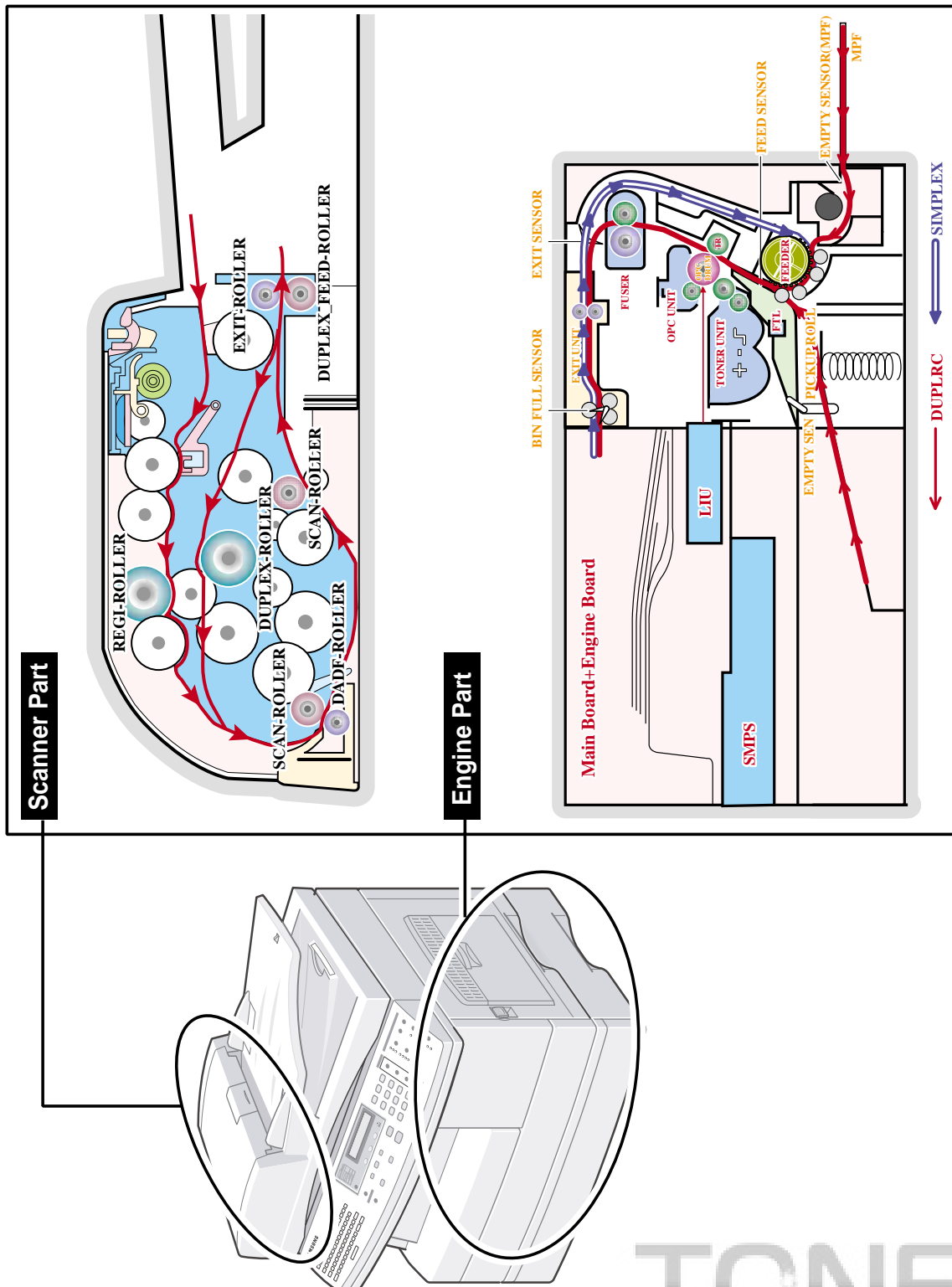


6. Alignment and Adjustments

This chapter describes some of the main service procedures including:
Using the Tech Mode; Clearing paper jam and test patterns.
Much of this chapter is also included in the user's guide.

6.1 Paper path



6.2 Clearing Paper Jams

Occasionally, paper can be jammed during a print job. Some of the causes include:

- The tray is loaded improperly or overfilled.
- The tray has been pulled out during a print job.
- The front cover has been opened during a print job.
- Paper was used that does not meet paper specifications.
- Paper that is outside of the supported size range was used.

If a paper jam occurs an error message appears in the LCD display. Find and remove the jammed paper.

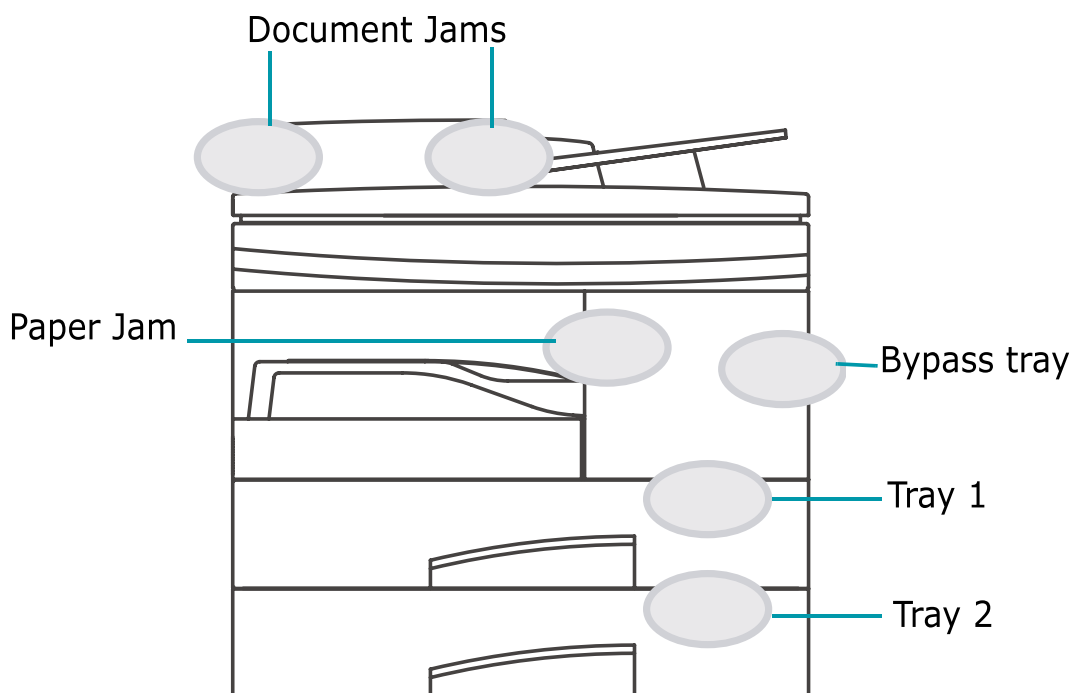
If you don't see the paper, open the covers.

Do not use a tweezers, pincers or other metal tools when clearing a paper jam.

This could damage the internal mechanism causing print quality problems or possibly electrical shock.

Fault Clearance

When a fault occurs, check the Status Map on the Control Panel. A green blanking LED identifies the problem area:

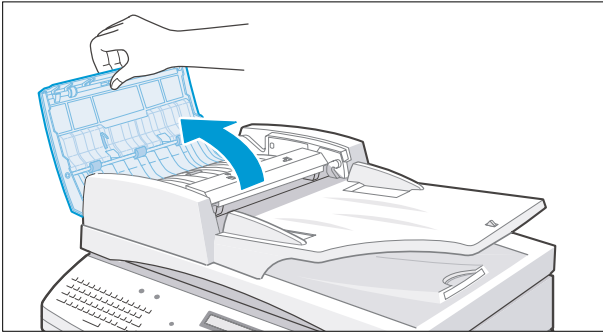


6.2.1 Clearing Document Jams

If a document jams while it is feeding through the DADF (Duplex Automatic Document Feeder), "DOCUMENT JAM" appears on the display.

