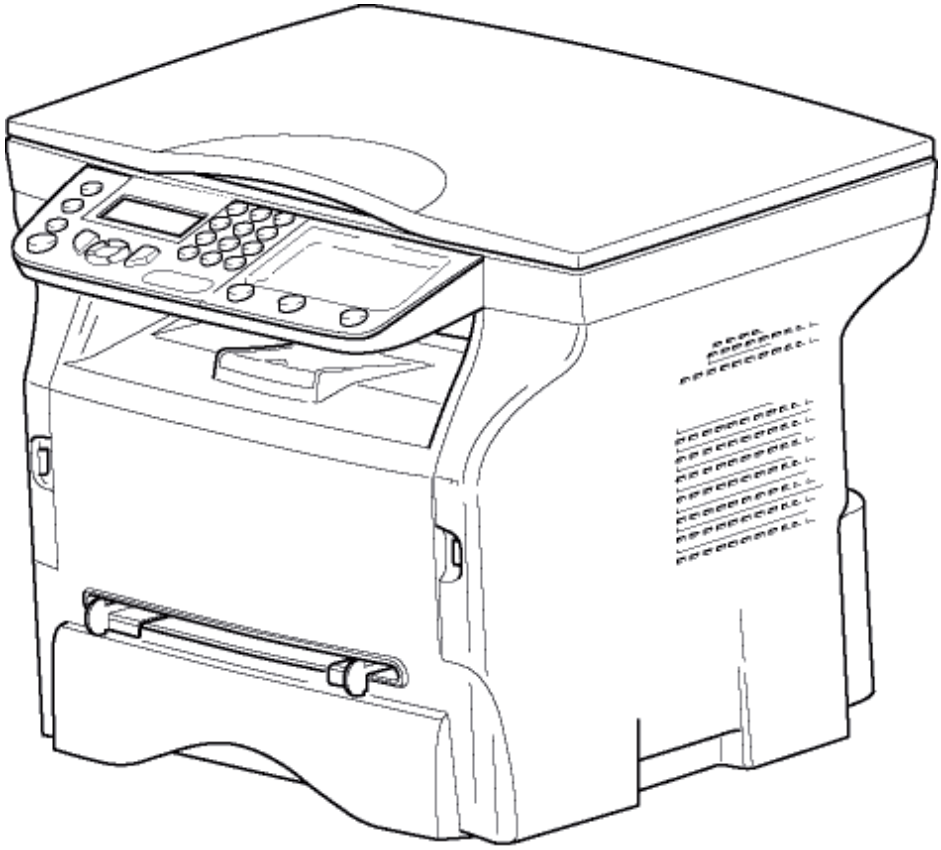
pagepro 1480MF



GB Technical Document - 253279258 A

REFERENCE

DESCRIPTIVE NOTICE	3000 320 293 - 01
INSTALLATION GUIDE	3000 343 105 - 01
MAINTENANCE GUIDE	3000 320 295 - 01
ILLUSTRATED PART LIST	3000 343 107 - 01
PERSONNALISATION EUROPE pagepro 1480MF	3000 343 109 - 01
PRINTER TECHNICAL DOCUMENT	3000 304 995 - 03

DOCUMENT EVOLUTION

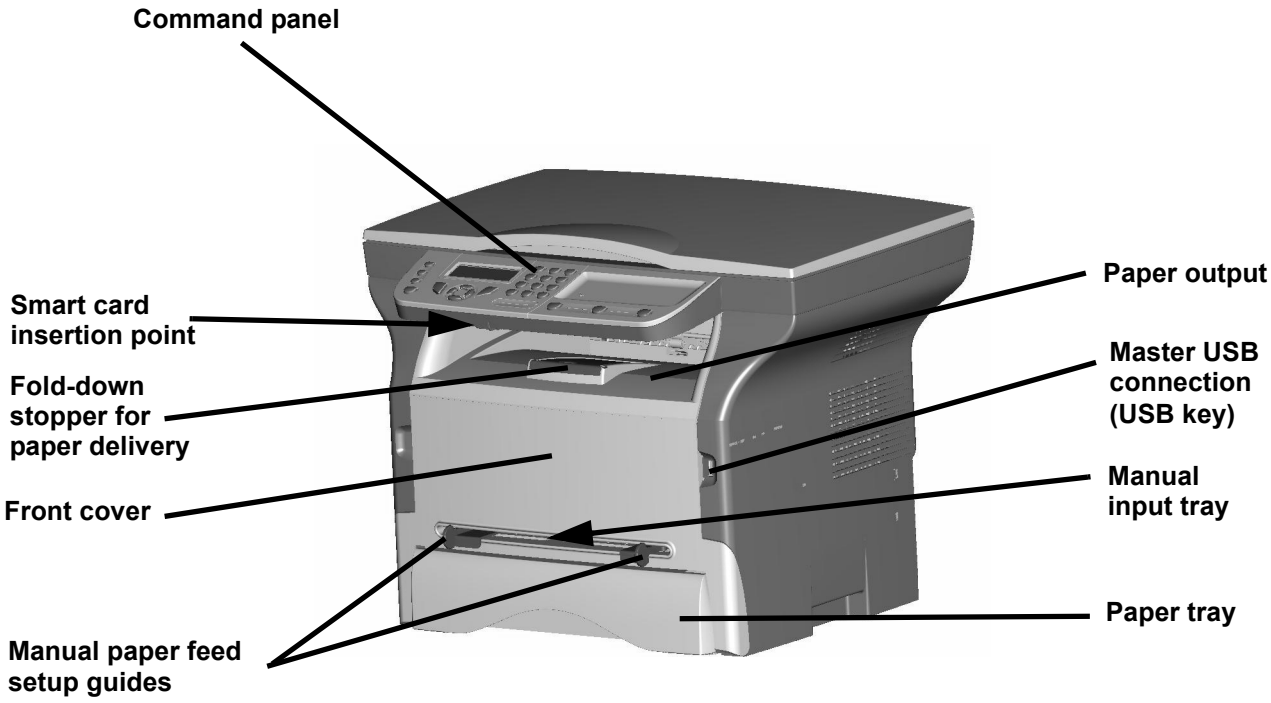
Date	Indice	Action	Author	Requested by
06/11/09	A	Initial creation	L.X.	DR.LI.

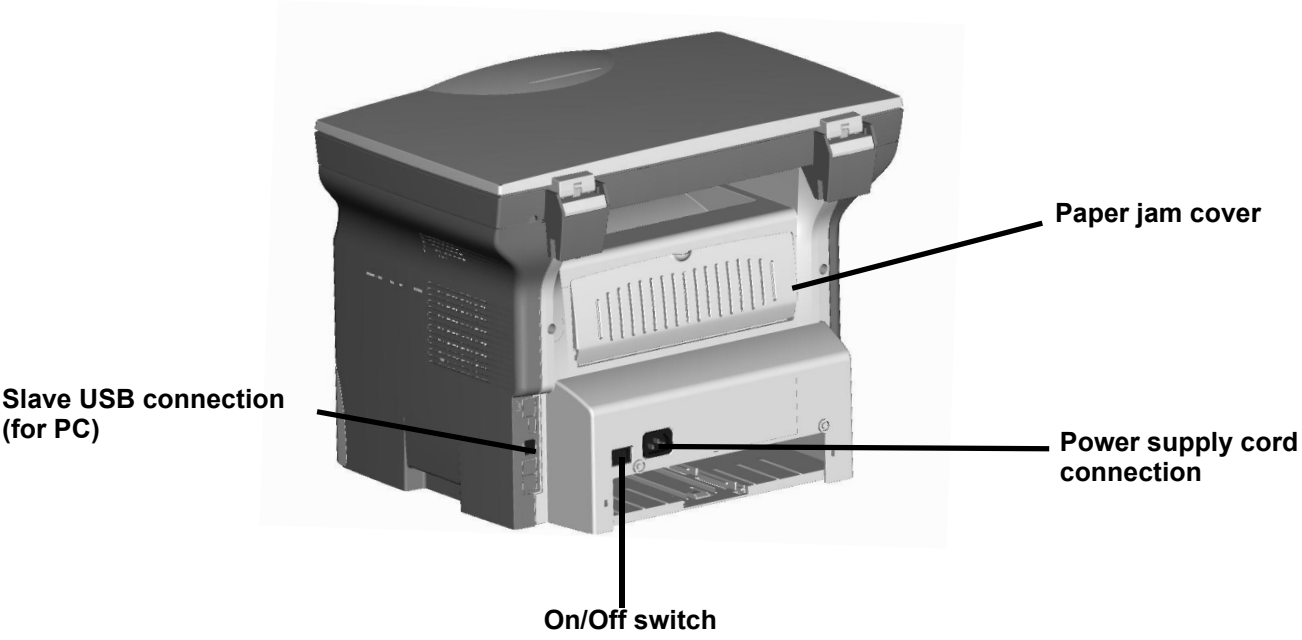
DESCRIPTIVE NOTICE

CONTENTS

1. GENERAL INFORMATION

1.1 PRESENTATION





1.1.1 General description

The terminal is part of a range of multi-function office equipment.

The product consists of a color scanner with a 600 Dpi resolution and a Black and White printer with a 600 Dpi resolution. These two components are integrated into a single compact terminal.

Documents are processed by a scanner using CIS (Contact Image Sensor) technology, via the exposition window.

The front panel consists of:

- an alphanumerical keyboard and function keys to control the terminal;
- an LCD display with 2 lines and a line of icons that allows users to view the command or alert messages;
- a smart card reader that allows validating consumables.

When replacing the printer assembly, it is recommended that the old consumable (toner cartridge) be transferred to the new printer assembly for further use.

When replacing the consumable, carry out the installation procedure for the new consumable (refer to the User Guide).

2. CHARACTERISTICS

2.1 Physical characteristics

Environment

- **Operating**:
  - The machine should not be exposed to direct sunlight.
  - Power supply:
    - Single phase 220-240 V - 50/60 Hz - 4.5 A (see rating plate).
  - Power consumption in power save mode: ≤10 W (typ.).
  - Typical consumption for printing: 450 W.
  - Temperature: 10 °C to 27 °C [50 °F to 80.6 °F] with an ambient humidity included between 15 to 80% (up to 32°C [89.6 °F] with an ambient humidity included between 15 to 54%).
  - Altitude: from 0 to 2500 meters (above sea level).
  - Ambient light: ≤3000 lux.
- **Storage**:

of the fax and consumable (toner cartridge):

- Temperature: - 20 to 40 °C [-4 °F to 104 °F].
- Humidity: 20 % to 80 % (RH without condensation).

Maximum storage time: 12 months.

2.2 GENERAL TECHNICAL CHARACTERISTICS

	Terminal
General	
Measurements L-D-H in mm	386 x 447 x 344
Weight (in Kg)	11,6
Consumables	
Paper reference (PR)	
Type (for flatbed and ADF scanners)	Inapa tecno SPEED A4 - 80 g/m^2
Type (for printer)	Ricoh T6200 A4 - 70 g/m^2
Document reference (DR)	
Type	ITU #1 - A4
Black/white ratio	3 %
Resolution	Normal mode (200 x 100 DPI)
Flatbed scanner	
Type	CIS Color and B/W
Color analysis	Yes
Resolution in DPI	600 x 2400
Grey scale	256
Color scale	36 bits/pixel
Window size	220 mm x 304 mm
Maximum paper width	Letter (215.9 x 279.4)
Zoom in steps of 1 %	25 % to 400 %
Contrast	Yes (7 levels)
Brightness	Yes (7 levels)
Printer	
Type	Laser B/W
Printer language	GDI
Resolution in DPI	600 x 600
Maximum paper width (in mm)	Legal (215.9 x 355.6)
Paper feed tray	
• Page capacity (in pages)	250 (64g) / 200 (80g)
• Paper weight	60 to 105 g/m^2
Manual paper feed	
• Capacity of pages (in pages)	1
• Paper weight	52 to 162 g/m^2
• Transparent (laser printer compatible)	Yes
Page capacity of the output tray	50

	Terminal
Printing on enveloppes	Yes (Manual paper feed)
Printer speed	20 PPM
First page printed after	≤13 s
Printing time at start-up	21 s
Printing area (in mm)	201.54 x 287
Consumable for RD document	
• Maximum initial toner cartridge capacity (in ISOIEC19752 pages)	2000
• Management of consumables (depending on model)	By smart card
• Weight of toner cartridge (in Kg)	1.2
• Toner saving function	Yes
Copier	
Type	Black/White
Input resolution (optical) in DPI	300 x 300 (fast) or 600 x 600 (quality)
Output resolution in DPI	600 x 600
Maximum paper size (in mm)	Legal (215.9 x 355.6)
Maximum speed for 300 x 300 (RP) resolution	20 PPM
Maximum speed for 300 x 300 resolution (Letter)	21 PPM
First page printed after	13 s
Multicopy	1 to 99
Zoom	25 % to 400 %
Zoom steps	1 %
Collated copies	Yes
Keyboard and screen	
Keyboard	25 keys
Screen	2 lines de 16 characters + 4 icons
Geographical setting	
Languages	17

2.3 GENERAL CHARACTERISTICS OF THE CONSUMABLE

For the consumable (toner cartridge), a counter assigns the percentage of toner that can still be used.

For a new consumable, this counter is initialized to the capacity announced by the vendor. This capacity is stored on the smart card provided with the new consumable and requested for toner cartridge replacement.

The percentage displayed (remaining quantity) is calculated in relation to the initial capacity of the consumable (from 100 % to 1 %).

The values of the consumable's counter are regularly updated in the EEPROM memory. Each time the machine is switched on, the counter is read in the EEPROM memory.

3. OPERATION

It consists of a laser printer, a color flatbed scanner, a front panel with an alphanumerical keyboard and a LCD display with 2 lines of 16 characters (refer to the User Guide for a more complete description of the front panel).

It allows the following operations to be carried out:

- photocopying documents,
- local printing and scanning for PC via USB connections.

The machine's electronics is made up of a front panel card and a CPU board. The power supply is provided by the printer.

Before performing any operations on the electronic CPU board, you should:

1 - Set the On/Off button to Off (position 0).

2 - Unplug all external connectors (phone line connectors, USB connectors master, slave).

3 - Unplug the power supply cord.

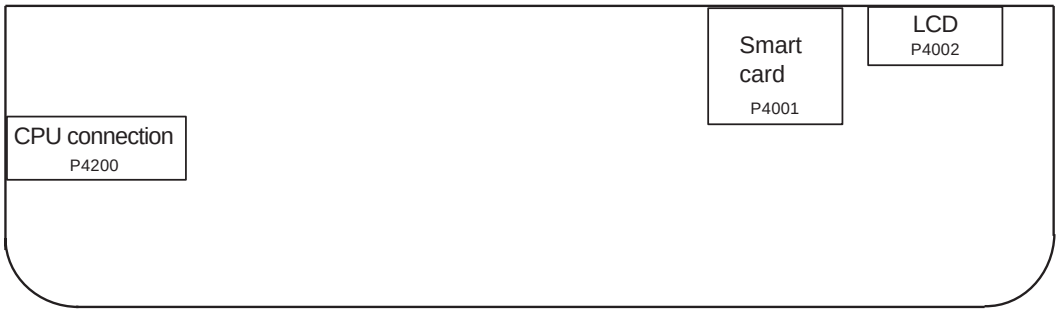
3.1 FRONT PANEL CARD

The front panel card interfaces with the keyboard keys and the LCD display.

The LCD has its own driver in COB (Chip On Board).

The card also has an external connector to the smart card which is managed by the CPU.

Oveview of the position of the connectors and captors for the front panel card (bottom view) :



List of connectors:

Connector	Topography	Number of points	Sex	Position
CPU Connection	P4200	16	Female	Elbow top contact
LCD	P4002	10	Female	Elbow, top contact
Smart card	P4001	10	Female	

- **CPU - P4200: CPU connection**

Pin	Signal	Input/Output	Utilization
1-7-8-10-15	GND	-	Ground
2	FERCAP	I	Detection of smart card
3	CVCC	I/O	Smart card power supply (3.3V) (controlled by I/O CVCC)
4	CLKPUCE	O	Smart card clock
5	RSTPUCE	I	Smart card reset
6	IOPUCE	I/O	Smart card data
9	SCLKPUP	O	Serial clock link for differential registers

Pin	Signal	Input/Output	Utilization
11	RXPUP	I	Sending data from the front panel
12	TXPUP	O	Sending data from the CPU
13	STROB1	-	Out-of-register strobe to control the keyboard
14	STROB2	-	Out-of-register strobe to control the display
16	P5V	-	5V power supply

- **LCD - P4002: LCD interface**

Pin	Signal	Input/Output	Utilization
1	GND	-	Ground
2	V0	O	LCD Contrast
3	RS	O	Selection of registers
4	R/W	O	Read or Write (driver configured to write in 0V)
5	LCD_E	O	Enable Signal (active at 1)
6	VCCLCD	-	Vcc: 4.5V to 5.5V
7	DB4	O	Data (Bit 4)
8	DB5	O	Data (Bit 5)
9	DB6	O	Data (Bit 6)
10	DB7	O	Data (Bit 7)

- **Smart card - P4001: connection with the smart card**

Pin	Signal	Input/Output	Utilization
1	CVCC	O	Smart card power supply (3.3V)
2	RSTPUCE	O	Smart card reset
3	CLKPUCE	O	Smart card clock
4	-	-	Not connected
5	GND	-	Ground
6	-	-	Not connected
7	IOPUCE	I/O	Smart card data (input/output)
8	-	-	Not connected
S1	GND	-	Ground
S2	FERCAP	I	Smart card detection

3.2 CPU BOARD

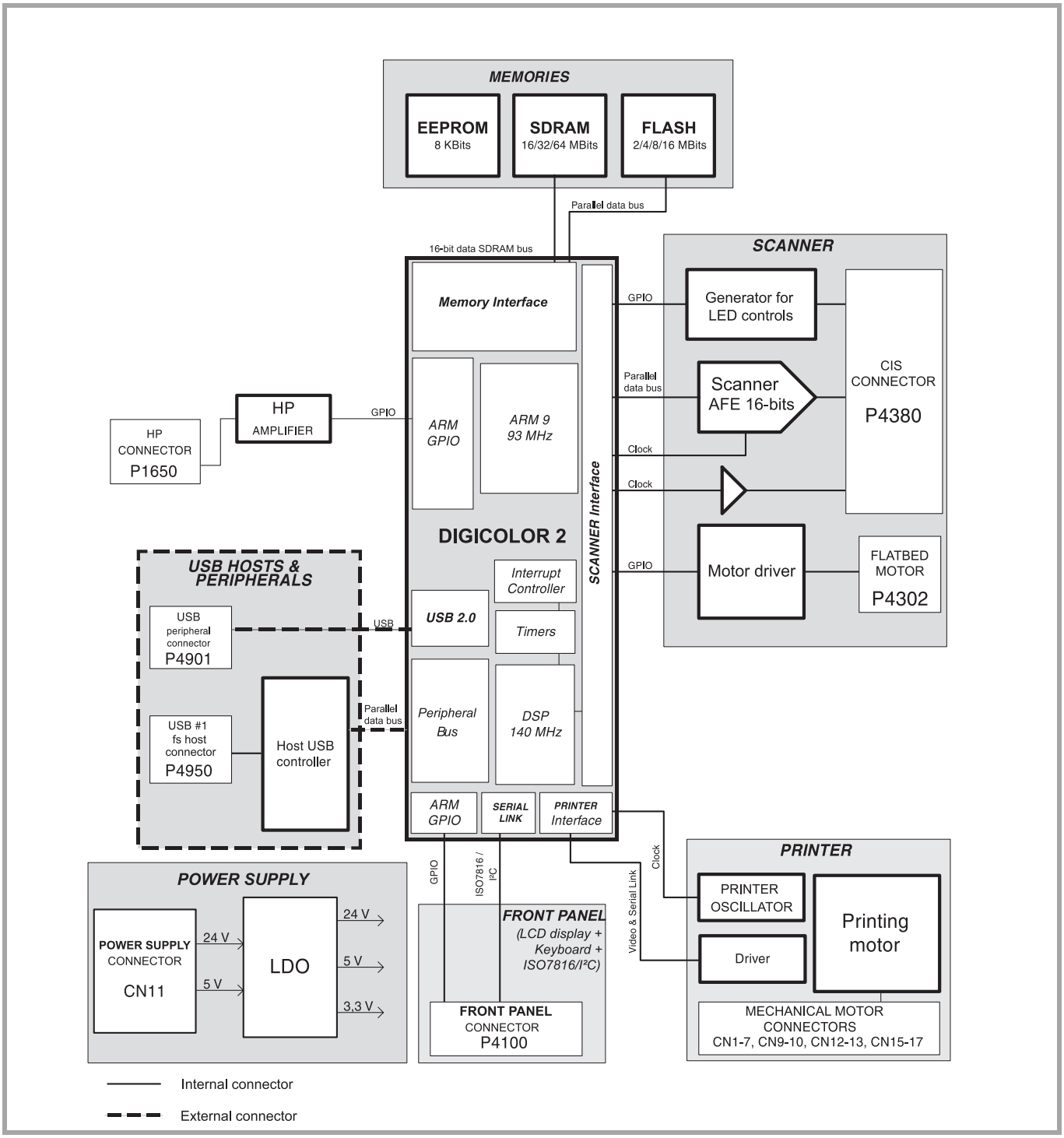
The CPU board is based on the Digicolor2 circuit, which ensures the processor functions.

All the executable code is stored in the flash Z466.

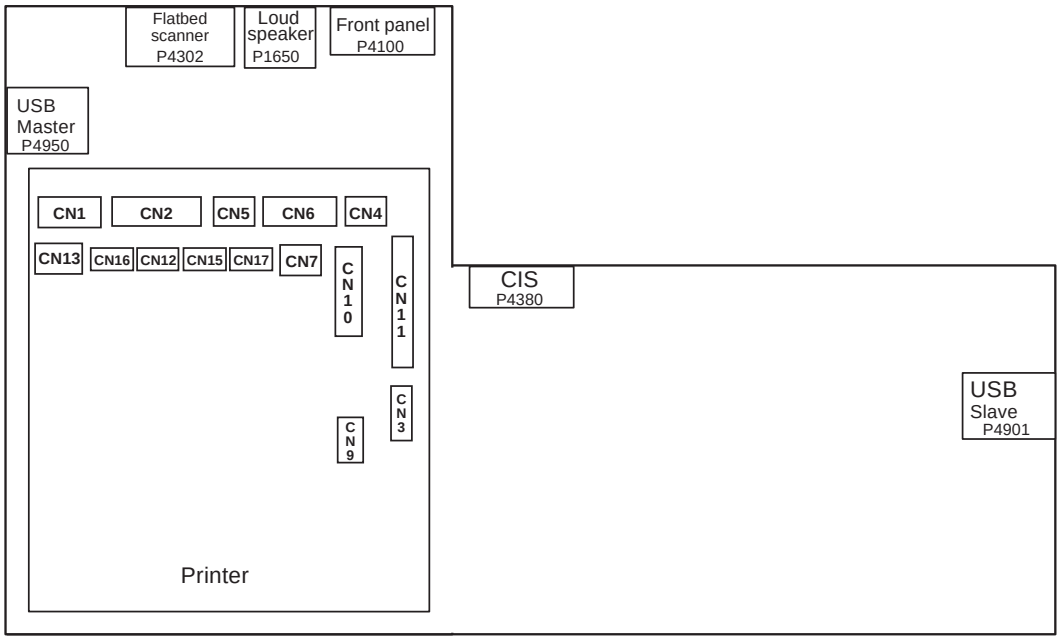
The code is loaded in SDRAM from this flash and the processor executes its instructions from the SDRAM. The SDRAM also serves as the operating memory for Digicolor2.

3.2.1 ELECTRONICAL ARCHITECTURE

Overview of the CPU electronical architecture:



Overview of the CPU board connector positions:



List of connectors:

Connector	Topography	Number of points	Sex	Position
Printer	CNx			
Loudspeaker	P1650	2		
Front panel	P4100	16	Female	Straight, top contact
Flatbed scanner motor	P4302	5	Female	Straight
CIS	P4380	12	Female	Straight, top contact
USB Slave	P4901	4	External, type USB type B	
USB Master	P4950	4	External, type USB type A	

- **CNx: printer connectors**

Topography	Connector	Pin	Signal	Input/ Output	Utilization
CN1	Polygon motor				
		1	+24VS	-	24V power supply
		2	GND	-	Ground
		3	XPMENA	S	Starting the polygon motor
		4	XSCRDY	E	Locking the polygon motor
		5	PMCLK		Polygon motor clock
CN2	Diode laser				
		1	+5VLD	-	
		2	XLDENA	O	Activating the laser
		3	APCSH	O	Sampling
		4	XDETP	I	Ray beam detector
		5	GND	-	Ground

Topography	Connector	Pin	Signal	Input/ Output	Utilization
		6	XVD	O	Diode laser video
		7	NC	-	Not connected
CN3	Printer motor				
		1	P24VS	-	24V power supply
		2	GND	-	Ground
		3	P5V	-	
		4	XMMENA		
		5	MMCLK		
		6	MMCW		
		7	XMMLOCK		
		8	MMGAIN		
CN4	Fan				
		1	FANEMA	O	Fan in operation motor signal
		2	GND	-	Ground
		3	FANLOCK		
CN5	Paper output clutch				
		1	+24VS	-	24V power supply
		2	XFPCL	O	Electric paper clutch signal
CN6	Paper detection captors				
		1-4-7	GND	-	Ground
		2	XFEED	I	Paper feed signal captor
		3-6-9	+5V	-	5V power supply
		5	XREGIST	I	Register of signal captors
		8	XMANUAL	I	Manual paper feed signal captor
CN7	Paper output captor				
		1	GND	-	Ground
		2	XEXIT	I	Four paper output signal captors
		3	+5V	-	5V power supply
CN9	Debug				
		1	+5V	-	5V power supply
		2	DBGRXD	I	Debug receipt
		3	DBGTXD	O	Debug command
		4	GND	-	Ground
CN10	High voltage				
		1	TRAPWM0	O	PWM signal for transfer of charger (+)
		2	TRAPWM1	O	PWM signal for transfer of charger (-)
		3	BIASPWM	O	PWM development signal
		4	CHEPWM	O	PWM signal charger
		5	XTRACTL	O	Charger signal transferred to On
		6	XBIASCTL	O	Development signal
		7	GND	-	Ground
		8	+24VS	-	24V power supply

Topography	Connector	Pin	Signal	Input/ Output	Utilization
CN11	Power supply				
		1	HTON	O	Phase Fuser control
		2	ZEROC	I	Control signal
		3	HTEN	O	Fuser relay (Activated to H)
		4	GND	-	Ground
		5-12-13	+24V	-	24V power supply
		6-7-10-11	GND	-	Ground
		8-9	+5V	-	5V power supply
CN12	Temperature captor				
		1	FTEMP	I	Fuser temperature detector
		2	GND	-	Ground
CN13	Opening of printer cover captor				
		1	P24V	I	24V power supply
		2	P24VS	O	24V power supply
CN15	IAO captor (presence of toner)				
		1	XAIO	I	Detection of cartridge
		2	GND	-	Ground
CN16	Motor temperature captor				
		1	TEMP	I	Detection of printer motor temperature
		2	GND	-	Ground
CN17	Printer LED bar power supply				
		1	XLED	O	Printer LED bar command
		2	P24VS	O	24V power supply

- **Loudspeaker - P1650: connection with the loudspeaker**

Pin	Signal	Input/Output	Utilization
1	HPP	O	Differentiated BF signal to HP
2	HPN	O	Differentiated BF signal to HP

- **Frontpanel - P4100: connection with the front panel card**

Pin	Signal	Input/Output	Utilization
1	P5V	-	5V power supply
2-7-9-10-16	GND	-	Ground
3	STRB2	-	Out-of-register strobe to control the display
4	STRB1	-	Out-of-register strobe to control the keyboard
5	TXPUP	O	Data emitted by the CPU
6	RXPUP	I	Data emitted by the front panel
8	SCLKPUP	O	Serial link clock for differentiated registers
11	IOPUCE	I/O	Smart card data (3.3V)
12	RSTPUCE	O	Smart card reset
13	CLKPUCE	O	Smart card clock
14	CVCC	O	Smart card power supply (3.3V) (controlled byr I/0 CVCC)
15	FERCAP	I	Detection of smart card

- **CIS - P4380: connection with the CIS**

Pin	Signal	Input/Output	Utilization
1	VIDCIS	I	CIS video
2	CMD RESOL	O	300/600dpi resolution command
3	VREFCIS	O	CIS voltage reference
4	VIDEOGND	-	Ground
5	CLKCIS	O	CIS (synchro point) pixel clock
6	ALIMCIS	-	3.3V power supply
7	SPCIS	O	Start Pulse CIS (line synchro)
8	ALIMLED	O	leds power supply (in voltage)
9	GNDLEDB	O	Blue led cathod
10	GNDLEDV	O	Green led cathod
11	GNDLEDR	O	Red led cathod
12	GND	-	Ground

- **USB - P4901: USB slave interface**

Pin	Signal	Input/Output	Utilization
1	VBUS_USB	I	Power supply provided by the master
2	USBN	I/O	Differential pair
3	USBP	I/O	Differential pair
4	GND	I/O	Ground

