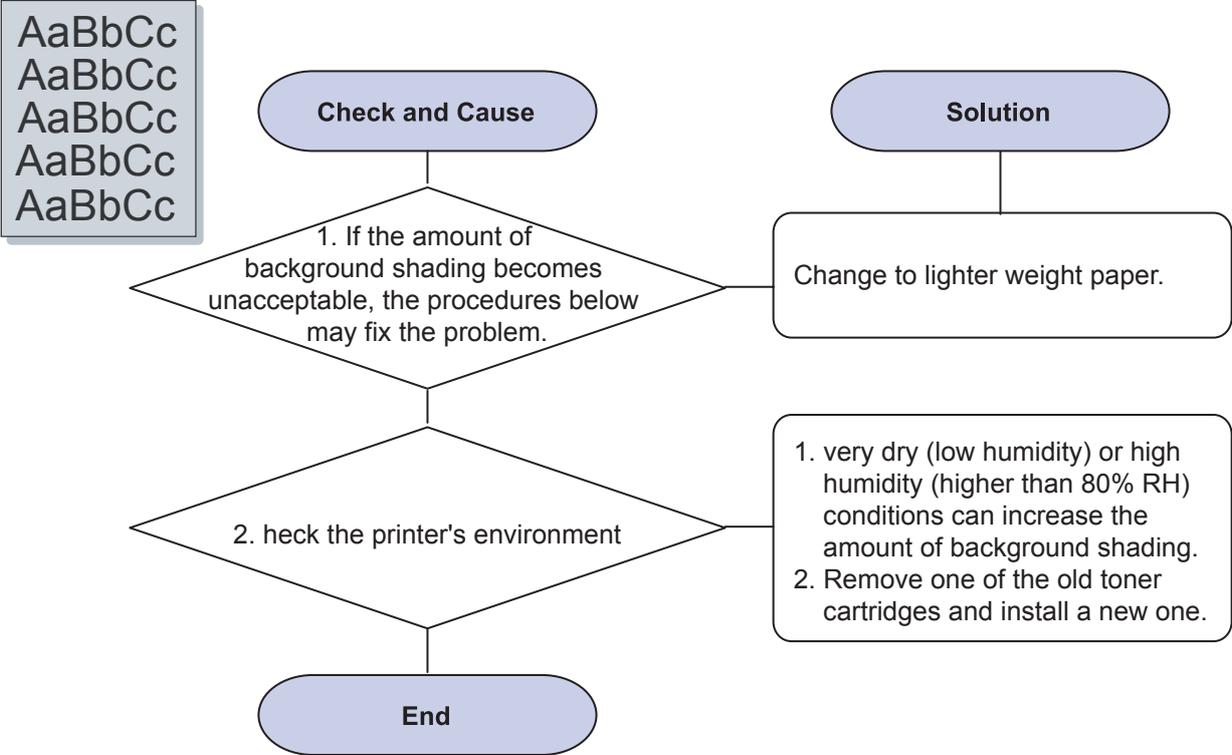
### 3) Dropouts



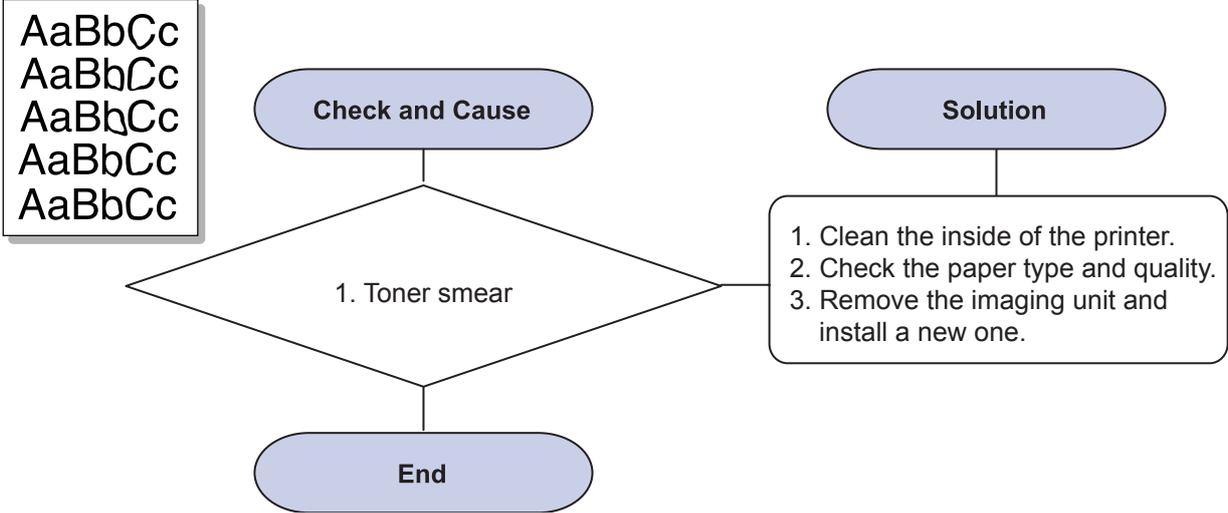
#### 4) Vertical lines



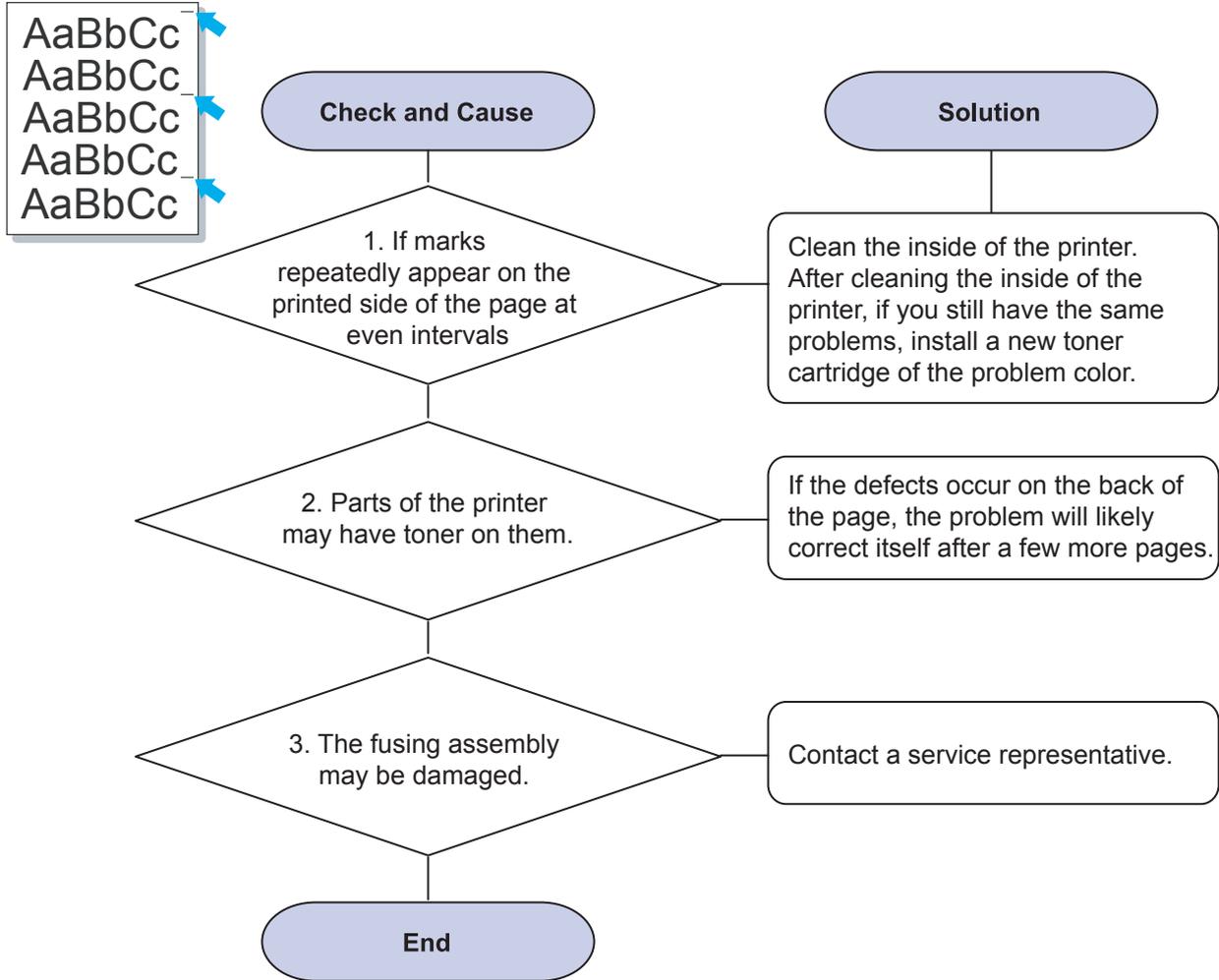
5) Color or Black background



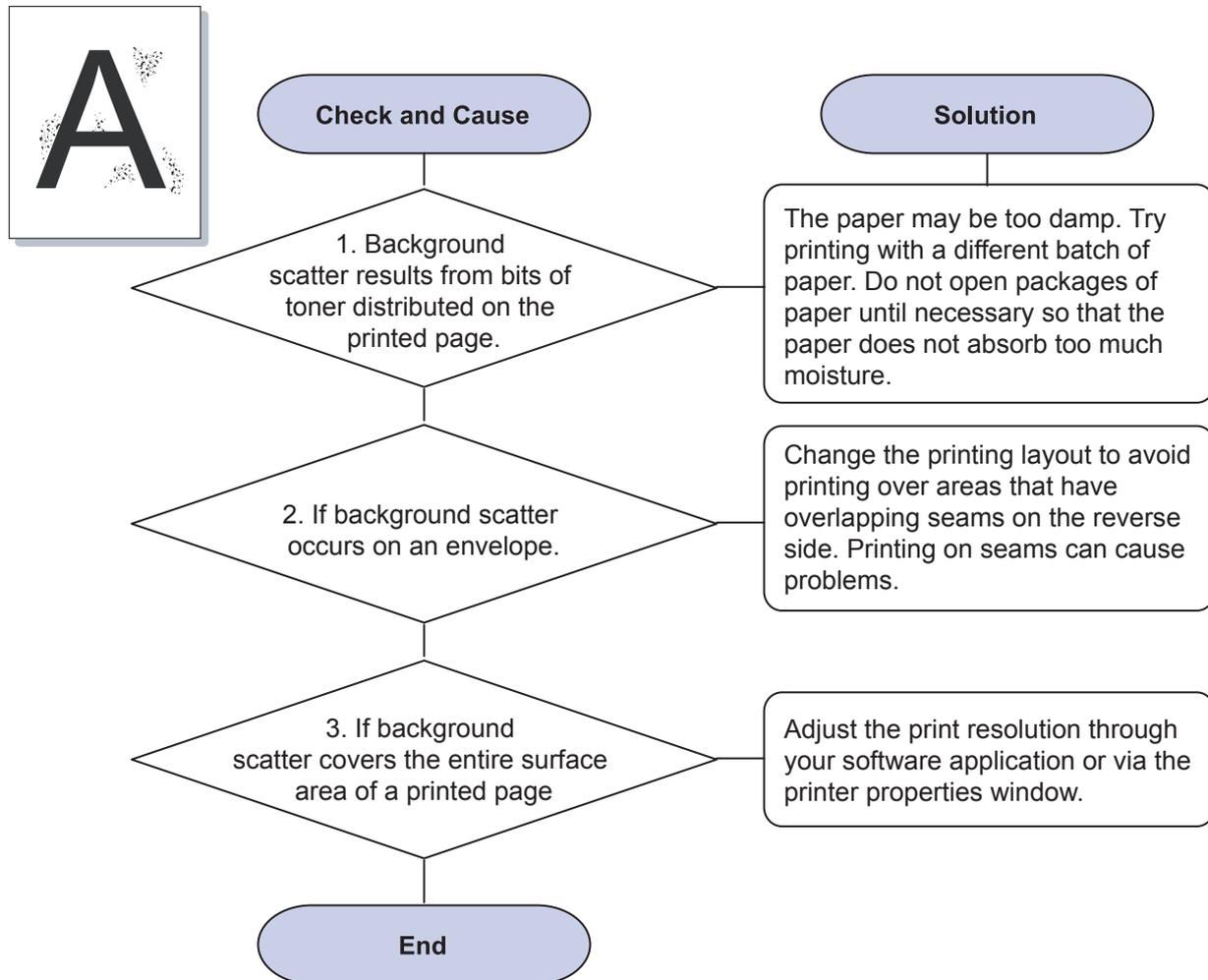
6) Toner smear