6.2.1.1 DADF Input Misfeed

- 1) Open the DADF top cover.



- 3) Close the DADF top cover. Then place the documents back into the DADF.

NOTE : To prevent document jams, use the document scanner glass for thick, thin or mixed documents.

- 2) Pull the document gently to the right and out of the DADF.

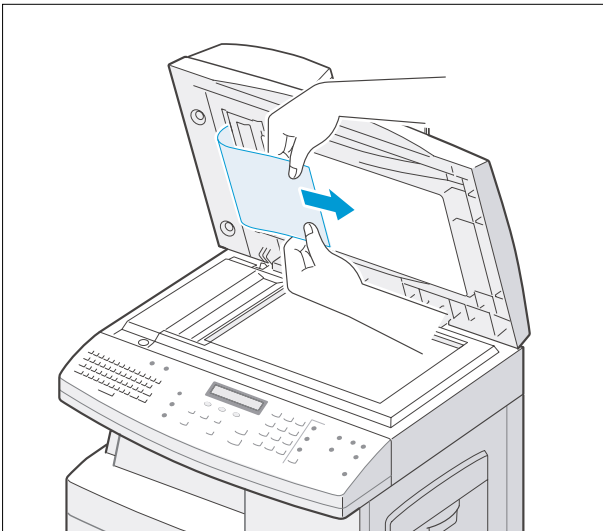


6.2.1.2 DADF Exit Misfeed

- 1) Remove the remaining documents from the DADF.
- 2) Open the document input tray upward and Pull the document gently out of the DADF.
- 3) Close the document input tray. Then place the documents back into the DADF.

6.2.1.3 DADF Roller Misfeed

- 1) Open the document cover.
- 2) Seize the misfed document, and remove the document from the DADF or the feed area by carefully pulling it towards the right using both hands.
- 3) Close the document cover. Then place the documents back into the DADF.



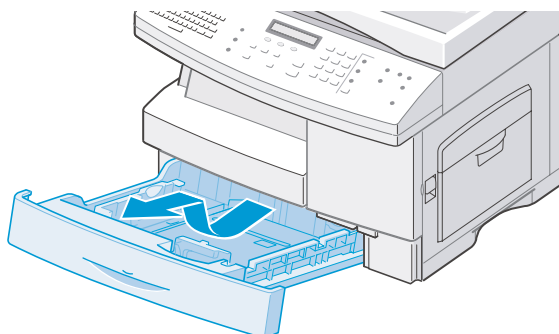
6.2.2 Paper Jams

If paper jams occur, "Paper Jam" appears on the display. Follow the steps below to clear the jam. To avoid tearing the paper, pull the jammed paper out gently and slowly.

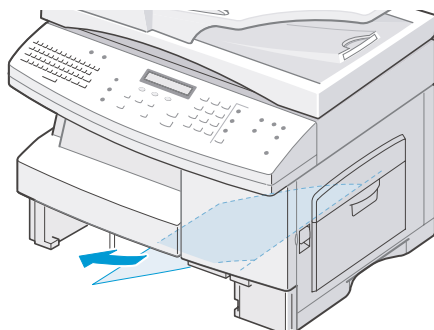
6.2.3 Paper Feed Area

If the paper jams in the feed area, "Paper Jam0" appears on the display.

- 1) Pull out the paper Tray to the fully open position. Lift the front part of the Tray slightly up to release the Tray from the machine.



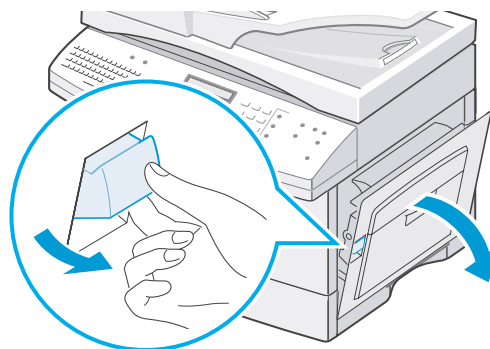
- 2) Remove the jammed paper by gently pulling it straight out.



Once you remove the jammed paper here, open the side cover and then close it to clear the "Paper Jam0" message on the display.

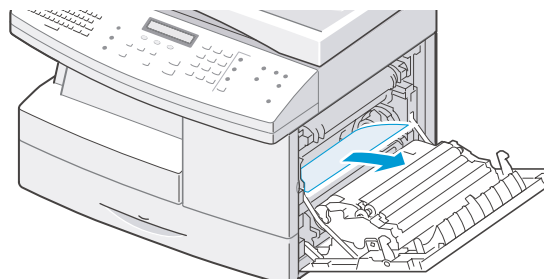
If there is any resistance, and the paper does not move immediately when you pull, stop pulling. Then continue to step3

- 3) Pull the release lever to open the side cover.

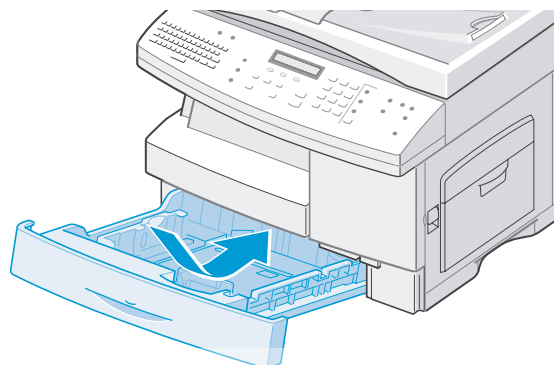


NOTE: Do not touch the shiny drum cartridge surface. Scratches or smudges will result in poor copy quality.

- 4) Carefully remove the misfed paper in the direction shown.



- 5) Close the cover and insert the paper Tray. Lift the front edge of the tray to engage the tray sliders and fully insert the paper tray.

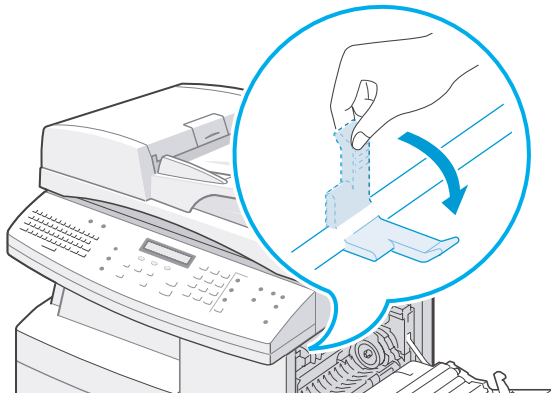


6.2.4 Fuser Area

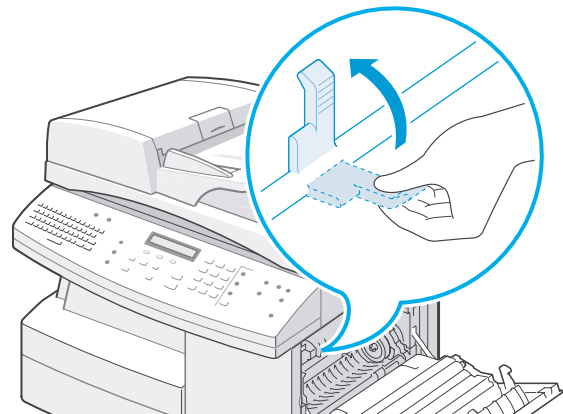
If the paper jams in the fuser area, "Paper Jam 1" appears on the display:

NOTE: The fuser area is hot. Take care when removing paper from the machine.