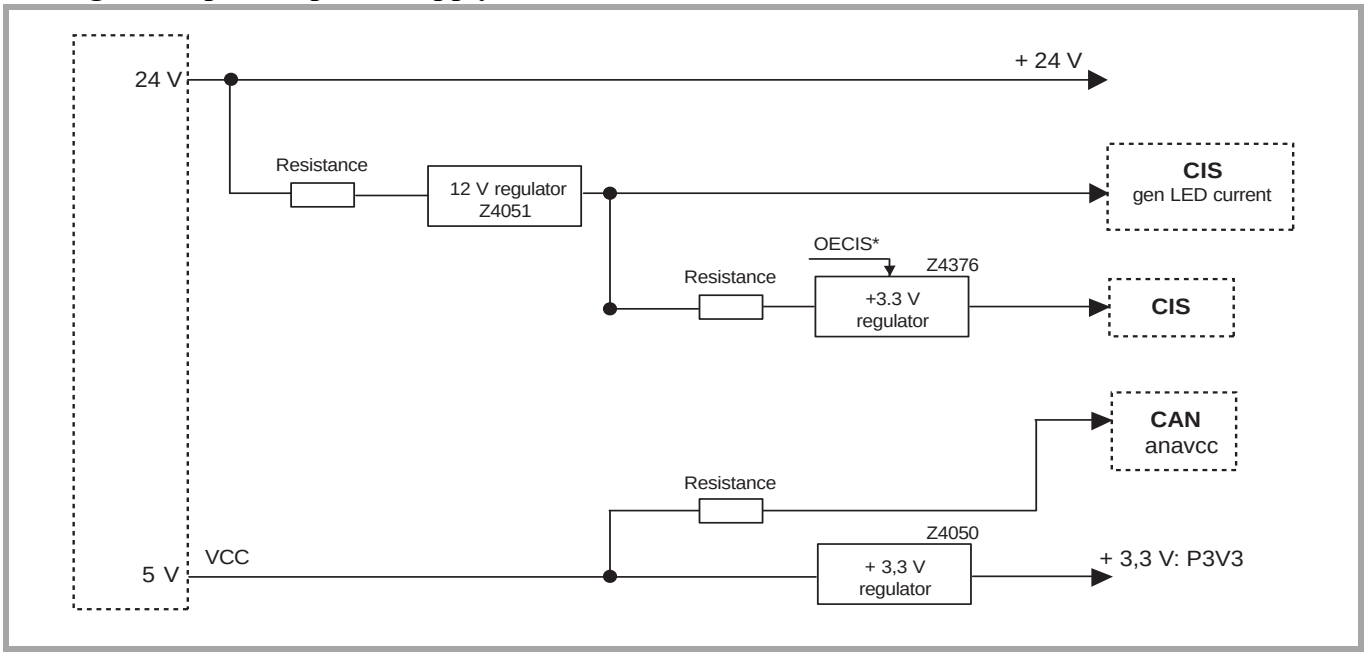
- **USB - P4950: USB master interface**

Pin	Signal	Input/Output	Utilization
1	VBUS_USB_HOST1	O	Power supply provided to the slave
2	USBN	I/O	Differential pair
3	USBP	I/O	Differential pair
4	GND	I/O	Ground

3.2.2 POWER SUPPLY

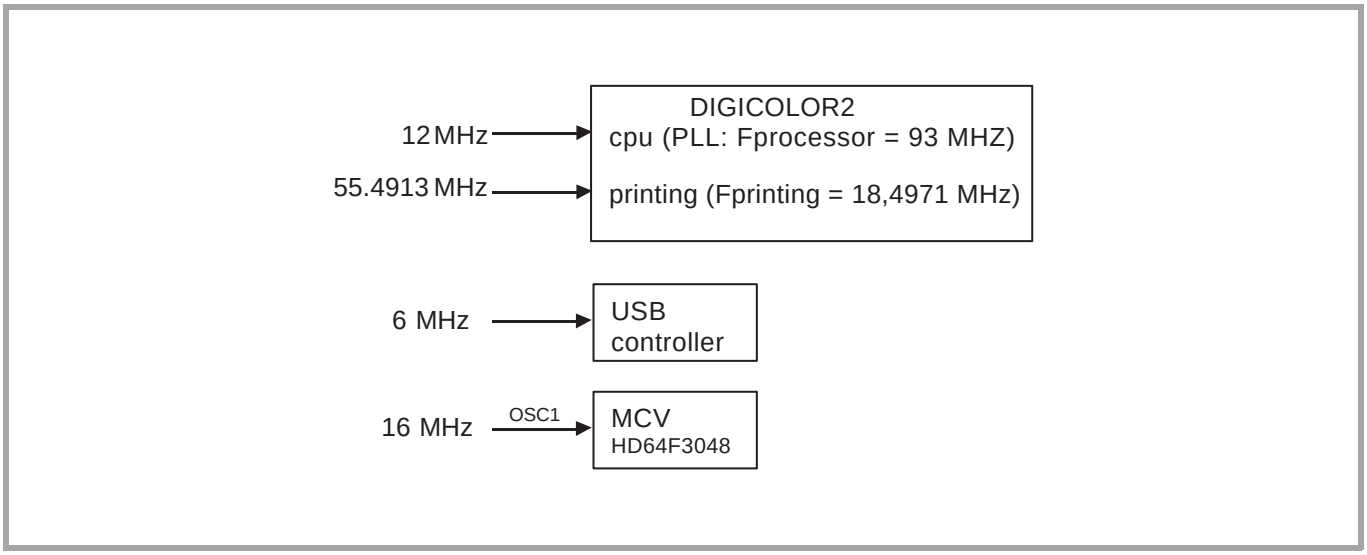
The 24V and 5V power supply are provided by the printer.

Diagram of printer power supply connections:



3.2.3 QUARTZ

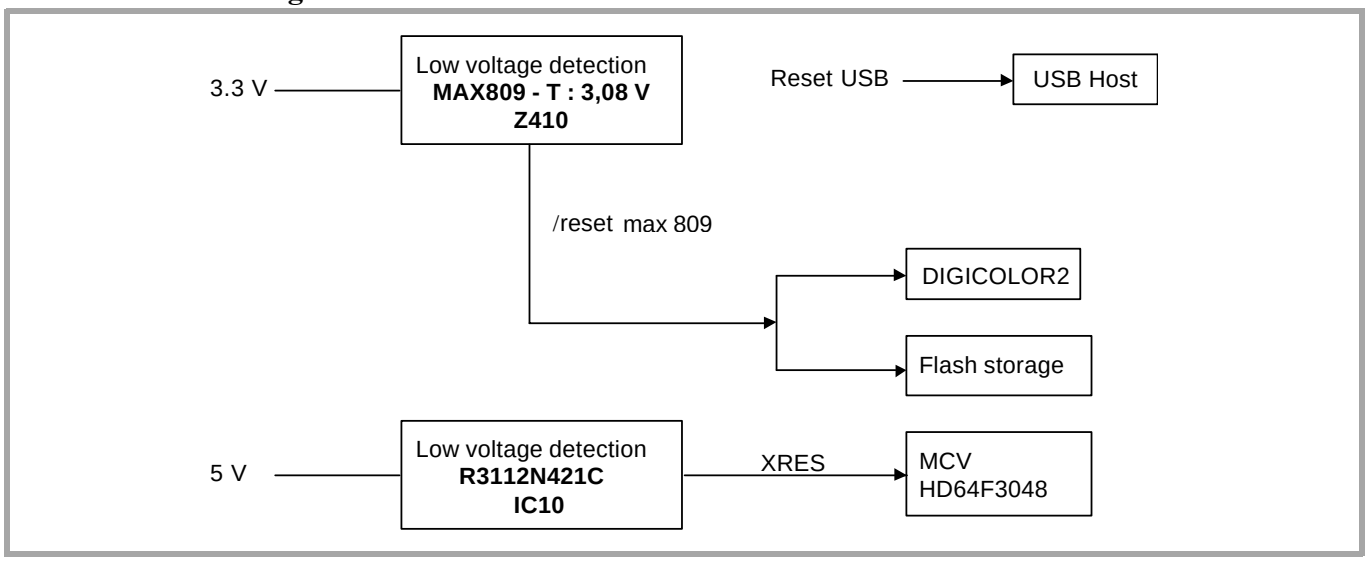
Diagram of CPU board clocks:



3.2.4 RESET

The reset is generated from 3.3V as all logical parts (DIGICOLOR2, memory, …) are supplied in 3.3V. The reset is active during at least 100ms.

Printer's reset diagram:



4. PRINTING

4.1 PRINTER LANGUAGE

The terminal uses the proprietary GDI printing language.

To install the drivers, carried out via the Companion Suite software installation, refer to the User Guide and the Companion Suite documentation kit.

Remark(s) : The two-way PJL mode is supported.

4.2 PAPER FORMAT

The following is a list of compatible paper formats:

Supports		Paper trays	
Media sizes	**Dimensions (mm)**	**Main**	**Manual**
Legal	215.9 x 355.6	**yes**	**yes**
A4	210 x 297	**yes**	**yes**
Letter	215.9 x 279.4	**yes**	**yes**
A5	148 x 210	**yes**	**yes**
Statement	139.7 x 215.9	**yes**	**yes**
B5 (JIS)	182 x 257	no	**yes**
Executive	184.2 x 266.7	no	**yes**
ISO B5	176 x 250	no	**yes**
Capacities		**250**	**1**

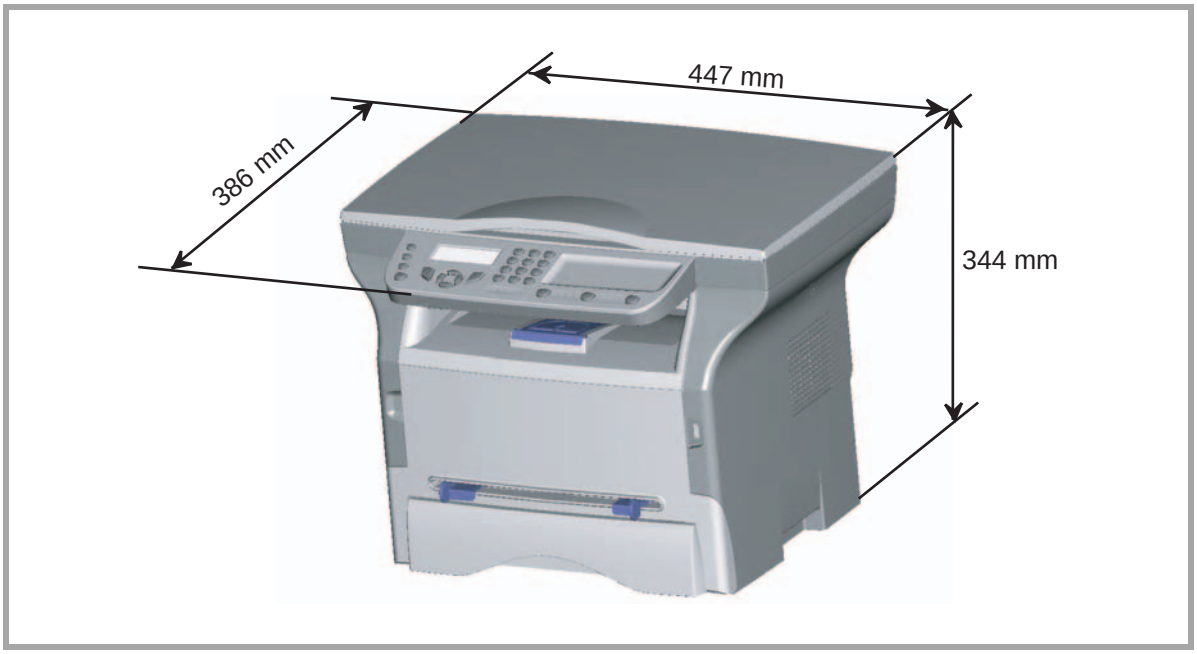
INSTALLATION GUIDE

CONTENTS

1. INSTALLATION REQUIREMENTS

1.1 FUNCTIONAL SPACE REQUIREMENTS

The following diagram provides the machine's measurements, excluding optional accessories.



1.2 MAINS POWER CORD

Mains : Single-phase AC supply with earth, in accordance with the information on the label at the back of the terminal.

Remark(s) :

- The machine cannot be connected to an **IT** type power supply.
- The mains power input of the machine conforms to the overvoltage **safety level**.

1.3 ENVIRONMENTAL CONDITIONS

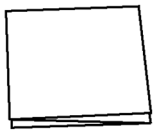
When selecting the machine's location, the following factors should be taken into consideration:

- The room should be adequately ventilated.
- A standard single-phase power socket with earth (rated in conformance with the information on the label at the back of the terminal) should be located no more than **2 meters** from the machine. This socket should be easily accessible.
- For easy access to the machine and to allow the different machine covers to be opened easily, leave a space of **at least 30 cm** on each side and at the back. Make sure that there is sufficient space in front of the machine.
- Never place the machine where it is under direct sunlight, heating radiators, air-conditioners, (see section **2.1** of the Descriptive Notice).
- Avoid areas with frequent vibrations.
- Avoid areas where water or other products may be splashed on to the machine.
- Never place the machine directly on the floor.
- Always place the machine on a sturdy, flat surface.
- Always keep the machine away from hanging objects and any inflammable products.

2. UNPACKING THE TERMINAL

The terminal package contains the following elements:

Terminal



Installation Guide

Toner cartridge

DVDRom containing:
- User Guide (UG) and Companion suite software
Scan and print drivers for Mac/Linux

Power cord

3. INSTALLING THE TERMINAL

3.1 INSTALLING THE TERMINAL

1 - Unpack the terminal.

2 - Install the terminal by following the instructions provided in the section **Installation requirements**, page 3.

3 - Remove all the tape on the terminal.

4 - Remove the protective plastic film covering the LCD display.

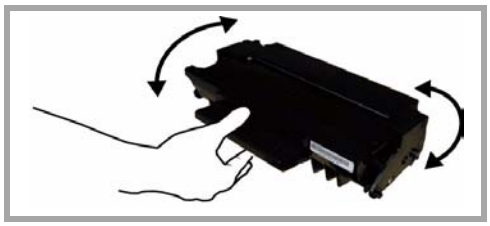
3.2 INSTALLING THE TONER CARTRIDGE

Warning - DO NOT POSITION THE CARTRIDGE ON ITS EDGE OR HOLD IT UPSIDE DOWN.

1 - Stand in front of the machine.

2 - Push the left and right side of the printer front door and simultaneously pull it towards yourself.

3 - Unpack the cartridge, shake it and hold it by its handle.

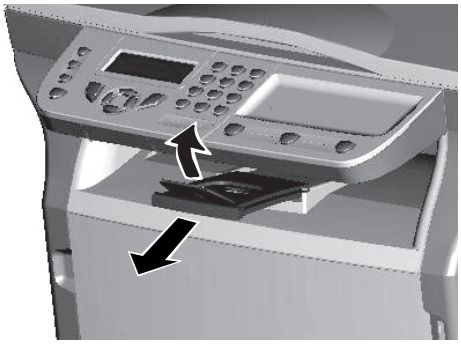


4 - Insert the cartridge into its compartment by pushing it to the end until it clicks into place (last movement downwards).

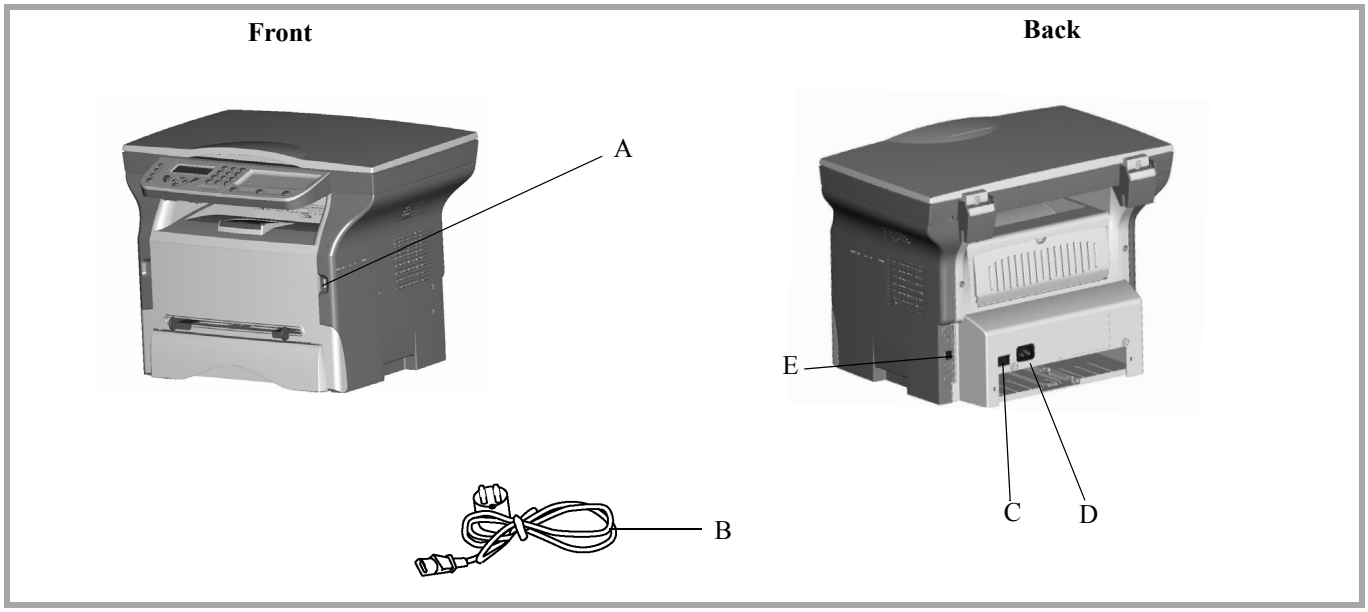
5 - Close the front door.

3.3 INSTALLING THE PAPER TRAY

Adjust the paper tray according to the paper format of the document to be printed and lift the foldable section to prevent sheets from falling.



4. CONNECTIONS



A	Master USB connection (USB key)
B	Power cord
C	On/Off switch
D	Power supply cord connection
E	Slave USB connection (for PC)

4.1 CONNECTING THE POWER SUPPLY AND SWITCHING ON THE MACHINE

Warning - REFER TO THE SAFETY GUIDELINES IN THE SAFETY CHAPTER OF THE USER GUIDE.

1 - Make sure the terminal's On/Off switch (**C**) is positioned to Off (position 0).

2 - Plug one end of the power cord (**B**) into the terminal's power socket (**D**).

3 - Plug the other end of the power cord (**B**) into the power supply wall socket.

4 - Set the On/Off switch (**C**) to On (position I).

The terminal powers on. After a few seconds, when the terminal has warmed up, the Easy Install function is launched and the LCD screen displays the following message:

SET LANGUAGE
YES=OK - NO=C

Refer to the User Guide for more information on carrying out the Easy Install initial setup.

4.2 PC CONNECTIONS

Users can install and configure their terminal on their PC as a local printer and scanner. There are two ways of connecting the terminal to a PC:

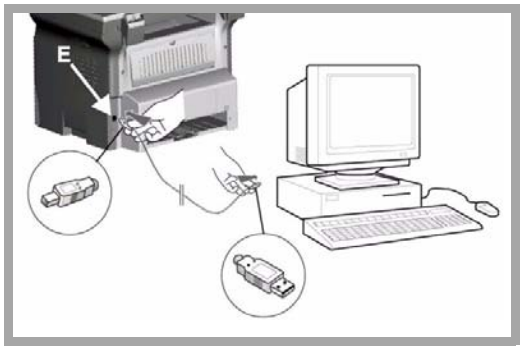
- via a USB connection,
- via a WLAN connection.

This section only describes physical connections. Refer to the User Guide for more information on configuring the terminal to a PC.

4.2.1 PC CONNECTIONS VIA USB

Remark(s) : Before connecting the terminal to a PC, the Companion Suite software must be installed on the PC (Refer to the User Guide for the detailed procedure).

1 - Connect the end of the USB cable into the USB slave connector (**E**) located at the back of the terminal.



2 - Connect the other end of the USB cable into a USB port on the PC.

4.2.2 PC CONNECTIONS VIA WLAN

1 - Plug in the electronic WLAN key into the USB master connector (**A**) located at the front of the terminal.

2 - Refer to the User Guide to configure the WLAN network and connect the terminal to a PC.

5. GETTING STARTED AND SOFTWARE CONFIGURATION

5.1 USER PARAMETERS

Refer to the User Guide booklet for a detailed description of parameters available to the user.

5.2 INSTALLATION PARAMETERS

The installation parameters are used for adapting the terminal to the specific requirements of users in countries where it is to be installed.

Each terminal is programmed with the factory test configurations. The installer can obtain a printed copy of these parameters (sequence of keys ▼ **5 6**).

Remark(s) : It is recommended to conserve a paper copy of the list of parameters provided at delivery.

Access to these parameters is only authorized for the maintenance and/or installation service technicians.

The terminal comes with software blocks called SOS (Soft Switchs) N° 1 to 60. Each block is made up of 8 bits called bit 1 to 8. Each bit has a value of 0 or 1. Reading the block (from bit 1 to bit 8) on the

display panel is done from right to left. The blinking cursor is always located on the bit 8 (on the extreme left) when selecting the configuration.

Access to the configuration bytes is available via the initialization screen, via a succession of keys:

The significance of the principal configuration parameters for the terminal are provided below. They can be modified just like any other parameter.

5.3 LIST OF CONFIGURATIONS (SOS)

Remark(s) : The undocumented Soft Switchs in this section are reserved.

5.3.1 SOFT-SWITCH 1 : TUNING THE RINGING TONE AND AUTOMATIC PRINTING

Bit	Value	Description
1	1	Reserved
2	0	Reserved
3	0	Reserved
4	0	Reserved
5	0	Reserved
6	1	Reserved
7	0	Reserved
8	0	SOS-IMPTRA : Printing of traces /authorization for PC download Values : # 0 (Without) 1 (With)

5.3.2 SOFT-SWITCH 2 : SCANNER/PRINTER CONFIGURATION

Bit	Value	Description
1	0	Reserved
2	0	Reserved
3	0	Emitting a beep tone when pressing a front panel key Values : # 0 (with beep tone)1 (without beep tone)
4	1	Reserved
5	0	Reserved
6	0	Reserved
7	0	SOS-COPLOC : Local copy Values : # 0 (Enabled)1 (Disabled)
8	0	Reserved

5.3.3 SOFT-SWITCH 23 : MISCELLANEOUS

Bit	Value	Description
1	1	Reserved
2	0	Reserved
3	0	Reserved
4	0	Reserved
5	0	SOS-DEBRIDAGE-JAUGE : Acceptation of EEPROOM cards at any moment. Values : # 0 (No) 1 (Yes)
6	0	Reserved
7	0	Reserved
8	1	Reserved

5.3.4 SOFT-SWITCH 26 : MISCELLANEOUS

Bit	Value	Description
1	0	Reserved
2	0	Reserved
3	0	Reserved
4	0	Restriction on USB function Values : #0 (Without) 1 (With)
5	0	Reserved
6	0	Reserved
7	0	Reserved
8	0	Reserved

5.3.5 SOFT-SWITCH 31 : MISCELLANEOUS

Bit	Value	Description
1	0	Reserved
2	0	Reserved
3	0	Reserved
4	0	Displaying the TRASH CAN consumable (in the 86 menu) Values : # 0 (Without) 1 (With)
5	0	Using the DHCP queries in ad-hoc WLAN mode Values : # 0 (With) 1 (Without DHCP-directly APIPA)
6	0	Reserved
7	0	Reserved
8	0	Reserved

5.4 DOWNLOADING THE SOFTWARE

Updating the terminal's software is principally carried out via a PC connection (**USB** only, see **PC connections**, page 6).

The principal software which controls the card core and the miniboot software may be downloaded separately.

Remark(s) : After downloading the principal software, the scanner may require tuning.
Enter ▼ **8 0** and confirm by pressing **OK**. Wait until the screen refreshes and reverts to the default screen mode. Make a local copy to check its quality.

5.4.1 DOWNLOADING VIA A PC CONNECTION

5.4.1.1 Via the executable TELUSB2

This procedure requires a standard PC running under Windows and equipped with the TELUSB2.exe (version 2.02) executable and a USB cable.

Before you start, position the bit n° 8 to 1 on the Soft-switch 1.

1 - Connect the terminal to a PC with the USB cable.

2 - Set the terminal to download via PC mode (▼ *** 4**).

3 - Launch the executable **TELUSB2.EXE** and select the file to be downloaded (extensions .bin or .fwf).
After about ten seconds, a window will appear to indicate that the download was successful. The terminal should not be restarted immediately.

If the terminal restarts immediately, the file is corrupted (checksum false) or the software is not compatible with the terminal. The terminal then restarts with the initially installed software. In this case, check the file and repeat step **1**.

4 - After about 40 seconds, the terminal switches off then restarts. The message **WAIT** is displayed.

5 - Check the version of the principal software and checksum by typing in ▼ *** V** or check the software version and the miniboot's checksum by typing in ▼ *** B**.

5.4.1.2 Via the UDPATEDEVICE function of COMPANION SUITE

This procedure requires a standard PC running under Windows equipped with the Companion Suite software and a USB cable.

Before you start, Check that the terminal is connected to the PC via the USB cable.

1 - On the PC, click **START > ALL PROGRAMS >COMPANION SUITE > COMPANION > UPDATE**.

2 - In the Update window, click on the **BROWSE** icon and select the update file to be downloaded on the terminal.

3 - After selecting the update file, click on **OPEN**.

4 - Click on **UPDATE**.

5.4.2 DOWNLOADING WITH THE MINIBOOT

5.4.2.1Via the executable TELUSB2

This procedure requires a standard PC running under Windows and equipped with the TELUSB2.exe (version 2.02) executable and a USB cable.

Before you start, position the bit n° 8 to 1 on the Soft-switch 1.

1 - Set the terminal's On/Off switch to Off (position 0).

2 - Connect the terminal to the PC via the USB cable.

3 - Press the **4**, **6** and **0** keys simultaneously and set the On/Off switch to On (position I). The terminal is switched on. The message **USB DETECTED WAITING FOR DOWNLOAD** is displayed and an alert sound is emitted. If the message **WAITING FOR A USB LINK** is displayed, check that the terminal is properly connected to the PC via the USB cable.

4 - Release the **4**, **6** and **0** keys.

5 - Continue downloading from step **3** of the section **5.4.1.1**.

5.4.2.1Via the UdpateDevice function of the Companion Suite

This procedure requires a standard PC running under Windows and equipped with the Companion Suite software and a USB cable.

Before you start, position the bit n° 8 to 1 on the Soft-switch 1.

1 - Set the terminal's On/Off switch to Off (position 0).

2 - Connect the terminal to the PC via the USB cable.

3 - Press the **4**, **6** and **2** keys simultaneously and set the On/Off switch to On (position I). The terminal is switched on. The message **RECEIVING FILE** is displayed and an alert sound is emitted.

4 - Release the **4**, **6** and **2** keys.

5 - Continue downloading from step **1** of the section **5.4.1.2**.

6. STORING USER PARAMETERS AND ACTIVITY COUNTERS ON THE TERMINAL

The condition of the printer consumable (toner cartridge) is stored in EEPROM memory (on the CPU card) and can be read via the command ▼ **8 6**.
This evaluation, provided in percentage format, indicates the remaining quantity of toner in relation to the consumable's initial values.

The printer activity counters are also stored in flash (on the CPU card), they can be read via the command ▼ **8 2** and can be printed via ▼ **5 6** (printing of parameters).
These absolute counters reflect the machine's overall utilization regardless of the consumable:

- number of pages printed,
- number of pages scanned.

Warning - ANY MAJOR OPERATION ON THE MACHINE (REPLACEMENT OF THE CPU CARD, MAJOR UPGRADE OF THE TERMINAL'S SOFTWARE) MAY LEAD TO THE PERMANENT LOSS OF THE USER PARAMETERS AND THE ACTIVITY COUNTER VALUES.

IF SUCH OPERATIONS ARE NECESSARY, PRINT THE PARAMETERS AND COUNTERS (▼ **5 6**) TO RETAIN A COPY.

YOU CAN ALSO STORE USER PARAMETERS ON A SMART CARD (▼ ***6**) AND RESTORE THEM (▼ ***9**) AFTER THE MACHINE IS SERVICED.

7. PACKING AND TRANSPORTING THE MACHINE

If you need to transport the machine, always use the original package. If the machine is not properly packed, the warranty may be cancelled.
Also check that the terminal's new location meets the installation requirements (see **Environmental conditions**, page 3).

1 - Set the terminal's On/Off switch to Off (position 0).