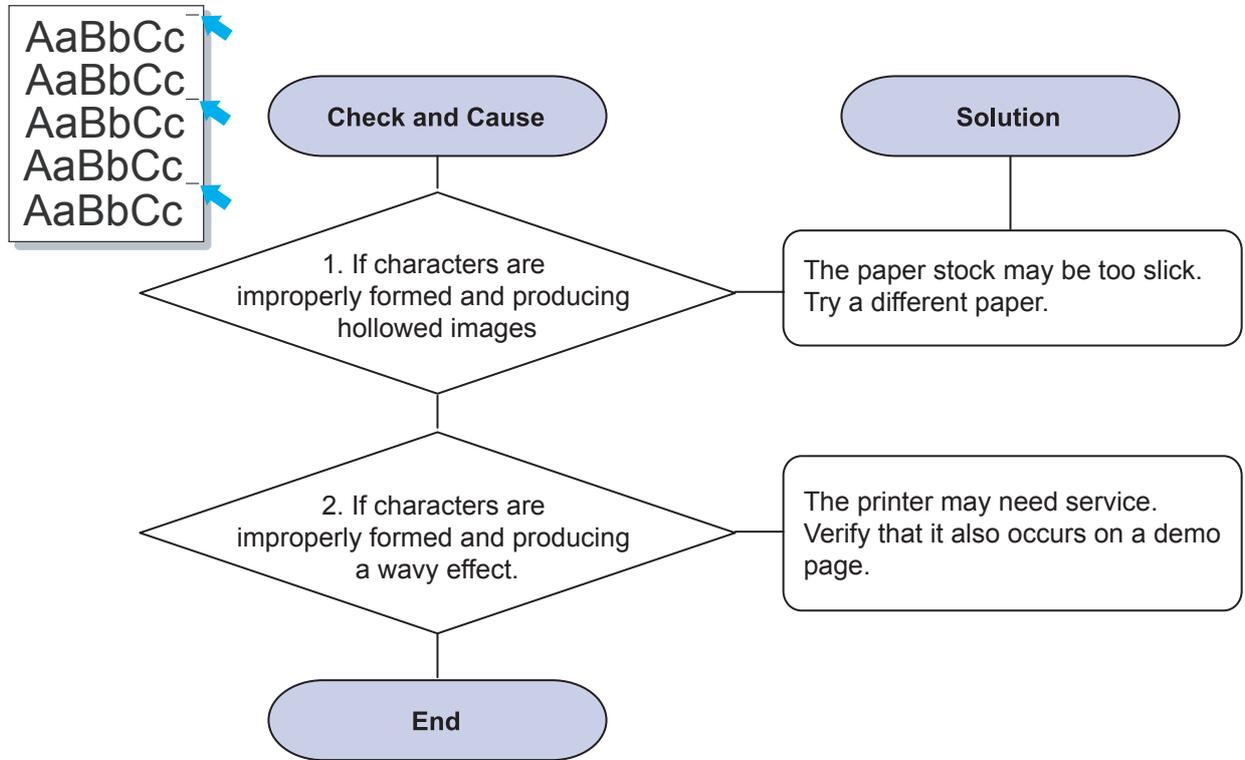
### 7) Vertical repetitive defects



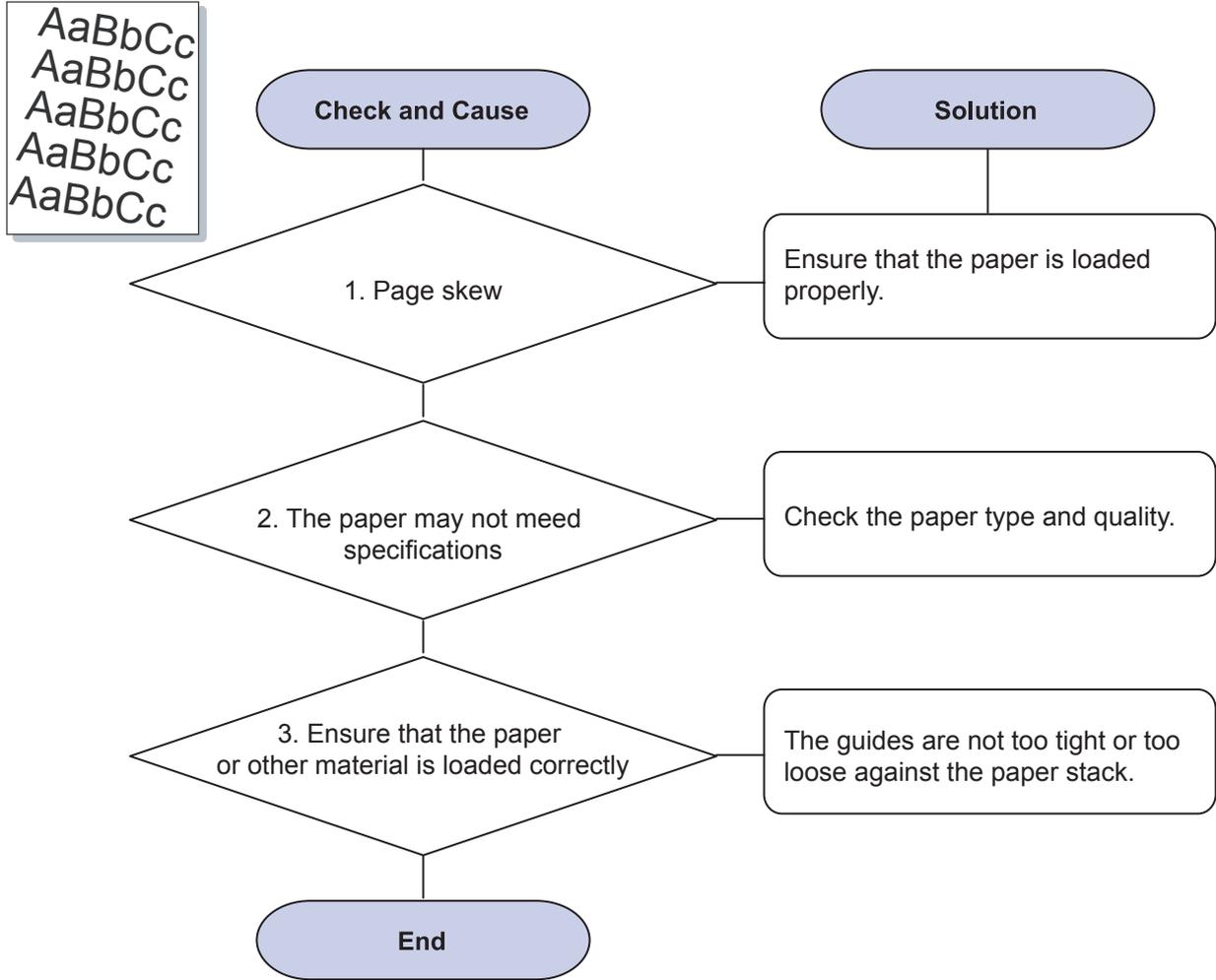
## 8) Background scatter



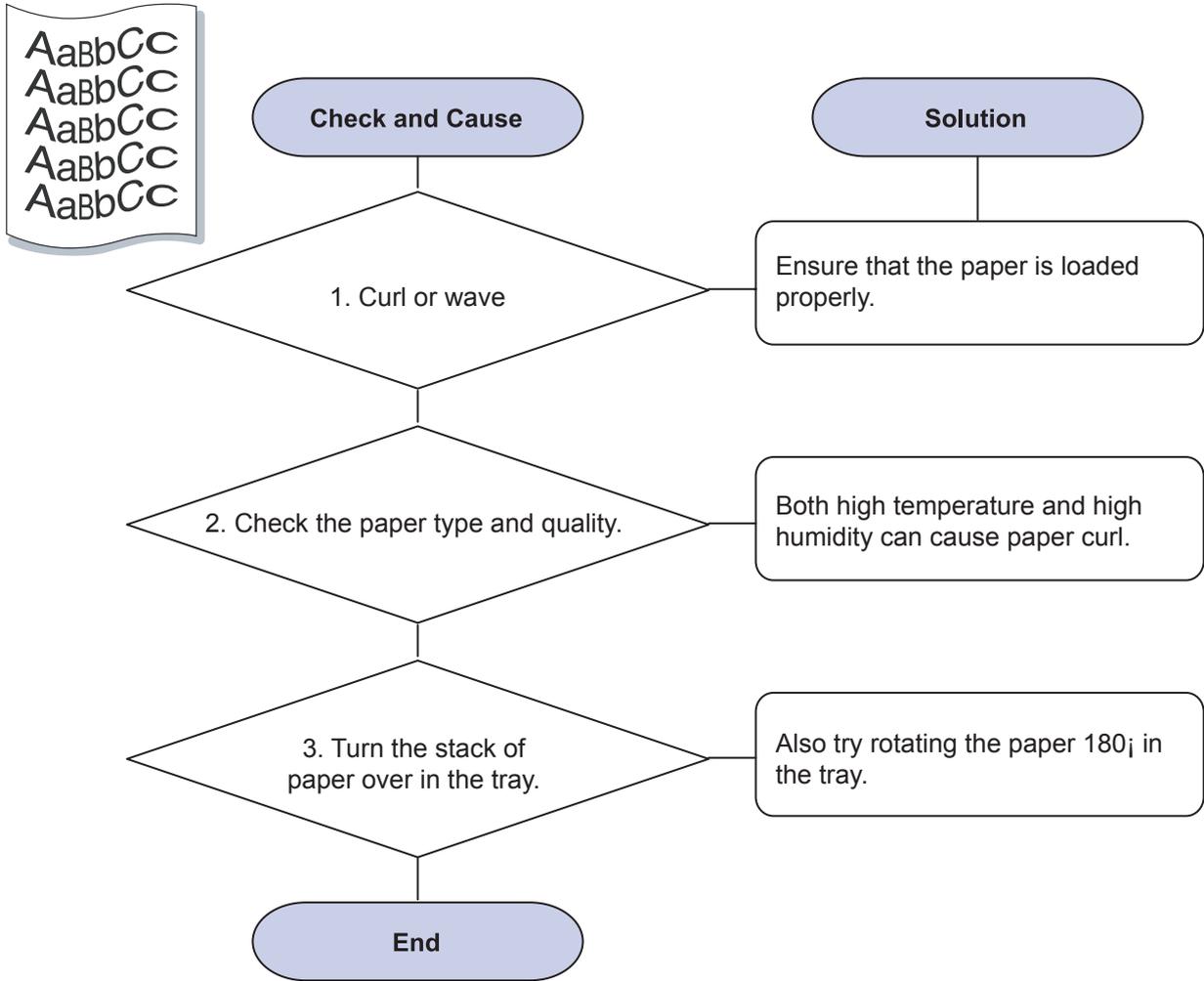
### 9) Misformed characters



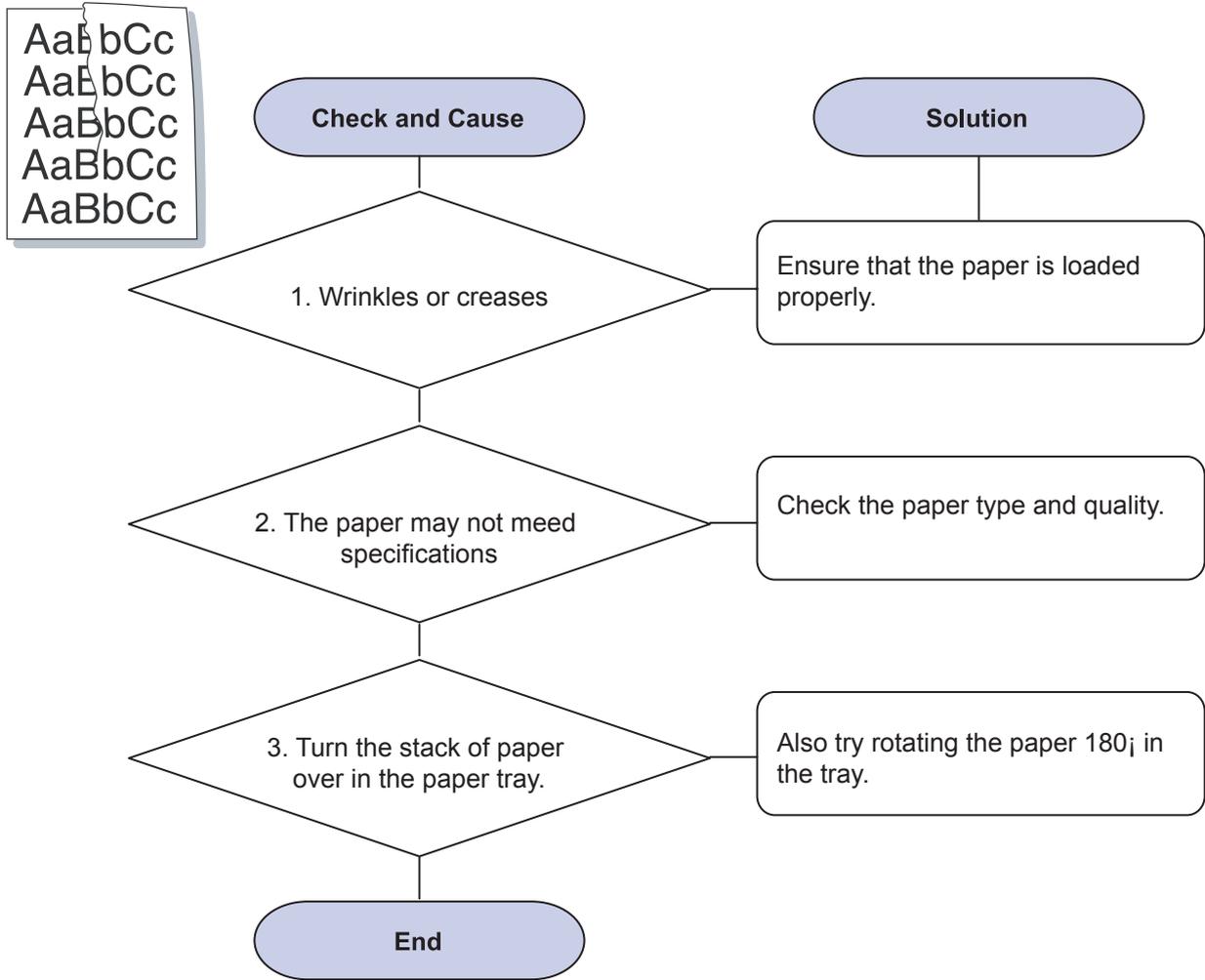
