# Model AP-P2 Machine Code: G188/G189

# **Field Service Manual**

January, 2009 Subject to change

## **Important Safety Notices**

#### **Prevention of Physical Injury**

- 1. Before disassembling or assembling parts of the printer and peripherals, make sure that the printer power cord is unplugged.
- 2. The wall outlet should be near the printer and easily accessible.
- 3. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
- 4. The printer drives some of its components when it completes the warm-up period. Be careful to keep hands away from the mechanical and electrical components as the printer starts operation.
- 5. The inside and the metal parts of the fusing unit become extremely hot while the printer is operating. Be careful to avoid touching those components with your bare hands.

#### **Health Safety Conditions**

- Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.
- 2. The printer, which use high voltage power source, can generate ozone gas. High ozone density is harmful to human health. Therefore, the machine must be installed in a well-ventilated room.

#### **Observance of Electrical Safety Standards**

The printer and its peripherals must be serviced by a customer service representative who has completed the training course on those models.

### **WARNING**

• OKeep the machine away from flammable liquids, gases, and aerosols. A fire or an explosion might occur.

## 

- The Controller board on this machine contains a lithium battery. The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard batteries in accordance with the manufacturer's instructions and local regulations.
- The optional fax and memory expansion units contain lithium batteries, which can explode if replaced incorrectly. Replace only with the same or an equivalent type recommended by the manufacturer. Do

not recharge or burn the batteries. Used batteries must be handled in accordance with local regulations.

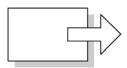
#### Safety and Ecological Notes for Disposal

- 1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
- 2. Dispose of used toner, the maintenance unit which includes developer or the organic photoconductor in accordance with local regulations. (These are non-toxic supplies.)
- 3. Dispose of replaced parts in accordance with local regulations.
- 4. When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

# Symbols, Abbreviations and Trademarks

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

•	See or Refer to
$\langle 7 \rangle$	Clip ring
F	Screw
<u>c</u> ł	Connector
j.	Clamp
C	E-ring
SEF	Short Edge Feed
LEF	Long Edge Feed





Short Edge Feed (SEF)

Long Edge Feed (LEF)

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# TABLE OF CONTENTS

Important Safety Notices	1
Prevention of Physical Injury	1
Health Safety Conditions	1
Observance of Electrical Safety Standards	1
Safety and Ecological Notes for Disposal	2
Symbols, Abbreviations and Trademarks	3
Trademarks	3
1. Product Information	
Specifications	
Machine Configuration	12
Overview	15
Component Layout	15
Paper Path	16
Drive Layout	
Guidance for Those Who are Familiar with Predecessor Products	19
2. Installation	
Installation Requirements	21
Environment	21
Machine Level	22
Machine Space Requirements	22
Power Requirements	23
Optional Unit Combinations	24
Machine Options	24
Controller Options	24
Printer Installation	
Power Socket for Peripheral	
Installation Flow Chart	
Installation Procedure	
Meter Click Charge	40
Moving the Machine	43
Transporting the Machine	43
Bridge Unit (D386)	44
Component Check	

Installation Procedure	
1000-Sheet Booklet Finisher (B793)	
Accessory Check	
Installation Procedure	
Punch Unit (B807)	53
Component Check	53
Installation Procedure	54
3000-Sheet Finisher (B805)	60
Accessory Check	60
Installation Procedure	61
Punch Unit (B702)	
Component Check	
Installation Procedure	
Output Jogger Unit (B703)	71
Accessories	71
Installation	71
Mail Bin (G835)	74
Component Check	74
Installation Procedure	75
Tray Heater (Standard Tray)	
Installation Procedure	
Tray Heater (Optional Tray)	
Component Check	
Installation Procedure	83
Controller Options	
Overview	
SD Card Appli Move	
3. Preventive Maintenance	
Maintenance Items	
4. Replacement and Adjustment	
Beforehand	
Special Tools	
' Image Adjustment	

Registration	
Erase Margin Adjustment	
Color Registration	
Gamma Adjustment	
Exterior Covers	
Front Door	
Left Cover	
Rear Cover	
Top Right and Rear Cover	
Right Rear Cover	
Operation Panel	
Paper Exit Cover	
Output Tray	
Ozone Filter	
Laser Optics	
Caution Decal Location	
Laser Optics Housing Unit	
Polygon Mirror Motor and Drive Board	
Image Creation	
PCU	
Second Duct Fan	
Third Duct Fan	
Toner Pump Unit	
Toner End Sensor	
Image Transfer	
Image Transfer Belt Unit	
Image Transfer Belt Cleaning Unit	
Image Transfer Belt	
Paper Transfer	142
Paper Transfer Roller Unit	
Paper Transfer Unit	
High Voltage Supply Board – Discharge Plate	
ID Sensor Board	

Temperature and Humidity Sensor	
Drive Unit	
Gear Unit	
Registration Motor	
Paper Feed Motor	
Drum/Development Motors for M, C, and Y	
Drum/Development Motor-K	
ITB Drive Motor	
Fusing/Paper Exit Motor	
Image Transfer Belt Contact Motor	
Duplex Inverter Motor	
Pressure Roller Contact Motor	
Duplex/By-pass Motor	
Paper Transfer Contact Motor	
Toner Transport Motor	
Toner Collection Unit	
Paper Feed Clutches	
Development Clutch-Y	
Development Clutches for M and C	
Development Clutch-K	
Fusing	
Fusing Unit	
Heating Roller and Heating Roller Bearing	
Fusing Cleaning Felt	
Fusing Lamp	
Fusing Drive Gear	
Pressure Roller and Pressure Roller Bearing	
Heating Roller Thermistor	
Pressure Roller Thermostat	
Pressure Roller Thermistor	
Bearing Gear and Idle Gear	
Fusing Fan	
Paper Exit Fan	

IH (Induction Heating) Inverter Fan	
Thermopile	190
Pressure Roller HP Sensor	193
IH Coil Fan	195
IH Coil Unit	196
Paper Feed	199
Paper Feed Unit	199
Pick-Up, Feed and Separation Rollers	
Tray Lift Motor	201
Vertical Transport, Paper Overflow, Paper End and Paper Feed Sensors	
Registration Sensor	202
By-pass Paper Size Sensor and By-pass Paper Length Sensor	
By-pass Bottom Tray	205
By-pass Paper End Sensor	207
By-pass Pick-up, Feed and Separation Roller, Torque Limiter	
By-pass Feed Clutch	209
Paper Exit Unit	210
Fusing Exit, Paper Overflow, Junction Paper Jam and Paper Exit Sensors	211
Duplex Unit	213
Duplex Unit	213
Duplex Door Sensor	214
Duplex Entrance Sensor	215
Duplex Exit Sensor	216
Electrical Components	217
Controller Unit	217
Controller Box Right Cover	217
Controller Box	218
IOB (In/Out Board)	220
BCU	220
PSU	222
ITB Power Supply Board	223
High Voltage Supply Board	223
High Voltage Supply Board Bracket	

IH Inverter	
Controller Board	
HDD Fan	
HDD	
NVRAM Replacement Procedure	
Using Dip Switches	
Controller Board	
BCU Board	
5. System Maintenance Reference	
Service Program Mode	
SP Tables	
Service Mode Operation	
Remarks	
Bit Switch Programming	
Firmware Update	
Before You Begin	
Updating Firmware	
Handling Firmware Update Errors	
Controller Self-Diagnostics	
Overview	
NVRAM Data Upload/Download	
Uploading NVRAM Data	
Downloading NVRAM Data	
Using the Debug Log	
Switching ON and Setting UP Save Debug Log	
Retrieving the Debug Log from the HDD	
Debug Log Codes	
6. Troubleshooting	
Service Call Conditions	
Process Control Error Conditions	
Troubleshooting Guide	
Image Problems	
Jam Detection	

Electrical Component Defects	253
INDEX	255

# **1. Product Information**

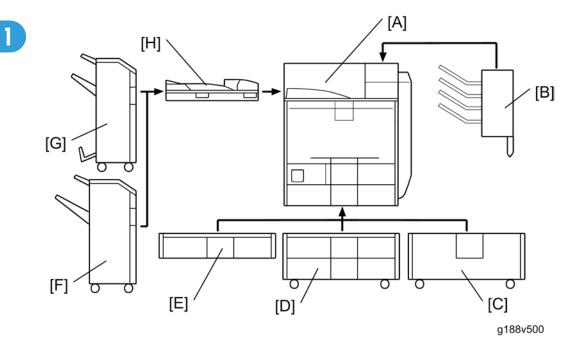
# **Specifications**

See "Appendices" for the following information:

- Mainframe Specifications
- Printer Specifications
- Supported Paper Sizes
- Software Accessories
- Optional Equipment

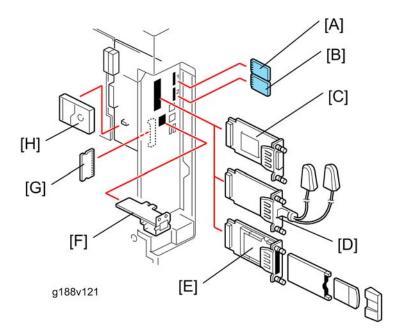
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# Machine Configuration



ltem	Machine Code	Call out	Remarks
Mainframe	G188/G189	[A]	-
Mail Bin	G835	[B]	One from [C] and [D]
LCT	D352-57/-67	[C]	
Two-tray paper feed unit	D351-57	[D]	One from the three and [D] + [E]
Paper tray unit (one tray)	D387-17	[E]	
3000-sheet finisher	B805	[F]	One from [F] and [G]; Requires [H] and one from [C] and [D]
- Punch unit: 3/2 holes	B702-17	-	Requires [F]
- Punch unit: 4/2 holes	B702-27	-	Requires [F]
- Punch unit: 4 holes	B702-28	-	Requires [F]
- Output Jogger Unit	B703	-	Requires [F]

ltem	Machine Code	Call out	Remarks
1000-sheet booklet finisher	B793	[G]	One from [F] and [G]; Requires [H] and one from [C] and [D]
- Punch unit: 3/2 holes	B807-17	-	Requires [G]
- Punch unit: 4/2 holes	B807-27	-	Requires [G]
- Punch unit: 4 holes	B807-30	-	Requires [G]
Bridge unit	D386	[H]	-



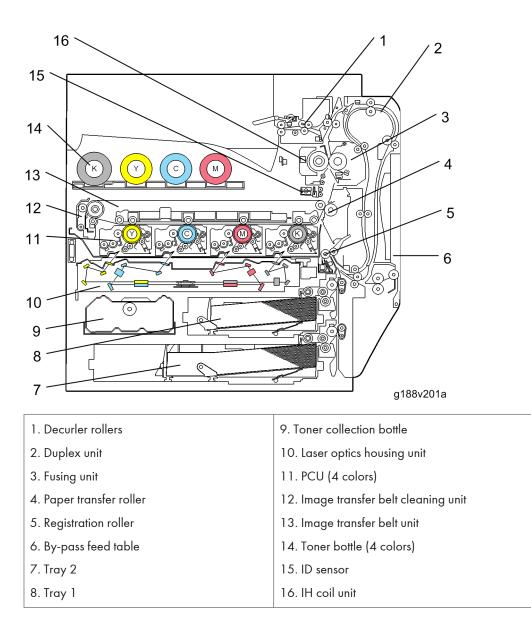
ltem	Machine code	Call out	Remark
USB 2.0:	-	-	Standard
USB Host	-	-	Standard
Ethernet:	-	-	Standard

IEEE 1284	B679-17	[C]	
Wireless LAN (IEEE 802.11a/g)	D377-01/02		
Wireless LAN (IEEE 802.11 g)	D377-19	[D]	One from the four devices
Bluetooth	B826	[E]	-
Gigabit Ethernet	D377-21	[F]	
Hard Disk Drive	M354-05	[H]	Standard for G189 Option for G188
Data Overwrite Security Unit	M354-21	[4]	One from the five in SD slot 1 at a
NetWare printing	M354-19		
Data Storage Card	G874	[A]	time.
PictBridge	M354-13		
VM Card Type K	M354-15/22/ 23		In SD slot 2
HDD Encryption Unit	M354-17	[B]	In SD card slot 2 Remove it from slot 2 after installing.
256 MB DIMM	M354-01		
512 MB DIMM	M354-03	[G] One from the two	One from the two

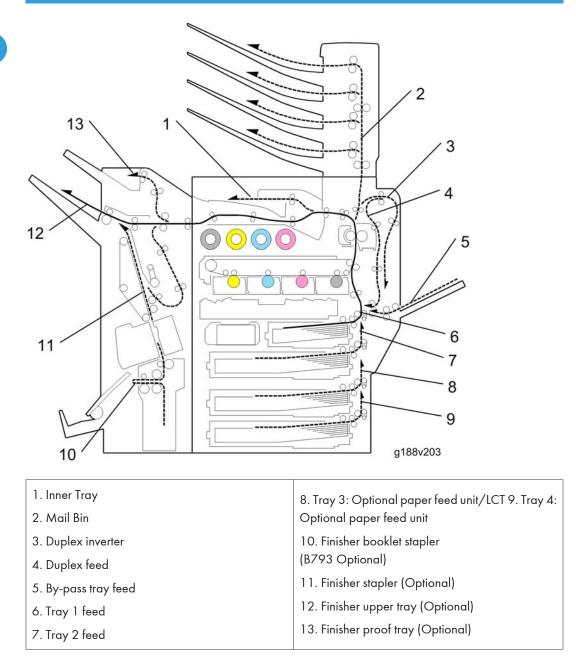
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## **Overview**

#### **Component Layout**

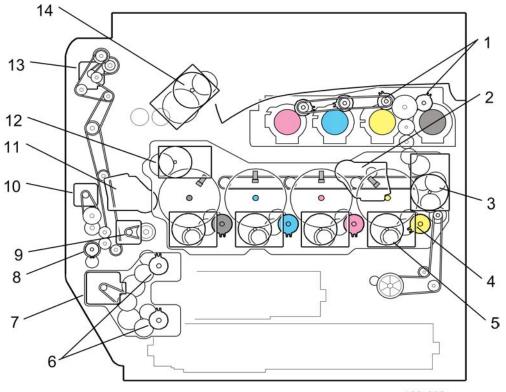


#### Paper Path



The 3000-sheet finisher and 1000-sheet booklet finisher require the bridge unit (D386) and one from the two-tray paper feed unit (D351) or the LCT (D352).

### Drive Layout



g188v202a

1. Toner supply clutch-K and - CMY:	Turns on/off the drive power to the toner supply unit (K and -CMY).	
2.ITB (Image Transfer Belt) contact motor:	Moves the ITB into contact and away from the color PCUs.	
3. Toner transport motor:	Drives the toner attraction pumps and the toner collection coils fro the PCUs, from the transfer belt unit, and inside the toner collection bottle. Also rotates the toner bottles.	
4. Development clutch (K, Y, M, C):	Turns on/off the drive power to the development unit (K, Y, M, C).	
5. Drum/Development drive motor (K, Y, M, C)	Drives the color drum unit and development unit (K, Y, M, C).	
6. Paper feed clutch	Switches the drive power between the tray 1 and tray 2.	
7. Paper feed motor:	Drives the paper feed mechanisms (tray 1/tray 2/by-pass tray).	

8. By-pass feed clutch:	Turns on/off the drive power to the by-pass pick-up, feed and separation rollers.	
9. Registration motor:	Drives the registration roller.	
10. By-pass/duplex feed motor:	Drives the by-pass pick-up, feed and separation roller, and duple» transport rollers.	
11. Paper transfer contact motor:	Moves the paper transfer roller in contact with the image transfer belt.	
12. ITB drive motor:	Drives the image transfer belt unit.	
13. Duplex inverter motor	Drives the duplex inverter rollers and duplex transport rollers.	
14. Fusing/paper exit motor:	Drives the fusing unit and paper exit section.	

# Guidance for Those Who are Familiar with Predecessor Products

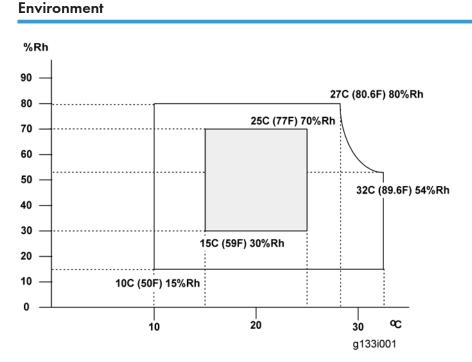
Machine G188/G189 is a successor model to Machine G133. If you have experience with the predecessor product, the following information will be of help when you read this manual.

Different Points from Predecessor Products

	G188/G189	G133
Fusing System	Roller-heating IH system	Belt-heating IH system
SD Card Slots	2 slots	3 slots
Location of Firmware for Printer, Netfile, NIB, WebDocBox, WebSys, and DESS	Flash ROM on the controller board	SD card

1. Product Information

## Installation Requirements



- 1. Temperature Range: 10°C to 32°C (50°F to 89.6°F)
- 2. Humidity Range: 15% to 80% RH
- 3. Ambient Illumination: Less than 1500 lux (do not expose to direct sunlight)
- 4. Ventilation: 3 times/hr/person or more
- 5. Do not let the machine get exposed to the following:
  - 1) Cool air from an air conditioner
  - 2) Heat from a heater
- 6. Do not install the machine in areas that are exposed to corrosive gas.
- 7. Install the machine at locations lower than 2,500 m (8,200 ft.) above sea level.
- 8. Install the machine on a strong, level base. (Inclination on any side must be no more than 5 mm.)
- 9. Do not install the machine in areas that get strong vibrations.

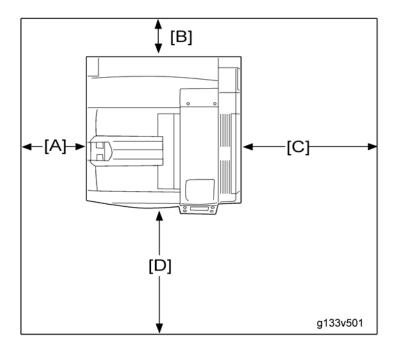
#### **Machine Level**

Front to back: Within 5 mm (0.2") Right to left: Within 5 mm (0.2")

#### **Machine Space Requirements**

### 

• This machine, which uses high voltage power sources, can generate ozone gas. High ozone density is harmful to human health. Therefore, the machine must be installed in a well-ventilated room.



A: Over 100 mm (3.9")

B: Over 100 mm (3.9")

C: Over 550 mm (21.7")

D: Over 750 mm (29.5")

Put the machine near the power source with the clearance shown above.

#### **Power Requirements**

### 

- Insert the plug firmly in the outlet.
- Do not use an outlet extension plug or cord.
- Ground the machine.
- Input voltage level: 120 V, 60 Hz: More than 12 A 220 V to 240 V, 50 Hz/60 Hz: More than 7 A
- 2. Permissible voltage fluctuation: ±10 %
- 3. Do not put things on the power cord.

2

## **Optional Unit Combinations**

#### **Machine Options**

U: User installation, C: CE installation

No.	Options	Remarks	
1	Paper tray unit	U	
2	2-tray paper feed unit	U	One from No.1, No.2, No.3 and No.1 + No.2
3	Large capacity tray unit	U	
4	Bridge unit	С	-
5	1000-sheet booklet finisher	С	One from No.5 and No.7. Requires No.4 and one from No.2 and No.3.
6	*Punch kit (3 types)	С	No.5 required. One of the three types
7	3000-sheet finisher	С	One from No.5 and No.7. Requires No.4 and one from No.2 and No.3.
8	*Punch kit (3 types)	С	No.7 required. One of the three types
9	Mail Bin	С	No.2 or No.3 required.

\*: Child options (Child options require a parent option.)

#### **Note**

• For details about installation procedures for the user installation options, see "Hardware Guide" of this model.

#### **Controller Options**

U: User installation, C: CE installation

No.	Options	Remarks
-----	---------	---------

Bluetooth	U	One from the three (I/F Slot)	
IEEE802.11a/g, g	U		
IEEE 1284	U		
Gigabit Ethernet Type B	U	Gigabit Ethernet Slot	
HDD	U	Option only for G188	
PictBridge Option	U		
Data Storage Card Type A	U		
NetWare printing Type A	U	One from the two (SD card slot 1)	
Data Overwrite Security Unit Type M	U		
VM Card Type K	С	SD card slot 2	
HDD Encryption Unit Type D	U	SD card slot 2 (during installation only)	
128 MB DIMM	С		
256 MB DIMM	С	One from No.12 and No.13	
	IEEE 802.11a/g, g IEEE 1284 Gigabit Ethernet Type B HDD PictBridge Option Data Storage Card Type A NetWare printing Type A Data Overwrite Security Unit Type M VM Card Type K HDD Encryption Unit Type D 128 MB DIMM	IEEE802.11a/g, gUIEEE 1284UGigabit Ethernet Type BUHDDUPictBridge OptionUData Storage Card Type AUNetWare printing Type AUData Overwrite Security Unit Type MUVM Card Type KCHDD Encryption Unit Type DU128 MB DIMMC	

#### Note

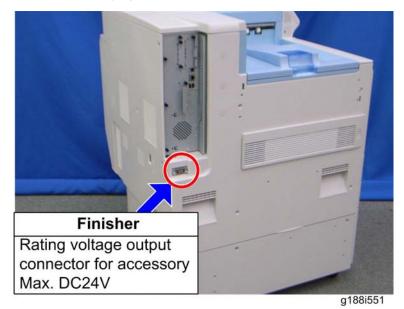
• For details about installation procedures for the user installation options, see "Hardware Guide" of this model.

## **Printer Installation**

#### Power Socket for Peripheral

### 

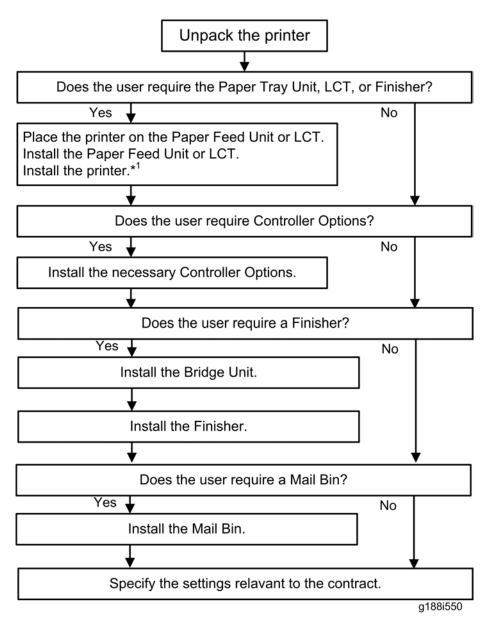
- Rating voltage for peripheral.
- Make sure to plug the cable into the correct socket.



#### Installation Flow Chart

This flow chart shows the best procedure for installation.

2



\* 1: Available installation of the paper feed units are as follows:

- Mainframe + One-tray PFU
- Mainframe + One-tray PFU + Two-tray PFU
- Mainframe + Two-tray PFU
- Mainframe + LCT

You need the two-tray paper feed unit (D351-57) or the LCT (D352-57/-67) if you want to install the finisher (B793 or B805).

The punch unit "B702" is for the 3000-sheet finisher (B805).

The punch unit "B807" is for the 1000-sheet booklet finisher (B793).

#### Installation Procedure

### **CAUTION**

 Remove the tape from the development units before you turn the main switch on. The development units can be severely damaged if you do not remove the tape.

Put the machine on the paper tray unit or the LCT first if you install an optional paper tray unit or the optional LCT at the same time. Then install the machine and other options.

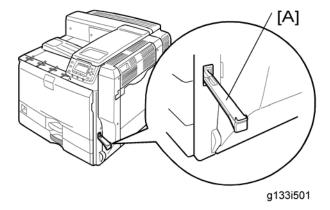
Note

• Keep the shipping retainers after you install the machine. You may need them in the future if you transport the machine to another location.

#### Unpacking

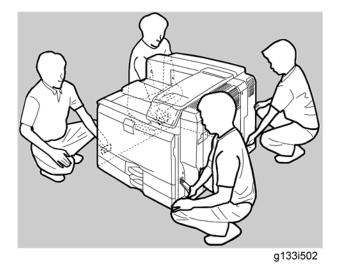
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- When lifting the machine, use the handle and grips on both sides of the machine.
- If not, the machine could be dropped. This may cause an injury and may damage the machine.



1. Pull out the handle [A].

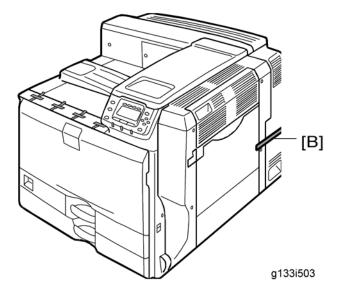
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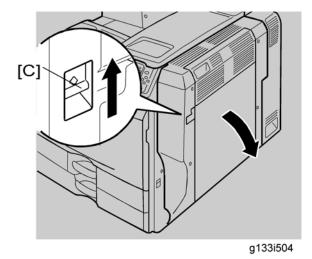
2. Lift the machine with four people by using the handle and grips on both sides of the machine.

#### C Important

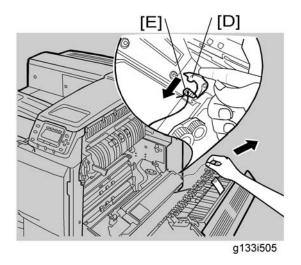
- Do not remove the tapes before placing the machine.
- Lower the machine slowly and carefully, so as not to pinch your hands.
- 3. Push back the handle into the machine.



4. Remove the tape [B].

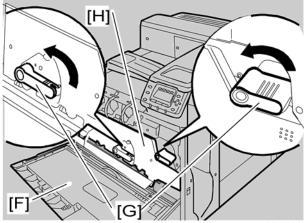


1. Push up the lever [C] on the right door, and then open the right door.



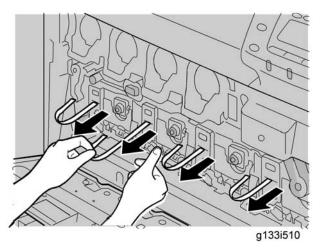
- 2. Keep pushing the lever [D], and then remove the securing pin [E] by pulling the wire with the red tag.
- 3. Close the right door.

2



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- 4. Open the front door [F].
- 5. Turn the two green levers [G] counterclockwise.
- 6. Open the drum positioning plate [H].

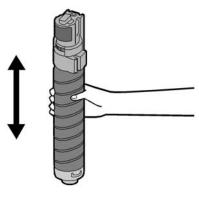


7. Remove and pull out the four tapes horizontally from all PCUs.

●Note

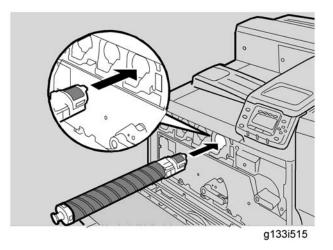
- Make sure that all tapes are removed.
- 8. Close the drum positioning plate.
- 9. Turn the green levers clockwise to lock the levers.

#### Installing the Toner



#### g133i514

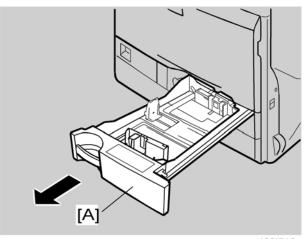
1. Shake the toner bottle up and down five or six times before installing.



- 2. Insert the each toner bottle into the machine with the label facing up.
- 3. Close the front door.

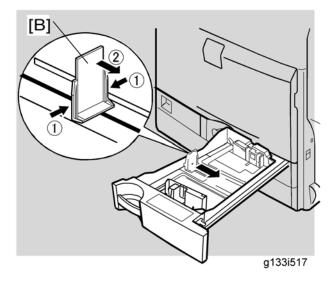
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#### Loading Paper

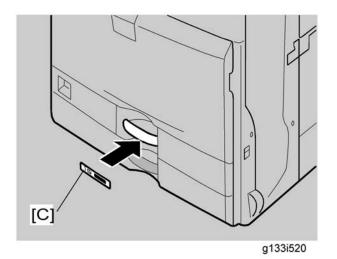


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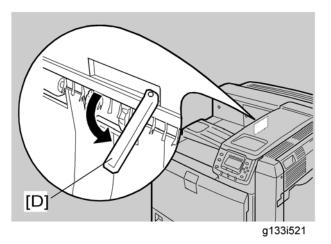
- 1. Pull out the tray 1 [A] of the machine.
- 2. Take out the contents from tray 1.



- 3. Adjust the end plate [B] to A4 LEF/Letter LEF size.
- 4. Load paper in tray 1, and then close tray 1.



5. Attach the tray number decal "1" to the handle [C] of tray 1.

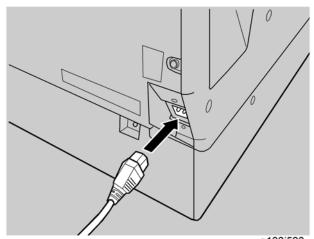


6. Pull out the feeler [D] for the output-tray-full detection mechanism.

#### **Turning Power On**

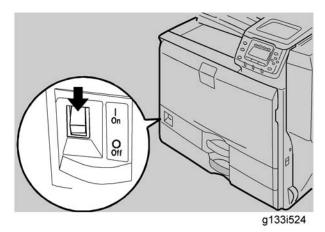
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- Turn off the power switch whenever you plug in and unplug the power cord.
- 1. Make sure that the power switch is set to "O" (Off).



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2. Plug in the machine.



3. Turn on the power switch.

### Comportant 1

• Do not turn off the power switch until initialization is completed ('Ready' appears on the display when initialization is completed). Otherwise, the machine may malfunction.

### Selecting the Panel Display Language

### **Vote**

- You can select one of these languages (the default is English): English, German, French, Italian, Dutch, Swedish, Norwegian, Danish, Spanish, Finnish, Portuguese, Czech, Polish or Hungarian.
- You do not have to do this procedure if you use English. Do this procedure if you want to use a different language.

1. Turn on the power switch of the printer.

#### • Note

- "Ready" shows on the panel display after the machine warms up.
- 2. Press the "Menu" key.

### • Note

- "Menu" shows on the panel display.
- 3. Press the "▲" or "▼" key to show "Language."
- 4. Press the "Enter" key. "Language:" shows on the panel display.
- 5. Press the "▲" or "▼" key to get the language you want.
- 6. Press the "Enter" key. "Menu" shows on the panel display.
- 7. Press the "Menu" key. "Ready" shows on the panel display.

### **Printing the Test Page**

- You can check if the printer works correctly by printing a test page such as the configuration page. However, you cannot check the connection between the printer and the computer by printing the test page.
- 2. Turn on the printer.

#### Note

- "Ready" shows on the panel display after the machine warms up.
- 3. Press the "Menu" key.
- 4. Press the "▲" or "▼" key to get "List/Test Print."
- 5. Press the "Enter" key. "ListTest Print" shows on the panel display.
- 6. Make sure that "Config. Page" is on the display. Then press the "Enter" key.
- 7. The test printing starts shortly after.
- 8. Press the "Online" key. "Ready" shows on the panel display.
- 9. Turn off the power switch of the printer.

#### Settings Relevant to the Service Contract

Change the necessary settings depending on the each customer's service contract. For details, refer to "Meter Click Charge" following this section.

### Settings for @Remote Service

#### 🕗 Note 📃

 Prepare and check the following check points before you visit the customer site. For details, ask the @Remote key person.

#### Check points before making @Remote settings

- 1. The setting of SP5816-201 in the mainframe must be "0".
- Print the SMC with SP5990-002 and then check if a device ID2 (SP5811-003) must be correctly programmed.
  - 6 spaces must be put between the 3-digit prefix and the following 8-digit number (e.g. xxx\_\_\_\_\_xxxxxxx).
  - ID2 (SP5811-003) and the serial number (SP5811-001) must be the same (e.g. ID2: A01\_\_\_\_23456789 = serial No. A0123456789)
- 3. The following settings must be correctly programmed.
  - Proxy server IP address (SP5816-063)
  - Proxy server Port number (SP5816-064)
  - Proxy User ID (SP5816-065)
  - Proxy Password (SP5816-066)
- 4. Get a Request Number

#### Execute the @Remote Settings

- 5. Enter the SP mode.
- Input the Request number which you have obtained from @Remote Center GUI, and then press "OK" key with SP5816-202.
- 7. Confirm the Request number, and then press "EXECUTE" key with SP5816-203.
- 8. Check the confirmation result with SP5816-204.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Illegal user name or password)	Check Proxy user name and password.
6	Communication error	Check the network condition.

Value	Meaning	Solution/ Workaround
8	Other error	See "SP5816-208 Error Codes" below this.
9	Request number confirmation executing	Processing Please wait.

- 9. Make sure that the screen displays the Location Information with **SP5816-205** only when it has been input at the Center GUI.
- 10. Press "EXECUTE" key to execute the registration with **SP5816-206**.
- 11. Check the registration result with **SP5816-207**.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
2	Already registered	Check the registration status.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Illegal user name or password)	Check Proxy user name and password.
8	Other error	See "SP5816-208 Error Codes" below this.
9	Request number confirmation executing	Processing Please wait.

12. Exit the SP mode.

Cause	Code	Meaning	Solution/ Workaround
	-12002	Inquiry, registration attempted without acquiring Request No.	Obtain a Request Number before attempting the Inquiry or Registration.
	-12003	Attempted registration without execution of a confirmation and no previous registration.	Perform Confirmation before attempting the Registration.
	-12004	Attempted setting with illegal entries for certification and ID2.	Check ID2 of the mainframe.
Operation Error, Incorrect Setting	-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.	Make sure that "Remote Service" in User Tools is set to "Do not prohibit".
	-12006	A confirmation request was made after the confirmation had been already completed.	Execute registration.
	-12007	The request number used at registration was different from the one used at confirmation.	Check Request No.
	-12008	Update certification failed because mainframe was in use.	Check the mainframe condition. If the mainframe is in use, try again later.

Cause	Code	Meaning	Solution/ Workaround
	-2385	Other error	
	-2387	Not supported at the Service Center	
	-2389	Database out of service	
	-2390	Program out of service	
	-2391	Two registrations for the same mainframe	Check the registration condition of the mainframe
Error Caused by	-2392	Parameter error	
Response from GW URL	-2393	External RCG not managed	
	-2394	Mainframe not managed	
	-2395	Box ID for external RCG is illegal.	
	-2396	Mainframe ID for external RCG is illegal.	
	-2397	Incorrect ID2 format	Check the ID2 of the mainframe.
	-2398	Incorrect request number format	Check the Request No.

## **Meter Click Charge**

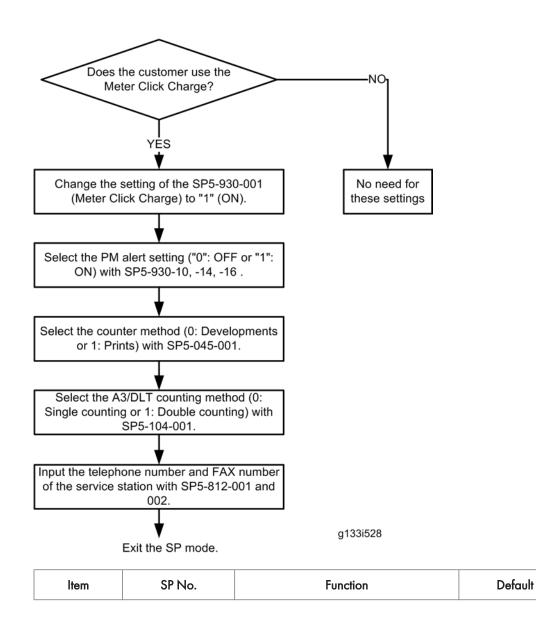
Basically, there are two ways to set up this function.

Meter click change enabled (SP 5-930-001 set to 'enabled'): The counter can be displayed and printed by the customer. The technician can then call the customer and ask them to read the counter.

**Meter click charge disabled (SP 5-930-001 set to 'disabled'; this is the default setting):** The counter cannot be displayed or printed by the customer. To check the counter, the technician must print the SMC report (SP 5-990).

### Note

 You must select one of the counter methods (developments/prints) in accordance with the contract (
 SP5-045-001).



Meter Click Charge	SP5-930-001	<ul> <li>Enables or disables Meter Click Charge.</li> <li>When enabled: <ul> <li>The counter menu shows immediately after you push the "Menu" key. The "Counter Method" (SP5-045) sets the type of the counter.</li> <li>You can print the counter from the counter menu.</li> </ul> </li> <li>When disabled: <ul> <li>The counter menu does not show.</li> </ul> </li> </ul>	"0": OFF
Meter Click Charge: PCU	SP5-930-010	Enables or disables the PM alert for the PCUs. If this SP is enabled, an alert message is displayed when the PCUs need to be replaced.	"1": No alert
Meter Click Charge: Image Transfer Belt Unit	SP5-930-014	Enables or disables the PM alert for the image transfer belt unit. If this SP is enabled, an alert message is displayed when the image transfer belt unit needs to be replaced.	"1": No alert
Meter Click Charge: Fusing Unit	SP5-930-016	Enables or disables the PM alert for the fusing unit. If this SP is enabled, an alert message is displayed when the fusing unit needs to be replaced.	"1": No alert
Counter method	SP5-045-001	Specifies if the counting method used in meter charge mode is based on developments or prints.	"1": Prints
A3/DLT double count	SP5-104-001	Specifies whether the counter is doubled for A3/DLT paper.	"0": Single counting

Service Tel: Telephone / Facsimile	SP5-812-001 and -002	<ul> <li>-001: shows or sets the telephone number of the service representative.</li> <li>-002: shows or sets the fax number of the service station. The number is printed on the counter list when the "Meter Click</li> </ul>	-
T desimile		Charge" is enabled. User can send a fax	
		message with the counter list.	

### **Moving the Machine**

This section shows you how to manually move the machine from one floor to another floor. See the section "Transporting the Machine" if you have to pack the machine and move it a longer distance.

• Remove all trays from the optional paper feed unit or LCT.

### Transporting the Machine

- 1. Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.
- 2. Replace the waste toner bottle. Then attach securing tape to stop the toner bottle from coming out.
- 3. Do one of the following:
  - Attach shipping tape to the covers and doors.
  - Shrink-wrap the machine tightly.

#### Note

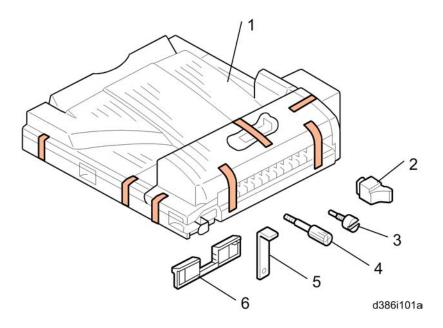
- After you move the machine, make sure you do the "Auto Color Registration" as follows. This optimizes
  color registration.
- 1) Do the "Forced Line Position Adj. Mode c" (SP2-111-3).
- 2) Then do the "Forced Line Position Adj. Mode a" (SP2-111-1). To check if SP 2-111-1 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-10 to -12.

# Bridge Unit (D386)

## **Component Check**

Check the quantity and condition of the components against the following list.

No.	Description	Q'ty
1	Bridge Unit	1
2	Screw	1
3	Knob screw	1
4	Long Knob Screw	1
5	Holder bracket	1
6	Guide	2



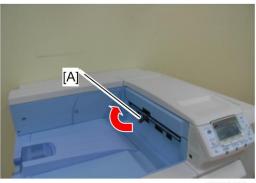
## Installation Procedure

# 

• Unplug the printer power cord before starting the following procedure.

### **Vote**

- If you will install a finisher (B793 or B805) in the machine, install the finisher after you install the bridge unit (D386).
- 1. Remove all tapes.

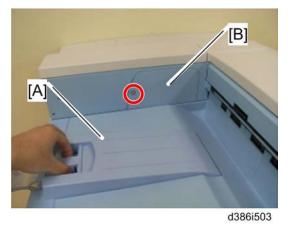


d386i501

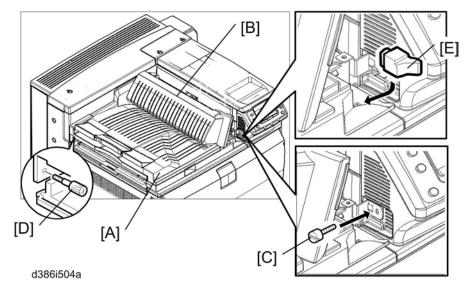
2. If the sensor feeler [A] is out, fold it into the machine.



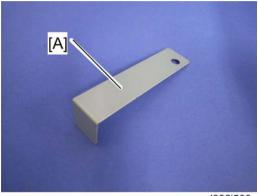
3. Remove the connection cover [A] ( $\mathscr{P} \ge 1$ ).



- 4. Remove the inner tray [A].
- 5. Remove the connector cover [B] ( $\mathscr{F} \times 1$ ).



- 6. Install the bridge unit [A].
- 7. Open the bridge unit cover [B]
- 8. Secure it with the knob screw [C] and long knob screw [D].
- 9. Attach the frame cover [E].
- 10. Close the bridge unit cover [B].



d386i506

- 11. Reassemble the machine.
- 12. Install the optional finisher (refer to the finisher installation procedure).

### **Vote**

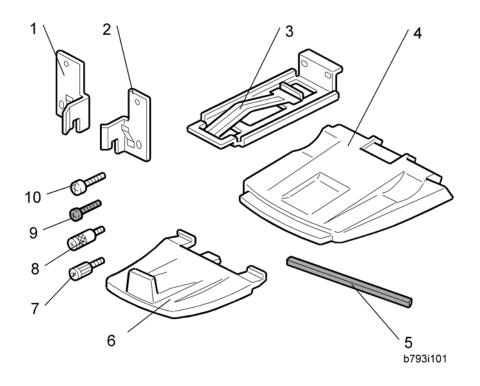
- Holder bracket [A] is used in the installation procedure of the finisher (B793 or B805). At this time, do not install it yet.
- 13. Turn on the main power switch of the machine.
- 14. Check the bridge unit operation.

# 1000-Sheet Booklet Finisher (B793)

# Accessory Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Q′ty
1	Rear Joint Bracket	1
2	Front Joint Bracket	1
3	Grounding Plate	1
4	Upper Output Tray	1
5	Cushion	2
6	Lower Output Tray	1
7	Short Knob Screw	1
8	Long Knob Screw	1
9	Screw (M3 x 8)	2
10	Screw (M4 x 14)	4

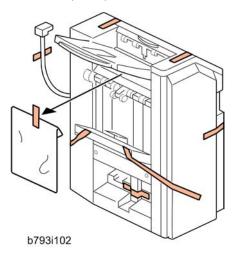


## Installation Procedure

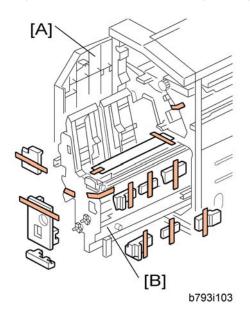
# 

• Unplug the main machine power cord before starting the following procedure.

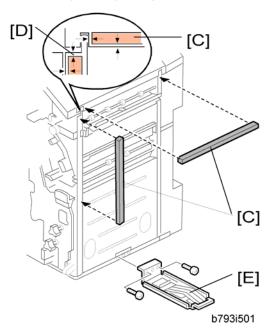
The bridge unit (D386) and optional paper feed unit (D351 or D352) must be installed before installing this finisher (B793).



1. Unpack the finisher and remove all tapes and packing materials from the finisher.



- 2. Open the front door [A] of the 1000-sheet booklet finisher, and then pull out the jogger unit [B].
- 3. Remove all tapes and packing materials from the inside of the finisher.

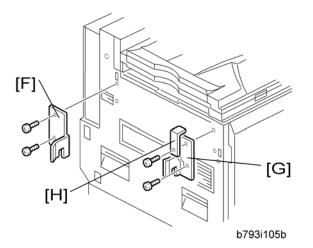


4. Attach the cushions [C] to the finisher.

#### Vote

• Make sure that the cushions are placed within 0 to 1 mm [D] from the edge of the cover or frame.

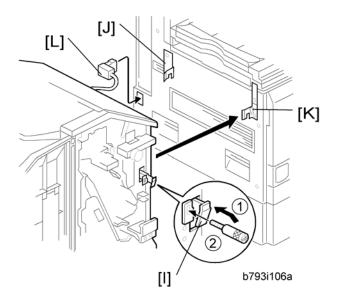
5. Install the ground plate [E] on the finisher ( $\mathscr{F} \times 2$ ; M3 x 8).



- 6. Attach the rear joint bracket [F] ( $\mathscr{F} \times 2$ , M4 x 14).
- 7. Attach the front joint bracket [G] and the holder bracket [H] ( \* x 2; M4 x 14).

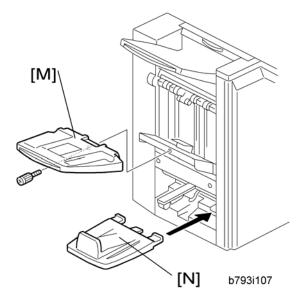
#### Note

• The holder bracket [H] must be placed outside the front joint bracket [G]. The holder bracket is provided with the bridge unit (D386).



- 8. Pull the lock lever [I] (Long knob screw x 1).
- Slowly push the finisher to the left side of the machine, keeping its front door open until the brackets [J] [K] go into their slots.
- 10. Push the lock lever [I], and then secure it (Long knob screw x 1).

- 11. Close the front door of the finisher.
- 12. Connect the finisher connector [L] to the machine.



- 13. Install the upper output tray [M] (Short knob screw x 1).
- 14. Install the lower output tray [N].
- 15. Turn on the main power switch of the machine.
- 16. Check the 1000-sheet booklet finisher operation.

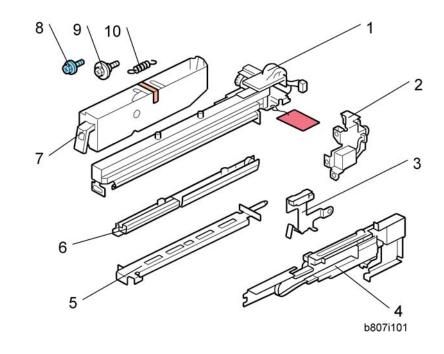
# Punch Unit (B807)

The punch unit "B807" is used for the 1000-sheet booklet finisher (B793).

### **Component Check**

Check the quantity and condition of the components against the following list.

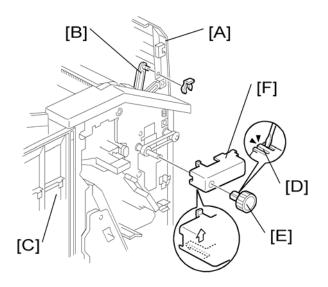
No.	Description	Q'ty
1	Punch Unit	1
2	Punch Drive Motor	1
3	Hopper Full Sensor Arm	1
4	Sub-scan Registration Sensor Unit	1
5	Punch Unit Stay	1
6	Sub-scan Registration Sensor Guide	1
7	Hopper	1
8	Screw	1
9	Step Screw	1
10	Spring	1



### Installation Procedure

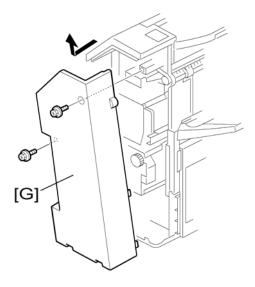
# 

• Unplug the main machine power cord before starting the following procedure. If the 1000-sheet booklet finisher has been installed, disconnect it and pull it away from the machine.

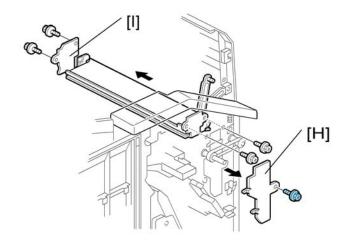


1. If the finisher is connected to the machine, disconnect it.

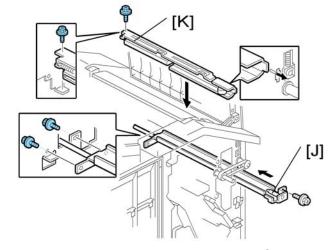
- 2. Open the top cover [A] and then release the guide arm [B] ( $\textcircled{O} \times 1$ ).
- 3. Open the front door [C].
- 4. Pull the hook [D] up then remove the knob [E].
- 5. Timing belt cover [F].



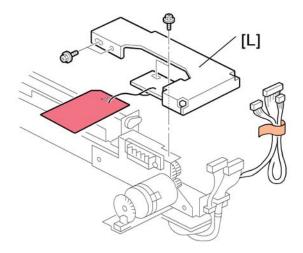
6. Rear cover of the 1000-sheet booklet finisher [G] ( $\mathscr{F}$  x 2).

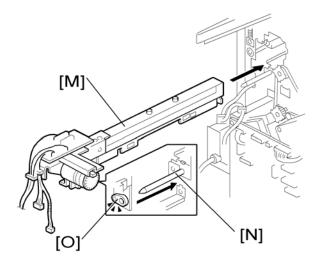


- 7. Cover bracket [H] (🖉 x 1)
- 8. Remove the paper guide plate [1] from the rear side ( $\mathscr{P} \times 4$ ).

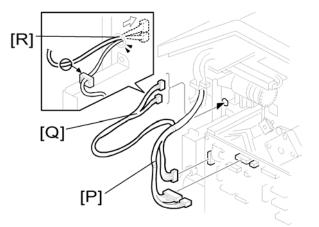


- 9. Install the punch unit stay [J] from the front side ( $\mathscr{F}$  x 3).
- 10. Install the sub-scan registration sensor guide [K] from the top ( $\mathscr{F}$  x 1).

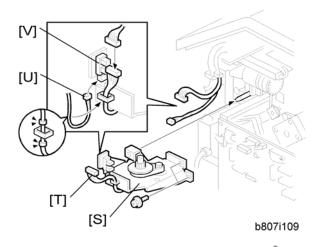




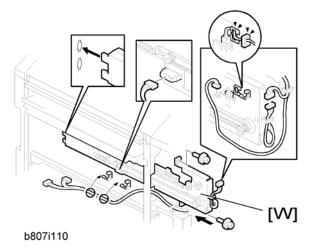
- 12. Install the punch unit [M] along the punch unit stay from the rear side.
- 13. Make sure to put the punch unit stay pin [N] through the hole [O].



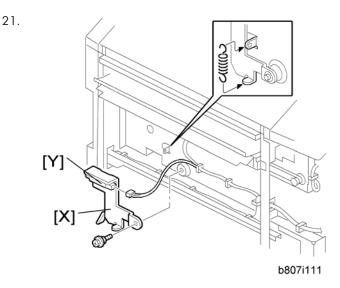
- 14. Connect the harnesses [P] to the main PCB.
- 15. Put the harnesses [Q] through the hole [R] in the rear frame ( $\bigotimes x$  1).



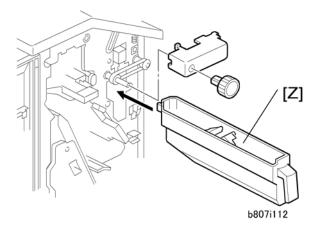
- 16. Install the punch drive motor [S] on the rear frame ( $\mathscr{P} \times 2$ ).
- 17. Connect the drive motor harness [T] (yellow connector) to the harness from the punch unit (🛱 x 1).
- 18. Connect the home position sensor harness [U] (yellow connector) from the punch unit to the home position sensor [V].



- 19. Install the sub-scan registration sensor unit [W] from the rear side (  $\not\!\!\!\! \partial^{2} x$  2).
- 20. Route and connect the harnesses as shown ( ${\textcircled{}} x$  2).



- 22. Install the hopper full sensor arm [X] ( $\mathscr{P} \times 1$ , spring x 1).
- 23. Connect the harness from the sub-scan registration sensor unit to the hopper full sensor [Y].



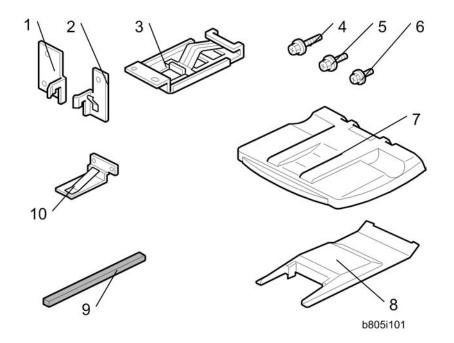
- 24. Install the hopper [Z] from the front side.
- 25. Reinstall the timing belt cover and knob.
- 26. Reinstall the rear cover (*P* x 2).
- 27. Close the front door and top cover.
- 28. Install the 1000-sheet booklet finisher on the mainframe.
- 29. Plug in and turn on the main power switch.
- 30. Check the 1000-sheet booklet finisher operation.

# 3000-Sheet Finisher (B805)

# Accessory Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Rear joint bracket	1
2	Front joint bracket	1
3	Ground (earth) plate	1
4	Tapping screws - M4 x14	4
5	Tapping screws - M3 x 8	1
6	Tapping screws - M3 x 6	6
7	Upper output tray	1
8	Support Tray	1
9	Cushion (with double-sided tape)	1
10	Small ground (earth) plate	2



## Installation Procedure

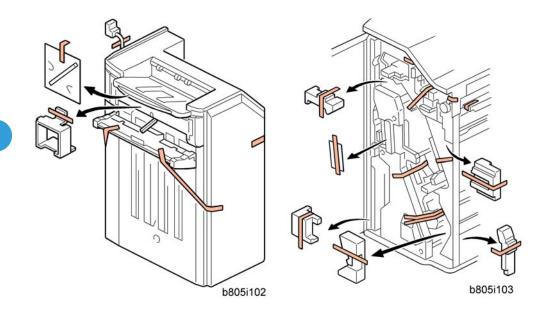
This installation procedure uses the following symbols.

# 

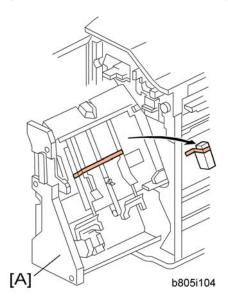
• Unplug the main machine power cord before starting the following procedure.

The bridge unit (D386) and optional paper feed unit (D351 or D352) must be installed before installing this finisher.

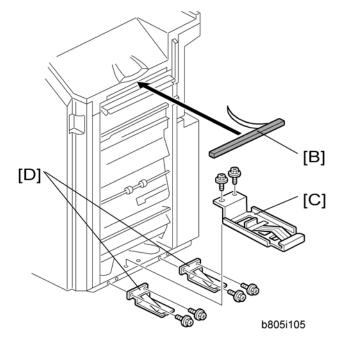
2



- 1. Unpack the finisher and remove all tapes and packing materials from the finisher.
- 2. Open the front door, and then remove all tapes and packing materials from the inside of the finisher.



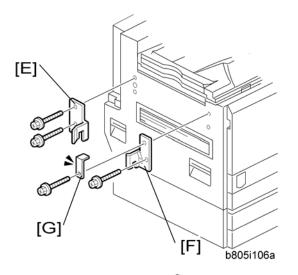
3. Pull out the jogger unit [A], and then remove all tapes and retainers.



4. Attach the cushion [B] to the finisher.

### Note

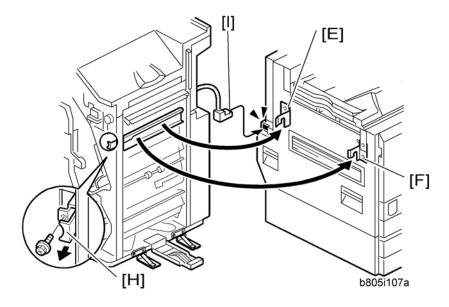
- Make sure that the cushion is placed within 0 to 1 mm from the edge of the cover.
- 6. Install the small ground plates [D] to the finisher ( $\mathscr{F} \times 2$ ; M3 x 6 each).



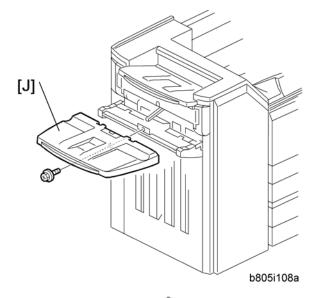
- 7. Attach the rear joint bracket [E] (P x 2; M4 x 14).
- 8. Attach the front joint bracket [F] and the holder bracket [G] ( $\mathscr{F}$  x 2; M4 x 14).

### • Note

• Holder bracket [G] must be placed outside the front joint bracket [F]. This bracket is provided with the Bridge Unit (D386).

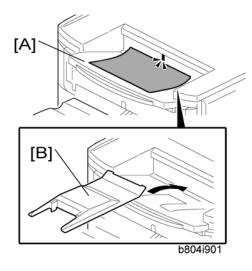


- 9. Pull the lock lever [H] ( $\mathscr{F}$  x 1).
- Slowly push the finisher to the left side of the machine keeping its front door open until the brackets
   [E] [F] go into their slots.
- 11. Push the lock lever [H], and then secure it ( $\mathscr{F} \times 1$ ).
- 12. Close the front door of the finisher.
- 13. Connect the finisher connector [I] to the machine.



- 14. Install the upper output tray [J] ( x 1; M3 x 8).
- 15. Turn on the main power switch of the machine.
- 16. Check the finisher operation.

### **Support Tray Installation**



- 1. If a stack problem occurs several times on the upper output tray [A], put the support tray [B] on the tray as shown.
- 2. Keep this tray in the manual pocket if this tray does not need to be installed.

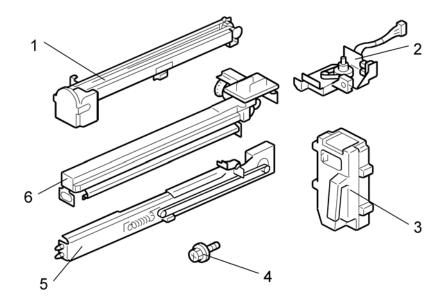
# Punch Unit (B702)

The Punch Unit "B702" is used for the 3000 Sheet Finisher (B805).

### **Component Check**

Check the quantity and condition of the components against the following list.

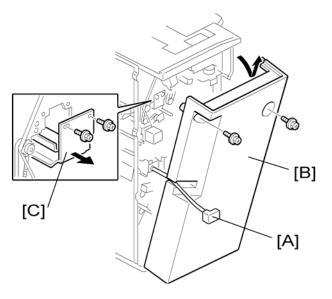
No.	Description	Q′ty
1	Punchout Waste Unit	1
2	Slide Drive Unit	1
3	Punch Waste Hopper	1
4	Screws (M3 x 6)	5
5	Side-to-Side Detection Unit	1
6	Punching Unit	1



### **Installation Procedure**

# 

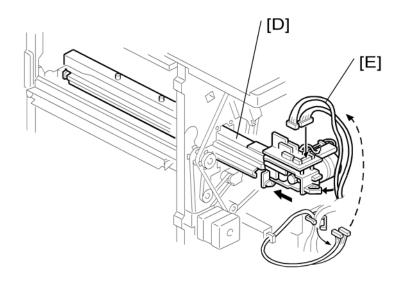
• Unplug the main machine power cord before starting the following procedure. If the 3000-sheet finisher has been installed, disconnect it and pull it away from the machine.



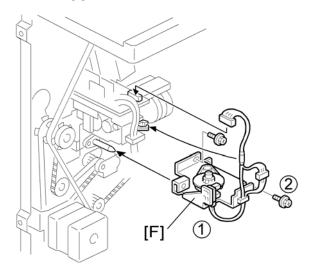
- 1. If the finisher is connected to the mainframe, disconnect the power connector [A] and move the finisher away from the mainframe.
- 2. Remove the rear cover [B] ( $\mathscr{F} \times 2$ ) and open the front door.

Note

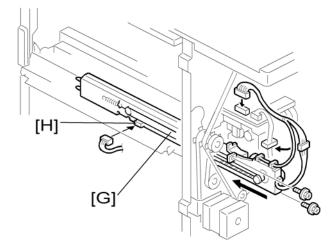
- At the bottom of the rear cover, make sure to disconnect the tabs that attach the cover to the frame.
- 3. Remove the guide plate [C] (*P* x 2).



- 4. Move the punch unit [D] along its rails into the finisher. Make sure that the pin engages correctly at the front and rear.
- Connect the cables [E] of the finisher to the connectors (CN601 and CN602) on the punch unit board (↓ x 2, ↓ x 1).
  - The cables [E] are coiled and attached to the PCB.



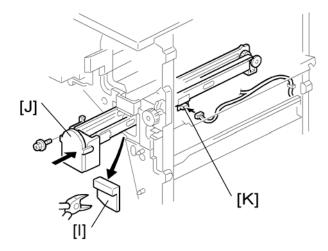
- 6. Attach the slide drive unit [F] to the finisher and connect it to the punch unit (*P* x 2, *w* x 1). Push in the slide drive unit at (1) when you attach the screw (2).
- 7. Make sure that the punch unit moves freely and is not blocked by the screws.



- 8. Put the side-to-side detection unit [G] in the machine. Make sure that the two pins are engaged correctly at the front.
- Make sure that the side-to-side detection unit moves smoothly on its rails. If it does not, make sure that the rails are aligned with their grooves.
- 10. Attach the side-to-side detection unit and connect it at the rear (🖉 x 2, 🛱 x 1, 📫 x 1).
- 11. Pull the short connector out of the connector [H] then connect the cable of the finisher ( $\square x$  1).

#### Note

• This is the 3-pin connector.

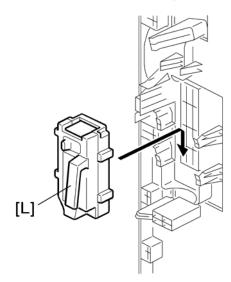


- 12. At the front, use a pair of wire cutters to remove the part [I] of the cover.
- 13. Install the punch-waste transport unit [J] in the finisher.
- 14. Make sure that the punch-waste transport unit moves smoothly on its rails. If it does not, make sure that the rails are aligned with the grooves.

15. Remove the short connector from the connector [K].

Note

- This is the 4-pin connector.
- 16. Connect the cable and attach the punch-waste transport unit ( $\mathbb{P} \times 1$ ,  $\mathbb{P} \times 1$ ,  $\mathbb{P} \times 1$ ).



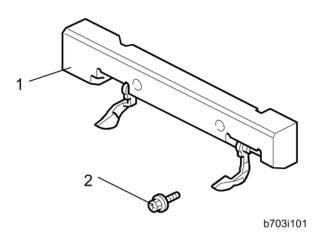
- 17. Set the hopper [L] in its holder.
- 18. Reassemble the finisher, and then install it on the main machine.
- 19. Connect the power cord to the outlet, and then turn the main power switch on.
- 20. Check the punch unit operation.

## **Output Jogger Unit (B703)**

#### Accessories

Check the accessories and their quantities against this list.

Description	Qty
1. Jogger Unit	1
2. Tapping Screws M3x6	2



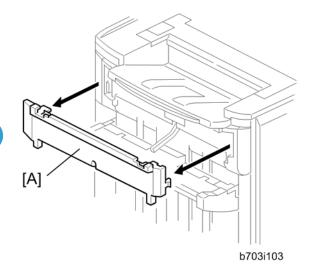
### Installation

The Output Jogger Unit B703 is installed only on the 3000-Sheet Finisher (B805).

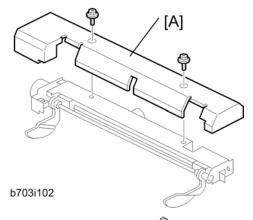


• Always switch the machine off and unplug the machine before doing any of the following procedures

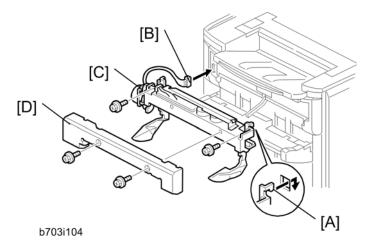
2



- 1. Turn the main machine switch off.
- 2. Disconnect the finisher from the main frame.
- 3. Use the flat head of a screwdriver to remove the left upper cover [A].



4. Remove the cover plate [A] ( x 2). Keep the screws.



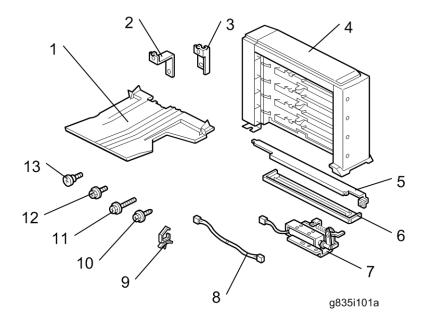
- 5. While holding the jogger unit with the connector on the left, put the hooks on the frame of the jogger unit [A] into the holes in the left and right side of the finisher frame.
- 6. Connect connector [B] to the socket (🕬 x 1).
- 7. Attach the jogger unit [C] to the finisher ( $\mathscr{F} \times 2$ ).
- 8. Reattach the jogger unit cover [D] to the jogger unit ( $\mathscr{P} \times 2$ ).

## Mail Bin (G835)

### **Component Check**

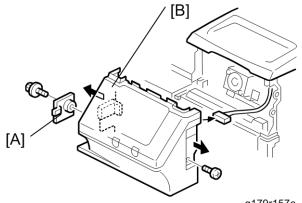
Check the quantity and condition of the components against the following list.

No.	Description	Q'ty
1	Тгау	4
2	Rear Hold Bracket	1
3	Front Hold Bracket	1
4	Mail Bin	1
5	Right Stay	1
6	Guide Bracket	1
7	Mail Bin Solenoid	1
8	Harness	1
9	Clamp (Not used)	1
10	Screw: M3x8	2
11	Screw: M4x10	3
12	Screw: M3x6	7
13	Step Screw	2
-	Decal Sheet	1



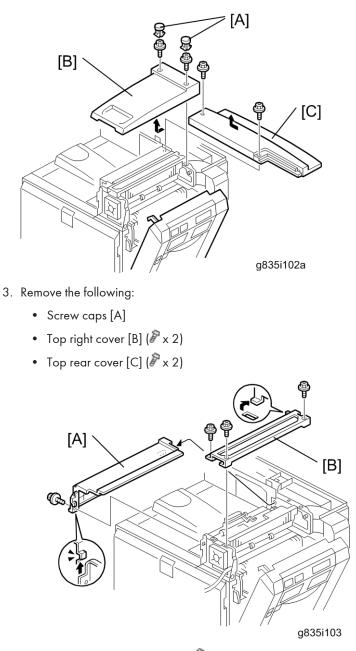
### Installation Procedure

1. Open the right door.

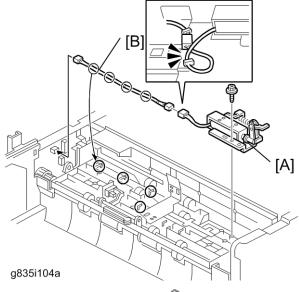


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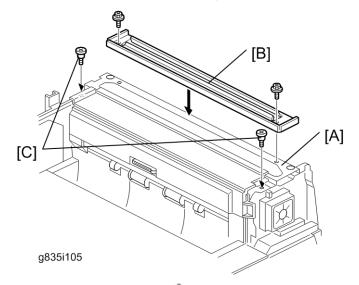
- 2. Remove the following:
  - Connection cover [A] ( 🕅 x 1)
  - Operation panel [B] (🌮 x 1, 💷 x 1)



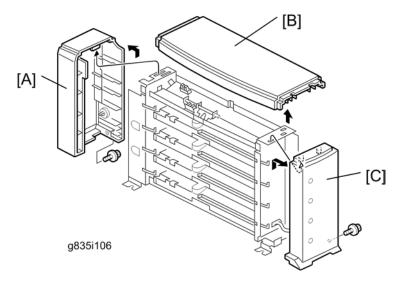
- 4. Remove the paper exit cover [A] ( $\mathscr{F} \ge 1$ ).
- 5. Remove the top right stay [B] (P x 3).



- 6. Install the mail bin solenoid [A] (P x 1: M3x8).
- 7. Connect the harness [B] and then clamp the harness with the four clamps.



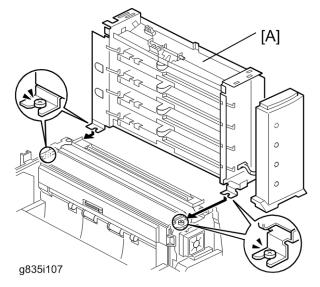
- 8. Reinstall the top right stay [A] (earrow x 3
  earrow x 3)
  earrow (A)
- 9. Install the guide plate [B] (🖗 x 2: M3x6).
- 10. Install the two step screws [C].



- 11. Remove the rear cover [A].
- 12. Remove the top cover [B] of the mail bin unit.
- 13. Remove the front cover [C].

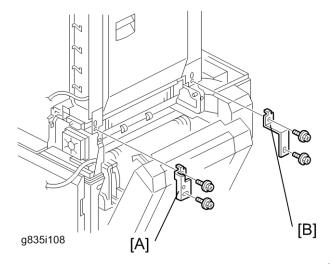
#### Note

• The front cover is connected to the mail bin unit with the harnesses. It is not necessary to disconnect the harnesses from the front cover. However, take care not to break or disconnect the harnesses during this installation procedure.

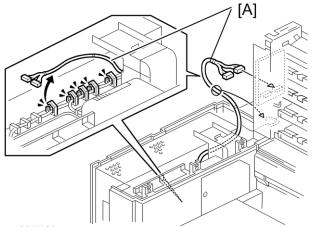


14. Install the mail bin unit [A] on the printer as shown above.

2

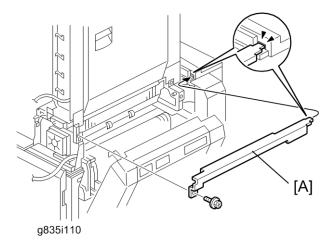


15. Attach the front hold bracket [A] and rear hold bracket [B] ( $\mathscr{P}$  x 2 each).

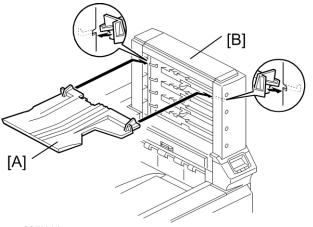


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- 16. Release the harness [A] from the printer (x 5).
- 17. Connect the harness [A] to the main board of the mail box unit ( $\square x$  1).



- 18. Reinstall the top rear cover ( $\mathscr{F} \times 2$ )
- 19. Install the right stay [A] (P x 1).
- 20. Reinstall the front and rear cover of the mail bin unit ( $\mathscr{P} \times 1$  each).
- 21. Reinstall the operation panel and connection cover ( $\mathscr{F}$  x 1 each).
- 22. Close the right door.

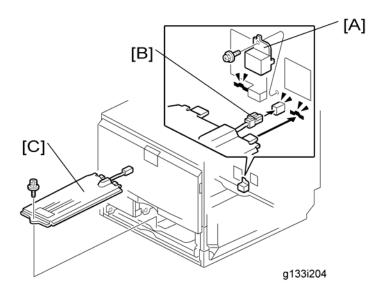


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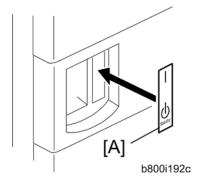
- 23. Install the tray [A] in each bin of the mail bin unit [B].
- 24. Plug in and turn on the printer.
- 25. Check the operation of the mail bin unit.

## Tray Heater (Standard Tray)

### Installation Procedure



- 1. Remove trays 1 and 2 from the machine.
- 2. Remove the connector cover [A] ( $\mathscr{F} \times 1$ ).
- 3. Connect the connector [B] of the heater to the connector of the main machine.
- 4. Install the heater [C] inside the machine ( $\mathscr{P} \times 1$ )
- 5. Reassemble the machine.

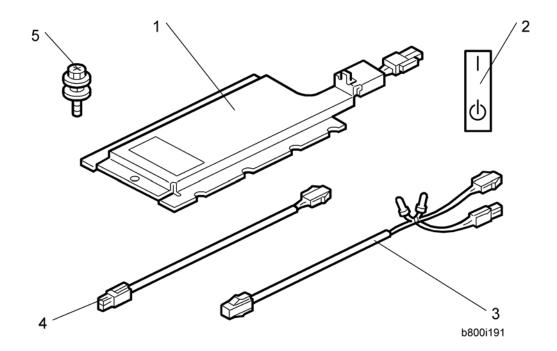


6. Attach the on/standby decal [D] to the right-hand side of the main power switch.

# Tray Heater (Optional Tray)

### Component Check

No.	Description	Q′ty
1	Tray heater	1
2	On-standby decal	1 (-90) or 2 (-91)
3	Harness 2 (For D387)	1
4	Harness 1 (For D351/D352)	1
5	Screw M4 x 10	2
-	Installation procedure	1



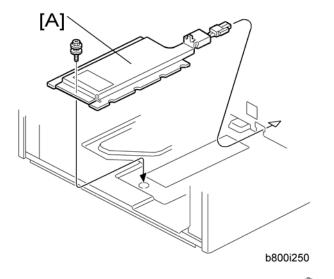
### Installation Procedure

### 

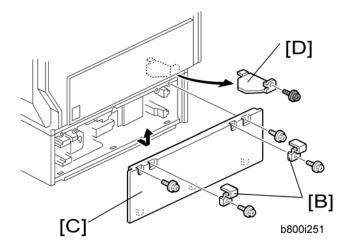
• Unplug the machine power cord before starting the following procedure.

#### For installing the tray heater in the D351 (Two-tray paper feed unit)

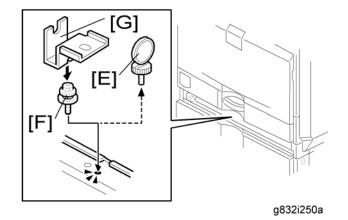
- 1. Remove the rear cover of the mainframe ( $\mathscr{P} \times 6$ ).
- 2. Pull out the two trays from the optional paper feed unit.



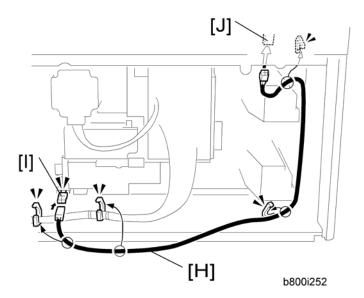
3. Install the tray heater [A] in the optional paper feed unit ( $\mathscr{P} \times 1$ ).



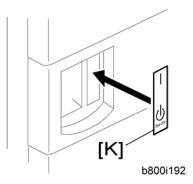
- Remove the two securing brackets [B] ( x 1 each), and then the rear cover [C] of the optional paper feed unit ( x 2).
- 5. Remove the harness cover bracket [D] ( $\mathscr{P}$  x 1).



- 6. Pull out tray 2 from the mainframe.



- 8. Connect the harness [H] to the connector [I] of the tray heater.
- 9. Route the harness [H] as shown and clamp it with four clamps ( $\square \times 4$ ).
- 10. Connect the harness [H] to the connector [J] of the mainframe.
- 11. Reassemble the mainframe and optional paper feed unit.



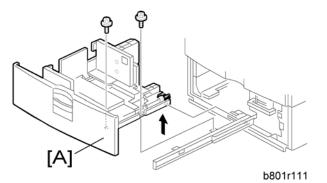
12. Attach the on/standby decal [K] to the right-hand side of the main power switch.

#### For installing the tray heater in the D352 (LCT)

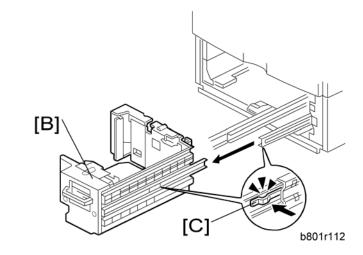
- 1. Remove the rear cover of the mainframe ( $\mathscr{F} \times 6$ ).
- 2. Pull out the LCT drawer.

#### Vote

• If the right tray comes out with the left tray, push the right tray into the LCT.



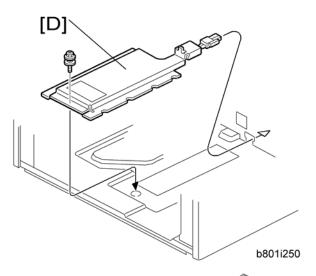
3. Left tray [A] (🖉 x 2)



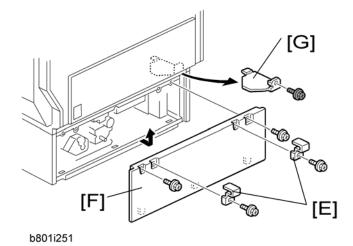
4. Remove the right tray [B] while pressing down the stopper [C].

#### Note

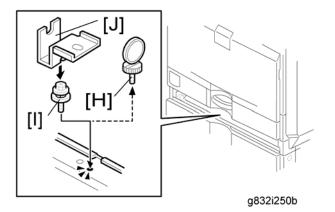
• When reinstalling the right tray, set the right tray on the guide rail and carefully push the tray in, making sure to keep the tray level.



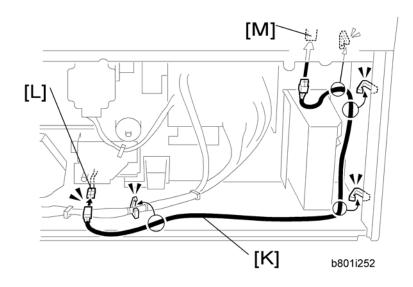
5. Install the tray heater [D] in the optional LCT ( $\ensuremath{\mathscr{P}}$  x 1).



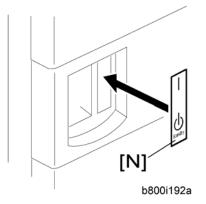
- Remove the two securing brackets [E] ( x 1 each), and then the rear cover [F] of the optional LCT ( x 2).
- 7. Remove the harness cover bracket [G] ( x 1).



- 8. Pull out tray 2 from the mainframe.
- 9. Replace the shoulder screw [H] with the washer screw [I], using the securing bracket [J] ( $\mathscr{F}$  x 1).



- 10. Connect the harness [K] to the connector [L] of the tray heater.
- 11. Route the harness [K] as shown and clamp it with four clamps (🛱 x 4).
- 12. Connect the harness [K] to the connector [M] of the mainframe.
- 13. Reassemble the mainframe and optional LCT.

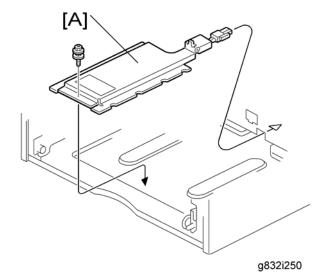


14. Attach the on/standby decal [N] to the right-hand side of the main power switch.

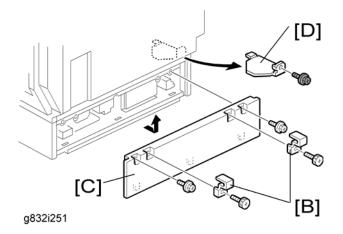
#### For installing the tray heater in the D387 (Paper tray unit)

- 1. Remove the rear cover of the mainframe ( $\mathscr{F} \times 6$ ).
- 2. Pull out the tray from the optional paper tray.

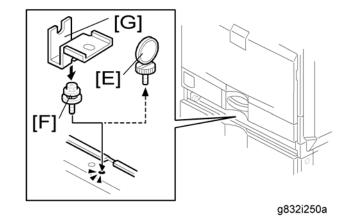
2



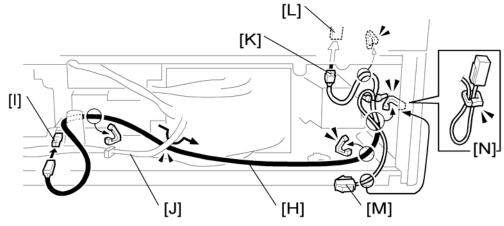
3. Install the tray heater [A] in the optional paper tray ( $\mathscr{P}$  x 1).



- Remove the two securing brackets [B] ( x 1 each), and then the rear cover [C] of the optional paper tray ( x 2).
- 5. Remove the harness cover bracket [D] ( $\mathscr{P}$  x 1).



- 6. Pull out tray 2 from the mainframe.
- 7. Replace the shoulder screw [E] with the washer screw [F], using the securing bracket [G] ( $\mathscr{F} \times 1$ ).



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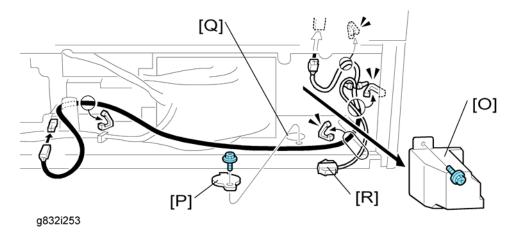
- 8. Connect the harness [H] to the connector [I] of the tray heater.
- 9. Route the harness [H] as shown and clamp it with four clamps ( $\bigotimes x 4$ ).

#### Vote

- Make sure that the harness [H] is placed below the harness [J].
- 10. Connect one harness [K] of the two-way harness to the connector [L] of the mainframe.

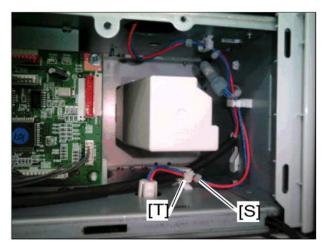
Vote

- Connect [K] to the connector on the mainframe. The harness of connector [K] has two binders. The harness of the other connector [M] has one binder, and this is for another optional paper feed unit.
- 11. Clamp the other harness [M] of the two-way harness as shown [N] if you do not install another optional paper feed unit.



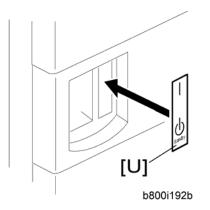
Do steps 12 to 14 if you install another optional paper feed unit below D387. If not, skip to step 15.

- 12. Remove the tray bar cover [O] ( $\mathscr{P} \times 1$ ).
- 13. Remove the harness cover bracket [P].
- 14. Pass the harness from the lower paper feed unit through the hole [Q], and then connect it to the harness [R].





• Make sure that the harness is clamped, with the bind [S] placed at the right hand side of the clamp [T].



- 15. Reassemble the mainframe and optional paper tray.
- 16. Attach the on/standby decal [U] to the right-hand side of the main power switch.

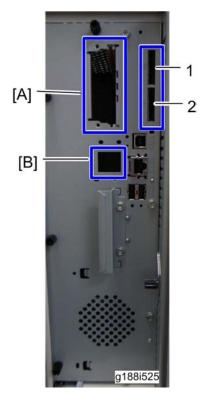
2

## **Controller Options**

#### Overview

This machine has I/F card slots for optional I/F connections and SD card slots applications.

After you install an option, check that the machine can recognize it (see "Check All Connections" at the end of this section).



#### I/F Card Slots

- I/F Slot [A] is used for one of the optional I/F connections (only one can be installed): IEEE1284, IEEE802.11a/g, g (Wireless LAN) or Bluetooth.
- Gigabit Ethernet Slot [B] is used for only Gigabit Ethernet.

#### **SD Card Slots**

• Slot 1 is used for one of the optional applications: Data Overwrite Security Unit, NetWare, PictBridge, Data Storage Card.

• Slot 2 is used for installing the VM card, HDD Encryption Unit, or for service only (for example, updating the firmware).

#### SD Card Appli Move

## 2

#### Overview

The service program "SD Card Appli Move" (SP5-873) lets you to copy application programs from one SD card to another SD card.

Slot 1 and Slot 2 are used to store application programs. However, more than two optional applications are supplied for this machine. In that case, you can move application programs from Slot 2 to Slot 1 with the following procedure.

Consider the following limitations when you try to merge SD cards.

The destination SD card should have the largest memory size of all the application SD cards. Refer
to the following table for the memory size of each SD card.

#### **Outline of SD Card Appli Move**

1. Choose a SD card with enough space.

#### Vote

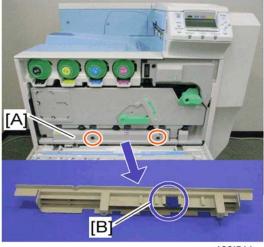
- Do not use an SD card if it has been used on a computer. Normal operation is not guaranteed when such an SD card is used.
- 2. Enter SP5873 "SD Card Appli Move". Then move the application from the SD Card in Slot 2 to the card in slot 1.
- 3. Exit the SP mode

Use caution when you do the SD Card Appli Move procedure:

Note

• The data necessary for authentication is transferred with the application program from an SD card to another SD card. Authentication fails if you try to use the SD card after you copy the application program from one card to another card.

2



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- 4. Remove the cover [A] (P x 2).
- 5. Keep the SD card in the place [B] after you have copied the application program from one card to another card. This is done for the following reasons:
  - 1) The SD card can be the only proof that the user is licensed to use the application program.
  - 2) You may need to check the SD card and its data to solve a problem in the future.

#### **Move Exec**

The menu "Move Exec" (SP5-873-001) lets you copy application programs from the original SD card to another SD card.

#### 🚼 Important

- Do not turn ON the write protect switch of an application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.
- 1. Turn the main switch off.
- 2. Make sure that an SD card is in SD card slot 1. The application program is copied into this SD card.
- 3. Insert the SD card (having stored the application program) to SD card slot 2. The application program is copied from this SD card.
- 4. Turn the main switch on.
- 5. Start the SP mode.
- 6. Select SP5-873-001 "Move Exec."
- 7. Follow the messages shown on the operation panel.
- 8. Turn the main switch off.

- 9. Remove the SD card from SD card slot 2.
- 10. Turn the main switch on.
- 11. Check that the application programs run normally.

#### Undo Exec

The menu "Undo Exec" (SP5-873-002) lets you copy back application programs from an SD card to the original SD card. You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

#### 🔁 Important

- Do not turn ON the write protect switch of an application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.
- 1. Turn the main switch off.
- 2. Insert the original SD card in SD card slot 2. The application program is copied back into this card.
- 3. Insert the SD card (having stored the application program) to SD card slot 1. The application program is copied back from this SD card.
- 4. Turn the main switch on.
- 5. Start the SP mode.
- 6. Select SP5-873-002 "Undo Exec."
- 7. Follow the messages shown on the operation panel.
- 8. Turn the main switch off.
- 9. Remove the SD card from SD card slot 2.

#### Vote

- This step assumes that the application programs in the SD card are used by the machine.
- 10. Turn the main switch on.
- 11. Check that the application programs run normally.

# 3. Preventive Maintenance

## **Maintenance Items**

See "Appendices" for the following information:

- User Maintenance Items
- Service Maintenance Items

3. Preventive Maintenance

# 4. Replacement and Adjustment

## Beforehand

## 

- Before installing options, please do the following:
  - 1. If there are printer jobs in the machine, print out all jobs in the printer buffer.
  - 2. Turn off the main switch and disconnect the power cord and the network cable.

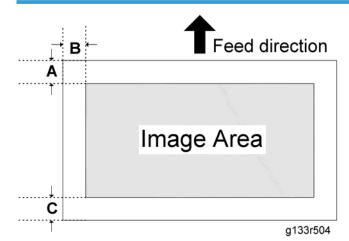
# **Special Tools**

Part Number	Description	Q'ty
B645 5010	SD Card	1
B645 6705	PCMCIA Card Adapter	1
B645 6830	USB Reader/Writer	1
VSSM9000	Digital Multimeter – FLUKE87	1
C401 9503	20X Magnification Scope	1
A257 9300	Grease Barrierta – S552R	1
5203 9502	Silicone Grease G-501	1
B679 5100	Plug - IEEE1284 Type C	1
B132 9700	Lubricant Powder	1

## Image Adjustment

Registration

#### Image Area



A = 5.2 mm (0.21"), B = 4.2 mm (0.17") C = 3.2 mm (0.13")

Make sure that the registration is adjusted within the adjustment standard range as shown above.

#### Leading Edge

Adjusts the leading edge registration for each paper type and process line speed.

#### Side to Side

Adjusts the side-to-side registration for each paper feed station. Use SP mode (SP1-002) to adjust the sideto-side registration.

#### Adjustment Standard

- Leading edge (sub-scan direction): 5.2 ± 1.5 mm
- Side to side (main-scan direction): 2.0 ± 1 mm

#### **Paper Registration Standard**

The registration in both main- and sub-scan directions can change within the following tolerance.

- Sub-scan direction: 0 ± 9 mm
- Main-scan direction: 0.5 ± 4 mm

#### Adjustment Procedure

- 1. Enter SP2-109-003.
- 2. Select the test pattern (14: 1-dot trimming pattern) with SP2-109-003.
- 3. Exit SP mode.
- Enter the menu mode, and then select "Color Demo Page" (Menu > "List/Test Print" > "Color Demo Page").

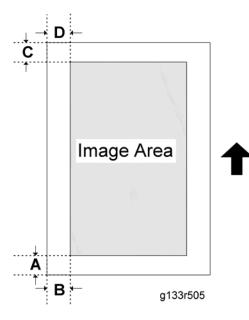
#### Vote

- Registration can change slightly as shown on the previous page. Print some pages of the 1-dot trimming pattern for step 3 and 4. Then average the leading edge and side-to-side registration values, and adjust each SP mode.
- 5. Do the leading edge registration adjustment.
  - a. Check the leading edge registration and adjust it with SP1-001.
  - b. Select the adjustment conditions (paper type and process line speed).
  - c. Change the value with the  $\checkmark$ ,  $\land$  keys. Then press the "OK" key.
  - d. Generate a trim pattern to check the leading edge adjustment.
- 6. Do the side-to-side registration adjustment.
  - a. Check the side-to-side registration and adjust it with SP1-002.
  - b. Select the adjustment conditions (paper feed station).
  - c. Change the value with the  $\checkmark/$ ,  $\checkmark/$  keys. Then press the "OK" key.
  - d. Generate a trim pattern to check the leading edge adjustment.
- 7. Return the value of the setting in SP2-109-003 to "00" before completing this procedure.

#### **Erase Margin Adjustment**

#### Note

 Adjust the erase margin C and D only if the registration (main scan and sub scan) cannot be adjusted within the standard values. Do the registration adjustment after adjusting the erase margin C and D, and then adjust the erase margin A and B.



- 1. Enter SP2-109-003.
- 2. Select the test pattern (14: 1-dot trimming pattern) with SP2-109-003.
- 3. Exit SP mode.
- Enter the menu mode, and then select "Color Demo Page" (Menu > "List/Test Print" > "Color Demo Page").
- 5. Check the erase margin A and B. Adjust them with SP2-103-001 to -010 if necessary.

Leading edge: 1.5 to 5.2 mm,

Side-to-side: 0.5 to 4.0 mm,

Trailing edge: 0.5 to 0.6 mm

6. Return the value of the setting in SP2-109-003 to "00" before completing this procedure.

#### **Color Registration**

#### Line Position Adjustment

The automatic line position adjustment usually is done for a specified condition to get the best color prints. Do the following if color registration shifts:

- Do "Forced Line Position" as follows to do the forced line position adjustment.
  - 1) First do SP2-111-3.
  - 2) Then do SP2-111-1.

To check if SP 2-111-1 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-10 to -12.

- You should also do the line position adjustment at these times:
  - After you transport or move the machine (you should do the forced line position adjustment if you install the machine at the user location.) if the machine is pre-installed at the workshop and moved to the user location,
  - When you remove or replace the motors, clutches, and/or gears related to the drum/ development/transfer sections
  - When you remove or replace the image transfer belt or laser optical housing unit

#### Gamma Adjustment

#### Note

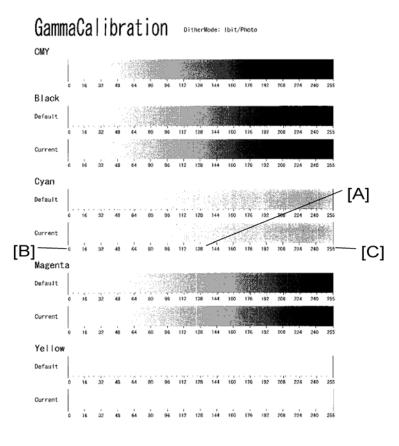
 Clean and/or replace related parts first to solve color quality problems. Do these procedures if adjustments are necessary:

#### Summary

To adjust the printer gamma:

- Select the print mode you want to calibrate
- Print a color calibration test sheet
- Make the gradation scales on the printout smooth from the lowest to the highest density. Adjust the CMY gradation scale at the top of the chart by balancing the density of the C, M, and Y gradation scales the CMY gray scale should change smoothly from minimum to maximum. There should be no coloration.

Examine this color adjustment sheet:





You can adjust 15 points for each color: (example [A]) between 0 (lowest density) [B] and 255 (highest density) [C]. For each point, you can adjust the density within 0 and 255.

The gradation scales marked 'Default' are printed according to the default gamma settings in the flash ROM in the controller. The gamma adjustment changes the densities at the adjustable points in the gradation scale. The gradation scale marked "Current" shows the current settings.

Compare the "Current" gradation scale with the 'Default' at the time you do the adjustment procedure. Select the density for each of the 15 adjustable points, excluding points 0 and 255, from the 'Default' gradation scale.

The NVRAM holds three sets of controller gamma settings:

- Those saved this time: Controller SP1-101 "ToneCtlSet" "Tone (Current)"
- Those saved in the previous adjustment: Controller SP1-101 "ToneCtlSet Tone (Prev)"
- The factory settings: Controller SP1-101 "ToneCtlSet "Tone (Factory)".

#### **Adjustment Procedure**

- 1. Enter the controller service mode.
- 2. Use the down arrow key to select Controller SP1-102 "ToneCtlSet". Then press the Enter key.
- 3. Use the up/down key to select the mode you want to calibrate, Then press the Escape key until you get back to the controller service mode menu.
- 4. Use the down arrow key to select Controller SP1-103 "PrnColorSheet". Then press the Enter key.
- 5. Use the up/down key to select Controller SP1-103-001 "ToneCtlSheet" (normally this is displayed by default). Then press the Enter key.
- 6. Press the Enter key to print out the "color calibration test sheet". When "Execute?" shows.
- 7. Press the Escape key 2 times to exit from the menu. when "Execute OK" shows. (You return to Controller SP1-103 "PrnColorSheet" in the controller service menu.)
- 8. Use the down arrow key to select Controller SP1-104 "ToneCtlValue". Then press the enter key.
- 9. Use the up/down arrow key to select the setting you want to adjust. Then press the enter key. The three digits in the display (example '016') indicate a position on the color calibration test sheet.

Operation Panel Display	Color Calibration Test Sheet
Set Black 1	Default Value 16
Set Black 2	Default Value 32
Set Black 3	Default Value 48
:	:
:	:
Set Black 13	Default Value 208
Set Black 14	Default Value 224
Set Black 15	Default Value 240
Set Cyan 1 ~ 15	See Set Black 1 ~ 15
Set Magenta 1 ~ 15	See Set Black 1 ~ 15
Set Yellow 1 ~ 15	See Set Black 1 ~ 15

Adjust the color density at each of the 15 points for each of the four colors.

Do the following to decide what density value to input:

a) Look at the color adjustment sheet.

- b) Look at the gradation scale entitled 'Default' for the color you want to adjust.
- c) Go along the scale until you reach the density you want to input.
- d) Read off the value on the scale and store it in the machine.
  - Use the up/down key to move the cursor along the three-digit display. Then press the Enter key.
  - Use the up/down key to change the digit at the cursor. Then press the Enter key.
  - Press the Escape key to exit from the menu.
- e) Do the same for all 15 points.
- 10. When the density setting is complete for all colors, print out a color adjustment sheet again and make sure that the gradation scale for each printed color is smooth and that the CMY gradation scale is gray. Do the adjustment again if there is an anomaly (normally, repeat this procedure 3 to 5 times).
- 11. Do these when the adjustment results are satisfactory:
- 12. Use Controller SP1-105 "ToneCtlSave" in the controller service menu, to store the new settings in the controller.
- 13. Reset the controller (press the [Reset] key when the machine is off line") to use the new settings.

Note

• You must reset the controller to keep the new settings in the controller NVRAM.

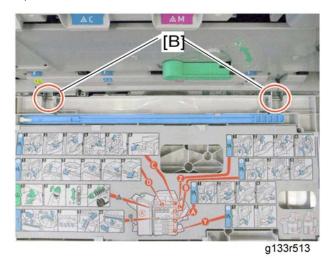
# **Exterior Covers**

## Front Door



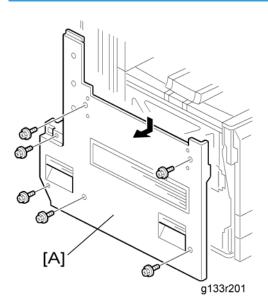
g133r512

1. Open the front door [A].



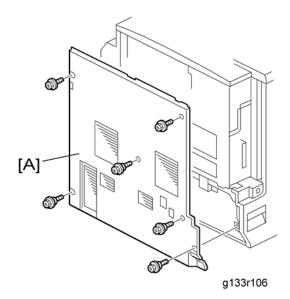
2. Remove the two pins [B], and then remove the front cover.