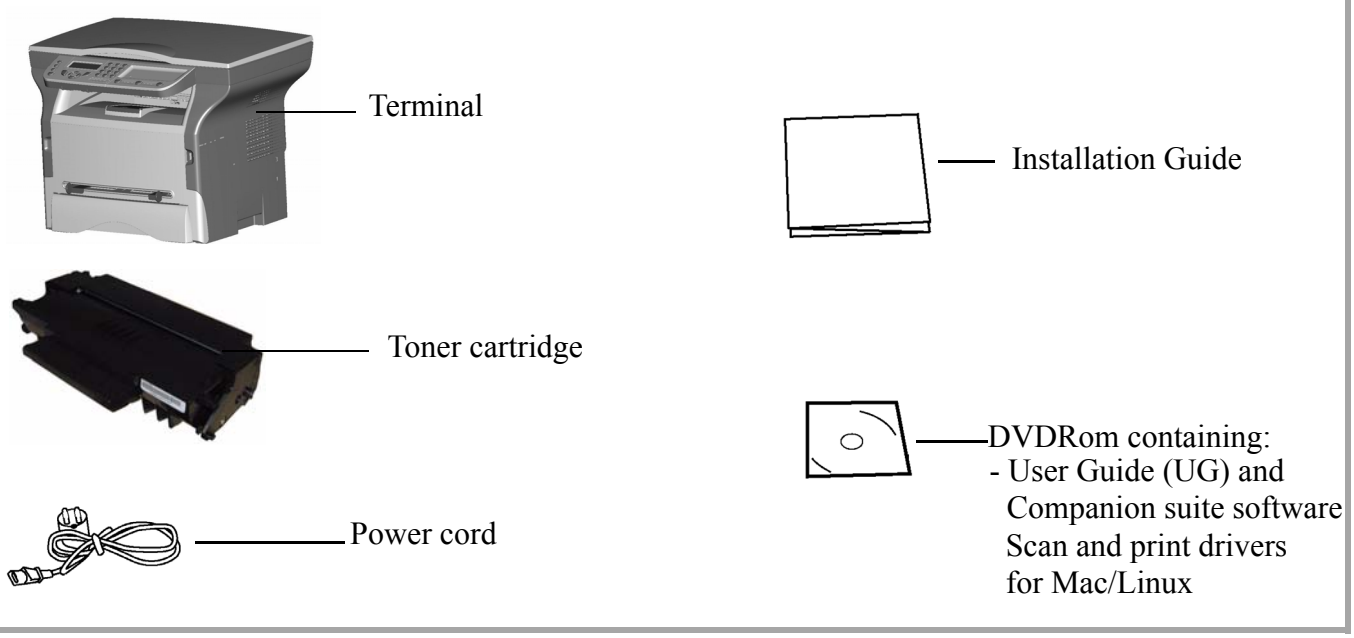
2 - Disconnect all the cables connected to the machine.

3 - Remove the document feeder and gently push the paper tray inwards to avoid obstructing the terminal's packaging.

4 - Pack the terminal in its original plastic wrapping and put it in its original packing box together with the other components (power cord, etc.).

Remark(s) : Packing specifications are fully detailed in document reference 3000247335, *LFX preparation for packing specification*.

5 - Pack all documentation (manuals and printed documents) into the packing box and seal it with adhesive tape.



MAINTENANCE GUIDE

CONTENTS

1. SCANNER

1.1 PREVENTIVE MAINTENANCE

To keep the terminal in good working condition, the following operations should be carried out regularly:

- Cleaning the CIS window of the flatbed scanner.
- Cleaning the front panel keys and the printer covers.
- Printer maintenance (refer to chapter **Laser printer**, page 25).
- Cleaning the printer with a soft cloth, **never use abrasives or detergents**.

1.1.1 CIS AND FLATBED WINDOW

1 - Set the On/Off switch to Off (position 0).

2 - Open the flatbed scanner cover.

3 - Clean the CIS window with a lint-free cloth moistened with isopropyl alcohol or use anti-static paper used for cleaning optic glass.

Recommended interval: depending on utilization; it is advisable to make a local copy to check if the window is clean.

1.1.2 FRONT PANEL KEYS AND COVERS

1.1.2.1 Cleaning the front panel keys

1 - Set the On/off switch to Off (position O).

2 - Clean the top of the front panel and the keys with a lint-free cloth moistened with isopropyl alcohol or a spray-on cleaning product.

3 - Leave the product on for a few seconds before wiping it off.

Recommended interval: to be defined depending on utilization.

1.1.2.2 Cleaning the covers

It is advisable to clean all the covers during a maintenance visit.

1 - Set the On/Off switch to Off (position O).

2 - Clean the external areas of the covers with a lint-free cloth moistened with isopropyl alcohol or a spray-on cleaning product.

3 - Leave the product on for a few seconds before wiping it off.

1.2 MAINTENANCE-TUNING

1.2.1 SUPPLY VOLTAGES: CONNECTIONS BETWEEN THE POWER SUPPLY BOARD AND CPU BOARD

CPU board pin CN° (CN11)	Values	Function
8-9	+ 5 V	5V Supply
4-6-7-10-11	GND	Ground
5-12-13	+ 24 V	24V Supply

Remark(s) : The mains input of the power supply is protected by a fuse.

1.2.2 CHECKING THE QUALITY OF PRINTS AND TUNING THE SCANNER

To check or improve the quality of prints, you should first tune the scanner. Follow this procedure:

1 - Press ▼, enter ***** then **A** on the keyboard and confirm with **OK**.
The terminal reboots.

2 - Start making copies of documents on the CIS window of the flatbed scanner and check the quality of the copies.

If the problem persists and if it is related to the scanner:

- Repeat the tuning procedure (step **1**).

If the problem persists and if it is related to the printer (the scanner still provides unsatisfactory results):

1 - Press ▼ then enter **56** on the keyboard. The terminal prints the list of printer tunings.

2 - Check the printer's printing and copying parameters.

3 - Check the consumable.

1.3 DISASSEMBLY/ASSEMBLY WORKSHEETS

Warning - BEFORE DISASSEMBLING/ASSEMBLING, MAKE SURE THE TERMINAL IS SWITCHED OFF.
DISCONNECT ALL CORDS AT THE FRONT AND BACK OF THE TERMINAL (USB AND POWER SUPPLY).

This device complies with IEC60825-1:1993+A1:1997+A2:2001 standard, is classified as laser class 1 product and contains one class 3B laser diode, 10.72 mW max, 770-795 nm and other class 1 LEDs (280 µW at 639 nm).

The maximum breakdown output power of radiation of laser diode is 50 mW at 770-795 nm.

Remark(s) : Depending on the model, remove the front panel.

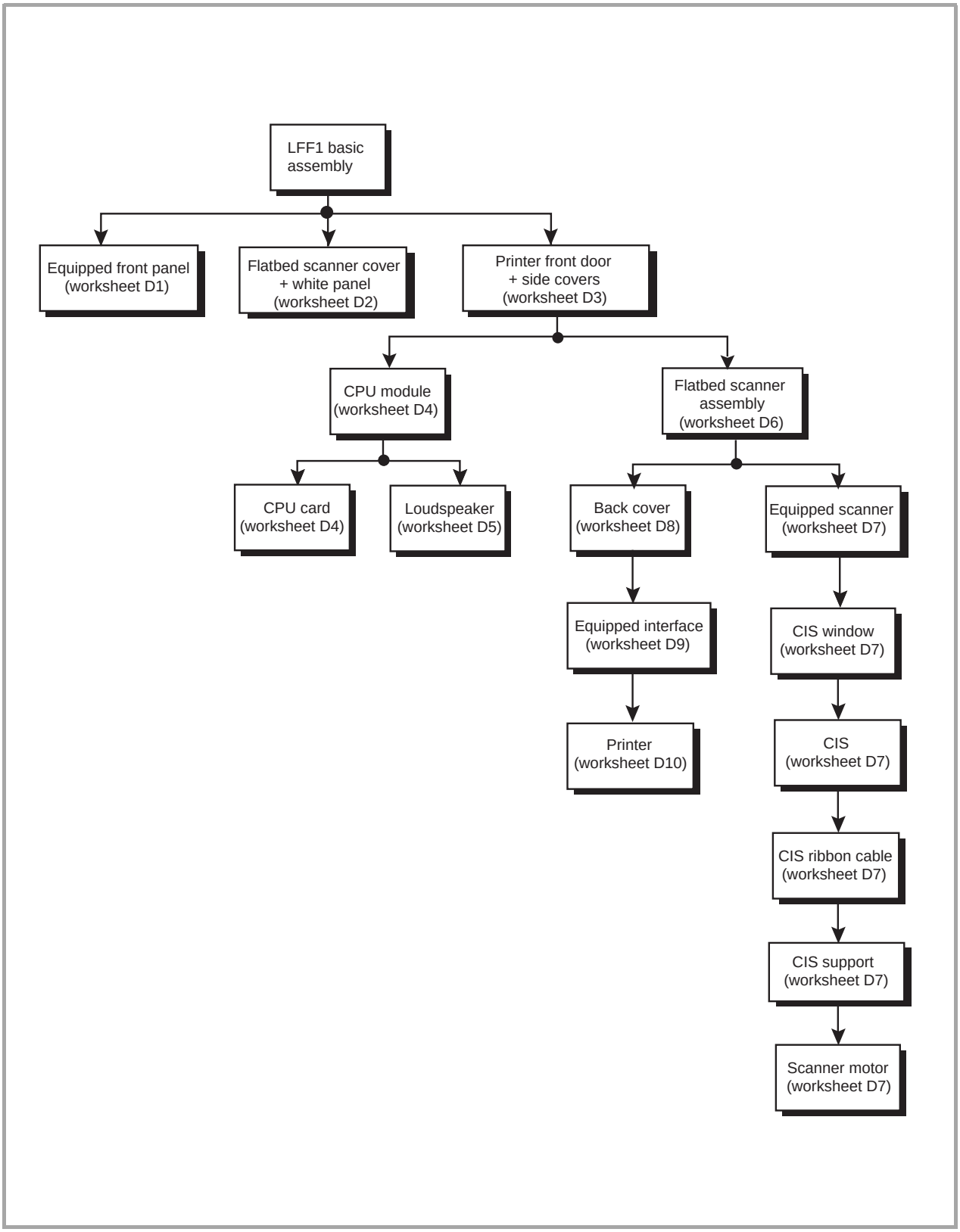
1.3.1 LIST OF TOOLS

- Cross-threaded (Phillips) screwdriver
- Flat screwdriver (medium size)

1.3.2 LIST OF WORKSHEETS

- D1= Equiped front panel
- D2= Flatbed Scanner cover and white panel
- D3= Printer front door and side covers
- D4= CPU Module
- D5= Loud speaker
- D6= Flatbed scanner assembly
- D7= Equiped scanner - Scanner window frame - CIS - CIS ribbon cable - CIS support - Scanner motor
- D8= Back cover
- D9= Equiped Interface
- D10= Printer

1.3.3 WORKSHEET CHART



D1	**OBJECT :**EQUIPED FRONT PANEL

Requirements

- None.

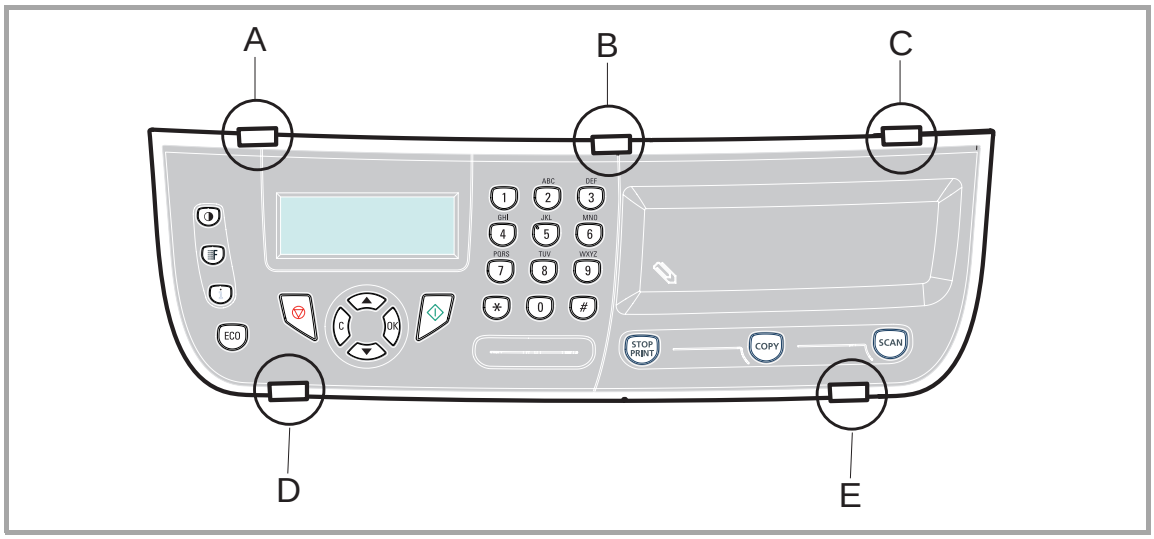
Preliminary steps

- None.

Disassembly

1 - Stand in front of the terminal.

2 - Unlock the three clips of the front panel (**A**, **B** and **C**).



3 - Pull the panel towards yourself to release it from the two bottom slots (**D** and **E**).

4 - Disconnect the panel ribbon cable from the panel card connector.

5 - Disassemble the equiped front panel.

Assembly

1 - Unpack and check all new components.

2 - Connect the panel ribbon cable to the panel card connector.

3 - Position the panel by inserting the two lower bearings (**D** and **E**) into their slots then clip the upper part into place.

D2	OBJECT :FLATBED SCANNER COVER AND WHITE PANEL

Requirements

- None.

Preliminary steps

- None.

Disassembly

1 - Stand in front of the terminal and open the flatbed scanner cover.

2 - Pull out the white panel located inside the flatbed scanner cover.

3 - Lift the flatbed scanner cover to extract the two hinges from their slots.

4 - Remove the flatbed scanner cover.

Assembly

1 - Unpack and check all new components.

2 - Assemble the flatbed scanner cover by inserting the two hinges into their slots.

3 - Stick the white panel into place.

D3	OBJECT :PRINTER FRONT DOOR AND SIDE COVERS

Requirements

- Cross-threaded (Phillips) screwdriver.
- Flat screwdriver.

Preliminary steps

- None.

Disassembly

Printer front door

1 - Stand in front of the terminal.

2 - Push the left and right side of the printer front door and simultaneously pull it towards yourself.

3 - Move the arms away from each other and remove the printer front door.

Side covers

1 - Open the printer's paper tray.

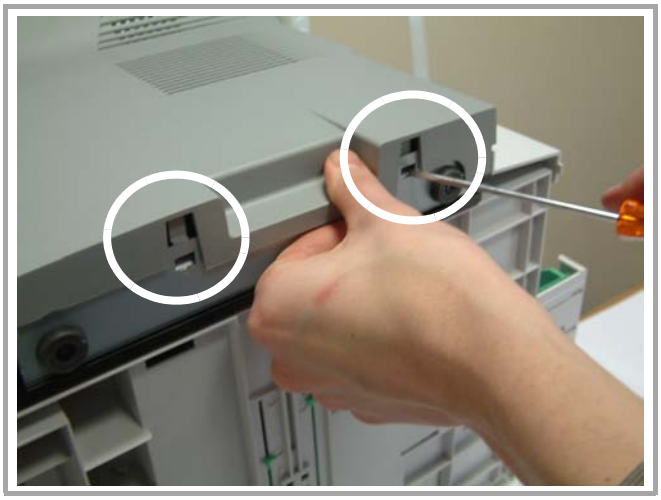
2 - Unscrew the two mounting screws on the front and back of the side covers.

Front mounting screw of the right hand side cover

Back mounting screw of the right-hand side cover

D3	**OBJECT :**PRINTER FRONT DOOR AND SIDE COVERS *(CONTINUED)*

3 - Using a flat screwdriver, unscrew the side covers from their slots located under the terminal.



4 - Unclip the side covers from the top slots located at the back of the terminal and pivot them towards yourself to remove them.

5 -Remove the side covers.

Assembly

1 - Unpack and check all new components.

2 - Assemble the covers by reversing the steps for the disassembly procedure.

3 - Assemble the printer front door by reversing the steps for the disassembly procedure.

D4	**OBJECT :**CPU MODULE

Requirements

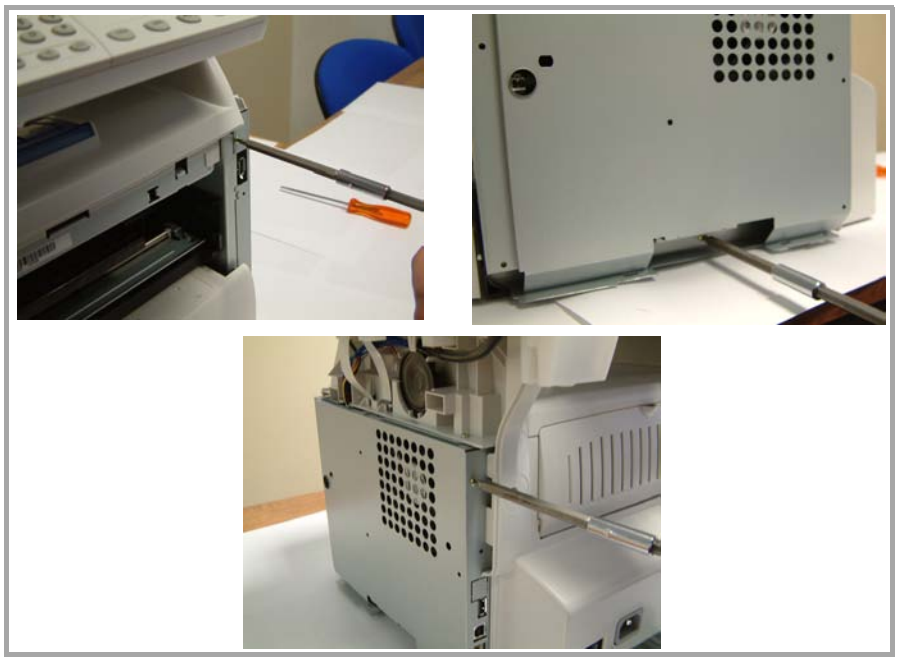
- Cross-threaded (Phillips) screwdriver.

Preliminary steps

- Disassembling the printer front door and the right side cover (see worksheet D3).

Disassembly

1 - Unscrew the three mounting screws of the CPU board armour plate.



2 - Pull the CPU board armour plate towards yourself and remove it.

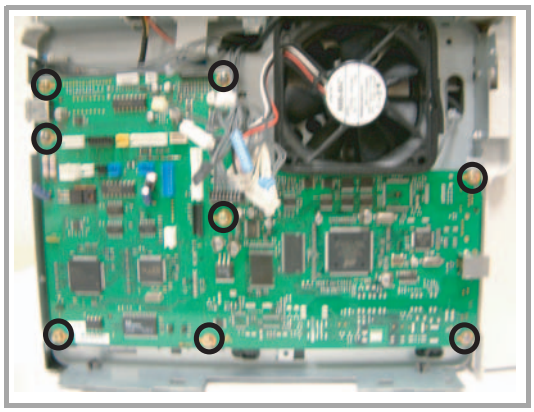
3 - Unscrew the mounting screw of the CPU card ground connector and disconnect it.

4 - Disconnect all incoming cords and leads from the CPU module connectors.

Warning - MEMORIZE ALL CONNECTIONS FOR REASSEMBLY.

D4	**OBJECT :**CPU MODULE *(CONTINUED)*

5 - Unscrew the eight mounting screws and remove the CPU board.



Assembly

1 - Unpack and check all new components.

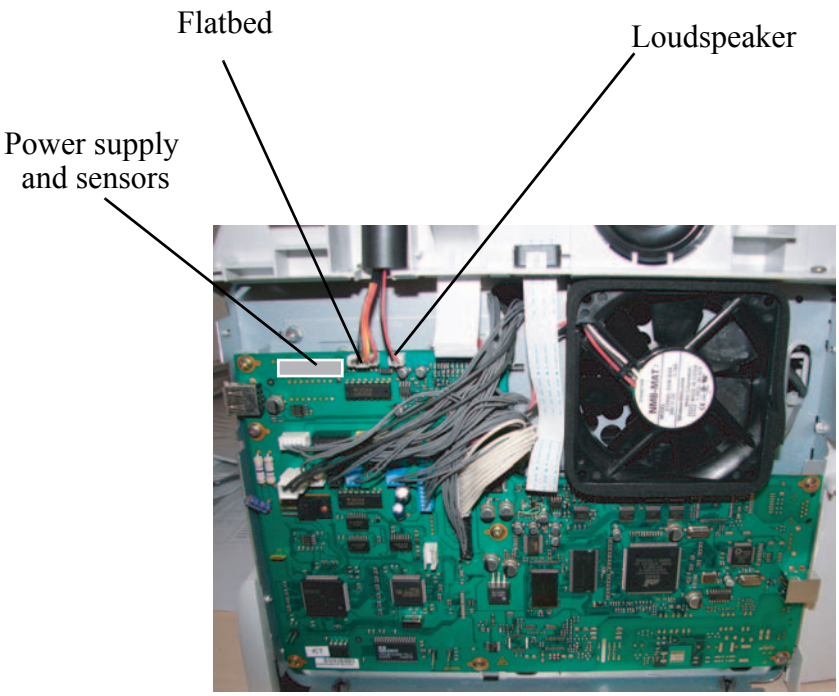
2 - Place the CPU board in the rack, screw in and tighten the eight mounting screws.

3 - Connect all the cords and leads to their corresponding CPU board connectors.

4 - Position and screw the ground connector to the CPU card.

5 - Position the CPU board armour plate, screw and tighten the three mounting screws.

6 - Position the right-hand side cover and the front door (see Worksheet D3).



D5	**OBJECT :**LOUD SPEAKER

Requirements

- None.

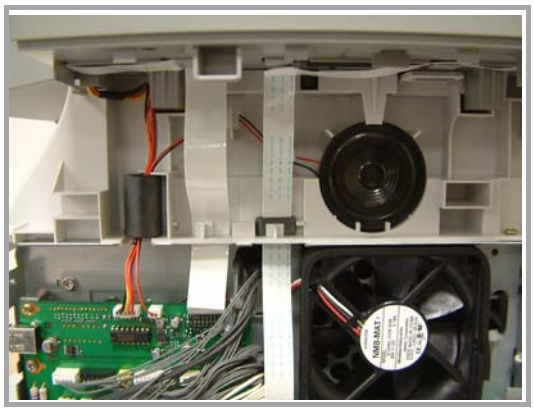
Preliminary steps

- Disassembling the front door and the right-hand side cover (see Worksheet D3).
- Disassembling the CPU armour plate (see Worksheet D4).

Disassembly

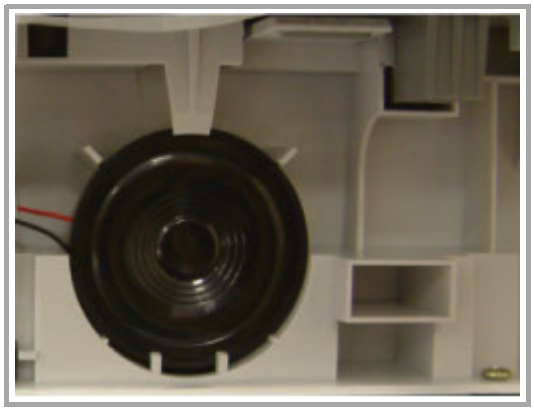
1 - Disconnect the loudspeaker connector from the CPU board.

2 - Remove the loudspeaker connector from its ferrite tube and cable guide.



Warning - MEMORIZE THE CABLE GUIDE FOR REASSEMBLY.

3 - Press the top clip inwards until it unclips and pull the loudspeaker towards yourself.



4 - Disassemble the loudspeaker.

Assembly

1 - Unpack and check all new components.

2 - Position the loudspeaker in front of its slot and insert the lower part.

3 - Press the top part of the loudspeaker until it clicks into place.

4 - Place the loudspeaker connector into its cable guide, do not forget the ferrite tube.

5 - Connect the loudspeaker connector to the CPU board.

6 - Put the CPU board armour plate into place (see Worksheet D4).

7 - Put the right-hand side cover and the front door into place (see Worksheet D3).

D6	OBJECT :FLATBED SCANNER ASSEMBLY

Requirements

- Cross-threaded (Phillips) screwdriver.
- Flat screwdriver.

Preliminary steps

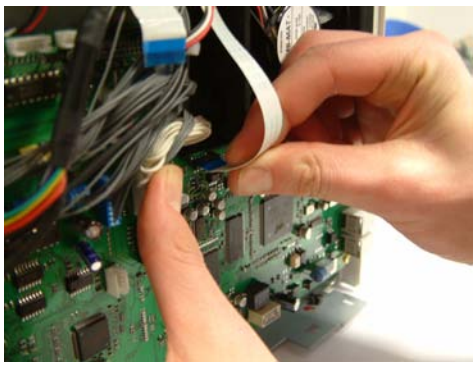
- Disassemble the flatbed scanner cover (see Worksheet D2).
- Disassemble the front door and the side covers (see Worksheet D3).
- Disassemble the CPU board armour plate (see Worksheet D4).

Disassembly

1 - Disconnect the scanner connector from the CPU board and remove it from its ferrite tube and cable guide.

2 - Disconnect the front panel ribbon cable and the CIS ribbon cable from the CPU board.

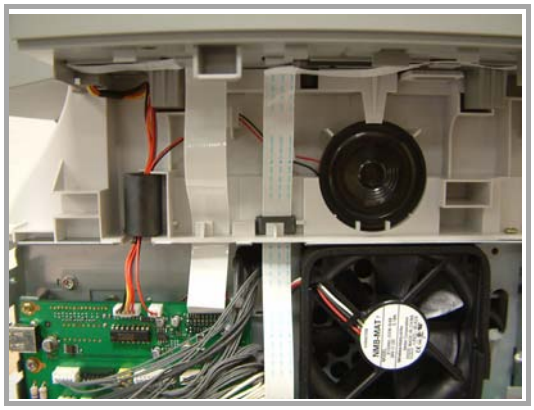
Panel ribbon connection



CIS ribbon connection

Warning - MEMORIZE THE CONNECTIONS FOR REASSEMBLY.

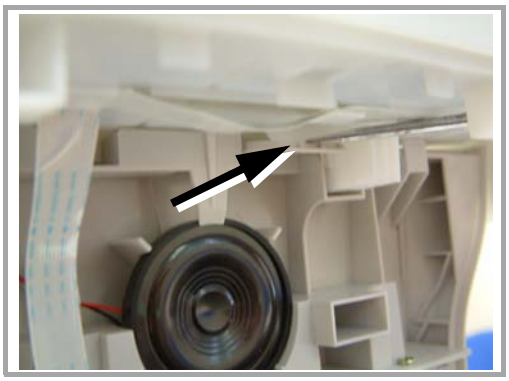
3 - Remove the front panel and CIS ribbon cables from their cable guide.



Warning - MEMORIZE THE CONNECTIONS FOR REASSEMBLY.

D6	**OBJECT :**FLATBED SCANNER ASSEMBLY *(CONTINUED)*

4 - Unlock the assembled flatbed scanner with a flat screwdriver and pull it towards yourself.



5 - Lift the assembled flatbed scanner and disassemble it.

Assembly

1 - Unpack and check all new components.

2 - Stand in front of the terminal.

3 - Position the assembled flatbed scanner on the equiped printer and slide it towards the left until it clicks into place.

4 - Place the front panel and CIS ribbon cables into their cable guide.

5 - Connect the front panel and CIS ribbon cables to the CPU board.

6 - Connect the scanner connector to the CPU board, do not forget the ferrite tube.

7 - Position the CPU board armour plate (see Worksheet D4).

8 - Position the side covers and the printer front door (see Worksheet D3).

9 - Position the flatbed scanner cover (see Worksheet D2).

D7	**OBJECT :**EQUIPED SCANNER - SCANNER WINDOW FRAME - CIS - CIS RIBBON CABLE - CIS SUPPORT - SCANNER MOTOR

Requirements

- Cross-threaded (Phillips) screwdriver.
- Flat screwdriver.

Preliminary steps

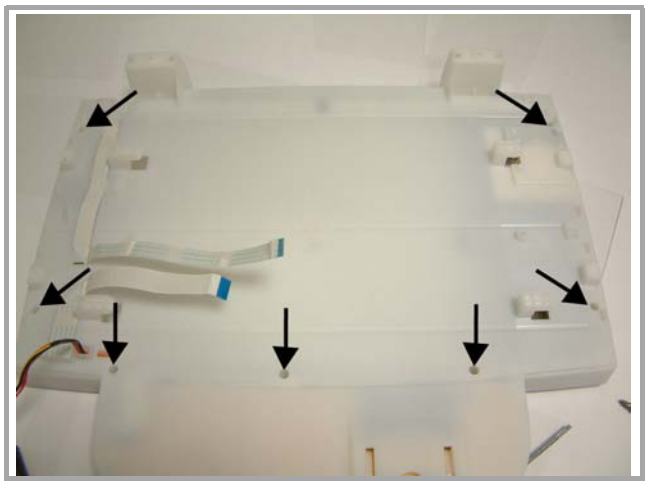
- Disassemble the flatbed scanner cover (see Worksheet D2).
- Disassemble the printer front door and the side covers (see Worksheet D3).
- Disassemble the CPU board armour plate (see Worksheet D4).
- Disassemble the assembled flatbed scanner (see Worksheet D6).

Disassembly

- Scanner window frame

1 - Take the assembled flatbed scanner and turn it upside down.

2 - Unscrew the seven mounting screws at the back of the equiped scanner and turn it upside down.