### 10) Page skew



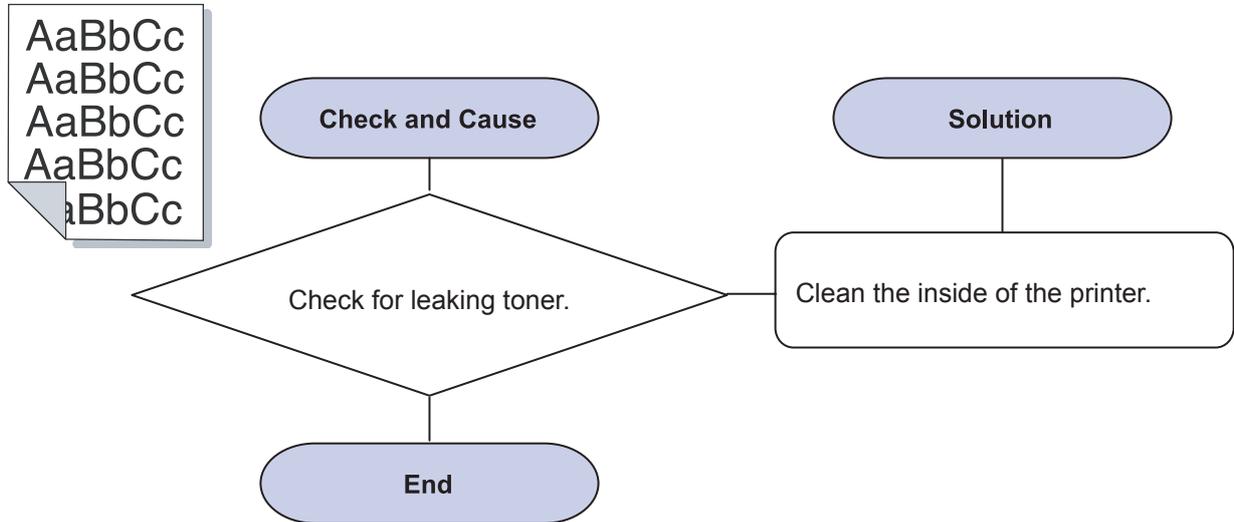
### 11) Curl or wave



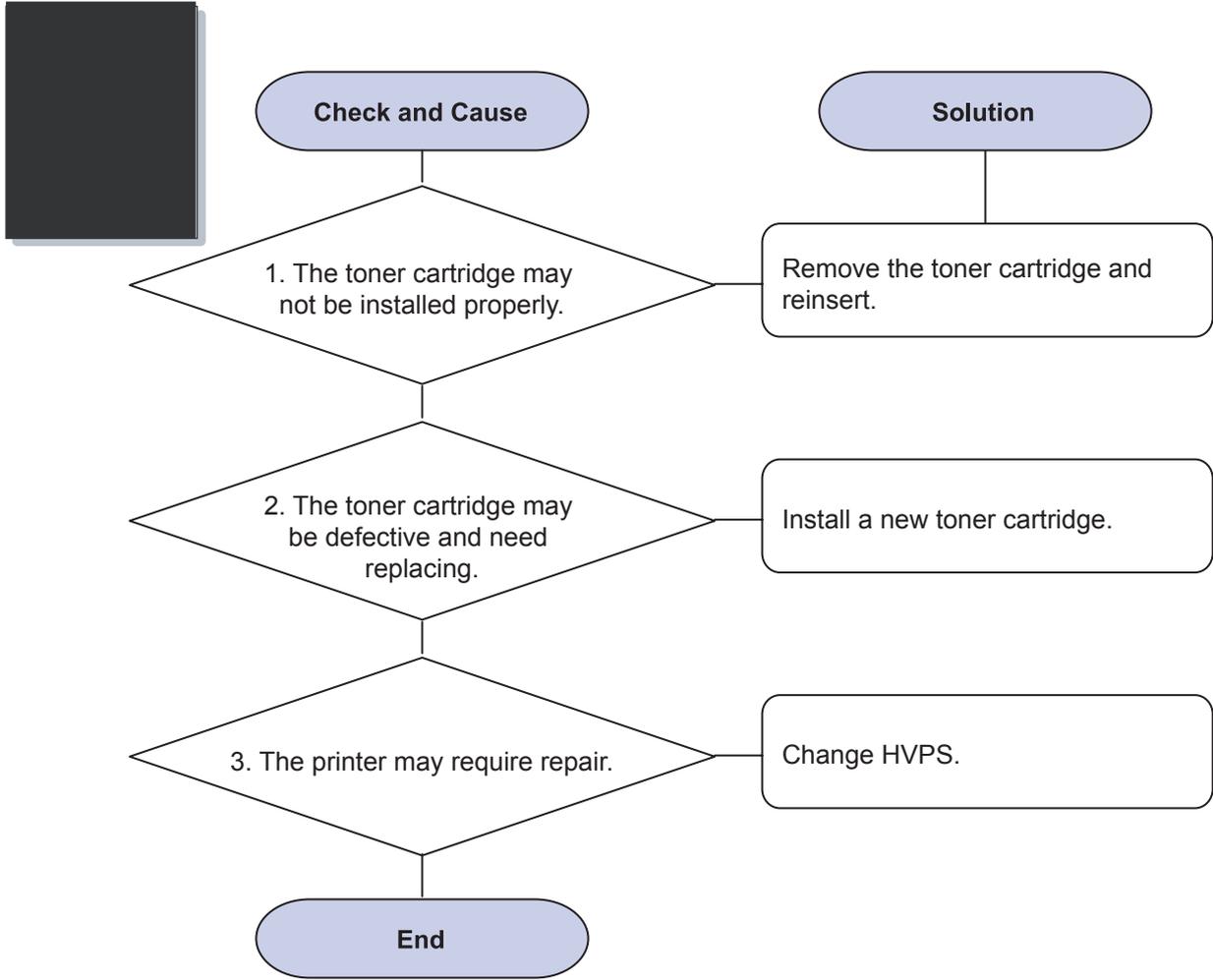
### 12) Wrinkles or creases



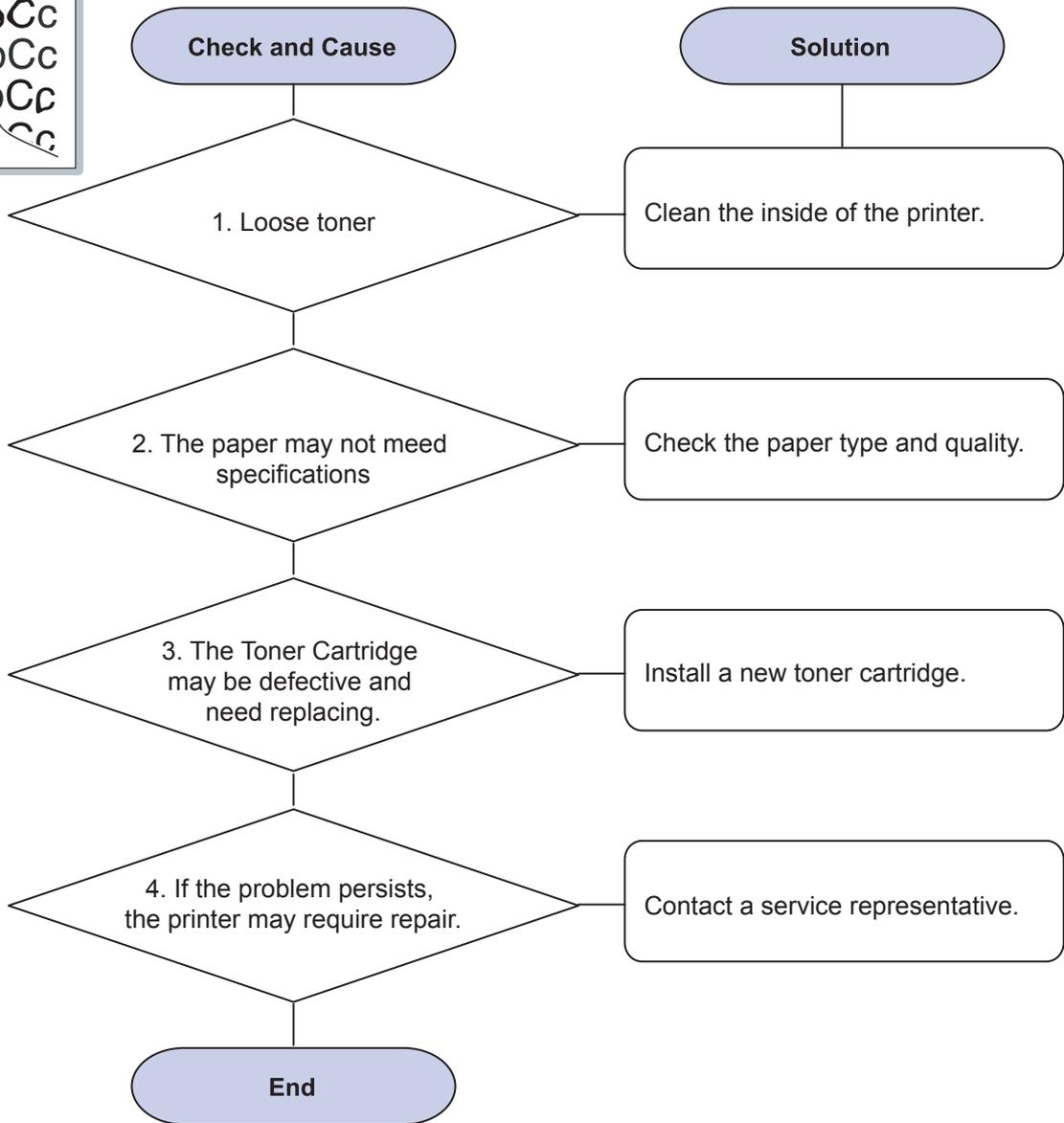
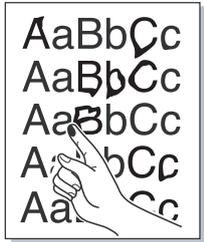
### 13) Back of printouts are dirty