# Left Cover



1. Left cover [A] (🖗 x 6)

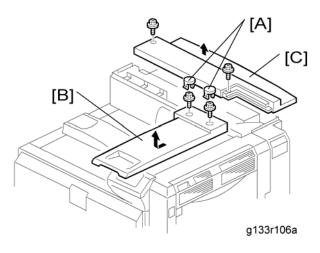
# Rear Cover



1. Rear cover [A] (🖗 x 6)

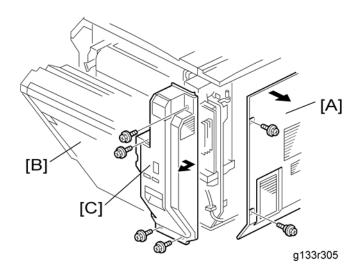
4

# Top Right and Rear Cover



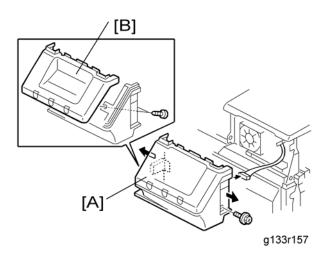
- 1. Remove the screw caps [A].
- 2. Top right cover [B] ( x 2)
- 3. Top rear cover [C] ( x 2)

# Right Rear Cover



- 1. Rear cover [A] ( 🖉 x 6)
- 2. Open the right door [B].
- 3. Right rear cover [C] ( x 4)

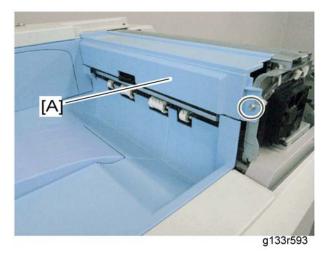
# **Operation Panel**



- 1. Open the right door.
- 2. Operation panel cover [A] (P x 1, 🕬 x 1, hook)
- 3. Operation panel [B] (P x 2)

# Paper Exit Cover

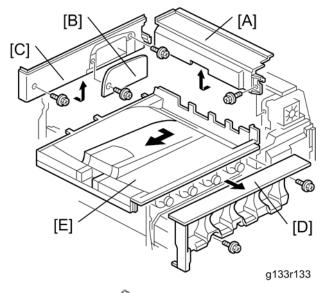
- 1. Top right cover (🖝 p.110)
- 2. Operation panel cover (🖝 p.111)



3. Paper exit cover [A] (🖉 x 1)

## **Output Tray**

- 1. Top right cover and top rear cover( p.110)
- 2. Operation panel cover (🖝 p.111)
- 3. Left cover (🖝 p.109)



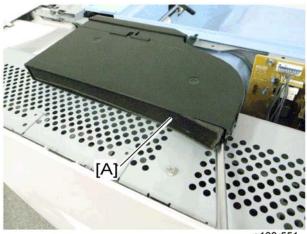
- 4. Paper exit cover [A] ( x 1)
- 5. Inner rear cover [B] (🖉 x 2)
- 6. Connector cover [C] ( x 1)
- 7. Front door (🖝 p.108)
- 8. PCU (🖝 p.123)
- 9. Toner cartridge cover [D] ( $\mathscr{P}$  x 2)
- 10. Output tray [E]

## Ozone Filter

## Ozone filter for charge unit

- 1. Top right cover (🖝 p.110)
- 2. Top rear cover (🖝 p.110)

4



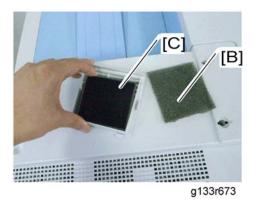
g133r551

3. Ozone filter [A]

# Ozone filter for IH inverter



1. IH inverter fan cover [A] (hook)



- 2. Filter [B]
- 3. Ozone filter [C]

# **Laser Optics**

# \Lambda WARNING

• Turn off the main switch and unplug the machine before beginning any of the procedures in this section. Laser beams can cause serious eye injury.

### **Caution Decal Location**

Caution decals are placed as shown below.



# **WARNING**

• Be sure to turn off the main switch and disconnect the power plug from the power outlet before beginning any disassembly or adjustment of the laser unit. This copier uses a class IIIb laser beam with a wavelength of 655 nm and an output of 7 mW. The laser can cause serious eye injury.

### Laser Optics Housing Unit

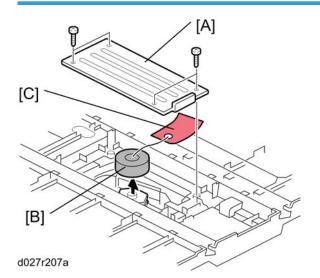
# 

• Before installing a new laser optics housing unit, remove the sponge padding and the tag from the new unit.

#### Note

- A new laser optics housing unit has a bracket to protect the LD units. When you install the new unit, do not remove the bracket until near the end of the installation procedure (the correct time is stated in the manual).
- This bracket protects a capacitor on the unit. If the bracket is removed too early, you could break the capacitor on the corner of the main frame when you install the new unit.

#### Preparing the new laser optics housing unit



1. Polygon motor cover [A] of the laser optics housing unit (P x 4)

- 2. Sponge padding [B]
- 3. Tag [C]
- 4. Reinstall the polygon motor cover [A].

#### Before removing the old laser optics housing unit

Do the following settings before removing the laser optics housing unit. These are adjustments for skew adjustment motors in the laser optics housing unit.

- 1. Plug in and turn on the main power switch of the copier.
- 2. Enter the SP mode.
- 3. Execute SP9511-001 to clear the L2 lens positioning motor setting for Magenta.
- 4. Execute SP9511-002 to clear the L2 lens positioning motor setting for Cyan.
- 5. Execute SP9511-003 to clear the L2 lens positioning motor setting for Yellow.
- 6. Exit the SP mode.
- 7. Turn off the main power switch and disconnect the power cord of the copier.

#### Recovery procedure for no replacement preparation of laser optics housing unit

If you did not do the procedure in 'Before removing the old laser optics housing' before removing the old laser optics housing unit, you must do the following.

1. Turn off the main power switch and disconnect the power cord of the copier.

2. Remove the left cover and harness cover bracket (see the following "Removing the old laser optics housing unit")

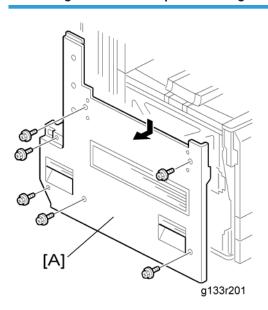


d027r610

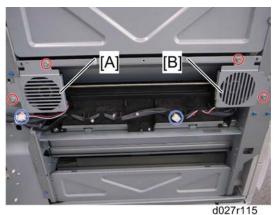
4

- 3. Disconnect the harness [A] of the skew correction motor.
- 4. Do steps 1 to 7 of "Before removing the old laser optics housing unit".
- 5. Connect the harness [A] and reinstall the harness bracket and left cover.
- 6. Plug in and turn on the main power switch.

### Removing the old laser optics housing unit

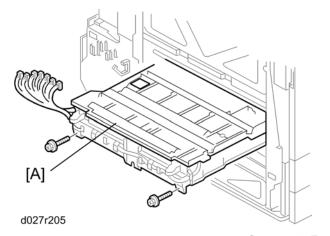


1. Left cover [A] ( 🖉 x 6)



002/1110

- 2. Rear fan bracket [A] for the laser housing optics unit (P x 2, 💷 x 1)
- 3. Front fan bracket [B] for the laser housing optics unit (P x 2, 💷 x 1)

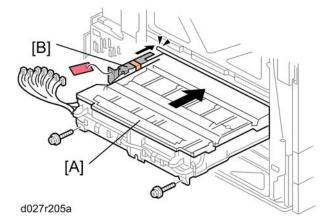


4. Remove the old laser optics housing unit [A] (P x 2, All 🕬's, 🛱 x 3)

#### Installing a new Laser Optics Housing Unit

#### **Vote**

- A new laser optics housing unit has a bracket to protect the LD units. When you install the new unit, do not remove the bracket until near the end of the installation procedure (the correct time is stated in the manual).
- This bracket protects a capacitor on the unit. If the bracket is removed too early, you could break the capacitor on the corner of the main frame when you install the new unit.

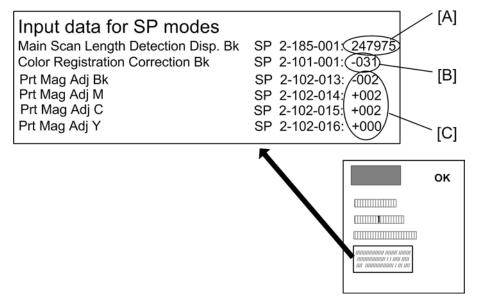


- 1. Push the new laser optics housing unit [A] slowly into the copier until the bracket [B] bumps against the frame of the copier.
- Remove the bracket [B], and then push the new laser optics housing unit fully into the copier ( x 2, All ↓, x 3).
- 3. Reassemble the machine.

#### After installing the new laser optics housing unit

Do the following adjustment after installing the new laser optics housing unit.

1. Plug in and turn on the main power switch.



2. Adjust the main scan magnification for K, M, C, Y.

• Input the standard values [C] provided with a new laser optics housing unit for the main scan magnification adjustment with SP2-102-013, 014, 015, 016.

Note

- The values [C] are different for each laser optics housing unit.
- 3. Adjust the main scan magnification only for black (K).
  - Input the standard value [A] provided with a new laser optics housing unit for the main scan magnification adjustment with SP2-185-001.

Vote

- The value [A] is different for each laser optics housing unit.
- Print the test pattern (14: 1-dot trimming pattern in the SP2-109-003).
- Check that the left and right trim margin is within 4 ± 1 mm. If not, change the standard value for the main scan magnification adjustment.
- 4. Adjust the main scan registration only for black (K).
  - Input the registration value [B] provided with a new laser optics housing unit for the main scan registration adjustment with SP2101-001.

Note

- The value [B] is different for each laser optics housing unit.
- Print the test pattern (14: 1-dot trimming pattern in the SP2-109-003).
- Check that the left trim margin is within 2 ± 1 mm. If not, change the registration value for the main scan registration adjustment.
- 5. Select "0" with SP2-109-003 after printing the "1-dot trimming pattern.
- 6. Do the line position adjustment.
  - First do SP2-111-3.
  - Then do SP2-111-1.

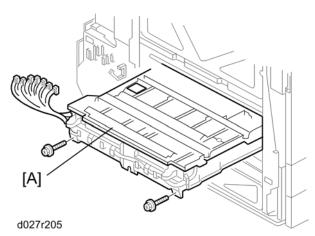
To check if SP 2-111-1 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-10 to -12.

7. Exit the SP mode.

After you replace the housing unit, do the adjustments in the following section of the manual: Image Adjustment – Registration.

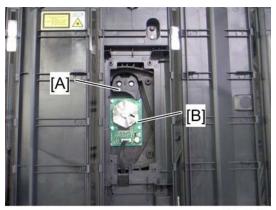
4

# Polygon Mirror Motor and Drive Board



1. Laser optics housing unit [A] (• p.115)





d027r117

- 3. Polygon mirror motor holder [A] ( $\mathscr{F} \times 2$ )
- 4. Polygon mirror motor [B] ( x 4, w x 1)

After installing the polygon mirror motor:

- 1) Do the "Forced Line Position Adj. Mode c" (SP2-111-3).
- 2) Then do the "Forced Line Position Adj. Mode a" (SP2-111-1).

To check if SP 2-111-1 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-10 to -12.

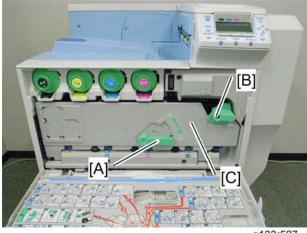
After you replace the motor, do the adjustments in the following section of the manual: Image Adjustment – Registration.

# **Image Creation**

## PCU

#### Note

- Do not touch the OPC drum. Do not let metal objects touch the development sleeve.
- 1. Open the front door.



g133r527

- 2. Turn the drum positioning plate lever [A] and the image transfer unit lock lever [B] counter-clockwise.
- 3. Open the drum positioning plate [C].



g133r528

4. Pull out the PCU (hold the grip while you pull it out) [A].

123

4

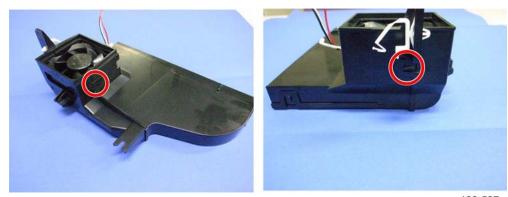
## Second Duct Fan

- 1. Rear cover (🖝 p.109)
- 2. Top right cover (🖝 p.110)
- 3. Top rear cover (🖝 p.110)
- 4. Open the controller box (🖝 p.218)

5. Second duct [A] (𝔅 x 2, 🗊 x 1, x 3)

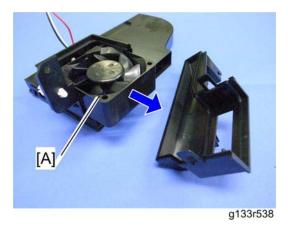


g133r536



g133r537

6. Split the second duct (2 hooks).



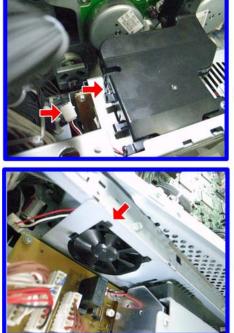
7. Second duct fan [A]

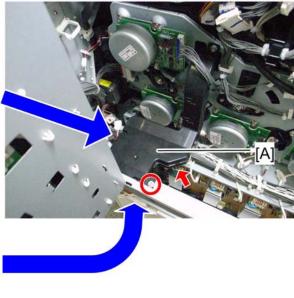
#### When reinstalling the second duct fan

Make sure that the second duct fan is installed with its decal facing the upper side of the machine.

## Third Duct Fan

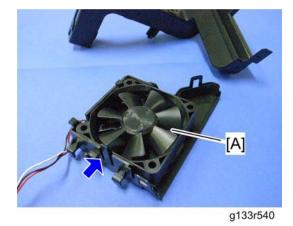
- 1. Rear cover (🖝 p.109)
- 2. Top right cover (🖝 p.110)
- 3. Top rear cover (🖝 p.110)
- 4. Open the controller box (🖝 p.218).
- 5. PSU bracket ( p.222 "PSU")



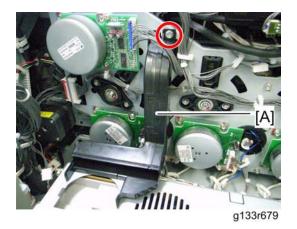


g133r539

6. Third duct fan cover [A] (🎤 x 1, 🕬 x 1, hook x 3)



7. Third duct fan [A] (hook x 1)



8. Third duct [A] ( 🕅 x 1)

#### When reinstalling the third duct fan

Make sure that the third duct fan is installed with its decal facing the upper side of the machine.

### **Toner Pump Unit**

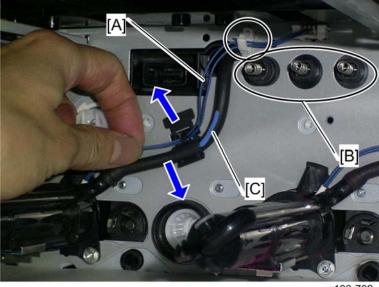
There are four pump units inside the machine. This procedure describes the replacement procedure only for one unit. If you need to replace another unit, do the same as this procedure.

#### Note

- Put some sheets of paper on the floor before doing this procedure. Toner may fall on the floor.
- 1. Front door (🖝 p.108)
- 2. Image transfer belt unit (🖝 p.134)
- 3. All PCUs ( p.123)



- 4. Put a sheet of paper [A] (A3/DLT) inside the machine as shown and on the floor. **Note**
  - The sheet of paper on the floor is used in a later step.



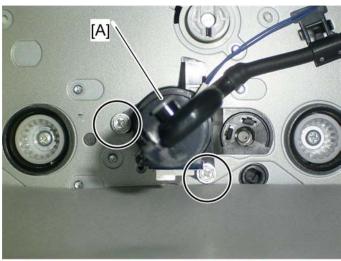
g133r702

5. Release the harness [A] from the clamp (⊇ x 1 for YCM, ⊇ x 2 for K) and hook, and then disconnect the harness.

**Vote** 

- Avoid touching these spring terminals [B].
- 6. Release the toner supply tube [C].

4



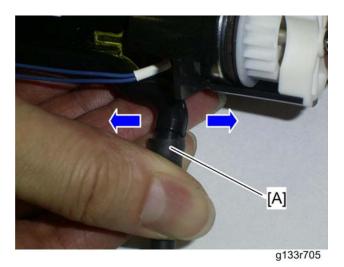
g133r703

7. Remove the toner pump unit [A] ( $\widehat{\mathscr{P}} \ge 2$ )





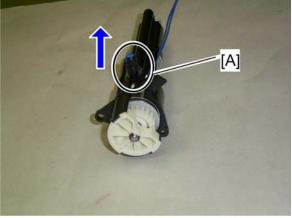
Make sure that a sheet of paper is attached to the frame of the rear side and covers the four gears. The picture on the left shows a sheet of paper that is correctly set, but the picture on the right shows a sheet of paper that is not correctly set. This sheet of paper prevents toner and screws from falling into the laser optics housing unit through cutouts.



- 8. Slowly remove the toner supply tube [A] from the toner pump unit by pulling the tube right and left.
- 9. Turn up the openings of the toner pump unit and toner supply tube just after removing the tube.

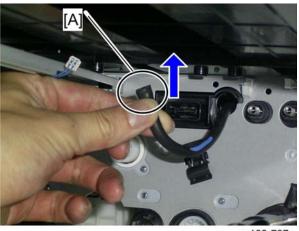
#### Note

• If not, the toner may scatter and fall.



g133r706

10. Put the toner pump unit on the sheet of paper, which has been put in step 4, with its opening [A] up.

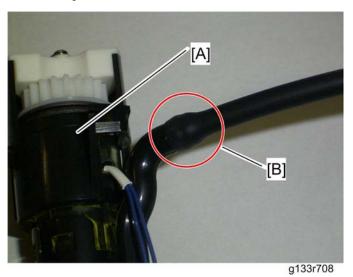


g133r707

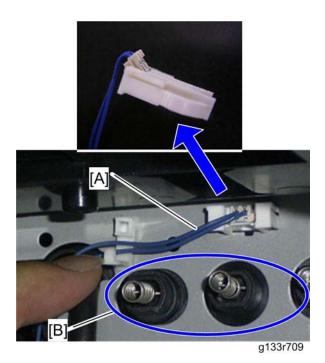
11. Keep the opening [A] of the toner supply tube up, and then clip the opening of the toner supply.

#### When you install the new toner pump unit

Before installing the new toner pump unit, mask the opening of the old toner pump unit with tape. Dispose of it following local rules.



- 1. Put a sheet of paper (A3/DLT) inside the machine.
- 2. Turn up the opening of the toner supply tube, and then remove the object that was used to clip the opening of the toner supply tube.
- 3. Insert the opening of the toner pump unit [A] into the opening of the toner supply tube [B] as far as possible.



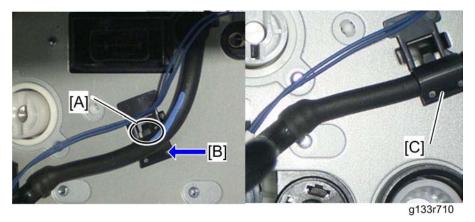
4. Connect the harness [A] to the connector of the machine.

#### Note

- On the above picture, the magnified picture of the connector shows the easiest way to connect it.
- 5. Clamp the harness [A] (⊉ x 1 for YCM, ⊉ x 3 for K).

#### Note

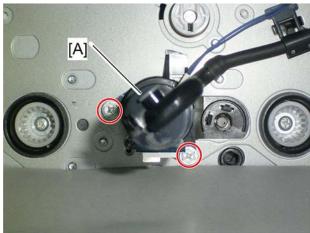
• Avoid touching these spring terminals [B].



- 6. Pass the harness of the toner pump unit behind the hook [A], while pressing at [B].
- 7. Secure the toner supply tube with the holder [C], lifting up the edge of the holder "very gently".

### Note

• Be careful when you lift the edge of the holder, because the holder is easily broken.

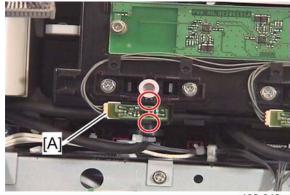


g133r711

8. Insert the toner pump unit [A] into the rear frame of the machine ( $\not\!\!\!\! \widehat{F}$  x 2).

## Toner End Sensor

- 1. Rear cover (🖝 p.109)
- 2. Open the controller box (🖝 p.218)



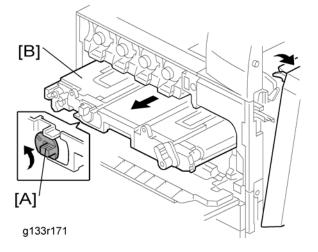
g133r042

3. Toner end sensor [A] (💷 x 1, 2 hooks each)

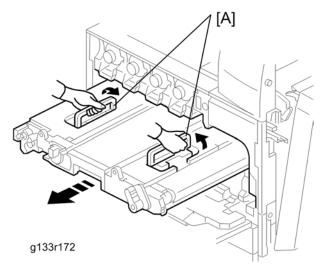
# Image Transfer

## Image Transfer Belt Unit

- 1. Open the right door.
- 2. Open the front door.
- 3. Open the drum positioning plate (🖝 p.123 "PCU").



- 4. Turn the image transfer belt unit lock lever [A] counterclockwise.
- 5. Pull out the image transfer belt unit [B] halfway.



6. Grasp the handles [A], and then pull out the image transfer belt unit fully.

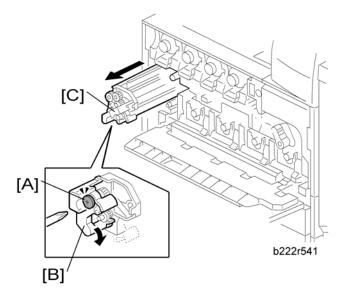
4

## Image Transfer Belt Cleaning Unit

1. If you will install a new belt cleaning unit, then set SP 3902-015 to 1.

#### Vote

- If you do this, then the machine will reset the PM counter for the belt cleaning unit automatically, after you turn the power on again.
- Do not use SP3902-015 or 013 if you replace the complete ITB unit.
- 2. Turn off the main power switch.
- 3. Open the right door.
- 4. Open the front door.
- 5. Open the drum positioning plate (🖝 p.123 "PCU").



- 6. Loosen the screw [A].
- 7. Turn the lock lever [B] clockwise
- 8. Pull out the image transfer belt cleaning unit [C].

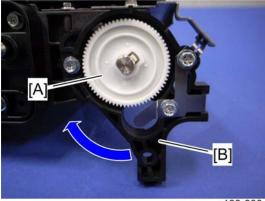
#### Image Transfer Belt

- 1. Image transfer belt cleaning unit (
  p.135)
- 2. Image transfer belt unit (🖝 p.134)



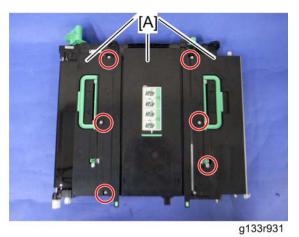
g133r929

3. Turn the image transfer unit contact lever counterclockwise (as seen from the rear).



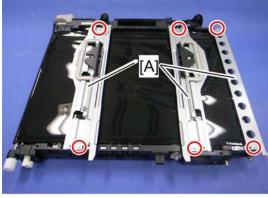
g133r930

- 4. Gear [A] (hook x 1)
- 5. Turn the gear cover [B] clockwise (as seen from the rear) ( $\not\!\!\!P$  x 1).



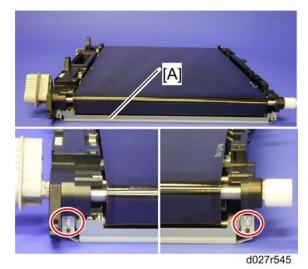
4

6. Remove the top covers [A] ( $\hat{\not}^2 \times 6$ ).

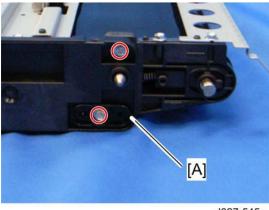


d027r139

7. Three stays [A] (🖗 x 6)

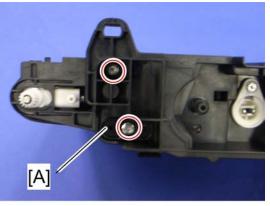


8. Guide plate [A] (as seen from the right side of the machine) ( $\mathscr{F}$  x 2)





9. Remove the two screws and then the rear holder bracket [A] (as seen from the rear).

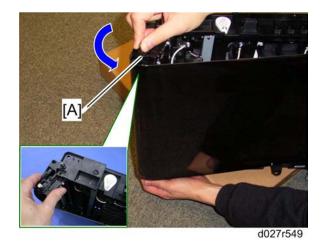




10. Remove the two screws and then the front holder bracket [A] (as seen from the front).



- b222r548
- 11. Put the front side of the image transfer belt unit on a corner of the table or a box as shown.



12. Pull the tension roller [A] as shown.

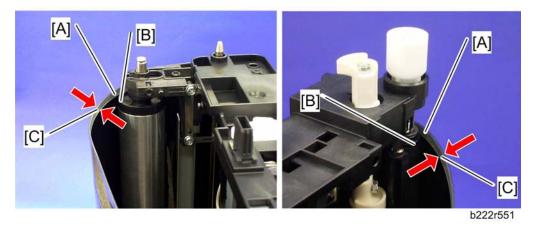


13. Image transfer belt [A]

## When reinstalling the image transfer belt

• Clean all rollers with dry cloth before installing the image transfer belt.

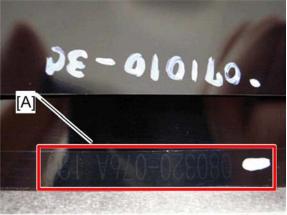
4



• There is a rim [A] at each edge of the transfer belt. The ends of all the rollers ([B] for example) in the transfer belt unit must be between the two rims.

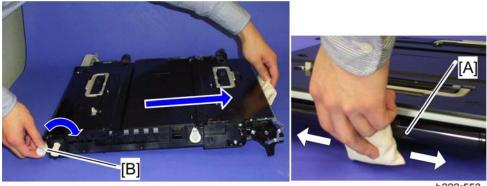
### Note

• There are two rims (width [C]: about 5 mm) on the underside of the front and rear edges of the image transfer belt.



d027r552

• This belt must be installed the correct way around. When you reinstall the image transfer belt unit, install it with the number [A] on the belt at the rear side of the unit.



- b222r553
- Put "Lubricant Powder" (B132 9700) on the surface of the image transfer belt [A], while you turn the drive gear [B] at a constant speed, as shown. (The straight arrow in the picture shows belt movement direction.) Lubricant powder prevents the image transfer cleaning blade from turning up.



• Do not put the lubricant powder at the right side of the image transfer belt unit (the above picture is taken from the rear). Otherwise, lubricant powder may damage the encoder sensor.

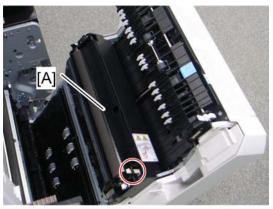
# **Paper Transfer**

## Paper Transfer Roller Unit

If you will install a new paper transfer unit, then set SP 3902-016 to 1.

#### Note

- If you do this, then the machine will reset the PM counter for the paper transfer unit automatically, after you turn the power on again.
- 1. Open the right door.

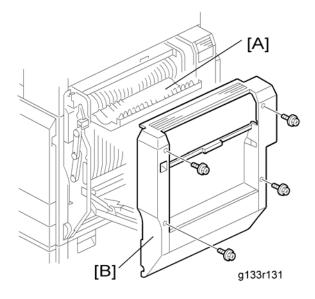


d027r141

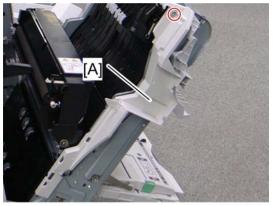
- 2. Release the white hook.
- 3. Paper transfer roller unit [A]

### Paper Transfer Unit

1. Turn off the main power switch.

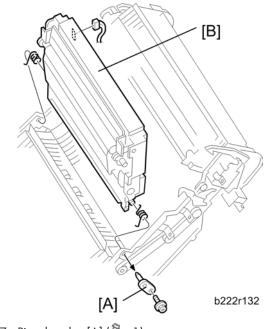


- 2. Open the duplex door [A].
- 3. Right door cover [B] ( x 4)
- 4. Open the right door.
- 5. Paper transfer roller unit (🖝 p.142)



d027r143

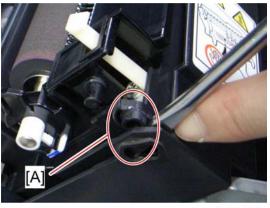
6. Right door inner cover [A] (🖉 x 1)



- 7. Pivot bracket [A] (🖗 x 1)
- 8. Paper transfer unit [B] (💷 x 1, 2 springs)

# High Voltage Supply Board – Discharge Plate

1. Open the right door.



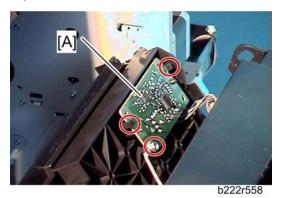


2. Release the front [A] and rear pivots of the paper transfer roller case.



b222r557

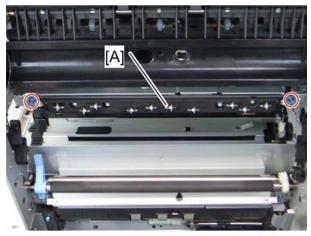
3. Paper transfer roller case [A]



4. High voltage supply board [A] ( x 3, 🕬 x 1, ground cable x 1)

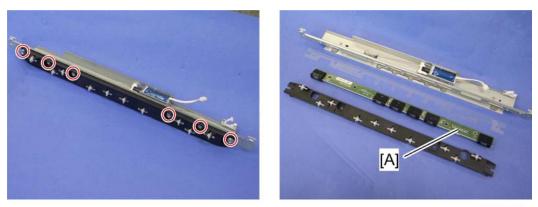
# ID Sensor Board

- 1. K PCU (🖝 p.123)
- 2. Open the right door.
- 3. Fusing unit ( p.173)
- 4. Image transfer belt unit (🖝 p.134)



d027r145

5. ID sensor unit [A] (𝔅 x 2, ѿ x 2, ѿ x 2, і)

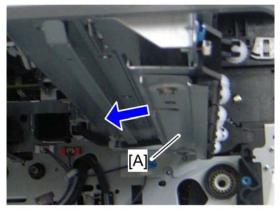


d027r146

6. ID sensor board [A] (⋛ x 6)

### **Cleaning for ID sensors**

ID sensors must be cleaned when you visit the customer to service the machine. Do the following steps for ID sensor cleaning.



d027r147

- 1. K PCU (🖝 p.123)
- 2. Fusing unit ( p.173)
- 3. Image transfer belt unit (🖝 p.134)
- 4. Slide the ID sensor shutter [A] to the left side.
- 5. Clean the ID sensors keeping the ID sensor shutter to the left.

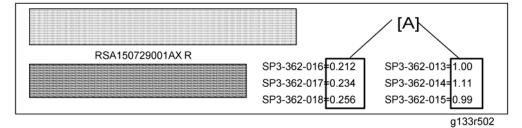
#### After installing a new ID sensor unit/board

Do the following adjustment after installing a new ID sensor unit/board.

- 1. Plug in and turn on the main power switch of the mainframe.
- 2. Enter the SP mode.
- 3. Input all correction coefficients [A] for the ID sensor with the SP modes referring to the barcode sheet provided with the new ID sensor unit/board.

Note

- For example, input "1.00" with SP3-362-013.
- 4. Exit the SP mode.



# Temperature and Humidity Sensor

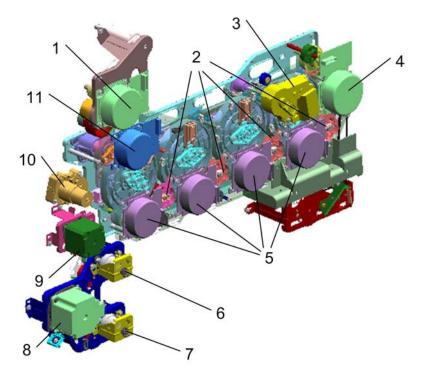
- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)



b222r559

3. Temperature and humidity sensor [A] (🎤 x 1, 🕬 x 1)

# **Drive Unit**



The drawing above shows the drive unit layout.

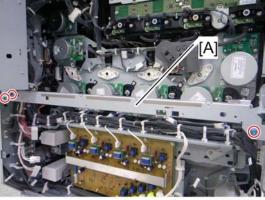
<ol> <li>Fusing/paper exit motor</li> <li>Development clutches</li> <li>Image transfer belt contact motor</li> </ol>	7. Paper feed clutch – Tray 2 8. Paper feed motor
<ul> <li>4. Toner transport motor</li> <li>5. Drum/Development drive motors</li> <li>6. Paper feed clutch – Tray 1</li> </ul>	<ul><li>9. Registration motor</li><li>10. Paper transfer contact motor</li><li>11. ITB drive motor</li></ul>

There are some motors and clutches that are not shown in the above drawing:

• Tray lift motor 1 and 2	Junction gate 1 motor
Duplex inverter motor	Shutter motor
<ul> <li>Duplex/By-pass Motor</li> </ul>	• By-pass clutch

# Gear Unit

- 1. All PCU's
- 2. Image transfer belt unit.
- 3. Rear cover (🖝 p.109)
- 4. Controller box (🖝 p.218)
- 5. Third duct (🖝 p.125)
- 6. Left cover (🖝 p.109)
- 7. PSU bracket (🖝 p.222)



d027r148

8. Remove the rear stay [A] ( $\mathscr{F} \times 3$ ).



- 9. Remove ten clamps (blue arrows).



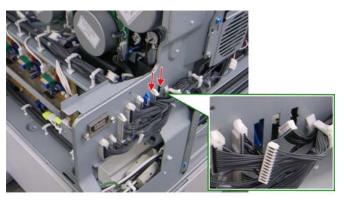
d027r150

10. Release seven clamps and turn each harness aside.



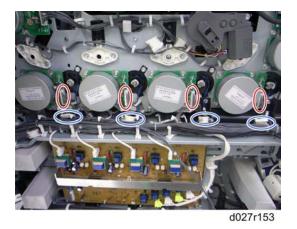
d027r151

11. Disconnect four connectors (red arrows).

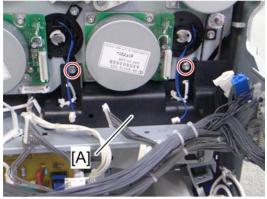


d027r152

12. Disconnect two connectors (red arrows) and put these harnesses inside the machine.



- 13. Disconnect each connector (red circles) from the drum/development drive motors (🗳 x 1, 🛱 x 1 each).
- 14. Disconnect each connector (blue circles) from the development clutches (🖽 x 1 each).



d027r155

15. Cover [A] ( 🕅 x 2)



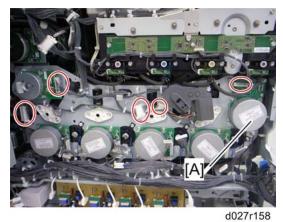
d027r156

16. Disconnect eight connectors from the high voltage supply board ( $\mathbb{P} \times 8$ ,  $\mathbb{P} \times 2$ ).

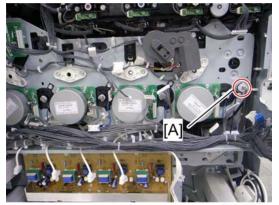


d027r157b

17. Release four clamps (red circles) and turn the harnesses aside.

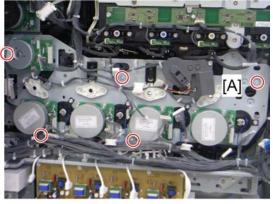


- 002711
- 18. Disconnect five connectors (red circles) ( x 5).
- 19. Toner transport motor [A] ( 🖉 x 3)



d027r159

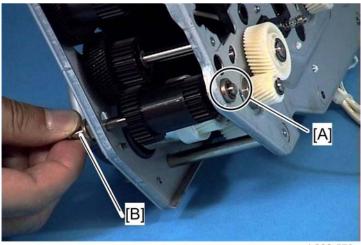
20. Pulley [A] (timing belt)



d027r160a

21. Gear unit [A] (🖉 x 8)

### When installing the drive unit



b222r573

Make sure that the bushing [A] is fully set in the frame of the gear unit before installing the timing belt and pulley on the shaft [B].

#### Adjustment after replacing the gear unit

Do the following procedures after replacing the gear unit.

- 1. Turn on the main power switch.
- 2. Enter "System SP" in the SP mode.
- 3. Do the "Amplitude Control" with SP1-902-001.

4

4. Check the result of the Amplitude Control with SP1-902-002.

0: Success, 2: Failure due to no sampling data,

3: Failure due to insufficient number of pattern detections

When the result of this adjustment is "2" or "3":

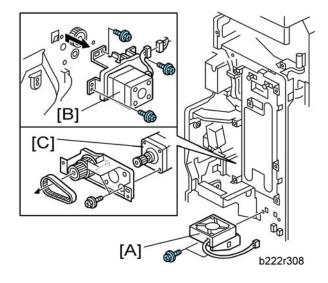
- Check that all the PCUs are correctly set and that the image transfer belt unit is correctly set.
- Do the "Amplitude Control" again after checking the PCUs and image transfer belt unit.

When the result is still "2" or "3" after checking the PCUs and image transfer belt unit:

- Check that the gear unit is installed correctly.
- 5. Exit the SP mode.

#### **Registration Motor**

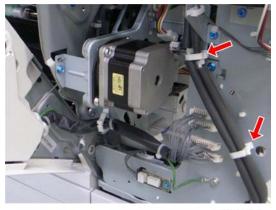
- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Ventilation duct (🖝 p.222)
- 4. Turn the harnesses aside (🛱 x 5)



- 5. Fusing power supply board fan bracket [A] (🌮 x 2, 💷 x 1)
- 6. Registration motor assembly [B] (**P** x 3, **III** x 1)
- 7. Registration motor [C] ( x 2, timing belt)

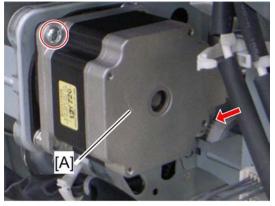
### Paper Feed Motor

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)



d027r161

3. Release the two clamps (🛱 x 2)



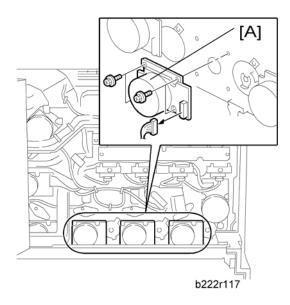


4. Paper feed motor [A] (🕮 x 1, 🌮 x 2, timing belt)

# Drum/Development Motors for M, C, and Y

- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222 "PSU")
- 3. Open the controller box.

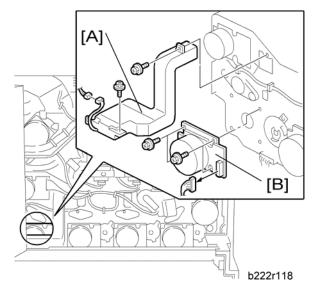
4



4. Drum/Development motors (three motors, one each for MCY) [A] ( x 4, v 1 each)

### Drum/Development Motor-K

- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222 "PSU")
- 3. Controller box (🖝 p.218)

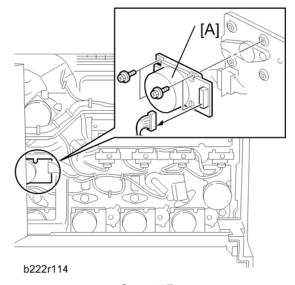


4. Third duct [A] (𝔅 x 2, 💷 x 1)

5. Drum/Development motor-K [B] (P x 4, 🕬 x 1)

# ITB Drive Motor

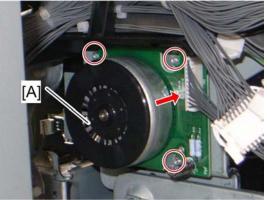
- 1. Rear cover (🖝 p.109)
- 2. Controller box (🖝 p.218)



3. ITB drive motor [A] (𝔅 x 4, 🕬 x 1)

# Fusing/Paper Exit Motor

- 1. Rear cover (🖝 p.109)
- 2. Controller box (🖝 p.218)

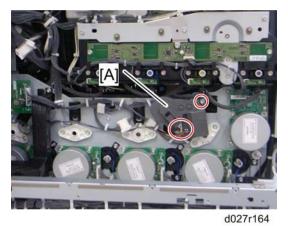


d027r163

3. Fusing/paper exit motor [A] ( x 4, ♥ x 1, ♀ x 1)

## Image Transfer Belt Contact Motor

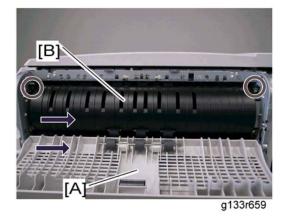
- 1. Rear cover (🖝 p.109)
- 2. Controller box (🖝 p.218)



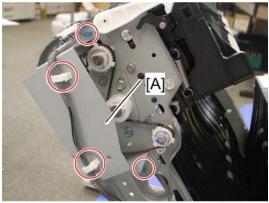
3. Transfer belt contact motor [A] (♂ x 2, 🖤 x 2, 🛱 x 1)

### **Duplex Inverter Motor**

- 1. Open the right door.
- 2. Right door cover (🖝 p.205 "By-pass Bottom Tray")

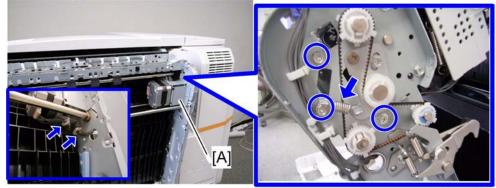


- 3. Duplex door [A] (2 hooks)
- 4. Duplex guide plate [B] (P x 1, stepped screw x 1; front side, 2 hooks)
- 5. Right door rear cover (🖝 p.205 "By-pass Bottom Tray")



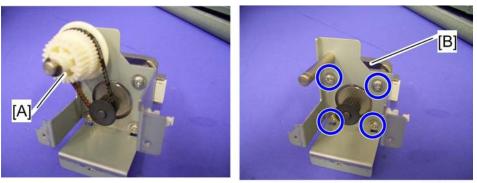
d027r166

6. Duplex inverter motor bracket cover [A] (P x 2, 🛱 x 2)



g133r660

7. Duplex inverter motor bracket [A] ( x 3, 🕬 x 1, 🗟 x 2, spring x 1)



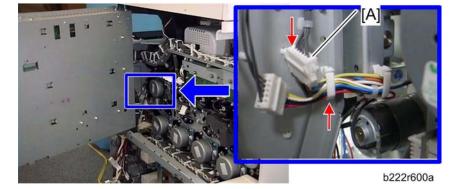
b222r661

- 8. Gear [A] (C x 1, belt x 1)
- 9. Duplex inverter motor [B] ( x 4)

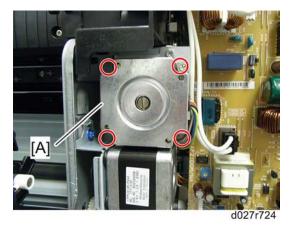
4

### Pressure Roller Contact Motor

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Open the controller box (🖝 p.218).



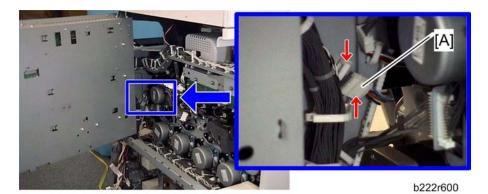
4. Disconnect the connector ( $\square \times 1$ ).



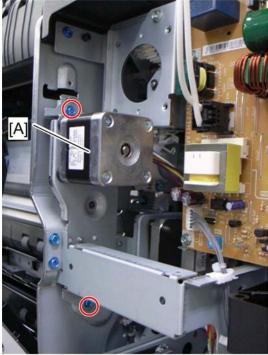
5. Pressure roller contact motor [A] (P x 4)

## Duplex/By-pass Motor

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Open the controller box (🖝 p.218).
- 4. Pressure roller contact motor (🖝 p.161)

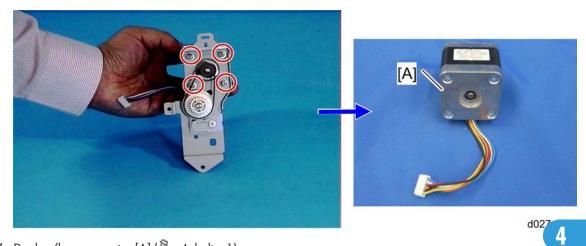


5. Disconnect the connector [A] (1 + 1, 2 + 1)



d027r725a

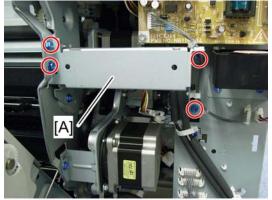
6. Duplex/by-pass motor bracket [A] (🖗 x 2)



7. Duplex/by-pass motor [A] ( x 4, belt x 1)

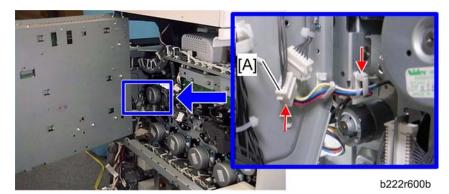
# Paper Transfer Contact Motor

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Open the controller box (🖝 p.218).

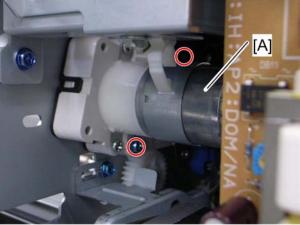


d027r723

- 4. Stay [A] ( 🖉 x 4)
- 5. Pressure roller contact motor (🖝 p.161)
- 6. Duplex/by-pass motor bracket (🖝 p.161)



7. Disconnect the connector [A] ( $\bigoplus$  x 1)



d027r726

8. Paper transfer contact motor [A] ( x 2)

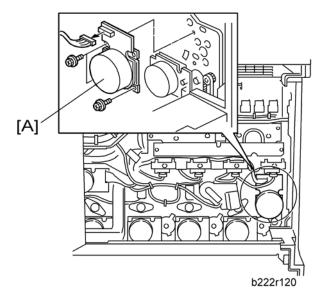
### NOTE:

The picture below shows how to use the screwdriver to remove the screws of the paper transfer contact motor.



### **Toner Transport Motor**

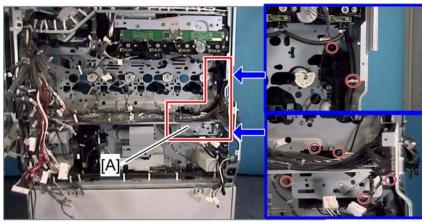
- 1. Rear cover (🖝 p.109)
- 2. Open the controller box (🖝 p.218).



3. Toner transport motor [A] ( x 3, 💷 x 1)

### **Toner Collection Unit**

- 1. Remove all PCUs (🖝 p.123).
- 2. Image transfer belt unit (🖝 p.134)
- 3. Rear cover (🖝 p.109)
- 4. Controller box (🖝 p.218)
- 5. Third duct ( p.125)
- 6. Left cover (🖝 p.109)
- 7. PSU bracket ( p.222 "PSU")
- 8. High voltage power supply board bracket (• p.224)
- 9. Gear unit (🖝 p.150)



b222r576

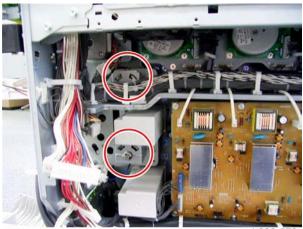


b222r577

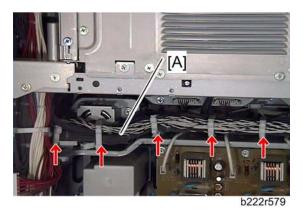
10. Toner collection unit [A] (🖗 x 6, 🛱 x 1)

# Paper Feed Clutches

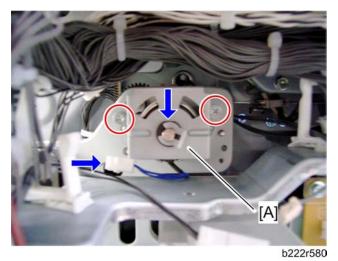
- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222 "PSU")



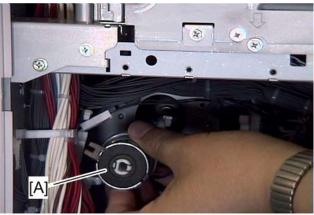
b222r578



3. Release five clamps, and then turn the harness [A] aside.

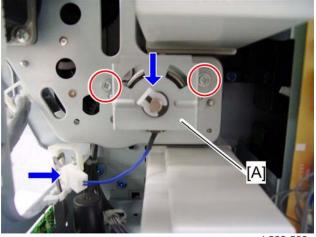


4. Paper feed clutch 1 bracket [A] (𝒫 x 2, ∅ x 1, ⊯ x 1)

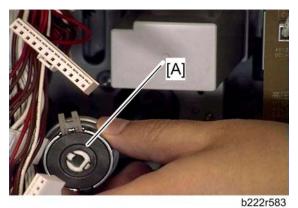


b222r581

5. Paper feed clutch 1 [A]



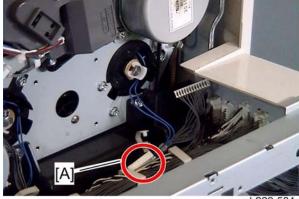
- b222r582
- 6. Paper feed clutch 2 bracket [A] (🖗 x 2, 🕅 x 1, 🕬 x 1)



7. Paper feed clutch 2 [A]

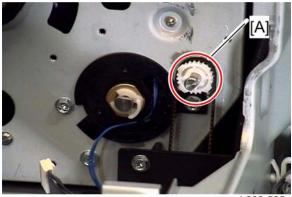
# Development Clutch-Y

- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222 "PSU")
- 3. Open the controller box. (🖝 p.218).
- 4. Drum/development motor-Y (🖝 p.156)



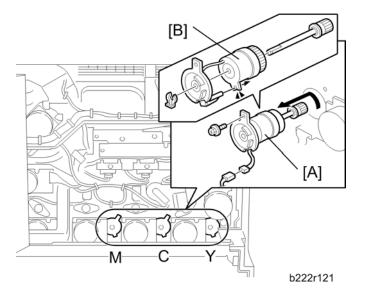
b222r584

5. Disconnect the connector [A] ( $\square x$  1).



b222r585

6. Remove the pulley and bushing [A].

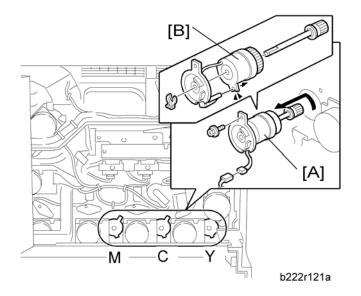


- 7. Turn the development clutch unit [A] counter-clockwise and then pull it out (otin x 1).
- 8. Development clutch-Y [B] ((() x 1)

## Development Clutches for M and C

- 1. Rear cover (🖝 p.109)
- 2. PSU bracket ( p.222 "PSU")
- 3. Open the controller box. (🖝 p.218).
- 4. Drum/development motors for M and C (🖝 p.156)
- 5. Disconnect the connector for each development clutch (💷 x 1).

4



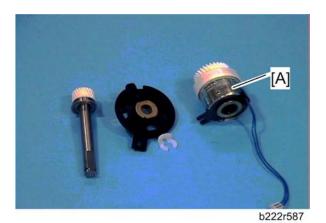
- 6. Turn the development clutch unit [A] counter-clockwise and then pull it out (otin x 1).
- 7. Development clutches for M and C [B] ((() x 1)

# Development Clutch-K

- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222 "PSU")
- 3. Controller box. (🖝 p.218)
- 4. Drum/development motor-K (🖝 p.157)



g133r586



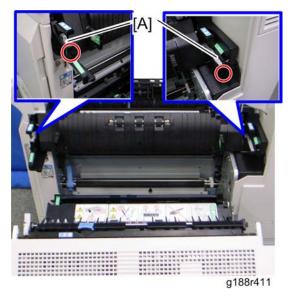
6. Development clutch-K [A] (🕅 x 1)

# Fusing

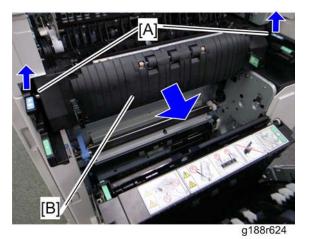
### **Fusing Unit**

# 

- Turn off the main switch and wait until the fusing unit cools down before beginning any of the procedures in this section. The fusing unit can cause serious burns.
- 1. Open the right door.



2. Stoppers [A] (knob screw x 1 each).

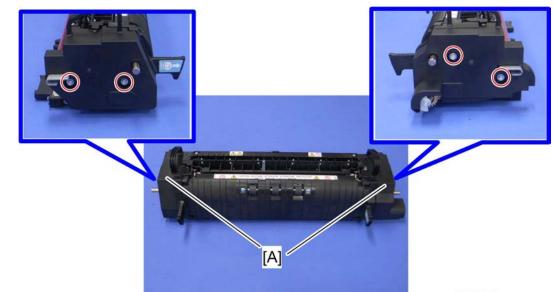


3. Release the lock levers [A].

4. Pull out the fusing unit [B].

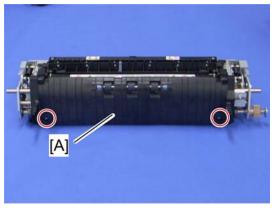
# Heating Roller and Heating Roller Bearing

1. Fusing unit (🖝 p.173)



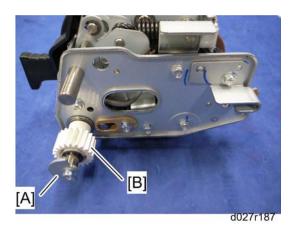
d027r186

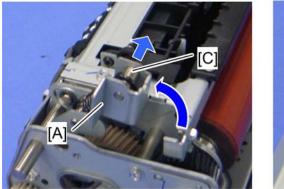
2. Front and rear fusing covers [A] ( x 2 each; Stepped screws)

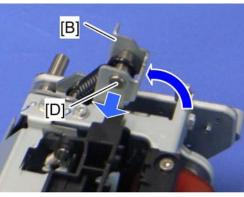




3. Fusing right cover [A] ( x 2; Stepped screws)







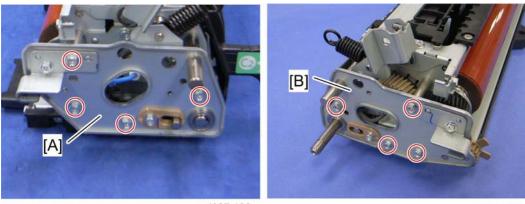


4

5. Turn both pressure levers [A] [B], and pull out pins [C] [D].

# 

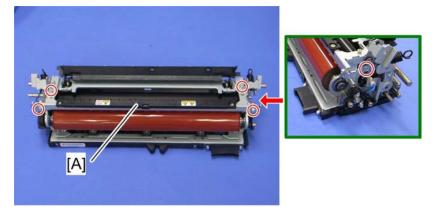
• If the pins [C] [D] are not pulled out in this step, the fusing unit frames may become bent.





d027r189

- 6. Front bracket [A] (🖗 x 4)
- 7. Rear bracket [B] (🖗 x 4)



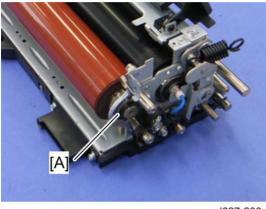
d027r195

8. Top stay [A] (🖗 x 5)



d027r197

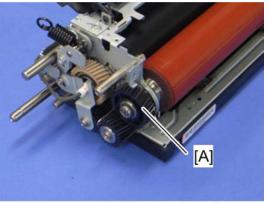
9. Stripper plate [A] (two springs)



d027r208

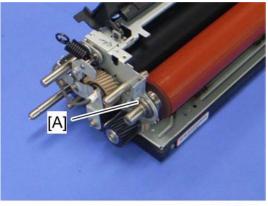
4

10. Heating roller bearing [A] at the front side (c-ring x 1)



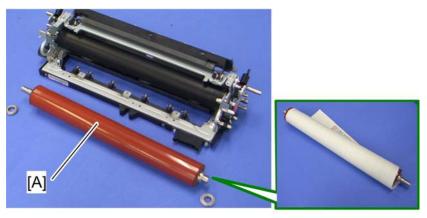
d027r209

11. Heating roller gear [A] (c-ring x 1)





12. Heating roller bearing [A] at the rear side



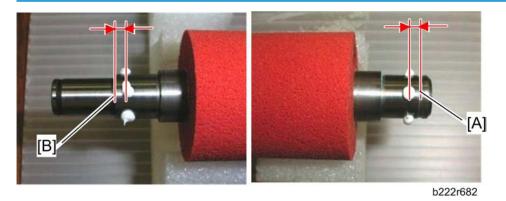
d027r210

13. Heating roller [A]

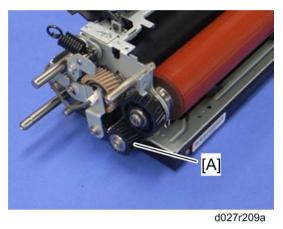
#### Note

• The surface of the heating roller is fragile, so the heating roller must be covered with a sheet of paper when it is placed on a table or floor.

#### When re-installing the heating roller



- Apply three spots of "Barrierta S552R" (the diameter of each spot must be about 3 mm in diameter, and approximately 0.1 g in weight) to the front shaft of the heating roller at 2 - 3 mm from the notch [A].
- Apply three spots of "Barrierta S552R" (the diameter of each spot must be about 3 mm in diameter, and approximately 0.1 g in weight) to the rear shaft of the heating roller at 2 3 mm from the edge [B] (rear side of the heating roller).

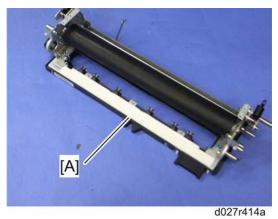


♦ Note

• Do not wipe off the grease of the new idle gear when replacing the idle gear [A]. (The actual idle gear [A] is white.)

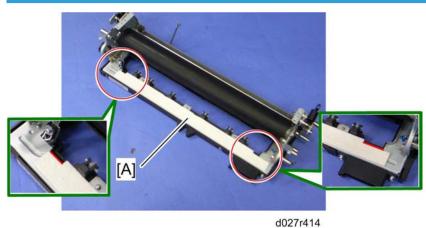
### **Fusing Cleaning Felt**

- 1. Fusing unit (🖝 p.173)
- 2. Heating roller (🖝 p.174)



3. Remove the fusing cleaning felt [A].

### When attaching a new fusing cleaning felt



00211414

Attach the fusing cleaning felt [A], aligning both edges of the fusing cleaning felt with the red lines on the bottom cover.



• Make sure that the fusing cleaning felt is correctly attached to the frame. Otherwise, dust from the IH coil unit may fall on the paper in the fusing unit and the output becomes dirty.

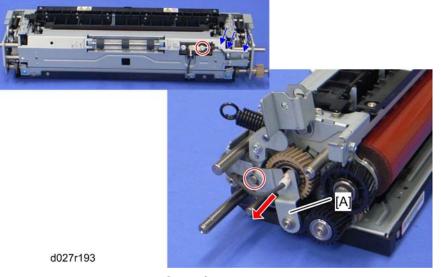
### **Fusing Lamp**

- 1. Fusing unit (🖝 p.173)
- 2. Front bracket (🖝 p.174)
- 3. Rear bracket (🖝 p.174)

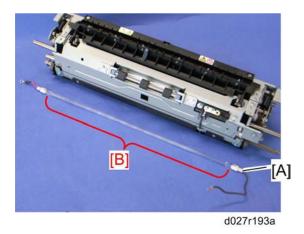


d027r192

4. Front terminal of the fusing lamp ( $\mathscr{P}$  x 1)



- 5. Rear terminal of the fusing lamp (🖗 x 1, 🛱 x 3)
- 6. Fusing lamp rear bracket [A] ( \* x 1)



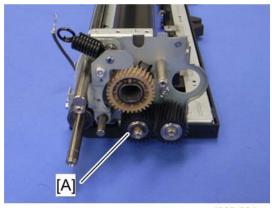
7. Fusing lamp [A]



- Remove the fusing lamp without touching the glass part [B].
- Pay attention to the direction of the fusing lamp during the re-installation.

### **Fusing Drive Gear**

- 1. Heating roller (r p.174)
- 2. Fusing lamp rear bracket (🖝 p.180 "Fusing Lamp")



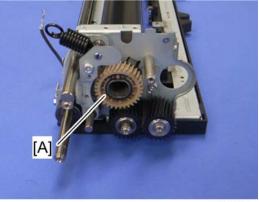
d027r201a

3. Fusing drive gear [A] (c-ring x 1)

### Pressure Roller and Pressure Roller Bearing

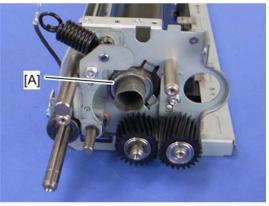
1. Heating roller (r p.174)

2. Fusing lamp (🖝 p.180)



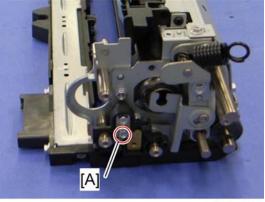
d027r201

3. Pressure roller gear [A] at the rear side (c-ring x 1)  $% \left( A_{1}^{2}\right) =0$ 



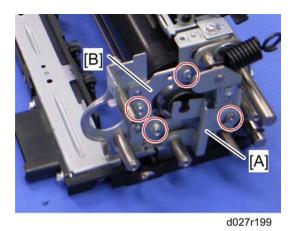
d027r216

4. Pressure roller bearing [A] at the rear side

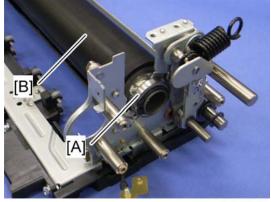


d027r198

5. Front terminal [A] (🌶 x 1)



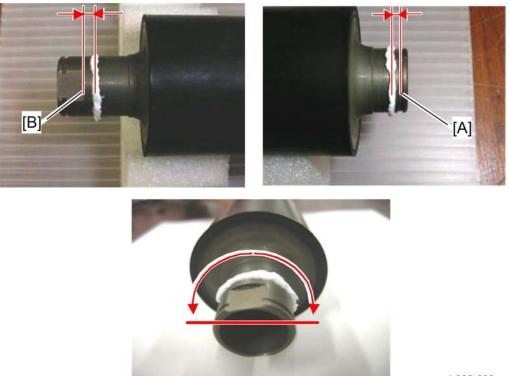
- 6. Lamp holder front bracket [A] (🖗 x 1)
- 7. Pressure roller bracket [B] at the front side ( $\mathscr{P}$  x 2, binding screw x 1)



d027r200

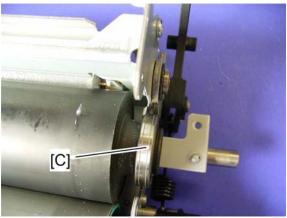
- 8. Pressure roller bearing [A] at the front side (c-ring x 1)
- 9. Pressure roller [B]

#### When re-installing the pressure roller



b222r683

 Apply "Barrierta S552R" to the front shaft of the pressure roller at 2 mm from the notch [A], and to the rear shaft of the pressure roller at 2 mm from the edge [B]. (Apply the lubricant to half of the circumference of the pressure roller, as shown in the lower of the three above diagrams.)

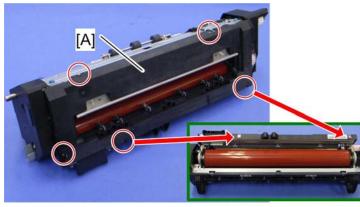


b222r648

2. Make sure that pressure roller bushing [C] at the front side is set as shown below.

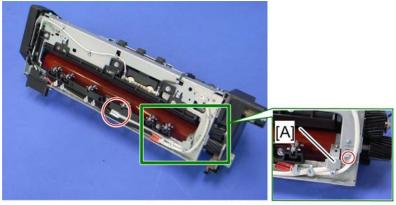
### Heating Roller Thermistor

- 1. Fusing unit ( p.173)
- 2. Fusing right cover (🖝 p. 174 "Heating Roller and Heating Roller Bearing")



d027r211

3. Fusing bottom cover [A] ( $\mathscr{F} \times 5$ )

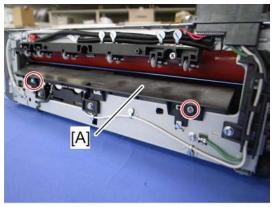




4. Heating roller thermistor with bracket [A] ( 🖉 x 1, 💷 x 1 )

### Pressure Roller Thermostat

- 1. Fusing unit (🖝 p.173)
- 2. Fusing right cover (🖝 p.174)
- 3. Fusing bottom cover (🖝 p.185 "Heating Roller Thermistor")

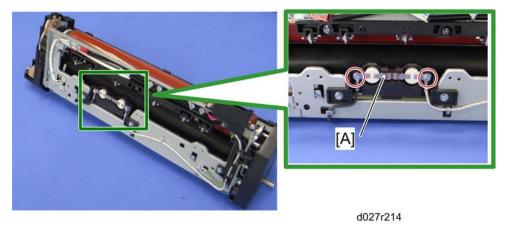


d027r213

4. Entrance guide plate [A] ( $\mathscr{F}$  x 2)

#### Note

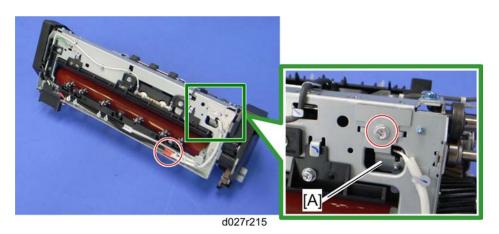
• The entrance guide plate must be removed with the orientation of the fusing unit as shown above, to protect the surface of the heating roller from damage.



5. Pressure roller thermostats [A] ( $\mathscr{F} \times 4$ )

### Pressure Roller Thermistor

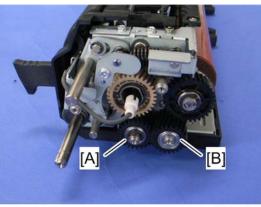
- 1. Fusing unit (🖝 p.173)
- 2. Fusing right cover (🖝 p.174)
- 3. Fusing bottom cover (🖝 p.185 "Heating Roller Thermistor")



4. Pressure roller thermistor [A] ( $\mathscr{P} \times 1$ )

### Bearing Gear and Idle Gear

- 1. Fusing unit ( p.173)
- 2. Rear fusing cover (
  p.174 "Heating Roller and Heating Roller Bearing")
- 3. Pressure roller contact shaft actuator and pressure roller contact shaft gear (
   p. 174 "Heating Roller and Heating Roller Bearing")
- 4. Rear bracket (
   p.174 "Heating Roller and Heating Roller Bearing")
- 5. Fusing lamp rear bracket (🖝 p.180 "Fusing Lamp")





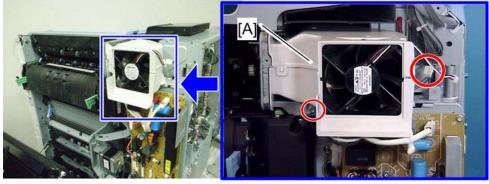
6. Bearing gear [A] (c-ring x 1) and idle gear [B]

### **Fusing Fan**

1. Rear cover (🖝 p.109)

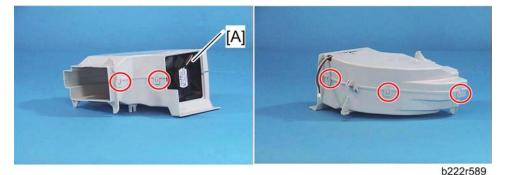
4

2. Right rear cover (🖝 p.110)



g133r588

3. Fusing duct [A] (🖗 x 1, 💷 x 1)



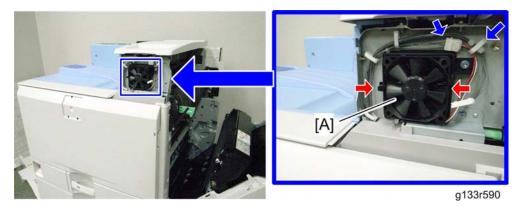
4. Fusing fan [A] (hook x 5)

#### When installing the fusing fan

Make sure that the fusing fan is installed with its decal facing the right side of the machine.

# Paper Exit Fan

- 1. Open the right door.
- 2. Operation panel cover (
  p.111)



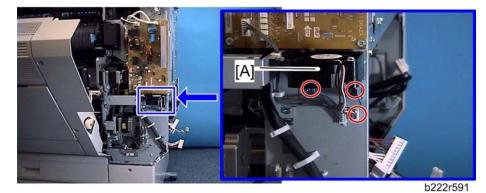
3. Paper exit fan [A] (🕬 x 1, 🖓 x 1, hook x 2)

### When installing the paper exit fan

Make sure that the paper exit fan is installed with its decal facing the rear of the machine.

### IH (Induction Heating) Inverter Fan

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)



3. IH inverter fan bracket [A] (🖉 x 2, 💷 x 1)



b222r592

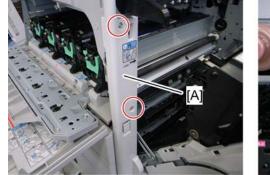
4. IH inverter fan [B] (🖉 x 2)

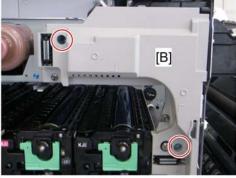
### When installing the IH inverter fan

Make sure that the IH inverter fan is installed with its decal facing the upper side of the machine.

### Thermopile

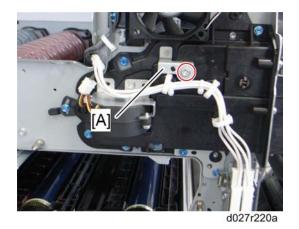
- 1. Open the right door.
- 2. Operation panel ( p.111)
- 3. Pull out trays 1 and 2.
- 4. Image transfer belt unit (🖝 p.134)



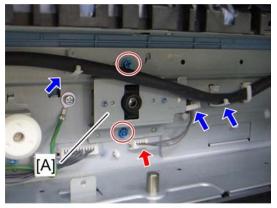


d027r219

5. Right front cover [A] and front inner cover [B]



- 6. Bracket [A] (🖉 x1)
- 7. Fusing unit (🖝 p.173)
- 8. Paper exit unit (🖝 p.210)



d027r224

- 9. Thermopile bracket [A] (🎤 x 2, 🕬 x 1, 🛱 x 2)
- 10. Thermopile (💷 x 2)

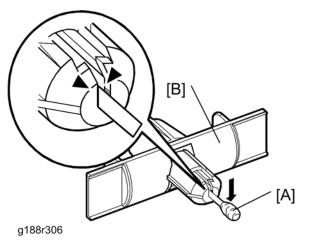
### When cleaning the lens of the thermopile

### CAUTION:

4



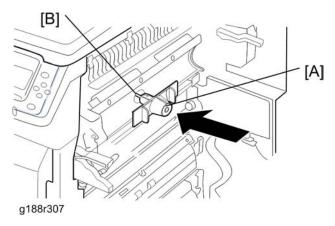
- Do this cleaning procedure after the fusing unit has completely cooled down. Otherwise, you may get a serious burn.
- Do not push the thermostat [A] on the IH coil unit. If you do, the thermostats will be opened. In that case, the IH coil unit must be replaced.
- 1. Fusing unit (🖝 p.173)



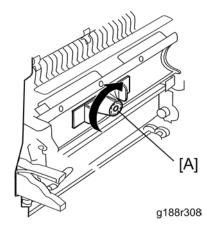
2. Push the cotton swab [A] into the special cleaning tool [B] until it clicks.

### ♥Note

• This special cleaning tool is provided with the fusing maintenance kit.



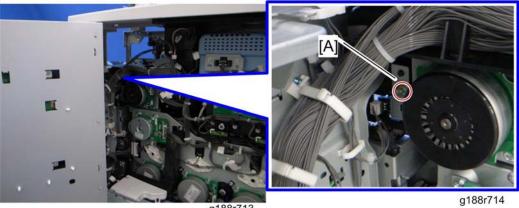
3. Insert the special cleaning tool [A] into the hole [B] of the printer.



4. Rotate the special cleaning tool [A] 10 times while pushing in to clean the lens inside of the printer.

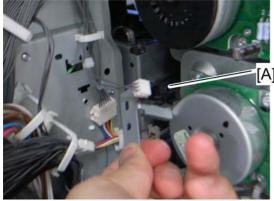
### Pressure Roller HP Sensor

- 1. Rear cover (🖝 p.109)
- 2. Open the controller box (🖝 p.218)



g188r713

- 3. Pressure roller HP sensor bracket [A] (🎤 x 1, 🕬 x 1)



g188r715

4. Pressure roller HP sensor [A] (hooks)

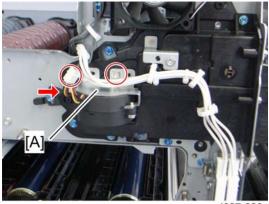
### NOTE:

The picture below shows how to use the screwdriver to remove the screws of the pressure roller HP sensor bracket.



### IH Coil Fan

- 1. Open the right door.
- 2. Operation panel cover (
  p.111)
- 3. Pull out trays 1 and 2, and the image transfer belt unit.
- 4. Right front cover and front inner cover ( p.190 "Thermopile")



#### d027r220

- 5. IH coil fan bracket [A] (₯ x 1, ☞ x 1, x 1)
- 6. IH coil fan (🖉 x 2)

4

### IH Coil Unit

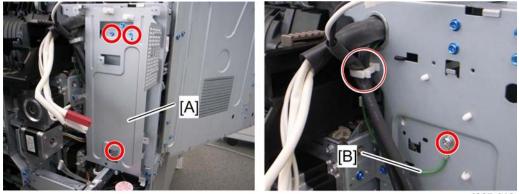
# 

• Do not push the thermostat [A] on the IH coil unit. If you do, the thermostat will be opened. In that case, the IH coil unit must be replaced.



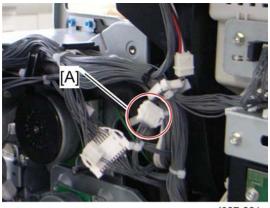
d027r617

- 1. Fusing unit ( p.173)
- 2. Rear cover (🖝 p.109)
- 3. Right rear cover (🖝 p.110)
- 4. Open the controller box (🖝 p.218).
- 5. Fusing duct ( p.187 "Fusing Fan")
- 6. IH inverter (🖝 p.224)



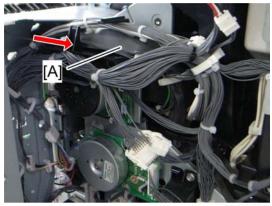
d027r618

- 7. IH inverter bracket [A] (P x 3)
- 8. Ground cable [B] (🖗 x 1, 🛱 x 1)



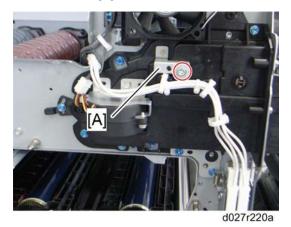
d027r221

9. Disconnect the connector [A].



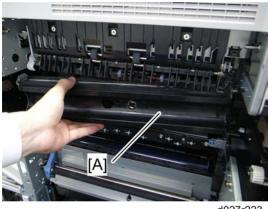
d027r222

10. Pull the Harness [A] in the arrow direction.



11. Bracket [A] (🖗 x 1)

#### 4. Replacement and Adjustment



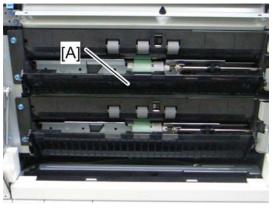
d027r223

12. IH coil unit [A] (First, release the front side of the IH coil unit.)

# Paper Feed

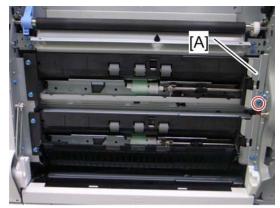
### Paper Feed Unit

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Duplex unit (🖝 p.213)
- 4. Pull out tray 1 and tray 2.



d027r168

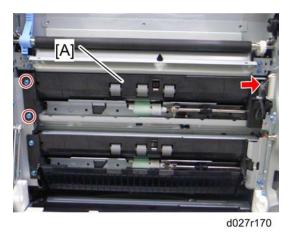
5. Paper guide plate [A] (hook x 2)



d027r169

6. Harness cover [A] (🖗 x 1)

4

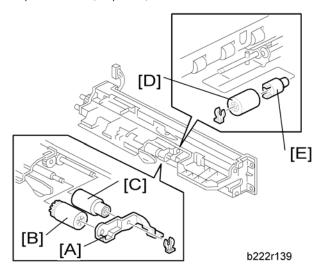


7. Paper feed unit [A] (🖗 x 2, 📬 x 1)

# Pick-Up, Feed and Separation Rollers

### Tray 1 and Tray 2

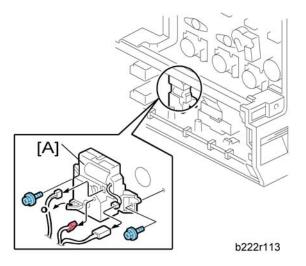
1. Paper feed unit (🖝 p.199)



- 2. Roller holder [A] (🕅 x 1)
- 3. Pick-up roller [B]
- 4. Feed roller [C]
- 5. Separation roller [D] and torque limiter [E] ( $\overline{\mathbb{O}}$  x 1)

### Tray Lift Motor

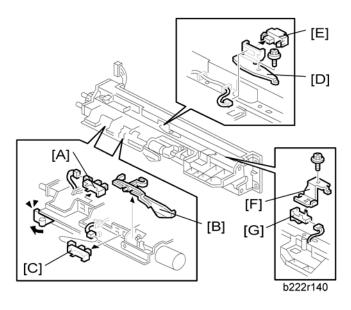
- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222)
- 3. High voltage supply board bracket (🖝 p.224)



4. Tray lift motor 1 or 2 [A] (🖗 x 2, 🕬 x 3, 🛱 x 1 each)

### Vertical Transport, Paper Overflow, Paper End and Paper Feed Sensors

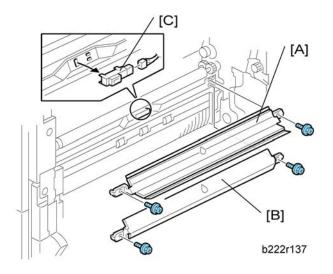
- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Paper feed unit (🖝 p.199)



- 4. Paper overflow sensor [A]
- 5. Paper end feeler [B] and paper end sensor [C] (hook, 🕬 x 1 each)
- 6. Vertical transport sensor bracket [D] (P x 1, 🛱 x 1)
- 7. Vertical transport sensor [E] (💷 x 1, hook)
- 8. Paper feed sensor bracket [F] ( x 1)
- 9. Paper feed sensor [G] (💷 x 1, hook)

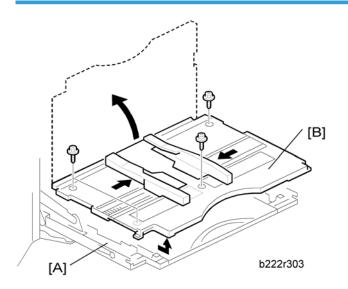
### **Registration Sensor**

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)

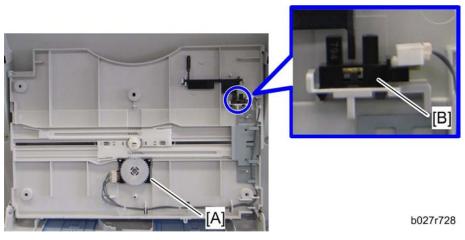


- 3. Paper guide plate 1 [A] and 2 [B] ( x 2 each)
- 4. Registration sensor [C] (🚅 x 1, hook)

# By-pass Paper Size Sensor and By-pass Paper Length Sensor

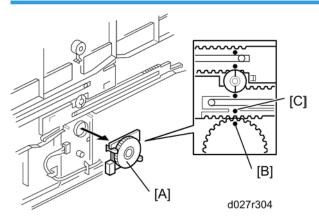


- 1. Open the by-pass tray [A].
- 2. Move the side fences to the center.
- 3. By-pass tray cover [B] ( \* x 4)



- 4. By-pass paper size sensor [A] (🖽 x 1).
- 5. By-pass paper length sensor [B] (💷 x 1)

#### When reinstalling this switch



- 1. Adjust the projection [C] of the left side fence bar (it must be centered).
- Install the by-pass paper size detection sensor [A] so that the hole [B] in this switch faces the projection
   [C] of the left side fence bar.
- 3. Reassemble the printer.
- 4. Plug in and turn on the main power switch.
- 5. Check this sensor operation with SP5803-011 (By-pass paper size < Input Check).

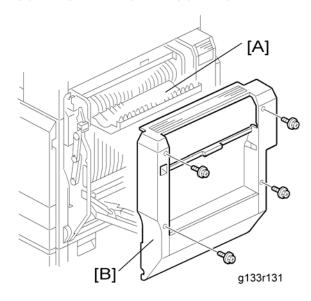
#### - Display on the LCD -

Paper Size	Display	Paper Size	Display
A3 SEF	00001110	A5 SEF	00001011

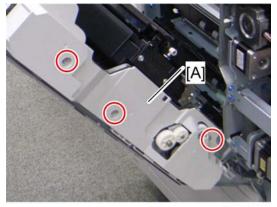
B4 SEF	00001100	B6 SEF	00000011
A4 SEF	00001101	A6 SEF	00000111
B5 SEF	00001001	Smaller A6 SEF	00001111

### **By-pass Bottom Tray**

- 1. Open the right door.
- 2. By-pass tray cover (🖝 p.203 "By-pass Paper Size Sensor and By-pass Paper Length Sensor")



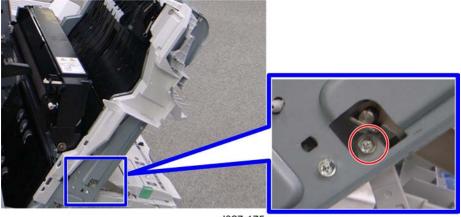
- 3. Open the duplex door [A].
- 4. Right door cover [B] ( x 4)



d027r174

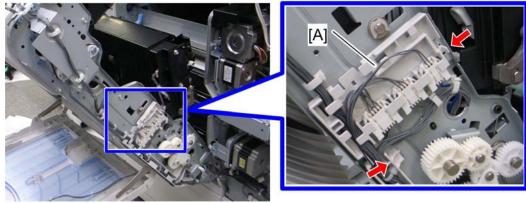
4

5. Right door rear cover [A] (🖉 x 3)



d027r175

6. Remove the screw at the front side ( $\mathscr{F} \times 1$ ).





7. Remove the cover [A] (2 hooks).



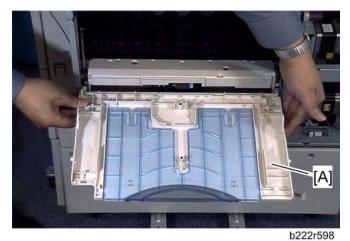
d027r178

8. Remove the screw at the rear side.



g133r597

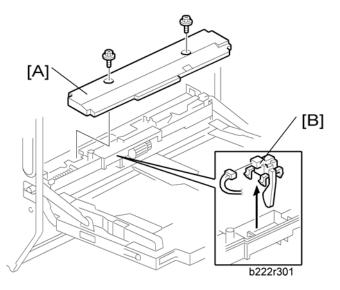
4



10. By-pass Bottom Tray [A]

# By-pass Paper End Sensor

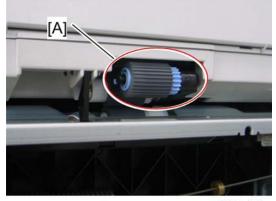
1. Right door cover (🖝 p.205 "By-pass Bottom Tray")



- 2. By-pass feed unit cover [A] ( $\mathscr{F}$  x 2).
- 3. By-pass paper end sensor [B] (💷 x 1, hook)

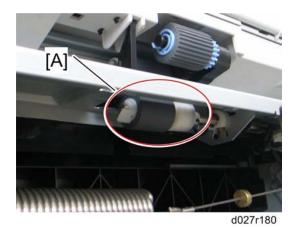
# By-pass Pick-up, Feed and Separation Roller, Torque Limiter

1. Right door cover (🖝 p.205 "By-pass Bottom Tray")

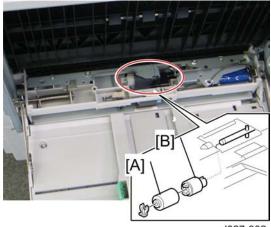


d027r179

2. By-pass pick-up roller [A] (hook)



- 3. By-pass feed roller [A] (🕅 x 1)
- 4. By-pass feed unit cover ( p.207 "By-pass Paper End Sensor")

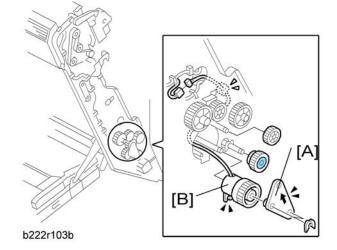


d027r302

- 5. By-pass separation roller [A] ((() x 1)
- 6. Torque limiter [B]

# By-pass Feed Clutch

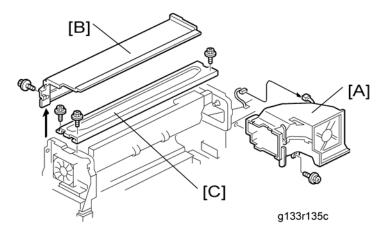
- 1. Open the right door.
- 2. Right door rear cover (🖝 p.205 "By-pass Bottom Tray")



- 3. By-pass feed clutch holder [A] (🕅 x 2)
- 4. By-pass feed clutch [B] (☞ x 1, ♀ x 1)

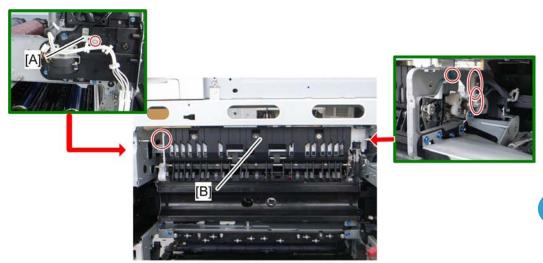
### Paper Exit Unit

- 1. Fusing Unit (🖝 p.173)
- 2. Operation panel (🖝 p.111)
- 3. Image transfer belt unit (🖝 p.134)
- 4. Rear cover (🖝 p.109)
- 5. Right rear cover (🖝 p.110)



- 6. Fusing duct [A] (🖗 x 1, 💷 x 1)
- 7. Paper exit cover [B] (🖉 x 1)

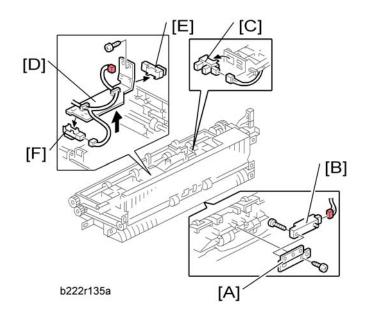
8. Top right stay [C] ( x 3)



- 1. Gear cover [A] (🖉 x 1)
- 2. Paper exit unit [B] ( \* x 2, 💷 x 2)

# Fusing Exit, Paper Overflow, Junction Paper Jam and Paper Exit Sensors

1. Paper exit unit (🖝 p.210)



2. Fusing exit sensor bracket [A] ( 🖉 x 1, 💷 x 1 )

4

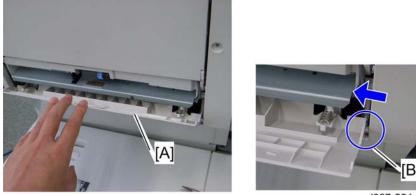
d027r181

- 3. Fusing exit sensor [B] (P x 1)
- 4. Paper overflow sensor [C] (🕬 x 1, hook)
- 5. Sensor bracket [D] (🖉 x 1)
- 6. Junction paper jam sensor [E] (💷 x 1, hook)
- 7. Paper exit sensor [F] (🕬 x 1, hook)

# **Duplex Unit**

### Duplex Unit

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)



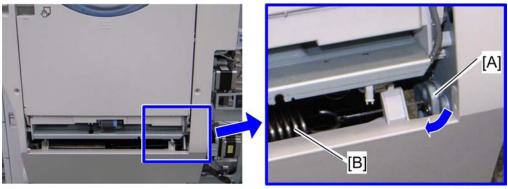
d027r554a

- 3. Open the lower door [A] of the duplex unit.
- 4. Release the tab [B] and remove the lower door (spring x 2).
- 5. Open the right door.



d027r555a

- 6. Release the front link [A] (0 x 1).
- 7. Keep the right door fully open.

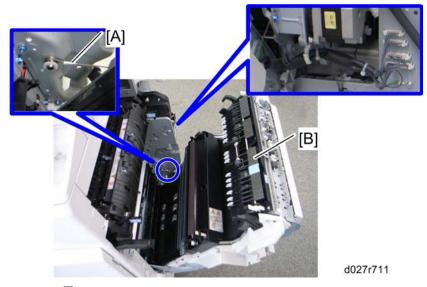


d027r556a

8. Push up the duplex unit a little bit, while pressing the bracket [A] to lock the spring [B].

#### Note

• Do not let the duplex unit open fully before releasing the wire (step 9). Otherwise, the lock for the spring [B] is released.

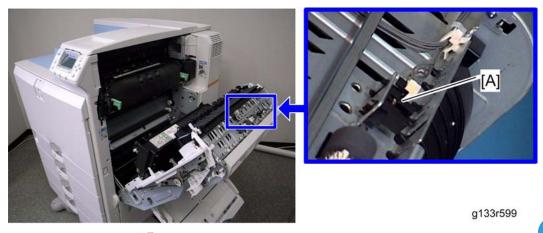


- 9. Wire [A] (🕅 x 1)
- 10. Duplex unit [B] (P x 1, Stud screw x 1, 🛱 x 1, 📫 x 4, ground cable x 1)

### **Duplex Door Sensor**

- 1. Right door cover (🖝 p.213 "Duplex Unit")
- 2. Open the right door.

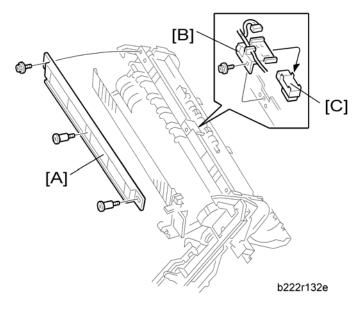
4



3. Duplex door sensor [A] (💷 x 1, hook)

## Duplex Entrance Sensor

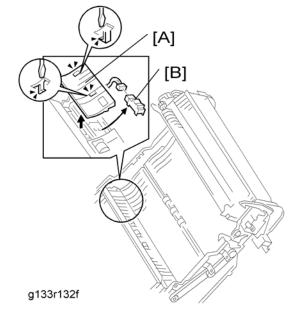
- 1. Right door cover (🖝 p.213 "Duplex Unit")
- 2. Open the right door.



- 3. Duplex entrance guide [A] ( x1, stepped screw x 2)
- 4. Duplex entrance sensor bracket [B] (♂ x 1, 🕬 x 1)
- 5. Duplex entrance sensor [C] (hook)

## Duplex Exit Sensor

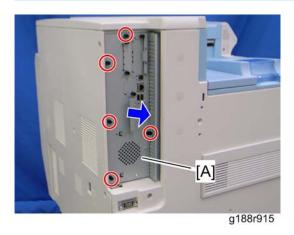
1. Paper transfer unit (🖝 p.142)



- 2. Guide plate [A] (two hooks)
- 3. Duplex exit sensor [B] (🕬 x 1, hook)

# **Electrical Components**

## Controller Unit



1. Controller unit [A] (knob screw x 5)

## Controller Box Right Cover

1. Rear cover (🖝 p.109)



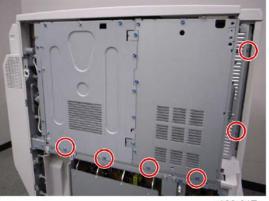
g133r916

2. Controller box right cover [A] (P x 9)

## Controller Box

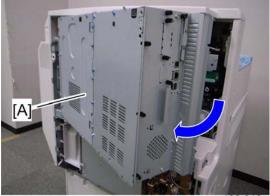
### When opening the controller box

1. Rear cover (🖝 p.109)



g133r917

2. Remove six screws (red circles).

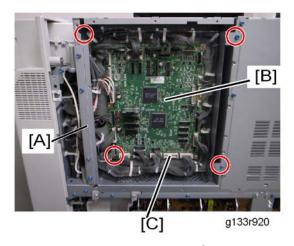


g133r918

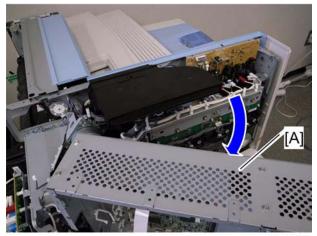
3. Open the controller box [A].

#### When removing the controller box

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Controller box right cover (🖝 p.217)



- 4. Remove the controller box stay [A] ( $\mathscr{F} \times 4$ ).
- 5. Take the IOB bracket [B] aside ( $\mathscr{F} \times 4$ , all 🕬s, flat cable [C]  $\times$  1).
- 6. Release all clamps on the controller box frame.
- 7. Disconnect all connectors on the BCU.

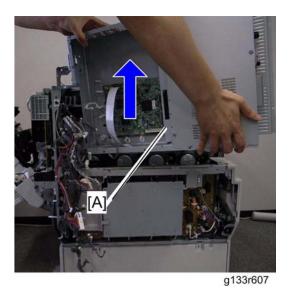


g133r712

8. Open the controller box [A] as shown.

#### 🚼 Important 🔵

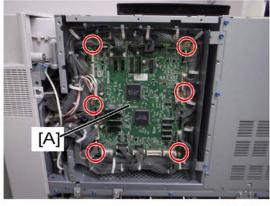
• If you do not open the controller box, the second fan duct prevents you from removing the controller box.



9. Lift up the controller box [A], and then remove it.

## IOB (In/Out Board)

- 1. Rear cover (🖝 p.109)
- 2. Controller box right cover (🖝 p.217)



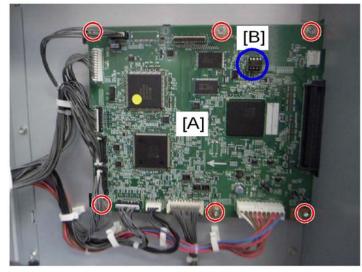
g133r921

3. IOB [A] (𝒫 x 6, All 🕬 s, flat cable x 1)

## BCU

- 1. Rear cover (🖝 p.109)
- 2. Controller box right cover (🖝 p.217)

- 3. Disconnect the harness (CN225) on the IOB board.
- 4. Move the IOB bracket aside (🖝 p.218 "Controller Box")



g133r924

5. BCU [A] (🖗 x 5, 💷 x All)

#### **Vote**

 Make sure the NVRAM is correctly installed on the BCU. Insert the NVRAM in the NVRAM slot with the "half-moon" pointing [B] to the upward side.

#### When installing the new BCU

- 1. Remove the NVRAM from the old BCU.
- 2. Install the NVRAM on the new BCU after you replace the BCU.
- 3. Reassemble the machine.
- 4. Turn on the main power of the machine.
- 5. "SC995-01" occurs.
- 6. Enter the serial number with SP5811-004.
- 7. Turn the main power of the machine off and on.

#### **Vote**

 Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

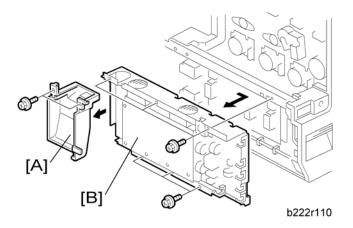
# 

 Keep NVRAM away from any objects that can cause static electricity. Static electricity can damage NVRAM data.