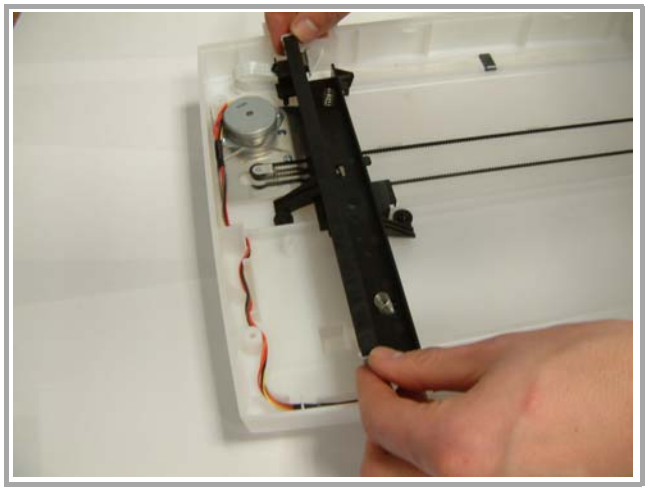


3 - Lift the front part of the scanner window panel and disassemble it.

D7	**OBJECT :**EQUIPED SCANNER - SCANNER WINDOW FRAME - CIS - CIS RIBBON CABLE - CIS SUPPORT - SCANNER MOTOR

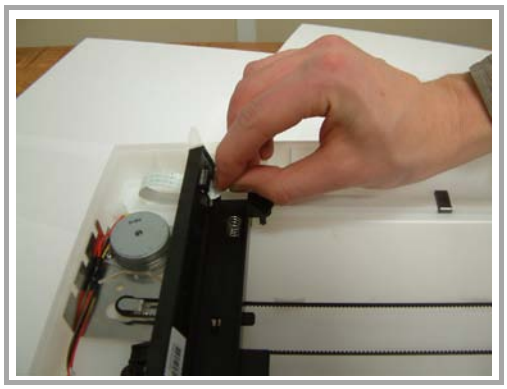
- CIS

1 - Lift the CIS backwards.



2 - Disconnect the CIS ribbon cable and disassemble it from its two side slots.

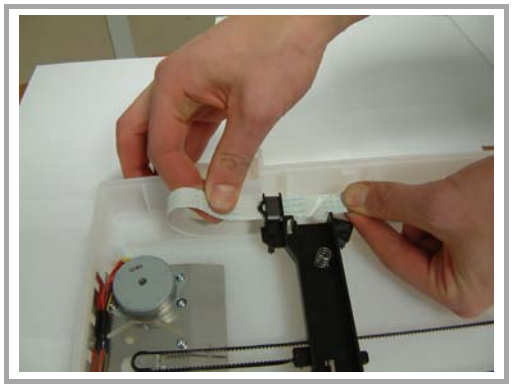
Warning - KEEP THE CIS SUPPORT SPRINGS AND SLIDES.



3 - Disassemble the CIS.

- CIS ribbon cable

1 - Unfold the end of the CIS ribbon cable and remove it from its slot.



2 - Slide the CIS ribbon cable out of its ferrite tube which is fixed to the CIS panel and remove it from the scanner.

3 - Remove the CIS ribbon cable from its cable guides located above and below the scanner bottom then slide it to extract it from the scanner bottom.

Warning - MEMORIZE THE CABLE GUIDE FOR REASSEMBLY.

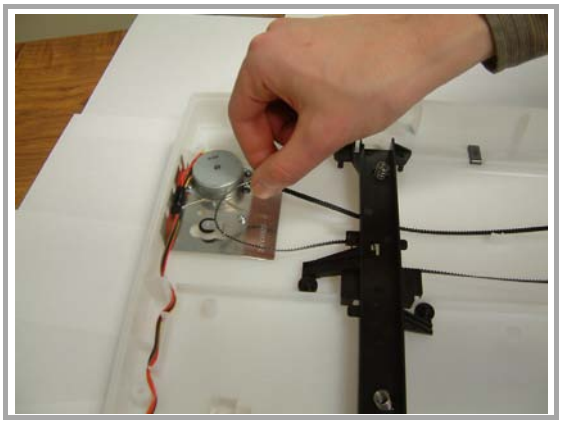
D7	**OBJECT :**EQUIPED SCANNER - SCANNER WINDOW FRAME - CIS - CIS RIBBON CABLE - CIS SUPPORT - SCANNER MOTOR

4 - Disasssemble the CIS ribbon cable.

- CIS support

1 - Lift the CIS drive pulley and the drive to extract the CIS drive pulley from its slot.

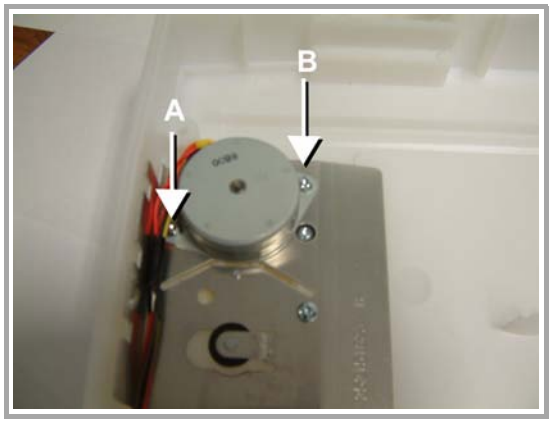
2 - Remove the belt from the drive pulley.



3 - Lift then disassemble the CIS panel.

- Scanner motor

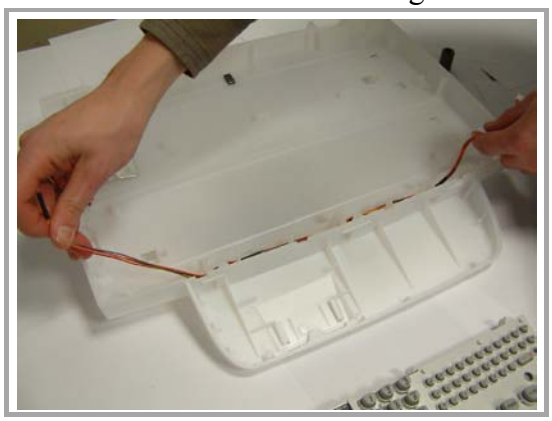
1 - Unscrew the two mounting screws of the scanner motor (**A** et **B**).



2 - Remove the end of the scanner motor connector from its ferrite tube.

D7	**OBJECT :**EQUIPED SCANNER - SCANNER WINDOW FRAME - CIS - CIS RIBBON CABLE - CIS SUPPORT - SCANNER MOTOR

3 - Remove the CIS motor connector from its cable guide.



4 - Disassemble the scanner motor.

Assembly

1 - Unpack and check all new components.

2 - Position the scanner motor and screw in the two mounting screws.

3 - Place the motor connector in its cable guide, do not forget the ferrite tube.

4 - Position the CIS support, place the belt in the CIS drive pulley, do not forget the CIS support springs.

5 - Check that there is enough grease on the pulley motor axis.

6 - Place the CIS ribbon cable in its cable guide, do not foget the ferrite tube, then connect it to the CIS.

7 - Place the CIS, do not forget its slides and support springs.

8 - Position the scanner window frame by first inserting the back part, then insert the front part. Screw in the two mounting screws for the scanner window frame.

9 - Turn the equiped scanner around and screw in the seven mounting screws.

10 - Assemble the assembled flatbed scanner (see Worksheet D6).

11 - Assemble the CPU board armour plate (see Worksheet D4).

12 - Assemble the side covers and the printer front door (see Worksheet D3).

13 - Assemble the flatbed scanner cover (see Worksheet D2).

D8	**OBJECT :**BACK COVER

Requirements

- Cross-threaded (Phillips) screwdriver.

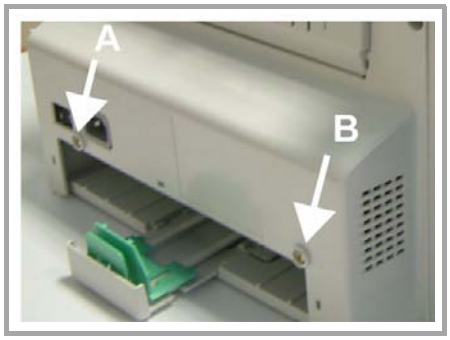
Preliminary steps

- Disassemble the flatbed scanner cover (see Worksheet D2).
- Disassemble the printer front door and the side covers (see Worksheet D3).
- Disassemble the CPU board armour plate (see Worksheet D4).
- Disassemble the assembled flatbed scanner (see Worksheet D6).

Disassembly

1 - Stand behind the terminal.

2 - Unscrew the two back mounting screws on the back cover (**A** and **B**).



3 - Unscrew the two top mounting screws on the back cover (**C** and **D**).

4 - Pull the back cover towards yourself and remove it.

Assembly

1 - Unpack and check all new components.

2 - Place the back cover and screw in the four mounting screws (**A**, **B**, **C** and **D**).

3 - Assemble the assembled flatbed scanner (see Worksheet D6).

4 - Assemble the CPU board armour plate (see Worksheet D4).

5 - Assemble the printer front door and the side covers (see Worksheet D3).

6 - Assemble the flatbed scanner cover (see Worksheet D2).

D9	**OBJECT :**EQUIPED INTERFACE

Requirements

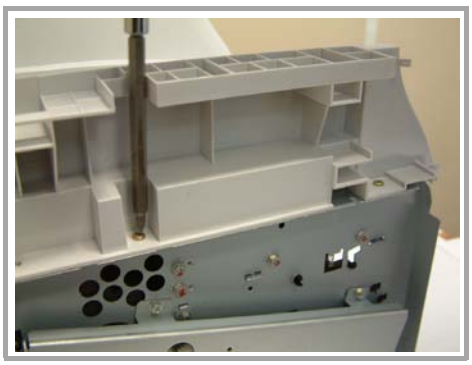
- Cross-threaded (Phillips) screwdriver.

Preliminary steps

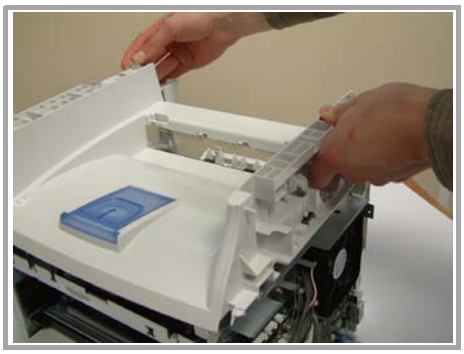
- Disassemble the flatbed scanner cover (see Worksheet D2).
- Disassemble the printer front door and the side covers (see Worksheet D3).
- Disassemble the CPU board armour plate (see Worksheet D4).
- Disassemble the loudspeaker (see Worksheet D5).
- Disassemble the assembled flatbed scanner (see Worksheet D6).
- Disassemble the back cover (see Worksheet D8).

Disassembly

1 - Unscrew the two mounting screws on the left and right side on the equiped interface.



2 - Lift and remove the equiped interface.



Assembly

1 - Unpack and check all new components.

2 - Position the equiped interface and screw in the four mounting screws on both sides.

3 - Assemble the back cover (see Worksheet D8).

4 - Assemble the assembled flatbed scanner (see Worksheet D6).

5 - Assemble the loudspeaker (see Worksheet D5).

6 - Assemble the CPU board armour plate (see Worksheet D4).

7 - Assemble the printer front door and the side covers (see Worksheet D3).

8 - Assemble the flatbed scanner cover (see Worksheet D2).

D10	OBJECT :PRINTER

Requirements

- Cross-threaded (Phillips) screwdriver.

Preliminary steps

- None.

Disassembly

1 - Stand in front of the terminal.

2 - Disassemble the equiped front panel (see Worksheet D1) and the flatbed scanner cover (see Worksheet D2).

3 - Disassemble the printer front door and the side covers (see Worksheet D3).

4 - Disassemble the CPU module (see Worksheet D4) and the loudspeaker (see Worksheet D5).

5 - Disassemble the assembled flatbed scanner (see Worksheet D6).

6 - Disassemble the back cover (see Worksheet D8) and the equiped interface (see Worksheet D9).

Assembly

1 - Unpack and check all new components.

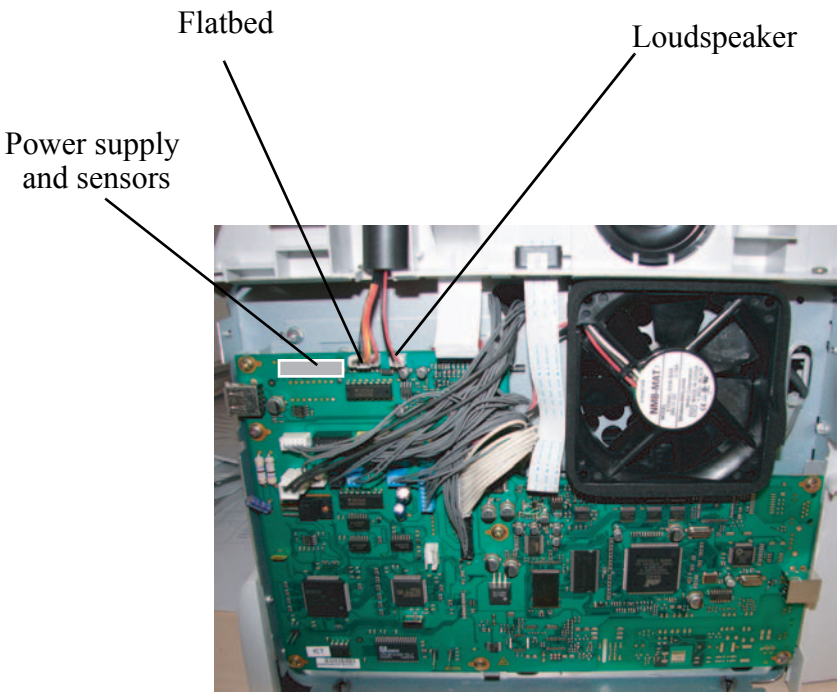
2 - Assemble the equiped interface (see Worksheet D9) and the back cover (see Worksheet D8).

3 - Assemble the flatbed scanner assembly (see Worksheet D6).

4 - Assemble the CPU module (see Worksheet D4) and the loudspeaker (see Worksheet D5).

5 - Assemble the side covers and the printer front door (see Worksheet D3).

6 - Assemble the flatbed scanner cover (see Worksheet D2) and the equiped front panel (see Worksheet D1).



1.4 ADMINISTRATOR FUNCTIONS

Each one of the administrator functions described here can be accessed via a specific succession of keys.

The alphabetic keys are available via the navigation keys ▼ and ▲ via the keyboard.

For example, to enter a sequence ▼ * **A** (launching scanner tuning):

1 - Press the following key ▼.

2 - Press the following key *.

3 - Press ▼ to display all the options available until you reach **A**.
Confirm your choice with **OK**.

1.4.1 INITIALIZING AND ERASING MEMORY

Before you start, set the 8 bit parameter installation configuration 1 to 1.

Warning - UNDOCUMENTED FUNCTIONS ARE RESERVED.

DO NOT TRY AND USE FUNCTIONS THAT ARE NOT DOCUMENTED IN THIS SECTION, THIS MAY LEAD TO THE PERMANENT LOSS OF DATA.

Warning - USE OF THESE LISTED FUNCTIONS WILL LEAD TO THE PERMANENT LOSS OF DOCUMENTS AND PARAMETERS ON THE MACHINE.

- Reset all parameters (user, installer or technical) to the default configuration (factory configuration):

▼ (#) (0)

- Erase the printer counters:

▼ (#) (3)

- Reinitialize the flash data (erases all):open the printer front door then:

▼ (#) (5)

- Erase all.
  Reset to default configuration (combination of functions 0 and 8):

▼ (#) (7)

- Erase all documents stored in memory:

▼ (#) (8)

- Erase the first element of the printer queue:

▼ (#) (I)

- Erase Printer Error:

▼ (#) (T)

Then switch ON/OFF the machine.

1.4.2 OTHER FUNCTIONS

Some of the administrator functions allow you to display or print the terminal counters.

The table below details the counters available:

The counter ...	lists the number of ...
Printed pages counter	pages printed
Scanned pages counter	pages scanned
Printed sheets counter	paper sheets printed
Printer does not grip the sheet	no-paper feeds detected on the printer
Jam in printer	paper jams detected inside the printer
Jam in printer output	paper jams detected on the exit tray
Manual and automatic ON/OFF	times the machine has been switched On/Off (manually and automatically)
Insert toner card	toner card readings
Pixel number (*10000)	pixels the machine has printed (*10000)
Counter TONER	toner remaining in toner units

Before you start, position the Soft-switch 1 bit n°8 to 1.

Warning - UNDOCUMENTED FUNCTIONS ARE RESERVED.

DO NOT TRY AND USE FUNCTIONS THAT ARE NOT DOCUMENTED IN THIS SECTION, THIS MAY LEAD TO THE PERMANENT LOSS OF DATA.

- Printing all parameters (including installation and technical parameters):

▼ (*) (1)

- Switching to forced standby mode regardless of the clock:

▼ (*) (2)

- Switching to software download via a computer link:

▼ (*) (4)

- Save the parameters on I2C card:

Warning - ALL DATA PRESENT ON THE I2C CARD PRIOR TO THE OPERATION WILL BE LOST AFTER OPERATION AND REPLACED BY PARAMETERS FROM THE MACHINE.

▼ (*) (5)

- Restore the parameters from I2C card:

Warning - ALL PARAMETERS STORED IN THE MACHINE PRIOR TO THE OPERATION WILL BE LOST AFTER OPERATION AND REPLACED BY THOSE FROM THE I2C CARD.

▼ (*) (9)

- Launching scanner tuning:

▼ * A

- Displaying miniboot version:

▼ * B

- Displaying the state of the applications, traffic and drivers:

▼ * E

- Entering the serial number (with the SOS 1 bit 8 at 1):

▼ * N

- Displaying the internal counters:

▼ * O

- Displaying the GDI throughput:

▼ * P

- Rebooting the machine manually (with the SOS 1 bit 8 at 1):

▼ * R

- Displaying main software version, cheksum:

▼ * V

- Displaying the printer firmware version and the 120V/220V configuration:

▼ * W

Depending on the printer model, the terminal LCD screen displays:

PRINTER FIRMWARE Vx.x 120V	or	PRINTER FIRMWARE Vx.x 220V

- Printing internal counters:

▼ * Y

1.5 REPLACING THE CPU BOARD

To replace the terminal's CPU board, follow this procedure:

1 - Print the terminal's parameters (user, administrator and technical) and the activity counter values in order to keep a record (▼ **5 6**).
You can also store user parameters on a smart card (▼ ***6**) and restore them (▼ ***9**) after the machine is serviced.

2 - Replace the CPU board (see Worksheet D4).

3 - Launch the scanner calibration (▼ **8 0**).

1.6 REPLACING THE SCANNER

To replace the scanner, follow this procedure:

1 - Print the terminal's parameters (user, administrator and technical) and the activity counter values in order to keep a record (▼ **5 6**).
You can also store user parameters on a smart card (▼ ***6**) and restore them (▼ ***9**) after the machine is serviced.

2 - Replace the scanner (see Worksheet D6).

3 - Launch the scanner calibration (▼ **8 0**).

2. LASER PRINTER

Refer to the printer's technical manual.

2.1 REPLACING THE PRINTER

To replace the printer, follow this procedure:

1 - Set the On/Off button to Off (position 0).

2 - Disconnect the USB cables and the power supply cable located at the back of the printer.

3 - Disassemble the consumable (it belongs to the client).

4 - Disassemble the printer (see Worksheet D10, page 21).

5 - Reassemble all the elements of the new printer (see Worksheet D10, page 21).

6 - Reassemble the client's consumable.

7 - Reconnect the USB and power supply cable.

8 - Set the On/Off button to On (position I).

Remark(s) : During repairs, it may happen that the remaining capacity indicated by the machine (▼**8 6**) does not correspond to the user's actual toner cartridge capacity. In particular, the user may reach the end of the toner (poor quality of prints) before the remaining capacity displayed by the machine reaches 0%.

2.2 ROLLERS CHARACTERISTICS

	Diameter	**Circonference**
Drum	24 mm	75.4 mm
Fusing roller	29.8 mm	93.6 mm
Fusing press roller	24.5 mm	77 mm
Transfer roller	15 mm	47.1 mm

NOMENCLATURE ILLUSTREE
IILLUSTRATED PART LIST

SOMMAIRE / CONTENTS

1. USING THE PART LIST TABLES

1.1 TABLE COLUMNS

- ITEM NUMBER column: number of the item illustrated on the corresponding figure.
  Note 1: An item number preceded by a hyphen "-" is a non-illustrated item.
  Note 2: An item may be illustrated in a figure without being listed in the corresponding part list: such an article cannot be replaced other than by replacing the subassembly of which it is part.
- REFERENCE column : SAGEM part number.
- DESIGNATION column : description of the item.
- QTY column : quantity.
- R column : repairability.
  The letter R indicates that an item is repairable in the workshop.

1.2 SPARE PARTS ORDERING

When ordering spares parts, please state:

- the name of the equipment, its part number and its serial number (on manufacturer's nameplate).
- the designation of the part as given in the parts list.
  Example: Right cover.
- the part number.
  Example: 252106802.

It is also recommended to state the reference of the document in which the part number has been found.

Orders for spare parts and related correspondence (requests for prices, delivery details, invoicing, etc.) are to be addressed to:

SAGEM Communications
Département Service Clients
27, rue Leblanc
75512 PARIS CEDEX 15 - FRANCE
Tel : +33 (0)1 58 11 77 00
Fax : +33 (0)1 40 70 84 73
http://www.sagem-communications.com

In emergencies, spare part orders may be communicated by telephone or, preferably, in the form of a fax to the above address.

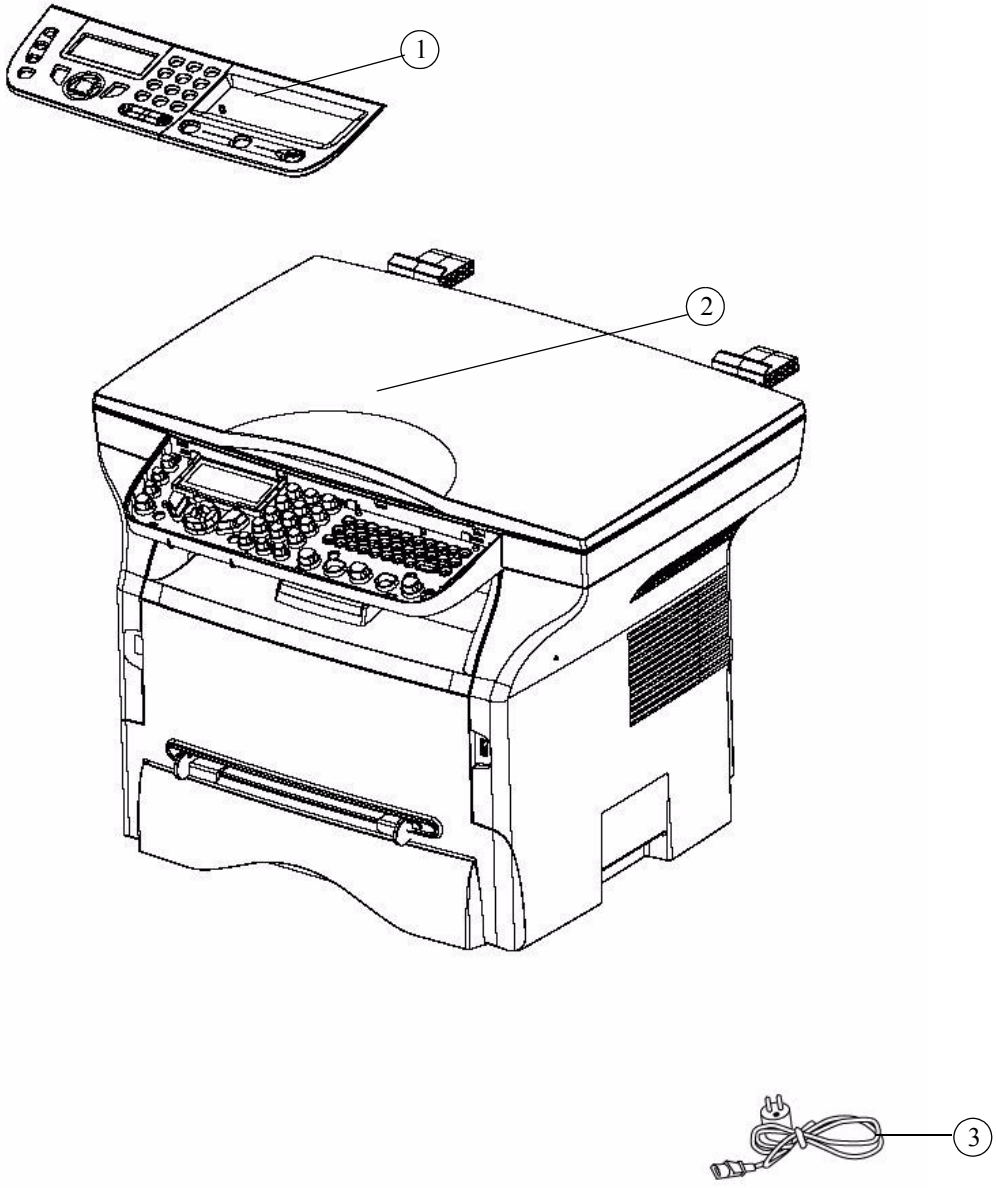


PLANCHE 1 / FIGURE 1

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	253218770	Pupitre marque LFF1 Front panel colored LFF1	1	
2	253257632	LFF1 v2 de base (voir planche 2) Basic LFF1 v2 (see figure2)	1	
3	Voir § 3 See § 3	Cordon d'alimentation secteur AC Power cord	1	

Ensemble Terminal
Terminal Assembly

PLANCHE 1 / FIGURE 1

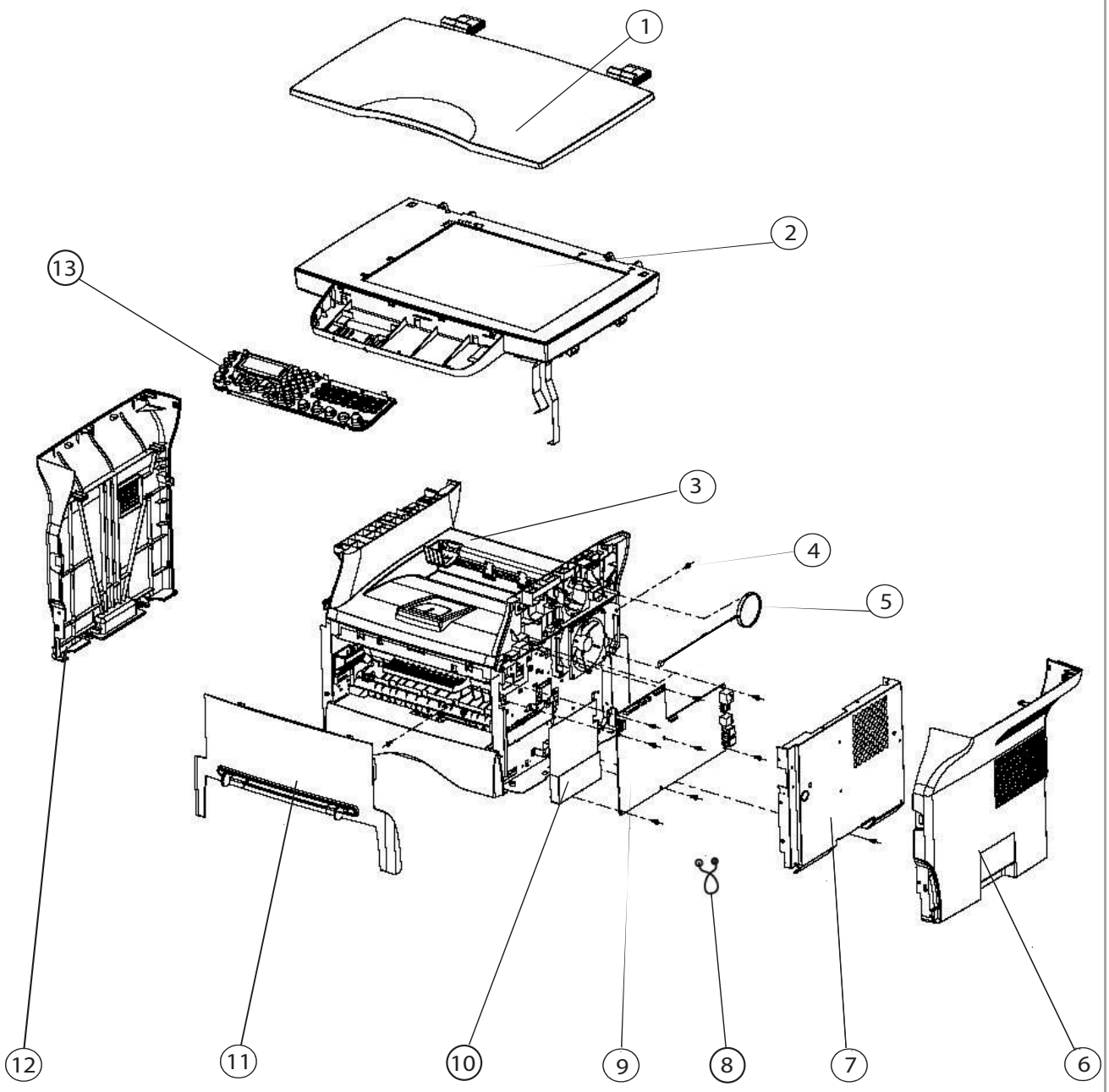


PLANCHE 2 / FIGURE 2

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	252801796	Capot scanner à plat assemblé gris clair Scanner cover flat bed assy white gray	1	
2	253026665	Scanner à plat assemblé LFF1v2 (voir planche 5) Flat bed scanner LFF1v2 assembly (see figure 5)	1	
3	253234788	Equipement Imprimante V2 (voir planche 3) Equipment Printer V2 (see figure 3)	1	
4	188616956	Vis AUTAR.M3X6 steel swch16A Screw AUTAR.M3X6 steel swch16A	15	
5	252237243	Haut parleur Loud speaker	1	
6	252237214	Capot droit imprimante LFF coloré Right printer cover LFF colored (Référence équivalente - Equivalent reference)	1	
7	252106802	Tôle de blindage carte UC Shield plate of UC Board	1	
8	189372756	Serre câble Twist-lok nylon Serre câble Twist-lok nylon	1	
9	253272981	Carte UC Prog. 1480MF EUR (SAV) Pagepro 1480MF EUR Main board Prog.(SAV)	1	
10	252358498	Mylar de sécurité Security mylar	1	
11	252201206	Porte façade avant imprimante assemblé Printer front door assembly	1	
12	252237222	Capot gauche imprimante LFF Coloré Left printer cover LFF colored (Référence équivalente - Equivalent reference)	1	
13	253257546	Support pupitre ass.LFF1V2 latin+cyril. LFF1V2 latin+cyr. front panel supp.assy	1	

