SP 8400DN
Machine Code: M0AN
Field Service Manual
Ver 1.01

Latest Release: Jun, 2017
Initial Release: Apr, 2017
(c) 2017 Ricoh Co.,Ltd.

Revision Lists

Ver.	Revision Date
1.01	09.06.2017

Installation Procedure

Ver.	Section	Item	Note
1.01	Internal Multi-fold Unit FD3000	Accessory check	The accessories not to be used are explained.
1.01	Internal Multi-fold Unit FD3000	Installation procedure	The note of step 16 is added.
1.01	Finisher SR3210	Installation procedure	The order of steps are changed.
1.01	Punch Unit PU3050	Installation procedure	The procedures and images in steps 4 and 5 are changed.
1.01	Mail Box CS3010	Accessary check	The image of the accessories is changed.
1.01	Mail Box CS3010	Installation procedure	The procedures are revised.
1.01	Attention Light AL3000	Installation procedure	The note is added at the beginning of the section.

Detailed Descriptions

Ver.	Section	Item	Note
1.01	Component Layout	Paper feed unit	The name of parts are revised.
1.01	Development	Toner supply	The descriptions are revised.
1.01	Waste Toner	Toner discarding	The values in the diagrams are revised.
1.01	Feed/ Transport part	Bypass feed section	The misspelling is corrected.
1.01	Feed/ Transport part	Bypass feed section > Bypass feed paper end detection	The misspelling is corrected.

Important Safety Notices

Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

⚠WARNING

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

⚠CAUTION

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the machine or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

Safety Information

Always obey the following safety precautions when using this product.

Safety During Operation

In this manual, the following important symbols and notations are used.



[A]: ON

[B]: OFF

[C]: Push ON/Push OFF

[D]: Standby

Switches and Symbols

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.

Safety

Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine and peripheral power cords are unplugged.
2. The plug should be near the machine and easily accessible.
3. Note that some components of the machine and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
4. Always unplug the power cord from the power source before you move the product. Before you move the machine, arrange the power cord so it will not fall under the machine.
5. Disconnect all peripheral units (finisher, LCT, etc.) from the mainframe before you move the machine.
6. 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.
7. The machine 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 machine starts operation.
8. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.
9. To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.
10. Do not use flammable sprays or solvent in the vicinity of the machine. Also, avoid placing these items in the vicinity of the machine. Doing so could result in fire or electric shock.
11. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
12. Clean the floor completely after accidental spillage of silicone oil or other materials to prevent slippery surfaces that could cause accidents leading to hand or leg injuries.
13. Never remove any safety device unless it requires replacement. Always replace safety devices immediately.
14. Never do any procedure that defeats the function of any safety device.
15. Modification or removal of a safety device (fuse, switch, etc.) could lead to a fire and personal injury. Always test the operation of the machine to ensure that it is operating normally and safely after removal and replacement of any safety device.
16. For replacements use only the correct fuses or circuit breakers rated for use with the machine. Using replacement devices not designed for use with the machine could lead to a fire and personal injuries.
17. For machines installed with the ADF/ARDF:
    When a thick book or three-dimensional original is placed on the exposure glass and the ARDF cover is lowered, the back side of the ARDF rises up to accommodate the original. Therefore, when closing the ARDF, please be sure to keep your hands away from the hinges at the back of the ARDF.
18. When using a vacuum cleaner around the machine, keep others away from the cleaner, especially small children.
19. For machines installed with the anti-tip components:
    The anti-tip components are necessary for meeting the requirements of IEC60950-1, the international standard for safety. The aim of these components is to prevent the products, which are heavy in weight, from

toppling as a result of people running into or leaning onto the products, which can lead to serious accidents such as persons becoming trapped under the product. (U.S.: UL60950-1, Europe: EN60950-1) Therefore, removal of such components must always be with the consent of the customer. Do not remove them at your own judgment.

20. **NEVER touch** the AC circuits on the PSU board to prevent electric shock caused by residual charge. Residual charge of about 100V-400V remains in the AC circuits on the PSU board for several months even when the board has been removed from the machine after turning off the machine power and unplugging the power cord.

Health Safety Conditions

1. For the machines installed with the ozone filters:
   - Never operate the machine without the ozone filters installed.
   - Always replace the ozone filters with the specified types at the proper intervals.
2. The machine, which use high voltage power source, can generate ozone gas. High ozone density is harmful to human health. Therefore, locate the machine in a large well ventilated room that has an air turnover rate of more than $50m^3$/hr/person.
3. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

Observance of Electrical Safety Standards

1. The machine and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models with exceptions on some machines where the installation can be handled by the user.

Safety and Ecological Notes for Disposal

- Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
- Dispose of used toner, developer, organic photoconductors, and AIO unit in accordance with local regulations. (These are non-toxic supplies.)
- Dispose of replaced parts in accordance with local regulations.
- 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.

⚠CAUTION

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 used batteries in accordance with the manufacturer's instructions.

Handling Toner

- Work carefully when removing paper jams or replacing toner bottles or cartridges to avoid spilling toner on clothing or the hands.
- If toner is inhaled, immediately gargle with large amounts of cold water and move to a well-ventilated location. If there are signs of irritation or other problems, seek medical attention.

- If toner gets on the skin, wash immediately with soap and cold running water.
- If toner gets into the eyes, flush the eyes with cold running water or eye wash. If there are signs of irritation or other problems, seek medical attention.
- If toner is swallowed, drink a large amount of cold water to dilute the ingested toner. If there are signs of any problem, seek medical attention.
- If toner spills on clothing, wash the affected area immediately with soap and cold water. Never use hot water! Hot water can cause toner to set and permanently stain fabric.
- Always store toner and developer supplies such as toner and developer packages, cartridges, bottles (including used toner and empty bottles and cartridges), and AIO unit out of the reach of children.
- Always store fresh toner supplies or empty bottles or cartridges in a cool, dry location that is not exposed to direct sunlight.
- Do not use a vacuum cleaner to remove spilled toner (including used toner). Vacuumed toner may cause a fire or explosion due to sparks or electrical contact inside the cleaner. However, it is possible to use a cleaner designed to be dust explosion-proof. If toner is spilled over the floor, sweep up spilled toner slowly and clean up any remaining toner with a wet cloth.

Handling the development unit cooling system

For the machines installed the development cooling system:

1. The development unit cooling system circulates propylene glycol from a sealed tank through hoses that pass behind cooling plates on the sides of each development unit.
2. The coolant tank is located at the bottom of the cooling box on the back of the main machine.
3. Always obey local laws and regulations if you need to dispose of a tank or the propylene glycol coolant.
4. The tank must never be emptied directly into a local drainage system, river, pond, or lake.
5. Contact a professional industrial waste disposal organization and ask them to dispose of the tank.

Lithium Batteries for Taiwan

警告

本機器內的鋰電池如果更換不正確型號會有爆炸的危險。
只能使用相同或製造商推薦同等類型的電池進行更換。
請依製造商說明書處理用過之廢棄電池。

Laser Safety

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

⚠WARNING

- Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

WARNING FOR LASER UNIT

WARNING:

Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes.



_safe006



_safe007



_safe008

Safety Instructions for the Color Controller

Fuse

The color controller uses a double pole fuse. If this fuse blows, be sure to replace it with an identical fuse.

Batteries

⚠CAUTION

Always replace a battery with the same type of battery prescribed for use with the color controller unit. Replacing a battery with any type other than the one prescribed for use could cause an explosion.

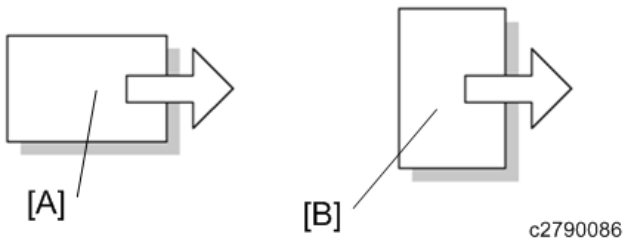
- Never discard used batteries by mixing them with other batteries or other refuse.
- Always remove used batteries from the work site and dispose of them in accordance with local laws and regulations regarding the disposal of such items.

Symbols, Abbreviations and Trademarks

Symbols, Abbreviations

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

Symbol	What it means
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
K	Black
C	Cyan
M	Magenta
Y	Yellow
B/W, BW	Black and White
FC	Full color



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

Trademarks

Adobe, Acrobat, PageMaker, PostScript, and PostScript 3 are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Ricoh Company, Ltd. is under license.

Firefox is a registered trademarks of the Mozilla Foundation.

Google, Android and Chrome are trademark of Google Inc.

Java is a registered trademark of Oracle and/or its affiliates.

JAWS® is a registered trademark of Freedom Scientific, Inc., St. Petersburg, Florida and/or other countries.

Kerberos is a trademark of the Massachusetts Institute of Technology (MIT).

Linux is a registered trademark of Linus Torvalds.

Macintosh, OS X, Bonjour and Safari are trademarks of Apple Inc., registered in the U.S. and other countries.

Microsoft, Windows, Windows Server, Windows Vista, Internet Explorer and Microsoft Edge are either registered trademarks or trademarks of Microsoft Corp. in the United States and/or other countries.

QR Code is a registered trademark of DENSO WAVE INCORPORATED in Japan and in other countries.

"Red Hat" is a registered trademark of Red Hat, Inc.

The SD and SD logo are trademarks of SD-3C, LLC.

UPnP is a trademark of UPnP Implementers Corporation.



This product includes RSA BSAFE® Cryptographic software of EMC Corporation. RSA and BSAFE are registered trademarks or trademarks of EMC Corporation in the United States and other countries.

The proper names of Internet Explorer 7 and 8 are as follows:

- Windows® Internet Explorer® 7
- Windows® Internet Explorer® 8

The proper names of the Windows operating systems are as follows:

- The product names of Windows Vista are as follows:
  Microsoft® Windows Vista® Ultimate
  Microsoft® Windows Vista® Business
  Microsoft® Windows Vista® Home Premium
  Microsoft® Windows Vista® Home Basic
  Microsoft® Windows Vista® Enterprise
- The product names of Windows 7 are as follows:
  Microsoft® Windows® 7 Home Premium

Microsoft® Windows® 7 Professional
Microsoft® Windows® 7 Ultimate
Microsoft® Windows® 7 Enterprise

- The product names of Windows 8.1 are as follows:
  Microsoft® Windows® 8.1
  Microsoft® Windows® 8.1 Pro
  Microsoft® Windows® 8.1 Enterprise
- The product names of Windows 10 are as follows:
  Microsoft® Windows® 10 Home Premium
  Microsoft® Windows® 10 Pro
  Microsoft® Windows® 10 Enterprise
  Microsoft® Windows® 10 Education
- The product names of Windows Server 2008 are as follows:
  Microsoft® Windows Server® 2008 Standard
  Microsoft® Windows Server® 2008 Enterprise
- The product names of Windows Server 2008 R2 are as follows:
  Microsoft® Windows Server® 2008 R2 Standard
  Microsoft® Windows Server® 2008 R2 Enterprise
- The product names of Windows Server 2012 are as follows:
  Microsoft® Windows Server® 2012 Foundation
  Microsoft® Windows Server® 2012 Essentials
  Microsoft® Windows Server® 2012 Standard
- The product names of Windows Server 2012 R2 are as follows:
  Microsoft® Windows Server® 2012 R2 Foundation
  Microsoft® Windows Server® 2012 R2 Essentials
  Microsoft® Windows Server® 2012 R2 Standard
- The product names of Windows Server 2016 are as follows:
  Microsoft® Windows Server® 2016 Standard
  Microsoft® Windows Server® 2016 Datacenter
  Microsoft® Windows Server® 2016 Essentials
  Microsoft® Windows Server® 2016 MultiPoint Premium Server

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.
Microsoft product screen shots reprinted with permission from Microsoft Corporation.

Table of Contents

1. Product Information 13
Product Overview 13
Component Layout 13
Paper Path 14
Drive Layout 16
Machine Codes and Peripherals Configuration 17
System Configuration and Options 17
Specifications 19
2. Installation 20
Installation Requirements 20
Environment 20
Machine Space Requirements 21
Machine Dimensions 21
Power Requirements 24
Who Installs the Peripherals and Options 25
Main Machine Installation 26
Installation Flow Chart 26
Accessory Check 27
Installation Procedure 28
Check Image Quality / Settings 34
Security Settings 37
Auto Remote Firmware Update (ARFU) Settings 52
Moving the Machine 58
Paper Feed Unit PB3240 (M494-17, -21) 61
Accessory Check 61
Installation procedure 61
LCIT PB3260 (M496-17, -27) 67
Accessory Check 67
Installation procedure 67
LCIT RT3030 (D696-17, -27) 74
Accessory Check 74
Installation procedure 74
Anti-Condensation Heater 82
Overview 82
Heater Board 84
PCU Heater 90
Tray Heater for Main Unit 97

Tray Heater for Paper Feed Unit PB3240 98
Tray Heater for LCIT PB3260 101
Bridge Unit BU3070 (D685-18) 104
Accessory Check 104
Installation procedure 104
Internal Multi-fold Unit FD3000 (M482-17) 110
Accessory Check 110
Installation Procedure 111
When Attaching a Finisher Downstream from the Internal Multi-Fold Unit 127
Finisher SR3230 (D3BA-17, -21) 129
Accessory Check 129
Installation Procedure 130
Attaching a Support Tray 136
Output Jogger Unit Type M25 (D3CJ-01) 139
Accessory Check 139
Installation Procedure 139
Punch Unit PU3060 (D706-00, -01, -02) 150
Accessory Check 150
Installation Procedure 151
Finisher SR3210 (D3B8-17, -21) 161
Accessory Check 161
Installation Procedure 162
Attaching a Proof Support Tray 169
Stapleless Stapler Initial Settings 171
Punch Unit PU3050 173
Accessory Check 173
Installation Procedure 173
Mail Box CS3010 (M481-17) 183
Accessory Check 183
Installation Procedure 185
Attention Light AL3000 (M500-36) 207
Component Check 207
Installation Procedure 207
Indicator Behavior 218
NFC Card Reader Type P11 (M512-18) 219
Accessory Check 219
Installation Procedure 220
External NFC Card Reader Bracket Type P11 (M512-17) 229
Accessory Check 229

Installation Procedure 230
Internal Options 240
IEEE 1284 Interface Board Type M19 (D3C0-17) 241
Accessory Check 241
Installation Procedure 241
IEEE 802.11a/b/g/n Interface Unit Type M19 (D3BR-01) 243
Accessory Check 243
Installation Procedure 243
User Tool Settings for IEEE 802.11a/b/g/n 245
SP Mode Settings for IEEE 802.11 Wireless LAN 246
HDD Option Type P13 (M513-19) 248
Component Check 248
Installation Procedure 248
Extended USB Board Type M19 (D3BS-01) 252
Component Check 252
Installation Procedure 252
SD Card Options 254
SD Card Slots 254
List of Slots Used 254
SD Card Appli Move 255
Overview 255
Move Exec 256
Undo Exec 257
PostScript3 Unit Type P13 (M513-22, -23, -24) 260
Accessory Check 260
Overview of PostScript3 Unit Type P13 (Adobe PS) 260
Installation procedure (Adobe PS) 260
XPS Direct Print Option Type P13 (M513-09, -10, -11) 264
Accessory Check 264
Installation Procedure 264
VM Card Type P13 (M513-25, -26, -27) 266
Accessory Check 266
Installation Procedure 266
IPDS Unit Type P13 (M513-13, -14, -15) 268
Accessory Check 268
Installation Procedure 268
@Remote Settings 270
Operation Guidance for Users 275
3. Preventive Maintenance 276

PM Parts Settings 276
Replacement procedure of the PM parts 276
After installing the new PM parts 278
PM Parts List 280
4. Replacement and Adjustment 281
Notes on the Main Power Switch 281
Push Switch 281
Beforehand 284
Special Tools and Lubricants 285
Exterior Covers 286
Overview 286
Quick Reference for Removing Covers 288
Front Cover 288
Controller Cover 289
Left Upper Cover 290
Left Rear Cover 291
Left Cover 291
Rear Left Cover 293
Rear Cover 293
Rear Lower Gap Cover 294
Rear Lower Cover 294
Right Rear Cover 294
Right Upper Cover 295
Right Cover 296
Upper Front Cover 297
Main Power Switch Cover 298
Paper Exit Tray 299
Paper Exit Cover 299
Paper Exit Lower Cover 300
Upper Inner Cover 300
Paper Exit Front Cover 302
Top Right Cover 302
Top Rear Cover 302
Inner Cover 303
Toner Supply Housing 305
Smart Operation Panel 307
Operation Panel Unit 307
Internal Parts 310
USB Cable / Harness 310

Laser Unit 313
Caution Decal Location 313
Laser Unit 313
Quenching Lamp 316
PCL (Pre Cleaning Light) 317
PCDU 318
PCDU 318
PCU/Development Unit 320
OPC Drum 322
Charge Roller, Cleaning Roller 324
Pick-off Pawls 325
Cleaning Blade 325
Developer 326
Development Filters 331
TD Sensor 332
Development Mixing Auger Bearings 332
Development Mixing Auger (L / R) 334
Waste Toner 336
Waste Toner Bottle 336
Toner Collection Full Sensor 336
Recycling Shutter 337
Transfer Unit 340
Transfer Unit 340
Transfer Roller Unit 341
ID Sensor 342
Transfer Unit Open/Closed LED 343
Temperature/Humidity Sensor 344
Fusing Entrance Sensor 345
Transfer Unit Open/Closed Sensor 345
Drive Unit 347
Drum/Waste Toner Motor 347
Development Motor 347
Fusing Motor 347
Paper Exit Motor 348
Registration Motor 348
Paper Feed Motor 349
Vertical Transport Motor 349
Transfer Roller Contact Motor 349
Toner Hopper 350

Toner Supply Motor 352
Fusing Unit 355
Replacement 355
Fusing Entrance Guide Plate 356
Fusing Exit Guide Plate 357
Fusing Upper Cover 357
Fusing Lower Cover 358
Heating Sleeve Belt Unit 359
Pressure Roller, Pressure Roller Bearings and Pressure Roller Idler Gears 361
Thermostat Unit 363
Fusing Roller Temperature Sensors 364
Pressure Roller Temperature Sensors 364
Fusing Thermopiles 365
Notes When Reassembling the Fusing Unit 365
Paper Exit 367
Paper Exit Unit 367
Paper Exit Switching Solenoid 368
Paper Exit Sensor 368
Reverse Sensor 369
Paper Exit Full Sensor 370
Reverse Motor 370
Fusing Exit Sensor 372
Inverter Guide Cover Sensor 372
Paper Feed 374
Paper Feed Unit 374
Paper Dust Collection Unit 378
Pick-up Roller, Paper Feed Roller, Separation Roller, Torque Limiter 379
1st / 2nd Paper Feed Tray Lift Motor 380
1st / 2nd Paper Feed Sensor 381
Vertical Transport Sensor 382
Limit Sensor 383
1st Paper End Sensor / 2nd Paper End Sensor 384
Registration Sensor 385
Duplex Unit 387
Duplex/By-pass Motor 387
Duplex Entrance Motor 388
Duplex Entrance Sensor 389
Duplex Exit Sensor 390
Bypass Tray Unit 392

Bypass Tray 392
Bypass Paper End Sensor 394
Bypass Pick-up Roller 395
Bypass Paper Feed Roller 395
Bypass Separation Roller 396
Torque Limiter 396
Bypass Width Sensor 396
Bypass Length Sensor 399
PCBs and Other Items 400
Overview 400
Controller Box Cover 400
IPU 401
BCU 402
Controller Board 404
HVPS 408
PSU 409
Controller Box 411
Temperature Sensor 413
DC SW board 414
Fans/Filters 416
Odor Filter 416
Particulate Filter (EU/AA only) 417
Dust filter 417
Development Exhaust Fan 418
Paper Exit Cooling Fan 420
Fusing Fan 420
Development Bearing Cooling Fan 422
PSU Cooling Fan 423
Front Development Cooling Fan 424
Adjustment after Replacement 425
Test Pattern Printing 425
Image Adjustment 426
5. System Maintenance 431
Service Program Mode 431
Entering SP Mode 431
Exiting SP Mode 432
Types of SP Modes 432
Remarks 434
SP Mode Tables 437

Firmware Update (SD Card) 438
Overview 438
Firmware Type 438
Procedure 439
Error Screens During Updating 442
Firmware Update (Remote Firmware Update) 447
RFU Performable Condition 447
Firmware Update (Smart Firmware Update) 448
Overview 448
Immediate Update 449
Update at the Next Visit (Reserve) 451
Update via SD Card 457
Firmware Update (Auto Remote Firmware Update) 460
Overview 460
Downloading and Updating Process 460
Checking the ARFU Result 465
Checking the Result Using the Logging Data 465
Related SP 465
Updating JavaVM 469
Overview 469
Deactivating SDK Applications and Removing the VM Card 469
Updating JavaVM and Inserting the VM Card 471
Activating SDK Applications 472
NVRAM Data Upload/Download 473
Uploading Content of NVRAM to an SD card 473
Downloading an SD Card to NVRAM 474
UP/SP Data Import/Export 476
Overview 476
UP Data Import/Export 476
SP Data Import/Export 478
Possible solutions for import/export problems 481
Address Book Upload/Download 483
Information List 483
Download 483
Upload 484
Capturing the Device Logs 486
Overview 486
Storing the Device Logs on an SD card (When the HDD option is not installed) 487
Retrieving the Device Logs via Operation Panel 488

Retrieving the Device Logs via Web Image Monitor 491
SMC List Card Save Function 493
Overview 493
Procedure 493
Notes on Using the SMC List Card Save Function 495
File Names of the Saved SMC Lists 496
Error Messages 496
Card Save Function 497
Card Save 497
Procedure 497
Error Messages 500
6. Troubleshooting 501
Self-Diagnostic Mode 501
Service Call Conditions 501
SC Logging 502
SC Automatic Reboot 502
SC Manual Reboot 504
Controller Self-diagnosis Outline 505
HDD-related Message 506
List of Automatic Reboot Target SC 508
Engine SC 508
Controller SC 509
SC Code Classification 512
SC Tables: SC2xx (Image Writing) 513
SC202-00 to SC272-10 513
SC Tables: SC3xx (Image Processing 1: Charge, Development, Around the drum) 517
SC302-00 to SC396-01 517
SC Tables: SC4xx (Image Processing 2: Transfer/ Separation, Cleaning and others) 521
SC440-00 to SC498-00 521
SC Tables: SC5xx (Paper feed, Duplex, Transport, Fusing and others) 524
SC501-01 to SC589-02 524
SC Tables: SC6xx (Communication and Others) 555
SC621-01 to SC687-00 555
SC Tables: SC7xx (Peripherals) 567
SC720-03 to SC792-00 567
SC Tables: SC8xx (Controller) 584
SC816-01 to SC877-00 584
SC Tables: SC9xx (Others) 597
SC900-00 to SC998-00 597

Jam Detection 601
Paper Jam Display 601
Jam Codes and Display Codes 601
Sensor Locations 608
Paper Size Codes 608
Other Problems 610
When SC670 Is Displayed 610
When SC672 (Controller start up error) is displayed 610
Finisher Registration Adjustment 617
Stacking Problem at the Finisher SR3210 621
Finisher Jogger Problem for Finisher SR3210 (D3B8) 624
Maximum number of sheets for stapling and what happens when the job has too many pages 625
Fusing Offset Occurs at the Edge or Center of the Paper 626
Troubleshooting for Toner Density 629
Troubleshooting for Blots on Middle Thick Glossy or Coated Paper 630
Blown Fuse Conditions 631
7. Detailed Descriptions 633
Guidance for Those Who are Familiar with Predecessor Products 633
Differences between Similar Models and Previous Models 633
Component Layout 636
Paper Feed Unit 636
Laser Unit / PCDU 636
Fusing Unit 637
Waste Toner Bottle 638
Duplex/Bypass Unit 639
Paper Exit/Reverse Unit 640
Air Flow 641
Drive Unit 643
Electrical Components 644
Image Processing 646
Structural block diagram 646
IPU Mechanism 647
Laser Exposure 648
Overview 648
Auto Power Control (APC) 649
LD Safety Switch 650
PCDU (Photo Conductor and Development 651
Overview 651
OPC Drum Drive Mechanism 652

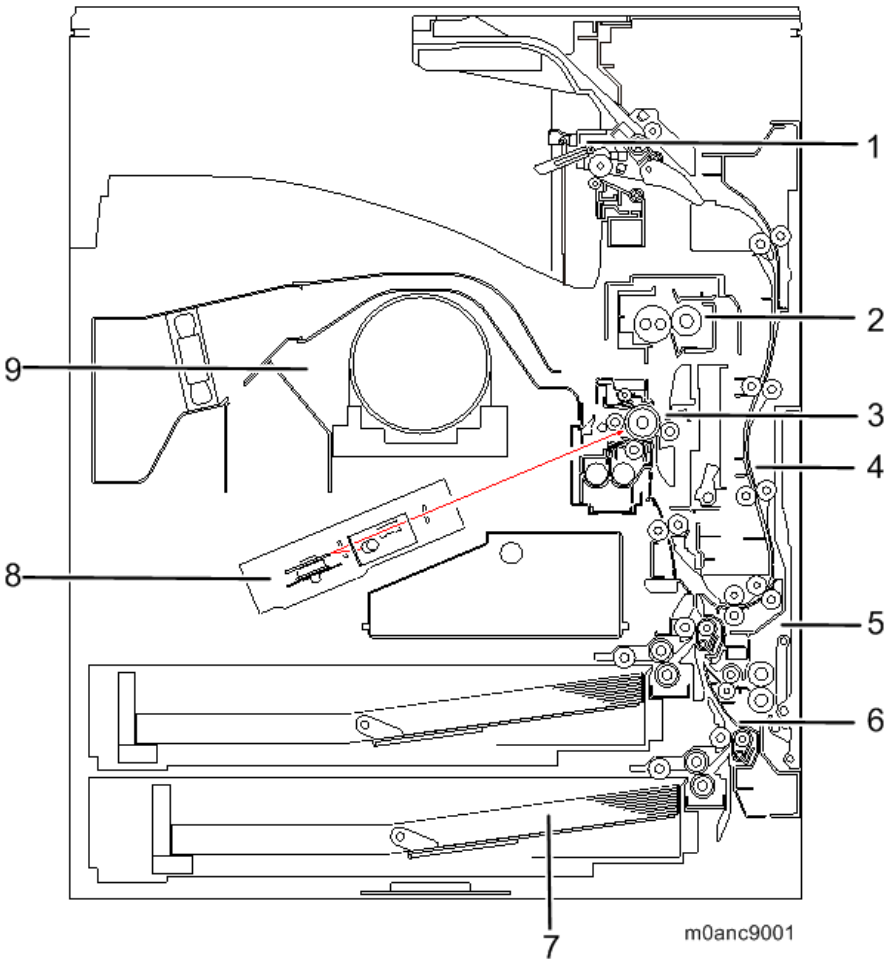
Drum Charge ... 652
Drum Cleaning, Toner Discarding ... 653
ID Sensor ... 653
Development ... 654
Overview ... 654
Development Mechanism ... 655
Development Bias ... 655
Drive ... 656
Toner Supply ... 656
Toner Density Control ... 657
Toner End Detection ... 657
Toner End Recovery ... 658
Transfer and Separation ... 659
Overview ... 659
Transfer Roller Unit Charge ... 660
Transfer Roller Contact and Release Mechanism ... 660
New unit detection of the transfer roller unit ... 661
Fusing ... 662
Overview ... 662
Mechanism ... 663
Waste Toner ... 668
Toner Discarding ... 668
Waste Toner Bottle ... 670
Feed/ Transport part ... 672
Overview ... 672
Feed / transport part ... 672
Bypass feed section ... 680
Duplex section ... 682
Paper exit unit ... 684
Paper Path and Sensor Locations ... 686
Air Flows (Fan Control) ... 689
Overview ... 689
Mechanism ... 693
Electrical parts ... 696
Block diagram ... 696
Board outline ... 696
Feed tray dehumidifier heater, PCDU anti-condensation heater ... 697
One-way Clutches ... 699
Paper Feed/Bypass ... 699

Duplex 699
Process Control 701
Image Density Control (Process Control) 701
Mechanism 704
Energy Save 706
Energy Saver Modes 706
Power States of this Machine 708
Verification of Up Time for each Energy Saving State 710
Checking the Up time by Device State 710
Recommendation 711
Adobe PS vs. Clone PS 712
Overview 712
How to Distinguish Adobe PS from Clone PS 712
Difference in Device Fonts 715
Differences in Driver Functions 720

1. Product Information

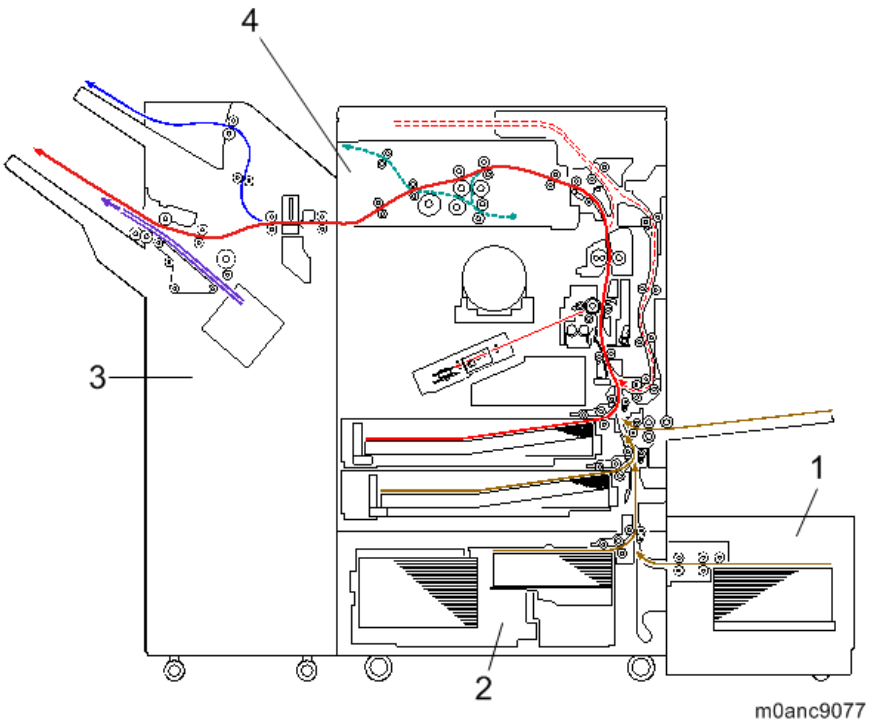
Product Overview

Component Layout

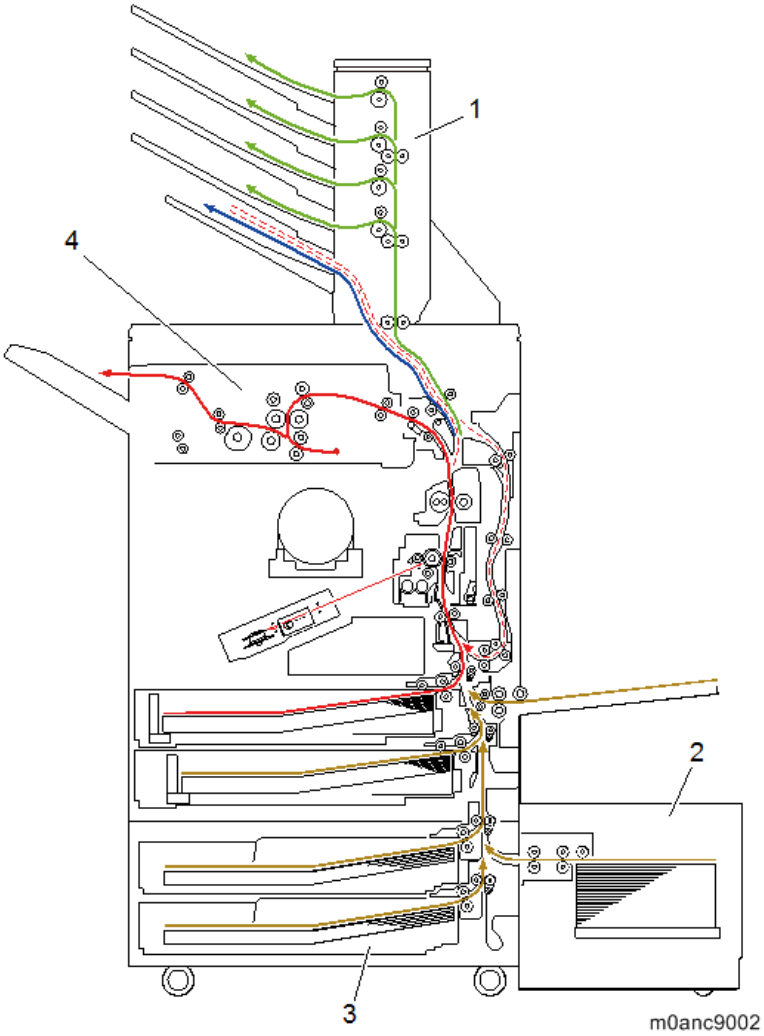


No.	Description	No.	Description
1	Paper Exit Unit	6	Vertical Transport
2	Fusing Unit	7	Paper Feed Unit
3	OPC Drum	8	Laser Unit
4	Duplex Unit	9	Toner Supply Unit
5	Bypass Tray Unit		

Paper Path

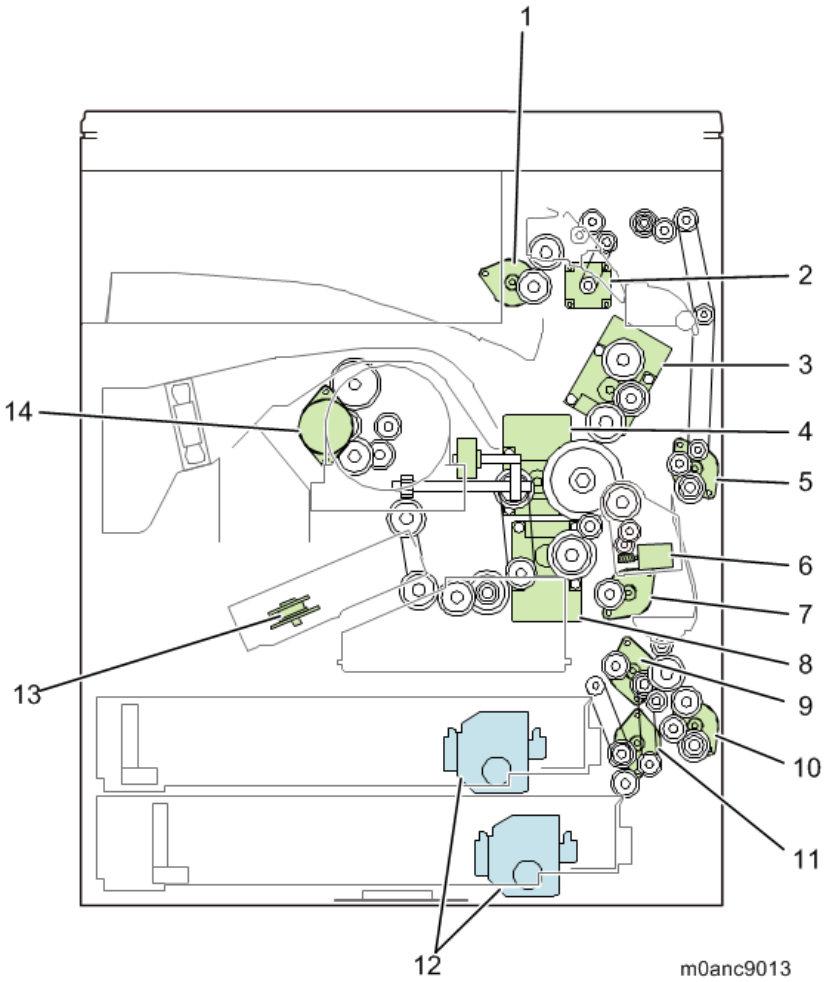


No.	Description	No.	Description
1	LCIT	3	Finisher
2	LCIT (Tandem Tray)	4	Internal Multi-Fold Unit



No.	Description	No.	Description
1	Mail Box	3	Paper Feed Unit
2	LCIT	4	Internal Multi-Fold Unit