- 1) Lift the release lever to open the side cover.
- 2) Pull down on the fuser lever as shown below.
This will release pressure on the paper. If paper is not seen in this area, skip to the Exit Area.
- 3) Remove the jammed paper, in the direction shown.



- 4) Push the fuser lever up, and then close the side cover.

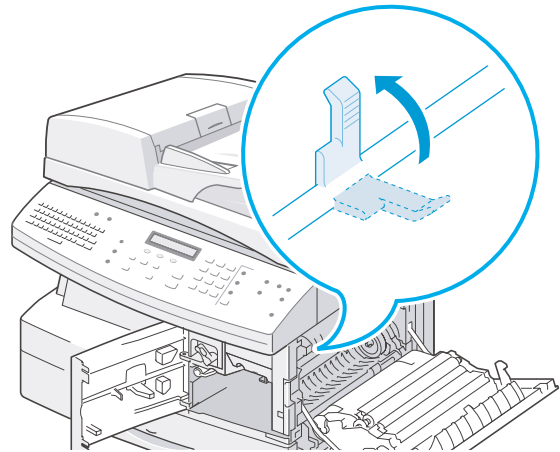
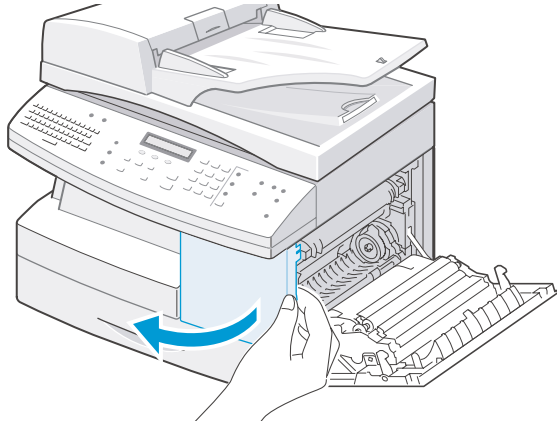


NOTE: Do not pull paper up through the fusing unit.
Unfused toner may adhere to the area, resulting in smudged copies.

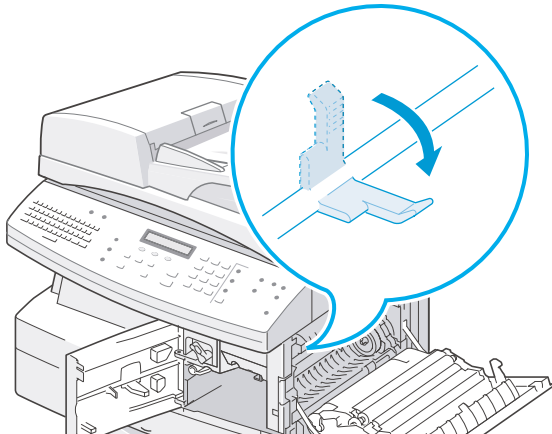
6.2.5 Paper Exit Area

If the paper jams in the exit area, "Paper Jam 2" appears on the display.

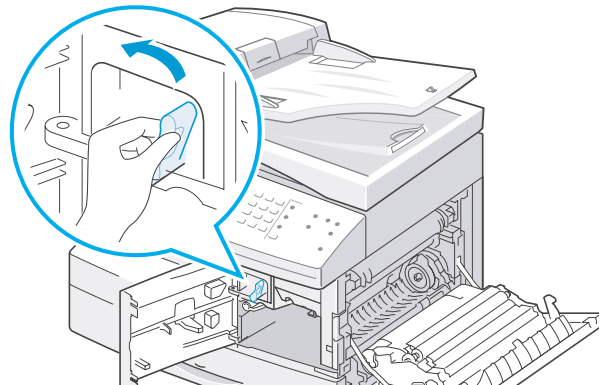
- 1) Press the release lever to open the side cover.
- 2) Open the front cover.
- 5) Push the fuser lever up.



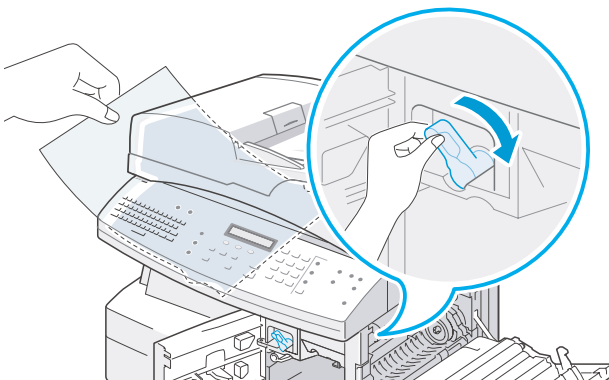
- 3) Pull down on the fuser lever. This will release pressure on the paper.



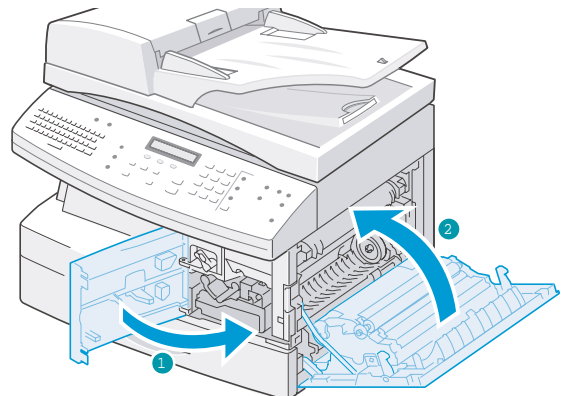
- 6) Turn the Jam Remove Lever back to the original position.



- 4) Turn the Jam Remove Lever in the direction of the arrow to move the paper to the exit area, then gently pull the paper out through the exit area.



- 7) Close the front cover (1) and the side cover (2).



6.2.6 Duplex Jam

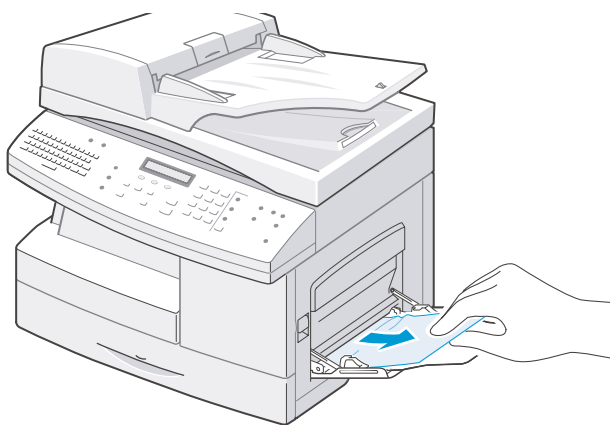
If paper jam occurs in the duplex mechanism, "Duplex Jam" appears on the display.

- 1) Press the release lever to open the side cover.
- 2) Remove the jammed paper. Then close the side cover

6.2.7 Bypass Tray Jam

"Bypass Jam" appears on the display when you try to print using the Bypass Tray and the machine does not detect paper due to no paper or improper paper loading.

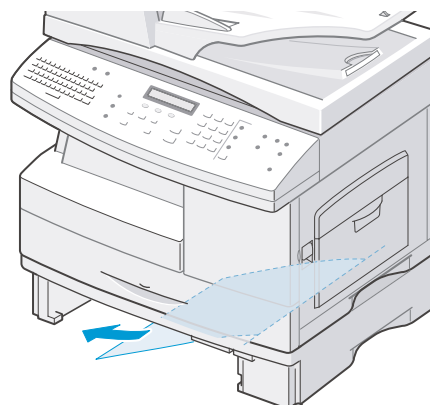
"Bypass Jam" also may occur when the paper is not properly fed into the machine through the Bypass Tray. In that case, pull the paper out of the machine.



6.2.8 Optional Tray2 Jam

If paper is jammed in the optional tray2, 'Jam0 In Tray2' appears on the display.