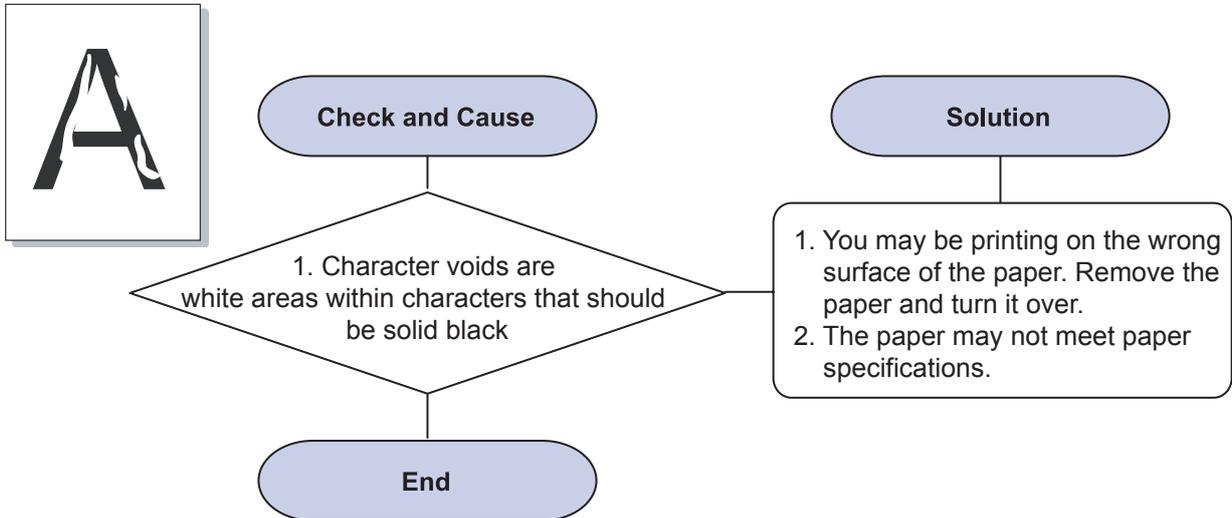
### 14) Solid Color or Black pages



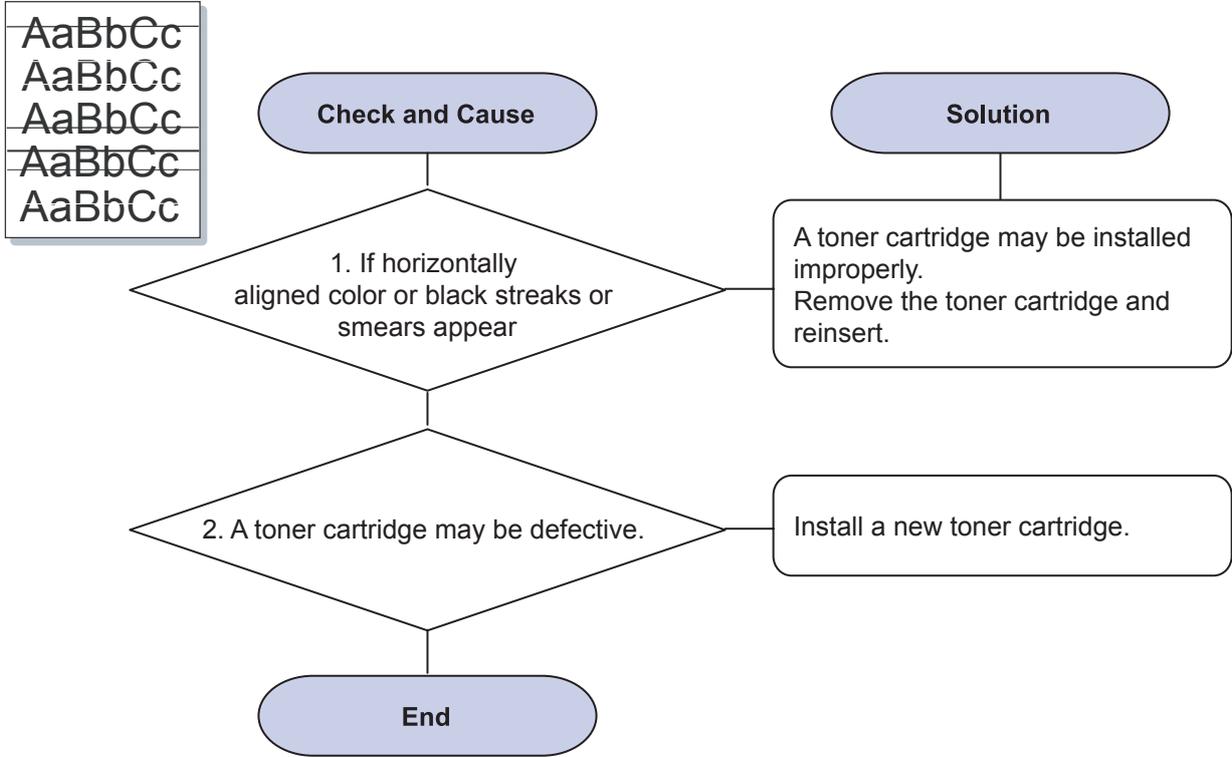
### 15) Loose toner



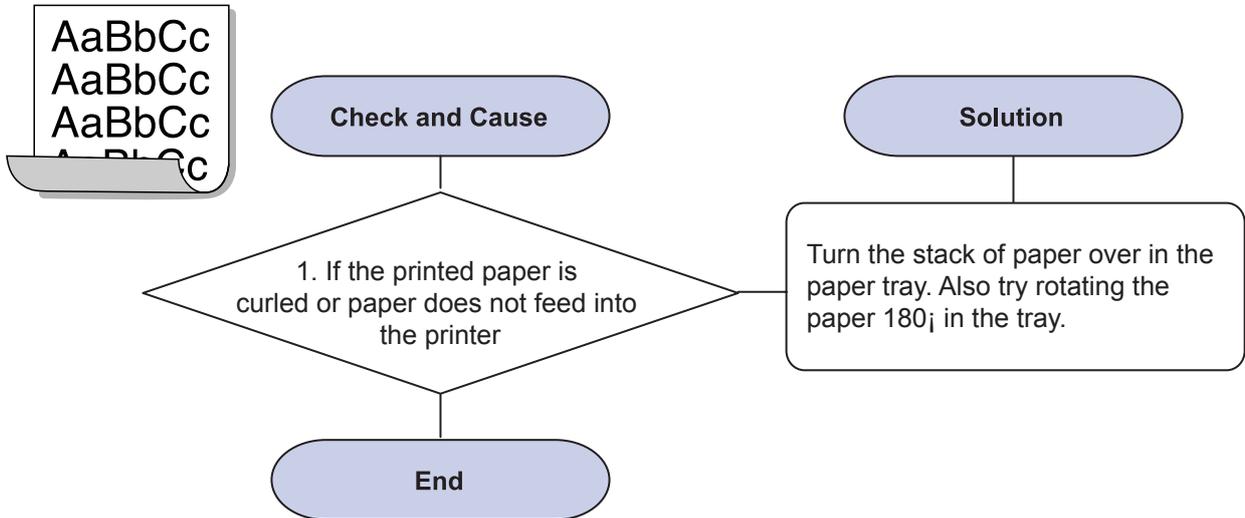
## 16) Character Voids



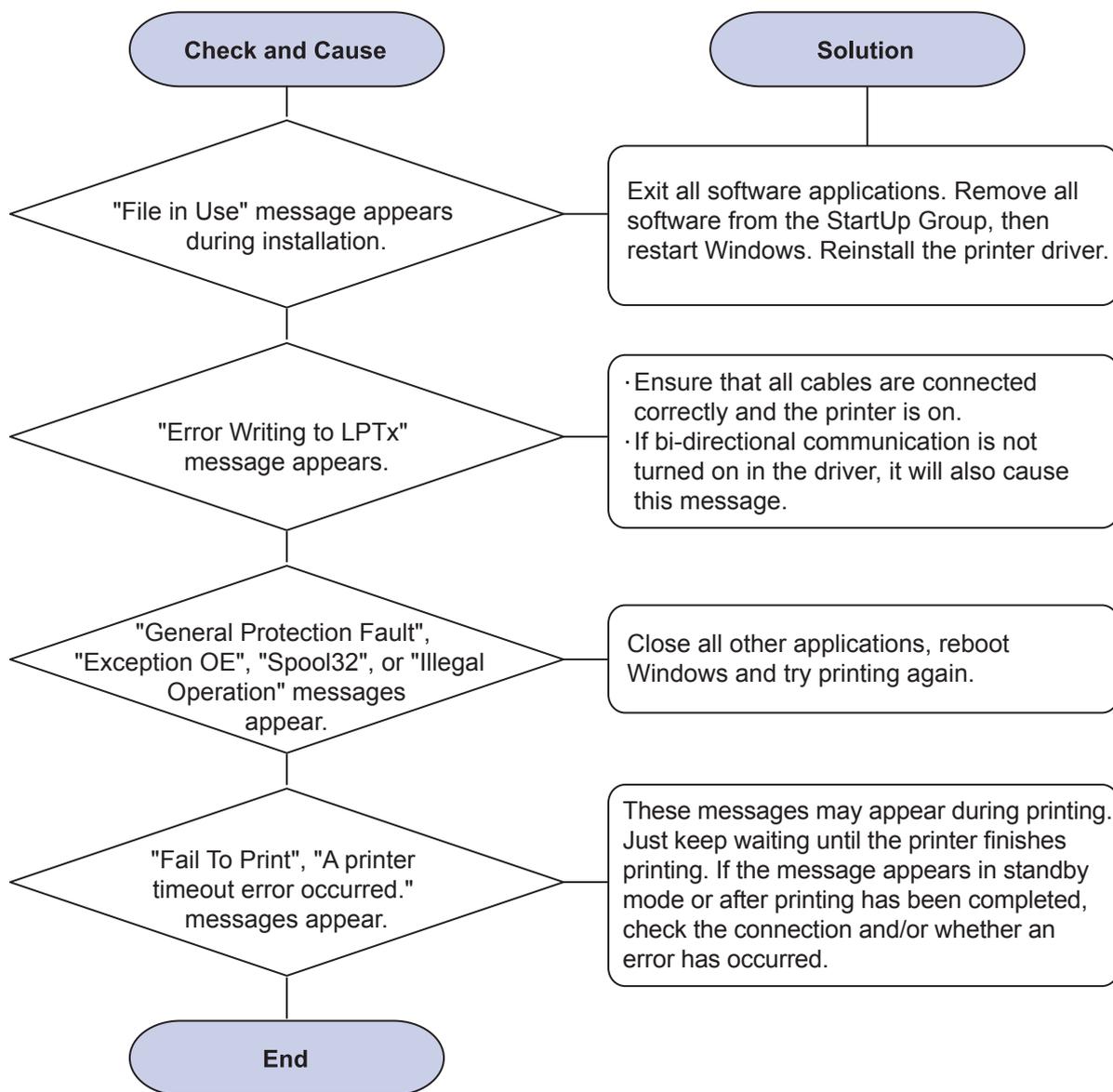
### 17) Horizontal stripes



### 18) Curl

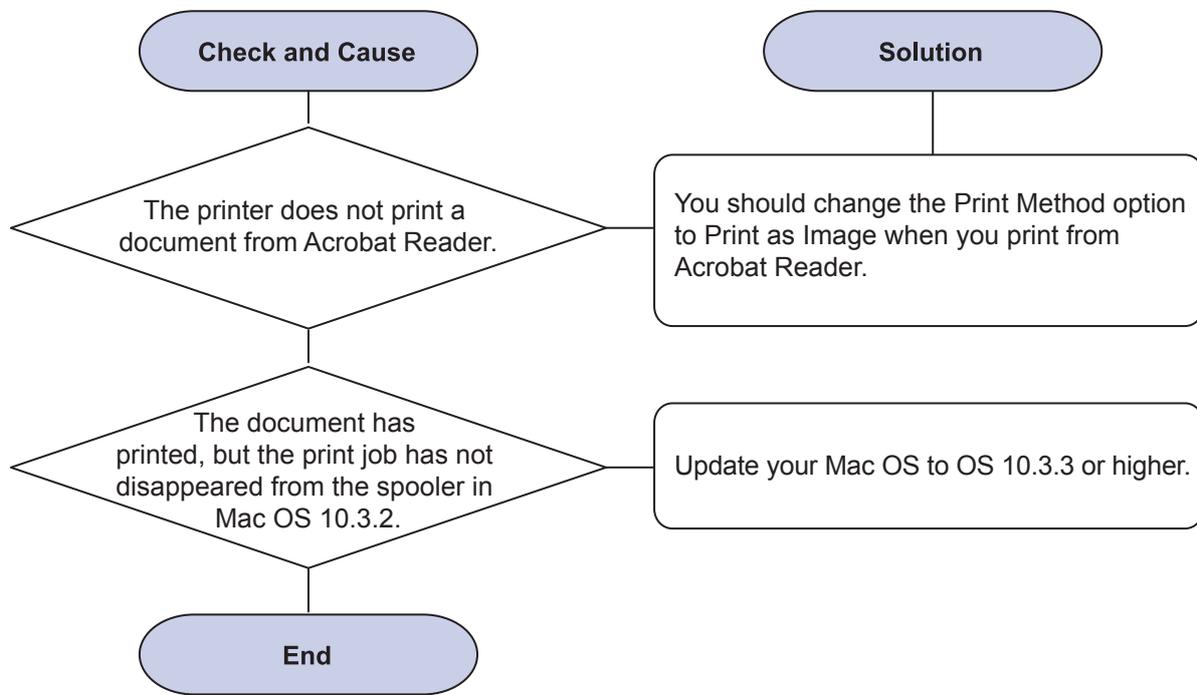


### 4.2.5 Common Windows Problems

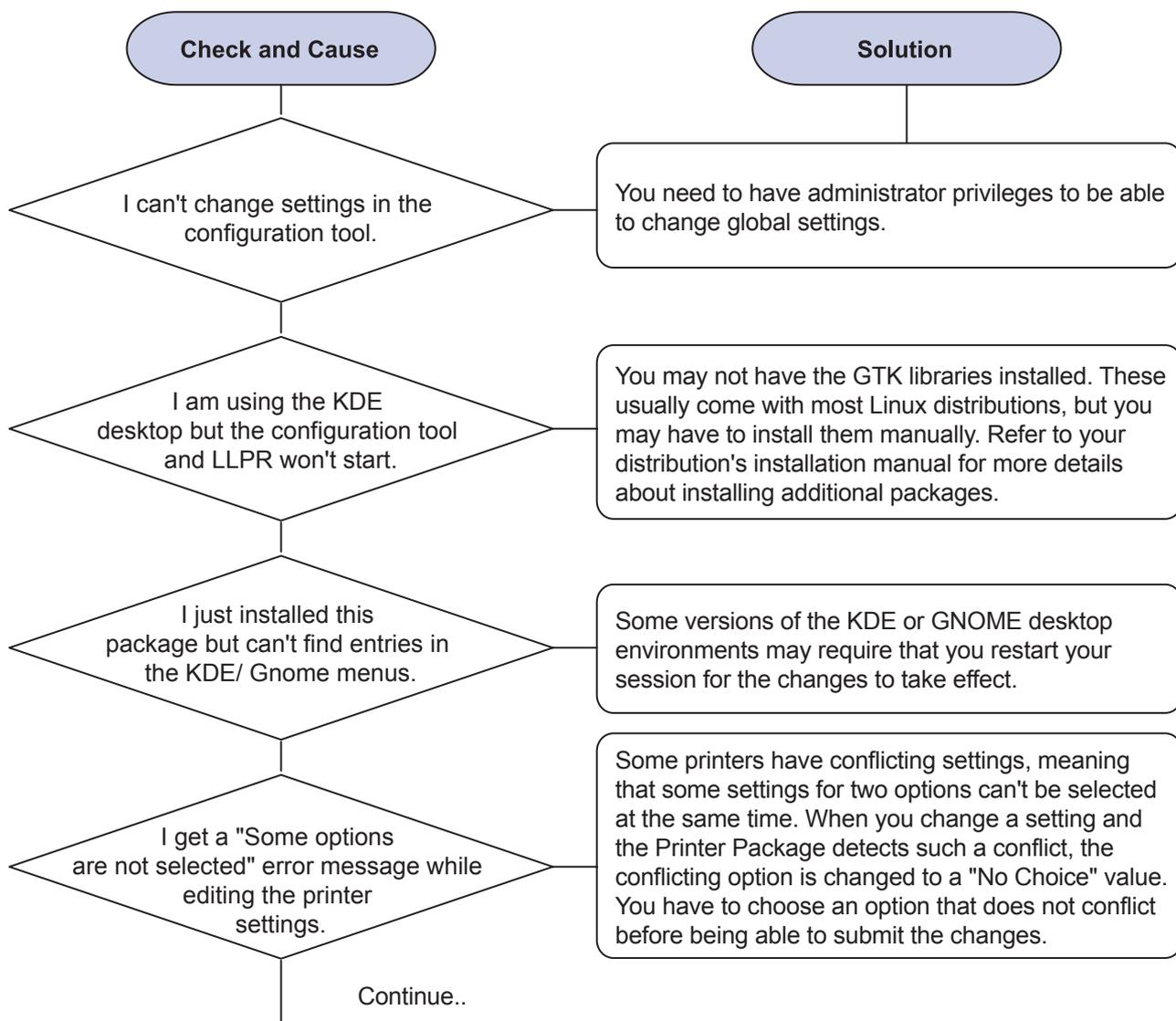


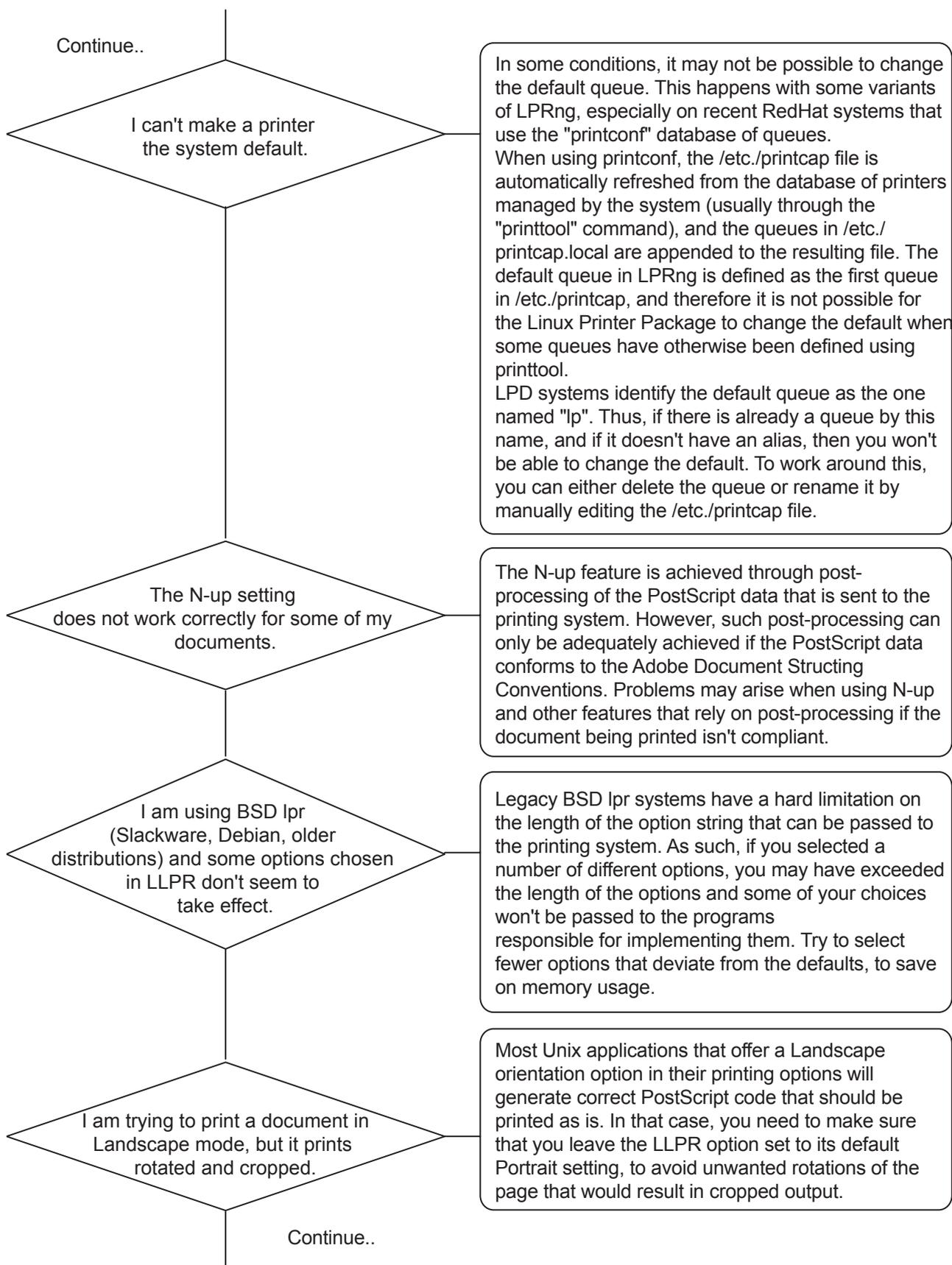
**NOTE:** Refer to the Microsoft Windows 98/Me/NT 4.0/2000/2003/XP User's Guide that came with your PC for further information on Windows error messages.