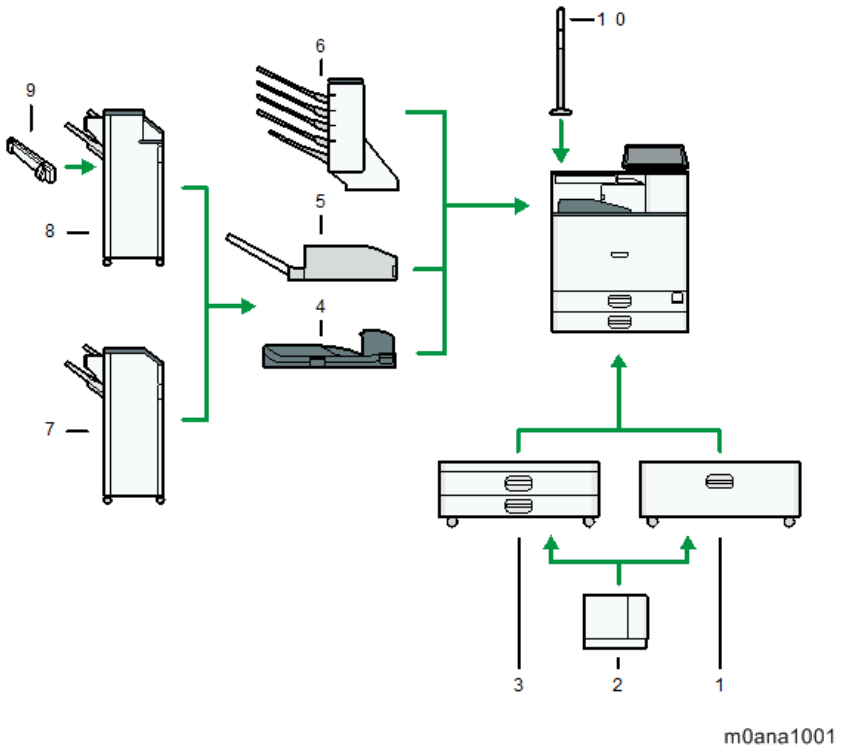
Drive Layout



No.	Description	No.	Description
1	Paper exit motor	8	Development motor
2	Reverse motor	9	Vertical transport motor
3	Fusing motor	10	Duplex/bypass motor
4	Drum/waste toner motor	11	Paper feed motor
5	Duplex entrance motor	12	Paper feed tray lift motor
6	Transfer roller contact motor	13	Polygon motor
7	Registration motor	14	Toner supply motor

Machine Codes and Peripherals Configuration

System Configuration and Options



No.	Product Name	Code
1	LCIT PB3260	M496-17,27
2	LCIT RT3030	D696-17,27
3	Paper Feed Unit PB3240	M494-17
4	Bridge Unit BU3070	D685-18
5	Internal Multi-fold Unit FD3000	M482-17
6	Mail Box CS3010	M481-17
7	Finisher SR3210	D3B8-17
8	Finisher SR3230	D3BA-17
9	Output Jogger Unit Type M25	D3CJ-01
10	Attention Light AL3000	M500-36
-	External NFC Card Reader Bracket Type P11	M512-17
-	NFC Card Reader Type P11	M512-18
-	Punch Unit PU3060	D706-00,01,02
-	Punch Unit PU3050	D717-17,27,28
-	Extended USB Board Type M19	D3BS-01
-	IEEE 802.11a/b/g/n Interface Unit Type M19	D3BR-01

1.Product Information

No.	Product Name	Code
-	IEEE 1284 Interface Board Type M19	D3C0-17
-	VM Card Type P13	M513-25,26,27
-	XPS Direct Print Option Type P13	M513-09,10,11
-	IPDS Unit Type P13	M513-13,14,15
-	HDD Option Type P13	M513-19
-	PostScript3 Unit Type P13	M513-22,23,24

Specifications

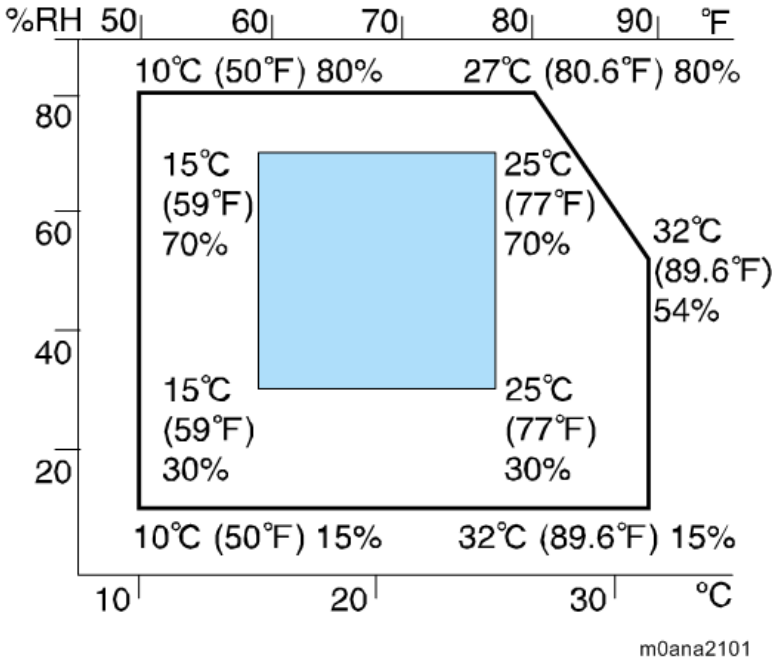
See “Appendices” for the following information:

- General Specifications
- Supported Paper Sizes
- Software Accessories
- Optional Equipment

2. Installation

Installation Requirements

Environment



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 1,500 lux (do not expose to direct sunlight.)
4. Ventilation: Room air should turn over at least 3 times/hr/person
5. Ambient Dust: Less than 0.10 mg/m^3
6. Avoid an area which is exposed to sudden temperature changes. This includes:
   - Areas directly exposed to cool air from an air conditioner.
   - Areas directly exposed to heat from a heater.
7. Do not place the machine in an area where it will be exposed to corrosive gases.
8. Do not install the machine at any location over 2,000 m (6,500 ft.) above sea level. (In NA, it can be installed only up to 2,500m (8,202 ft.))
9. Place the copier on a strong and level base. (Inclination on any side should be no more than 5 mm.)
10. Do not place the machine where it may be subjected to strong vibrations.

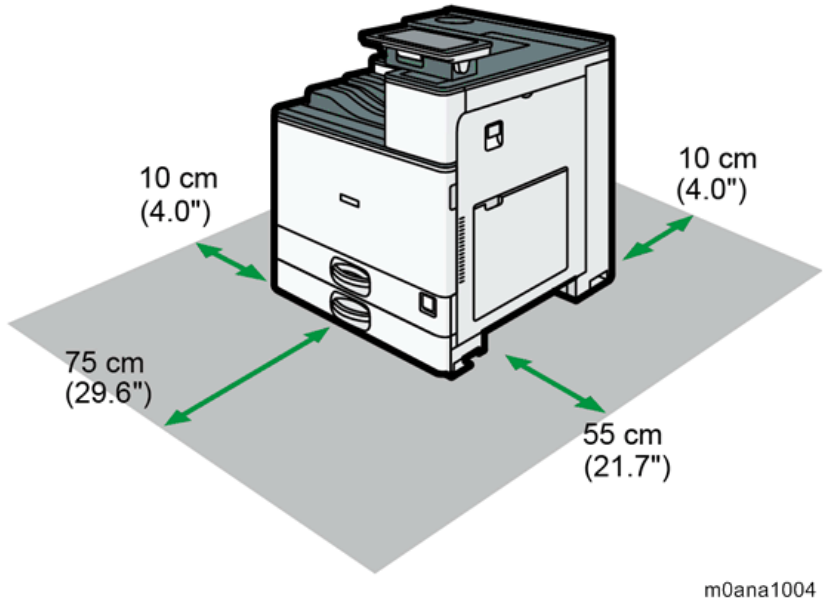
Machine Space Requirements

Machine Level

Front to back: Within 5 mm (0.2") of level

Right to left: Within 5 mm (0.2") of level

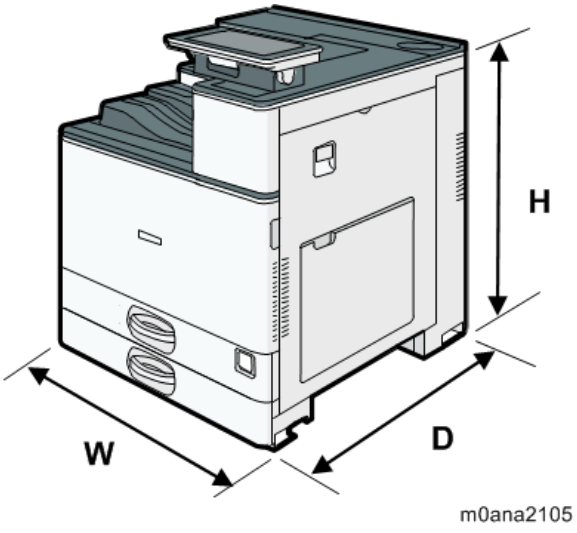
Place the machine near the power source, and provide clearance as shown:



Machine Dimensions

Main frame

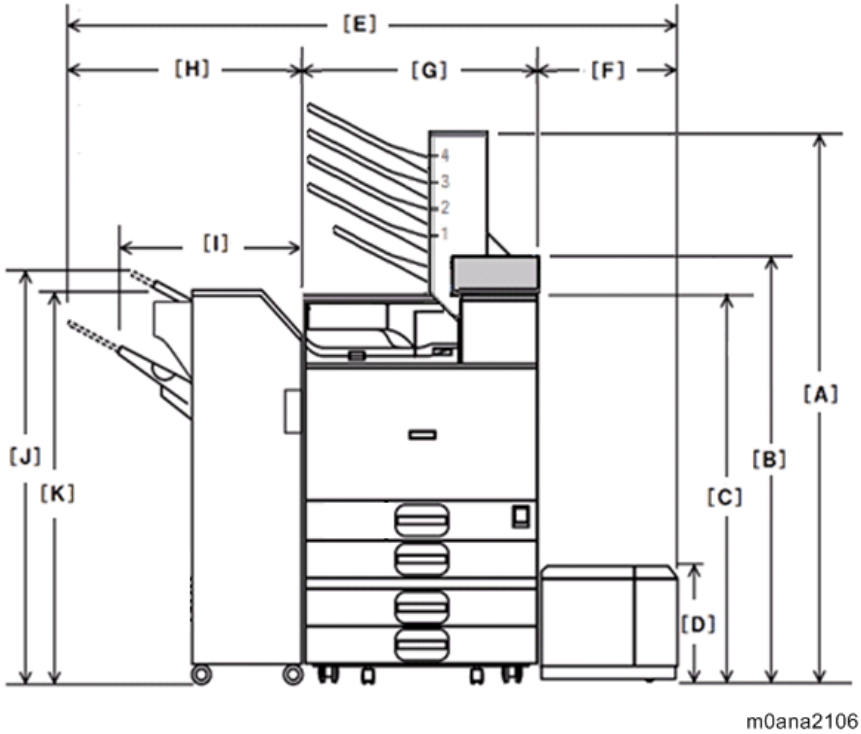
W x D x H: 587 x 653 x 720 mm (23.2 x 25.7 x 28.3 inches)



With peripherals

Configuration 1:

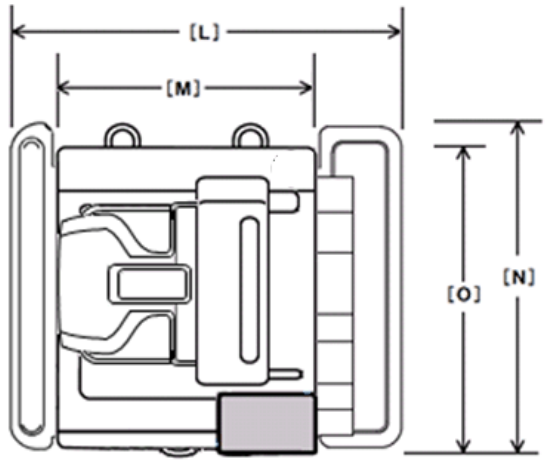
SP 8400DN with Mail Box CS3010, Bridge Unit BU3070, Finisher SR3210, Paper Feed Unit PB3240, and LCIT RT3030.



A	1569.3mm (61.78")	G	587mm (23.11")
B	1105.3mm (43.51")	H	When the 1000-sheet finisher is installed: 575 to 658mm (22.63 to 25.98") When the 3000-sheet finisher is installed: 657 to 756mm (25.86 to 29.76")
C	967mm (38.07")	I	When the 1000-sheet finisher is installed: 575mm (22.63") When the 3000-sheet finisher is installed: 657mm (25.86")
D	290mm (11.41")	J	When the 1000-sheet finisher is installed: 1045mm (41.14") When the 3000-sheet finisher is installed: 1028mm (10.47")
E	1683mm (66.25")	K	When the 1000-sheet finisher is installed: 986mm (38.81") When the 3000-sheet finisher is installed: 973mm (38.30")
F	340mm (13.38")	-	-

Configuration 2:

SP 8400DN with Mail Box CS3010 (with stabilizers) and Paper Feed Unit PB3240.

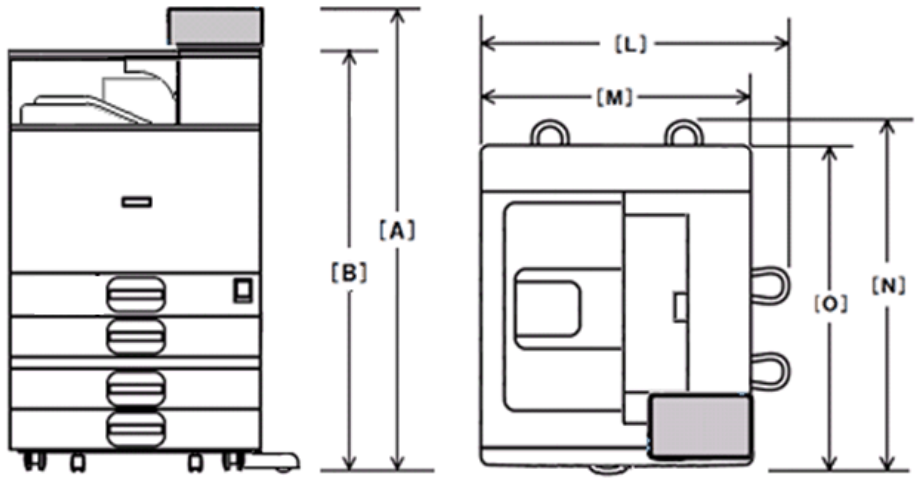


m0ana2108

L	917mm (36.10")
M	587mm (23.11")
N	765mm (30.11")
O	653mm (25.71")

Configuration 3:

SP 8400DN with Paper Feed Unit PB3240.



m0ana2107

A	1105.3mm (43.51")	L	668mm (26.29")
B	967mm (38.07")	M	587mm (23.11")
-	-	N	738mm (29.05")
-	-	O	653mm (25.71")

Power Requirements

⚠CAUTION

- Insert the plug firmly in the outlet.
- Do not use an outlet extension plug or cord.
- Ground the machine.

Input voltage level

Destination	Power supply voltage	Rated current consumption	Permissible voltage fluctuation
NA	120 to 127V	12A or more	Image quality guaranteed: 108V(120V-10%) to 138V(127V+8.66%) Machine operation guaranteed: 102V(120V-15%) to 138V(127V+8.66%)
EU AA	220 to 240V	8A or more	Image quality guaranteed: 198V(220V-10%) to 264V(240V+10%) Machine operation guaranteed: 187V(220-15%) to 276V(240V+15%)

Who Installs the Peripherals and Options

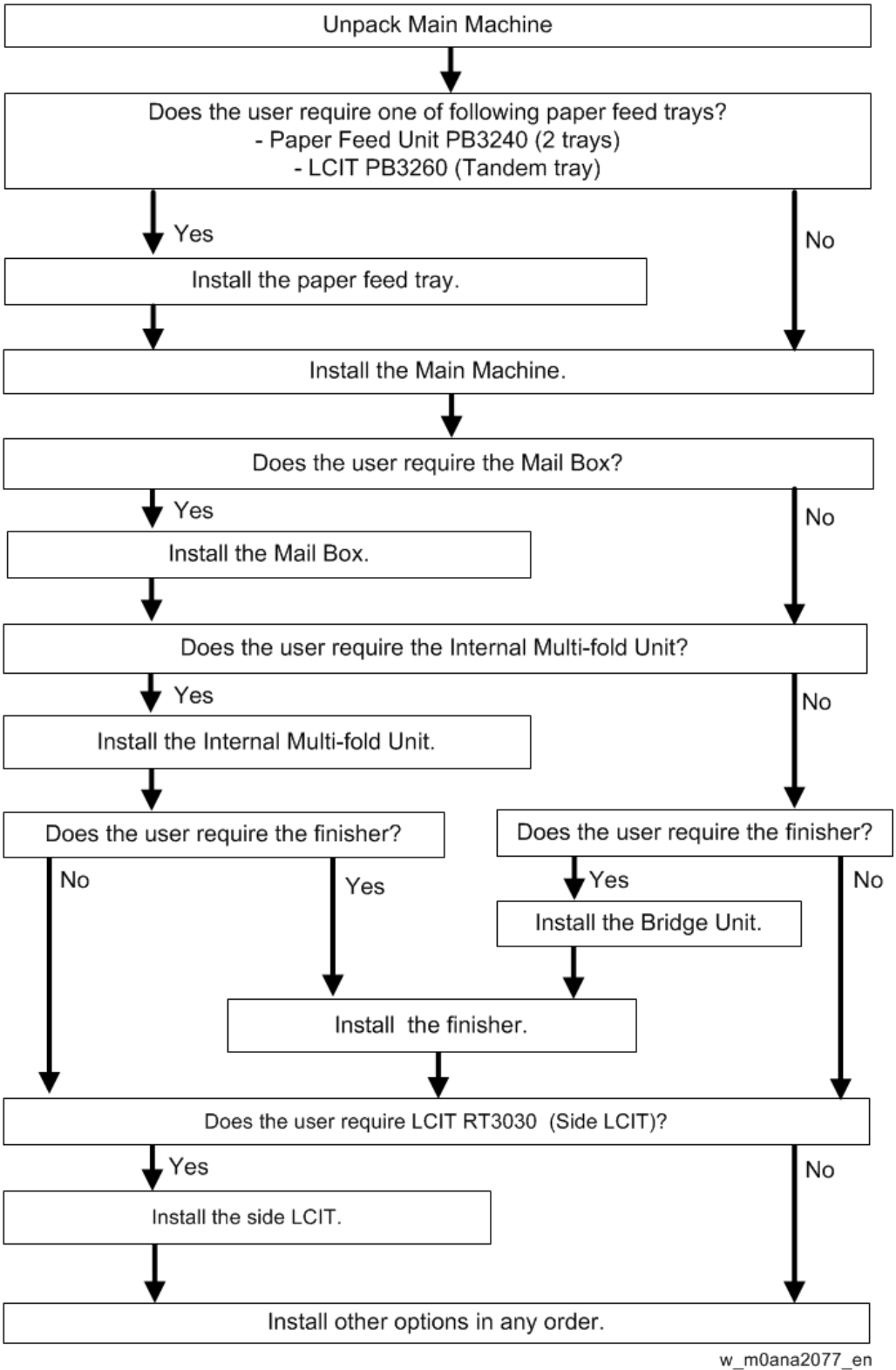
U: User installation, S: Service installation

Peripherals and Options	Remarks
Paper Feed Unit PB3240 (2-Tray)	U
LCIT PB3260 (2000 sheets)	U
LCIT RT3030 (1500 sheets)	S
Mail Box CS3010 (4-Bin)	S
Bridge Unit BU3070	S
Finisher SR3210 (1000 sheets)	S
Finisher SR3230 (3000 sheets)	S
Output Jogger Unit Type M25	S
Punch Unit PU3050	S
Punch Unit PU3060	S
Internal Multi-fold Unit FD3000	S
PostScript3 Unit Type P13	U
XPS Direct Print Option Type P13	U
IPDS Unit Type P13	U
VM CARD Type P13	U
HDD Option Type P13	U
IEEE 802.11a/b/g/n Interface Unit Type M19	U
IEEE 1284 Interface Board Type M19	U
Extended USB Board Type M19	U
External NFC Card Reader Bracket Type P11	S
NFC Card Reader Type P11	S
Attention Light AL3000	S

If you want to use three or more SD card options, you can merge multiple SD card applications. (SD Card Appli Move)

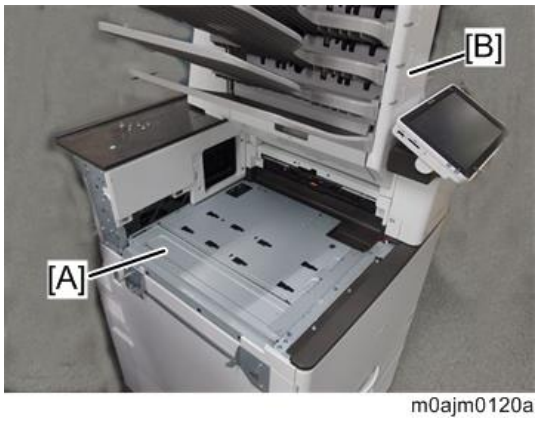
Main Machine Installation

Installation Flow Chart



Note

When installing the Internal Multi-fold Unit FD3000 and the Mail Box CS3010 at the same time, first install the base plate [A] of the internal multi-fold unit, then install the mailbox [B]. Then, finish installing the internal multi-fold unit.



m0ajm0120a

Put the machine on the paper feed tray (2 trays) or the LCT (tandem tray) first, then install the machine and other options.

You need **Paper Feed Unit PB3240 (M494)** or **LCIT PB3260 (M496)** to align the paper transport path if you want to install the following peripherals.

- Finisher SR3210 (D3B8-17)
- Finisher SR3230 (D3BA-17)
- LCIT RT3030 (D696-17, -27)

Accessory Check

Description	Q'ty	
	NA	EU/AA
Power Supply Cord	1	1
Rear Lower Cover (Used when installing an optional paper tray unit.)	1	1
NFC Tag	1	1
Caution: NFC Tag	1	1
Decal: Paper Tray/Paper Size	1	1
Decal: Bluetooth	1	1
Decal: Inkjet (EN)	1	1
Decal: Inkjet (FR)	1	1
Decal: Inkjet (ES)	1	1
Decal: Inkjet (BR)	1	0
Decal: Inkjet (DE)	0	1
Decal: Inkjet (IT)	0	1
Decal: Inkjet (NL)	0	1

Description	Q'ty	
	NA	EU/AA
Decal: Inkjet (PT)	0	1
Seal: Caution (21 Languages)	1	1
Warranty	1	0
Caution: FCC	1	0
Caution: CAN	1	0
Caution: CE	0	1
Caution: Cheetah (TAI)	1	0
Caution: Cheetah (GB)	0	1
Sheet: EULA (21 Languages)	1	1
Sheet: Customer Registration	1	0
Sheet: QIG (10 Languages)	1	1
Sheet: QIG (11 Languages)	0	1
Sheet: Notes for Users (Security)	1	1
Sheet: Airprint	1	0
Sheet: Airprint (9 Languages)	0	1
Sheet: Airprint (10 Languages)	0	1
Sheet: Helpdesk	1	0
User manual: Read This First	1	1
User manual: Start Guide	1	1
CD-ROM	1	1

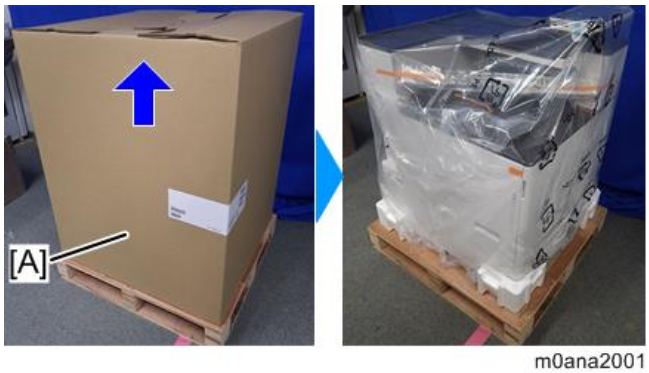
Installation Procedure

⚠CAUTION

- Be sure to secure space around the machine in advance.
- The power cord is placed under the machine, so be sure to take it out.

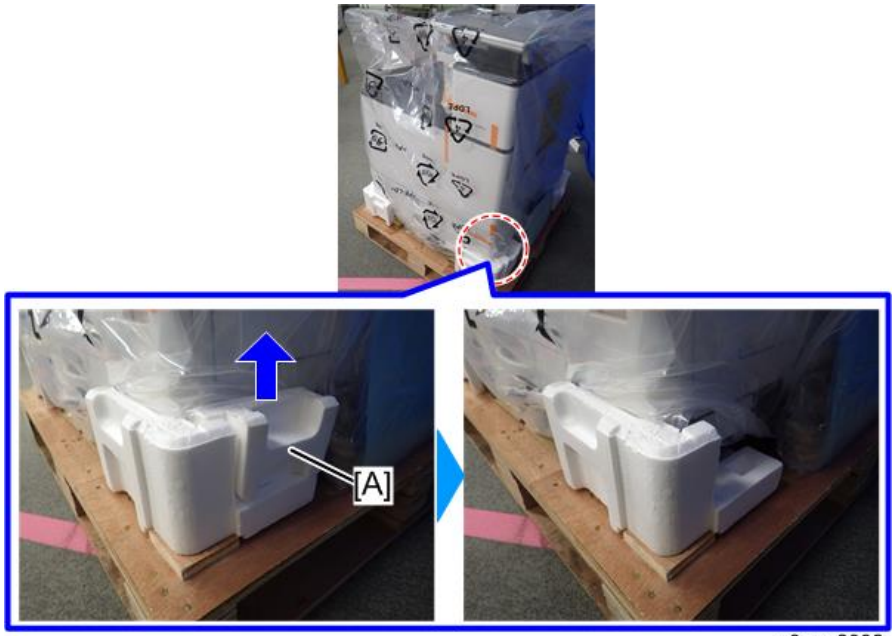
Removal of Packing Materials and Shipping Retainers

1. Remove the shipping box [A].



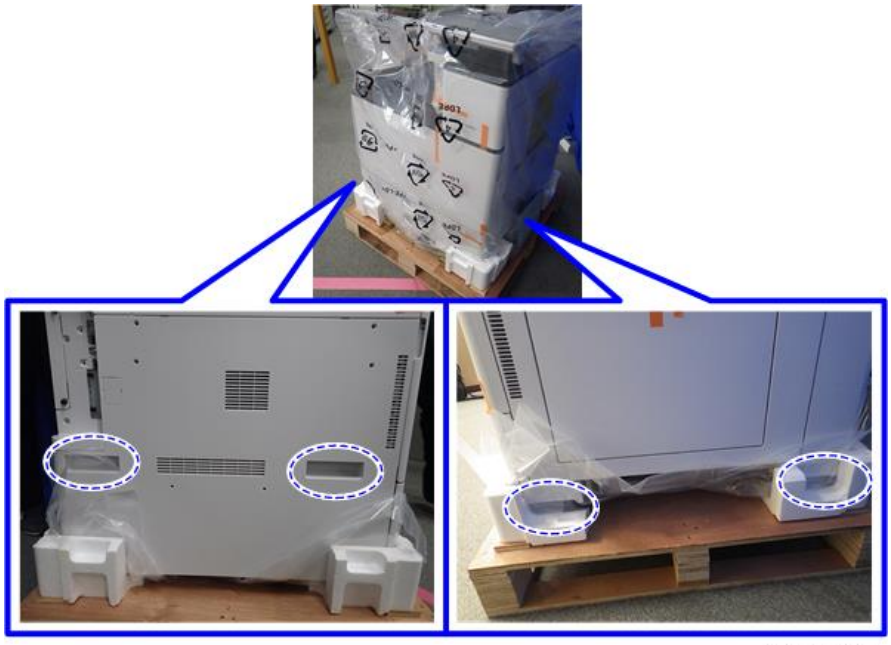
m0ana2001

2. Remove the retainer [A] at the lower front right before lifting up the machine, because the handle for lifting the machine is hidden by the retainer [A].



m0ana2002

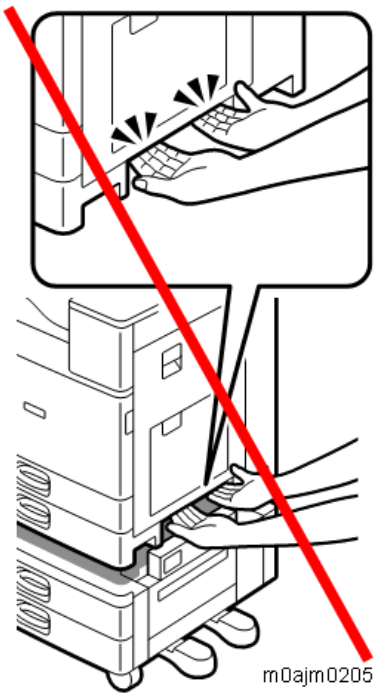
3. Hold the handles located on both sides (blue circles), and then lift it slowly. Lifting it carelessly or dropping it may cause an injury.



m0ana2003

Note

- The printer weighs approximately 57 kg (125.7 lb.). Four or more people are required to lift the printer.
- Do not lift by holding the operation panel, because this might break the operation panel.
- Do not lift by holding the area shown below. Doing so may damage the exterior, and you may drop the printer.



4. Remove the orange tape and retainers on the outside.



5. Open the front cover.

6. Remove the orange tape.



7. Close the front cover.

8. Pull out the 1st/2nd paper feed trays, and then remove the orange tape.



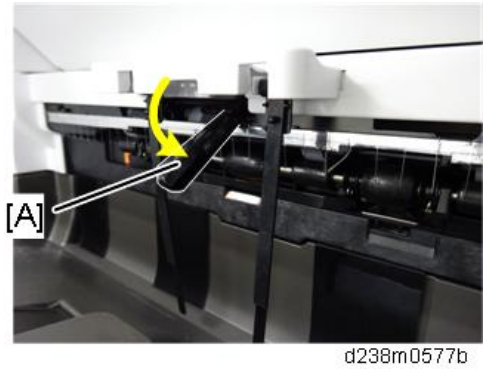
m0ana2006

Pulling out the Feeler of the Paper Exit Full Sensor

Important

- When a finisher is installed, the feeler does not need to be pulled out.

1. Pull the sensor feeler [A] out.

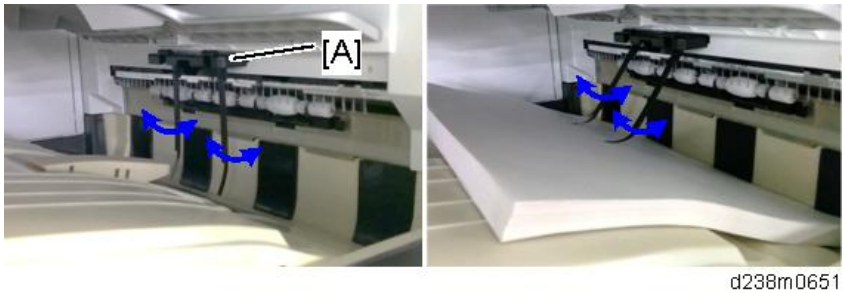


d238m0577b

Checking the Position of the Paper Exit Feeler

Check the following points for the paper exit feeler [A] installed at the paper exit.

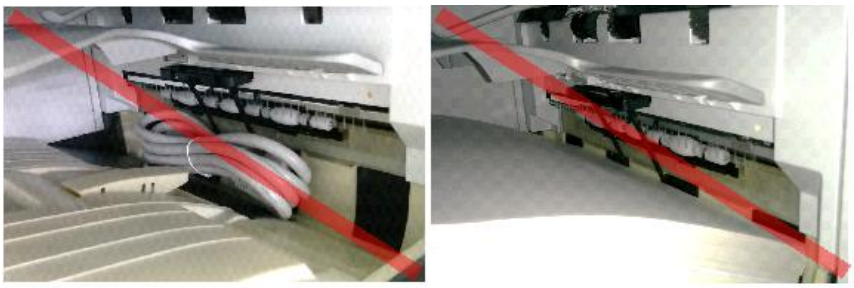
- It can move in line with the ejection of paper.
- It holds contact with the surface of the ejected paper and is still movable.



d238m0651

Paper will get jammed in the following cases.

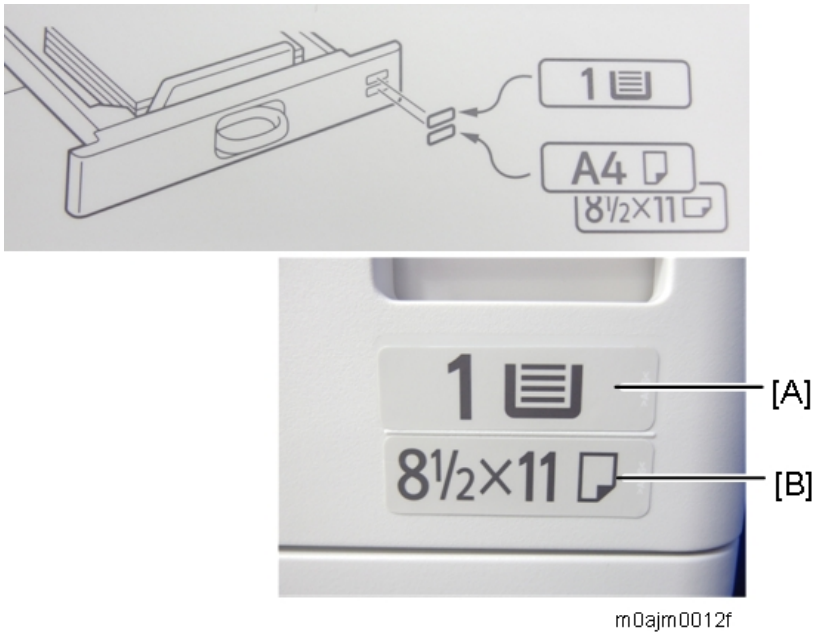
- The paper exit feeler does not function due to obstacles (such as cables).
- The paper exit feeler does not function when the paper is pulled out and pushed back again.



d238m0652

Attaching the Decals

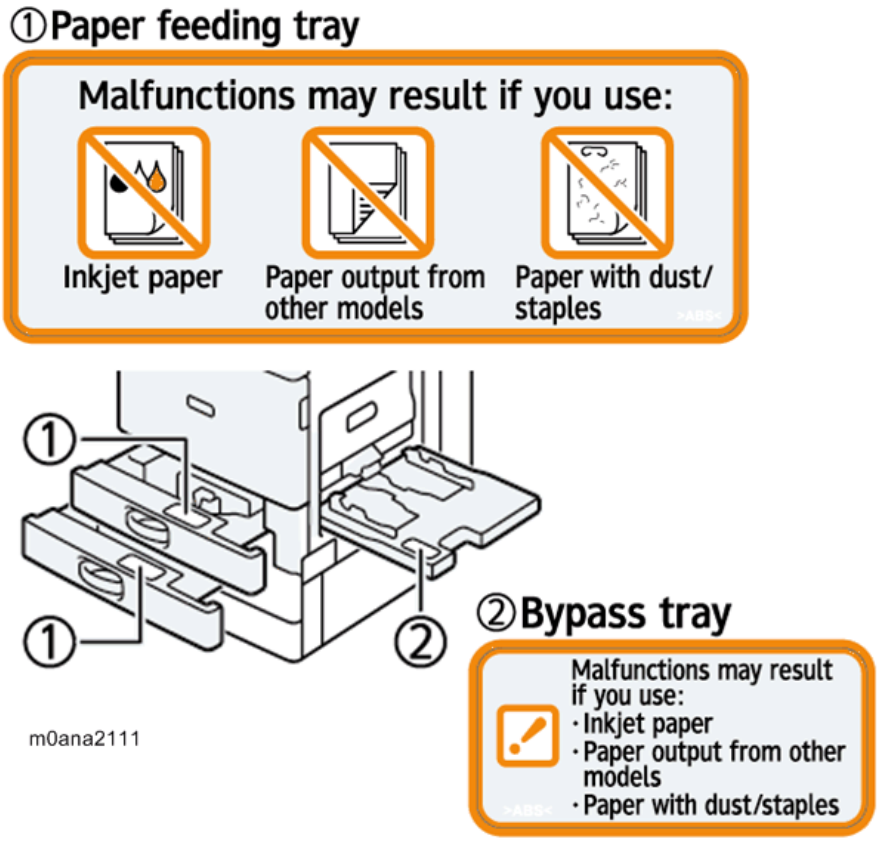
1. Attach the tray number and paper size decals provided with the machine accessories.



