

7. Troubleshooting

7.1 Scanner

7.1.1 COPY

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
White copy	<ul style="list-style-type: none"> • Check the Scan-Cover open. 	<ul style="list-style-type: none"> • Room light can transit a thin original.
	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
Black copy	<ul style="list-style-type: none"> • Check the CCD problem in Main PBA. 	<ul style="list-style-type: none"> • Check the CCD harness contact.
	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
Defective image quality	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
	<ul style="list-style-type: none"> • Check the gap between original and scanner. glass 	<ul style="list-style-type: none"> • The gap above 0.5mm can cause a blurred image.
	<ul style="list-style-type: none"> • Check printing quality. 	<ul style="list-style-type: none"> • See "Print" troubleshooting.
Abnormal noise	<ul style="list-style-type: none"> • Check the Scanner Motor and any mechanical disturbance. 	<ul style="list-style-type: none"> • Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CCD carrying part.
	<ul style="list-style-type: none"> • Check the Motor Driver in Driver PBA. 	<ul style="list-style-type: none"> • If any driver is defective, replace it.

7.1.2 PC-Scan

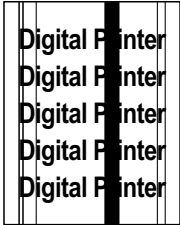
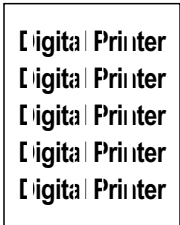
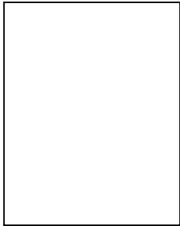

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
Scanning Error	<ul style="list-style-type: none"> • Check the printer cable installed. 	<ul style="list-style-type: none"> • Check correct installation, and use standard IEEE1284 cable.
	<ul style="list-style-type: none"> • Check how TWAIN driver is installed. 	<ul style="list-style-type: none"> • Remove any other scanner driver. • Reboot after reinstallation of the TWAIN driver.
	<ul style="list-style-type: none"> • Check the printer port(Parallel). 	<ul style="list-style-type: none"> • Check the parallel-port-related items in the CMOS Setup. As a printer port, Select ECP among SPP(Normal), ECP, and EPP modes(increase print-ing speed)
	<ul style="list-style-type: none"> • Check harness contact. 	<ul style="list-style-type: none"> • Check CN12 contact in Main PBA
	<ul style="list-style-type: none"> • Check the IEEE1284 signal level. 	<ul style="list-style-type: none"> • If any signal level is defective, replace Driver PBA. Main PBA = 0.8V to 2.4V TTL signal. • Otherwise, replace Main PBA.
	<ul style="list-style-type: none"> • Check the USB signal level. 	<ul style="list-style-type: none"> • If USB signal level is defective, replace Main PBA.
Defective image Quality	<ul style="list-style-type: none"> • Check shading profile. • Check the gap between original and scanner glass. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode. • The gap above 0.5mm can cause a blurred image.
Abnormal noise	<ul style="list-style-type: none"> • Check the Scanner Motor and any mechanical disturbance. 	<ul style="list-style-type: none"> • Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CCD carrying part.
	<ul style="list-style-type: none"> • Check the motor driver in Driver PBA. 	<ul style="list-style-type: none"> • If any driver is defective, replace it.




7.2 FAX (only SCX-6320F)

7.2.1 FAX/TELEPHONE Precautions

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
TEL LINE CANNOT BE ENGAGED (NO DIAL TONE)	<ul style="list-style-type: none"> When you press "OHD" key: <ol style="list-style-type: none"> Check line cord connection. Check MAIN LIU harness, and CN1 (LIU PBA). 	<ol style="list-style-type: none"> insert it correctly into the connection jack called "line". Replace defective parts.
Cannot MF dial	<ul style="list-style-type: none"> Check MAIN-LIU harness. 	<ul style="list-style-type: none"> Replace defective parts.
MF dial is possible but not DP dial.	<ul style="list-style-type: none"> Check DP control signal of MAIN PBA and Liu PBA. 	<ul style="list-style-type: none"> Replace LIU PBA.
Defective fax transmission	<ul style="list-style-type: none"> Check MAIN LIU harness. Is the external phone hooked off? Check 'hook off' : Refer to 'TEL LINE CANNOT BE ENGAGED' above. Check transmission path and reception path of the LIU PBA. 	<ul style="list-style-type: none"> Replace defective parts. Replace LIU PBA if low. Refer to 'TEL LINE CANNOT BE ENGAGED' above. Replace main PBA, if abnormal. Replace LIU PBA. Replace main PBA.
Defective automatic fax reception	<ul style="list-style-type: none"> Is the ring checked? Refer to 'Defective Transmission.' 	<ul style="list-style-type: none"> Replace LIU PBA if it cannot be checked. Refer to 'Defective Transmission'.

7.3 Print Quality

Error Status	Check	Solution
Vertical black line and band 	<ol style="list-style-type: none"> 1. Bad blade of Toner cartridge 2. LSU 3. Bad cleaning blade of drum cartridge. 	<ol style="list-style-type: none"> 1. Change Toner cartridge 2. Replace LSU 3. Replace drum cartridge.
Vertical white line 	<ol style="list-style-type: none"> 1. LSU window contamination 2. Toner cartridge 	<ol style="list-style-type: none"> 1. Clean LSU window 2. If not LSU, change Toner cartridge.
No image 	<ol style="list-style-type: none"> 1. GND OPC is well grounded? 2. LSU running well? 3. Biss voltage is normal? 4. Lower toner? 5. Is there video data from Main PBA 	<ol style="list-style-type: none"> 1. Measure the resistance between frame ground and the ground spring attached frame. Confirm stable ground. Unless bad ground, detach cabinet, check where is bad point 2. Adjust LSU or replace it 3. Normal Dev bias = -450V 4. Shake toner cartridge and print. If a like good, toner is empty 5. Test engine test pattern, replace Main PBA
Light image 	<ol style="list-style-type: none"> 1. LSU light power normal? 2. Enough toner? 3. High charger voltage? 4. Lower bias voltage 5. Contamination of high voltage contact. 6. Transfer voltage and roller. 	<ol style="list-style-type: none"> 1. LSU light power check is difficult. Compare with new one and check. 2. Check toner and the toner cartridge counter 3-4. Measure all high voltage output. 5. Leakage toner cause bad contact and increase contact resistance. Clean contaminated area.

Error Status	Check	Solution
Dark image 	<ol style="list-style-type: none"> 1. LSU light power normal? 2. Bias voltage output is high? 3. Video data is always supplied? 4. Bad high charge voltage contact. 	<ol style="list-style-type: none"> 1. Check the rated level and replace. 2. Set to power rating. 3. Replace defected board. 4. Check the charge voltage or change the drum cartridge.
Background 	<ol style="list-style-type: none"> 1. High voltage output is normal? 2. C/R of drum cartridge is contaminated? 	<ol style="list-style-type: none"> 1. Adjust to the rated status. 2. Replace drum cartridge.
Ghost 	<ol style="list-style-type: none"> 1. High voltage output. 2. Pre-Transfer Lamp. 3. Bad high voltage contact. 	<ol style="list-style-type: none"> 1. Check every high voltage. 2. Check the turn-on PTL, LED crash. 3. Clean the inside machine or replace drum cartridge.
Stains on back of paper	<ol style="list-style-type: none"> 1. Contamination of transfer roller. 2. Stains of paper path. 3. Pressure roller's contamination. 	<ol style="list-style-type: none"> 1. Clean the transfer roller with vacuum cleaner. 2. Clean the area of paper path with cloth or air cleaner. 3. Remove fuser and replace it.

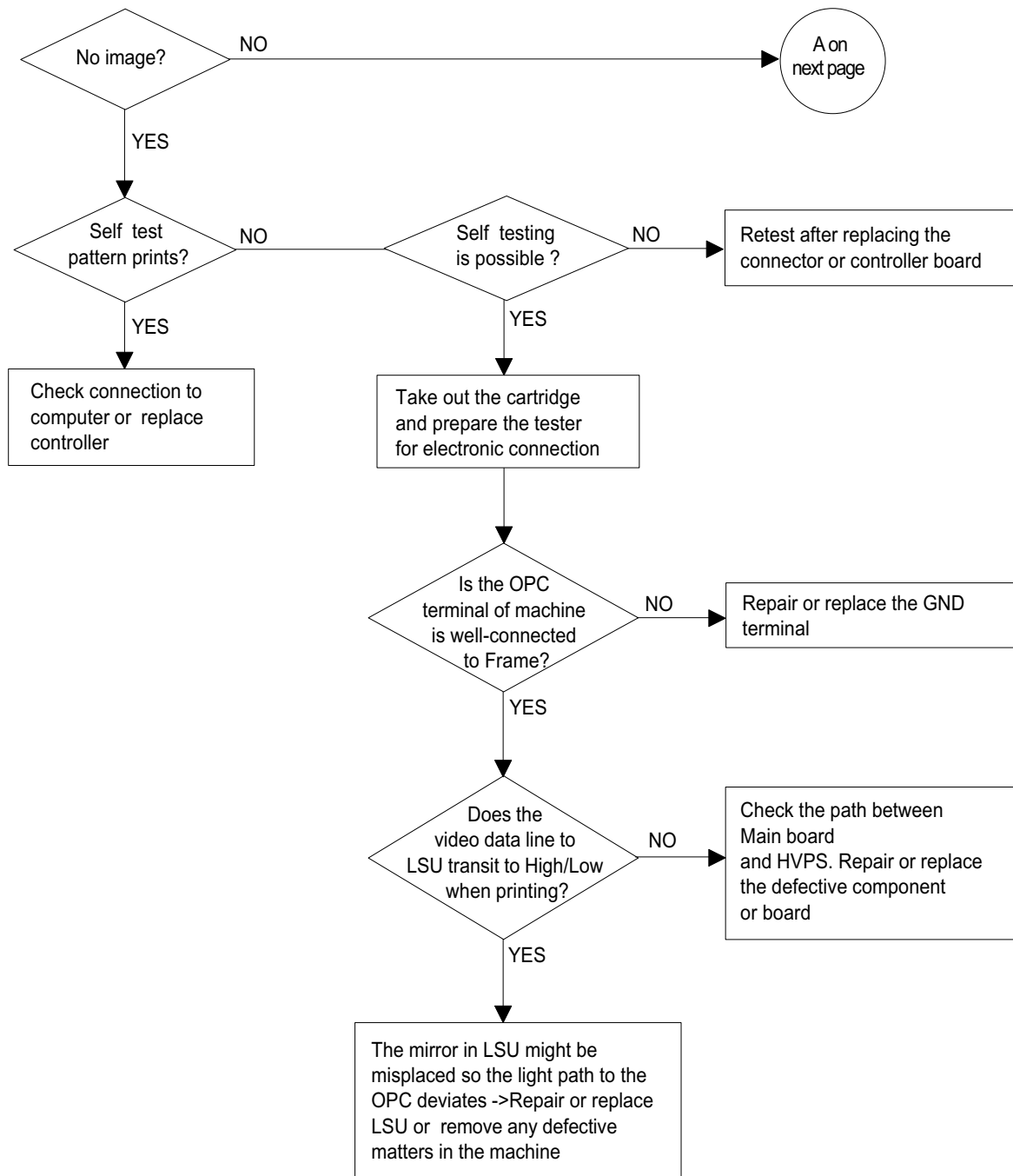
Error Status	Check	Solution
Poor Fusing	<ol style="list-style-type: none"> 1. Use recommended paper? 2. Check fusing temperature. 3. The machine was under the low temperature for a long time? 	<ol style="list-style-type: none"> 1. Should use recommended paper. 2. Check engine controller board. If you have not thermometer, measure the thermistor voltage to CPU, If $2.3V \pm 5\%$ in printing CPU works well. Then, disassemble fuser and check the thermistor contact and thermistor. 3. Re-check after putting the machine in the warm place for certain period.
Partial blank image (not periodic)	<ol style="list-style-type: none"> 1. Toner is low? 2. The toner cartridge is out of position? 	<ol style="list-style-type: none"> 1. Replace Toner cartridge. 2. Check and adjust.
Partial blank image (periodic)	<ol style="list-style-type: none"> 1. Develop roller scar or particle. 2. Scar or particle. (94.3 mm) 3. Transfer roller scar or particle. (56.6 mm) 	<ol style="list-style-type: none"> 1. Replace toner cartridge. 2. Replace drum cartridge. 3. Replace transfer roller.
Different image density (left and right) <div> Digital Printer Digital Printer Digital Printer Digital Printer Digital Printer </div>	<ol style="list-style-type: none"> 1. Charge roller's pressure force unbalance 2. Dev. roller and OPC or Dev. roller and blade's pressure force unbalance 3. Transfer roller's pressure force unbalance of each side 	<ol style="list-style-type: none"> 1. Replace drum cartridge. 2. Replace toner cartridge and drum cartridge. 3. Check left and right spring of transfer roller and the spring pressing the toner cartridge inside the machine
Horizontal band <div> Digital Printer Digital Printer Digital Printer Digital Printer </div>	<ol style="list-style-type: none"> 1. Unstable high voltage contact 2. Charge roller's contamination 3. Contamination of heat roller 4. Malfunction of LSU 	<ol style="list-style-type: none"> 1. Clean each contact and check good contact 2. Clean charge roller 3. Replace fuser unit 4. Check Main PBA.