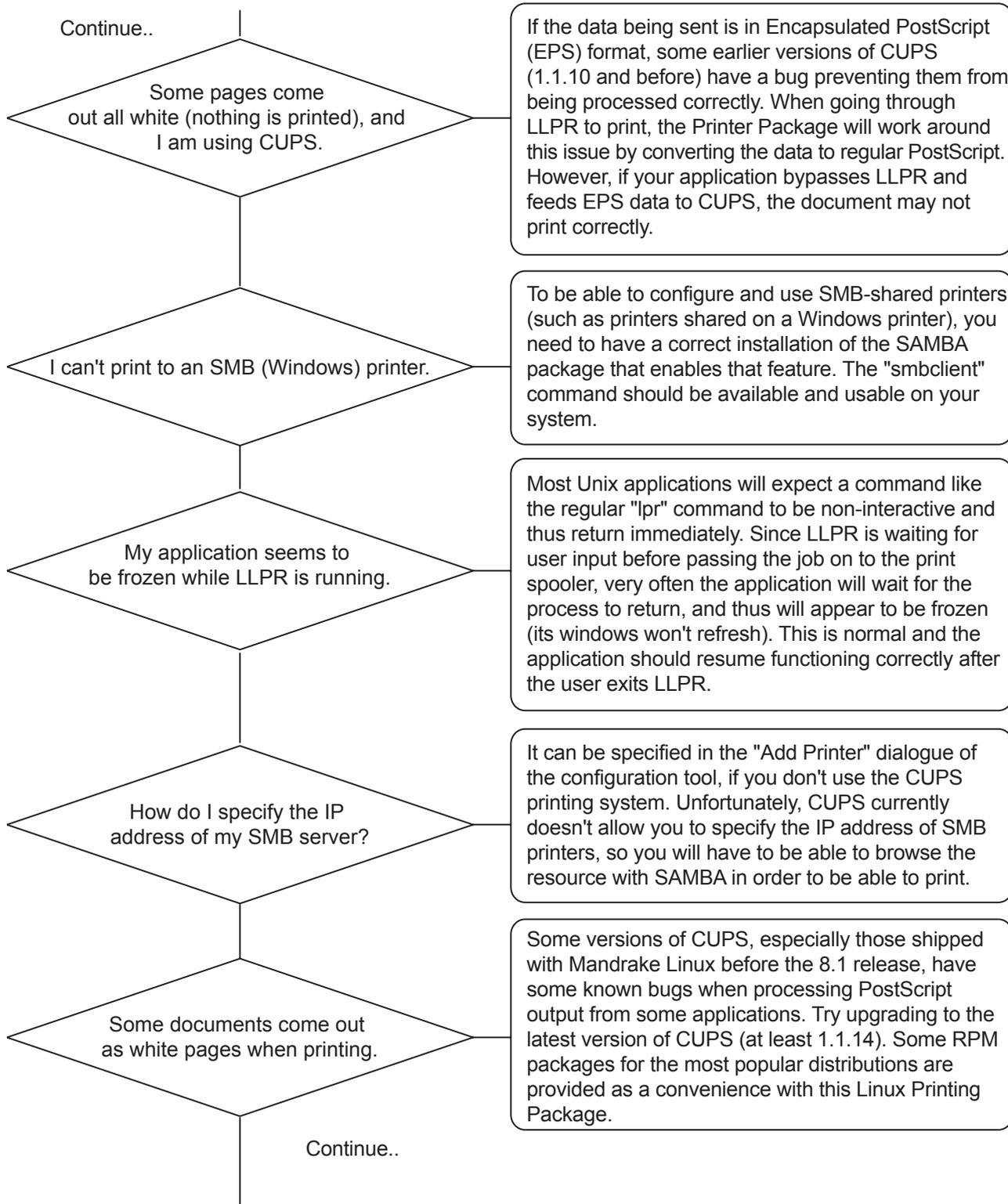
## 4.2.6 Common Macintosh Problems

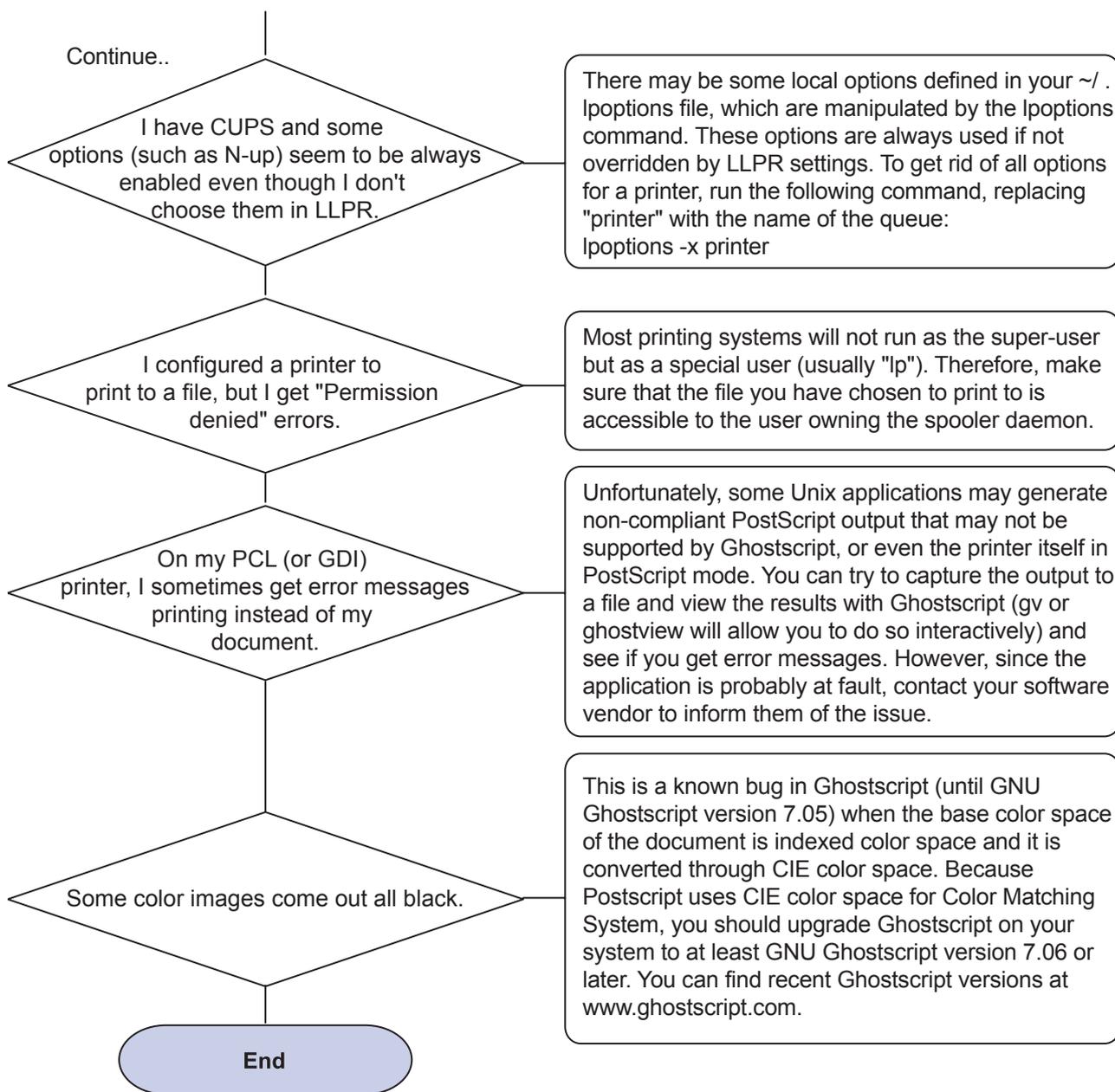


## 4.2.7 Common Linux Problems







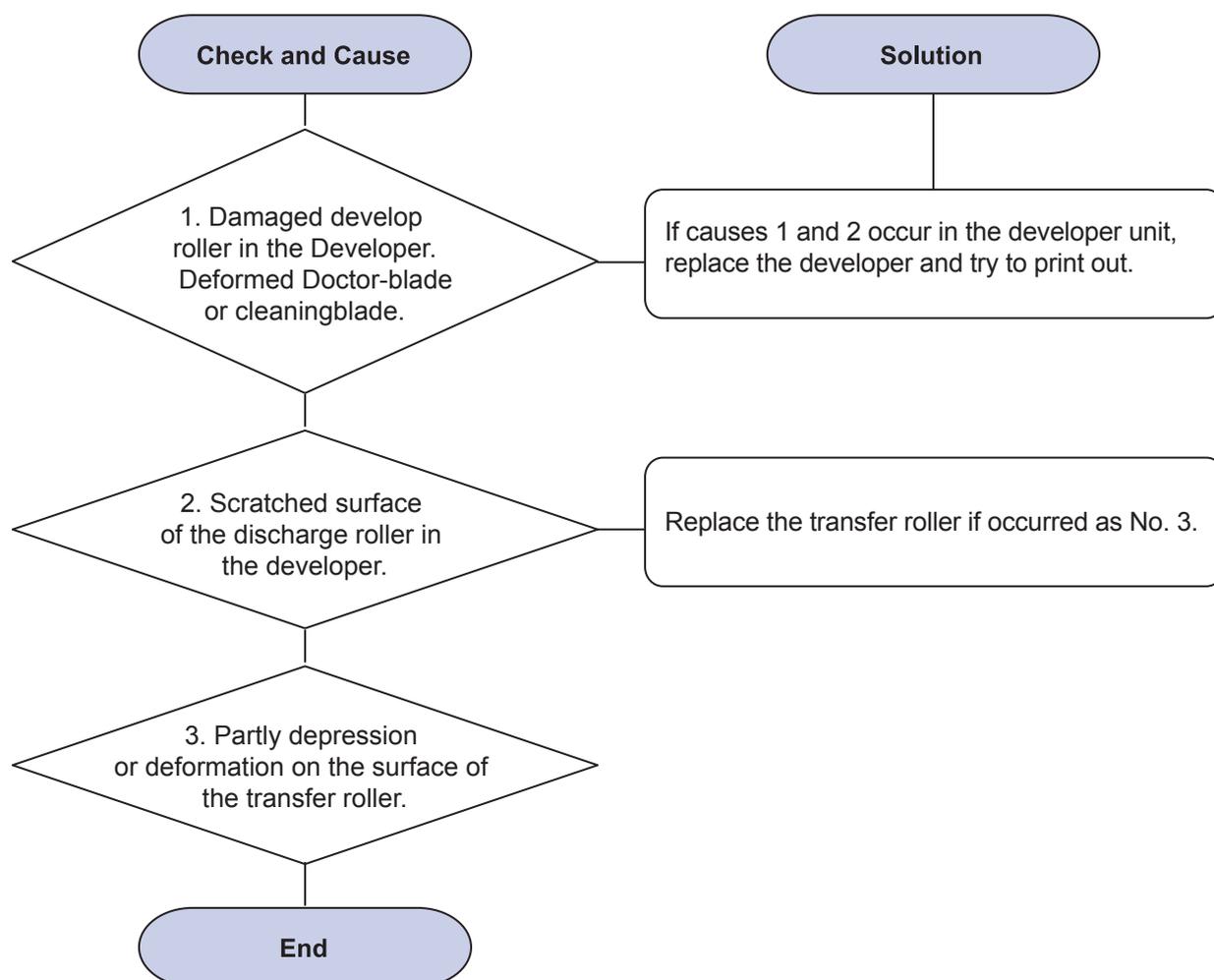


## 4.2.8 Major Problems Trouble shooting

### 1) Vertical Line and Band

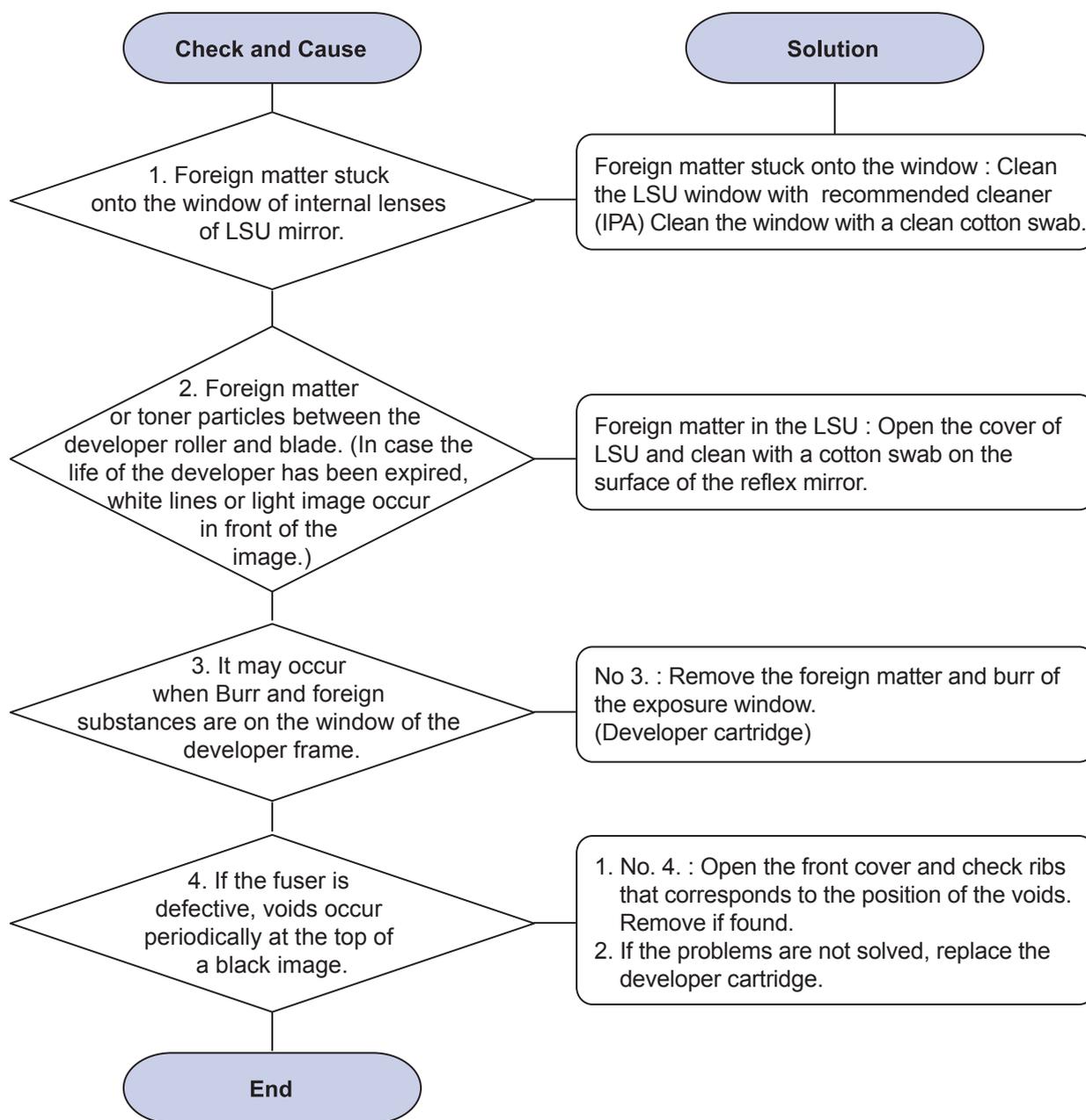
**Description**

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