### PSU

#### **PSU bracket**

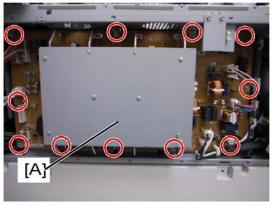
1. Rear cover (🖝 p.109)



- 2. Ventilation duct [A] ( \* x 2)
- 3. PSU bracket [B] (P x 6, all 🚔s, all 📬s)

#### **PSU board**

- 1. Rear cover (🖝 p.109)
- 2. Ventilation duct (🖝 p.222)

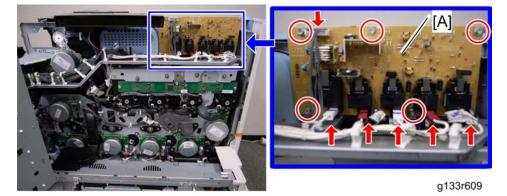


g133r927

3. PSU board [A] (₽ x 11, all 🕬s, all 🗟s)

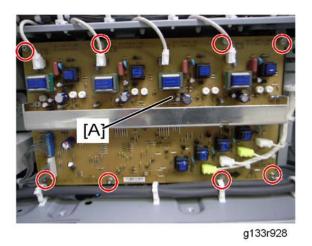
## ITB Power Supply Board

- 1. Rear cover (🖝 p.109)
- 2. Open the controller box (🖝 p.218)
- 3. Top right cover (🖝 p.110)
- 4. Top rear cover (🖝 p.110)



## High Voltage Supply Board

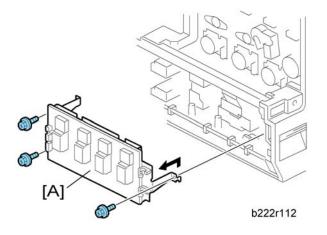
- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222)



3. High voltage supply board [A] (🖗 x 8, All 📬 s, 🛱 x 2)

### High Voltage Supply Board Bracket

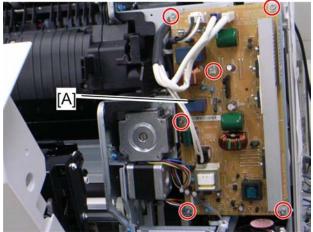
- 1. Rear cover (🖝 p.109)
- 2. PSU bracket (🖝 p.222)



3. High voltage supply board bracket [A] (P x 3, All 🕬 s, 🛱 x 2)

### IH Inverter

- 1. Rear cover (🖝 p.109)
- 2. Right rear cover (🖝 p.110)
- 3. Fusing duct (🖝 p.187 "Fusing Fan")

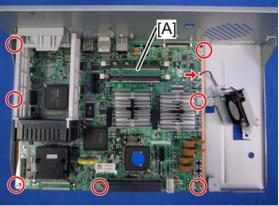


d027r629

4. IH inverter [A] (⋛ x 6, 🖤 x 5)

# Controller Board

1. Controller unit (🖝 p.217)



g133r932

2. Controller board [A] (⋛ x 7, 🕬 x 1)



3. Interface rails [A], NV-RAM [B], RAM-DIMM [C]

#### When installing the new controller board

- 1. Remove the NVRAM from the old controller board.
- 2. Install the NVRAM on the new controller board after you replace the controller board.
- 3. Reassemble the machine.
- 4. Turn on the main power of the machine.

#### Note

- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.
- Re-install the NetWare option if new NVRAM is installed when replacing the controller board.

# 

- Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data.
- Make sure the NVRAM is correctly installed on the controller board.

### HDD Fan

1. Controller unit (🖝 p.217)



g188r933

- 2. HDD fan bracket [A] (🖉 x 2)

#### When installing the HDD fan

Make sure that the HDD fan is installed with its decal facing the right side of the machine.

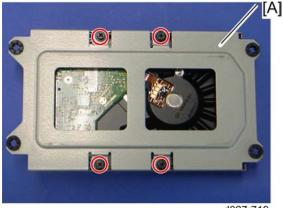
#### HDD

#### **Vote**

- The HDD is an option for G188 model.
- The HDD is a standard for G189 model.
- 1. Controller unit (🖝 p.217)



2. Remove the HDD [A] with the bracket ( x 4, 💷 x 2).





3. Remove the HDD from the bracket [A] ( $\mathscr{F} \times 4$ ).

#### **Disposal of HDD Units**

- Never remove an HDD unit from the work site without the consent of the client.
- If the customer has any concerns about the security of any information on the HDD, the HDD must remain with the customer for disposal or safe keeping.
- The HDD may contain proprietary or classified (Confidential, Secret) information. Specifically, the HDD contains document server documents and data stored in temporary files created automatically during copy job sorting and jam recovery. Such data is stored on the HDD in a special format so it cannot normally be read but can be recovered with illegal methods.

#### Reinstallation

If the customer is using the DataOverwriteSecurity feature, the DOS function must be set up again. For more, see "Hardware Guide" for this machine.

• If the customer is using the optional Browser Unit, this unit must be installed again. For more, see p.93 "Controller Options".

#### NVRAM Replacement Procedure

#### NVRAM on the BCU

- 1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
- 2. Output the SMC data ( SP5-990-001) if possible.
- 3. Turn the main switch off.
- 4. Install an SD card into SD card slot 2. Then turn the main power on.
- 5. Copy the NVRAM data to an SD card ( SP5-824-001) if possible.
- 6. Turn off the main switch. Then unplug the power cord.
- 7. Replace the NVRAM on the BCU and reassemble the machine.
- 8. Plug in the power cord. Then turn the main switch on.
- 9. SC195 occurs.
- Copy the data from the SD card to the NVRAM (
   SP5-825-001) if you have successfully copied them to the SD card.
- 11. Turn the main switch off. Then remove the SD card from SD card slot 2.
- 12. Turn the main switch on.
- 13. Specify the SP and UP mode settings.
- 14. Do the process control self-check.

#### NVRAM on the Controller

- 1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
- 2. Output the SMC data (
   SP5-990-001) if possible.
- 3. Turn the main switch off. Then unplug the power cord.
- 4. Install a New NVRAM on the controller. Then reassemble the machine.
- 5. Turn the main switch on.
- 6. SC995-02 occurs.
- 7. Turn the machine off and on.
- 8. Do the process control self-check.
- 9. Re-install the NetWare option if it has been installed.

# Using Dip Switches

# Controller Board

DIP SW No.	OFF	ON
1	Boot-up from Flash Memory	Boot-up from SD card
2 to 8	Factory Use Only: Do not change the switch settings.	

## BCU Board

DIP SW No.	OFF	ON
1 and 2	Factory Use Only: Do not cha	nge the switch settings.

# Service Program Mode

# 

• Make sure that the data-in LED (\*) is not on before you go into the SP mode. This LED indicates that some data is coming to the machine. When the LED is on, wait for the printer to process the data.

#### **SP** Tables

See "Appendices" for the following information:

- Service SP Tables
- Engine SP Tables

#### Service Mode Operation

#### Note

• The Service Program Mode is for use by service representatives only. If this mode is used by anyone other than service representatives for any reason, data might be deleted or settings might be changed. In such case, product quality cannot be guaranteed any more.

#### Note

- If you switch the machine off, any jobs stored on the hard disk using the sample print and protected print features will be deleted.
- Check first with the user tools to see if there are any jobs stored with these features (Menu key Sample Print, or Protected Print).
- The machine automatically goes off line when you enter the service mode.

#### Accessing the Required Program

Use the "Up/Down arrow" keys to scroll through the menu listing.

- 1. Service: Controller service modes
- 2. Engine: Engine service modes
- 3. End: Exit service mode

To select an item, press the "OK" key. Then the sub-menu appears.

Scroll through the sub menu items using the "◀/▶" keys.

To go back to a higher level, press the "Escape" key.

#### Inputting a Value or Setting for a Service Program

Enter the required program mode as explained above. The setting appearing on the display is the current setting.

Select the required setting using the " $\checkmark$ / $\checkmark$ " keys, then press the "OK" key. The previous value remains if the "OK" key is not pressed.

#### **Exiting Service Mode**

Select "End" from the service mode main menu, then press the "OK" key.

#### 🕗 Note

• To make the settings effective, turn the main switch off and on after exiting service mode.

#### Remarks

#### **Display on the Control Panel Screen**

The maximum number of characters which can appear on the control panel screen is limited to 30 characters. For this reason, some of the SP modes shown on the screen need to be abbreviated. The following are abbreviations used for the SP modes for which the full description is over 20 characters.

Paper Weight			
Thin paper: 60 g/m <sup>2</sup>			
Plain Paper: 60-90 g/m <sup>2</sup> , 16-24lb.			
Middle Thick: 91-105 g/m <sup>2</sup> , 24-28lb.			
Thick Paper 1: 106-169 g/m <sup>2</sup> , 28.5-44.9lb.			
Thick Paper 2: 170-220 g/m <sup>2</sup> , 45-58lb.			
Thick Paper 3: 221-256 g/m <sup>2</sup> , 59lb-68lb			
Paper Type	Paper Feed Station		
N: Normal paper	P: Paper tray (numbered from 1 to 5, top to bottom)		
MTH: Middle thick paper	B: By-pass table		
TH: Thick paper			

Color Mode [Color]				
[K]: Black in B&W mode				
[Y], [M], or [C]: Yellow, Magenta, or Cyan in Ful	l Color mode			
[YMC]: Only for Yellow, Magenta, and Cyan				
[FC]: Full Color mode				
[FC, K], [FC, Y], [FC, M], or [FC, C]: Black, Yellow, Magenta, or Cyan in full color mode				
Drink Marda	Process Speed			
Print Mode	L: Low speed (77 mm/s)			
S: Simplex	M: Middle speed (154 mm/s)			
D: Duplex	H: High speed (P2d: 230, P2c 205 mm/s)			

#### Others

The following symbols are used in the SP mode tables.

FA: Factory setting

(Data may be adjusted from the default setting at the factory. Refer to the factory setting sheets enclosed. You can find it under the jammed paper removal decal.)

DFU: Design/Factory Use only

Do not touch these SP modes in the field.

A sharp (#) to the right hand side of the mode number column means that the main switch must be turned off and on to effect the setting change.

An asterisk (\*) to the right hand side of the mode number column means that this mode is stored in the NVRAM. If you do a RAM clear, this SP mode will be reset to the default value. "ENG" and "CTL" show which NVRAM contains the data.

- ENG: NVRAM on the BCU board
- CTL: NVRAM on the controller board
- NV: NVRAM on the NVRAM expansion board (user account enhancement kit)

The settings of each SP mode are explained in the right-hand column of the SP table in the following way.

[Adjustable range / Default setting / Step ] Alphanumeric

#### Note

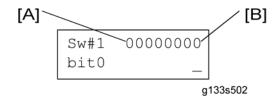
• If "Alphanumeric" is written to the right of the bracket as shown above, the setting of the SP mode shows on the screen using alphanumeric characters instead of only numbers. However, the settings in the bracket in the SP mode table are explained by using only the numbers.

SSP: This denotes a "Special Service Program" mode setting.

#### **Bit Switch Programming**

Do not change the bit switches unless you are told to do this by the manufacturer.

- 1. Start the SP mode. Select the "Service" menu with "▲/▼" keys.
- 2. Press the "OK" key three times.
- 3. To select a bit switch, press the "◀/▶" keys.
- 4. Push the OK key.
- 5. Set the value with these keys:
  - [Left] [Right]: Moves the cursor to one of the adjacent bits.
  - [Up] [Down]: Changes a bit between "0" and "1".
  - [Escape]: Goes out of the program without saving changes.
  - [OK]: Goes out of the program and saves changes.



- 6. Push the "Escape" key one or more times until the menu "SP mode (Service)" is shown.
- 7. Select "End" and push the OK key.

# Firmware Update

To update the firmware for this machine, you must have the new version of the firmware downloaded onto an SD (Secure Digital) Card. The SD Card is inserted into SD Card Slot 2 on the left side of the controller box.

#### **Before You Begin**

An SD card is a precision device. Always observe the following precautions when you handle SD cards:

- Always switch the machine off before you insert an SD card. Never insert the SD card into the slot with the power on.
- Do not remove the SD card from the service slot after the power has been switched on.
- Never switch the machine off while the firmware is downloading from the SD card.
- Keep SD cards in a safe location where they are not exposed to high temperature, high humidity, or
  exposure to direct sunlight.
- Always handle SD cards with care. Do not bend or scratch them. Do not let the SD card get exposed to shock or vibration.
- Make sure that the write protection of an SD card is unlocked when you download an application to it. If not, downloading fails and a download error (e.g. Error Code 44) occurs during a firmware upgrade.

Keep the following points in mind when you use the firmware update software:

- "Upload" means to send data from the machine to the SD card. "Download" means to send data from the SD card to the machine.
- To select an item on the LCD, press the appropriate key on the operation panel.
- Make sure that the machine is disconnected from the network to prevent a print job for arriving while the firmware update is in progress before you start the firmware update procedure.

#### **Updating Firmware**

#### File Arrangement

#### How the Program Works:

The firmware-update program for this machine searches the folder romdata for necessary firmware. When you save the firmware in an SD card, make the folder 'romdata'. You must not make the folder 'romdata' in another folder.

#### Note

- Do not make another firmware-update program folder in the folder 'romdata'.
- Otherwise, it may cause a malfunction for the firmware updating. You just keep only one firmware update program folder in the folder 'romdata'.

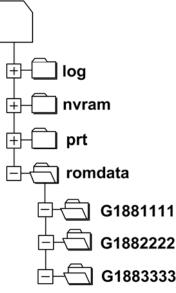
The firmware program contains the file information. Before downloading the firmware from an SD card, the firmware-update program reads the file information. The firmware is downloaded only when the file information is correct.

#### • Note

 The file information can identify the firmware, but this information does not guarantee that the data is not corrupted.

#### Example

5



#### g188s901

When you save the firmware, we recommend that you arrange folders and files as follows:

- In the folder romdata, make only one folder and use this folder for one model. Use the machine code as the name of this folder.
- When you save some files other than firmware, make a new folder outside romdata. Save the files in this folder. Do not save any file outside the folders. (The diagram shows an example. Three folders, log, nvramdata, and prt, are outside romdata. These folders can store debug logs, NVRAM data, and captured files respectively.)

#### Update Procedure

1. Turn off the main power switch.

- 2. Disconnect the printer from the network.
- 3. Remove the slot cover from the slot 2 ( $\hat{\mathscr{F}} \times 1$ ).

#### Note

- Do not use the slot 1. The slot 1 is for customer use.
- 4. Turn the SD card face to the rear side of the printer, and insert it into the slot 2.
- 5. Slowly push the SD card into the slot until it clicks.
- 6. Make sure that the SD card is locked in place.

#### Vote

- To remove the SD card, push it in until it clicks, and release it slowly. The slot pushes out the SD card.
- 7. Turn on the main power switch.
- 8. Wait until a firmware name is shown on the display (about 1 minute).

#### Note

- The firmware name is read from inside the firmware. The firmware name is not changed even if you change the file name on your PC.
- 9. If the necessary firmware name is shown on the display, check the firmware version with the left-arrow or right-arrow keys. Pressing the left or right-arrow key shows a firmware name, firmware version and serial number in order.
- To use a different firmware, push the up-arrow key or the down-arrow key to find the necessary firmware.

#### • Note

- Controller, engine and operation panel firmware cannot be updated at the same time. It is recommended to update firmware modules one by one.
- 11. To select the firmware, push the OK key. Make sure that the selected firmware is high-lighted.
- 12. If you update more than one firmware program at the same time, find each of them and select each of them. Make sure that the selected firmware is high-lighted.

#### Note

- If the customer has used all of three slots, you have to keep an empty slot for this procedure. Ask the customer to temporarily remove the SD card in the slot 2.
- 13. To start firmware update, push the "UpDate" key. While each firmware is downloaded, the underscores on the operation panel are replaced by stars.
- 14. Wait until the message "Update done" is shown.
- 15. Turn off the main power switch.
- 16. Remove the SD card from the slot 2.
- 17. Attach the slot cover to the SD card slot 2 ( $\hat{\mathscr{F}} \times 1$ ).

- 18. Connect the printer to the network physically.
- 19. Turn on the main power switch.
- Print the Configuration Page to check that the every firmware is correctly updated: Menu > List/Test Print > Config. Page

#### **Error Handling**

An error code is shown if an error occurs during the download. Error codes have the letter "E" and a number. If an error occurs, the firmware is not correctly downloaded; see the error code table (*F* Handling Firmware Update Errors) and do the necessary steps. After this, download the firmware again.

#### **Power Failure**

If firmware update is interrupted by power failure, the firmware is not correctly downloaded. In this condition, machine operation is not guaranteed. You have to download the firmware again.

#### Handling Firmware Update Errors

An error message shows in the first line if an error occurs during a download. The error code consists of the letter "E" and a number ("E20", for example).

#### Error Message Table

Code	Meaning	Solution	
20	Cannot map logical address	Make sure the SD card is inserted correctly.	
21	Cannot access memory	HDD connection incorrect or replace hard disks.	
22	Cannot decompress compressed data	Incorrect ROM data on the SD card, or data is corrupted.	
23	Error occurred when ROM update program started	Controller program abnormal. If the second attempt fails, replace controller board.	
24	SD card access error	Make sure SD card inserted correctly, or use another SD card.	
30	No HDD available for stamp data download	HDD connection incorrect or replace hard disks.	

31	Data incorrect for continuous download	Insert the SD card with the remaining data required for the download, the re-start the procedure.
32	Data incorrect after download interrupted	Execute the recovery procedure for the intended module download, then repeat the installation procedure.
33	Incorrect SD card version	Incorrect ROM data on the SD card, or data is corrupted.
34	Module mismatch - Correct module is not on the SD card)	SD update data is incorrect. Acquire the correct data (Japan, Overseas, OEM, etc.) then install again.
35	Module mismatch – Module on SD card is not for this machine	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.
36	Cannot write module – Cause other than E34, E35	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.
40	Engine module download failed	Replace the update data for the module on the SD card and try again, or replace the EGB board.
42	Operation panel module download failed	Replace the update data for the module on the SD card and try again, or replace the LCDC.
43	Stamp data module download failed	Replace the update data for the module on the SD card and try again, or replace the hard disks.
44	Controller module download failed	Replace the update data for the module on the SD card and tray again, or replace controller board.
50	Electronic confirmation check failed	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.

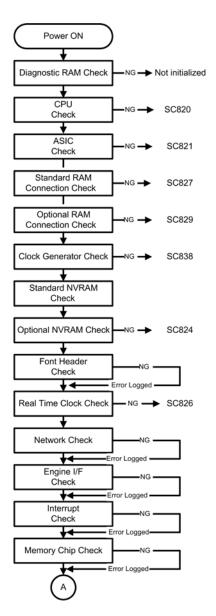
# **Controller Self-Diagnostics**

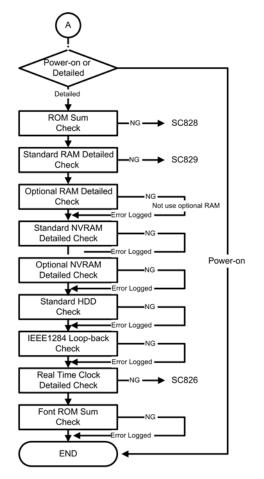
#### Overview

There are two types of self-diagnostics for the controller.

- 1. Power-on self-diagnostics: The machine automatically starts the self-diagnostics just after the power has been turned on.
- 2. SC detection: The machine automatically detects SC conditions at power-on or during operation.

The following shows the workflow of the power-on and detailed self-diagnostics.





g133t933

# NVRAM Data Upload/Download

# 

• Turn off the main power switch before you insert or remove an SD card. Make sure that the controller and the BCU are correctly connected.

#### Uploading NVRAM Data

Copy the data from the NVRAM to an SD card (referred to as "to upload NVRAM data" in this section) before you replace the NVRAM. If you cannot upload NVRAM data, manually input the necessary settings referring to the factory settings sheet stored inside the front door of the mainframe after replacing the NVRAM.

- 1. Prepare a formatted SD card.
- 2. Make sure that the write-protection on the SD card is off.
- 3. Start the SP mode.
- 4. Select SP5990-001 (ALL (Data List)).
- 5. Do the SP.
- 6. See if the SMC Report is correctly output.

#### Note

- You may need the SMC Report when the machine did not complete an NVRAM data upload or download correctly.
- 7. Go out of the SP mode.
- 8. Turn off the main power switch.
- 9. Insert an SD card into the SD card slot 2.
- 10. Turn on the main power switch.
- 11. Start the SP mode.
- 12. Select SP5-824-001(NVRAM Upload).
- 13. Push the "OK" key. The upload starts.
  - When uploading ends correctly, the following file is made: NVRAM\serial\_number.NV where
     "NVRAM" is the folder name in the SD card and "serial\_number.NV" is the file name with the
     extension ".NV". The serial number of the printer is used as the file name. For example, if the
     serial number is G1880017, the file name is "G1880017.NV".
- 14. Go out of the SP mode.
- 15. Turn off the main power switch.
- 16. Remove the SD card from the SD card slot 2.

- 17. Install the SD slot cover to the SD card slot 2.
- Mark the SD card with, for example, the machine code. You need this SD card when you download NVRAM data.

Note

• One SD card can store the NVRAM data from two or more machines.

#### **Downloading NVRAM Data**

Copy the data from the SD card to the NVRAM (referred to as "to download NVRAM data" in this section) after you replace the NVRAM. If you cannot download NVRAM data, manually input the necessary settings referring to the factory settings sheet stored inside the front door of the mainframe.

- 1. Make sure that the main power switch is off. If it is on, turn it off.
- 2. Make sure that you have the correct SD card that contains the necessary NVRAM data.
- 3. Insert the SD card into the SD card slot 2.
- 4. Turn on the main power switch.
- 5. Start the SP mode.
- 6. Select SP5-825-001 (NVRAM Download).
- 7. Push the "OK" key. The download starts.

#### Note

- The machine cannot do the download if the file name in the SD card is different from the serial number of the printer.
- 8. Go out of the SP mode.
- 9. Turn off the main power switch.
- 10. Remove the SD card from the SD card slot 2.
- 11. Install the SD slot cover to the SD card slot 2.
- 12. Turn on the main power switch.
- 13. Check that the NVRAM data is correctly downloaded.

#### 🔁 Important 🔵

- This procedure does not download the following data to the NVRAM:
- Total Count
- Serial Number

# Using the Debug Log

This machine provides a Save Debug Log feature that allows the Customer Engineer to save and retrieve error information for analysis.

Every time an error occurs, debug information is recorded in volatile memory. But this information is lost when the machine is switched off and on.

To capture this debug information, the Save Debug Log feature provides two main features:

- Switching on the debug feature so error information is saved directly to the HDD for later retrieval.
- Copying the error information from the HDD to an SD card.

Do the following procedure below to set up the machine so the error information is saved automatically to the HDD when a user has problems with the machine. Then ask the user to reproduce the problem.

### 5

#### Switching ON and Setting UP Save Debug Log

The debug information cannot be saved until the "Save Debug Log" function has been switched on and a target has been selected.

- 1. Enter the SP mode and switch the Save Debug Log feature on.
  - On the LCD panel, open SP5857.
- 2. Under "5857 Save Debug Log", select "1" with the ▲ or ▼ key.
- 3. On the control panel keypad, press "1". Then press "OK" key. This switches the Save Debug Log feature on.

#### 🕗 Note

- The default setting is "O" (OFF). This feature must be switched on in order for the debug information to be saved.
- Select the target destination where the debug information will be saved. Under "5857 Save Debug Log", select "2 Target", enter "2" with the operation panel key with the ▲ or ▼ key to select the hard disk as the target destination. Then press "OK".

#### Vote

- Select "3 SD Card" to save the debug information directly to the SD card if it is inserted in the service slot.
- Now select "SP5858" and specify the events that you want to record in the debug log. SP5858 (Debug Save When) provides the following items for selection.

1	Engine SC Error	Saves data when an engine-related SC code is generated.
2	Controller SC Error	Saves debug data when a controller-related SC Code is generated.

3	Any SC Error	Saves data only for the SC code that you specify by entering code number.
4	Jam	Saves data for jams.

#### Note

• More than one event can be selected.

#### - Example 1: To Select Items 1, 2, 4

Push the ▲ or ▼ key to select the appropriate items(s). Press the "OK" key for each selection. This example shows "Engine SC Error" selected.

#### - Example 2: To Specify an SC Code

Push the ▲ or ▼ key to select "3 Any SC Error", enter the 3-digit SC code number with the ▲ or ▼ key. Then press"OK" key. This example shows an entry for SC670.

#### Note

- For details about SC code numbers, please refer to the SC tables in "Appendices".
- 6. Select one or more memory modules for reading and recording debug information. Select "SP5859".

Under "5859" press the necessary key item for the module that you want to record.

Enter the appropriate 4-digit number with the ▲ or ▼ key. Then press"OK".

#### Note

• Refer to the two tables below for the 4-digit numbers to enter for each key.

The following keys can be set with the corresponding numbers. (The initials in parentheses indicate the names of the modules.)

#### 4-Digit Entries for Keys 1 to 10

Key No.	Printer
1	2222 (SCS)
2	14000 (SRM)
3	256 (IMH)
4	1000 (ECS)
5	1025 (MCS)
6	4400 (GPS)
7	4500 (PDL)
8	4600 (GPS-PM)

9	2000 (NCS)
10	2224 (BCU)

#### Note

• The default settings for Keys 1 to 10 are all zero ("0").

#### Key to Acronyms

Acronym	Meaning	Acronym	Meaning
ECS	Engine Control Service	NFA	Net File Application
GPS	GW Print Service	PDL	Printer Design Language
GSP-PM	GW Print Service – Print Module	PTS	Print Server
ІМН	Image Memory Handler	SCS	System Control Service
MCS	Memory Control Service	SRM	System Resource Management
NCS	Network Control Service	WebDB	Web Document Box (Document Server)

The machine is now set to record the debugging information automatically on the HDD (the target selected with SP5857-002) for the events that you selected with SP5858 and the memory modules selected with SP5859.

Please keep the following important points in mind when you do this setting:

- The initial settings are all zero.
- These settings remain in effect until you change them. Be sure to check all the settings, especially the settings for Keys 6 to 10. To switch off a key setting, enter a zero for that key.
- You can select any number of keys from 1 to 10 (or all) by entering the corresponding 4-digit numbers from the table.
- One area of the disk is reserved to store the debug log. The size of this area is limited to 4 MB.

### Retrieving the Debug Log from the HDD

Retrieve the debug log by copying it from the hard disk to an SD card.

- 1. Insert the SD card into the service slot of the printer.
- 2. Enter the SP mode and execute SP5857-009 (Copy HDD to SD Card (Latest 4 MB)) to write the debugging data to the SD card.

Use a card reader to copy the file and send it for analysis to your local Ricoh representative by email.
 You can also send the SD card by regular mail if you want.

#### **Debug Log Codes**

#### SP5857-015 Copy SD Card-to-SD Card: Any Desired Key

This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number. The copy operation is executed in the log directory of the SD card inserted in the same slot. (This function does not copy from one slot to another.) Each SD card can hold up to 4 MB of file data. Unique file names are created for the data during the copy operation to prevent overwriting files of the same name. This means that log data from more than one machine can be copied onto the same SC card. This command does not execute if there is no log on the HDD for the name of the specified key.

#### SP5857-016 Create a File on HDD to Store a Log

This SP creates a 32 MB file to store a log on the HDD. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the HDD when the first log is stored on the HDD (it takes some time to complete this operation). This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the HDD. With the file already created on the HDD for the log file, the data only needs to be recorded. A new log file does not need to be created. To create a new log file, do SP5857-011 to delete the debug log data from the HDD. Then do SP5857-016.

#### SP5857-017 Create a File on SD Card to Store a Log

This SP creates a 4 MB file to store a log on an SD card. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the SD card when the first log is stored on the SD card (it takes some time to complete this operation). This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the SD card. With the file already created on the SD card for the log file, the data only needs to be recorded; a new log file does not require creation. To create a new log file, do SP5857-012 to delete the debug log data from the SD card. Then do SP5857-017.

# 6. Troubleshooting

# Service Call Conditions

See the "Appendices" for the following information:

• SC Tables

# **Process Control Error Conditions**

See the "Appendices" for the following information:

- Developer Initialization Result
- Process Control Self-Check Result
- Line Position Adjustment Result

# **Troubleshooting Guide**

See the "Appendices" for the following information:

- Image Quality
- Line Position Adjustment

### Image Problems

#### Stain on the outputs

If a stain appears at the edge of the output, do the following procedure.

1. Execute the fusing cleaning mode with SP1123-002.

### Vote

- It takes 160 seconds to complete the fusing cleaning mode.
- 2. Print a sample page, and then check if a stain appears on the output.

6

# **Jam Detection**

See the "Appendices" for the following information:

- Paper Jam Display
- Jam Codes and Display Codes

# **Electrical Component Defects**

See the "Appendices" for the following information:

- Sensors
- Blown Fuse Conditions

6. Troubleshooting

# Model AP-P2 Machine Code: G188/G189

# **Appendices**

January 2009 Subject to change

# TABLE OF CONTENTS

### 1. Appendix: Specifications

General Specifications	3
Main Frame	3
Printer	6
Supported Paper Sizes	8
Paper Feed	8
Paper Exit	10
Software Accessories	15
Printer Drivers	15
Utility Software	15
Optional Equipment	17
Paper Tray Unit (One-tray)	17
Two-tray Paper Feed Unit	17
Large Capacity Tray	
3000-Sheet Finisher	
Punch Unit for 3000-Sheet Finisher	
1000-Sheet Booklet Finisher & Punch Unit	
Bridge Unit	
Mail Bin	
2. Appendix: Preventive Maintenance Tables	
User Maintenance Items	
Mainframe	
Service Maintenance Items	
Mainframe	
Optional Units	
3. Appendix: Service Call Conditions	
Service Call Conditions	
Summary	
Service Call Tables - 1	
Service Call Tables - 2	
Service Call Tables - 3	
Service Call Tables - 4	
Service Call Tables – 5	

Service Call Tables - 6	65
Service Call Tables - 7	71
Service Call Tables - 8	80
4. Appendix: Process Control Error Conditions	
Process Control Error Conditions	
Developer Initialization Result	
Process Control Self-Check Result	
Line Position Adjustment Result	
5. Appendix: Troubleshooting Guide	
Troubleshooting Guide	
Image Quality	
Line Position Adjustment	
6. Appendix: Jam Detection	
Jam Detection	
Paper Jam Display	
Jam Codes and Display Codes	
7. Appendix: Electrical Component Defects	
Electrical Component Defects	
Sensors	
Blown Fuse Conditions	
8. Appendix: SP Mode Tables	
Service Mode	
SP1-XXX (Service Mode)	
Engine Service Mode	145
Engine Service Mode Table	145
Input Check Table	
Output Check Table	412
Test Pattern Printing	
INDEX	

# **General Specifications**

### Main Frame

Configuration:	Desktop						
Print Process:	Laser beam scanning & Dry electrostatic transfer system 4 drums tandem method						
Resolution:	1200 x 1200 dpi (true, 1bit)						
Resolution.	9000 x 600 dpi, 1800 x 600 dpi, 600 x 600 dpi						
Gradation:	600dpi 4 bits/pixel, 2 bits/pixel, 1 bit/pixel						
	P2c						
	Normal (LT/ A4 LEF): 40 ppm (color/black & white)						
	Thick 1: 25 ppm (color/black & white)						
	Thick 2: 17.5 ppm (color/black & white)						
Print speed:	Thick 3: 17.5 ppm (color/black & white)						
Thin speed.	P2d						
	Normal (LT/ A4 LEF): 50 ppm (color/black & white)						
	Thick 1: 25 ppm (color/black & white)						
	Thick 2: 17.5 ppm (color/black & white)						
	Thick 3: 17.5 ppm (color/black & white)						
	P2c						
	Color: 8 seconds or less (A4/LT LEF)						
First print:	Black & white: 9 seconds or less (A4/LT LEF)						
	P2d						
	Color: 7 seconds or less (A4/LT LEF)						
	Black & white: 8 seconds or less (A4/LT LEF)						

1

	P2c							
Warm up time:	EU/ASIA: 34 seconds or less (23°C, 50%)							
	NA: 35 seconds or less (23°C, 50%)							
Warm-up time:	P2d							
	EU/ASIA: 48 seconds of	EU/ASIA: 48 seconds or less (23°C, 50%)						
	NA: 50 seconds or less	(23°C, 50%)						
	Standard tray: 550 she	ets x 2						
Print Paper Capacity:	By-pass tray: 100 sheet							
(80 g/m <sup>2</sup> , 20 lb)	Optional paper feed tro	ıy: 550 sheets x 1/ 550 s	sheets x 2					
	LCT: 2000 sheets							
	(Refer to "Supported Pa	per Sizes″.)						
	-	Minimum	Maximum					
	Tray 1	A4/8.5" x 11" (LEF)						
		A5 (LEF)/						
Print Paper Size:	Tray 2	8.5" x 11"	A3/11" x 17"					
	By-pass	90 x 148 mm	305 x 600 mm					
		A5 (LEF)/	A 2 /1 1 1 7"					
	Optional Tray	8.5" x 11"	A3/11" x 17"					
	LCT	A4/8.5" ×	<11" (LEF)					
	Standard tray: 60 to 256 g/m <sup>2</sup> (16 to 68 lb.)							
	Optional paper tray: 60	Optional paper tray: 60 to 256 g/m <sup>2</sup> (16 to 68 lb.)						
Printing Paper Weight:	By-pass tray: 60 to 256 g/m <sup>2</sup> (16 to 68 lb.)							
	Duplex unit: 60 to 169 g/m <sup>2</sup> (16 to 45 lb.)							
	Standard exit tray: 500 sheets or more (face down)* <sup>1</sup>							
	1000-sheet booklet fini	sher: 150 + 1000 sheets	(80 g/m²)					
Output Papar Canacity	3000-sheet finisher: 25	0 + 3000 sheets (80 g/n	n <sup>2</sup> )					
Output Paper Capacity:	Mail bin unit: 125 sheet	ts x 4						
	Up to 4,000 sheets tota	Il capacity						
	* 1: T6200, A4 LEF							

Memory:		Standard: 512 MB Maximum: 1024 MB (+ Option)							
Power Source:		120 V, 60 Hz: More than 12A (for North America) 220 V – 240 V, 50/60 Hz: More than 7A (for Europe/ASIA)							
	-			120V		220 - 240V			
Power Consumption:	Maximum		144	0 W or less	1	400 W or less			
	Energy Sav	/er	19.	3 W or less	1	9.3 W or less			
	Model	State		Mainframe		Complete system (* 1)			
		Standby		40 dB(A) or Less		<b>TBA</b> dB(A) or Less			
Noise Emission: (Sound Power Level)	P2c	Operating		BW: 65 dB(A) or Less FC: 67 dB(A) or Less		BW: <b>TBA</b> dB(A) or Less FC: <b>TBA</b> dB(A) or Less			
		Stan	dby 40 dB(A or Less			<b>TBA</b> dB(A) or Less			
	P2d	Opero	ating	BW: 66 dB(A) or Less FC: 68 dB(A) or Less		BW: <b>TBA</b> dB(A) or Less FC: <b>TBA</b> dB(A) or Less			
Dimensions (W x D x H): Printer: 670 x 670 x 640 m Printer + PFU or LCT: 670 x				4" x 40.2")		<u> </u>			
Weight:	Less than 9	7 kg (213	8.4 lb.)						

# **Printer**

	PCL 6/5c RPCS (Refined Printing Command Stream)						
Printer Languages:	Adobe PostScript 3						
	PDF						
	PJL						
	PictBridge (optional)						
	PCL 5c:						
	300 x 300 dpi : Available only in B/W mode						
	600 x 600 dpi : Fast (1 bit), Standard (2 bits), Fine (4 bits)						
	PCL 6:						
	600 x 600 dpi : Fast (1 bit), Standard (2 bits), Fine (4 bits)						
	RPCS:						
Resolution and Gradation:	600 x 600 dpi, 1,800 x 600 dpi*, 9600 dpi x 600 dpi*						
	* 1,800 x 600 dpi = 600 x 600 dpi (2 bits) *9600 dpi x 600 dpi* = 600 x 600 dpi (4 bits)						
	PS3:						
	600 x 600 dpi : Fast (1 bit), Standard (2 bits), Fine (4 bits)						
	PS3:						
	600 x 600 dpi/ 4bit, 2bit, 1bit, 1200 x 1200 dpi 1bit						
	P2c:						
	40 ppm (color/black and white) in Plain/Middle Thick mode						
Duinting on a sele	25/ 17.5 ppm in Thick/OHP mode (depending on paper type)						
Printing speed:	P2d:						
	50 ppm (color/black and white) in Plain/Middle Thick mode						
	x25/ 17.5 ppm in Thick/OHP mode (depending on paper type)						

#### Printer

	PCL 6/5c (Standard):
Resident Fonts:	35 Intelli fonts
	10 TrueType fonts
	13 International fonts
	Adobe PostScript 3:
	136 fonts (24 Type 2 fonts, 112 Type 14 fonts)
	USB 2.0: Standard
	USB Host I/F: Standard
	Ethernet (100 Base-TX/10 Base-T): Standard
Host Interfaces:	IEEE1284 parallel x 1: Optional
	IEEE802.11a/b/g (Wireless LAN): Optional
	Bluetooth (Wireless): Optional
	Gigabit Ethernet: Optional
Network Protocols:	TCP/IP (IPv4, IPv6), SMB, AppleTalk (Auto Switching): Standard IPX/SPX: Optional

# **Supported Paper Sizes**

### 1

### Paper Feed

BT: By-pass Tray, T1: Tray 1, T2/3/4: Tray 2/3/4/5, LCT: Large Capacity Tray,

DU: Duplex Unit

		North America								
Paper	Size (W x L)	BT	т1	T2/3/ 4/5	LCT	BT	т1	T2/3/ 4/5	LCT	DU
A3 W	12" x 18"	М	-	-	-	м	-	-	-	-
A3 SEF	297 x 420mm	М	-	м	-	A	-	А	-	м
A4 SEF	210 x 297mm	М	-	A	-	А	-	А	-	м
A4 LEF	297 x 210mm	М	S	м	S	м	м	А	М	м
A5 SEF	148 x 210mm	М	-	-	-	А	-	-	-	-
A5 LEF	210 x 148mm	М	S	A	-	м	S	А	-	м
A6 SEF	105 x 148mm	М	-	-	-	Α	-	-	-	-
B4 SEF	257 x 364mm	М	-	м	-	м	-	А	-	м
B5 SEF	182 x 257mm	М	-	A	-	м	-	А	-	м
B5 LEF	257 x 182mm	М	S	м	-	м	S	A	-	м
B6 SEF	128 x 182mm	М	-	-	-	м	-	-	-	-
Ledger	11" x 1 <i>7</i> "	А	-	A	-	м	-	м	-	м
Letter SEF	8.5" x 11"	А	-	A	-	м	-	A	-	м
Letter LEF	11" x 8.5"	М	м	A	м	М	S	м	S	м
Legal SEF	8.5" x 14"	М	-	A	-	М	-	м	-	м
Governme nt Legal SEF	8.25" x 14"	М	-	м	-	м	-	м	-	м

1

			America							
Paper	Size (W x L)	ВТ	т1	T2/3/ 4/5	LCT	ВТ	T1	T2/3/ 4/5	LCT	DU
Half Letter SEF	5.5" x 8.5"	A	-	-	-	м	-	-	-	-
Executive SEF	7.25" x 10.5"	М	-	м	-	м	-	м	-	м
Executive LEF	10.5" x 7.25"	М	-	A	-	м	-	м	-	м
F SEF	8" x 13"	М	-	м	-	м	-	м	-	м
Foolscap SEF	8.5" x 13"	М	-	м	-	м	-	м	-	м
	8.25" x 13"	М	-	м	-	м	-	м	-	м
	11" x 15"	М	-	м	-	м	-	м	-	м
Folio SEF	10" x 14"	М	-	м	-	м	-	м	-	м
	8" x 10"	М	-	м	-	м	-	м	-	м
8К	267 x 390mm	М	-	м	-	м	-	м	-	м
16K SEF	195 x 267mm	М	-	м	-	м	-	м	-	м
16K LEF	267 x 195mm	М	-	м	-	м	-	м	-	м
Custom		М	-	м	-	м	-	м	-	-
Com10 Env.	4.125" x 9.5"	М	-	-	-	м	-	-	-	-
Monarch Env.	3.875" x 7.5"	М	-	-	-	м	-	-	-	-
C6 Env.	114 x 162mm	М	-	-	-	М	-	-	-	-
C5 Env.	162 x 229mm	М	-	-	-	м	-	-	-	-
DL Env.	110 x 220mm	М	-	-	-	м	-	-	-	-

### Remarks:

A	Supported: the sensor detects the paper size.
м	Supported: the user specifies the paper size.
S	Supported: depends on a technician adjustment
-	Not supported

### Paper Exit

1

### 3000 Sheet Finisher (B805)

MF: Main Frame, Prf: Proof, Clr: Clear, Shf: Shift, Stp: Staple,

2P: 2 Holes Punch, N2P: North Europe 2 Holes, 3P: 3 Holes Punch,

Punch 4 P: 4 Holes Punch, N4P: North Europe 4 Holes Punch

	<b>C</b> :		3000-sheet finisher									
Paper	Size (W x L)	MF	Prf	Clr	Shf	Stp	2P/ N2P	3P	4P	N4P		
A3 W	12" x 18"	Y	Y	Y	Y	30	-	-	-	-		
A3 SEF	297 x 420 mm	Y	Y	Y	Y	30	Y	Y	Y	Y		
A4 SEF	210 x 297 mm	Y	Y	Y	Y	50	Y	-	-	Y		
A4 LEF	297 x 210 mm	Y	Y	Y	Y	50	Y	Y	Y	Y		
A5 SEF	148 x 210 mm	Y	Y	Y	Y	-	Y	-	-	Y		
A5 LEF	210 x 148 mm	Y	Y	Y	Y	-	Y	-	-	Y		
A6 SEF	105 x 148 mm	Y	Y	Y	-	-	-	-	_	-		
B4 SEF	257 x 364 mm	Y	Y	Y	Y	30	Y	Y	Y*4	Y*4		

	<b>C</b> :		3000-sheet finisher									
Paper	Size (W x L)	MF	Prf	Clr	Shf	Stp	2P/ N2P	3P	4P	N4P		
B5 SEF	182 x 257 mm	Y	Y	Y	Y	50	Y	-	-	Y		
B5 LEF	257 x 182 mm	Y	Y	Y	Y	50	Y	Y	Y	Y		
B6 SEF	128 x 182 mm	Y	Y	Y	-	-	-	-	-	-		
Ledger	11" x 17"	Y	Y	Y	Y	30	Y	Y	Y	Y		
Letter SEF	8.5" x 11"	Y	Y	Y	Y	50	Y	-	-	Y		
Letter LEF	11" x 8.5"	Y	Y	Y	Y	50	Y	Y	Y	Y		
Legal SEF	8.5" x 14"	Y	Y	Y	Y	30	Y	-	-	Y		
Government Legal SEF	8.25" x 14"	Y	Y	Y	Y	30	Y	-	-	Y		
Half Letter SEF	5.5" x 8.5"	Y	Y	Y	Y	-	Y	-	-	Y		
Executive SEF	7.25" x 10.5"	Y	Y	Y	Y	50	Y	-	-	Y		
Executive LEF	10.5" x 7.25"	Y	Y	Y	Y	50	Y	Y	Y	Y		
F SEF	8" x 13"	Y	Y	Y	Y	30	Y	-	-	Y		
Foolscap SEF	8.5" x 13"	Y	Y	Y	Y	30	Y	-	-	Y		
	8.25" x 13"	Y	Y	Y	Y	30	Y	-	-	Y		
Folio SEF	11" x 15"	Y	Y	Y	Y	30	Y	Y	Y	Y		
	10" x 14"	Y	Y	Y	Y	30	Y	Y	-	Y		
	8" x 10"	Y	Y	Y	Y	50	Y	-	-	Y		

	<b>C</b> :		3000-sheet finisher									
Paper	Size (W x L)	MF	Prf	Clr	Shf	Stp	2P/ N2P	3P	4P	N4P		
8К	267 x 390 mm	Y	Y	Y	Y	30	Y	Y	Y	Y		
16K SEF	195 x 267 mm	Y	Y	Y	Y	50	Y	-	-	Y		
16K LEF	267 x 195 mm	Y	Y	Y	Y	50	Y	Y	Y	Y		
Custom		Y	Y	Y	-	-	Y* <sup>3</sup>	Y*3	Y* <sup>3</sup>	Y* <sup>3</sup>		
Com10 Env.	4.125" x 9.5"	Y	Y*1	Y*2	-	-	-	-	-	-		
Monarch Env.	3.875" x 7.5"	Y	-	Y	-	-	-	-	-	-		
C6 Env.	114 x 162 mm	Y	-	Y	-	-	-	-	-	-		
C5 Env.	162 x 229 mm	Y	-	Y	-	-	_	-	-	-		
DL Env.	110 x 220 mm	Y	-	Y	-	-	-	-	-	-		

### Remarks:

Y	Supported
15	Output up to 15 sheets
30	Output up to 30 sheets
50	Output up to 50 sheets
-	Not supported

\* 1: Minimum 100 mm or more, Maximum 600 mm or less

\*2: Minimum 100 mm or more, Maximum 600 mm or less

• Longer paper (feed length) than DLT (432 mm) is not guaranteed in this mode.

\*3: Minimum 100 mm for 2P, 230 mm for 3P, 255 mm for 4P, 125 mm for N4P

\*4: Corner stapling is not available in this mode.

### 1000-Sheet Booklet Finisher (B793)

MF: Main Frame, Prf: Proof, Clr: Clear, Shf: Shift, Stp: Staple, SS: Saddle Stitch,

Demos		MF	1000-sheet booklet finisher							
Paper	Size (W x L)	///Г	Prf	Clr	Shf	Stp	SS	2/3 P	4 P	N4P
A3 W	12" x 18"	Y	Y	Y	Y	-	-	-	-	-
A3 SEF	297 x 420 mm	Y	Y	Y	Y	30	10	Y	Y	Y
A4 SEF	210 x 297 mm	Y	Y	Y	Y	50	10	-	-	Y
A4 LEF	297 x 210 mm	Y	Y	Y	Y	50	-	Y	Y	Y
A5 SEF	148 x 210 mm	Y	Y	Y	Y	-	-	-	-	Y
A5 LEF	210 x 148 mm	Y	Y	Y	Y	-	-	-	-	Y
A6 SEF	105 x 148 mm	Y	Y	Y	-	-	-	-	-	-
B4 SEF	257 x 364 mm	Y	Y	Y	Y	30	10	Y	Y	Y
B5 SEF	182 x 257 mm	Y	Y	Y	Y	50	10	-	-	Y
B5 LEF	257 x 182 mm	Y	Y	Y	Y	50	-	Y	Y	Y
B6 SEF	128 x 182 mm	Y	Y	Y	-	-	-	-	-	-
Ledger	11" x 17"	Y	Y	Y	Y	30	10	Y	Y	Y
Letter SEF	8.5" x 11"	Y	Y	Y	Y	50	10	-	-	Y
Letter LEF	11" x 8.5"	Y	Y	Y	Y	50	-	Y	Y	Y
Legal SEF	8.5" x 14"	Y	Y	Y	Y	30	10	-	-	Y
Government Legal SEF	8.25" x 14"	Y	Y	Y	Y	30	10	Y	Y	Y
Half Letter SEF	5.5" x 8.5"	Y	Y	Y	Y	-	-	-	-	Y
Executive SEF	7.25" x 10.5"	Y	Y	Y	Y	50	-	-	-	Y

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5			1000-sheet booklet finisher							
Paper	Size (W x L)	MF	Prf	Clr	Shf	Stp	SS	2/3 P	4 P	N4P
Executive LEF	10.5" x 7.25"	Y	Y	Y	Y	50	-	Y	Y	Y
F SEF	8" x 13"	Y	Y	Y	Y	30	-	-	-	Y
Foolscap SEF	8.5" x 13"	Y	Y	Y	Y	30	-	-	-	Y
	8.25" x 13"	Y	Y	Y	Y	30	-	-	-	Y
Folio SEF	11" x 15"	Y	Y	Y	Y	30	-	Y	Y	Y
FOIIO SEF	10" x 14"	Y	Y	Y	Y	30	-	Y	-	Y
	8" x 10"	Y	Y	Y	Y	50	-	-	-	Y
8K	267 x 390 mm	Y	Y	Y	Y	30	-	Y	Y	Y
16K SEF	195 x 267 mm	Y	Y	Y	Y	50	-	-	-	Y
16K LEF	267 x 195 mm	Y	Y	Y	Y	50	-	Y	Y	Y
Custom		Y	Y	Y	-	-	-	-	-	-
Com10 Env.	4.125" x 9.5"	Y	Y	-	-	-	-	-	-	-
Monarch Env.	3.875" x 7.5"	Y	Y	-	-	-	-	-	-	-
C6 Env.	114 x 162 mm	Y	Y	Y	-	-	-	-	-	-
C5 Env.	162 x 229 mm	Y	Y	Y	-	-	-	-	-	-
DL Env.	110 x 220 mm	Y	Y	Y	-	-	-	-	-	-

### Remarks:

Y	Supported
10	Output up to 10 sheets
30	Output up to 30 sheets
50	Output up to 50 sheets
-	Not supported

## **Software Accessories**

The printer drivers and utility software are provided as following CD-ROM

• Printer Drivers and Utilities CD-ROM

An auto-run installer lets you to select the components you want to install.

#### **Printer Drivers**

Printer Language	Windows 95/98/ME	Windows NT4.0	Windows 2000, XP, Server 2003/Vista	MacOS8.6 to 9.x, MacOSX10.1 or later
PCL5c / PCL6	Yes	Yes	Yes	No
PS3 * <sup>2)</sup>	Yes	Yes	Yes	Yes
RPCS	Yes	Yes	Yes	No

#### **Vote**

- The PCL5c/6 and RPCS drivers are provided on the printer drivers CD-ROM
- The PS drivers are provided on the Scanner/PostScript® Drivers and Utilities CD-ROM.
- The printer drivers for Windows NT 4.0 are only for the Intel x86 platform. There is no Windows NT 4.0 printer driver for the PowerPC, Alpha, or MIPS platforms.
- The PS3 drivers are all genuine Adobe PS drivers, except for Windows 2000/XP/2003/Vista.
   Windows 2000 uses Microsoft PS. A PPD file for each operating system is provided with the driver.
- The PS3 driver for Macintosh supports Mac OS X 10.1 or later versions.

### **Utility Software**

Software	Description
Font Manager 2000	A font management utility with screen fonts for the printer
(Win9x/ME, 2000/XP/2003, NT4)	This is provided on the printer drivers CD-ROM
SmartDeviceMonitor for Admin	A printer management utility for network administrators. NIB
(Win 95/98/Me, NT4, 2000/XP/	setup utilities are also available.
Server 2003/Vista)	This is provided on the printer drivers CD-ROM

	A printer management utility for client users.
DeskTopBinder –	A utility for peer-to-peer printing over a NetBEUI or TCP/IP
SmartDeviceMonitor for Client	network.
(Win 95/98/Me, NT4, 2000/XP/ Server 2003/Vista)	A peer-to-peer print utility over a TCP/IP network. This provides the parallel printing and recovery printing features.
	This is provided on the printer drivers CD-ROM
Printer Utility for Mac (Mac)	A utility for peer-to-peer printing over a NetBEUI or TCP This software provides several convenient functions for printing from Macintosh clients.
	This is provided on the scanner drivers CD-ROM
DeskTopBinder Lite (Win9x/ME, 2000/XP/2003, NT4)	DeskTopBinder Lite itself can be used as personal document management software and can manage both image data converted from paper documents and application files saved in each client's PC.
	This is provided on the scanner drivers CD-ROM

# **Optional Equipment**

### Paper Tray Unit (One-tray)

Paper Feed System:	FRR
Paper Height Detection:	5 steps (100%, 70%, 30%, 10% (Near end), and Empty)
Capacity:	550 sheets
Paper Weight:	60 to 169 g/m <sup>2</sup> (16 to 45 lb.)
Paper Size:	A3 SEF to A5, DLT SEF to HLT
Power Source:	DC 24V, 5V (from the main frame)
Power Consumption:	Less than 50 W (Max.)/ Less than 35 W (Ave,)
Dimensions (W x D x H):	580 mm x 620 mm x 120 mm (22.8" x 24.4" x 4.8")
Weight:	15 kg (33.1 lb.)

### Two-tray Paper Feed Unit

Paper Feed System:	FRR
Paper Height Detection:	5 steps (100%, 70%, 30%, 10% (Near end), and Empty)
Capacity:	550 sheets x 2 trays
Paper Weight:	60 to 169 g/m <sup>2</sup> (16 to 45 lb.)
Paper Size:	A3 SEF to A5, DLT SEF to HLT
Power Source:	DC 24V, 5V (from the main frame)
Power Consumption:	Less than 50 W (Max.)/ Less than 35 W (Ave,)
Dimensions (W x D x H):	580 mm x 620 mm x 260 mm (22.8" x 24.4" x 10.2")
Weight:	25 kg (55 lb.)

### Large Capacity Tray

Paper Size:	A4 LEF/LT LEF				
Paper Weight:	$60 \text{ g/m}^2$ to 169 g/m <sup>2</sup> , 16 lb. to 45 lb. RTB 27 Correction was made				
Tray Capacity:	2,000 sheets (80 g/m <sup>2</sup> , 20lb.)				
Remaining Paper Detection:	5 steps (100%, 70%, 30%, 10%, Empty): Right Tray 4 steps (100%, 70%, 30%, Empty): Left Tray				
Power Source:	DC 24 V, 5 V (from copier/printer)				
Power Consumption:	50 W (Max.)/30 W (Ave.)				
Weight:	25 kg (55 lb.)				
Size (W x D x H):	580 mm x 620 mm x 260 mm (22.8" x 24.4" x 10.2")				

### 3000-Sheet Finisher

Finisher			
Dimension (w x d x h)		657 mm x 613 mm x 960 mm (25.9" x 24.1" x 37.8")	
Weight		Less than 54 kg (119 lb.) (no punch unit) Less than 56 kg (123.5 lb.) (with punch unit)	
Power Consu	mption	Less than 96 W	
Noise		Less than 75 db	
Configuration		Console type attached base-unit	
Power Source		From base-unit	
	Stack Capacity	250 sheets: A4, 8.5" x 11" or smaller 50 sheets: B4, 8.5" x 14 or larger	
Proof Tray	Paper Size	A5-A3 SEF, B6 SEF, A6 SEF 5.5" x 8.5"-11" x 17" SEF, 12" x 18" SEF	
	Paper Weight	60 g/m <sup>2</sup> - 163 g/m <sup>2</sup> (14 lb 43 lb.)	

	Stack Capacity	3,000 sheets	A4 LEF, 8.5" x 11" LEF	
		1,500 sheets	A3 SEF, A4 SEF, B4 SEF, B5, 11" x 17" SEF, 8.5" x 14" SEF, 8.5" x 11" SEF, 12" x 18" SEF	
Shift Tray		500 sheets	A5 LEF	
Shin Huy		100 sheets	A5 SEF, B6 SEF, A6 SEF, 5.5" x 8.5" SEF	
	Paper Size	A5 - A3 SEF, A6 SEF, B6 SEF, 5.5" x 8.5"-11" x 17" SEF, 12" x 18" SEF		
	Paper Weight	60 g/m <sup>2</sup> - 256 g/m <sup>2</sup> (14 lb 68 lb.)		
Staples				
<b>D</b> 01		B5 - A3		
Paper Size		8.5" x 11" - 11" x 17", 12" x 18"		
Paper Weight		64 g/m <sup>2</sup> - 90 g/m <sup>2</sup> (14 lb 24 lb.)		
Staple Position		Top, Bottom, 2 Staple, Top-slant		
	Same Paper Size	50 sheets	A4, 8.5" x 11" or smaller	
Stapling		30 sheets	B4, 8.5" x 14" or larger	
Capacity	Mixed Paper Size	30 sheets	A4 LEF + A3 SEF, B5 LEF + B4 SEF, 8.5" x11" LEF + 11" x 17" SEF	

Staple Replenishment	Cartridge exchange / 5000 pins per cartridge
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	Paper Size	Pages/Set	Sets
		20 - 50 pages	150 - 60 sets
	A4 LEF, 8.5" x 11" LEF	2 - 19 pages	150 sets
Stapled Stack Capacity (same size)		15 - 50 pages	100 - 30 sets
	A4 SEF, B5, 8.5" x 11" SEF	2 - 14 pages	100 sets
	Others	15 - 30 pages	100 - 33 sets
	Olliers	2 - 14 pages	100 sets
Stapled Stack Capacity (mixed sizes)	A4 LEF & A3 SEF, B5 LEF & B4 SEF, 8.5" x11" LEF & 11" x 17" SEF	2 - 30 pages	50 set

### Punch Unit for 3000-Sheet Finisher

	NA	2/3 holes switchable
Available Punch Units	EU	2/4 holes switchable
	Scandinavia	4 holes
	NA 2-holes	Up to 5,000 sheets
	NA 3-holes	Up to 5,000 sheets
Punch Waste Replenishment	EU 2-holes	Up to 14,000 sheets
	EU 4-holes	Up to 7,000 sheets
	Scandinavia 4-holes	Up to 7,000 sheets
Paper Weight	60 g/m <sup>2</sup> - 163 g/m <sup>2</sup> , 14 lb Bond - 43 lb Bond	

	NA 2-holes	SEF	A5 to A3, 5.5" x 8.5" to 11" x 17"
		LEF	A5 to A4, 5.5" x 8.5" , 8.5" x 11″
	NA 3-holes	SEF	A3, B4, 11″ x 17″
		LEF	A4, B5, 8.5" x 11"
Paper Sizes	EU 2-holes	SEF	A5 to A3, 5.5" x 8.5" to 11″ x 17″
Paper Sizes	EU Z-noies	LEF	A5 to A4, 5.5" x 8.5", 8.5" x 11″
	EU 4-holes	SEF	A3, B4, 11″x17″
	EU 4-noies	LEF	A4, B5, 8.5" x 11"
	Scandinavia 4-holes	SEF	A5 to A3, 5.5" x 8.5" to 11″ x 17″
	Scananavia 4-noies	LEF	A5 to A4, 5.5" x 8.5", 8.5" x 11″

### 1000-Sheet Booklet Finisher & Punch Unit

	No punch mode:
	A3/11" x 17" to A6/5.5" x 8.5" (SEF), A4 to A5 (LEF), 12" x 18" or 8.5" x 11" (LEF)
	Punch mode:
Print Paper Size:	2 holes: A3/11" x 17" to A6/5.5" x 8.5" (SEF), A4 to A5 (LEF) or 8.5" x 11" (LEF) 3 holes:
	A3, B4, 11" x 17" (SEF) or A4, B5, 8.5" x 11" (LEF)
	4 holes (North Europe):
	A3/11" x 17" to B5/8.5" x 11" (SEF), A4, A5 (LEF) or 8.5" x 11" (LEF)
	Staple mode:
	A3/11" x 17" to B5/8.5" x 11"

Paper Weight:	No punch mode: 60 to 256 g/m <sup>2</sup> (14 to 68 lb.) (Shift tray) 60 to 105 g/m <sup>2</sup> (14 to 28 lb.) (Proof tray) Punch mode: 60 to 163 g/m <sup>2</sup> (14 to 43 lb.) Staple mode: 64 to 90 g/m <sup>2</sup> (17 to 24 lb.) Label/Thick paper/OHP cannot be stapled	
Tray Capacity:	[Proof tray] 100 sheets: A4, 8.5" x 11" or less 50 sheets: B4, 8.5" x 14" or more [Shift tray] 1000 sheets: A4, 8.5" x 11" (LEF) or smaller 500 sheets: B4, 8.5" x 14" or larger	
Staple capacity:	Single size: 50 sheets: A4, 8.5" x 11" or smaller 30 sheets: B4, 8.5" x 14" or larger	
Staple position:	3 positions 1-staple: 2 positions (Top Left, Top Right) 2-staples: 1 positions	
Staple replenishment:	Cartridge (5000 staples)	
Power consumption:	60 W	
Dimensions (W x D x H):	535 mm x 600 mm x 930 mm (21.1" x 23.6" x 36.6")	
Weight	Without punch unit:	48 kg (105.8 lb.)
	With punch unit:	50 Kg (110.3 lb.)

### Bridge Unit

	Standard sizes
	A6 SEF to A3, HLT to DLT
Paper Size:	Non-standard sizes
	Width: 90 to 305 mm
	Length: 148 to 600 mm
Paper Weight:	60 g/m <sup>2</sup> to 253 g/m <sup>2</sup> , 16 lb. to 78 lb.
Power Source:	DC 24 V, 5 V (form the copier/printer)
Dimensions (W x D x H):	415 mm x 412 mm x 111 mm (16.3" x 16.2" x 4.4")
Weight	5 kg (11 lb.)

### Mail Bin

Paper size	A5(LEF)-11"x17"(SEF)/A3
Paper weight	60-128g/m <sup>2</sup> , Bond 16-34lb
Paper capacity	More than 125 x 4 (80g/m <sup>2</sup> )
Dimensions	435 x 475 x 375 mm (17.2"x18.7"x14.8")
Weight	Approximately 10kg (22lb)
Power consumption	Approximately 17 W

1. Appendix: Specifications

# 2. Appendix: Preventive Maintenance Tables

#### RTB 15 Modified

# **User Maintenance Items**

The user replaces the following maintenance items.

### Mainframe

#### **Replacement Items**

ltem	Remarks
<ul><li>PCU - BK, C, M, Y</li><li>Waste Toner Bottle</li></ul>	40 KP (YMC, BK)
<ul> <li>Image Transfer Belt Unit</li> <li>Fusing Unit</li> <li>Dust Filter</li> </ul>	160 KP
Paper Transfer Roller	200 КР

Chart: A4 (LT), 5%

Mode: 3 pages/Job

Environment: Recommended temperature and humidity

Yield changes depend on circumstances and print conditions.

An error message shows when a maintenance counter gets to the value in the PM table when the machine's default settings are used.

It is not necessary to reset counters for each part. The machine detects new components automatically and resets the necessary counters.

# Service Maintenance Items

### Mainframe

### **Cleaning Items**

ltem	EM
<ul> <li>Dust Shield Glass of the Laser Optics Housing Unit</li> </ul>	Cleaning tool, provided with the machine (the tool is on the inside of the front cover)
Paper Dust Container	-
• Sensors (including the ID sensors)	Dry cloth
• Rollers	Damp cloth

### **Optional Units**

C: Clean

#### Paper Feed Unit/ LCT

This table shows the service maintenance items for the following options.

- Paper Feed Unit PB3080 (D387)
- Paper Feed Unit PB3040 (D351)
- LCIT PB3050 (D352)

ltem	EM	Remarks
Feed Roller	С	Dry cloth
Separation Roller	С	Dry cloth
Pick-up Roller	С	Dry cloth
Paper Feed Sensor	С	Dry cloth
Relay Sensor	С	Dry cloth
Relay Roller	С	Damp cloth

Bottom Plate Pad	С	Damp cloth
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### 1000/3000-Sheet (Booklet) Finisher

ltems	EM	Remarks
Rollers	С	Damp cloth
Discharge Brush	С	Dry cloth
Sensors	С	Blower brush

### 1000/3000-Sheet (Booklet) Finisher Punch Kit

ltems	EM	Remarks
Punch Chads	С	Discard chads.

2. Appendix: Preventive Maintenance Tables

# **Service Call Conditions**

#### Summary

The "SC Table" section shows the SC codes for controller errors and other errors. The latter (not controller errors) are put into four types. The type is determined by their reset procedures. The table shows the classification of the SC codes.

	Кеу	Definition	Reset Procedure
Controller errors	CTL	The error has occurred in the controller.	See "Troubleshooting Procedure" in the table.
	A	The error involves the fusing unit. The machine operation is disabled. The user cannot reset the error.	Turn the main switch off and on. Reset the SC (set SP5-810-1). Turn the main switch off and on.
	В	The error involves one or some specific units. The machine operates as usual, excluding the related units.	Turn the main power switch off and on.
Other errors	С	The error is logged. The SC-code history is updated. The machine operates as usual.	The SC will not show. Only the SC history is updated.
	D	The machine operation is disabled. You can reset the machine by turning the main power switch or main switch off and on. If the error occurs again, the same SC code is displayed.	Turn the main power switch or main power switch off and on.

After you turn the main power switch off, wait for one second or more before you turn the main power switch on (r SC 670). All SCs are logged. The print log data (SP5-990-004) in SP mode can check the latest 10 SC codes detected and total counters when the SC code is detected.

#### Note

- If the problem concerns electrical circuit boards, first disconnect and then reconnect the connectors before you replace the PCBs.
- If the problem concerns a motor lock, first check the mechanical load before you replace motors or sensors.

### SC Code Classification

The table shows the classification of the SC codes:

Class 1	Section	SC Code	Detailed section
1 XX	<b>c</b>	100 -	Not used in this model
	Scanning	190 -	Unique for a specific model
	Laser exposure	200 -	Polygon motor
		220 -	Synchronization control
2XX		230 -	FGATE signal related
		240 -	LD control
		280 -	Unique for a specific model
		290 -	Shutter
ЗХХ	Image development 1	300 -	Charge
		330 -	Drum potential
		350 -	Development
		380 -	Unique for a specific model
4XX	Image development 2	400 -	Image transfer
		420 -	Paper separation
		430 -	Cleaning
		440 -	Around drum
		460 -	Unit
		480 -	Others

Class 1	Section	SC Code	Detailed section
		500 -	Paper feed
		515 -	Duplex
		520 -	Paper transport
5XX	Paper feed / Fusing	530 -	Fan motor
		540 -	Fusing
		560 -	Others
		570 -	Unique for a specific model
		600 -	Electrical counters
		620 -	Mechanical counters
		630 -	Account control
6XX	Communication	640 -	CSS
		650 -	Network
		670 -	Internal data processing
		680 -	Unique for a specific model
		700 -	Not used in this model
7XX	Peripherals	720 -	Finisher: Shift/Staple
		740 -	Finisher: Staple/Punch
		800 -	Error after ready condition
9YY	Controller	820 -	Diagnostics error
8XX		860 -	Hard disk
		880 -	Unique for a specific model
		900 -	Counter
9XX	Others	920 -	Memory
		990 -	Others

# Service Call Tables - 1

### SC 1xx: Unique for a specific model

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
195	D	Serial Number Mismatch
		• Serial number stored in the memory does not have the correct code.
		<ul><li>NVRAM defective</li><li>BCU replaced without original NVRAM</li></ul>
		<ol> <li>Reinstall the original NVRAM in the replaced BCU.</li> <li>Turn off and on the main power switch of the copier if a new NVRAM is installed in the BCU.</li> </ol>

## Service Call Tables - 2

### SC 2xx: Exposure

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
202	D	Polygon motor error 1: ON timeout
		The polygon mirror motor does not reach the targeted operating speed within the specified time after turning on or changing speed
		<ul> <li>Defective or disconnected harness to polygon motor driver board</li> <li>Defective polygon motor driver board</li> <li>Defective polygon motor.</li> </ul>
		<ol> <li>Replace the polygon motor.</li> <li>Replace the laser optics housing unit.</li> <li>Replace the harness.</li> <li>Replace the BCU.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Polygon motor error 2: OFF timeout
		The polygon mirror motor does leave the READY status within 3 seconds after the polygon motor switches off.
203	D	<ul> <li>Disconnected or defective harness to polygon motor driver board</li> <li>Defective polygon motor driver board</li> <li>Defective polygon motor</li> </ul>
		See SC 202 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
204	D	Polygon motor error 3: XSCRDY signal error
		The SCRDY_N signal goes HIGH (inactive) while the laser diode is firing.
		<ul> <li>Disconnected or defective harness to polygon motor driver board</li> <li>Defective polygon motor</li> <li>Defective polygon motor driver board</li> </ul>
		See SC 202 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
210	С	Laser synchronizing detection error: end position [K]
211	С	Laser synchronizing detection error: end position [Y]
212	С	Laser synchronizing detection error: end position [M]
213	С	Laser synchronizing detection error: end position [C]

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		The laser synchronizing detection signal for the end position of LDB [K], [Y], [M], [C] is not detected for one second after the LDB unit turned on when detecting the main scan magnification.
		• Disconnected or defective harness to synchronizing detector for end position
		Defective synchronizing detector board
-	-	Defective LD board or driver
		Defective BCU
		1. Replace the harness of the LD board.
		2. Replace the laser optics housing unit.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
220	D	Laser synchronizing detection error: start position [K]: LD1
221	D	Laser synchronizing detection error: start position [K]: LD2
222	D	Laser synchronizing detection error: start position [Y]: LD1
223	D	Laser synchronizing detection error: start position [Y]: LD2
224	D	Laser synchronizing detection error: start position [M]: LD1
225	D	Laser synchronizing detection error: start position [M]: LD2
226	D	Laser synchronizing detection error: start position [C]: LD1
227	D	Laser synchronizing detection error: start position [C]: LD2

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		The laser synchronizing detection signal for the start position of the LDB [K], [Y], [M], [C] is not output for two seconds after LDB unit turns on while the polygon motor is rotating normally.
		• Disconnected cable from the laser synchronizing detection unit or defective connection
		Defective laser synchronizing detector
-	-	Defective LDB
		Defective BCU
		1. Check the connectors.
		2. Replace the laser-synchronizing detector.
		3. Replace the LDB.
		4. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	FGATE ON error: Bk
230		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [K].
		• Defective ASIC (Lupus)
		<ul> <li>Poor connection between controller and BCU.</li> </ul>
		Defective BCU
		1. Check the connection between the controller board and the BCU.
		2. Replace the BCU.
		3. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
231	D	FGATE OFF error: Bk
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC for end position [K].
		• The PFGATE ON signal still asserts when the next job starts.
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
232	D	FGATE ON error: Y
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [Y].
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	FGATE OFF error: Y
233		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC for end position [Y].
		• The PFGATE ON signal still asserts when the next job starts.
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
234	D	FGATE ON error: M
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [M].
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
235	D	FGATE OFF error: M
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC for end position [M].
		• The PFGATE ON signal still asserts when the next job starts.
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
236	D	FGATE ON error: C
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [C].
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
237	D	FGATE OFF error: C
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC for end position [C].
		The PFGATE ON signal still asserts when the next job starts.
		See SC 230 for troubleshooting details.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
240	С	LD error: Bk
241	С	LD error: Y
242	С	LD error: M
243	С	LD error: C
		The BCU detects LDB error a few times consecutively when LDB unit turns on after LDB initialization.
-	-	<ul><li>Worn-out LD</li><li>Disconnected or broken harness of the LD</li></ul>
		<ol> <li>Replace the harness of the LD.</li> <li>Replace the laser optics housing unit.</li> <li>Replace the BCU.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Line position adjustment (MUSIC) error
		Line position adjustment fails four consecutive times.
		Pattern sampling error (insufficient image density )
		<ul> <li>Defective ID sensors for the line position adjustment</li> </ul>
		Defective image transfer belt unit
		• Defective PCU(s)
285		Defective laser optics housing unit
		1. Check and reinstall the image transfer belt unit and PCUs.
		2. Check if each toner bottle has enough toner.
		3. Replace the ID sensor.
		4. Replace the image transfer belt unit.
		5. Replace the PCU(s).
		6. Replace the laser optics housing unit.

# Service Call Tables - 3

## SC3xx: Image Processing - 1

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
300	D	AC charge output error [K]
301	D	AC charge output error [M]
302	D	AC charge output error [C]
303	D	AC charge output error [Y]

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		The measured voltage is not proper when IOB measures the charge output for each color.
		Disconnected or broken high voltage cable
		Defective or not installed PCU
-	-	Defective high voltage power supply
		1. Check or replace the connectors.
		2. Replace the PCU for the affected colour.
		3. Replace the high voltage power supply.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
360	D	TD sensor (Vt high) error 1: K
361	D	TD sensor (Vt high) error 1: M
362	D	TD sensor (Vt high) error 1: C
363	D	TD sensor (Vt high) error 1: Y
-	-	<ul> <li>The Vt value of the black, magenta, cyan, or yellow TD sensor exceeds the specified value (default: 4.7V) with SP3020-002 for twenty counts.</li> <li>The [Vt - Vtref] value of the black, magenta, cyan, or yellow TD sensor exceeds the specified value (default: 5.0V) with SP3020-001.</li> </ul>
		<ul> <li>Black, magenta, cyan, or yellow TD sensor disconnected</li> <li>Harness between TD sensor and PCU defective</li> <li>Defective TD sensor.</li> <li>Low toner density</li> </ul>
		<ol> <li>Check the black, magenta, cyan, or yellow TD sensor connector and harness between the TD sensor and PCU for damage.</li> <li>Check the drawer connector.</li> </ol>
		<ol> <li>Replace the defective PCU.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
364	D	TD sensor (Vt low) error 2: K

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
365	D	TD sensor (Vt low) error 2: M
366	D	TD sensor (Vt low) error 2: C
367	D	TD sensor (Vt low) error 2: Y
		The Vt value of the black, magenta, cyan, or yellow TD sensor is below the specified value with SP3020-004 (default: 0.5V) for 10 counts.
		• TD sensor harness disconnected, loose, defective
		A drawer connector disconnected, loose, defective
		• TD sensor defective
-	-	<ul> <li>Too much toner density</li> </ul>
		<ol> <li>Check the black, magenta, cyan, or yellow TD sensor connector and harness between the TD sensor and PCU for damage.</li> </ol>
		2. Check the drawer connector.
		3. Replace the defective PCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
372	D	TD sensor adjustment error: K
373	D	TD sensor adjustment error: M
374	D	TD sensor adjustment error: C
375	D	TD sensor adjustment error: Y
		During TD sensor initialization, the output value of the black, magenta, cyan, or yellow TD sensor is not within the range of the specified value with SP3238-001 to -004 (default: 2.7V) ± 0.2V
-	-	<ul> <li>Heat seal not removed from a new developer pack</li> <li>TD harness sensor disconnected, loose or defective</li> <li>TD sensor defective</li> <li>Harness between TD sensor and drawer disconnected, defective</li> <li>1. Remove the heat seal from each PCU.</li> <li>2. Replace the defective PCU.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
380	С	Drum gear position sensor error: K
381	С	Drum gear position sensor error: M
382	С	Drum gear position sensor error: C
383	С	Drum gear position sensor error: Y
		The machine does not detect the drum position signal for 3 seconds at the drum phase adjustment.
		Dirty or defective drum gear position sensor
		1. Clean the drum gear position sensor.
		2. Check the harness connection.
		3. Replace the drum gear position sensor.
		4. Replace the PCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
396	D	Drum/Development motor error: K
397	D	Drum/Development motor error: M
398	D	Drum/Development motor error: C
399	D	Drum/Development motor error: Y
		The machine detects a High signal from the drum/development motor for 2 seconds after the drum/development motor turned on.
		<ul> <li>Overload on the drum/development motor</li> </ul>
		<ul> <li>Defective drum/development motor</li> </ul>
		Defective harness
-	-	• Shorted 24 V fuse on the PSU
		Defective interlock system
		1. Check or replace the harness.
		2. Replace the drum/development motor.
		3. Replace the 24V fuse on the PSU.

## Service Call Tables - 4

### SC4xx: Image Processing - 2

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		ID sensor adjustment error
		When the Vsg error counter reaches "3", the machine detects "SC400".
	D	The Vsg error counter counts "1" when the Vsg detected by ID sensor is more than the value (default: 4.5V) specified with SP3324-005 or less than the value (default: 3.5V) specified with SP3324-006.
		Dirty or defective ID sensor
		Defective ID sensor shutter
400		1. Check the harness of the ID sensor.
		2. Clean or replace the ID sensor.
		● Note
		<ul> <li>After replacing the ID sensor, input the ID sensor correction coefficient with SP3362-013 to -018. For details, refer to "ID sensor board" in the Replacement and Adjustment section.</li> </ul>
		3. Replace the IOB.
		4. Replace the image transfer belt unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Image transfer belt drive motor error
441		The motor LOCK signal is not detected for more than two seconds while the motor START signal is on.
		<ul> <li>Motor overload</li> <li>Defective image transfer unit motor</li> <li>Shorted 24 V fuse on the PSU</li> <li>Defective interlock system</li> </ul>
		<ol> <li>Check the motor operation with SP5804-040 to -044. Replace the 24V fuse on the PSU if ITB drive motor does not operate.</li> <li>Replace the image transfer belt unit.</li> </ol>
		3. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Image transfer belt contact motor error
		The image transfer belt contact sensor does not detect the movement of actuator at the sensor while the polygon motor rotates.
		Dirty image transfer belt contact sensor
		Defective image transfer belt contact motor
		• Disconnected connector of image transfer belt contact sensor or motor
442		Broken harness
		Shorted 24 V fuse on the PSU
		Defective interlock system
		<ol> <li>Check the motor operation with SP5804-095. Replace the 24V fuse on the PSU if ITB contact motor does not operate.</li> </ol>
		2. Replace the image transfer belt contact sensor.
		3. Replace the image transfer belt contact motor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Image transfer belt unit error The machine detects the encoder sensor error.
443	D	<ul> <li>Defective encoder sensor</li> <li>Image transfer unit installation error</li> <li>Defective image transfer unit motor</li> <li>1. Check if the image transfer belt unit is correctly set.</li> <li>2. Replace the image transfer belt unit motor.</li> <li>3. Replace the image transfer belt unit.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Paper transfer unit contact error
		The paper transfer unit contact sensor does not detect the movement of actuator at the sensor while the polygon motor rotates.
		Defective paper transfer unit contact sensor
		Defective paper transfer unit contact motor
452		<ul> <li>Broken +24V fuse on PSU</li> </ul>
432		Defective IOB
		1. Check the connection between the paper transfer unit and PSU.
		2. Replace the paper transfer unit contact sensor.
		3. Replace the paper transfer unit contact motor.
		4. Replace the +24V fuse on the PSU.
		5. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	High voltage power: Separation bias output error
		The status of the power pack is checked every 20 ms. This SC is issued if the BCU detects a short in the power pack 10 times at D(ac).
460		<ul> <li>Disconnected or broken cables</li> <li>Damaged insulation on the high-voltage supply cable</li> <li>Damaged insulation around the high-voltage power supply</li> <li>Defective high-voltage power supply unit</li> <li>1. Replace the high-voltage supply cable.</li> </ul>
		<ol> <li>Replace the high-voltage power supply unit.</li> <li>Replace the IOB.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	Туре D	Details (Symptom, Possible Cause, Troubleshooting Procedures)         Toner transport motor error         The LOCK signal is not detected for 2 seconds when the transport motor turns on.         • Toner transport motor overload         • Disconnected or broken harness         • Defective toner transport motor
490		<ul> <li>Opened +24V fuse on the PSU</li> <li>Defective interlock switch</li> <li>1. Check or replace the harness.</li> <li>2. Replace the toner transport motor.</li> <li>3. Replace the +24V fuse on the PSU.</li> <li>4. Replace the interlock switch.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	High voltage power: Drum/ development bias output error
		An error signal is detected for 0.2 seconds when charging the drum or development.
		• High voltage leak
		Broken harness
491		Defective drum unit or development unit
		Defective high voltage supply unit
		1. Check or replace the harness.
		2. Replace the drum unit or paper transfer unit.
		3. Replace the high voltage supply unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	High voltage power: Image transfer/ paper transfer bias output error
		An error signal is detected for 0.2 seconds when charging the separation, image transfer bet or paper transfer roller.
492		<ul> <li>High voltage leak</li> <li>Broken harness</li> <li>Defective image transfer belt unit or paper transfer unit</li> <li>Defective high voltage supply unit</li> <li>1. Check or replace the harness.</li> <li>2. Replace the image transfer belt unit or paper transfer unit.</li> <li>3. Replace the high voltage supply unit.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
498	С	Temperature and humidity sensor error
		• The thermistor output of the temperature sensor is not within the prescribed range (0.2V to 3.5V). If this is detected consecutively three times, the SC is generated and the machine defines that the temperature is "23°C".
		• The thermistor output of the humidity sensor is not within the prescribed range (0.01V to 2.4V). If this is detected consecutively three times, the SC is generated and the machine detects that the humidity is "50%".
		<ul> <li>Temperature and humidity sensor harness disconnected, loose, defective</li> <li>Temperature and humidity sensor defective</li> </ul>
		<ol> <li>Check the connector and harness.</li> <li>Replace the temperature/humidity sensor.</li> </ol>

# Service Call Tables – 5

## SC5xx: Paper Feed and Fusing

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
501	В	Paper Tray 1 error
502	В	Paper Tray 2 error

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
-	-	<ul> <li>When the tray lift motor rotates counterclockwise, (if the upper limit is not detected within 10 seconds), the machine asks the user to reset the tray.</li> <li>When the tray lift motor rotates clockwise, (if the upper limit is not detected within 1.5 seconds), the machine asks the user to reset the tray.</li> <li>If one of these conditions occurs three consecutive times, the SC is generated.</li> <li>Disconnected or defective paper lift sensor</li> <li>Disconnected or defective tray lift motor</li> <li>Defective bottom plate lift mechanism</li> <li>Too much paper in the tray</li> <li>Defective IOB</li> <li>Check if the paper is not loaded too much.</li> <li>Check and/or replace the tray lift motor.</li> </ul>
		4. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Tray 3 error (Paper Feed Unit or LCT)
		For the two-tray paper feed unit or one-tray paper feed unit:
	В	• When the tray lift motor is turned on, the upper limit is not detected within 10 seconds
		For the LCT:
503 -01		• SC 503-01 occurs if the upper or lower limit is not detected within 8 seconds when the tray lift motor is turned on to lift or lower the tray.
		For the two-tray paper feed unit or one-tray paper feed unit:
		Defective tray lift motor or connector disconnection
		Defective lift sensor or connector disconnection
		For the LCT:
		Defective stack transport clutch or connector disconnection
		Defective tray motor or connector disconnection
		• Defective end fence home position sensor or connector disconnection
		• Defective upper limit sensor or connector disconnection
		Defective tray lift motor or connector disconnection
		1. Check the cable connections.
		2. Check and/or replace the defective component.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Tray 3 error (Paper Feed Unit or LCT)
		This SC is generated if the following condition occurs 3 consecutive times.
		For the two-tray paper feed unit or one-tray paper feed unit:
		• When the tray lowers, the tray lift sensor does not go off within 1.5 sec.
		For the LCT:
	В	<ul> <li>When the main switch is turned on or when the LCT is set, if the end fence is not in the home position (home position sensor ON), the tray lift motor stops.</li> </ul>
503		• If the upper limit does not go off for 1.5 seconds even the tray lift motor turns on to lower the tray after the upper limit has been detected at power on.
-02		For the two-tray paper feed unit or one-tray paper feed unit:
		Defective tray lift motor or connector disconnection
		Defective lift sensor or connector disconnection
		For the LCT:
		<ul> <li>Defective stack transport clutch or connector disconnection</li> </ul>
		Defective tray motor or connector disconnection
		• Defective end fence home position sensor or connector disconnection
		1. Check the cable connections.
		2. Check and/or replace the defective component.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
504 -01	В	Tray 4 error (Paper Feed Unit or LCT)
		<b>For the two-tray paper feed unit or one-tray paper feed unit</b> When the tray lift motor is turned on, the upper limit is not detected within 10 seconds.
		For the LCT
		If the upper or lower limit is not detected within 8 seconds when the tray lift motor is turned on to lift up or lower the tray
		<ul><li>Defective tray lift motor or connector disconnection</li><li>Defective lift sensor or connector disconnection</li></ul>
		<ol> <li>Check the cable connections.</li> <li>Check and/or replace the defective component.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Tray 4 error (Paper Feed Unit or LCT)
		This SC is generated if the following condition occurs 3 consecutive times.
		For the two-tray paper feed unit or one-tray paper feed unit
		• When the tray lowers, the tray lift sensor does not go off within 1.5 sec.
		For the LCT
504 -02	В	• If the upper limit does not go off for 1.5 seconds even the tray lift motor turns on to lower the tray after the upper limit has been detected at power on.
		For the two-tray paper feed unit or one-tray paper feed unit:
		Defective tray lift motor or connector disconnection
		Defective lift sensor or connector disconnection
		For the LCT:
		Defective stack transport clutch or connector disconnection
		Defective tray motor or connector disconnection
		• Defective end fence home position sensor or connector disconnection
		1. Check the cable connections.
		2. Check and/or replace the defective component.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
505 -01	В	Tray 5 error (Two-tray paper feed unit combined with the one-tray paper feed unit)
		When the tray lift motor is turned on, the upper limit is not detected within 10 seconds.
		<ul> <li>Defective tray lift motor or connector disconnection</li> <li>Defective lift sensor or connector disconnection</li> </ul>
		<ol> <li>Check the cable connections.</li> <li>Check and/or replace the defective component.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
505 -02	В	Tray 5 error (Two-tray paper feed unit combined with the one-tray paper feed unit)
		<ul><li>This SC is generated if the following condition occurs 3 consecutive times.</li><li>When the tray lowers, the tray lift sensor does not go off within 1.5 sec.</li></ul>
		<ul> <li>Defective tray lift motor or connector disconnection</li> <li>Defective lift sensor or connector disconnection</li> </ul>
		<ol> <li>Check the cable connections.</li> <li>Check and/or replace the defective component.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
530	D	Fusing fan error
		The IOB does not receive the lock signal 10 seconds after turning on the fusing fan.
		• Defective fusing fan motor or connector disconnection
		Defective IOB
		1. Check the connector and/or replace the fusing fan motor.
		2. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
531	D	Ventilation fan (at the left side of the machine) motor-front/rear error
		The IOB does not receive the lock signal for 2 seconds after turning on the ventilation fan motor-front/rear.
		<ul><li>Defective ventilation fan motor-front or rear</li><li>Defective IOB</li></ul>
		<ol> <li>Replace the ventilation fan (at the left side of the machine) motor-front or rear.</li> <li>Replace the IOB.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
532	D	IH coil fan error
		The machine does not detect the fan motor lock signal for 2 seconds while the IH coil fan turns on.
		<ul> <li>Disconnected harness</li> <li>Overload on the IH coil fan motor</li> <li>Defective IH coil fan motor</li> <li>Defective IOB</li> </ul>
		<ol> <li>Check or replace the harness.</li> <li>Replace the IH coil fan.</li> <li>Replace the IOB.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	IH inverter fan error
		The machine does not detect the fan motor lock signal for 2 seconds while the IH inverter fan turns on.
		Disconnected harness
533		Overload on the IH inverter fan motor
		Defective IH inverter fan motor
		Defective IOB
		1. Check or replace the harness.
		2. Replace the IH inverter fan.
		3. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Second duct fan error
		The machine does not detect the fan motor lock signal for 2 seconds while the second duct fan turns on.
534		<ul> <li>Disconnected harness</li> <li>Overload on the second duct fan motor</li> <li>Defective second duct motor</li> <li>Defective IOB</li> </ul>
		<ol> <li>Check or replace the harness.</li> <li>Replace the second duct fan.</li> </ol>
		3. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
535	D	Paper exit fan error
		The machine does not detect the fan motor lock signal for 2 seconds while the paper exit fan turns on.
		<ul><li>Disconnected harness</li><li>Overload on the paper exit fan motor</li></ul>
		<ul><li>Defective paper exit motor</li><li>Defective IOB</li></ul>
		1. Check or replace the harness.
		<ol> <li>Replace the paper exit fan.</li> <li>Replace the IOB</li> </ol>
		3. Replace the IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
536	D	Third duct fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		<ul><li>Defective controller fan motor</li><li>Defective IOB</li></ul>
		<ol> <li>Replace the controller fan motor.</li> <li>Replace the IOB.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Fusing/Paper exit motor error
540		The IOB does not receive the lock signal 2 seconds after turning on the fusing/paper exit motor.
		<ul> <li>Motor overload</li> <li>Defective fusing/paper exit motor</li> <li>Shorted 24 V fuse on the PSU</li> <li>Defective interlock system</li> </ul>
		<ol> <li>Check the motor operation with SP5804-031 to -036. Replace the 24V fuse on the PSU if fusing/paper exit motor does not operate.</li> <li>Replace the fusing/paper exit motor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller thermopile error
541		The temperature measured by the heating roller thermopile does not reach 0°C for 6 seconds.
		<ul> <li>Loose connection of the heating roller thermopile</li> <li>Defective heating roller thermopile</li> <li>Defective thermopile</li> </ul>
		<ol> <li>Check if the heating roller thermopile is firmly connected.</li> <li>Replace the heating roller thermopile.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller warm-up error 1
		• The heating roller temperature does not reach the ready temperature for 190 seconds after the IH inverter turns on.
		• The heating roller temperature detected by the heating roller thermopile does not reach 80°C for 20 seconds after the IH inverter on.
542		<ul><li>Dirty or defective thermopile</li><li>Defective IH coil unit</li></ul>
		<ol> <li>Check if the heating roller thermopile is firmly connected.</li> <li>Replace the thermopile.</li> <li>Replace the IH coil unit.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
543		Heating roller overheat 1 (software error)	
		The detected fusing temperature detected by the heating roller thermopile stays at 245°C for 1 second.	
		Defective PSU	
	543	А	Defective IOB
		Defective BCU	
		1. Replace the PSU.	
		2. Replace the IOB.	
		3. Replace the BCU.	

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller overheat 1 (hardware error)
		During stand-by mode or a print job, the temperature detected by the heating roller thermopile reaches 250 °C.
544		<ul> <li>Defective PSU</li> <li>Defective IOB</li> <li>Defective BCU</li> <li>Defective fusing control system</li> </ul>
		<ol> <li>Replace the PSU.</li> <li>Replace the IOB.</li> <li>Deplace the PCU.</li> </ol>
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Zero cross error
		• The zero cross signal is detected three times even though the heater relay is off when turning on the main power.
		• The zero cross signal is not detected for 3 seconds even though the heater relay is on after turning on the main power or closing the front door.
		• The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 39.
547		Defective fusing relay
		Defective fusing relay circuit
		<ul> <li>Shorted +24V fuse on the PSU</li> </ul>
		Unstable power supply
		1. Check the power supply source.
		2. Replace the +24V fuse on the PSU.
		3. Replace the PSU

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Fusing unit rotation error
		The heating roller rotation sensor does not detect change in the actuator for 0.5 seconds after the fusing/paper exit motor has turned on.
		Defective fusing/paper exit motor
		<ul> <li>Deformed actuator for the heating roller rotation sensor</li> </ul>
		Defective heating roller rotation sensor
548		<ul> <li>Broken connection between IH inverter and IOB</li> </ul>
		Incorrectly set fusing unit
		1. Check if the fusing unit is correctly set.
		2. Check or replace the actuator for heating roller rotation sensor.
		3. Replace the heating roller rotation sensor.
		4. Replace the IH inverter.
		5. Check the connection between IH inverter and IOB.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
551	A	Heating roller thermistor error
		The temperature detected by the heating roller thermistor does not reach 0 °C for 7 seconds.
		<ul><li>Loose connection of heating roller thermistor</li><li>Defective heating roller thermistor</li></ul>
		<ol> <li>Check that the heating roller thermistor is firmly connected.</li> <li>Replace the heating roller thermistor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller warm-up error 2
552		• The heating roller temperature does not reach the ready temperature for 90 seconds after the heating lamp on.
		<ul> <li>The heating roller temperature does not reach 80°C for 20 seconds after the IH inverter on.</li> </ul>
		<ul><li>Defective heating roller thermistor</li><li>Defective IH inverter</li></ul>
		<ol> <li>Check if the heating roller thermistor is firmly connected.</li> <li>Replace the IH inverter.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller overheat (software error)
553		The temperature detected by the heating roller thermistor stays at 245°C or more for 1 second.
		Defective PSU
		Defective IOB
		Defective BCU
		1. Replace the PSU.
		2. Replace the IOB.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Heating roller overheat (hardware error)
		The heating roller thermistor detects 250°C or more.
		Defective PSU
		Defective IOB
554		Defective BCU
		Defective fusing control system
		1. Replace the PSU.
		2. Replace the IOB.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
557	С	Zero cross frequency error
		When the zero cross signal is 66 or more and it is detected 10 times or more in 11 detections, the machine determines that input 60 Hz and SC557 occurs.
		<ul><li>Noise (High frequency)</li><li>Defective PSU</li></ul>
		<ol> <li>Check the power supply source.</li> <li>Replace the PSU.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
559	A	Consecutive fusing jam
		The paper jam counter for the fusing unit reaches 3 times. The paper jam counter is cleared if the paper is fed correctly.
		This SC is activated only when SP1159-001 is set to "1" (default "0").
		• Paper jam in the fusing unit.
		Remove the paper that is jammed in the fusing unit. Then make sure that the fusing unit is clean and has no obstacles in the paper feed path.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
561	A	Pressure roller thermistor error
		The temperature detected by the pressure roller thermistor does not reach 0 °C for 37 seconds.
		<ul><li>Loose connection of the pressure roller thermistor</li><li>Defective pressure roller thermistor</li></ul>
		<ol> <li>Check if the pressure roller thermistor is firmly connected.</li> <li>Replace the pressure roller thermistor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
562	A	Pressure roller temperature error
		The temperature of the pressure roller does not reach the ready temperature for 120 seconds after the pressure roller fusing lamp has turned on.
		Dirty thermopile
		Defective pressure roller thermistor
		Defective pressure roller fusing lamp
		1. Clean the thermopile.
		2. Replace the thermistor for the pressure roller.
		3. Replace the pressure roller fusing lamp.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Pressure roller overheat 3 (software error)
563		The temperature detected by the pressure roller thermistor stays at 215°C or more for 1 second.
		Defective PSU
		Defective IOB
		Defective BCU
		1. Replace the PSU.
		2. Replace the IOB.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Pressure roller overheat 3 (hardware error)
		The pressure roller thermistor detects 220°C or more.
		Defective PSU
		Defective IOB
564		Defective BCU
		Defective fusing control system
		1. Replace the PSU.
		2. Replace the IOB.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	A	Pressure roller fusing lamp consecutive full power 3
565		When the fusing unit is not running in the ready condition, the pressure roller fusing lamp keeps ON full power for 180 seconds or more.
		<ul><li>Broken pressure roller fusing lamp</li><li>Defective pressure roller thermistor</li></ul>
		1. Replace the pressure roller fusing lamp.
		2. Replace the pressure roller thermistor.
		3. Replace the PSU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Pressure roller contact sensor error
		Pressure roller contact sensor does not detect the pressure roller position three times.
		Broken or defective pressure roller contact sensor
		Deformed or broken pressure roller contact sensor feeler
569		Defective pressure roller contact motor
		Defective fusing unit
		1. Check or replace the harness of the pressure roller contact sensor.
		2. Replace the pressure roller contact sensor.
		3. Replace the pressure roller contact motor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	IH inverter input voltage error
		The IH inverter detects 70V or less/140V or more for 10 seconds.
		Unusual input voltage
581		Disconnected CN981 on the IH inverter
		Defective IH inverter
		1. Check CN981 on the IH inverter.
		2. Replace the IH inverter.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
582	D	IH inverter current error at power on
		The output current from the IH inverter does not reach the proper value when the IH inverter turns on.
		Disconnected power input terminal 1 and 2
		Defective IH inverter
		Defective IH coil unit
		Defective fusing unit
		1. Check the power input terminals 1 and 2.
		2. Replace the IH inverter.
		3. Replace the IH coil unit.
		4. Replace the fusing unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
585	A	IH coil unit full power (1250W) error
		The IH coil unit full power (1250W) continues for 220 seconds or more.
		Defective IH inverter
		Defective BCU
		Defective IOB
		Broken connection between IH inverter and IOB
		Defective thermopile
		1. Replace the IH inverter.
		2. Replace the BCU.
		3. Replace the IOB.
		4. Check the connection between IH inverter and IOB.
		5. Replace the thermopile.

# Service Call Tables - 6

### SC6xx: Device Communication

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
610	D	Mechanical counter error: K
611	D	Mechanical counter error: FC
		This SC is only for NA models. The machine detects the mechanical counter error when SP5987-001 is set to "1".
-	-	<ul><li>Disconnected mechanical counter</li><li>Defective mechanical counter</li></ul>
		1. Check or replace the mechanical counter.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
621	D	Finisher/ Mail Bin communication error
622	D	Paper feed unit communication error

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		While the IOB communicates with an optional unit, an SC code is displayed if one of following conditions occurs.
		• The IOB receives the break signal which is generated by the peripherals only just after the main switch is turned on.
		• When the IOB does not receive an OK signal from a peripheral 100ms after sending a command to it. And when the IOB does not receive an OK signal even after sending the command 3 times, the IOB resends the command.
		Cable problems
-		<ul> <li>IOB problems</li> </ul>
	_	BCU problems
		PSU problems in the machine
		<ul> <li>Main board problems in the peripherals</li> </ul>
		1. Check if the cables of peripherals are correctly connected.
		2. Replace the PSU if no power is supplied to peripherals.
		3. Replace the IOB or main board of peripherals.
		4. Replace the BCU.
		5. Replace the defective peripheral.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
623	D	2nd Paper Bank communication error
		In the case of installing two optional paper feed units (D351 + D387):
		• The upper unit cannot communicate with the lower unit after the upper unit has detected the lower unit.
		• The upper unit detects an error signal from the lower unit after the upper unit has detected the lower unit.
		Disconnected connector
		Check and/ or connect the connector.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
636	CTL	SD Card Error
	D	

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Expanded authentication module error
		There is no expanded authentication module in the machine.
		The SD card or the file of the expanded authentication module is broken. There is no DESS module in the machine.
01		No expanded authentication module
		<ul> <li>Defective SD card</li> <li>No DESS module</li> </ul>
		<ol> <li>Install the expanded authentication module.</li> <li>Install the SD card.</li> </ol>
		<ol> <li>Install the DESS module.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	BICU control data transfer abnormal
		A sampling of the control data sent from the BICU reveals an abnormality.
		Defective controller board
641		External noise
		Defective BCU
		1. Replace the controller board.
		2. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
669	D	EEPROM error
		Retry of EEPROM communication fails three times after the machine has detected the EEPROM error.
		Caused by noise
		Turn the main power switch off and on.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	No response from controller at power on
670		When the main power is turned on or the machine starts warming up from energy- saving mode, the controller does not receive a command signal from the controller.
		<ul> <li>Loose connection</li> <li>Defective controller</li> <li>Defective controller board</li> </ul>
		<ol> <li>Check the connection between the BCU and controller.</li> <li>Replace the controller.</li> <li>Replace the BCU.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	Engine board mismatch error
		Engine board and controller mismatch detected.
		Wrong engine board installed.
671		Wrong controller board installed.
		<ul> <li>Check the type of engine board and controller board.</li> </ul>
		1. Replace the BCU.
		2. Replace the controller board.