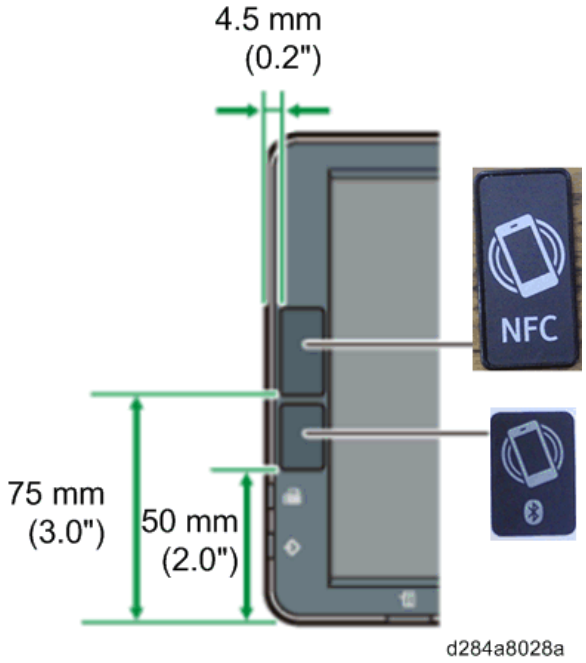
m0ajm0012f

No.	Name
[A] : Upper	Tray Number
[B] : Lower	Paper Size

2. Attach the inkjet decals provided with the machine accessories.



3. Attach the NFC tag and Bluetooth decal provided with the machine accessories to the operation panel.



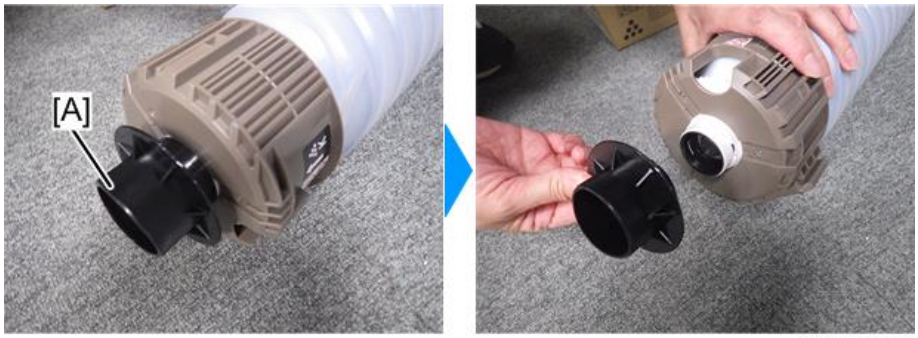
Toner Bottle Installation

Note

In this machine, the PCDU seal is automatically wound in on turning the power on, so there is no PCDU-related

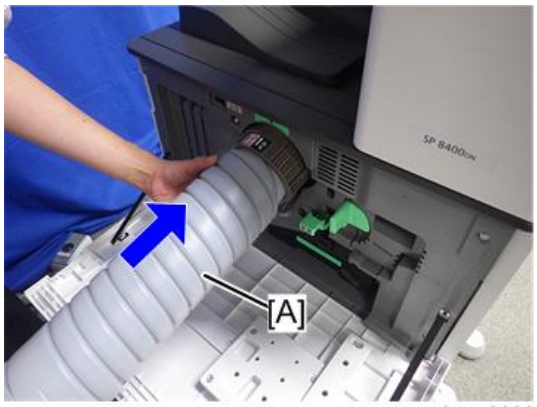
task such as pulling out the seal.

1. Open the front cover.
2. Shake the toner bottle (Bk) 7 to 8 times.
3. Remove the toner bottle protection cap [A].



m0ana2007

4. Push the toner bottle [A] into the machine slowly.



m0ana2008

5. Close the front cover.
6. Connect the power cord to the machine.

⚠CAUTION

- Use the power cord that is provided with the machine. Do not use any other power cord. Also, do not use an extension cord.

7. Turn ON the main power.

Note

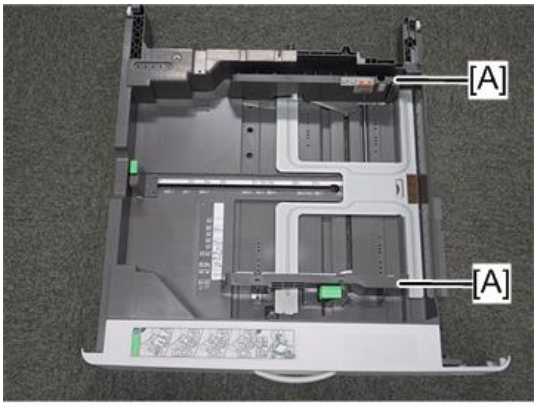
Do not execute the initial toner supply with SP mode, because it is not required. If you perform the initial toner supply with SP mode, the toner density in the development unit may increase. This will cause abnormal images and machine contamination.

Check Image Quality / Settings

Loading Paper

1. Turn ON the main power.
2. The paper size is detected automatically.
   1. Pull out the paper feed tray slowly until it stops.

2. Load the paper.
3. While pressing the release lever, adjust the side fences [A] to the paper size to be set.



m0ana2120

4. Set the end fence to fit the paper size that will be used.

Paper Settings

If necessary, adjust the registration for the paper feed tray.

Print the test pattern (14: Trimming Area) with SP2-109-003 for the registration adjustment. For details, see Test Pattern Printing.

1-002-001	Side-to-Side Registration	By-pass Tray	[-4 to 4 / 0 / 0.1mm]
1-002-002	Side-to-Side Registration	Paper Tray 1	[-4 to 4 / 0 / 0.1mm]
1-002-003	Side-to-Side Registration	Paper Tray 2	[-4 to 4 / 0 / 0.1mm]
1-002-004	Side-to-Side Registration	Paper Tray 3	[-4 to 4 / 0 / 0.1mm]
1-002-005	Side-to-Side Registration	Paper Tray 4	[-4 to 4 / 0 / 0.1mm]
1-002-006	Side-to-Side Registration	Duplex	[-4 to 4 / 0 / 0.1mm]
1-002-007	Side-to-Side Registration	Large Capacity Tray	[-4 to 4 / 0 / 0.1mm]

Note

- To enter the SP mode, there are two ways to display the number keyboard on screen;

1. Press the "Printer (Classic)" icon on the home screen.
2. Press and hold the button [A] located at the left side of the operation panel and "Check Status [B]" at the

same time, until the number keyboard is displayed.





- For details of the key code to enter the SP mode, ask your supervisor.

SP descriptions

- **SP1-002 (Side-to-Side Registration)**

Adjusts the side-to-side registration by changing the laser main scan start position for each mode and tray.

Increasing a value: The image is moved towards the rear edge of the paper.

Decreasing a value: The image is moved towards the front edge of the paper.

Settings Relevant to the Service Contract

Change the necessary settings for the following SP modes if the customer has made a service contract.

SP No.	Function	Default
SP5-930-001 Meter Click Charge	Enables or disables the meter click charge setting. ("1" ON, "0" OFF) When enabled ("1" ON): • The counter menu appears immediately after you push the "counter" key. • You can print the counter from the counter menu. When disabled ("0" OFF): • The counter menu does not appear. • To check the counter, the technician must print the SMC report (SP 5-990).	"0": OFF
SP5-930-010 Meter Click Charge: PCU	Enables or disables the PM alert for the PCU. If this SP is enabled, an alert message is displayed when the PCU needs to be replaced.	"1": No alert

SP No.	Function	Default
SP5-930-014 Meter Click Charge: Transfer Roller Unit	Enables or disables the PM alert for the transfer roller unit. If this SP is enabled, an alert message is displayed when the transfer roller unit needs to be replaced.	"1": No alert
SP5-930-016 Meter Click Charge: Fusing Unit	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
SP5-104-001 **(SSP)** A3/DLT double count	Specifies whether the counter is doubled for A3/DLT paper.	"1": Double counting
SP5-812-001 and -002 Service Tel: Telephone / Facsimile	-001: shows or sets the telephone number of the service representative. -002: shows or sets the fax number of the service station. The number is printed on the counter list when the "Meter Click Charge" is enabled. Users can send the counter list as a fax message.	

Installation is now completed.

Security Settings

Configuring Administrator Authentication

About Administrator and Supervisor

Administrator

Their main role is to specify the settings for operating the machine. Their access privileges depend on the administrator type. Administrators cannot perform normal operations, such as printing.

There are 4 types of administrators for the machine: user administrator, machine administrator, network administrator, and file administrator.

In the factory default, four administrator's privileges assign to a "Administrator 1".

Supervisor

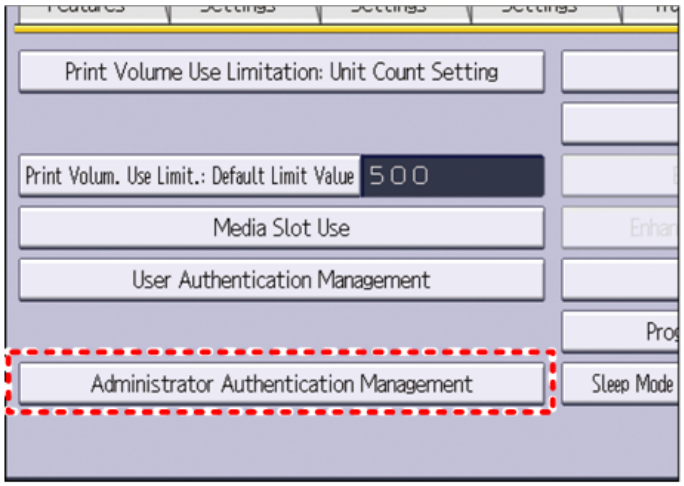
There is only one supervisor. The supervisor can specify each administrator's password.

Enabling Administrator Authentication

To specify administrator authentication, set "Administrator Authentication Management" to [On]. If this setting is enabled, administrators can configure only settings allocated to them.

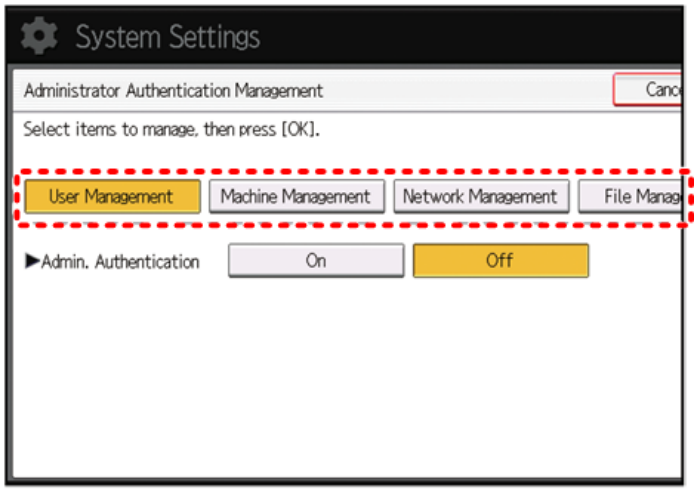
1. Press [Home] ( ) at the bottom of the screen in the center.
2. Flick the screen to the left, and then press "User Tools" .
3. Press [Machine Features].
4. Press [System Settings].
5. Press [Administrator Tools].
6. Press [Next].

7. Press [Administrator Authentication Management].



m0ajm1273

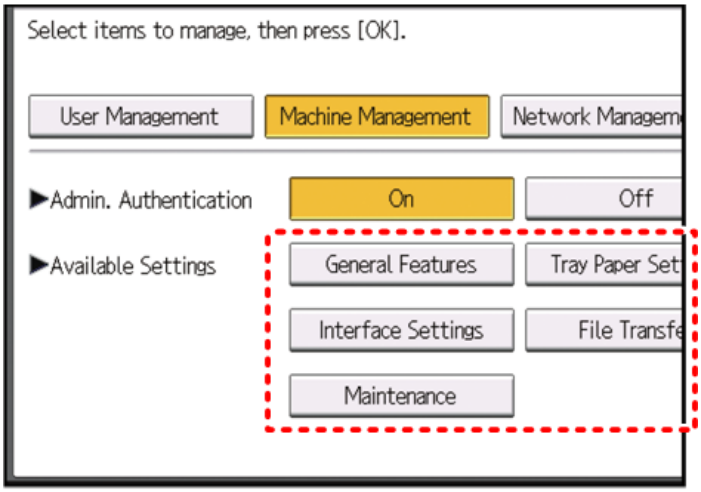
8. Press [User Management], [Machine Management], [Network Management], or [File Management] to select which settings to manage.



m0ajm1274

9. Set "Admin. Authentication" to [On].
"Available Settings" appears.

10. Select the settings to manage from "Available Settings".



m0ajm1275

The selected settings will be unavailable to users.

The available settings depend on the administrator type.

To specify administrator authentication for more than one category, repeat Steps 7 to 9.

11. Press [OK].

12. Press [User Tools] ( ) on the top right screen.

13. Press [Home] ( ) at the bottom of the screen in the center.

Changing Administrator/Supervisor's User Name and Password

Important

If you forget an administrator login user name or password, you must specify a new password using the supervisor's privilege.

Be sure not to forget the supervisor login user name and password. If you forget them, a machine will have to return to its default state. This will result in the machine setting data, counters, logs and other data being lost.

1. Log in as an administrator from the control panel.

To changing the supervisor’s login user name or password, log in as the supervisor.

The default login user name for administrator is "admin" and "supervisor" for the supervisor. No login password is set up.

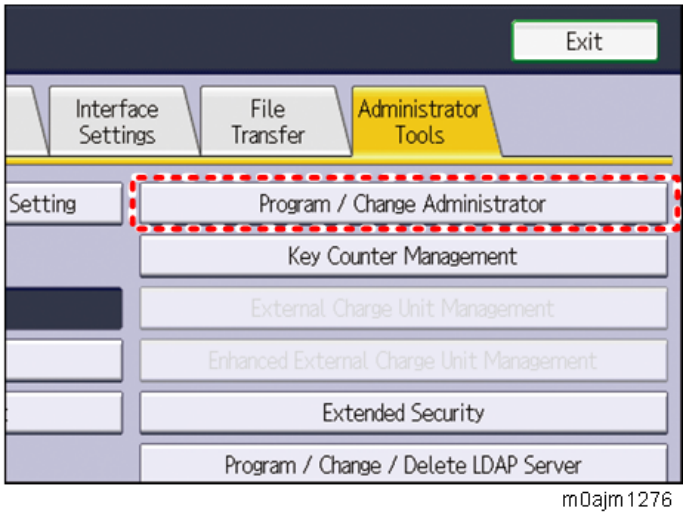
2. Press [Machine Features].

3. Press [System Settings].

4. Press [Administrator Tools].

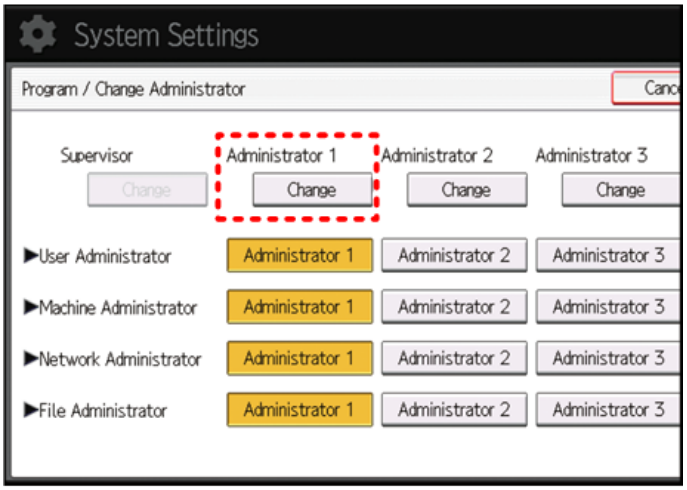
5. Press [Next].

6. Press [Program / Change Administrator].

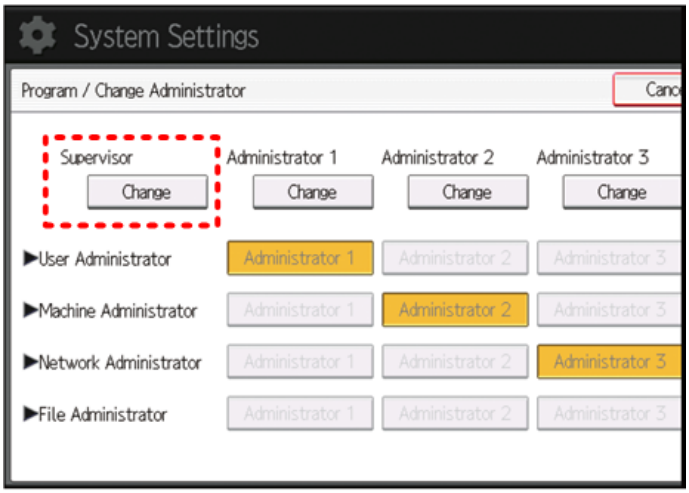


7. Press [Change] under "Administrator 1".

To change supervisor’s user name and password, press [Change] under "Supervisor".



m0ajm1280



m0ajm1279

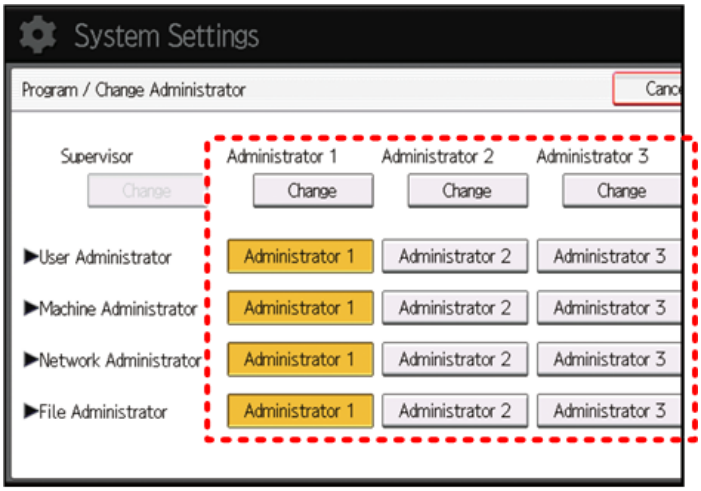
8. Press [Change] for "Login User Name".
9. Enter the new login user name, and then press [OK].
10. Press [Change] for "Login Password".
11. Enter the new login password, and then press [OK].
12. Enter the new login password for confirmation again, and then press [OK].
13. Press [OK] twice.

    You will be automatically logged out.

Registering and Changing the Administrator

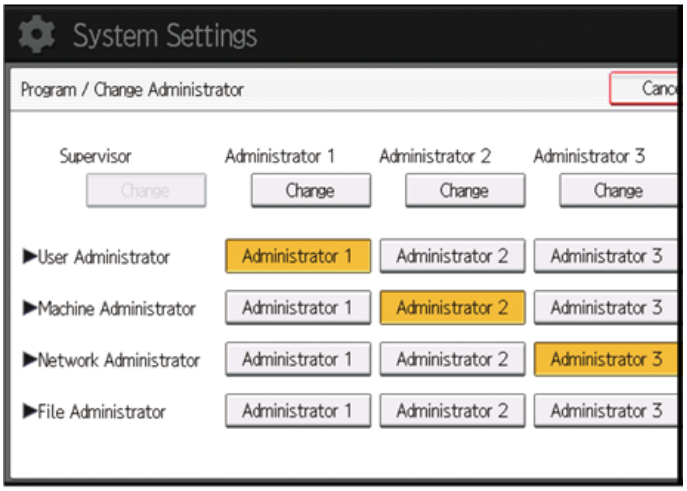
1. Log in as an administrator from the control panel.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next].
6. Press [Program / Change Administrator].
7. In the line for the administrator whose privileges you want to specify, press [Administrator 1], [Administrator

2], [Administrator 3] or [Administrator 4], and then press [Change].



m0ajm1277

When allocating admistrators' privileges to one person each, select one administrator under each category as shown below.



m0ajm1278

To combine multiple administrator privileges, assign multiple administrator privileges to a single administrator.

For example, to assign machine administrator privileges and user administrator privileges to [Administrator 1], press [Administrator 1] in the lines for the machine administrator and the user administrator.

8. Press [Change] for "Login User Name".

9. Enter the login user name, and then press [OK].

10. Press [Change] for "Login Password".

11. Enter the login password, and then press [OK].

12. Enter the login password for confirmation again, and then press [OK].

13. Press [OK] twice.

You will be automatically logged out.

Security Function Installation

The machine contains the Security functions (Data Overwrite Security and HDD Encryption unit) in the controller

board.

If you are installing a new machine, it is recommended to activate the Data Overwrite Security and HDD Encryption by selecting "Format All Data" from "System Settings" on the operation panel.

Note

- This method is recommended because there is no user data on the hard drive yet (Address Book data, image data, etc.).

If the customer wishes to activate the Data Overwrite Security and HDD Encryption unit on a machine that is already running, it is recommended to activate the unit by selecting "All Data" from "System Settings" on the operation panel.

Important

- Selecting "All Data" will preserve the data that has already been saved to the HDD. (If "Format All Data" is selected, all user data saved to the HDD up to that point will be erased).

Immediately after encryption is enabled, the encryption setting process will take several minutes to complete before you can begin using the machine.

Note

- If encryption is enabled after data has been stored on the HDD, or of the encryption key is changed, this process can take up to three and a half hours or more.

The machine cannot be operated while data is being encrypted.

Once the encryption process begins, it cannot be stopped.

Make sure that the machine's main power is not turned off while the encryption process is in progress.

If the machine's main power is turned off while the encryption process is in progress, the HDD will be damaged and all data on it will be unusable.

Print the encryption key and keep the encryption key (which is printed as a paper sheet).

Keep the encryption key in a safe place. If the encryption key is lost and is needed, the controller board, HDD and NVRAM must all be replaced at the same time.

Note

- "NVRAM" mentioned in here means the NVRAM on the Controller Board.
- "NVRAM" or EEPROM on the BCU has nothing to do with this.

Please use the following procedure when the Data Overwrite Security and HDD Encryption are reinstalled.

Data Overwrite Security

Before You Begin the Procedure

1. Make sure that the following settings (1) to (3) are not at their factory default values.
   (1) Supervisor login password
   (2) Administrator login name
   (3) Administrator login password
   If any of these settings is at a factory default value, tell the customer these settings must be changed before you do the installation procedure.
2. Make sure that "Admin. Authentication" is on.

[User Tools] icon -> [Machine Features] -> [System Settings] -> [Administrator Tools] -> [Administrator Authentication Management] -> [Admin. Authentication]

If this setting is off, tell the customer this setting must be on before you do the installation procedure.

3. Make sure that "Administrator Tools" is enabled (selected).

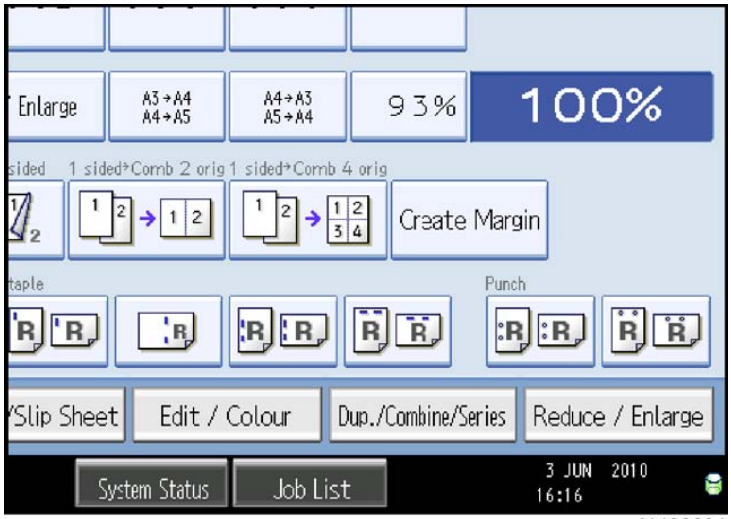
[User Tools] icon -> [Machine Features] -> [System Settings] -> [Administrator Tools] -> [Administrator Authentication Management] -> [Available Settings]

If this setting is disabled (not selected), tell the customer this setting must be enabled (selected) before you do the installation procedure.

Installation Procedure

1. Connect the network cable if it needs to be connected.
2. Turn ON the main power.
3. Go into the SP mode and push "EXECUTE" in SP5-878-001.
4. Exit the SP mode and turn off the operation switch. Then turn off the main power switch.
5. Turn on the machine power.
6. Do SP5-990-005 (SP print mode Diagnostic Report).

   Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
7. Go into the User Tools mode, and select [Machine Features] → [System Settings] →[Administrator Tools] →[Auto Erase Memory Setting] →[On].
8. Exit the User Tools mode.



d1420091

	Icon [1]	This icon is lit when there is temporary data to be overwritten, and blinks during overwriting.
	Icon [2]	This icon is lit when there is no temporary data to be overwritten.

9. Check the display and make sure that the overwrite erase icon appears.

10. Check the overwrite erase icon.

The icon [1] is lit when there is temporary data to be overwritten, and blinks during overwriting.

The icon [2] is lit when there is no temporary data to be overwritten.

Using Auto Erase Memory

The Auto Erase Memory function can be enabled by the following procedure.

1. Log in as the machine administrator from the control panel.

2. Press the [User Tools] icon.

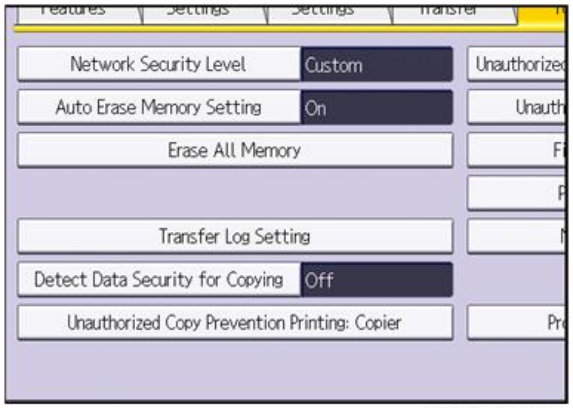
3. Press [Machine Features].

4. Press [System Settings].

5. Press [Administrator Tools].

6. Press [Next] twice.

7. Press [Auto Erase Memory Setting].



w_d1822517

8. Press [On].

9. Select the method of overwriting.

If you select [NSA] or [DoD], proceed to step 12.

If you select [Random Numbers], proceed to step 10.

10. Press [Change].

11. Enter the number of times that you want to overwrite using the number keys, and then press [#].

12. Press [OK]. Auto Erase Memory is set.

13. Log out.

14. Check the display and make sure that the overwrite erase icon appears.

15. Check the overwrite erase icon.

The icon [1] is lit when there is temporary data to be overwritten, and blinks during overwriting.

The icon [2] is lit when there is no temporary data to be overwritten.



	Icon [1]	This icon is lit when there is temporary data to be overwritten, and blinks during overwriting.
	Icon [2]	This icon is lit when there is no temporary data to be overwritten.

HDD Encryption (When the HDD option is installed)

Before You Begin the Procedure:

1. Make sure that the following settings (1) to (3) are not at the factory default settings.
   (1) Supervisor login password
   (2) Administrator login name
   (3) Administrator login password
   If any of these settings is at a factory default value, tell the customer these settings must be changed before you do the installation procedure.
2. Confirm that "Admin. Authentication" is on:
   [User Tools] icon - [Machine Features] - [System Settings] - [Administrator Tools] - [Administrator Authentication Management] - [Admin. Authentication] - [On]
   If this setting is off, tell the customer that this setting must be on before you can do the installation procedure.
3. Confirm that "Administrator Tools" is selected and enabled.
   [User Tools] icon - [Machine Features] - [System Settings] - [Administrator Tools] - [Administrator Authentication Management] - [Available Settings]
   "Available Settings" is not displayed until step 2 is done.
   If this setting is not selected, tell the customer that this setting must be selected before you can do the installation procedure.

Installation Procedure:

1. Turn ON the main power, and then enter the SP mode.
2. Select SP5-878-002, and then press "Execute" on the LCD.
3. Exit the SP mode after "Completed" is displayed on the LCD.

4. Turn OFF the main power.

Enable Encryption Setting

Machine Data Encryption Settings can be enabled by the following procedure.

Important

- When setting up encryption, specify whether to start encryption after deleting data (initialize) or encrypt and retain existing data. If data is retained, it may take some time to encrypt it.

1. Turn ON the main power.

2. Log in as the machine administrator from the control panel.

3. Press the [User Tools] icon.

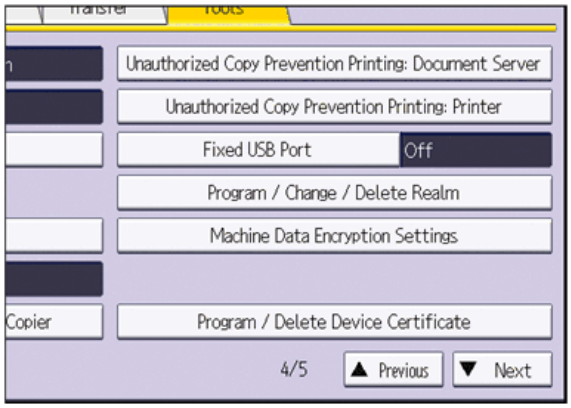
4. Press [Machine Features].

5. Press [System Settings].

6. Press [Administrator Tools].

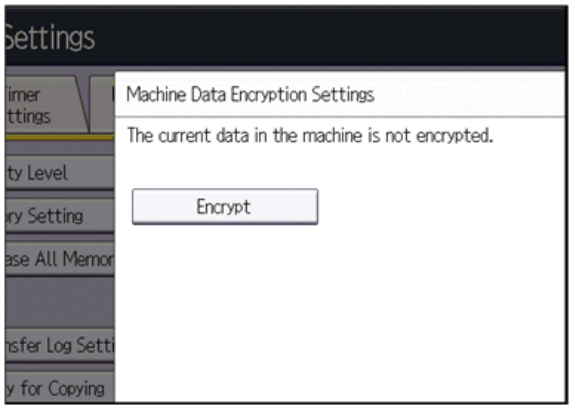
7. Press [Next] three times.

8. Press [Machine Data Encryption Settings].



d1822518

9. Press [Encrypt].



d1822519

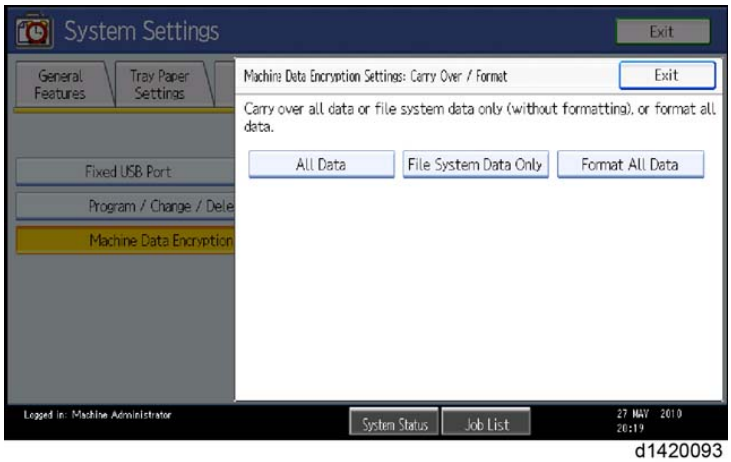
10. Select the data to be carried over to the HDD and not be reset.

To carry all of the data over to the HDD, select [All Data].

To carry over only the machine settings data, select [File System Data Only].

To reset all of the data, select [Format All Data].

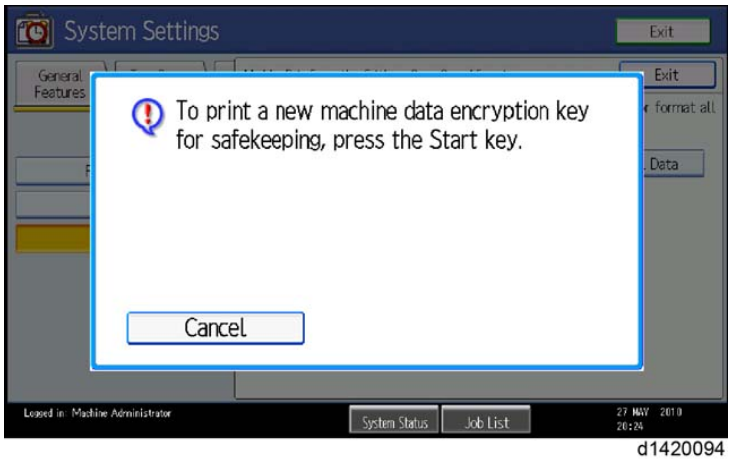
11. Select the backup method.



d1420093

If you have selected [Save to SD Card], load an SD card into the media slot on the side of the control panel and press [OK] to back up the machine's data encryption key.

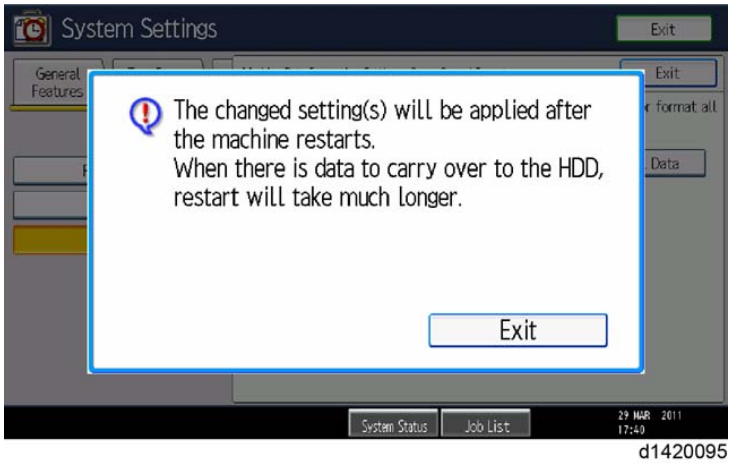
If you have selected [Print on Paper], press the [Start] key. Print out the machine's data encryption key.



d1420094

12. Press [OK].

13. Press [Exit].



d1420095

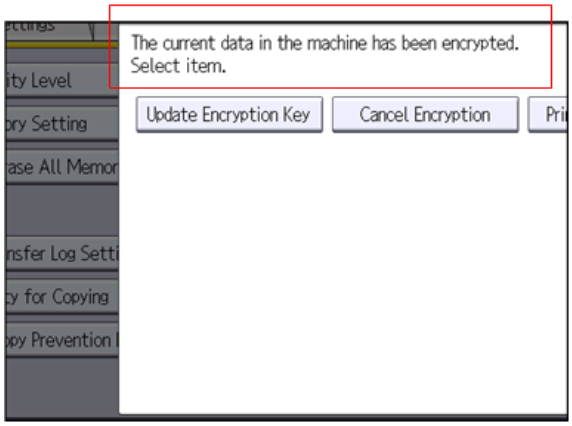
14. Press [Exit].

15. Log out.

16. Turn OFF the main power, and then turn the main power back ON.
The machine will start to convert the data on the memory after you turn on the machine. Wait until the message "Memory conversion complete. Turn the main power switch off." appears, and then turn the main power off again.

Check the Encryption Settings

1. Press the [User Tools] icon.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Machine Data Encryption Settings].
7. Confirm whether the encryption has been completed or not on this display.



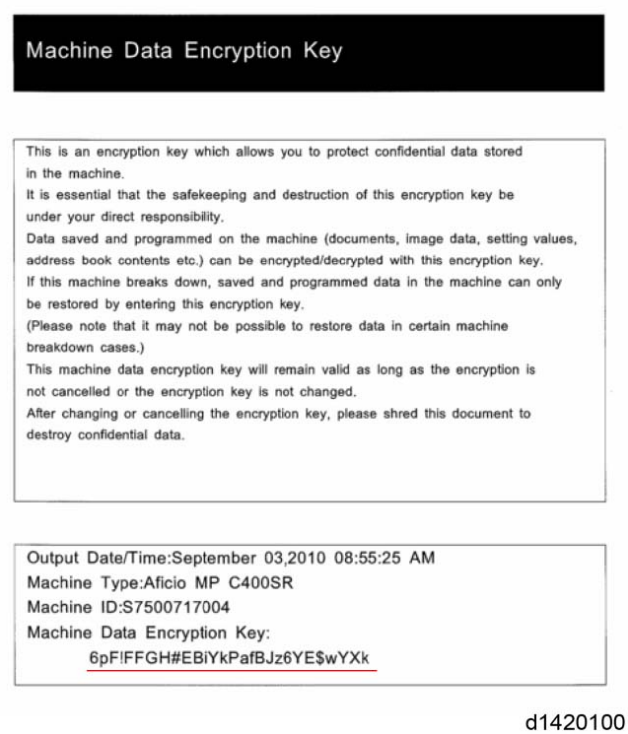
d1822520

Print the encryption key

Use the following procedure to print the key again if it has been lost or misplaced.