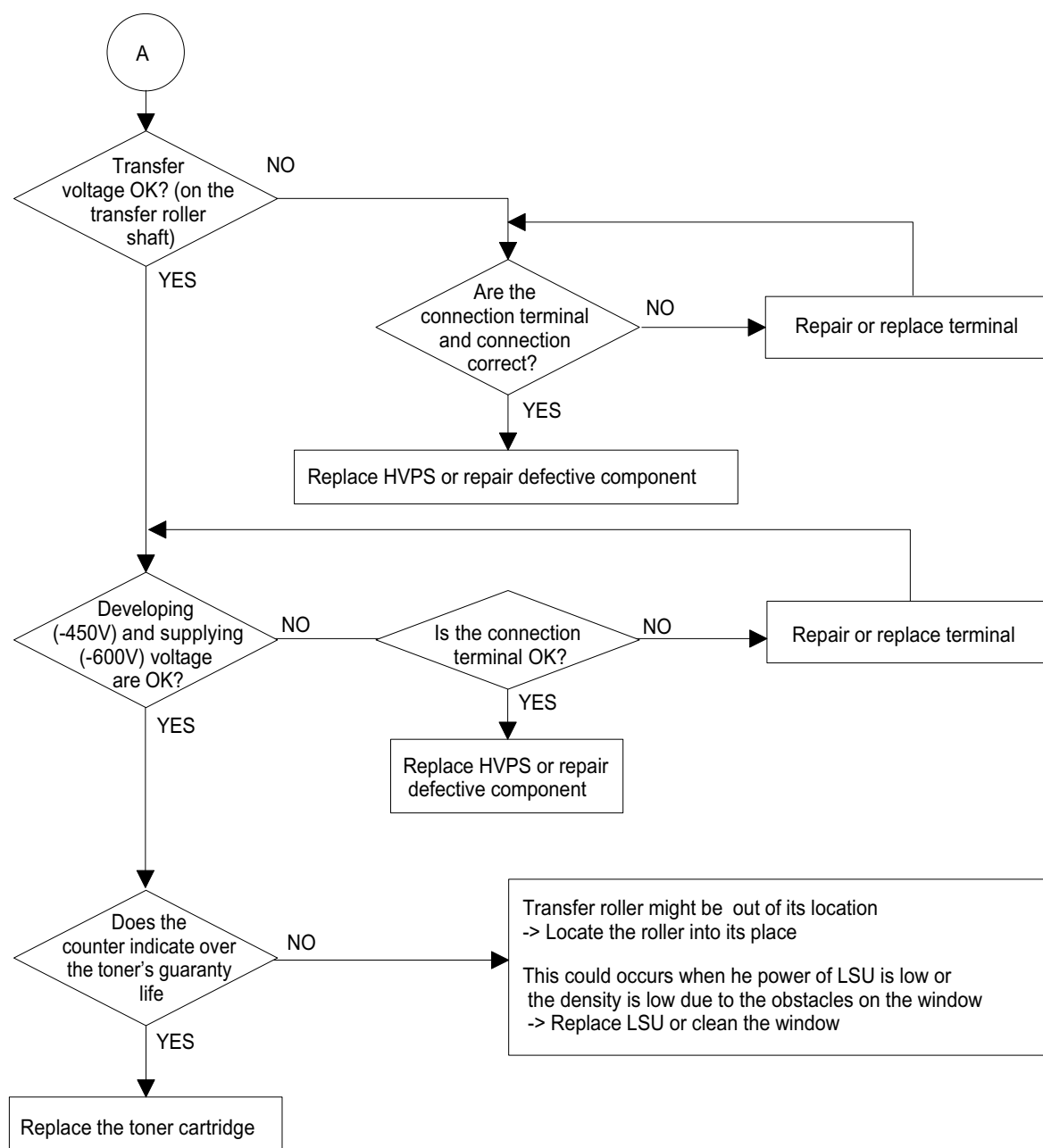
Abnormal Image Printing and Defective Roller

If abnormal image prints periodically, check the parts shown below.

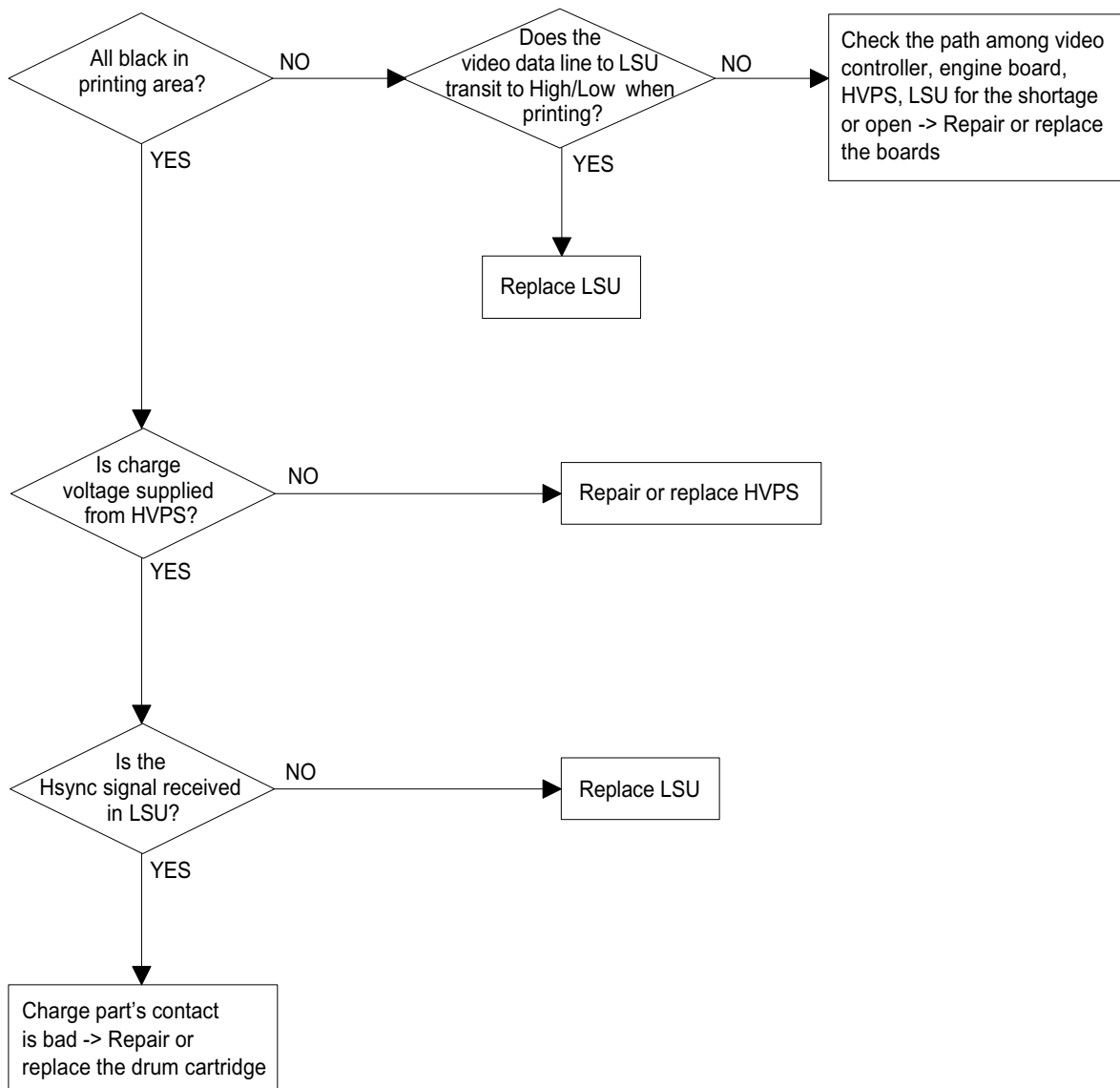
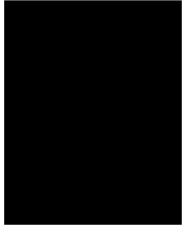
NO	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	94.3 mm	White spot. Black spot
2	Charge Roller	38.3 mm	White spot. Black spot
3	Supply Roller	43.8 mm	Horizontal dark band
4	Develope Roller	54.3 mm	Horizontal dark band
5	Transfer Roller	56.6 mm	Black side contamination/transfer fault
6	Heat Roller	83.6 mm	Black spot, White spot
7	Pressure Roller	91.0 mm	Black side contamination