#### SC681 RTB 26: Information added

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
681	D	<ul> <li>RFID: Communication error</li> <li>Communication error occurs when the RFID starts to communicate with the RFID receptor.</li> <li>Retry of RFID communication fails three times after the machine has detected the RFID communication error.</li> <li>Defective RFID reader and writer</li> <li>Disconnected ASAP I/F</li> <li>No memory chip on the toner cartridge</li> <li>Noise</li> </ul>
		<ol> <li>Replace the RFID controller board.</li> <li>Replace the toner cartridge.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Memory chip at TD sensor: Communication error
		Retry of memory chip communication fails three times after the machine has detected the memory chip communication error.
682		<ul> <li>Damaged memory chip data</li> <li>Disconnected inter face</li> </ul>
		<ul> <li>Disconnected inter face</li> <li>No memory chip on the development unit</li> </ul>
		• Noise
		Replace the PCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
683	В	RFID: Unit check error
		The machine gets RFID communication error even the toner cartridges have not been installed in the machine.
		Caused by noise
		Turn the main power switch off and on.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Memory address command error
		The BCU does not receive a memory address command from the controller 120 seconds after paper is in the position for registration.
		Loose connection
687		Defective controller
		Defective BCU
		1. Check if the controller is firmly connected to the BCU.
		2. Replace the controller.
		3. Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		GAVD communication error
		• The I2C bus device ID is not identified during initialization.
		<ul> <li>A device-status error occurs during I2C bus communication.</li> </ul>
690	D	<ul> <li>The I2C bus communication is not established due to an error other than a buffer shortage.</li> </ul>
		Loose connection
		Defective BCU
		Defective LD controller board
		1. Turn the main switch off and on.
		2. Check the cable connection.
		3. Replace the laser optics-housing unit.
		4. Replace the BCU.

# Service Call Tables - 7

## SC7xx: Peripherals

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Jogger motor error
	В	<ul> <li>Jogger HP sensor does not detect the jogger fence for 2000ms after the jogger unit has moved to its home position.</li> </ul>
		<ul> <li>Jogger HP sensor does not turn off 300 ms after the jogger unit has moved from its home position. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.</li> </ul>
		Defective jogger HP sensor
721		<ul> <li>Overload on the jogger motor</li> </ul>
		Defective jogger motor
		Defective main board
		Disconnected or defective harness
		1. Check the connections and cables for the components mentioned above.
		2. Replace the jogger HP sensor (if the jogger motor works correctly).
		3. Replace the jogger motor (if the jogger motor does not work).
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	В	Stack feed-out motor error
		<ul> <li>Stack feed-out HP sensor does not detect the home position of the stack feed-out belt 3000ms after the stack feed-out belt has moved to its home position.</li> <li>Stack feed-out HP sensor does not turn off 200 ms after the stack feed-out belt</li> </ul>
		has moved from its home position. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		Defective stack feed-out HP sensor
723		<ul> <li>Overload on the stack feed-out motor</li> </ul>
/23		Defective stack feed-out motor
		<ul> <li>Defective main board</li> </ul>
		Disconnected or defective harness
		1. Check the connections and cables for the components mentioned above.
		<ol><li>Replace the stack feed-out HP sensor (if the stack feed-out motor works correctly).</li></ol>
		3. Replace the stack feed-out motor (if the stack feed-out motor does not work).
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
725	В	Finisher exit guide plate motor error
		After moving away from the guide plate position sensor, the exit guide is not detected at the home position within the prescribed time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		Guide plate motor disconnected, defective
		<ul><li>Guide plate motor overloaded due to obstruction</li><li>Guide plate position sensor disconnected, defective</li></ul>
		1. Check the connections and cables for the components mentioned above.
		2. Check for blockages in the guide plate motor mechanism.
		3. Replace the guide plate position sensor and/or guide plate motor.
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
730	В	Finisher Tray 1 shift motor error
		The shift roller HP sensor of the upper tray does not activate within the prescribed time after the shift tray starts to move toward or away from the home position. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul> <li>Shift tray HP sensor of the upper tray disconnected, defective</li> <li>Shift tray motor of the upper tray is disconnected, defective</li> <li>Shift tray motor of the upper tray overloaded due to obstruction</li> </ul>
		<ol> <li>Check the connections and cables for the components mentioned above.</li> <li>Check for blockages in shift motor mechanism.</li> </ol>
		3. Replace the shift tray HP sensor and/or shift motor
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Finisher corner stapler motor error
		For the 3000-sheet finisher
		• Staple movement is not finished after a certain time.
		For the 1000-sheet booklet finisher
		• The stapler motor does not switch off within the prescribed time after operating.
740	В	<ul> <li>The HP sensor of the staple unit does not detect the home position after the staple unit moves to its home position.</li> </ul>
		• The HP sensor of the staple unit detects the home position after the staple unit moves from its home position.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		• Staple jam
		<ul> <li>Motor overload</li> </ul>
		Defective stapler motor
		1. Check the connections and cables for the components mentioned above.
		2. Replace the HP sensor and/or stapler motor
		3. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
741	В	Finisher corner stapler rotation motor error
		The stapler does not return to its home position within the specified time after stapling. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul> <li>Defective stapler rotation motor</li> <li>Overload to the stapler rotation motor</li> <li>Defective stapler rotation HP sensor</li> </ul>
		<ol> <li>Replace the stapler rotation motor.</li> <li>Replace the stapler rotation HP sensor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Finisher stapler movement motor error
		For the 3000-sheet finisher
		• Staple movement is not finished for a certain time.
		For the 1000-sheet booklet finisher
	В	<ul> <li>The stapler HP sensor is not activated within the specified time after the stapler motor turned on.</li> </ul>
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
742		Motor overload
/42		<ul> <li>Loose connection of the stapler home position sensor</li> </ul>
		<ul> <li>Loose connection of the stapler movement motor</li> </ul>
		Defective stapler home position sensor
		Defective stapler movement motor
		1. Check the connection of the stapler movement motor.
		2. Check the connection of the stapler home position sensor.
		3. Replace the stapler home position sensor.
		4. Replace the stapler movement motor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
746	В	1000-sheet booklet finisher: Stack feed motor error
		<ul> <li>The stack feed HP sensor does not detect "ON" twice (once: jam error) for specified time after the stack feed motor has turned on.</li> </ul>
		<ul> <li>The stack feed HP sensor does not detect "OFF" twice (once: jam error) for specified time after the stack feed motor has turned on.</li> </ul>
		Motor overload
		<ul> <li>Loose connection of the stack feed motor</li> </ul>
		Defective stack feed motor
		1. Check the connections and cables for the stack feed motor and HP sensor.
		2. Check for blockages in the stack feed motor mechanism.
		3. Replace the stack feed HP sensor and/or stack feed motor
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
750	В	1000/3000-sheet (booklet) finisher: Tray lift motor error
		The upper tray paper height sensor does not change its status with the specified time after the tray raises or lowers.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		1. Check the connections to the shift tray motor.
		2. Defective shift tray motor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	В	Stacking sponge roller motor
		Occurs during the operation of the stacking sponge roller motor.
		Disconnected, looser or defective motor harness
		Motor overloaded
		<ul> <li>Disconnected, loose or defective sensor harness</li> </ul>
753		Defective stacking sponge roller motor
		Defective stacking roller HP sensor
		1. Check the connections of the stacking sponge roller motor.
		2. Check the connections of the stacking sponge roller HP sensor.
		3. Replace the stacking sponge roller motor.
		4. Replace the stacking sponge roller HP sensor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
760	В	Finisher punch motor error
		The punch HP sensor is not activated within the specified time after the punch motor turned on.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		Punch HP sensor disconnected, defective
		Punch motor disconnected or defective
		Punch motor overload due to obstruction
		1. Check the connections and cables for the punch motor and HP sensor.
		2. Check for blockages in the punch motor mechanism.
		3. Replace the punch HP sensor and/or punch motor
		4. Replace the finisher main board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
761	В	Finisher folder plate motor error
		The folder plate moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul> <li>Folder plate HP sensor disconnected, defective</li> <li>Folder plate motor disconnected, defective</li> <li>Folder plate motor overloaded due to obstruction.</li> </ul>
		<ol> <li>Check the connections and cables for the folder plate motor and HP sensor.</li> <li>Check for blockages in the folder plate motor mechanism.</li> <li>Replace the folder plate HP sensor and/or folder plate motor</li> <li>Replace the finisher main board.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
763	В	Punch movement motor error
		The punch unit moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul><li>Motor harness disconnected, loose, defective</li><li>Defective motor</li></ul>
		<ol> <li>Check the connections to the punch movement motor.</li> <li>Replace the punch movement motor</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
764	В	Paper position sensor slide motor error
		The paper position sensor moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul><li>Motor harness disconnected, loose, defective</li><li>Defective motor</li></ul>
		<ol> <li>Check the connections to the paper position sensor slide motor.</li> <li>Replace the paper position sensor slide motor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
765	В	Fold unit bottom fence motor error
		The bottom fence of the fold unit moves but is not detected at the home position within the specified time.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul><li>Motor harness disconnected, loose, defective</li><li>Defective motor</li></ul>
		<ol> <li>Check the connections to the fold unit bottom fence motor.</li> <li>Defective fold unit bottom fence motor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
766	В	Stacking sponge roller motor error
		The sponge roller moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul><li>Motor harness disconnected, loose, defective</li><li>Defective motor</li></ul>
		<ol> <li>Check the connections to the stacking sponge roller motor.</li> <li>Defective stacking sponge roller motor.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
767	В	Stack junction gate motor error
		The stack junction gate moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		<ul><li>Motor harness disconnected, loose, defective</li><li>Defective motor</li></ul>
		<ol> <li>Check the connections to the stack junction gate motor.</li> <li>Defective stack junction gate.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	D	Bridge unit error
		The machine recognizes the finisher, but does not recognize the bridge unit.
791		Defective connector
		Broken harness
		1. Check the connections between the bridge unit and the machine.
		2. Install a new bridge unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	В	Finisher error
		The machine does not recognize the finisher, but recognizes the bridge unit.
		Defective connector
792		Defective harness
		Incorrect installation
		1. Check the connections between the finisher and the machine.
		2. Install a new finisher.

# Service Call Tables - 8

## SC8xx: Peripherals

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	Boot loader error
		The boot loader cannot read one of the following: self-diagnostic module, kernel, or one of the files of the root file system, or the check of one of these items on the system SD card failed.
817		<ul> <li>File or module on the system SD card is corrupted</li> <li>File or module on the system SD card is illegal</li> </ul>
		<ul> <li>Make sure that the system SD card is the one designed for the machine</li> <li>Replace controller board.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
819	CTL D	Fatal error
[696E]		Process error
		System completely down
		Defective RAM DIMM
		Defective controller
		Software error
		<ol> <li>Check and/or replace the RAM DIMM.</li> </ol>
		2. Replace the controller.
		♦ Note
		See Note 1 at the end of the SC table

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Memory error
		Unexpected system memory size
		Defective RAM DIMM
[766D]		Defective controller
		Software error
		1. Check and/or replace the RAM DIMM.
		2. Replace the controller.
		Kernel stop error
[4361]		The cache error trap occurs in the CPU.
[4301]		CPU cache error
		1. Replace the controller.
		Kernel stop error
		An error in the operation system (An error message is output.)
		Defective CPU
-		Defective memory
		Defective flash memory
		Incorrect software
		1. Replace the memory.
		1. Replace the controller.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
0.00	CTL	Self-diagnostics error: CPU
820	D	[XXXX]: Detailed error code

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		CPU error During the self-diagnostic, the controller CPU detects an error. There are 47 types of error code (0001 to 4005) depending on the cause of the error. The CPU detects an error and displays the specific error code with the program address where the error occurs.
		<ul><li>System firmware problem</li><li>Defective controller</li></ul>
[0001] to [06FF] [0801] to [4005]		<ol> <li>Turn the main switch off and on.</li> <li>Reinstall the controller system firmware.</li> <li>Replace the controller.</li> <li>When the problem cannot be fixed with the above procedure, the following information displayed on the screen needs to be fed back to a technical support center.</li> <li>SC code</li> <li>Detailed error code</li> <li>Program address</li> </ol>
[0702] [0709] [070A]		CPU/Memory Error • System firmware problem • Defective RAM-DIMM • Defective controller 1. Reinstall the controller system software. 2. Replace the RAM-DIMM. 3. Replace the controller.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
0.01	CTL	Self-diagnostics error: ASIC
821	D	[XXXX]: Detailed error code

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		ASIC error
[0000]		The write-&-verify check error has occurred in the ASIC.
[OBOO]		Defective ASIC device
		Replace the controller.
		ASIC detection error
		The I/O ASIC for system control is not detected.
[OBO6]		Defective ASIC
		Defective North Bridge and PCI I/F
		Replace the controller board.
		SHM register error
		• The initialization of bus connection or read for SHM fails.
[00.10]		The register of SHM is different from specified value.
[OB10]		Defective connection bus
		Defective SHM
		Replace the controller board
		Self-diagnosis error: ASIC
		The CPU checks if the ASIC timer works correctly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.
		System firmware problem
[OD05]		Defective RAM-DIMM
		Defective controller
		1. Reinstall the controller system firmware.
		1. Replace the RAM-DIMM.
		2. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
822	CTL	Self-diagnostic error: HDD (Hard Disk Drive)
022	В	[XXXX]: Detailed error code
[3003]		Timeout error
[3004]		Command error
-	-	When the main switch is turned on or starting the self-diagnostic, the HDD stays busy for the specified time or more.
		Loose connection
-	-	Defective HDD
		Defective controller
		1. Check that the HDD is correctly connected to the controller.
-	-	2. Replace the HDD.
		3. Replace the controller.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
824	CTL D	<ul> <li>[1401]</li> <li>Self-diagnosis error: Standard NVRAM</li> <li>The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.</li> <li>Loose connection <ul> <li>Defective standard NVRAM</li> <li>Defective controller board</li> <li>Worn-out battery in the NVRAM</li> </ul> </li> <li>1. Check the standard NVRAM is firmly inserted into the socket.</li> <li>2. Replace the NVRAM.</li> <li>3. Replace the controller board.</li> </ul>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	[15FF] Self-diagnostic Error: RTC/optional NVRAM The RTC device is not detected.
826		<ul><li>RTC defective</li><li>NVRAM without RTC installed</li><li>Backup battery discharged</li></ul>
		Replace the NVRAM with another NVRAM with an RTC device.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
827	CTL D	Self-diagnostic error: Standard SDRAM DIMM [XXXX]: Detailed error code
		Verification error
		Error detected during a write/verify check for the standard RAM (SDRAM DIMM).
[0201]		<ul> <li>Loose connection</li> <li>Defective SDRAM DIMM</li> <li>Defective controller</li> </ul>
		1. Turn the main switch off and on.
		<ol> <li>Replace the SDRAM DIMM.</li> <li>Replace the controller.</li> </ol>
		Resident memory error
		The SPD values in all RAM DIMM are incorrect or unreadable.
[0202]		Defective RAM DIMM
		Defective SPD ROM on RAM DIMM
		Defective 12C bus
		Replace the RAM DIMM.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
828	CTL	Self-diagnostic error: ROM
020	D	[XXXX]: Detailed error code
[0101]		<ul> <li>Check sum error 1</li> <li>The boot monitor and OS program stored in the ROM DIMM is checked. If the check sum of the program is incorrect, this SC code is displayed.</li> </ul>
[0104]		<ul> <li>Check sum error 2</li> <li>All areas of the ROM DIMM are checked. If the check sum of all programs stored in the ROM DIMM is incorrect, this SC code is displayed.</li> </ul>
-	-	Defective controller
-	-	<ol> <li>Turn the main switch on and off.</li> <li>Replace the controller.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
829	CTL	Self-diagnosis error: optional RAM
027	В	[XXXX]: Detailed error code
[0401]		Verification error (Slot 1)
[0401]		The data stored in the optional RAM in Slot 1 does not match the data when reading.
		Composition error (Slot 1)
[0402]		The result of checking the composition data of the optional RAM in Slot 1 on the controller is incorrect.
	_	Not specified RAM DIMM installed
	-	Defective RAM DIMM
		1. Turn the main switch off and on.
-	-	2. Replace the RAM DIMM.
		3. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
0.00	CTL	Self-diagnostic error 8: Engine I/F ASIC
833	С	Sell-diagnostic error 6. Engine 1/ F ASIC

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
[OF30]		• ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
[OF31]		Replace the BCU.
[OF41]		• ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
		Replace the BCU.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
851	CTL B	IEEE1394 interface error
		The 1394 interface is unusable.
		Defective IEEE1394
		Defective controller board
		1. Turn the main switch off and on.
		2. Replace the IEEE1394 interface board.
		3. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL B	Wireless LAN/Bluetooth card not detected
853		The wireless LAN/Bluetooth card is not detected before communication is established, though the wireless LAN/Bluetooth board is detected.
		Loose connection
		Check the connection.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
854	CTL B	Wireless LAN/Bluetooth card not detected
		The wireless LAN/Bluetooth card is not detected after communication is established, but the wireless LAN/Bluetooth board is detected.
		Loose connection
		Check the connection.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Wireless LAN/Bluetooth card error
		An error is detected in the wireless LAN/Bluetooth card.
855	CTL	Loose connection
856	В	Defective wireless LAN/Bluetooth card
		1. Check the connection.
		2. Replace the wireless LAN/Bluetooth card.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL B	USB interface error
		The USB interface cannot be used due to a driver error.
857		Defective USB driver
		Loose connection
		1. Check the connection.
		2. Replace the USB board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
858	CTL C	HDD Encryption unit error 1
		A serious error occurs when data is encrypted to update an encryption key with the HDD encryption unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Encryption key acquisition error: The controller fails to get a new encryption key.
	[0]	• Defective controller board Replace the controller board.
	[1]	Encryption key setting for HDD error: The controller fails to copy a new encryption key to the HDD.
	[']	• Defective SATA chip on the controller board Replace the controller board.
	[2]	Encryption key setting for HDD error: The controller fails to copy a new encryption key to the HDD.
		• Defective SATA chip on the controller board Replace the controller board.
		NVRAM data encryption error 2: An error occurs before the NVRAM data is encrypted.
		• Defective controller board Replace the controller board.
	[31]	Other error: A serious error occurs while the data is encrypted.
		Same as SC991

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
859	CTL C	HDD Encryption unit error 2
		A serious error occurs when the HDD data is encrypted to update an encryption key with the HDD encryption unit.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		HDD check error: The HDD is not correctly installed.
	[8]	<ul> <li>No HDD installed</li> <li>Unformatted HDD</li> <li>The encryption key on the controller is different from the one on the HDD</li> <li>1. Install the HDD correctly.</li> <li>2. Initialize the HDD.</li> </ul>
	[9]	Power failure during the data encryption: The data encryption (NVRAM and HDD) has not been completed. • Power failure during the data encryption Initialize the HDD.
	[10]	Data read/write error: The DMAC error is detected twice or more. • Same as SC863

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
860	CTL B	HDD: Initialization error
		The controller detects that the hard disk fails.
		HDD not initialized
		Defective HDD
		1. Reformat the HDD.
		2. Replace the HDD.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	HDD: Reboot error
		The HDD does not become ready within 30 seconds after the power is supplied to the HDD.
		<ul><li>Loose connection</li><li>Defective cables</li></ul>
861		Defective HDD
		Defective controller     Check the connection between the HDD and controller.
		<ol> <li>Check and replace the cables.</li> </ol>
		3. Replace the HDD.
		4. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	HDD: Read error
		The data stored in the HDD cannot be read correctly.
863		Defective HDD
		Defective controller
		1. Replace the HDD.
		2. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
864	CTL D	HDD: CRC error
		While reading data from the HDD or storing data in the HDD, data transmission fails.
		Defective HDD
		Replace the HDD.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
865	CTL D	HDD: Access error
		An error is detected while operating the HDD.
		Defective HDD
		Replace the HDD.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
866	CTL B	SD card authentication error
		A correct license is not found in the SD card.
		• SD-card data is corrupted.
		Store correct data in the SD card.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
867	CTL D	SD card ejection error
		The SD card is ejected from the slot.
		1. Install the SD card.
		2. Turn the main switch off and on.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
868	CTL D	SD card access error • -13 to -3: File system error • Other number: Device error
		<ul><li>An error report is sent from the SD card reader.</li><li>An error is detected in the SD card.</li></ul>
		1. For a file system error, format the SD card on your PC.
		2. For a device error, turn the mains switch off and on.
		3. Replace the SD card.
		4. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
870	CTL B	Address book error         An error is detected in the data copied to the address book over a network.         • Defective software program         • Defective HDD         • Incorrect path to the server
		<ol> <li>Initialize the address book data (SP5-846-050).</li> <li>Initialize the user information (SP5-832-006).</li> <li>Replace the HDD.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
872	CTL B	HDD mail reception data error
		An error is detected in the HDD at machine initialization.
		Defective HDD
		Power failure during an access to the HDD
		1. Turn the main switch off and on.
		2. Initialize the HDD partition (SP5-832-007).
		3. Replace the HDD.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
873	CTL B	HDD mail transmission data error
		An error is detected in the HDD at machine initialization.
		Defective HDD
		Power failure during an access to the HDD
		1. Initialize the HDD partition (SP5-832-008).
		2. Replace the HDD.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	Delete All error 1: HDD
874		An error is detected while all of the HDD or NVRAM are formatted physically by the Data Overwrite Security Unit (M354).
		<ul><li>Data Overwrite Security Unit (SD card) not installed</li><li>Defective HDD</li></ul>
		<ol> <li>Install the Data Overwrite Security Unit (M354).</li> <li>Replace the HDD.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	Delete All error 2: Data area
875		An error is detected while all of the HDD or NVRAM are formatted logically by the Data Overwrite Security Unit (M354).
		• The logical format for the HDD fails.
		Turn the main switch off/on and try the operation again

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
876	CTL D	Log Data Error An error was detected in the handling of the log data at power on or during machine operation. This can be caused by switching the machine off while it is operating.
-001		Log Data Error 1
		Damaged log data file in the HDD
		Initialize the HDD with SP5832-004.
-002		Log Data Error 2
		An encryption module not installed
		<ol> <li>Install the DESS module.</li> <li>Disable the log encryption setting with the user tool.</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		Log Data Error 3
-003		<ul> <li>Invalid log encryption key due to defective NVRAM data</li> </ul>
		1. Initialize the HDD with SP5832-004.
		2. Disable the log encryption setting with he user tool.
		Log Data Error 4
-004		Unusual log encryption function due to defective NVRAM data
		Initialize the HDD with SP5832-004.
		Log Data Error 5
-00.5		Installed NVRAM or HDD which is used in another machine
		1. Reinstall the previous NVRAM or HDD.
		2. Initialize the HDD with SP5832-004.
		Log Data Error 99
-099		Other than the above causes
		Ask your supervisor.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
877	CTL D	HDD Data Overwrite Security SD card error
		The 'all delete' function cannot be executed but the Data Overwrite Security Unit (M354) is installed and activated.
		<ul> <li>Defective SD card (M354)</li> <li>SD card (M354) not installed</li> </ul>
		<ol> <li>Replace the NVRAM and then install the new SD card (M354).</li> <li>Check and reinstall the SD card (M354).</li> </ol>

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
878	CTL D	TPM system authentication error
		The system firmware is not authenticated by TPM (security chip).
		<ul> <li>Incorrect updating for the system firmware</li> </ul>
		<ul> <li>Defective flash ROM on the controller board</li> </ul>
		Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
900	CTL D	Electric counter error Abnormal data in the counters. • Defective NVRAM • Defective controller • Incorrect NVRAM 1. Check the connection between the NVRAM and controller. 2. Replace the NVRAM.
		3. Replace the controller board.

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)
	CTL D	Printer application error
920		An error is detected in the printer application program.
		Defective software
		Unexpected hardware resource (e.g., memory shortage)
		<ol> <li>Software defective; switch off/on, or change the controller firmware if the problem is not solved</li> </ol>
		2. Install an optional memory.

No.	No. Type Details (Symptom, Possible Cause, Troubleshooting Procedures	
	CTL D	Printer font error
		A necessary font is not found in the SD card.
921		• A necessary font is not found in the SD card.
		The SD card data is corrupted.
		Check that the SD card has the correct data.

Software performance error         The software makes an unexpected operation.         • Defective software         • Defective controller         • Software error	No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
Defective software     Defective controller CTL			Software performance error	
Defective controller     CTL			The software makes an unexpected operation.	
CTL				
	990	CTL		
			1. Turn the main switch off and on.	
1. Turn the main switch off and on.			2. Reinstall the controller and/or engine main firmware.	
			♥Note	
2. Reinstall the controller and/or engine main firmware.			• See Note 1 at the end of the SC table.	

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
001		Software continuity error	
	CTL	The software has attempted to perform an unexpected operation. However, unlike SC 990, the object of the error is continuity of the software.	
991	С	<ul><li>Software program error</li><li>Internal parameter incorrect, insufficient working memory.</li></ul>	
		This SC is not displayed on the LCD (logging only).	

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No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
		Undefined error	
992	CTL D	Defective software program	
		An error undetectable by any other SC code occurred	

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)		
995	D	CPM setting error		
-001		<ul><li>Defective BICU</li><li>NVRAM Replacement error</li></ul>		
		<ol> <li>Install the previous NVRAM.</li> <li>Input the serial number with SP5811-004, and turn the main power switch off/ on.</li> </ol>		
		<ul><li> Defective NVRAM</li><li> Defective controller</li></ul>		
	-002	<ol> <li>Update the controller firmware.</li> <li>Install a new NVRAM, and turn off and on the main power switch after SC995-002 has occurred.</li> </ol>		
	-003	<ul><li>Incorrect type controller installed</li><li>Defective controller</li></ul>		
		Replace the controller board with the correct type.		
	0.0 <i>t</i>	Incorrect model controller installed.		
	-004	Replace the controller board with the correct model.		

3

No.	Туре	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
		Application start error	
		No applications start within 60 seconds after the power is turned on.	
		Loose connection of RAM-DIMM, ROM-DIMM	
		Defective controller	
998	CTL D	Software problem	
		<ol> <li>Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (OFF)".</li> </ol>	
		2. Check if the RAM-DIMM and ROM-DIMM are correctly connected.	
		3. Reinstall the controller system firmware.	
		4. Replace the controller board.	

#### Note 1

If a problem always occurs in a specific condition (for example. printer driver setting, image file), the problem may be caused by a software error. In this case, the following data and information needs to be sent back to your product specialist. Please understand that it may take some time to get a reply on how to solve the problem, because in some cases the design staff in Japan must analyze the data.

- Symptom / Possible Causes / Action taken
- Summary sheet (SP mode "Printer SP", SP1-004 [Print Summary])
- SMC All (SP5-990-001)
- SMC Logging (SP5-990-004)
- Printer driver settings used when the problem occurs
- All data displayed on the screen (SC code, error code, and program address where the problem is logged.)
- Image file which causes the problem, if possible

99

# **Process Control Error Conditions**

# **Developer Initialization Result**

The displayed number shows the results of the TD sensor check for all 4 colors.

0000 = YCMK

No.	Result	Description	Possible Causes/Action
1	Successfully completed	Developer initialization is successfully completed.	-
2	Forced termination	Developer initialization was forcibly terminated.	<ul> <li>A cover was opened or the main switch was turned off during the initialization.</li> <li>1. Do the developer initialization again when done in SP mode. Reinstall the engine main firmware if the result is the same.</li> <li>2. Turn the main switch off and on when done</li> </ul>
6	Vt error	Vt is more than 0.7V when Vcnt is 4.3V.	<ol> <li>1. Make sure that the heat seal on the development unit is not removed.</li> <li>2. Defective TD sensor</li> </ol>
7	Vcnt error 1	Vcnt is less than 4.7V when Vcnt is Vt target ±0.2V.	<ol> <li>Defective TD sensor</li> <li>Vt target settings are not correct.</li> <li>Toner density error</li> </ol>
8	Vcnt error 2	Vt is more than 0.7V when Vcnt is 4.3V and Vcnt is less than 4.7V when Vcnt is Vt target ±0.2V.	<ol> <li>Make sure that the heat seal on the development unit is not removed.</li> <li>Defective TD sensor</li> </ol>

No.	Result	Description	Possible Causes/Action
	Vcnt error 3	Vcnt is less than 4.7V.	<ol> <li>Make sure that the heat seal on the development unit is not removed</li> </ol>
9			2. Defective TD sensor
			3. Vt target settings are not correct.
			4. Toner density error

# Process Control Self-Check Result

Displayed number shows results of each color sensor check. 00000000 = YYCCMMKK

#### SP3-012-001 to -010 (Process Control Self-check Result)

No.	Result	Description	Possible Causes/Action
11	Successfully completed	Process control self-check successfully completed.	Check the Vsg adjustment. See the "Vsg Adjustment Result" following this table.
41	Vt error	Vt maximum or minimum error is detected.	<ul> <li>Defective development unit</li> <li>Vt maximum error and an image is faint: <ol> <li>Replace the toner supply pump unit.</li> </ol> </li> <li>Vt maximum error and an image is O.K: <ol> <li>Replace the development unit.</li> <li>Replace the IOB board.</li> </ol> </li> <li>Vt minimum error: <ol> <li>Replace the development unit.</li> <li>Replace the development unit.</li> </ol> </li> </ul>

No.	Result	Description	Possible Causes/Action
53	ID sensor coefficient (K5) detection error	Not enough data can be sampled.	<ul> <li>Solid image is not sufficient density:</li> <li>1. Retry the process control.</li> <li>2. Replace the ID sensors.</li> <li>3. Replace the IOB board.</li> <li>Solid image is O.K.</li> <li>1. Replace the ID sensors.</li> <li>2. Replace the IOB board.</li> <li>ID sensor is dirty:</li> <li>1. Clean the ID sensors.</li> <li>2. Retry the process control.</li> </ul>
54	ID sensor coefficient (K5) maximum/ minimum error	When the K5 is more than the value of SP3-362-003 or less than the value of SP3-362-004, the error 54 is displayed.	<ul> <li>ID sensor pattern density is too high or low.</li> <li>ID sensor or shutter is defective.</li> <li>Same as 53</li> </ul>
55	Gamma error: Maximum	Gamma is out of range. 5.0 < Gamma	<ul> <li>ID sensor pattern density is too high.</li> <li>Hardware defective.</li> <li>Same as 53</li> </ul>
56	Gamma error: Minimum	Gamma is out of range. Gamma < 0.15	<ul> <li>ID sensor pattern density is too low.</li> <li>Hardware defective.</li> <li>1. Same as 53</li> <li>2. Replace the toner supply pump unit.</li> </ul>
57	Vk error: Maximum	Vk is out of range. 150 < Vk	<ul><li>ID sensor pattern density is too low.</li><li>Hardware defective.</li><li>Same as 53</li></ul>
58	Vk error: Minimum	Vk is out of range. Vk < –150	<ul> <li>ID sensor pattern density is too high.</li> <li>Background dirty</li> <li>Hardware defective</li> <li>Same as 53</li> </ul>

No.	Result	Description	Possible Causes/Action
59	Sampling data error during gamma correction	Not enough data can be sampled during the gamma correction.	<ul> <li>ID sensor pattern density is too high or low.</li> <li>Hardware defective</li> <li>Same as 53</li> </ul>
99	Unexpected error	Process control fails.	• Power Failure Check the power source.

### Vsg Adjustment Result

The displayed number shows the results of the test for each ID sensor.

0000000 = Front, K, C, Center, M, Y, Rear

### SP3-325-001 to -010 (Vsg Adjustment Result)

No.	Result	Description	Possible Causes/Action
1	O.K	Vsg adjustment is correctly done.	-
2	ID sensor adjustment error	Vsg cannot be adjusted within 4.0 ±0.5∨.	<ul> <li>Dirty ID sensor (toner, dust, or foreign material)</li> <li>Dirty transfer belt</li> <li>Scratched image transfer belt</li> <li>Defective ID sensor</li> <li>Poor connection</li> <li>Defective IOB</li> <li>Clean the ID sensor.</li> <li>Check the belt cleaning. Clean or replace the transfer belt.</li> <li>Replace the image transfer belt.</li> <li>Replace the ID sensor.</li> <li>Check the connection.</li> <li>Replace the IOB board.</li> </ul>

No.	Result	Description	Possible Causes/Action
3	ID sensor output error	ID sensor output is more than "Voffset Threshold" (SP3-32 4-004)	<ul> <li>Defective ID sensor</li> <li>Poor connection</li> <li>Defective IOB</li> <li>Replace the ID sensor.</li> <li>Check the connection.</li> <li>Replace the IOB board.</li> </ul>
9	Vsg Adjustment error	Vsg adjustment has not been completed.	• Other cases Retry SP3-321-010.

### Line Position Adjustment Result

SP2-194-010 to -012 (Line Position Adjustment Result: M, C, Y)

This SP shows the number as a line position adjustment result on the LCD. It shows which color has an error (M, Y or C).

No.	Result	Description	Note
0	Not done	Line position adjustment has not been done.	-
1	Completed successfully	Line position adjustment has correctly been done,	-
2	Cannot detect patterns	ID sensors have not detected the patterns for line position adjustment.	See Note
3	Fewer lines on the pattern than the target	The patterns, which ID sensors have detected, are not enough for line position adjustment.	See Note
4	More lines on the pattern than the target	Not used in this machine.	-
5	Out of the adjustment range	ID sensors have correctly detected the patterns for line position adjustment, but a shift of patterns is out of adjustable range.	See Note
6-9	Not used	-	-

Note

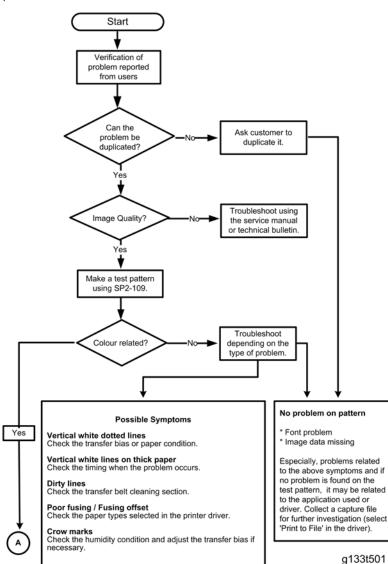
• For details, see the "Troubleshooting Guide - Line Position Adjustment" section.

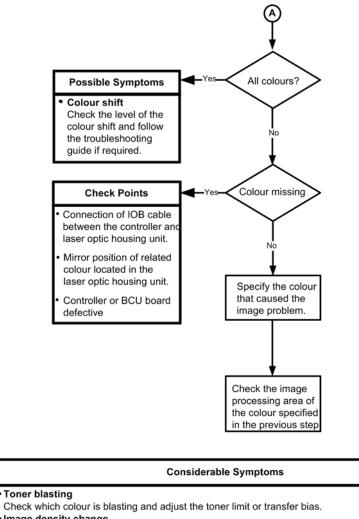
# 5. Appendix: Troubleshooting Guide

## **Troubleshooting Guide**

### Image Quality

The following work-flow shows the basic troubleshooting steps for the image quality problems on this product.





- Image density change
- Check when the problem is reported and follow the necessary steps.
- Dirty Background
- Check in which condition the problem is reported, and follow the required procedure.
- Colour vertical bands/lines/dirty background
- Check the OPC drum and/or development unit.
- Colour shift
- Check the level of the colour shift and follow the troubleshooting guide if required.
- Colour lines/bands/dirty background

When the PCU unit is close to its life end, the developer or the cleaning blade of the PCU wears out, causing vertical colour lines, bands, or dirty background. Check the related colour unit and replace it if necessary.

g188t502

### Line Position Adjustment

When there are color registration errors on the output, do the line position adjustment as follows.

### Note

• Use A3/DLT size paper for this adjustment.

### Test

- 1. Do SP2-111-003 (Mode c: rough adjustment).
- 2. Use SP2-194-007 to check if the result of the line position adjustment is correct (0: Completed successfully, 1: Not completed). If the result is "1", refer to 'Countermeasure list for color registration errors'.
- 3. Do SP2-111-001 (Mode a: fine adjustment twice).
- Use SP2-194-007 to check if the result of the line position adjustment is correct (0: Completed successfully, 1: Not completed). If the result is "1", refer to 'Countermeasure list for color registration errors'.
- 5. Put some A3/DLT paper on the by-pass tray.

#### • Note

- When you print a test pattern, use the by-pass tray to feed the paper.
- 6. Print out test pattern "7" with SP2-109-003.
- 7. Check the printed output with a loupe.
- 8. If there are no color registration errors on the output, the line position adjustment is correctly done. If not, refer to the countermeasure list for color registration errors.

### Countermeasure list for color registration errors

- Result: "1" in SP2-194-007
- Result: "2" or "3" (Line pattern detection failure) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
White image, Abnormal image, Low density	<ul> <li>Defective laser optics housing unit shutter</li> <li>Defective image processing unit</li> <li>Low density of test pattern</li> <li>Defective BCU</li> <li>Replace the shutter motor.</li> <li>Replace the high voltage power supply unit.</li> <li>Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).</li> <li>Replace the BICU.</li> </ul>
Normal image, but with color registration errors	<ul> <li>Defective ID sensor shutter</li> <li>Defective ID sensor</li> <li>Defective BCU</li> <li>Replace the ID sensor shutter solenoid.</li> <li>Replace the ID sensor.</li> <li>Replace the BCU.</li> </ul>

- Result: "1" in SP2-194-007
- One of results: "5" (Out of adjustable range) in SP2-194-010, -011, -012.

Test pattern check	Possible cause/Countermeasure
The main scan registrations of M, C, Y are shifted by more than ±15 mm from the main scan registration of K.	<ul> <li>Defective laser optics housing unit</li> <li>Defective BCU</li> <li>1. Replace the laser optics housing unit.</li> <li>2. Replace the BCU.</li> </ul>
The sub scan registrations of M, C, Y are shifted by more than ±20 mm from the sub scan registration of K.	<ul> <li>Defective image transfer belt</li> <li>Defective drive units</li> <li>Defective BCU</li> <li>Replace the image transfer belt.</li> <li>Replace the drum motor.</li> <li>Replace the BCU.</li> </ul>

Test pattern check	Possible cause/Countermeasure
The main scan registration is shifted by more than ±0.66 mm, but only at the central area of the image on the output.	<ul> <li>Defective ID sensor at center</li> <li>Deformed center area on the image transfer belt</li> <li>Defective BCU</li> <li>Replace the ID sensor.</li> <li>Replace the image transfer belt.</li> <li>Replace the BCU.</li> </ul>
The skew for M, C, Y is more than ±0.75 mm from the main scan registration of K	<ul> <li>Defective PCU</li> <li>Defective laser optics housing unit</li> <li>Defective BCU</li> <li>Reinstall or replace the PCU.</li> <li>Replace the laser optics housing unit.</li> <li>Replace the BCU.</li> </ul>
Others	<ul> <li>Skew correction upper limit error</li> <li>Defective BCU</li> <li>Defective laser optics housing unit</li> <li>Replace the BCU.</li> <li>Replace the laser optics housing unit.</li> </ul>

- Result: "1" in SP2-194-007
- Result: "0" in SP2-194-010, -011, -012.

Test pattern check	Possible cause/Countermeasure
	Do SP2-111-001 or -002.

- Result: "1" in SP2-194-007
- Result: "2" or "3" (Line pattern detection failure) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
White image, Abnormal image, Low density	<ul> <li>Defective laser optics housing unit shutter</li> <li>Defective image processing unit</li> <li>Low density of test pattern</li> <li>Defective BCU</li> <li>Replace the shutter motor.</li> <li>Replace the high voltage power supply unit.</li> <li>Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).</li> <li>Replace the BCU.</li> </ul>
Normal image, but with color registration errors	<ul> <li>Defective ID sensor shutter</li> <li>Defective ID sensor</li> <li>Defective BCU</li> <li>1. Replace the ID sensor shutter solenoid.</li> <li>2. Replace the ID sensor.</li> <li>3. Replace the BCU.</li> </ul>

- Result: "1" in SP2-194-007
- Result: "5" (Out of adjustable range) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
Low image density on the output	• Low pattern density Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).
The main scan registrations of M, C, Y are shifted by more than ±1.4 mm from the main scan registration of K.	<ul> <li>No defective component</li> <li>Defective laser optics housing unit</li> <li>Defective BCU</li> <li>Do SP2-111-003 again.</li> <li>Replace the laser optics housing unit.</li> <li>Replace the BCU.</li> </ul>

Test pattern check	Possible cause/Countermeasure
The sub scan registrations of M, C, Y are shifted by more than ±1.4mm from the sub scan registration of K.	<ul> <li>No defective component</li> <li>Defective image transfer belt</li> <li>Defective drive units</li> <li>Defective BCU</li> <li>1. Do SP2-111-003 again.</li> <li>2. Replace the image transfer belt.</li> <li>3. Replace the drum motor.</li> <li>4. Replace the BCU.</li> </ul>
The main scan registration is shifted by more than ±0.66 mm, but only at the central area of the image on the output.	<ul> <li>Defective ID sensor at center</li> <li>Deformed center area on the image transfer belt</li> <li>Defective BCU</li> <li>1. Replace the ID sensor.</li> <li>2. Replace the image transfer belt.</li> <li>3. Replace the BCU.</li> </ul>
The skew for M, C, Y is more than ± 0.75 mm from the main scan registration of K. – at the end of the scan line?	<ul> <li>Defective PCU</li> <li>Defective laser optics housing unit</li> <li>Defective BCU</li> <li>1. Reinstall or replace the PCU.</li> <li>2. Replace the laser optics housing unit.</li> <li>3. Replace the BCU.</li> </ul>
Others	<ul> <li>Skew correction upper limit error</li> <li>Defective BCU</li> <li>Defective laser optics housing unit</li> <li>Replace the BCU.</li> <li>Replace the laser optics housing unit.</li> </ul>

- Result: "0" in SP2-194-007
- Result: No color registration errors in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
The main scan registration of K is shifted.	• Abnormal SP setting value of main scan: K Adjust the value with SP2-101-001.
The main scan length of K is shifted.	<ul> <li>Abnormal SP setting value of main scan length detection: K</li> <li>Adjust the value with SP2-185-001.</li> </ul>

- Result: "0" in SP2-194-007
- Result: Color registration errors in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure	
Low image density on the output	• Low pattern density Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).	
The main scan registration is shifted, but only at the central area of the image on the output.	<ul> <li>Defective ID sensor at center</li> <li>Deformed center area on the image transfer belt</li> <li>Defective BCU</li> </ul>	
The main scan registrations of M, C, Y are shifted.	<ul> <li>Defective laser optics housing unit</li> <li>Defective ID sensor</li> <li>Defective BCU</li> <li>Incorrect SP value</li> <li>Replace the laser optics housing unit.</li> <li>Replace the ID sensor.</li> <li>Replace the BCU.</li> <li>Adjust the value with SP2-182-004 to -021.</li> </ul>	

Test pattern check	Possible cause/Countermeasure
	Defective image transfer belt
	Defective drive units
	Defective ID sensor
	Defective BCU
The sub scan registrations of M, C, Y	Incorrect SP value
are shifted.	1. Replace the image transfer belt.
	2. Replace the ID sensor.
	3. Replace the drum motor.
	4. Replace the BCU.
	5. Adjust the value with SP2-182-022 to -039.
	Defective PCU
	<ul> <li>Defective laser optics housing unit</li> </ul>
The alcow of M. C. V is different	Defective IOB
The skew of M, C, Y is different.	1. Reinstall or replace the PCU.
	2. Replace the laser optics housing unit.
	3. Replace the IOB.
	Defective PCU
	Defective drive unit
	Drum phase adjustment error
The sub scan lines are shifted. Shifted lines appear cyclically.	<ol> <li>Do SP1-902-001 (Drum phase adjustment); see Replacement and Adjustment – Drive Unit – Gear Unit for details.</li> </ol>
	2. Reinstall or replace the PCU.
	3. Check or replace the drive unit.

5. Appendix: Troubleshooting Guide

# 6. Appendix: Jam Detection

### **Jam Detection**

### Paper Jam Display

SP7-507 shows the paper jam history.

001: Latest CODE :011 SIZE :05h TOTAL:000034 DATE :Fri Feb 13 11:44:50 2009

g188t503

CODE: indicates the jam code.

SIZE: indicates the paper size code.

Total: Indicates the total counter (SP7-502-001).

DATE: indicates the date when the jam occurred.

### Jam Codes and Display Codes

SP 7504 shows how many jams occurred at each location.

Jam Code SP	Display	Description	LCD Display
7504 1	At Power On	Paper has already stayed in the paper path at power on.	-
7504 3	Tray 1: ON	Paper is not fed from tray 1.	А
7504 4	Tray 2: ON	Paper is not fed from tray 2.	А
7504 5	Tray 3: ON	Paper is not fed from tray 3 (LCT).	Y
7504 6	Tray 4: ON	Paper is not fed from tray 4.	Y
75047	Tray 5: ON	Paper is not fed from tray 5.	Y
7504 8	Bypass: ON	Paper is not fed from the by-pass tray.	А

Jam Code SP	Display	Description	LCD Display
7504 9	Duplex: ON	Paper is jammed at the duplex unit.	Z
7504 11	Vertical Transport 1: ON	Vertical transport sensor 1 does not detect paper from tray 1.	A
7504 12	Vertical Transport 2: ON	Vertical transport sensor 2 does not detect paper from tray 2.	A
7504 13	Bank Transport 1	Vertical transport sensor 2 or relay sensor does not detect paper from tray 3 (LCT).	Y
7504 14	Bank Transport 2	Vertical transport sensor 3 or relay sensor does not detect paper from tray 4 or 5 (One-tray Paper Tray Unit, Two-tray Paper Feed Unit or LCT).	Y
7504 17	Registration: ON	Registration sensor does not detect paper.	В
7504 19	Fusing Exit: ON	Fusing exit sensor does not detect paper.	В
7504 20	Paper Exit: ON	Paper exit sensor does not detect paper.	С
7504 21	Relay Exit: ON	Tray exit sensor (bridge unit) does not detect paper.	D
7504 22	Relay Transport: ON	Relay sensor (bridge unit) does not detect paper.	D
7504 24	Junction Gate Feed: ON	Junction gate jam sensor does not detect paper.	С
7504 25	Duplex Exit: ON	Duplex exit sensor does not detect paper.	Z
7504 26	Duplex Entrance: ON (In)	Duplex entrance sensor does not detect paper.	Z
7504 27	Duplex Entrance: ON (Out)	Duplex entrance sensor does not detect paper again after paper has passed this sensor.	Z
7504 51	SEF Sensor 1	Vertical transport sensor 1 does not turn off.	А
7504 52	SEF Sensor 2	Vertical transport sensor 2 does not turn off.	A
7504 53	Bank P Feed 1	Vertical transport sensor or relay sensor 1 does not turn off.	Y
7504 54	Bank P Feed 2	Vertical transport sensor 2 does not turn off.	Y

Jam Code SP	Display	Description	LCD Display
7504 55	Bank P Feed 3	Vertical transport sensor 3 does not turn off.	Y
7504 57	Regist Sensor	Registration sensor does not turn off.	В
7504 60	Exit Sensor	Paper exit sensor does not turn off.	С
7504 61	Relay Exit Sensor	Tray exit sensor (bridge unit) does not turn off.	D
7504 62	Relay Sensor	Relay sensor (bridge unit) does not turn off.	D
7504 64	Junction Gate Feed: OFF	Junction gate jam sensor does not turn off.	С
7504 65	Duplex Exit Sensor	Duplex exit sensor does not turn off.	Z
7504 66	Duplex Entrance: OFF (In)	Duplex entrance sensor does not turn off.	Z
7504 67	Duplex Entrance: OFF (Out)	Duplex entrance sensor does not turn off after paper has passed this sensor.	Z
7504 130	Finisher Entrance (B793)	Entrance sensor does not detect paper after the exit sensor of the main frame has turned on or paper stays at the entrance sensor.	R1-R3
7504 131	Finisher Proof Exit (B793)	Paper does not reach to the proof tray exit sensor or stay at the proof tray exit sensor.	R1-R3
7504 132	Finisher Shift Tray Exit (B793)	Paper does not reach to the shift tray exit sensor or stay at the shift tray exit sensor.	R1-R3
7504 133	Finisher Staple Exit (B793)	Staple tray exit sensor does not turn on after the entrance sensor has turned on. Staple tray exit sensor does not turn off after it has turned on.	R4-R6
7504 134	Finisher Exit (B793)	Shift tray exit sensor does not turn on while the stack feed-out roller has turned on. Shift tray exit sensor does not turn off after the stack feed-out roller has returned to its home position.	R4-R6
7504 135	Finisher Folding (B793)	Fold unit entrance sensor does not turn on after the stopper S HP sensor has turned on.	R7-R11

Jam Code SP	Display	Description	LCD Display
7504 136	Finisher Folding Exit (B793)	Fold unit exit sensor does not turn on after the folding has been done. Fold unit exit sensor does not turn off after it has turned on.	R7-R11
7504 137	Finisher Guide Motor (B793)	Exit guide plate HP sensor does not turn off after the exit guide plate has opened. Exit guide plate HP sensor does not turn on after the exit guide plate has closed.	R1-R3
7504 138	Finisher Staple Moving Motor (B793)	Staple unit HP sensor does not turn off after the staple unit has moved from its home position. Staple unit HP sensor does not turn on after the staple unit has returned to its home position.	R7-R11
7504 139	Finisher Punch MotorPunch HP, punch movement HP or par position slide HP sensor does not turn each unit has moved from its home po(B793)Punch HP, punch movement HP or par position slide HP sensor does not turn each unit has returned to its home position		R1-R3
7504 140Finisher Tray Lift Motor (B793)the sShift		Shift tray position sensor does not turn on after the shift tray has lifted up. Shift tray position sensor does not turn off after the shift tray has lifted down.	R1-R3
7504 141	504 141Finisher Jogger Motor (B793)Jogger HP sensor does not turn off after the jogger fences have moved from its home position. Jogger HP sensor does not turn on after the jogger fences have returned to its home position.		R7-R11
7504 142	Finisher Shift Roller Motor (B793)	Shift motor HP sensor does not turn off after the shift roller has moved from its home position. Shift motor HP sensor does not turn on after the shift roller has returned to its home position.	R1-R3

Jam Code SP	Display	Description	LCD Display
7504 143	Finisher Folding Plate Motor (B793)	Fold plate HP sensor does not turn off after the fold plate has moved from its home position. Fold plate HP sensor does not turn on after the fold plate has returned to its home position.	R7-R11
7504 144	Finisher Staple Motor (B793)	Staple HP sensor does not turn off after the staple has moved from its home position. Staple HP sensor does not turn on after the staple has returned to its home position.	R7-R11
7504 145	45 Finisher Exit Motor (B793) Stack feed-out HP sensor does not turn off after the stack feed-out has moved from its home position. Stack feed-out HP sensor does not turn on after the stack feed-out HP sensor does not turn on after the stack feed-out has returned to its home position.		R7-R11
7504 146Finisher Stack 1 Release Motor (B793)upper clamp roller h position. Stopper S HP sensor		Stopper S HP sensor does not turn on after the upper clamp roller has returned to its home	R7-R11
7504 147 Finisher Stack 2 Release Motor (B793)		Lower clamp roller HP sensor does not turn off after the lower clamp roller has moved from its home position. Lower clamp roller HP sensor does not turn on after the lower clamp roller has returned to its home position.	R7-R11
7504 148	Finisher Stopper Motor (B793)	Stopper S HP sensor does not turn off after the stopper S has moved from its home position. Stopper S HP sensor does not turn on after the stopper S has returned to its home position.	R7-R11
7504 191	7504 191Finisher Entrance: EUP (B805)Paper does not reach the finisher entrance sensor or stays at the finisher entrance sensor.		R1-R4

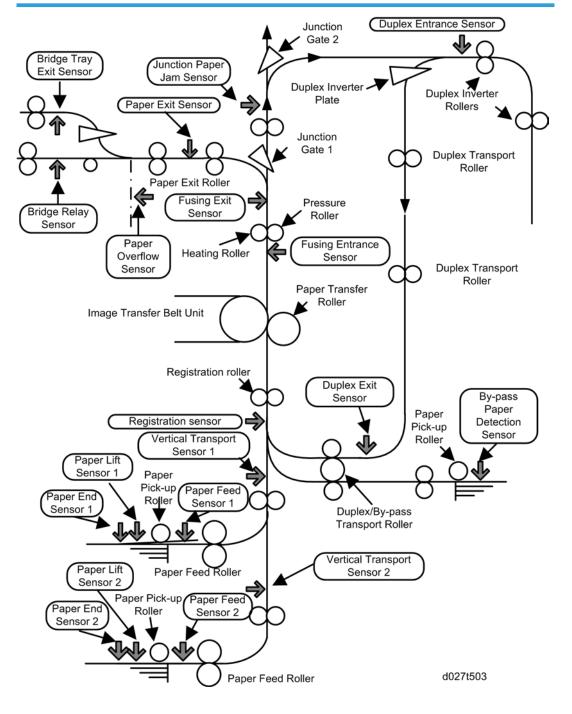
Jam Code SP	Display	Description	LCD Display
7504 192	Finisher Proof Exit: EUP (B805)	Paper does not reach the proof tray exit sensor or stays at the proof tray exit sensor.	R1-R4
7504 193	Finisher Shift Tray Exit: EUP (B805)	Paper does not reach the upper tray exit sensor or stays at the upper tray exit sensor.	R1-R4
7504 194	Finisher Stapler Exit: EUP (B805)	Stapling tray paper sensor does not turn on after the finisher entrance sensor has turned on. Stapling tray paper sensor does not turn off after it has turned on.	R5-R8
7504 195	Finisher Exit: EUP (B805)	Exit: EUP (B805)       Upper tray exit sensor does not turn on while the stack feed-out belt is turned on.         Upper tray exit sensor does not turn off after the stack feed-out belt has returned to its home position.	
7504 196	Finisher Staple: EUP	Not used	-
7504 197	Finisher Saddle Stitch Staple: EUP	Stitch Not used	
7504 198	Finisher Folder: EUP	Not used	-
7504 199	Finisher Tray Motor: EUP (B805)	Upper tray limit sensor does not turn on after the upper tray has lifted up. Upper tray limit sensor does not turn off after the upper tray has moved down.	R1-R4/ R5-R8
7504 200	Finisher Jogger Motor: EUP (B805)	Jogger fence HP sensor does not turn on/off after the jogger motor has turned on. Stack feed out belt HP sensor does not turn on/ off after the feed out belt motor has turned on.	R5-R8
7504 201Finisher Shift Motor: EUP (B805)the shift roller mot Exit guide plate H after the exit guid Stacking roller HF		Shift roller HP sensor does not turn on/off after the shift roller motor has turned on. Exit guide plate HP sensor does not turn on/off after the exit guide plate motor has turned on. Stacking roller HP sensor does not turn on/off after the stacking sponge roller motor has turned on.	R1-R4/ R5-R8

Jam Code SP	Display	Description	LCD Display
7504 202	Finisher Staple Moving Motor: EUP (B805)Corner stapler HP sensor does not turn on/off after the corner stapler movement motor has turned on.Stapler rotation HP sensor does not turn on/off 		R5-R8
7504 203	Finisher Staple Motor: EUP (B805)	Corner stapler does not finish stapling after a specified time. Booklet stapler does not finish stapling after a specified time.	R5-R8
7504 204	Finisher Folder Motor: EUP	Not used	-
7504 205	Finisher Exit Motor: EUP	Not used	-
7504 206 Finisher Punch Motor: EUP (B805)		Punch encoder sensor does not turn on/off after the punch drive motor has turned on. Punch movement HP sensor does not turn on/ off after the punch movement motor has turned on. Paper position slide HP sensor does not turn on/off after the paper position sensor slide motor has turned on.	R1-R4
7504 220	MBX P. Feed 1: OFF	The mail bin lower relay sensor does not detect paper from the main machine.	TBA
7504 221	MBX P. Feed 1: ON	The mail bin lower relay sensor does not turn off.	TBA
7504 222	MBX P. Feed 2: OFF	The mail bin upper relay sensor does not detect paper from the main machine.	TBA
7504 223	MBX P. Feed 2: ON	The mail bin upper relay sensor does not turn off.	TBA
7504 230	Finisher Exit No Response	The machine does not get a paper exit signal from the finisher.	-

Jam Code SP	Display	Description	LCD Display
7504 231	Finisher Communication Error	The machine does not detect the finisher.	-

### Paper Size Code

Size Code	Paper Size	Size Code	Paper Size
05	A4 LEF	141	B4 SEF
06	A5 LEF	142	B5 SEF
14	B5 LEF	160	DLT SEF
38	LT LEF	164	LG SEF
44	HLT LEF	166	LT SEF
132	A3 SEF	172	HLT SEF
133	A4 SEF	255	Others
134	A5 SEF	-	-



### **Sensor Locations**

# **Electrical Component Defects**

### Sensors

### Note

• The CN numbers in the following table are the connector numbers on the IOB.

No.	Sensor Name/ Sensor Board Name	Activ e	CN	Condition	Symptom
	W1 Right Door Open Switch			Open	"Open Cover" is displayed.
SW1			CN204/1	Shorted	"Open cover" cannot be detected.
				Open	"Open Cover" is displayed.
S9	Duplex Door	L	CN232/B9	Shorted	"Open cover" cannot be detected.
	ID Sensor: M	A	CN211/	Open/	
			7, 11	Shorted	
	ID Sensor: C	A	CN211/	Open/	SC400
			8, 12	Shorted	
	ID Sensor: Y	A	CN211/	Open/	
S1			9, 13	Shorted	
51	ID Sensor: Front	A	CN211/1	Open/	SC258
				Shorted	
	ID Sensor: Center and K	A	CN211/2	Open/	SC400 / SC258
		A		Shorted	004007 00200
	ID Sensor: Rear	А	CN211/3	Open/	SC258
				Shorted	50200

No.	Sensor Name/ Sensor Board Name	Activ e	CN	Condition	Symptom
				Open	Jam A (Jam8, 17)
S12	Registration Sensor	L	CN224/A2	Shorted	Jam A, B (Jam1)
\$30	Drum Gear Position Sensor-K	Н	CN222/A2	Open/ Shorted	SC380/SC396
\$31	Drum Gear Position Sensor-M	Н	CN222/ A5	Open/ Shorted	SC380/SC397
S32	Drum Gear Position Sensor-C	Н	CN222/ A8	Open/ Shorted	SC380/SC398
\$33	Drum Gear Position Sensor-Y	Н	CN222/A11	Open/ Shorted	SC380/SC399
S26	Toner End Sensor - K		CN207/A1 CN207/B9	Open	Toner end cannot be detected.
S27	Toner End Sensor - Y		CN207/		
S28	Toner End Sensor - C	L	B12		Toner end is detected wher
S29	Toner End Sensor - M		CN207/ B15	Shorted	there is enough toner.
S34	Image Transfer Belt Rotation Sensor	H/L	CN208/11	Open/ Shorted	SC443
	Vertical Transport Sensor		0,1000,417	Open	Jam A (Jam3, 11)
S19	1	L	CN230/A7	Shorted	Jam A, B (Jam1)
S20	Paper End		CN230/	Open	Paper end is not detected when there is no paper in the paper tray.
S24	Sensor 1, 2	L	A10, B10	Shorted	Paper end is detected when there is paper in the paper tray.
S21 S25	Paper Lift Sensor 1, 2	Н	CN230/ A13, B13	Open/ Shorted	SC501, SC502

No.	Sensor Name/ Sensor Board Name	Activ e	CN	Condition	Symptom
S23	Vertical Transport Sensor	L	CN230/B7	Open	Jam A (Jam4, 12)
323	2	L	CIN230/ B/	Shorted	Jam A, B (Jam1)
S14 S15	Tray 1 Paper Height Sensor 1, 2	L	CN224/ B2, B5	Open/ Shorted	Remaining paper volume on the LCD is wrong.
S16 S17	Tray 2 Paper Height Sensor 1, 2	L	CN224/ B10, B13	Open/ Shorted	Remaining paper volume on the LCD is wrong.
S18	Tray 1 Paper Feed Sensor	L	CN230/A4	Open/ Shorted	Jam A, B
S22	Tray 2 Paper Feed Sensor	L	CN230/B4	Open/ Shorted	Jam A, B
SW4	Tray 1 Set Switch	L	CN224/A9	Open	Tray 1 is not detected when tray 1 is set.
3004	ndy i sei swiich	L		Shorted	Tray 1 is detected when tray 1 is not set.
S11	By-pass Paper Size Sensor	L	CN232/ B16, B17, B19, B20	Open/ Shorted	Paper size error
SW2	Py nase Paner Detection		CN232/	Open	Paper on the by-pass tray is not detected when paper is set.
5002	By-pass Paper Detection	L	A15	Shorted	Paper on the by-pass tray is detected when paper is not set.
S10	By-pass Paper Length	L	CN232/	Open	Papar siza arrar
510	Sensor	L	B12	Shorted	Paper size error
S8	Fusing Entrance Sensor	L	CN232/B6	Open	Jam C (Jam 18)
30	i using Linitarice Sensor	L		Shorted	Jam C (Jam 1)

No.	Sensor Name/ Sensor Board Name	Activ e	CN	Condition	Symptom
54	Dunlau Entrance Sensor		CN1222 / 4.9	Open	Jam Z (Jam 26/27)
S6	Duplex Entrance Sensor	L	CN232/A8	Shorted	Jam Z (Jam 1)
S7	Duplex Exit Sensor	L	CN232/	Open	Jam Z (Jam 25)
57	Duplex LxII Selisor	L	A11	Shorted	Jam Z (Jam 1)
\$39	TD Sensor - K	A	CN227/A7	Open/ Shorted	SC372
S40	TD Sensor - M	А	CN227/ A15	Open/ Shorted	SC373
S41	TD Sensor - C	А	CN227/B7	Open/ Shorted	SC374
S42	TD Sensor - Y	A	CN227/ B15	Open/ Shorted	SC375
6.4	Г		CN100.4 /10	Open	Jam C (Jam 19)
S4	Fusing Exit Sensor	L	CN204/12	Shorted	Jam C (Jam 1)
				Open	Waste toner near full indicated when it is not near full.
S13	Waste Toner Sensor	Н	CN224/A5	Shorted	Waste toner near full cannot be detected when the waste toner bottle is nearly full.
SW3	Waste Toner Bottle Set	L	CN1224/47	Open	Waste toner bottle is not detected when the waste toner bottle is set.
3443	Switch		CN224/A7	Shorted	Waste toner bottle is detected when the waste toner bottle is not set.

No.	Sensor Name/ Sensor Board Name	Activ e	CN	Condition	Symptom
SW5	Tray 2 Paper Size Switch	L	CN224/ A11, A12, A13, A15	Open/ Shorted	Paper size error
\$35	Temperature/ Humidity Sensor	A	CN231/ 25, 27	Open/ Shorted	SC498 Printed image has some problems such as rough image, dirty background, weak image or poor fusing.
S36	Thermopile	A	CN209/16	Open/ Shorted	SC541
TH2	Thermistor - Heating Roller	A	CN212/22	Open/ Shorted	SC551
тні	Thermistor - Pressure Roller	А	CN212/18	Open/ Shorted	SC561
6.2			CN100.4./0	Open	Jam C (Jam 20)
S3	Paper Exit Sensor	L	CN204/9	Shorted	Jam C (Jam 1)
\$5	Damas Quarthau Samaa	L	CN1204/15	Open	Paper overflow message is not displayed when the paper overflow condition still remains.
33	Paper Overflow Sensor	L	CN204/15	Shorted	Paper overflow message is displayed when the paper overflow condition does not remain.
S37	Heating Roller Rotation Sensor	H/L	CN210/2	Open/ Shorted	SC584
S38	Pressure Roller HP Sensor	L	CN210/5	Open/ Shorted	SC569
S2	Junction Paper Jam Sensor	L	CN204/6	Open/ Shorted	Jam C (Jam 24/64)

### **Blown Fuse Conditions**

### **Power Supply Unit**

R: This means that it is possible to replace in the field (for example: Tube fuse).

Rating		ing	Symptom when turning on the main switch	Remark	
1036	11 <i>5</i> V	220V-240V		Kelliurk	
FU1	15A/125V	8A/250V	No response. (The main power to the PSU is not supplied.)	R	
FU2	10A/125V	6.3A/250V	No response. (The main power to the PSU is not supplied.)	R	
FU3	2A/250V	1A/250V	5V power to the scanner heater and tray heater is not supplied.	-	
FU4	1A/250V	1A/250V	5V power to the IOB and heater is not supplied.	-	
FU5	5A/250V	5A/250V	5V power to the IOB not supplied.	-	
FU6	2A/250V	2A/125V	5VS power to the BCU not supplied.	-	
FU7	10A/125V	10A/125V	24VS power to the IOB not supplied.	R	
FU8	10A/125V	10A/125V	24VS power to the IOB not supplied.	R	
FU9	6.3A/125V	6.3A/125V	24V power to the IOB not supplied.	R	
FU10	6.3A/125V	6.3A/125V	Not used	R	
FU11	6.3A/125V	6.3A/125V	24V power to the BCU not supplied.	R	
FU12	6.3A/125V	6.3A/125V	24V power to the PFU or LCT not supplied.	R	
FU13	6.3A/125V	6.3A/125V	24V power to the finisher not supplied.	R	
FU14	5A/250V	5A/250V	5V power to the BCU not supplied.	-	

### **IH Inverter**

Rating       Fuse     Symptom v       115V     220V - 240V		ling	Complex short with a state of the second state
		220V - 240V	Symptom when turning on the main switch
FU1	15A/125V	8A/250V	15V power to the IH coil unit is not supplied. SC689 occurs.
FU2	115°C		No response
FU3	115°C		No response
FU4	1A/250V		15V power to the IH coil unit is not supplied. SC689 occurs.

### 

• For continued protection against risk of fire, replace only with same type and rating of fuse.

7. Appendix: Electrical Component Defects

# 8. Appendix: SP Mode Tables

# Service Mode

RTB 19 This section is modified.

### SP1-XXX (Service Mode)

1001	Bit Swi	Bit Switch					
001	Bit Swi	itch 1	0	1			
	bit 0	DFU	-	-			
	bit 1	DFU	-	-			
	bit 2	DFU	-	-			
	bit 3	No I/O Timeout	0: Disable	1: Enable			
		Enable: The MFP I/O Timeout setting will have no effect. I/O Timeouts will never occur.					
	bit 4	SD Card Save Mode	0: Disable	1: Enable			
		<ul> <li>"Card Save ervice Manual).</li> </ul>					
	bit 5	DFU	-	-			
	bit 6	DFU	-	-			
	bit 7	[RPCS,PCL]: Printable area frame border	0: Disable	1: Enable			
		Enable: The machine prints all RPCS and PCL jobs w printable area.	ith a border on	the edges of the			

1001	Bit Switch
------	------------

002	Bit Swit	rch 2	0	1				
	bit 0	DFU	-	-				
	bit 1 DFU		-	-				
	bit 2	Applying a collation Type	Shift Collate	Normal Collate				
		A collation type (shift or normal) will be applied to all jobs that do not already have a 'Collate Type' configured.    Note  If #5-0 is enabled, this Bit Switch has no effect.						
	bit 3	[PCL5e/c,PS]: PDL Auto Switching	0: Enable	1: Disable				
		Disable: The MFPs ability to change the PDL processor mid-job. Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.						
	bit 4	DFU	-	-				
	bit 5	DFU	-	-				
	bit 6 DFU		-	-				
	bit 7	DFU	-	-				
1001	Bit Switch							

003	Bit Swit	ich 3	0	1		
	bit 0	bit O DFU		-		
	bit 1	DFU	-	-		
	bit 2 [PCL5e/c]: Legacy HP compatibility			1: Enable		
		Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually " <esc>*rOA") will be changed to "<esc>*r1A"</esc></esc>				
	bit 3	DFU	-	-		
	bit 4	DFU	-	-		
	bit 5 DFU		-	-		
	bit 6	DFU	-	-		
	bit 7	DFU	-	-		

1001	Bit Switch		
004	Bit Switch 4 <b>DFU</b>	-	-

1001	Bit Swit	Bit Switch			
005	Bit Swit	rch 5	0	1	
		Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.	Disable	Enable	
	bit O	If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Tbit 0from the operation panel. The available types will depend on the device and configureoptions.			
		After enabling the function, the settings will appear under "User Tools > Printer Features > System"			
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	

	bi	oit 3	[PS] PS Criteria	Pattern3	Pattern 1	
			Change the number of PS criterion used by the PS interpreter to determ job is PS data or not.			
			Pattern3: includes most PS commands.			
			Pattern 1 : A small number of PS tags and headers			
	bi	oit 4	Increase max number of the stored jobs to 1000 jobs.	Disable (100)	Enable (1000)	
			Enable: Changes the maximum number of jobs that can be stored on the HDD Type settings to 1000. The default is 100.			
	bi	oit 5	DFU	-	-	
Bits 6 and 7	bi	oit 6	DFU	-	-	
RTB 19a	bi	oit 7	Method for determining the image rotation for the edge to bind on.	Disabled	Enabled	
	If enabled, the image rotation will be performed as they older models for the binding of pages of mixed orientation					
			The old models are below:			
			- PCL: Pre-04A models			
8			- PS/PDF/RPCS:Pre-05S models			

Bits 6 and	7
RTB 19a	

7	1001	Bit Switch		
	006	Bit Switch 6 <b>DFU</b>	-	-

1001	Bit Switch		
007	Bit Switch 7 <b>DFU</b>	-	-
1001	Bit Switch		

008	Bit Swit	ich 8	0	1			
	bit 0	DFU	-	-			
	bit 1	DFU	-	-			
	bit 2	DFU	-	-			
	bit 3 [PCL,PS]: Allow BW jobs to print without requiring User Code		Disable	Enable			
		Enable: BW jobs submitted without a user code will be printed even if usercode authentication is enabled.					
		Color jobs will not be printed without a valid us	er code.				
	bit 4	DFU	-	-			
	bit 5	DFU	-	-			
	bit 6 DFU		-	-			
	bit 7 DFU			-			

1003	[Clear Setting]		
1003 001	Initialize System	-	Initializes settings in the System menu of the user mode.
1003 003	Delete Program	-	DFU

1004	[Print Summary]		
1004 001	Service Summary	-	Prints the service summary sheet (a summary of all the controller settings).

1005	[Display Version]		
1005 001	Printer Version	-	Displays the version of the controller firmware.

1007	[Supply Display]
1007	Enables or disables the display for information on each supply.

1007 001	Development	*CTL	
1007 002	PCU	*CTL	
1007 003	Transfer	*CTL	
1007 004	Int. Transfer	*CTL	[0 or 1 / 1 / 1 /step] 0: OFF, 1: ON
1007 005	Transfer Roller	*CTL	
1007 006	Fuser	*CTL	
1007 007	Fuser Oil	*CTL	

1101	[ToneCtlSet]		
1101 001	Tone (Factory)	*CTL	Recalls a set of gamma settings. This can be either a)
1101 2	Tone (Prev.)	*CTL	the factory setting, b) the previous setting, or c) the
1101 3	Tone (Current)	*CTL	current setting.

[ToneCtlSet]	*CTL			
Sets the printing mode (resolution) for the printer gamma adjustment. The asterisk (*) shows which mode is set.				
• 00: *1200x1200Photo				
• 01: 600x600Text				
• 02: 1200x1200Text				
• 03: 1200x600Text				
• 04: 600x600Photo				
• 05: 1200x600Photo				
	Sets the printing mode shows which mode is s • 00: *1200x120 • 01: 600x600Tex • 02: 1200x1200 • 03: 1200x600Te • 04: 600x600Pho	Sets the printing mode (resolution shows which mode is set. • 00: *1200x1200Photo • 01: 600x600Text • 02: 1200x1200Text • 03: 1200x600Text • 04: 600x600Photo		

1103	[PrnColorSheet]		
1103 001	ToneCtlSheet	-	Prints the test page to check the color balance before
1103 002	ColorChart	-	and after the gamma adjustment.

1104	[ToneCtlValue]
1104	Adjusts the printer gamma for the mode selected in the Mode Selection menu.

1104 001	Set Black 1	*CTL	
1104 021	Set Cyan 1	*CTL	
1104 041	Set Magenta 1	*CTL	– [0 to 255 / <b>16</b> / 1/step]
1104 061	Set Yellow 1	*CTL	_
1104 002	Set Black 2	*CTL	
1104 022	Set Cyan 2	*CTL	
1104 042	Set Magenta 2	*CTL	- [0 to 255 / <b>32</b> / 1/step]
1104 062	Set Yellow 2	*CTL	_
1104 003	Set Black 3	*CTL	
1104 023	Set Cyan 3	*CTL	
1104 043	Set Magenta 3	*CTL	- [0 to 255 / <b>48</b> / 1/step]
1104 063	Set Yellow 3	*CTL	
1104 004	Set Black 4	*CTL	
1104 024	Set Cyan 4	*CTL	[0 + 255] (44/1/2)
1104 044	Set Magenta 4	*CTL	- [0 to 255 / <b>64</b> / 1/step]
1104 064	Set Yellow 4	*CTL	_
1104 005	Set Black 5	*CTL	
1104 025	Set Cyan 5	*CTL	[0 + 255] / 90 / 1 / (top)]
1104 045	Set Magenta 5	*CTL	- [0 to 255 / <b>80</b> / 1/step]
1104 065	Set Yellow 5	*CTL	
1104 006	Set Black 6	*CTL	
1104 026	Set Cyan 6	*CTL	[0 + 255] (04) (1 + 1)
1104 046	Set Magenta 6	*CTL	- [0 to 255 / <b>96</b> / 1/step]
1104 066	Set Yellow 6	*CTL	

1104 007	Set Black 7	*CTL	
1104 027	Set Cyan 7	*CTL	[0+ 055 / <b>110</b> / 1 / + - ]
1104 047	Set Magenta 7	*CTL	[0 to 255 / <b>112</b> / 1/step]
1104 067	Set Yellow 7	*CTL	
1104 008	Set Black 8	*CTL	
1104 028	Set Cyan 8	*CTL	
1104 048	Set Magenta 8	*CTL	[0 to 255 / <b>128</b> / 1/step]
1104 068	Set Yellow 8	*CTL	
1104 009	Set Black 9	*CTL	
1104 029	Set Cyan 9	*CTL	
1104 049	Set Magenta 9	*CTL	[0 to 255 / <b>144</b> / 1/step]
1104 069	Set Yellow 9	*CTL	
1104 010	Set Black 10	*CTL	
1104 030	Set Cyan 10	*CTL	[0+ 055 / <b>140</b> / 1 / + - ]
1104 050	Set Magenta 10	*CTL	[0 to 255 / <b>160</b> / 1/step]
1104 070	Set Yellow 10	*CTL	
1104 011	Set Black 11	*CTL	
1104 031	Set Cyan 11	*CTL	[0 += 0.55 / <b>174</b> / 1 / += =]
1104 051	Set Magenta 11	*CTL	[0 to 255 / <b>176</b> / 1/step]
1104 071	Set Yellow 11	*CTL	
1104 012	Set Black 12	*CTL	
1104 032	Set Cyan 12	*CTL	[0 to 255 / <b>192</b> / 1/step]
1104 052	Set Magenta 12	*CTL	
1104 072	Set Yellow 12	*CTL	

1104 013	Set Black 13	*CTL	
1104 033	Set Cyan 13	*CTL	[0+ 055 / <b>000</b> / 1 / 4 ]
1104 053	Set Magenta 13	*CTL	[0 to 255 / <b>208</b> / 1/step]
1104 073	Set Yellow 13	*CTL	
1104 014	Set Black 14	*CTL	
1104 034	Set Cyan 14	*CTL	[0 to 255 / <b>224</b> / 1 / to m]
1104 054	Set Magenta 14	*CTL	[0 to 255 / <b>224</b> / 1/step]
1104 074	Set Yellow 14	*CTL	
1104 015	Set Black 15	*CTL	
1104 035	Set Cyan 15	*CTL	[0 + 255 / 240 / 1 / step]
1104 055	Set Magenta 15	*CTL	[0 to 255 / <b>240</b> / 1/step]
1104 075	Set Yellow 15	*CTL	

	[ToneCtlSave]
1105	Saves the print gamma (adjusted with the Gamma Adj.) as the new Current Setting. Before the machine stores the new "current setting", it moves the data stored as the "current setting" to the "previous setting" memory-storage location.

1106	[Toner Limit Value]			
1100	Adjusts the maximum toner amount for image development.			
1106 001	TonerLimitValue         * CTL         [100 to 400 / 260 / 1%/step]		[100 to 400 / <b>260</b> / 1%/step]	

1108	[Ext. Toner Save]
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1108 001	Mode 1: Text	-	
1108 002	Mode 2: Text	-	-
1108 003	Mode 1: Image	-	-
1108 004	Mode 2: Image	-	DFU
1108 005	Mode 1: Line	-	
1108 006	Mode 2: Line	-	-
1108 007	Mode 1: Paint	-	
1108 008	Mode 2: Paint	-	

# Engine Service Mode

# Engine Service Mode Table

### SP1-XXX (Feed)

1001	<b>[Leading Edge Registration]</b> Leading Edge Registration Adjustment (Tray Location, Paper Type, Color Mode), Paper Type -> Plain, Thick 1 or Thick 2		
1001	Adjusts the leading edge registration by changing the registration motor operation timing for each mode.		

002	Tray: Plain	*ENG	
003	Tray: Middle Thick	*ENG	
004	Tray: Thick 1	*ENG	
005	Tray: Thick 2	*ENG	
007	By-pass: Plain	*ENG	
008	By-pass: Middle Thick	*ENG	
009	By-pass: Thick 1	*ENG	
010	By-pass: Thick 2	*ENG	
011	By-pass: Thick 3	*ENG	
013	Duplex: Plain	*ENG	
014	Duplex: Middle Thick	*ENG	
015	Duplex: Thick 1	*ENG	[-9 to 9 / <b>0.0</b> / 0.1 mm/step]
016	Tray: Thick 3	*ENG	
017	Tray: Plain: 1200	*ENG	
018	Tray: Middle Thick:1200	*ENG	
019	Tray: Thick 1:1200	*ENG	
020	By-pass: Plain:1200	*ENG	
021	By-pass: Middle Thick:1200	*ENG	
022	By-pass: Thick 1:1200	*ENG	
023	Duplex: Plain:1200	*ENG	
024	Duplex: Middle Thick:1200	*ENG	
025	Duplex: Thick 1:1200	*ENG	

	[Side to Side Reg.] Side-to-Side Registration Adjustment
1002	Adjusts the side-to-side registration by changing the laser main scan start position for each mode.

001	By-pass Table	*ENG	
002	Paper Tray 1	*ENG	
003	Paper Tray 2	*ENG	
004	Paper Tray 3	*ENG	[-4 to 4 / <b>0.0</b> / 0.1 mm/step]
005	Paper Tray 4	*ENG	
006	Duplex	*ENG	
007	Paper Tray 5	*ENG	

	[Paper Buckle] Paper Buckle Adjustment					
1003	(Tray Location, Paper Type), Paper Type: N: Normal, TH: Thick					
	Adjusts the amount of paper buckle at the registration roller by changing the paper feed timing.					
002	Paper Tray 1 : Plain	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]			
003	Tray1: Middle Thick	*ENG	[-9 to 5 / <b>-1</b> / 1 mm/step]			
004	Paper Tray 1 : Thick 1	*ENG				
007	Paper Tray2/3/4/5/LCT: Plain	*ENG	- [-9 to 5 / <b>-2</b> / 1 mm/step]			
008	Tray 2/3/4/5/LCT: Middle Thick	*ENG	[-9 to 5 / <b>-1</b> / 1 mm/step]			
009	Paper Tray2/3/4/5/LCT: Thick 1	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]			
012	By-pass: Plain	*ENG				
013	By-pass: Middle Thick	*ENG	- [-9 to 5 / 0 / 1 mm/step]			
014	By-pass: Thick 1	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]			
018	Duplex: Plain	*ENG				
019	Duplex: Middle Thick	*ENG	- [-9 to 5 / 0 / 1 mm/step]			
020	Duplex: Thick 1	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]			

021	Paper Tray1: Plain: 1200	*ENG	
022	Tray1: Middle Thick: 1200	*ENG	
023	Tray 2/3/4/5LCT: Plain: 1200	*ENG	
024	Tray 2/3/4/5LCT: Mid: 1200	*ENG	[-9 to 5 / <b>0</b> / 1 mm/step]
025	025 By-pass: Plain: 1200		
026	By-pass: Middle Thick: 1200	*ENG	
027	Paper Tray1: Thick1: 1200	*ENG	
028	Paper Tray2/3/4/5/LCT: Thick 1:1200	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]
029	By-pass: Thick 1: 1200	*ENG	
030	Duplex: Plain: 1200	*ENG	$\begin{bmatrix} 0 \text{ to } 5 \\ - 0 \end{bmatrix}$
031	Duplex: Middle Thick: 1200	*ENG	[-9 to 5 / <b>0</b> / 1 mm/step]
032	Duplex: Thick 1: 1200	*ENG	[-9 to 5 / <b>-2</b> / 1 mm/step]

1007	[By-Pass Size Detection] By-Pass Size Detection Display				
	LG	[0 or 1 / <b>0</b> / - ] 0: OFF, 1: ON			
001	Enables or disables the automatic paper size detection function of the by-pass tray.				
	This SP determines what paper size the machine detects if the detected size is less than 8.5".				
	0: OFF (Letter/SEF), 1: ON (Legal/SEF)				

1103	[Fusing Idling] Fusing Idling Adjustment				
001	Extra Idling Time	*ENG	[0 to 60 / <b>0</b> / 1 sec/step] <b>Not used</b>		
001	Specifies how long the extra idling operation is executed.				
014	Minimum Idling Time	*ENG	[0 to 10 / <b>0</b> / 1 sec/step]		
	Extra Idling Time (L)	*ENG	Specifies how long the extra idling operation is executed for each environment.		
016			[0 to 250 / <b>70</b> / 1 sec/step] Each environment is determined with		
			Each environment is determined with SP1112-001 and 002.		

017	Extra Idling Time (H)	*ENG	[0 to 250 / <b>P2c: 20, P2d: 35</b> / 1 sec/step]
018	Extra Idling Time (M)	*ENG	[0 10 230 / FZC: 20, FZC: 35 / 1 sec/ siep]
019	Pressure TempThreshold	*ENG	[10 to 200 / <b>180</b> / 1 deg/step]

1104	[Idling Before Job] Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special Pressure Temp: Pressure Roller Temperature Feed or Fusing Temp: Heating Roller Temperature Specifies the threshold temperature for the paper feed waiting in each mode. The machine does not feed paper until the temperature of the pressure or heating roller reaches temperatures specified by the following SPs.		
001	Feed: Pressure Temp: Plain: FC	*ENG	
002	Feed: Pressure Temp: Plain: FC:PR	*ENG	[10 to 150 / <b>20</b> / 1 deg/step]
003	Feed: Pressure Temp: Mid: BW	*ENG	[0 to 150 / <b>P2c: 80, P2d: 100</b> / 1 deg/step]
004	Feed: Pressure Temp: Mid: FC	*ENG	
005	Feed: Pressure Temp: Plain: BW: PR	*ENG	[10 to 150 / <b>20</b> / 1 deg/step]
006	Feed: Pressure Temp: Curl: M- Humidity	*ENG	[10 to 150 / <b>90</b> / 1 deg/step]
007	Feed: Pressure Temp: Curl: H- Humidity	*ENG	[10 to 150 / <b>100</b> / 1 deg/step]
010	Feed: Plain 1: BW: Offset	*ENG	[0+ 100 / <b>100</b> / 1 d a / 4 a ]
011	Feed: Plain 1: 2C: Offset	*ENG	[0 to 100 / <b>100</b> / 1 deg/step]
012	Feed: Plain 1: 2C: Offset: P	*ENG	[0 to 100 / <b>10</b> / 1 deg/step]

#### 8. Appendix: SP Mode Tables

013	Feed: Plain: Standby: Offset	*ENG	
014	Feed: Middle Thick: Ready: Offset	*ENG	[0 to 100 / <b>5</b> / 1 deg/step]
015	Feed: Middle Thick: Standby: Offset	*ENG	
016	Feed: Thick: Ready: Offset	*ENG	[0 to 100 / <b>100</b> / 1 deg/step]
017	Feed: Thick: Standby: Offset	*ENG	[0 to 100 / <b>5</b> / 1 deg/step]
018	Feed: Plain 1: Ready :3C: Offset	*ENG	[0 to 100 / P2c: 20, P2d: 10 / 1 deg/step]
019	Feed: Plain 1: Ready :3C: Offset:P	*ENG	[0 to 100 / <b>P2c: 10, P2d: 5</b> / 1 deg/step]
020	Fusing Temp: Plain: Ready	*ENG	[0 to 20 / <b>10</b> / 1 deg/step]
021	Fusing Temp: Mid Speed: Ready	*ENG	[0 to 20 / <b>20</b> / 1 deg/step]
022	Fusing Temp: Mid Speed: Standby	*ENG	[0 to 20 / <b>0</b> / 1 deg/step]
023	Feed: Plain2: Ready :Bw: Offset	*ENG	[0+, 100 / <b>100</b> / 1 deg(tec]
024	Feed: Plain2: Ready :2C: Offset	*ENG	- [0 to 100 / <b>100</b> / 1 deg/step]
025	Feed: Plain2: Ready :2C: Offset :P	*ENG	
026	Feed: Plain2: Ready :3C: Offset	*ENG	- [0 to 100 / <b>20</b> / 1 deg/step]
027	Feed: Plain2: Ready :3C: Offset :P	*ENG	[0 to 100 / <b>10</b> / 1 deg/step]
030	F: Ready : U limit	*ENG	
031	F:Standby:U Limit	*ENG	
032	Feed: Glossy: Ready : U limit	*ENG	[0 to 100 / <b>15</b> / 1 deg/step]
033	G: Stanby: U Limit	*ENG	
-	*		

040	1 bin: Paper Feed: Pressure Temp	*ENG	[20 to 120 / <b>90</b> / 1 deg/step]		
	Specifies the threshold of the pressure roller for the paper feed to the 1 bin tray in 600 dpi mode.				
0.41	F :1bin: Paper Feed: Pressure Temp	*ENG	[20 to 120 / <b>80</b> / 1 deg/step]		
041	Specifies the threshold of the pressure roller for the paper feed to the 1bin tray in 1200 dpi mode.				

1105	[Fusing Temperature] Fusing Temperature Adjustment			
	(Printing Mode, Roller Type, [Color], Simplex/Duplex) Roller Type –> Center and Ends: Heating roller, Pressure –> Pressure roller			
	Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special			
001	Fusing Ready Temp.	*ENG	[150 to 200 / <b>P2c: 165, P2d: 170</b> / 1 deg/ step]	
	Specifies the heating roller targ	get tempero	ature for the ready condition.	
	Fusing Ready: Offset	*ENG	[0 to 100 / <b>5</b> / 1 deg/step]	
002	Sets the heating roller offset temperature for the printing ready condition. Ready temperature = (Target temperature specified in SP1-105-1) – Temperature specified in this SP mode			
	Fusing Ready Temp: H	*ENG	[150 to 200 / <b>P2c: 165, P2d: 170</b> / 1 deg/ step]	
007	Sets the heating roller offset temperature at the end of the heating roller. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during warm-up.			
	Ready Target Add Pressure	*ENG	[0 to 200 / <b>80</b> / 1 deg /step]	
008	Sets the upper limit temperature of the heating roller at the end of the heating roller. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during warm-up.			
	Panel Off1: Pressure	* ENG	[60 to 130 / <b>90</b> / 1 deg/step]	
012	Sets the pressure roller offset temperature. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during warm-up.			

#### 8. Appendix: SP Mode Tables

	Panel Off Mode 2: Pressure	* ENG	[60 to 130 / <b>90</b> / 1 deg /step]		
013	Sets the limit temperature of the pressure roller. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during the warm-up.				
014	Low Power: Pressure	* ENG	[60 to 130 / <b>90</b> / 1 deg /step]		
014	Specifies the stand-by temperc	ature for the	e pressure roller.		
030	Plain: FC: Simplex	*ENG			
032	Plain: FC: Duplex	*ENG	[130 to 180 / <b>P2c: 160, P2d: 165</b> / 1 deg /		
034	Plain: BW: Simplex	*ENG	step]		
036	Plain: BW: Duplex	*ENG			
038	Thin: FC: Simplex	*ENG	[130 to 180 / <b>P2c: 155, P2d: 160</b> / 1 deg/		
042	Thin: BW: Simplex	*ENG	step]		
046	Thick 1: FC: Simplex	*ENG			
048	Thick 1: FC: Duplex	*ENG	[140 + 100 / <b>175</b> / 1 + / + - ]		
050	Thick 1: BW: Simplex	*ENG	[140 to 190 / <b>175</b> / 1 deg /step]		
052	Thick 1: BW: Duplex	*ENG			
054	Thick 2: FC: Simplex	*ENG			
055	Thick 2: BW: Simplex	*ENG	[140 + 100 / <b>140</b> / 1 + - / + - ]		
056	OHP: FC: Simplex	*ENG	[140 to 190 / <b>160</b> / 1 deg /step]		
057	OHP: BW: Simplex	*ENG			

058	Special 1: FC: Simplex	*ENG	
060	Special 1: FC: Duplex	*ENG	
062	Special 1: BW: Simplex	*ENG	
064	Special 1: BW: Duplex	*ENG	
066	Special 2: FC: Simplex	*ENG	
068	Special 2: FC: Duplex	*ENG	[120 to 190 / <b>P2c: 165, P2d: 170</b> / 1 deg/
070	Special 2: BW: Simplex	*ENG	step]
072	Special 2: BW: Duplex	*ENG	
074	Special 3: FC: Simplex	*ENG	
076	Special 3: FC: Duplex	*ENG	
078	Special 3: BW: Simplex	*ENG	
080	Special 3: BW: Duplex	*ENG	
083	Recovery Target Temp.	*ENG	[130 to 180 / <b>P2c: 165, P2d: 170</b> / 1 deg / step]
083	Specifies the target temperatur machine's recovery.	e for the pr	int mode without printing/copying job after the
089	Thick 3: FC: Simplex	*ENG	
091	Thick 3: BW: Simplex	*ENG	
093	Envelop: FC	*ENG	[140 to 190 / <b>170</b> / 1 deg/step]
094	Envelop: BW	*ENG	
095	Middle Thick: Middle Speed: FC: Simplex	*ENG	
097	Middle Thick: Middle Speed: FC: Duplex	*ENG	[120+, 170 / <b>145</b> / 1 + / · 1
099	Middle Thick: Middle Speed: BW: Simplex	*ENG	- [120 to 170 / <b>165</b> / 1 deg /step]
101	Middle Thick: Middle Speed: BW: Duplex	*ENG	

103	Middle Thick: Constant Speed: Offset	*ENG	[0 to 15 / <b>P2c: 5, P2d: 10</b> / 1 deg /step]
113	Thick 4: FC: Simplex	*ENG	
114	Thick 4: BW: Simplex	*ENG	[140 to 190 / <b>175</b> / 1 deg/step]
	-		
115	Thick 5: FC: Simplex	*ENG	[140 to 190 / <b>170</b> / 1 deg/step]
116	Thick 5: BW: Simplex	*ENG	
120	Plain2: FC: Simplex	*ENG	
122	Plain2: FC: Duplex	*ENG	[130 to 180 / <b>P2c: 165, P2d: 170</b> / 1 deg/ step]
124	Plain2: BW: Simplex	*ENG	
126	Plain2: BW: Duplex	*ENG	[130 to 180 / <b>P2c: 165, P2d: 170</b> / 1 deg/ step]
128	F: Plain 1 : FC : Simplex	*ENG	
130	F: Plain 1 : BW : Simplex	*ENG	[120 to 170 / <b>135</b> / 1 deg/step]
132	F: Plain2: FC: Simplex	*ENG	[100 to 170 / <b>140</b> / 1 dom / to 1
134	F: Plain2: BW: Simplex	*ENG	[120 to 170 / <b>140</b> / 1 deg /step]
136	F: Middle Thick: FC: Simplex	*ENG	[120 to 170 / <b>145</b> / 1 day (star)]
138	F: Middle Thick: BW: Simplex	*ENG	[120 to 170 / <b>145</b> / 1 deg /step]
140	F: Thick1: FC: Simplex	*ENG	[100 to 170 / <b>150</b> / 1 to n / ton]
141	F: Thick1: BW: Simplex	*ENG	[120 to 170 / <b>150</b> / 1 deg/step]
142	Glossy: Plain 1	*ENG	[120 to 170 / <b>135</b> / 1 deg/step]
144	Glossy: Plain2	*ENG	[120 to 170 / <b>140</b> / 1 deg/step]
146	Glossy: Middle Thick	*ENG	[120 to 170 / <b>145</b> / 1 deg/step]
148	1 bin: Plain	*ENG	[130 to 180 / <b>P2c: 150, P2d: 155</b> / 1 deg/ step]
150	F: 1 bin: Plain	*ENG	[120 to 170 / <b>135</b> / 1 deg/step]

1104	[Fusing Temperature Display] Fusing Temperature Display (Heating or Pressure)				
1106	Displays the current temperature of the heating and pressure rollers.				
001	Fusing: Center	-	[-20 to 250 / 0 / 1 deg/step] The heating roller has two lamps. One heats the center of the heating roller and the other heats both ends of the heating roller.		
002	Fusing: Ends	-	[-10 to 250 / 0 / 1 deg/step]		
003	Pressure	-	The heating roller has two lamps. One heat s the center of the heating roller and the other heats both ends of the heating roller.		

1100	[Forced Ready Setting]				
1108	Japan use only				
001	ON/OFF	*eng	[0 or 1 / <b>0</b> / 1 ] 0: OFF, 1: ON		
002	Target Voltage Ratio	*ENG	[85 to 115 / <b>92</b> / 1 %/step]		
003	Measured Voltage Ratio	*ENG	[70 to 120 / <b>100</b> / 1 %/step]		
005	Temp: Threshold	*ENG	[10 to 32 / <b>17</b> / 1 deg/step]		
006	Auto Off Timer	*ENG	[0 to 255 / <b>0</b> / 1 min/step]		
007	Time	*ENG	[7 to 60 / P2c: 14.0, P2d: 24.0 / 0.1 sec/step]		
008	10s Forced Ready ON/OFF	*eng	[0 or 1 / 1 / 1] 0: OFF, 1: ON		
009	10s Forced Ready Time	*ENG	[0 to 20 / <b>9.0</b> / 0.1 sec/step]		

1109	[Fusing Nip Band Check]		
001	Execute	-	[0 or 1 / 0 / 1] Executes the nip band measurement between heating roller and pressure roller. If the nip band width is not 8 mm, and fusing is not good, replace the pressure roller or install a new fusing unit.

002	Pre-Idling Time	*ENG	[0 to 255 / <b>240</b> / 1 sec/step]	
	Specifies the fusing rotation time before executing SP1109-001.			
003	Stop Time	* ENG	[5 to 30 / <b>10</b> / 1 sec/step]	
	Specifies the time for measuring the nip.			
004	Pressure Position	* ENG	[0 to 3 / 0 / 1 ]	
	Specifies the pressure position f	or measuri	ng the nip.	