1. Press the [User Tools] icon.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Machine Data Encryption Settings].
If this item is not visible, press [Next] to display more settings.
7. Press [Print Encryption Key].

Encryption key sample



d1420100

8. The encryption key is printed out as a sheet of paper like the example shown above.
   Please instruct the customer to keep it in a safe place.

Backing Up the Encryption Key

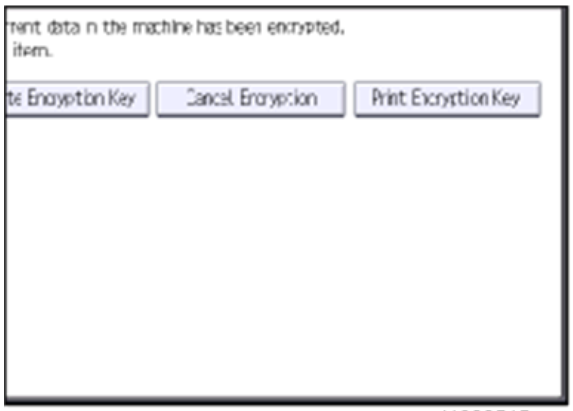
The encryption key can be backed up. Select whether to save it to an SD card or to print it.

Important

- The encryption key is required for data recovery if the machine malfunctions. Be sure to store the encryption key safely for retrieving backup data.

1. Log in as the machine administrator from the control panel.
2. Press the [User Tools] icon.
3. Press [Machine Features].
4. Press [System Settings].
5. Press [Administrator Tools].
6. Press [Next] three times.
7. Press [Machine Data Encryption Settings].

8. Press [Print Encryption Key].



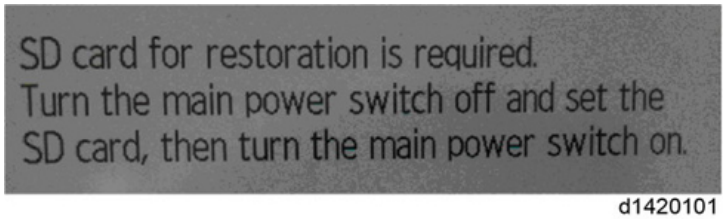
d1822515

9. Select the backup method.
   If you have selected [Save to SD Card], load an SD card into the media slot on the side of the control panel and press [OK]; once the machine's data encryption key is backed up, press [Exit].
   If you have selected [Print on Paper], press the [Start] key. Print out the machine's data encryption key.
10. Press [Exit].
11. Log out.

Encryption Key Restoration

How to restore the old encryption key to the machine

The following message appears after the controller board is replaced. In such a case, it is necessary to restore the encryption key to the new controller board.



d1420101

To do this, follow the procedure below.

1. Prepare an SD card that has been initialized in FAT16 format.
2. Using a PC, create a folder in the SD card and name it "restore_key".
3. Create a folder in the "restore_key" folder and name it the same as machine's serial number, "xxxxxxxxxxx" (11 digits).
4. Create a text file called "key_xxxxxxxxxxx.txt" and save it in the "xxxxxxxxxxx" folder. Write the encryption key in the text file.
   /restore_key/xxxxxxxxxxx/key_xxxxxxxxxxx.txt

   Note

   - Ask an Administrator to enter the encryption key. The key has already been printed out by the user and may have been saved in the "key_xxxxxxxxxxx.txt" file. (The function of back-up the encryption key to the SD card directly is provided 11A products or later.)
5. Turn ON the machine's main power.

6. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
7. Turn OFF the main power.
8. Insert the SD card that contains the encryption key into SD card slot 2 (the lower slot).
9. Turn ON the main power.

Note

- The machine will automatically restore the encryption key to the flash memory on the controller board.

10. Turn OFF the main power when the machine has returned to normal status.
11. Remove the SD card from SD card slot 2.

How to do a forced start up with no encryption key

If the encryption key back-up has been lost, follow the procedure below to do a forced start-up.

Important

- The HDD will be formatted after the forced start-up.
- Encrypted data will be deleted.
- User settings will be cleared.

1. Prepare an SD card.
2. Create a directory named "restore_key" inside the root directory of the SD card. Then, save the "nvram_key.txt" file using the following name:
   /restore_key/nvram_key.txt
3. Create a text file and write "nvclear".

Important

- Write this string at the head of the file.
- Use all lower-case letters.
- Do not use quotation marks or blank spaces.
- It is judged that a forced start has been selected when the content of "nvclear" is executed and the machine shifts to the alternate system (forced start).

4. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
5. Turn off the main power.
6. Insert the SD card that contains the encryption key into SD card slot 2 (the lower slot).
7. Turn ON the main power.
   The machine automatically clears the HDD encryption.
8. Turn OFF the main power when the machine has returned to normal status.
9. Remove the SD card from SD card Slot 2.
10. Turn ON the main power.
11. Memory clear SP5-801-xxx (Exclude SP-5-801-001: All Clear and SP-5-801-002: Engine), and clear SP5-846-046: address book.

12. Set necessary user settings in User Tools.

SP descriptions

- **SP5-878-002 (Option Setup: HDD Encryption)**
  Executes the setup for encryption.
- **SP5-990-005 (SP Print Mode: Diagnostic Report)**
  Prints the configuration sheets of the system and user settings: SMC.
  Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
- **SP5-801-001 (Memory Clear: All Clear)**
  Resets all correction data for process control and all software counters, and returns all modes and adjustments to their default values.
- **SP5-801-002 (Memory Clear: Engine)**
  Clears non-volatile memory of engine.
- **SP5-846-046 (UCS Setting: Addr Book Media)**
  Displays the slot number where the address book data is.
  0: Unconfirmed
  1: SD Slot 1
  2: SD Slot 2
  3: SD Slot 3
  4: USB Flash ROM
  10: SD Slot 10
  20: HDD
  30: Nothing

Auto Remote Firmware Update (ARFU) Settings

Specify ARFU settings as required.

Important

Operating Conditions:

- ARFU requires connection to the Internet. Be sure to get permission from the customer before setting ARFU up. Otherwise, it may cause an incident.
- ARFU is available only for machines that contain a HDD. If the machine does not have a HDD, an option HDD must be installed.

Note

- The connection is one-way, so the user's data cannot be accessed from the firmware server.

Procedure:

1. ARFU enable setting
2. Server connection check
3. Prohibited date and time setting

(1) Enable ARFU

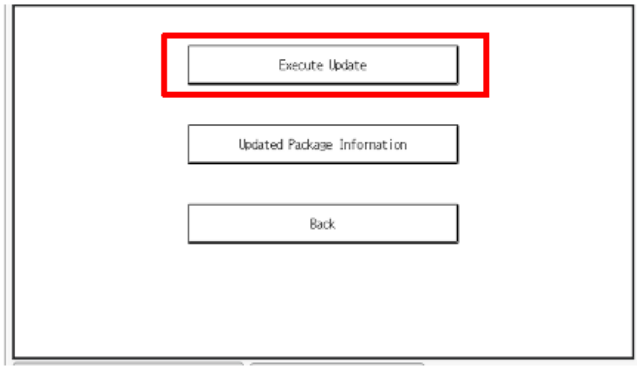
1. Set SP5-886-111 (Auto Update Setting) to "1 (ON)".
   1: ON / 0: OFF (Default)

   Note

   To download the firmware only using SFU (Smart Firmware Update), and not by ARFU, specify the settings as follows:
   - SP5-886-111(Auto Update Setting) to "0 (OFF)"
   - SP5-886-115 (SFU Auto Download Setting) to "1 (ON)"

(2) Server connection check

1. Enter the SP mode.
2. Press [Firmware update] > [Update] > [Execute update].



d238m0986e

3. Check if one of the following messages appears: "Will you download the latest package Ver *** and update?" or "The installed package is the latest version.".
   If the message appears, it is possible to execute ARFU. Press “No” and close SP mode to complete the configuration.

   Important

   The update will run immediately if you press “Yes” at the message "Will you download the latest package Ver *** and update?" The update cannot be canceled if it is run by SFU. (The update can be canceled if ARFU is used.)

   Note

   SP5-886-116 (Auto Update Prohibit Term Setting) displays the scheduled date and time of the next ARFU.
   If error code 71: [Network connection error] appears when you click “Execute update”, see troubleshooting below.

(3) Prohibited date and time setting

Ask the customer for the prohibited times and days of the week for ARFU execution and set the following as needed. The default prohibited time is from 9 a.m. to 5 p.m. and there is no prohibited day.

- SP5-886-112 (Auto Update Prohibit Term Setting) Default: 1 (ON)
- SP5-886-113 (Auto Update Prohibit Start hour) Default: 9

- SP5-886-114 (Auto Update Prohibit End hour) Default: 17
- SP5-886-120 (Auto Update Prohibit Day Of Week Setting) Default: 00000000 [00H]
  Set the bits for the days of the week to prohibit updating.
  Prohibited (Monday - Sunday): bit 7, Monday: bit 6, Tuesday: bit 5
  Wednesday: bit 4, Thursday: bit 3, Friday: bit 2, Saturday: bit 1, Sunday: bit 0
  e.g.) Prohibited on Mon., Fri., Sat., and Sun.: 01000111 [47H]

Note

They can be specified also via Web Image Monitor if logged in as the machine administrator from the device if SP5-886-111(Auto Update Setting) is set to "1 (ON)". For details, see Specifying the Time and Day of the Week to Prohibit Updating via Web Image Monitor.

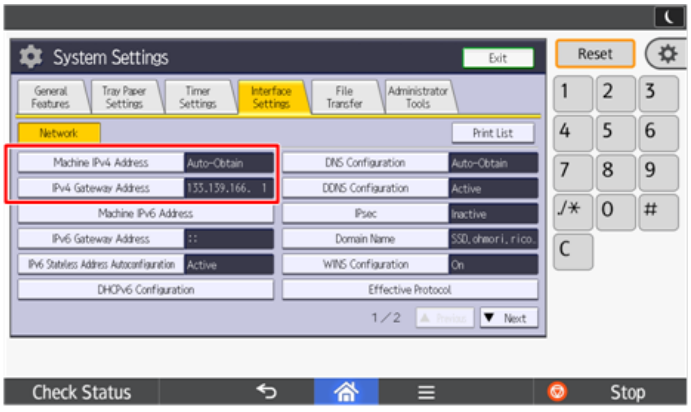
Troubleshooting: If error code 71: [Network connection error] appears

If error code 71: [Network connection error] appears when you click [Firmware update] > [Update] > [Execute update] in SP mode, check the following.

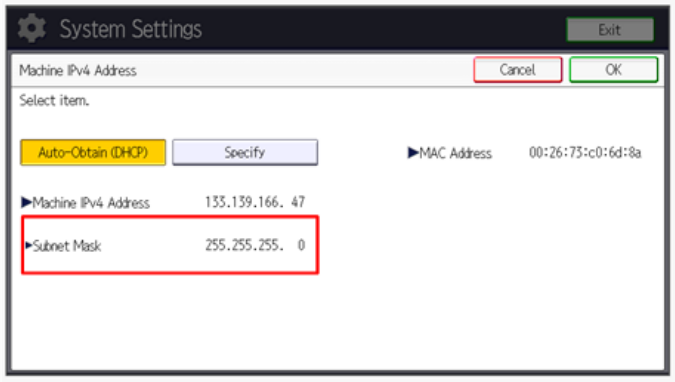
- 4-1. IPv4 address, Subnet mask of the machine and Gateway IPv4 address
- 4-2. IPv4 address of the DNS server
- 4-3. Proxy server settings
- 4-4. Encryption level setting SP

4-1. IPv4 address, Subnet mask of the machine and Gateway IPv4 address

Check the machine's IPv4 address, subnet mask, and gateway IPv4 address.
(In User Tools > Machine Features > System Settings > Interface Settings)



m0ajm0330

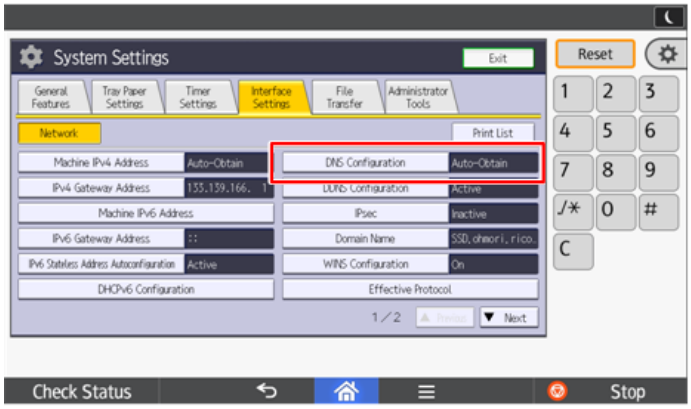


m0ajm0331

4-2. IPv4 address of the DNS server

Check the DNS IPv4 address and check the connection.

(In User Tools > Machine Features > System Settings > Interface Settings > DNS configuration)



m0ajm0333

Note

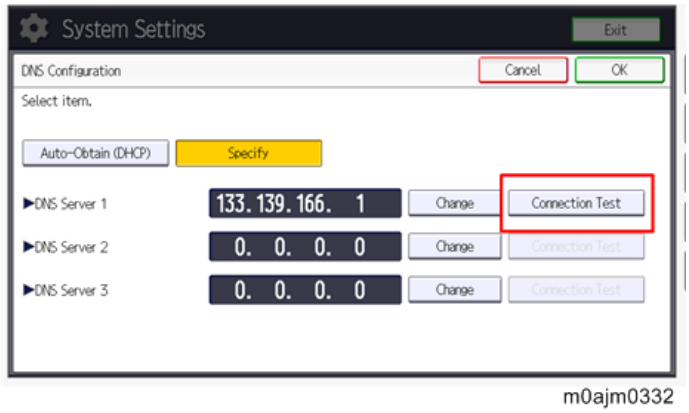
How to find the IP address:

Ask the customer to tell you the IP address of the DNS server. If the customer does not know it, ask the customer to check the IP address by one of the following ways:

1. Run "ipconfig / all" at the command prompt on the computer, then check the IP address of the DNS server.

2. Open the IPv4 properties dialog box on the computer, then check whether the IP address setting of the DNS server is manual or automatic.

- If the setting of the DNS IP address is automatic, select [Auto-Obtain (DHCP)] at the main machine's DNS settings.
- If the setting of the DNS IP address is manual, select [Specify] and specify the DNS server 1 to 3.
- Press [Connection Test] to check the connection with the input address. Make sure that it is connected successfully.



4-3. Proxy server settings

Check the user's network environment and, as required, specify the proxy server settings in the following SPs:

- SP5-816-062 (Use Proxy) 1: Used / 0: Not used
- SP5-816-063 (Proxy Host)
- SP5-816-064 (Proxy PortNumber)
- SP5-816-065 (Proxy User Name)
- SP5-816-066 (Proxy Password)

Important

If access to the external server is restricted, request the network administrator (customer) to permit the following FQDN name for communication.- FQDN: p-rfu-ds2.support.ricoh.com

Note

They can be specified also via Web Image Monitor if logged in as the machine administrator from the device if SP5-886-111(Auto Update Setting) is set to "1(ON)". For details, see Specifying the Time and Day of the Week to Prohibit Updating via Web Image Monitor.

4-4. Encryption level setting SP

Check SP5-816-087 (Remote Service: CERT:Macro Ver) and make sure the encryption level is [2]: 2048 bit.

Important

If SP5-816-087 is [1]: 512 bit, specify the settings as follows:

1. Initialize the encryption level by executing SP5-870-003 (Common Key Info Writing: Initialize)
2. Rewrite as 2048 bit in SP5-870-004 (Common Key Info Writing: Writing 2048 bit).
3. Turn the main switch off and on.

Note

Make sure to check the conditions before changing the encryption level and do the corresponding workaround. ARFU uses the same certificate as @Remote to communicate with the Global Server. This may cause failure in connecting with the Center Server, if the device is to be installed in the following conditions.

Conditions

1) Customer uses RC Gate Type BN1.

RC Gate Type BN1 does not support 2048 bit encryption level communication with Ricoh devices (HTTPS Managed device). Therefore, the device cannot be registered under RC Gate Type BN 1.

2) Ricoh device (HTTPS Managed) that supports only 512 bit encryption level is registered as an external

appliance.

Only one encryption level can be set for an external appliance for its communication with imaging devices. If a 512 bit encryption level Ricoh device (HTTPS Managed) is registered, the external appliance as well as other devices must also use 512 bit encryption even if 2048 bit encryption is supported on those devices.

Workaround

For Condition 1:

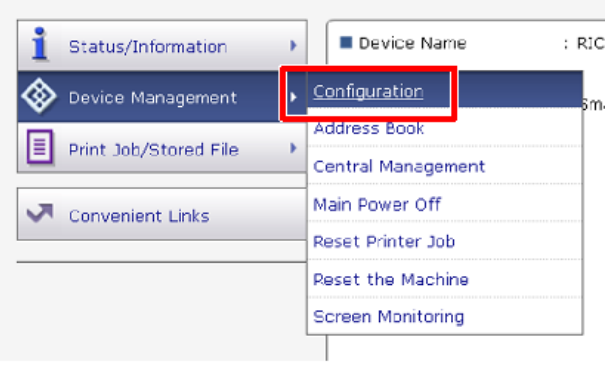
Advise your customer to change to the latest appliance that supports 2048 bit encryption level communication.

For Condition 2:

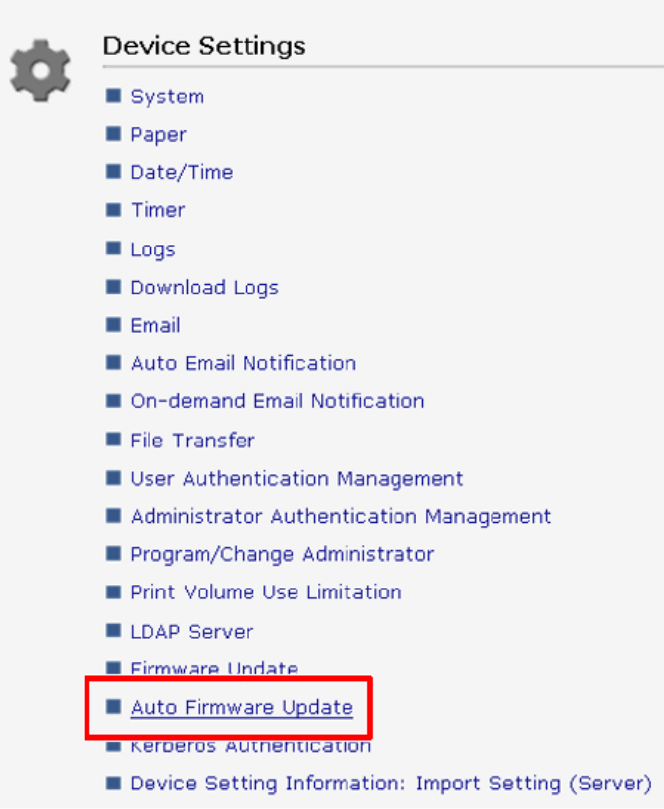
1. Manage the device with embedded RC Gate (2048 bit)
2. Exclude non-supported devices (i.e., those devices that cannot be changed from 512-bit to 2048-bit) from the external appliances, then change the encryption level of external appliances and all managed devices (from 512 bit to 2048 bit).

Specifying the Time and Day of the Week to Prohibit Updating via Web Image Monitor

1. Start Web Image Monitor.
2. Log in as the machine administrator.
3. Point to [Device Management], and then click [Configuration].



4. Click "Auto Firmware Update".



d238m0984j

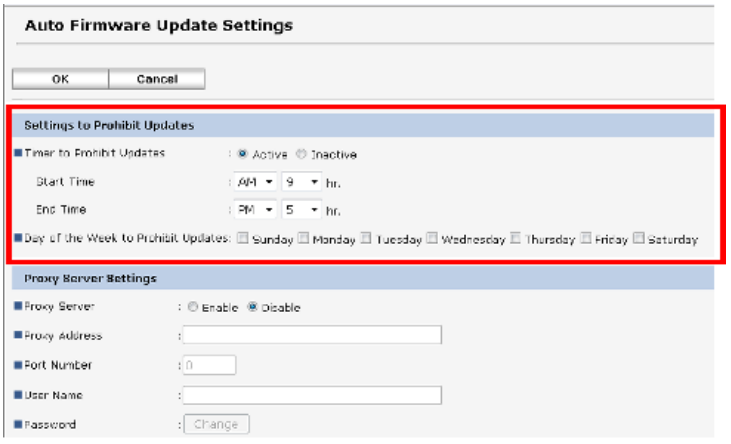
Note

Turn the main power OFF and back ON again after setting SP5-886-111 (AutoUpdateSetting) to "1 (ON)".

"Auto Firmware Update" will appear in the menu list of Web Image Monitor.

5. Specify the times and days of the week to prohibit updating.

Select the check boxes of the applicable days of the week to prohibit updating on that day



d238m0985e

Moving the Machine

This section shows you how to manually move the machine from one floor to another floor.

- Turn off the main power.
- Disconnect the power plug from the outlet.

- Close all covers and paper trays, including the front cover and bypass tray.
- Keep the machine level and carry it carefully, taking care not to jolt or tip it, and protect the machine from strong shocks.

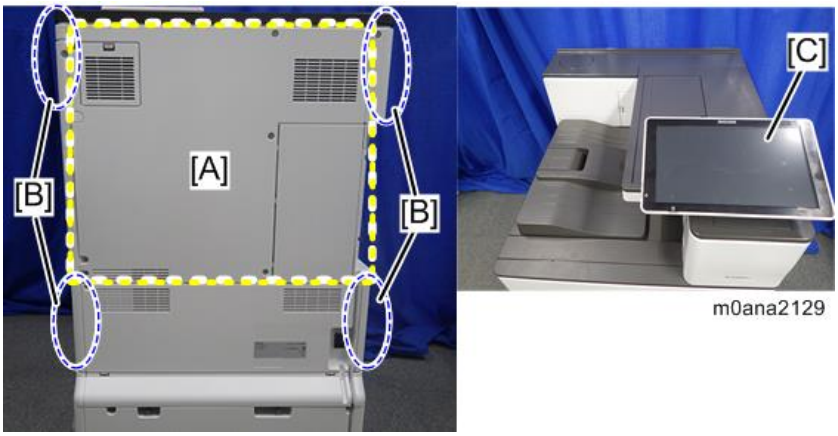
Important

- Do not push the center part of the rear cover. Do not hold the covers of the stabilizers.



m0ana2009

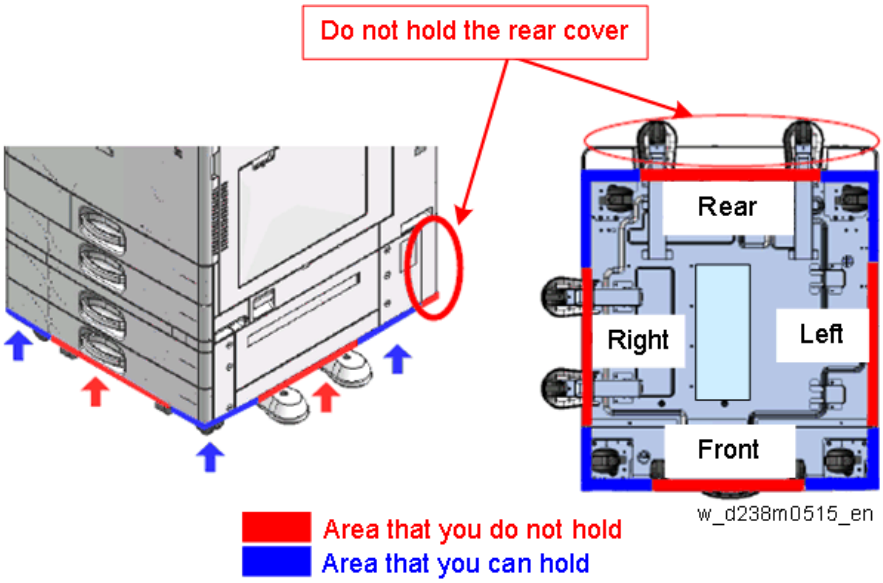
- Do not put hard pressure on the rear cover [A] when moving or picking up the machine because it is fragile. This also applies to the operation panel [C]. Hold parts [B] when moving the machine.



m0ana2129

- Hold 4 corners on the bottom base when holding the machine with the optional paper feeding tray

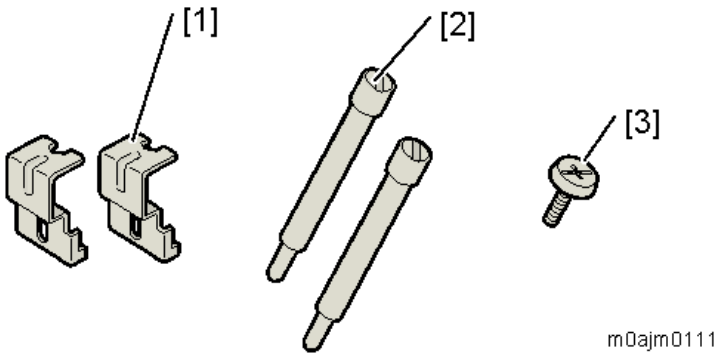
joined to the main machine. Do not hold any other parts.



Paper Feed Unit PB3240 (M494-17, -21)

Accessory Check

No.	Description	Q'ty	Remarks
1	Securing Bracket	2	
2	Long Screws (M4 × 10)	2	
3	Coin Screw (M4 × 10)	1	

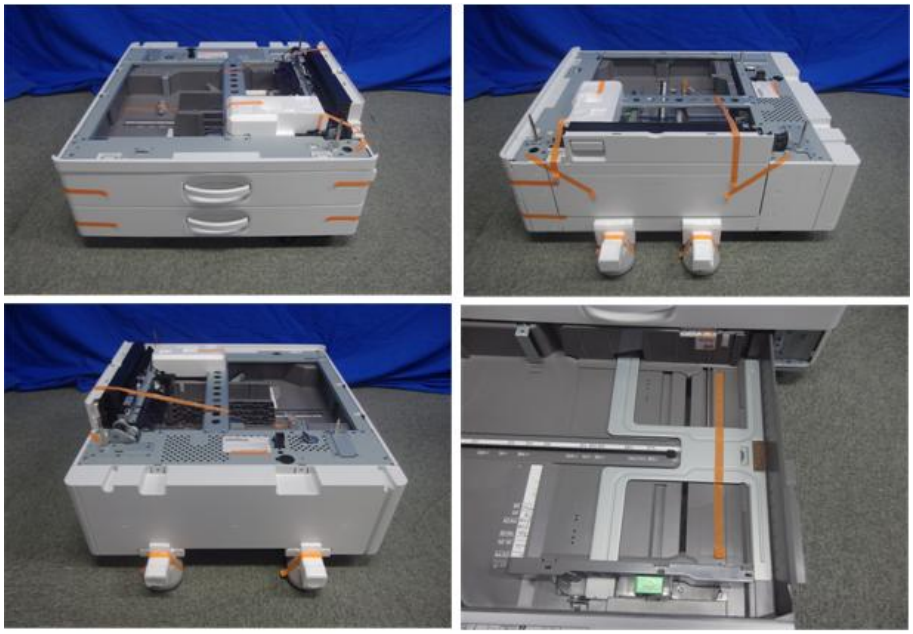


Installation procedure

⚠CAUTION

- The main machine weighs approximately 57 kg (125.7 lb.). The printer should always be lifted by at least four people.
- The machine should be held at the correct locations and lifted gently. If it is lifted without care, handled carelessly or dropped, it may result in an injury.
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Be sure to join the machine to the paper feed unit so as to prevent equipment from falling over. If they are not connected, they may move and fall over, resulting in injury.

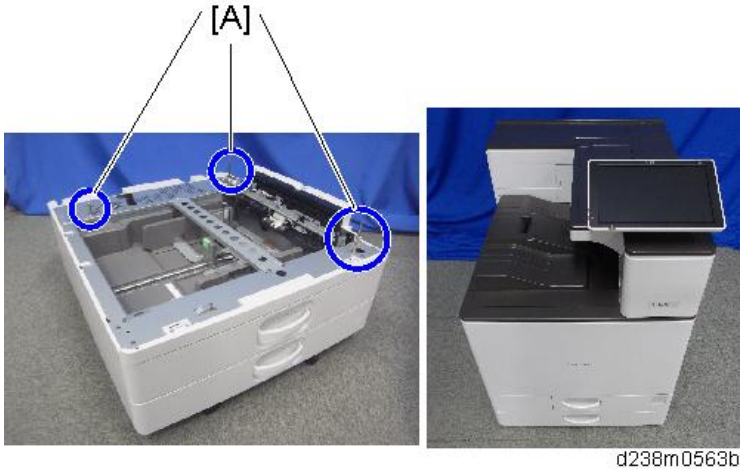
1. Remove the orange tape and retainers.



d238m0546

2. Remove the accessories (fixing screws, etc.) from the package.

3. Holding the grips on the machine, align the machine with the locating pins [A], and place the machine on the paper feed unit.



d238m0563b

Note

- When you lift the machine, hold the correct locations [A].



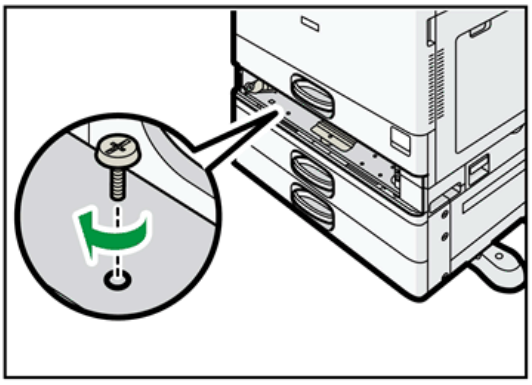
m0ana2130

- Do not hold any other parts of the machine when lifting it, because this may cause the machine to deform.
- Do not put the machine down on the paper feed unit as a temporary resting place. This may cause the paper feed unit to deform. Always connect the machine and paper feed unit properly.

4. Pull out the 2nd paper feed tray of the main machine.

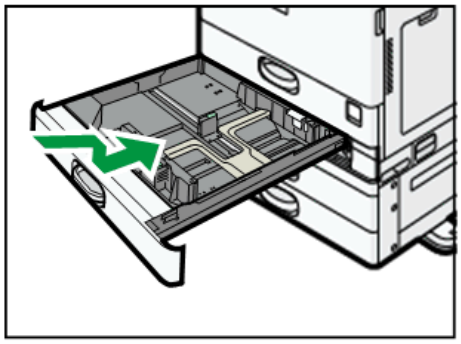
5. Fix the machine to the feed unit (coin screw x1: M4x10).

Tighten the screw firmly using a coin.



m0ana2127

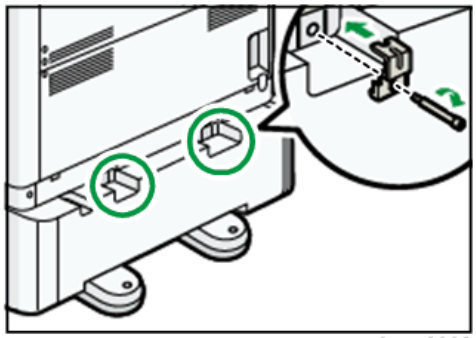
6. Slide the tray carefully into the main unit until it stops.



m0ana2081

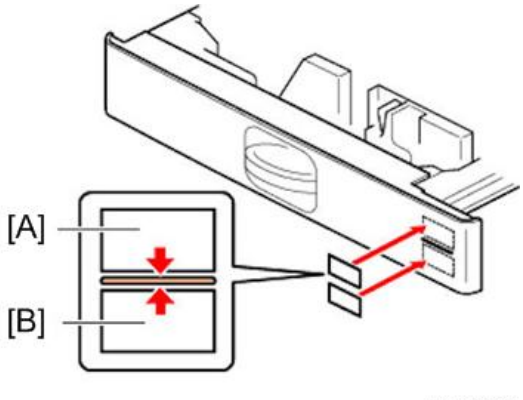
7. Attach the securing brackets to two positions on the left and right at the rear of the machine (long screw x2: M4x10).

Tighten the screws firmly using a coin.



m0ana2082

8. Attach the decals as shown below.



d1462230

[A]: Tray number decal

[B]: Paper size decal

Note

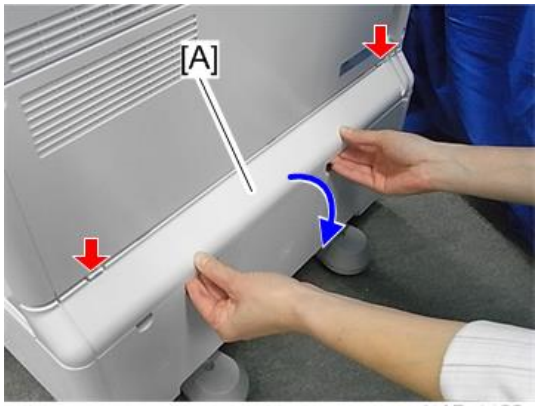
- The tray number decal and paper size decal are packaged together with the main machine.

9. Lock the casters of the paper feed unit.



d1462439

10. Attach the rear lower gap cover [A].



d197z1155a

11. Connect the power cord to the machine.

Note

- Stabilizers are attached to the machine when it is shipped. Do not remove them.



m0ana2119

12. Turn ON the main power.

13. Load the paper, and check that the size of paper loaded in the paper feed tray is displayed on the operation panel.

14. Adjust the registration for the paper feed unit.

- SP1-002-004 (Side-to-Side Registration Paper Tray 3)
- SP1-002-005 (Side-to-Side Registration Paper Tray 4)

SP descriptions

- **SP1-002 (Side-to-Side Registration)**

  Adjusts the side-to-side registration by changing the laser main scan start position for each mode and tray.

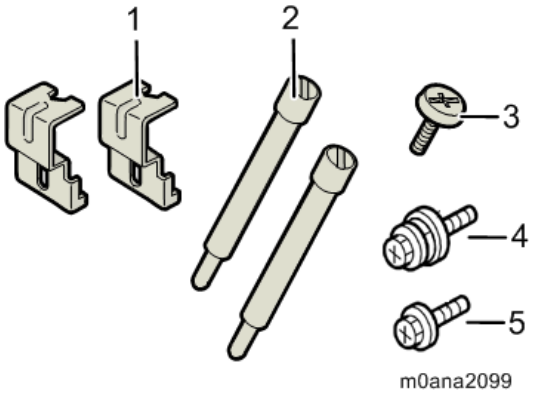
  Increasing a value: The image is moved towards the rear edge of the paper.

  Decreasing a value: The image is moved towards the front edge of the paper.

LCIT PB3260 (M496-17, -27)

Accessory Check

No.	Descriptions	Q'ty	Remarks
1	Securing Bracket	2	
2	Long Screws (M4 × 10)	2	
3	Coin Screw (M4 × 10)	1	
4	Hexagonal Bolt	1	Not used in this machine
5	Screw (M4 × 10)	2	Not used in this machine
-	Caution sheet (screw)		

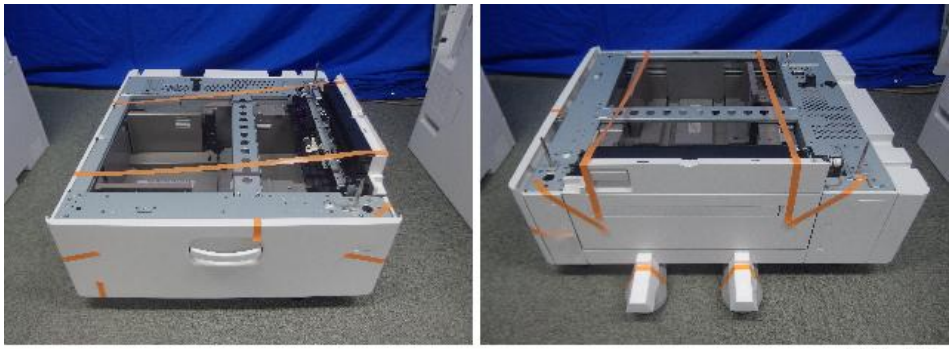


Installation procedure

⚠CAUTION

- The main machine weighs approximately 57 kg (125.7 lb.). The printer should always be lifted by at least four people.
- The machine should be held at the correct locations and lifted gently. If it is lifted without care, handled carelessly or dropped, it may result in an injury.
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Be sure to join the machine to the paper feed unit so as to prevent equipment from falling over. If they are not connected, they may move and fall over, resulting in injury.