Terminal de base assemblé
Basic Terminal assembly

PLANCHE 2 / FIGURE 2

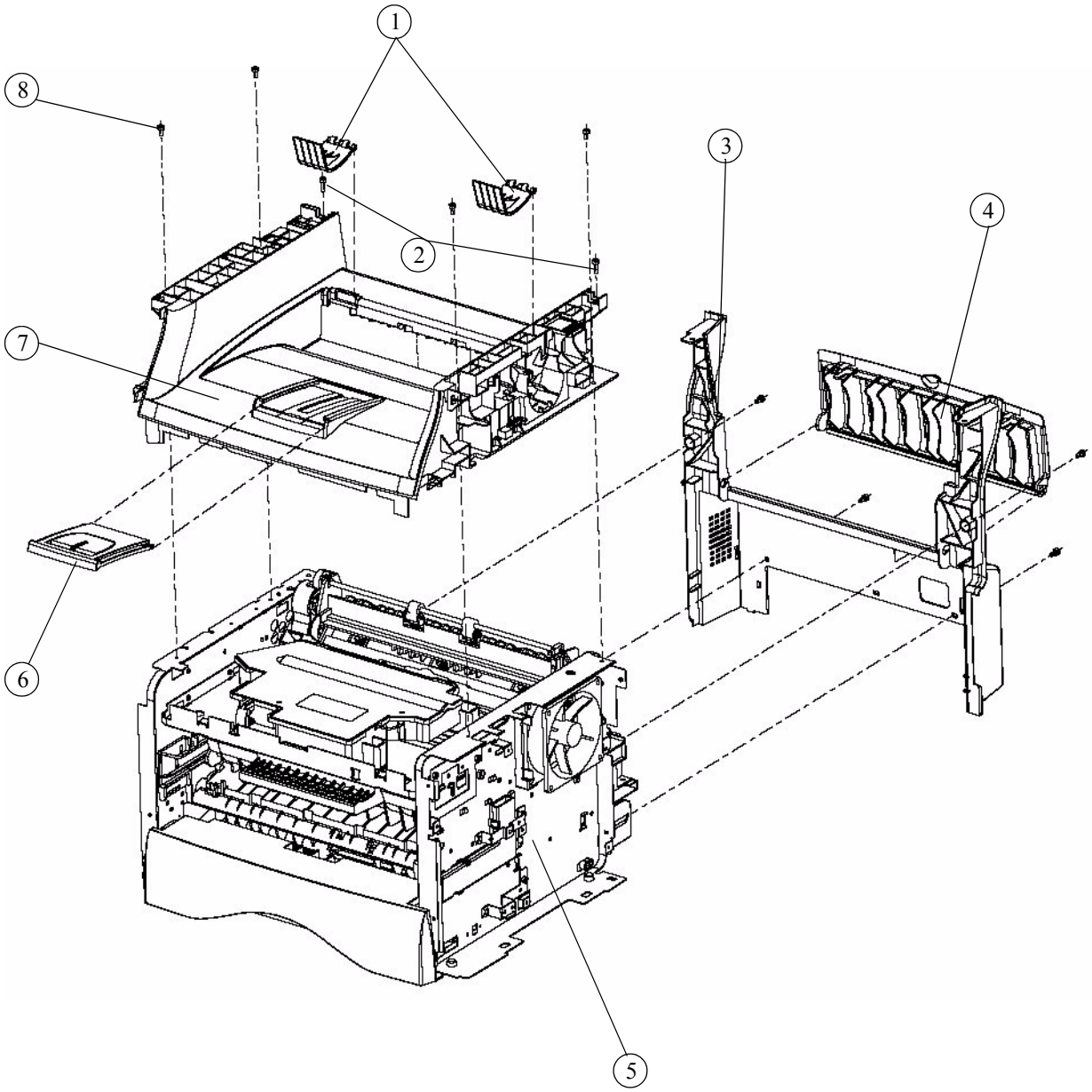


PLANCHE 3 / FIGURE 3

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189194102	Guide papier sortie imprimante Printer exit paper guide	2	
2	189393578	VIS 3x10 self tapping screw for plastic Screw 3x10 self tapping screw for plast.	2	
3	253018887	Capot arrière imprimante LFX V2 coloré Printer back cover LFX V2 colored	1	
4	189049993	Trappe arrière Cover rear	1	
5	189783079	LFXV2 Imprimante RICOH L1.EUR (G191-93) SP LFXV2 Printer RICOH L1V2 EUR (G191-93) LF	1	
6	189194818	Tirette imprimante + extension Tray exit+ extend	1	
7	253234767	Interface équipée V2 (voir planche 4) Equiped interface V2 (see figure 4)	1	
8	188616956	Vis autar. M3x6 steel swch16A Screw autar. M3x6 steel swch16A	6	

Imprimante équipée
Printer equiped

PLANCHE 3 / FIGURE 3

Vue de dessous
Bottom view

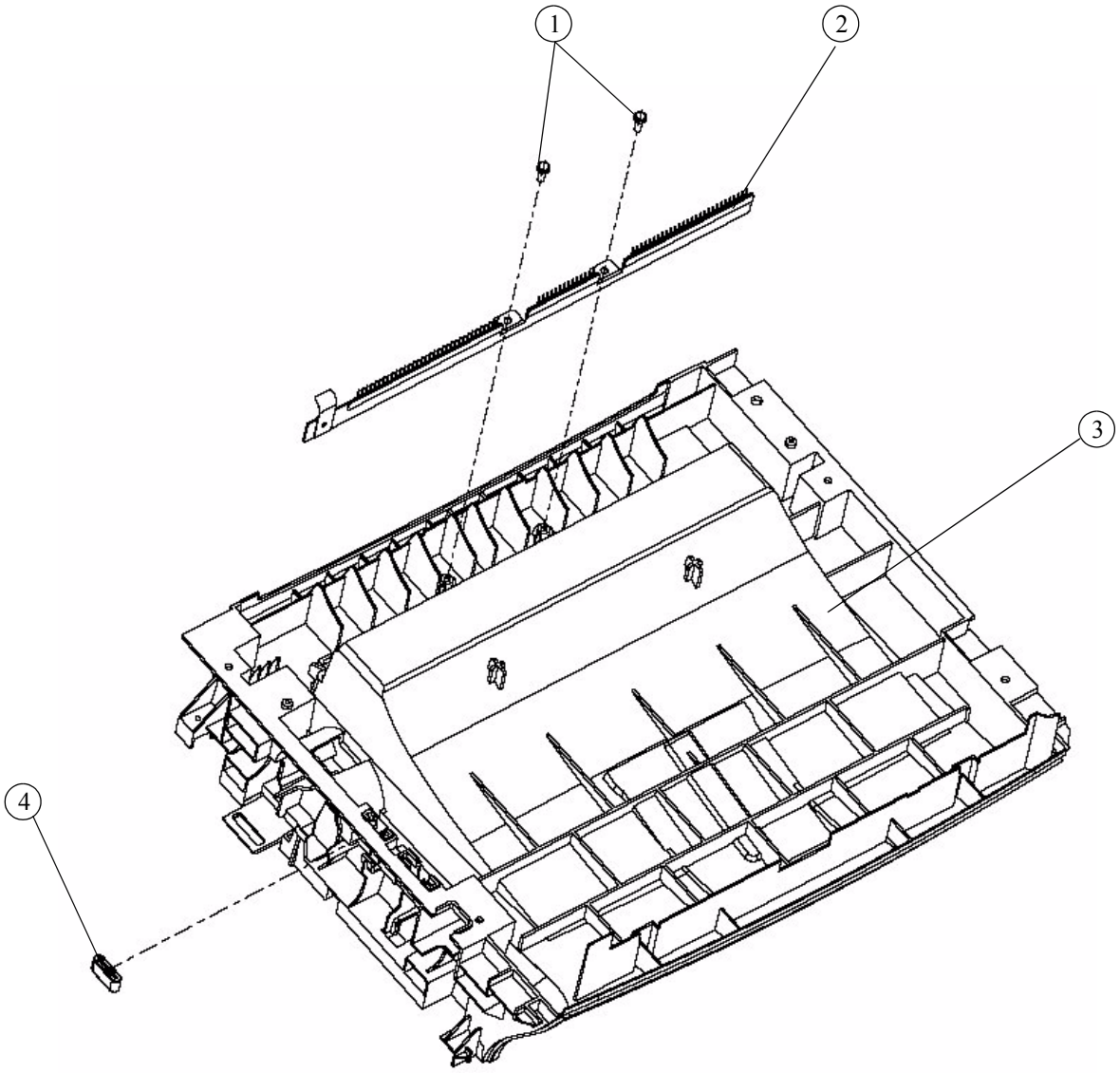


PLANCHE 4 / FIGURE 4

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189393578	VIS 3x10 self tapping screw for plastic Screw 3x10 self tapping screw for plast.	2	
2	189609405	Brosse antistatique Discharge brush	1	
3	253049960	Interface LFX V2 Colorée Interface LFX V2 Grey	1	
4	187956942	Ferrite p.cable plat 3W800 10 cond. SP Ferrite p.cable plat 3W800 10 cond. SP	1	
Interface équipée Equiped interface			PLANCHE 4 / FIGURE 4	

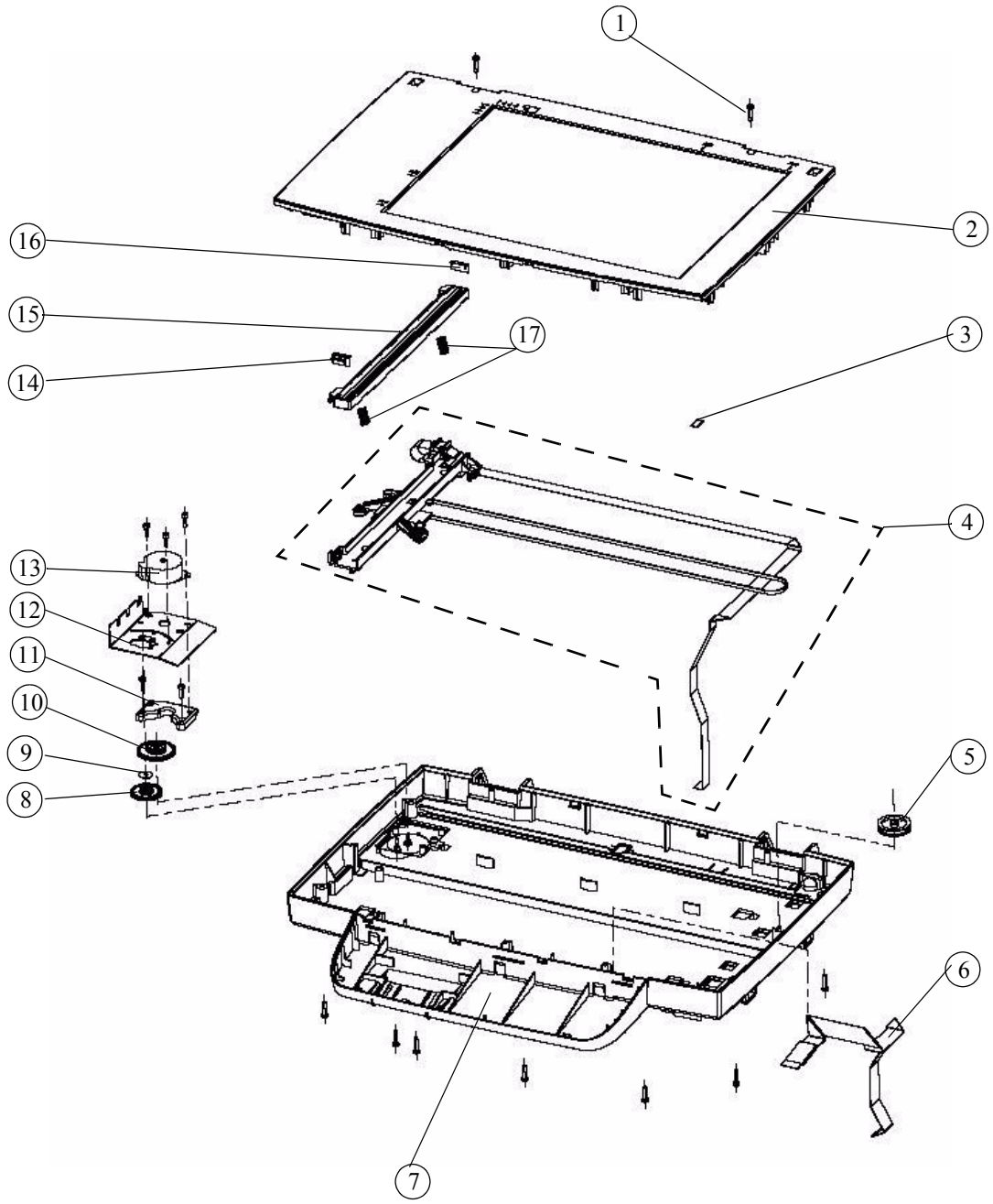


PLANCHE 5 / FIGURE 5

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189393578	Vis 3x10 self tapping screw for plastic Screw 3x10 self tapping screw for plast.	14	
2	252792335	Cadre vitre scanner LFF1 assemblé Scanner frame LFF1 assembly	1	
3	252325093	Adhésif double face ferrite Ferrite D-tape	2	
4	252197288	Support CIS LFx (voir planche 6) CIS support LFx (see figure 6)	1	
5	252236874	Poulie renvoi courroie CIS colorée CIS drive pulley colored	1	
6	252236978	Nappe console 16 points Console cord 16 pin	1	
7	253018824	Fond scanner coloré V2 Scanner bottom colored V2	1	
8	252236895	Pignon 55 dents scanner à plat coloré Scanner gear 55 teeth colored	1	
9	252236957	Disque pignon 15-55 dents coloré CIS drive disc colored	1	
10	252236915	Pignon 32/70 dents scanner à plat coloré Scanner gear 32/70 teeth colored	1	
11	252236960	Interface support moteur colorée CIS drive adaptor colored	1	
12	252151823	Tôle moteur scanner à plat CIS drive heat sink	1	
13	252151815	Moteur scanner à plat LFF Scanner motor LFF	1	
14	252236824	Glissière CIS gauche colorée CIS slider left colored	1	
15	189793182	CIS A4 600 DPI 1.5MS 3.3V SP CIS A4 600 DPI 1.5MS 3.3V LF	1	
16	252236832	Glissière CIS droite colorée CIS slider right colored	1	
17	252152528	Ressort CIS CIS spring	2	

Scanner à plat assemblé
Flat bed scanner assembly

PLANCHE 5 / FIGURE 5

Vue de dessous
Bottom view

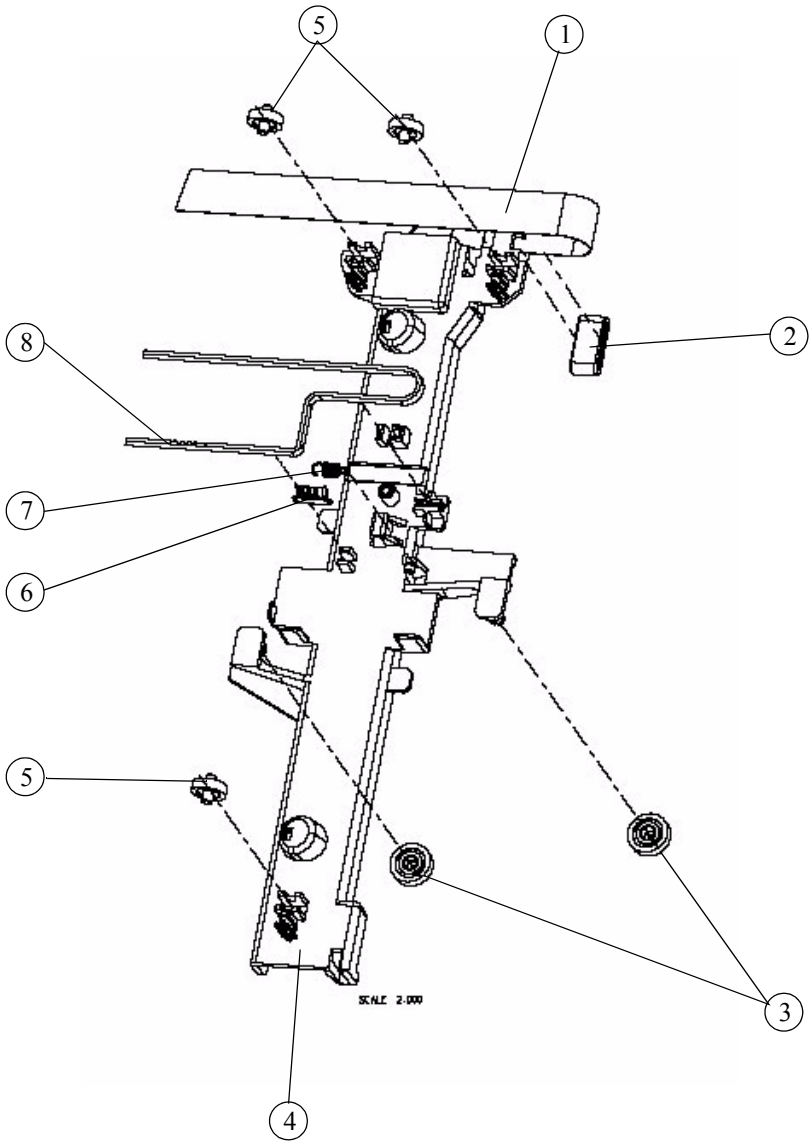


PLANCHE 6 / FIGURE 6

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	252748340	Nappe CIS 12 points 50 microns 12 pin 50 micrometers CIS flat cable	1	
2	187956942	Ferrite p.cable plat 3W800 10 cond. SP Ferrite p.cable plat 3W800 10 cond. SP	1	
3	252236803	Guidage central chariot CIS coloré Central roller of CIS support colored	2	
4	252236791	CIS support coloré CIS support colored	1	
5	252236811	Guidage latéral chariot CIS coloré Lateral roler of CIS support colored	3	
6	252151878	Connecteur courroie CIS CIS drive belt connection	1	
7	252151886	Ressort courroie CIS belt spring	1	
8	251450602	Courroie CIS drive belt	1	

Support CIS
CIS support

PLANCHE 6 / FIGURE 6

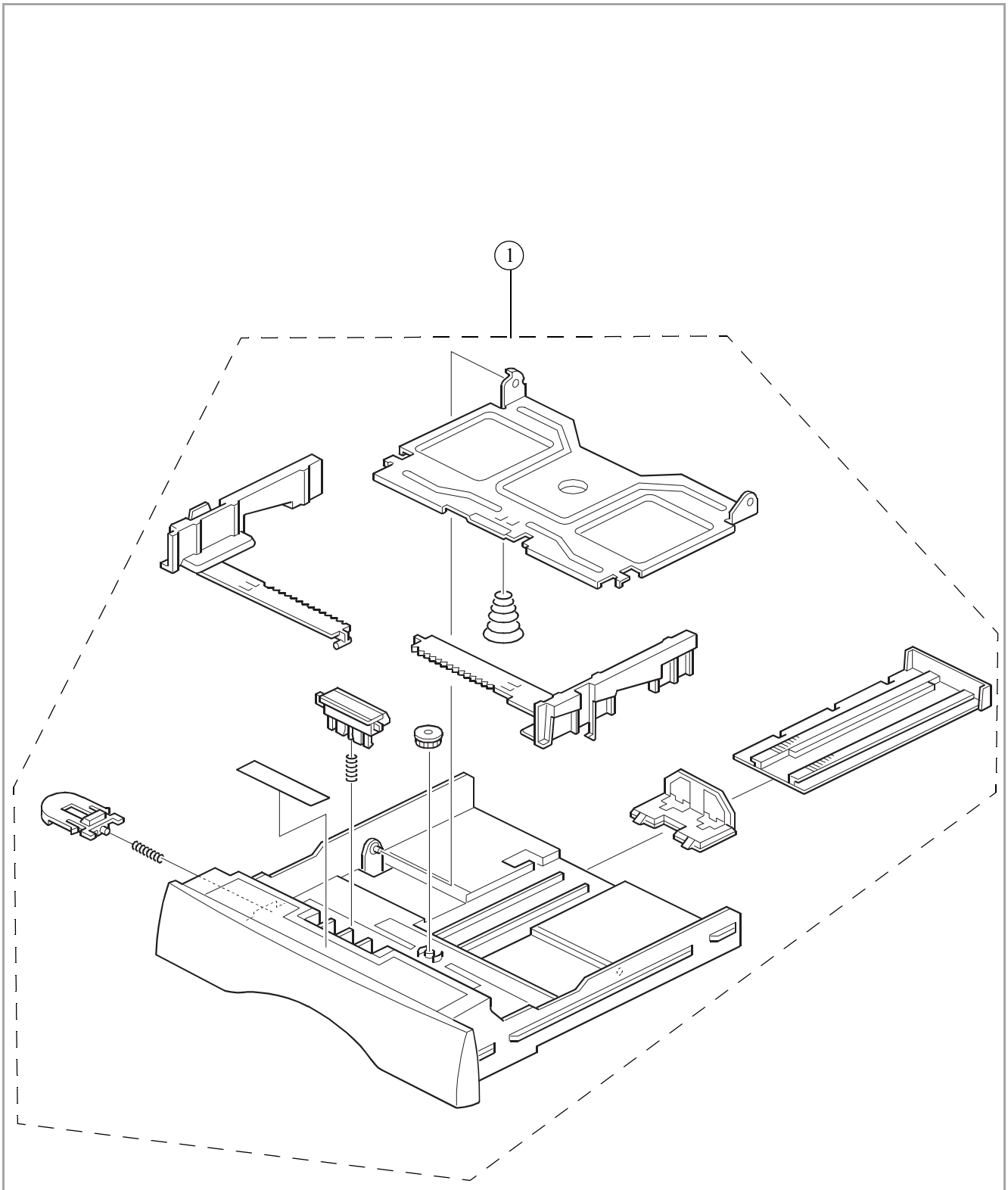


PLANCHE 7 / FIGURE 7

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189840717	Bac papier Paper tray unit	1	

Bac papier
Paper tray unit

PLANCHE 7 / FIGURE 7

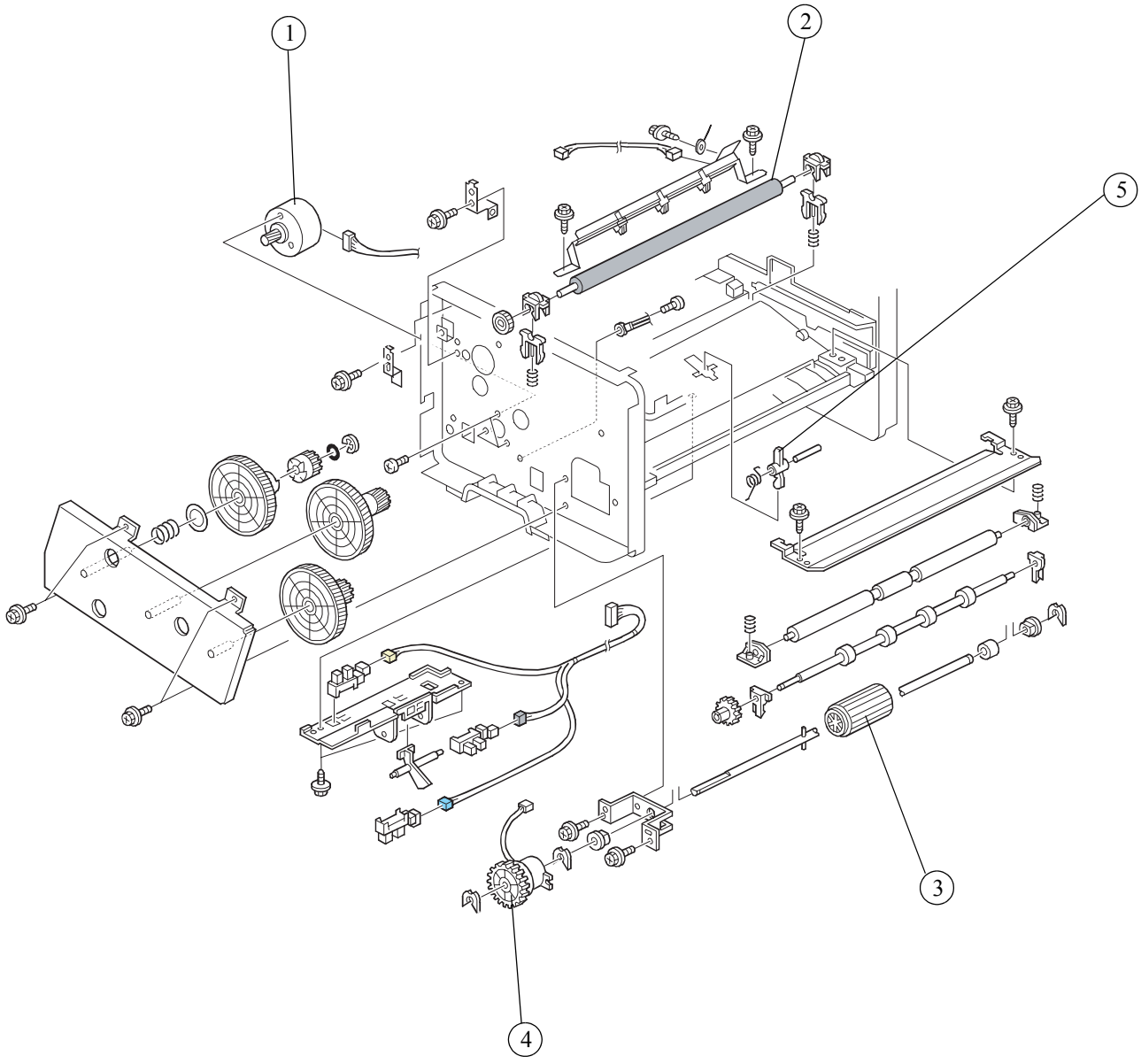


PLANCHE 8 / FIGURE 8

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189840770	Brushless motor - DC24V	1	
2	189245417	Transfer roller	1	
3	189245016	Paper feed roller - MM32	1	
4	189243624	Magnetic clutch -43z	1	
5	189242916	Actuator - Paper pick-up sensor	1	