1110	[Pressure Release]				
	Shift Time	*ENG	[0 to 240 / 1 / 1 min/step] <b>DFU</b>		
001	Adjusts the time when the pressure roller moves from the pressing position to the no-pressing positon.				
002	Feed Pressure: 1	*ENG			
003	Feed Pressure: 2	* ENG	Not used [0 to 700 / <b>0</b> / 1 msec/step]		
004	Feed Pressure: 3	* ENG			
			DFU		
005	SC Detection	* ENG	[0 or 1 / 1 / 1] 0: OFF, 1: ON		

1112	[Environmental Correction: Fusing]			
001	Temp.: Threshold: Low	*ENG	[10 to 23 / <b>17</b> / 1 deg/step]	
	Specifies the threshold temperature for low temperature condition.			
002	Temp.: Threshold: High	*ENG	[24 to 40 / <b>30</b> / 1 deg/step]	
002	Specifies the threshold temperature for high temperature condition.			
	Low Temp. Correction	*ENG	[0 to 15 / <b>5</b> / 1 deg/step]	
003	Specifies the temperature correction for the heating roller. When the low temperature condition (specified with SP1112-001) is detected, the value of this SP is added to the heating roller temperature.			

	High Temp. Correction     *ENG     [0 to 15 / 0 / 1 deg/step]					
004	Specifies the temperature correction for the heating roller. When the high temperature condition (specified with SP1112-002) is detected, the value of this SP is subtracted from the heating roller temperature.					
	Reference Temp	*ENG	[15 to	25 / <b>20</b> / 1 deg/step]		
005	Specifies the temperature correction for the heating roller. When the high temperature condition (specified with SP1112-002) is detected, the value of this SP is subtracted from he heating roller temperature.					
006	Low Temp Correction a		*ENG	[0 to 15 / <b>5</b> / 1 deg/step]		
007	Reference Temp Correction a		*ENG	[0 to 15 / <b>0</b> / 1 deg/step]		
008	High Temp Correction a		*ENG	[0 to 15 / <b>0</b> / 1 deg/step]		
009	Low Temp Correction b		*ENG	[0 to 15 / <b>10</b> / 1 deg/step]		
010	Reference Temp Correction b		*ENG	[0 to 15 / <b>0</b> / 1 deg/step]		
011	High Temp Correction b		*ENG	[0 to 15 / <b>0</b> / 1 deg/step]		

1113	[Stand-by Time]				
	Shift Time	*ENG	[0 to 180 / <b>60</b> / 1 sec/step]		
001	Specifies the interval from the ready mode to the stand-by mode. If the machine does not do any printing job for the time specified with this SP after the heating roller has reached the ready temperature, the machine returns to the stand-by mode.				
	After Recovery	*ENG	[0 to 60 / <b>10</b> / 1 sec/step]		
003	Specifies the time for keeping the target temperature after recovery (SP1105-083) without any jobs.				
004	Time After Paper Feed	*ENG	[0 to 10 / 0 / 1 sec/step]		
006	Offset: Center and Ends	*ENG	[0 to 100 / <b>100</b> / 1 deg/step]		
	·		·		

8

001	Interval	*ENG	[1 to 240 / <b>60</b> / 1 min/step]
	Specifies the interval between idling during stand-by mode. This idling during the stand-by mode prevents the roller deformation.		
002	Idling Time	*ENG	[0 to 60 / <b>0.7</b> / 0.1 sec/step]
	Specifies the length of each idling operation during stand-by mode.		

1117	[Idling Time After Heater OFF]			
002	Time After Heater OFF	*ENG	[0 to 20 / <b>0</b> / 1 sec/step]	
	This idling prevents the heating roller overheating after job end.			

1118	[Curl Temperature Correction]		
001	ON/OFF     *ENG     [0 or 1 / 0 / 1]       0: OFF, 1: ON		
002			
003	Humidity 2	*ENG	[0 to 100 / <b>80</b> / 1 %]

1120	[Continues Print Mode Switch]			
	Paper Feed Condition	*ENG	[0 or 2 / <b>0</b> / 1]	
001	Selects the paper feed timing.			
	0: Productivity priority, 2: Fusing quality priory			

1121	[Idling Time After Job]		
001	Discontinues Job	*ENG	[0 to 200 / <b>15</b> / 1 sec/step]
002	Job End: Min	*ENG	[0 to 200 / <b>5</b> / 1 sec/step]
003	Job End: Max	*ENG	[0 to 200 / <b>15</b> / 1 sec/step]

1122	[Repeat Print temp. Correction] DFU
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001JOB Interval: Plain*ENG $[0 to 120/30/1 sec/step]$ $002$ JOB Interval: M-Thick*ENG $[0 to 1200/150/1 sec/step]$ $003$ Shift Time a*ENG $[0 to 1200/150/1 sec/step]$ $004$ Shift Time b*ENG $[0 to 1200/300/1 sec/step]$ $005$ Shift Time c*ENG $[0 to 1200/300/1 sec/step]$ $006$ Shift Time a*ENG $[0 to 1200/300/1 sec/step]$ $007$ Shift Time e*ENG $[0 to 1200/30/1 sec/step]$ $008$ Shift Time f*ENG $[0 to 1200/50/1 sec/step]$ $009$ Shift Time f*ENG $[0 to 1200/0/1 sec/step]$ $000$ Shift Time h*ENG $[0 to 1200/0/1 sec/step]$ $010$ Shift Time h*ENG $[0 to 20/5/1 deg/step]$ $011$ Offset Value a*ENG $[0 to 20/5/1 deg/step]$ $012$ Offset Value c*ENG $[0 to 20/0/1 deg/step]$ $013$ Offset Value d*ENG $[0 to 20/0/1 deg/step]$ $014$ Offset Value f*ENG $[0 to 20/0/1 deg/step]$ $015$ Offset Value f*ENG $[0 to 20/0/1 deg/step]$ $016$ Offset Value f*ENG $[0 to 20/0/1 deg/step]$ $017$ Offset Value h*ENG $[0 to 20/0/1 deg/step]$ $018$ Offset Value h*ENG $[0 to 20/0/1 deg/step]$			_	
002       JOB Interval: M-Thick       *ENG       Interval: M-Thick       *ENG         003       Shift Time a       *ENG       [0 to 1200 / 150 / 1 sec/step]         004       Shift Time b       *ENG       [0 to 1200 / 150 / 1 sec/step]         005       Shift Time c       *ENG       [0 to 1200 / 300 / 1 sec/step]         006       Shift Time d       *ENG       [0 to 1200 / 80 / 1 sec/step]         007       Shift Time d       *ENG       [0 to 1200 / 150 / 1 sec/step]         008       Shift Time f       *ENG       [0 to 1200 / 0 / 1 sec/step]         009       Shift Time g       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 0 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 0 / 1 sec/step]         012       Offset Value b       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 0 / 1 deg/step]         015       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value g	001	JOB Interval: Plain	*ENG	[0 to 120 / <b>20</b> / 1 cos (stan]
004       Shift Time b       *ENG       [0 to 1200 / 150 / 1 sec/step]         005       Shift Time c       *ENG       [0 to 1200 / 300 / 1 sec/step]         006       Shift Time d       *ENG       [0 to 1200 / 80 / 1 sec/step]         007       Shift Time e       *ENG       [0 to 1200 / 150 / 1 sec/step]         008       Shift Time e       *ENG       [0 to 1200 / 0 / 1 sec/step]         009       Shift Time f       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 0 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 0 / 1 sec/step]         012       Offset Value b       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value e       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	002	JOB Interval: M-Thick	*ENG	
005       Shift Time c       *ENG       [0 to 1200 / 300 / 1 sec/step]         006       Shift Time d       *ENG       [0 to 1200 / 80 / 1 sec/step]         007       Shift Time e       *ENG       [0 to 1200 / 150 / 1 sec/step]         008       Shift Time f       *ENG       [0 to 1200 / 50 / 1 sec/step]         009       Shift Time f       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 0 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 0 / 1 sec/step]         012       Offset Value b       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	003	Shift Time a	*ENG	[0 to 1200 / <b>150</b> / 1 sec/step]
006       Shift Time d       *ENG       [0 to 1200 / 80 / 1 sec/step]         007       Shift Time e       *ENG       [0 to 1200 / 150 / 1 sec/step]         008       Shift Time f       *ENG       [0 to 1200 / 50 / 1 sec/step]         009       Shift Time g       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 0 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 0 / 1 sec/step]         012       Offset Value b       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	004	Shift Time b	*ENG	[0 to 1200 / <b>150</b> / 1 sec/step]
007       Shift Time e       *ENG       [0 to 1200 / 150 / 1 sec/step]         008       Shift Time f       *ENG       [0 to 1200 / 50 / 1 sec/step]         009       Shift Time g       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 0 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 1200 / 40 / 1 sec/step]         012       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 5 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	005	Shift Time c	*ENG	[0 to 1200 / <b>300</b> / 1 sec/step]
008       Shift Time f       *ENG       [0 to 1200 / 50 / 1 sec/step]         009       Shift Time g       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 40 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         012       Offset Value b       *ENG       [0 to 20 / 5 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 5 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	006	Shift Time d	*ENG	[0 to 1200 / <b>80</b> / 1 sec/step]
009       Shift Time g       *ENG       [0 to 1200 / 0 / 1 sec/step]         010       Shift Time h       *ENG       [0 to 1200 / 40 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         012       Offset Value b       *ENG       [0 to 20 / 10 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	007	Shift Time e	*ENG	[0 to 1200 / <b>150</b> / 1 sec/step]
010       Shift Time h       *ENG       [0 to 1200 / 40 / 1 sec/step]         011       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         012       Offset Value b       *ENG       [0 to 20 / 10 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 5 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	008	Shift Time f	*ENG	[0 to 1200 / <b>50</b> / 1 sec/step]
011       Offset Value a       *ENG       [0 to 20 / 5 / 1 deg/step]         012       Offset Value b       *ENG       [0 to 20 / 10 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 5 / 1 deg/step]         016       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	009	Shift Time g	*ENG	[0 to 1200 / <b>0</b> / 1 sec/step]
012       Offset Value b       *ENG       [0 to 20 / 10 / 1 deg/step]         013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	010	Shift Time h	*ENG	[0 to 1200 / <b>40</b> / 1 sec/step]
013       Offset Value c       *ENG       [0 to 20 / 5 / 1 deg/step]         014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	011	Offset Value a	*ENG	[0 to 20 / <b>5</b> / 1 deg/step]
014       Offset Value d       *ENG       [0 to 20 / 5 / 1 deg/step]         015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / 0 / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	012	Offset Value b	*ENG	[0 to 20 / <b>10</b> / 1 deg/step]
015       Offset Value e       *ENG       [0 to 20 / 0 / 1 deg/step]         016       Offset Value f       *ENG       [0 to 20 / EU/NA/AA / 1 deg/step]         017       Offset Value g       *ENG       [0 to 20 / 0 / 1 deg/step]	013	Offset Value c	*ENG	[0 to 20 / <b>5</b> / 1 deg/step]
016         Offset Value f         *ENG         [0 to 20 / EU/NA/AA / 1 deg/step]           017         Offset Value g         *ENG         [0 to 20 / 0 / 1 deg/step]	014	Offset Value d	*ENG	[0 to 20 / <b>5</b> / 1 deg/step]
016         Offset Value f         *ENG         EU/AA: 0, NA: 5           017         Offset Value g         *ENG         [0 to 20 / 0 / 1 deg/step]	015	Offset Value e	*ENG	[0 to 20 / <b>0</b> / 1 deg/step]
EU/AA: 0, NA: 5           017         Offset Value g           *ENG         [0 to 20 / 0 / 1 deg/step]	016	Offset Value f	*ENG	[0 to 20 / EU/NA/AA / 1 deg/step]
				EU/AA: 0, NA: 5
018 Offset Value h *ENG [0 to 20 / 5 / 1 deg/step]	017	Offset Value g	*ENG	[0 to 20 / <b>0</b> / 1 deg/step]
	018	Offset Value h	*ENG	[0 to 20 / <b>5</b> / 1 deg/step]

1123	[Fuser Cleaning]				
	Select Operation	*ENG	[0 or 1 / 0 / -]		
001	Enables or disables the fusing cleaning mode.				
0: Cleaning OFF, 1: Cleaning ON					
002	Compulsion execution	-	Execute the fusing cleaning mode.		

003	Control temperature	*ENG	[100 to 185 / <b>185</b> / 1°C/step]		
003	Adjusts the temperature for the fusing cleaning mode.				
004	Continuance time	*ENG	[1 to 300 / <b>160</b> / 1 sec/step]		
004	Adjusts the execution time for the fusing cleaning mode.				
	Operation interval	*ENG	[1 to 240 / <b>5</b> / 1 K/step]		
005	Adjusts the execution interval for the fusing cleaning mode. 1K= 100 sheets				
006	Count when operating	*ENG	[0 to 240,000 / - / 1 page/step]		

1159	[Fusing Jam Detection]				
	SC Display	*ENG	[0 or 1 / 0 / -]		
001	Enables or disables the fusing consecutive jam (three times) SC detection.				

1801	[Motor Speed Adj.] FA		
001	Registration:Plain:Low	*ENG	[-2 to 2 / <b>-1.1</b> / 0.1 %/step]
002	Registration:Plain:High	*ENG	[-2 to 2 / <b>-0.1</b> / 0.1 %/step]
003	Registration:Middle Thick:Low	*ENG	[-2 to 2 / <b>-1.1</b> / 0.1 %/step]
004	Registration:Middle Thick:Mid	*ENG	
005	Registration:Middle Thick:High	*ENG	[-2 to 2 / <b>-0.1</b> / 0.1 %/step]
006	Registration:Thick 1:Low	*ENG	[-2 to 2 / <b>-1.1</b> / 0.1 %/step]
007	Registration:Thick1:Mid	*ENG	[-2 to 2 / <b>-0.1</b> / 0.1 %/step]
008	Registration:Thick 2:Low	*ENG	[-2 to 2 / <b>-1.1</b> / 0.1 %/step]
009	Registration:Thick 3:Low	*ENG	[-2 10 2 / -1.1 / 0.1 %/ step]

010	Duplex CW:Plane:Low	*ENG	
011	Duplex CW:Normal:High	*ENG	
012	Duplex CW:Middle Thick:Low	*ENG	
013	Duplex CW:Middle Thick:Mid	*ENG	
014	Duplex CW:Middle Thick:High	*ENG	[-4 to 4 / 0.0 / 0.1 %/step]
015	Duplex CW:Thick1:Low	*ENG	
016	Duplex CW:Thick1:Mid	*ENG	
017	Duplex CW:Thick2:Low	*ENG	
018	Duplex CW:Thick3:Low	*ENG	
019	Duplex CCW:Normal:High	*ENG	
020	Duplex CCW:Middle Thick:Mid	*ENG	
021	Duplex CCW:Middle Thick:high	*ENG	[-4 to 4 / <b>0.0</b> / 0.1 %/step]
023	Duplex CCW:Thick1:Mid	*ENG	
024	Reverse CW:Normal:High	*ENG	[-4 to 4 / -0.5 / 0.1%/step]
025	Reverse CW:Middle Thick:Mid	*ENG	[-4 to 4 / 0 / 0.1 %/step]
026	Reverse CW:Middle Thick:High	*ENG	[-4 to 4 / -0.5 / 0.1%/step]
028	Reverse CW:Thick1:Mid	*ENG	
029	Reverse CCW:Normal:High	*ENG	
030	Reverse CCW:Middle Thick:Mid	*ENG	[-4 to 4 / 0 / 0.1 %/step]
031	Reverse CCW:Middle Thick:High	*ENG	
033	Reverse CCW:Thick1:Mid	*ENG	
034	Feed:Plain:Low	*ENG	[-2 to 2 / -1.1 / 0.1 %/step]
035	Feed:Plain:High	*ENG	[-2 to 2 / - <b>0.1</b> / 0.1 %/step]
036	Feed:Middle thick:Low	*ENG	[-2 to 2 / -1.1 / 0.1 %/step]
037	Feed:Middle thick:Mid	*ENG	[ 2 + 2 / <b>01</b> / 0.1 % / 4 + 1
038	Feed:Middle thick:High	*ENG	- [-2 to 2 / - <b>0.1</b> / 0.1 %/step]
	•		

039	Feed:Thick 1:Low	*ENG	[-2 to 2 / -1.1 / 0.1 %/step]
040	Feed:Thick 1:Mid	*ENG	[-2 to 2 / - <b>0.1</b> / 0.1 %/step]
041	Feed:Thick 2:Low	*ENG	
042	Feed:Thick 3:Low	*ENG	[-2 to 2 / - <b>1.1</b> / 0.1 %/step]
043	Bridge Motor:Low	*ENG	
044	Bridge Motor:Mid	*ENG	[-4 to 4 / <b>0</b> / 0.1 %/step]
045	Bridge Motor:High	*ENG	
047	Registration: 115: Middle Thick	*ENG	[-2 to 2 / <b>0</b> / 0.05 %/step]
060	KOpcDevMot:High	*ENG	
061	KOpcDevMot:Mid	*ENG	[-4 to 4 / - <b>0.6</b> / 0.01 %/step]
062	KOpcDevMot:Low	*ENG	
063	MOpcDevMot:High	*ENG	[-10 to 10 / 0 / 1 step/step]
064	MOpcDevMot:Mid	*ENG	[-9 to 9 / <b>0</b> / 1 step/step]
065	MOpcDevMot:Low	*ENG	[-14 to 14 / 0 / 1 step/step]
066	COpcDevMot:High	*ENG	[-10 to 10 / <b>0</b> / 1 step/step]
067	COpcDevMot:Mid	*ENG	[-9 to 9 / <b>0</b> / 1 step/step]
068	COpcDevMot:Low	*ENG	[-14 to 14 / 0 / 1 step/step]
069	YOpcDevMot:High	*ENG	[-10 to 10 / <b>0</b> / 1 step/step]
070	YOpcDevMot:Mid	*ENG	[-9 to 9 / <b>0</b> / 1 step/step]
071	YOpcDevMot:Low	*ENG	[-14 to 14 / 0 / 1 step/step]
072	Fusing: High	*ENG	[-4 to 4 / <b>1.9</b> / 0.01 %/step]
073	Fusing: Mid	*ENG	[-4 to 4 / <b>1.4</b> / 0.01 %/step]
074	Fusing: Low	*ENG	[-4 to 4 / <b>1.7</b> / 0.01 %/step]
075	TransferMot:High	*ENG	
076	TransferMot:Mid	*ENG	[-4 to 4 / - <b>0.2</b> / 0.01 %/step]
077	TransferMot:Low	*ENG	
·	l		

078	TonerMot	*ENG	[-30 to 30 / <b>10</b> / 5 %/step]
079	Fusing Exit Motor: 1200	*ENG	[-4 to 4 / <b>2.1</b> / 0.01 %/step]
100	Drum Adjust	*ENG	[0 or 1 / 1 / 1] 0: Off, 1: On
	Enables or disables the drum amplitude	adjustmer	ıt.
101	230mm/s:M	*ENG	
102	230mm/s:C	*ENG	[-10 to 10 / <b>P2c: 0</b> / 1 step/step] [-9 to 9 / <b>P2d: 0</b> / 1 step/step]
103	230mm/s:Y	*ENG	
104	205mm/s:M	*ENG	
105	205mm/s:C	*ENG	[-7 to 7 / <b>0</b> / 1 step/step]
106	205mm/s:Y	*ENG	
107	154mm/s:M	*ENG	
108	154mm/s:C	*ENG	[-14 to 14 / <b>0</b> / 1 step/step]
109	154mm/s:Y	*ENG	
110	77mm/s:M	*ENG	
111	77mm/s:C	*ENG	[-7 to 7 / <b>0</b> / 1 step/step]
112	77mm/s:Y	*ENG	-
120	Long:Regi:Plain:H	*ENG	[- 2 to 2 / <b>-0.1</b> / 0.1 %/step]
121	Long:Regi:Plain:L	*ENG	[- 2 to 2 / <b>-1.1</b> / 0.1 %/step]
122	Long:Regi:MidTh:H	*ENG	
123	Long:Regi:MidTh:M	*ENG	[- 2 to 2 / <b>-0.1</b> / 0.1 %/step]
124	Long:Regi:MidTh:L	*ENG	[- 2 to 2 / <b>-1.1</b> / 0.1 %/step]
125	Long:Regi:Thck1:M	*ENG	[- 2 to 2 / <b>-1</b> / 0.1 %/step]
126	Long:Regi:Thck1:L	*ENG	
127	Long:Regi:Thck2:L	*ENG	[- 2 to 2 / <b>-1.1</b> / 0.1 %/step]
128	Long:Regi:Thck3:L	*ENG	

129	Long:Fuse:Plain:H	*ENG	[- 2 to 2 / <b>1.9</b> / 0.01 %/step]
130	Long:Fuse:Plain:L	*ENG	[-4 to 4 / 2.1 / 0.01 %/step]
131	Long:Fuse:MidTh:H	*ENG	[-4 to 4 / 1.9 / 0.01 %/step]
132	Long:Fuse:MidTh:M	*ENG	[-4 to 4 / <b>1.4</b> / 0.01 %/step]
133	Long:Fuse:MidTh:L	*ENG	[-4 to 4 / 2.1 / 0.01 %/step]
134	Long:Fuse:Thck1:M	*ENG	[-4 to 4 / 2 / 0.01 %/step]
135	Long:Fuse:Thck1:L	*ENG	
136	Long:Fuse:Thck2:L	*ENG	[- 4 to 4 / <b>1.7</b> / 0.01 %/step]
137	Long:Fuse:Thck3:L	*ENG	

1901	[Recovery Temp. Ope. Time]		
004	-	*ENG	[0 to 60 / 10 / 1 sec/step] Not used

1902	[Amplitude Control]			
001	Execute	-	Execute the drum phase adjustment.	
			[0 to 3 / 0 / 1]	
			Displays the result of the drum phase adjustment.	
002	Result	*ENG	0: Successfully done	
			2: Sampling failure	
			3: Insufficient detection number	
			[0 or 1 / 1 / -]	
003	Auto Execution	*ENG	Turns the automatic drum phase adjustment on or off.	
			0: Off, 1: On	

1907	[Paper Feed Timing Adj.] DFU		
002	Feed Solenoid ON: Plain	*ENG	[-10 to 40 / <b>0</b> / 2.5 mm/step]

003	Feed Clutch OFF: Plain	*ENG	
004	Feed Clutch ON: Plain	*ENG	
005	Inverter Stop Position	*ENG	[-10 to 10 / <b>0</b> / 1 mm/step]
006	Reverse Stop Position	*ENG	
007	Re-Feed Stop Position	*ENG	
008	By-pass Solenoid OFF	*ENG	[0 to 40 / <b>0</b> / 1 mm/step]
009	By-pass Solenoid Re-ON	*ENG	[0 or 1 / 1 / -]
010	By-pass Feed Clutch ON	*ENG	[-10 to 10 / <b>0</b> / 1 mm/step]
012	Feed Solenoid ON: Thick	*ENG	[-10 to 40 / <b>0</b> / 2.5 mm/step]
013	Feed Clutch OFF: Thick	*ENG	
014	Feed Clutch ON: Thick	*ENG	[-10 to 10 / <b>0</b> / 1 mm/step]
015	ReFeed Stop:Small	*ENG	

1908	[Paper Bank Feed Timing Adj.] DFU	
010	Bridge Junction Gate Sol-ON	*ENG
011	Bridge Junction Gate Sol-OFF	*ENG
012	1 Bin Junction Gate Sol-ON	*ENG
013	1 Bin Junction Gate Sol-OFF	*ENG
015	Junction Gate SOL1:ON:Plain	*ENG
016	Junction Gate SOL1:ON:Thick	*ENG
017	Junction Gate SOL1:OFF:Plain	*ENG
018	Junction Gate SOL1:OFF:Thick	*ENG

	[Fusing Feed Start Time]
1910	Specifies the waiting time for feeding paper after the machine has entered the print ready mode.

011	Plain FC: Ready: M	*ENG	
012	Plain FC: Standby: M	*ENG	
013	Plain FC: Ready: L	*ENG	
014	Plain FC: Ready: L	*ENG	
015	MT: Ready: M	*ENG	
016	MThick: Ready: M	*ENG	
017	MT: Ready: L	*ENG	
018	MThick: Ready: L	*ENG	[0 to 250 / <b>0</b> / 1 sec/step]
019	THr Paper: Ready: M	*ENG	
020	Thick Paper: Ready: M	*ENG	
021	TH Paper: Ready: L	*ENG	
022	Thick Paper: Ready: L	*ENG	
023	Plain FC: stb. Rcv.	*ENG	
024	Mthick FC: stb. Rcv.	*ENG	
025	Thick FC: stb. Rcv.	*ENG	

1915	[After Ready Setting]		
011	Offset: Plain: Ready	*ENG	[0 to 50 / <b>P2c: 0, P2d: 0</b> / 1 deg/step]
012	Offset: Plain: Standby	*ENG	[0 to 50 / <b>0</b> / 1 deg/step]
013	Offset: Middle Thick: Ready	*ENG	[0 to 50 / <b>20</b> / 1 deg/step]
014	Offset: Middle Thick: Standby	*ENG	
015	Offset: Thick: Ready	*ENG	[0 to 50 / <b>0</b> / 1 deg/step]
016	Offset: Thick: Standby	*ENG	

017	Time: Plain: Ready	*ENG	
018	Time: Plain: Standby	*ENG	
019	Time: Middle Thick: Ready	*ENG	[0.4. 40 / <b>10</b> / 1 / tem]
020	Time: Middle Thick: Standby	*ENG	[0 to 60 / <b>10</b> / 1 sec/step]
021	Time: Thick: Ready	*ENG	
022	Time: Thick: Standby	*ENG	
023	Coefficient: Plain	*ENG	
024	Coefficient: Middle Thick	*ENG	[0 to 5 / <b>1</b> / 0.1 deg/sec/step]
025	Coefficient: Thick	*ENG	

1916	[CPM Down Setting]		
026	Voltage Target	*ENG	[80 to 120 / <b>93</b> / 1 %/step]
031	On/Off	*ENG	[0 to 3 / 1 / 1] 0: OFF 1: ON 2: M-Thick: ON 3: Plain: ON
032	D1: Plain: BW: Offset	*ENG	[0 to 100 / <b>25</b> / 1 deg/step]
033	D2: Plain: BW: Offset	*ENG	[0 to 100 / <b>27</b> / 1 deg/step]
034	D3: Plain: BW: Offset	*ENG	[0 to 100 / <b>30</b> / 1 deg/step]
035	D1: Plain: FC: Offset	*ENG	[0 to 100 / <b>20</b> / 1 deg/step]
036	D2: Plain: FC: Offset	*ENG	[0 to 100 / <b>22</b> / 1 deg/step]
037	D3: Plain: FC: Offset	*ENG	[0 to 100 / <b>25</b> / 1 deg/step]
038	D1: Middle Thick: BW: Offset	*ENG	[0 to 100 / <b>30</b> / 1 deg/step]
039	D2: Middle Thick: BW: Offset	*ENG	[0 to 100 / <b>32</b> / 1 deg/step]
040	D3: Middle Thick: BW: Offset	*ENG	[0 to 100 / <b>35</b> / 1 deg/step]
041	D1: Middle Thick: FC: Offset	*ENG	[0 to 100 / <b>20</b> / 1 deg/step]

042	D2: Middle Thick: FC: Offset	*ENG	[0 to 100 / <b>22</b> / 1 deg/step]
043	D3: Middle Thick: FC: Offset	*ENG	[0 to 100 / <b>25</b> / 1 deg/step]
044	D1: Plain :BW : CPM	*eng	[20 to 40 / <b>P2c: 35</b> / 1 cpm/step] [20 to 50 / <b>P2d: 45</b> / 1 cpm/step]
045	D2: Plain :BW : CPM	*ENG	[20 to 40 / <b>P2c: 30</b> / 1 cpm/step] [20 to 50 / <b>P2d: 40</b> / 1 cpm/step]
046	D3: Plain :BW : CPM	*eng	[20 to 40 / <b>P2c: 25</b> / 1 cpm/step] [20 to 50 / <b>P2d: 35</b> / 1 cpm/step]
047	D1: Plain :FC : CPM	*ENG	[20 to 40 / <b>P2c: 35</b> / 1 cpm/step] [20 to 50 / <b>P2d: 45</b> / 1 cpm/step]
048	D2: Plain :FC : CPM	*ENG	[20 to 40 / <b>P2c: 30</b> / 1 cpm/step] [20 to 50 / <b>P2d: 40</b> / 1 cpm/step]
049	D3: Plain :FC : CPM	*ENG	[20 to 40 / <b>P2c: 25</b> / 1 cpm/step] [20 to 50 / <b>P2d: 35</b> / 1 cpm/step]
050	D1: Middle Thick: BW: CPM	*ENG	[20 to 40 / <b>P2c: 35</b> / 1 cpm/step] [20 to 50 / <b>P2d: 45</b> / 1 cpm/step]
051	D2: Middle Thick: BW: CPM	*ENG	[20 to 40 / <b>P2c: 30</b> / 1 cpm/step] [20 to 50 / <b>P2d: 40</b> / 1 cpm/step]
052	D3: Middle Thick: BW: CPM	*ENG	[20 to 40 / <b>P2c: 25</b> / 1 cpm/step] [20 to 50 / <b>P2d: 35</b> / 1 cpm/step]
053	D1: Middle Thick: FC: CPM	*ENG	[20 to 40 / <b>P2c: 35</b> / 1 cpm/step] [20 to 50 / <b>P2d: 45</b> / 1 cpm/step]
054	D2: Middle Thick: FC: CPM	*ENG	[20 to 40 / <b>P2c: 30</b> / 1 cpm/step] [20 to 50 / <b>P2d: 40</b> / 1 cpm/step]
055	D3: Middle Thick: FC: CPM	*ENG	[20 to 40 / <b>P2c: 25</b> / 1 cpm/step] [20 to 50 / <b>P2d: 35</b> / 1 cpm/step]
056	Operation Time	*ENG	[0 to 120 / <b>5</b> / 1 sec/step]
057	Operation Time:D0	*ENG	[0 to 120 / <b>5</b> / 1 sec/step]

060	Ends Down ON/OFF	*ENG	[0 or 1 / 1 / 1 /step]
			0: OFF, 1: ON
061	Limit Temperature	*ENG	[200 to 250 / <b>250</b> / 1 deg/step]
062	D1: Paper Width1: Offset	*ENG	[10 to 100 / <b>15</b> / 1 deg/step]
063	D2: Paper Width1: Offset	*ENG	[10 to 100 / <b>15</b> / 1 deg/step]
064	D1: Paper Width2: Offset	*ENG	[10 to 100 / <b>35</b> / 1 deg/step]
065	D2: Paper Width2: Offset	*ENG	[10 to 100 / <b>30</b> / 1 deg/step]
066	D1: Paper Width3: Offset	*ENG	[10 to 100 / <b>35</b> / 1 deg/step]
067	D2: Paper Width3: Offset	*ENG	[10 to 100 / <b>30</b> / 1 deg/step]
068	D1: Paper Width1: CPM	*ENG	[10 to 40 / <b>P2c: 20</b> / 5 cpm/step]
			[10 to 50 / <b>P2d: 20</b> / 5 cpm/step]
069	D2: Paper Width1: CPM	*ENG	[10 to 40 / <b>P2c: 20</b> / 5 cpm/step]
	•		[10 to 50 / <b>P2d: 20</b> / 5 cpm/step]
070	D1: Paper Width2: CPM	*ENG	[10 to 40 / P2c: 35 / 5 cpm/step]
			[10 to 50 / P2d: 45 / 5 cpm/step]
071	D2: Paper Width2: CPM	*ENG	[10 to 40 / <b>P2c: 20</b> / 5 cpm/step] [10 to 50 / <b>P2d: 20</b> / 5 cpm/step]
			[10 to 40 / <b>P2c: 35</b> / 5 cpm/step]
072	D1: Paper Width3: CPM	*ENG	[10 to 50 / <b>P2d: 45</b> / 5 cpm/step]
		4 =	[10 to 40 / <b>P2c: 20</b> / 5 cpm/step]
073	D2: Paper Width3: CPM	*ENG	[10 to 50 / <b>P2d: 20</b> / 5 cpm/step]
074	Ends: Sustained Time	*ENG	[0 to 120 / <b>30</b> / 1 sec/step]
075	Pressure Start Temp	*ENG	[0 to 100 / <b>100</b> / 1 deg/step]
076	D1: Paper Width4: Offset	*ENG	[10 to 100 / <b>45</b> / 1 deg/step]
077	D2: Paper Width4: Offset	*ENG	[10 to 100 / <b>40</b> / 1 deg/step]
078	D1: Paper Width4: CPM	*ENG	[10 to 40 / <b>P2c: 35</b> / 1 cpm/step]
0/0			[10 to 50 / <b>P2d: 45</b> / 1 cpm/step]

079	D2: Paper Width4: CPM	*ENG	[10 to 40 / <b>P2c: 20</b> 1 cpm/step]
		LING	[10 to 50 / <b>P2d: 20</b> / 1 cpm/step]

1917	[Magnetic Field Roller HP Detection]		
	Position Replacement	*ENG	[5 to 100 / <b>40</b> / 1 times/step]
001	001 Specifies the limit times of the ferrite roller rotation for initializing the home position ferrite roller. After the ferrite roller rotates more than 40 times, the machine starts home position of the ferrite roller.		с I
	Continuous Feed Page *ENG [100 to 1000 / 500 / 10 sheets/		
002	Specifies the limit sheets of outputs for initializing the home position of the ferrite roller. Wh the outputs are more than 500 sheets of paper, the machine starts to find the home positi of the ferrite roller.		-

1950	[Fan Cooling Time Set] Not used			
1950	Adjust the rotation time for eac	ust the rotation time for each fan motor after a job end.		
002	Fusing Exit Fan	*ENG		
006	Main Suction Fan	*ENG		
007	Paper Exit Fan	*ENG	[0 to 60 / <b>0</b> / 1 sec/step]	
008	PSU Fan	*ENG		
009	Fusing IH Coil Fan	*ENG		
010	IH Power Supply Fan	*ENG	[0 to 60 / 3 <b>0</b> / 1 sec/step]	
011	Second Duct Fan	*ENG	[0 to 60 / <b>0</b> / 1 sec/step]	
012	Third Duct Fan	*ENG	[0 to 60 / <b>0</b> / 1 sec/step]	

## SP2-XXX (Drum)

	[Charge DC Voltage] Charge Roller DC Voltage Adjustment		
	(Paper Type, Process Speed, C	Color)	
2005	Paper Type -> Plain, Thick 1, 1	Thick 2	
	Plain: 205 (P2c)/ 230 (P2d) n	nm/sec, Th	ick 1: 154 mm/sec,
	Thick 2&FINE: 77 mm/sec		
	Adjusts the DC component of t	he charge ı	oller bias in the various print modes.
	Charge bias (DC component) is automatically adjusted during process control; therefore, adjusting these settings does not effect while process control mode (SP3-041-1 Default: ON) is activated. When deactivating process control mode with SP3-041-1, the values in these SP modes are used for printing.		
001	Plain: Bk	*ENG	
002	Plain: M	*ENG	
003	Plain: C	*ENG	
004	Plain: Y	*ENG	-
005	Thick 1: Bk	*ENG	
006	Thick 1: M	*ENG	
007	Thick 1: C	*ENG	[0 to 1000 / <b>690</b> / 10 –V/step]
008	Thick 1: Y	*ENG	-
009	Thick 2&FINE: Bk	*ENG	-
010	Thick 2&FINE: M	*ENG	-
011	Thick 2&FINE: C	*ENG	
012	Thick 2&FINE: Y	*ENG	
013	Plain	*ENG	[-100 to 100 / <b>P2c: -23, P2d: -16</b> / 1 -V/ step]
014	Thick 1	*ENG	[-100 to 100 / - <b>24</b> / 1 -V/step]
015	Thick 2&FINE	*ENG	[-100 to 100 / <b>2</b> / 1 -V/step]

	[Charge AC Voltage] Charge Roller AC Voltage Adjustment					
	(Paper Type, Process Speed, Color)					
	Paper Type -> Plain, Thick 1, Thick 2					
2006	Plain: 205 (P2c)/ 230 (P2d) mm/sec, Thick 1: 154 mm/sec,					
2000	Thick 2&FINE: 77 mm/sec					
	Adjusts the AC component of t	he charge	roller bias in the various print modes.			
		•	by environment correction (SP2-007-xxx to			
	SP2-011-xxx). These SPs are a	activated a	only when SP2-012-1 is set to "1: manual control".			
001	Plain: Bk	*ENG				
002	Plain: M	*ENG				
003	Plain: C	*ENG				
004	Plain: Y	*ENG				
005	Thick 1: Bk	*ENG				
006	Thick 1: M	*ENG	[0 to 3 / <b>2.1</b> / 0.01 KV/step]			
007	Thick 1: C	*ENG				
008	Thick 1: Y	*ENG				
009	Thick 2&FINE: Bk	*ENG				
010	Thick 2&FINE: M	*ENG				
011	Thick 2&FINE: C	*ENG				
012	Thick 2&FINE: Y	*ENG				

2007	[Charge AC Current: LL] Charge Roller AC Current Adjustment for LL (Color)			
2007	Displays/sets the AC current target of the charge roller for LL environment (Low temperature and Low humidity). <b>DFU</b>			

001	Environmental Target: Bk	*ENG	
002	Environmental Target: M	*ENG	[0 to 3 / P2c: 1.41, P2d: 1.59 / 0.01 mA/
003	Environmental Target: C	*ENG	step]
004	Environmental Target: Y	*ENG	

2008	[Charge AC Current: ML] Charge Roller AC Current Adjustment for MM (Color)			
2000	Displays/sets the AC current target temperature and Low humidity). <b>D</b>	arge roller for ML environment (Meddle		
001	Environmental Target: Bk	*ENG		
002	Environmental Target: M	*ENG	[0 to 3 / <b>P2c: 1.49, P2d: 1.68</b> / 0.01 mA/	
003	Environmental Target: C	*ENG	step]	
004	Environmental Target: Y	*ENG		

2009	[Charge AC Current: MM] Charge Roller AC Current Adjustment for MM (Color)			
Displays/sets the AC current target of the charge roller for MM environment (N temperature and Middle humidity). <b>DFU</b>				
001	Environmental Target: Bk	*ENG		
002	Environmental Target: M	*ENG	[0 to 3 / <b>P2c: 1.56, P2d: 1.76</b> / 0.01 mA/	
003	Environmental Target: C	*ENG	step]	
004	Environmental Target: Y	*ENG		

2010	[Charge AC Current: MH] Charge Roller AC Current Adjustment for MH (Color)		
2010	Displays/sets the AC current target of the charge roller for MH environment (Middle temperature and High humidity). <b>DFU</b>		

001	Environmental Target: Bk	*ENG	
002	Environmental Target: M	*ENG	[0 to 3 / <b>P2c: 1.64, P2d: 1.83</b> / 0.01 mA/
003	Environmental Target: C	*ENG	step]
004	Environmental Target: Y	*ENG	

2011	[Charge AC Current: HH] Charge Roller AC Current Adjustment for HH (Color)			
2011	arge roller for HH environment (High			
001	Environmental Target: Bk	*ENG		
002	Environmental Target: M	*ENG	[0 to 3 / <b>P2c: 1. 66, P2d: 1.85</b> / 0.01 mA/	
003	Environmental Target: C	*ENG	step]	
004	Environmental Target: Y	*ENG		

2012	[Charge Output Control]		
001	AC Voltage	*ENG	Selects the AC voltage control type. [0 or 1 / <b>0</b> / 1 /step] 0: Process control 1: Manual control (AC voltages are decided with SP2006.)

2013	[Environmental Correction: PCU]		
001 Display		*ENG	Displays the environmental condition, which is measured in absolute humidity.
			[1 to 5 / <b>-</b> / 1 /step]
			1: LL (LL <= 4.3 g/m <sup>3</sup> )
			2: ML (4.3 < ML <= 11.3 g/m <sup>3</sup> )
			3: MM (11.3 < MM <= 18.0 g/m <sup>3</sup> )
			4: MH (18.0 < MH <= 24.0 g/m <sup>3</sup> )
			5: HH (24.0 g/m <sup>3</sup> < HH)

002	Forced Setting	*ENG	Selects the environmental condition manually. [0 to 5 / <b>0</b> / 1 /step] 0: The environmental condition is determined automatically. 1: LL, 2: ML, 3: MM, 4: MH, 5: HH
003	Absolute Humidity: Threshold 1	*ENG	Changes the humidity threshold between LL and ML. [0 to 100 / <b>4.3</b> / 0.01 g/m <sup>3</sup> /step]
004	Absolute Humidity: Threshold 2	*ENG	Changes the humidity threshold between ML and MM. [0 to 100 / <b>11.3</b> / 0.01 g/m <sup>3</sup> /step]
005	Absolute Humidity: Threshold 3	*ENG	Changes the humidity threshold between MM and MH. [0 to 100 / <b>18.0</b> / 0.01 g/m <sup>3</sup> /step]
006	Absolute Humidity: Threshold 3	*ENG	Changes the humidity threshold between MH and HH. [0 to 100 / <b>24.0</b> / 0.01 g/m <sup>3</sup> /step]
007	Current Temp.: Display	*ENG	Displays the current temperature. [0 to 100 / <b>0</b> / 1 deg/step]
008	Current Relative Humidity: Display	*ENG	Displays the current relative humidity. [0 to 100 / <b>0</b> / 1%RH/step]
009	Current Absolute Humidity: Display	*ENG	Displays the absolute humidity. [0 to 100 / <b>0</b> / 0.01 g/m <sup>3</sup> /step]
010	Previous Environmental: Display	*ENG	Displays the previous environmental condition, which is measured in absolute humidity. [1 to 5 / – / 1 /step] 1: LL, 2: ML, 3: MM, 4: MH, 5: HH
011	Previous Temp.: Display	*ENG	Displays the previous temperature. [0 to 100 / <b>0</b> / 1 deg/step]
012	Previous Relative Humidity: Display	*ENG	Displays the previous relative humidity. [0 to 100 / <b>0</b> / 1%RH/step]

012	Previous Absolute Humidity:	*ENG	Displays the previous absolute humidity.
015	Display	LING	[0 to 100 / <b>0</b> / 0.01 g/m <sup>3</sup> /step]

0014				
2014	Specifies the charge AC contr	trol interval or thresholod for each condition.		
001	Exec Interval: Power ON	*ENG		
002	Exec Interval: Print	*ENG	[0 to 2000 / <b>500</b> / 1 page/step]	
003	Page Interval	*ENG	[0 to 500 / <b>10</b> / 5 page/step]	
004	Temperature	*ENG	[0 to 99 / <b>25</b> / 1 deg/step]	
005	Relative Humidity	*ENG	[0 to 99 / <b>50</b> / 1 %RH/step]	
006	Absolute Humidity	*ENG	[0 to 99 / <b>12</b> / 1 g/m <sup>3</sup> /step]	
007	Temp Threshold M	*ENG	[0 to 99 / <b>10</b> / 1 deg/step]	
008	RH Threshold M	*ENG	[0 to 99 / <b>50</b> / 1 %RH/step]	
009	AH Threshold M	*ENG	[0 to 99 / <b>6</b> / 1 g/m <sup>3</sup> /step]	
010	Temp Threshold S	*ENG	[0 to 20 / <b>1</b> / 0.1 deg/step]	
011	RH Threshold S	*ENG	[0 to 50 / <b>5</b> / 1 %RH/step]	
012	AH Threshold S	*ENG	[0 to 20 / <b>1</b> / 0.1 g/m <sup>3</sup> /step]	
013	Non-use Time	*ENG	[0 to 1440 / <b>360</b> / 10 min/step]	

2015	[Charge AC Adj: Result]		
001	Bk	*ENG	[0 to 9 / <b>0</b> / 1 /step]
002	М	*ENG	0: Success
003	С	*ENG	1: Out of tolerance range 2: Out of adjustable range
004	Y	*ENG	3: Adjustment incompleted

	[Color Registration Correction] FA			
2101	These values are the parameters for the automatic line position adjustment and are adjusted at the factory. However, you must input a value for SP2101-001 after replacing the laser optics housing unit. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section. The value should be provided with the new laser optics housing unit.			
001	Main Dot: Bk	*ENG		
002	Main Dot: M	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]	
003	Main Dot: C	*ENG		
004	Main Dot: Y	*ENG		
005	Sub Line: Bk	*ENG		
006	Sub Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]	
007	Sub Line: C	*ENG		
008	Sub Line: Y	*ENG		

|--|

001	Main Mag.: High Speed: Bk	*ENG	
002	Main Mag.: Medium Speed: Bk	*ENG	
003	Main Mag.: Low Speed: Bk	*ENG	
004	Main Mag.: High Speed: M	*ENG	
005	Main Mag.: Medium Speed: M	*ENG	
006	Main Mag.: Low Speed: M	*ENG	These are results of the main scan length adjustment.
007	Main Mag.: High Speed: C	*ENG	[0 to 560 / <b>280</b> / 1 /step]
008	Main Mag.: Medium Speed: C	*ENG	-
009	Main Mag.: Low Speed: C	*ENG	
010	Main Mag.: High Speed: Y	*ENG	
011	Main Mag.: Medium Speed: Y	*ENG	-
012	Main Mag.: Low Speed: Y	*ENG	
013	Offset: Mag Bk1-2	*ENG	
014	Offset: Mag M1-2	*ENG	$\begin{bmatrix} 254 + 255 \\ 0 \\ 1 \end{bmatrix}$
015	Offset: Mag C1-2	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
016	Offset: Mag Y1-2	*ENG	

2103	[Erase Margin Adjustment] (Area, Paper Size)			
	Adjusts the erase margin by deleting image data at the margins.			
001	Lead Edge Width	*ENG		
002	Trail. Edge Width	*ENG	[0 to 9.9 / <b>4.2</b> / 0.1 mm/step]	
003	Left	*ENG		
004	Right	*ENG	[0 to 9.9 / <b>2</b> / 0.1 mm/step]	
005	Lead Edge Width: Thin	*ENG	[0 to 9.9 / <b>5</b> / 0.1 mm/step]	

006	Duplex Trail. L Size	*ENG	[0 to 4 / 1 / 0.1 mm/step]
007	Duplex Trail. M Size	*ENG	[0 to 4 / <b>0.8</b> / 0.1 mm/step]
008	Duplex Trail. S Size	*ENG	[0 to 4 / <b>0.6</b> / 0.1 mm/step]
009	Duplex Left Edge	*ENG	[0 to 1.5 / <b>0.3</b> / 0.1 mm/step]
010	Duplex Right Edge	*ENG	[0101.37 <b>0.3</b> 70.1 mm/siep]
011	Duplex Trail. L Size:Thick	*ENG	[0 to 4 / 1 / 0.1 mm/step]
012	Duplex Trail. M Size:Thick	*ENG	[0 to 4 / <b>0.8</b> / 0.1 mm/step]
013	Duplex Trail. S Size:Thick	*ENG	[0 to 4 / <b>0.6</b> / 0.1 mm/step]
014	Duplex Left Edge:Thick	*ENG	[0 + 1, 5, (0, 2, (0, 1), mm/step]
015	Duplex Right Edge:Thick	*ENG	[0 to 1.5 / <b>0.3</b> / 0.1 mm/step]

2105	[LD Power Adj.] (Process Speed, Color)	
	Adjusts the LD power of each color for each process speed.	
	Each LD power setting is decided by process control.	
	High Speed: 205 (P2c)/230 (P2d) mm/sec, Middle Speed: 154 mm/sec, Low Speed: 77 mm/sec	

-		1	
001	High Speed: Bk	*ENG	
002	High Speed: M	*ENG	
003	High Speed: C	*ENG	
004	High Speed: Y	*ENG	
005	Middle Speed: Bk	*ENG	[50 to 120 / <b>100</b> / 1%/step]
006	Middle Speed: M	*ENG	Decreasing a value makes lines thinner on the
007	Middle Speed: C	*ENG	output. Increasing a value makes lines thicker on the
008	Middle Speed: Y	*ENG	output.
009	Low Speed: Bk	*ENG	
010	Low Speed: M	*ENG	
011	Low Speed: C	*ENG	
012	Low Speed: Y	*ENG	

2106	[Polygon Rotation Time]		
	Adjusts the time of the polygon motor rotation. <b>DFU</b>		
001	Warming-Up	*ENG	[0++ 40 / <b>10</b> / 1 +++ (++++)
002	Job End	*ENG	[0 to 60 / <b>10</b> / 1 sec/step]

2107	[Image Parameter]		
DFU			
001	Image Gamma Flag	*ENG	[0 or 1 / 1 / 1 /step]
002	Shading Correction Flag	*ENG	[0 or 1 / 1 / 1 /step]

2109	[Test Pattern]			
2109	Generates the test pattern using "COPY Window" tab in the LCD.		ndow" tab in the LCD.	
003	Pattern Selection	-	[0 to 23 / <b>0</b> / 1/step]	

0 None		11. Independent Pattern (1dot)
1: Vertical Line (1dot)		12. Independent Pattern (2dot)
2: Vertical Line (2dot)		13. Independent Pattern (4dot)
3: Horizontal (1dot)		14. Trimming Area
4: Horizontal (2dot)		16: Hound's Tooth Check (Horizontal)
5: Grid Vertical Line		17: Band (Horizontal)
6: Grid Horizontal Line		18: Band (Vertical)
7: Grid pattern Small		19: Checker Flag Pattern
8: Grid pattern Large		20: Grayscale Vertical Margin
9: Argyle Pattern Small		21: Grayscale Horizontal Margin
10: Argyle Pattern Large		23: Full Dot Pattern
		Specifies the color for the test pattern.
Color Selection	-	[1 to 4 / <b>1</b> / 1/step]
		1: All colors, 2: Magenta, 3: Yellow, 4: Cyan
Density: Bk	-	Specifies the color density for the test pattern.
Density: M	-	[0 to 15 / <b>15</b> / 1 /step]
Density: C -		0: Lightest density
Density: Y	-	15: Darkest density
	1: Vertical Line (1 dot) 2: Vertical Line (2 dot) 3: Horizontal (1 dot) 4: Horizontal (2 dot) 5: Grid Vertical Line 6: Grid Horizontal Line 7: Grid pattern Small 8: Grid pattern Large 9: Argyle Pattern Small 10: Argyle Pattern Large Color Selection Density: Bk Density: M Density: C	1: Vertical Line (1 dot) 2: Vertical Line (2 dot) 3: Horizontal (1 dot) 4: Horizontal (2 dot) 5: Grid Vertical Line 6: Grid Horizontal Line 7: Grid pattern Small 8: Grid pattern Large 9: Argyle Pattern Small 10: Argyle Pattern Large Color Selection - Density: Bk - Density: M - Density: C -

2111	[Forced Line Position Adj.]		
001	Mode a	-	Executes the fine line position adjustment twice. If this SP is not completed (NG is displayed), do SP2111-003 first and then try this SP again.
002	Mode b	-	Executes the fine line position adjustment once. If this SP is not completed, do SP2111-003 first and then try this SP again.
003	Mode c	-	Executes the rough line position adjustment once. After doing this SP, make sure to execute SP2111-001 or -002. Otherwise, the line position adjustment is not perfectly done.

2112	[TM/ID Sensor Check] ID Sensor Check FA		
001	Execute	[0 or 1 / <b>0</b> / 1 /step] This SP is used to check the ID sensors at the factory. The results of this SP are displayed in SP2140 to SP2145.	

	[Skew Adjustment]				
2117	Specifies a skew adjustment value for the skew motor M, C or Y. These SPs must be used when a new laser optics housing unit is installed or when SC285 occurs. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.				
001	Pulse: M *ENG				
002	Pulse: C	*ENG [-50 to 50 / 0 / 1 pulse/step]			
003	Pulse: Y	*ENG			

2118	[Skew Adjustment]		
001	Execute: M	*ENG	Changes the current skew adjustment values to the
002	Execute: C	*ENG	values specified with SP2117. These SPs must be used when a new laser optics
003	Execute: Y	*ENG	housing unit is installed or when SC285 occurs. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.

2119	[Skew Adjustment Display]			
2119	Displays the current skew adjustment value for each skew motor.			
001	м	*ENG		
002	С	*ENG	[-50 to 50 / <b>0</b> / 1 pulse/step]	
003	Y	*ENG		

2120	[Thick Paper Skew Adj] Not used		
	Selects the skew adjustment value for thick paper.		

001	On/Off	*ENG	[0 or 1 / 1 / 1 /step] 0: Off, 1: On
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	[ID Sensor Check Result] DFU				
2140	Displays the results of the ID sensor check.				
21.10	Bk, M, C, Y: ID sensors for the process control				
	Front, Center, Rear: ID sensors for the automatic line position adjustment				
001	Bk	*ENG			
002	м	*ENG			
003	С	*ENG			
004	Y	*ENG	[0 to 1024 / <b>0</b> / 1/step]		
005	Front	*ENG			
006	Center	*ENG			
007	Rear	*ENG			

	[ID Sensor Check Result: Ave.] DFU					
2141	Displays the average result values of the ID sensor check.					
	Bk, M, C, Y: ID sensors for the	Bk, M, C, Y: ID sensors for the process control				
	Front, Center, Rear: ID sensors	for the auto	omatic line position adjustment			
001	Bk	*ENG				
002	Μ	*ENG				
003	С	*ENG				
004	Υ	*ENG	[0 to 5.5 / <b>0</b> / 0.01V/step]			
005	Front	*ENG				
006	Center	*ENG				
007	Rear	*ENG				

	[ID Sensor Check Result] DFU				
2142	Displays the maximum result values of the ID sensor check.				
	Bk, M, C, Y: ID sensors for the	process contr	ol		
	Front, Center, Rear: ID sensors for the automatic line position adjustment				
001	Maximum: Bk	*ENG			
002	Maximum: M	*ENG			
003	Maximum: C	*ENG			
004	Maximum: Y	*ENG	[0 to 5.5 / <b>0</b> / 0.01V/step]		
005	Maximum: Front	*ENG			
006	Maximum: Center	*ENG			
007	Maximum: Rear	*ENG			

	[ID Sensor Check Result] DFU					
2143	Displays the minimum result values of the ID sensor check.					
	Bk, M, C, Y: ID sensors for the	process contr	ol			
	Front, Center, Rear: ID sensors	ont, Center, Rear: ID sensors for the automatic line position adjustment				
001	Minimum: Bk	*ENG				
002	Minimum: M	*ENG				
003	Minimum: C	*ENG				
004	Minimum: Y	*ENG	[0 to 5.5 / <b>0</b> / 0.01V/step]			
005	Minimum: Front	*ENG				
006	Minimum: Center	*ENG				
007	Minimum: Rear	*ENG				

2144	[ID Sensor Check Result] DFU
	Displays the maximum result 2 values of the ID sensor check.
	Bk, M, C, Y: ID sensors for the process control
	Front, Center, Rear: ID sensors for the automatic line position adjustment

001	Maximum 2: Bk	*ENG	
002	Maximum 2: M	*ENG	
003	Maximum 2: C	*ENG	
004	Maximum 2: Y	*ENG	[0 to 5.5 / <b>0</b> / 0.01V/step]
005	Maximum 2: Front	*ENG	
006	Maximum 2: Center	*ENG	
007	Maximum 2: Rear	*ENG	

	[ID Sensor Check Result] DFU				
2145	Displays the minimum result 2 values of the ID sensor check. Bk, M, C, Y: ID sensors for the process control Front, Center, Rear: ID sensors for the automatic line position adjustment				
001	Minimum 2: Bk	*ENG			
002	Minimum 2: M	*ENG			
003	Minimum 2: C	*ENG			
004	Minimum 2: Y	*ENG	[0 to 5.5 / <b>0</b> / 0.01V/step]		
005	Minimum 2: Front	*ENG			
006	Minimum 2: Center	*ENG			
007	Minimum 2: Rear	*ENG			

	[Area Mag. Correction] LD Pulse Area Correction (Color, Area) FA			
2150	Adjusts the magnification for each area. The main scan (297 mm) is divided into 8 areas. Area 1 is at the front side of the machine (left side of the image) and area 8 is at the rear side of the machine (right side of the image).			
	Decreasing a value makes the image shift to the left side on the print.			
	Increasing a value makes the	ift to the right side on the print.		
	1 pulse = 1/16 dot			
027	Area0: Bk	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]	

028	Area1: Bk	*ENG	
029	Area2: Bk	*ENG	
030	Area3: Bk	*ENG	
031	Area4: Bk	*ENG	Adjusts the area magnification for LD 0.
032	Area5: Bk	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step ]
033	Area6: Bk	*ENG	
034	Area7: Bk	*ENG	
035	Area8: Bk	*ENG	
036	Area9: Bk	*ENG	
037	Area10: Bk	*ENG	
038	Area11: Bk	*ENG	Not used
039	Area12: Bk	*ENG	
040	Area0: Bk	*ENG	Not used
041	Area1: Bk	*ENG	
042	Area2: Bk	*ENG	
043	Area3: Bk	*ENG	
044	Area4: Bk	*ENG	Adjusts the area magnification for LD 1.
045	Area5: Bk	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step ]
046	Area6: Bk	*ENG	
047	Area7: Bk	*ENG	
048	Area8: Bk	*ENG	
049	Area9: Bk	*ENG	
050	Area10: Bk	*ENG	Netword
051	Area11: Bk	*ENG	Not used
052	Area12: Bk	*ENG	
079	Area0: M	*ENG	Not used

080	Area1: M	*ENG	Adjusts the area magnification for LD 0. [–255to 255 / <b>0</b> / 1 sub-dot/step]
081	Area2: M	*ENG	
082	Area3: M	*ENG	
083	Area4: M	*ENG	
084	Area5: M	*ENG	[–256to 255 / <b>0</b> / 1 sub-dot/step]
085	Area6: M	*ENG	
086	Area7: M	*ENG	
087	Area8: M	*ENG	
088	Area9: M	*ENG	
089	Area10: M	*ENG	Not used
090	Areal 1: M	*ENG	τιοι υνεα
091	Area12: M	*ENG	
092	Area0: Bk	*ENG	Not used
093	Area 1 : Bk	*ENG	
094	Area2: Bk	*ENG	
095	Area3: Bk	*ENG	
096	Area4: Bk	*ENG	Adjusts the area magnification for LD 1.
097	Area5: Bk	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
098	Area6: Bk	*ENG	
099	Area7: Bk	*ENG	
100	Area8: Bk	*ENG	
101	Area9: Bk	*ENG	
102	Area10: Bk	*ENG	Netword
103	Area11: Bk	*ENG	Not used
104	Area12: Bk	*ENG	

131	Area0: C	*ENG	Not used
132	Area1: C	*ENG	
133	Area2: C	*ENG	
134	Area3: C	*ENG	
135	Area4: C	*ENG	Adjusts the area magnification for LD 0.
136	Area5: C	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
137	Area6: C	*ENG	
138	Area7: C	*ENG	
139	Area8: C	*ENG	
140	Area9: C	*ENG	
141	Area10: C	*ENG	Not used
142	Areal 1: C	*ENG	Norused
143	Area12: C	*ENG	
144	Area0: C	*ENG	Not used
145	Area1: C	*ENG	
146	Area2: C	*ENG	
147	Area3: C	*ENG	
148	Area4: C	*ENG	Adjusts the area magnification for LD 1.
149	Area5: C	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
150	Area6: C	*ENG	
151	Area7: C	*ENG	
152	Area8: C	*ENG	
153	Area9: C	*ENG	
154	Area10: C	*ENG	Netword
155	Areal 1: C	*ENG	Not used
156	Area12: C	*ENG	

Area0: Y	*ENG	Not used
Area1:Y	*ENG	
Area2: Y	*ENG	
Area3: Y	*ENG	
Area4: Y	*ENG	Adjusts the area magnification for LD 0.
Area5: Y	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
Area6: Y	*ENG	
Area7: Y	*ENG	
Area8: Y	*ENG	
Area9: Y	*ENG	
Area10: Y	*ENG	
Areall: Y	*ENG	Not used
Area12: Y	*ENG	
Area0: Y	*ENG	Not used
Area1:Y	*ENG	
Area2: Y	*ENG	
Area3: Y	*ENG	
Area4: Y	*ENG	Adjusts the area magnification for LD 1.
Area5: Y	*ENG	[-256 to 255 / <b>0</b> / 1 sub-dot/step]
Area6: Y	*ENG	
Area7: Y	*ENG	
Area8: Y	*ENG	
Area9: Y	*ENG	
Area10: Y	*ENG	
Areall: Y	*ENG	Not used
Area12: Y	*ENG	
	Area1: Y         Area2: Y         Area3: Y         Area4: Y         Area5: Y         Area7: Y         Area9: Y         Area10: Y         Area11: Y         Area2: Y         Area2: Y         Area10: Y         Area12: Y         Area2: Y         Area2: Y         Area2: Y         Area3: Y         Area5: Y         Area5: Y         Area5: Y         Area5: Y         Area7: Y         Area10: Y         Area10: Y         Area10: Y         Area10: Y         Area10: Y         Area11: Y	Area1: Y       *ENG         Area2: Y       *ENG         Area3: Y       *ENG         Area4: Y       *ENG         Area5: Y       *ENG         Area6: Y       *ENG         Area7: Y       *ENG         Area9: Y       *ENG         Area10: Y       *ENG         Area11: Y       *ENG         Area2: Y       *ENG         Area12: Y       *ENG         Area12: Y       *ENG         Area1: Y       *ENG         Area2: Y       *ENG         Area3: Y       *ENG         Area4: Y       *ENG         Area5: Y       *ENG         Area6: Y       *ENG         Area7: Y       *ENG         Area7: Y       *ENG         Area7: Y       *ENG         Area7: Y       *ENG         Area6: Y       *ENG         Area7: Y       *ENG         Area10: Y       *ENG

	[Area Shad. Correct. Setting] FA				
	Adjusts the area correction value for each LD power.				
2152	The main scan is divided into 16 areas. However, the image areas are limited from area 1 to area 14.				
	For BK and Magenta, area area 14 is at the front side o		rear side of the machine (left side of the image) and ine (right side of the image).		
	For Cyan and Yellow, area area 14 is at the rear side of		ront side of the machine (right side of the image) and ne (left side of the image).		
001	Area O: Bk	*ENG			
002	Area 1: Bk	*ENG			
003	Area 2: Bk	*ENG			
004	Area 3: Bk	*ENG			
005	Area 4: Bk	*ENG			
006	Area 5: Bk	*ENG			
007	Area 6: Bk	*ENG			
008	Area 7: Bk	*ENG	This is for the synchronizing detection board. [50 to 150 / <b>100</b> / 1 %/step]		
009	Area 8: Bk	*ENG			
010	Area 9: Bk	*ENG			
011	Area 10: Bk	*ENG			
012	Area 11: Bk	*ENG			
013	Area 12: Bk	*ENG			
014	Area 13: Bk	*ENG			
015	Area 14: Bk	*ENG			
016	Area 15: Bk	*ENG	This is out of the image area. [50 to 150 / <b>100</b> / 1 %/step]		
033	Area 0: M	*ENG	This is for the synchronizing detection board.		

		-	
034	Area 1: M	*ENG	
035	Area 2: M	*ENG	
036	Area 3: M	*ENG	
037	Area 4: M	*ENG	
038	Area 5: M	*ENG	
039	Area 6: M	*ENG	
040	Area 7: M	*ENG	[50 to 150 / <b>100</b> / 1 % /stop]
041	Area 8: M	*ENG	[50 to 150 / <b>100</b> / 1 %/step]
042	Area 9: M	*ENG	
043	Area 10: M	*ENG	
044	Area 11: M	*ENG	
045	Area 12: M	*ENG	
046	Area 13: M	*ENG	
047	Area 14: M	*ENG	
048	Area 15: M	*ENG	This is out of the image area. [50 to 150 / <b>100</b> / 1 %/step]
065	Area 0: C	*ENG	This is for the synchronizing detection board. [50 to 150 / <b>100</b> / 1 %/step]

066	Area 1: C	*ENG	
067	Area 2: C	*ENG	
068	Area 3: C	*ENG	
069	Area 4: C	*ENG	
070	Area 5: C	*ENG	
071	Area 6: C	*ENG	
072	Area 7: C	*ENG	[50 to 150 / <b>100</b> / 1 % (stop]
073	Area 8: C	*ENG	[50 to 150 / <b>100</b> / 1 %/step]
074	Area 9: C	*ENG	
075	Area 10: C	*ENG	
076	Area 11: C	*ENG	
077	Area 12: C	*ENG	
078	Area 13: C	*ENG	
079	Area 14: C	*ENG	
080	Area 15: C	*ENG	This is out of the image area. [50 to 150 / <b>100</b> / 1 %/step]
097	Area 0: Y	*ENG	This is for the synchronizing detection board. [50 to 150 / <b>100</b> / 1 %/step]

098	Area 1: Y	*ENG	
099	Area 2: Y	*ENG	
100	Area 3: Y	*ENG	
101	Area 4: Y	*ENG	
102	Area 5: Y	*ENG	
103	Area 6: Y	*ENG	
104	Area 7: Y	*ENG	[50 to 150 / <b>100</b> / 1 % / total
105	Area 8: Y	*ENG	[50 to 150 / <b>100</b> / 1 %/step]
106	Area 9: Y	*ENG	
107	Area 10: Y	*ENG	
108	Area 11:Y	*ENG	
109	Area 12: Y	*ENG	
110	Area 13: Y	*ENG	
111	Area 14: Y	*ENG	
112	Area 15: Y	*ENG	This is out of the image area.

2160	[Vertical Line Width] DFU				
2100	Adjusts the width of the vertical line.				
001	600dpi:Bk	*ENG			
002	600dpi:Ma	*ENG			
003	600dpi:Cy	*ENG			
004	600dpi:Ye	*ENG	[10 + 15 / <b>15</b> / 1 / +]		
005	1200dpi:Bk	*ENG	[10 to 15 / <b>15</b> / 1 / step]		
006	1200dpi:Ma	*ENG			
007	1200dpi:Cy	*ENG			
008	1200dpi:Ye	*ENG			

2180	[Line Position Adj. Setting Clear]		
001	Color Regist.	-	DFU
002	Main Scan Length Detection	-	DFU
003	MUSIC Result	-	DFU
004	Area Magnification Correction	-	DFU

2181	[Line Position Adj. Result]			
	Displays the values for each correction.			
	<ul> <li>"Paper Int. Mag: Subdot" indicates the magnification correction value between two sheets of paper.</li> </ul>			
	<ul> <li>"Mag.Cor. Subdot" indicates the magnification correction value.</li> </ul>			
	• "M. Scan Erro." indicates the	e shift corre	ection value in the main scan direction.	
	• "S. Scan Erro." Indicates the	shift correc	ction value in the sub scan direction.	
	• "M. Cor.: Dot" indicates the	dot correct	tion value in the main scan direction.	
	<ul> <li>"M. Cor.: Subdot" indicates</li> </ul>	the sub do	t correction value in the main scan direction.	
	• Bk: Black, M: Magenta, C:	Лаgenta, C: Cyan, Y: Yellow		
001	Paper Int. Mag: Subdot: Bk	*ENG	[-32768 to 32767 / <b>0</b> / 1 pulse/step]	
002	Mag.Cor. Subdot: Bk	*ENG	[-32768 to 32767 / <b>0</b> / 1 pulse/step]	
003	Skew: M	*ENG	[-5000 to 5000 / <b>0</b> / 0.001 um/step]	
004	Bent: M	*ENG		
005	M. Scan Erro.: Left: M	*ENG		
006	M. Scan Erro.: Center: M	*ENG		
007	M. Scan Erro.: Right: M	*ENG	[-5000 to 5000 / <b>0</b> / 0.001 um/step]	
008	S. Scan Erro.: Left: M	*ENG		
009	S. Scan Erro.: Center: M	*ENG		
010	S. Scan Erro.: Right: M	*ENG		
011	M. Cor.: Dot: M	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]	
012	M. Cor.: Subdot: M	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]	

013	Paper Int. Mag: Subdot: M	*ENG	
014	Mag.Cor. Subdot: M	*ENG	
015	M. Left Mag.: Subdot: M	*ENG	[–32768 to 32767 / 0 / 1 pulse/step]
016	M. Right Mag.: Subdot: M	*ENG	
017	S. Cor.: 600 Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
018	S. Cor.: 600 Sub: M	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]
019	S. Cor.: 1200 Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
020	S. Cor.: 1200 Sub: M	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]
021	Skew: C	*ENG	[ 5000 ; 5000 ( <b>0</b> (0.001 ; () 1
022	Bent: C	*ENG	[-5000 to 5000 / <b>0</b> / 0.001 um/step]
023	M. Scan Erro.: Left: C	*ENG	
024	M. Scan Erro.: Center: C	*ENG	
025	M. Scan Erro.: Right: C	*ENG	
026	S. Scan Erro.: Left: C	*ENG	[-5000 to 5000 / <b>0</b> / 0.001 um/step]
027	S. Scan Erro.: Center: C	*ENG	
028	S. Scan Erro.: Right: C	*ENG	
029	M. Cor.: Dot: C	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
030	M. Cor.: Subdot: C	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
031	Paper Int. Mag: Subdot: C	*ENG	
032	Mag.Cor. Subdot: C	*ENG	
033	M. Left Mag.: Subdot: C	*ENG	[-32768 to 32767 / <b>0</b> / 1 pulse/step]
034	M. Right Mag.: Subdot: C	*ENG	
035	S. Cor.: 600 Line: C	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
036	S. Cor.: 600 Sub: C	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]
037	S. Cor.: 1200 Line: C	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
038	S. Cor.: 1200 Sub: C	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]
	•		

039Skew: Y*ENG040Bent: Y*ENG041M. Scan Erro.: Left: Y*ENG042M. Scan Erro.: Center: Y*ENG043M. Scan Erro.: Right: Y*ENG044S. Scan Erro.: Left: Y*ENG045S. Scan Erro.: Left: Y*ENG046S. Scan Erro.: Center: Y*ENG047M. Cor.: Denter: Y*ENG048M. Cor.: Dot: Y*ENG049Paper Int. Mag: Subdot: Y*ENG049Paper Int. Mag: Subdot: Y*ENG050Ma.Cor.: Subdot: Y*ENG051M. Left Mag.: Subdot: Y*ENG052M. Right Mag.: Subdot: Y*ENG053S. Cor.: 600 Line: Y*ENG054S. Cor.: 600 Line: Y*ENG055S. Cor.: 1200 Line: Y*ENG056S. Cor.: 1200 Line: Y*ENG057S. Cor.: 1200 Line: Y*ENG058S. Cor.: 1200 Line: Y*ENG059S. Cor.: 1200 Line: Y*ENG050S. Cor.: 1200 Line: Y*ENG055S. Cor.: 1200 Line: Y*ENG056S. Cor.: 1200 Line: Y*ENG057S. Cor.: 1200 Line: Y*ENG058S. Cor.: 1200 Line: Y*ENG059S. Cor.: 1200 Line: Y*ENG050S. Cor.: 1200 Line: Y*ENG051S. Cor.: 1200 Line: Y*ENG052S. Cor.: 1200 Line: Y*ENG053S. Cor.: 1200 Line: Y*ENG				
041       M. Scan Erro.: Left: Y       *ENG         042       M. Scan Erro.: Center: Y       *ENG         043       M. Scan Erro.: Right: Y       *ENG         044       S. Scan Erro.: Left: Y       *ENG         045       S. Scan Erro.: Center: Y       *ENG         046       S. Scan Erro.: Center: Y       *ENG         047       M. Cor.: Dot: Y       *ENG         048       M. Cor.: Subdot: Y       *ENG         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 400 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       K. Cor.: 1200 Line: Y       *ENG	039	Skew: Y	*ENG	
042       M. Scan Erro.: Center: Y       *ENG         043       M. Scan Erro.: Right: Y       *ENG         044       S. Scan Erro.: Left: Y       *ENG         045       S. Scan Erro.: Center: Y       *ENG         046       S. Scan Erro.: Center: Y       *ENG         047       M. Cor.: Dot: Y       *ENG         048       M. Cor.: Dot: Y       *ENG         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	040	Bent: Y	*ENG	
043       M. Scan Erro.: Right: Y       *ENG         044       S. Scan Erro.: Left: Y       *ENG         045       S. Scan Erro.: Center: Y       *ENG         046       S. Scan Erro.: Center: Y       *ENG         047       M. Cor.: Dot: Y       *ENG         048       M. Cor.: Dot: Y       *ENG         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	041	M. Scan Erro.: Left: Y	*ENG	
043       M. Scan Erro.: Right: Y       *ENG         044       S. Scan Erro.: Left: Y       *ENG         045       S. Scan Erro.: Center: Y       *ENG         046       S. Scan Erro.: Right: Y       *ENG         047       M. Cor.: Dot: Y       *ENG         048       M. Cor.: Dot: Y       *ENG         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	042	M. Scan Erro.: Center: Y	*ENG	[ 5000 to 5000 ( <b>0</b> (0.001 mm (to 1)
045       S. Scan Erro.: Center: Y       *ENG $046$ S. Scan Erro.: Right: Y       *ENG $047$ M. Cor.: Dot: Y       *ENG $048$ M. Cor.: Subdot: Y       *ENG $048$ M. Cor.: Subdot: Y       *ENG $049$ Paper Int. Mag: Subdot: Y       *ENG $050$ Mag.Cor. Subdot: Y       *ENG $051$ M. Left Mag.: Subdot: Y       *ENG $052$ M. Right Mag.: Subdot: Y       *ENG $053$ S. Cor.: 600 Line: Y       *ENG $054$ S. Cor.: 600 Sub: Y       *ENG $054$ S. Cor.: 1200 Line: Y       *ENG $055$ S. Cor.: 1200 Line: Y       *ENG $056$ S. Cor.: 1200 Line: Y       *ENG $057$ S. Cor.: 1200 Line: Y       *ENG $056$ S. Cor.: 1200 Line: Y       *ENG $057$ S. Cor.: 1200 Line: Y       *ENG	043	M. Scan Erro.: Right: Y	*ENG	[-5000 to 5000 / 0 / 0.001 um/step]
046       S. Scan Erro.: Right: Y       *ENG $047$ M. Cor.: Dot: Y       *ENG       [-512 to 511/0/1 dot/step] $048$ M. Cor.: Subdot: Y       *ENG       [-15 to 15/0/1 pulse/step] $049$ Paper Int. Mag: Subdot: Y       *ENG       [-15 to 15/0/1 pulse/step] $049$ Paper Int. Mag: Subdot: Y       *ENG       [-32768 to 32767/0/1 pulse/step] $050$ Mag.Cor. Subdot: Y       *ENG       [-32768 to 32767/0/1 pulse/step] $051$ M. Left Mag.: Subdot: Y       *ENG       [-16384 to 16383/0/1 line/step] $053$ S. Cor.: 600 Sub: Y       *ENG       [-1 to 1/0/0.001 line/step] $054$ S. Cor.: 1200 line: Y       *ENG       [-16384 to 16383/0/1 line/step] $055$ S. Cor.: 1200 line: Y       *ENG       [-16384 to 16383/0/1 line/step]	044	S. Scan Erro.: Left: Y	*ENG	
047       M. Cor.: Dot: Y       *ENG       [-512 to 511/0/1 dot/step]         048       M. Cor.: Subdot: Y       *ENG       [-15 to 15/0/1 pulse/step]         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	045	S. Scan Erro.: Center: Y	*ENG	
048       M. Cor.: Subdot: Y       *ENG       [-15 to 15 / 0 / 1 pulse/step]         049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	046	S. Scan Erro.: Right: Y	*ENG	
049       Paper Int. Mag: Subdot: Y       *ENG         050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	047	M. Cor.: Dot: Y	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
050       Mag.Cor. Subdot: Y       *ENG         051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	048	M. Cor.: Subdot: Y	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	049	Paper Int. Mag: Subdot: Y	*ENG	
051       M. Left Mag.: Subdot: Y       *ENG         052       M. Right Mag.: Subdot: Y       *ENG         053       S. Cor.: 600 Line: Y       *ENG         054       S. Cor.: 600 Sub: Y       *ENG         055       S. Cor.: 1200 Line: Y       *ENG	050	Mag.Cor. Subdot: Y	*ENG	[ 20749 to 20747 / <b>0</b> / 1 miles (stor)]
053       S. Cor.: 600 Line: Y       *ENG       [-16384 to 16383 / 0 / 1 line/step]         054       S. Cor.: 600 Sub: Y       *ENG       [-1 to 1 / 0 / 0.001 line/step]         055       S. Cor.: 1200 Line: Y       *ENG       [-16384 to 16383 / 0 / 1 line/step]	051	M. Left Mag.: Subdot: Y	*ENG	
054       S. Cor.: 600 Sub: Y       *ENG       [-1 to 1 / 0 / 0.001 line/step]         055       S. Cor.: 1200 Line: Y       *ENG       [-16384 to 16383 / 0 / 1 line/step]	052	M. Right Mag.: Subdot: Y	*ENG	
055         S. Cor.: 1200 Line: Y         *ENG         [-16384 to 16383 / 0 / 1 line/step]	053	S. Cor.: 600 Line: Y	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
	054	S. Cor.: 600 Sub: Y	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]
056 S. Cor.: 1200 Sub: Y *ENG [-1 to 1 / <b>0</b> / 0.001 line/step]	055	S. Cor.: 1200 Line: Y	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
	056	S. Cor.: 1200 Sub: Y	*ENG	[-1 to 1 / <b>0</b> / 0.001 line/step]

	[Line Position Adj. Offset]
2182	(Color) M. Scan: Main scan, S. Scan: Sub-scan
	High: 205 (P2c)/ 230 (P2d) mm/sec, Medium: 154 mm/sec, Low: 77 mm/sec

			· · · · · · · · · · · · · · · · · · ·
001	M Magnification	*ENG	Adjusts the line position manually.
002	C Magnification	*ENG	[-1 to 1 / <b>0</b> / 0.001%/step]
			When line shifts are not corrected by the automatic line position adjustment, do this SP.
003	Y Magnification	*ENG	Increasing a value reduces the image in the main scan direction.
			Decreasing a value enlarges the image in the main scan direction.
004	M. Scan: High: Dot: M	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
005	M. Scan: High: Subdot: M	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
006	M. Scan: Medium: Dot: M	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
007	M. Scan: Medium: Subdot: M	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
008	M. Scan: Low: Dot: M	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
009	M. Scan: Low: Subdot: M	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
010	M. Scan: High: Dot: C	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
011	M. Scan: High: Subdot: C	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
012	M. Scan: Medium: Dot: C	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
013	M. Scan: Medium: Subdot: C	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
014	M. Scan: Low: Dot: C	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
015	M. Scan: Low: Subdot: C	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
016	M. Scan: High: Dot: Y	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
017	M. Scan: High: Subdot: Y	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
018	M. Scan: Medium: Dot: Y	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
019	M. Scan: Medium: Subdot: Y	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
020	M. Scan: Low: Dot: Y	*ENG	[-512 to 511 / <b>0</b> / 1 dot/step]
021	M. Scan: Low: Subdot: Y	*ENG	[-15 to 15 / <b>0</b> / 1 pulse/step]
022	S. Scan: High: Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]

S. Scan: High: Subline: M	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Medium: Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Medium: Subline: M	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Low: Line: M	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Low: Subline: M	*ENG	Not used
S. Scan: High: Line: C	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: High: Subline: C	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Medium: Line: C	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Medium: Subline: C	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Low: Line: C	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Low: Subline: C	*ENG	Not used
S. Scan: High: Line: Y	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: High: Subline: Y	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Medium: Line: Y	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Medium: Subline: Y	*ENG	[-1 to 1 / <b>0</b> / 0.001 /line]
S. Scan: Low: Line: Y	*ENG	[-16384 to 16383 / <b>0</b> / 1 line/step]
S. Scan: Low: Subline: Y	*ENG	Not used
	S. Scan: Medium: Subline: M S. Scan: Low: Line: M S. Scan: Low: Subline: M S. Scan: High: Line: C S. Scan: High: Subline: C S. Scan: Medium: Line: C S. Scan: Medium: Subline: C S. Scan: Low: Line: C S. Scan: Low: Subline: C S. Scan: High: Line: Y S. Scan: High: Subline: Y S. Scan: Medium: Line: Y S. Scan: Medium: Line: Y S. Scan: Medium: Line: Y S. Scan: Medium: Subline: Y S. Scan: Medium: Subline: Y	S. Scan: Medium: Subline: M*ENGS. Scan: Low: Line: M*ENGS. Scan: Low: Subline: M*ENGS. Scan: High: Line: C*ENGS. Scan: High: Subline: C*ENGS. Scan: Medium: Line: C*ENGS. Scan: Medium: Subline: C*ENGS. Scan: Low: Line: C*ENGS. Scan: Low: Subline: C*ENGS. Scan: Low: Subline: C*ENGS. Scan: High: Line: Y*ENGS. Scan: High: Subline: Y*ENGS. Scan: High: Subline: Y*ENGS. Scan: Medium: Line: Y*ENGS. Scan: Low: Line: Y*ENG

8

## 2183

## [Main Scan Length Detection] DFU

		î.	
001	Execute: High: Bk	-	
002	Execute: Medium: Bk	-	
003	Execute: Low: Bk	-	
004	Execute: High: M	-	
005	Execute: Medium: M	-	
006	Execute: Low: M	-	Executes the adjustment for the main scan length
007	Execute: High: C	-	detection manually.
008	Execute: Medium: C	-	
009	Execute: Low: C	-	
010	Execute: High: Y	-	
011	Execute: Medium: Y	-	
012	Execute: Low: Y	-	

2184	[Main Scan Length Detection Target] DFU		
001	Execute: Bk	-	
002	Execute: M	-	Executes the target value for the main scan length
003	Execute: C	-	detection.
004	Execute: Y	-	

	[Main Scan Length Detection Disp.]
	Displays/adjusts the target value for the main scan magnification correction of the line position adjustment.
2185	After replacing the laser optics housing unit, input the standard value for Bk provided with the new unit. For details, see "Laser Optics Housing Unit" in the "Replacement Adjustment" section. It is not necessary to input the values for the other colors; these are automatically adjusted after doing the line position adjustment.

001	Bk	*ENG	
002	м	*ENG	[0 + 244447 / 240440 / 1 + + + + + + + + + + + + + + + + + +
003	С	*ENG	[0 to 266667 / <b>249449</b> / 1 sub-dot/step]
004	Y	*ENG	

2186	[Main Scan Length Detection] DFU				
001	Selection	*ENG	[0 or 1 / <b>1</b> / 1/step] 0: OFF, 1: ON		
	Enables or disables the main scan length detection for the laser.				
002	Paper Interval	*ENG	[0 to 999 / <b>1</b> / 1 sec/step]		
	Adjusts the interval of the main scan length detection for the laser.				

2190	[Line Position Adj.]		
001	Paper Int. Mag.: Subdot: Bk	*ENG	
002	Paper Int. Mag.: Subdot: M	*ENG	DFU
003	Paper Int. Mag.: Subdot: C	*ENG	[0 or 1 / 1 / 1/step]
004	Paper Int. Mag.: Subdot: Y	*ENG	-
005	M. Scan Mag.: Subdot: M	*ENG	DFU
006	M. Scan Mag.: Subdot: C	*ENG	[0 or 1 / 1 / 1/step]
007	M. Scan Mag.: Subdot: Y	*ENG	0: Disable correction, 1: Enable
008	Area Mag.: Subdot: M	*ENG	
009	Area Mag.: Subdot: C	*ENG	DFU [0 or 1 / 1 / 1/step]
010	Area Mag.: Subdot: Y	*ENG	
011	S. Scan Cor. Setting	*ENG	DFU [0 or 1 / 0 / 1/step] 0: Adjusted with Bk 1: Adjusted in minimum shift among four colors

012	1 Line Shift Control		*ENG	<b>DFU</b> [0 or 1 / <b>0</b> / 1/step]	
2191	[MUSIC Coefficient Setting] Line Position Adjustment: Coefficient Setting DFU				
2191	ch 0: ID sensor at rear, ch 1:	ID sensor	at center, c	h 2: ID sensor at front	
001	ch 0: Filter: Front: a 1	*ENG	[-13107	1 to 131071 / <b>125869</b> / 1 bit/step]	
002	ch 0: Filter: Front: a2	*ENG	[-13107	1 to 131071 / <b>-60488</b> / 1 bit/step]	
003	ch 0: Filter: Front: b0	*ENG	[-13107	1 to 131071 / <b>39</b> / 1 bit/step]	
004	ch 0: Filter: Front: b1	*ENG	[-13107	1 to 131071 / <b>77</b> / 1 bit/step]	
005	ch 0: Filter: Front: b2	*ENG	[-13107	1 to 131071 / <b>39</b> / 1 bit/step]	
006	ch 0: Filter: Rear: a 1	*ENG	[-13107	1 to 131071 / <b>128596</b> / 1 bit/step]	
007	ch 0: Filter: Rear: a2	*ENG	[-13107	1 to 131071 / <b>-63398</b> / 1 bit/step]	
008	ch 0: Filter: Rear: b0	*ENG	[-13107	1 to 131071 / <b>84</b> / 1 bit/step]	
009	ch 0: Filter: Rear: b1	*ENG	[-13107	1 to 131071 / <b>168</b> / 1 bit/step]	
010	ch 0: Filter: Rear: b2	*ENG	[-13107	1 to 131071 / <b>84</b> / 1 bit/step]	
011	ch 1: Filter: Front: a1	*ENG	[-13107	1 to 131071 / <b>125869</b> / 1 bit/step]	
012	ch 1: Filter: Front: a2	*ENG	[-13107	1 to 131071 / <b>-60488</b> / 1 bit/step]	
013	ch 1: Filter: Front: b0	*ENG	[-13107	1 to 131071 / <b>39</b> / 1 bit/step]	
014	ch 1: Filter: Front: b1	*ENG	[-13107	1 to 131071 / <b>77</b> / 1 bit/step]	
015	ch 1: Filter: Front: b2	*ENG	[-13107	1 to 131071 / <b>39</b> / 1 bit/step]	
016	ch 1: Filter: Rear: a1	*ENG	[-13107	1 to 131071 / <b>128596</b> / 1 bit/step]	
017	ch 1: Filter: Rear: a2	*ENG	[-13107	1 to 131071 / <b>-63398</b> / 1 bit/step]	
018	ch 1: Filter: Rear: b0	*ENG	[-13107	1 to 131071 / <b>84</b> / 1 bit/step]	
019	ch 1: Filter: Rear: b1	*ENG	[-13107	1 to 131071 / <b>168</b> / 1 bit/step]	
020	ch 1: Filter: Rear: b2	*ENG	[-13107	1 to 131071 / <b>84</b> / 1 bit/step]	
021	ch 2: Filter: Front: a 1	*ENG	[-13107	1 to 131071 / <b>125869</b> / 1 bit/step]	

ch 2: Filter: Front: a2	*ENG	[-131071 to 131071 / <b>-60488</b> / 1 bit/step]
ch 2: Filter: Front: b0	*ENG	[-131071 to 131071 / <b>39</b> / 1 bit/step]
ch 2: Filter: Front: b1	*ENG	[-131071 to 131071 / <b>77</b> / 1 bit/step]
ch 2: Filter: Front: b2	*ENG	[-131071 to 131071 / <b>39</b> / 1 bit/step]
ch 2: Filter: Rear: a 1	*ENG	[-131071 to 131071 / <b>128596</b> / 1 bit/step]
ch 2: Filter: Rear: a2	*ENG	[-131071 to 131071 / <b>-63398</b> / 1 bit/step]
ch 2: Filter: Rear: b0	*ENG	[-131071 to 131071 / <b>84</b> / 1 bit/step]
ch 2: Filter: Rear: b1	*ENG	[-131071 to 131071 / <b>168</b> / 1 bit/step]
ch 2: Filter: Rear: b2	*ENG	[-131071 to 131071 / <b>84</b> / 1 bit/step]
Q Format Selection	*ENG	[0 to 3 / <b>3</b> / 1/step]
	ch 2: Filter: Front: b0 ch 2: Filter: Front: b1 ch 2: Filter: Front: b2 ch 2: Filter: Rear: a1 ch 2: Filter: Rear: a2 ch 2: Filter: Rear: b0 ch 2: Filter: Rear: b1 ch 2: Filter: Rear: b1	ch 2: Filter: Front: b0*ENGch 2: Filter: Front: b1*ENGch 2: Filter: Front: b2*ENGch 2: Filter: Rear: a1*ENGch 2: Filter: Rear: a2*ENGch 2: Filter: Rear: b0*ENGch 2: Filter: Rear: b1*ENGch 2: Filter: Rear: b1*ENG

2192	[MUSIC Threshold Setting] Line Position Adjustment: Threshold Setting DFU				
2172	ch 0: ID sensor at rear, ch 1: ID sensor at center, ch 2: ID sensor at front				
001	ch 0: 1st	*ENG			
002	ch 0: 2nd	*ENG			
003	ch 0: 3rd	*ENG			
004	ch 0: 4th	*ENG			
005	ch 1: 1st	*ENG			
006	ch 1: 2nd	*ENG	[0.5 to 3 / <b>1.2</b> / 0.1 V/step]		
007	ch 1: 3rd	*ENG	[0.5 10 5 / 1.2 / 0.1 V/sieb]		
008	ch 1: 4th	*ENG			
009	ch 2: 1st	*ENG			
010	ch 2: 2nd	*ENG			
011	ch 2: 3rd	*ENG			
012	ch 2: 4th	*ENG			

2193	[MUSIC Condition Set] Line Position Adjustment: Condition Setting	
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001	Auto Execution	*ENG	[0 or 1 / 1 / 1 ] 0: OFF, 1: ON	
	Enables/disables the automatic	line positio	n adjustment	
	Page: Job End: BW+FC	*ENG	[0 to 999 / <b>500</b> / 1 page/step]	
002	Adjusts the threshold of the line p end.	osition adju	ustment for BW and color printing mode after job	
000	Page: Job End: FC	*ENG	[0 to 999 / <b>200</b> / 1 page/step]	
003	Adjusts the threshold of the line p	position ad	justment for color printing mode after job end.	
	Page: Interrupt: BW+FC	*ENG	[0 to 999 / <b>200</b> / 1 page/step]	
004	Adjusts the threshold of the line p job.	position ad	justment for BW and color printing mode during	
005	Page: Interrupt: FC	*ENG	[0 to 999 / <b>200</b> / 1 page/step]	
005	Adjusts the threshold of the line position adjustment for color printing mode during jobs.			
	Page: Stand-By: BW	*ENG	[0 to 999 / <b>100</b> / 1 page/step]	
006	Adjusts the threshold of the line position adjustment for BW printing mode in stand-by mode. The line position adjustment is done when the number of outputs in BW printing mode reaches the value specified with this SP and the condition of SP2-193-008 or SP2-193-009 is satisfied.			
	Page: Stand-By: FC	*ENG	[0 to 999 / <b>100</b> / 1 page/step]	
007 Adjusts the threshold of the line position adjustment for FC printing mo The line position adjustment is done when the number of outputs in co reaches the value specified with this SP and the condition of SP2-193-0 is satisfied.			he number of outputs in color printing mode	
	Temp.	*ENG	[0 to 100 / <b>5</b> / 1deg/step]	
008	Adjust the temperature change threshold for the line position adjustment (Mode b: adjustment once). The timing for line position adjustment depends on the combinations of several conditions.			
	Time	*ENG	[1 to 1440 / <b>300</b> / 1 minute/step]	
009	Adjust the time threshold for the line position adjustment (Mode b: adjustment once). The timing for line position adjustment depends on the combinations of several conditions.			

	Magnification	*ENG	; [(	0 to 10 / <b>0.1</b> / 0.01%/step]	
010	Adjusts the magnification threshold for line position adjustment. If the length of the main scan is changed by this amount since the previous MUSIC, then MSUIC is done again.				
	Temp. 2	*ENG	; [(	0 to 100 / <b>10</b> / 1deg/step]	
011	Adjust the temperature change threshold for the line position adjustment (Mode a: adjustment twice). The timing for line position adjustment depends on the combinations of several conditions.				
	Time 2	*ENG	[1 t	o 9999 / <b>600</b> / 1 minute/step]	
012	Adjust the time threshold for the line position adjustment (Mode a: adjustment twice). The timing for line position adjustment depends on the combinations of several conditions.				
	Page: Power ON:BW+FC	*ENG	[0 t	o 999 / <b>200</b> / 1 page/step]	
013	Adjusts the threshold of the line position adjustment for BW and FC printing mode at power- on. The line position adjustment is done when the number of outputs in BW and color printing mode reaches the value specified with this SP and the condition of SP2-193-008 or SP2-193-009 is satisfied.				

2194	[MUSIC Execution Result] Line Position Adjustment: Execution Result		
001	Year	*ENG	[0 to 99 / <b>0</b> / 1 year/step]
002	Month	*ENG	[1 to 12 / 1 / 1 month/step]
003	Day	*ENG	[1 to 31 / 1 / 1 day/step]
004	Hour	*ENG	[0 to 23 / <b>0</b> / 1 hour/step]
005	Minute	*ENG	[0 to 59 / <b>0</b> / 1 minute/step]
006	Temperature	*ENG	[0 to 100 / <b>0</b> / 1 deg/step]
007	Execution Result	*ENG	[0 or 1 / <b>0</b> / 1 /step] 0: Completed successfully, 1: Failed
008	Number of Execution	*ENG	[0 to 999999 / <b>0</b> / 1 times/step]
009	Number of Failure	*ENG	[0 to 999999 / <b>0</b> / 1 times/step]

010	Error Result: M	*ENG	[0 to 9 / 0 / 1 /step]
011	Error Result: C	*ENG	0: Not done
	Error Result: Y		1: Completed successfully
		*ENG	2: Cannot detect patterns
			3: Fewer lines on the pattern than the target
012			4: Not used
			5: Out of the adjustment range
			6 to 9: Not used

2107	[MUSIC Start Time]		
2197 DFU			
001	MUSIC Start Time (EDT)	*ENG	[10 to 40 / <b>20</b> / 10ms/step]
002	TM Sensor Position	*ENG	[50 to 500 / <b>105.5</b> / 0.1mm/step]

2198	[Music A/D Interval]			
ADC Trigger Counter				
001	ADC Trigger Counter	*ENG	[7.5 to 20 / <b>10</b> / 0.1 µs/step]	

2199	[Music Error Time Setting]				
DFU					
001	Error Detection Counter	*ENG	[0.5 to 3 / <b>2.5</b> / 0.1 sec /step]		

	[LD Power] LD Power Control				
2221	Adjusts the fixed LD power for each line speed and color.				
	These SPs are activated only when SP3-041-002 is set to "0".				
	Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec				

001	Plain: Bk	*ENG	
002	Plain: M	*ENG	
003	Plain: C	*ENG	
004	Plain: Y	*ENG	
005	Thick 1: Bk	*ENG	
006	Thick 1: M	*ENG	[0 to 200 / <b>100</b> / 1%/step]
007	Thick 1: C	*ENG	Increasing this value makes the image density darker.
008	Thick 1: Y	*ENG	
009	Thick 2&FINE: Bk	*ENG	
010	Thick 2&FINE: M	*ENG	
011	Thick 2&FINE: C	*ENG	
012	Thick 2&FINE: Y	*ENG	

2229	[Development DC Vias] Development DC Bias Adjustment
	Adjusts the development bias.
	Development bias is automatically adjusted during process control; therefore, adjusting these settings has no effect while Process Control (SP3-041-001 Default: ON) is activated.
	After deactivating Process Control with SP3-041-001, the values in these SP modes are used for printing.
	Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec

001	Plain: Bk	*ENG	
002	Plain: M	*ENG	
003	Plain: C	*ENG	
004	Plain: Y	*ENG	
005	Thick 1: Bk	*ENG	
006	Thick 1: M	*ENG	
007	Thick 1: C	*ENG	
008	Thick 1: Y	*ENG	
009	Thick 2: Bk	*ENG	[0 to 800 / <b>550</b> / 10 –V/step]
010	Thick 2: M	*ENG	
011	Thick 2: C	*ENG	
012	Thick 2: Y	*ENG	
013	Fine: Bk	*ENG	
014	Fine: M	*ENG	
015	Fine: C	*ENG	
016	Fine: Y	*ENG	

2241	[Temperature/Humidity: Display]				
	Displays the environment temperature and humidity.				
001	Temperature	-	[-1280 to 1270 / - / 0.1deg/step]		
002	Relative Humidity	-	[0 to 1000 / - / 0.1 %RH/step]		
003	Absolute Humidity	-	[0 to 100 / - / 0.01 g/m <sup>3</sup> /step]		

2302	[Environmental Correction: Transfer]			
2302	Environmental Correction: Image Transfer Belt Unit			

002	Forced Setting	*ENG	Sets the environment condition manually. [0 to 6 / 0 / 1 /step] 0: Automatic environment control 1: LL (Low temperature/ Low humidity) 2: ML (Middle temperature/ Low humidity) 3: MM (Middle temperature/ Middle humidity) 4: MH (Middle temperature/ High humidity) 5: HH (High temperature/ High humidity)
003	Absolute Humidity: Threshold 1	*ENG	Adjusts the threshold value between LL and ML. [0 to 100 / <b>4</b> / 0.01 g/m <sup>3</sup> /step]
004	Absolute Humidity: Threshold 2	*ENG	Adjusts the threshold value between ML and MM. [0 to 100 / <b>8</b> / 0.01 g/m <sup>3</sup> /step]
005	Absolute Humidity: Threshold 3	*ENG	Adjusts the threshold value between MM and MH. [0 to 100 / <b>16</b> / 0.01 g/m <sup>3</sup> /step]
006	Absolute Humidity: Threshold 4	*ENG	Adjusts the threshold value between MH and HH. [0 to 100 / <b>24</b> / 0.01 g/m <sup>3</sup> /step]
007	Temp Threshold	*ENG	[-5 to 30 / <b>5</b> / 1 deg/step]

0000	[Paper Size Correction]				
2308	Adjusts the threshold value for the paper size correction.				
001	Threshold 1	*ENG	[O to 350 / <b>297</b> / 1 mm/step] Threshold 1 ≤ paper: Paper is detected as "S1" size.		
002	Threshold 2	*ENG	[O to 350 / <b>257</b> / 1 mm/step] Threshold 2 ≤ paper ≤ Threshold 1: Paper is detected as "S2" size.		
003	Threshold 3	*ENG	[O to 350 / <b>210</b> / 1 mm/step] Threshold 3 ≤ paper ≤ Threshold 2: Paper is detected as "S3" size.		