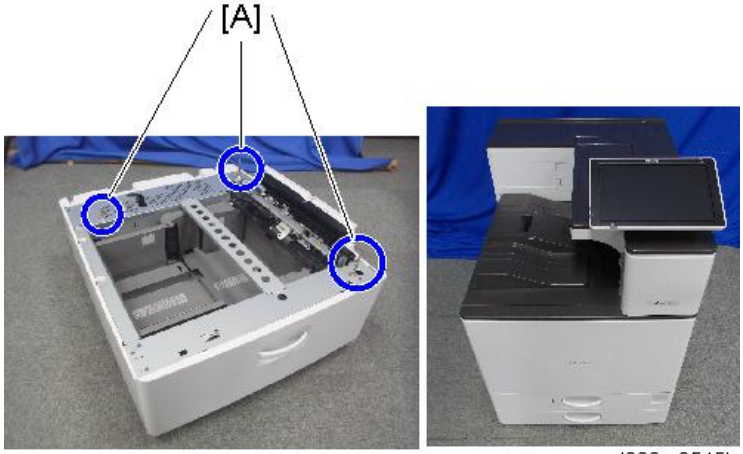
1. Remove the orange tape and retainers.



d238m544

2. Remove the accessories (fixing screws, etc.) from the package.

3. Holding the grips on the machine, align the machine with the locating pins [A], and place the machine on the paper feed unit.



d238m0545b

Note

- When you lift the machine, hold the correct locations [A].



m0ana2130

- Do not hold any other parts of the machine when lifting it, because this may cause the machine to deform.
- Do not put the machine down on the paper feed unit as a temporary resting place. This may cause the paper feed unit to deform. Always connect the machine and paper feed unit properly.

4. Pull out the 2nd paper feed tray.

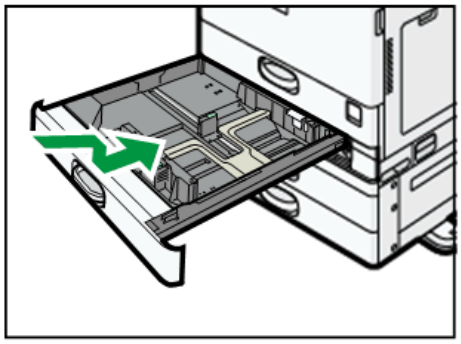
5. Fix the machine to the feed unit (coin screw x1: M4x10).

Tighten the screw firmly using a coin.



m0ajm0187

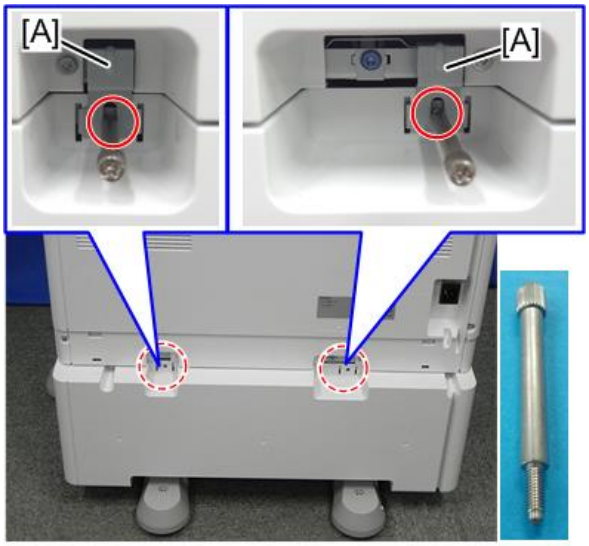
6. Slide the tray carefully into the main unit until it stops.



m0ana2081

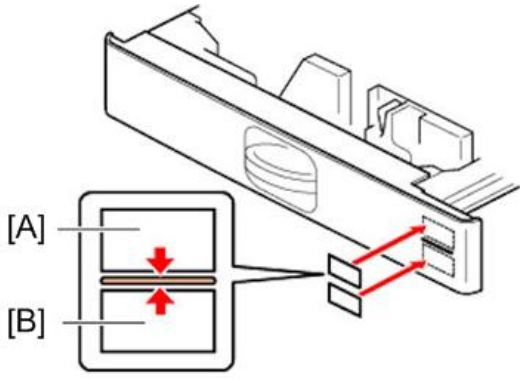
7. Attach the securing brackets [A] to two positions on the left and right at the rear of the machine (long screw x2: M4x10).

Tighten the screws firmly using a coin.



m0ana2121

8. Attach the decals as shown below.



d1462230

[A]: Tray number decal

[B]: Paper size decal

Note

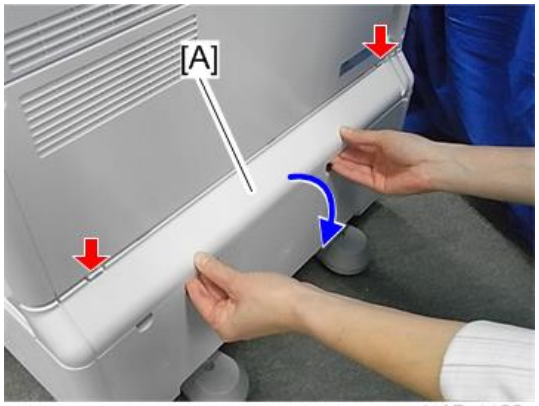
- The tray number decal and paper size decal are packaged together with the machine.

9. Lock the casters of the paper feed unit.



d1462439

10. Attach the rear lower gap cover [A].



d197z1155a

11. Connect the power cord to the machine.

Note

- The stabilizers are attached to the LCIT when it is shipped. Do not remove any of them.



m0ana2119

12. Turn ON the main power.

13. Load the paper, and check that the size of paper loaded in the paper feed tray is displayed on the operation panel.

14. Adjust the registration for the paper feed unit.

SP1-002-004 (Side-to-Side Registration Paper Tray 3)

SP descriptions

- SP1-002 (Side-to-Side Registration)
  Adjusts the side-to-side registration by changing the laser main scan start position for each mode and tray.
  Increasing a value: The image is moved towards the rear edge of the paper.
  Decreasing a value: The image is moved towards the front edge of the paper.

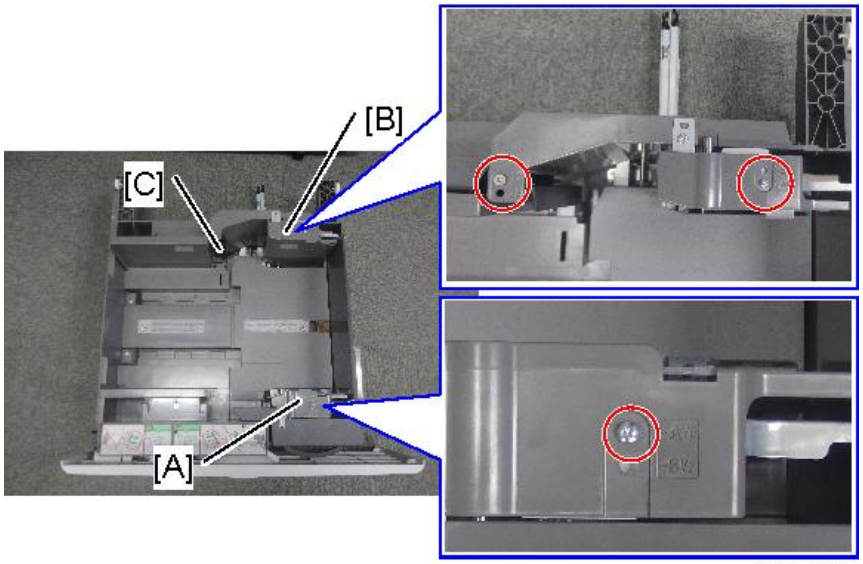
Changing the paper size

Paper size is set as shown below when the machine is shipped from the factory.

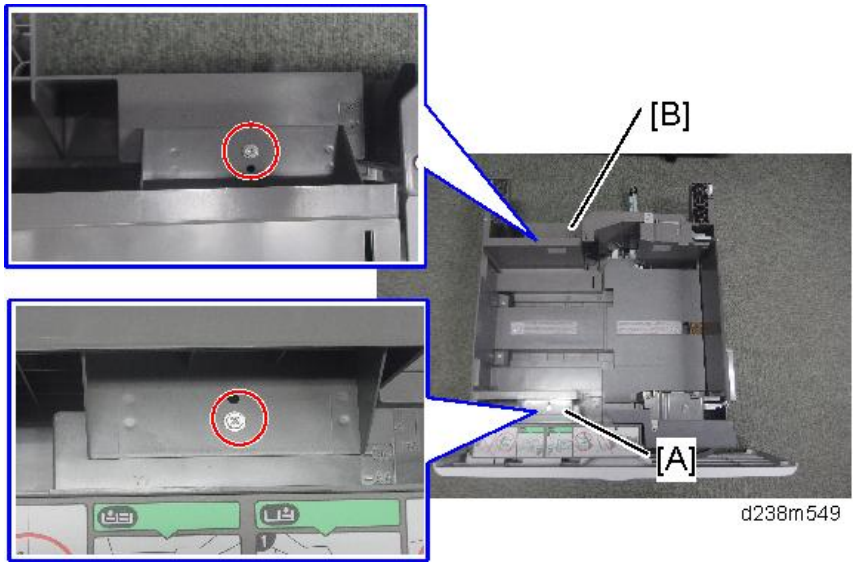
- NA: LT LEF
- EU, AA: A4 LEF

The paper size can be changed to A4 or LT.

1. Pull out the left tray and right tray.
2. Remove the screws on the right tray side fences (front [A], rear [B]) and right tray end fence [C] (×3).



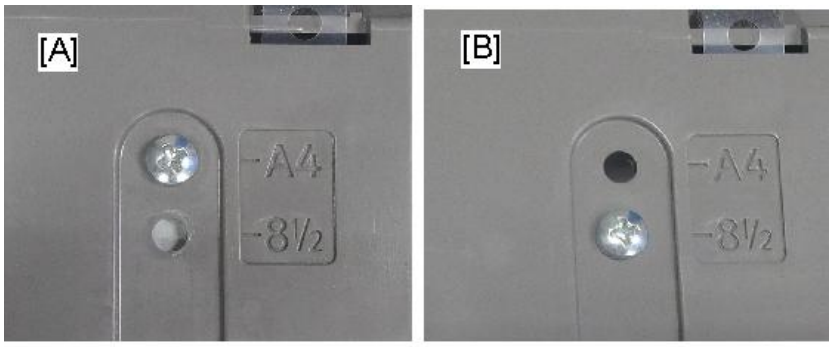
3. Remove the screws on the left tray side fences (front [A], rear [B]).



4. Slide the fences to the required position (A4 or LT), and then tighten the screws.

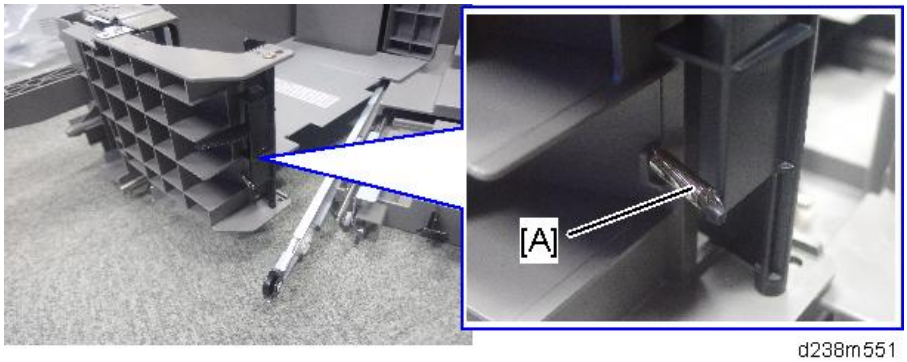
[A]: A4 position

[B]: LT position



d238m550

5. Make sure that the spring [A] is attached.



d238m551

6. Adjust the following SP to set the paper size of the tandem paper tray.

SP5-181-009 (Size Adjust: TRAY 3/T-LCT: 1)

0: A4 LEF

1: LT LEF

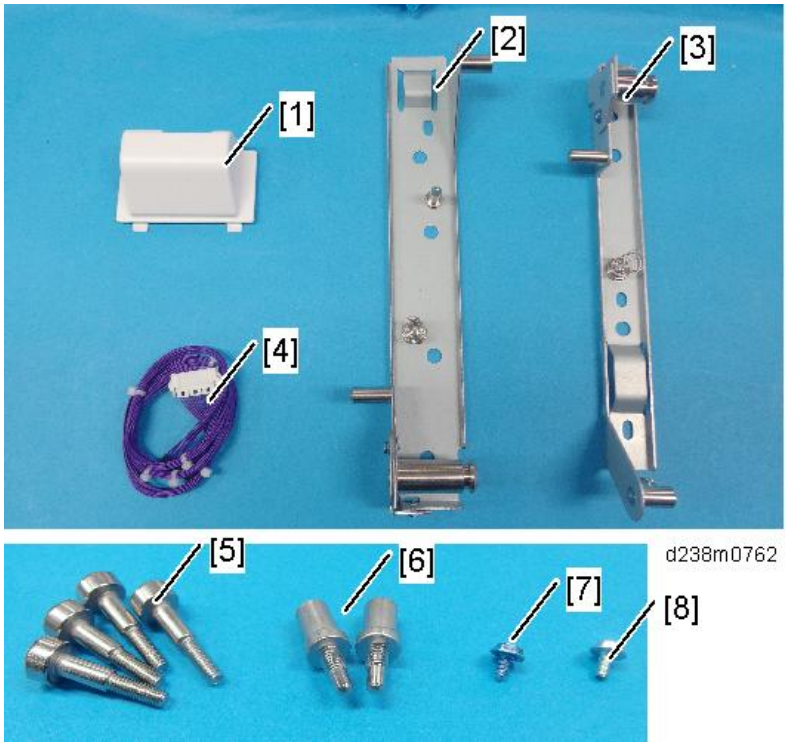
LCIT RT3030 (D696-17, -27)

Important

- To install this optional unit, Paper Feed Unit PB3240 (M494) or LCIT PB3260 (M496) is required.

Accessory Check

No.	Description	Q'ty	Remarks
1	Connector Cover	1	
2	Front Bracket	1	
3	Rear Bracket	1	
4	Harness	1	
5	Stud screw	4	
6	Joint Pins	2	
7	Tapping Screw – M3 × 6	1	
8	Screw – M3 × 6	1	



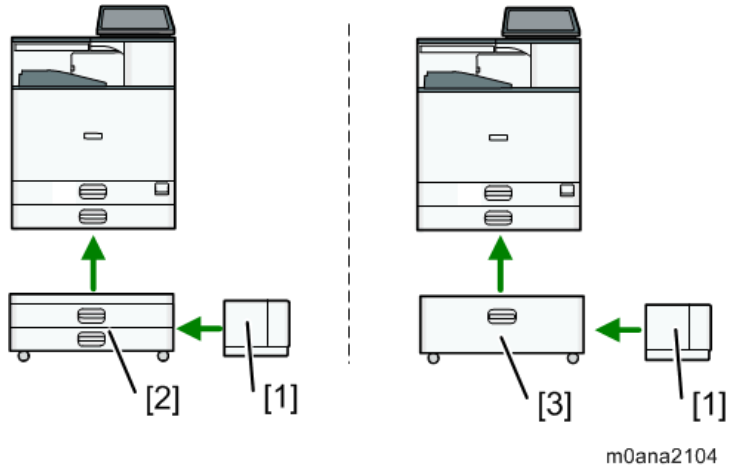
Installation procedure

⚠CAUTION

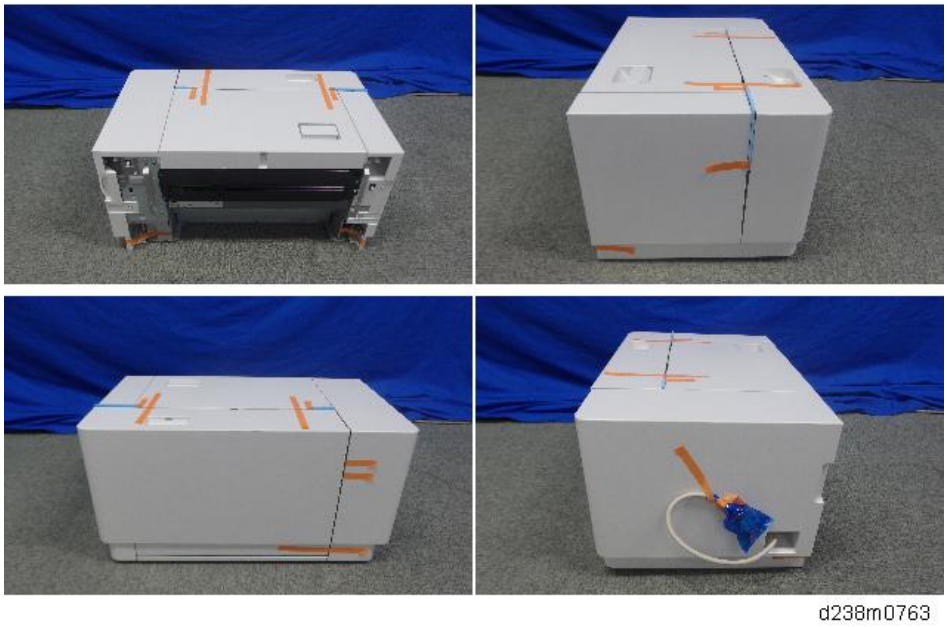
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

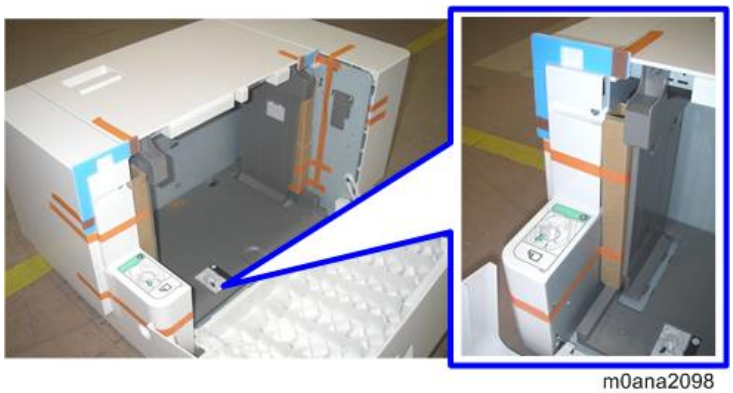
Note

- LCIT RT3030 [1] can be connected to Paper Feed Unit PB3240 [2] or LCIT PB3260 [3] only in one of the following two combinations.



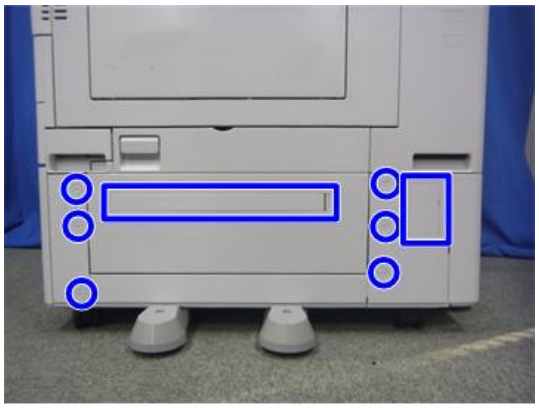
1. Remove the orange tape and retainers.





2. Remove the accessories (stud screws, etc.) from the package.

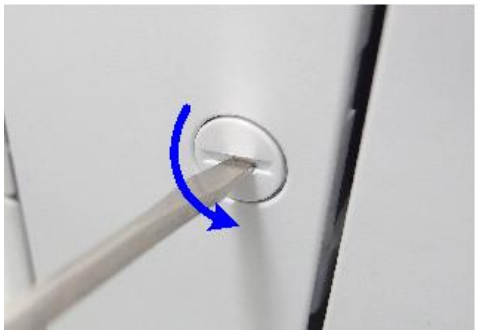
3. Remove the eight covers on the right of the paper feed unit of the machine.



d1462457

Note

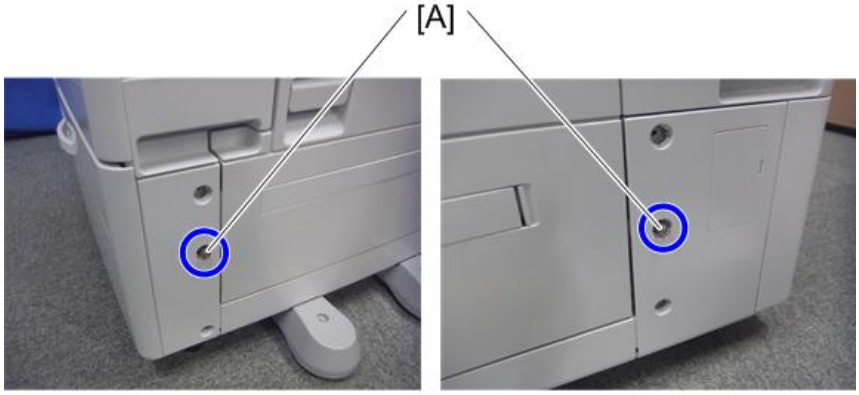
Insert the flat-headed screwdriver into the cover and push and turn the driver counterclockwise to remove it.





m0ajm0221

4. Attach the joint pins [A] to the front and rear on the right of the paper feed unit.



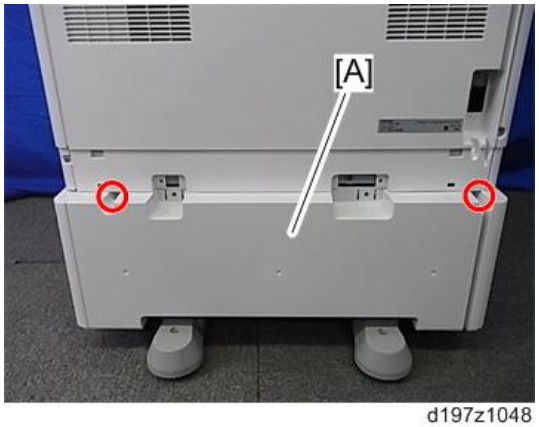
d1462458

5. Attach the front bracket [A] and rear bracket [B] at the positions of the joint pins (Stud screw: ×4).



d1462459a

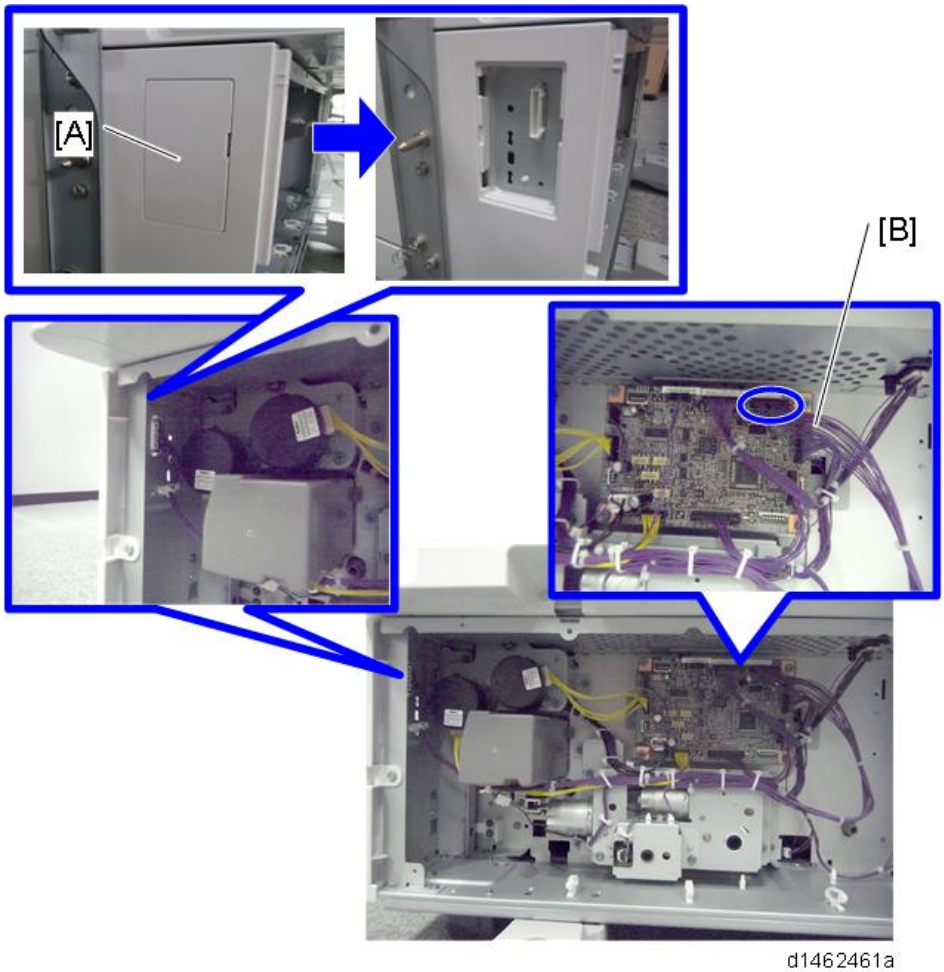
6. Remove the rear cover [A] of the paper feed unit.(×2).



7. Connect the harness.

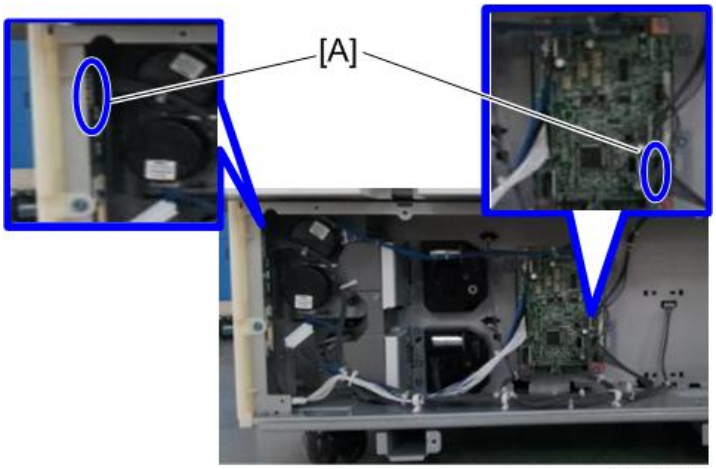
For a machine with LCIT PB3260

Remove the connection cover [A], and connect the harness [B].



For a machine with Paper Feed Unit PB3240

Connect the harness [A].



d146z0083

8. Clamp the harness.

For a machine with LCIT PB3260



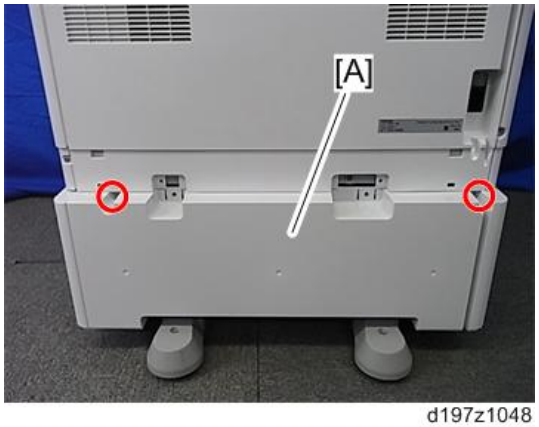
d146z0017b

For a machine with Paper Feed Unit PB3240



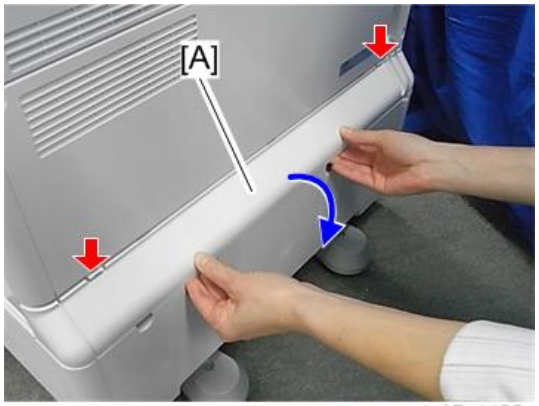
d146z0084

9. Attach the rear cover [A] of the paper feed unit.(×2)



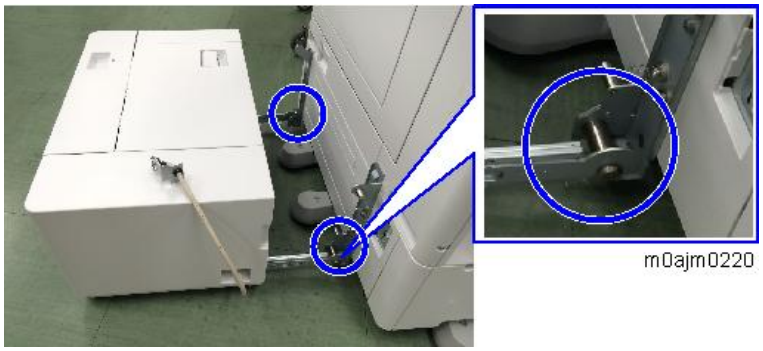
d197z1048

10. Attach the rear lower gap cover [A].



d197z1155a

11. Attach the hooks of the side LCIT to the brackets.



m0ajm0220

12. Connect the cable [A] of the side LCIT to the machine (×1).



d1462463

13. Attach the connector cover [A] (×1).



d1462464

14. Push the side LCIT towards the machine.



d1462465

15. Turn on the main power.

16. Set the paper, and check that the paper size set in the paper feed tray is displayed on the control unit.

17. Do the registration adjustment for the large capacity tray.

SP1-002-007 (Side-to-Side Registration Large Capacity Tray)

SP descriptions

- **SP1-002 (Side-to-Side Registration)**

Adjusts the side-to-side registration by changing the laser main scan start position for each mode and tray.

Increasing a value: The image is moved towards the rear edge of the paper.

Decreasing a value: The image is moved towards the front edge of the paper.

Changing the Paper Size

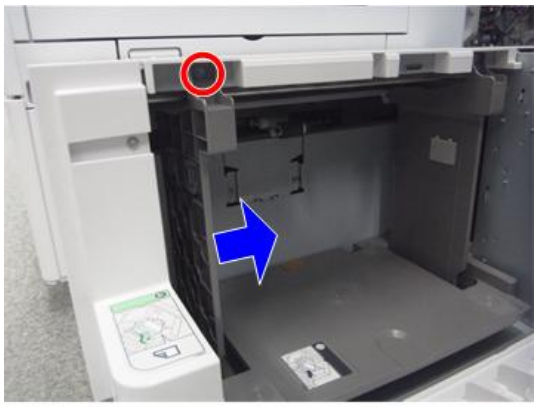
Paper size is set as shown below when the machine is shipped from the factory.

NA: LT LEF

EU, AA: A4 LEF

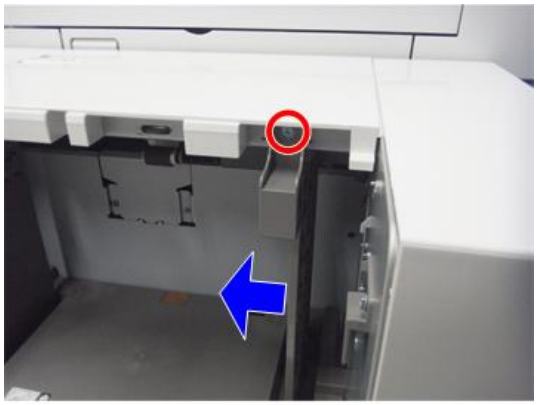
The paper size can be changed to A4, LT, or B5.

1. Open the tray cover.
2. Remove the upper screw at the front side fence, and after setting the side fence to the position of the paper (outer: A4 LEF, center: LT LEF, inner: B5 LEF), tighten the screw that was removed.(×1)



d1462466

3. Also change the rear side fence to the same size position.(×1)



d1462467

4. Change the paper size according to the new side fence position.

   SP5-181-024 (Size Adjust: LCT)

   - 0: A4 LEF
   - 1: LT LEF
   - 2: B5 LEF

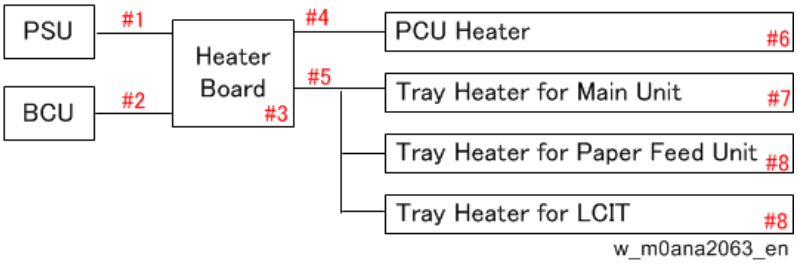
Anti-Condensation Heater

⚠CAUTION

- Turn off the main power and disconnect the power supply cord when installing this option.

Overview

The following diagram shows the heater configuration. When installing a heater, the heater board is required.



	Part description	Tray heater (Main unit)	Tray heater (Op tray)	PCU Heater	Tray heaters (Main + Op)	Tray heater (main unit) + PCU heater	Tray heaters (Main + Op) + PCU heater
Heater Board (Assembly-1)	PCB:DHB:CORONA-C1	1	1	1	1	1	1
Tray Heater for Main Unit	HEAT SINK: HEATER:ASS'Y	1			1	1	1
	TAPPING SCREW - M3X8	1			1	1	1
PCU Heater	THERMOSTAT:ASS'Y			1		1	1
	HEATER:OPTION:9W			1		1	1
	SCREW:POLISHED ROUND/ SPRING:M3X5			2		2	2
	COVER:PLATE:HEATER			1		1	1
	DECAL:WARNING (HIGH TEMPERATURE)			1		1	1
	DECAL:WARNING (HIGH TEMPERATURE)(HEATER OPTION)			1			
Harness for PCU	HARNESS:DEHUMIDIFIER: SCANNER:PCU			1		1	1
Tray Heater for PB3240	HEATER:ASS'Y		*1		*1		*1

Tray Heater for PB3260	HEATER:ASS'Y		*1		*1		*1

* : Choose one.

Heater Board

⚠CAUTION

- Turn off the main power and disconnect the power supply cord when installing this option.

Accessory Check

Description	Q'ty	Shown in the Overview as
Tapping Screw: M3x6	3	-
Clamp: LWSM-0306A	7	-
Clamp: LWS-1211A	1	-
Heater Board	1	#3
BCU Harness	1	#2
PSU Harness	1	#1
PFU Harness	1	#5

Installation Procedure

1. Open the front cover.

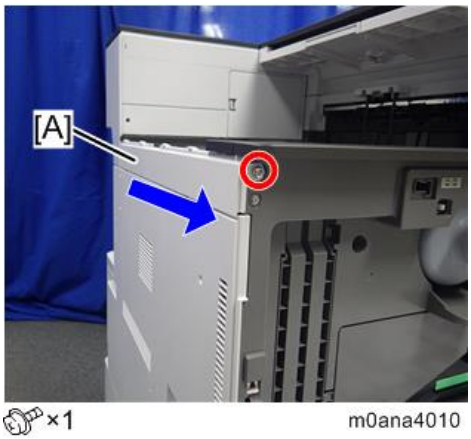
2. Remove the paper exit tray [A].



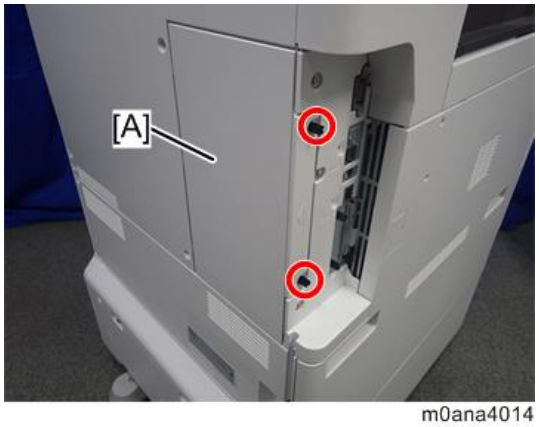
3. Remove the left upper cover [A].

Note

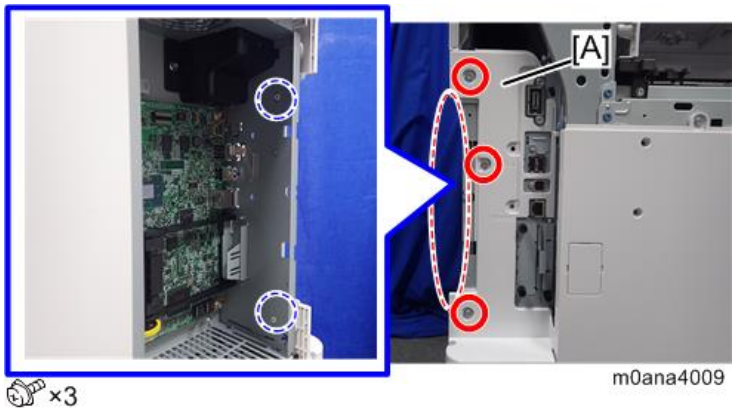
- Slide the cover in the direction of the blue arrow.