No Image



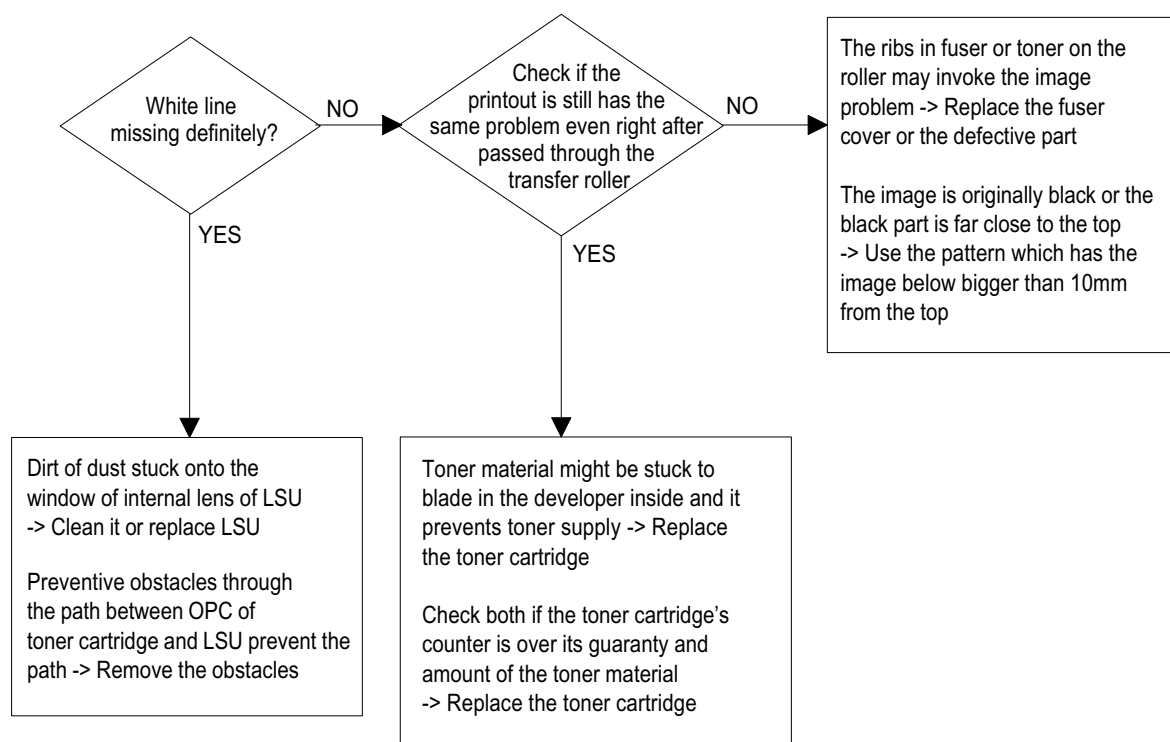


All Black

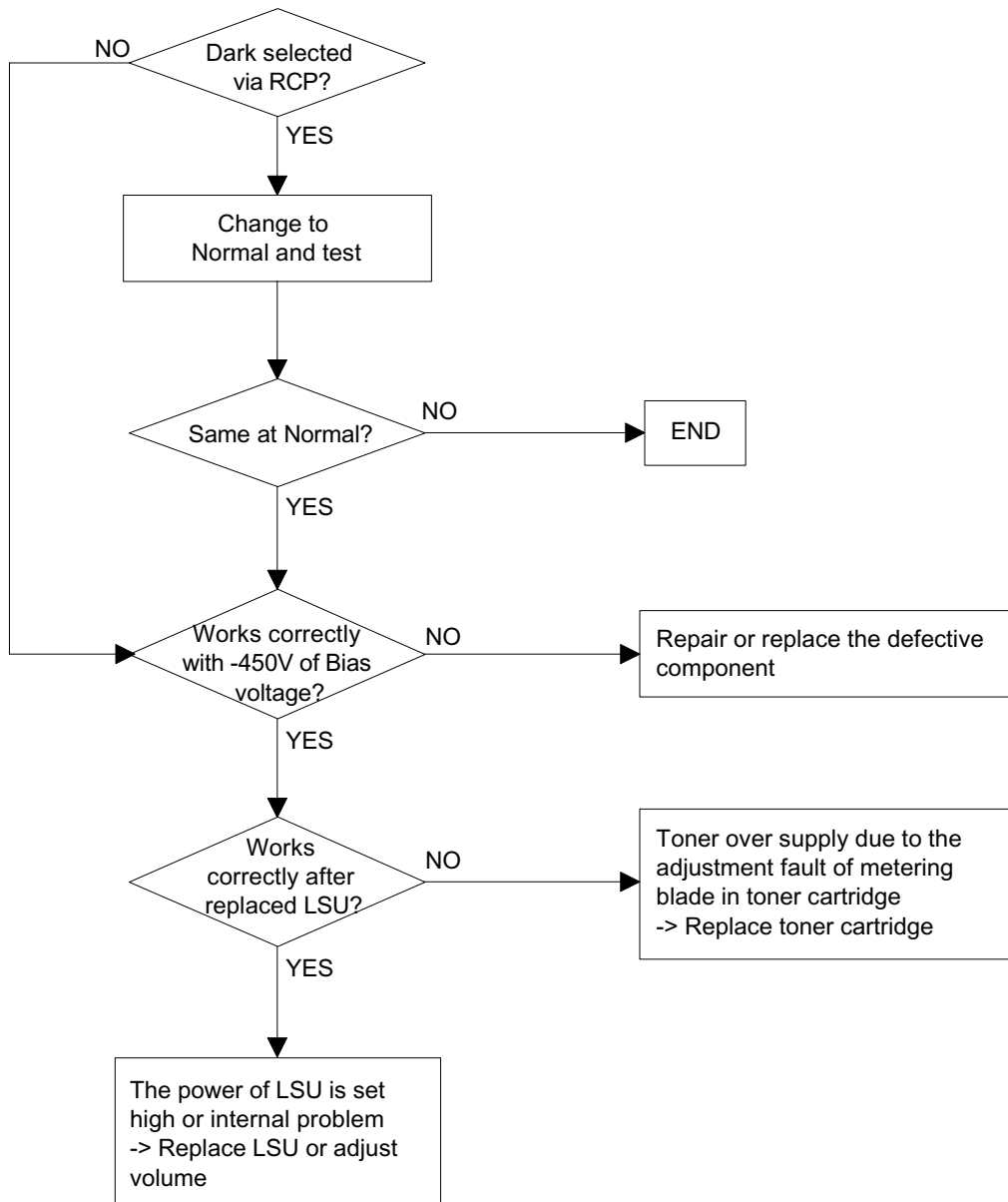
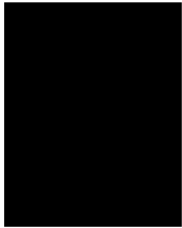


Vertical White Line (Band)