- 1) Pull the paper Tray to open. After you pull it out completely, lift the front part of the Tray slightly up to release the Tray from the machine
- 2) Remove the paper in the direction shown. To avoid the paper torn, pull it out gently and slowly.



6.3 User Mode

The table below shows all of the possible user settings. Full details can be found in the User Guide.

Function	-- ▶	1'st LCD	2'st LCD	Default
1.Paper Setting	1	Fax Paper Tray	[Tray1]	[Tray1]
			[Tray2]	
			[All]	
	2	Paper Type	[Plain Paper/ Bond/ Transparency/ Card Stock /Labels/Preprinted/ Colored/envelope]	[Plain Paper]
	3	Paper Size	[Tray Paper] [MP Tray Paper]	LTR LTR
2.Machine Setup	1	Machine ID	Fax: ID:	
	2	Date & Time		
	3	Clock Mode	[12, 24 hours]	12hours
	4	Language	[English/FRANCAIS/Deutsch/Italia no/Espa ol/Portugu s/Nederlands/Dansk/Svenska/suomi /Norsk	English
	5	Localization	[Inch, MM]	Inch
	6	Power save	[On] [Off]	5min
	7	CCD Power Save	[1,4,8,12]	4Hour
	8	USB Mode	[Fast, Slow]	Fast
	9	Ignore Toner Empty	[On, Off]	off
	10	Time out	[Off, 15, 30, 60, 180]	[30]
3.Copy Features	1	Change Default	[Darkness]	[Normal]
			[Original Type]	[Text]
			[Reduce/Enlarge]	[Original(100%)]
	2	Margin Shift	[Off]	[Off]
			[Auto Center]	
			[Left Margin]	
			[Right Margin]	
			[Top Margin]	
			[Bottom Margin]	
	3	Book Copy	[Off]	[Off]
			[Left Page]	
			[Right Page]	
	4	Auto Suppress	[Both Pages]	
			[Off, On]	[Off]
			[Off]	[Off]
	5	Covers	[Front]	[Tray 1]
			[Back]	[Tray 1]
			[Front&Back]	[Tray 1]
	6	Transparencies	[Off]	[Off]
			[MP Tray]	[Off]

Function	-- ▶	1'st LCD	2'st LCD	Default
4.Fax Setup ◀ Default-Change ▶	1	Default-Change	[Darkness] [Resolution]	[Normal] [Standard]
	2	Receive Mode	[Fax, Tel, Ans/Fax]	FAX
	3	Ring to Answer	[1~7]	1
	4	Redial Term	[1~15minutes]	3minutes
	5	Redials	[0~13times]	7times
	6	MSG Confirm	[On, Off, On-Err]	On-Error
	7	Auto Report	[On, Off]	On
	8	Auto Reduction	[On, Off]	On
	9	Discard Size	[00~30mm]	20mm
	10	Prefix Dial	FAX: xxxxx (5 digits)	
	11	Receive Start Code		
	12	ECM Mode	[On, Off]	On
5.Fax Feature ◀ Delay Fax ▶	1	Delay Fax		
	2	Priority Fax		
	3	Polling	[Tx Poll] [Delay Rx Poll]	
	4	Broadcasting		
	5	Batch Tx		
	6	Toll Save	[On] [Off]	Off
	7	Junk Fax Setup	[On] [Off]	off
	8	Secure Receive	[Off] [On] [Print]	off
	9	Stamp RCV Name	[On, Off]	Off
	10	Fax Duplex	[Off, Long Edge, Short Edge]	
6.Reports ◀ Fax Phone Book ▶	1	Fax Phone Book		
	2	Sent Report		
	3	RCV Report		
	4	System Data		
	5	Scheduled Jobs		
	6	MSG Confirm		
	7	Email Tx Report		
	8	Junk Fax List		
	9	Billing/Counters		
	10	Connect Page		
	11	User Auth List		
	12	Netscan Journal		
	13	Print All Reports		
7.Sound/Volume ◀ Speaker ▶	1	Speaker	[On, Off, Com]	Com
	2	Ringer	[Off, Low,Med,High]	Med
	3	Key Sound	[On, Off]	Off
	4	Alarm Sound	[On, Off]	On

Function	-->	1'st LCD	2'st LCD	Default
8.Mail Box ◀ Print ▶	1	Print		
	2	Store		
	3	Delete		
	4	Poll From		
	5	Send		
9.Email Features ◀ Group Mail ▶	1	Email Features	◀ Local Address Book ▶	
			◀ Print Address Book ▶	
10.Sys. Admin Tools ◀ Passcode Protect ▶	1	Passcode Protect?	[Off]	Off
			[On]	
	2	Department Codes	◀ Set ▶	
			◀ Print ▶	
			◀ Management ▶	
	3	Auxiliary Access	[Off]	Off
			[On]	
	4	Network Setup	◀ Reset NIC ▶	
			◀ Config Network ▶	
			◀ Netware ▶	
			◀ Factory Default ▶	
	5	Email Setup	◀ SMTP Server Setup ▶	
			◀ Auto Send to Self ▶	
			◀ Guest User Access ▶	
			◀ Default From ▶	[On]
			◀ Default Subject ▶	[Disable]
			◀ LDAP Server Setup ▶	[On]
			◀ Email Body Text ▶	[Off]
			◀ Default Change ▶	
			◀ File Format Prompt ▶	
	6	Enter Passcode:		
	7	Clear Memory	[System Data]	
			[Fax TX History]	
			[Fax RX History]	
			[Fax Phone Book]	
			[Email Address Book]	
			[Email TX History]	
			[Netscan Journal]	
			◀ Billing Counters ▶	
	8	Maintenance	[Serial Number]	
			[Adjust Shading]	
			[Clean Drum]	
			[New Drum]	
			[Notify Toner Low]	
	9	Mailbox Setup	[Create]	
			[Delete]	
	10	Fax/Email Forward	Setup Forward	
	11	Netscan Timeout	Timeout Period	

6.4 Tech Mode

In service mode (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.

To enter the Tech mode, press MENU, #, 1, 9, 3, 4 in sequence, and the LCD briefly displays 'T', the machine has entered service (tech) mode.

While in Tech mode, the machine still performs all normal operations.

To return to normal user mode, press MENU, #, 1, 9, 3, 4 in sequence again, or turn the power off, then on by unplugging and plugging the power cord.

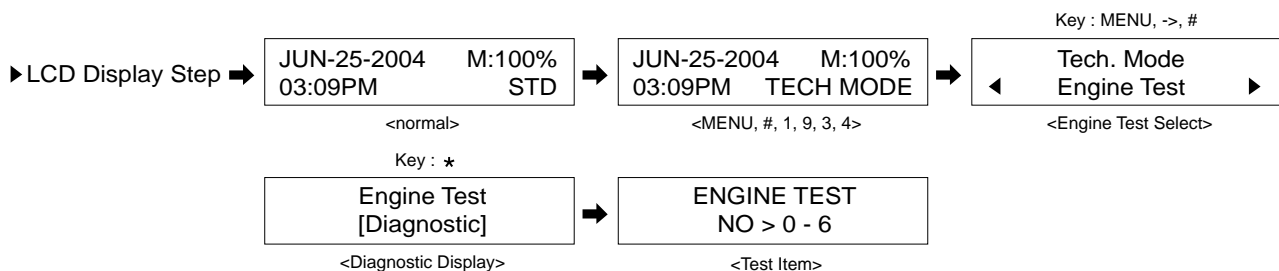
Options changed while in service mode do not remain changed unless you clear the machine's memory.

6.4.1 Engine Test Mode

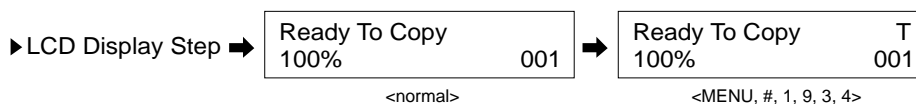
The Engine Tests Mode supplies useful functions to check conducting condition of engine. It tests the conducting condition of each device and displays the result of the test at the LCD. It is classified in 7 items(0~6), and the functions of items are as bellows.