			[0 to 350 / <b>148</b> / 1 mm/step]
			Threshold 4 ≤ paper ≤ Threshold 3:
004	Threshold 4	*ENG	Paper is detected as "S4" size.
			Paper ≤ Threshold 4:
			Paper is detected as "S5" size.

2311	[Non Image Area: Bias]		
001	Image Transfer	*ENG	Adjusts the bias of the image transfer belt between images. This value is added to the value of the image transfer belt bias. [10 to 250 / <b>100</b> / 5 %/step]
002	Paper Transfer	*ENG	Adjusts the bias of the paper transfer roller between images. [0 to 130 / <b>5</b> / 1 –μA/step]

2326	[Transfer Roller CL: Bias] Transfer Roller Cleaning: Bias Adjustment			
0.01	Positive	*ENG	[0 to 2100 / <b>500</b> / 100 V /step]	
001	Adjusts the positive voltage of the paper transfer roller for cleaning the paper transfer roller.			
000	Negative	*ENG	[10 to 400 / <b>300</b> / 10 %/step]	
002	Adjusts the negative current of the paper transfer roller for cleaning the paper transfer roller.			
003	Positive	*ENG	[0 to 2100 / <b>2000</b> / 100 V/step]	
	Adjusts the negative current limit of the paper transfer roller for cleaning the paper transfer roller.			
004	Negative	*ENG	[10 to 400 / <b>100</b> / 10 %/step]	

2351	[Common: BW: Bias] Image Transfer Belt: B/W: Bias Adjustment				
2351	Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec				
001	ITB unit: Plain	*ENG	[0 to 80 / <b>P2c: 33, P2d: 37</b> / 1 μA]		
	Adjusts the current for the image transfer belt in B/W mode for plain paper.				

## 8. Appendix: SP Mode Tables

002	ITB unit: Thick 1	*ENG	[0 to 80 / <b>25</b> / 1 µA]	
002	Adjusts the current for the image transfer belt in B/W mode for thick 1 paper.			
003	ITB unit: Thick 2 & FINE	*ENG	[0 to 80 / <b>12</b> / 1 µA]	
	Adjusts the current for the image transfer belt in B/W mode for thick 2 paper or FINE mode.			

2357	[Common: FC: Bias] Image Transfer Belt: Full Color: Bias Adjustment Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec				
001	ITB unit: Plain: Bk	*ENG	[0 to 80 / <b>P2c: 30, P2d: 33</b> / 1 μA]		
	Adjusts the current for the image transfer belt for Black in full color mode for plain paper.				
002	ITB unit: Plain: M	*ENG	[0 to 80 / <b>P2c: 30, P2d: 33</b> / 1 μA]		
	Adjusts the current for the image transfer belt for Magenta in full color mode for plain paper.				
003	ITB unit: Plain: C	*ENG	[0 to 80 / <b>P2c: 33, P2d: 37</b> / 1 μA]		
	Adjusts the current for the image transfer belt for Cyan in full color mode for plain paper.				
004	ITB unit: Plain: Y	*ENG	[0 to 80 / <b>P2c: 38, P2d: 42</b> / 1 μA]		
004	Adjusts the current for the image transfer belt for Yellow in full color mode for plain paper.				
005	ITB unit: Thick 1: Bk	*ENG	[0 to 80 / <b>22</b> / 1 μA]		
005	Adjusts the current for the image transfer belt for Black in full color mode for thick 1 paper.				
	ITB unit: Thick 1: M	*ENG	[0 to 80 / <b>22</b> / 1 μA]		
006	Adjusts the current for the image transfer belt for Magenta in full color mode for thick 1 paper.				
007	ITB unit: Thick 1: C	*ENG	[0 to 80 / <b>25</b> / 1 μA]		
	Adjusts the current for the image transfer belt for Cyan in full color mode for thick 1 paper.				
008	ITB unit: Thick 1: Y	*ENG	[0 to 80 / <b>28</b> / 1 μA]		
	Adjusts the current for the image transfer belt for Yellow in full color mode for thick 1 paper.				
009	ITB unit: Thick 2 & FINE: Bk	*ENG	[0 to 80 / <b>11</b> / 1 µA]		
	Adjusts the current for the image transfer belt for Black in full color mode for Thick 2 and fine.				

	ITB unit: Thick 2 & FINE: M	*ENG	[0 to 80 / <b>11</b> / 1 μA]		
010	Adjusts the current for the image transfer b fine.	elt for Mage	nta in full color mode for Thick 2 and		
011	ITB unit: Thick 2 & FINE: C	*ENG	[0 to 80 / <b>12</b> / 1 μA]		
011	Adjusts the current for the image transfer belt for Cyan in full color mode for Thick 2 and fine.				
	ITB unit: Thick 2 & FINE: Y	*ENG	[0 to 80 / <b>14</b> / 1 μA]		
012	Adjusts the current for the image transfer belt for Yellow in full color mode for Thick 2 and fine.				

2360	[Common: BW Environment Correction]		
001	ITB unit: Plain	*ENG	
002	ITB unit: Thick 1	*ENG	[1 to 60 / <b>1</b> / 1 /step]
003	ITB unit: Thick 2	*ENG	
004	ITB unit: Plain: Bk	*ENG	[1 to 60 / <b>13</b> / 1 /step]
005	ITB unit: Plain: M	*ENG	
006	ITB unit: Plain: C	*ENG	[1 to 60 / <b>2</b> / 1 /step]
007	ITB unit: Plain: Y	*ENG	
008	ITB unit: Thick 1: Bk	*ENG	[1 to 60 / <b>31</b> / 1 /step]
009	ITB unit: Thick 1: M	*ENG	
010	ITB unit: Thick 1: C	*ENG	[1 to 60 / <b>2</b> / 1 /step]
011	ITB unit: Thick 1: Y	*ENG	
012	ITB unit: Thick 2: Bk	*ENG	[1 to 60 / <b>31</b> / 1 /step]
013	ITB unit: Thick 2: M	*ENG	[1 to 60 / <b>2</b> / 1 /step]
014	ITB unit: Thick 2: C	*ENG	[1 to 60 / <b>1</b> / 1 / step]
015	ITB unit: Thick 2: Y	*ENG	

	[Plain: Bias]				
2401	Adjusts the DC voltage of the discharge plate for plain paper. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec				
001	Separation DC: Plain: 1st Side	*ENG	[0 to 4000 / <b>2000</b> / 10 –V/step]		
002	Separation DC: Plain: 2nd Side	*ENG	[0 to 4000 / <b>3000</b> / 10 -V/step]		
003	Separation DC: 1200: 1st Page	*ENG	[0 to 4000 / <b>2000</b> / 10 -V/step]		
004	Separation DC: 1200: 2nd side	*ENG	[0 to 4000 / <b>3000</b> / 10 -V/step]		

	[Plain: Bias: BW]		
2403	Adjusts the current for the paper transfer roller for plain paper in black-and-white mode. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1 st Side	*ENG	
002	Paper Transfer: Plain: 2nd Side	*ENG	[0 to 250 / <b>P2c: 30, P2d: 34</b> / 1 -µA /step]
003	Paper Transfer: 1200: 1st Side	*ENG	[0 to 250 / <b>7</b> / 1 –µA /step]
004	Paper Transfer: 1200: 2nd side	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]

	[Plain: Bias: FC]		
2407	Adjusts the current for the paper transfer roller for plain paper in full color mode. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1 st Side	*ENG	[0 to 250 / <b>P2c: 36, P2d: 40</b> / 1 -µA / step]
002	Paper Transfer: Plain: 2nd Side	*ENG	[0 to 250 / <b>P2c: 45, P2d: 50</b> / 1 -µA /step]
003	Paper Transfer: 1200: 1st Side	*ENG	[0 to 250 / <b>10</b> / 1 –µA /step]
004	Paper Transfer: 1200: 2nd side	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]

	[Plain: Paper Size Correction]				
2411	SP2403 and SP2407 are multi	plied by the			
	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec				
001	Paper Transfer: Plain : 1st Side: S1	*ENG			
002	Paper Transfer: Plain: 2nd Side: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]		
003	Paper Transfer: 1200: 1st Side: S1	*ENG	S1 size ≥ 297 mm (Paper width)		
004	Paper Transfer: 2nd side: 1200: S1	*ENG			
005	Paper Transfer: Plain: 1 st Side: S2	*ENG	[100 to 600 / <b>105</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)		
006	Paper Transfer: Plain: 2nd Side: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)		
007	Paper Transfer: 1200: 1st Side: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)		
008	Paper Transfer: 2nd side: 1200: S2	*ENG	[100 to 600 / <b>150</b> / 5%/step]		
009	Paper Transfer: Plain: 1 st Side: S3	*ENG	[100 to 600 / <b>110</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)		
010	Paper Transfer: Plain: 2nd Side: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step]		
011	Paper Transfer: Plain: 1 st Side: S3	*ENG	275 mm ≥ S3 size ≥ 210 mm (Paper width)		
012	Paper Transfer: 2nd side: 1200: S3	*ENG	[100 to 600 / <b>300</b> / 5%/step]		
013	Paper Transfer: Plain: 1 st Side: S4	*ENG	[100 to 600 / <b>115</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)		

014	Paper Transfer: Plain: 2nd Side: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
015	Paper Transfer: Plain: 1 st Side: S4	*ENG	[100 to 600 / <b>240</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
016	Paper Transfer: 2nd side: 1200: S4	*ENG	[100 to 600 / <b>340</b> / 5%/step]
017	Paper Transfer: Plain: 1 st Side: S5	*ENG	[100 to 600 / <b>120</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
018	Paper Transfer: Plain: 2nd Side: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
019	Paper Transfer: Plain: 1 st Side: S5	*ENG	[100 to 600 / <b>300</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
020	Paper Transfer: 2nd side: 1200: S5	*ENG	[100 to 600 / <b>400</b> / 5%/step]

	[Plain: Leading Edge Correction] Plain Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2403 and SP2407 are multiplied by these SP values.		
2421	Plain: 205 (P2c)/230 (P2d)	mm/sec, 12	200: 77 mm/sec
	↓Note		
	• The paper leading edge area can be adjusted with SP2422.		
001	Paper Transfer: Plain: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]
002	Paper Transfer: Plain: 2nd Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]
003	Paper Transfer: Plain: 1st Side	*ENG	[0.4- 400 / <b>100</b> / 5% (star)]
004	Paper Transfer: 1200: 2nd side	*ENG	[0 to 400 / <b>100</b> / 5%/step]

<b>2421</b> 005-008	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2401 is multiplied by these SPs values.    Note   The paper leading edge area can be adjusted with SP2422.		
005	Separation DC: Plain: 1st Side	*ENG	
006	Separation DC: Plain: 2nd Side	*ENG	[0 + 400 / <b>100</b> / 5% / 4 = 1
007	Separation DC: Plain: 1st Page	*ENG	[0 to 400 / <b>100</b> / 5%/step]
008	Separation DC: 1200: 2nd side	*ENG	

	[Plain: Switch Timing: Lead. Edge]		
Adjusts the bias/voltage switch timing of the paper transfer roller/discharg paper leading edge between the erase margin area and the image area. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		gin area and the image area.	
		III/ 300, 1200	
001	Paper Transfer: Plain: 1 st Side	*ENG	
002	Paper Transfer: Plain: 2nd Side	*ENG	
003	Paper Transfer: Plain: 1 st Side	*ENG	
004	Paper Transfer: 1200: 2nd side	*ENG	
005	Separation DC: Plain: 1st Page	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
006	Separation DC: Plain: 2nd Page	*ENG	
007	Separation DC: Plain: 1st Page	*ENG	
008	Separation DC: 1200: 2nd side	*ENG	

	[Plain: Trailing Edge Correction] Plain Paper: Trailing Edge Correction		
2423	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2403 and SP2407 are multiplied by these SP values. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
	•Note	m/sec, 1200	J: // mm/sec
	• The paper trailing edge a	rea can be a	djusted with SP2424.
001	Paper Transfer: Plain: 1 st Side	*ENG	
002	Paper Transfer: Plain: 2nd Side	*ENG	
003	Paper Transfer: Plain: 1 st Side	*ENG	
004	Paper Transfer: 1200: 2nd side	*ENG	
005	Separation DC: Plain: 1 st Page	*ENG	[0 to 400 / <b>100</b> / 5%/step]
006	Separation DC: Plain: 2nd Page	*ENG	
007	Separation DC: Plain: 1st Page	*ENG	
008	Separation DC: 1200: 2nd side	*ENG	

	[Plain: Switch Timing: Trail. Edge]
2424	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec

001	Paper Transfer: Plain: 1st Side	*ENG	
002	Paper Transfer: Plain: 2nd Side	*ENG	-
003	Paper Transfer: Plain: 1st Side	*ENG	-
004	Paper Transfer: 1200: 2nd side	*ENG	
005	Separation DC: Plain: 1st Page	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
006	Separation DC: Plain: 2nd Page	*ENG	-
007	Separation DC: Plain: 1st Page	*ENG	
008	Separation DC: 1200: 2nd side	*ENG	

2430	[Plain: Environment Correction] DFU			
	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			
001	Separation DC: Plain: 1st Page	*ENG	[1 to 60 / <b>26</b> / 1 /step]	
002	Separation DC: Plain: 2nd Page	*ENG	[1 to 60 / <b>32</b> / 1 /step]	
003	Paper Transfer: BW: 1st Side	*ENG	[1 to 60 / <b>1</b> / 1 /step]	
004	Paper Transfer: BW: 2nd Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]	
005	Paper Transfer: FC: 1st Side	*ENG	[1 to 60 / <b>39</b> / 1 /step]	
006	Paper Transfer: FC: 2nd Side	*ENG	[1 to 60 / <b>14</b> / 1 /step]	
007	Separation DC: Plain: 1st Page	*ENG	[1 to 60 / <b>26</b> / 1 /step]	
008	Separation DC: 1200: 2nd side	*ENG	[1 to 60 / <b>32</b> / 1 /step]	
009	Paper Transfer: 1200: BW: 1st Side	*ENG		
010	Paper Transfer: 1200: BW: 2	*ENG	[1 to 60 / <b>11</b> / 1 /step]	
011	Paper Transfer: 1200: FC: 1st Side	*ENG		
012	Paper Transfer: 1200: FC: 2	*ENG	[1 to 60 / <b>49</b> / 1 /step]	

2451       [Thin: Bias]         Adjusts the DC voltage of the discharge plate for thin paper.         Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		[Thin: Bias]
		Adjusts the DC voltage of the discharge plate for thin paper.
		Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec

001	Separation DC: Plain: 1st Side	*ENG	[0 to 4000 / <b>2000</b> / 10 –V/
003	Separation DC: Plain: 1st Page	*ENG	step]

	[Thin: Bias: BW]		
2453	Adjusts the current for the paper transfer roller for thin paper in black-and-white mode. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1st Side	*ENG	[0 to 250 / <b>P2c: 30, P2d: 34</b> / 1 – μA /step]
003	Paper Transfer: FINE: 1st Side	*ENG	[0 to 250 / <b>11</b> / 1 –µA /step]

	[Thin: Bias: FC]		
2457	Adjusts the current for the paper transfer roller for thin paper in full color mode. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1st Side	*ENG	[0 to 250 / <b>P2c: 40, P2d: 45</b> / 1 – μA /step]
003	Paper Transfer: FINE: 1 st Side	*ENG	[0 to 250 / <b>15</b> / 1 –µA /step]

	[Thin: Paper Size Correction]		
2461Adjusts the size correction coefficient for the paper transfer roller current for each paper SP2453 and SP2457 are multiplied by these SP values. Plain: 205 (P2c)/230 (P2d) mm/sec			
001	Paper Transfer: Plain: 1st Side: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step] S1 size ≥ 297 mm (Paper width)
005	Paper Transfer: Plain: 1st Side: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)
009	Paper Transfer: Plain: 1st Side: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)

013	Paper Transfer: Plain: 1st Side: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Pape r width)
017	Paper Transfer: Plain: 1st Side: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step]

	[Thin: Leading Edge Correction] Thin Paper: Leading Edge Correction			
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2453 and SP2457 are multiplied by these SP values.			
2471	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			
	<ul> <li>Note</li> <li>The paper leading edge area can be adjusted with SP2472.</li> </ul>			
001	Paper Transfer: Plain: 1st Side	*ENG		
003	Paper Transfer: Plain: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
005	Separation DC: Plain: 1st Side	*ENG		
2471	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2451 is multiplied by these SP values. <b>Note</b> • The paper leading edge area can be adjusted with SP2472.			
007	Separation DC: Plain: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]	

	[Thin: Switch Timing: Lead. Edge]		
Adjusts the bias/voltage switch timi paper leading edge between the er		g of the paper transfer roller/ discharge plate at the se margin area and the image area.	
Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			nm/sec
001	Paper Transfer: Plain: 1st Side	*eng	
003	Paper Transfer: Plain: 1st Side	*ENG	$[0, t_{0}, f_{0}, f_{$
005	Separation DC: Plain: 1st Page	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
007	Separation DC: Plain: 1st Side	*ENG	

	[Thin: Trailing Edge Correction] Thin Paper: Trailing Edge Correction			
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2453 and SP2457 are multiplied by these SP values.			
2473	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			
	• The paper trailing edge area can be adjusted with SP2474.			
001	Paper Transfer: Plain: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
003	Paper Transfer: 1200: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
005	Separation DC: Plain: 1st Side	*ENG	[0 to 400 / 100 / 5%/step]	
007	Separation DC: 1200: 1st Page	*ENG	[0 to 400 / 100 / 5%/step]	

	[Thin: Switch Timing: Trail. Edge]		
2474	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.		
Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			nm/sec
001	Paper Transfer: Plain: 1st Side	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
003	Paper Transfer: Plain: 1st Side	*ENG	
005	Separation DC: Plain: 1st Side	*ENG	[0 to 50 / <b>0</b> / 1 mm/step]
007	Separation DC: Plain: 1st Page	*ENG	

2480	[Thin: Environment Correction] Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Separation DC: Plain: 1st Side	*ENG	[1 to 60 / <b>26</b> / 1 /step]
003	Paper Transfer: Plain: BW: 1st Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	Paper Transfer: Plain: FC: 1 st Side	*ENG	[1 to 60 / <b>1</b> / 1 /step]
007	Separation DC: Plain: 1st Side	*ENG	[1 to 60 / <b>26</b> / 1 /step]
009	Paper Transfer: 1200: BW: 1st Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
011	Paper Transfer: 1200: FC: 1st Side	*ENG	[1 to 60 / <b>1</b> / 1 /step]

2481	[Glossy: Bias]		
001	Separation DC: Glossy: 1st Side	*ENG	[0 to 4000 / <b>2000</b> / 10 -V/step]
001	Adjusts the DC voltage of the discharge plate for glossy paper.		

2482	[Glossy: Bias: BW]			
001	Paper Transfer: Glossy: 1st Side	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]	
001	Adjusts the current for the paper transfer roller for glossy paper in black-and-white mode.			

2483	[Glossy: Bias: FC]		
001	Paper Transfer: Glossy: 1st Side	*ENG	[0 to 250 / <b>15</b> / 1 –µA /step]
001	Adjusts the current for the paper transfer roller for glossy paper in full color mode.		

2484	[Glossy: Paper Size Correction]		
001	Paper Transfer: Glossy: 1st Side: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]
005	Paper Transfer: Glossy: 1st Side: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step]
009	Paper Transfer: Glossy: 1st Side: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step]
013	Paper Transfer: Glossy: 1st Side: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step]
017	Paper Transfer: Glossy: 1st Side: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step]

2485	[Glossy: Leading Edge Correction]		
001	Paper Transfer: Glossy: 1st Side	*ENG	[10 to 400 / <b>100</b> / 5%/step]
005	Separation DC: Glossy: 1st Page	*ENG	[10 to 400 / <b>100</b> / 5%/step]]

001         Paper Transfer: Glossy: 1 st Side         * ENG           005         Separation DC: Glossy: 1 st Page         * ENG	2486	[Glossy: Switch Timing: Lead. Edge]		
	001	Paper Transfer: Glossy: 1st Side	*ENG	[0 + 50 / <b>0</b> / 2 mm / + m]
	005	Separation DC: Glossy: 1st Page	*ENG	

2487	[Glossy: Trailing Edge Correction]
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## 8. Appendix: SP Mode Tables

001	Paper Transfer: Glossy: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5 %/step]
005	Separation DC: Glossy: 1st Page	*ENG	

2488	[Glossy: Switch Trail. Edge]		
001	Paper Transfer: Glossy: 1st Side	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
005	Separation DC: Glossy: 1st Page	*ENG	

2489	[Glossy: Environment Correction]		
001	Separation DC: Glossy: 1st Page	*ENG	[1 to 60 / <b>26</b> / 1 /step]
003	Paper Transfer: BW: 1st Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	Paper Transfer: BW: 2nd Side	*ENG	[1 to 60 / <b>1</b> / 1 /step]

	[Thick 1: Bias]		
2501	Adjusts the DC voltage of the discharge plate for thick 1 paper.		
	Thick 1: 154 mm/sec, 1200: 77 mm/sec		
001	Separation DC: Plain: 1st Side	*ENG	
002	Separation DC: TH1n: 2nd Side	*ENG	[0 to 4000 / <b>1000</b> / 10 -V/step]
003	Separation DC: 1200: 1st Side	*ENG	

	[Thick 1: Bias: BW]			
Adjusts the current for the paper transfer roller for thick 1 paper in black-and-white				
	Thick 1: 154 mm/sec, 1200: 77 mm/sec			
001	Paper Transfer: Thick 1: 1st Side	*ENG	[0 + 250 / 24 / 1 + 44 / 4 + 4]	
002	Paper Transfer: Thick 1: 2nd Side	*ENG	[0 to 250 / <b>24</b> / 1 –µA /step]	
003	PTR: 1200: 1st Side	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]	

2507       [Thick 1: Bias: FC]         Adjusts the current for the paper transfer roller for thick 1 paper in full color mod		[Thick 1: Bias: FC]	
		Adjusts the current for the paper transfer roller for thick 1 paper in full color mode.	
		Thick 1: 154 mm/sec, 1200: 77 mm/sec	

001	Paper Transfer: Thick 1: 1st Side	*ENG	[0 to 250 / <b>30</b> / 1 –μΑ /step]
002	Paper Transfer: Thick 1: 2nd Side	*ENG	[0 10 230 / <b>30</b> / 1 –µA / siep]
003	Separation DC: 1200: 1st Side	*ENG	[0 to 250 / <b>15</b> / –µA /step]

	[Thick 1: Paper Size Correction]					
2511	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values.					
	Thick 1: 154 mm/sec, 1200: 77 mm,	/sec				
001	Paper Transfer: Thick 1: 1st Side: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]			
002	Paper Transfer: Thick 1: 2nd Side: S1	*ENG	S1 size≥297 mm (Paper width)			
003	Paper Transfer: TH1: 1st Side: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step] S1 size ≥ 297 mm (Paper width)			
005	Paper Transfer: Thick 1: 1st Side: S2	*ENG	[100 to 600 / <b>105</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)			
006	Paper Transfer: Thick 1: 2nd Side: S2	*ENG	[100 to 600 / <b>130</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)			
007	Paper Transfer: TH1: 1st Side: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)			
009	Paper Transfer: Thick 1: 1st Side: S3	*ENG	[100 to 600 / <b>110</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)			
010	Paper Transfer: Thick 1: 2nd Side: S3	*ENG	[100 to 600 / <b>160</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)			
011	Paper Transfer: TH1: 1st Side: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)			

013	Paper Transfer: Thick 1: 1st Side: S4	*ENG	[100 to 600 / <b>115</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
014	Paper Transfer: Thick 1: 2nd Side: S4	*ENG	[100 to 600 / <b>190</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
015	Paper Transfer: TH1: 1st Side: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
017	Paper Transfer: Thick 1: 1st Side: S5	*ENG	[100 to 600 / <b>120</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
018	Paper Transfer: Thick 1: 2nd Side: S5	*ENG	[100 to 600 / <b>220</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
019	Paper Transfer: TH1: 1st Side: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)

	[Thick 1: Leading Edge Correction] Thick 1 Paper: Leading Edge Correction				
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2502 and SP2507 are multiplied by these SP values.				
2521	Thick 1: 154 mm/sec, 1200: 77 mm,	/sec			
	♦ Note				
	• The paper leading edge area can be adjusted with SP2522.				
001	Paper Transfer: Thick 1: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
002	Paper Transfer: Thick 1: 2nd Side	*ENG			
003	Paper Transfer: TH1: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
005	Separation DC: Thick 1: 1st Side	*ENG	[0 + 100 / 100 / 5% / step]		
006	Separation DC: Thick 1: 2nd Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
007	Separation DC: TH1: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		

	[Thick 1: Switch Timing: Lead. Edge]				
Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate paper leading edge between the erase margin area and the image area.					
	Thick 1: 154 mm/sec, 1200: 77 mm/sec				
001	Paper Transfer: Plain 1: 1st Side	*ENG			
002	Paper Transfer: Plain: 2nd Side	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]		
003	Paper Transfer: Thick 1: 1st Side	*ENG			
005	Separation DC: Plain 1: 1st Side	*ENG			
006	Separation DC: Plain 1: 2nd Side	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]		
007	Separation DC: TH1: 1st Side	*ENG			

	[Thick 1: Trailing Edge Correction] Thick 1 Paper: Trailing Edge Correction				
0.500	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2502 and SP2507 are multiplied by these SP values.				
2323	<b>2523</b> Thick 1: 154 mm/sec, 1200: 77 mm/sec				
	↓ Note				
	• The paper trailing edge area can be adjusted with SP2524.				
001	Paper Transfer: Thick 1: 1st Side	*ENG			
002	Paper Transfer: Thick 1: 2nd Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
003	Paper Transfer: Thick 1: 1st Side	*ENG			
005	Paper Transfer: Thick 1: 1st Side	*ENG			
006	Paper Transfer: Thick 1: 2nd Side	*ENG	[0.4. 400 / <b>100</b> / 5% (.4.m.]		
007	Paper Transfer: Thick 1: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		

	[Thick 1: Switch Timing: Trail. Edge]
2524	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Thick 1: 154 mm/sec, 1200: 77 mm/sec

## 8. Appendix: SP Mode Tables

001	Paper Transfer: Plain: 1 st Side	*ENG	
002	Paper Transfer: Plain: 2nd Side	*ENG	
003	Paper Transfer: Thick 1: 1st Side	*ENG	$[0, t_0, 50] / 0 / 1 mm (stard)$
005	Paper Transfer: Plain: 1st Side	*ENG	[0 to 50 / <b>0</b> / 1 mm/step]
006	Paper Transfer: Plain: 2nd Side	*ENG	
007	Paper Transfer: Thick 1: 1st Side	*ENG	

2530	[Thick 1: Environment Correction] Thick 1: 154 mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1st Side	*ENG	[] to (0 ( <b>22</b> / ] (step]
002	Paper Transfer: Plain: 2nd Side	*ENG	[1 to 60 / <b>22</b> / 1 /step]
003	Paper Transfer: Plain: BW: 1st Side	*ENG	[] to 60 / <b>11</b> / ] (step]
004	Paper Transfer: Plain : BW:2nd Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	Paper Transfer: Plain: FC: 1st Side	*ENG	[1 to 60 / <b>1</b> / 1 /step]
006	Paper Transfer: Plain: FC:2nd Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
007	Paper Transfer: Thick1: 1st Side	*ENG	[1 to 60 / <b>22</b> / 1 /step]
009	Paper Transfer: 1200: BW: 1st Side	*ENG	[1 to 60 / <b>11</b> / 1 /step]
011	Paper Transfer: 1200: FC: 1st Side	*ENG	[1 to 60 / 1 / 1 /step]

2551	[Thick 2: Bias]			
2551	Adjusts the DC voltage of the discharge plate for thick 2 paper.			
001	Sep DC: 1st	*ENG	[0 to 4000 / <b>1000</b> / 10 – V/step]	
002	Sep DC: 2nd	*ENG	[0 10 4000 / 1000 / 10 – v/ step]	

2553	[Thick 2: Bias: BW]			
	Adjusts the current for the paper transfer roller for thick 2 paper in black-and-white mode.			
001	PTR: 1 st	*ENG	[0 to 250 / <b>7</b> / 1 –µA /step]	

	002	PTR: 2nd	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]		
0.5.50		[Thick 2: Bias: FC]				
	2558	Adjusts the current for the paper tr	ansfer roller f	or thick 2 paper in full color mode.		
	001	PTR: 1st	*ENG	[0 to 250 / <b>16</b> / 1 –µA /step]		

\*ENG

[0 to 250 / **15** / 1 -µA /step]

002 | PTR: 2nd

	[TH2: P Size Cor]					
2561	Adjusts the size correction coefficient for the paper transfer roller current for each paper size SP2553 and SP2558 are multiplied by these SP values.					
001	PTR: 1st: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]			
002	PTR: 2nd: S1	*ENG	S1 size ≥ 297 mm (Paper width)			
003	PTR: 1st: S2	*ENG	[100 to 600 / <b>105</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)			
004	PTR: 2nd: S2	*ENG	[100 to 600 / <b>160</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)			
005	PTR: 1st: S3	*ENG	[100 to 600 / <b>110</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)			
006	PTR: 2nd: S3	*ENG	[100 to 600 / <b>260</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)			
007	PTR: 1st: S4	*ENG	[100 to 600 / <b>120</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)			
008	PTR: 2nd: S4	*ENG	[100 to 600 / <b>430</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)			

009	PTR: 1st : S5	*ENG	[100 to 600 / <b>140</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
010	PTR: 2nd: S5	*ENG	[100 to 600 / <b>600</b> / 5%/step] 148 mm ≥ S5 size (Paper width)

	[Thick 2: LE Cor] Thick 2 Paper: Leading Edge Correction					
2571	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2553 and SP2558 are multiplied by these SP values.					
	♦ Note					
	• The paper leading edge area can be adjusted with SP2572.					
001	PTR: 1st	*ENG	[0.4. 400 / <b>100</b> / 5% / 44.m]			
002	PTR: 2nd	*ENG	[0 to 400 / <b>100</b> / 5%/step]			
	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2551 is multiplied by these SP values.					
2571	♦ Note					
	<ul> <li>The paper leading edge area can be adjusted with SP2572.</li> </ul>					
003	Sep DC: 1st	*ENG	[0 + 100 / 100 / 5% / step]			
004	Sep DC: 2nd         *ENG         [0 to 400 / 100 / 5%/step]					

	[TH 2: L Edge: Timing]				
2572	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper leading edge between the erase margin area and the image area.				
001	PTR: 1st	*ENG			
002	PTR: 2nd	*ENG			
003	Sep DC: 1st	*ENG	[0 to 50 / <b>0</b> / 2mm/step]		
004	Sep DC: 2nd	*ENG			

	[Thick 2: E Cor] Thick 2 Paper: Trailing Edge Correction			
2573	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2553 and SP2558 are multiplied by these SP values.			
	• The paper trailing edge area can be adjusted with SP2574.			
001	PTR: 1st	*ENG	[0+, 400 / <b>100</b> / 59/ / + , ]	
002	PTR: 2nd	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
003	Sep DC: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
004	Sep DC: 2nd	*ENG	[0 to 400 / <b>100</b> / 5%/step]	

	[Thick 2: TE Timing]			
2574	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.			
001	Paper Transfer: 1st Side	*ENG		
002	Paper Transfer: 2nd Side	*ENG		
003	Separation DC: 1st Page	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]	
004	Separation DC: 2nd Page	*ENG		

2580	[Thick 2 Env Cor]		
001	Sep DC: 1st	*ENG	[] to 40 / <b>22</b> / ] / to m]
002	Sep DC: 2nd	*ENG	[1 to 60 / <b>22</b> / 1 /step]
003	PTR: BW: 1st	*ENG	[0 to 40 / <b>11</b> / 1 / to m]
004	PTR: BW: 2nd	*ENG	[0 to 60 / <b>11</b> / 1 /step]
005	PTR: FC: 1st	*ENG	[1 to 60 / <b>53</b> / 1 /step]
006	PTR: FC: 2nd	*ENG	[1 to 60 / <b>11</b> / 1 /step]

2401	[OHP: Bias]
2601	Adjusts the DC voltage of the discharge plate for OHP.

001	Separation DC	*ENG	[0 to 4000 / <b>1000</b> / 10 -V/step]
	1		

2603	[OHP: Bias: BW]				
	Adjusts the current for the paper transfer roller for OHP in black-and-white mode.				
	001	Paper Transfer	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]	

	2608	[OHP: Bias: FC]				
	2000	Adjusts the current for the paper transfer roller for OHP in full color mode.				
	001	1         Paper Transfer         * ENG         [0 to 250 / 15 / 1 -μA / step]				

	[OHP: P Size Cor]				
2611	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.				
001	PTR: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step] S1 size ≥ 297 mm (Paper width)		
002	PTR: S2	*ENG	[100 to 600 / <b>140</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)		
003	PTR: S3	*ENG	[100 to 600 / <b>200</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)		
004	PTR: S4	*ENG	[100 to 600 / <b>260</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)		
005	PTR: S5	*ENG	[100 to 600 / <b>330</b> / 5%/step] 148 mm ≥ S5 size (Paper width)		

	[OHP: LE Cor] OHP: Leading Edge Correction				
2621	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2603 and SP2608 are multiplied by these SP values.				
	• The paper leading edge of	area can be	e adjusted with SP2622.		
001	PTR	*ENG	[0 to 400 / <b>100</b> / 5%/step]		

2621	SP2601 is multiplied by these	SP values.	e current at the paper leading edge in each mode.
	The paper leading edge of the paper lea	area can be	e adjusted with SP2622.
002	Sep DC	*ENG	[0 to 400 / <b>100</b> / 5%/step]

	[OHP: L Edge: Timing]				
2622	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper leading edge between the erase margin area and the image area.				
001	Paper Transfer				
002	Separation DC	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]		

	[OHP: TE Cor] OHP: Trailing Edge Correction				
2623	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2603 and SP2608 are multiplied by these SP values.				
	Note				
	<ul> <li>The paper trailing edge area can be adjusted with SP2624.</li> </ul>				
001	PTR	*ENG	[0.4. 400 / <b>100</b> / 5% / 44]		
002	Sep DC	*ENG	[0 to 400 / <b>100</b> / 5%/step]		

	[OHP: T Edge: Timing]				
2624	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.				
001	Paper Transfer         * ENG         [-100 to 0 / 0 / 1 mm/step]				
002	Sep DC	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]		

2630	[OHP: Env Cor]			
001	Sep DC	*ENG	[1 to 60 / <b>22</b> / 1 /step]	
002	PTR: BW	*ENG	[1 to 60 / <b>11</b> / 1 /step]	
003	PTR: FC	*ENG	[1 to 60 / <b>1</b> / 1 /step]	

2650	[Thick3: Bias]				
2050	Adjusts the DC voltage of the discharge plate for thick paper 3.				
001	Sep DC: 1st	*ENG			
002	Sep DC: 2nd	*ENG	[0 to 4000 / <b>1000</b> / 10 –V/step]		

2651	[Thick3: Bias: BW]				
2051	Adjusts the current for the paper transfer roller for thick paper 3 in black-and-white mode.				
001	PTR: 1st	*ENG	[0 to 250 / <b>10</b> / 1 –µA /step]		
002	PTR: 2nd	*ENG	[0 to 250 / <b>12</b> / 1 –µA /step]		

2652	[Thick3: Bias: FC]				
2032	Adjusts the current for the paper transfer roller for thick paper 3 in full color mode.				
001	PTR: 1st	*ENG	[0 to 250 / <b>11</b> / 1 –µA /step]		
002	PTR: 2nd	*ENG	[0 to 250 / <b>15</b> / 1 –µA /step]		

	[Thick3: P Size Cor]				
2653	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2651 and SP2652 are multiplied by these SP values.				
001	PTR: 1st: S1	[100 to 600 / <b>100</b> / 5%/step] S1 size ≥ 297 mm (Paper width)			
002	PTR: 1st: S2	*ENG	[100 to 600 / <b>100</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)		
003	PTR: 1st: S3	*ENG	[100 to 600 / <b>100</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)		
004	PTR: 1st: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)		

005	PTR: 1st: S5	*ENG	[100 to 600 / <b>100</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
006	PTR: 2nd: S1	*ENG	[100 to 600 / <b>260</b> / 5%/step] S1 size ≥ 297 mm (Paper width)
007	PTR: 2nd: S2	*ENG	[100 to 600 / <b>100</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)
008	PTR: 2nd: S3	*ENG	[100 to 600 / <b>430</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)
009	PTR: 2nd: S4	*ENG	[100 to 600 / <b>100</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
010	PTR: 2nd: S5	*ENG	[100 to 600 / <b>600</b> / 5%/step] 148 mm ≥ S5 size (Paper width)

	[Thick 3: LE Cor] Thick 3 Paper: Leading Edge Correction			
2654       Adjusts the correction to the paper transfer roller current at the paper leading edge mode. SP2651 and SP2652 are multiplied by these SP values.         Vote				
	• The paper leading edge area can be	e adjusted wi	th SP2655.	
001	PTR: 1st	*ENG	[0 + 400 / <b>100</b> / 5% / 4 + 1	
002	Sep DC: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
2654	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2650 is multiplied by these SP values. Note • The paper leading edge area can be adjusted with SP2655.			
003	Paper Transfer: 2nd Side *ENG			
004	Separation DC: 2nd Page	*ENG	[0 to 400 / <b>100</b> / 5%/step]	

	[Thick 3: LE Timing]		
2655	5 Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at t paper leading edge between the erase margin area and the image area.		
001	PTR: Plain: 1 st	*ENG	
002	SepDC: 1st	*ENG	[0 to 50 / 0 / 2 mm/ston]
003	PTR: Plain: 2nd	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
004	Sep DC: 2nd	*ENG	

	[Thick 3: TE Cor] Thick 3 Paper: Trailing Edge Correction		
2656	Adjusts the correction to the paper transfer roller current for the paper trailing edge in ed mode. SP2651 and SP2652 are multiplied by these SP values.		
• The paper trailing edge area can be adjusted with SP2657.		h SP2657.	
001	PTR: 1st	*ENG	
002	PTR r: 2nd	*ENG	[0 + 400 / <b>100</b> / 5% / +]
003	Sep DC: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]
004	Sep DC: 2st	*ENG	

	[Thick 3: TE Timing]		
2657 Adjusts the bias/voltage switch timing of the paper transfer roller/discharge pla paper trailing edge between the erase margin area and the image area.			
001	PTR: 1st	*ENG	
002	PTR : 2nd	*ENG	
003	Sep DC: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
004	Sep DC: 2nd	*ENG	

	[Thick 3: Env Cor] Thick 3 Paper: MM Environment Coefficient Adjustment
2660	Adjusts the environment coefficient for each mode. When the environment is detected as MM, SP2651 and SP2652 are multiplied by these SP values.

001	Sep DC: 1st	*ENG	[] to 40 / <b>22</b> / ] / to al
002	Sep DC: 2nd	*ENG	[1 to 60 / <b>22</b> / 1 /step]
	Adjusts the environment coefficient for eac MM, SP2650 is multiplied by these SP va	nent coefficient for each mode. When the environment is detected Itiplied by these SP values.	
003	PTR: BW: 1st	*ENG	[] += 40 / 11 / 1 /++=]
004	PTR: BW: 2nd	*ENG	— [1 to 60 / <b>11</b> / 1 /step]
005	PTR: FC: 1st	*ENG	[1 to 60 / <b>55</b> / 1 /step]
006	PTR: FC: 2nd	*ENG	[1 to 60 / <b>11</b> / 1 /step]

2670	[Thick4: Bias]			
2070	Adjusts the DC voltage of the discharge plate for thick paper 4.			
001	SeparatDC:1stSide	*ENG	[0 to 4000 / <b>1000</b> / 10 -V/step]	
003	Sep DC:FINE: 1 st	*ENG	[0 to 4000 / <b>3000</b> / 10 –V/step]	

2671	[Thick4: Bias: BW]			
2071	Adjusts the DC voltage of the discharge plate for thick paper 4 in black-and-white m			
001	PTR:1st Side	*ENG	[0 to 250 / <b>0</b> / 24 -uA/step]	
003	PTR:FINE:1st	*ENG	[0 to 250 / <b>0</b> / 12 -uA/step]	

2672	[Thick4: Bias: FC]			
2072	Adjusts the DC voltage of the discharge plate for thick paper 4 in full color mode.			
001	PTR:1st Side	*ENG	[0 to 250 / <b>0</b> / 30 -uA/step]	
003	PTR:FINE:1st	*ENG	[0 to 250 / <b>0</b> / 15 -uA/step]	

	[Thick4:Size Cor]		
2673	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2671 and SP2672 are multiplied by these SP values.		

001	PTR: 1 st:S 1	*ENG	[100 to 600 / <b>100</b> / 5%/step]
003	PTR:1st:S3	*ENG	S1 size ≥ 297 mm (Paper width)
005	PTR:1st:S5	*ENG	[100 to 600 / <b>120</b> / 5%/step]
007	PTR:TH4:1st:S2	*ENG	297 mm ≥ S2 size ≥ 275 mm (Paper width)
009	PTR:TH4:1st:S3	*ENG	[100 to 600 / <b>140</b> / 5%/step]
011	PTR:TH4:1st:S3	*ENG	275 mm ≥ S3 size ≥ 210 mm (Paper width)
013	PTR:TH4:1st:S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
015	PTR:TH4:1st:S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
017	PTR:TH4:1st:S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
019	PTR:TH4:1st:S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)

	[Thick4:L Edge Cor]				
0/74	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2671 and SP2672 are multiplied by these SP values.				
2674	Plain: 205 (P2c)/230 (P2d) mm/sec, 12	200: 77 mr	n/sec		
♦ Note					
	• The paper leading edge area can be adjusted with SP2675.				
001	PTR: 1 st Side	*ENG			
003	PTR:TH4:1st	*ENG	— [0 to 400 / 1 <b>00</b> / 5%/step]		
2674	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2670 is multiplied by these SP values.				
	<ul> <li>The paper leading edge area can be adjusted with SP2675.</li> </ul>				
005	Sep DC:TH4:1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
007	Sep DC:TH4:1st	*ENG			

	[Thick 4:LE:Timing]			
2675 Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plat paper leading edge between the erase margin area and the image area.				
001	PTR: 1 st	*ENG		
003	PTR:TH4:1st	*ENG		
005	Sep DC:TH4:1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]	
007	Sep DC:TH4:1st	*ENG		

	[Thick4:T Edge Cor] Thick 3 Paper: Trailing Edge Correction			
Adjusts the correction to the paper transfer roller current for the paper trailing edge i mode. SP2671 and SP2672 are multiplied by these SP values.				
	<ul> <li>Note</li> <li>The paper trailing edge area can be adjusted with SP2675.</li> </ul>			
001	PTR: 1 st	*ENG		
003	PTR:TH4:1st	*ENG	[0 + 400 / <b>100</b> / 5% / +]	
005	Sep DC:TH4:1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
007	Sep DC:FINE: 1 st	*ENG		

2677	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.				
001	PTR: 1 st	*ENG			
003	PTR:TH4:1st	*ENG			
005	Sep DC:TH4:1st	*ENG	[0 to 50 / <b>0</b> / 1 mm/step]		
007	Sep DC:FINE:1st	*ENG			

	[Thick 4:Env Cor] Thick 4 Paper: MM Environment Coefficient Adjustment		
2678	Adjusts the environment coefficient for each mode. When the environment is detected as MM, SP2671 and SP2672 are multiplied by these SP values.		

001	Sep DC:Plain: 1 st	*ENG	[1 to 60 / <b>22</b> / 1 %/step]
003	PTR:Plain:BW:1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	PTR:Plain:FC:1 st	*ENG	[1 to 60 / <b>1</b> / 1 / step]
007	Sep DC:1200:1st	*ENG	[1 to 60 / <b>22</b> / 1 /step]
009	PTR:1200:BW:1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
011	PTR:1200:FC:1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]

	2690	[Thick5: Bias]				
Adjusts the DC voltage of the discharge plate for thick paper 5.				te for thick paper 5.		
	001	SeparatDC:1stSide         *ENG         [0 to 4000 / 1000 / 10 -V/step]				

2691	[Thick5: Bias: BW]			
2091	Adjusts the DC voltage of the discharge plate for thick paper 4 in black-and-white			
001	PTR: 1 st Side *ENG [0 to 250 / 12 / 1 -uA/step]			

	2692	[Thick5: Bias: FC]				
Adjusts the DC voltage of the discharge plate for thick paper				te for thick paper 5 in full color mode.		
	001	PTR:1st Side	*ENG	[0 to 250 / <b>15</b> / 1 –uA/step]		

	[Thick5:Size Cor]			
2693	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2691 and SP2692 are multiplied by these SP values.			
001	PTR:1st:S1	*ENG	[100 to 600 / <b>100</b> / 5%/step] S1 size ≥ 297 mm (Paper width)	
003	PTR:1st:S3	*ENG	[100 to 600 / <b>110</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)	
005	PTR:TH5:1st:S3	*ENG	[100 to 600 / <b>130</b> / 5%/step] S3 size < 148 mm (Paper width)	

007	PTR:TH5:2st:S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 297 mm > S4 size ≥ 275 mm (Paper width)
009	PTR:TH5:2st:S5	*ENG	[100 to 600 / <b>190</b> / 5%/step] 210 mm > S5 size ≥ 148 mm (Paper width)

	[Thick5:L Edge Cor]				
2694	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2691 and SP2692 are multiplied by these SP values.				
2094	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec				
	• The paper leading edge area can be adjusted with SP2695.				
001	PTR: 1 st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
2694	Adjusts the correction to the discharge plate current at the paper leading edge SP2690 is multiplied by these SP values.				
2074	4 Note				
	• The paper leading edge area can be adjusted with SP2675.				
002	SeparatDC:1stSide	*ENG	[0 to 400 / 100 / 5%/step]		

	[Thick 5:LE:Timing]			
2695	5 Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at paper leading edge between the erase margin area and the image area.			
001	PTR: 1 st	*ENG	[0 + 20 / <b>0</b> / 1 = (+ = ]	
002	SeparatDC:1stSide	*ENG	[0 to 30 / <b>0</b> / 1 mm/step]	

	[Thick5:T Edge Cor] Thick 3 Paper: Trailing Edge Correction
2696	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2691 and SP2692 are multiplied by these SP values.
	♥Note
	• The paper trailing edge area can be adjusted with SP2695.

001	PTR:1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]
003	SeparatDC: 1 stSide	*ENG	

	[Thick5:TE:Timing]		
2697	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.		
001	PTR: 1 st	*ENG	[0 to 50 / <b>0</b> / 1 mm/step]
003	SeparatDC:1stSide	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]

	[Thick 5:Env Cor] Thick 5 Paper: MM Environment Coefficient Adjustment		
2698Adjusts the environment coefficient for each mode. When the envir MM, SP2691 and SP2692 are multiplied by these SP values.			
001	SeparatDC:1stSide	*ENG	[1 to 60 / <b>22</b> / 1 %/step]
003	PTR:TH5:BW:1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	PTR:TH5:FC:1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]
	[Special 1 : Bias]		
	[Special 1 : Bias]		
2751	[Special 1: Bias] Adjusts the DC voltage of the discharge pla Plain: 205 (P2c)/230 (P2d) mm/sec, Fine:		
<b>2751</b>	Adjusts the DC voltage of the discharge pla		
	Adjusts the DC voltage of the discharge pla Plain: 205 (P2c)/230 (P2d) mm/sec, Fine:	77 mm/se	ic

	[Special1: Bias: BW]		
2753	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mo Plain: 205 (P2c)/230 (P2d) mm/sec, Fine: 77 mm/sec		
001	PTR: Plain: 1 st	*ENG	[0 to 250 / <b>P2c: 30, P2d: 34</b> / 1 -
002	PTR: Plain: 2nd	*ENG	μA /step]
003	PTR: FINE: 1st	*ENG	[0 to 250 / <b>11</b> / 1 –µA /step]

	[Special1: Bias: FC]		
2757	Adjusts the current for the paper transfer roller for special paper 1 in full color mode. Plain: 205 (P2c)/230 (P2d) mm/sec, Fine: 77 mm/sec		
001	PTR: Plain: 1st	*ENG	[0 to 250 / <b>P2c: 40, P2d: 45</b> / 1 – µA /step]
002	PTR: Plain: 2nd	*ENG	[0 to 250 / <b>P2c: 45, P2d: 50</b> / 1 – μA /step]
003	PTR: Plain: 1st	*ENG	[0 to 250 / <b>15</b> / 1 -µA /step]

	[SP1: P Size Cor]				
2761	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values.				
	Plain: 205 (P2c)/230 (P2d) mm/sec, Fine: 77 mm/sec				
001	PTR: Plain: 1st: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]		
002	PTR: Plain: 2nd: S1	*ENG	S1 size ≥ 297 mm (Paper width)		
005	PTR: Plain: 1 st: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step]		
006	PTR: Plain: 2nd: S2	*ENG	297 mm ≥ S2 size ≥ 275 mm (Paper width)		
009	PTR: Plain: 1st: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step]		
010	PTR: Plain: 2nd: S3	*ENG	275 mm ≥ S3 size ≥ 210 mm (Paper width)		
013	PTR: Plain: 1st: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)		
014	PTR: Plain: 2nd: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)		
017	PTR: Plain: 1st: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)		
018	PTR: Plain: 2nd: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)		

	[Special 1: LE Cor] Special 1 Paper: Leading Edge Correction			
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2753 and SP2757 are multiplied by these SP values.			
2771	Plain: 205 (P2c)/230 (P2d) mm/sec, 12	200: 77 m	m/	/sec
	♦ Note			
	• The paper leading edge area can b	e adjusted	w	ith SP2772.
001	PTR: Plain: 1 st *ENG [0 to 400 / 100 / 5%/step]			
002	PTR: Plain: 2nd	*ENG	3	[0 to 400 / <b>100</b> / 5%/step]
003	PTR: Plain: 1 st	*ENG	è	[0 to 400 / <b>100</b> / 5%/step]
	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2751 is multiplied by these SP values.			
2771	♥Note			
	• The paper leading edge area can b	e adjusted	w	ith SP2772.
005	Sep DC: Plain: 1 st	*ENG		
006	Sep DC: Plain: 2nd	*ENG		0 to 400 / <b>100</b> / 5%/step]
007	Sep DC: Plain: 1 st	*ENG	[	0 to 400 / <b>100</b> / 5%/step]
	[SP1: LE Timing]			
2772 Adjusts the bias/voltage switch timing of the paper transfer roller/discharge pla				

	[SP1: LE Timing]		
2772	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper leading edge between the erase margin area and the image area.		
	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	PTR: Plain: 1 st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
002	PTR: Plain: 2nd	*ENG	
003	PTR: 1200: 1st	*ENG	[0 to 50 / <b>0</b> / 1 mm/step]
005	Sep DC: Plain: 1st	*ENG	
006	Sep DC: Plain: 2nd	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
007	Sep DC: Plain: 1st	*ENG	

	[Special 1: TE Cor] Special 1 Paper: Trailing Edge Correction			
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2753 and SP2757 are multiplied by these SP values.			
2773	Plain: 205 (P2c)/230 (P2d) mm/sec, 12	n/sec		
	♦ Note			
• The paper trailing edge area can be adjusted with SP2774.				
001	PTR: Plain: 1 st	*ENG		
002	PTR: Plain: 2nd	*ENG		
003	PTR: Plain: 1 st	*ENG	[0 + 100 / 100 / 5% / total]	
005	Sep DC: Plain: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
006	Sep DC: Plain: 2nd	*ENG		
007	Sep DC: Plain: 1st	*ENG		

	[Sp1: TE Timing]		
2774	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	PTR: Plain: 1 st	*ENG	
002	PTR: Plain: 2nd	*ENG	
003	PTR: 1200: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
005	Sep DC: Plain: 1st	*ENG	
006	Sep DC: Plain: 2nd	*ENG	
007	Sep DC: Plain: 1st	*ENG	

2780	[Special 1: Env Cor]			
Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec				
001	Sep DC: Plain: 1 st	*ENG	[1 to 60 / <b>26</b> / 1 /step]	
002	Sep DC: Plain: 2nd	*ENG	[1 to 60 / <b>32</b> / 1 /step]	

003	PTR: Plain: BW: 1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
004	PTR: Plain: BW:2nd	*ENG	
005	PTR: Plain: FC: 1 st	*ENG	[1 to 60 / <b>1</b> / 1 /step]
006	PTR: Plain: FC:2nd	*ENG	[1 to 60 / <b>14</b> / 1 /step]
007	Sep DC: 1200: 1st	*ENG	[1 to 60 / <b>26</b> / 1 /step]
009	PTR: Plain: BW: 1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
011	PTR: 1200: FC: 1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]

	[Special2: Bias]		
2801Adjusts the DC voltage of the discharge plate for special paper 2.Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			
001	Sep DC: Plain: 1st	*ENG	[0 to 4000 / <b>2000</b> / 10 -V/step]
002	Sep DC: Plain: 2nd	*ENG	[0 to 4000 / <b>3000</b> / 10 -V/step]
003	Sep DC: 1200: 1st	*ENG	[0 to 4000 / <b>2000</b> / 10 - V/step]

	[SP2: Bias: BW]			
2803Adjusts the current for the paper transfer roller for special paper 2 in black- Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec				
001	PTR: Plain: 1st	*ENG	[0 to 250 / <b>P2c: 30/ P2d: 34</b> / 1 -	
002	PTR: Plain: 2nd	*ENG	μA /step]	
003	PTR: FINE: 1st	*ENG	[0 to 200 / <b>11</b> / 1 –µA /step]	

	[Special2: Bias: FC]		
2807	Adjusts the current for the paper transfer roller for special paper 2 in full color mode. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	Paper Transfer: Plain: 1 st Side	*ENG	[0 to 250 / <b>P2c: 40/ P2d: 45</b> / 1 – µA /step]

002	Paper Transfer: Plain: 2nd Side	*ENG	[0 to 250 / <b>P2c: 45/ P2d: 50</b> / 1 – μA /step]	
003	Separation DC: 1200: 1st Side	*ENG	[0 to 250 / <b>15</b> / 1 –µA /step]	

	[Sp2: P Size Cor]			
2811	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2803 and SP2807 are multiplied by these SP values.			
	Plain: 205 (P2c)/230 (P2d) mm/sec			
001	PTR: Plain: 1st: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]	
002	PTR: Plain: 2nd: S1	*ENG	S1 size≥297 mm (Paper width)	
005	PTR: Plain: 1st: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)	
006	PTR: Plain: 2nd: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)	
009	PTR: Plain: 1st: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)	
010	PTR: Plain: 2nd: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)	
013	PTR: Plain: 1st: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)	
014	PTR: Plain: 2nd: S4	*ENG	[100 to 600 / <b>220</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)	
017	PTR: Plain: 1st: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)	

018 PTR: Plain: 2nd: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
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	[Special 2: LE Cor] Special 2 Paper: Leading Edge Correction			
2821	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2803 and SP2807 are multiplied by these SP values.			
	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec			
	♥Note			
	• The paper leading edge area can be a	ıdjusted wit	h SP2822.	
001	PTR: Plain: 1 st         * ENG         [0 to 400 / 100 / 5%/step]			
002	PTR: Plain: 2nd	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
003	PTR: PLain: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
	Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2801 is multiplied by these SP values.			
2821	Si 200 i is indifipiled by lifese Si values. ♦ Note			
	• The paper leading edge area can be adjusted with SP2822.			
005	Sep DC: Plain: 1st	*ENG		
006	Sep DC: Plain: 2nd	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
007	Sep DC: Plain 1 st	*ENG		

	[Special 2: Switch Timing: Lead. Edge]
2822	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec

001	PTR: Plain: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
002	PTR: Plain: 2nd	*ENG	
003	PTR: Plain: 1 st	*ENG	
005	Sep DC: Plain: 1st	*ENG	
006	Sep DC: Plain: 2nd	*ENG	
007	Sep DC: Plain: 1st	*ENG	

	[Special 2: TE Cor] Special 2 Paper: Trailing Edge Correction			
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2803 and SP2807 are multiplied by these SP values.			
2823	Plain: 205 (P2c)/230 (P2d) mm/sec, 1200	): 77 mm/:	sec	
	<b>↓</b> Note			
• The paper trailing edge area can be adjusted with SP2824.				
001	PTR: Plain: 1st	*ENG		
002	PTR: Plain: 2nd	*ENG		
003	PTR: Plain: 1st	*ENG	[0 to 400 / <b>100</b> / 5% / to a]	
005	Sep DC: Plain: 1st	*ENG	[0 to 400 / <b>100</b> / 5%/step]	
006	Sep DC: Plain: 2nd	*ENG		
007	Sep DC: Plain: 1st	*ENG		

	[SP2: TE Timing]
2824	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec

001	PTR: Plain: 1st	*ENG	
002	PTR: Plain: 2nd	*ENG	
003	PTR: Plain: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]
005	Sep DC: Plain: 1st	*ENG	
006	Sep DC: Plain: 2nd	*ENG	
007	Sep DC: Plain: 1st	*ENG	

2830	[Special 2: Env Cor] Plain: 205 (P2c)/230 (P2d) mm/sec, 1200: 77 mm/sec		
001	PTR: Plain: 1 st	*ENG	[1 to 60 / <b>26</b> / 1 /step]
002	PTR: Plain: 2nd	*ENG	[1 to 60 / <b>32</b> / 1 /step]
003	PTR: Plain: BW: 1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]
004	PTR: Plain: BW:2nd	*ENG	[1 to 60 / <b>11</b> / 1 /step]
005	PTR: Plain: FC: 1 st	*ENG	[1 to 60 / <b>1</b> / 1 /step]
006	PTR: Plain: FC:2nd	*ENG	[1 to 60 / <b>14</b> / 1 /step]
007	PTR: Plain: 1 st	*ENG	[1 to 60 / <b>26</b> / 1 /step]
009	PTR: 1200: BW: 1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]
011	PTR: 1200: FC: 1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]

	[Special 3: Bias]			
2851	Adjusts the DC voltage of the discharge plate for special paper 3.			
	Thick 1: 154 mm/sec, 1200: 77 mm/sec	: 77 mm/sec		
001	Sep DC: TH 1: 1st	*ENG	[0 to 4000 / <b>2000</b> / 10 -V/ step]	
002	Sep DC: TH 2: 2nd	*ENG	[0 to 4000 / <b>3000</b> / 10 -V/ step]	
003	Sep DC: TH 1: 1st	*ENG	[0 to 4000 / <b>2000</b> / 10 -V/ step]	

	[Special 3: Bias: BW]			
2852	Adjusts the current for the paper transfer roller for Thick 1: 154 mm/sec, 1200: 77 mm/sec	or special p	paper 3 in black-and-white mode.	
001	PTR: Plain: 1st	*ENG	[0 to 250 / <b>P2c: 30/ P2d:</b>	
002	PTR: Plain: 2nd	*ENG	<b>34</b> / 1 −µA /step]	
003	PTR: FINE: 1st	*ENG	[0 to 250 / <b>11</b> / 1 –µA /step]	

	[Special 3: Bias: FC]		
2857Adjusts the current for the paper transfer roller for special paper 3 in full color mode Thick 1: 154 mm/sec, 1200: 77 mm/sec			
001	PTR: Plain: 1 st	*ENG	[0 to 250 / <b>P2c: 40/ P2d: 45</b> / 1 -µA /step]
002	PTR: Plain: 2nd	*ENG	[0 to 250 / <b>P2c: 45/ P2d: 50</b> / 1 -µA /step]
003	PTR: FINE: 1st	*ENG	[0 to 250 / <b>15</b> / 1 –µA /step]

	[Special 3: Paper Size Correction]		
2861	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2852 and SP2857 are multiplied by these SP values. Thick 1: 154 mm/sec		
001	PTR: Plain: 1st: S1	*ENG	[100 to 600 / <b>100</b> / 5%/step]
002	PTR: Plain: 2nd: S1	*ENG	S1 size ≥ 297 mm (Paper width)
005	PTR: Plain: 1st: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)
006	PTR: Plain: 2nd: S2	*ENG	[100 to 600 / <b>120</b> / 5%/step] 297 mm ≥ S2 size ≥ 275 mm (Paper width)

009	PTR: Plain: 1st: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)
010	PTR: Plain: 2nd: S3	*ENG	[100 to 600 / <b>140</b> / 5%/step] 275 mm ≥ S3 size ≥ 210 mm (Paper width)
013	PTR: Plain: 1st: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
014	PTR: Plain: 2nd: S4	*ENG	[100 to 600 / <b>160</b> / 5%/step] 210 mm ≥ S4 size ≥ 148 mm (Paper width)
017	PTR: Plain: 1st: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)
018	PTR: Plain: 2nd: S5	*ENG	[100 to 600 / <b>180</b> / 5%/step] 148 mm ≥ S5 size (Paper width)

[Special 3: LE Cor] Special 3 Paper: Leading Edge Correction Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2852 and SP2857 are multiplied by these SP values. 2871 Thick 1: 154 mm/sec, 1200: 77 mm/sec Note • The paper leading edge area can be adjusted with SP2872. PTR: Plain: 1st: S1 \*ENG 001 PTR: Plain: 2nd: S1 [0 to 400 / 100 / 5%/step] 002 \*ENG PTR: Thick1: 1st \*ENG 003 Adjusts the correction to the discharge plate current at the paper leading edge in each mode. SP2851 is multiplied by these SP values. 2871 Note • The paper leading edge area can be adjusted with SP2872.

005	Sep DC: Plain: 1st S	*ENG	[0 to 400 / <b>100</b> / 5%/step]
006	Separation DC: Plain: 2nd S	*ENG	
007	Separation DC: TH: 1st Side	*ENG	

	[SP3: LE: Timing]			
2872	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper leading edge between the erase margin area and the image area.			
	Thick 1: 154 mm/sec, 1200: 77 mm/sec			
001	PTR: Plain: 1st	*ENG		
002	PTR: Plain: 2nd	*ENG		
003	PTR: Thick 1: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]	
005	Sep DC: Plain: 1st	*ENG		
006	Sep DC: Plain: 2nd	*ENG		
007	Separation DC: 1200: 1st Page	*ENG		

	[Special 3: TEdge Cor] Special 3 Paper: Trailing Edge Correction				
0.070	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2852 and SP2857 are multiplied by these SP values.				
2873	Thick 1: 154 mm/sec, 1200: 77 mm/sec				
	<ul> <li>Note</li> <li>The paper trailing edge area can be adjusted with SP2874.</li> </ul>				
001	PTR: Plain: 1st	*ENG			
002	PTR: Plain: 2nd	*ENG			
003					
005	Sep DC: TH 1: 1st Side	*ENG	[0 to 400 / <b>100</b> / 5%/step]		
006	Sep DC: TH 1: 2nd Side *ENG				
007	Sep DC: Plain: 1st Side	*ENG			

	[SP 3: TE Timing]				
2874	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at paper trailing edge between the erase margin area and the image area.				
	Thick 1: 154 mm/sec, 1200: 77 mm/sec				
001	PTR: Plain: 1 st *ENG				
002	PTR: Plain: 2nd	*ENG			
003					
005	Separation DC: TH 1: 1st	*ENG	[0 to 50 / <b>0</b> / 2 mm/step]		
006	Separation DC: TH 1: 2nd *ENG				
007	Separation DC: TH: 1st	*ENG			

2880	[Special 3: Env Cor] Thick 1: 154 mm/sec, 1200: 77 mm/sec				
001	Sep DC: Plain 1: 1st	*ENG	[1 to 60 / <b>26</b> / 1 /step]		
002	Sep DC: Plain 1: 2nd	*ENG	[1 to 60 / <b>32</b> / 1 /step]		
003	PTR: Thick 1: BW: 1st	*ENG	[] += 40 / 11 / 1 / +==]		
004	PTR: Thick 1: BW:2nd	*ENG	[1 to 60 / <b>11</b> / 1 /step]		
005	PTR: Thick 1: FC: 1st Side	*ENG	[] += 40 / 11 / 1 / +==]		
006	PTR: Thick 1: FC:2nd	*ENG	[1 to 60 / <b>11</b> / 1 /step]		
007	Sep DC: Plain: 1st	*ENG	[1 to 60 / <b>26</b> / 1 /step]		
009	PTR: 1200: BW: 1st	*ENG	[1 to 60 / <b>11</b> / 1 /step]		
011	PTR: 1200: FC: 1st	*ENG	[1 to 60 / <b>1</b> / 1 /step]		

	[OPC Drum Ctl Time]	
2901	Adjusts the time when the OPC drum motor reverses from normal rotation after job end. <b>DFU</b>	
	Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec	

001	Plain	*ENG	
002	Thick 1	*ENG	[300 to 1500 / <b>500</b> / 10 msec/step]
003	Thick 2 & FINE	*ENG	

SP2902	2902	[OPC Drum Rev Time]			
RTB 5 (f/w ver 1.01)		Adjusts the time for how long the OPC drum motor reverses after job end. <b>DFU</b>			
	001	All: BW	*ENG	[0 to 200 / <b>30</b> / 10 msec/step]	
	002	All: FC	*ENG	[0 to 200 / <b>30</b> / 10 msec/step]	

	[ITB Ctl Time]			
2903	Adjusts the time when the image transfer belt motor reverses from normal rotation after job end. <b>DFU</b>			
	Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2&Fine: 77 mm/sec			
003	Plain	*ENG		
004	Thick 1	*ENG	[300 to 1500 / <b>500</b> / 10 msec/step]	
005	Thick 2 & FINE	*ENG		

SP2904	2904	[ITB Ctl Time]		
RTB 5 (f/w ver 1.01)		Adjusts the time for how long the image transfer belt motor reverses after job end. <b>DFU</b>		
	003	All	*ENG	[0 to 200 / <b>30</b> / 10 msec/step]

2004	[Phase Angle]			
2906	DFU			
001	Y Drum	*ENG		
002	C Drum	*ENG	[0+250] (0 (1+x)+x]	
003	M Drum	*ENG	— [0 to 359 / <b>0</b> / 1 deg/step]	
004	K Drum	*ENG	-	
2906	[Amplitude Setting]			

006	Y Drum	*ENG	
007	C Drum	*ENG	
008	M Drum	*ENG	[0 to 100 / <b>0.0</b> / 0.1 μm/step]
009	K Drum	*ENG	

	[ACS Setting (FC to Bk)]				
2907	Adjusts the threshold for moving away the image transfer belt from the color PCUs. This SI moves the image transfer belt away from the color PCUs when the number of B/W image printouts reaches the number of sheets specified with this SP after consecutive full color imag printouts in the full color mode. If this SP is set to "0", the image transfer belt does not move away.				
001	Continuous Bk Pages	*ENG	[0 to 10 / <b>0</b> / 1 sheet/step]		
002	ON/OFF		[0 or 1 / <b>0</b> / 1/step]		

2908	[Gain Adjust] Gain Adjustment of Image Transfer Belt Motor				
2900	DFU				
001	230 mm/sec	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: High speed (Low level) 1: Low speed (High level)		
002	205 mm/sec	*ENG	[0 or 1 / <b>1</b> / 1/step]		
003	115 mm/sec	*ENG	0: High speed (Low level)		
004	77 mm/sec	*ENG	1: Low speed (High level)		

2911	[Offset Angle] DFU		
001	Y Drum	*ENG	
002	C Drum	*ENG	$\left[0 + 250\right] \left( \frac{1}{2} + \frac{1}{2} +$
003	M Drum	*ENG	[0 to 359 / <b>0</b> / 1 deg/step]
004	K Drum	*ENG	

2912	[Offset Amp Set] DFU		
001	Y Drum	*ENG	
002	C Drum	*ENG	[0 + 100 / 00 / 01 + 100 / 100 ]
003	M Drum	*ENG	[0 to 100 / <b>0.0</b> / 0.1 μm/step]
004	K Drum	*ENG	

2914	[Shutter Motor] Not used		
001	Delay Time Open	*ENG	DFU
002	Delay Time Close	*ENG	[1 to 50 / <b>38</b> / 1 msec/step]
003	Shutter Open	*ENG	Opens the shutter on the laser optics housing unit manually for test purposes.
004	Shutter Close	*ENG	Closes the shutter on the laser optics housing unit manually for test purposes.

2920	[ITB Motor Ctl]				
001	0: Encorder 1 :FG	*ENG	[0 or 1 / <b>0</b> / 1 /step]		
	Selects the speed control mode for the ITB. If SC443 occurs and machine does not recover, change this setting to "1".				
	SC443 Count	*ENG	[0 to 3 / <b>0</b> / 1 /step]		
002	Displays the number of the ITB encodre error. SC443 is displayed if this counter counts to "3".				

	[PTRFB: Threshold] Paper Transfer Roller Feed-back: Threshold Adjustment		
2930	Adjusts the threshold between high resistance (division 1) and low resistance (division 2) of the paper transfer roller. This SP affects SP2931 to SP2939.		
001	Voltage         *ENG         [0 to 7000 / 6000 / 10 -V/step]		[0 to 7000 / <b>6000</b> / 10 -V/step]

2960	[Process Interval]
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001	Additional Time	*ENG	[0 to 10 / 0 / 1 sec/step]
001	Adjusts the additional time for	ending the mo	achine's process.

2970	[Cleaning After JOB]		
001	No Refresh	*ENG	[0 or 1 / <b>0</b> / 1 /step] 0: No cleaning, 1: Cleaning
002	Refresh	*ENG	[0 or 1 / <b>1</b> / 1 /step] 0: No cleaning, 1: Cleaning

2971	[T1 NonImg ON Timing]		
001	-	*ENG	[-270 to 180 / <b>P2c: 10/ P2d: 20</b> / 10 msec/step]
	Adjusts the timing for the non-image area bias of the image transfer roller.		

## SP3-XXX (Process)

3011	[Pro Con Manual Exe]		
001	Normal	-	Executes the normal process control manually (potential control). Check the result with SP3-325-001 and 3-012-001 after executing this SP.
002	Density Adjustment	-	Executes the toner density adjustment manually.
003	Pre-ACC	-	Executes the process control that is normally done before ACC. The type of process control is selected with SP3-041-004.
004	Full MUSIC	-	Executes the process control that is normally done at the same time as MUSIC. This SP does the MUSIC (line position adjustment) twice.
005	Normal MUSIC	-	Executes the process control that is normally done at the same time as MUSIC. This SP does the MUSIC (line position adjustment) once.

	[Pro Con Chck Rslt] Process Control Self-check Result				
	Displays the result of the latest process control self-check.				
0010	All colors are displayed. The results are displayed in the order "Y C M K"				
3012	e.g., 11 (Y) 99 (C) 11 (M) 11 (K): The self-check for Cyan failed but the others were successful.				
	See the "Error Condition Tables" in the "Appendix: Process Control Error Conditions" section for details.				
001	History: Latest	*ENG			
002	Result: Latest 1	*ENG			
003	Result: Latest 2	*ENG			
004	Result: Latest 3	*ENG			
005	Result: Latest 4	*ENG			
006	Result: Latest 5	*ENG	[1111 to 99999999 / <b>9999999</b> / 1/step]		
007	Result: Latest 6	*ENG			
008	Result: Latest 7	*ENG			
009	Result: Latest 8	*ENG			
010	Result: Latest 9	*ENG			

3013	[TD Sn Initial Set] Developer Initialization Setting		
001	Execution: ALL	-	
002	Execution: COL	-	
003	Execution: Bk	-	E
004	Execution: M	-	Executes the developer initialization for each color.
005	Execution: C	-	
006	Execution: Y	-	

3014	[TD Sn Initial Set]
5014	Developer Initialization Result: Display

	Display: YCMK	*ENG	[0 to 9999 / 9999 / 1 /step ] 1: Success, 2 to 9: Failure		
001	Displays the developer initialization result. See section "Developer Initialization Result" in the "Appendix: Process Control Error Conditions" section for details on the meaning of each code.				
	All colors are displayed. Values are displayed in the order Y C M Bk.				
	e.g., 1 (Y) 2 (C) 1 (M) 1 (Bk): I	nitializatio	n of Cyan failed but the others succeeded.		

3015	[Forced Toner Supply: Execute] Forced Toner Supply ([Color])					
001	Execution: ALL	-				
002	Execution: COL	-				
003	Execution: Bk	-	Executes the manual toner supply to the			
004	Execution: M	-	development unit.			
005	Execution: C	-				
006	Execution: Y	-				

3016	[Forced Toner Supply: Setting] Forced Toner Supply Setting ([Color])					
3010	Specifies the manual toner supply time for each color.					
001	Supply Time: Bk	*ENG				
002	Supply Time: M	*ENG	[0 to 30 / <b>4</b> / 1 sec/step]			
003	Supply Time: C	*ENG				
004	Supply Time: Y	*ENG				

3020	[Vt Limit Error]		
3020	DFU		
001	Delta Vt Threshold	*ENG	[0 to 5 / <b>5</b> / 0.01 V/step]
002	Upper Threshold	*ENG	[0 to 5 / <b>4.7</b> / 0.01 V/step]
003	Upper Error Thresh	*ENG	[0 to 99 / <b>20</b> / 1 time/step]

004	Lower Threshold	*ENG	[0 to 5 / <b>0.5</b> / 0.01 V/step]
005	Lower Error Thresh	*ENG	[0 to 99 / <b>10</b> / 1 times/step]
006	Upper Counter: Bk	*ENG	
007	Upper Counter: M	*ENG	
008	Upper Counter: C	*ENG	
009	Upper Counter: Y	*ENG	[0 + 00] (0] (1)
010	Lower Counter: Bk	*ENG	[0 to 99 / <b>0</b> / 1 times/step]
011	Lower Counter: M	*ENG	
012	Lower Counter: C	*ENG	
013	Lower Counter: Y	*ENG	

3021	[TD Sensor Initial Set] Developer Initialization Setting					
3021	Specifies the developer agitation time for each color at the developer initialization. <b>DFU</b>					
001	Agitation Time: Bk	*ENG				
002	Agitation Time: M	*ENG	[0 + 200 / <b>20</b> / 1 + + (+++)]			
003	Agitation Time: C	*ENG	[0 to 200 / <b>30</b> / 1 sec/step]			
004	Agitation Time: Y	*ENG				
005-008	Sets the execution flag of the	developer ini	itialization for each color. <b>DFU</b>			
005	Execution Flag: Bk	*ENG	[0 or 1 / <b>0</b> / 1/step]			
006	Execution Flag: M	*ENG	0: Flag OFF, 1: Flag ON			
007	Execution Flag: C	*ENG	This flag is cleared after executing TD sensor			
008	Execution Flag: Y	*ENG	initialization.			
009	Prohibition	*ENG	Enables or disables developer initialization. <b>DFU</b> [0 or 1 / <b>0</b> / 1/step] 0: Enable, 1: Disable			

2022	[Toner Replen. Mode] DFU					
3022	Specifies the toner supply time for each color in the toner supply mode.					
001	Number: Bk	*ENG	[0 to 30 / <b>8</b> / 1 sec/step]			
002	Number: M	*ENG				
003	Number: C	*ENG	[0 to 30 / <b>6</b> / 1 sec/step]			
004	Number: Y	*ENG				
005-008	Sets the execution flag for th	e toner suppl	y mode for each color.			
005	Execution Flag: Bk	*ENG	[0 or 1 / <b>0</b> / 1/step]			
006	Execution Flag: M	*ENG	0: Flag OFF, 1: Flag ON			
007	Execution Flag: C	*ENG	This flag is cleared after executing TD sensor			
008	Execution Flag: Y	*ENG	initialization.			

3041	[ProCon Type]				
001	Voltage Control	*ENG	[0 or 1 / 1 / 1/step] Alphanumeric 0: FIXED (Use the fixed values for the charge DC bia and development DC bias set with SP2-005 and SP2-229.) 1: CONTROL		
	Enables or disables potentic	al control.			
002	LD Power Control	*ENG	[0 or 1 / 1 / 1/step] Alphanumeric 0: FIXED (at the value in SP2221-xxx) 1: CONTROL (adjusted by process control)		
	Selects the LD power control mode.				
004	Pre-ACC       *ENG       [0 to 2 / 2 / 1/step]         0: Not Executed         2: TC Control         2: TC Control (TD Adjustment)         3: Not used				
	Selects the process control mode that is done before ACC.				

3043	[TD Adjust Mode]							
	Rept Numbr: Power ON	*ENG	[0 to 9 / <b>4</b> / 1 time/step]					
	Specifies the maximum number of repeats	of the tone	er density adjustment at power on.					
	0: Disabled, 1 to 3: Repeat number,							
001	4: Repeat three times (No consumption m	ode)						
	5: Repeat three times (Toner is supplied o consumed only when the toner density is t		ne toner density is too low, and toner is					
	6 to 9: Disabled							
	Rept Numr: Initialization	*ENG	[0 to 9 / <b>3</b> / 1 time/step]					
	Specifies the maximum number of repeats initialization.	of the tone	er density adjustment at the developer					
002	0: Disabled, 1 to 3: Repeat number,							
	4: Repeat three times (No consumption mode)							
	5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.)							
	6 to 9: Disabled							
	Rept Numr: Non-use	*ENG	[0 to 9 / <b>0</b> / 1 time/step]					
	Specifies the maximum number of repeats	of the tone	er density adjustment in stand by mode					
	0: Disabled, 1 to 3: Repeat number,							
003	4: Repeat three times (No consumption mode)							
	5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.)							
	6 to 9: Disabled							
	Rept Numr: ACC	*ENG	[0 to 9 / <b>3</b> / 1 time/step]					
	Specifies the maximum number of repeats of the toner density adjustment at ACC.							
	0: Disabled, 1 to 3: Repeat number,							
004	4: Repeat three times (No consumption m	ode)						
	<ul> <li>4: Repeat three times (No consumption mode)</li> <li>5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.)</li> </ul>							
	6 to 9: Disabled							

005	Repeat Number: Recovery		*ENG	[0 to 9 / <b>0</b> / 1 time/step]				
005	Not used							
	Repeat Number: Job End		*ENG	[0 to 9 / <b>4</b> / 1 time/step]				
	Specifies the maximum number of	of repeats	of the tone	r density adjustment at job end.				
	0: Disabled, 1 to 3: Repeat num	ber,						
006	4: Repeat three times (No consu	mption mo	ode)					
	5: Repeat three times (Toner is su consumed only when the toner d			e toner density is too low, and toner				
	6 to 9: Disabled							
	Repeat: Interrupt		*ENG	[0 to 9 / <b>0</b> / 1 time/step]				
007	Specifies the maximum number of repeats of the toner density adjustment during printing. DFU							
000	Toner Supply Coefficient		*ENG	[0 to 25.5 / <b>10</b> / 0.1 sec/step]				
800	Adjusts the time for the toner sup	ply mode	when a tor	her density is detected to be low.				
	K: Toner Consumpt		*ENG	[0 to 255 / <b>5</b> / 1 time/step]				
009	Specifies the belt mark generating time for checking the black toner density when toner density is detected to be low at the toner density adjustment.							
	M: Toner Consumpt		*ENG	[0 to 255 / <b>5</b> / 1 time/step]				
010	Specifies the belt mark generating time for checking the magenta toner density when toner density is detected to be low at the toner density adjustment.							
	C: Toner Consumpt	*ENG	[0 to 25	55 / <b>5</b> / 1 time/step]				
011	Specifies the belt mark generating time for checking the cyan toner density when toner densit is detected to be low at the toner density adjustment.							
	Y: Toner Consumpt	*ENG	[0 to 25	55 / <b>5</b> / 1 time/step]				
012	Specifies the belt mark generating time for checking the yellow toner density when toner density is detected to be low at the toner density adjustment.							
	T1 Bias: Bk	*ENG	[0 to 80	) / <b>P2c: 22, P2d: 30</b> / 1 µA/step]				
013	Adjusts the image transfer belt bi	ias for Bla	ck.					

014	T2 Bias: M	*ENG	[0 to	o 80 / <b>P2c</b> :	<b>22, P2d: 30</b> / 1 µA/step]	
014	Adjusts the image transfer belt bias for Magenta.					
015	T3 Bias: C	*ENG	[0 to	o 80 / <b>P2c</b> :	<b>25, P2d: 33</b> / 1 µA/step]	
015	Adjusts the image transfer belt bi	as for Cyar	1.			
01/	T4 Bias: Y	*ENG	[0 to	o 80 / <b>P2c</b> :	<b>33, P2d: 45</b> / 1 µA/step]	
016	Adjusts the image transfer belt bi	as for Yello	w.			
0.1.7	Dev Mixing Time	*ENG	[0 to	o 250 / <b>10</b>	/ 1 sec/step]	
017	Specifies the developer mixing ti	me at the to	ner d	ensity adjus	itment.	
	LD_DUTY: K: Toner			*ENG	[0 to 15 / <b>15</b> / 1 /step]	
	Adjusts the LD duty for the toner	consumptio	n moo	de at the tor	her density adjustment.	
018	In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-001) exceed the target values (SP3611-005) by more than the specified thresholds (SP3239-009).					
	LD_DUTY: M: Toner			*ENG	[0 to 15 / <b>15</b> / 1 /step]	
010	Adjusts the LD duty for the toner consumption mode at the toner density adjustment.					
019	In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-002) exceed the target values (SP3611-006) by more than the specified thresholds (SP3239-009).					
	LD_DUTY: C: Toner			*ENG	[0 to 15 / <b>15</b> / 1 / step]	
	Adjusts the LD duty for the toner consumption mode at the toner density adjustment.					
020	In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-003) exceed the target values (SP3611-007) by more than the specified thresholds (SP3239-009).					
	LD_DUTY: Y: Toner			*ENG	[0 to 15 / <b>15</b> / 1 /step]	
001	Adjusts the LD duty for the toner	consumptio	n moo	de at the tor	ner density adjustment.	
021	In toner consumption mode, tone values (SP3611-004) exceed th thresholds (SP3239-009).		-			

2044	[Toner Supply Type] Toner	Supply Type	e ([Color])		
3044 Selects the toner supply method type.					
001	Bk	*ENG [0 to 3 / 2 / 1/step] Alphanumeric			
002	м	*ENG	0: FIXED (with the supply rates stored with SP 3401)		
003	С	*ENG	1: PID (Vtref_Fixed) 2: PID (Vtref_Control)		
004	Y	*ENG	3: Not used		

3045	[Toner End Dete	ec: Set]			
	3045	Enables/disabl	es the tone	r alert display on the LCD.	
	001	1         ON/OFF         *ENG         [0 or 1 / 0 / 1/step] 0: Detect, 1: Not Detect			

3101	[Toner End/Near End]				
3101	Displays the amount of each color toner. <b>DFU</b>				
001	Toner Replen: Bk	oner Replen: Bk *ENG			
002	Toner Replen: M	*ENG			
003	Toner Replen: C	*ENG	[1 to 600 / <b>400</b> / 1 g/step]		
004	Toner Replen: Y	*ENG			
005-008	Displays the consumed amount of each color toner.				
005	Toner Consum: Bk	*ENG			
006	Toner Consum: M	*ENG			
007	Toner Consum: C	*ENG	[0 to 3000 / <b>0</b> / 0.001 g/step]		
008	Toner Consum: Y	*ENG			
009-012	Displays the remaining amount of each color toner. These are calculated by the operating times of the toner supply pumps.				

009	Toner Remain: Bk	*ENG			
010	Toner Remain: M	*ENG	[-50000 to 600 / <b>0</b> / 0.001 g/		
011	Toner Remain: C	*ENG	step]		
012	Toner Remain: Y	*ENG			
013-016	Adjusts the threshold of toner near end for each color. The toner near end message appears on the LCD when the remaining toner amount reaches this threshold. When one of these SPs (SP3-101-009 to 012 or -032 to -035) reaches this threshold, toner near end is detected.				
013	Near End Thresh: Bk	*ENG			
014	Near End Thresh: M	*ENG			
015	Near End Thresh: C	*ENG	[0 to 600 / <b>50</b> / 1 g/step]		
016	Near End Thresh: Y	*ENG	-		
017-020	DFU				
017	Crt Error Threshold: Bk	*ENG			
018	Crt Error Thresh: M	*ENG	[-50000 to 0 / <b>-50000</b> / 1 g/		
019	Crt Error Thresh: C	*ENG	step]		
020	Crt Error Thresh: Y	*ENG	-		
	Delta Vt Thresh	*ENG	[0 to 5 / <b>0.5</b> / 0.01 V/step]		
021	This SP is the threshold for toner end. Delta	Vt: Vt-Vtre	f		
	When both this SP and SP3-101-026 occu	ur at same	time, toner end is determined.		
022-025	Displays the total delta Vt (Vt-Vtref) value for counting.	or each co	lor.These are calculated by pixel		
022	Delta Vt Sum: Bk	*ENG			
023	Delta Vt Sum: M	*ENG			
024	Delta Vt Sum: C	*ENG	[0 to 655 / <b>0</b> / 0.01 V/step]		
025	Delta Vt Sum: Y	*ENG			
	Delta Vt Sum Thresh	*ENG	[0 to 255 / 10 / 1 V/step]		

Gamma Thresh: Coef	*ENG	Not used		
Displays the consumed toner amount calculated with the pixel count for each color.				
Pixel: Consump: Bk	*ENG			
Pixel: Consump: M	*ENG	- [0 to 3000 / <b>0</b> / 0.001 g/step] -		
Pixel: Consump: C	*ENG			
Pixel: Consump: Y	*ENG			
Displays the remaining toner amount for ea	ach color,	using pixel count.		
Pixel: Remain: Bk	*ENG			
Pixel: Remain: M	*ENG	[-50000 to 600 / <b>0</b> / 0.001 g/		
Pixel: Remain: C	*ENG	step]		
Pixel: Remain: Y	*ENG			
Adjusts the threshold of toner end for each color.				
End Threshold: Bk	*ENG			
037End Threshold: M038End Threshold: C		- Not used		
			End Threshold: Y	*ENG
Displays the pixel M/A for each color.				
Pixel M/A: Bk	*ENG			
Pixel M/A: M	*ENG	[0 to 1 / <b>0.4</b> / 0.001 mg/cm <sup>2</sup> /		
Pixel M/A: C	*ENG	step]		
Pixel M/A: Y	*ENG			
Delta Vt Threshold Before Near End	*ENG	Adjusts the delta Vt (Vt – Vtref) of toner end before toner near end is detected. [0 to 5 / <b>0.5</b> / 0.01 V/step]		
	Displays the consumed toner amount calcu Pixel: Consump: M Pixel: Consump: C Pixel: Consump: Y Displays the remaining toner amount for each Pixel: Remain: Bk Pixel: Remain: M Pixel: Remain: C Pixel: Remain: Y Adjusts the threshold of toner end for each End Threshold: Bk End Threshold: M End Threshold: C End Threshold: Y Displays the pixel M/A for each color. Pixel M/A: Bk Pixel M/A: C Pixel M/A: Y	Displays the consumed toner amount cal-uted withPixel: Consump: Bk*ENGPixel: Consump: C*ENGPixel: Consump: Y*ENGDisplays the remaining toner amount for uter color,*ENGPixel: Remain: Bk*ENGPixel: Remain: C*ENGPixel: Remain: Y*ENGAdjusts the threshold of toner end for eactor.*ENGEnd Threshold: Bk*ENGEnd Threshold: C*ENGEnd Threshold: Y*ENGDisplays the pixel M/A for each color.Pixel M/A: Bk*ENGPixel M/A: C*ENGPixel M/A: Y*ENG		

045	Delta Vt Threshold Before Near End	*ENG	Adjusts the total delta Vt (Vt – Vtref) of toner end before toner near end is detected. [0 to 255 / <b>10</b> / 1 V/step]
046-049	Displays the latest mohno-pump off time.		
046	Mohno Off Time	*ENG	
047	Mohno Off Time	*ENG	
048	Mohno Off Time	*ENG	[0 to 0 x FFFFFFF / - / 1 sec/step]
049	Mohno Off Time	*ENG	

	[Toner End Recovery]		
3102	Adjusts the number of times toner supply is attempted for each color when the TD sensor continues to detect toner end during toner recovery.		
001	Repeat: Bk	*ENG	
002	Repeat: M	*ENG	
003	Repeat: C	*ENG	[1 to 20 / <b>5</b> / 1 time/step]
004	Repeat: Y	*ENG	

3131	[TE Count m: Display]				
3131	Display the number of toner end detections for each color.				
001	Bk	*ENG			
002	м	*ENG	[0+00] (0) (1+1) = (1+1)		
003	С	*ENG	[0 to 99 / <b>0</b> / 1 time/step]		
004	Y	*ENG			

3201	[TD Sensor: Vt Display]
3201	Display the current voltage of the TD sensor for each color.

001	Current: Bk	*ENG	
002	Current: M	*ENG	[0 + 5.5 / 0.01 / 0.01 ] / (-1.001) ]
003	Current: C	*ENG	[0 to 5.5 / <b>0.01</b> / 0.01 V/step]
004	Current: Y	*ENG	

	[Vt Shift: Display/Set]				
3211	Adjusts the Vt correction value for each line speed.				
	Thick 1: 154 mm/sec, Thick 2&Fine	: 77 mm/s	ec		
001	Thick 1 Shift: Bk	*ENG			
002	Thick 1 Shift: M	*ENG	[0 to 5 / <b>P2c: 0.28, P2d: 0.39</b> / 0.01 V/		
003	Thick 1 Shift: C	*ENG	step]		
004	Thick 1 Shift: Y	*ENG			
005	Thick 2 & FINE Shift: Bk	*ENG			
006	Thick 2 & FINE Shift: M	*ENG	[0 to 5 / <b>P2c: 0.74, P2d: 0.85</b> / 0.01 V/		
007	Thick 2 & FINE Shift: C	*ENG	step]		
008	Thick 2 & FINE Shift: Y	*ENG			

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	-	1	

2001	[Vtcnt: Display/Set]			
3221	Displays or adjusts the current Vtcnt value for each color.			
001	Current: Bk	*ENG		
002	Current: M	*ENG		
003	Current: C	*ENG	[2 to 5 / <b>3.86</b> / 0.01 V/step]	
004	Current: Y	*ENG		
005-008	Displays or adjusts the Vtcnt value for each color at developer initialization. <b>DFU</b>			

005	Initial: Bk	*ENG	
006	Initial: M	*ENG	[2 + 5] (204 (0.01)) (-4 - 1)
007	Initial: C	*ENG	[2 to 5 / <b>3.86</b> / 0.01 V/step]
008	Initial: Y	*ENG	

2000	[Vtref: Display/Set]			
3222	Displays or adjusts the current Vtref value for each color.			
001	Current: Bk	*ENG		
002	Current: M	*ENG		
003	Current: C	*ENG	[0 to 5.5 / <b>3</b> / 0.01 V/step]	
004	Current: Y	*ENG	-	
005-008	Displays or adjusts the Vtref value for each color at developer initialization. <b>DFU</b>			
005	Initial: Bk	*ENG		
006	Initial: M	*ENG	$\begin{bmatrix} 0 \\ 0 \end{bmatrix} \begin{bmatrix} 5 \\ 0 \end{bmatrix} \begin{bmatrix} 0 $	
007	Initial: C	*ENG	[0 to 5.5 / <b>3</b> / 0.01 V/step]	
008	Initial: Y	*ENG	-	
009-012	Displays and adjusts Vtref co	rrection by	pixel coverage for each color. <b>DFU</b>	
009	Pixel Correction: Bk	*ENG		
010	Pixel Correction: C	*ENG		
011	Pixel Correction: M	*ENG	[-5 to 5.5 / <b>0</b> / 0.01 V/step]	
012	Pixel Correction: Y	*ENG		

3223	[Vtref Upper Lower: Set] DFU
3223	Adjusts the lower or upper limit value of Vtref for each color.

			-
001	Lower: Bk	*ENG	
002	Lower: M	*ENG	[0 to 5 / <b>2</b> / 0.01 V/step]
003	Lower: C	*ENG	
004	Lower: Y	*ENG	
005	Upper: Bk	*ENG	
006	Upper: M	*ENG	[0 to 5 / <b>4</b> / 0.01 V/step]
007	Upper: C	*ENG	
008	Upper: Y	*ENG	
009	Initial TC	*ENG	Adjusts the initial toner concentration. [1 to 15 / <b>7</b> / 0.1 wt%/step]
010	Upper: TC	*ENG	Adjusts the upper limit of the toner concentration. [1 to 15 / <b>9.5</b> / 0.1 wt%/step]
011	Lower: TC	*eng	Adjusts the lower limit of the toner concentration. [1 to 15 / <b>4</b> / 0.1 wt%/step]
012	Upper Sensitivity	*ENG	Adjusts the upper limit of the TD sensor sensitivity. [0.2 to 0.5 / <b>0.44</b> / 0.001 V/wt% /step]
013	Lower Sensitivity	*ENG	Adjusts the lower limit of the TD sensor sensitivity. [0.2 to 0.5 / <b>0.209</b> / 0.001 V/wt% /step]
014	Toner Density Between H and M	*ENG	[1 to 10 / <b>3.5</b> / 0.1 wt%/step]
015	Toner Density Between M and L	*ENG	[1 to 10 / <b>3.5</b> / 0.1 wt%/step]

3224	[Vtref Correction: Pixel] DFU
3224	Adjusts the coefficient of Vtref correction for each coverage and color.