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer

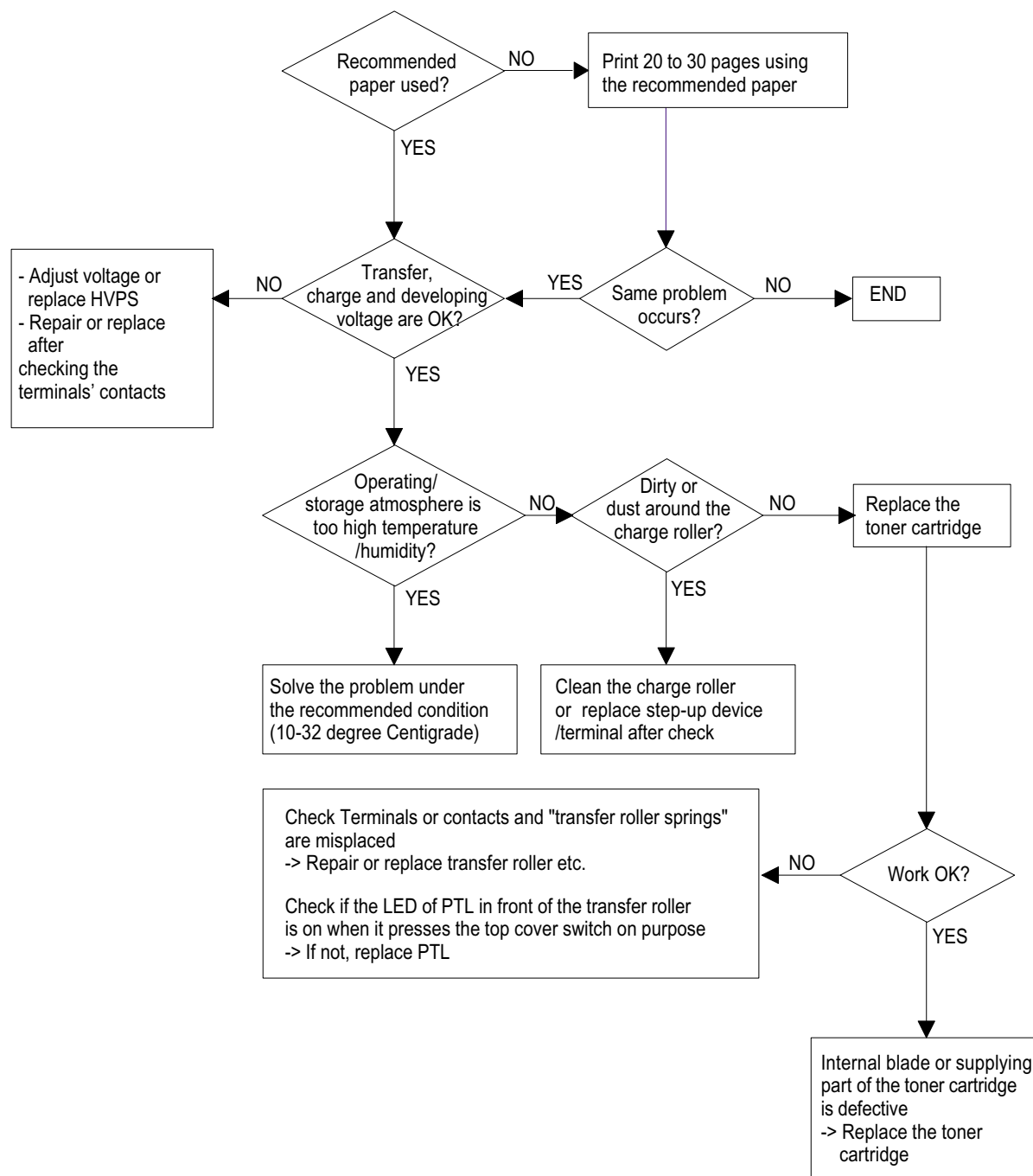


Dark Image



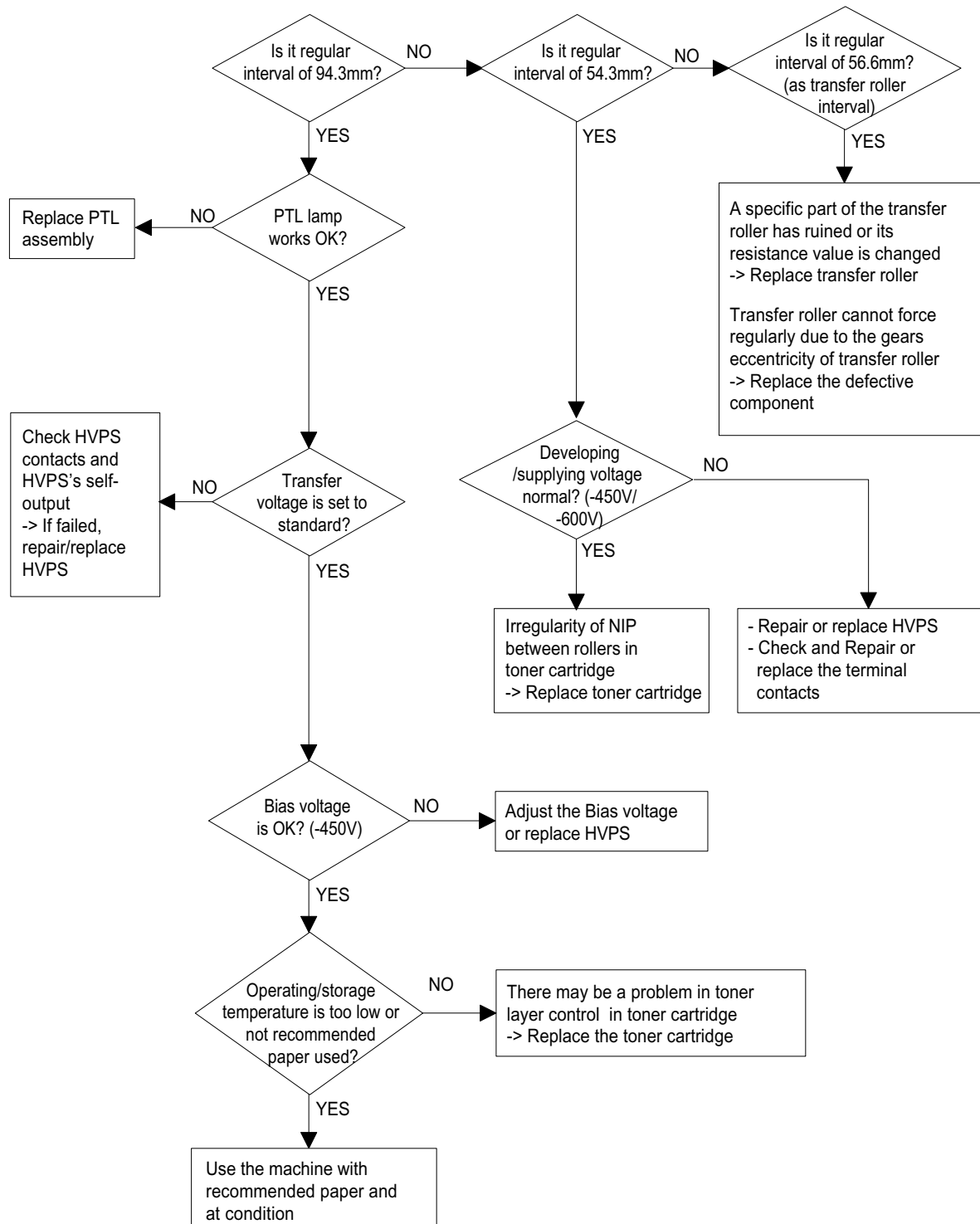
Barkground

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Digital Printer
Digital Printer