4. Remove the rear left cover [A] (coin screw x 2).



5. Release the two bosses at the back, and remove the controller cover [A].



6. Open the 1st and 2nd paper feed trays slightly.

7. Remove the left cover [A].



8. Remove the rear cover [A].

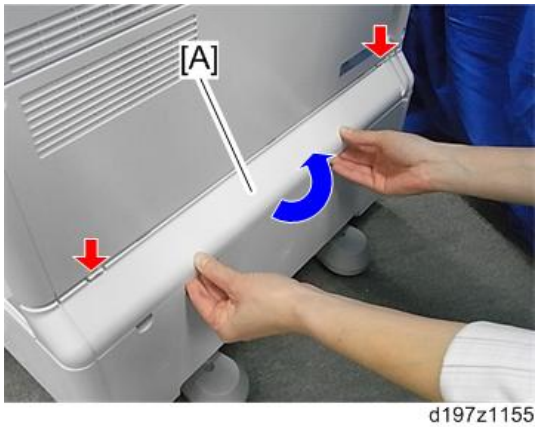
Note

Each part enclosed by a red dotted circle has a tab. Be careful not to damage it when attaching and detaching.

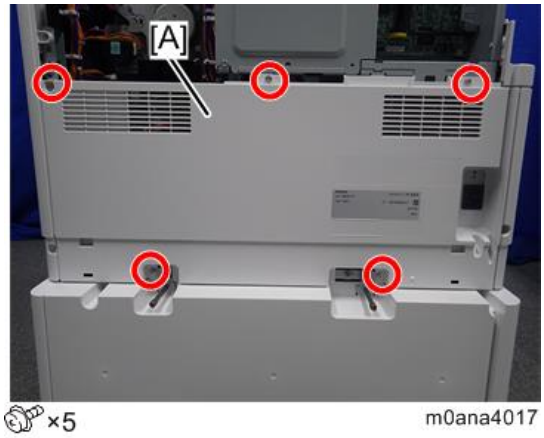




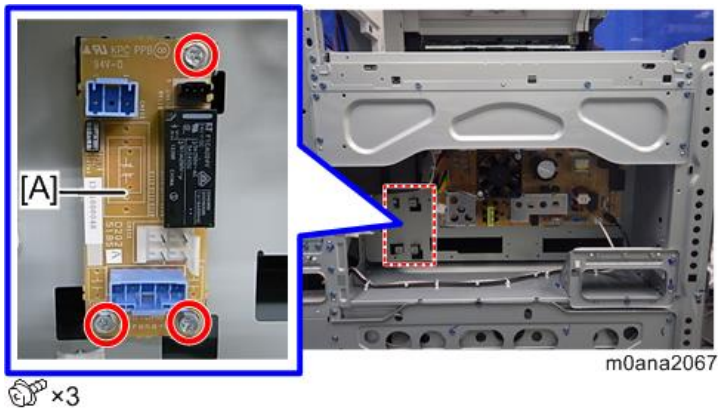
9. Remove the rear lower gap cover [A] (hook×2).



10. Remove the rear lower cover [A].

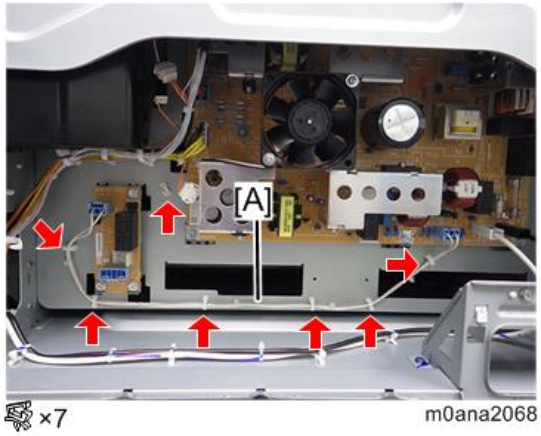


11. Attach the heater board [A].

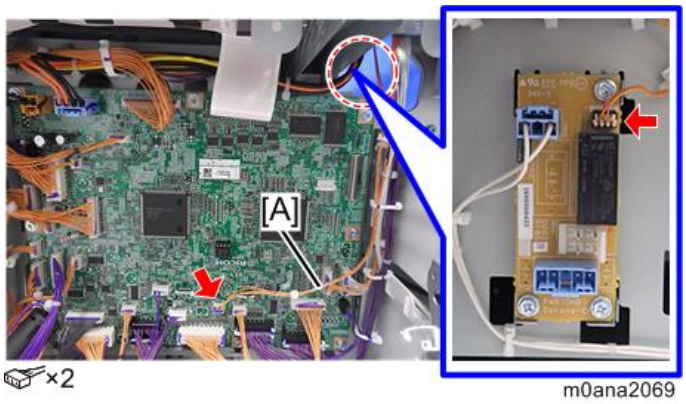


12. Attach the clamps (LWSM-0306A). Connect the PSU harness [A] to CN904 of the PSU and CN920 of the

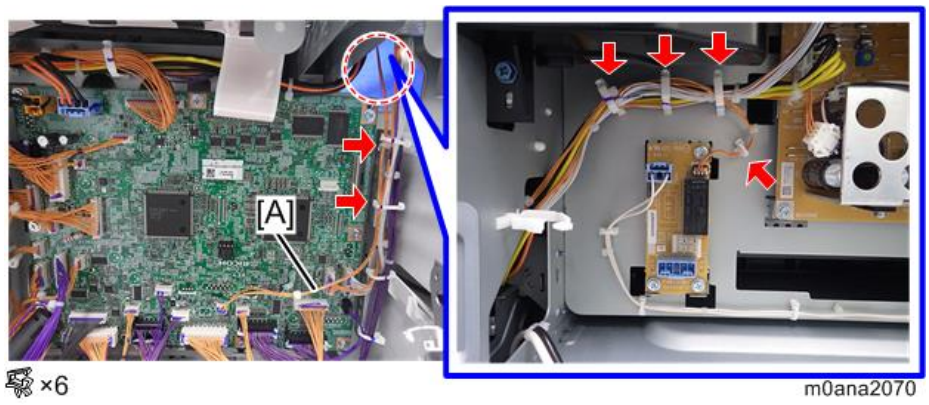
heater board, and clamp the harness [A].



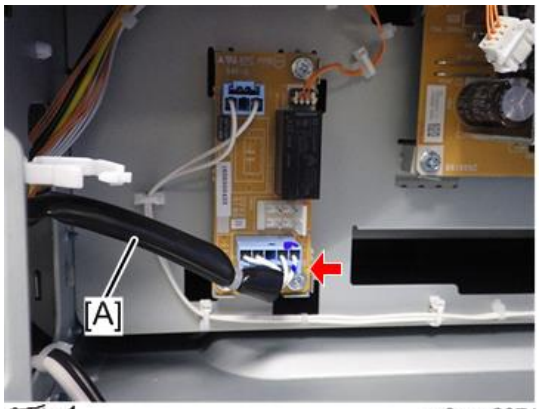
13. Connect the BCU harness [A] to CN121 of the BCU and CN930 of the heater board.



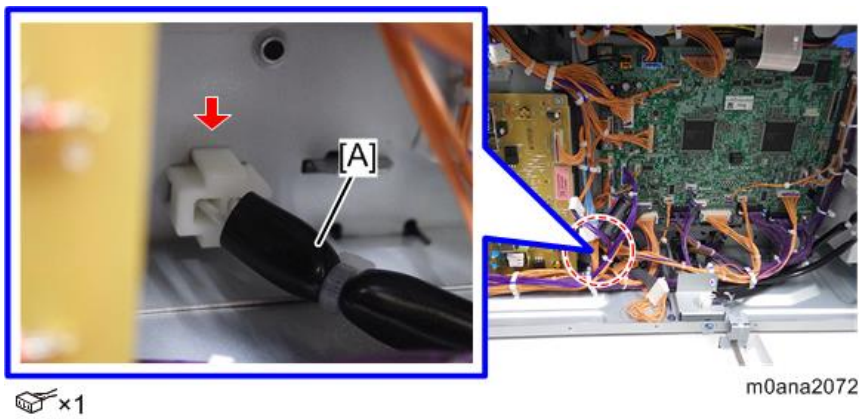
14. Clamp the harness [A] which was connected in step 13.



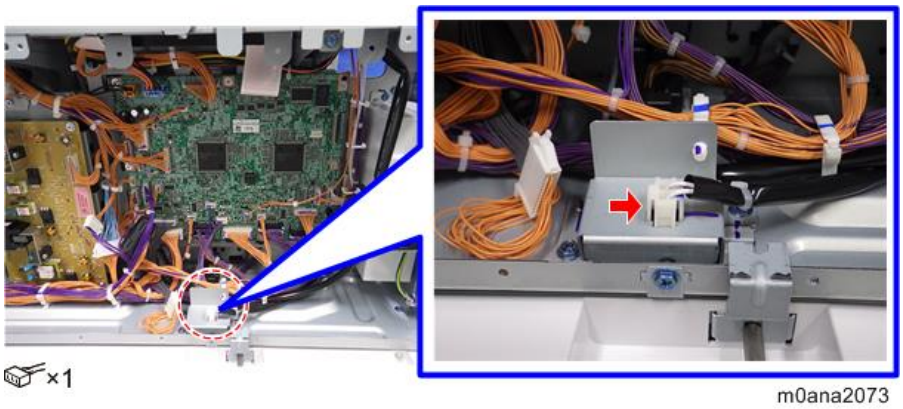
15. Connect the PFU harness [A] to CN921 of the heater board.



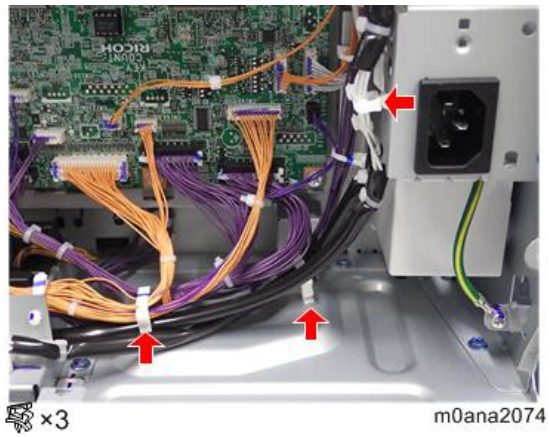
16. Attach the socket on the PFU harness [A] to the rear frame of the main unit.



17. Connect the connector.



18. Clamp the PFU harness.



PCU Heater

⚠CAUTION

- Unplug the machine power cord before starting the following procedure.
- Do the following procedure not to damage any harnesses.
- Check that harnesses are not damaged or pinched after installation.

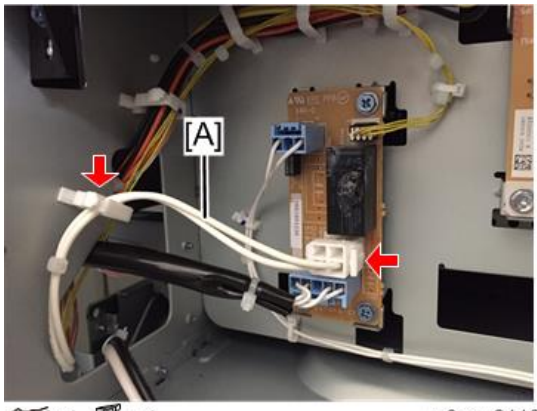
Accessory Check

Description	Q'ty	Shown in the Overview as
PCU Harness	1	#4
Clamp: LWSM-0511A	3	-
PCU Heater	1	#6
THERMOSTAT:ASS'Y	1	-
SCREW:POLISHED ROUND/SPRING:M3X5	2	-
DECAL:WARNING (HIGH TEMPERATURE)	1	-
DECAL:WARNING (HIGH TEMPERATURE) (HEATER OPTION)	1	
Heater Cover	1	-

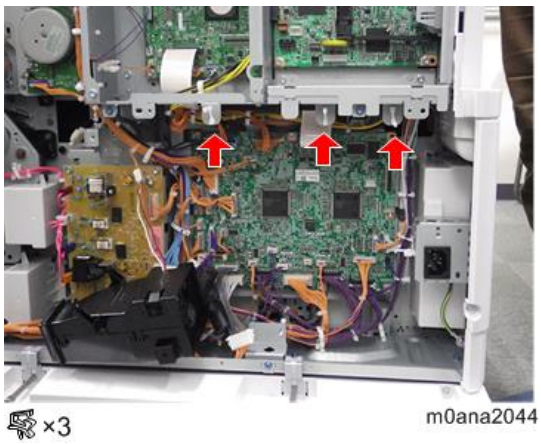
Installation Procedure

1. Install the heater board. (Installation Procedure)

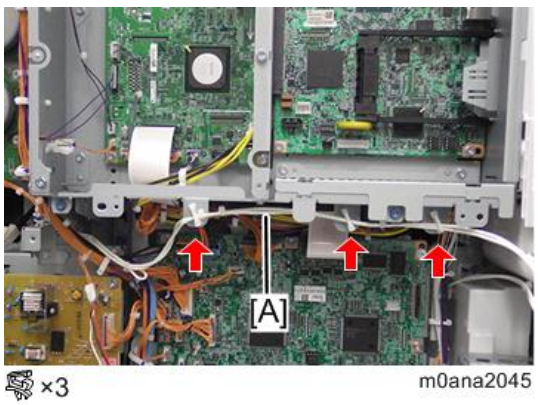
2. Connect the PCU harness [A] to CN922 of the heater board and clamp the harness.



3. Attach the clamps (provided with this unit) around the controller board in the rear main unit.

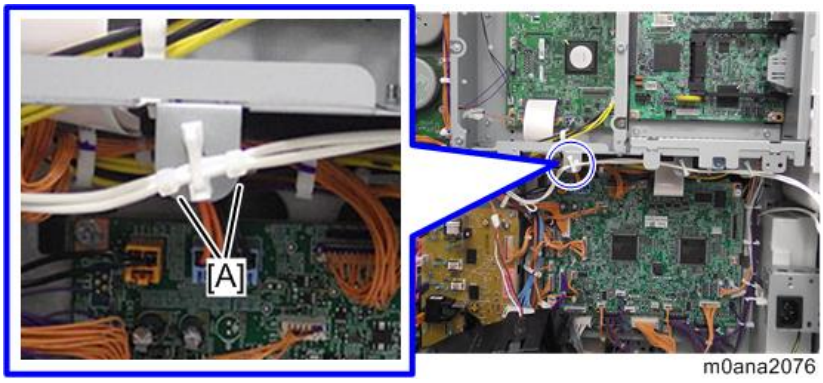


4. Route the heater cable [A] to the rear of the main unit.



Note

At the blue circle position shown below, position the clamp between the two cable ties [A].



m0ana2076

5. Open the front cover.

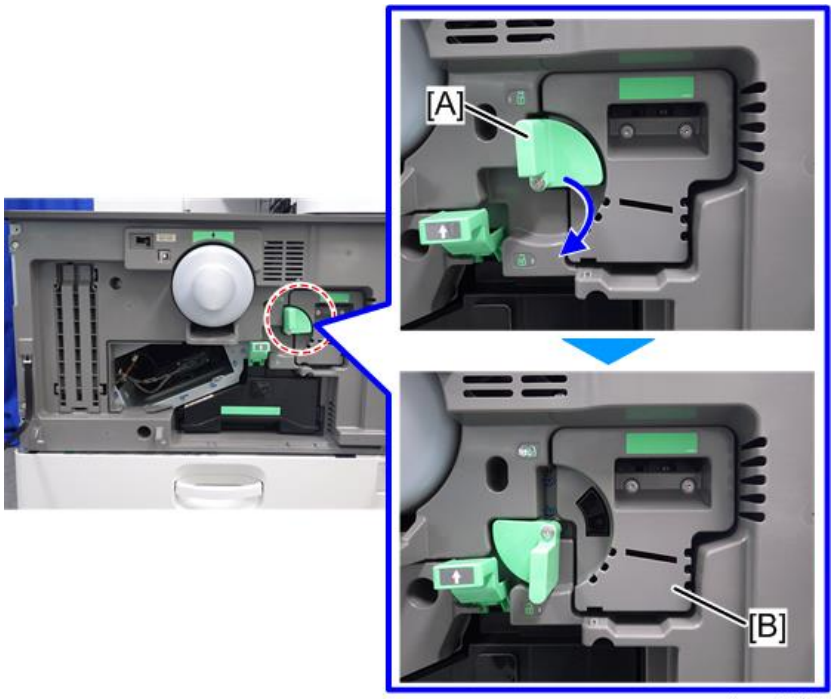
6. Open the right cover.

7. Open the transfer unit [A].



m0ana4039

8. Release the lever [A] then remove the PCDU [B].



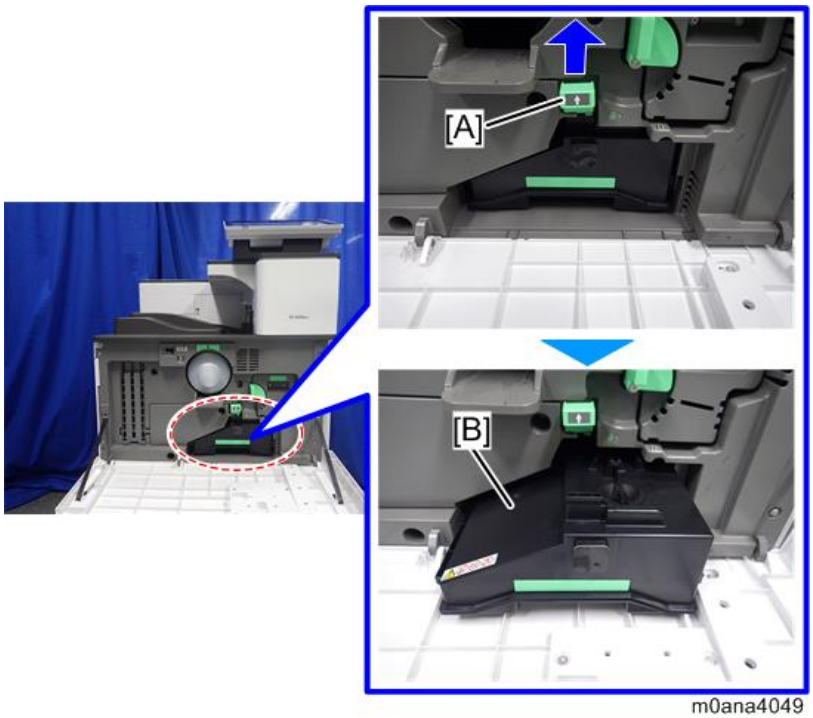
m0ana4040

Note

Carefully and slowly pull out the PCDU without tilting, to prevent toner spillage.

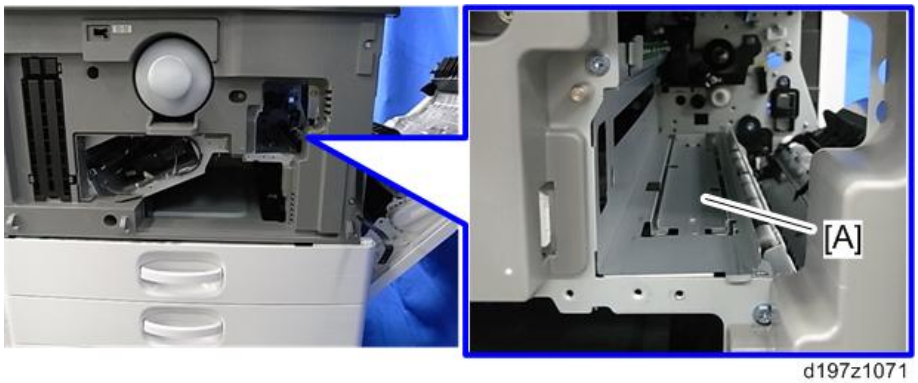

m0ana4041

9. Lift the lever [A] then pull out the waste toner bottle [B].



m0ana4049

10. Take off the heater bracket [A].

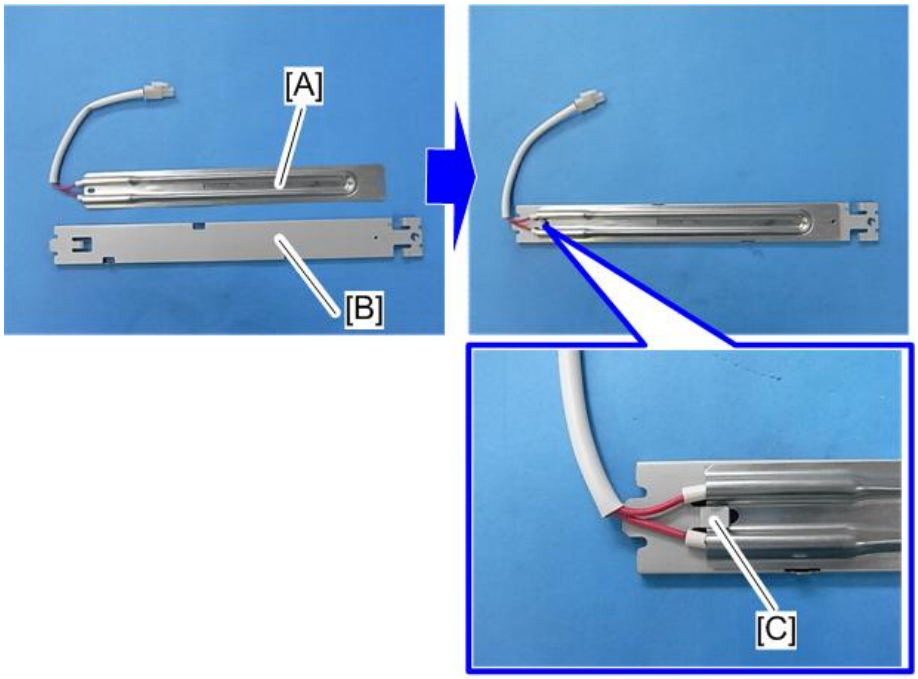


d197z1071

11. Attach the anti-condensation heater (PCU) [A] to the heater bracket [B].

Note

- Fit the anti-condensation heater (PCU) [A] into the tab [C] on the heater bracket [B].

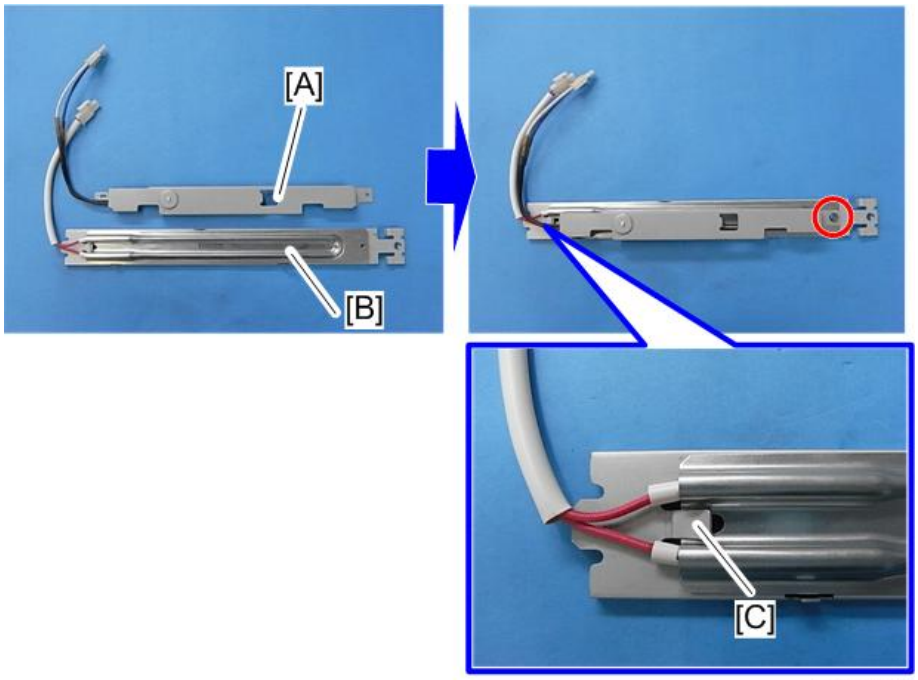


d197z0431

12. Attach the thermostat [A] to the anti-condensation heater (PCU) [B] (x1).

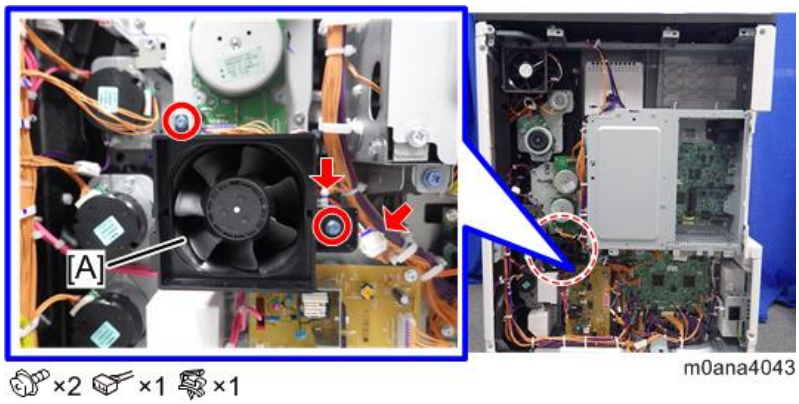
Note

- Fit the thermostat [A] into the tab [C] on the heater bracket [B].



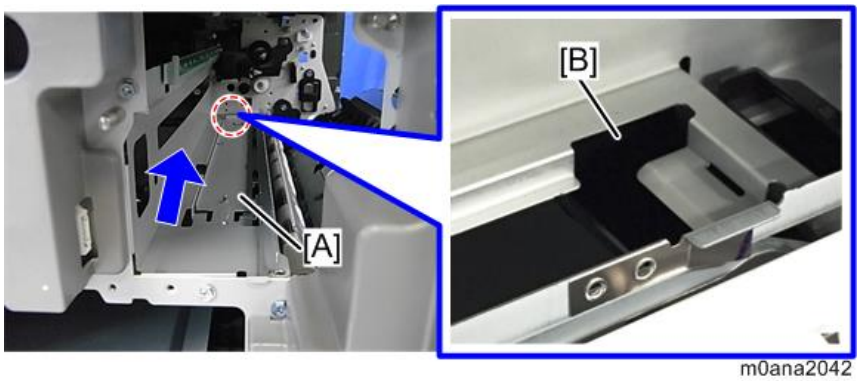
d197z0432

13. Remove the development bearing cooling fan [A].



×2 ×1 ×1

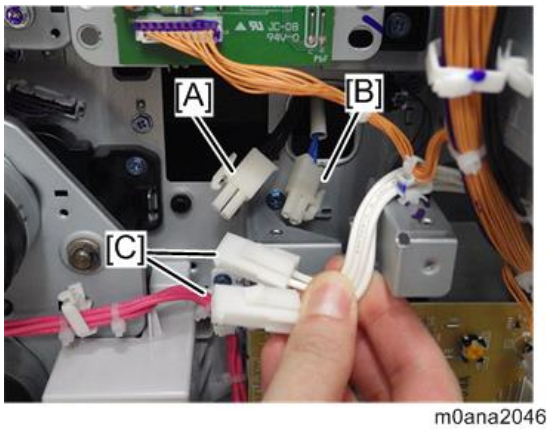
14. Put back the anti-condensation heater (PCU) [A], and then pass the harness out through the guide [B] at the rear lower part of the PCU rail.



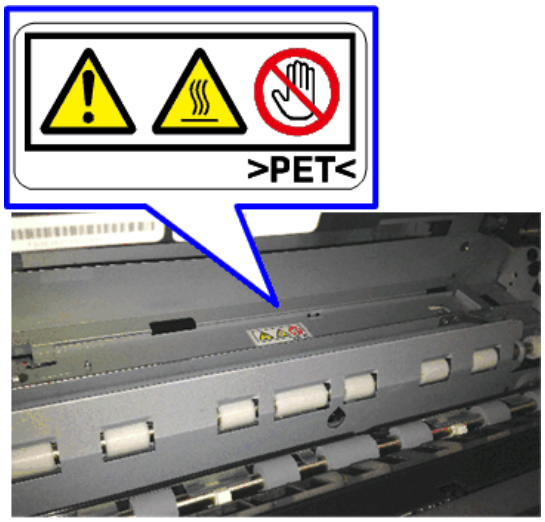
15. Connect the harnesses of the thermostat [A] and of the anti-condensation heater (PCU) [B] to the harnesses [C] which were routed in step 4.

Note

- You can connect the harnesses [C] up to either harness [A] or [B].

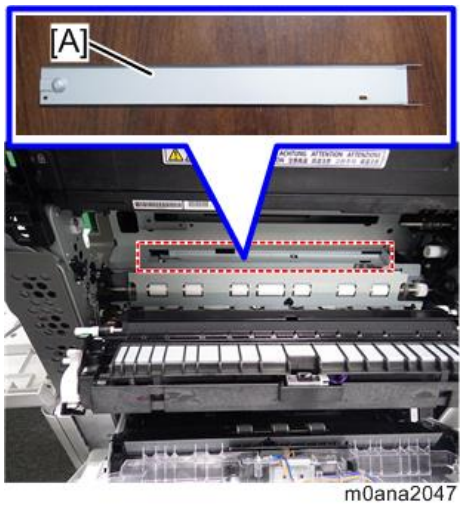


16. Attach the DECAL:WARNING (HIGH TEMPERATURE) to the bracket.



d197z9004a

17. Attach the heater cover [A].



m0ana2047

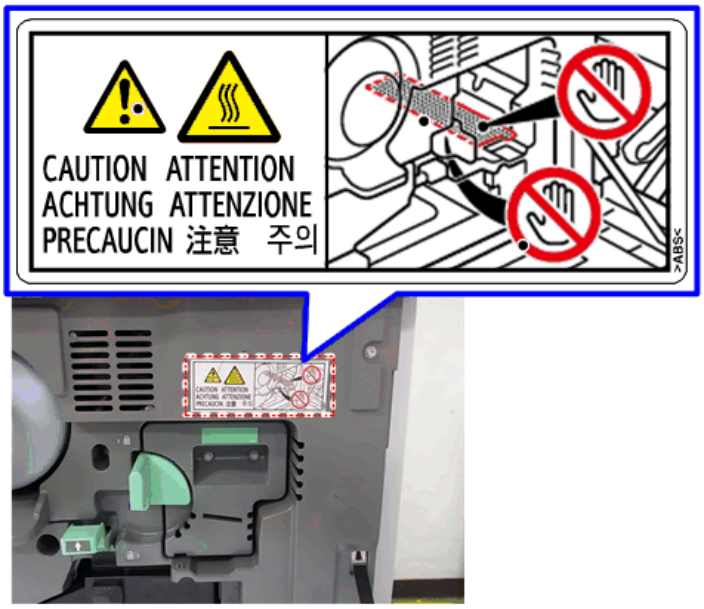
18. Fix the anti-condensation heater (PCU) and the heater cover with the SCREW:SMALL ROUND/SPRING:M3X5 (provided with this unit).



m0ana2048

19. Reattach the development bearing cooling fan, PCDU, waste toner bottle, and all covers which have been removed.

20. Attach the DECAL:WARNING (HIGH TEMPERATURE) (HEATER OPTION).



m0ana2114

Tray Heater for Main Unit

⚠CAUTION

- Turn off the main power switch and disconnect the power supply cord when installing this option.

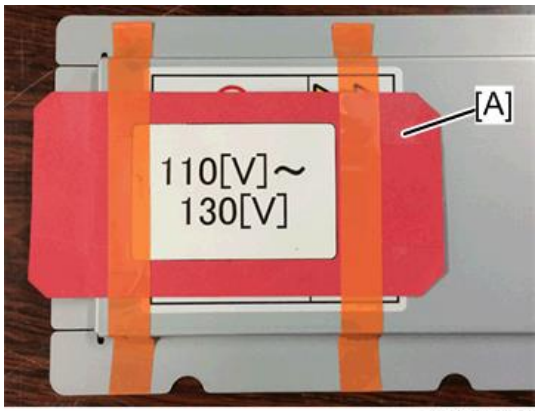
Accessory Check

Description	Q'ty	Shown in the Overview as
Tray Heater for Main Unit	1	#7
TAPPING SCREW - M3X8	1	-

Installation Procedure

Note

In North America, this option has a decal [A] attached that says 110V-130V. Peel off this decal.

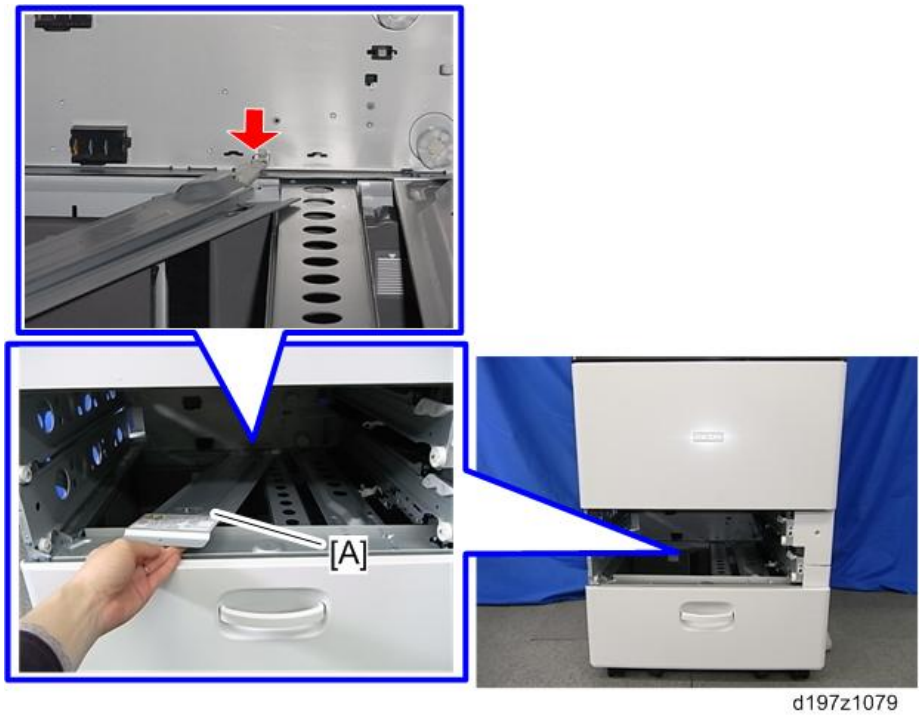


d284a8089

1. Install the heater board. (Installation Procedure)

2. Pull out the first and second paper feed trays.

3. Connect the harness of the tray heater [A] for the main unit to the socket in the inner rear frame of the main unit (x1).



4. Insert the tabs of the tray heater for the main unit in the cutouts in the inner rear frame of the main unit, and then attach the heater (x1).



5. Reattach all the paper feed trays, covers, etc. which have been taken off.

Do the following two steps to set the Anti-Condensation Heater to be constantly ON.

1. Set SP5-805-001 (Anti-Condensation Heater ON/OFF setting) to [1].

Tray Heater for Paper Feed Unit PB3240

⚠CAUTION

Turn off the main power switch and disconnect the power supply cord when installing this option.