	-		
001	Low Coverage Coefficient: Bk	*ENG	
002	Low Coverage Coefficient: C	*ENG	
003	Low Coverage Coefficient: M	*ENG	[0 to 5 / <b>1</b> / 0.1 /step]
004	Low Coverage Coefficient: Y	*ENG	
005	High Coverage Coefficient: Bk	*ENG	[0 to 5 / <b>1</b> / 0.01 V/step]
006	High Coverage Coefficient: C	*ENG	
007	High Coverage Coefficient: M	*ENG	[0 to 5 / <b>0.5</b> / 0.01 V/step]
008	High Coverage Coefficient: Y	*ENG	
009	Low Coverage: Threshold	*ENG	Adjusts the threshold of the low coverage. [0 to 20 / <b>3</b> / 0.1 %/step]
010	High Coverage: Threshold	*ENG	Adjusts the threshold of the high coverage. [0 to 100 / <b>60</b> / 1 %/step]
011	TC Upper Limit Correction	*ENG	[0 to 5 / <b>0</b> / 0.1 wt%/step]
012	Upper Limit TC: Display: Bk	*ENG	
013	Upper Limit TC: Display: C	*ENG	[] + 15 / <b>10</b> / 0 ]
014	Upper Limit TC: Display: M	*ENG	[1 to 15 / <b>10</b> / 0.1 wt% /step]
015	Upper Limit TC: Display: Y	*ENG	
016	Process Control Execution Threshold	*ENG	[0 to 255 / <b>50</b> / 1 time/step]

3231	[Toner Supply: Setting]				
3231	Adjusts the coefficient of the toner sup	r each color. <b>DFU</b>			
001	Replacement Coefficient:Bk	*ENG	[0.5 to 9.99 / <b>1.66</b> / 0.01 /step]		
002	Replacement Coefficient: M	*ENG	[0.5 to 9.99 / <b>1.66</b> / 0.01 /step]		
003	Replacement Coefficient: C	*ENG	[0.5 to 9.99 / <b>1.6</b> / 0.01 /step]		
004	Replacement Coefficient: Y	*ENG	[0.5 to 9.99 / <b>1.66</b> / 0.01 /step]		

3232	[Toner Supply Coefficient: Setting] DFU		
001	Vt Proportion: Bk	*ENG	
002	Vt Proportion: M	*ENG	[0.4. 0.5.50 / <b>50</b> / 1 /]
003	Vt Proportion: C	*ENG	[0 to 2550 / <b>50</b> / 1 /step]
004	Vt Proportion: Y	*ENG	
005	Pixel Proportion: Bk	*ENG	
006	Pixel Proportion: C	*ENG	
007	Pixel Proportion: M	*ENG	[0 to 2.55 / <b>0.47</b> / 0.01 /step]
008	Pixel Proportion: Y	*ENG	
009	Vt Integral Control: Bk	*ENG	
010	Vt Integral Control: C	*ENG	- [0 to 2550 / <b>500</b> / 1 /step]
011	Vt Integral Control: M	*ENG	[0 10 2330 / <b>300</b> / 1 / siep]
012	Vt Integral Control: Y	*ENG	
013	Vt Sum Times: Bk	*ENG	
014	Vt Sum Times: M	*ENG	[1 to 255 / <b>20</b> / 1 time/step]
015	Vt Sum Times: C	*ENG	
016	Vt Sum Times: Y	*ENG	

3233	[Pixel Proportion Coefficient 2: Setting] DFU		
001	Correction Coefficient: 1	*ENG	[0 to 2.55 / 1 / 0.01 /step]
002	Correction Coefficient: 2	*ENG	[0 to 2.55 / <b>0.5</b> / 0.01 /step]
003	Correction Coefficient: 3	*ENG	[0 to 2.55 / <b>0</b> / 0.01 /step]
004	Correction Coefficient: 4	*ENG	[0 to 2.55 / <b>0.25</b> / 0.01 /step]
005	Correction Coefficient: 5	*ENG	[0 to 2.55 / <b>0.5</b> / 0.01 /step]

3234	[Pixel Proportion Coefficient 3: Setting] DFU		
001	Correction Value 1	*ENG	[-0.1 to 0 / - <b>0.01</b> / 0.01 / step]

002	Correction Value 2	*ENG	[0 to 0.1 / <b>0.01</b> / 0.01 / step]
3235	[Toner Supply Coefficient: Displa	y] DFU	
001	Pixel Proportion 2: Bk	*ENG	
002	Pixel Proportion 2: C	*ENG	
003	Pixel Proportion 2: M	*ENG	[0 to 2.55 / <b>1</b> / 0.01 /step]
004	Pixel Proportion 2: Y	*ENG	
005	Pixel Proportion 3: Bk	*ENG	
006	Pixel Proportion 3: C	*ENG	
007	Pixel Proportion 3: M	*ENG	[0.7 to 1.3 / 1 / 0.01 /step]
008	Pixel Proportion 3: Y	*ENG	
009	Vt Integral: Bk	*ENG	
010	Vt Integral: C	*ENG	[255 + 255 / 0 / 0.01 / +]
011	Vt Integral: M	*ENG	[-255 to 255 / <b>0</b> / 0.01 /step]
012	Vt Integral: Y	*ENG	

3236	[Toner Supply Consumption: Display] DFU					
3230	Displays the toner amount of the latest toner supply for each color.					
001	Latest: Bk	*ENG				
002	Latest: M	*ENG	[0 to 40000 / <b>0</b> / 0.1 mg/step]			
003	Latest: C	*ENG				
004	Latest: Y	*ENG				

	3237	[Developer Mixing Setting]				
Displays the toner amount of the latest toner supply for each color. <b>DFU</b>						
	001	Mixing Time         *ENG         [0 to 200 / 5 / 1 sec/step]				

3238	[Vt Target: Setting]					
3230	Displays the Vt target value at developer initialization. <b>DFU</b>					
001	Bk	*ENG				
002	М	*ENG				
003	С	*ENG	[0 to 5 / <b>2.5</b> / 0.01 V/step]			
004	Y	*ENG				

3239	[Vtref Correction: Setting]					
3239	Adjusts the parameter for Vtref correction at the process control.					
001	(+)Consumption: Bk	*ENG				
002	(+)Consumption: M	*ENG				
003	(+)Consumption: C	*ENG				
004	(+)Consumption: Y	*ENG				
005	(-)Consumption: Bk	*ENG	[0 to 1 / <b>0.1</b> / 0.01 V/step]			
006	(-)Consumption: M	*ENG				
007	(-)Consumption: C	*ENG				
008	(-)Consumption: Y	*ENG				
009-012	Threshold for development g	amma rank.				
009	P Rank 1 Threshold	*ENG	[0 to 2 / <b>0.2</b> / 0.1 /step]			
010	P Rank 2 Threshold	*ENG	[0 to 2 / <b>0.1</b> / 0.1 /step]			
011	P Rank 3 Threshold	*ENG	[-2 to 0 / <b>-0.1</b> / 0.1 /step]			
012	P Rank 4 Threshold	*ENG	[-2 to 0 / <b>-0.2</b> / 0.1 /step]			
013-014	Threshold for image density rank on the image transfer belt.					
013	T Rank 1 Threshold	*ENG	[-1 to 0 / <b>-0.2</b> / 0.01 V/step]			
014	T Rank 2 Threshold	*ENG	[0 to 1 / <b>0.2</b> / 0.01 V/step]			

## 3241 [Background Potential Setting]

001	Coefficient: Bk	*ENG	These are parameters for calculating the charge
002	Coefficient: M	*ENG	bias referring to the development bias at process control.
003	Coefficient: C	*ENG	[-1000 to 1000 / <b>0</b> / 1 /step]
004	Coefficient: Y	*ENG	DC charge bias = Development bias x (1 + 0.001 x these vales) + SP3-241-005 to -008
005	Offset: Bk	*ENG	These are additional values for calculating the
006	Offset: M	*ENG	charge bias referring to the development bias at process control.
007	Offset: C	*ENG	[0 to 255 / <b>140</b> / 1 V/step]
008	Offset: Y	*ENG	DC charge bias = Development bias x (1 + 0.001 x SP3-241-001 to -004) + these values

3242	[LD Power Setting]					
3242	Adjusts the coefficient for LD power control value at the process control.					
001	Coefficient: Bk	*ENG				
002	Coefficient: M	*ENG	[-1000 to 1000 / <b>79</b> / 1 /step]			
003	Coefficient: C	*ENG				
004	Coefficient: Y	*ENG				
005	Offset: Bk	*ENG				
006	Offset: M	*ENG	[-1000 to 1000 / <b>62</b> / 1 /step]			
007	Offset: C	*ENG				
008	Offset: Y	*ENG				

3251	[Coverage]					
3231	These (-001 to -016) are coefficients for SP3-222-009 to -012.					
001	Latest: Bk	*ENG				
002	Latest: M	*ENG	Displays the latest coverage for each color.			
003	Latest: C	*ENG	[0 to 9999 / <b>0</b> / 1 cm <sup>2</sup> /step]			
004	Latest: Y	*ENG				

005-008	Displays the average coverage of each color for the Vtref correction. "Average S" is defined when the number of developed pages does not reach the number					
	specified with SP3251-017.					
005	Average S: Bk	13 *	*ENG			
006	Average S: M	13 *	٩G	[0.4	- 100 / <b>F</b> / 0.01 % /]	
007	Average S: C	13 *	١G		o 100 / <b>5</b> / 0.01 %/step]	
008	Average S: Y	13 *	١G			
	Displays the average cov	erage	of ea	ch cc	olor for the Vtref correction.	
009-012	"Average M" is defined w specified with SP3251-0		ie num	ber o	of developed pages does not reach the number	
009	Average M: Bk	13 *	٩G			
010	Average M: M	13 *	١G	 [0 to 100 / <b>5</b> / 0.01 %/step]		
011	Average M: C	*ENG				
012	Average M: Y	13 *	*ENG			
	Displays the average cov	erage	of ea	ch cc	olor for the Vtref correction.	
013-016	"Average L" is defined wh specified with SP3-251-C		e numk	oer o	f developed pages does not reach the number	
013	Average L: Bk	13 *	٩G			
014	Average L: M	13 *	٩G		- 100 / <b>F</b> / 0.01 % /]	
015	Average L: C	13 *	١G		o 100 / <b>5</b> / 0.01 %/step]	
016	Average L: Y	13 *	١G			
017-019	Adjusts the threshold for S	SP3-23	51-00	5 to	-016.	
017	Total Page Setting: S		*EN	١G	[1 to 100 / <b>10</b> / 1 sheet/step]	
018	Total Page Setting: M		*EN	١G	[1 to 500 / <b>10</b> / 1 sheet/step]	
019	Total Page Setting: L	g: L		١G	[1 to 999 / <b>50</b> / 1 sheet/step]	
020-023	Adjusts the threshold for SP3-251-024 to -027.					
020	Total Page Setting: S2		*EN	١G	[1 to 100 / <b>20</b> / 1 sheet/step]	

021	Total Page Setting: M2	*ENG	[1 to 500 / <b>10</b> / 1 sheet/step]			
022	Total Page Setting: L2	*ENG	[1 to 999 / <b>50</b> / 1 sheet/step]			
024-027	Displays the latest coverage ra	itio for each	color.			
024	Latest Coverage: Bk	*ENG				
025	5 Latest Coverage: M	*ENG				
026	Latest Coverage: C	*ENG	[0 to 100 / - / 0.01 %/step]			
027	Latest Coverage: Y	*ENG				
0.2.0	Displays the threshold of whether to perform developer churning or not.					
028	DevMix Threshold	*ENG	[0 to 100 / <b>20</b> / 1 %/step]			

0011	[ID Sensor Detection Value: Voffset]					
3311	Displays the ID sensor (regular) offset voltage for Vsg adjustments.					
001	Voffset reg: Bk	*ENG	[0 to 5 / <b>0</b> / 0.01 V/step]			
002	Voffset reg: M	*ENG				
003	Voffset reg: C	*ENG	[0 to 5.5 / <b>0</b> / 0.01 V/step]			
004	Voffset reg: Y	*ENG	-			
005-007	Displays the ID sensor (diffus	ion) offset vo	ltage for Vsg adjustments.			
005	Voffset dif: M	*ENG				
006	Voffset dif: C	*ENG	[0 to 5.5 / <b>0</b> / 0.01 V/step]			
007	Voffset dif: Y	*ENG	-			
008-010	Displays the ID sensor offset	voltage for V	sg adjustments.			
008	Voffset TM (Front)	*ENG				
009	Voffset TM (Center)	*ENG	[0 to 5.5 / <b>0</b> / 0.01 V/step]			
010	Voffset TM (Rear)	*ENG	1			

3321

[Vsg Adjustment: Execution]

8

010 P/TM Sensor All	-	Execute the ID sensor initialization setting for all sensors	
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3322	[Vsg Adjustment Result: Vsg]						
3322	Displays the result value of the Vsg adjustment for each sensor.						
001	Vsg reg: Bk	*ENG					
002	Vsg reg: M	*ENG					
003	Vsg reg: C	*ENG					
004	Vsg reg: Y	*ENG					
005	Vsg dif: M	*ENG	[0 + 5, 5, 7, 0, 7, 0, 0, 1, 1, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,				
006	Vsg dif: C	*ENG	[0 to 5.5 / <b>0</b> / 0.01 V/step]				
007	Vsg dif: Y	*ENG					
008	Vsg TM (Front)	*ENG					
009	Vsg TM (Center)	*ENG					
010	Vsg TM (Rear)	*ENG					

3323	[Vsg Adjustment Result: Ifsg] DFU		
001	lfsg: Bk	*ENG	
002	Ifsg: M	*ENG	$\begin{bmatrix} 0 + 50 \\ 0 \end{bmatrix} \begin{pmatrix} 0 \\ 0 \end{bmatrix} = 0 $
003	lfsg: C	*ENG	[0 to 50 / <b>0</b> / 0.1 mA/step]
004	Ifsg: Y	*ENG	-
005	Ifsg TM (Front)	*ENG	
006	Ifsg TM (Center)	*ENG	[0 to 50 / <b>0</b> / 0.1 mA/step]
007	Ifsg TM (Rear)	*ENG	

3324	[Vsg Adjustment: Set] DFU		
003	Vofset Error Counter	*ENG	[0 to 99 / <b>0</b> / 0.1 time/step]

004	Vofset Threshold	*ENG	[0 to 5 / <b>1</b> / 0.01 V/step]
005	Vsg Upper Threshold	*ENG	[0 to 5 / <b>4.5</b> / 0.01 V/step]
006	Vsg Lower Threshold	*ENG	[0 to 5 / <b>3.5</b> / 0.01 V/step]

	[Vsg Adjustment Result]		
3325	Displays the result of the Vsg adjustment. The displayed numbers mean the result of each sensor (sensor for Front, sensor for Bk, sensor for Cyan, sensor for Center, sensor for Magenta, sensor for Yellow and sensor for Rear).		
001	History: Latest	*ENG	
002	Result: Latest 1	*ENG	
003	Result: Latest 2	*ENG	
004	Result: Latest 3	*ENG	[111111 to 999999 / <b>999999</b> / 1 /step]
005	Result: Latest 4	*ENG	9: Unexpected error
006	Result: Latest 5	*ENG	3: Offset voltage error 2: Vsg adjustment value error
007	Result: Latest 6	*ENG	1: O.K
008	Result: Latest 7	*ENG	
009	Result: Latest 8	*ENG	
010	Result: Latest 9	*ENG	

3361

[ID Sensor Sensitivity: Display] Not Used

001	K2K (Latest)	*ENG	
002	K5K (Latest)	*ENG	
003	K2M (Latest)	*ENG	
004	K5M (Latest)	*ENG	[0 to 5 / / 0 000] (stor)]
005	K2C (Latest)	*ENG	[0 to 5 / - / 0.0001 /step]
006	K5C (Latest)	*ENG	
007	K2Y (Latest)	*ENG	
008	K5Y (Latest)	*ENG	

3362	[ID Sensor Sensitivity: Setting] DFU		
001	K2: Upper	*ENG	[0 to 1 / <b>0.32</b> / 0.01 /step]
002	K2: Lower	*ENG	[0 to 1 / <b>0.22</b> / 0.01 /step]
003	K5: Upper	*ENG	[0 to 10 / <b>5</b> / 0.01 /step]
004	K5: Lower	*ENG	[0 to 1 / <b>0.5</b> / 0.01 /step]
005	Kn: Upper	*ENG	[0 to 1 / <b>0.1</b> / 0.01 /step]
006	Kn: Lower	*ENG	[0 to 1 / 1 / 0.01 /step]
007	K5 Edit Point	*ENG	[0 to 1 / <b>0.15</b> / 0.01 /step]
008	K5 Target Voltage	*ENG	[0 to 5 / <b>1.63</b> / 0.01 V/step]
009	K5 Approximate Method	*ENG	[0 to 1 / <b>1</b> / 1 /step] 0:Linear, 1: Curve
010	K2: Upper/Lower Limit Coefficient 1	*ENG	[0 to 1 / <b>0</b> / 0.01 /step]
011	K2: Upper Limit Correction	*ENG	[-0.2 to 0.4 / <b>0.07</b> / 0.01 /step]
012	K2: Lower Limit Correction	*ENG	[-0.2 to 0.4 / <b>-0.07</b> / 0.01 /step]
013	Diffusion Correction: M	*ENG	
014	Diffusion Correction: C	*ENG	[0.75 to 1.35 / 1 / 0.01 /step]
015	Diffusion Correction: Y	*ENG	

016	K2: Check: M	*ENG	
017	K2: Check: C	*ENG	[0 to 1 / <b>0.25</b> / 0.001 /step]
018	K2: Check: Y	*ENG	

3363	[ID Pattern Timing Setting] DFU		
001	Scan YCMBk	*ENG	Adjusts the detection timing for the process control pattern. [-500 to 500 / <b>13.7</b> / 1 mm/step]
002	Paper Transfer Release Start Time	*ENG	Adjusts the timing when the paper transfer unit is kept away from the image transfer belt. [0 to 2500 / <b>0</b> / 1 msec/step]
003	Delay Time	*ENG	Adjusts the processing timing for the process control pattern. [0 to 2500 / <b>880</b> / 1 msec/step]
004	MUSIC Delay Time	*ENG	Adjusts the processing timing for the pattern that is used for the line position adjustment. [-2500 to 2500 / <b>300</b> / 1 msec/step]

3371	[M/A Calculation] DFU		
001	Correction Coefficient: Bk	*ENG	[0.5 to 2.0 / <b>1</b> / 0.01 /step]
002	Correction Coefficient: C	*ENG	[0.5 to 2.0 / <b>0.95</b> / 0.01 /step]
003	Correction Coefficient: M	*ENG	[0.5 to 2.0 / <b>1</b> / 0.01 /step]
004	Correction Coefficient: Y	*ENG	[0.5 to 2.0 / <b>1.02</b> / 0.01 /step]

3401	[Fixed Supply Mode]
5401	Adjusts the toner supply rate in the fixed toner supply mode.

001	Fixed Rate: Bk	*ENG	
002	Fixed Rate: M	*ENG	[0 to 100 / 5 / 1 %/step]
003	Fixed Rate: C	*ENG	These SPs are used only when SP3-044 is set to "1".
004	Fixed Rate: Y	*ENG	

3411	[Toner Supply Rate: Display]		
3411	Displays the current toner supp	ly rate.	
001	Latest: Bk	*ENG	
002	Latest: M	*ENG	
003	Latest: C	*ENG	[0 to 100 / - / 1 %/step]
004	Latest: Y	*ENG	

3421	[Toner Supply Range]		
001	Upper Limit: Bk	*ENG	
002	Upper Limit: M	*ENG	Adjusts the toner supply rate during printing.
003	Upper Limit: C	*ENG	[0 to 100 / <b>100</b> / 1%/step]
004	Upper Limit: Y	*ENG	
005	Minimum Supply Time: Bk	*ENG	
006	Minimum Supply Time: C	*ENG	Adjusts the minimum toner supply time.
007	Minimum Supply Time: M	*ENG	[0 to 1000 / <b>0</b> / 1 msec/step]
008	Minimum Supply Time: Y	*ENG	

3451	[Toner Supply Carry Over: Display] DFU		
001	Bk	*ENG	
002	м	*ENG	[0.1, 10000 / <b>0</b> / 1
003	С	*ENG	[0 to 10000 / <b>0</b> / 1 msec/step]
004	Y	*ENG	

3452	[Toner Supply Carry Over: Setting] DFU			
001	Maximum: Bk	*ENG		
002	Maximum: M	*ENG	[0 to 10000 / <b>1000</b> / 1 mag (star)]	
003	Maximum: C	*ENG	[0 to 10000 / <b>1000</b> / 1 msec/step]	
004	Maximum: Y	*ENG		

2501	[Process Control Target M/A]		
3501	Adjusts the target M/A.		
001	Maximum M/A: Bk	*ENG	
002	Maximum M/A: M	*ENG	[0 to 1 / <b>0.444</b> / 0.001 mg/cm <sup>2</sup> /step]
003	Maximum M/A: C	*ENG	[0 to 1 / <b>0.444</b> / 0.001 mg/cm <sup>-</sup> /step]
004	Maximum M/A: Y	*ENG	

2510	[Pixel Adj. Sheet Counter: Display]				
3510	Displays the total page counter for each adjustment mode.				
001	Potential Control: BW	*ENG			
002	Potential Control: FC	*ENG			
003	Power ON: BW	*ENG			
004	Power ON: FC	*ENG			
005	MUSIC: BW	*ENG	[0 to 2000 / <b>0</b> / 1 page/step]		
006	MUSIC: FC	*ENG			
007	Vsg Adj.	*ENG			
008	Charge AC Control	*ENG			
009	MUSIC: Power ON: BW	*ENG			
010	MUSIC: Power ON: FC	*ENG			

3511	[Execution Interval: Setting]					
3311	Adjusts the threshold for each adjustm	nent mode.				
001	Job End: Potential Control: BW	*ENG	[0 to 2000 / <b>250</b> / 1 page/step]			
002	Job End: Potential Control: FC	*ENG	[0 to 2000 / <b>100</b> / 1 page/step]			
003	Interrupt: Potential Control: BW	*ENG	[0 to 2000 / <b>500</b> / 1 page/step]			
004	Interrupt: Potential Control: FC	*ENG	[0 to 2000 / <b>200</b> / 1 page/step]			
005	Initial: Potential Control: BW	*ENG	[0 to 2000 / <b>250</b> / 1 page/step]			
006	Initial: Potential Control: FC	*ENG	[0 to 2000 / <b>100</b> / 1 page/step]			
007	Vsg Adj. Counter	*ENG				
008	Charge AC Control Counter	*ENG	[0 to 2000 / <b>0</b> / 1 page/step]			
019	Environmental Correction	*ENG	[0 or 1 / 1 / 1 /step] 0: Not Correct (OFF), 1: Correct (ON)			
020	Gamma Correction	*ENG	[0 or 1 / 1 / 1 /step] 0: Not Correct (OFF), 1: Correct (ON)			
021	Non-use Time Correction	*ENG	[0 or 1 / 1 / 1 /step] 0: Not Correct (OFF), 1: Correct (ON)			
022	Correction Coefficient 1: JE: BW	*ENG	[0 to 1 / <b>0.2</b> / 0.01 page/step]			
023	Correction Coefficient 2: JE: BW	*ENG	[0 to 1 / 1 / 0.01/step]			
024	Correction Coefficient 1: JE: FC	*ENG	[0 to 1 / <b>0.5</b> / 0.01/step]			
025	Correction Coefficient 2: JE: FC	*ENG	[0 to 1 / 1 / 0.01/step]			
026	Correction Coefficient 1: Interrupt: BW	*ENG	[0 to 1 / <b>0.1</b> / 0.01/step]			
027	Correction Coefficient 2: Interrupt: BW	*ENG	[0 to 1 / 1 / 0.01/step]			
028	Correction Coefficient 1: Interrupt: FC	*ENG	[0 to 1 / <b>0.25</b> / 0.01/step]			
029	Correction Coefficient 2: Interrupt: FC	*ENG	[0 to 1 / <b>1</b> / 0.01/step]			

030	Max. Number Correction Threshold	*ENG	[0 to 99 / <b>5</b> / 1/step]
031	Max. Number Correction Counter	*ENG	[0 to 255 / <b>0</b> / 1/step]

	3512	[Image Quality Adj.: Interval]				
Adjusts the timing for execution of process control and line position adjustmen				control and line position adjustment.		
	001	During Job	*ENG	[0 to 100 / <b>30</b> / 1 page/step]		
	002	During Stand-by	*ENG	[0 to 100 / <b>10</b> / 1 minute/step]		

	[PCU Motor Stop Time: Bk]				
3513	Displays the last time that the PCU motors stopped.				
	These are used for process control execution timing.				
001	Year	*ENG	[0 to 99 / <b>0</b> / 1/step]		
002	Month	*ENG	[1 to 12 / <b>1</b> / 1/step]		
003	Date	*ENG	[1 to 31 / <b>1</b> / 1/step]		
004	Hour	*ENG	[0 to 23 / <b>0</b> / 1/step]		
005	Minute	*ENG	[0 to 59 / <b>0</b> / 1/step]		

	[Environmental Display: Job End]				
3514	4 Displays the environmental conditions for the last job. These are used for process control execution timing.				
001	Temperature	*ENG	[-1280 to 1270 / <b>0</b> / 0.1°C/step]		
002	Relative Humidity	*ENG	[0 to 1000 / - / 0.1%RH/step]		
003	Absolute Humidity	*ENG	[0 to 1000 / - / 0.1 g/cm <sup>3</sup> /step]		

3515	[Execution Interval: Display]
	Displays the current interval for process control execution.
	When the machine calculates the timing for process control, it uses a number of conditions. These are the results after considering all the conditions.

## 8. Appendix: SP Mode Tables

001	Job End: Potential Control: BW	*ENG	[0 to 2000 / <b>500</b> / 1 page/step]
002	Job End: Potential Control: FC	*ENG	[0 to 2000 / <b>200</b> / 1 page/step]
003	Interrupt: Potential Control: BW	*ENG	[0 to 2000 / <b>500</b> / 1 page/step]
004	Interrupt: Potential Control: FC	*ENG	[0 to 2000 / <b>200</b> / 1 page/step]

	[Refresh Mode] DFU					
3516	While making prints with low coverage, the developer is agitated with less toner consumption and the toner carrier attraction tends to increase. This may cause low image density or poo transfer (white dots). To prevent this, the coagulated toner or overcharged toner has to be consumed by performing the refresh mode.					
001	Dev. Motor Rotation: Display: Bk	*ENG				
002	Dev. Motor Rotation: Display: M	*ENG	[0 to 1000 / <b>0</b> / 0.1 m/step]			
003	Dev. Motor Rotation: Display: C	*ENG				
004	Dev. Motor Rotation: Display: Y	*ENG				
005	Rotation Threshold	*ENG	[0 to 1000 / <b>1</b> / 1 m/step]			
006	Pixel Coverage Sum: Bk	*ENG				
007	Pixel Coverage Sum: M	*ENG	[0 to 65535 / <b>0</b> / 1 cm <sup>2</sup> /step]			
008	Pixel Coverage Sum: C	*ENG				
009	Pixel Coverage Sum: Y	*ENG				
010	Required Area: Bk	*ENG				
011	Required Area: M	*ENG	$[0 + 65525 / 0 / 1 - m^2 / + -1]$			
012	Required Area: C	*ENG	[0 to 65535 / <b>0</b> / 1 cm <sup>2</sup> /step]			
013	Required Area: Y	*ENG	1			

014	Refresh Threshold: Bk	*ENG	
015	Refresh Threshold: C	*ENG	[0 + 255] (24/1) = 2/2/2/1001
016	016 Refresh Threshold: M		[0 to 255 / <b>34</b> / 1 cm <sup>2</sup> /m/step]
017	Refresh Threshold: Y	*ENG	
018	Pattern Generation Number: Bk	*ENG	
019	Pattern Generation Number: C	*ENG	
020	Pattern Generation Number: M	*ENG	[0 to 255 / <b>0</b> / 1 time/step]
021	Pattern Generation Number: Y	*ENG	
022	Pattern Generation Number: Upper limit	*ENG	[0 to 255 / <b>0</b> / 1 time/step]
023	Toner Consumption Pattern Area	*ENG	[10 to 2550 / <b>300</b> / 10 cm <sup>2</sup> / step]
024	Supply Coefficient	*ENG	[0 to 2.55 / <b>1</b> / 0.01/step]
025	Job End Area Coefficient	*ENG	[0.1 to 25.5 / <b>1</b> / 0.1/step]
026	Job End Vb Coefficient	*ENG	[0 to 100 / <b>40</b> / 1%/step]
027	Job End Length	*ENG	[0 to 56 / <b>25</b> / 1 mm/step]
028	Job End Supply	*ENG	[0 to 1 / 0.45 / 0.001 mg/cm <sup>2</sup> / step]

	[Blade damage prevention mode]			
351 <i>7</i>	Adjusts the threshold temperature for preventing the cleaning blade in the transfer belt cleaning unit from being damaged. If the temperature is above this value, toner is applied to the transfer belt at set intervals during the job to prevent the blade from flipping over.			
001	Execution Temp. Threshold	*ENG	[0 to 50/ <b>40</b> / 1°C/step]	

e Quality Adj. Execution Flag] DFU

001	Toner End Recovery: Bk	*ENG	
002	Toner End Recovery: C	*ENG	[0 or 1 / <b>0</b> / 1/step]
003	Toner End Recovery: M	*ENG	0: OFF. 1: ON
004	Toner End Recovery: Y	*ENG	
005	Vsg Adj.	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF. 1: ON
006	Developer Mixing	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF. 1: ON
007	Process Control	*ENG	[0 to 2 / <b>0</b> / 1/step] 0: OFF. 1: ON (once), 2: ON (twice)
008	MUSIC	*ENG	[0 to 2 / <b>0</b> / 1/step] 0: OFF. 1: ON (once), 2: ON (twice)
009	OPC Drive Control	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF. 1: ON
010	Charge AC Control	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF. 1: ON
011	Blade Damage Prevention	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF. 1: ON
-	1		

2510	[Toner End Prohibition Setting]			
3519 Enables or disables each adjustment at toner near end.				
001	Process Control	*ENG	[0 or 1 / 1 / 1/step]	
002	MUSIC	*ENG	0: Permit (adjustment is done even toner near end condition)	
003	TC Adj.	*ENG	1: Forbid (adjustment is not done at toner near end condition)	

3520	[ITB Idling Number]		
	Specifies the number of the ITB idling rotation for each condition.		

001	Temperature: H	*ENG	
002	Temperature: M	*ENG	$[0, \alpha, 2]$ $(0, 1]$ rescalution (stars)
003	Temperature: L	*ENG	[0 or 3 / <b>0</b> / 1 revolution/step]
004	Temperature: L: Power ON	*ENG	

	[Temperature Threshold]			
3521	Specifies the threshold temperature for each condition. These settings affect the conditions of SP3-520.			
t1: Threshold between L (low temp.) and M (medium temp.)			И (medium temp.)	
	t2: Threshold between M (medium temp.) and H (high temps)			
001	Threshold: t2	*ENG	[20 or 30 / <b>25</b> / 1 deg/step]	
002	Threshold: †1	*ENG	[0 or 15 / <b>15</b> / 1 deg/step]	

	[Initial Process Control Setting]			
3522	Adjusts the threshold for the process control at power on. When the current condition has changed by more than the values of these SPs when compared with the conditions at the previous operation, the process control at power on is executed.			
002	Non-use Time Setting	*ENG	[0 to 1440 / <b>360</b> / 1 minute/step]	
003	Temperature Range	*ENG	[0 to 99 / <b>10</b> / 1°C/step]	
004	Relative Humidity Range	*ENG	[0 to 99 / <b>50</b> / 1 %RH/step]	
005	Absolute Humidity Range	*ENG	[0 to 99 / <b>6</b> / 1 g/m <sup>3</sup> /step]	
	[Rapi_timer]			
100	Time Setting	*ENG	[0 to 255 / <b>30</b> / 1 sec/step]	
Adjusts the time-out time for the Rapi timer.				

	[Non-use Time Process Control Setting]			
3531	Adjusts the threshold for the process control at stand-by. When the current condition has changed by more than the values of these SPs when compared with the conditions at the previous operation, the process control at stand-by is executed.			
001	Non-use Time Setting	*ENG	[0 to 1440 / <b>360</b> / 1 minute/step]	
002	Temperature Range	*ENG	[0 to 99 / <b>10</b> / 1°C/step]	
003	Relative Humidity Range	*ENG	[0 to 99 / <b>50</b> / 1 %RH/step]	
004	Absolute Humidity Range	*ENG	[0 to 99 / <b>6</b> / 1 g/m <sup>3</sup> /step]	
005	Maximum Execution Number	*ENG	Adjusts the maximum execution time for the process control at stand-by. [0 to 99 / <b>10</b> / 1 time/step]	

3611	[Development Gamma: Display/Set]		
001	Bk (Current)	*ENG	
002	M (Current)	*ENG	Displays the current development gamma for each color.
003	C (Current)	*ENG	[0 to 5 / - / 0.01 mg/cm <sup>2</sup> /kV /step]
004	Y (Current)	*ENG	
005	Bk (Target Display)	*ENG	Displays the target development gamma for
006	C (Target Display)	*ENG	each color. [0 to 5 / <b>0.85</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
007	M (Target Display)	*ENG	[0 to 5 / <b>0.8</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
008	Y (Target Display)	*ENG	[0 to 5 / <b>0.77</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
009	Bk (Standard Target Set)	*ENG	Displays the standard target development gamma for each color. [0 to 5 / <b>0.9</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
010	C (Standard Target Set)	*ENG	
011	M (Standard Target Set)	*ENG	[0 to 5 / <b>0.8</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
012	Y (Standard Target Set)	*ENG	

013	Environmental Correction	*ENG	Turns on or off the environmental correction for target development gamma. [0 or 1 / 1 / -] 0: Not Correct, 1: Correct
014	K (Max Correction)	*ENG	Adjusts the maximum correction value for each
015	C (Max Correction)	*ENG	color. These SPs are effective only when the
016	M (Max Correction)	*ENG	setting of SP3-611-013 is set to "1". [0 to 5 / <b>0.1</b> / 0.01 mg/cm <sup>2</sup> /kv/step]
017	Y (Max Correction)	*ENG	
018	K (Max Abs Hum)	*ENG	Adjusts the maximum humidity correction
019	M (Max Abs Hum)	*ENG	value for each color. These SPs are effective only when the setting of SP3-611-013 is set
020	C (Max Abs Hum)	*ENG	to "1".
021	Y (Max Abs Hum)	*ENG	[1 to 99 / <b>15</b> / 1 g/m <sup>3</sup> /step]

3612	[Vk Display]		
3012	Displays Vk for each color.		
001	Bk	*ENG	
002	Μ	*ENG	
003	С	*ENG	[-300 to 300 / - / 1 V/step]
004	Y	*ENG	

2/01	[Development DC Control: Display] Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2 & FINE: 77 mm/sec			
3621	Displays the development DC b color.	he development DC bias adjusted with the process control for each line speed and		
001	Plain: Bk	*ENG		
002	Plain: M	*ENG		
003	Plain: C	*ENG	[0 to 700 / <b>550</b> / 1 -V/step]	
004	Plain: Y	*ENG		

005	Thick 1: Bk	*ENG	
006	Thick 1: M	*ENG	[0 to 700 / <b>550</b> / 1 \//then]
007	Thick 1: C	*ENG	[0 to 700 / <b>550</b> / 1 -V/step]
008	Thick 1: Y	*ENG	
009	Thick 2 & FINE: Bk	*ENG	
010	Thick 2 & FINE: M	*ENG	[0 to 700 / <b>550</b> / 1 \//them]
011	Thick 2 & FINE: C	*ENG	[0 to 700 / <b>550</b> / 1 -V/step]
012	Thick 2 & FINE: Y	*ENG	

3631	[Charge DC Control: Display] Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 1: 154 mm/sec, Thick 2 & FINE: 77 mm/sec		
5051	Displays the charge DC voltage adjusted with the process control for each line spee color.		
001	Plain: Bk	*ENG	
002	Plain: M	*ENG	
003	Plain: C	*ENG	[0 to 2000 / <b>690</b> / 1 -V/step]
004	Plain: Y	*ENG	
005	Thick 1 & Bk	*ENG	
006	Thick 1 & M	*ENG	
007	Thick 1 & C	*ENG	[0 to 2000 / <b>690</b> / 1 -V/step]
008	Thick 1& Y	*ENG	
009	Thick 2 & FINE: Bk	*ENG	
010	Thick 2 & FINE: M	*ENG	
011	Thick 2 & FINE: C	*ENG	[0 to 2000 / <b>690</b> / 1 -V/step]
012	Thick 2 & FINE: Y	*ENG	

3641	[Charge AC Control: Display] Plain: 205 (P2c)/230 (P2d) mm/sec Displays the charge AC voltage adjusted with the process control for each color.		
001	Plain: Bk *ENG		
002	Plain: M	*ENG	[0+ 2 / <b>1 75</b> / 0 01   ) / / + . ]
003	Plain: C	*ENG	[0 to 3 / <b>1.75</b> / 0.01 kV/step]
004	Plain: Y	*ENG	

3651	[LD Power Control: Display] Plain: 205 (P2c)/230 (P2d) mm/sec, Thick 2 & FINE: 77 mm/sec		
	Displays the LD power adjusted for each environment.		vironment.
001	Plain: Bk	*ENG	
002	Plain: M	*ENG	
003	Plain: C	*ENG	[0 to 200 / <b>100</b> / 1 %/step]
004	Plain: Y	*ENG	
005	Thick 1: Bk	*ENG	
006	Thick 1: M	*ENG	[0+, 000 / <b>100</b> / 1 % / 4+, 1
007	Thick 1: C	*ENG	[0 to 200 / <b>100</b> / 1 %/step]
008	Thick 1: Y	*ENG	~
009	Thick 2 & FINE: Bk	*ENG	
010	Thick 2 & FINE: M	*ENG	[0.4-200./ <b>100</b> ./1%(44-m]
011	Thick 2 & FINE: C	*ENG	[0 to 200 / <b>100</b> / 1 %/step]
012	Thick 2 & FINE: Y	*ENG	

	[HST Concentration Control: Set]
3710	TD Sensor: Toner Concentration Control Setting
	Selects the toner concentration control method by HST memory, which is in the TD sensor.

001	Control Method: Selection	*ENG	[0 or 1 / 1 / - ] 0: Not Use, 1: Use	
3711	[HST Concentration Control: Bk]			
3711	Displays the factory settings of the	e black PCl	J.	
001	Vcnt	*ENG	[0 to 5 / <b>4</b> / 0.1 V/step]	
002	Vt	*ENG	[0 to 5 / <b>2.5</b> / 0.1 V/step]	
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / <b>2.1</b> / 0.01 V/step]	
004	Sensitivity: HM	*ENG		
005	Sensitivity: ML	*ENG	[0 to 2.55 / <b>1.05</b> / 0.01 V/step]	
006	Set Detection	*ENG	[0 to 5 / <b>1</b> / 0.1 V/step]	
007	Without Developer	*ENG	[0 to 5 / <b>1.2</b> / 0.1 V/step]	
008	With Developer	*ENG	[0 to 5 / <b>1.3</b> / 0.1 V/step]	
009	Serial Number 1	*ENG		
010	Serial Number 2	*ENG	[0 to 255 / - / 1 V/step]	
011	Adjustment: Vt	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]	

012

013

014

015

Adjustment: Vtref

Adjustment: Vtcnt

Adjustment: Gamma

Adjustment: Vcnt Result

3712	[HST Concentration Control: M]			
	Displays the factory settings of the magenta PCU.			
001	Vcnt	*ENG	[0 to 5 / <b>4</b> / 0.1 V/step]	
002	Vt	*ENG	[0 to 5 / <b>2.5</b> / 0.1 V/step]	
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / <b>2.1</b> / 0.01 V/step]	
004	Sensitivity: HM	*ENG	[0 to 2.55 / <b>1.05</b> / 0.01 V/step]	
005	Sensitivity: ML	*ENG		

\*ENG

\*ENG

\*ENG

\*ENG

[0 to 5 / **3** / 0.1 V/step]

[0 to 5 / **4** / 0.01 V/step]

[0 to 9 / **9** / 1 /step]

[0 to 2.55 / **0** / 0.01 mg/cm<sup>2</sup>/kV /step]

006	Set Detection	*ENG	[0 to 5 / 1 / 0.1 V/step]
007	Without Developer	*ENG	[0 to 5 / <b>1.2</b> / 0.1 V/step]
008	With Developer	*ENG	[0 to 5 / <b>1.3</b> / 0.1 V/step]
009	Serial Number 1	*ENG	
010	Serial Number 2	*ENG	[0 to 255 / - / 1 V/step]
011	Adjustment: Vt	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]
012	Adjustment: Vtref	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]
013	Adjustment: Vtcnt	*ENG	[0 to 5 / <b>4</b> / 0.01 V/step]
014	Adjustment: Gamma	*ENG	[0 to 2.55 / <b>0</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / <b>9</b> / 1 /step]

3713	[HST Concentration Control: C]			
3713	Displays the factory settings of	ettings of the cyan PCU.		
001	Vcnt	*ENG	[0 to 5 / <b>4</b> / 0.1 V/step]	
002	Vt	*ENG	[0 to 5 / <b>2.5</b> / 0.1 V/step]	
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / <b>2.1</b> / 0.01 V/step]	
004	Sensitivity: HM	*ENG		
005	Sensitivity: ML	*ENG	[0 to 2.55 / <b>1.05</b> / 0.01 V/step]	
006	Set Detection	*ENG	[0 to 5 / <b>1</b> / 0.1 V/step]	
007	Without Developer	*ENG	[0 to 5 / <b>1.2</b> / 0.1 V/step]	
008	With Developer	*ENG	[0 to 5 / <b>1.3</b> / 0.1 V/step]	
009	Serial Number 1	*ENG		
010	Serial Number 2	*ENG	[0 to 255 / - / 1 V/step]	
011	Adjustment: Vt	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]	
012	Adjustment: Vtref	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]	
013	Adjustment: Vtcnt	*ENG	[0 to 5 / <b>4</b> / 0.01 V/step]	

014	Adjustment: Gamma	*ENG	[0 to 2.55 / <b>0</b> / 0.01 mg/cm <sup>2</sup> /kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / <b>9</b> / 1 /step]

3714	[HST Concentration Control: Y]			
3/14	Displays the factory settings of	the yellow P	CU.	
001	Vcnt	*ENG	[0 to 5 / <b>4</b> / 0.1 V/step]	
002	Vt	*ENG	[0 to 5 / <b>2.5</b> / 0.1 V/step]	
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / <b>2.1</b> / 0.01 V/step]	
004	Sensitivity: HM	*ENG		
005	Sensitivity: ML	*ENG	[0 to 2.55 / <b>1.05</b> / 0.01 V/step]	
006	Set Detection	*ENG	[0 to 5 / 1 / 0.1 V/step]	
007	Without Developer	*ENG	[0 to 5 / <b>1.2</b> / 0.1 V/step]	
008	With Developer	*ENG	[0 to 5 / <b>1.3</b> / 0.1 V/step]	
009	Serial Number 1	*ENG	[0 to 255 / - / 1 V/step]	
010	Serial Number 2	*ENG		
011	Adjustment: Vt	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]	
012	Adjustment: Vtref	*ENG	[0 to 5 / <b>3</b> / 0.1 V/step]	
013	Adjustment: Vtcnt	*ENG	[0 to 5 / <b>4</b> / 0.01 V/step]	
014	Adjustment: Gamma	*ENG	[0 to 2.55 / <b>0</b> / 0.01 mg/cm <sup>2</sup> /kV /step]	
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / <b>9</b> / 1 /step]	

3800	[Toner Collection Bottle Full Detection]					
	Displays/ adjusts the toner collection bottle detection settings. These SPs are used for NRS.					
001	Condition	*CTL	[0 to 4 / 0 / 1 /step]			
002	Detection Times	*CTL	[0 to 50 / - / 1 /step]			
003	Print Page After Near Full	*CTL	[0 to 1000 / <b>0</b> / 1 sheet/step]			
004	Pixel Count After Near Full	*CTL	[0 to 200000 / - / 1 cm <sup>2</sup> /step]			

005	Pixel Count After Replacement	*CTL	Displays the pixel counter after replacement of toner collection bottle. [0 to 200000 / - / 1 cm <sup>2</sup> /step]
008	Coefficient	*ENG	[0.5 to 1.5 / 1 / 0.1 /step]
011	Notice Setting	*ENG	Enables or disables the calling for @Remote. [0 or 1 / 1 / - ] 0: Enable @Remote calling 1: Disable @Remote calling
NOTE: If the toner collection bottle has been replaced before the machine detects us full when this setting is set to "0", the machine cannot detect toner collection b In that case, set SP3-902-017 to "1".			

3900	[New Unit Detection]			
Turns toner collection bottle full detection on or off.				
001	ON/OFF Setting	*ENG	[0 or 1 / 1 / - ] 0: OFF, 1: ON	

3901	[New PCU Detection]				
3901	Turns new PCU detection on or off.				
001	ON/OFF Setting	*ENG	[0 or 1 / 1 / - ] 0: OFF, 1: ON		

	[Manual New Unit Set]			
3902	Turns the new unit detection flag for each PM unit on or off. The use of these counters is explained in the PM section and in the relevant parts of section 3 (Replacement and Adjustment).			
001	Development Unit: Bk	*ENG		
002	Development Unit: Y	*ENG	[0 or 1 / <b>0</b> / - ]	
003	Development Unit: C	*ENG	0: OFF, 1: ON	
004	Development Unit: M	*ENG		

005	Developer: Bk	*ENG	
006	Developer: Y	*ENG	[0 or 1 / <b>0</b> / - ]
007	Developer: C	*ENG	0: OFF, 1: ON
008	Developer: M	*ENG	
009	PCU (Drum Unit): Bk	*ENG	
010	PCU (Drum Unit): Y	*ENG	[0 or 1 / <b>0</b> / - ]
011	PCU (Drum Unit): C	*ENG	0: OFF, 1: ON
012	PCU (Drum Unit): M	*ENG	
013	Image Transfer Unit	*ENG	[0 or 1 / <b>0</b> / - ]
014	Fusing Unit	*ENG	0: OFF, 1: ON
015	Cleaning Unit	*ENG	Do not use 3902-013 if you only change the cleaning unit.
016	Paper Transfer Unit	*ENG	3902-015: This is for the image transfer belt
017	Toner Collection Bottle	*ENG	cleaning unit.

## SP5-XXX (Mode)

	All Indicators On	*CTL	
5001	Lights the LCD and all LEDs of properly. [OFF/ON]	on the op	eration panel to demonstrate that they are operating

5024	[mm/inch Display Selection]				
Display units (mm or inch) for cu			ustom paper sizes.		
001	0:mm 1:inch	*CTL	0: mm (Europe/Asia) 1: inch (USA)		

	[Accounting Counter]		
5045	Selects the counting method. NOTE: The counting method can be changed only once, regardless of whether the counter value is negative or positive.		
001	Counter Method	*CTL	[0 or 1 / <b>0</b> / - ] 0: Developments 1: Prints

5051	[TonerRefillDetectionDisplay]			
5051	Enables or disables the toner refill detection display.			
50511			[0 or 1 / <b>0</b> / - ] Alphanumeric	
			0: ON	
		1: OFF		

5055	[Display IP Address]		
5055	Display or does not display the IP address on the LCD.		
001	-	*CTL	[0 or 1 / <b>0</b> / - ] 0: OFF 1: ON

5056	[Coverage Counter Display]		
Display or does not display the coverage counter on the LCD.		ge counter on the LCD.	
001	-	*CTL	[0 or 1 / <b>0</b> / - ] 0: Not display, 1: Display

5131	[Paper Size Type Selection]	*ENG	[0: JP (Japan)/ 1: NA / 2: EU]
001	The program selects a paper s the LT system (1), and the AF s	ize system ystem (2).	from the following alternatives: the AB system (0),

	[CE Login]	
5169	If you will change the printer bit switches, you must 'log in' to service mode with this SP before you go into the printer SP mode.	

001 CE Login	*CTL	[0 or 1 / <b>0</b> / - ] 0: Disabled 1: Enabled
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5179	[By-pass Size Error Detectio	n]			
5179	Turns on or off the by-pass tr	ay size erro	or message.		
001	-	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: OFF 1: ON (Paper size error message is displayed when the paper jam occurs due to the wrong direction of set paper in by-pass mode.)		

5101	[Size Adjust]					
5181	Adjusts the paper size for each tray.					
001	Paper TRAY 1	*ENG	[O to 3 / <b>O (EU/ASIA), 1 (NA)</b> / 1 /step] O: A4 LEF, 1: LT LEF, 2: B5 LEF, 3: A5 LEF			
002	TRAY 2: 1	*ENG	[O or 1 / <b>O (EU/ASIA), 1 (NA)</b> / - ] O: A4 LEF, 1: LT LEF			
003	TRAY 2: 2	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A3, 1: DLT			
004	TRAY 2: 3	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B4, 1: LG			
005	TRAY 2: 4	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B5 LEF, 1: Exe LEF			
006	TRAY 3/T-LCT: 1	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A4 LEF, 1: LT LEF			
007	TRAY 3: 2	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A3, 1: DLT			
008	TRAY 3: 3	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B4, 1: LG			

009	TRAY 3: 4	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B5 LEF, 1: Exe LEF
010	TRAY 4: 1	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A4 LEF, 1: LT LEF
011	TRAY 4: 2	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A3, 1: DLT
012	TRAY 4: 3	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B4, 1: LG
013	TRAY 4: 4	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B5 LEF, 1: Exe LEF
014	TRAY 5: 1	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A4 LEF, 1: LT LEF
015	TRAY 5: 2	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A3, 1: DLT
016	TRAY 5: 3	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B4, 1: LG
017	TRAY 5: 4	*ENG	[0 or 1 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: B5 LEF, 1: Exe LEF
018	LCT	*ENG	[0 to 2 / <b>0 (EU/ASIA), 1 (NA)</b> / - ] 0: A4LEF, 1: LTLEF, 2: B5LEF

	[RK 4]		
5186	Enables or disables the prevention for RK4 (accounting device) disconnection.		
	f the RK4 is disconnected for 10 seconds when this SP is set to "1 (Enable)", the machine automatically jams a sheet of paper and stops.		
001	-	*ENG	[0 or 1 / <b>0</b> / 1/step] 0: Disable 1: Enable

5191	[Mode Set] DFU	
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001	-	*CTL	[0 or 1 / 1 / -] 0: Off, 1: On
	Enables or disables the STR	(Suspend to	RAM) mode.

5195	[Limitless SW] DFU				
			[0 or 1 / 1 / -]		
	-	*CTL	0: Productivity priority		
			1: Tray priority		
	Selects the paper feed mode.				
	Productivity priority:				
001	This changes the feeding tray as soon as the machine detects the priority tray even the paper still remains in the feeding tray.				
	Tray priority:				
	This changes the feeding tray after the paper in the tray where the machine has been feeding paper has been run out of.				
	This SP is activated only when a customer selects the "Auto Paper Selsct".				

5199	[Paper Exit After Staple End.]			
001	-	*CTL	[ 0 or 1 / <b>0</b> / -] 0: OFF, 1: ON	
	<ul> <li>If this setting is "1: ON",</li> </ul>	s or disables the paper feeding out from the finisher without stapling. this setting is "1: ON", paper is fed out without stapling at the maximum numb e finisher stapling when the machine gets a multiple printing job (over maximu umber).		
	<ul> <li>If this setting is "0: OFF", paper is fed out with stapling at the maximum number of the finisher stapling when the machine gets a multiple printing job (over maximum number).</li> </ul>			

	[Set Time]				
	Adjusts the RTC (real time clock) time setting for the local time zone.				
	Examples: For Japan (+9 GMT), enter 540 (9 hours x 60 min.)				
	DOM: +540 (Tokyo)				
5302	NA: -300 (New York)				
	EU: + 60 (Paris)				
	CH: +480 (Peking)				
	TW: +480 (Taipei)				
	AS: +480 (Hong Kong)				
		*CTL			
002	Time Difference	#	[-1440 to 1440 / <b>Area</b> / 1 min./step ]		

5307	[Summer Time]		
001	Setting	[ 0 to 1 / <b>NA, EU, ASIA</b> / 1 /step] 0: Disabled 1: Enabled NA and EUR: 1, ASIA: 0	
	Enables or disables the summer time mode.		
	♦ Note		
	• Make sure that both SP5-307-3 and -4 are correctly set. Otherwise, this SP is not activated even if this SP is set to "1".		

	Rule Set (Start)			
	Specifies the start setting for the summer time mode.			
	There are 8 digits in this SP. For months 1 to 9, the "O" cannot be input in the first digit, so the eight-digit setting for -2 or -3 becomes a seven-digit setting.			
	1 st and 2nd digits: The month.	[1 to 12	]	
003	3rd digit: The week of the mon	th. [1 to	5]	
003	4th digit: The day of the week.	[0 to 6 =	= Sunday to Saturday]	
	5th and 6th digits: The hour. [C	0 to 23]	]	
	7th digit: The length of the adv	anced tir	me. [0 to 9 / 1 hour /step]	
	8th digit: The length of the adv	anced tir	me. [0 to 5 / 10 minutes /step]	
	• The digits are counted fro	m the lef	ft.	
	• Make sure that SP5-307-1 is set to "1".			
	For example: 3500010 (EU d	efault)		
	The timer is advanced by 1 ho	ur at am	0:00 on the 5th Sunday in March	
	Rule Set (End)	-	-	
	Specifies the end setting for the summer time mode.			
	There are 8 digits in this SP.			
	1st and 2nd digits: The month. [1 to 12]			
004	3rd digit: The week of the month. [0 to 5]			
004	4th digit: The day of the week. [0 to 7 = Sunday to Saturday]			
	5th and 6th digits: The hour. [00 to 23]			
	The 7th and 8 digits must be se	et to "00'	n -	
	• The digits are counted fro	m the lef	ft.	
	• Make sure that SP5-307-	1 is set t	o "]".	

5401	[Access Control]		
	When installing the SDK application, SAS (VAS) adjusts the following settings. <b>DFU</b>		
162	Extend Certification Detail	*CTL	Bit 0: Log-out without an IC card <b>0: Not allowed (default)</b> 1: Allowed
	Selects the log out type for the extend authentication device.		

200	SDK1 UniqueID	*CTL		
201	SDK1 Certification Method	*CTL		
210	SDK2 UniqueID	*CTL	"SDK" is the "Software Development Kit". This data	
211	SDK2 Certification Method	*CTL	can be converted from SAS (VAS) when installed	
220	SDK3 UniqueID	*CTL	or uninstalled. (DFU)	
221	SDK3 Certification Method	*CTL		
230	SDK certification device	*CTL		
	Detail Option	*CTL	-	
	Enalbes or disables the log out confirmation option.			
	Bit 0: Log out confirmation option			
240	<b>O: Enable (default)</b> , 1: Disable			
	Selects the automatic log out time.			
	Bit 1 and 2: Automatic log out timer reduction			
	<b>00: 60 seconds (default)</b> , 01: 10 seconds,			
	10: 20 seconds, 11: 30	second	S	

5404	[User Code Count Clear]		
001	UCodeCtrClr	Clears all counters for users.	

5411	[LDAP Certification]		
004	Easy Certification	*CTL	Determines whether easy LDAP certification is done. [0 or 1 / 1 / -] 1: On, 0: Off
005	Password Null Not Permit	*CTL	This SP is referenced only when SP5411-4 is set to "1" (On). [0 or 1 / <b>0</b> / -] 0: Password NULL not permitted. 1: Password NULL permitted.

5413	[Lockout Setting]	

001	Lockout On/Off	*CTL	Switches on/off the lock on the local address book account. [0 or 1 / <b>0</b> / -] 0: Off, 1: On
002	Lockout Threshold	*CTL	Sets a limit on the frequency of lockouts for account lockouts. [1 to 10 / <b>5</b> / 1/step]
003	Cancellation On/Off	*CTL	Determines whether the system waits the prescribed time for input of a correct user ID and password after an account lockout has occurred. [0 or 1 / 0 / -] 0: Off (no wait time, lockout not cancelled) 1: On (system waits, cancels lockout if correct user ID and password are entered.
004	Cancellation Time	*CTL	Determines the length of time that the system waits for correct input of the user ID and password after a lockout has occurred. This setting is used only if SP5413-3 is set to "1" (on). [1 to 999 / <b>60</b> / 1 min./step]
005	Counter Clear Time	*CTL	Not Used

5414	[Access Mitigation]		
001	Mitigation On/Off	*CTL	Switches on/off masking of continuously used IDs and passwords that are identical. [0 or 1 / <b>0</b> / -] 0: Off, 1: On
002	Mitigation Time	*CTL	Sets the length of time for excluding continuous access for identical user IDs and passwords. [0 to 60 / <b>15</b> / 1 min./step]

5415

[Password Attack]

001	Permissible Number	*CTL	Sets the number of attempts to attack the system with random passwords to gain illegal access to the system. [O to 100 / <b>30</b> / 1 attempt/step]
002	Detect Time	*CTL	Sets the time limit to stop a password attack once such an attack has been detected. [1 to 10 / <b>5</b> / 1 sec./step]

5416	[Access Information]		
001	Access User Max Num	*CTL	Limits the number of users used by the access exclusion and password attack detection functions. [50 to 200 / <b>200</b> / 1 users/step]
002	Access Password Max Num	*CTL	Limits the number of passwords used by the access exclusion and password attack detection functions. [50 to 200 / <b>200</b> / 1 password/step]
003	Monitor Interval	*CTL	Sets the processing time interval for referencing user ID and password information. [1 to 10 / <b>3</b> / 1 sec./step]

5417	[Access Attack]		
001	Access Permissible Number	*CTL	Sets a limit on access attempts when an excessive number of attempts are detected for MFP features. [0 to 500 / <b>100</b> / 1/step]
002	Attack Detect Time	*CTL	Sets the length of time for monitoring the frequency of access to MFP features. [10 to 30 / <b>10</b> / 1 sec./step]
003	Productivity Fall Wait	*CTL	Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected. [0 to 9 / 3 / 1 sec./step]

004	Attack Max Num	*CTL	Sets a limit on the number of requests received for certification in order to slow down the certification speed when an excessive number of access attempts have been detected. [50 to 200 / <b>200</b> / 1 attempt/step]
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	[User Authentication]				
5420	These settings should be done with the System Administrator.				
	Note: These functions are end	nabled only after the user access feature has been enabled.			
041	Printer	*CTL	Determines whether certification is required before a user can use the printer applications. [0 or 1/0/1] 0: On, 1: Off		
051	SDK1	*CTL	[0 or 1 / <b>0</b> / 1] 0: ON. 1: OFF		
061	SDK2		Determines whether certification is required before		
071	SDK3		a user can use the SDK application.		

5491	[Authentication Error Code]			
5481 These SP codes determine how the authentication failures are displayed.				
001	System Log Disp	*CTL	Determines whether an error code appears in the system log after a user authentication failure occurs. [0 or 1/0/1] 0: Off, 1: On	

5501	[PM Alarm]	*CTL	-
001	PM Alarm Level	0: Alar	
		1 to 99 ≥ <b>PM c</b>	99: Alarm goes off when <b>Value (1 to 9999) x 1000</b> c <b>ounter</b>

<b>5504</b> [Jam Alarm] *CTL -
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	Sets the alarm to sound for the specified jam level (document misfeeds are not included).
	[0 to 3 / <b>3</b> / 1 /step]
001	0: Zero (Off)
001	1: Low (2.5K jams)
	2: Medium (3K jams)
	3: High (6K jams)

	[Error Alarm]			
	Sets the error alarm level.			
5505 The error alarm counter counts "1" when any SC is detected. However, the error alarm decreases by "1" when an SC is not detected during a set number of co (for example, default 1500 sheets).				
	The error alarm occurs when the SC error alarm counter reaches "5".			
001	-	*CTL	[0 to 255 / <b>P2c: 50, P2d: 100</b> / 100 copies / step]	

5507	[Supply Alarm]	*CTL	-	
001	Paper Supply Alarm	<b>0</b> : Off, 1: On, <b>DFU</b>		
002	Staple Supply Alarm	0: Off, 1: On, Japan only		
003	Toner Supply Alarm	<b>0</b> : Off, 1: On, <b>DFU</b>		
080	Toner Call Timing	Changes the timing of the "Toner Supply Call" via the NRS, when the following conditions occur. <b>0: Toner is replaced (default)</b> 1: Toner near end or End		

128	Interval :Others	
132	Interval :A3	
133	Interval :A4	
134	Interval :A5	
141	Interval :B4	[250 to 10000 / <b>1000</b> / 1 /step] <b>DFU</b>
142	Interval :B5	
160	Interval :DLT	
164	Interval :LG	
166	Interval :LT	
172	Interval :HLT	

	[SC/Alarm Setting]	*CTL	-
5515	With NRS (New Remote Service) in use, these SP codes can be set to issue an SC an SC error occurs. If this SP is switched off, the SC call is not issued when an St occurs.		
001	SC Call		
002	Service Parts Near End Call		[0  or  1/1/-]
003	Service Parts End Call		0: Off 1: On
004	User Call		-
006	Communication Test Call		
007	Machine Information Notice		
008	Alarm Notice		[0 or 1 / 1 / -] 0: Off
009	Non Genuine Tonner Alarm Supply Automatic Ordering Call		1: On
010			
011	Supply Management Report (	Call	

5801 [Memory Clear]

001	All Clear	Resets all correction data for process control and all software counters, and returns all modes and adjustments to their default values.
002	Engine	Clears the engine settings.
003	SCS	Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
004	IMH Memory Clr	Initializes the IMH settings.
005	Mcs	Initializes the Mcs settings.
008	Printer Application	<ul> <li>The following service settings:</li> <li>Bit switches</li> <li>Gamma settings (User &amp; Service)</li> <li>Toner Limit</li> <li>The following user settings:</li> <li>Tray Priority</li> <li>Menu Protect</li> <li>System Setting except for setting of Energy Saver</li> <li>I/F Setup (I/O Buffer and I/O Timeout)</li> <li>PCL Menu</li> </ul>
010	Web Service	Deletes the network file application management files and thumbnails, and initializes the job login ID.
011	NCS	All setting of Network Setup (User Menu) (NCS: Network Control Service)
014	Clear DCS Setting	Initializes the DCS (Delivery Control Service) settings.
015	Clear UCS Setting	Initializes the UCS (User Information Control Service) settings.
016	MIRS Setting	Initializes the MIRS (Machine Information Report Service) settings.
017	CCS	Initializes the CCS (Certification and Charge-control Service) settings.
018	SRM Memory Clr	Initializes the SRM (System Resource Manager) settings.

019	LCS	Initializes the LCS settings.
021	ECS	Initializes the ECS settings.

	[FreeRun]					
	Performs a free run on the copier engine.					
5802	<ul> <li>The machine starts free run in the same condition as the sequence of A4/LT, A3 or A4 SEF printing from the 1st or 2nd tray. Therefore, the correct paper should be loaded in the 1st tray or 2nd tray, but paper is not fed.</li> <li>The main switch has to be turned off and on after using the free run mode for a test.</li> </ul>					
001	TRAY1: A4LEF: FC -					
002	TRAY2: A3: FC	-	-			
003	TRAY2: A4SEF: FC -					

5803	[Input Check]	-	See "Input Check Table" in this section.
5804	[Output Check]	-	See "Output Check Table" in this section.

5805	[Anti-Condensation Heater]		
002	0:0FF / 1:0N	*ENG	-

	[SC Reset]				
5810	0 Resets a type A service call condition.				
	• Turn the main switch off	and on a	after resetting the SC code.		
001	Fusing SC Reset	-	-		

5811	[MachineSerial] Machine Serial Number Display		
002	Display	*CTL	Displays the machine serial number.
004	Set:BICU	CIL	Inputs

5812	[Service Tel. No. Setting]			
001	Service	*CTL	-	
	Sets the telephone number for a service representative. This number is printed on the Counter List, which can be printed with the user's "Counter" menu. This can be up to 20 characters (both numbers and alphabetic characters can be input).			
	Facsimile	*CTL	-	
002	Sets the fax or telephone number for a service representative. This number is printed on the Counter List. This can be up to 20 characters (both numbers and alphabetic characters can be input).			

5816	[Remote Service]	*CTL	-			
	I/F Setting					
	Selects the remote service setting.					
001	[0 to 2 / <b>2</b> / 1 /step]					
	O: Remote service off					
	1: CSS remote service on					
	2: @Remote service on					
	CE Call					
	Performs the CE Call at the start or end of the service.					
002	[0 or 1 / <b>0</b> / 1 /step]					
	0: Start of the service					
	1: End of the service					
	NOTE: This SP is activated only when SP 5816-001 is set to "2".					
	Function Flag					
	Enables or disables the remote service function.					
003	[0 to 1 / <b>0</b> / 1 /step]					
	0: Disabled, 1: Enabled					
	NOTE: This SP setting is changed to "1" after @Remote registor has been completed.					

	SSL Disable				
007	Uses or does not use the RCG certification by SSL when calling the RCG. [0 to 1 / 0 / 1 /step] 0: Uses the RCG certification 1: Does no use the RCG certification				
008	RCG Connect Timeout Specifies the connect timeout interval when calling the RCG. [1 to 90 / 10 / 1 second /step]				
009	RCG Write Timeout         Specifies the write timeout interval when calling the RCG.         [1 to 100 / 60 / 1 second /step]				
010	RCG Read Timeout Specifies the read timeout interval when calling the RCG. [1 to 100 / 60 / 1 second /step]				
Port 80 Enable         011         Enables/disables access via port 80 to the SOAP method.         [0 or 1 / 0 / -]         0: Disabled, 1: Enabled					
RFU (Remote Frimware Update) Timing         Selects the RFU timing.         [0 or 1 / 1 / -]         O: RFU is executed whenever update request is received.         1: RFU is executed only when the machine is in the sleep mode.					
021	RCG – C Registed         This SP displays the Embedded RC Gate installation end flag.         0: Installation not completed         1: Installation completed				

	RCG – C Regist Detail
022	This SP displays the Embedded RC Gate installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered
	Connect Type (N/M)
023	This SP displays and selects the Embedded RC Gate connection method. [0 or 1 / 0 / 1 /step 0: Internet connection 1: Dial-up connection
	Cert. Expire Timing <b>DFU</b>
061	Proximity of the expiration of the certification.
	Use Proxy
062	This SP setting determines if the proxy server is used when the machine communicates with the service center.
	Proxy Host
063	This SP sets the address of the proxy server used for communication between Embedded RC Gate-N and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up Embedded RC Gate-N.
	• The address display is limited to 128 characters. Characters beyond the 128 character are ignored.
	• This address is customer information and is not printed in the SMC report.
064	Proxy Port Number
	This SP sets the port number of the proxy server used for communication between Embedded RC Gate-N and the gateway. This setting is necessary to set up Embedded RC Gate-N.
	• This port number is customer information and is not printed in the SMC report.

	Proxy User Name
	This SP sets the HTTP proxy certification user name.
065	●Note
	• The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored.
	• This name is customer information and is not printed in the SMC report.
	Proxy Password
	This SP sets the HTTP proxy certification password.
066	♦ Note
	• The length of the password is limited to 31 characters. Any character beyond the 31 st character is ignored.
	• This name is customer information and is not printed in the SMC report.

	CERT	: Up State			
	Displays the status of the certification update.				
	0	The certification used by Embedded RC Gate is set correctly.			
	1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.			
	2	The certification update is completed and the GW URL is being notified of the successful update.			
	3	The certification update failed, and the GW URL is being notified of the failed update.			
	4	The period of the certification has expired and new request for an update is being sent to the GW URL.			
	11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.			
067	12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.			
	13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.			
	14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.			
	15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.			
	16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.			
	17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.			
	18	The rescue certification of No. 17 has been recorded, and the GW URL is being notified of the failure of the certification update.			

	CERT: Error			
	Displays a number code that describes the reason for the request for update of the certification.			
	0	Normal. There is no request for certification update in progress.		
	1	Request for certification update in progress. The current certification has expired.		
068	2	An SSL error notification has been issued. Issued after the certification has expired.		
	3	Notification of shift from a common authentication to an individual certification.		
	4	Notification of a commo	n certification without ID2.	
	5	Notification that no certi	fication was issued.	
	6	Notification that GW UR	RL does not exist.	
069	CERT	: Up ID	The ID of the request for certification.	
083	Firmv	vare Up Status	Displays the status of the firmware update.	
085	Firm Up User Check		This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.	
086	Firmware Size		Allows the service technician to confirm the size of the firmware data files during the firmware update execution.	
087	CERT	: Macro Ver.	Displays the macro version of the @Remote certification.	
088	CERT	: PAC Ver.	Displays the PAC version of the @Remote certification.	
089	CERT: ID2 Code		Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asteriskes (*) indicate that no @Remote certification exists. "000000" indicates "Common certification".	
090	CERT: Subject		Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000" indicates "Common certification".	

091	CERT: Serial No.	· · ·	lays serial number for the @Remote certification. risks (*) indicate that no @Remote certification exists.
092	CERT: Issuer	certi	lays the common name of the issuer of the @Remote fication. CN = the following 30 bytes. Asteriskes () cate that no @Remote certification exists.
093	CERT: Valid Start	Displays the start time of the period for which the cu @Remote certification is enabled.	
094	CERT: Valid End	Displays the end time of the period for which the @Remote certification is enabled.	
200	Manual Polling	-	Not used
	Regist: Status		
	Displays a number that indicates the status of the @Remote service device.		
	0: Neither the @Remote device nor Embedded RCG Gate is set.		
201	1: The Embedded RCG Gate @Remote device cannot com	•	set. Only Box registration is completed. In this status, e with this device.
	2: The Embedded RCG Gate with this device.	is set. In	this status, the @Remote device cannot communicate
	3: The @Remote device is bei	ng set. l	n this status the Embedded RCG Gate cannot be set.
	4: The @Remote module has	not star	red.
202	Letter Number		entry of the request number needed for the Ided RCG Gate.
203	Confirm Execute	Execut	es the confirmation request to the @Remote Gateway.
204	Confirm Result		

	Displays a number that indicates the result of the confirmation executed with SP5816-203.					
	0: Succeeded					
	1: Confirmation number error					
	2: Registration in progress					
	3: Proxy error (proxy enable	d)				
	4: Proxy error (proxy disable	d)				
	5: Proxy error (Illegal user no	ame or pass	word)			
	6: Communication error					
	7: Certification update error					
	8: Other error					
	9: Confirmation executing					
	Confirm Place					
205	Displays the result of the notification sent to the device from the Gateway in answer to the confirmation request. Displayed only when the result is registered at the Gateway.					
206	Register Execute	Executes "	Embedded RCG Registration".			
	Register Result					
	Displays a number that indicates the registration result.					
	0: Succeeded					
	2: Registration in progress					
	3: Proxy error (proxy enabled)					
207	4: Proxy error (proxy disabled)					
	5: Proxy error (Illegal user name or password)					
	6: Communication error					
	7: Certification update error					
	8: Other error					
	9: Registration executing					
	Error Code					
208	Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.					
	Cause	Code	Meaning			

		-11001	Chat parameter error
	Illegal Modem Parameter	-11002	Chat execution error
		-11003	Unexpected error
		-12002	Inquiry, registration attempted without acquiring device status.
		-12003	Attempted registration without execution of an inquiry and no previous registration.
	Operation Error, Incorrect Setting	-12004	Attempted setting with illegal entries for certification and ID2.
		-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.
		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.

		-2385	Attempted dial up overseas without the correct international prefix for the telephone number.	
		-2387	Not supported at the Service Center	
		-2389	Database out of service	
		-2390	Program out of service	
		-2391	Two registrations for same device	
	Error Caused by Response	-2392	Parameter error	
	from GW URL	-2393	RCG device not managed	
		-2394	Device not managed	
		-2395	Box ID for RCG device is illegal	
		-2396	Device ID for RCG device is illegal	
		-2397	Incorrect ID2 format	
		-2398	Incorrect request number format	
		Releases t	he machine from its Embedded RCG Gate setup.	
209	209 Instl Clear		<b>NOTE:</b> Turn off and on the main power switch after this setting has been changed.	
250	CommLog Print	Prints the communication log.		

5821	[Remote Service Address]		
002	RCG IP Address	*CTL	Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center.

	[NV-RAM Data Upload]		
5824	Uploads the UP and SP mode data (except for counters and the serial number) from the NVRAM to an SD card. For details, see the "NVRAM Data Upload/Download" in this section.		
001	NV-RAM Data Upload	#	-

		[NV-RAM Data Download]		
58	325	Downloads the UP and SP mode data from an SD card to the NVRAM. For details "NVRAM Data Upload/Download" in this section.		
	001	NV-RAM Download	#	-

5828	[Network Setting]	*CTL	-
001	IPv4 Address (Ethernet/ IEEE 802.11)	This SP allows you to confirm and reset the IPv4 address for Ethernet and wireless LAN (802.11): aaa.bbb.ccc.ddd	
050	1284 Compatibility (Centro)	Enables or disables 1284 Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled	
052	ECP (Centro)	Enables or disables ECP Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled <b>Note</b> • This SP is activated only when SP5-828-50 is set to "1".	
065	Job Spooling	Enables/disables Job Spooling. [0 or 1 / <b>0</b> / 1 / step] 0: Disabled, 1: Enabled	
066	Job Spooling Clear: Start Time	Treatment of the job when a spooled job exists at power on. 0: ON (Data is cleared) 1: OFF (Automatically printed)	

		Validates or invalidates the job spooling function for each protocol.
		0: Validates
		1: Invalidates
		bitO: LPR
		bit1: FTP
069	Job Spooling (Protocol)	bit2: IPP
		bit3: SMB
		bit4: BMLinkS
		bit5: DIPRINT
		bitó: sftp
		bit7: (Reserved)
		Enables or disables the Telnet protocol.
090	TELNET (0: OFF 1: ON)	[0 or 1 / 1 / - ]
		0: Disable, 1: Enable
		Enables or disables the Web operation.
091	Web (0: OFF 1: ON)	[0 or 1 / 1 / - ]
		0: Disable, 1: Enable
		This is the IPv6 local address link referenced on the Ethernet
	Active IPv6 Link Local	or wireless LAN (802.11b) in the format:
145	Address	"Link Local Address" + "Prefix Length"
		The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
<u> </u>		

147	Active IPv6 Stateless Address 1		
149	Active IPv6 Stateless Address 2	These SPs are the IPv6 status addresses (1 to 5) referenced	
151	Active IPv6 Stateless Address 3	on the Ethernet or wireless LAN (802.11b) in the format: "Status Address" + "Prefix Length"	
153	Active IPv6 Stateless Address 4	The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.	
155	Active IPv6 Stateless Address 5		
		This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11b) in the format:	
156	IPv6 Manual Address	"Manual Set Address" + "Prefix Length"	
		The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.	
158	IPv6 Gateway Address	This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11b). The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.	
161	IPv6 Stateless Auto Setting	Enables or disables the automatic setting for IPv6 stateless. [0 or 1 / 1 / 1 /step] 0: Disable, 1: Enable	
236	Web Item visible	Displays or does not display the Web system items. [0 x 0000 to 0 x ffff / <b>0 x ffff</b> ] 0: Not displayed, 1: Displayed bit0: Net RICOH bit1: Consumable Supplier bit2-15: Reserved (all)	
237	Web shopping link visible	Displays or does not display the link to Net RICOH on the top page and link page of the web system. [0 to 1 / 1 / 1] 0: Not display, 1:Display	

238	Web supplies Link visible	Displays or does not display the link to Consumable Supplier on the top page and link page of the web system. [0 to 1 / 1 / 1] 0: Not display, 1:Display
239	Web Link1 Name	This SP confirms or changes the URL1 name on the link page of the web system. The maximum characters for the URL name are 31 characters.
240	Web Link1 URL	This SP confirms or changes the link to URL1 on the link page of the web system. The maximum characters for the URL are 127 characters.
241	Web Link1 visible	Displays or does not display the link to URL1 on the top page of the web system. [0 to 1 / 1 / 1] 0: Not display, 1:Display
242	Web Link2 Name	Same as "-239"
243	Web Link2 URL	Same as "-240"
244	Web Link2 visible	Same as "-241"

5840	[IEEE 802.11]		
	Channel Max	*CTL	[1 to 11 or 13 / <b>11 or 13</b> / 1 /step] Europe/Asia: 1 to 13 NA/ Asia: 1 to 11
006	<ul> <li>Sets the maximum number of channels available for data transmission via the wirel</li> <li>The number of channels available varies according to location. The default setting</li> <li>for the maximum end of the range for each area. Adjust the upper 4 bits to set the n</li> <li>number of channels. <b>DFU</b></li> </ul>		ies according to location. The default settings are set
Note     Do not change the setting.			

007	The number of channels avail	able var	[1 to 11 or 13 / 1 / 1 /step] Europe: 1 to 13 NA/ Asia: 1 to 11 available for data transmission via the wireless LAN. ies according to location. The default settings are set
	<ul> <li>Note</li> <li>Do not change the setting</li> </ul>	-	each area. Adjust the lower 4 bits to set the minimum
		·9·	
			0 x 00 to 0 x FF / 0 x FF to Auto / -] 0 x FF to Auto [Default]
			0 x 11 - 55M Fix
			0 x 10 - 48M Fix
			0 x 0F - 36M Fix
			0 x 0E - 18M Fix
			0 x 0D - 12M Fix
008	Transmission Speed	*CTL	0 x 0B - 9M Fix
			0 x 0A - 6M Fix
			0 x 07 - 11M Fix
			0 x 05 - 5.5M Fix
			0 x 08 - 1 M Fix
			0 x 13 - 0 x FE (reserved)
			0 x 12 - 72M (reserved)
			0 x 09 - 22M (reserved)
			Selects the WEP key.
			[00 to 11 / <b>00</b> / 1 binary]
011	WEP key Select	*CTL	00: Key #1
			01: Key #2 (Reserved)
			10: Key #3 (Reserved)
			11: Key #4 (Reserved)

042	Fragment Thresh	*CTL	Adjusts the fragment threshold for the IEEE802.11 card. [256 to 2346 / <b>2346</b> / 1] This SP is displayed only when the IEEE802.11 card is installed.
043	11g CTS to Self	*CTL	Determines whether the CTS self function is turned on or off. [0 to 1 / 1 / 1] 0: Off, 1: On This SP is displayed only when the IEEE802.11 card is installed.
044	11g Slot Time	*CTL	Selects the slot time for IEEE802.11. [0 to 1 / <b>0</b> / 1] 0: 20 μm, 1: 9 μm
045	WPA Debug Lvl	*CTL	Selects the debug level for WPA authentication application. [1 to 3 / <b>3</b> / 1] 1: Info, 2: warning, 3: error This SP is displayed only when the IEEE802.11 card is installed.

5842	[GWWS Analysis] DFU		
001	Setting 1	*CTL	Default: <b>00000000</b> – do not change Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
002	Setting 2	*CTL	Adjusts the debug program modesetting. Bit7: 5682 mmseg-log setting 0: Date/Hour/Minute/Second 1: Minute/Second/Msec. 0 to 6: Not used

5844	[USB]		
001	Transfer Rate	*CTL	0x01: Full speed <b>0x04: Auto Change</b>
	Adjusts the USB transfer rate.		

002	Vendor ID	*CTL	Displays the vendor ID. <b>DFU</b>
003	Product ID	*CTL	Displays the product ID. <b>DFU</b>
004	Device Release Number	*CTL	Displays the development release version number. DFU

5845	[Delivery Server Setting]	*CTL	-
5645	Provides items for delivery server settings.		
	Retry Interval		
003	Sets the time interval before the machine tries again when it goes back to standby after an error occurs during an image transfer with the SMTP server. [60 to 900 / <b>300</b> / 1]		
	No. of Retries		
004	Sets the number of times the machine tries again before it returns to standby after an error occurs during an image transfer with the delivery or SMTP server. [O to 99 / <b>3</b> / 1]		
Rapid Sending Control         022         Enables or disables the prevention function for the continuous data sending error.         [0 to 1 / 0 / -]         0: Disable, 1: Enable			
		e continuous data sending error.	

5846	[UCS Settings]	*CTL	-	
010	010       LDAP Search Timeout       [1 to 255 / 60 / 1 /step]         Sets the length of the timeout for the search of the LDAP server.		[1 to 255 / <b>60</b> / 1 /step]	
010			the LDAP server.	

	Fill Addr Acl Info.	Fill Addr Acl Info.		
	This SP must be executed immediately after installation of an HDD unit in a basic machine that previously had no HDD. The first time the machine is powered on with the new HDD installed, the system automatically takes the address book from the NVRAM and writes it onto the new HDD. However, the new address book on the HDD can be accessed only by the system administrator at this stage. Executing this SP by the service technician immediately after power on grants full address book access to all users.			
	Procedure			
041	1. Turn the machine off.			
	2. Install the new HDD.			
	3. Turn the machine on.			
	4. The address book and its i	initial data are created on the HDD automatically.		
	5. However, at this point the administrator or key operato	address book can be accessed by only the system r.		
	6. Enter the SP mode and do SP5846-041. After this SP executes successfully, a can access the address book.			
043	Addr Book Media	Displays the slot number where an address book data is in. [0 to 30 / - /1] 0: Unconfirmed 1: SD Slot 1 2: SD Slot 2 4: USB Flash ROM 20: HDD		
0.47	Initialize Local Addr Book	30: Nothing Clears the local address book information, including the		
047	Inifialize Local Addr Book	user code.		
048	Initialize Delivery Addr Book	Clears the distribution address book information, except the user code.		
049	Initialize LDAP Addr Book	Clears the LDAP address book information, except the user code.		
050	Initialize All Addr Book	Clears all directory information managed by UCS, including all user codes.		
051	Backup All Addr Book	Uploads all directory information to the SD card.		

052	Restore All Addr Book	Downloads all directory information from the SD card.		
		Deletes the address book data from the SD card in the service slot.		
		Deletes only the files that were uploaded from this machine.		
		This feature does not work if the card is write-protected.		
053	Clear Backup Info	● Note		
		<ul> <li>After you do this SP, go out of the SP mode, and then turn the power off.</li> </ul>		
		• Do not remove the SD card until the Power LED stops flashing.		
	Search option			
	This SP uses bit switches to set	up the fuzzy search options for the UCS local address book.		
	Bit: Meaning			
060	0: Checks both upper/lower	case characters		
	1: Japan Only			
	2: Japan Only			
	3: Japan Only			
	4 to 7: Not Used			
	Complexity option 1			
		ns for password entry to access the local address book. password entry to <b>upper case</b> and sets the length of the		
062	[0 to 32 / <b>0</b> / 1 /step]			
	♦ Note			
	<ul> <li>This SP does not normally require adjustment.</li> </ul>			
	<ul> <li>This SP is enabled only policy to control access</li> </ul>	after the system administrator has set up a group password to the address book.		
063	Complexity Option 2 <b>DFU</b>	Complexity Option 2 <b>DFU</b>		
064	Complexity Option 3 DFU			
065	Complexity Option 4 DFU			
094	Encryption Stat	Shows the status of the encryption function for the address book data.		

	[Web Service]	*CTL -	
5848	5848 2 sets the 4-bit switch assignment for the access control setting. Setting of 0001 has no effect on access and delivery from Scan Router.		
	5848 100 sets the maximum size of to 1 gigabyte.	allowed for downloaded images. The default is equal	
004	Access Control: User Directory (Lower 4 bits)		
009	Access Ctrl: Job Ctrl (Lower 4 bits)		
011	Access Ctrl: Device management	Switches access control on and off.	
022	Access Ctrl: uAdministration (Lower 4bits)	<b>0000</b> : No access control 0001: Denies access to DeskTop Binder.	
210	Setting: LogType: Job 1		
211	Setting: LogType: Job2		
212	Setting: LogType: Access		
213	Setting: Primary Srv	DFU	
214	Setting: Secondary Srv	Specifies the max size of the image data that the machine can download. [1 to 1024 / <b>1024</b> / 1 MB /step]	
215	Setting: Start Time		
216	Setting: Interval Time	NIA	
217	Setting: Timing		

5849	[Installation Date]	*CTL	-	
5849 1	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".		
5849.2 Switch to Print		Determines whether the installation date is printed on the printout for the total counter. [0 or 1 / 1 / -]		
J047 Z	Switch to Film	0: OFF (N 1: ON (P	No Print)	

	Total Counter	-
	[Bluetooth ]	

5851	Sets the operation mode for the Bluetooth Unit. Press either key.
	[O:Public] [1: Private]

	[Remote ROM Update]			
<b>5856</b> Allows the technician to upgrade the firmware using a loc updating the remote ROM.		rare using a local port (IEEE1284) when		
002	Local Port	*CTL	[0 to 1 / <b>0</b> / 1/step] 0: Disable 1: Enable	

5857	[Save Debug Log]	*CTL	-	
	On/Off (1:ON 0:OFF)	<b>0</b> : OFF, 1: ON		
001	Switches the debug log feature on and off. The debug log cannot be captured until this feature is switched on.			
	Target (2: HDD 3: SD)	<b>2</b> : HDD,	3: SD Card	
002	Selects the storage device to save debug logs information when the conditions set with SP5-858 are satisfied. [ 2 to 3 / <b>2</b> / 1 / step]			
	Save to HDD			
005	r in memory to the HDD. verwriting existing file names on the SD Card. 4 MB segments can be copied one by one to			
	Save to SD Card			
006	Saves the debug log of the input SC number in memory to the SD card.			
009	Copy HDD to SD Card (Latest 4	MB)		
010	Copy HDD to SD Card (Latest 4 MB Any Key)			

011	Erase HDD Debug Data	
012	Erase SD Card Debug Data	
013	Free Space on SD Card	
014	Copy SD to SD (Latest 4 MB)	
015	Copy SD to SD (Latest 4 MB Any Key)	
016	Make HDD Debug	
017	Make SD Debug	

	[Debug Save When]	*CTL	-
5858These SPs select the content of the debugging information to be saved to the selected by SP5857-002. SP5858-3 stores one SC specified by number. Refer to Section 4 for a list of S			
001	Engine SC Error (0: OFF, 1: ON)	Turns on/off the debug save for SC codes generated by copier engine errors. [0 or 1 / <b>0</b> / 1/ step]	
002	Controller SC Error (0: OFF, 1: ON)	Turns on/off the debug save for SC codes generated by GW controller errors. [0 or 1 / <b>0</b> / 1/ step]	
003	Any SC Error	[0 to 655	35 / <b>0</b> / 1 /step]
004	Jam (0: OFF, 1: ON)	Turns on/	off the debug save for jam errors.
		1	

5859 [Debug Save Key No.]	*CTL	-
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001	Key 1	
002	Key 2	
003	Key 3	
004	Key 4	These SPs allow you to get up to 10 keys for the first
005	Key 5	These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller
006	Кеу б	board. [-9999999 to 9999999 / <b>0</b> / - ]
007	Key 7	[
008	Key 8	
009	Key 9	
010	Key 10	

5860	[SMTP/POP3/IMAP4]	*CTL -			
002	SMTP Svr Port No.			[1 to 65535 / <b>25</b> / 1]	
002	This SP sets the number of the SMTP server port.				
	SMTP Authentication			[0 or 1 / <b>0</b> / -]	
003	SMIT Autenication			0: Off, 1: On	
	This setting switches SMTP certification on and off for mail sending.				
				[0 to 2/0/1]	
006	SMTP Auth Encryption			0: Automatic, 1: No encryption done, 2: Encryption done	
	This setting determines whether the password for SMTP certification is encrypted.				
				[0 or 1 / <b>0</b> / -]	
	POP Before SMTP			0: No connection to POP server	
007			1: Connection to POP server		
	This setting determines whether the transmission connects with the POP server first for certification before it connects to the SMTP server for sending.				

	POP to SMTP Waiting	[0 to 10000 / <b>300</b> / 1]		
008		the amount of time to allow for the connection to the SMTP server after the has connected to the POP server and been certified during the execution of POP TP.		
		[1 to 3 / 1 / 1]		
	Mail Receive Protocol	0: No receiving, 1: POP3 protocol		
009		2: IMAP4 protocol, 3: SMTP protocol		
	This SP specifies a protocol for the mail	reception or switches off receiving.		
		[0 to 2 / 0 / 1]		
013	POP3/IMAP4 Auth.	0: Automatic, 1: No encryption done, 2: Encryption done		
	This SP specifies whether password encryption is done for POP3/IMAP4 certification.			
	POP3 Srv Port No	[1 to 65535 / <b>110</b> / 1]		
014	This SP sets the number of the POP3 server port.			
015	IMAP4 Srv Port No	[1 to 65535 / <b>143</b> / 1]		
015	This SP sets the number of the IMAP4 server port.			
	SMTP5 Rcv Port No	[1 to 65535 / <b>25</b> / 1]		
016	This SP sets the number of the port that receives SMTP mail.			
	Mail Rx Interval	[2 to 1440 / <b>15</b> / 1 min.]		
017	This SP sets the timing for mail received at regular intervals.			
	Note: Setting this SP to "O" switches off receiving mail at timed intervals.			
		[0 to 2 / 0 / 1]		
		O: Received mail not stored		
010	Mail Keep Setting.	1: All received mail stored		
019		2: Stores only mail that generated errors during receiving		
	This SP setting determines whether received mail is stored on the server.			

	Partial Mail Receive Timeout			[1 to 168 / <b>72</b> / 1 hour/step]			
020	Sets the amount of time to wait before saving a mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time.						
	MDN Response RFC2298 Con	mpliance		[0 to 1 / 1 / - ]			
021	Determines whether RFC2298	complian	ce is switche	ed on for MDN reply mail.			
	0: No						
	1: Yes						
	SMTP Auth. From Field Replace	ement		[0 to 1 / 0 / - ]			
022		Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated.					
	0: No. "From" item not switche	ed.					
	1: Yes. "From item switched.						
	SMTP Auth. Direct Setting			[0 or 1 / <b>0</b> / – ]			
	Selects the authentication method for SMPT.						
	Bit switch:						
	Bit 0: LOGIN						
025	Bit 1: PLAIN						
	Bit 2: CRAM MD5						
	Bit 3: DIGEST MD5						
	• Bit 4 to 7: Not used						
	Note						
	• This SP is activated only when SMTP authorization is enabled by UP mode.						
	S/MIME: MIME Header		Selects the MIME header type of an E-mail sent by S/MIME.				
026			[0 to 2 / 0 / 1]				
020			0: Microsoft Outlook Express standard				
			1: Internet Draft standard				
			2: RFC star	ndard			

5866
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005 Add Date Field *CTI	Adds or does not add the date field to the header of the alert mail. [0 or 1 / <b>0</b> / – ] 0: Not added, 1: Added
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5869	[RAM Disk Setting]		
001	Mail Function	*CTL #	[0 to 1 / 0 / 1/step] 0: ON, 1: OFF
Enables or disables the e-mail transfer function. This SP sets the RAM disk mail transfer function.		er function. This SP sets the RAM disk size for the e-	

5870	[Common Key Info Writing]		
001	Writing	*CTL	Writes to flash ROM the common proof for validating the device for @Remote specifications.
003	Initialize	*CTL	Initializes the data area of the common proof for validating.

5873	[SD Card Appli Move]		
001	Move Exec	This SP copies the application programs from the original SD card in SD card slot 2 to an SD card in SD card slot 1.	
002	Undo Exec	This SP copies back the application programs from an SD card in SD Card Slot 2 to the original SD card in SD card slot 1. Use this menu when you have mistakenly copied some programs by using "Move Exec" (SP5873-1).	

5878	[Option Setup]		
001	Data Overwrite Security	-	Enables the Data Overwrite Security unit. Press "EXECUTE" on the operation panel. Then turn the machine off and on.
002	HDD Encryption	-	Installs the HDD Encryption unit.

5883	[Line Speed Selection]	
5005	Selects the line speed for middle thick paper.	

001 Mi	iddle Thick		[0 or 1 / 1 / 1 /step] 0: MID CARD: Half Speed (115 mm/sec) 1: MID CARD: Normal Speed (P2c: 154, P2d: 205 mm/sec)
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5887	[SD Get Counter]			
500/	This SP determines whether the ROM can be updated.			
001	-	*CTL	<ul> <li>This SP sends a text file to an SD card inserted in SD card Slot 2 (lower slot). The operation stores.</li> <li>The file is stored in a folder created in the root directory of the SD card called SD_COUNTER.</li> <li>The file is saved as a text file (*.txt) prefixed with the number of the machine.</li> <li>1. Insert the SD card in SD card Slot 2 (lower slot).</li> <li>2. Select SP5887 then touch [EXECUTE].</li> <li>Touch [Execute] in the message when you are prompted.</li> </ul>	

5888	[Personal Information Protect]		
001	-	*CTL	Selects the protection level for logs. [0 to 1 / <b>0</b> / 1} 0: No authentication, No protection for logs 1: No authentication, Protected logs (only an administrator can see the logs)

5893	[SDK Application Counter]	*CTL	-		
5675	Displays the counter name of each SDK application.				
001	SDK-1	SDK-1			
002	SDK-2				
003	SDK-3				
004	SDK-4				

## 8. Appendix: SP Mode Tables

005	SDK-5
006	SDK-5

5907	[Plug & Play Maker/Model Name]	
	Selects the brand name and the production name for Windows Plug & Play. This information is stored in the NVRAM. If the NVRAM is defective, these names should be registered again.	
	After selecting, press the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.	

5930	[Meter Click Ch.] Meter Click Charge		
5930 001	Meter Click Ch.	*EGB	Enables or disables the Meter Charge mode. When enabling the Meter Charge mode, the "Counter" menu is added to the user menu. [0 or 1 / 0 / -] 0: OFF, 1: ON
5930 010	PCU	*EGB	Displays or does not display the end display for the PCU. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / -] 0: OFF, 1: ON
5930 014	Mid Trans Unit	*EGB	Displays or does not display the end display for the image transfer belt unit. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / -] 0: OFF, 1: ON
5930 016	Fusing Unit.	*EGB	Displays or does not display the end display for the fusing unit. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / -] 0: OFF, 1: ON

5990	[SP print mode]
5990	Prints out the SMC sheets.

001	All (Data List)	-	
002	SP (Mode Data List)	-	
004	Logging Data	-	
005	Diagnostic Report	-	
006	Non-Default	-	
007	NIB Summary	-	-
008	Capture Log	-	
021	Copier User Program	-	
022	Scanner SP	-	
023	Scanner User Program	-	

	[Print Area]			
5996	Selects the print area mode. When you selects "1 (Enlarge)", the edge-to-edge print mode can be available.			
001	Normal/Enlarge	*CTL	[0 or 1 / <b>0</b> / 1/step] 0: Normal, 1: Enlarge	

5998	[Fusing Cont mode] Fusing Control Mode			
	Turns the silent fusing warm-up mode on or off.			
001	fast/silent	*ENG	[0 or 1 / 1 / - ] 0: Silent (less noise) 1: Fast (less time)	

## SP6-XXX (Peripherals)

6128	[Punch Position: Sub Scan]
0120	Adjusts the punching position in the sub scan direction.

## 8. Appendix: SP Mode Tables

001	1.Domestic 2Hole (Europe 2Hole)	*ENG	
002	2.North America 3Hole	*ENG	
003	3.Europe 4Hole	*ENG	[-7.5 to 7.5 / <b>0</b> / 0.5 mm/step]
004	4.North Europe 4Hole	*ENG	
005	5.North Europe 2Hole	*ENG	

6129	[Punch Position: Main Scan]			
0129	Adjusts the punching position in the main scan direction.			
001	1.Domestic 2Hole (Europe 2Hole)	*ENG		
002	2.North America 3Hole	*ENG		
003	3.Europe 4Hole	*ENG	[-2.0 to 2.0 / <b>0</b> / 0.4 mm/step]	
004	4.North Europe 4Hole	*ENG		
005	5.North Europe 2Hole	*ENG		

6130	[Skew Correction: Buckle Adj.]
	Adjusts the paper buckle for each paper size.

001	A3T	*ENG	
002	B4T	*ENG	
003	A4T	*ENG	
004	A4Y	*ENG	
005	B5T	*ENG	
006	B5Y	*ENG	[-5.0 to 5.0 / <b>0</b> / 0.25 mm/step]
007	DLT-T	*ENG	[-3.0 10 3.0 / 0 / 0.23 mm/siep]
008	LG-T	*ENG	
009	LT-T	*ENG	
010	LT-Y	*ENG	
011	12" x 18"	*ENG	
012	Other	*ENG	

	[Skew Correction Control]	
6131	Selects the skew correction control for each paper size. These are only activated for B793/ B805.	

001	A3T	*ENG	
002	B4T	*ENG	
003	A4T	*ENG	
004	A4Y	*ENG	
005	B5T	*ENG	
006	B5Y	*ENG	[0 or 1 / 1 / 1/step]
007	DLT-T	*ENG	0: No (No skew correction) 1: Roller Stop Skew Correction
008	LG-T	*ENG	
009	LT-T	*ENG	
010	LT-Y	*ENG	
011	12" x 18"	*ENG	
012	Other	*ENG	

	[Jogger Fence Fine Adj]
6132	This SP adjusts the distance between the jogger fences and the sides of the stack on the finisher stapling tray in the (Booklet) Finisher B793/B805. The adjustment is done perpendicular to the direction of paper feed.

001	A3T	*ENG	
002	B4T	*ENG	
003	A4T	*ENG	
004	A4Y	*ENG	
005	B5T	*ENG	[-1.5 to 1.5 / <b>0</b> / 0.5 mm/step]
006	B5Y	*ENG	+ Value: Increases distance between jogger fences and the sides of the stack.
007	DLT-T	*ENG	- Value: Decreases the distance between the
008	LG-T	*ENG	jogger fences and the sides of the stack.
009	LT-T	*ENG	
010	LT-Y	*ENG	
011	12" x 18"	*ENG	
012	Other	*ENG	

	[Staple Position Adjustment]		
6133	Adjusts the staple position for each finisher (B793/B805).		
	+ Value: Moves the staple position to the rear side.		ne rear side.
	- Value: Moves the staple posit	ion to th	e front side.
001	Staple Position Adju (B793/ B805)	*EN G	[-3.5 to 3.5 / <b>0</b> / 1/step]

6134	[Saddle Stitch Position Adjustment]	
	Use this SP to adjust the stapling position of the booklet stapler when paper is stapled and folded in the Booklet Finisher B793.	