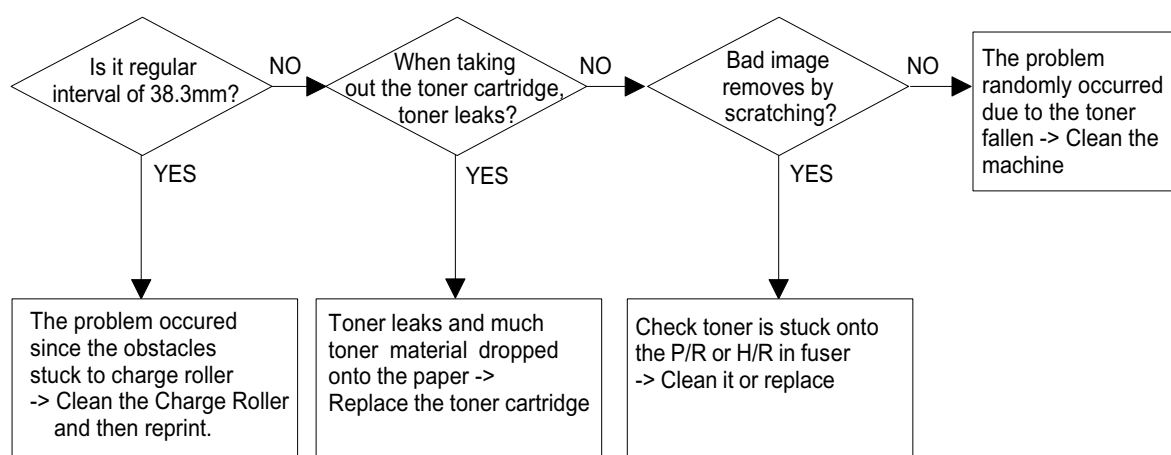


Ghost

Digital Printer
Digital Printer
Digital Printer
Digital Printer

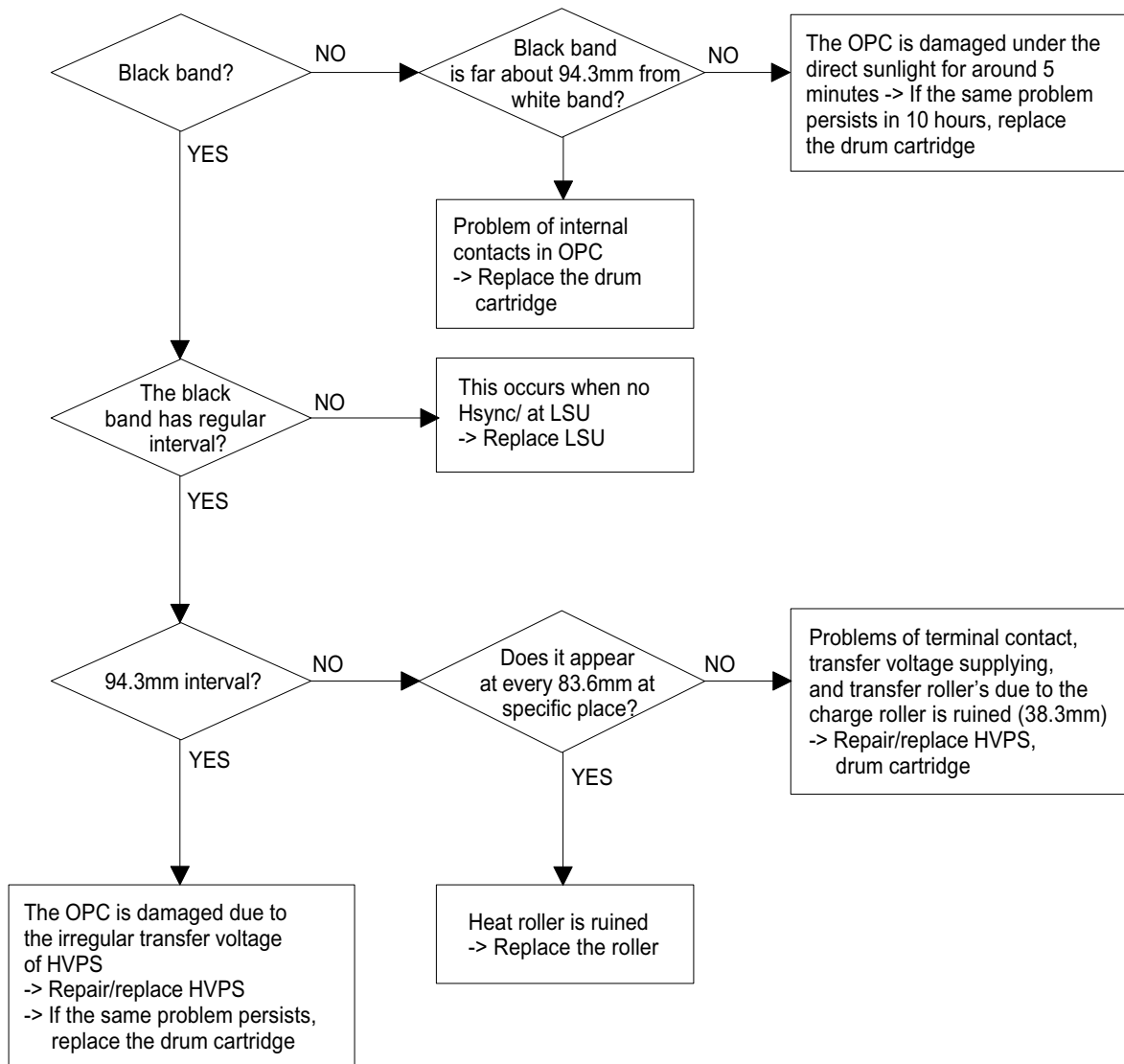


Black Spot



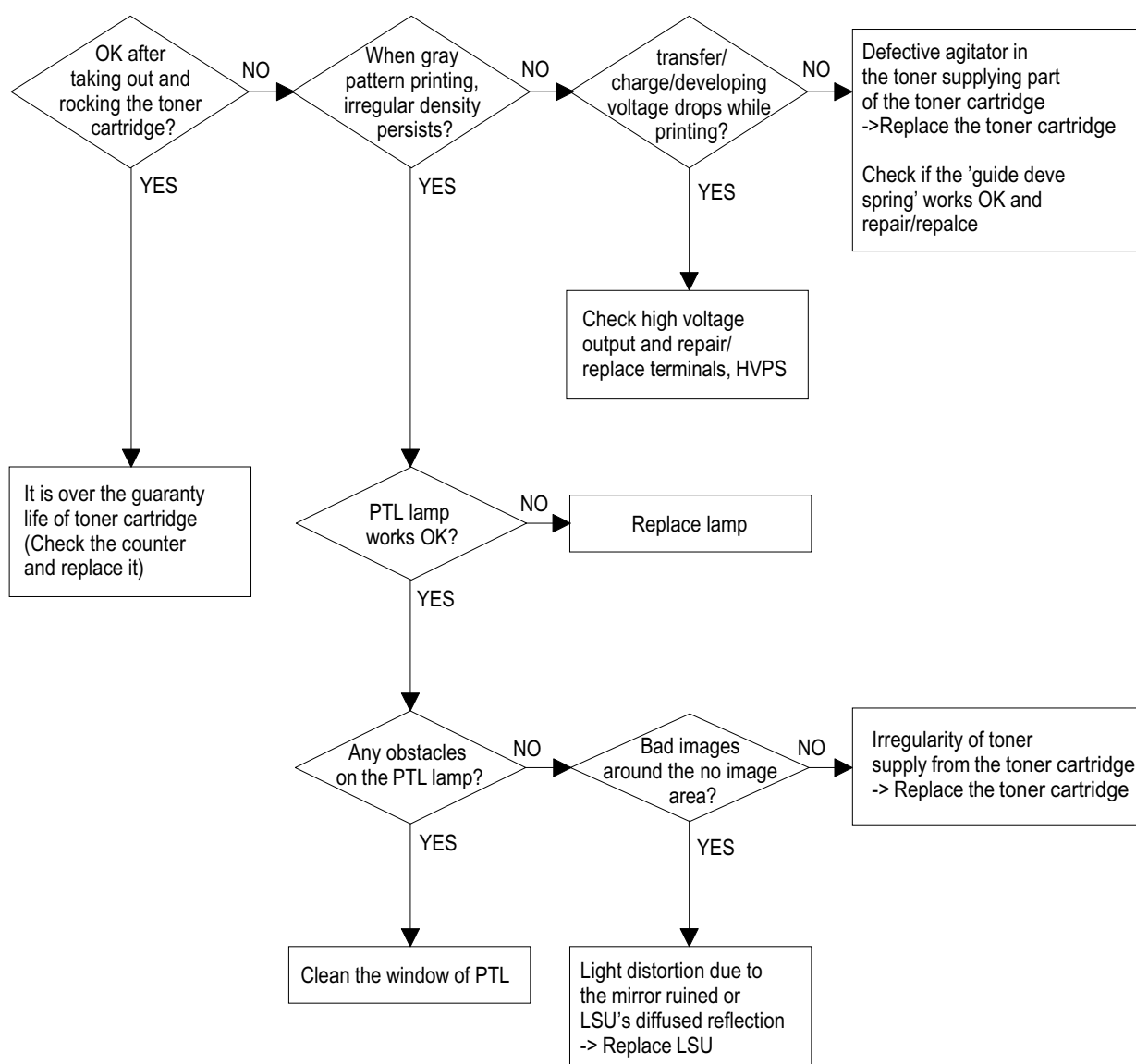
Horizontal Band

Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer



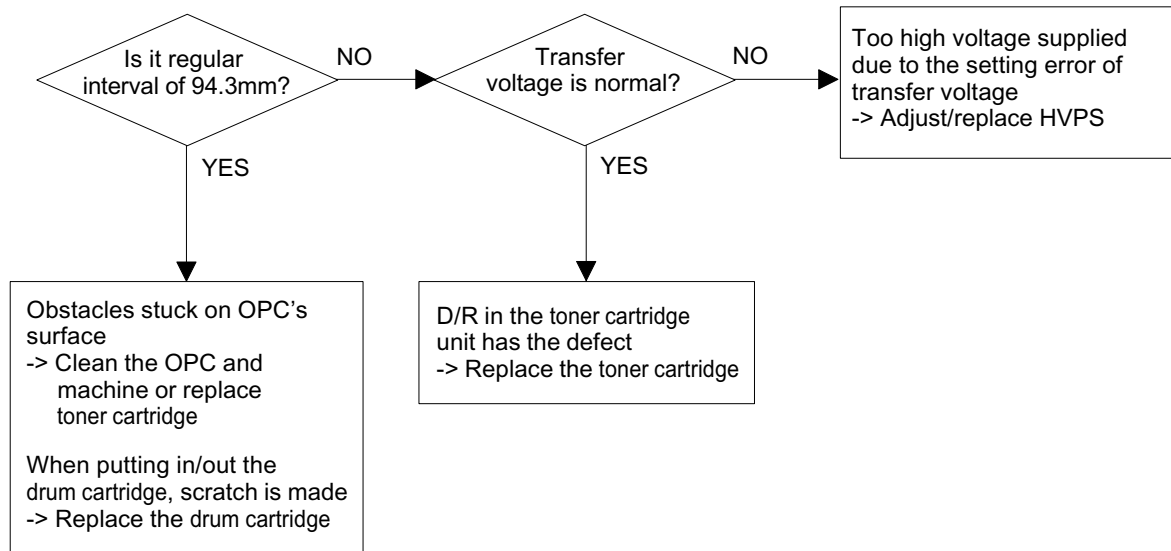
Irregular Density

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer

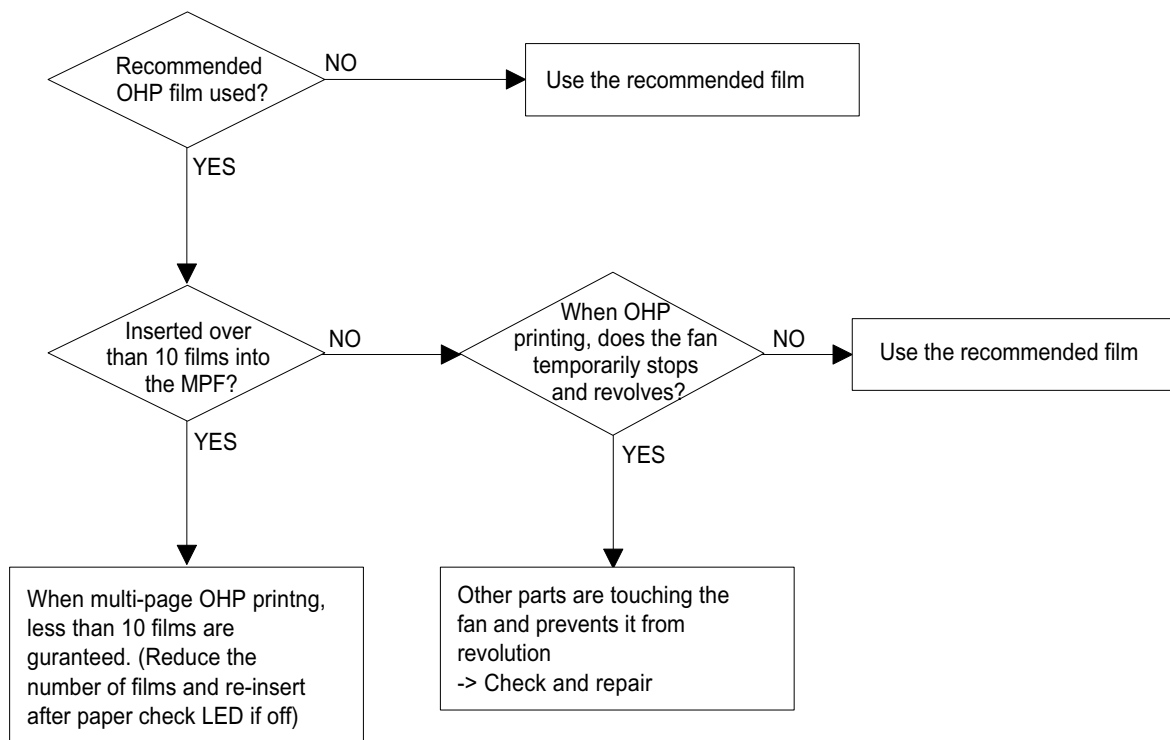


White Spot

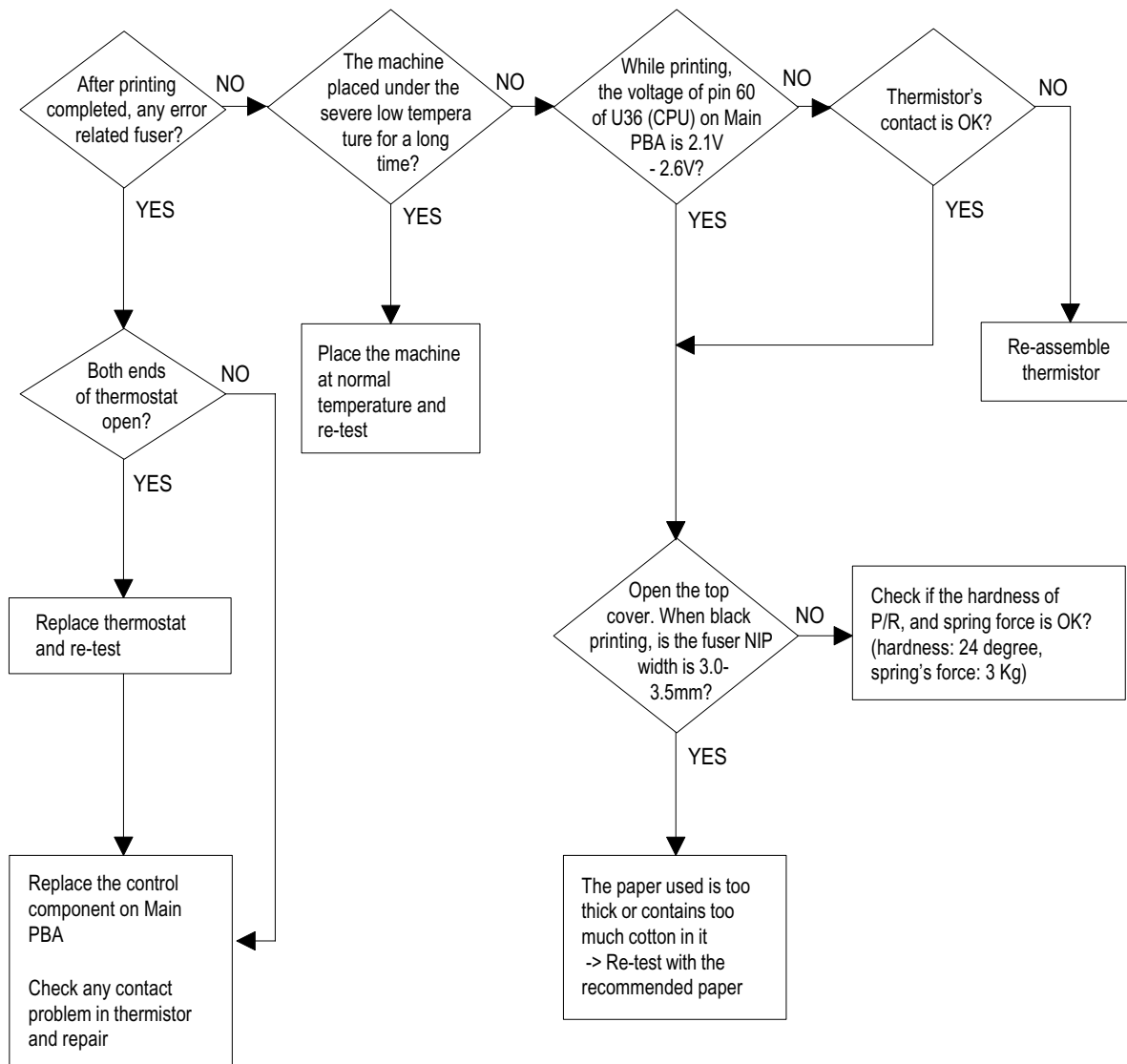
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Trembling at the End When OHP Printing