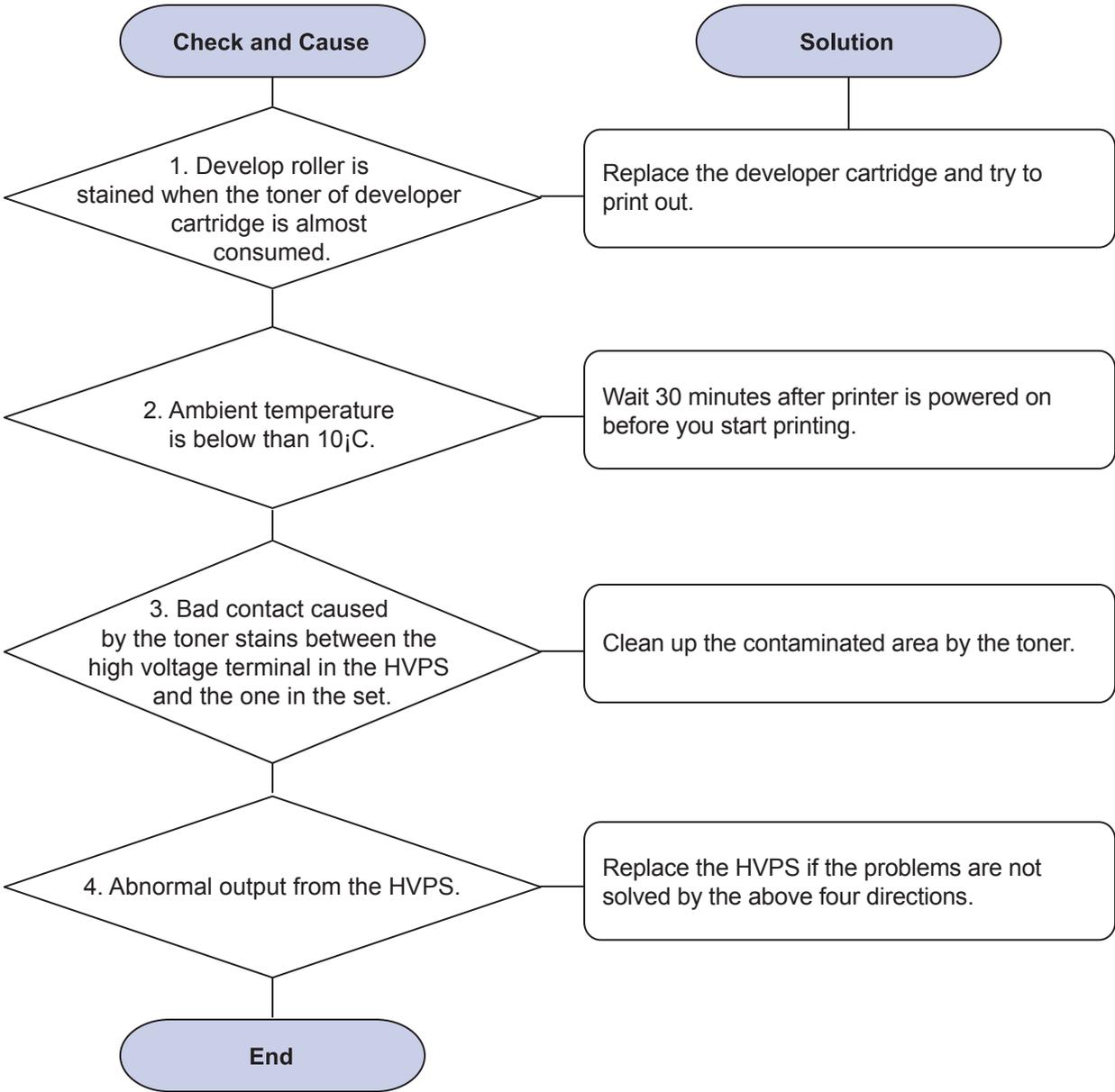
## 2) Vertical White Line

**Description** White vertical voids in the image.



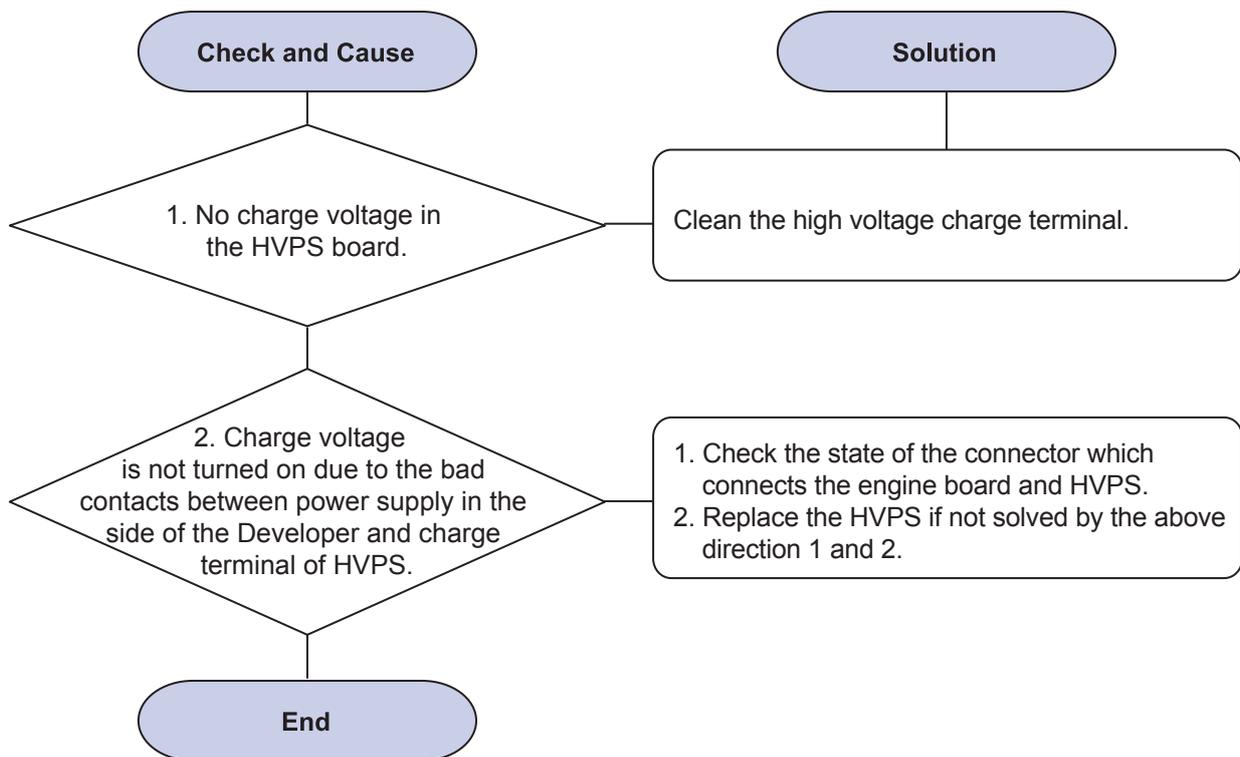
### 3) Light Image

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



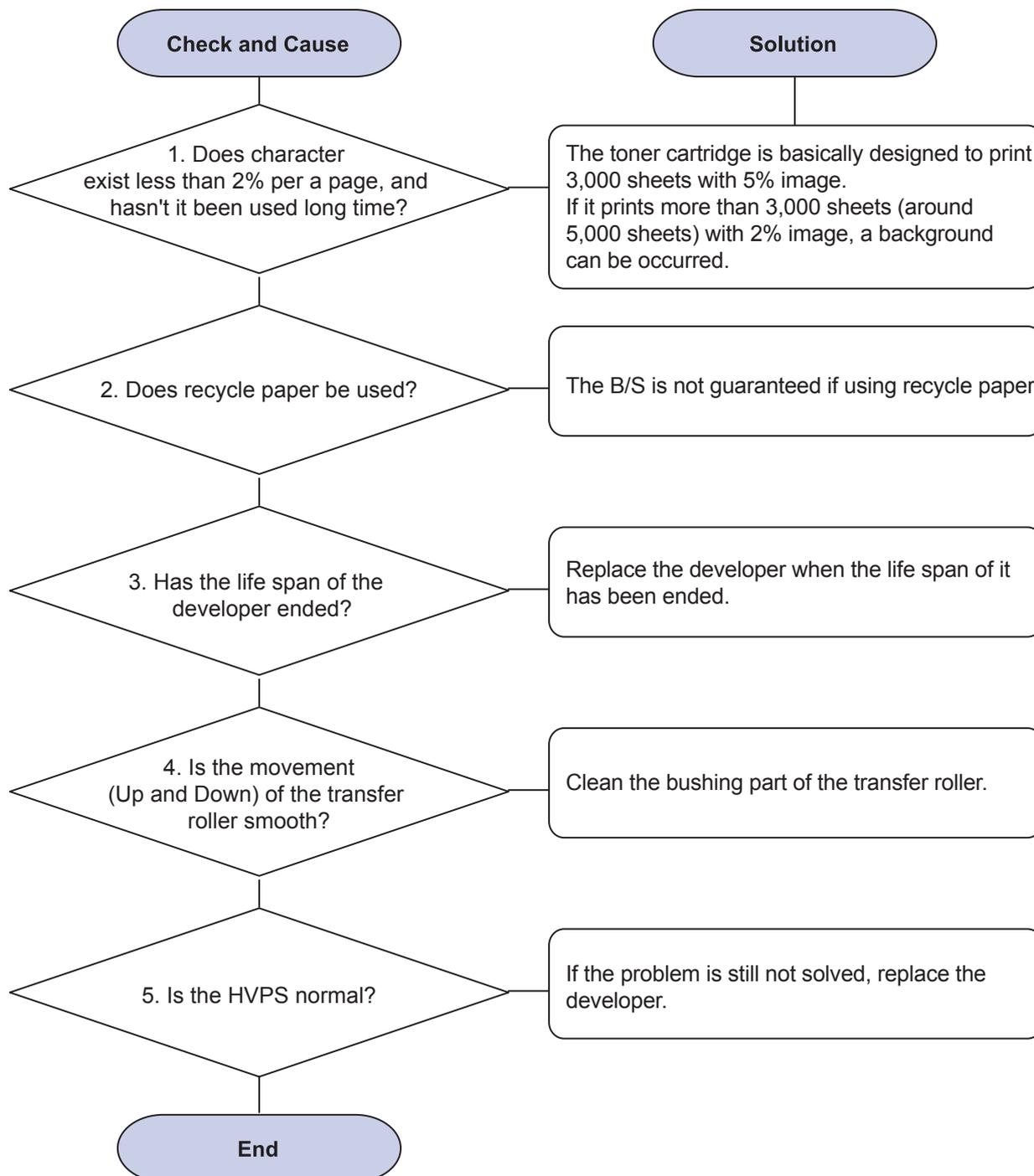
#### 4) Dark Image or black

**Description** The printed image is dark.



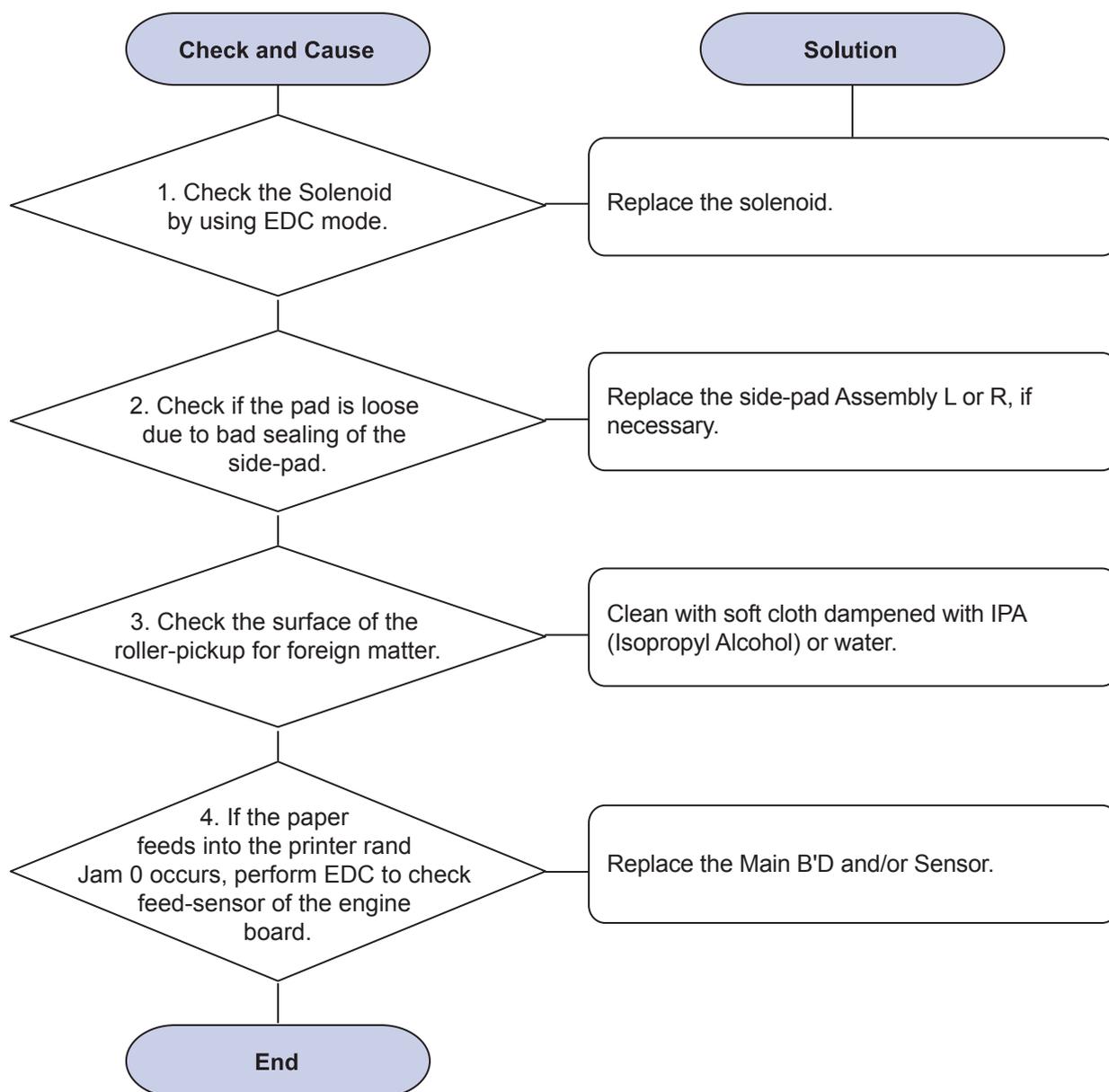