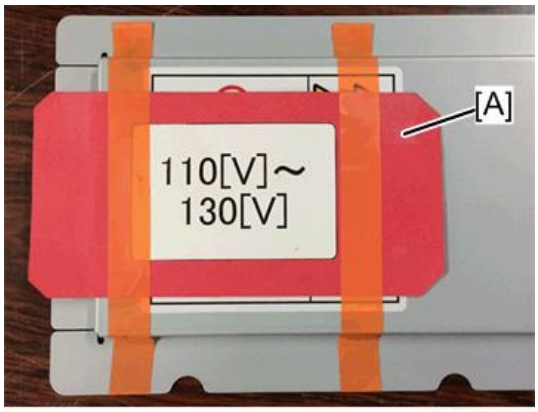
Accessory Check

Description	Q'ty	Shown in the Overview as
Tray Heater	1	#8
SCREW:SPRING WASHER:ROUND POINT:M4X10	1	-

Installation Procedure

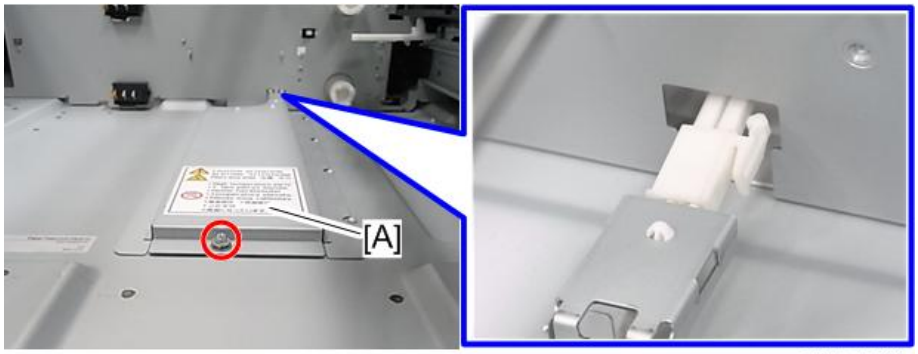
Note

In North America, this option has a decal [A] attached that says 110V-130V. Peel off this decal.



d284a8089

1. Install the heater board. (Installation Procedure)
2. Pull out the 1st and 2nd paper feed trays of the paper feed unit.
3. Pass the harness of the heater [A] for the optional paper feed unit through the hole in the inner rear frame of the optional paper feed unit, and then attach it (x1).

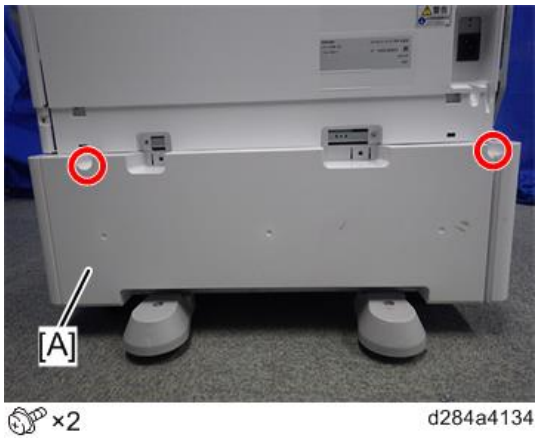


d197z1082

4. Remove the bracket [A].



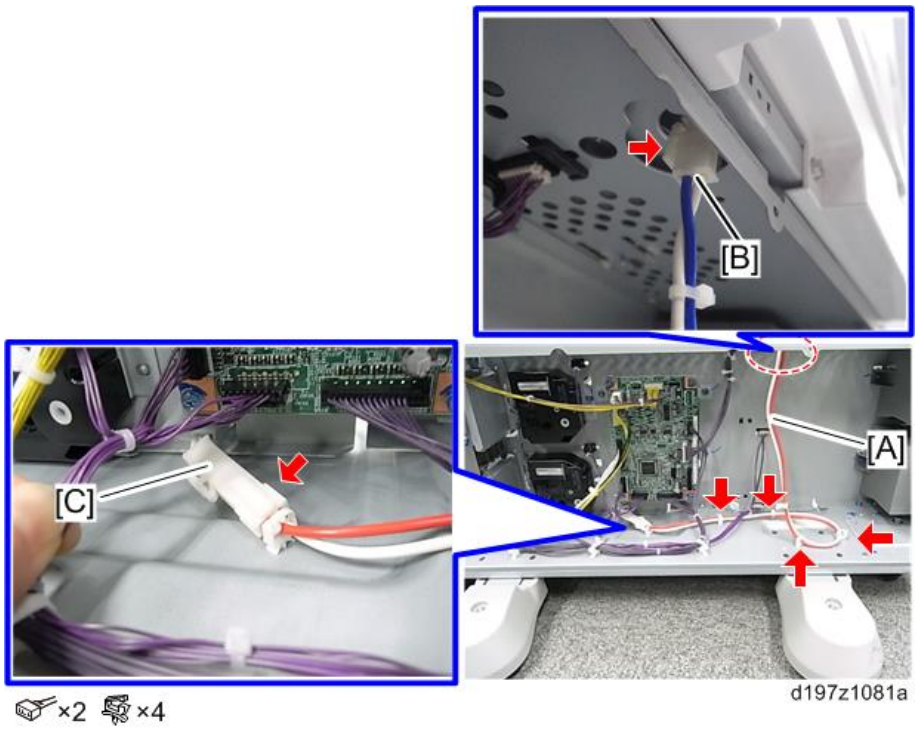
5. Remove the rear cover [A] of the optional paper feed unit.



6. Connect the PFU harness [A] of the optional paper feed unit to the relay harness [B] of the main unit and the heater harness [C].

Note

- Put the PFU harness through the hole which is revealed when the bracket is removed in step 4.



7. Reattach the rear cover of the optional paper feed unit, securing brackets, and rear lower cover of the main unit.
8. Connect the power supply cord and turn ON the main power.

Do the following two steps to set the anti-condensation heater to be constantly ON.

1. Set SP5-805-001 (Anti-Condensation Heater ON/OFF setting) to [1].

Tray Heater for LCIT PB3260

⚠CAUTION

Turn off the main power switch and disconnect the power supply cord when installing this option.

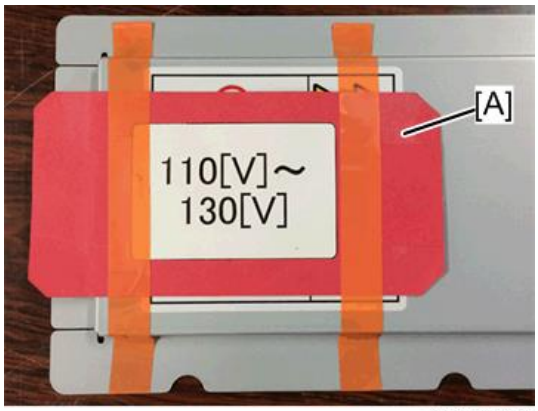
Accessory Check

Description	Q'ty	Shown in the Overview as
Tray Heater	1	#8
SCREW:SPRING WASHER:ROUND POINT:M4X10	1	-

Installation Procedure

Note

In North America, this option has a decal [A] attached that says 110V-130V. Peel off this decal.



d284a8089

1. Install the heater board. (Installation Procedure)
2. Pull out the paper feed tray of the optional LCT unit.
3. Pass the harness of the heater [A] for the optional tray out through the hole in the inner rear frame of the optional LCT unit, and then attach it (x1).



d197z1086

4. Remove the bracket [A].



d284a2122

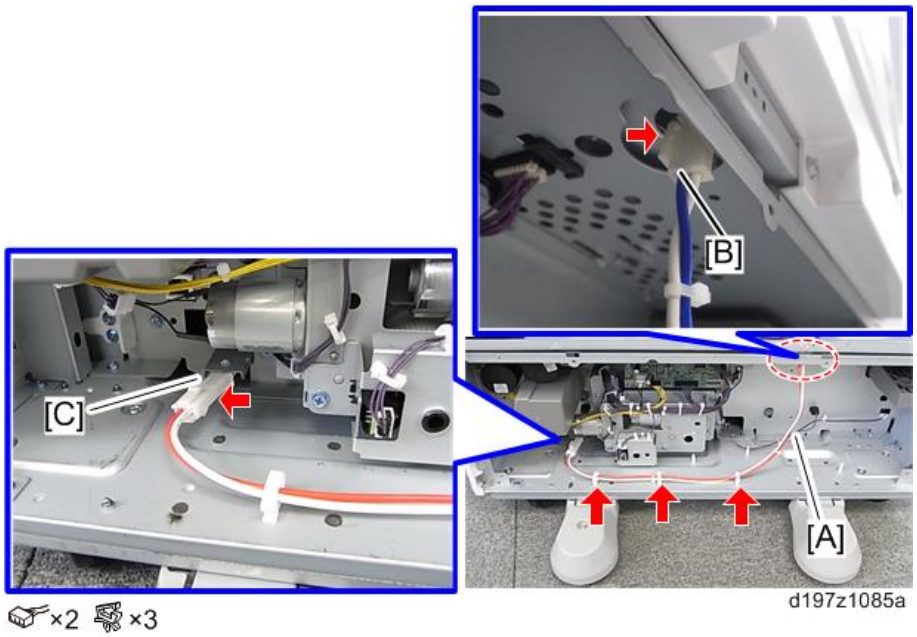
5. Remove the rear cover [A] of the optional LCT unit.



6. Connect the PFU harness [A] of the optional LCT unit to the relay harness [B] of the main unit and the heater harness [C].

Note

- Put the PFU harness through the hole which is revealed when the bracket is removed in step 4.



7. Reattach the rear cover of the optional LCT unit, securing brackets, and rear lower cover of the main unit.

8. Connect the power supply cord and turn ON the main power.

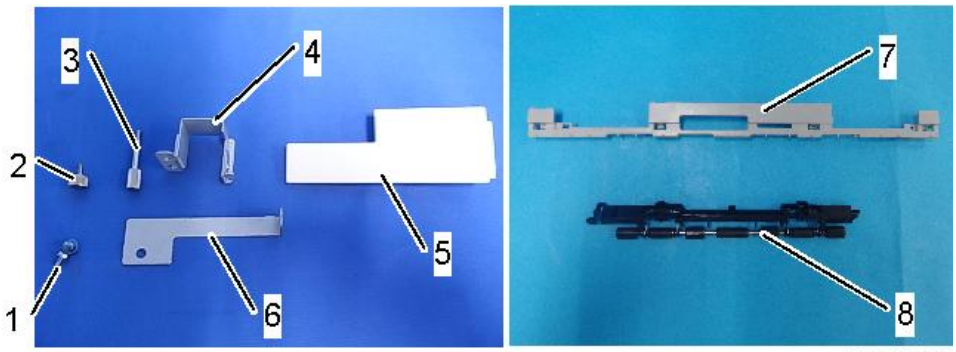
Do the following two steps to set the anti-condensation heater to be constantly ON.

1. Set SP5-805-001 (Anti-Condensation Heater ON/OFF setting) to [1].

Bridge Unit BU3070 (D685-18)

Accessory Check

No.	Description	Q'ty
1	Tapping screw- M3 × 8	1
2	Screw - M4	1
3	Knob Screw - M4	1
4	Right Front Bracket	1
5	Upper Left Cover	1
6	L type connecting bracket	1
7	Paper Support Guide	1
8	Driven Roller (Flat)	1



d238m0570

Installation procedure

⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

- The bridge unit cannot be used together with the internal multi-fold unit.

1. Remove the orange tapes, shipping retainers, and the accessories (fixing screws, etc.) provided with this unit.

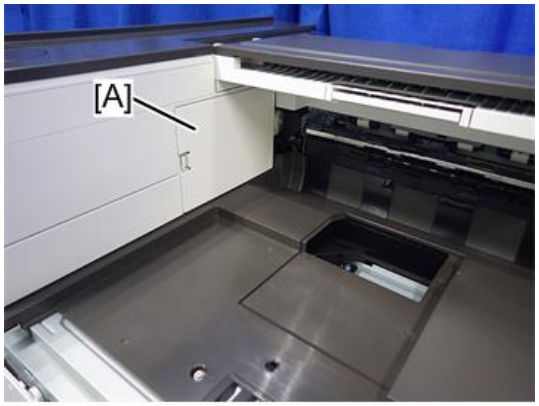

d238m0569

2. Remove the paper exit tray [A].



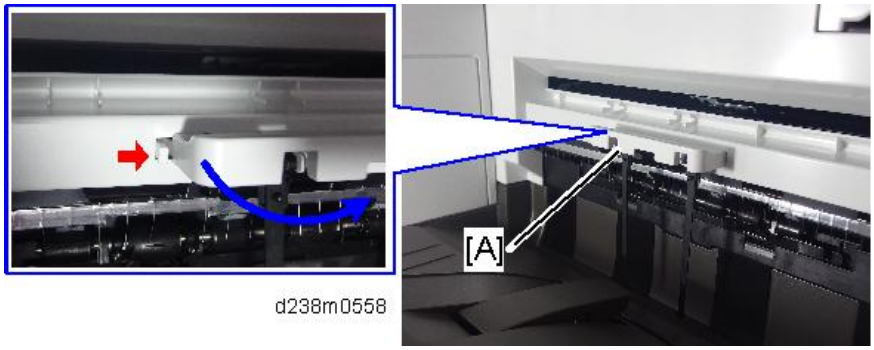
m0ajm1024

3. Remove the connector cover [A].



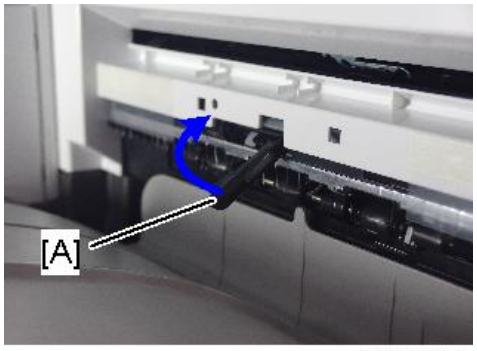
m0ana4026

4. Remove the paper exit feeler [A].



d238m0558

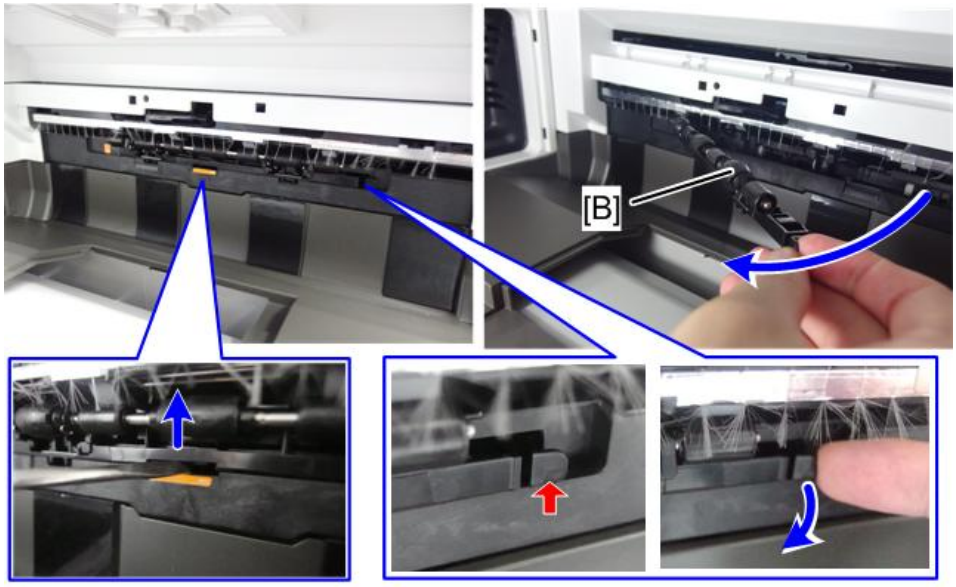
5. Tuck in the lever [A] for detecting when the tray is full.



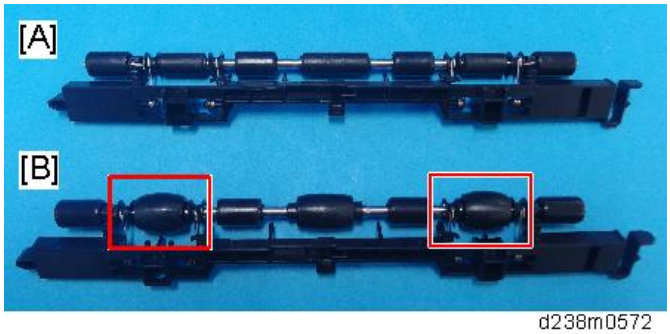
d238m0577

6. Remove the driven roller [B] at the machine's exit tray and attach the supplied driven roller [A].

- Insert a flat-headed screwdriver into the depression in the center, and then, lifting the driven roller, unlock the part indicated by the red arrow.
- When attaching the driven roller, push its center all the way in until it clicks.



d238m0571c

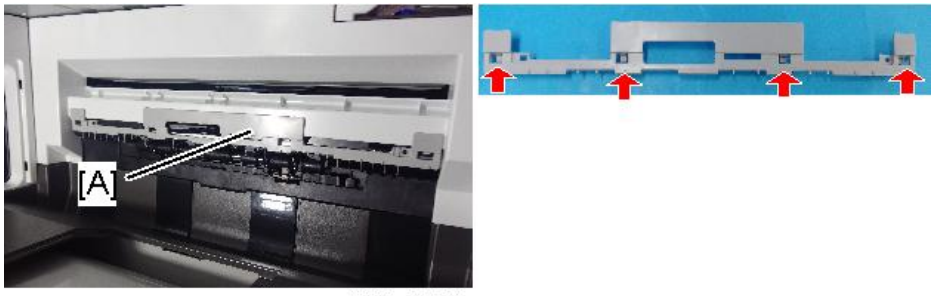


d238m0572

[A]: The supplied driven roller has flat rollers.

[B]: The machine's standard driven roller has drum-type rollers (as indicated by red frames).

7. Attach the paper support guide [A] (hook x 4).



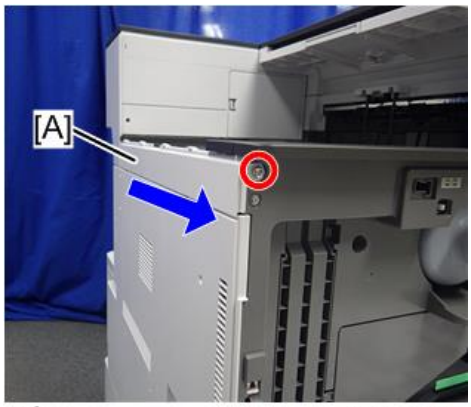
d238m0573b

8. Open the front cover.

9. Remove the left upper cover [A].

Note

The screw removed is used again in step 14.

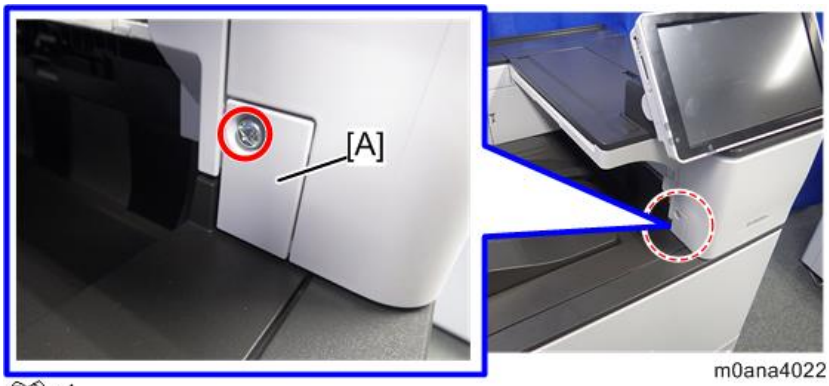


×1 m0ana4010

10. Remove the small cover [A].

Note

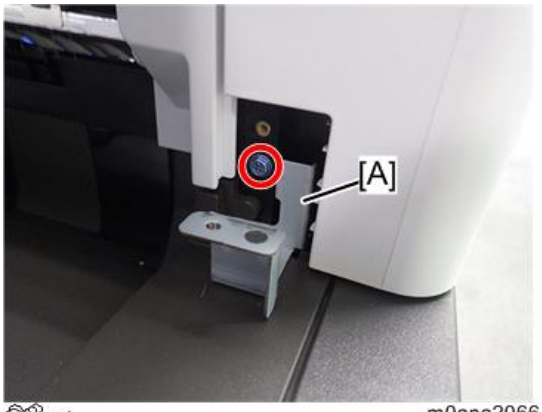
- The screw removed is used again in step 12.



m0ana4022

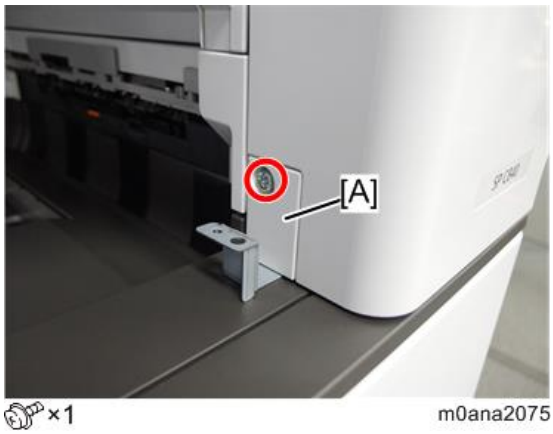
×1

11. Attach the right front bracket [A]. (Tapping screw- M3 × 8)



×1 m0ana2066

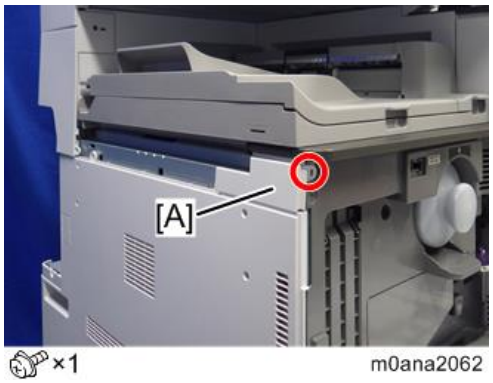
12. Reattach the small cover [A] using the screw removed in step 10, and close the right door.



13. Attach the bridge unit [A] to the machine. (Screw-M4 and Knob screw-M4)

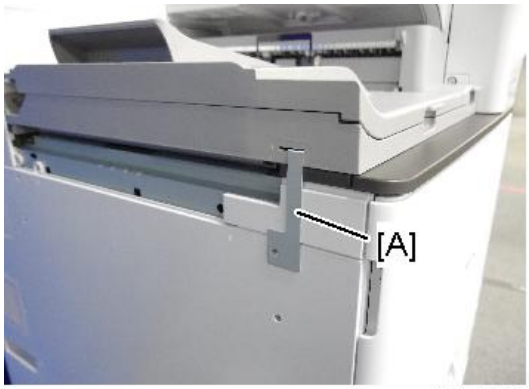


14. Attach the upper left cover [A] using the screw removed in step 9.



15. Attach the L type connecting bracket [A].

To fix the bridge unit securely on the machine, tighten the finisher's joint bracket and L type connecting bracket [A] together when installing the finisher.



16. Complete the bridge unit attachment. Refer to the procedure for connecting the optional unit downstream of the bridge unit.

- Finisher SR3230 (D3BA) (Finisher SR3230 (D3BA-17, -21))
- Finisher SR3210 (D3B8) (Finisher SR3210 (D3B8-17, -21))

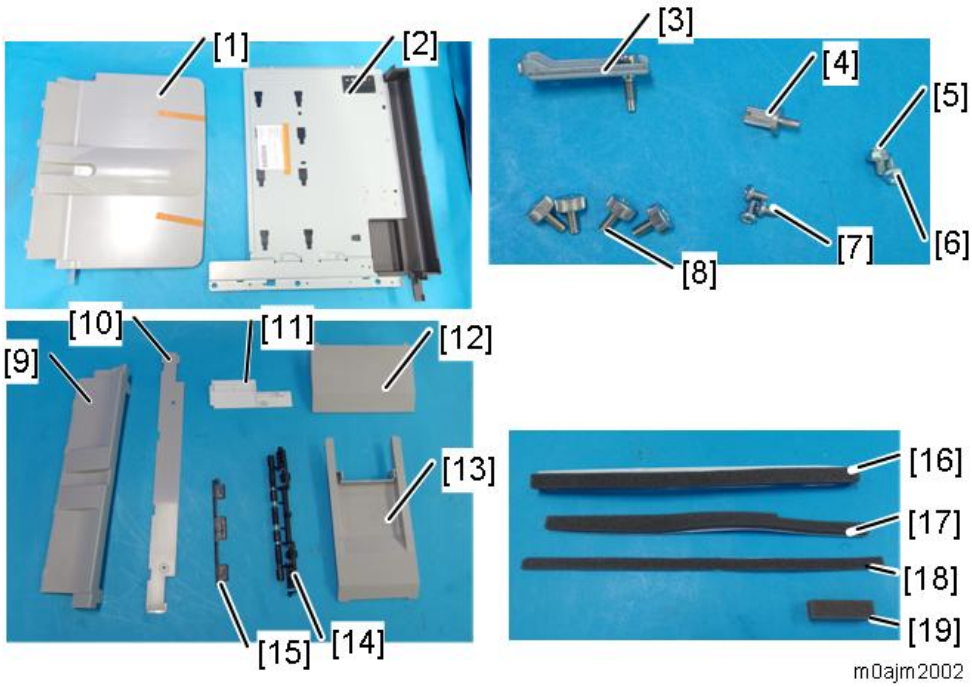
17. After the finisher is installed, turn ON the main power.

18. Check that the finisher can be selected at the operation panel.

Internal Multi-fold Unit FD3000 (M482-17)

Accessory Check

No.	Description	Q'ty	Remarks
1	Paper Exit Tray	1	
2	Base Plate	1	
3	Correction Plate for Side-to-side Registration	1	
4	Coin Screw M4	1	
5	Screw M4x6	1	
6	Screw M3x6	1	
7	Bind Screw M3x6	3	
8	Coin Screw M4x8	4	
9	Paper Exit Guide (Relay)	1	Use this when connecting a finisher downstream from the internal multi-fold unit.
10	Paper Relay Cover	1	
11	Left Upper Cover	1	Use this when connecting a finisher downstream from the internal multi-fold unit.
12	Support Tray : Shift	1	Use this for the Finisher SR3230 shift tray.
13	Support Tray : Proof	1	Use this for the Finisher SR3230 proof tray.
14	Driven Roller (Flat)	1	
15	Paper Support Guide (Small)	1	
16	Cushion (Top/Front)	1	
17	Cushion (Rear)	1	
18	Cushion (Paper Entrance)	1	
19	Cushion (Short)	1	
-	Sheet (applying pressure to the folding roller)	1	
-	Sheet (attaching the paper support guide)	1	
-	Sheet (keeping the accessories)	1	
-	Sheet (about interference with the finisher's I/F cables)	1	



When installing the internal multi-fold unit alone

Do not use the Paper Exit Guide (Relay) [9], Left Upper Cover [11], Support Tray : Shift [12] and Support Tray : Proof [13].

When connecting the finisher SR3230 downstream from the internal multi-fold unit

Do not use the Paper Exit Tray [1] and Paper Relay Cover [10].

When connecting the finisher SR3210 downstream from the internal multi-fold unit

Do not use the Paper Exit Tray [1], Paper Relay Cover [10], Support Tray : Shift [12] and Support Tray : Proof [13].

Note

The customer should keep the unused accessories included with the product. When connecting a finisher that was purchased separately or when disconnecting the finisher that is connected downstream from the internal multi-fold unit, if the customer did not keep the necessary accessories, order them as service parts.

Installation Procedure

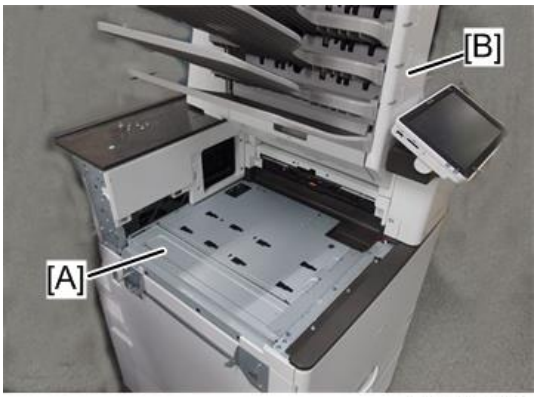
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Important

- When installing the Internal Multi-fold Unit FD3000 and the Mail Box CS3010 at the same time, first install the base plate [A] of the internal multi-fold unit. Then install the mailbox [B]. Then install the

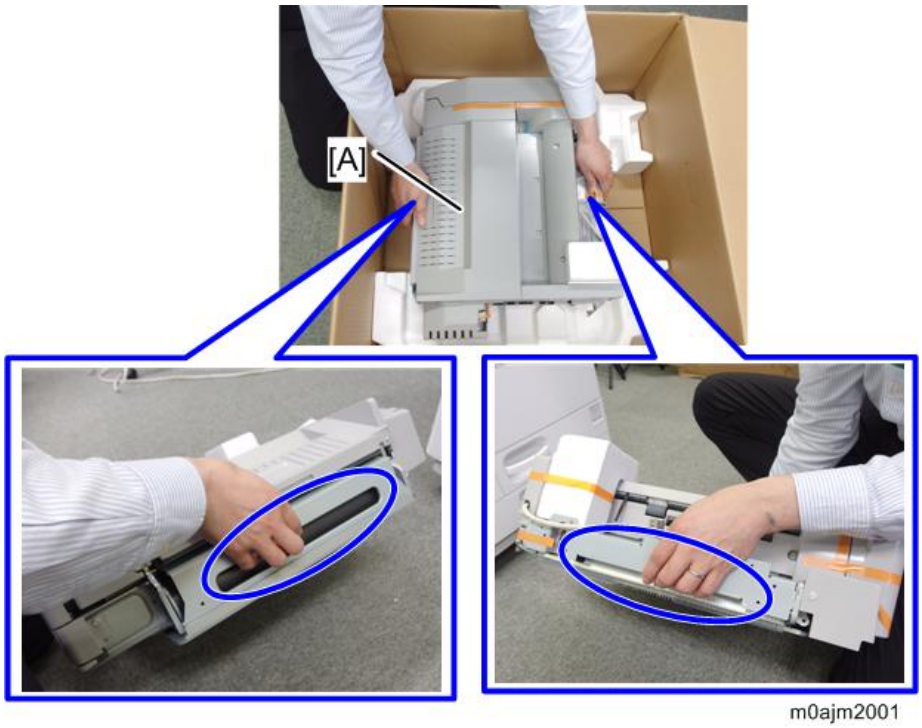
internal multi-fold unit.



m0ajm0120a

1. Unpack the internal multi-fold unit [A].

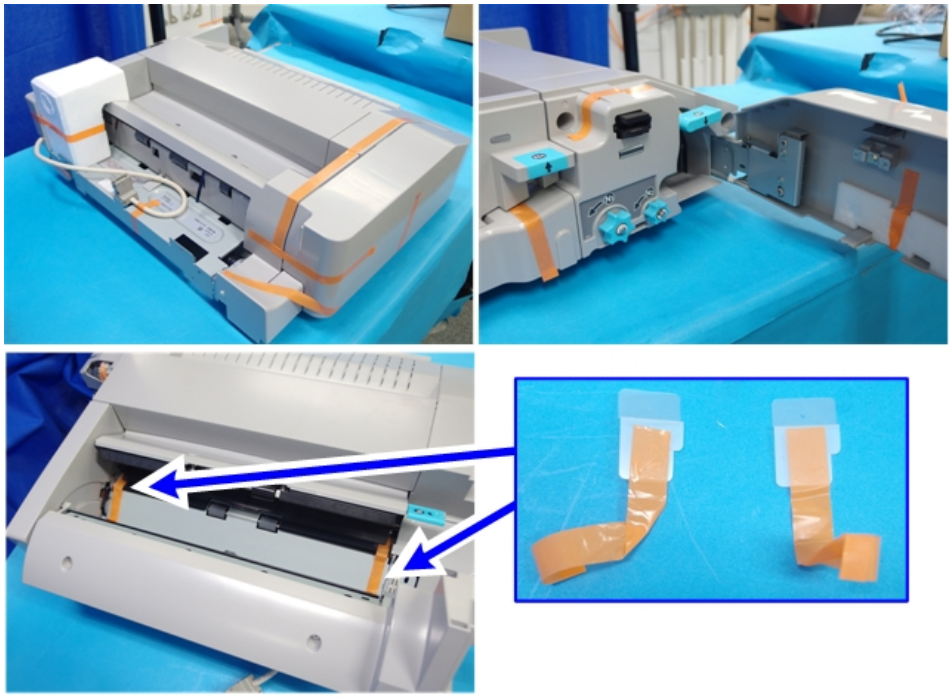
Hold the parts circled in blue. Do not hold other parts. Doing so may damage the exterior cover or deform the frame.



m0ajm2001

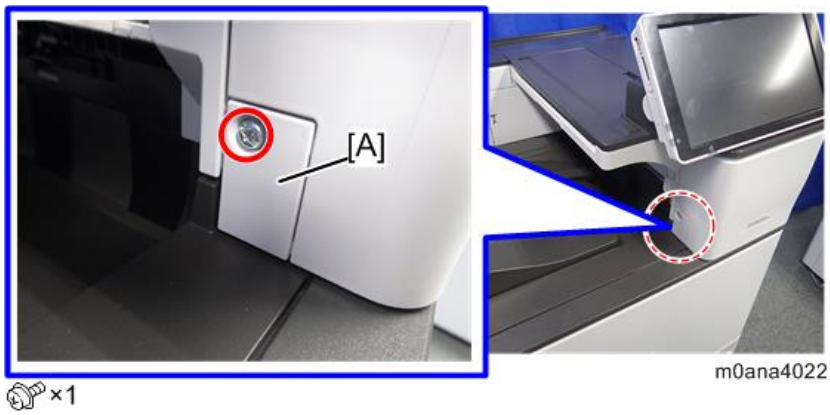
2. Remove the orange tapes and shipping retainers, and take out the accessories (fixing screws, etc.) provided with this unit.

There are two mylar sheets inside this unit. Do not forget to remove them.



m0ajm0086

3. Remove the small cover [A].

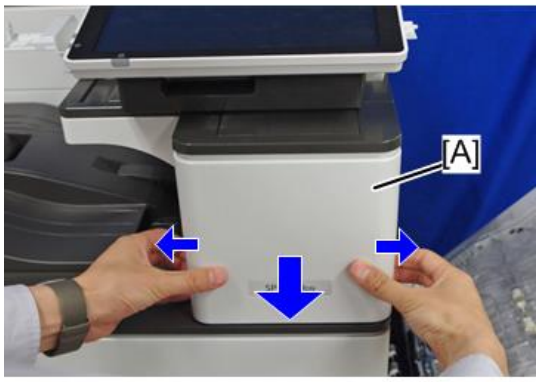


4. Open the right cover then remove the screw.



5. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove

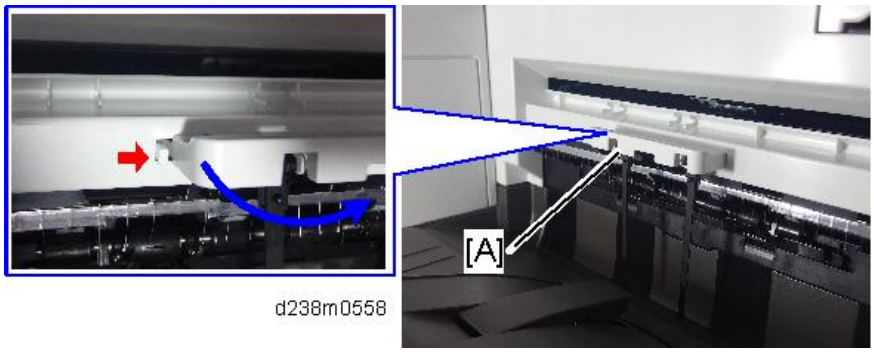
the upper front cover [A].



m0ana4037

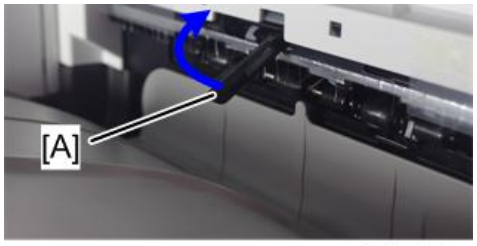
6. Remove the paper exit feeler [A].

The removed paper exit feeler can be discarded.