Poor Fusing Grade

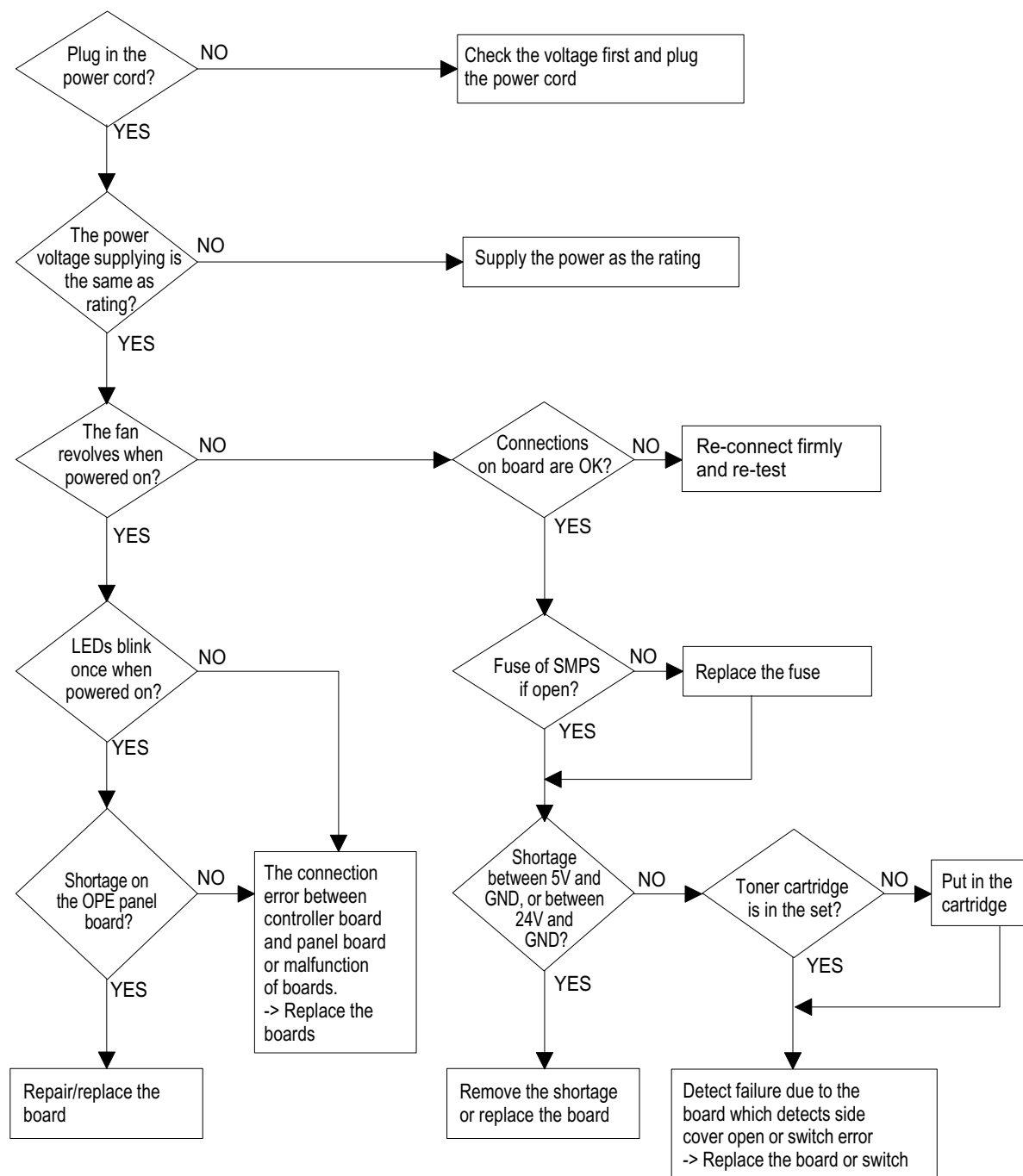


7.4 Malfunction

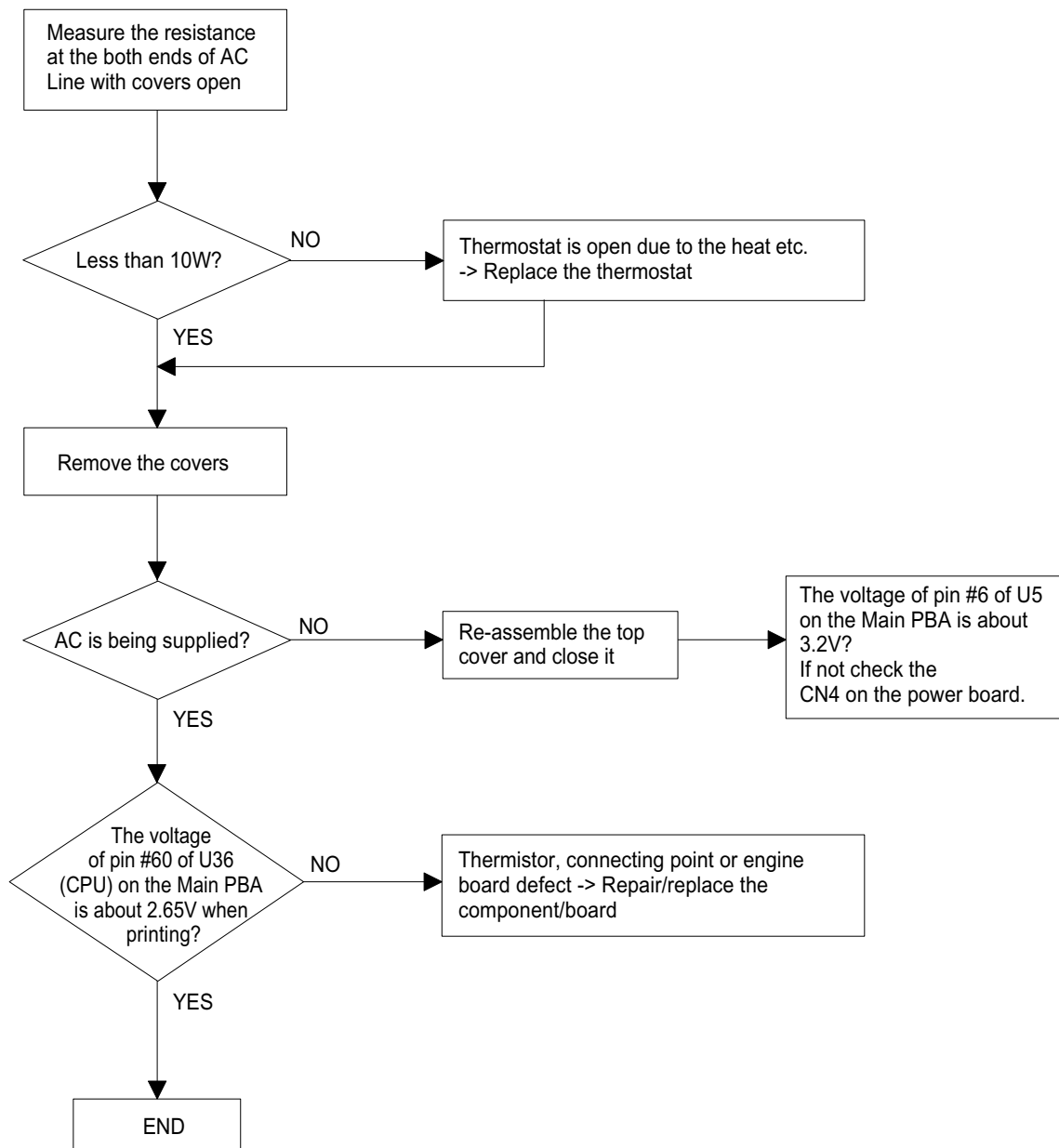
Error Status	Check	Solution
No power	<ol style="list-style-type: none"> 1. Check power is supplying 2. Check fuse F1 open 	<ol style="list-style-type: none"> 1. If supplying power differs from machine's power rating, replace the machine. 2. Replace it.
Fuser Error	<ol style="list-style-type: none"> 1. Thermostat open 2. AC wire open 3. Thermistor wire open 4. Main PBA 	<ol style="list-style-type: none"> 1. Detach AC connector and measure the resistance between pin 1 and 2. If it is megohm, thermostat is open, Replace it. 2. Check bad connector contact or wire is cut. 3. Check thermistor wire and its connection. 4. Replace Main PBA
Cover open	<ol style="list-style-type: none"> 1. When close Side cover, check the lever is pressed 2. Micro switch's contact 3. CPU and related circuit 	<ol style="list-style-type: none"> 1. Open Side cover and press the lever with pen. If Controller detects cover close, there is some mechanical trouble in Side cover and lever's assembly. If not so there is electrical problem.
Jam 0	<p>Check where Jam 0 happens</p> <ol style="list-style-type: none"> 1. Paper is not picked up 2. Paper is located in feed sensor 3. Happened when inserting specific papers such as envelope into the MPF (Multipurpose Paper Feeder)? 4. Happened when inserting specific papers such as envelope into the Manual Feeder? 5. Is the Stacker Extender is folded out? 6. Does not the Guide Adjust distort the papers 	<ol style="list-style-type: none"> 1. Check whether solenoid is working or not by using Engine test mode 2. Check feed sensor malfunction. 3. Re-try inserting a few papers. <ul style="list-style-type: none"> •fan the papers and align •take out the loaded papers and insert them reverse direction 4. Take out the loaded papers and insert them reverse direction <ul style="list-style-type: none"> •inserted papers as recommended for Manual Feeding? •When loading, tap the papers until paper detect sensor senses loading 5. When using long papers, use the Stacker Extender
Jam 1	<p>Paper is stopped in just after of fuser unit.</p>	<ol style="list-style-type: none"> 6. Adjust Guide to fit the paper width 1. It is mostly resulted from double feeding. Check paper is well stocked in feeder. 2. Check feed actuator position and actuator's operating. There may be stiff moving or double reflection. If not so, check the operation of feed sensor by Engine test mode. 3. Check exit lever operation. Remove jam and check actuator moving by hand. If actuator is too stiff, paper is wrapped around the heat roller. Remove obstacles or replace.

Error Status	Check	Solution
Jam 2	<p>Check where Jam 2 happens</p> <ol style="list-style-type: none"> 1. Paper is curled and cannot exit. 2. Paper is curled in the exit cover?. 	<ol style="list-style-type: none"> 1. Remove paper using pinset or some tool and watch if separate claws have any trouble. Clean around fuser. 2. Check locking works wells. Watch whether the ribs of exit cover have any burr or resistive edge. If they do, remove obstacles or replace.
Jam 2 at face-down tray	<ol style="list-style-type: none"> 1. Then paper is not drawn in because of the stack of papers in the Out tray. 2. Does it curl while coming out? 	<ol style="list-style-type: none"> 1. Load recommended quantity of papers 2. Open the Cover Front and check whether roller or spring, which are related to paper out, is not out of position. If so, re-locate or replace.
Clutch error	<ol style="list-style-type: none"> 1. Check the spring of solenoid 2. Check the armature assembly/cushion 3. Electrical check 	<ol style="list-style-type: none"> 1. Check whether the spring is expanded or not. 2. Check armature is well installed. It may be unstable assemble. 3. Remove the Main PBA.
High voltage error	<ol style="list-style-type: none"> 1. Check the terminal output voltage 2. Check HVPS 	<ol style="list-style-type: none"> 1. Remove the Toner cartridge and open the cover and press cover open switch lever and measure the voltage with high voltage probe and sending printing data. If the voltage is normal, change the toner cartridge. 2. Disassemble the left side cover, and check HV of the solder side of HVPS and change it.
Feeding obstacles	Does the Plate-knockup prevent the paper loading?	<p>MPF :</p> <p>Turn the power off and on. Open and close the Side cover to return to the original state.</p> <p>Cassette :</p> <p>Adjust Guide to fit the paper width.</p>
Skew	Is the Guide adjust set to the paper width?	Fit the paper width using the Guide adjust.
Stacking	<ol style="list-style-type: none"> 1. Took out the Stacker extender to support long papers? 2. Stacked too many papers more than Stacker can hold? 	<ol style="list-style-type: none"> 1. Use extender as per the paper length. 2. The Face-up stacker normally can hold 100 pages when using 75g/m2, however, stacking capacity can be lowered depending on the type of papers.
Engine Error	Check CBF Harness_CN7.(Main PBA to LSU)	Refer to troubleshooting "ENGINE ERROR".
Document Jam	Document is not picked up(in ADF).	<ol style="list-style-type: none"> 1. Check document is well stocked in ADF. 2. Check whether document was been fastened together by staple or clip. 3. Load recommended quantity of papers.
	Document is stopped after it has fed into the ADF.	<ol style="list-style-type: none"> 1. Check whether the Reg. sensor is working or not. 2. Check whether the Feed Roller is working or not.
	Does it curl while coming out?	<ol style="list-style-type: none"> 1. Check the Open Cover whether there are bosses. 2. Check the ADF ass'y is well assemble.