### 5) Background

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



### 6) JAM 0

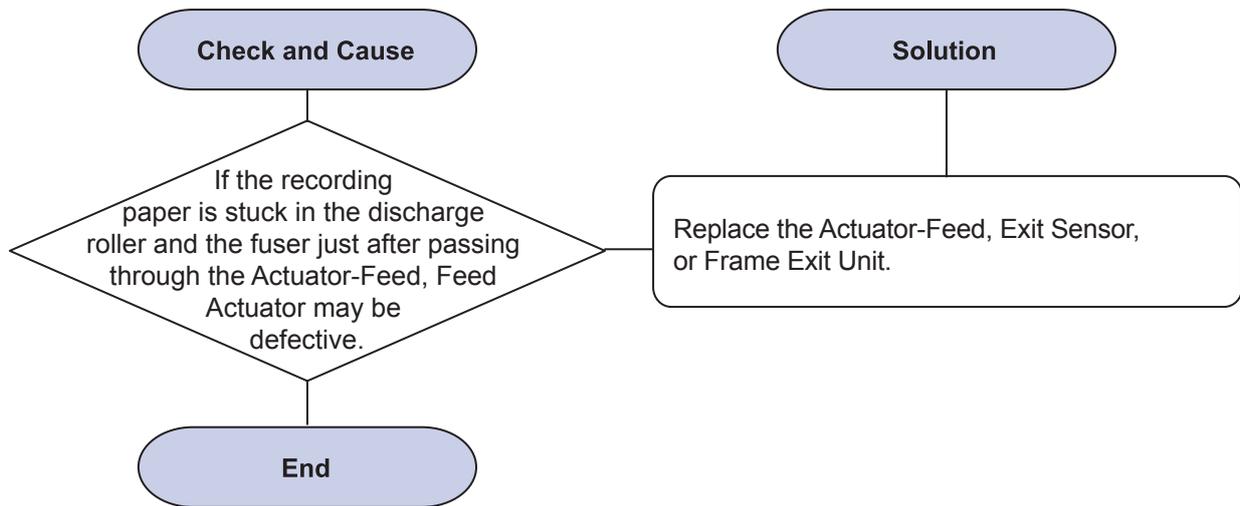
<b>Description</b>	1. Paper is not exited from the cassette. 2. Jam-0 occurs if the paper feeds into the printer.
--------------------	---



7 JAM 1

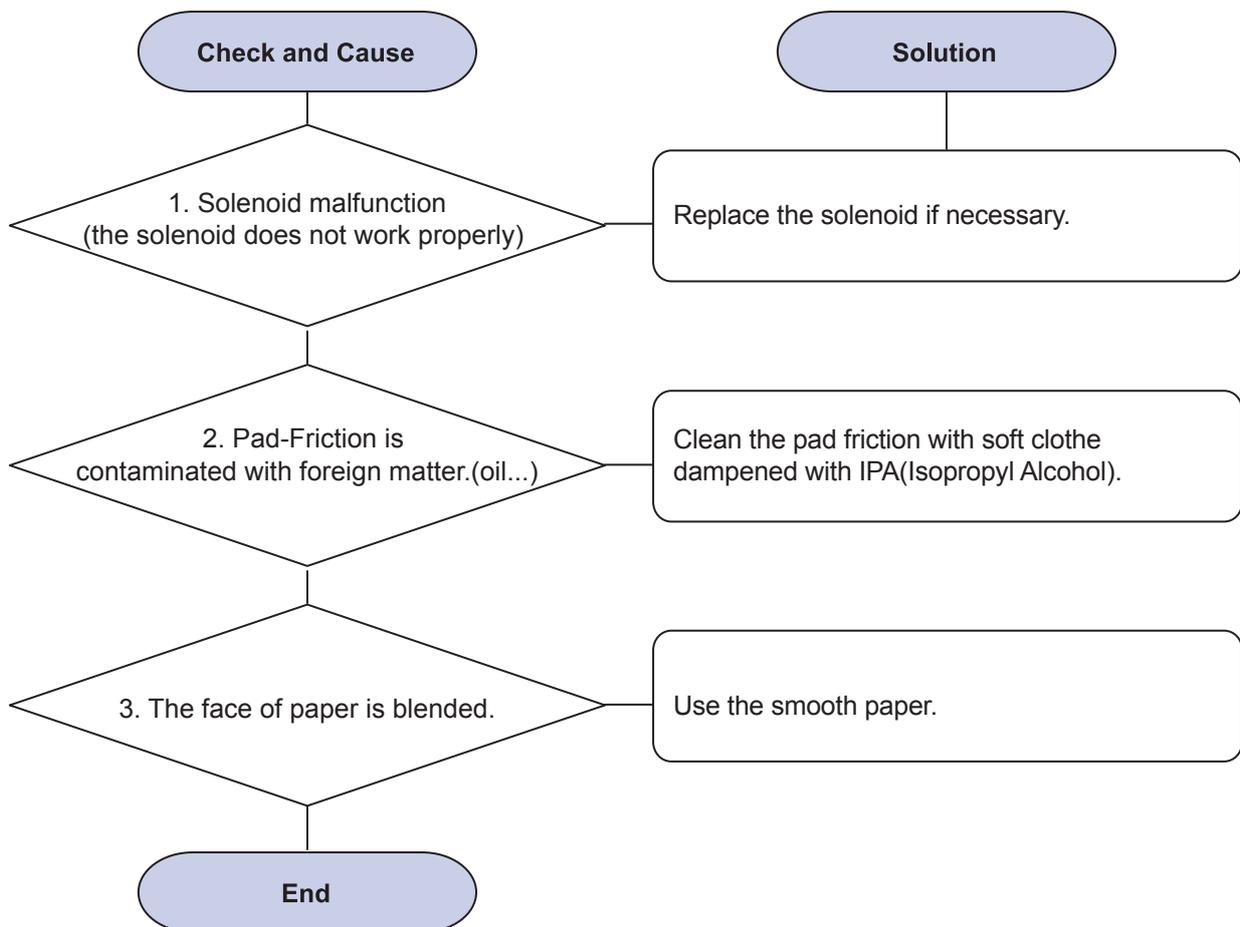
**Description**

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.