Registre papier
Paper regist

PLANCHE 8 / FIGURE 8

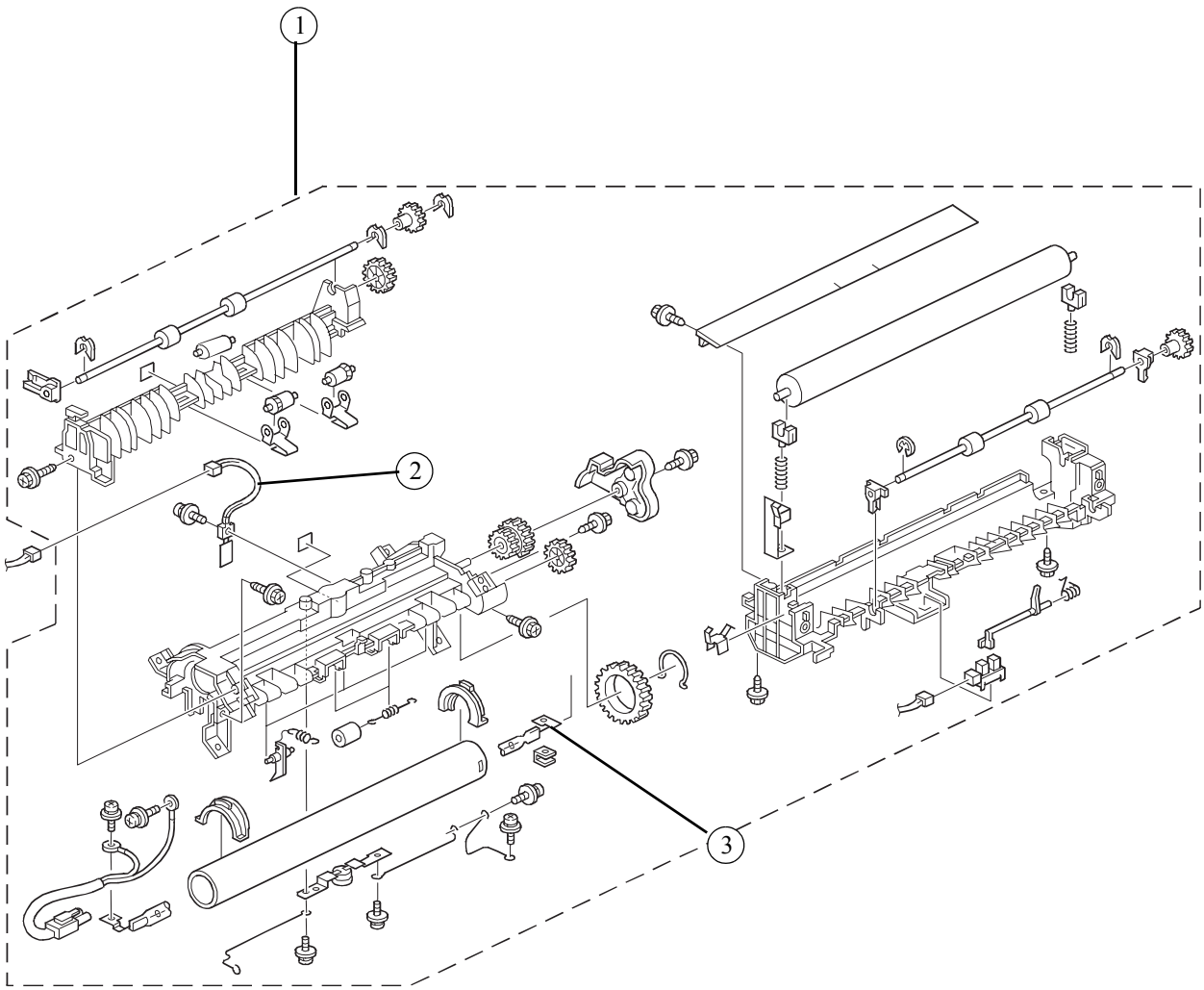


PLANCHE 9 / FIGURE 9

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189840824	Unité de fusion Fusing unit	1	
2	189243041	Fusing thermistor	1	
3	189245110	Heater - 600W	1	

Unité de fusion
Fusing unit

PLANCHE 9 / FIGURE 9

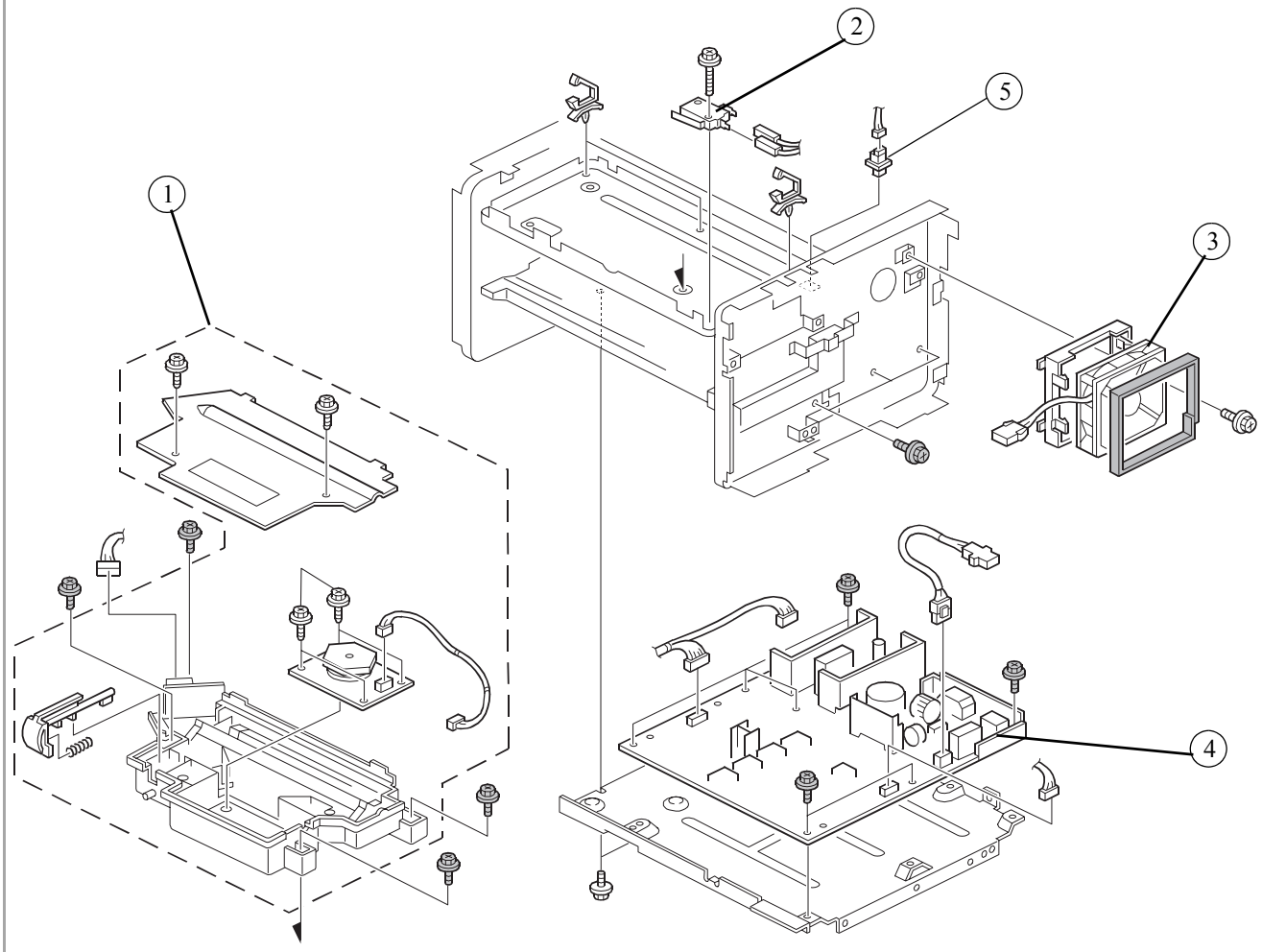


PLANCHE 10 / FIGURE 10

ITEM No.	REFERENCE	DESIGNATION	QTY	R
1	189840952	Laser unit	1	
2	189242841	Micro switch	1	
3	189432292	Fan assembly	1	
4	189840973	Power supply unit	1	
5	189242908	Push switch	1	

Parties électriques
Electric parts

PLANCHE 10 / FIGURE 10

3. PERSONNALISATION

Modèle/Model: Pagepro 1480MF

FIGURE	REPERE	DESIGNATION	REFERENCE
1	3	Cordon d'alimentation secteur / AC power cord Europe / Europe	189641841

PRINTER MODEL-L1

（G191）

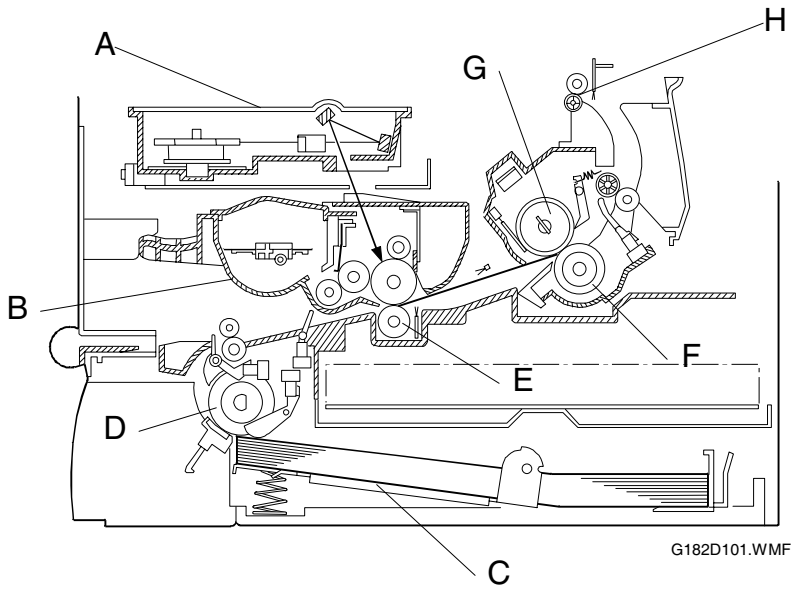
SERVICE MANUAL

TECHNICAL DOCUMENT

1. DETAILED SECTION DESCRIPTIONS

1.1 COMPONENT LAYOUT

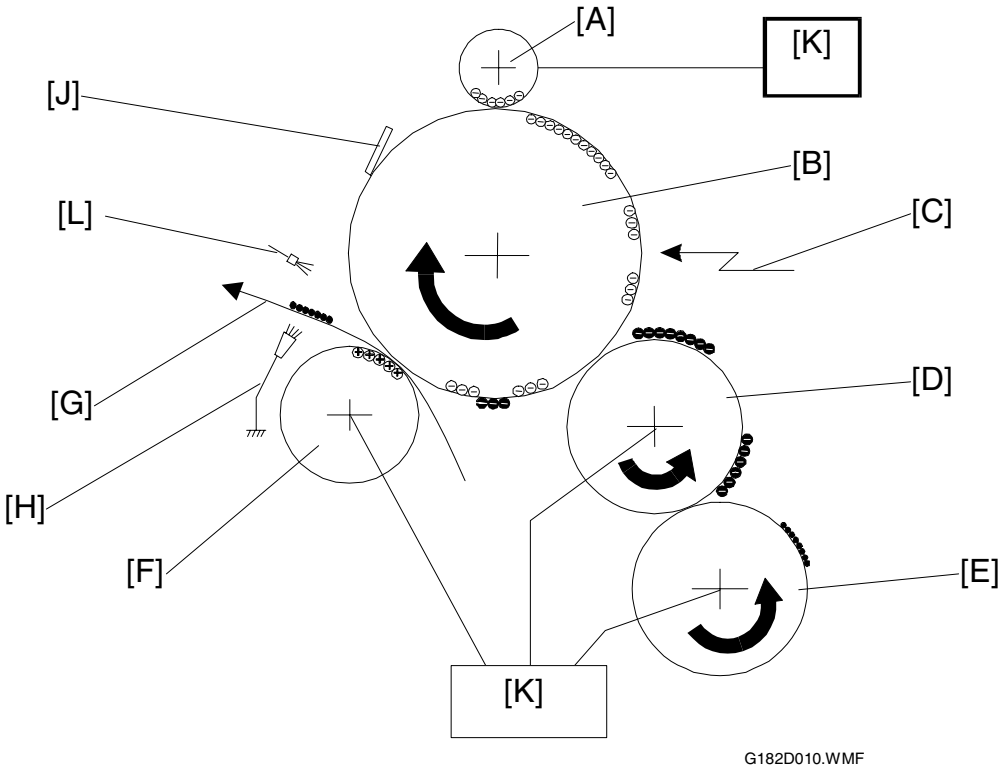
1.1.1 MECHANICAL COMPONENTS



No.	Name	Description
A	Laser Unit	Consists of the laser diode unit, cylindrical lens, f-theta lens, polygon mirror motor, and other laser optical components.
B	Toner Cassette	Consists of the OPC drum, toner, toner application roller, development roller, charge brush roller, cleaning blade, and other development components.
C	Upper Tray Bottom Plate	Presses paper stacked in the upper paper tray against the paper feed roller.
D	Paper Feed Roller	Picks up the top sheet of paper from the stack in the upper paper tray and feeds it into the transfer area.
E	Transfer Roller	Applies a charge to the paper to pull the toner off the drum and onto the copy paper.
F	Pressure Roller	Applies pressure to the paper during fusing.
G	Hot Roller	Fuses the toner to the copy paper.
H	Paper Exit Roller	Feeds the paper out of the printer.

1.2 PRINTING

1.2.1 PRINTING PROCESSES AROUND THE DRUM



G182D010.WMF

This machine uses a “write to black” system, using negative toner.

Charge: The charge brush roller [A] gives the OPC drum [B] surface a negative charge.

Exposure: A laser [C] writes a latent image on the drum. The charge in the area exposed by the laser beam drops.

Development: The development roller [D] carries toner to the drum and develops the latent image on the drum. The following charges are applied.
Development bias (during printing):
Toner application roller [E]
Development roller [D]
Switching bias (At the start and the end of any print process):
Toner application roller [E]
Development roller [D]

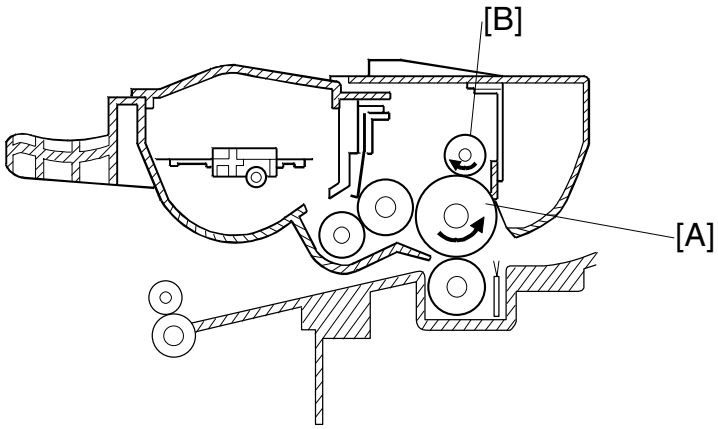
Image Transfer: The transfer roller [F] pulls the toner from the drum onto the paper [G].

Paper Separation: The antistatic brush [H] removes the charge on the underside of the paper to help the paper separate from the drum.

Drum Cleaning: The Discharge Lamp[L] discharge the OPC drum [B] surface, The cleaning blade [J] removes any toner remaining on the drum after the image is transferred to paper.

The high voltages [K] are supplied from the Power Supply Unit board.

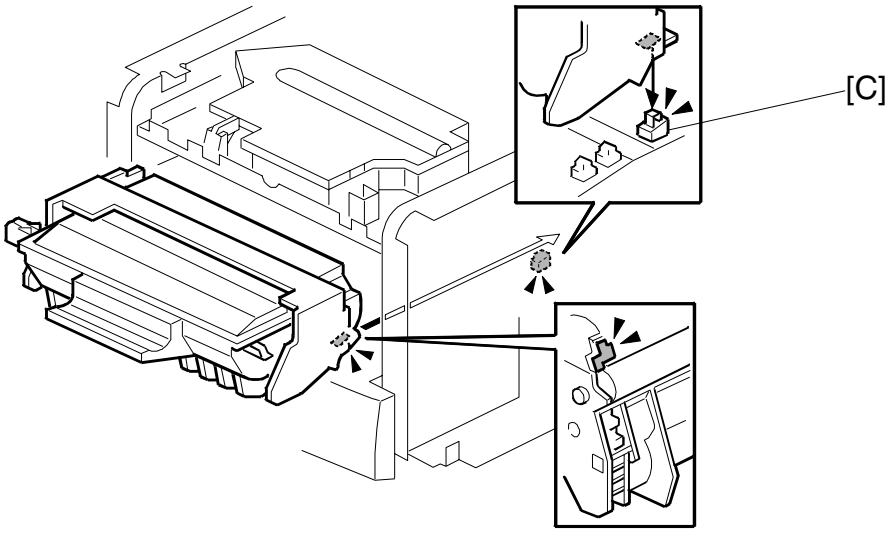
1.2.2 CHARGE



G182D102.WMF

The OPC (Organic Photoconductor) drum [A] used in this machine is small in diameter. This allows a very compact design.

A charge roller [B] charges the photoconductor. The charge roller has the advantage of not generating ozone. A large negative voltage is applied from the Power Supply Unit board to the charge roller. This charge roller gives the OPC drum surface a negative charge.

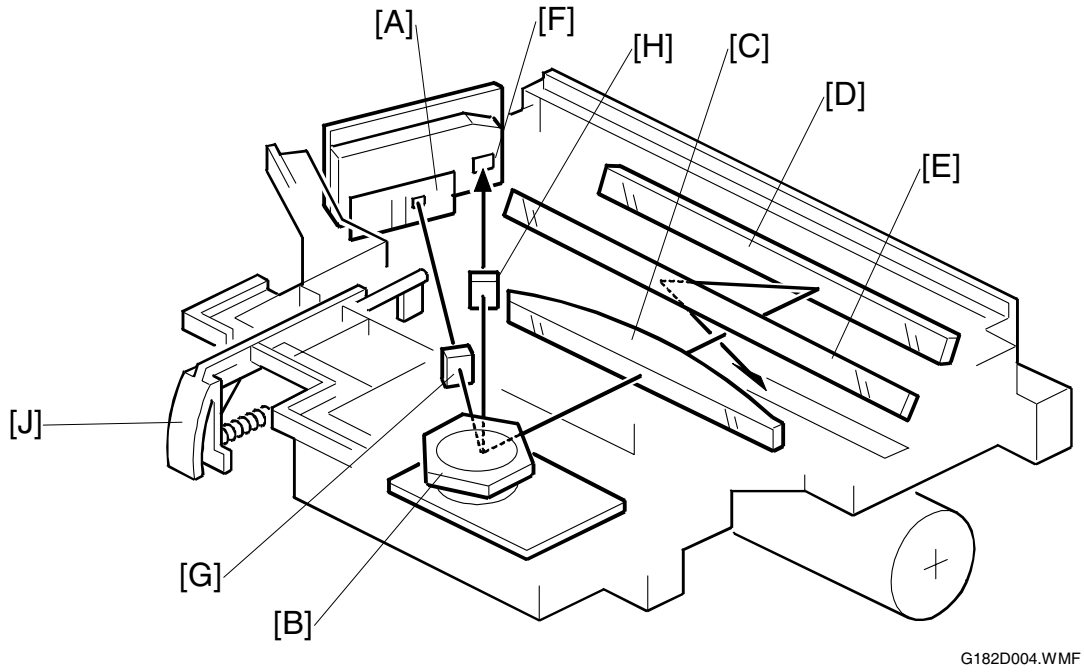


G182D003.WMF

The voltage to the charge roller is supplied through the terminal [C] from the Power Supply Unit board.

1.2.3 LASER EXPOSURE

Overview



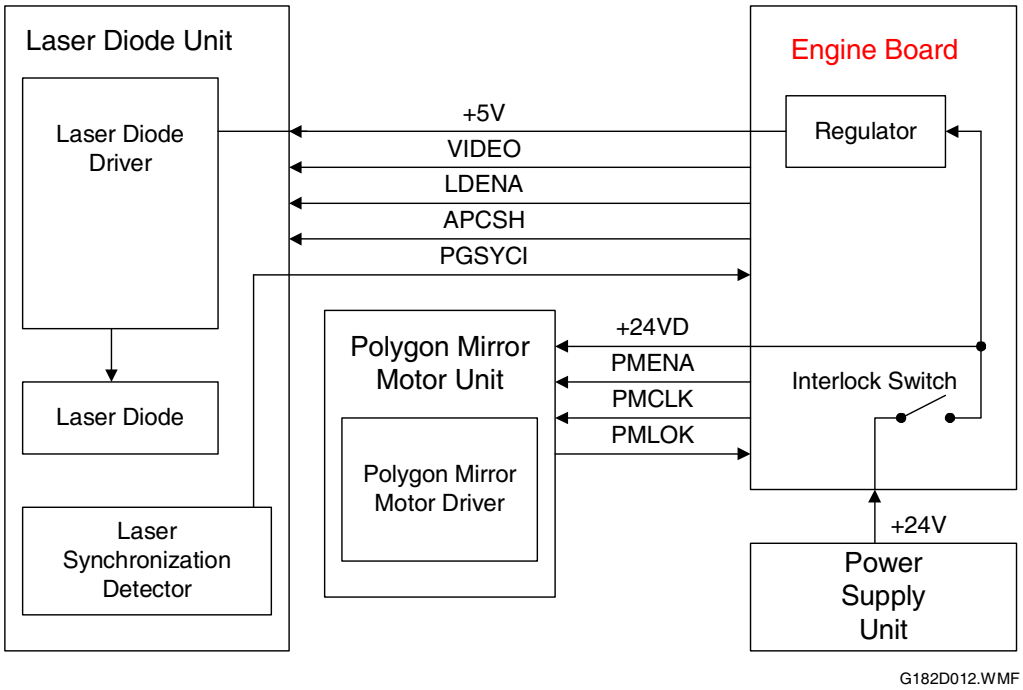
Laser Unit Layout

A : Laser Diode Unit
B : Polygon Mirror Motor
C : F-theta Lens
D : First Mirror
E : Second Mirror
F : Laser Synchronization Detector
G : Cylindrical Lens
H : Synchronization Detector Lens
J : Shutter

This machine uses a laser diode to produce an electrostatic latent image on the OPC drum. The laser diode unit converts image data into laser pulses, and the optical components direct these pulses to the OPC drum.

As a mechanical safety feature, the shutter [J] closes to block the laser beam path whenever the front door is opened.

Block Diagram



The Engine Board controls the laser diode power (APCSH) and transfers data for printing to the laser diode (VIDEO). As an electrical safety feature, there is an interlock switch on the Engine Board. This switch cuts +24 volts whenever the front door is opened.

Error Conditions

Laser Error

The machine detects laser synchronization signal pulses (PGSYCI) 70 milliseconds after the (LDENA) signal is sent. It detects a laser error if the pulse count does not reach the specified number within 400 milliseconds.

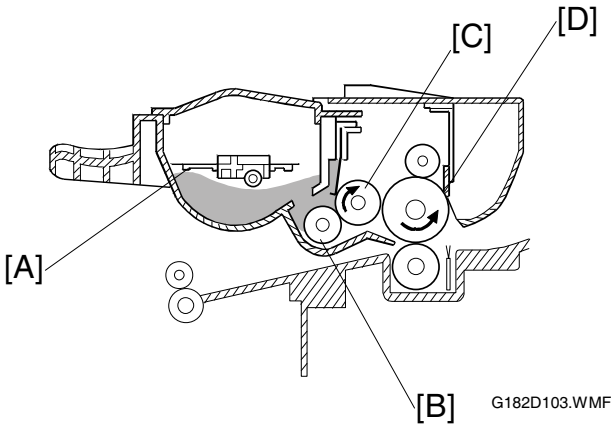
When this occurs, the machine warns the customer on the LCD panel (Error 56).

Polygon Mirror Motor Error

The machine detects a polygon mirror motor error when the (PMLOK) signal does not go low within 3.5 seconds of the (PMENA) signal. When this occurs, the machine warns the customer on the LCD panel (Error 57).

1.2.4 DEVELOPMENT

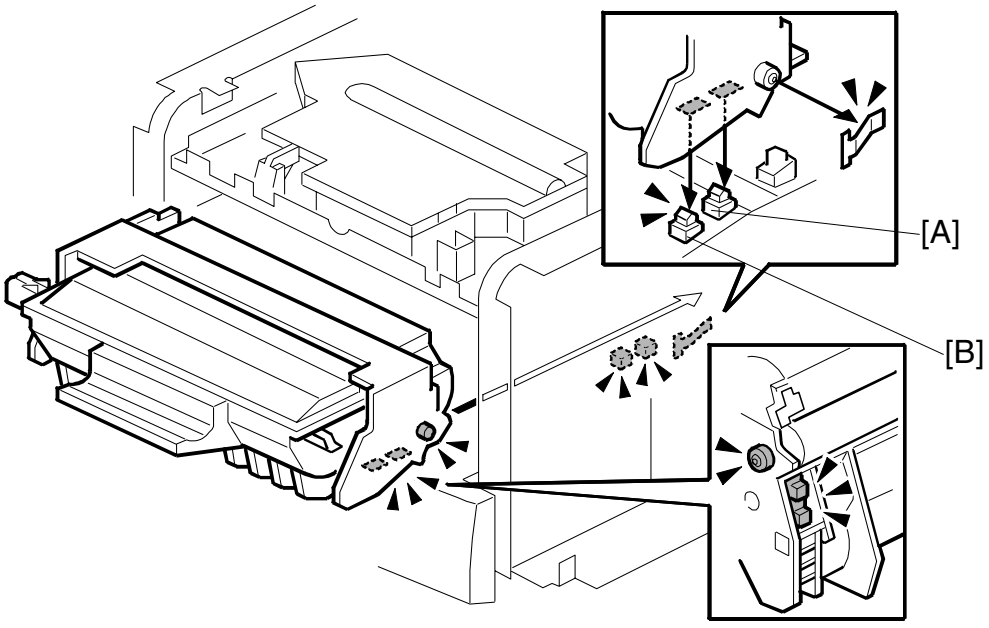
Overview



This machine uses mono-component toner, which is composed of resin and ferrite. The toner mixing bar [A] stirs and carries toner to the toner application roller [B]. The toner application roller supplies toner to the development roller [C]. As the development roller turns past the toner metering blade [D], only a thin coating of negatively charged toner particles stays adhered to the development roller.

During printing, a bias voltage is applied to the toner application roller and another bias voltage is applied to the development roller. The toner is transferred from the toner application roller to the development roller by the potential difference between these two rollers.

The development roller applies toner to the exposed areas of the latent image as they turn past the drum.



G182D005.WMF

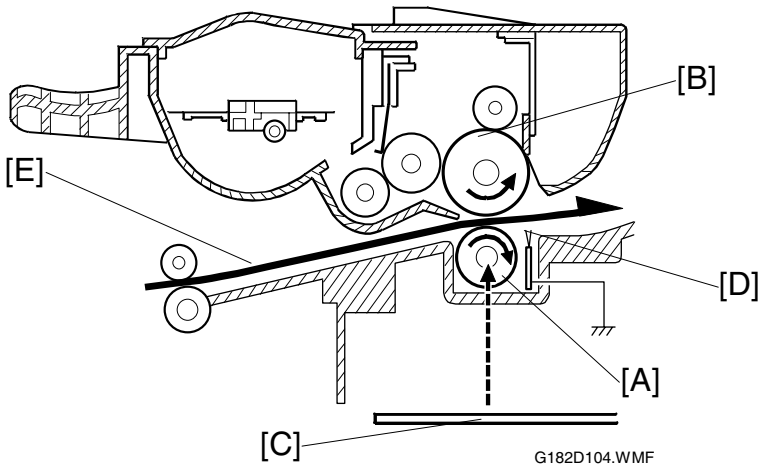
The voltage to the development roller and the toner application roller is supplied through the terminals ([A] for the development roller and [B] for the toner application roller) from the Power Supply Unit board.

Toner End Detection

This machine does not have toner end detection.

1.2.5 TRANSFER AND SEPARATION

Overview



This machine uses a transfer roller [A], which touches the OPC drum [B] surface. A constant current is applied to the transfer roller from the power supply unit board [C]. The positively-biased transfer roller pulls negatively-charged toner off the drum. The curvature of the drum, and the antistatic brush [D], help the paper [E] to drop away from the drum.

Cleaning Mode

If a paper jam occurs during printing, toner may be transferred to the transfer roller surface. To prevent this toner from transferring to the underside of the paper, the transfer roller must be cleaned before the next printing run.

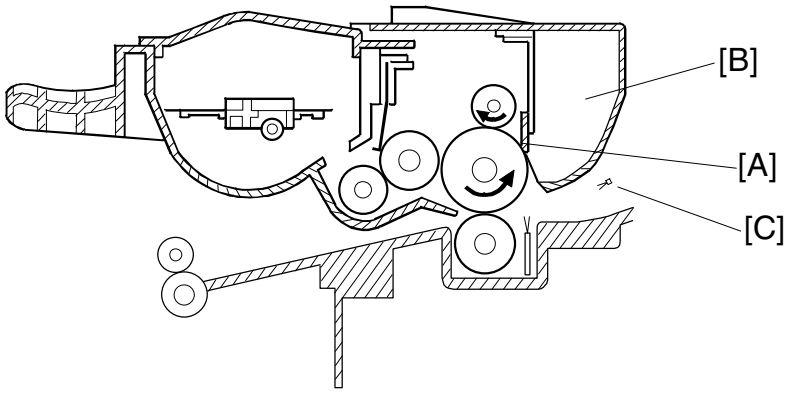
While the machine is in the cleaning mode, the Power Supply Unit board applies a negative voltage to the transfer roller.

The negatively charged toner on the transfer roller is then transferred back to the drum.

The machine goes through the cleaning mode at the following times.

- At power-up: The process starts when the fusing temperature reaches the standby temperature.
- When the cover is opened and then closed during the printing process.
- After a printer jam has been cleared.