6.4.1.1 Test No

<In Fax mode>



<In Copy mode>



<To Select Engine Test>

- [0] : Motor diagnostic
- [1] : LSU diagnostic
- [2] : Sensor(Actuator)diagonostic
- [3] : SCF diagnostic
- [4] : CRU diagnostic
- [5] : Circuit test for Xerographic processing
- [6] : Auto test

6.4.1.2 Test map

Test No	Test Items (Description)	Control Code			
		[1]		[2]	
[0]	ALL MOTOR TEST	ON	Start the Developer_Motor & Fuser_Motor	OFF	Stop the Developer_Motor & Fuser_Motor
	FUSER MOTOR TEST (STEPPER)	ON	Start the Fuser_Motor only.	OFF	Stop the Fuser_Motor
	Deve. MOTOR TEST (BLDC)	ON	Start the Developer_Motor only.	OFF	Stop the Developer_Motor.
	FUSER MTR DIR TEST	FWD	Start the Fuser_Motor in the forward direction	RVS	Start the Fuser_Motor in the reverse direction
	ALL MOTOR STOP	STOP	Stop the Developer_Motor & Fuser_Motor.	NEXT	Go to next test item (Go to FCF SOLENOID TEST).
	FCF (1st Tray) SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the First Cassette Feeder (FCF). - Automatically de-energized after 200ms.	OFF	De-energize (Turn off) the Solenoid of the FCF.
	MPF (MP Tray) SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the Multi-Purpose Feeder (MPF). - Automatically de-energized after 200ms.	OFF	De-energize (Turn Off) the Solenoid of the MPF
	PTL TEST	ON	Turns on the Pre-Transfer Lamp (PTL)	OFF	Turns off the PTL.
	FAN TEST	ON	Start the FAN motors (Cooler on the Rear side and LSU)	OFF	Stop the FAN motors.
	FUSER CONTROL TEST	ON	Turns on the Fuser Heat lamp. - only when the current fuser temp. is lower than the standby fuser temp.	OFF	Turns off the Heating lamp of Fuser Unit.
	FUSER TEMP CHECK	CHECK	Display FUSER ADC VALUE	NEXT	Go to next test item (Go to ALL MOTOR TEST)
[1]	LSU MOTOR TEST	ON	Start the polygon mirror motor in the LSU.	OFF	Stop the polygon mirror motor in the LSU.
	LASER DIODE TEST	ON	Turns on LASER diode in the LSU.	OFF	Turns off LASER diode in the LSU.
	LSU FAN TEST	ON	Turns LSU Fan On.	OFF	Turns LSU Fan Off.
	LSU READY TEST	CHECK	Check the time for the LSU motor to come to speed. The time will be displayed. This includes 500ms for the speed to stabilize (must be less than 10sec). The Motor will stop automatically.	NEXT	Go to next test (go to LSU HSYNC TEST)
	LSU HSYNC TEST	CHECK	Check the time for LSU HSYNC (Horizontal Synch. Signal) to be detected. The time will be displayed. (must be less than 10sec). The Motor will stop automatically. Monitor the status of the Actuators (Sensor). - '1':Active, '0':Inactive	NEXT	Go to the next test (go to LSU MOTOR TEST)
[2]	SENSOR TEST	CHECK	Monitor the status of Actuator(Sensor) with '1' or '0' . - '1':Active, '0':Inactive (Legend) CV / SIDE COVER SENSOR FD / FEED SENSOR EX / EXIT SENSOR OB / OUT BIN SENSOR FE / FC EMPTY SENSOR ME / MP EMPTY SENSOR	NEXT	Go to the top level of Engine test mode.
[3]	SCF MOTOR TEST	ON	Start the SCF Motor.	OFF	Stop the SCF Motor.
	SCF SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the 2nd Cassette Feeder (SCF). - Automatically de-energized after 300ms.	OFF	De-energize (Turn Off) the Solenoid of the SCF
	SCF EMP/INST CHECK	CHECK	Display the status of the SCF (SCF Installed or not installed, Paper Empty)	NEXT	Go to the next test (go to SCF MOTOR TEST)
[4]	OPC FUSE STATE	CHECK	Check that there was a New OPC during the previous warm-up time.	NEXT	Go to the next test (go to OPC FUSE CHECK)
	OPC FUSE CHECK	CHECK	Display the current state of fuse in the OPC.	NEXT	Go to the next test (go to TONER STATE)
	TONER STATE	CHECK	Display Toner State - This test does not check the current toner state. It displays the stored value in SDRAM at the previous Open/Close of the Side-Cover or Power-on. - Opening/closing the side-cover or POPO, will update the memory with the current toner state.	NEXT	Go to the next test (go to TONER LOW CHECK)
	TONER LOW CHECK	CHECK	Check current toner state.	NEXT	Go to the next test (go to PAGE COUNTER INC)
	PAGE COUNTER INC	CHECK	Increase PAGE COUNTER by 1 count	NEXT	Go to the next test (go to AIR TEMP CHECK)
	AIR TEMP CHECK	CHECK	Read and display the temperature of the current working environment. - Display the ADC value	NEXT	Go to the next test (go to OPC FUSE STATE)

		Control Code			
Test No	Test Items (Description)	[1]		[2]	
[5]	MHV SUPPLY 1350V	ON	Supply 1350V to the MHV	OFF	Disconnect voltage from MHV
	MHV ADC READ	CHECK	Read and display the MHV ADC (Analog-To-Digital Conversion) value.	NEXT	Go to the next test (go to DEV SUPPLY 450V)
	DEV SUPPLY 450V	ON	Supply 1450V to the DEV (Developer).	OFF	Disconnect voltage from DEV
	THV SUPPLY NEG VOLT	ON	Supply negative voltage to the THV	OFF	Disconnect negative voltage from THV
	THV SUPPLY 1301V	ON	Supply 1300V to the THV	OFF	Disconnect voltage from THV
	THV ADC READ	CHECK	Read and display the THV ADC value.	NEXT	Go to the next test (go to MHV SUPPLY 1350V)
[6]	Auto TEST	NEXT : RIGHT KEY		Automatically start to test with 2 sec intervals.	
		EXIT : STOP KEY		Go to the top level of Engine test mode.	
		Automatic Test Sequence		1	ALL MOTOR CONTROL
				2	FUSER MOTOR CONTROL
				3	DEV MOTOR CONTROL
				4	DUPLEX CONTROL
				5	FCF PICKUP CONTROL
				6	M P PICKUP CONTROL
				7	PTL CONTROL
				8	FAN CONTROL
				9	FUSER CONTROL
				10	LSU MOTOR CONTROL
				11	LASER DIODE CONTROL
				12	SENSOR DETECT
				13	MHV CONTROL
				14	DEV CONTROL
				15	THV NEG CONTROL
				16	THV CONTROL
				17	MHV ADC READ
				18	THV ADC READ
				19	TEST END