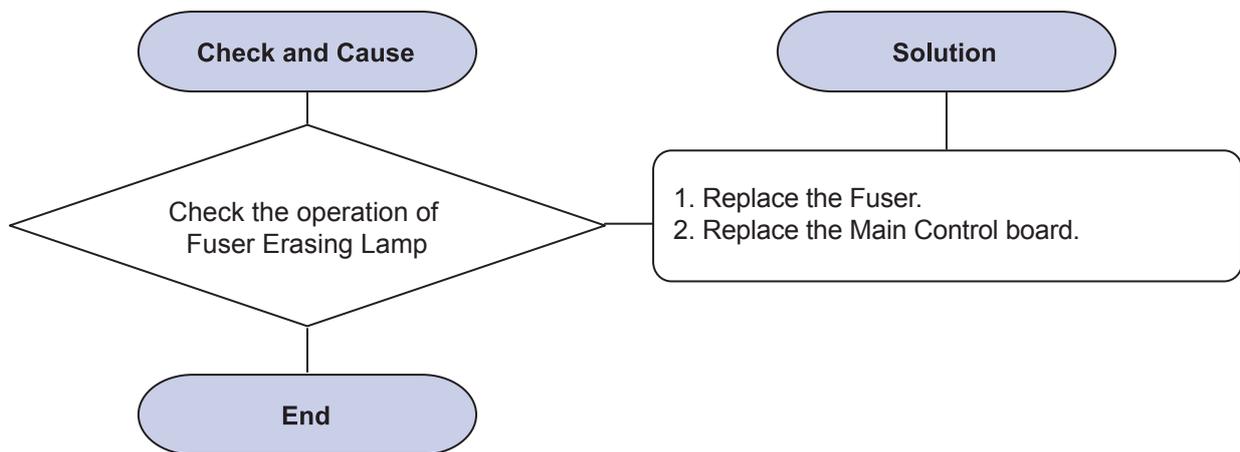
## 8) Multi-Feeding

**Description** Multiple sheets of paper are fed at once.



### 9) Not function of the gear of the fuser due to melting away

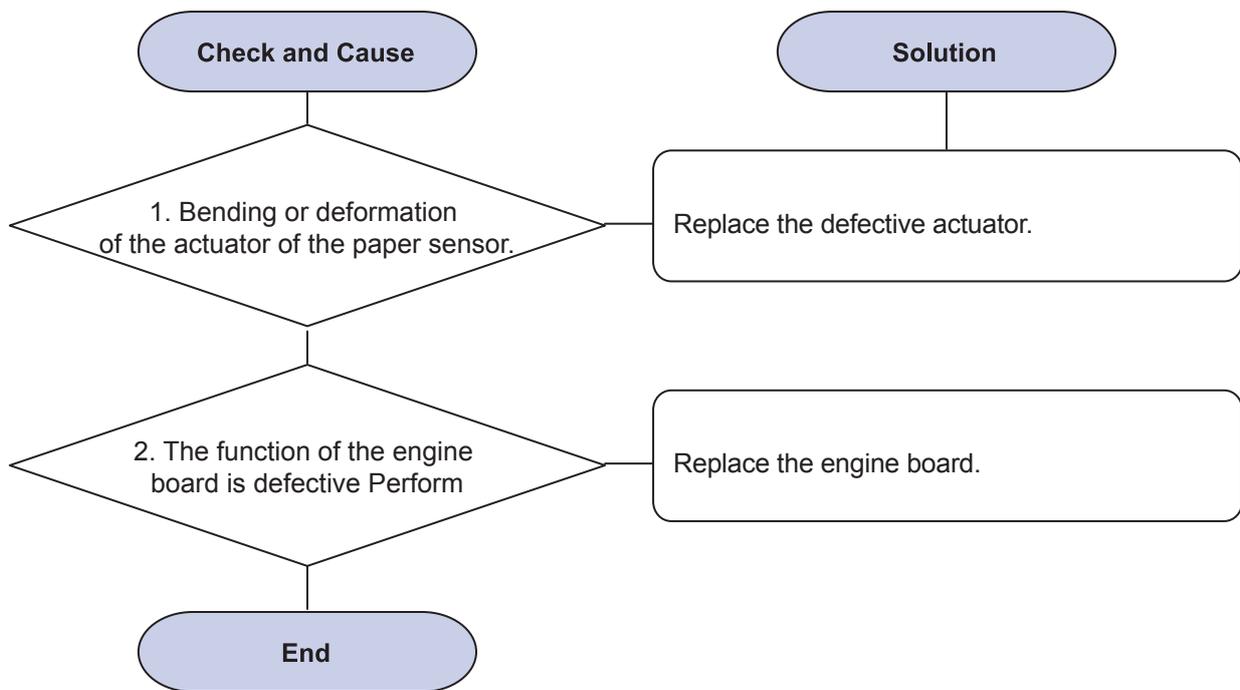
**Description** The motor breaks away from it's place due to gear melting away.



## 10) Paper Empty

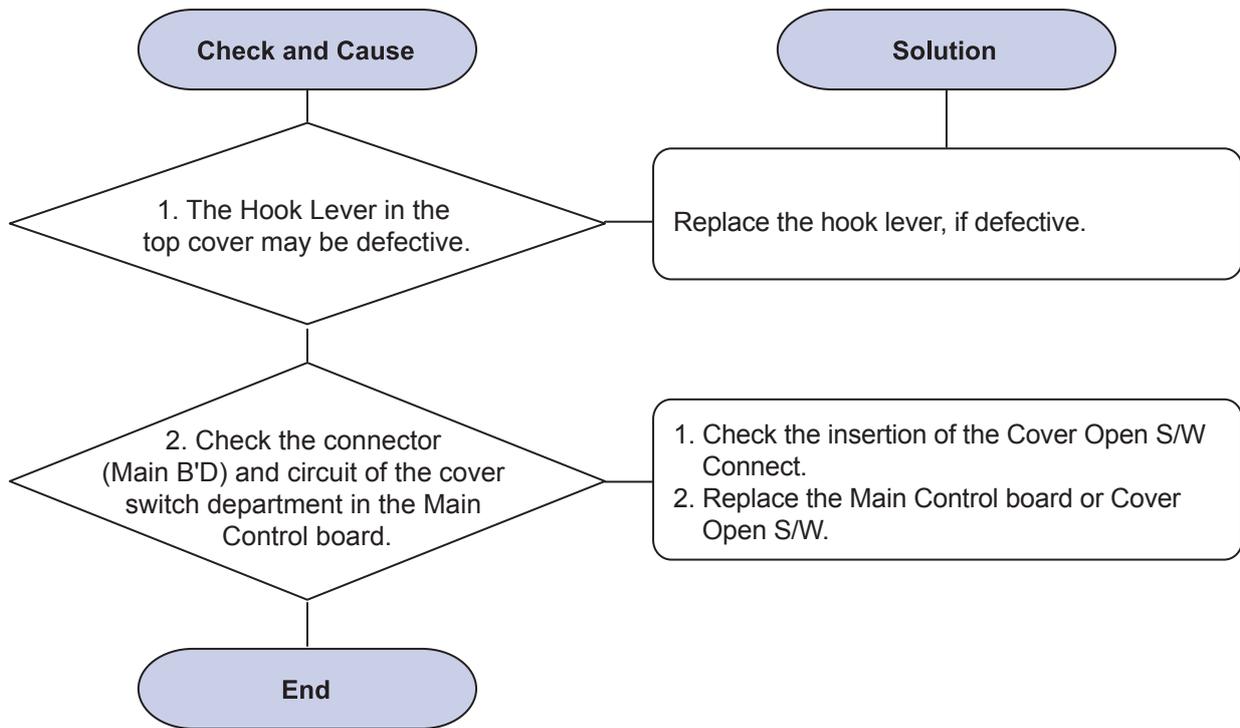
**Description**

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



## 11) Cover Open

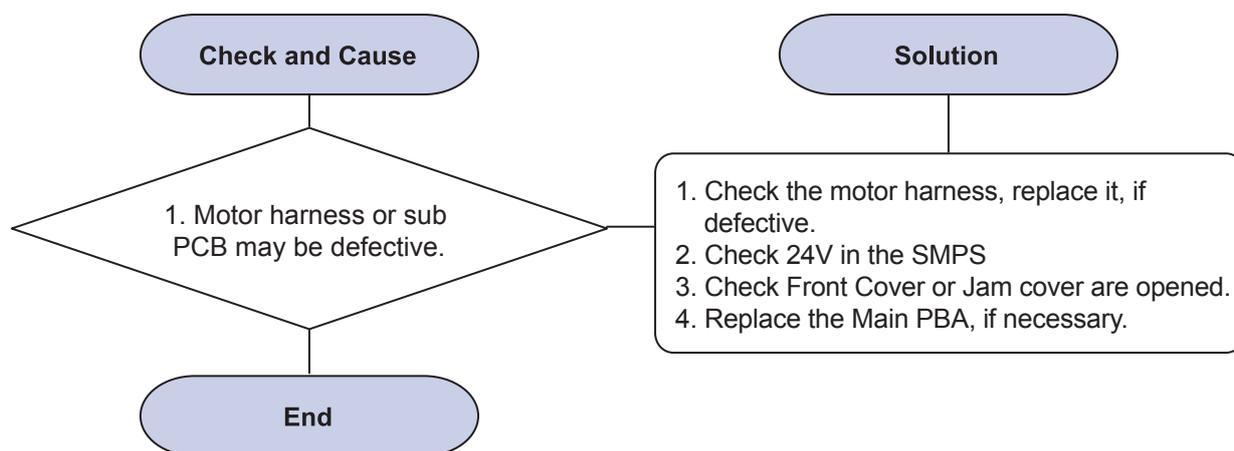
**Description** The ERROR lamp is on even when the print cover is closed.



## 12) Defective motor operation

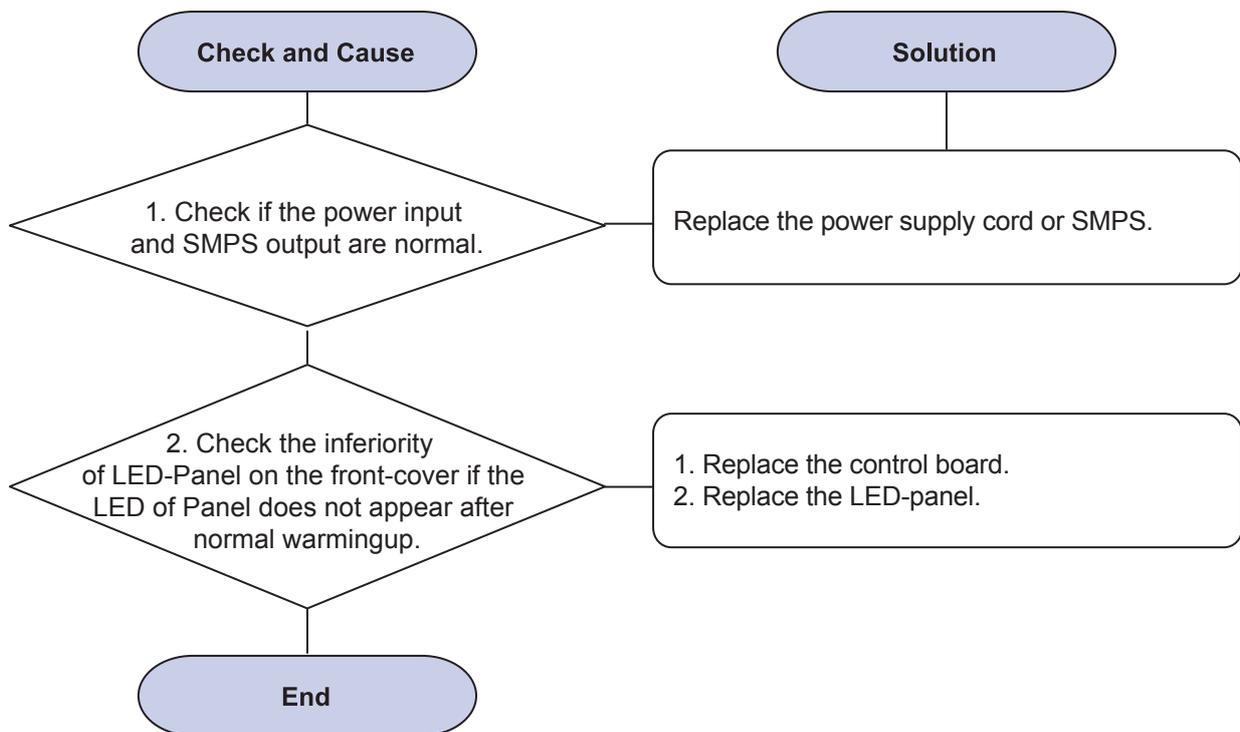
**Description**

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



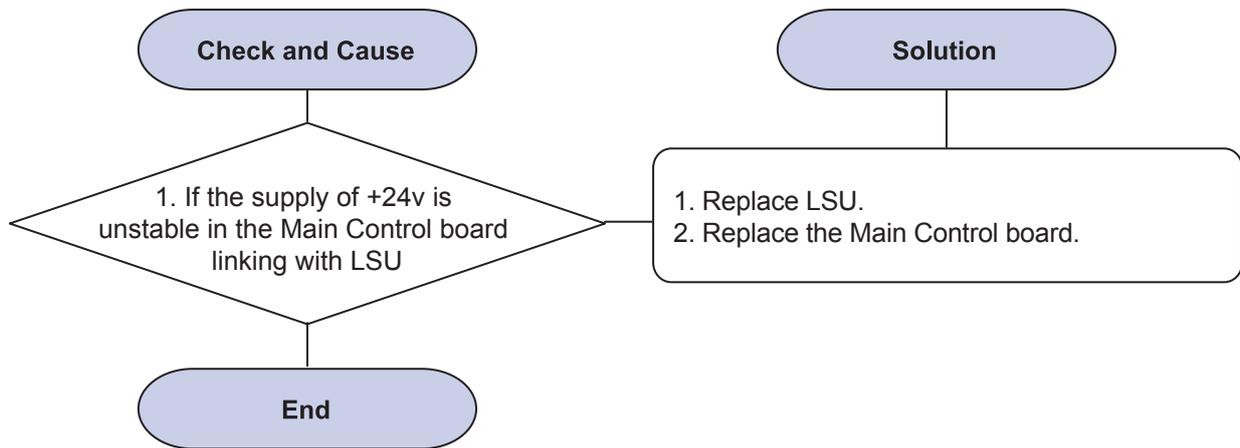
### 13) No Power

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



### 14) Vertical Line Getting Curved

**Description** When printing, vertical line gets curved.



### 15) LSU Error

**Description** The printing is stop in the fad status, With LSU Error SM Message.