001	A3T	
002	B4T	[-3.0 to 3.0 / <b>0</b> / 0.2 mm/step]
003	A4T	+ Value: Shifts staple position toward the crease.
004	B5T	- Value: Shifts staple position away from the crease.
005	DLT-T	Feed Out
006	LG-T	Ĩ
007	LT-T	1
008	12" x 18"	$\underbrace{}_{\oplus} \leftarrow \rightarrow \ominus$
009	Other	

6135	[Folder Position Ad	.]
	This SP corrects the f B793.	olding position when paper is stapled and folded in the Booklet Finisher
001	A3T	
002	B4T	[-3.0 to 3.0 / 0 / 0.2 mm/step]
003	A4T	+ Value: Shifts staple position toward the crease.
004	B5T	- Value: Shifts staple position away from the crease.
005	DLT-T	Feed Out
006	LG-T	
007	LT-T	
008	12" x 18"	
009	Other	

6136	[Folding Number]	
	Sets the number of times that folding is done in the Booklet Finisher B793.	
001	-	[2 to 30 / <b>2</b> / 1 time/step]

6137	[Fin. Free Run] Not used	
	These SPs are used only for B793 finisher.	
001	Free Run 1	Free run for paper edge stapling.
002	Free Run 2	Free run for booklet stapling.
003	Free Run 3	Shipping free run. Simulates standby conditions during shipping.
004	Free Run 4	DFU

6138	[FIN (TIG) INPUT Check] Finisher (B793) Input Check
	Displays the signals received from sensors and switches of the booklet finisher. ( Input Check Table)

6139	[FIN (KIN) INPUT Check] Finisher (B408) Input Check	
	Not used in this machine.	

6140	[FIN (EUP) INPUT Check] Finisher (B805) Input Check	
	Displays the signals received from sensors and switches of the finisher. (🖝 "Input Check Table" in this section)	

6142	[FIN (JAK) INPUT Check]
	Displays the signals received from sensors and switches of the finisher. (🖝 "Input Check Table" in this section)

6143	[FIN (TIG) OUPUT Check] Finisher (B793) Output Check	
	Activates each devices in the finisher. (🖝 "Output Check Table" in this section)	

6144	[FIN (KIN) OUPUT Check] Finisher (B408) Output Check
	Not Used in this machine.
6145	[FIN (EUP) OUPUT Check] Finisher (B805) Output Check

Displays the signals received from sensors and switches of the finisher. ( "Output Check Table" in this section)
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6147	[FIN (JAK) OUPUT Check]
	Activates each device in the mail bin unit. ( "Output Check Table" in this section)

6148	[Jogger Fine Adj]	*ENG	Fine Adjust Output Jogger Unit Fences
001	АЗТ		
002	B4T		
003	A4T	This SP cc	rrects the distance between the jogger fences and the
004	A4Y	<ul> <li>Inits 31 contects the distance between the jogger tences and the sides of the stack when the output jogger unit attached to the side of the machine jogs sheets as they exit the finisher.</li> <li>+ Value:</li> <li>Increases distance between jogger fences and the sides of the stack.</li> <li>- Value:</li> <li>Decreases the distance between the jogger fences and the side of the stack.</li> <li>[-1.5 to 1.5 / 0 / 0.5 mm/step]</li> </ul>	e stack when the output jogger unit attached to the side
005	B5Y		chine jogs sheets as they exit the tinisher.
006	A5Y		distance between jogger fences and the sides of the
007	DLT-T		
008	LG-T		s the distance between the jogger fences and the sides
009	LT-T		-k.
010	LT-Y		.5 / <b>0</b> / 0.5 mm/step]
011	HLT-Y		
012	Other		

6149	[Max. Pre-Stack S	heet]	*ENG	Number of Pre-Stack Sheets	
	This SP sets the number of sheets sent to the pre-stack tray.				
	Note:				
	You may need to adjust this setting or switch it off when feeding thick or slick paper.				
001	-	[0 to 3 / <b>3</b> / 1	sheet/step]		

6150		[INPUT Check]	
	6150	Displays the signals received from sensors and switches of the bridge unit (D386) ( "Input Check Table" in this section).	

6151	[OUTPUT Check]
	Activates each device in the brisge unit (D386). (🖝 "Output Check Table" in this section).

6152	[INPUT Check]
	Not used in this machine.

6153	[OUTPUT Check]
	Not used in this machine.

	[OUTPUT Check]
6157	Displays the signals received from sensors and switches of the mail bin unit (G835). ( "Input Check Table" in this section).

	[INPUT Check]
6160	Displays the signals received from sensors and switches of the one tray paper feed unit (D387), two-tray paper feed unit (D351) and LCT 2000 (D352). ( "Input Check Table" in this section)

	[OUTPUT Check]
6161	Activates each device in the one tray paper feed unit (D387), two-tray paper feed unit (D351) and LCT 2000 (D352). ( UD351) UD351 ( UD351) and LCT 2000 (D352).

## SP7-XXX (Data Log)

7401	[Total SC Counter]		
7401	Displays the number of SC codes detected.		
001	SC Counter *CTL		[0 to 9999 / <b>0</b> / 1/step ]

	[SC History]				
7403 Logs the SC codes detected.					
	The 10 most recently detected SC Codes are not displayed on the screen, but can be seen on the SMC (logging) outputs.				
001	Latest				
002	Latest 1				
003	Latest 2	*CTL			
004	Latest 3				
005	Latest 4				
006	Latest 5		-		
007	Latest 6				
008	Latest 7				
009	Latest 8				
010	Latest 9				

7502	[Total Paper Jam Counter]			
7302	Displays the total number of jams detected.			
001	Total Jam         * CTL         [0 to 9999 / 0 / 1 sheet/step ]			

7504	[Paper Jam Location] ON: On check, OFF: Off Check
7304	Displays the number of jams according to the location where jams were detected. <b>NOTE:</b> The LCT is counted as the 3rd feed station.

001	At Power On	*CTL	
003	Tray 1: ON	*CTL	1
004	Tray 2: ON	*CTL	-
005	Tray 3: ON	*CTL	-
006	Tray 4: ON	*CTL	-
007	LCT : ON	*CTL	-
008	Bypass: ON	*CTL	-
009	Duplex: ON	*CTL	
011	Vertical Transport 1: ON	*CTL	
012	Vertical Transport 2: ON	*CTL	
013	Bank: Transport Sn 1	*CTL	
014	Bank: Transport Sn2	*CTL	For details, see "Jam Detection" in the
017	Registration: ON	*CTL	"Appendix: Jam Detection" section.
018	Fusing Entrance: ON	*CTL	
019	Fusing Exit: ON	*CTL	
020	Paper Exit: ON	*CTL	
021	Bridge Exit: ON	*CTL	
022	Bridge Transport: ON	*CTL	
024	Junction Gate Sensor : On	*CTL	
025	Duplex Exit: ON	*CTL	
026	Duplex Entrance: ON (Out)	*CTL	
027	Duplex Entrance: ON (Out)	*CTL	
051	Vertical Transport 1: Off	*CTL	
052	Vertical Transport 2: Off	*CTL	

			-
053	Bank Transport 1: Off	*CTL	
054	Bank Transport 2: Off	*CTL	
057	Registration Sensor: Off	*CTL	
058	LCT Feed Sensor : Off	*CTL	
060	Paper Exit Off	*CTL	
061	Bridge Exit: Off	*CTL	For details, see "Jam Detection" in the
062	Bridge Transport: Off	*CTL	"Appendix: Jam Detection" section.
064	Junction Gate Sensor : Off	*CTL	
065	Duplex Exit: Off	*CTL	
066	Duplex Entrance: Off (In)	*CTL	
067	Duplex entrance : Off (Out)	*CTL	
100	Finisher Entrance: KIN	*CTL	

191	Finisher Entrance: EUP	*CTL	
192	Finisher Proof Exit: EUP	*CTL	
193	Finisher Shift Tray Exit: EUP	*CTL	
194	Finisher Stapler Exit: EUP	*CTL	-
195	Finisher Exit: EUP	*CTL	-
198	Finisher Folder: EUP	*CTL	-
199	Finisher Tray Motor: EUP	*CTL	-
200	Finisher Jogger Motor: EUP	*CTL	-
201	Finisher Shift Motor: EUP	*CTL	For details, see "Jam Detection" in the "Appendix: Jam Detection" section.
202	Finisher Staple Moving Motor: EUP	*CTL	
203	Finisher Staple Motor: EUP	*CTL	-
204	Finisher Folder Motor: EUP	*CTL	-
206	Finisher Punch Motor: EUP	*CTL	-
220	Transport 1: On	*CTL	-
221	Transport 1: Off	*CTL	
222	Transport 2: On	*CTL	
223	Transport 2: Off	*CTL	
	•		•

7506	[Jam Count by Paper Size]
	Displays the number of jams according to the paper size.

	1		į
005	A4 LEF		
006	A5 LEF		
014	B5 LEF		
038	LT LEF		
044	HLT LEF		
132	A3 SEF		
133	A4 SEF		
134	A5 SEF	*CTL	[0 to 9999 / <b>0</b> / 1 sheet/step ]
141	B4 SEF		
142	B5 SEF		
160	DLT SEF		
164	LG SEF		
166	LT SEF		
172	HLT SEF		
255	Others		

7507	[Plotter Jam History]
7507	Displays the 10 most recently detected paper jams.

001	Latest		
002	Latest 1		°CTL -
003	Latest 2		
004	Latest 3		
005	Latest 4	*CTI	
006	Latest 5	CIL	
007	Latest 6		
008	Latest 7		
009	Latest 8		
010	Latest 9		

7801	[Memory/Version/PN]		
255	Engine	*CTL	Displays all versions and ROM numbers in the machine.

7803	[PM Counter Display] (Page, Unit, [Color])		
	Displays the number of sheets printed for each current maintenance unit. PM counters click up based on the number of A4 (LT) LEF size sheets printed. Therefore, the A3 (DLT) Double Count is activated. The Double Count cannot be deactivated.		
	When a unit is replaced, the machine automatically detects that the new unit is installed. Then, the current PM counter value is automatically moved to the PM Counter - Previous (SP7-906-1 to 10) and is reset to "0".		
	The total number of sheets printed with the last unit replaced can be checked with SP7-906-1 to 10. NOTE: The LCT is counted as the 3rd feed station.		
001	Paper	*CTL	-

002	Page: K Drum Unit		
003	Page: M Drum Unit		
004	Page: C Drum Unit		
005	Page: Y Drum Unit		
006	Page: K Dev Unit		
007	Page: M Dev Unit		
008	Page: C Dev Unit		
009	Page: Y Dev Unit		
010	Page: K Developer	*ENG	-
011	Page: M Developer		
012	Page: C Developer		
013	Page: Y Developer		
014	Page: ITB Unit		
015	Page: Belt Cleaning Unit		
016	Page: Fusing Unit		
017	Page: PTR Unit		
018	Page: Toner Collection Bottle		
	Displays the number of revolutions of m	otors or clu	tches for each current maintenance unit.
	[ 0 to 9999999 / <b>0</b> / 1 revolution/ste	p]	
	When a unit is replaced, the machine automatically detects that the new unit is installed. Then, the current PM counter value is automatically moved to the PM Counter - Previous (SP7-906-11 to 20) and is reset to "0". The total number of revolutions made with the last unit replaced can be checked with SP7-906-11 to 20.		

031	Rotation: K Drum Unit		
032	Rotation: M Drum Unit		
033	Rotation: C Drum Unit		
034	Rotation: Y Drum Unit		
035	Rotation: K Dev Unit		
036	Rotation: M Dev Unit		
037	Rotation: C Dev Unit		
038	Rotation: Y Dev Unit		
039	Rotation: K Developer	*ENG	[0 to 999999999/-/1 mm/step]
040	Rotation: M Developer		
041	Rotation: C Developer		
042	Rotation: Y Developer		
043	Rotation: ITB Unit		
044	Rotation: Cleaning Unit		
045	Rotation: Fusing Unit		
046	Rotation: PTR Unit		
047	Measurement: Toner Collection bottle		
	Displays the value given by the following	ı formula:	-
	(Current revolution ÷ Target revolution) × lifetime has been used up.	100. This s	hows how much of the unit's expected
	The Rotation% counter is based on rotations, not prints. If the number of rotations reaches the limit, the machine enters the end condition for that unit. If the print count lifetime is reached first, the machine also enters the end condition, even though the R% counter is still less than 100%.		

061	Rotation (%): K Drum Unit		
062	Rotation (%): M Drum Unit		
063	Rotation (%): C Drum Unit		
064	Rotation (%): Y Drum Unit		
065	Rotation (%): K Dev Unit		
066	Rotation (%): M Dev Unit		
067	Rotation (%): C Dev Unit		
068	Rotation (%): Y Dev Unit		
069	Rotation (%): K Developer	*ENG	[0 to 255 / - / 1 %/step]
070	Rotation (%): M Developer		
071	Rotation (%): C Developer		
072	Rotation (%): Y Developer		
073	Rotation (%): ITB Unit		
074	Rotation (%): Cleaning Unit		
075	Rotation (%): Fusing Unit		
076	Rotation (%): PTR Unit		
077	Measurement (%): Toner Collection bottle		
	Displays the value given by the following form	nula:	•
	(Current printouts ÷ Target printouts) × 100. This shows how much of the unit's expected lifetime has been used up.		
	The Page% counter is based on printouts, not revolutions. If the number of printouts reaches the limit, the machine enters the end condition for that unit. If the revolution count lifetime is reached first, the machine also enters the end condition, even though the Page% counter is still less than 100%.		

091	Page (%): K PCU (Drum Unit)		
092	Page (%): M PCU (Drum Unit)	_	
093	Page (%): C PCU (Drum Unit)	-	
		_	
094	Page (%): Y PCU (Drum Unit)	-	
095	Page (%): K Dev Unit	_	
096	Page (%): M Dev Unit		
097	Page (%): C Dev Unit		
098	Page (%): Y Dev Unit	*ENG	[0 + 255 / / 1 % / atom]
099	Page (%): K Developer	EING	[0 to 255 / - / 1 %/step]
100	Page (%): M Developer	-	
101	Page (%): C Developer		
102	Page (%): Y Developer		
103	Page (%): ITB Unit		
104	Page (%): Cleaning Unit		
105	Page (%): Fusing Unit		
106	Page (%): PTR Unit		
111	Yield(%):PCU:K		
112	Yield(%):PCU:Col		
113	Reserved	*ENG	
114	Yield(%):PTR Unit	ENG	[-999 to 999 / <b>100</b> / 1% / step]
115	Yield(%):ITB		
116	Yield(%):Fusing		

7804	[PM Counter Reset] PM Counter Clear		
7 004	(Unit, [Color])		

	Clears the PM counter.
	Press the Enter key after the machine asks in SP7-906 (PM Counter - Previous) and (SP7-803) to "0".
002	PCU (Drum Unit): Bk
003	PCU (Drum Unit): M
004	PCU (Drum Unit): C
005	PCU (Drum Unit): Y
006	PCU (Drum Unit): All
007	Development Unit: Bk
008	Development Unit: M
009	Development Unit: C
010	Development Unit: Y
011	Development Unit: All
012	Developer: Bk
013	Developer: M
014	Developer: C
015	Developer: Y
016	Developer: All
017	ITB Unit
018	Cleaning Unit
019	Fusing Unit
020	PTR Unit
021	Toner Collection Bottle
100	All

7807	[SC/Jam Counter Reset]		
	Clears the counters related to S	SC code	s and paper jams.
001	SC/Jam Clear	-	-

	7832	[Self-Diagnose Result Display]			
		Displays the result of the diagn	ostics.		
	001	Diag. Result	*CTL	-	

7836	Total Memory Size		
	Displays the memory capacity of the controller system.		

	[Coverage Range]			
	Sets the color coverage threshold.			
	Coverage rate = Coverage per page / A4 full coverage (dots) x 100			
	There are three coverage counters: Color 1, Color 2, and Color 3			
	• [A] 5% (default) is adjustable with SP7855-001.			
	• [B] 20% (default) is adjustable with SP7855-002.			
7855	[A] [B] Color1 Color2 Color3			
7855	coverage 0% 200%			
	Note			
	• The setting value [B] must be set larger than [A].			
	The total numbers of printouts (BW printing plus color printing) for each coverage range are displayed with the following SPs.			
	Color1 counter: SP8601-021			
	Color2 counter: SP8601-022			
	Color3 counter: SP8601-023			
001	Coverage Range 1 *CTL [1 to 200 / 5 / 1]			
002	Coverage Range 2 *CTL [1 to 200 / 20 / 1]			

	[Assert Info]			
7901	Records the location where a problem is detected in the program. The data stored SP is used for problem analysis. <b>DFU</b>			
001	File Name			
002	Number of Lines	*CTL	-	
003	Location			

[Prev. Unit PM Counter]           7906         (Page or Rotations, Unit, [Color]), Dev.: Development Unit	

001	Page: K Drum Unit		
002	Page: M Drum Unit		
003	Page: C Drum Unit	•	
004	Page: Y Drum Unit	•	
005	Page: K Dev Unit		
006	Page: M Dev Unit		
007	Page: C Dev Unit		
008	Page: Y Dev Unit	•	
009	Page: K Developer	*ENG	[0 to 9999999 / <b>0</b> / 1 page/step ]
010	Page: M Developer		
011	Page: C Developer		
012	Page: Y Developer		
013	Page: ITB Unit		
014	Page: Cleaning Unit		
015	Page: Fusing Unit		
016	Page: PTR Unit		
017	Page: Toner Collection Bottle		
	Displays the number of revolutions for	motors or a	clutches in the previous maintenance units.

031	Rotation: K Drum Unit		
032	Rotation: M Drum Unit		
033	Rotation: C Drum Unit		
034	Rotation: Y Drum Unit		
035	Rotation: K Dev Unit	•	
036	Rotation: M Dev Unit	•	
037	Rotation: C Dev Unit	•	
038	Rotation: Y Dev Unit		
039	Rotation: K Developer	*ENG	[0 to 9999999 / <b>0</b> / 1 mm/step ]
040	Rotation: M Developer	•	
041	Rotation: C Developer	•	
042	Rotation: Y Developer		
043	Rotation: ITB Unit	•	
044	Rotation: Cleaning Unit		
045	Rotation: Fusing Unit	•	
046	Rotation: PTR Unit		
047	Measurement: Toner Collection bottle		
	Displays the number of sheets printed v	with the pre	evious maintenance unit or toner cartridge.

061	Rotation (%): K Drum Unit		
062	Rotation (%): M Drum Unit		
063	Rotation (%): C Drum Unit		
064	Rotation (%): Y Drum Unit		
065	Rotation (%): K Dev Unit		
066	Rotation (%): M Dev Unit		
067	Rotation (%): C Dev Unit		
068	Rotation (%): Y Dev Unit		
069	Rotation (%): K Developer	*ENG	[0 to 255 / <b>0</b> / 1 %/step ]
070	Rotation (%): M Developer		
071	Rotation (%): C Developer		
072	Rotation (%): Y Developer		
073	Rotation (%): ITB Unit		
074	Rotation (%): Cleaning Unit		
075	Rotation (%): Fusing Unit	•	
076	Rotation (%): PTR Unit	•	
077	Measurement (%): Toner Collection bottle		
	Displays the value given by the followi	ing formula	:
	(Current count ÷ Yield count) x 100, wh for the part, and "Yield count" is the re		ent count" is the current values in the counter ed yield.

091	Page (%): K Drum Unit		*ENG [0 to 255 / <b>0</b> / 1 %/step ]
092	Page (%): M Drum Unit		
093	Page (%): C Drum Unit	-	
094	Page (%): Y Drum Unit		
095	Page (%): K Dev Unit		
096	Page (%): M Dev Unit		
097	Page (%): C Dev Unit	-	
098	Page (%): Y Dev Unit	*ENG	
099	Page (%): K Developer		
100	Page (%): M Developer		
101	Page (%): C Developer		
102	Page (%): Y Developer		
103	Page (%): ITB Unit		
104	Page (%): Cleaning Unit		
105	Page (%): Fusing Unit		
106	Page (%): PTR Unit		

7931	[Toner Bottle Bk]
	Displays the toner bottle information for Bk.

001Machine Serial ID002Cartridge Ver	
002 Cartridge Ver	
003 Brand ID	
004 Area ID	
005 Product ID	
006 Color ID	
007 Maintenance ID	
008 New Product Information	
009 Recycle Counter	
010 Date	
011 Serial No.	*ENG
012 Toner Remaining	
013 EDP Code	
014 End History	
015 Refill Information	
016 Attachment: Total Counter	
017 Attachment: Color Counter	r
018 End: Total Counter	
019 End: Color Counter	
020 Attachment Date	
021 End Date	

7932	[Toner Bottle M]
	Displays the toner bottle information for M.

001	Machine Serial ID		
002	Cartridge Ver	-	
003	Brand ID		
004	Area ID		
005	Product ID	-	
006	Color ID	-	
007	Maintenance ID		
008	New Product Information		
009	Recycle Counter		
010	Date		
011	Serial No.	*ENG	
012	Toner Remaining		
013	EDP Code		
014	End History		
015	Refill Information		
016	Attachment: Total Counter		
017	Attachment: Color Counter		
018	End: Total Counter		
019	End: Color Counter		
020	Attachment Date		
021	End Date		

7933	[Toner Bottle C]
	Displays the toner bottle information for C.

001Machine Serial ID002Cartridge Ver003Brand ID004Area ID005Product ID	
003     Brand ID       004     Area ID	
004 Area ID	
005 Product ID	
006 Color ID	
007 Maintenance ID	
008 New Product Information	
009 Recycle Counter	
010 Date	
011 Serial No. *ENG	G
012 Toner Remaining	
013 EDP Code	
014 End History	
015 Refill Information	
016 Attachment: Total Counter	
017 Attachment: Color Counter	
018 End: Total Counter	
019 End: Color Counter	
020 Attachment Date	
021 End Date	

7934	[Toner Bottle Y]
1	Displays the toner bottle information for Y.

001	Machine Serial ID			
002	Cartridge Ver			
003	Brand ID	-	_	
004	Area ID			
005	Product ID			
006	Color ID			
007	Maintenance ID	-		
008	New Product Information			
009	Recycle Counter	*ENG		
010	Date		*ENG	1
011	Serial No.			
012	Toner Remaining	-		
013	EDP Code	-		
014	End History			
015	Refill Information			
016	Attachment: Total Counter			
017	Attachment: Color Counter			
018	End: Total Counter			
019	End: Color Counter			
020	Attachment Date			
021	End Date			

[Toner Bottle Log 1: Bk]

001	Serial No.		
002	Attachment Date	- *ENG	Displays the toner bottle information log 1 for Bk.
003	Attachment: Total Counter		
004	Refill Information		
011	Serial No.	- *ENG	
012	Attachment Date		Displays the toner bottle information
013	Attachment: Total Counter	ENG	log 2 for Bk.
014	Refill Information	-	
021	Serial No.	- *ENG	
022	Attachment Date		Displays the toner bottle information log 3 for Bk.
023	Attachment: Total Counter		
024	Refill Information		
031	Serial No.		
032	Attachment Date	*ENG	Displays the toner bottle information
033	Attachment: Total Counter	EING	log 4 for Bk.
034	Refill Information		
041	Serial No.		
042	Attachment Date	*ENG	Displays the toner bottle information
043	Attachment: Total Counter	EING	log 5 for Bk.
044	Refill Information	1	

7936	[Toner Bottle Log 1: M]		
001	Serial No.		
002	Attachment Date	*ENG	Displays the toner bottle information
003	Attachment: Total Counter		log 1 for M.
004	Refill Information		

011	Serial No.		
		- - *ENG -	
012	Attachment Date		Displays the toner bottle information
013	Attachment: Total Counter		log 2 for M.
014	Refill Information		
021	Serial No.	- - *ENG	
022	Attachment Date		Displays the toner bottle information
023	Attachment: Total Counter	EING	log 3 for M.
024	Refill Information	-	
031	Serial No.	- *ENG	
032	Attachment Date		Displays the toner bottle information
033	Attachment: Total Counter		log 4 for M.
034	Refill Information		
041	Serial No.		
042	Attachment Date	*ENG	Displays the toner bottle information
043	Attachment: Total Counter	EING	log 5 for M.
044	Refill Information	]	

7937	[Toner Bottle Log 1: C]		
001	Serial No.	- *ENG	Displays the toner bottle information
002	Attachment Date		
003	Attachment: Total Counter		log 1 for C.
004	Refill Information		
011	Serial No.	- *ENG	
012	Attachment Date		Displays the toner bottle information
013	Attachment: Total Counter		log 2 for C.
014	Refill Information		

021	Serial No.	*ENG	Displays the toner bottle information
022	Attachment Date		
023	Attachment: Total Counter		log 3 for C.
024	Refill Information		
031	Serial No.	- *ENG	
032	Attachment Date		Displays the toner bottle information
033	Attachment: Total Counter		log 4 for C.
034	Refill Information		
041	Serial No.		
042	Attachment Date	*ENG	Displays the toner bottle information
043	Attachment: Total Counter		log 5 for C.
044	Refill Information		

7938	[Toner Bottle Log 1: Y]		
001	Serial No.	*ENG	Displays the toner bottle information
002	Attachment Date		
003	Attachment: Total Counter		log 1 for Y.
004	Refill Information		
011	Serial No.	- *ENG	Displays the toner bottle information log 2 for Y.
012	Attachment Date		
013	Attachment: Total Counter		
014	Refill Information		
021	Serial No.		
022	Attachment Date	*5100	Displays the toner bottle information
023	Attachment: Total Counter	*ENG	log 3 for Y.
024	Refill Information	1	

031	Serial No.	*ENG		
032	Attachment Date		Displays the toner bottle information	
033	Attachment: Total Counter		log 4 for Y.	
034	Refill Information			
041	Serial No.	- *ENG		
042	Attachment Date		Displays the toner bottle information	
043	Attachment: Total Counter		log 5 for Y.	log 5 for Y.
044	Refill Information			

7950	[Unit Replacement Date]		
7950	Displays the replacement date of each PM unit.		unit.
001	Image Transfer Belt		
002	Cleaning Unit		
003	Paper Transfer Unit		
004	Fusing Unit		
005	Toner Collection Bottle	*ENG	
006	K PCU (Drum Unit)		
007	M PCU (Drum Unit)		
008	C PCU (Drum Unit)		
009	Y PCU (Drum Unit)		

7951	[Remaining Day Counter]	
	Displays the remaining unit life of each PM unit.	

		1	
001	Page: K Drum Unit	_	
002	Page: M Drum Unit		
003	Page: C Drum Unit		
004	Page: Y Drum Unit		
005	Page: K Dev Unit	-	
006	Page: M Dev Unit	-	
007	007 Page: C Dev Unit		
008	Page: Y Dev Unit	*ENG	[0 to 255 ( <b>255</b> / 1 day (stor)]
009	Page: K Developer		[0 to 255 / <b>255</b> / 1 day/step]
010	Page: M Developer		
011	011 Page: C Developer		
012	Page: Y Developer		
013	Page: ITB Unit		
014	14 Page: Cleaning Unit		
015	)15 Page: Fusing Unit		
016	Page: PTR Unit		

031	Rotation: K Drum Unit		
032	Rotation: M Drum Unit	-	
033	Rotation: C Drum Unit		
034	Rotation: Y Drum Unit	-	
035	Rotation: K Dev Unit	-	
036	Rotation: M Dev Unit		
037	Rotation: C Dev Unit		
038	Rotation: Y Dev Unit	*ENG	[0 to 255 / <b>255</b> / 1 day/step]
039	Rotation: K Developer		
040	Rotation: M Developer		
041	Rotation: C Developer	-	
042	042 Rotation: Y Developer		
043	043 Rotation: ITB Unit		
044	044 Rotation: Cleaning Unit		
045	045 Rotation: Fusing Unit		
046	Rotation: PTR Unit		
047 Measurement: Toner Collection bottle			

7952	[PM Yield Setting]			
7952	Adjusts the unit yield of each PM unit.			
001	Rotation: ITB Unit	*CTL	[0 to 999999999 / <b>256597000</b> / 1 mm/step]	
003	Rotation: Fusing Unit	*CTL	[0 to 999999999 / 155595000 / 1 mm/step]	
004	Rotation: Paper Transfer Unit	*CTL	[0 to 999999999 / <b>192448000</b> / 1 mm/step]	
011	Page: ITB Unit	*CTL	[0 to 999999 / <b>320000</b> / 1 sheet/step]	
012	Page: Cleaning Unit	*CTL	[0 to 999999 / <b>160000</b> / 1 sheet/step]	

013	Page: Fusing Unit	*CTL	[0 to 999999 / <b>160000</b> / 1 sheet/step]
014	Page: Paper Transfer Unit	*CTL	[0 to 999999 / <b>240000</b> / 1 sheet/step]
038	Rotation: PCU (Drum Unit): Bk		
039	Rotation: PCU (Drum Unit): M		[0 to 999999999 / <b>0</b> / 1 mm/step]
040	Rotation: PCU (Drum Unit): C		
041	Rotation: PCU (Drum Unit): Y		
050	Page: PCU (Drum Unit): Bk		
051	Page: PCU (Drum Unit): M		[0 to 999999 / <b>0</b> / 1 sheet/step]
052	Page: PCU (Drum Unit): C		
053	Page: PCU (Drum Unit): Y		

7953	[Operation Env. Log: PCU: Bk]	
	Displays the PCU rotation distance in each specified operation environment.	
	T: Temperature (°C), H: Relative Humidity (%)	

001       T<=0         002       0 <t<=5:0<=h<30< td="">         003       0<t<=5:30<=h<70< td="">         004       0<t<=5:70<=h<100< td="">         005       5<t<15:0<=h<30< td="">         006       5<t<15:30<=h<55< td="">         007       5<t<15:80<=h<20< td="">         008       5<t<25:0<=h<30< td="">         009       15&lt;=T&lt;25:0&lt;=H&lt;30         010       15&lt;=T&lt;25:0&lt;=H&lt;30         011       15&lt;=T&lt;25:80&lt;=H&lt;100         012       15&lt;=T&lt;25:80&lt;=H&lt;100         013       25&lt;=T&lt;30:55&lt;=H&lt;80         014       25&lt;=T&lt;30:55&lt;=H&lt;80         015       25&lt;=T&lt;30:80&lt;=H&lt;100         017       30&lt;=T:0&lt;=H&lt;30         018       30&lt;=T:30&lt;=H&lt;55         019       30&lt;=T:55&lt;=H&lt;80         019       30&lt;=T:80&lt;=H&lt;100</t<25:0<=h<30<></t<15:80<=h<20<></t<15:30<=h<55<></t<15:0<=h<30<></t<=5:70<=h<100<></t<=5:30<=h<70<></t<=5:0<=h<30<>				
003       0 <t<=5: 30<="H&lt;70&lt;/td">         004       0<t<=5: 70<="H&lt;100&lt;/td">         005       5<t<15: 0<="H&lt;30&lt;/td">         006       5<t<15: 30<="H&lt;55&lt;/td">         007       5<t<15: 30<="H&lt;80&lt;/td">         008       5<t<15: 80<="H&lt;=100&lt;/td">         009       15&lt;=T&lt;25: 0&lt;=H&lt;30</t<15:></t<15:></t<15:></t<15:></t<=5:></t<=5:>	001	T<=0		
004       0 <t<=5: 70<="H&lt;=100&lt;/td">         005       5<t<15: 0<="H&lt;30&lt;/td">         006       5<t<15: 30<="H&lt;55&lt;/td">         007       5<t<15: 80<="H&lt;80&lt;/td">         008       5<t<15: 80<="H&lt;=100&lt;/td">         009       15&lt;=T&lt;25: 0&lt;=H&lt;30</t<15:></t<15:></t<15:></t<15:></t<=5:>	002	0 <t<=5:0<=h<30< td=""><td></td><td></td></t<=5:0<=h<30<>		
005       5 <t<15: 0<="H&lt;30&lt;/td">         006       5<t<15: 30<="H&lt;55&lt;/td">         007       5<t<15: 30<="H&lt;55&lt;/td">         008       5<t<15: 80<="H&lt;20&lt;/td">         009       15&lt;=T&lt;25: 0&lt;=H&lt;30</t<15:></t<15:></t<15:></t<15:>	003	0 <t<=5: 30<="H&lt;70&lt;/td"><td></td><td></td></t<=5:>		
006       5 <t<15: 30<="H&lt;55&lt;/td">         007       5<t<15: 55<="H&lt;80&lt;/td">         008       5<t<15: 80<="H&lt;=100&lt;/td">         009       15&lt;=T&lt;25: 0&lt;=H&lt;30</t<15:></t<15:></t<15:>	004	0 <t<=5: 70<="H&lt;=100&lt;/td"><td></td><td></td></t<=5:>		
007       5 <t<15: 55<h<80<="" td="">         008       5<t<15: 80<h<="100&lt;/td">         009       15&lt;=T&lt;25: 0<h<30< td="">         010       15&lt;=T&lt;25: 30<h<55< td="">         011       15&lt;=T&lt;25: 80<h<80< td="">         012       15&lt;=T&lt;25: 80<h<100< td="">         013       25&lt;=T&lt;30: 0<h<30< td="">         014       25&lt;=T&lt;30: 55<h<80< td="">         015       25&lt;=T&lt;30: 55<h<80< td="">         016       25&lt;=T&lt;30: 80<h<100< td="">         017       30<t: 0<h<30<="" td="">         018       30<t: 30<h<55<="" td="">         019       30<t: 55<h<80<="" td=""></t:></t:></t:></h<100<></h<80<></h<80<></h<30<></h<100<></h<80<></h<55<></h<30<></t<15:></t<15:>	005	5 <t<15: 0<="H&lt;30&lt;/td"><td></td><td></td></t<15:>		
008       5 <t<15: 80<="H&lt;=100&lt;/td">         009       15&lt;=T&lt;25: 0&lt;=H&lt;30</t<15:>	006	5 <t<15: 30<="H&lt;55&lt;/td"><td></td><td></td></t<15:>		
009       15<=T<25: 0<=H<30	007	5 <t<15: 55<="H&lt;80&lt;/td"><td></td><td></td></t<15:>		
010       15         011       15         011       15         012       15         15       15         013       25         014       25         015       25         016       25         017       30         018       30         018       30         019       30	008	5 <t<15: 80<="H&lt;=100&lt;/td"><td>-</td><td></td></t<15:>	-	
011       15<=T<25: 55<=H<80	009	009 15<=T<25: 0<=H<30		
011       15<=T<25: 55<=H<80	010	010 15<=T<25: 30<=H<55		
013 $25 <= T < 30: 0 <= H < 30$ 014 $25 <= T < 30: 55 <= H < 55$ 015 $25 <= T < 30: 55 <= H < 80$ 016 $25 <= T < 30: 80 <= H <= 100$ 017 $30 <= T: 0 <= H < 30$ 018 $30 <= T: 30 <= H < 55$ 019 $30 <= T: 55 <= H < 80$	011	15<=T<25: 55<=H<80	CIL	[0 to 99999999 / - / 1 mm/step]
014       25<=T<30: 55<=H<55	012	15<=T<25: 80<=H<=100		
015       25<=T<30: 55<=H<80	013	25<=T<30: 0<=H<30		
016       25<=T<30: 80<=H<=100	014	014 25<=T<30: 55<=H<55		
017       30<=T: 0<=H<30	015	015 25<=T<30: 55<=H<80		
018     30<=T: 30<=H<55	016	016 25<=T<30: 80<=H<=100		
019 30<=T: 55<=H<80	017	017 30<=T: 0<=H<30		
	018	018 30<=T: 30<=H<55		
020 30<=T: 80<=H<=100	019	30<=T: 55<=H<80		
	020	30<=T: 80<=H<=100		

7954	[Operation Env. Log Clear]		
7754	Clears the operation environment log.		
001			

## SP8-xxx: Data Log2

Many of these counters are provided for features that are currently not available, such as sending color faxes, and so on. However, here are some Group 8 codes that when used in combination with others, can provide useful information.

SP Numbers	What They Do
SP8211 to SP8216	The number of pages scanned to the document server.
SP8401 to SP8406	The number of pages printed from the document server
SP8691 to SP8696	The number of pages sent from the document server

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an "application"). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

Prefixes	What it means	
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.).
C:	Copy application.	
F:	Fax application.	Totals (pages, jobs, etc.) executed for each application when
P:	Print application.	the job was not stored on the document server.
S:	Scan application.	
L:	Local storage (document server)	Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case.

	O:	Other applications (external network applications, for example)	Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future.
--	----	--	---

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

## Key for Abbreviations

Abbreviation	What it means
1	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more"
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
С	Cyan
ColCr	Color Create
ColMode	Color Mode
Comb	Combine
Comp	Compression
Deliv	Delivery
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.
Dev Counter	Development Count, no. of pages developed.
Dup, Duplex	Duplex, printing on both sides
Emul	Emulation
FC	Full Color
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)

Abbreviation	What it means
Full Bleed	No Margins
GenCopy	Generation Copy Mode
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 = 1)
IFax	Internet Fax
lmgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
К	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
МС	One color (monochrome)
NRS	New Remote Service (@Remote), which allows a service center to monitor machines remotely. "(@Remote)" is used overseas, "CSS" is used in Japan.
Org	Original for scanning
OrgJam	Original Jam
Palm 2	Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats.
PC	Personal Computer
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count as two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON.
PJob	Print Jobs
Ppr	Paper
PrtJam	Printer (plotter) Jam

Abbreviation	What it means			
PrtPGS	Print Pages			
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.			
RCG	Remote Communication Gate			
Rez	Resolution			
SC	Service Code (Error SC code displayed)			
Scn	Scan			
Sim, Simplex	Simplex, printing on 1 side.			
S-to-Email	Scan-to-E-mail			
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.			
Svr	Server			
TonEnd	Toner End			
TonSave	Toner Save			
TXJob	Send, Transmission			
ҮМС	Yellow, Magenta, Cyan			
ҮМСК	Yellow, Magenta, Cyan, Black			

## **Vote**

• All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

8 001	T:Total Jobs	*CTL	These SPs count the number of times each application is used to do a job.
8 004	P:Total Jobs	*CTL	[0 to 9999999/ 0 / 1]

- These SPs reveal the number of times an application is used, not the number of pages processed.
- When an application is opened for image input or output, this counts as one job.
- Interrupted jobs (paper jams, etc.) are counted, even though they do not finish.

- Only jobs executed by the customer are counted. Jobs executed by the customer engineer using the SP modes are not counted.
- When using secure printing (when a password is required to start the print job), the job is counted at the time when either "Delete Data" or "Specify Output" is specified.
- A job is counted as a fax job when the job is stored for sending.
- When a fax is received to fax memory, the F: counter increments but the L: counter does not (the document server is not used).
- A fax broadcast counts as one job for the F: counter (the fax destinations in the broadcast are not counted separately).
- A fax broadcast is counted only after all the faxes have been sent to their destinations. If one transmission generates an error, then the broadcast will not be counted until the transmission has been completed.
- A printed fax report counts as one job for the F: counter.
- The F: counter does not distinguish between fax sending or receiving.
- When a copy job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.
- When an original is both copied and stored on the document server, the C: and L: counters both increment.
- When a print job is stored on the document server, only the L: counter increments.
- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.
- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.
- When an image received from Palm 2 is received and stored, the L: counter increments.
- When the customer prints a report (user code list, for example), the O: counter increments. However, for fax reports and reports executed from the fax application, the F: counter increments.

	T:FIN Jobs	*CTL	[0 to 9999999/ 0 / 1]			
8 061	These SPs total the finishing methods. The finishing method is specified by the application.					
	P:FIN Jobs	*CTL	[0 to 9999999/ 0 / 1]			
8 064	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.					

O:FIN J		DS	*CTL	[0 to 9999999/ 0 / 1]			
8 067	These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.						
8 06x 1	Sort	Number of jobs started in Sort mode. When a stored copy job is set for Sort and then stored on the document server, the L: counter increments. (See SP8 066 1)					
8 06x 2	Stack	Number of jobs started out of Sort mode.					
8 06x 3	Staple	Number of jobs started in Staple mode.					
8 06x 4	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments.					
8 06x 5	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).					
8 06x 6	Punch	Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8 064 6.)					
8 06x 7	Other	Reserved. Not used.					

	T:Jobs/PGS	*CTL	[0 to 9	999999/ <b>0</b> /1]				
8 071	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.							
	P:Jobs/PGS	*CTL	[0 to 9	999999/ <b>0</b> /1]				
8 074	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.							
	O:Jobs/PGS	*CTL	[0 to 9999999/0/1]					
8 077	These SPs count and calculate the number of "Other" application jobs (Web Image Monitor, Palm 2, etc.) by size based on the number of pages in the job.							
8 07x 1	1 Page	8 07x	8	21 to 50 Pages				
8 07x 2	2 Pages	8 07x 9		51 to 100 Pages				
8 07x 3 3 Pages		8 07x 10		101 to 300 Pages				
8 07x 4	4 Pages	8 07x 11		301 to 500 Pages				
8 07x 5	5 Pages	8 07x 12		501 to 700 Pages				

8 07	7x 6 6 to 10 Pages	8 07x 13	701 to 1000 Pages
8 07	7x 7 11 to 20 Pages	8 07x 14	1001 to Pages

- For example: When a copy job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Printing a fax report counts as a job and increments the F: counter (SP 8073).
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the copy job (SP 8072).
- When printing the first page of a job from within the document server screen, the page is counted.

8 381	T:Total PrtPGS	*CTL	These SPs count the number of pages printed by the
8 384	P:Total PrtPGS	*CTL	customer. The counter for the application used for storing the pages increments.
8 387	O:Total PrtPGS	*CTL	[0 to 9999999/ <b>0</b> / 1]

- When the A3/DLT double count function is switched on with SP5104, 1 A3/DLT page is counted as 2.
- When several documents are merged for a print job, the number of pages stored are counted for the application that stored them.
- These counters are used primarily to calculate charges on use of the machine, so the following pages are not counted as printed pages:
  - Blank pages in a duplex printing job.
  - Blank pages inserted as document covers, chapter title sheets, and slip sheets.
  - Reports printed to confirm counts.
  - All reports done in the service mode (service summaries, engine maintenance reports, etc.)
  - Test prints for machine image adjustment.
  - Error notification reports.
  - Partially printed pages as the result of a copier jam.

	LSize PrtPGS	*CTL	[0 to 9999999/0/1]		
8 391	These SPs count pages printed on paper sizes A3/DLT and larger.				
	<b>Note</b> : In addition to being a displayed in the User Tools	. ,	n the SMC Report, these counters are also n the copy machine.		

8 411 Prints/Duplex	*CTL	This SP counts the amount of paper (front/back counted as 1 page) used for duplex printing. Last pages printed only on one side are not counted. [0 to 9999999/0/1]
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	T:PrtPGS/Dup Comb	*CTL [0 to 9999999/0/1]			
8 421	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing. This is the total for all applications.				
	P:PrtPGS/Dup Comb		*CTL	[0 to 9999999/ 0 / 1]	
8 424	These SPs count by bin processed for printing	•		pine, and n-Up settings the number of pages	
	O:PrtPGS/Dup Comb		*CTL	[0 to 9999999/0/1]	
8 427	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications				
8 42x 1	Simplex> Duplex				
8 42x 2	Duplex> Duplex				
8 42x 3	Book> Duplex				
8 42x 4	Simplex Combine				
8 42x 5	Duplex Combine				
8 42x 6	2>	2 pa	ges on 1	side (2-Up)	
8 42x 7	4>	4 pages on 1 side (4-Up)			
8 42x 8	6>	6 pages on 1 side (6-Up)			
8 42x 9	8>	8 pages on 1 side (8-Up)			
8 42x 10	9>	9 pages on 1 side (9-Up)			

8 42x	1 16>	16 pages on 1 side (16-Up)
8 42x 1	2 Booklet	
8 42x 1	3 Magazine	

- These counts (SP8 421 to SP8 427) are especially useful for customers who need to improve their compliance with ISO standards for the reduction of paper consumption.
- Pages that are only partially printed with the n-Up functions are counted as 1 page.
- Here is a summary of how the counters work for Booklet and Magazine modes:

Booklet		Magazine	
Original Pages	Count	Original Pages	Count
1	1	1	1
2	2	2	2
3	2	3	2
4	2	4	2
5	3	5	4
6	4	6	4
7	4	7	4
8	4	8	4

8 43 1	T:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ 0 / 1]	
	These SPs count the total number of pages output with the three features below, regardless of which application was used.			
	P:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ 0 / 1]	
8 434	These SPs count the total number of pages output with the three features below with the print application.			
8 437	O:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ 0 / 1]	
	These SPs count the total number of pages output with the three features below with Other applications.			

8 43x 1	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.
8 43x 2	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.
8 43x 3	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.

		1			
8 441	T:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ 0 / 1]		
0 44 1	These SPs count by print paper size the number of pages printed by all applications.				
	P:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ 0 / 1]		
8 444	These SPs count by print paper size the number of pages printed by the printer application.				
8 447	O:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ <b>0</b> / 1]		
0 447	These SPs count by print pap	per size the	e number of pages printed by Other applications.		
8 44x 1	A3				
8 44x 2	A4				
8 44x 3	A5				
8 44x 4	В4				
8 44x 5	В5				
8 44x 6	DLT				
8 44x 7	LG				
8 44x 8	LT				
8 44x 9	HLT				
8 44x 10	Full Bleed				
8 44x 254	Other (Standard)				
8 44x 255	Other (Custom)				

• These counters do not distinguish between LEF and SEF.

8 451	PrtPGS/Ppr Tray		*CTL	[0 to 9999999/ 0 / 1]
8 45 1	These SPs count t	unt the number of sheets fed from each paper feed station.		
8 451 1	Bypass Tray	Bypass Tray		
8 451 2	Tray 1	Prinetr		
8 451 3	Tray 2	Prinetr		
8 451 4	Tray 3	Paper Tray Unit (Option)		
8 451 5	Tray 4	Paper Tray Unit (Option)		
8 451 6	Tray 5	Pater Tray Unit (Option)		
8 451 7	Tray 6	Currently not used.		
8 451 8	Tray 7	Currently not used.		
8 451 9	Tray 8	Currently not used.		
8 451 10	Tray 9	Currently not used.		

	T:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ 0 / 1]		
	These SPs count by paper type the number pages printed by all applications.				
8 461	<ul> <li>These counters are not the same as the PM counter. The PM counter is based on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing.</li> </ul>				
	• Blank sheets (covers, chap	pter cover	s, slip sheets) are also counted.		
	• During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1.				
8 464	P:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ 0 / 1]		
0 404	These SPs count by paper type the number pages printed by the printer application.				
8 46x 1	Normal				
8 46x 2	Recycled				
8 46x 3	Special				
8 46x 4	Thick				
8 46x 5	Normal (Back)				

8 46x 6	Thick (Back)
8 46x 7	OHP
8 46x 8	Other

8 471	PrtPGS/Mag	*CTL	[0 to 9999999/ 0 / 1]	
0 47 1	These SPs count by magnification rate the number of pages printed.			
8 471 1	< 49%			
8 471 2	50% to 99%			
8 471 3	100%			
8 471 4	101% to 200%			
8 471 5	201% <			

- Counts are done for magnification adjusted for pages, not only on the operation panel but performed remotely with an external network application capable of performing magnification adjustment as well.
- Magnification adjustments done with printer drivers with PC applications such as Excel are also counted.
- Magnification adjustments done for adjustments after they have been stored on the document server are not counted.
- Magnification adjustments performed automatically during Auto Reduce/Enlarge copying are counted.
- The magnification rates of blank cover sheets, slip sheets, etc. are automatically assigned a rate of 100%.

8 481	T:PrtPGS/TonSave	*CTL		
8 484	P:PrtPGS/TonSave	*CTL		
	These SPs count the number of pages printed with the Toner Save feature switched on.			
	Note: These SPs return the same results as this SP is limited to the Print application.			
	[0 to 9999999/ <b>0</b> / 1]			

8 501	T:PrtPGS/Col Mode	*CTL	
8 504	P:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by the print application.
8 507	O:PrtPGS/Col Mode	*CTL	, , , , , ,
8 50x 1	B/W		
8 50x 2	Mono Color		
8 50x 3	Full Color		
8 50x 4	Single Color		
8 50x 5	Two Color		

8 511	T:PrtPGS/Emul	GS/Emul		[0 to 9999999/ 0 / 1]	
0.511	These SPs coun	t by printe	r emulation mode the total number of pages printed.		
8 514	P:PrtPGS/Emul		*CTL	[0 to 9999999/ 0 / 1]	
0 314	These SPs coun	t by printe	r emulation	mode the total number of pages printed.	
8 514 1	RPCS				
8 514 2	RPDL				
8 514 3	PS3				
8 514 4	R98				
8 514 5	R16				
8 514 6	GL/GL2				
8 514 7	R55				
8 514 8	RTIFF				
8 514 9	PDF	1			
8 514 10	PCL5e/5c	1			
8 514 11	PCL XL				
8 514 12	IPDL-C				
8 514 13	BM-Links	Japan O	nly		

|--|

• SP8 511 and SP8 514 return the same results as they are both limited to the Print application.

• Print jobs output to the document server are not counted.

	T:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 521 These SPs count by finishing mode the total number of pages printed			tal number of pages printed by all applications.	
	P:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 524	These SPs count by finishing mode the total number of pages printed by the Print application.			
8 52x 1	Sort			
8 52x 2	Stack			
8 52x 3	Staple			
8 52x 4	Booklet			
8 52x 5	Z-Fold			
8 52x 6	Punch			
8 52x 7	Other			

### **Vote**

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.
- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

8 53 1 Staples	*CTL	This SP counts the amount of staples used by the machine. [0 to 9999999 / <b>0</b> / 1]
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	T:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 581	These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.		
8 581 1	Total		

8 581 2	Total: Full Color
8 581 3	B&W/Single Color
8 581 4	Development: CMY
8 581 5	Development: K
8 581 8	Print: Color
8 581 9	Print: B/W
8 581 10	Total: Color
8 581 11	Total: B/W
8 581 12	Full Color: A3
8 581 13	Full Color: B4 JIS or Smaller
8 581 14	Full Color Print
8 581 15	Mono Color Print
8 581 17	Twin Colour Mode Print
8 581 18	Full Colour Print (Twin)
8 581 19	Mono Colour Print (Twin)
8 581 20	Full Colour Total (CV)
8 581 21	Mono Colour Total (CV)
8 581 22	Full Colour Print (CV)

8 584	P:Counter	*CTL	[0 to 9999999/ 0 / 1]	
	These SPs count the total output of the print application broken down by color output			
8 584 1	B/W	B/W		
8 584 2	Mono Color			
8 584 3	Full Color			
8 584 4	Single Color			
8 584 5	Two Color			

	O:Counter	*CTL	[0 to 9999999/ 0 / 1]
8 591	These SPs count the totals for A3/DLT paper use, number of duplex pages printed, an the number of staples used. These totals are for Other (O:) applications only.		
8 591 1	A3/DLT		
8 591 2	Duplex		

	Coverage Counter	*CTL	[0 to 9999999/ <b>0</b> / 1]	
8 601	These SPs count the total coverage for each color and the total printout pages for exprinting mode.			
8 601 1	B/W			
8 601 2	Color			
8 601 11	B/W Printing Pages			
8 601 12	Color Printing Pages	-		
8 601 21	Coverage Counter 1			
8 601 22	Coverage Counter 2			
8 601 23	Coverage Counter 3			

0.417	SDK Apli Counter	*CTL	[0 to 9999999/ 0 / 1]
8 617	These SPs count the total pri	ntout pages fo	r each SDK applicaion.
8 617 1	SDK-1		
8 617 2	SDK-2		
8 617 3	SDK-3		
8 617 4	SDK-4	-	
8 617 5	SDK-5		
8 617 6	SDK-6		

	Dev Counter	*CTL	[0 to 9999999/ <b>0</b> / 1]		
8 77 1	These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.				
8 771 1	Total	Total			
8 771 2	К				
8 771 3	Y				
8 771 4	M				
8 771 5	C				

	Toner_Bottle_Info.	*ENG	[0 to 9999999/0/1]	
8 781	. ,	umber of already replaced toner bottles. ta in SP7-833-011 through 014 and the data in SP8-781-001 ne.		
8 7 8 1 1	Toner: BK	The number of black-toner bottles		
8 781 2	Toner: Y	The number of yellow-toner bottles		
8 781 3	Toner: M	The number of magenta-toner bottles		
8 781 4	Toner: C	The number of cyan-toner bottles		

	Toner Remain	*CTL	[0 to 100/ <b>0</b> / 1]
8 801 These SPs display the percent of toner remaining for each color. This SP a to check the toner supply at any time.		0	
	Note: This precise method of measuring remaining toner supply (1% steps) is better the other machines in the market that can only measure in increments of 10 (10% steps)		
8 801 1	К		
8 801 2	Y		
8 801 3	м		
8 801 4	С		

	CVr Cnt: 0-10%	*ENG	[0 to	9999999/ <b>0</b> /1]
8 851	These SPs display the num is from 0% to 10%.	ber of scan	ned she	eets on which the coverage of each color
8 851 11	0 to 2%: BK	8 85	5131	5 to 7%: BK
8 851 12	0 to 2%: Y	8 85	51 32	5 to 7%: Y
8 851 13	0 to 2%: M	8 851 33		5 to 7%: M
8 851 14	0 to 2%: C	8 851 34		5 to 7%: C
8 851 21	3 to 4%: BK	8 85	5141	8 to 10%: BK
8 851 22	3 to 4%: Y	8 851 42		8 to 10%: Y
8 851 23	3 to 4%: M	8 851 43		8 to 10%: M
8 851 24	3 to 4%: C	8 85	5144	8 to 10%: C

	CVr Cnt: 11-20%	*ENG	[0 to 9999999/0/1]
8 861	These SPs display the number of scanned sheets on which the coverage of each co is from 11% to 20%.		
8 861 1	ВК		
8 861 2	Y		
8 861 3	м		
8 861 4	С		

	CVr Cnt: 21-30%	*ENG	[0 to 9999999/ 0 / 1]
8 871	These SPs display the num is from 21% to 30%.	isplay the number of scanned sheets on which the coverage of each color to 30%.	
8 871 1	ВК		
8 871 2	Y		
8 871 3	м		
8 871 4	C		

	CVr Cnt: 31%-	*ENG	[0 to 9999999/ 0 / 1]	
8 881	These SPs display the number of scanned sheets on which the coverage of each co is 31% or higher.			
8 881 1	ВК			
8 881 2	Υ			
8 881 3	м			
8 881 4	C			

8 891	Page/Toner Bottle	*ENG	[0 to 9999999/ <b>0</b> / 1]		
0 0 7 1	These SPs display the amount of the remaining current toner for each color.				
8 891 1	ВК	ВК			
8 891 2	Υ				
8 891 3	Μ				
8 891 4	C				

8 901	Page/Toner_prev1	*ENG	[0 to 9999999/ 0 / 1]	
8 901	These SPs display the amou	unt of the remaining previous toner for each color.		
8 901 1	ВК			
8 901 2	Y			
8 901 3	м			
8 901 4	С			

Page/Toner	Page/Toner_prev2	*ENG	[0 to 9999999/ 0 / 1]	
0 711	These SPs display the amou	unt of the remaining 2nd previous toner for each color.		
8 9 1 1 1	ВК			
8 911 2	Y			
8 911 3	м			

Γ

8 911 4	C
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8 921	Cvr Cnt/Total	*CTL	[0 to 9999999/ 0 / 1]
0 921	Displays the total coverage and total printout number for each color.		
8 921 1	Coverage (%) Bk		
8 921 2	Coverage (%) Y		
8 921 3	Coverage (%) M		
8 921 4	Coverage (%) C		
8 921 11	Coverage /P: Bk		
8 921 12	Coverage /P: Y		
8 921 13	Coverage /P: M		
8 921 14	Coverage /P: C		

	Machine Status	*CTL	[0 to 9999999/ 0 / 1]	
8 941	SPs are useful for custom	Ps count the amount of time the machine spends in each operation mode. These useful for customers who need to investigate machine operation for ment in their compliance with ISO Standards.		
8 941 1	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).		
8 941 2	Standby Time	Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.		
8 941 3	Energy Save Time	Includes time while the machine is performing background printing.		
8 941 4	Low Power Time	Includes time in Energy Save mode with Engine on. Include time while machine is performing background printing.		
8 941 5	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered of with the power switches.		
8 941 6	SC	Total time when SC errors have been staying.		

8 941 7	PrtJam	Total time when paper jams have been staying during printing.
8 941 8	OrgJam	Total time when original jams have been staying during scanning.
8 941 9	Supply PM Unit End	Total time when toner end has been staying

8 999	Admin. Counter List	*CTL	[0 to 9999999/ 0 / 1]
0 999	Displays the total coverage	e and total	printout number for each color.
8 999 1	Total		
8 999 6	Printer Full Color		
8 999 7	Printer BW		
8 999 8	Printer Single Color		
8 999 9	Printer Two Color		
8 999 12	A3/DLT		
8 999 13	Duplex		
8 999 14	Coverage: Color (%)		
8 999 15	Coverage: BW (%)		
8 999 16	Coverage: Color Print Pag	e (%)	
8 999 17	Coverage: BW Print Page	(%)	

### SP9-XXX: Others

9511	Skew Origin Set	*CTL	
001	M: Skew Motor		
002	C: Skew Motor	These SPs reset the skew correction value (SP2-119-00 to -003) to "0".	
003	Y: Skew Motor		

# Input Check Table

When entering the Input Check mode, 8 digits display the result for a section. Each digit corresponds to a different device as shown in the table.

Bit No	<b>)</b> .	7	6	5	4	3	2	1	0
Resu	ł	0 or 1							

#### Printer

5000		Rea	ding	
5803	Description	0	1	
5803 1	2nd Tray Size Detection	See table 2 following	g this table.	
5803 2	1st Tray Set Detection	Set	Not set	
5803 3	1 st Tray Paper Height Sensor 1	See table 1 following	g this table.	
5803 4	1st Tray Paper Height Sensor2	See table 1 following	g this table.	
5803 5	2nd Tray Paper Height Sensor 1	See table 1 following	g this table.	
5803 6	2nd Tray Paper Height Sensor2	See table 1 following this table.		
5803 7	1st Tray Paper End Detection	No paper	Paper remaining	
5803 8	2nd Tray Paper End Detection	No paper	Paper remaining	
5803 9	1st Tray Upper Limit Sensor	Not upper limit	Upper limit	
5803 10	2nd Tray Upper Limit Sensor	Not upper limit	Upper limit	
5803 11	Bypass Paper Width Detection	See table 3 following	g this table.	
5803 12	Bypass Paper End Detection	No paper	Paper remaining	
5803 13	Bypass Paper Length Detection	See table 3 following	g this table.	
5803 14	1st Paper Feed Sensor	Paper detected	Paper not detected	
5803 15	2st Paper Feed Sensor	Paper detected	Paper not detected	
5803 16	Exit Sensor	Paper detected	Paper not detected	

5803 17	Tray Full Exit Sensor	Paper not full	Paper full
5803 18	Fusing Exit Sensor	Paper not detected	Paper detected
5803 19	Fusing Entrance Sensor	Paper detected	Paper not detected
5803 20	1st Feed Sensor	Paper detected	Paper not detected
5803 21	2nd Feed Sensor	Paper detected	Paper not detected
5803 22	Duplex Exit Sensor	Paper detected	Paper not detected
5803 23	Registration Sensor	Paper detected	Paper not detected
5803 24	Duplex Entrance Sensor	Paper detected	Paper not detected
5803 25	Junction Sensor	Paper detected	Paper not detected
5803 26	2nd Tray Set Detection	Set	Not set
5803 30	Toner End Sensor: Bk	Toner end	Toner remaining
5803 31	Toner End Sensor: M	Toner end	Toner remaining
5803 32	Toner End Sensor: C	Toner end	Toner remaining
5803 33	Toner End Sensor: Y	Toner end	Toner remaining
5803 34	Drum Phase Sensor: Bk	Actuator not detected	Actuator detected
5803 35	Drum Phase Sensor: M	Actuator not detected	Actuator detected
5803 36	Drum Phase Sensor: C	Actuator not detected	Actuator detected
5803 37	Drum Phase Sensor: Y	Actuator not detected	Actuator detected
5803 38	Interlock Release Detection 1	Front door open	Front door closed
5803 39	Interlock Release Detection 2	Front door open	Front door closed
5803 40	Right Door	Closed	Open
5803 41	Duplex Cover	Closed	Open
5803 42	Toner Collection Bottle Set	Set	Not set

5803 43	Toner Collection Full Sensor	Not full	Full
5803 46	ITB New Unit Detection	Not new	New
5803 50	Airflow Fan: Front: Lock	Normal	Lock
5803 51	Airflow Fan: Rear: Lock	Normal	Lock
5803 52	Fusing Exit Fan: Lock	Normal	Lock
5803 53	2nd Duct Fan: Lock	Normal	Lock
5803 54	3rd Duct Fan: Lock	Normal	Lock
5803 55	Paper Exit Fan:Lock	Normal	Lock
5803 56	Fusing Coil Fan: Lock	Normal	Lock
5803 57	IH Power Supply Cooling Fan: Lock	Normal	Lock
5803 60	ITB Contact Motor Position	Not contact	Contact
5803 61	Paper Transfer Contact Motor Position	Not contact	Contact
5803 62	Toner Relay Motor: Lock	Normal	Lock
5803 63	ITB Drive Motor: Lock	Normal	Lock
5803 64	K Drum/Development Drive Motor: Lock	Normal	Lock
5803 65	M Drum/Development Drive Motor: Lock	Normal	Lock
5803 66	C Drum/Development Drive Motor: Lock	Normal	Lock
5803 67	Y Drum/Development Drive Motor: Lock	Normal	Lock
5803 68	Fusing Exit Motor:Lock	Normal	Lock
5803 80	HVPS:TTS:SC Detection	SC detected	No SC
5803 81	HVPS:CB:SC Detection	SC detected	No SC
5803 82	HVPS:D:SC Detection	SC detected	No SC
5803 83	Fusing Destination Detection: DOM (Dom)	Set	Not set
5803 84	Fusing Destination Detection: NA	Set	Not set
5803 85	Fusing Destination Detection: EU	Set	Not set
5803 86	Fusing Destination Detection: TWN	Set	Not set
	,		

5803 87	Fusing New Unit Detection	New	Not new
5803 90	Zero-cross Signal	-	-
5803 91	Fusing Rotation Sensor	Actuator not detected	Actuator detected
5803 92	Fusing Pressue Release Sensor	Not contact	Contact
5803 94	GAVD Open/Close Detection	Closed (LD5V ON)	Open (LD5V OFF)
5803 100	Keycard: Set	Set	Not set
5803 101	Mechanical Counter Bk: Set	Set	Not set
5803 102	Mechanical Counter FC: Set	Set	Not set
5803 103	Key Counter: Set	Set	Not set
5803 110	IOB Version	-	-

### Table 1: Paper Height Sensor

0: Deactivated, 1: Activated (actuator inside sensor)

Remaining paper	Paper height sensor 1	Paper height sensor 2
Full	0	0
Nearly full	1	0
Near end	1	1
Almost empty	0	1

### Table 2: Paper Size Switch (Tray 2)

Switch 1 is used for tray set detection.

0: Pushed, 1: Not pushed

Мо	Switch Location			
North America	Europe/Asia	4 (bit0)	3 (bit1)	2 (bit2)

11" x 17" SEF <sup>*1</sup> (A3 SEF)	A3 SEF <sup>*1</sup> (11" × 1 <i>7</i> " SEF)	0	0	1
8.5" x 14" SEF <sup>*2</sup> (B4 SEF)	B4 SEF <sup>*2</sup> (8.5" x 14" SEF)	0	0	0
A4 SEF	A4 SEF	1	1	0
8.5" x 11" SEF	8.5" x 11" SEF	1	1	1
B5 SEF	B5 SEF	0	1	1
11" × 81/2" LEF <sup>*3</sup> (A4 LEF)	A4 LEF <sup>*3</sup> (11" x 81/2" LEF)	1	0	0
10.5" x 7.25" LEF <sup>*4</sup> (B5 LEF)	B5 LEF <sup>*4</sup> (10.5" x 7.25" LEF)	0	1	0
A5 LEF	A5 LEF	1	0	1

\* 1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-003.

\*2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-004.

\*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-002.

\*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-005.

# 8

### Table 3: Paper Size (By-pass Table)

0: ON, 1: OFF

Ву	-pass Pape	er Size Sens	sor		NA	
bit3	Bit2	Bit 1	BitO	Length Sensor	INA	EU/ASIA
1	1	1	1	1	HLT SEF	A6 SEF
0	1	1	1	1	HLT SEF	A6 SEF
0	0	1	1	1	HLT SEF	A5 SEF
1	0	1	1	1	HLT SEF	A5 SEF
1	0	0	1	0	LT/LG SEF*1	A4 SEF
1	0	0	1	1 LT/LG SEF* <sup>1</sup>		A5 LEF

By-pass Paper Size Sensor		Longth Sonsor	NIA			
bit3	Bit2	Bit1	BitO	Length Sensor	NA	EU/ASIA
1	1	0	1	0	LT/LG SEF* <sup>1</sup>	A4 SEF
1	1	0	1	1	LT/LG SEF*1	A5 LEF
1	1	0	0	0	DLT SEF	A3 SEF
1	1	0	0	1	LT LEF	A4 LEF
1	1	1	0	0	DLT SEF	A3 SEF
1	1	1	0	1	LT LEF	A4 LEF

\* 1: The paper size (LT or LG) can be selected with SP1-007-001.

# 1000-Sheet Booklet Finisher (B793)

6138	Description	Readi	ing	
0138	Description	0	1	
6138 1	Interference Escape Sensor (Stapler Safety Sensor)	Not interfered	Interfered	
6138 2	Staple Moving HP Sensor (Staple Unit HP Sensor)	Not home position	Home position	
61383	Stuck Relay1 Release HP Sensor (Stopper S HP Sensor)	Not home position	Home position	
6138 4	Exit Junction Gate HP Sensor (Stack Feed Out HP Sensor)	Home position	Not home position	
6138 5	Jogger HP Sensor (Jogger Fence HP Sensor)	Not home position	Home position	
6138 6	Staple Tray Paper Sensor (Staple Tray Paper Sensor)	Paper not detected	Paper detected	
61387	Rear Edge Fence HP Sensor (Paper Stack Stopper HP Sensor)	Not home position	Home position	

(100		Read	ing	
6138	Description	0	1	
6138 8	Saddle Stitch Exit Sensor	Paper detected	Paper not detected	
6138 9	Stuck Relay2 Roller HP Sensor (Clamp Roller HP Sensor)	Home position	Not home position	
6138 10	Folder Tray Full Sensor 1 (Bottom Tray HP 1 Sensor)	Full	Not full	
6138 11	Folder Tray Full Sensor 2 (Bottom Tray HP 2 Sensor)	Not full	Full	
6138 12	Folder Plate HP Sensor (Fold Plate HP Sensor)	Not home position	Home position	
6138 13	Saddle Stitch Arrival Sensor (Fold Unit Entrance Sensor)	Paper not detected	Paper detected	
6138 14	Folder Cam HP Sensor (Fold Plate Cam HP Sensor)	Not home position	Home position	
6138 15	Staple Exit Sensor (Stapler Tray Exit Sensor)	Paper detected	Paper not detected	
6138 16	Shift Tray Paper Sensor (Shift Tray Paper Position Sensor)	Shift tray not detected	Shift tray detected	
6138 17	Shift Tray Full	Full	Nor full	
6138 18	Shift Roller HP Sensor	Not home position	Home position	
6138 20	Entrance Sensor (Finisher Entrance Sensor)	Paper detected	Paper not detected	
6138 21	Shift Exit Sensor (Shift Tray Exit Sensor)	Paper not detected	Paper detected	
6138 22	Proof Exit Sensor (Proof Tray Exit Sensor)	Paper detected	Paper not detected	
6138 23	Exit Guide Plate HP Sensor	Not home position	Home position	

4120	Description	Read	ling	
6138	Description	0	1	
6138 24	Proof Full Sensor (Proof Tray Full Sensor)	Not full	Full	
6138 25	Upper Cover Sensor	Open	Close	
6138 26	Door SW (Front Door Switch)	Close	Open	
6138 27	Clincher Timing Sensor	Enco	der	
6138 28	Clincher HP Sensor	Home position	Not home position	
6138 29	Driver Timing Sensor	Enco	der	
6138 30	Staple Near End	Staple remaining	Staple near end	
6138 31	Self Priming	Staple detected	Staple not detected	
6138 32	Driver HP Sensor	Home position	Not home position	
6138 33	Punch Registration Detection HP Sensor	Not home position	Home position	
6138 34	Punch Moving HP Sensor (Punch Movement HP Sensor)	Not home position	Home position	
6138 35	Punch HP Sensor (Punch HP Sensor)	Home position	Not home position	
6138 36	Punch Pulse Count Sensor (Punch Encoder Sensor)	Encoder		
6138 37	Punch Chad Full Sensor (Punch Hopper Full Sensor)	Not full	Full	
6138 38	Punch Registration Detection Sensor (Paper Position Sensor)	Paper detected	Paper not detected	

### 3000-Sheet Finisher (B805)

(1.40		Read	Reading	
6140	Bit	Description	0	1
6140 1	Entra	ince Sensor	Paper not detected	Paper detected
6140 2	Proo	Exit Sensor	Paper not detected	Paper detected
61403	Proo	Full Detection Sensor	Not Full	Full
6140 4	Traili	ng Edge Detection: Shift	Paper not detected * 1	Paper detected*1
6140 5	Stap	e Exit Sensor	Paper not detected	Paper detected
61406	Shift	HP Sensor	Not HP	HP
61407	Shift	Exit Sensor	Paper not detected	Paper detected
6140 8	Exit (	Guide Plate HP Sensor	Not HP	HP
6140 9	Pape	r Detection Sensor: Staple	Paper not detected	Paper detected
6140 10	Pape	r Detection Sensor: Shift	Paper not detected	Paper detected
6140 11	Pape	r Full Sensor: 2000-Sheet	Not Full	Full
6140 12	Osci	llating Back Roller HP Sensor	Not HP	HP
6140 13	Jogg	er HP Sensor	Not HP	HP
6140 14	Exit J	unction Gate HP Sensor	HP	Not HP
6140 15	Stap	e Tray Paper Sensor	Paper not detected	Paper detected
6140 16	Stap	e Moving HP Sensor	Not HP	HP
6140 17	Skew	/ HP Sensor	Not HP	HP
6140 18	Limit	SW	Not Limit	Limit
6140 19	DOC	DR SW	Closed	Open
6140 20	Stap	ler 1 Rotation	Not HP	HP
6140 21	Stap	e Detection	Staple not detected	Staple detected
6140 22	Stap	le Leading Edge Detection	Staple not detected	Staple detected

6140 23	Punch Moving HP Sensor	Not HP	HP
6140 24	Punch Registration HP Sensor	Not HP	HP
6140 25	Punch Registratioin Detection Sensor	Paper not detected	Paper detected
6140 26	Punch Chad Full Sensor	Not Full	Full
6140 27	Punch HP	Not HP	HP
6140 28	Punch Selection DIPSW 1	See	*]
6140 29	Punch Selection DIPSW 2	See	*]
6140 30	Stack Junction Gate Open/Closed HP Sensor	Not HP	HP
6140 31	Leading Edge Detection Sensor	Paper not detected	Paper detected
6140 32	Drive Roller HP Sensor	Not HP	HP
6140 33	Arrival Sensor	Paper not detected	Paper detected
6140 34	Rear Edge Fence HP Sensor	Not HP	HP
6140 35	Folder Cam HP Sensor	Not HP	HP
6140 36	Folder Plate HP Sensor	Not HP	HP
6140 37	Folder Pass Sensor	Paper not detected	Paper detected
6140 38	Saddle Full Sensor: Front	Paper not detected*2	Paper detected * <sup>2</sup>
6140 39	Saddle Full Sensor: Rear	Paper not detected*2	Paper detected * <sup>2</sup>
6140 40	Saddle Stitch Stapler 1 Rotation: Front	Not HP	HP
6140 41	Saddle Stitch Detection: Front	Staple not detected	Staple detected
6140 42	Saddle Stitch Leading Edge Detection: Front	Staple not detected	Staple detected
6140 43	Saddle Stitch Stapler 1 Rotation: Rear	Not HP	HP
6140 44	Saddle Stitch Detection: Rear	Staple not detected	Staple detected
6140 45	Saddle Stitch Leading Edge Detection: Rear	Staple not detected	Staple detected
6140 46	Full Sensor: 3000-Sheet	Not Full	Full

6140 47	Exit Jogger HP Sensor: Front	Not used in the machine
6140 48	Exit Jogger HP Sensor: Rear	Not used in the machine
6140 49	Exit Jogger HP Sensor: Upper	Not used in the machine

\* 1: Combination of DIP SW 1 and SW 2

DIP SW 1	DIP SW 2	Punch Type
0	0	Japan
1	0	Europe
0	1	North America
1	1	North Europe

\*2: Please refer to "Lower Tray (B804 Only)" in the Service Manual for the "2000/3000 (Booklet) Finisher".

6142		Reading	
	Description	0	1
6142 1	Relay Sn 1	Paper detected	Paper not detected
6142 2	Relay Sn 2	Paper detected	Paper not detected
6142 3	Full Sn 4	Not Full	Full
6142 4	Paper Sn 4	Paper detected	Paper not detected
6142 5	Full Sn 3	Not Full	Full
6142 6	Paper Sn 3	Paper detected	Paper not detected
61427	Full Sn 2	Not Full	Full
6142 8	Paper Sn 2	Paper detected	Paper not detected
6142 9	Full Sn 1	Not Full	Full
6142 10	Paper Sn 1	Paper detected	Paper not detected

### Mail Bin (G835)

8

6142 11 Door Sn	Open	Close
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# Bridge Unit (D386)

(150		Reading		
6150	Description	0	1	
6150 1	Bridge: Exit Sensor	Paper detected	Paper not detected	
6150 2	Bridge: Feed Sensor	Paper detected	Paper not detected	
61503	Bridge:Set Detection	Set	Not set	
6150 4	Bridge: Exit Cover Detection	Closed	Open	
61505	Bridge: Feed Cover Detection	Closed	Open	

# One or Two-Tray PFU (D387/D351)/ LCIT 2000 (D352)

4140	Description	Reading		
6160		0	1	
6160 1	Bank: Tray3: Feed Sensor	Paper not detected	Paper detected	
61602	Bank: Tray4: Feed Sensor	Paper not detected	Paper detected	
61603	Bank: Tray5: Feed Sensor	Paper not detected	Paper detected	
61604	Bank: Tray3: Relay Sensor	Paper not detected	Paper detected	
61605	Bank: Tray4: Relay Sensor	Paper not detected	Paper detected	
61606	Bank: Tray5: Relay Sensor	Paper not detected	Paper detected	
61607	Bank: Feed Cover Detection	Closed	Open	
616011	Bank: Palau: Paper Supply Switch	Closed	Open	
616012	Bank: Palau: Slide Switch	Closed	Open	

# Output Check Table

### Printer

5804	Display	Description
5804 3	Drum/Dev Motor: K: 230mm/s	Drum/Development Drive Motor-K: 230 mm/s
5804 4	Drum/Dev Motor: K: 205mm/s	Drum/Development Drive Motor-K: 205 mm/s
5804 5	Drum/Dev Motor: K: 154mm/s	Drum/Development Drive Motor-M: 154 mm/ s
5804 7	Drum/Dev Motor: K: 77mm/s	Drum/Development Drive Motor-M: 77 mm/s
5804 10	Drum/Dev Motor: M: 230mm/s	Drum/Development Drive Motor- C: 230 mm/ s
5804 11	Drum/Dev Motor: M: 205mm/s	Drum/Development Drive Motor-Y: 205 mm/s
5804 12	Drum/Dev Motor: M: 154mm/s	Drum/Development Drive Motor-Y: 154 mm/s
5804 14	Drum/Dev Motor: M: 77mm/s	Drum/Development Drive Motor-Y: 77 mm/s
5804 17	Drum/Dev Motor: C: 230mm/s	Drum/Development Drive Motor- C: 230 mm/ s
5804 18	Drum/Dev Motor: C: 205mm/s	Drum/Development Drive Motor-Y: 205 mm/s
5804 19	Drum/Dev Motor: C: 154mm/s	Drum/Development Drive Motor-Y: 154 mm/s
5804 21	Drum/Dev Motor: C: 77mm/s	Drum/Development Drive Motor-Y: 77 mm/s
5804 24	Drum/Dev Motor: Y: 230mm/s	Drum/Development Drive Motor- C: 230 mm/ s
5804 25	Drum/Dev Motor: Y: 205mm/s	Drum/Development Drive Motor-Y: 205 mm/s
5804 26	Drum/Dev Motor: Y: 154mm/s	Drum/Development Drive Motor-Y: 154 mm/s
5804 28	Drum/Dev Motor: Y: 77mm/s	Drum/Development Drive Motor-Y: 77 mm/s
5804 31	Fusing Exit Motor: 230mm/s	Fusing/Paper Exit Motor: 230 mm/s
5804 32	Fusing Exit Motor: 205mm/s	Fusing/Paper Exit Motor: 205 mm/s
5804 33	Fusing Exit Motor: 154mm/s	Fusing/Paper Exit Motor: 154 mm/s

5804 35	Fusing Exit Motor: 77mm/s	Fusing/Paper Exit Motor: 77 mm/s
5804 36	Fusing Exit Motor: 56mm/s	Fusing/Paper Exit Motor: 56 mm/s
5804 37	Toner Relay Motor	Toner Transport Motor
5804 40	Image Transfer Motor: 230mm/s	ITB Drive Motor: 230 mm/s
5804 41	Image Transfer Motor: 205mm/s	ITB Drive Motor: 205 mm/s
5804 42	Image Transfer Motor: 154mm/s	ITB Drive Motor: 154 mm/s
5804 44	Image Transfer Motor: 77mm/s	ITB Drive Motor: 77 mm/s
5804 50	Feed Motor: 300mm/s	Paper Feed Motor: 300 mm/s
5804 51	Feed Motor: 265mm/s	Paper Feed Motor: 265 mm/s
5804 53	Feed Motor: 230mm/s	Paper Feed Motor: 230 mm/s
5804 54	Feed Motor: 205mm/s	Paper Feed Motor: 205 mm/s
5804 55	Feed Motor: 154mm/s	Paper Feed Motor: 154 mm/s
5804 56	Regist Motor: 115mm/s	Paper Feed Motor: 115mm/s
5804 57	Feed Motor: 77mm/s	Paper Feed Motor: 115mm/s
5804 58	Regist Motor: 215mm/s	Registration Motor: 215 mm/s
5804 60	Regist Motor: 230mm/s	Registration Motor: 230 mm/s
5804 61	Regist Motor: 205mm/s	Registration Motor: 205 mm/s
5804 62	Regist Motor: 154mm/s	Registration Motor: 154 mm/s
5804 64	Regist Motor: 77mm/s	Registration Motor: 77 mm/s
5804 67	Duplex Feed M:CW:230mm/s	Duplex/By-pass Motor: CW: 230 mm/s
5804 68	Duplex Feed M:CW:205mm/s	Duplex/By-pass Motor: CW: 205 mm/s
5804 69	Duplex Feed Motor: CW: 154mm/s	Duplex/By-pass Motor: CW: 154 mm/s
580471	Duplex Feed Motor: CW: 77mm/s	Duplex/By-pass Motor: CW: 77 mm/s
5804 74	Duplex Feed M:CCW:230mm/s	Duplex/By-pass Motor: CCW: 230 mm/s

580475	Duplex Feed M:CCW:205mm/s	Duplex/By-pass Motor: CCW: 205 mm/s
5804 76	Duplex Feed Motor: CCW: 154mm/s	Duplex/By-pass Motor: CCW: 154 mm/s
5804 78	Duplex Feed Motor: CCW: 77mm/s	Duplex/By-pass Motor: CCW: 77 mm/s
5804 81	Duplex Reverse M:CW:230mm/s	Duplex Inverter Motor: CW: 230 mm/s
5804 82	Duplex Reverse M:CW:205mm/s	Duplex Inverter Motor: CW: 205 mm/s
5804 83	Duplex Reverse Motor: CW: 154mm/ s	Duplex Inverter Motor: CW: 154 mm/s
5804 85	Duplex Reverse Motor: CW: 77mm/s	Duplex Inverter Motor: CW: 77 mm/s
5804 88	Duplex Reverse M:CCW:230mm/s	Duplex Inverter Motor: CCW: 230 mm/s
5804 89	Duplex Reverse M:CCW:205mm/s	Duplex Inverter Motor: CCW: 205 mm/s
5804 90	Duplex Reverse Motor: CCW: 154mm/s	Duplex Inverter Motor: CCW: 154 mm/s
5804 92	Duplex Reverse Motor: CCW: 77mm/ s	Duplex Inverter Motor: CCW: 77 mm/s
5804 95	ITB Contact Motor	Image Transfer Belt Contact Motor
5804 96	Paper Transfer Contact Motor	Paper Transfer Contact Motor
5804 97	1 st Tray Lift Motor: Up	Tray Lift Motor 1: Lift Up
5804 98	1 st Tray Lift Motor: Down	Tray Lift Motor 1: Lift Down
5804 99	2nd Tray Lift Motor: Up	Tray Lift Motor 2: Lift Up
5804 100	2nd Tray Lift Motor: Down	Tray Lift Motor 2: Lift Down
5804 102	Fusing Pressue Release Motor	Pressure Roller Contact Motor
5804 104	Polygon Moter: LL	Polygon Motor: LL
5804 105	Polygon Moter: L	Polygon Motor: L

5804 107	Polygon Moter: HH	Polygon Motor: HH
5804 110	Air Flow Fan: Front	Ventilation Fan - Front
5804 111	Air Flow Fan:Rear	Ventilation Fan - Rear
5804 112	Fusing Fan:H	Fusing Fan: High Speed
5804 113	Fusing Fan:L	Fusing Fan: Low Speed
5804 114	PSU Cooling Fan	PSU Fan 1: High Speed
5804 115	2nd Duct Fan: H	Duct Fan 2: High Speed
5804 117	3rd Duct Fan: H	Duct Fan 3: High Speed
5804 119	Paper Exit Fan:H	Paper Exit Fan: High Speed
5804 121	Fusing Coil Fan	IH Coil Fan
5804 122	IH Power Supply Cooling Fan	IH Inverter Fan
5804 126	Development Clutch: Bk	Development Clutch-K
5804 127	Development Clutch: M	Development Clutch-M
5804 128	Development Clutch: C	Development Clutch-C
5804 129	Development Clutch: Y	Development Clutch-Y
5804 130	Toner Bottle Clutch: Bk	Toner Bottle Clutch-K
5804 131	Toner Bottle Clutch: M	Toner Bottle Clutch-M
5804 132	Toner Bottle Clutch: C	Toner Bottle Clutch-C
5804 133	Toner Bottle Clutch:Y	Toner Bottle Clutch-Y
5804 134	Toner Supply Pump: Bk	Toner Supply Clutch: Bk
5804 135	Toner Supply Pump: M	Toner Supply Clutch: M
5804 136	Toner Supply Pump: C	Toner Supply Clutch: C
5804 137	Toner Supply Pump: Y	Toner Supply Clutch: Y
5804 138	1 st Paper Feed Clutch	Paper Feed Clutch 1
5804 139	2nd Paper Feed Clutch	Paper Feed Clutch 2
5804 140	Bypass Feed Clutch	By-pass Feed Clutch

5804 141	Bypass Pickup Solenoid	Bypass Pickup Solenoid
5804 142	Feed Tray Lock Solenoid	Tray Lock Solenoid
5804 143	TD Sensor Shutter Solenoid	ID Sensor Shutter Solenoid
5804 144	Exit Junction Solenoid	Junction Gate 1 Solenoid
5804 145	1st Feed Pickup Solenoid	1 st Pickup Solenoid
5804 146	2st Feed Pickup Solenoid	2nd Pickup Solenoid
5804 147	Duplex Junction Solenoid	Duplex Junction Solenoid
5804 161	PCL: Bk	
5804 162	PCL: M	
5804 163	PCL: C	
5804 164	PCL: Y	
5804 166	HST Sensor:Bk	TD Sensor:Bk
5804 167	HST Sensor: M	TD Sensor: M
5804 168	HST Sensor: C	TD Sensor: C
5804 169	HST Sensor: Y	TD Sensor: Y
5804 170	Toner End Sensor: Bk	Toner End Sensor: Bk
5804 171	Toner End Sensor: M	Toner End Sensor: M
5804 172	Toner End Sensor: C	Toner End Sensor: C
5804 173	Toner End Sensor: Y	Toner End Sensor: Y
5804 174	TM Sensor: Front	ID Sensor: Front
5804 175	TM Sensor: Center	ID Sensor: Center
5804 176	TM Sensor: Rear	ID Sensor: Rear
5804 177	TM Sensor: M	ID Sensor: M
5804 178	TM Sensor: C	ID Sensor: C
5804 179	TM Sensor: Y	ID Sensor: Y

5804 181	Bank Motor 2: 115mm/s	Paper Feed Motor 2: 115 mm/s (Optional Paper Feed Unit)
5804 182	Bank Motor 2: 154mm/s	Paper Feed Motor 2: 154 mm/s (Optional Paper Feed Unit)
5804 183	Bank Motor 2: 205mm/s	Paper Feed Motor 2: 205 mm/s (Optional Paper Feed Unit)
5804 184	Bank Motor 2: 215mm/s	Paper Feed Motor 2: 215 mm/s (Optional Paper Feed Unit)
5804 186	PP:Development:K	-
5804 187	PP:Development:M	-
5804 188	PP:Development:C	-
5804 189	PP:Development:Y	-
5804 190	PP:Separation	-
5804 192	RFID ON/OFF: K	-
5804 193	RFID ON/OFF: Y	-
5804 194	RFID ON/OFF: C	-
5804 195	RFID ON/OFF: M	-
5804 196	RFID COM ON:K	-
5804 197	RFID COM ON: Y	-
5804 198	RFID COM ON: C	-
5804 199	RFID COM ON: M	-
5804 202	Scanner Lamp	-
5804 216	LD1: K	-
5804 217	LD2: K	-
5804 218	LD1: M	-
5804 219	LD2: M	-
5804 220	LD1: C	-

5804 221	LD2: C	-
5804 222	LD1: Y	-
5804 223	LD2: Y	-
5804 224	PP:ITB:K	PP: Image Transfer Roller: K
5804 225	PP:ITB:M	PP: Image Transfer Roller: M
5804 226	PP:ITB:C	PP: Image Transfer Roller: C
5804 227	PP:ITB:Y	PP: Image Transfer Roller: Y
5804 228	PP:PTR:+	PP: Paper Transfer Roller:+
5804 229	PP:PTR:-	PP: Paper Transfer Roller:-
5804 231	HVPS: ChargeDC: K	-
5804 232	HVPS: ChargeDC: M	-
5804 233	HVPS: ChargeDC: C	-
5804 234	HVPS: ChargeDC: Y	-
5804 237	PP:Charge AC:K:230mm/s	-
5804 238	PP:Charge AC:K:205mm/s	-
5804 239	HVPS: ChargeAC: K: 154mm/s	-
5804 241	HVPS: ChargeAC: K: 77mm/s	-
5804 244	PP:Charge AC:M:230mm/s	-
5804 245	PP:Charge AC:M:205mm/s	-
5804 246	HVPS: ChargeAC: M: 154mm/s	-
5804 248	HVPS: ChargeAC: M: 77mm/s	-
5804 251	PP:Charge AC:C:230mm/s	-
5804 252	PP:Charge AC:C:205mm/s	-
5804 253	HVPS: ChargeAC: C: 154mm/s	-
5804 255	HVPS: ChargeAC: C: 77mm/s	-

# 1000-Sheet Booklet Finisher (B793)

6143	Display	Description
6143 1	Shift Motor	Shift Tray Motor
6143 2	Entrance Motor	-
6143 3	Staple Relay Motor	Stapler Unit Motor
6143 4	Knock Solenoid	
6143 5	Junction Gate SOL 1	Proof Tray Gate Solenoid
6143 6	Junction Gate SOL 2	Staple Tray Gate Solenoid
61437	Folder Roller Rotation Motor	Fold Roller Motor
6143 8	Staple Motor	Staple Fold Motor
6143 10	Exit Guide Plate Motor	-
6143 11	Shift Relay Motor	Upper Transport Motor
6143 12	Tray Motor	Shift Tray Motor
6143 13	Stack Feed-out Motor	Positioning Roller Solenoid
6143 14	Stuck Relay1 Motor	Upper Clamp Roller Motor
6143 15	Stuck Relay1 Release Motor	Upper Retraction Motor
6143 16	Rear Edge Fence Drive Motor	Bottom Fence Lift Motor
6143 17	Folder Plate Motor	-
6143 18	Drive Roller Oscillating Motor	Lower Retraction Motor
6143 19	Staple Moving Motor	Staple Unit Driver Motor
6143 20	Jogger Motor	Jogger Motor
6143 21	Punch Registration Moving Motor	Paper Position Sensor Slide Motor
6143 22	Punch Motor	-
6143 23	Punch Moving Motor	Punch Movement Motor

### 3000-Sheet Finisher

6145	Display	Description
6145 1	Entrance Motor	Finisher Entrance Motor
6145 2	Upper Feed Motor	Upper Transport Motor
6145 3	Lower Feed Motor	Lower Transport Motor
6145 4	Exit Motor	Upper/Proof Tray Exit Motor
6145 5	Knock Roller Motor	Clamp Roller Retraction Motor
6145 6	Shift Motor	Shift Roller Motor
61457	Exit Guide Plate Open/Close Motor	Exit Guide Plate Motor
6145 8	Tray Lift Motor	Upper Tray Lift Motor
6145 9	Oscillating Back Roller Motor	Stacking Sponge Roller Motor
6145 10	Jogger Motor	Jogger Fence Motor
6145 11	Stack Feed-out Motor	Feed Out Belt Motor
6145 12	Staple Moving Motor	Corner Stapler Movement Motor
6145 13	Staple Skew Motor	Corner Stapler Rotation Motor
6145 14	Staple Motor	Corner Stapler EH530
6145 15	Upper Junction Gate Solenoid	Proof Junction Gate Solenoid
6145 16	Lower Junction Gate Solenoid	Stapling Tray Junction Gate Solenoid
6145 17	Knock Solenoid	Stapling Edge Pressure Plate Solenoid
6145 18	Trailing Edge Hold Solenoid	Positioning Roller Solenoid
6145 19	Saddle Stitch Hold Solonoid	Booklet Pressure Roller Solenoid
6145 20	Stack Junction Gate Open/Close Motor	Stack Junction Gate Motor
6145 21	Trailing Edge Fence Moving Motor	Fold Unit Bottom Fence Lift Motor
6145 22	Saddle Stitch Staple Motor: Front	Booklet Stapler EH185R: Front
6145 23	Saddle Stitch Staple Motor: Rear	Booklet Stapler EH185R: Rear

6145 24	Folder Plate Motor	Fold Plate Motor
6145 25	Folder Roller Motor	Fold Roller Motor
6145 26	Drive Roller Oscillating Motor	Positioning Roller Motor
6145 27	Punch Motor	Punch Drive Motor
6145 28	Punch Moving Motor	Punch Movement Motor
6145 29	Punch Registration Detection Motor	Paper Position Sensor Slide Motor
6145 30	Exit Jogger Motor: Front	-
6145 31	Exit Jogger Motor: Rear	-
6145 32	Exit Jogger Release Motor	-

### Mail Bin (G835)

6147	Display	Description
6147 1	Feed Motor	-
6147 2	Solenoid 1	Junction Gate Solenoid: 1 (Tray 1)
6147 3	Solenoid 2	Junction Gate Solenoid: 2 (Tray 2)
6147 6	Solenoid 3	Junction Gate Solenoid: 3 (Tray 3)

6157	Display	Description	
6157 1	4bin:Junction SOL	Not used in this machine.	

# Bridge Unit (D386)

6151	Display	Description	
61511	Bridge: Feed Motor: Current Selection	Bridge: Feed Motor: Current switching signal	
6151 2	Bridge: Feed Motor:Reset	Bridge: Feed Motor:Reset	
61513	Bridge: Feed Motor:Enable	Bridge: Feed Motor:Enable	
61516	Bridge: Feed Motor:230mm/s	Bridge: Feed Motor: 230mm/s	

61517	Bridge: Feed Motor:205mm/s	Bridge: Feed Motor: 205mm/s	
61518	Bridge: Feed Motor: 154mm/s	Bridge: Feed Motor:154mm/s	
6151 10	Bridge: Feed Motor: 77mm/s	Bridge: Feed Motor: 77mm/s	
615111	Bridge: Junction Solenoid	Bridge: Junction Solenoid	

# One or Two-Tray PFU (D387/D351)/ LCIT 2000 (D352)

6161	Display	Description	
61615	Bank1: Feed Motor:300mm/s	Feed Motor:300mm/s (D351/D352/D387)	
6161.6	Bank1: Feed Motor:265mm/s	Feed Motor:265mm/s (D351/ D352/D387)	
61618	Bank1: Feed Motor:230mm/s	Feed Motor:230mm/s (D351/D352/D387)	
61619	Bank1: Feed Motor:215mm/s	Feed Motor:215mm/s (D351/D352/D387)	
6161 10	Bank1: Feed Motor:205mm/s	Feed Motor:205mm/s (D351/D352/D387)	
616111	Bank1: Feed Motor:154mm/s	Feed Motor:154mm/s (D351/D352/D387)	
616112	Bank1: Feed Motor:115mm/s	Feed Motor:115mm/s (D351/ D352/D387)	
616113	Bank1: Feed Motor:77mm/s	Feed Motor:77mm/s (D351/D352/D387)	
6161 15	Bank2: Feed Motor:300mm/s	Not used in this machine.	
616116	Bank2: Feed Motor:265mm/s	Not used in this machine.	
6161 18	Bank2: Feed Motor:230mm/s	Not used in this machine.	
6161 19	Bank2: Feed Motor:215mm/s	Not used in this machine.	

6161 20	Bank2: Feed Motor:205mm/s	Not used in this machine.	
6161 21	Bank2: Feed Motor:154mm/s	Not used in this machine.	
6161 22	Bank2: Feed Motor:115mm/s	Not used in this machine.	
6161 23	Bank2: Feed Motor:77mm/s	Not used in this machine.	
6161 25	Bank1:Tray Lock Solenoid	Tray Lock Solenoid (D351/D352)	
6161 26	Bank2:Tray Lock Solenoid	Not used in this machine.	
6161 30	Bank:Tray3: PU Solenoid	Pick-up Solenoid (D351/D352)	
616131	Bank:Tray4: PU Solenoid	Pick-up Solenoid (D351)	
6161 32	Bank:Tray5: PU Solenoid	Pick-up Solenoid (D353)	
6161 35	Bank:Tray3: Feed Clutch	Pick-up Solenoid (D351/ D352)	
616136	Bank:Tray4: Feed Clutch	Pick-up Solenoid (D351)	
6161 37	Bank:Tray5: Feed Clutch	Not used in this machine.	

#### **Test Pattern Printing**

Printing Test pattern: SP2-109

Some of these test patterns are used for print image adjustments but most are used primarily for design testing.

#### Note

- Do not operate the machine until the test pattern is printed out completely. Otherwise, an SC occurs.
- 1. Enter the SP mode and select SP2-109-003.
- 2. Enter the number for the test pattern that you want to print and press "OK" key.
- 3. When you want to select the single color of Magenta, Yellow or Cyan for printing a test pattern, select the color with SP2-109-005 (2: Magenta, 3: Yellow, 4: Cyan).
- 4. When you want to change the density of printing a test pattern, select the density with SP2-109-006 to -009 for each color.

#### Vote

- If you select "0" with SP2-109-006 to -009, the color to be adjusted to "0" does not come up on a test pattern.
- 5. When you are prompted to confirm your selection, press "OK" key to select the test pattern for printing.
- 6. Exit SP mode.

- Enter the menu mode, and then select "Color Demo Page" (Menu > "List/Test Print" > "Color Demo Page").
- 8. Press the "OK" key to start the test print.
- 9. After checking the test pattern, enter the SP mode again.
- 10. Return the value of the setting in SP2-109-003 to "00" before completing this procedure.
- 11. Exit the SP mode.

No.	Pattern	No.	Pattern
0	None	11	Independent Pattern (1-dot)
1	Vertial Line (1dot)	12	Independent Pattern (2-dot)
2	Vertial Line (2dot)	13	Independent Pattern (4-dot)
3	Horizontal Line (1dot)	14	Triming Area
4	Horizontal Line (2dot)	16	Tooth Check (Horizontal)
5	Grid Vertical Line	17	Band (Horizontal)
6	Grid Horizontal Line	18	Band (Vertical)
7	Grid Pattern Small	19	Checker Flag Pattern
8	Grid Pattern Large	20	Grayscale (Vertical Margin)
9	Argyle Pattern Small	21	Grayscale (Horizontal Margin)
10	Argyle Pattern Large	23	Full Dot Pattern