6.4.1.3 Operation of Tech mode

Function	1'st LCD	2'st LCD	3'st LCD	4'st LCD	5'st LCD	6'st LCD	Default
1 Tech Mode ◀ Data Setup ▶	Data Setup	[Send Level] [Modem Speed] [Dial Mode] [Error Rate] [Notify Toner]	Send Level Modem Speed Dial Mode Error Rate Notify Toner	[9--15] [33,628,8,14,4,12,96,48] [Tone, Pulse] [5%, 10%] [Customer No.] [Customer Name] [Service Number] [Serial Number]			-12 33.6 10%
2	Machine Test	[Clear All Mem.] [Clear Count] [Flash Upgrade]	Clear All Mem. Clear Count Flash Upgrade	[Total Page Count] [CRU Print CNT] [FLT Scan Count] [ADF Scan Count] [Used Toner CNT] [Local] [Remote]			
3	Engine Test	[Switch Test] [Modem Test] [DRAM Test] [ROM Test] [Pattern Test] [Shading Test] [Diagnostic]	Engine Test	NO > 0 - 6	ALL MOTOR TEST FCF SOLENOID TEST MF SOLENOID TEST PTL TEST FAN TEST FUSER CONTROL TEST FUSER TEMP TEST LSU MOTOR TEST LASER DIODE TEST LSU READY TEST LSU HSYNC TEST SENSOR TEST SCF MOTOR TEST SCF SOLENOID TEST SCF EMP/INST TEST OPC FUSE STATE OPC FUSE CHECK TONER STATE TONER LOW CHECK PAGE COUNTER INC AIR TEMP CHECK MHV SUPPLY 1350V MHV ADC READ DEV SUPPLY 450V THV SUPPLY NEG VOLT THV SUPPLY 1301V THV ADC READ TEST START	1:ON 2:OFF 1:ON 2:OFF 1:ON 2:OFF 1:ON 2:OFF 1:ON 2:OFF 1:CHECK 2:NEXT 1:ON 2:OFF 1:ON 2:OFF 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:ON 2:OFF 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:CHECK 2:NEXT 1:ON 2:OFF 1:CHECK 2:NEXT 1:ON 2:OFF 1:ON 2:OFF 1:ON 2:OFF 1:ON 2:OFF 1:CHECK 2:NEXT NEXT : RIGHT KEY	
4	DADF Test	[Status Print]					
5	Report	[Protocol] [System Data]					

6.4.2 Data Setup

SEND LEVEL

You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.

Caution : The Send Fax Level is set to the best condition during manufacture. Never change settings arbitrarily.

DIAL MODE

This function can choose the dialing method.

*Default : Dial (Dial/Pulse)

MODEM SPEED

You can set the maximum modem speed.

When the fax establishes communication with a remote set the value of the maximum modem speed is checked for both transmitter and receiver. The lowest value is used. It is best set at 33.6Kbps, the default setting.

ERROR RATE

When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps.

This ensures that the error rate remains below the set value.

You can select the rate between 5% and 10%.

CLEAR ALL MEMORY

The function resets the system to factory default settings.

This function is used to reset the system to the initial value when the product is functioning abnormally. All the values are returned to the default values, and all the information which was set by the user will be erased.

< Method >

1. Select the [MEMORY CLEAR] in TECH MODE.
2. Push the ENTER button.
3. Select your country. (There are four country groups. Refer to the table below.)
4. Push the ENTER button then it will clear all memory.

NOTICE : Always perform a memory clear after replacing the main board, otherwise the system may not operate properly.

Country Group	USA/Canada	UK	Russia	Southafrica
Country	USA/Canada Mexico Brazil	UK Germany France Italy Spain Austria Netherlands Belgium Portugal Sweden Norway Denmark Finland Switzerland Greece Ireland Turkey	Russia India Oman Poland Bangladesh Kuwait Moroco Algeria Pakistan UAE Bahrain Srilanka Saudi Arabia Chile Peru Argentina Hungary Romania Bulgaria Czech	South Africa

6.4.2.1 Clear Counters

The following counters can only be cleared in TECH MODE. They are accessed through the Data Setup menu.

Total page Count : XXXXX
 FLT Scan CNT : XXXXX
 ADF SCAN CNT : XXXXX
 Used Drum CNT : XXXXX
 Used Toner CNT : XXXXX

6.4.2.2 Flash Upgrade

FLASH memory is upgraded in the same way as Firmware. See Page 6-21.

6.4.3 Machine Test

SWITCH TEST

Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

MODEM TEST

Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem, amplifier and speaker. If no transmission signal sound is heard, it means the modem part of the main board, amplifier, speaker or speaker harness is faulty.

DRAM TEST

Use this feature to test the machine's DRAM. The result appears in the LCD display.
 If all memory is working normally, the LCD shows << O K >>

ROM TEST

Use this feature to test the machine's ROM. The result and the software version appear in the LCD display.

- FLASH VER : 1.00 V
- ENGINE VER :1.00V

PATTERN TEST

Using this pattern printout you can check that the printer mechanism is functioning properly.
 This function is for factory manufacturing use only.

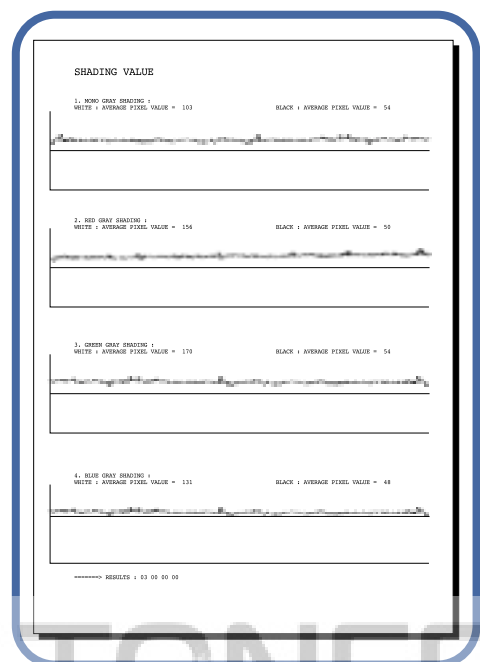
SHADING TEST

The function is used to set the optimum scan quality determined by the specific characteristics of the CCD (Charge Coupled Device). If copy image quality is poor perform this function to check the condition of the CCD unit.

< Method >

1. Select the [Shading Test] in TECH MODE (Menu, #, 1934).
2. Push the ENTER button and an image will be scanned.
3. After scanning the CCD SHADING PROFILE will be print out.
4. If the printed image is different to the sample image shown the CCD is defective.

NOTICE : When you test the CCD, make sure that the cover is closed.



6.4.5.3 Billing / Counters List

This list provides the usage data (page count) of Drum Cartridge, Toner Cartridge, the page count of machine, and DADF / Platen scan page count.
(See the chapter 4.2.8.3)

Billing/Counters List		JAN-08-2004 01:39 AM THU	
		SCX-6320F	
		Machine ID	:
		Serial Number	: PR-HV51.....
		Fax Number	:
<hr/>			
Total impressions	:	1762	
Total impression Count	:	1762	
Drum impression Count	:	1762	
DADF Scan Page Count	:	1342	
Platen Scan Page Count	:	27	
Replaced Toner Count	:	1	
Replaced Drum Count	:	0	
Equivalent Drum Revolution Rate (Projected Page Counts)	:	126.10% (2237)	
CRUM Information			
Vendor	:	SAMSUNG(China)	[CHN]
Capacity	:	8K	
Product Date	:	2004.06	
Install Date	:	2004.01.04	
Serial	:	CRUM-04060934720	
Total Pages	:	1762(0)	
Toner Status	:	0	

6.5 Flash Upgrade

There are 2 methods to update the Flash Rom, Local and Remote.

(1) Local Machine

• RCP (Remote Control Panel) mode

This method is for Parallel Port or USB Port. Connect the PC and activate the RCP (Remote Control Panel) to upgrade the Firmware.

< Method >

How to Update Firmware using RCP

1. Connect PC and Printer with a Parallel Cable or a USB Cable.
2. Run the RCP utility and select Firmware Update.
3. Search for the Firmware file to be used to update the set using the Browse Icon.
4. Click the Update icon. The firmware file is transmitted to the Printer automatically and the printer is initialized when the download completes.
5. Click the Refresh icon and check that the updated version numbers are displayed.

• DOS Command mode

This method is ONLY for Parallel Port. Connect the PC to the set using a Parallel Cable and enter the DOS Command to upgrade the firmware.