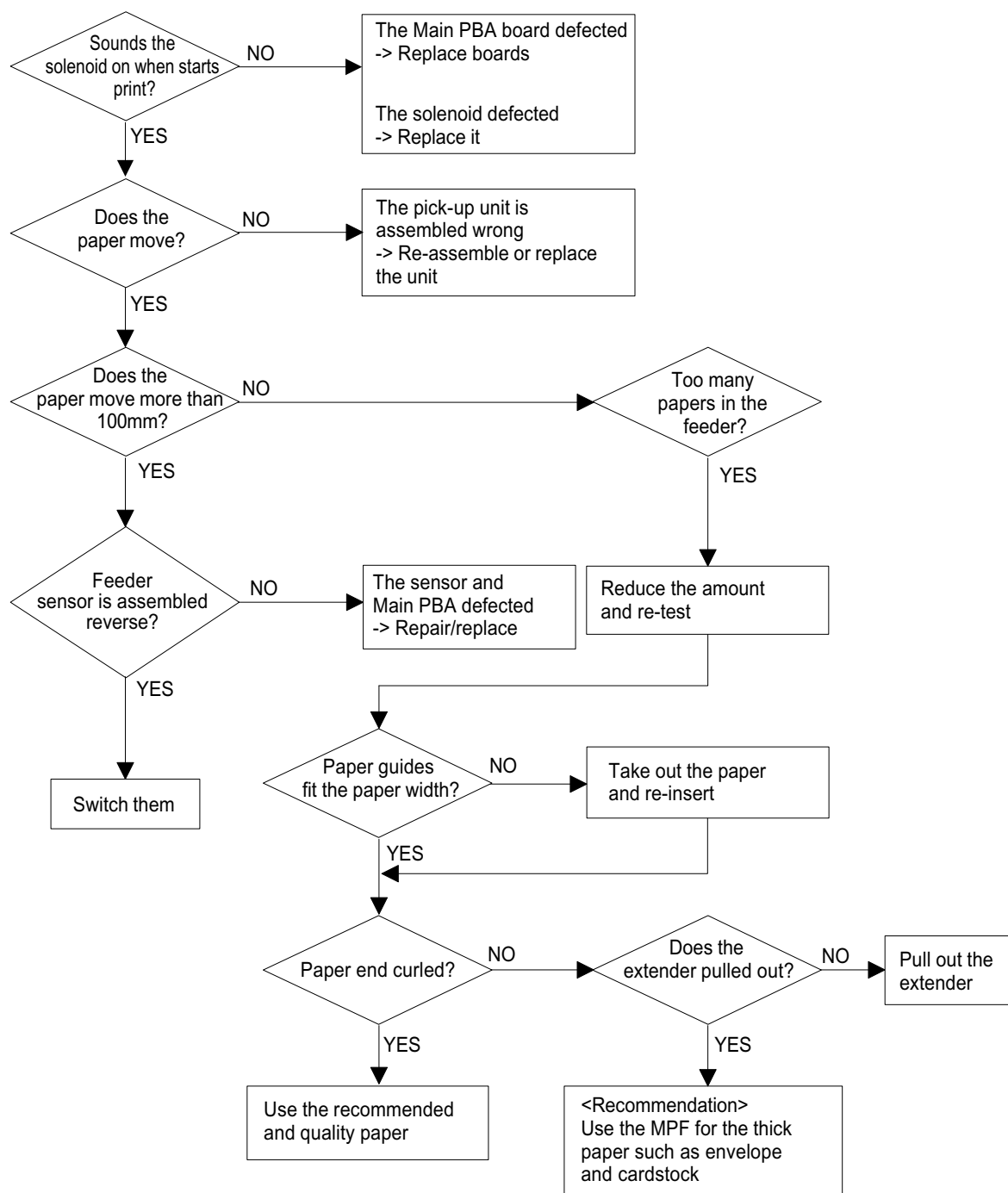
No Power (LCD NO display LED Off)



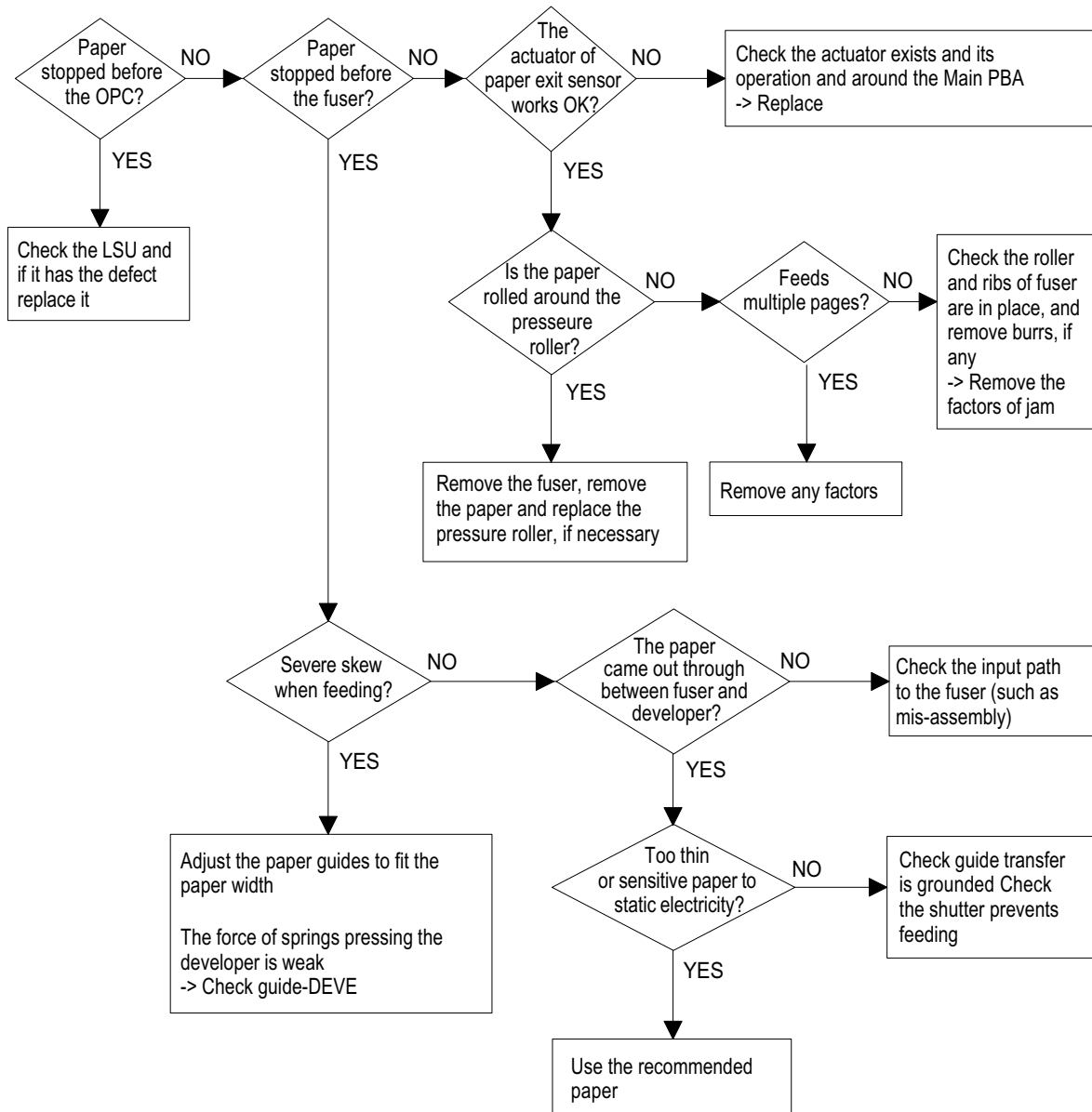
Fuser Error



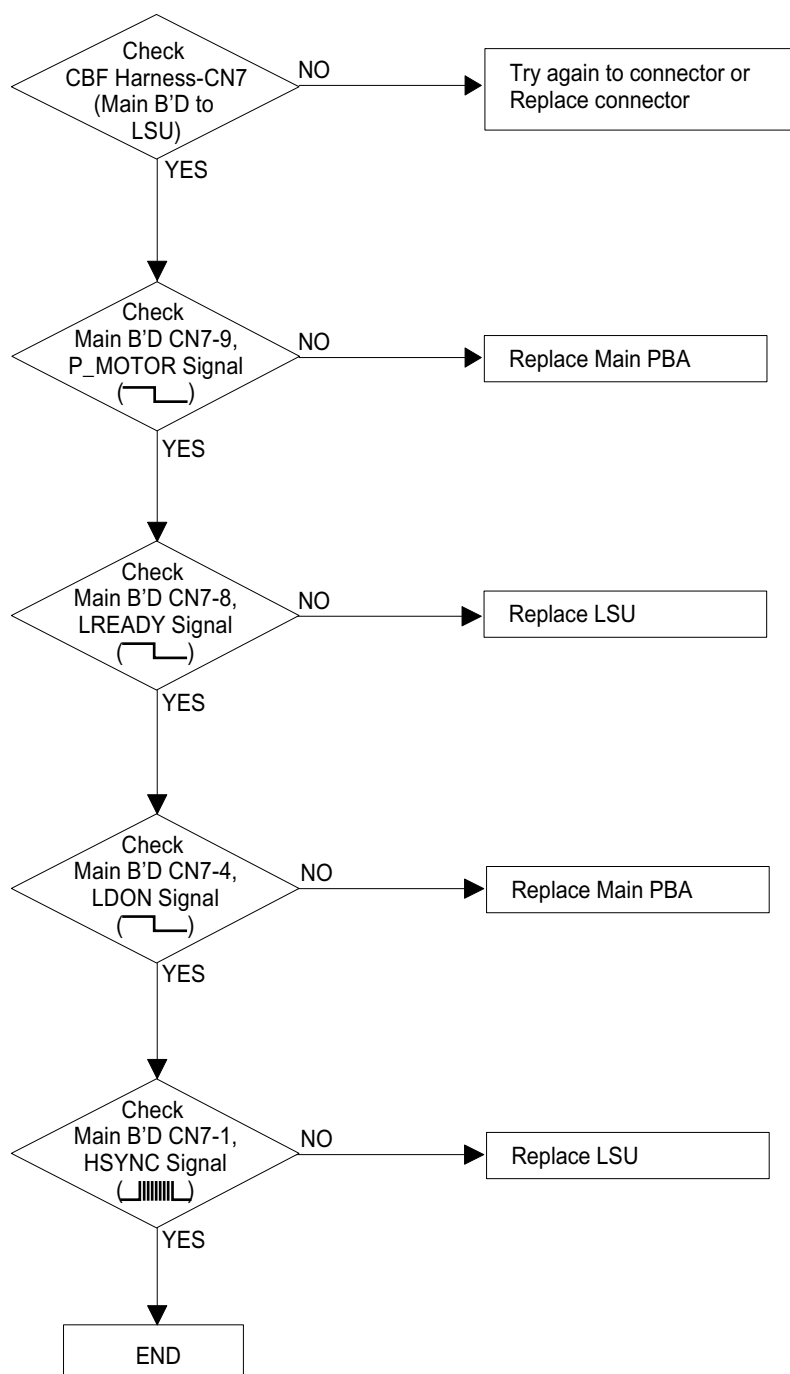
Paper Jam (Mis-Feeding)



Paper Jam (Jam 1)



Engine Error



7.5 Toner Cartridge and Drum Cartridge Service

It is not guaranteed for the default caused by using other toner and the drum cartridge other than the cartridge supplied by the Samsung Electronic or caused by non-licensed refill production.