1.2.6 DRUM CLEANING



G182D102.WMF

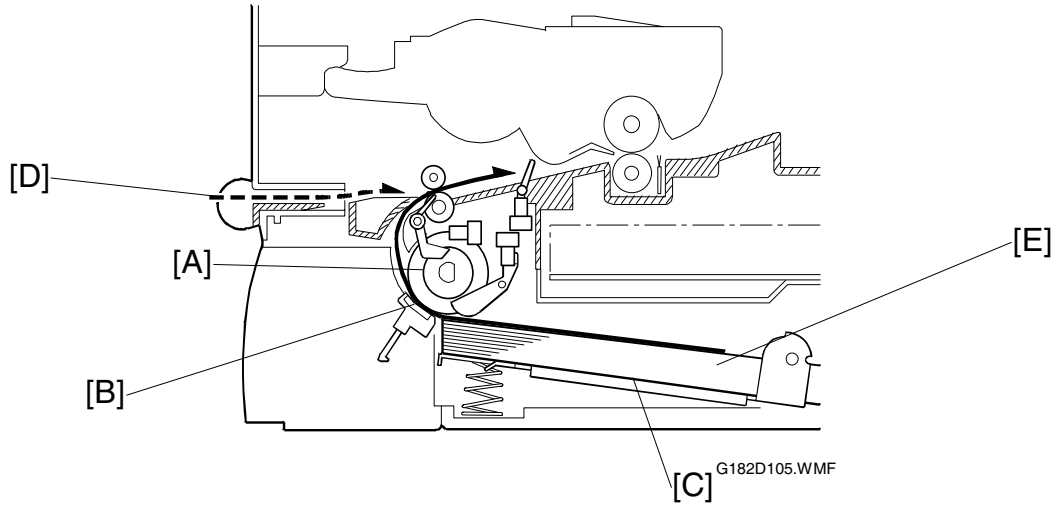
The cleaning blade and the used toner tank are contained in the toner cartridge.

The Discharge Lamp and A counter blade system is used for drum cleaning. The Discharge Lamp[C] discharge the drum surface. The cleaning blade [A] removes any toner remaining on the drum after the image is transferred to the paper. This removed toner is stored in the used toner tank [B].

There is no used toner overflow detection mechanism, because the used toner tank is large enough for the lifetime of the toner cassette.

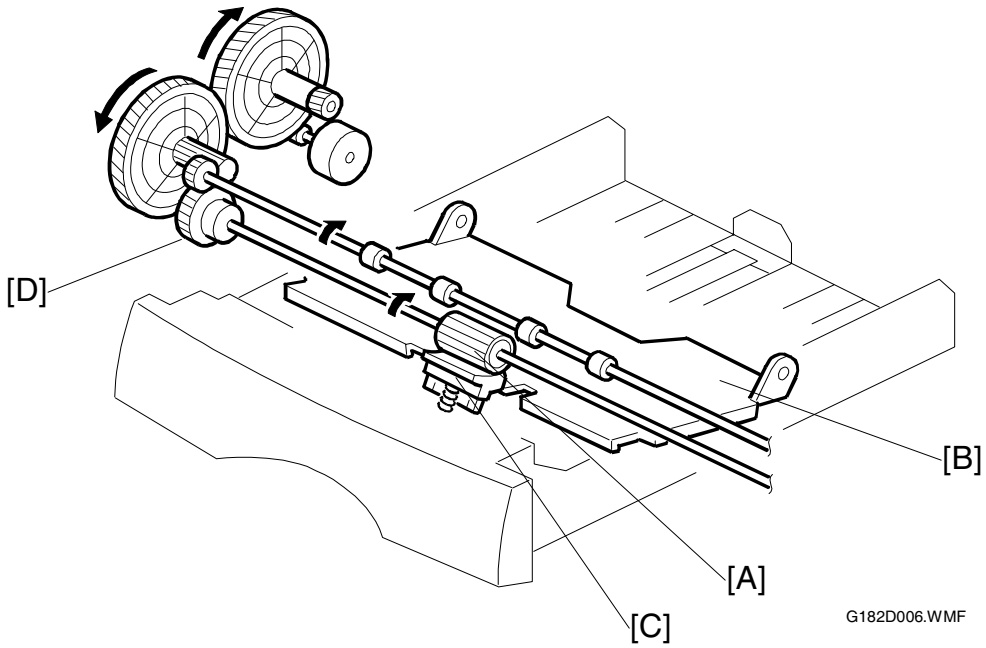
1.2.7 PAPER FEED AND REGISTRATION

Overview



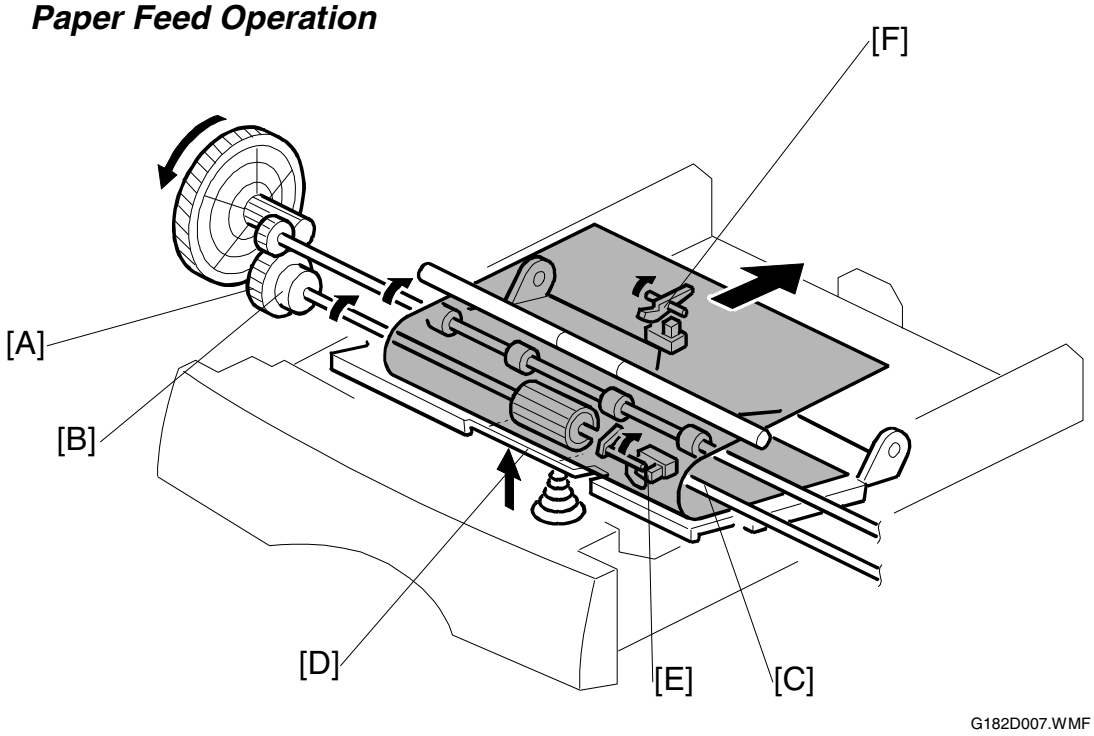
Paper Feed System:	Feed roller [A] and Friction pad [B]
Paper Lift Mechanism:	Bottom plate with spring [C]
Sheet feeder	1 sheet feeder [D]
Tray Capacity:	250 sheets [E]
Paper End Detection:	Paper end sensor
Paper Size Detection:	None

Paper Feed Drive Mechanism



The feed roller [A] is located above the upper tray bottom plate [B], and the friction pad [C]. It allows only one sheet to feed from the paper tray. They are controlled by the paper feed clutch [D]. The registration sensor detects the leading edge of the paper and synchronizes paper feed with the activation of the laser diode to write the image on the OPC drum.

Paper Feed Operation

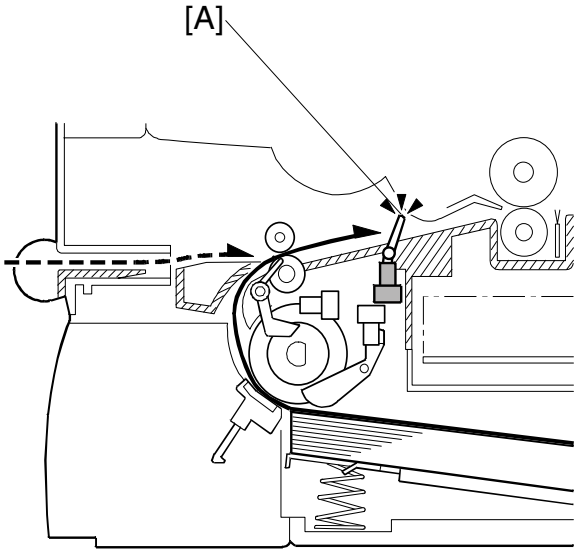


A : Paper feed drive gear
B : Paper feed clutch
C : Paper feed roller
D : Friction pad
E : Paper feed sensor
F : Registration sensor

The paper feed drive gear [A] always rotates while the main motor rotates, since the paper feed clutch (magnet clutch) [B] is energized to turn the paper feed roller [C].

When the paper feed clutch [B] is energized to turn the feed roller, the paper feed roller feeds one sheet of paper from the tray. The paper is fed into the machine by the registration roller.

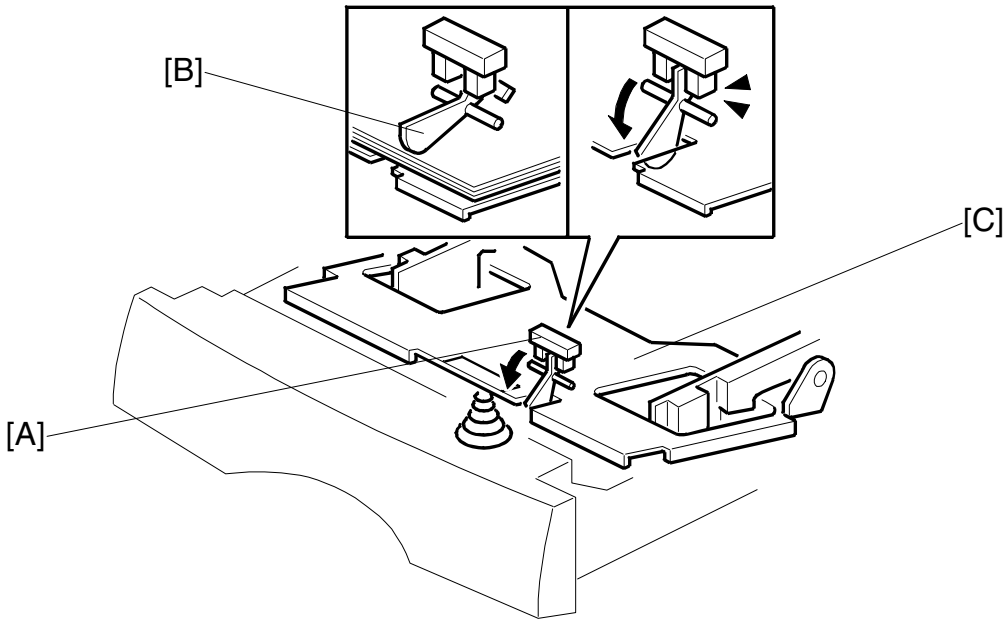
Registration



G182D107.WMF

The registration sensor [A] detects the leading edge of the paper and synchronizes paper feed with the writing of the image on the drum, so that the image and paper match up properly. This sensor also detects paper feed jams.

Paper End Detection



G182D008.WMF

The laser unit [A] has the paper end sensor [B] built into it. The paper end sensor detects the presence or absence of paper. The sensor has an actuator that extends through a slot in the paper tray bottom plate [C], so that the sensor is actuated when paper is placed in the upper tray.

When the upper tray runs out of paper, the actuator of the paper end sensor moves into the slot in the upper tray bottom plate. This informs the CPU that paper has run out.

Jam Detection

Jam 1. Paper jam at the paper cassette

When the registration sensor does not turn on within 2.52 seconds after the paper pick-up clutch for the paper cassette turns on.

Jam 2. Paper did not pass the registration sensor

When the registration sensor does not turn off within the specified time for passing each paper size (see below) + 3 seconds after the registration sensor turns on.

Paper Size	A4SEF	A5SEF	A5LEF	A6SEF	B5SEF	B6SEF	Letter SEF	Legal SEF	Envelope (91x191mm)
Specified Time (msec)	2555	1807	1273	1273	2211	1566	2400	3059	1643

Jam 3. Paper did not reach the fusing unit

When the paper exit sensor does not turn on within 1.94 seconds after the registration sensor turns on.

Jam 4. Paper jam in the fusing exit area

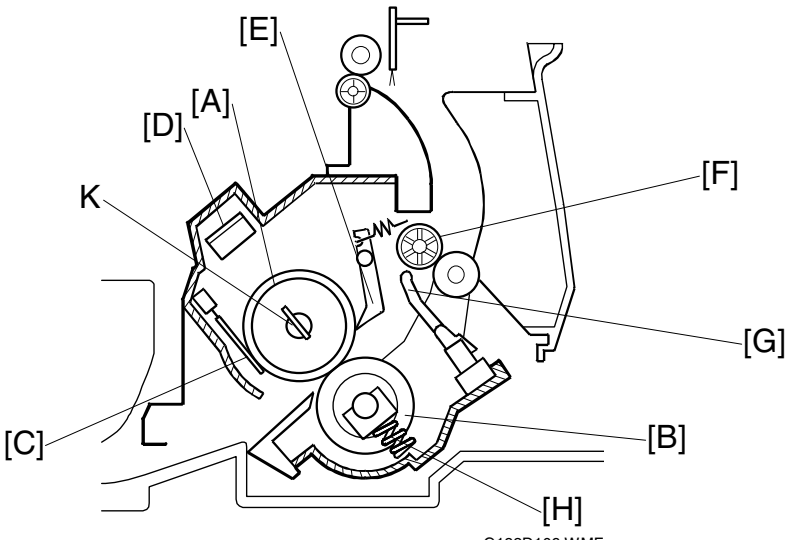
When the paper exit sensor does not turn off within 2.99 seconds after the registration sensor turns off.

Jam 5. Paper no feed jam in the bypass tray

When the registration sensor does not turn on within 1.72 seconds after the main motor starts.

1.2.8 FUSING

Overview



After the image is transferred, the copy paper enters the fusing unit. The image is fused to the copy paper by applying heat and pressure through the use of a hot roller [A] and pressure roller [B].

The CPU monitors the hot roller temperature through a thermistor [C] that is in contact with the hot roller surface. A thermostat [D] protects the fusing unit from overheating.

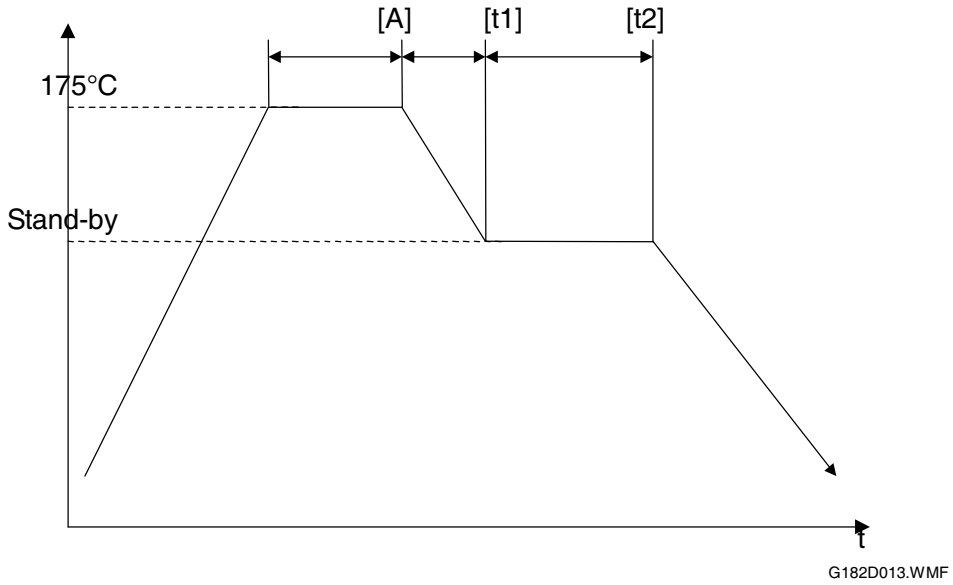
The hot roller strippers [E] separate the copy paper from the hot roller and direct it to the exit rollers [F]. The paper feed/exit sensor [G], which is under the fusing unit, monitors the progress of the copy paper through the fusing unit and detects misfeeds. The exit rollers [F] drive the copy paper to the paper output tray.

Springs [H] at the front and rear apply the proper fusing pressure between the hot roller and pressure roller.

The fusing lamp [K] is located in the hot roller.

Power Save Control

When the main switch is turned on, the machine turns on the fusing lamp. For printing, the machine raises the fusing temperature to 175°C. The fusing temperature is kept at 175°C during printing.



When the power saver timer expires, the machine automatically goes into energy saver mode.

Power saver timer

t1 = 170 second.

- After time interval t1 passes following printing, copying, scanning, or key-in [A], the LCD and all LED's go off.

t1 + t2 = off or delay 30 sec or 5 minutes or 15 minutes or 30 minutes or stdby period(selectable)

- The default value is 30 sec. (Economy Mode)
- Pressing the ECO key into Economy mode .
- Pressing the up or down key to change this condition .

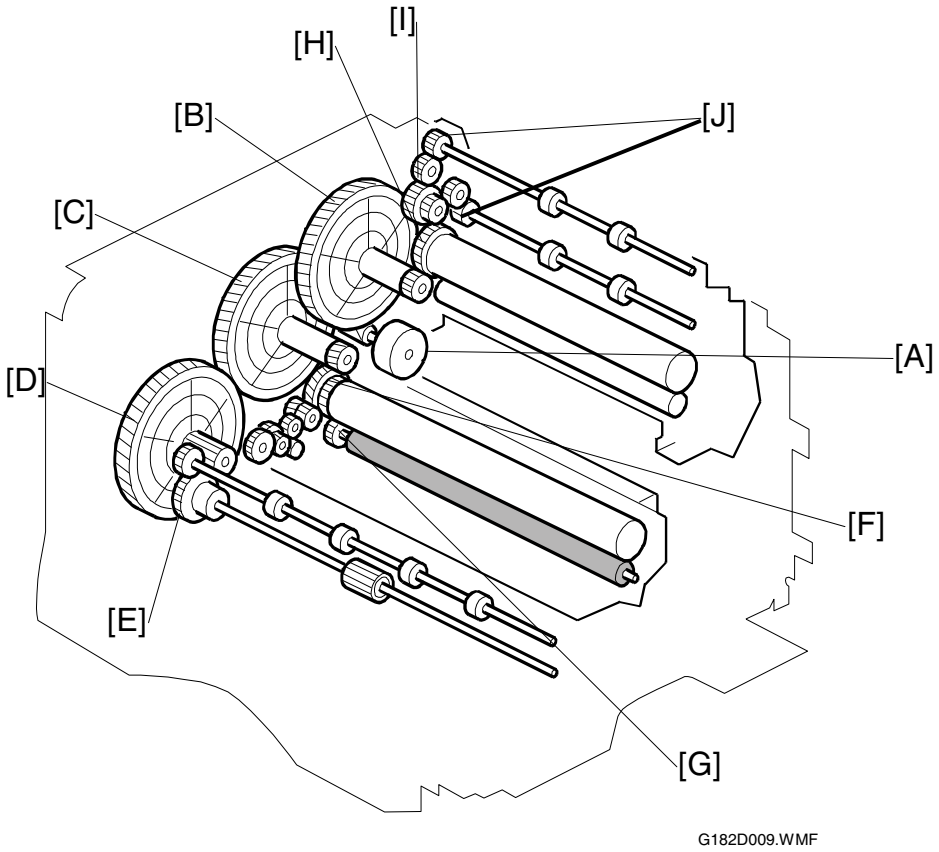
1.2.9 COVER SWITCH

When the front door is opened, the interlock switch will be opened and power supply to the following parts will be cut.

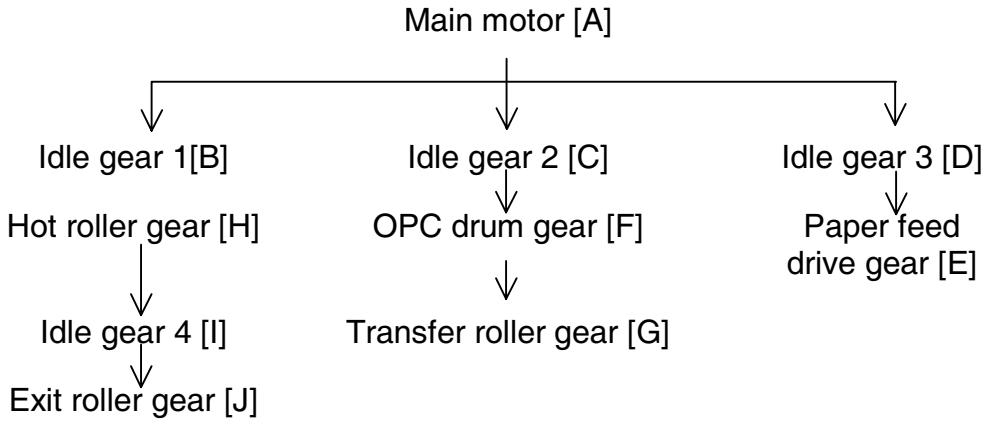
G182D014.JPG

- Power pack
- Laser diode driver
- Fan motor
- Main motor
- Polygon mirror motor
- Fusing lamp

1.2.10 PAPER FEED DRIVE RELEASE AND FUSING DRIVE RELEASE



The main motor drives the paper feed unit, the transfer roller, the toner cassette, and fusing unit through a series of gears as follows.



2. REPLACEMENT AND ADJUSTMENT

The following table shows the part replacement rank, which explains the difficulty of each replacement procedure.

Definition:
A: Replacement in the field cannot be recommended.
(It takes time and needs space.)
B: Replacement in the field is recommended. (It should take less than 10 minutes.)
C: Replacement in the field is recommended. (It should take less than 5 minutes.)

Part unit	Part Name	Rank
Paper cassette	Side fence	C
	Side fence gear	C
	Bottom plate	C
	Friction pad	C
Laser	Laser unit	C
Fusing	Fusing unit	C
	Paper exit area	C
	Hot roller	B
	Pressure roller	B
	Fusing lamp	B
	Thermistor	B
	Thermostat	B
Paper feed	Paper feed roller	B
Registration	Registration roller	A
Transfer	Transfer roller	C
Motors	Main motor	A
	Fan motor	C
PSU	PSU	A
Discharge Lamp	Discharge Lamp Assys	A

2.1 PAPER CASSETTE

2.1.1 PAPER CASSETTE

[A]: Paper cassette

G182R001.JPG

Side Fence

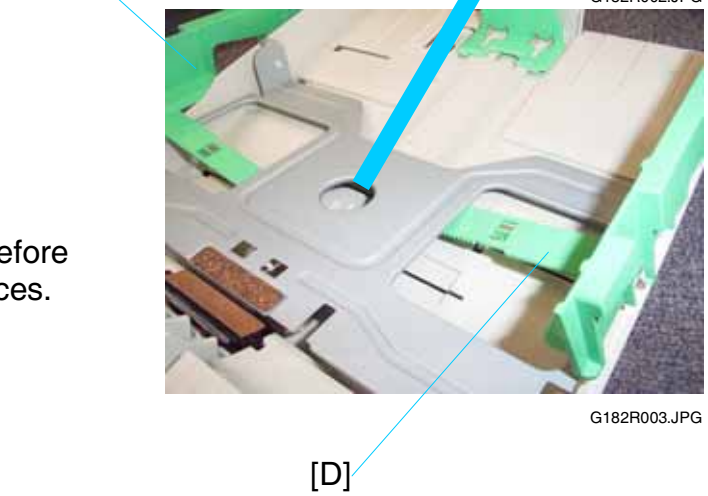
[B]: Side fence gear (pull it out)

G182R002.JPG

[C]: Side fence – Left
Unhook at the rear.

[D]: Side fence – Right
Unhook at the rear.

NOTE: Lift the bottom plate before removing the side fences.



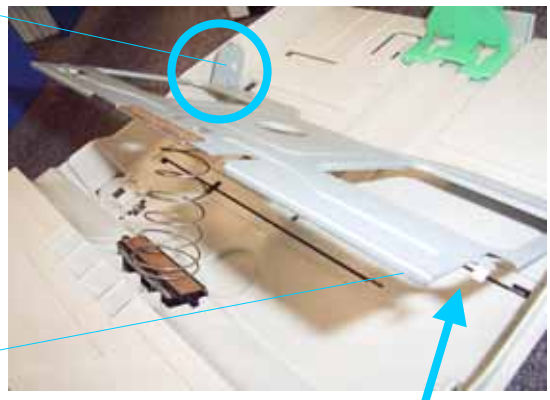
G182R003.JPG

Bottom Plate

[E]: Bottom plate

Unhook at both sides of the cassette [F].

Detach from the pin [G] at both sides.



G182R004.JPG

G182R005.JPG

Friction Pad

[H]: Friction pad (two hooks)

NOTE: Be careful not to lose the spring [I].

G182R006.JPG

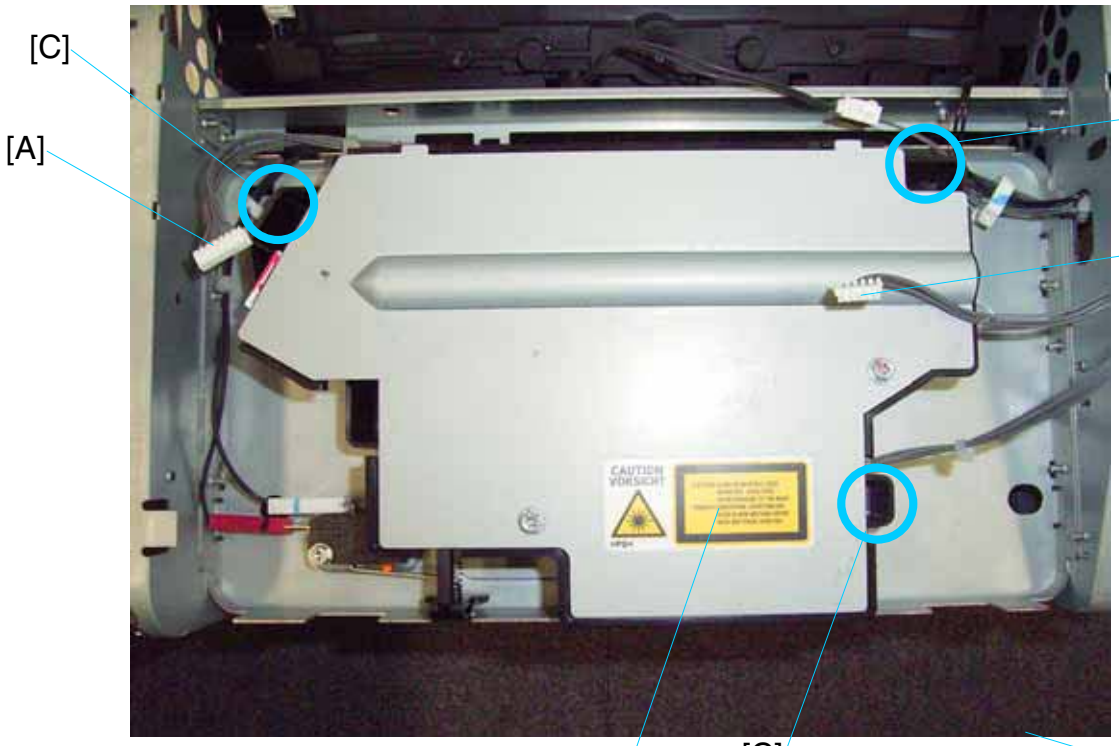
2.2 LASER UNIT

WARNING FOR THE LASER UNIT
This machine contains a laser beam generator. Laser beams can cause permanent eye damage. Do not open the laser unit or look along the laser beam path while the main power is on.

This device complies with IEC60825-1:1993+A1:1997+A2:2001 standard, is classified as laser class 1 product and contains one class 3B laser diode, 10.72 mW max, 770-795 nm and other class 1 LEDs (280 µW at 639 nm).
The maximum breakdown output power of radiation of laser diode is 50 mW at 770-795 nm.

Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)

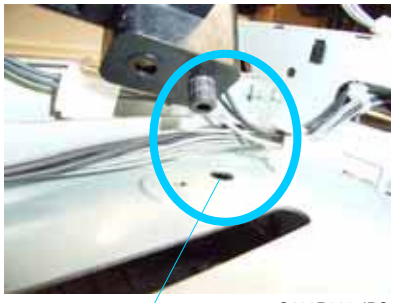


G182R007.JPG

[A]: Laser diode unit harness
[B]: Polygon mirror motor harness
[C]: Laser unit (3 screws [circled in blue above])

NOTE: When re-assembling, make sure to set the positioning pin [D] in the hole [E].