< Method >

1. First of all you need the following files : down.bat, down_com.bin, fprt.exe, and Rom File: (file name for upgrade). Ensure you save ALL of these files in the same folder.
2. At the DOS prompt enter the correct command (as shown below) and push the enter key.
Then the upgrade will automatically take place..
3. There are two commands use the correct one depending on the condition of the set..
 - * When the product is in the idle condition
down "rom file"
 - * When the product is in Ready condition
(TECH MODE --> DATA SETUP --> FLASH UPGRADE --> LOCAL)
fprt "rom file"
4. Do not turn off the power during the upgrade process.

(2) Remote FAX

It is possible to use a set that already has the latest firmware to upgrade a remote set remotely using the telephone system.

< Method >

1. On the set that has the latest firmware set it to transmit the upgrade:-
(TECH MODE •DATA SETUP•••• FLASH UPGRADE•••• REMOTE)
2. Enter the telephone number of the set that needs to be upgraded.
(Several faxes can be upgrade at the same time. In this case, enter each fax number.)
3. When the enter button is pressed the set sends the firmware file by calling designated fax number.
(Around 10~15 minutes are needed to send the file.)

< Caution >

1. The Sending and Receiving fax machines MUST be the same model.
2. The sending fax must be set up in ECM mode and the Receiving fax memory must be 100%.
If not the function will not work.

6.5.1 NIC Card F/W Upgrade

There're two methods for upgrading NIC f/w. You can not do it by using Printer RCP.

A. SyncThru :

SyncThru

- >Menu
- >Maintenance
- >Upgrade Firmware
- >Select the machine you want to upgrade.
- > Fill file path and name in File name field.
- >Press Start.

Upgrading NIC F/W will take at least one minute.

B. SyncThru Web Service :

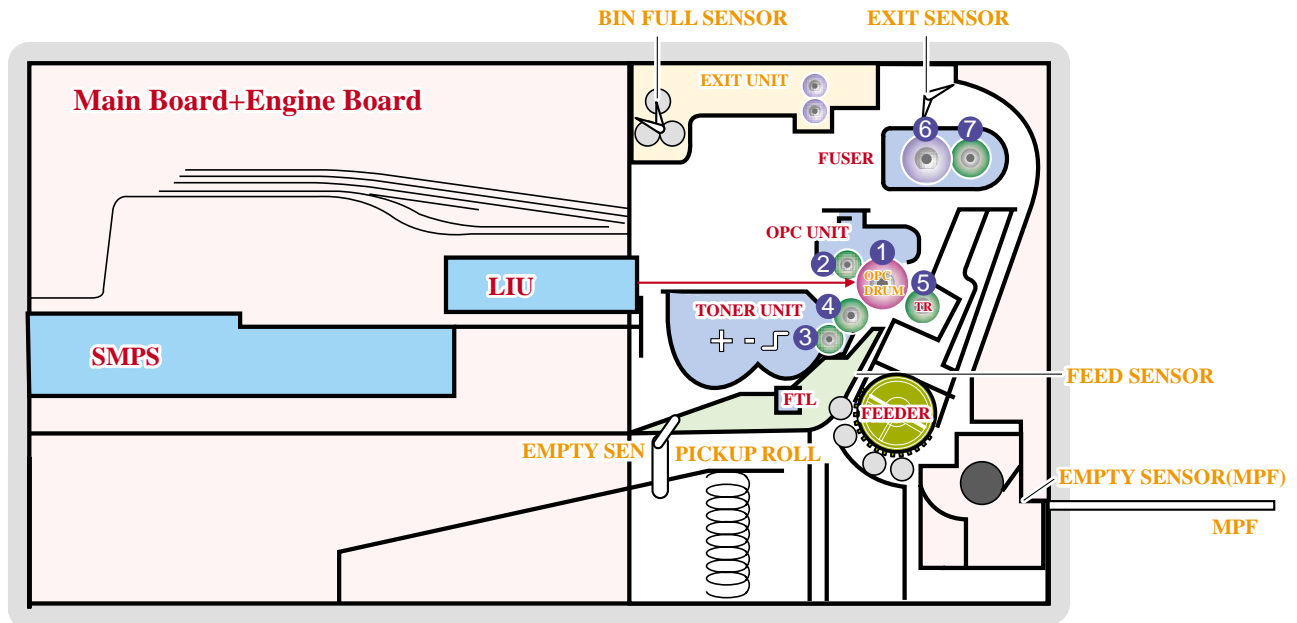
Open a browser(Internet explore)

- > type your machine ip address in address field.
- > Maintenance Tab
- > Firmware Upgrade
- > Fill file path and name in File name field.
- > Press "Upgrade" button

Upgrading NIC F/W will take at least one minute.

6.6 Abnormal Image Printing and Defective Roller

If a mark or other printing defect occurs at regular intervals down the page it may be caused by a damaged or contaminated roller. Measure the repetition interval and refer to the table below to identify the roller concerned.



- | | | |
|-----------------|---------------------|-------------------|
| ① OPC Drum | ④ Developing Roller | ⑥ Heat Roller |
| ② Charge Roller | ⑤ Transfer Roller | ⑦ Pressure Roller |
| ③ Supply Roller | | |

No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	94.30mm	White spot, Block spot
2	Charge Roller	38.30mm	Black spot
3	Supply Roller	43.80mm	Horizontal density band
4	Develop Roller	54.30mm	Horizontal density band
5	Transfer Roller	56.60mm	Black side contamination/transfer fault
6	Heat Roller	83.60mm	Black spot and fuser ghost
7	Pressure Roller	91.00mm	Black side contamination

6.7 Machine Error Codes (Service codes)

6.7.1 Machine Error Message

Error Message	Description	Solution	
DOCUMENT JAM	The loaded document has jammed in the DADF	Clear the document jam.	DADF
DOOR OPEN	The side cover is not securely latched.	Close the cover until it locks into place.	Feeder
BYPASS JAM	The machine detected a mis-feed from the BYPASS Tray.	Open the side Cover and remove the jammed paper. Load paper in the bypass tray.	Feeder
DUPLEX JAM	The machine detected a duplex jam in the middle of 2-sided printing.	Remove the jammed paper	Feeder
Drum Warning	The drum cartridge is near the end of its life.	You should ensure a replacement cartridge is in stock.	
Function Full	The memory is full.	Either delete unnecessary documents, or retransmit after more memory becomes available. The transmission can also be split into more than one operation if it is a large job.	
PAPER JAMØ	Recording paper is jammed in the paper feeding area. (Recording paper is jammed in pick-up unit)	Press STOP and remove the jammed paper	Feeder
PAPER JAM1 Open/Close Door	The machine has detected a paper jam in fuser area. OPEN the side door and clear the jam. CLOSE the door to continue.	Remove the jammed paper	Feeder
PAPER JAM 2 Check Inside	The machine has detected a paper jam in paper exit area. OPEN the side door and clear the jam. CLOSE the door to continue.	Remove the jammed paper	Feeder
NO PAPER ADD PAPER	The recording paper has run out. The printer system stops.	Load the recording paper in the paper feeder.	Feeder
LSU ERROR	The Laser Scanning Unit did not reach the READY state within a defined time or a problem has occurred in the LSU.	Try Power Off-Power On. *Please test the LSU in engine test mode. *If the problem still persists, replace the LSU unit.	LSU
LOW HEAT ERROR	The Fuser temperature did not reach a certain level, or the thermister has become disconnected.	Try Power Off-Power On. *Check thermister contact point & heat roller. *If the problem still persists, replace fuser unit.	Fuser
OPEN HEAT ERROR	During operation the fuser temperature fails to rise correctly, the Thermister is not connected to the main board or contact points are loose or dirty.	*Check thermister contact point and cable connection. *Please test the fuser in engine test mode. *If the problem still persists, replace fuser unit.	Fuser