Precautions on Safe-keeping of the Drum Cartridge

Excessive exposure to direct light more than a few minutes may cause damage to the drum cartridge.

Service for the Life of Toner Cartridge


If the printed image is light due to the life of the toner, you can temporarily improve the print quality by redistributing the toner(Shake the toner cartridge), however, you should replace the toner cartridge to solve the problem thoroughly.

Service for Judgement of Inferior Expendables and the Standard of Guarantee

Please refer to User's Manual or Instructions on Fax/Printer Expendables SVC for the judgement of inferior expendables and the standard of guarantee besides this service manual.

7.5.1 Signs and Measures at Poor toner cartridge

Fault	Signs	Cause & Check	Solution
<p>Light image and partially blank image (The life is ended.)</p> <div> <p>Digital Printer</p> <p>Digital Printer</p> <p>Digital Printer</p> <p>Digital Printer</p> <p>Digital Printer</p> </div>	<ul style="list-style-type: none"> The printed image is light or unclear and untidy. Some part of the image is not printed. Periodically a noise as "tick tick" occurs. 	<ol style="list-style-type: none"> If the image is light or unclear and untidy printed image - Shake the toner cartridge and then recheck. (1)NG: Check the weight of the toner cartridge (2)OK: Lack of toner, so the life is nearly closed. Some part of image is not printed - Shake the toner cartridge and then recheck. (1)NG: Check the weight of the toner cartridge and clean the LSU window with a cotton swab, then recheck. (2)OK: Lack of toner, so the life is nearly closed. Periodically a noise as "tick tick" occurs - Measure the cycle and the weight of the toner cartridge. White vertical stripes on the whole screen or partly : Check the weight of the toner cartridge. 	<ol style="list-style-type: none"> All of 1, 2, 3 above- If it become better by shaking, replace with a new toner cartridge after 50-100 sheets in the closing state of the life span. In case of 2- If it becomes better after cleaning the LSU window, then the toner cartridge is normal. (Because of foreign substance on the LSU window, the image has not been printed partly.) In case of 3- If the cycle of noise is about 2 seconds, the toner inside the toner cartridge has been nearly exhausted. (Purchase and replace with a new toner cartridge after using about 200 sheets at the point of occurrence) In case of 3- This is a phenomenon caused by lack of toner, so replace with a new toner cartridge.
<p>Toner Contamination</p>	<ul style="list-style-type: none"> Toner is fallen on the papers periodically. Contaminated with toner on prints partly or over the whole surface. 	<ol style="list-style-type: none"> Toner is fallen on the paper periodically. (1)Check the cycle of the falling of the toner. (2)Check the appearance of both ends of the toner cartridge and the drum cartridge. The center of the printed matter is contaminated with toner. (1)Check whether foreign substances or toner are stuck to the terminal (contact point) of the toner cartridge and the drum cartridge. (2)Check whether the state of the terminal assembly is normal. 	<ol style="list-style-type: none"> If both ends of the OPC drum are contaminated with toner: Check the life of the toner cartridge and the drum cartridge. Check whether it could be recycled.

Fault	Signs	Cause & Check	Solution
<p>White or Black spot</p> 	<ul style="list-style-type: none"> • Light or dark black dots on the image occur periodically. • White spots occur in the image periodically. 	<ol style="list-style-type: none"> 1. If light or dark periodical black dots occur, this is because the deve rollers are contaminated with foreign substance or paper particles. <ol style="list-style-type: none"> (1)38.3mm interval : Charged roller (2)94.3mm interval : OPC cycle 2. If white spots occur in a black image at intervals of 94.3 mm, or black spots occur elsewhere, the OPC drum is damaged or foreign substance is stuck to the surface. 3. If a black and white or graphic image is partially broken at irregular intervals, the transfer roller's life has been expired or the transfer voltage is abnormal. 	<ol style="list-style-type: none"> 1. In case of 1 above - Run OPC Cleaning Mode Print 4-5 times repeatedly to remove. Especially check foreign substance on the OPC surface, then remove them with a clean gauze moistened with IPA(Isopropyl Alcohol) not to damage OPC if necessary. Caution : Never use usual alcohol. 2. In case of 2 - If they are not disappeared by running OPC Cleaning Mode Print 4-5 times. <ul style="list-style-type: none"> : at intervals of 94.3mm - Replace the OPC Drum. : at intervals of 38.3mm - Remove foreign substance, Clean the Charged Roller : Broken image - Replace the toner cartridge according to carelessness. 3. In case of 3 - Exchange the transfer roller because the life of the transfer roller in use has been expired. (Check the transfer voltage and readjust if different.)
Recycled product	<ul style="list-style-type: none"> • Poor appearance of the toner cartridge and the drum cartridge. • Unclean and rough printouts. • Bad background in the image. 	<ol style="list-style-type: none"> 1. Poor appearance of the toner cartridge and the drum cartridge. <ol style="list-style-type: none"> (1)Check the damage to label and whether different materials are used. (2)Check the appearance of parts of the toner cartridge and the drum cartridge, such as frame, hopper. 2. Unclean and rough printouts. <ol style="list-style-type: none"> (1)Check whether foreign substance or toner are stuck to the terminal (contact point) of the toner cartridge and the drum cartridge. (2)Check whether the state of the terminal assembly is normal. 	<ol style="list-style-type: none"> 1. In case of 1 - <ol style="list-style-type: none"> (1)If there is an evidence of disassembling the toner cartridge. (2)If materials other than normal parts of the toner cartridge are added or substituted. 2. In case of 2 - If there are any abnormalities in connection with the situation of 1. <ol style="list-style-type: none"> (1)It occurs when the toner cartridge is recycled over 2 times. (2)If toner nearly being expired are collected to use, it is judged as the recycled toner cartridge.

Fault	Signs	Cause & Check	Solution
Ghost & Image Contamination	<ul style="list-style-type: none"> The printed image is too light or dark, or partially contaminated black. Totally contaminated black. (Black image printed out) 	<p>1. The printed image is too light or dark, or partially contaminated black.</p> <p>(1) Check whether foreign substance or toner are stuck to the terminal (point of contact) of the toner cartridge.</p> <p>(2) Check whether the terminal assembly is normal.</p> <p>2. Totally contaminated black. (Black image printed out)</p> <p>(1) Check whether foreign substances are stuck to the terminal (point of contact) of the toner cartridge and the drum cartridge and the state of assembly. (Especially check the charged roller terminal.)</p>	<p>1. All of 1, 2, 3 above</p> <p>(1) Remove toner and foreign substances adhered to the contact point of the toner cartridge.</p> <p>(2) The contact point of the unit facing that of the toner cartridge also must be cleaned.</p> <p>(3) If the terminal assembly is unsafe:</p> <ul style="list-style-type: none"> Fully stick the terminal to or reassemble it after disassembling. Disassemble the side plate and push the terminal to be stuck, then reassemble it. <p>2. In case of 2</p> <p>It is a phenomenon when the OPC drum of the drum cartridge is not electrically charged. Clean the terminals of the charged roller, then recheck it.</p>

7.6 The cause and solutions of bad environment of the software

7.6.1 The printer is not working (1)

• **Description** : While Power turned on, the printer is not working in the printing mode.

Check and Cause	Solution
1. Check if the PC and the printer is properly connected and the toner cartridge installed.	1. Replace the printer cable. If the problems not solved even after the cable replaced, check the amount of the remaining tone.
2. Printing is nor working in the Windows.	2. Check if the connection between PC and printer port is proper. If you use windows, check if the printer driver in the controller is set up. If the printer driver is properly set up, check in which program the printing is not working. The best way to find out is to open the memo pad to check the function of printing. If it is not working in a certain program, adjust the setup the program requires. Sometimes, the printout is normal within the Windows basic programs, but it's not working in a particular program. In such case, install the new driver again. If not working in the Windows basic program, Check the setup of the port of CMOS is on ECP. And check the address of IRQ 7 and 378
3. Check if the printer cable is directly connected to peripheral devices	3. If the scanner needs to be connected to the printer, first the remove the scanner from the PC to see if the printer is properly working alone.

7.6.2 The printer is not working (2)

• **Description** : After receiving the printing order, no response at all or the low speed of printing occurs due to wrong setup of the environment rather than malfunction of the printer itself.

Check and Cause	Solution
1. Secure more space of the hard disk.	1. Not working with the message 'insufficient printer memory' means hard disk space problem rather than the RAM problem. In this case, provide more space for the hard disk. Secure more space using the disk utilities program.
2. Printing error occurs even if there is enough space in the hard disk.	2. The connection of the cable and printer port is not proper. Check if the connection is properly done and if the parallel port in CMOS is rightly set up.
3. Check the parallel-port-related items in the CMOS Setup.	3. As a printer port, Select ECP or SPP among SPP(Normal), ECP, and EPP modes(increase printing speed) SPP normal mode support 8-bit data transfer, while ECP Mode transfer the 12-bit data.
4. Reboot the system to print.	4. If the regular font is not printing, the cable or the printer driver may be defective. Turn the PC and printer off, and reboot the system to print again. If not solved, double-click the printer in my computer If the regular fonts are not printed this time again. the cable must be defective so replace the cable with new one.

7.6.3 Abnormal Printing

- **Description** : The printing is not working properly even when the cable has no problem. (even after the cable is replaced) If the printer won't work at all or the strange fonts are repeated, the printer driver may be defective or wrong setup in the CMOS Setup.

Check and Cause	Solution
1. Set up the parallel port in the CMOS SETUP.	1. Select SPP(Normal) or ECP LPT Port the among ECP, EPP or SPP in the CMOS Setup.
2. Printer Driver Error.	2. Check the printer in My Computer.(to see if the printer driver is compatible to the present driver or delete the old driver, if defective and reinstall the new driver)
3. Error message from insufficient memory. (The printing job sometimes stops or due to insufficient virtual memory, but it actually comes from the insufficient space of the hard disk.)	3. Delete the unnecessary files to secure enough space of the hard disk and start printing job again.

7.6.4 SPOOL Error

- **Description** : To spool which stands for "simultaneous peripheral operations online" a computer document or task list (or "job") is to read it in and store it, usually on a hard disk or larger storage medium so that it can be printed or otherwise processed at a more convenient time (for example, when a printer is finished printing its current document).

Check and Cause	Solution
1. Insufficient space of the hard disk in the directory assigned for the basic spool.	1. Delete the unnecessary files to provide more space to start printing job.
2. If the previous printing error not solved.	2. If there are some files with the extension name of ****.jnl, Delete them and Reboot the Windows to restart printing job.
3. When expected to collide with other program.	3. Shut down all other programs except the current one, if possible.
4. When an application program or the printer driver is damaged.	4. Delete the printer driver completely and reinstall it.
5. When some files related to OS are damaged or virus infected.	5. After rebooting the computer, check for viruses, restore the damaged files and reinstall the program to do the printing job.
6. Memory is less than suggested one.	6. Add up enough memory to the PC.

How to delete the data in the spool manager.

In the spool manager, the installed drivers and the list of the documents waiting to be printed are shown.

Select the document to be deleted and check the delete menu.

If you intend to delete the current document being printed, the data being transferred to the printer will be put out and then the document is removed. Before choosing the document, the menu is still inactive.

Or put the document out of the list and repeat the routine as in the above or finish the spool manager.