[F]: Warning label (see the following page)



G182R008.JPG

Warning Label [F]

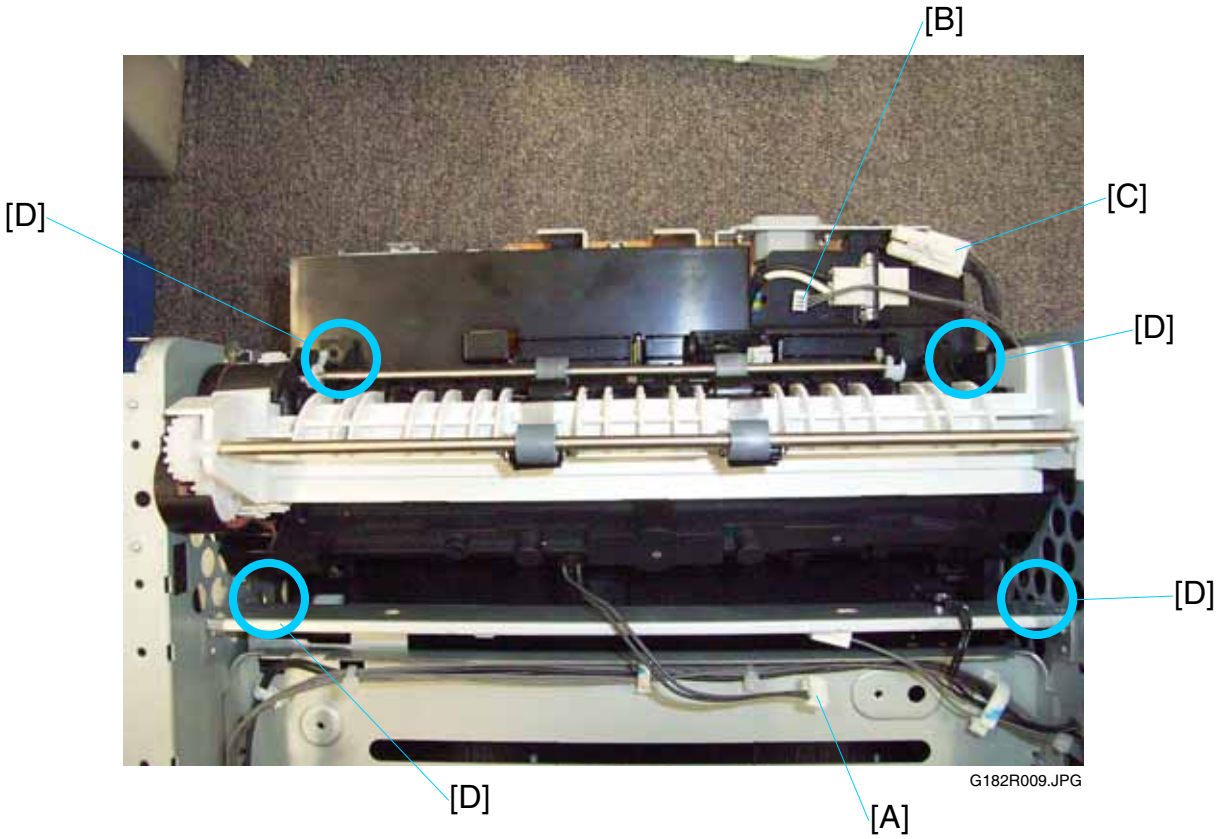
3BLASERCAUTION.WMF

2.3 FUSING AREA

2.3.1 FUSING UNIT

Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)



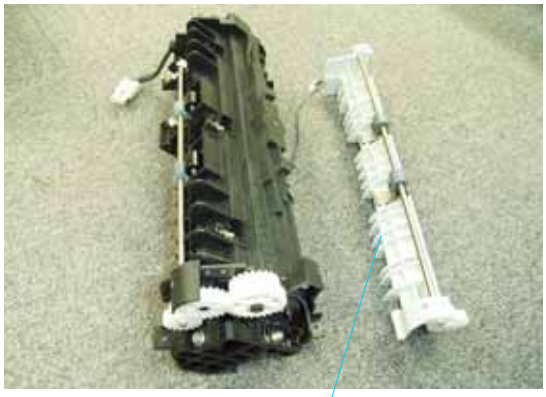
[A]: Thermistor harness
[B]: Paper exit sensor harness
[C]: Fusing lamp harness
[D]: Fusing unit (4 screws [circled in blue above])

2.3.2 PAPER EXIT ASSEMBLY

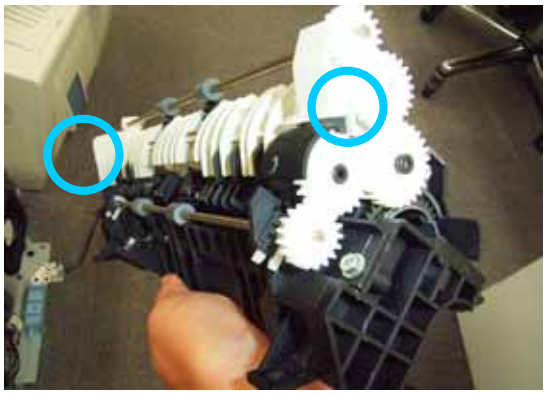
[A]: Fusing cover (1 screw)

G182R010.JPG

[B]: Paper exit assembly (2 screws [circled in blue in the lower diagram])



G182R012.JPG



G182R011.JPG

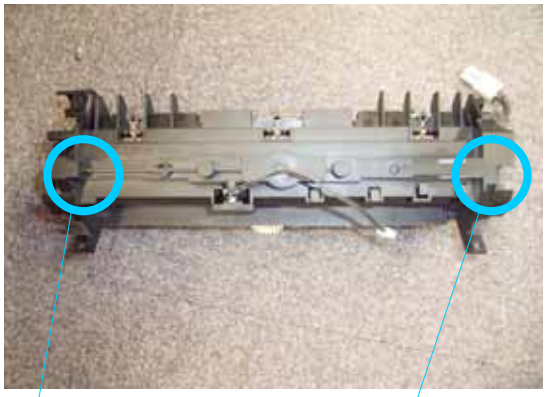
2.3.3 FUSING LAMP AND HOT ROLLER

Preparation:

- Remove the paper exit assembly (* 2.3.2).

Fusing Lamp

[A]: Fusing lamp (2 screws)

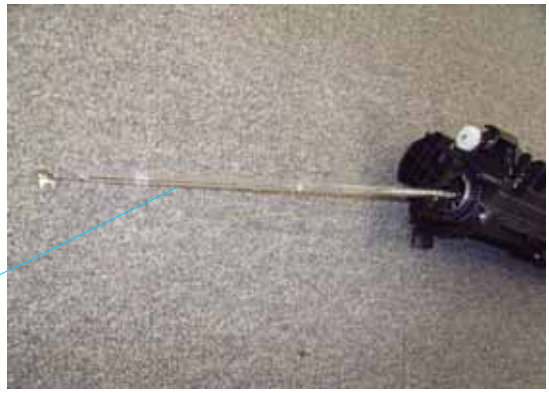


G182R013.JPG

G182R014.JPG

G182R015.JPG

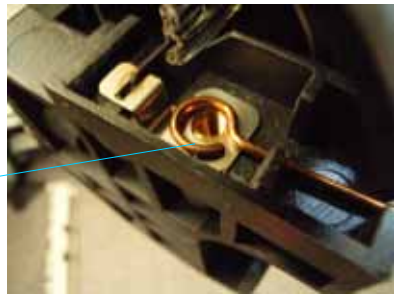
NOTE: Do not touch the surface of the fusing lamp with bare hands.



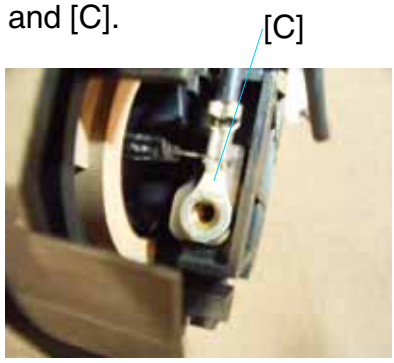
G182R018.JPG

Reassembly

When reassembling, be careful to set the fusing lamp on the frame first, then set the terminals [B] and [C].



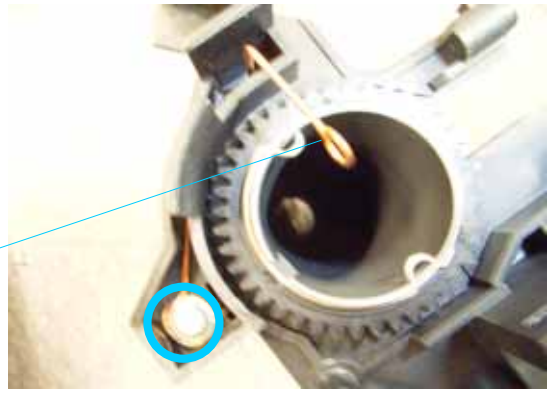
G182R017.JPG



G182R016.JPG

Hot Roller

[A]: Electrode (1 screw)



G182R019.JPG

[B]: Hot roller (pull it out)

NOTE: Do not touch the surface of the hot roller with bare hands.

G182R020.JPG

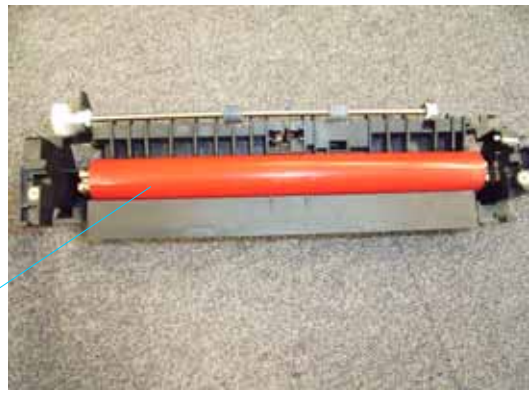
NOTE: When re-assembling, be careful not to damage the hot roller strippers [C].

2.3.4 PRESSURE ROLLER

Preparation:

- Remove the paper exit assembly (* 2.3.2).
- Remove the fusing lamp and hot roller (* 2.3.3).

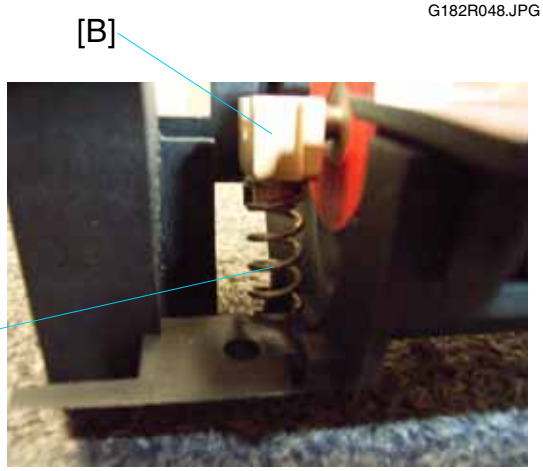
[A]: Pressure roller (1 bushing [B] and 1 spring [C] at each side)



G182R046.JPG

G182R048.JPG

NOTE: When re-assembling, be careful to set the bushing [B] and spring [C] in the correct position.



G182R047.JPG

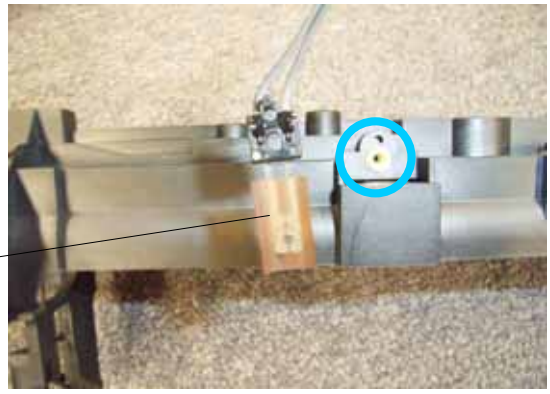
2.3.5 THERMISTOR

Preparation:

- Remove the paper exit assembly (* 2.3.2).

[A]: Thermistor (1 screw)

NOTE: When reassembling, do not damage the thermistor, and check that the element touches the hot roller.



G182R023.JPG

2.3.6 HOT ROLLER STRIPPERS

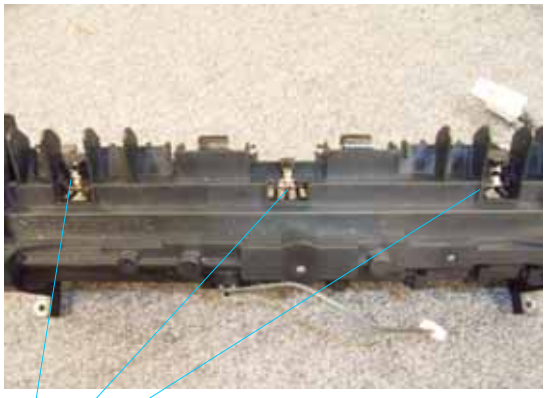
Preparation:

- Remove the paper exit assembly (* 2.3.2).
- Remove the fusing lamp and hot roller (* 2.3.3).

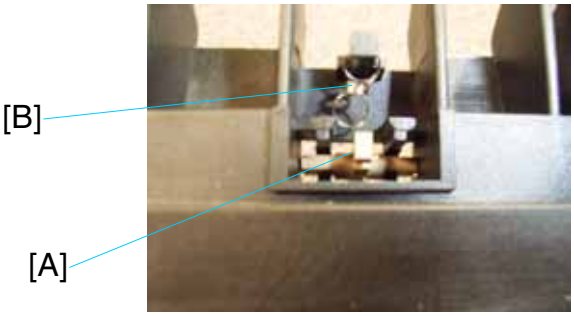
There are 3 hot roller strippers [A] in the fusing unit.

[B]: Hot roller stripper (1 spring [B] each)

NOTE: When reassembling, be careful not to lose the spring [B].



G182R022.JPG



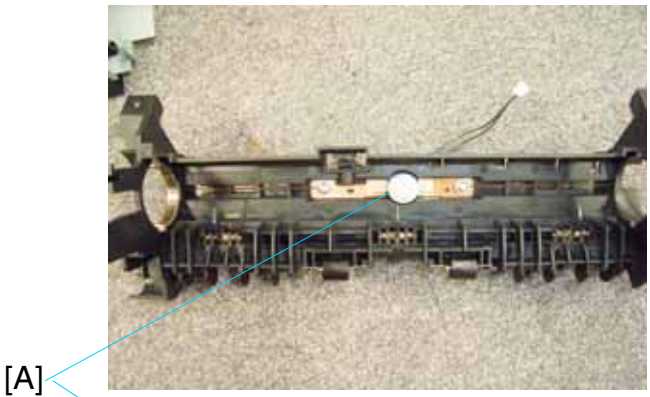
G182R021.JPG

2.3.7 THERMOSTAT

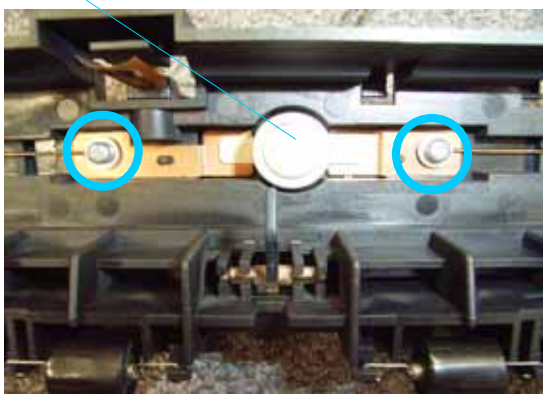
Preparation:

- Remove the paper exit assembly (* 2.3.2).
- Remove the fusing lamp and hot roller (* 2.3.3).

[A]: Thermostat (2 screws)



G182R024.JPG



G182R025.JPG

2.4 PAPER FEED

2.4.1 PAPER FEED ROLLER REMOVAL

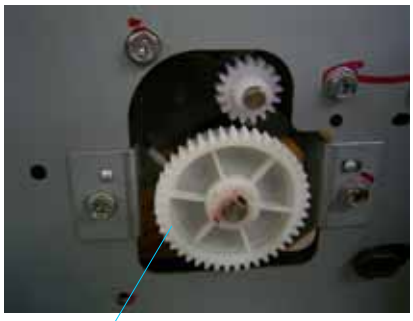
Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)

[A]: Drive assembly (4 screws)

G182R026.JPG

[B]: Electromagnetic clutch assembly (1 clip)



G182R027.JPG

G182R028.JPG

[C]: Paper feed roller (2 clips, one at the left side [D], and one at the right side)

G182R030.JPG

G182R030.JPG

Remove the paper feed roller [C] from the shaft.

G182R031.JPG

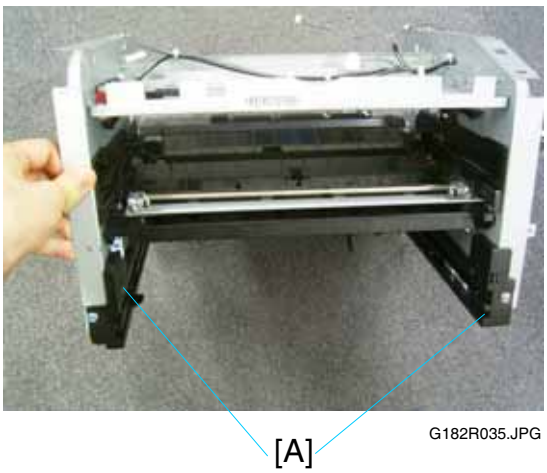
2.4.2 REGISTRATION ROLLER

(ALSO KNOWN AS 'ROLLER DRIVEN' IN THE PARTS CATALOG)

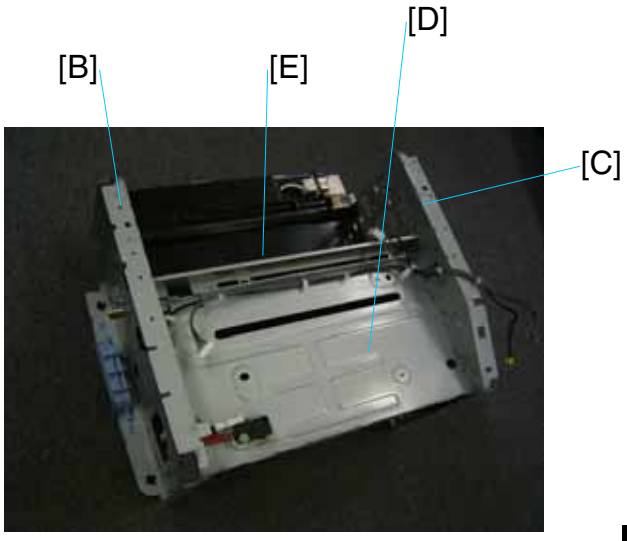
Preparation:

1) Remove the upper unit. (See Upper Unit Removal)
2) Remove the paper tray
3) Remove the toner cartridge

[A]: Paper tray guides (2 screws)
[B]: Left shield (13 screws & 2 screws at the bottom)
[C]: Right shield (9 screws)
[D]: Laser shield (4 screws)
[E]: Guide shield (4 screws)



G182R035.JPG



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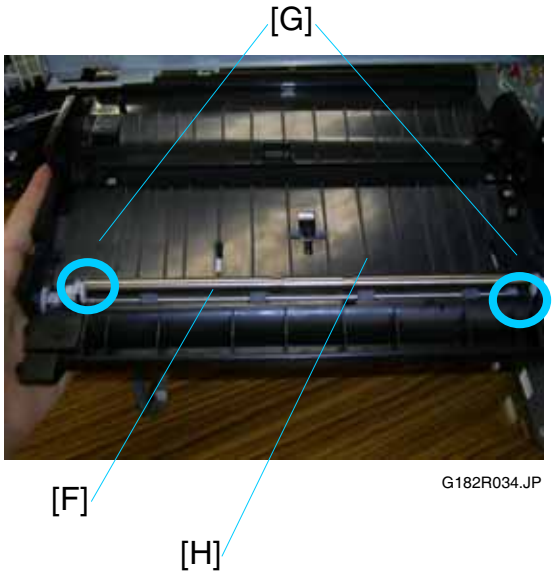
[F]: Plate (2 screws)
[G]: White bushings
[H]: Registration roller (lift it out)



G182R034.JP

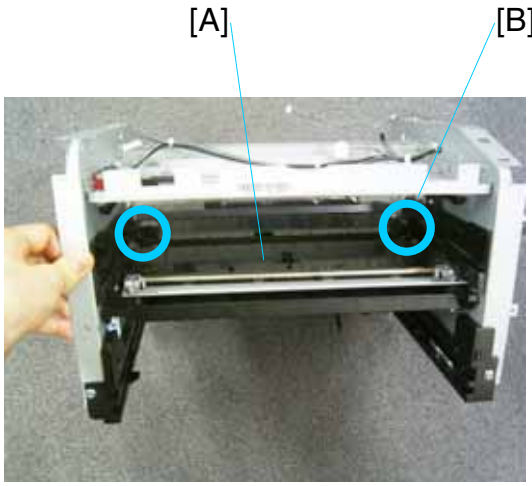
2.5 OTHERS

2.5.1 TRANSFER ROLLER

Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)
2) Remove the toner cartridge.

[A]: Transfer roller
[B]: Black bushing



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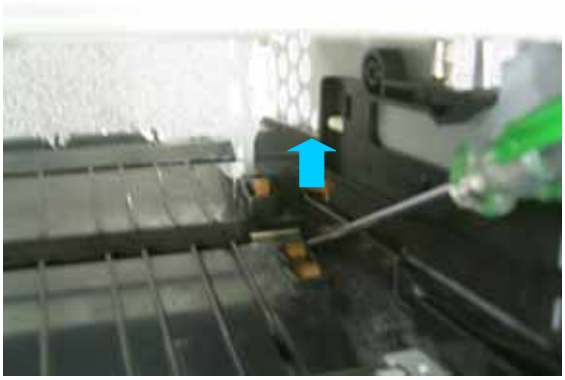
G182R036.JPG

Remove the transfer roller with a flat-head (-) screwdriver.



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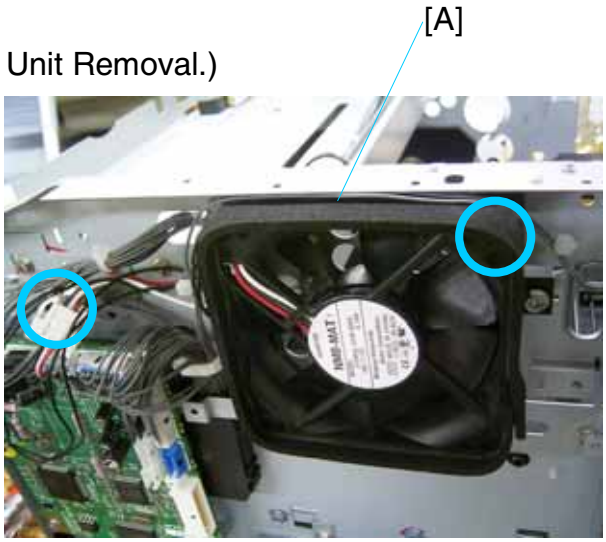
2.5.2 FAN MOTOR

Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)

[A]: Fan motor (1 screw & 1 harness)



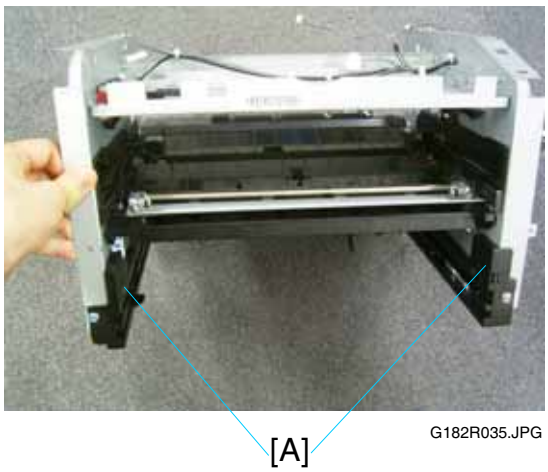
G182R038.JPG

2.5.3 MAIN MOTOR REMOVAL

Preparation:

1) Remove the upper unit. (See Upper Unit Removal.)
2) Remove the paper tray.
3) Remove the toner cartridge.
4) Remove the laser unit (* 2.2).

[A]: Paper tray guides (2 screws)
[B]: Left shield (13 screws & 2 screws at the bottom)
[C]: Right shield (9 screws)
[D]: Laser shield (4 screws)
[E]: Guide shield (4 screws)
[F]: Main motor (3 screws and 1 harness)



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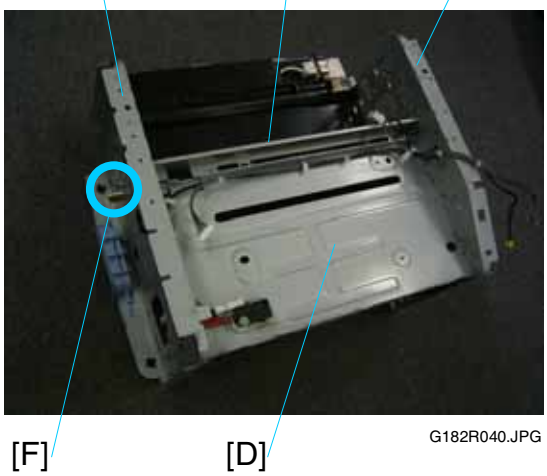

G182R040.JPG

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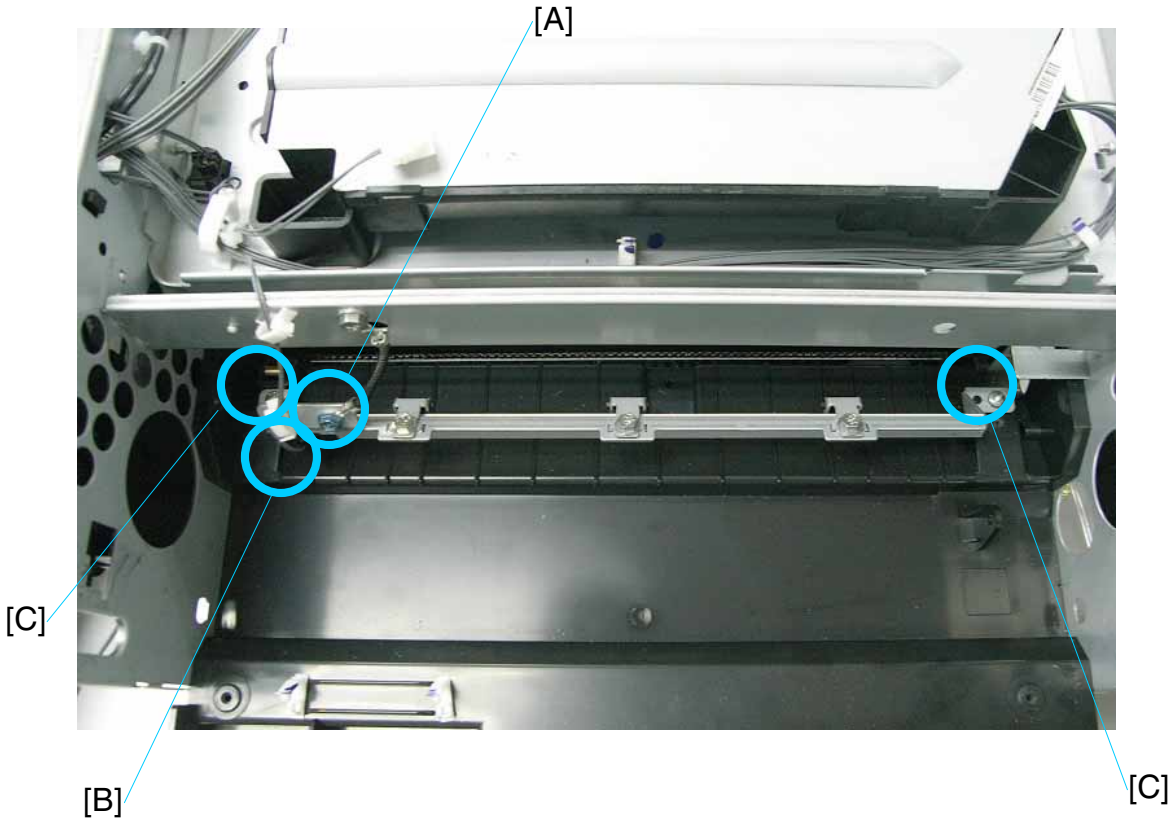
2.5.4 DISCHARGE LAMP-ASS'Y REMOVAL

Preparation:

1) Remove Fusing unit. (See Upper Unit Removal).

[A]: Ground Wire-Bracket-Discharge Lamp (1 screws)
[B]: Harness-Discharge Lamp
[C]: Discharge Lamp Assy (2 screws)



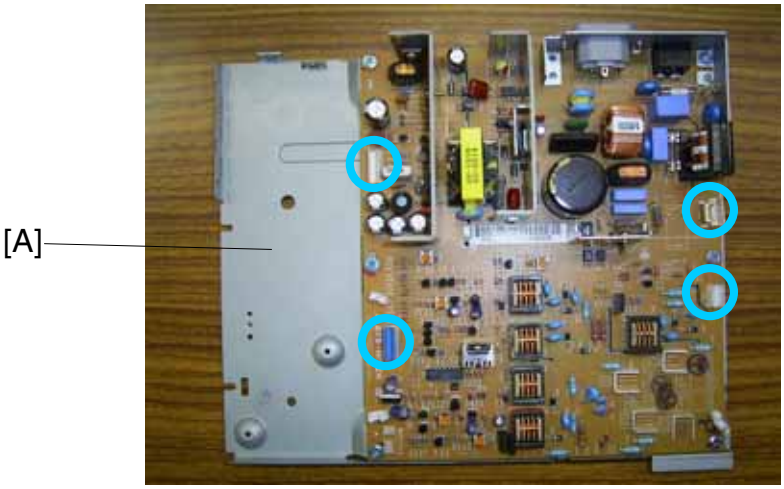
2.6PSU (KNOWN AS 'POWER SUPPLY UNIT' IN THE PARTS CATALOG)

2.6.1PSU REMOVAL

Preparation

1) Remove the upper unit. (See Upper Unit Removal.)
2) Remove the paper tray.
3) Remove the toner cartridge.
4) Remove the right & left shield (* 2.5.3).

[A]: PSU (9 screws & 4 connectors)



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