Error Message	Description	Solution	
OVER HEAT ERROR	The fuser temperature has risen too far. If the temperature of heat roller abnormally increases above the toner-fusing-temperature parts of the fuser may be thermally degraded.	The machine will automatically return to standby mode when it cools down to the normal operating temperature. * Check DC control signal from Main PBA to TRIAC and AC supply from SMPS to fuser. * Check the thermister on the fuser for contamination by toner debris or dust and clean the thermister surface. * Please test the fuser in engine test mode. * If the problem still persists, replace fuser unit.	Fuser
NO CARTRIDGE	The toner cartridge is not installed or the CRUM terminals in the cartridge are dirty or loose.	Install a toner cartridge. If already installed then check CRUM contact points. (Try uninstalling and re-installing the cartridge)	CRU
Invalid Cartridge	The toner cartridge is not for the Samsung machine.	Check that the toner cartridge is correct for this model.	CRU
DRUM WARNING	The drum cartridge is near the end of life, 18,000 print pages.	Ensure a replacement OPC Drum is in stock. Continue to use this drum until "REPLACE DRUM" appears	CRU
REPLACE DRUM	The drum cartridge has reached the end of its life, 20,000 print pages.	Replace the Drum Cartridge.	CRU
TONER EMPTY or REPLACE TONER	When the machine has encountered the Toner Empty.	Replace with a new Toner Cartridge.	CRU
TONER LOW	Toner is almost empty. Toner may be low Toner may be unevenly distributed.	Take out the toner cartridge and gently shake it. By doing this printing operations can be temporarily resumed.	CRU
Function Impossible	Means that these modes do not work together or are not supported in your current machine configuration.	In case of copying, try again without function combination .For Scan-To-Email, please check secured connection of the DIMM and QWERTY keyboard	Inform
DIMM not installed	If the MODEM chip is installed on the main PBA for SCX-6520FN but the DIMM for Fax memory is not installed then this message appears on the LCD.	Check the DIMM in the expansion memory slot. * Please test the RAM testing in engine test mode. * If the problem is in the DIMM, replace the DIMM.	Main PBA
NETWORK IP Conflict	Your MFP has been given the same IP address as another device on your network.	Correct the network settings.	NIC
No Paper	The paper in the paper Tray has run out.	Load the paper in the paper Tray.	
RX Tray Full	The output bin is full.	Remove the paper.	

6.7.2 Fax Error Message (Only for SCX-6320F)

Error Message	Description	Solution
COMM. ERROR	A problem with the facsimile communications has occurred. - Machine displays this when transmitting. - Machine displays this during fax handshaking step when receiving.	Try resending the fax.
GROUP NOT AVAILABLE	You have tried to select a group location where only a single location number can be used, such as when adding locations for a multi-dial operation.	Try again, check location for a group.
INCOMPATIBLE	Remote party did not have the requested feature, such as polling.	
LINE BUSY	The remote FAX didn't answer	Try again.
LINE ERROR	The machine has problem receiving data. Your unit cannot connect with the remote machine, or has lost contact because of a problem on the phone line.	Try again. If failure persists, wait an hour or so for the line to clear then try again.
MEMORY FULL	The memory has become full.	Either delete unnecessary documents, or retransmit after more memory becomes available, or split the transmission into more than one operation.
NO ANSWER	After completing the number of redials specified in the System data and the remote machine was not answered after all the redial attempts.	Try again. Make sure the remote machine is OK.
NO. NOT ASSIGNED	The speed dial location you tried to use has no number assigned to it.	Dial the number manually with the keypad, or assign the number.
POWER FAILURE	The power has been off and the backup power time limit has been exceeded.	Check backup battery
RETRY REDIAL?	The machine is waiting for the programmed interval to automatically redial.	You can press [START] to immediately redial, or [STOP] to cancel the redial operation.
Poll Code Err.	You have used an incorrect poll code.	Use the correct poll code.
Polling Error	The remote fax machine you want to poll is not ready to respond to your poll. Or, when setting up to poll another fax machine, you have used an incorrect poll code.	The remote operator should know in advance that you are polling and have the fax machine loaded with the original document. Enter the correct poll code.

6.7.3 Scan-To-Email Error Message (Network Option Only)

Error Message	Description	Solution
Not Assigned	Not Assigned. The Group Mail you tried to use has no email assigned to it.	Type the email manually with the QWERTY Keyboard/ Numeric key pad, or assign the email.
Send Error(SMTP)	Your unit cannot connect with the server, or has lost contact because of a problem on the network..	Try again. If failure persists, wait an hour or so for the network to clear.
Recipient Address Failure	There was a problem with the address that you sent the email to.	Specified recipient email address should be a valid email address.
Send Error(SMTP)	Send Error (SMTP) can be due to any of the following: <ul style="list-style-type: none"> • Error returned due to abrupt disconnection of SMTP server. SMTP_SERVER_DISCONNECTION • Error returned by NIC during SMTP encoding activity SMTP_ENCODER_FAILURE • Error returned by NIC due to memory failure during SMTP operation. SMTP_MEMORY_FAILURE • Miscellaneous error return by NIC during SMTP activities. SMTP_MISC_ERROR 	
Connection Failure	Any kind of communication or network failure during SMTP / ESMTP operations.	Check the Network connection.
Authentication Failure	Authentication failure is returned for Invalid ESMTP A/C or Password entered by the user.	Specify the correct login name and password.
Authentication Required	Authentication is disabled in MFP and the mail server requires it.	Enable the SMTP Server authentication.
SMTP Server CONN. Failure	SMTP server connection failure.	Check the Network connection.
Invalid Server Or Port No.	Wrong SMTP server or port no. is specified.	Specify the correct SMTP server and port.
SMTP DNSCONN. Failure	In case of DNS connection failure.	Specify the correct DNS.
SMTP DNS DomainError	In case of SMTP DNS domain error.	Specify the correct DNS domain.
Email Associated Cannot Delete	This error is displayed, when a user tries to delete an entry from the Address book which is associated with group mail Solution:	Try removing the group mail association and then remove this entry
Mail Too Large	This error is raised when the MFP is unable to split the mail and send it. E.g. MFP configured to mail size 1.0MB and the single scanned page size is larger than the specified email size (e.g. 1.0)	Try removing the group mail association and then remove this entry
Empty Address Book	Displayed when the Address book is empty while trying to get address from Address book.	You must enter addresses into the Address book before trying to use it.
Address Book Full	Display when the Address book is full when trying to add a new entry.	If address book is full then you must delete unused address before trying to add new addresses.

Error Message	Description	Solution
Group Empty	Displayed when a Group is empty, while trying to delete from the Group.	You can only delete entries from a group if entries exist.
Group Full	Displayed when a Group is full with maximum entries while trying to add an entry to the group.	If group is full, remove the unused entries in the group.
Entry Already Exists	Displayed when trying to enter an entry which is already existing in the Address book.	Enter email address which do not exist in the address book.
Invalid Email ID	This message will be displayed when we enter an email id:- <ul style="list-style-type: none"> • with space in between, email addresses • Starting with special characters e.g.: + - _ @ • Email Id with more than one @ 	Enter valid email address.
Enter Again	This message will be displayed when you try to enter an invalid GROUP number.	Enter a valid group number.
Configured Already	This message will be displayed when the user tries to configure an already configured Group	Configure a group which is already not configured.
Invalid Login	Display when the user doesn't enter proper login name & corresponding password.	Enter valid login name.
Scanner Locked	The scan module is locked.	Unlock the scanner press Stop/ Clear.
Toner Empty	The toner cartridge has run out. The machine stops.	Replace the old cartridge with new one.
Replace Toner		
Toner Low	The toner is almost empty.	Take out the toner cartridge and gently shake it. By doing this, you can temporarily reestablish printing operations.