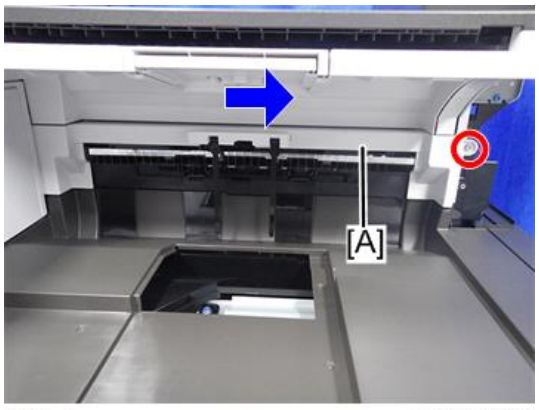
d238m0558

7. Tuck in the lever [A] for detecting when the tray is full.



m0ajm2002a

8. Remove the paper exit cover [A] by sliding it to the right.



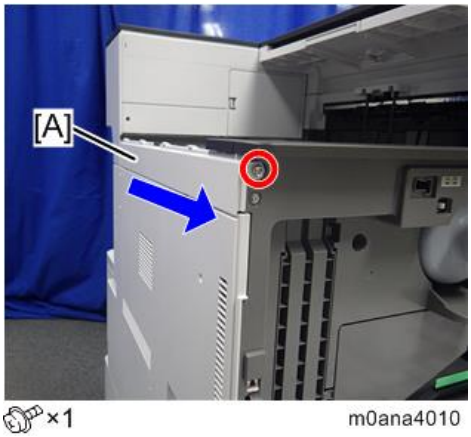
×1

m0ana4025

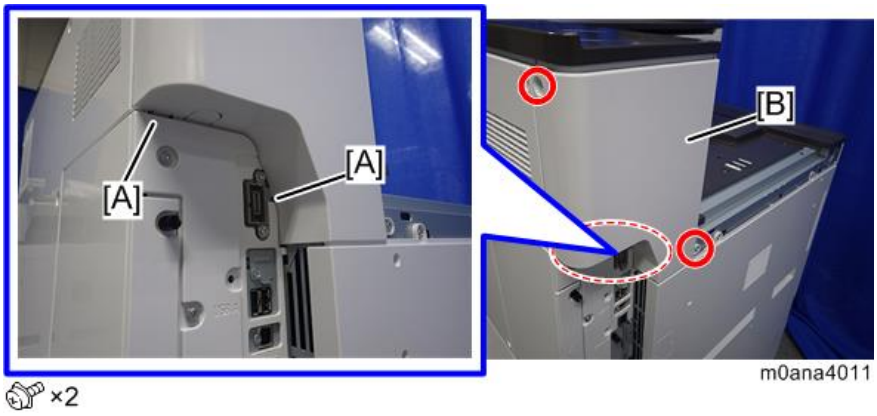
9. Remove the paper exit tray [A].



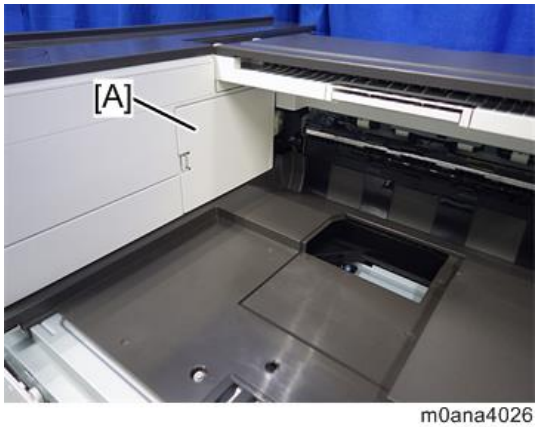
10. Open the front cover, and remove the left upper cover [A] by sliding it in the direction of the arrow.



11. Release the hooks [A], and remove the left rear cover [B].



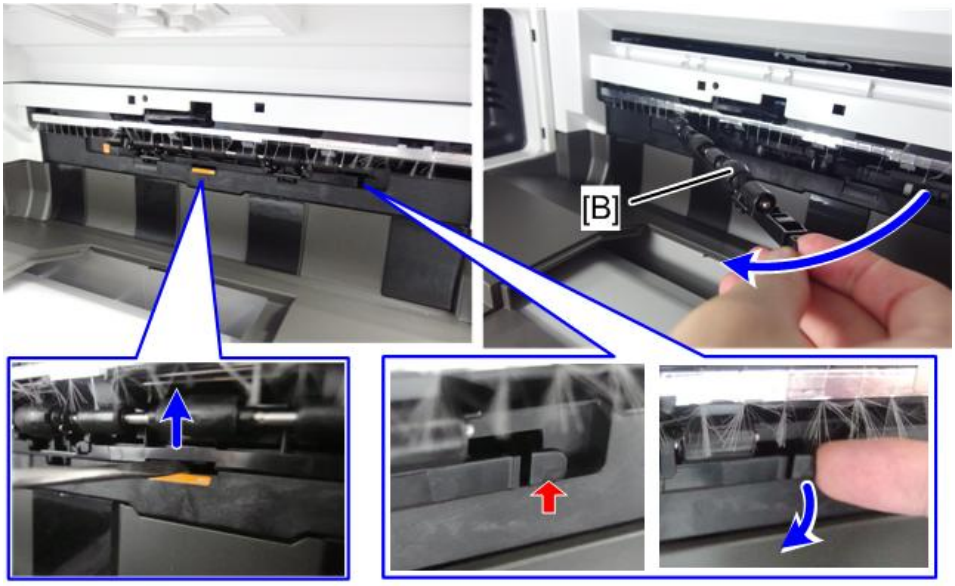
12. Remove the connector cover [A].



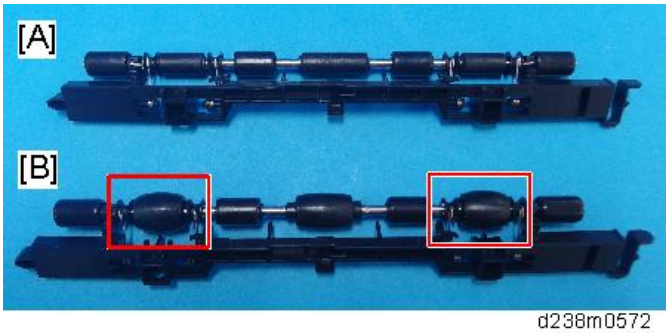
m0ana4026

13. Remove the driven roller [B] at the machine's exit tray and attach the supplied driven roller [A].

- Insert a flat-headed screwdriver into the depression in the center, and then, lifting the driven roller, unlock the part indicated by the red arrow.
- When attaching the driven roller, push its center all the way until it clicks.



d238m0571c



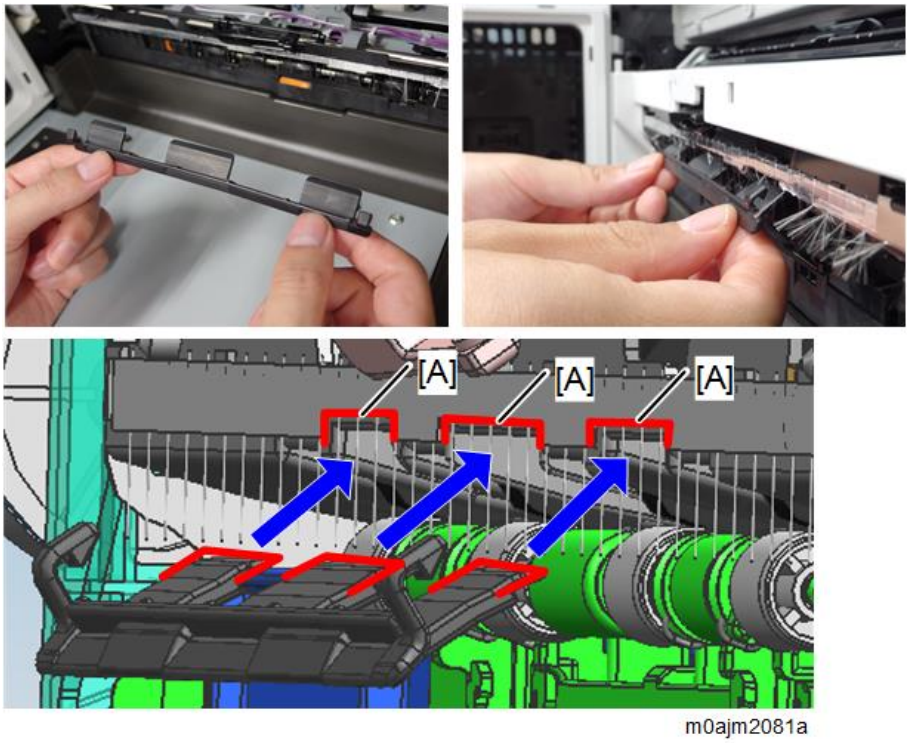
d238m0572

[A]: The supplied driven roller has flat rollers.

[B]: The machine's standard driven roller has drum-type rollers (as indicated by red frames).

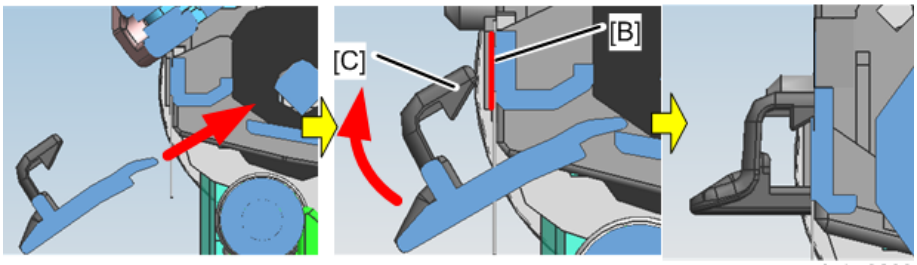
14. Attach the paper support guide (small) to the exit tray (hook x2).

1. Align and insert the support guide's tabs under the notches of the discharge brush frame [A] upward at an angle.



m0ajm2081a

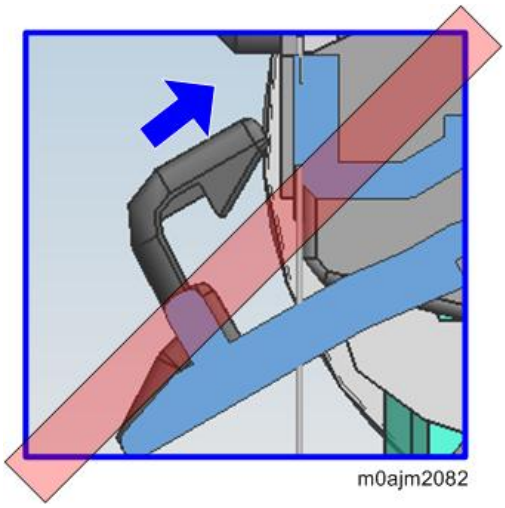
2. Rotate the support guide upward so that the support guide's hooks [C] become horizontal to the discharge brush frame [B].



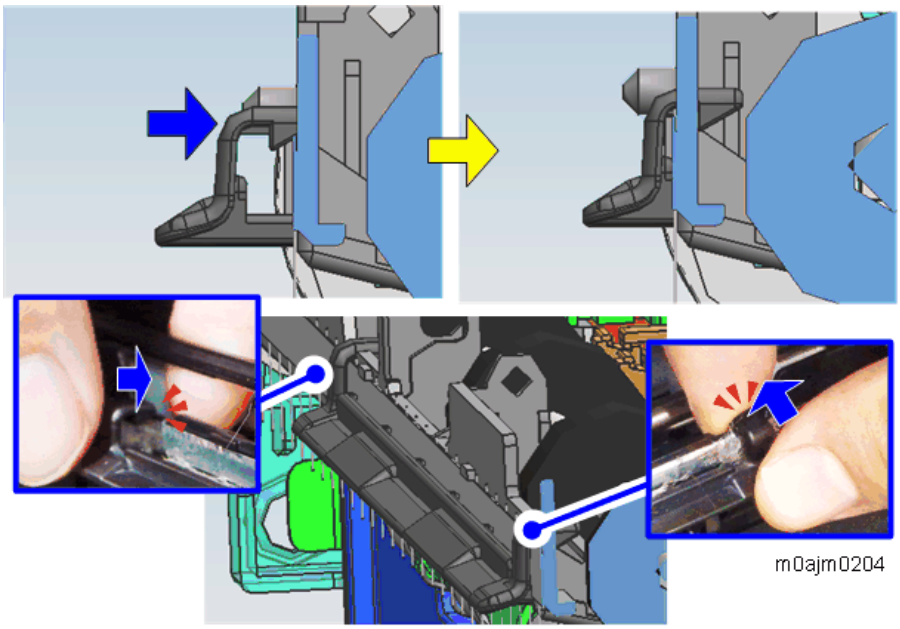
m0ajm0203

Important

Do not continue to hold the support guide at an angle when pushing it in. Otherwise you might cause faulty attachment or damage to the hooks.



3. Holding the back of the discharge brush frame with the forefingers, push the hooks in horizontally one at a time until they click.



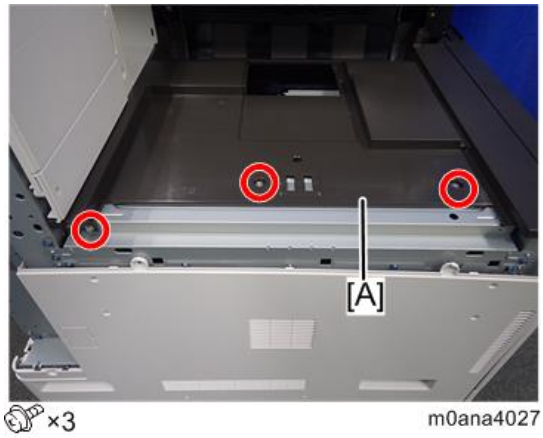
Note

Even if the discharge brush is trapped by the support guide, it is acceptable.

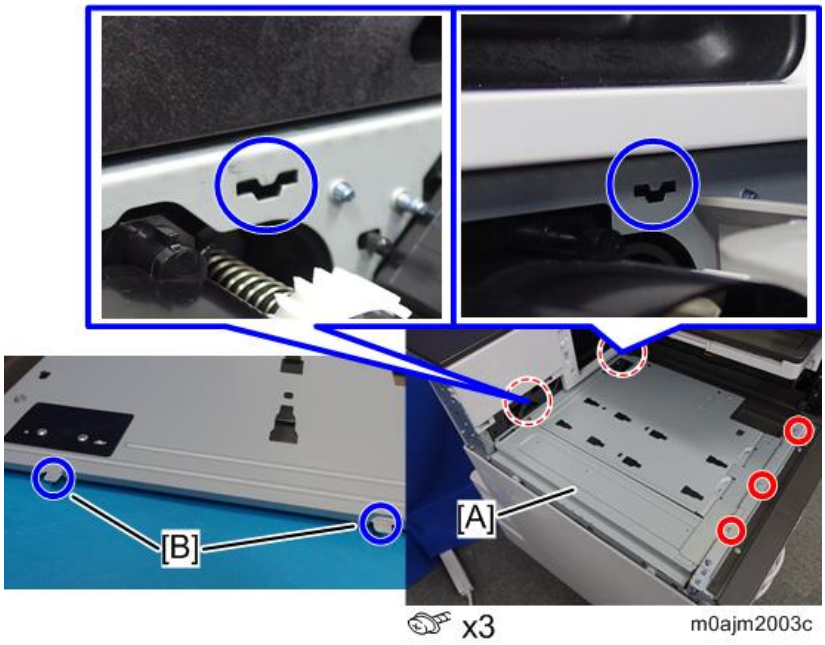
The following figure shows the mounted unit.



15. Remove the paper exit lower cover [A].



16. Attach the base plate [A]. Before you attach the screws, insert the base plate's 2 tabs [B] into the slots in the machine. (Bind screw M3x6)

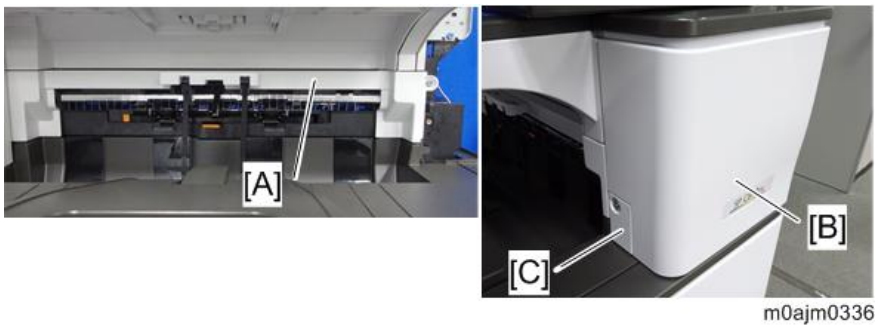


Note

When installing the Internal Multi-fold Unit FD3000 and the Mail Box CS3010 at the same time, install the base plate [A], then install the mailbox.

Then install the internal multi-fold unit.

17. Reattach the covers in the following order: paper exit cover [A], upper front cover [B], and small cover [C].



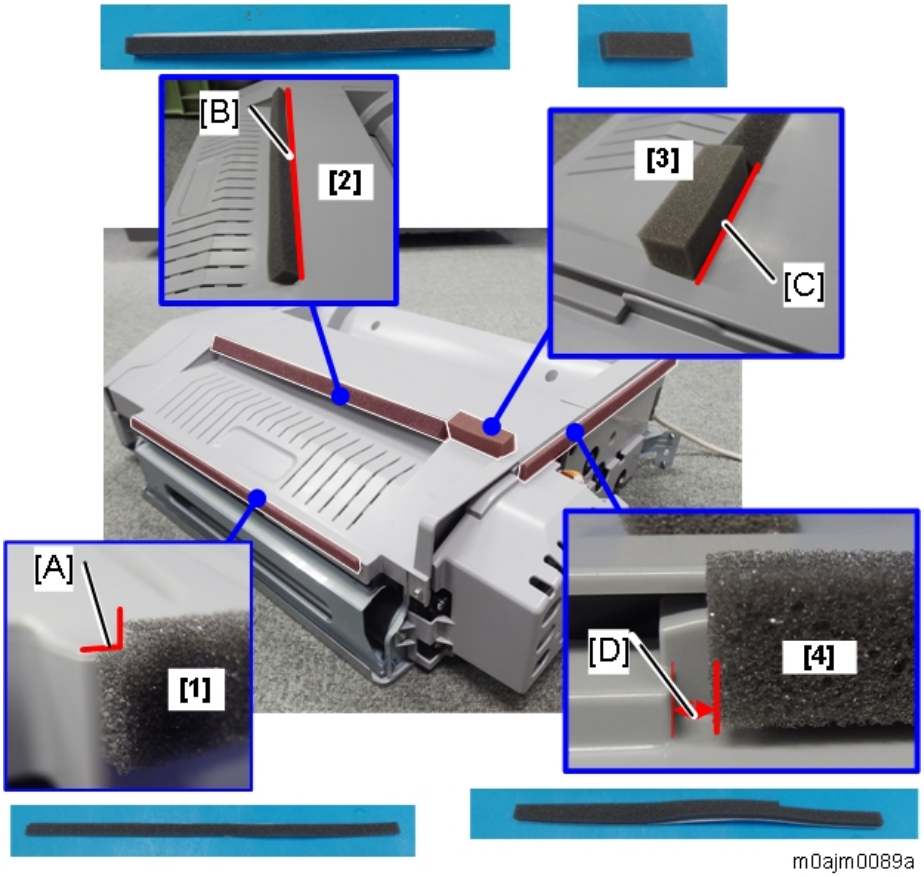
18. Close the front cover and right door.

19. Attach the cushions to the internal multi-fold unit.

Note

It is not necessary to attach the cushions [2] and [3] when the mailbox is attached.

- When attaching the cushion (paper entrance) [1], align the cutout [A] with the top of the upper cover.
- When attaching the cushion (top/front) [2], align it with the slope [B] of the upper cover.
- When attaching the cushion (short) [3], align it with the slope [C] of the upper cover.
- When attaching the cushion (rear) [4], align it with a point 3 mm from the left edge [D].



m0ajm0089a

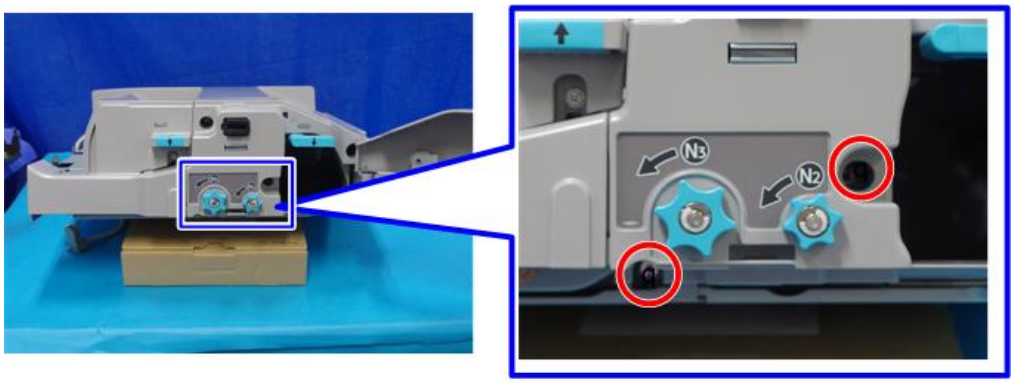


m0ajm0337



m0ajm0338

20. Open the front cover of the internal multi-fold unit, and then tighten the 2 screws in the recesses.



m0ajm2008

Note

This operation is required to apply pressure to the internal multi-fold unit roller when attaching it. The screw holes become inaccessible when the unit is attached to the machine, so be sure to perform this in advance. Be sure to turn the screws until they stop. It is not necessary to continue tightening them.

21. Temporarily place the internal multi-fold unit [A] on the base plate.

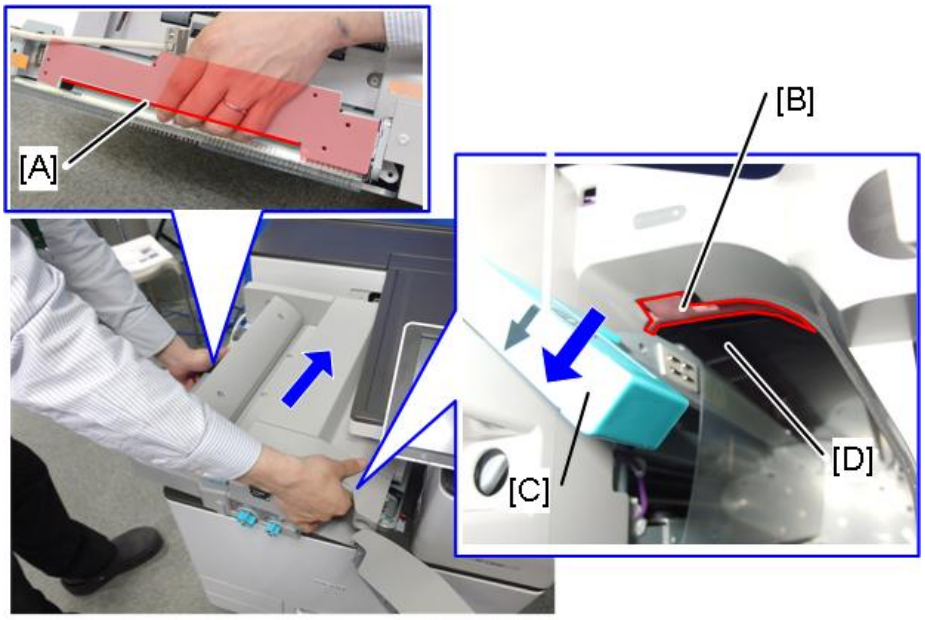


m0ajm0087

22. Open the front cover of the internal multi-fold unit, and then, holding the exit tray frame [A] and top part of the opening [B], lift the internal multi-fold unit and attach it to the machine.

- Lower the lever [C] to keep the paper guide plate open during operation, because the plate might be deformed if a strong force is applied while the guide plate is closed.
- Hold the metal frame part [B], not the exterior cover, to avoid damaging the cover.

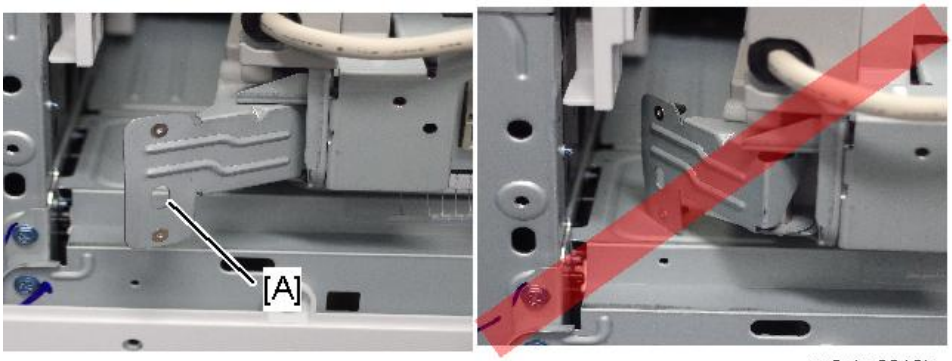
- Be careful not to touch the mylar sheet [D] located behind.



m0ajm0088a

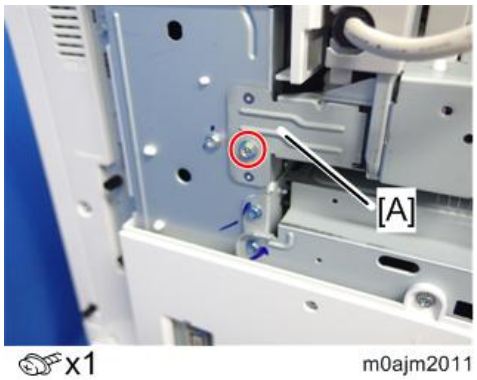
Note

Make sure that the securing bracket [A] is not caught between the internal multi-fold unit and the machine.



m0ajm2010b

23. Attach the securing bracket [A] (M4x6).



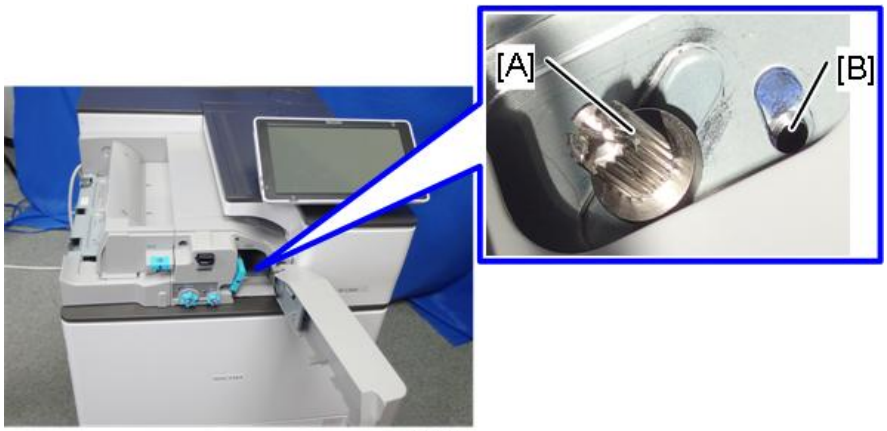
m0ajm2011

24. Temporarily attach the internal multi-fold unit with the supplied coin screw (M4x1).

Note

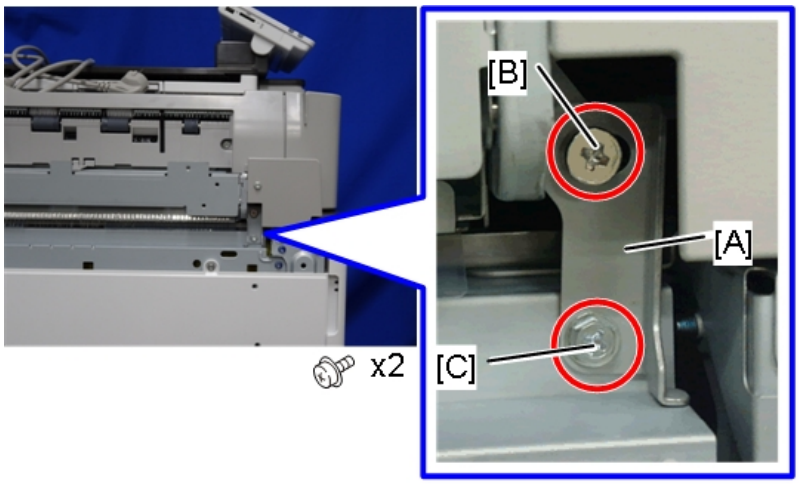
The unit is only temporarily attached at this stage, so leave the screws loose.

Fix the screw to the left screw hole [A] of the two screw holes. Do not use the right screw hole [B].



m0ajm2012b

25. Attach the correction plate for side-to-side registration [A] to the machine (M3x6).

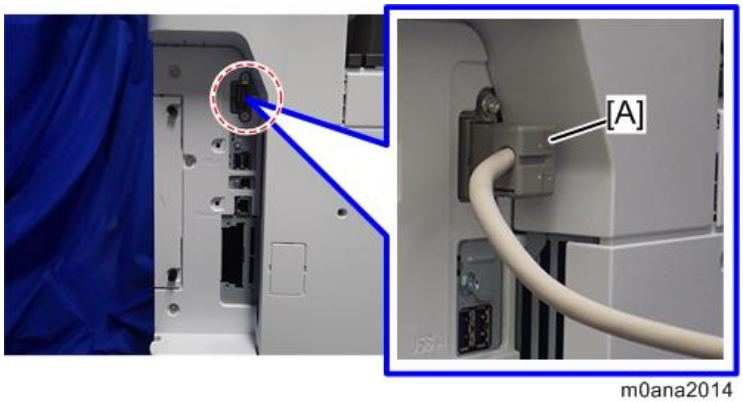


m0ajm2013c

Note

Partially secure the adjusting screw [B] on the upper part of the correction plate, and then secure the screw [C] at the bottom part of the plate.

26. Connect the cable [A] of the internal multi-fold unit to the machine.

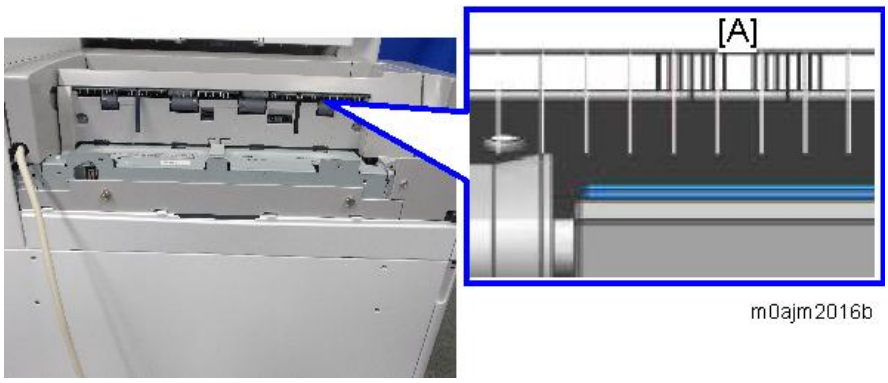


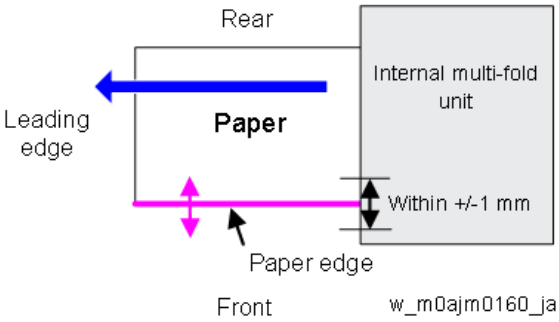
m0ana2014

27. Turn ON the main power.

28. Feed A3/DLT paper (any brand) from Tray 2 and check the scale [A].

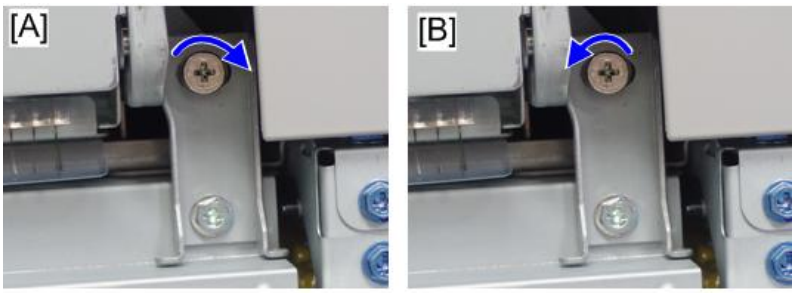
Select the [User Tools] icon > [Machine Features] > [Printer Features] > [List/ Test Print] > [Operation Test].





29. Check the movement at the paper edge from the leading to trailing edges, and turn the adjusting screws of the correction plate to adjust the internal multi-fold unit's position until the deviation stays within 2 markings on the scale. (Each marking represents 1 mm.)

- [A]: When the paper edge shifts towards the front, turn the adjusting screw clockwise.
- [B]: When the paper edge shifts towards the rear, turn the adjusting screw counterclockwise.



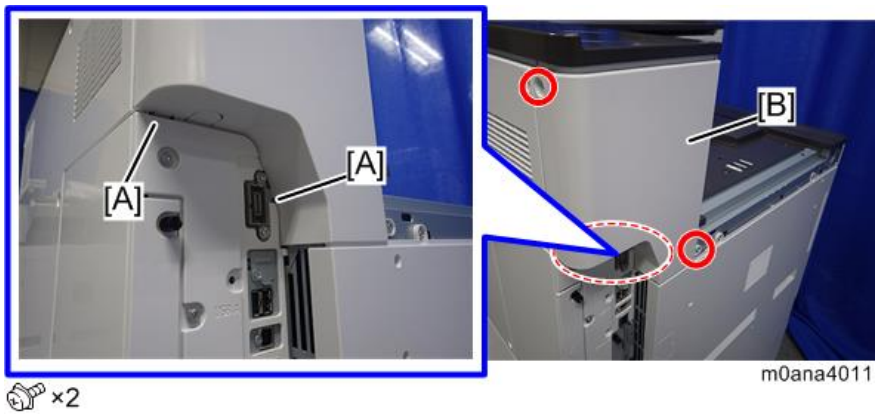
30. After registration, tighten the coin screw [A] to secure the internal multi-fold unit.

Important

When you fully open the front cover of the internal multi-fold unit, it may interfere with the machine's upper front cover, causing the internal multi-fold unit to become misaligned. Therefore, tighten the screw [A] with a stubby screwdriver.



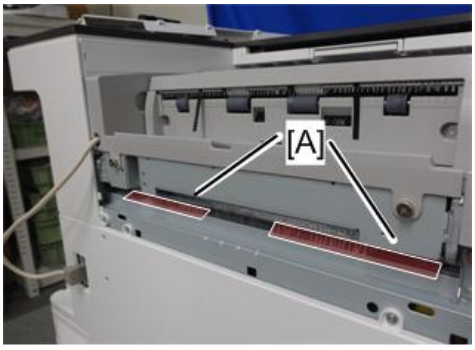
31. Reattach the hooks [A], and re-install the left rear cover [B].



32. When attaching a finisher downstream from the internal multi-fold unit, attach the supplied paper exit guide (No.9). For details, refer to When Attaching a Finisher Downstream from the Internal Multi-Fold Unit

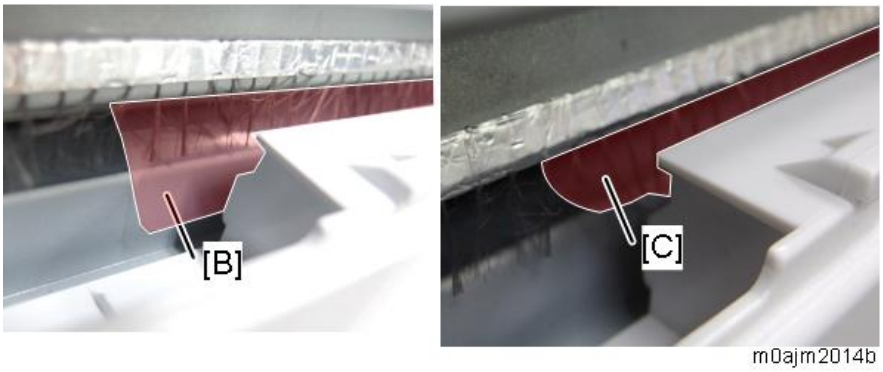
33. Reattach the left upper cover.

- The exit tray of the internal multi-fold unit has mylar sheets [A] on it. When attaching the cover, be careful not to damage the mylar sheets [A].
- The left upper cover bulges slightly because of the mylar sheets, but this does not cause any problem if the mylar sheets are positioned correctly.



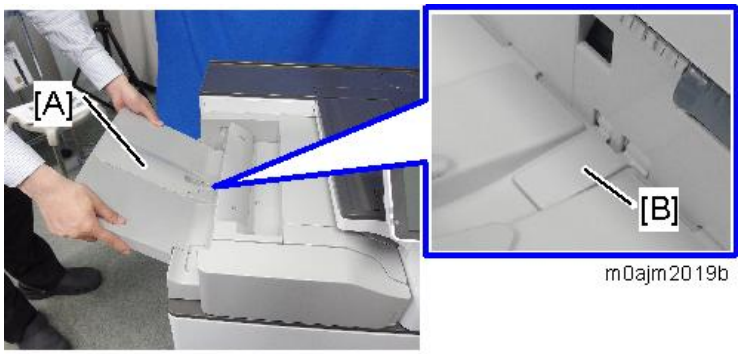
- Reattach the left upper cover with the mylar sheets [B] sandwiched behind it. The mylar sheets must not

catch on or hang over the left upper cover, as shown by [C].

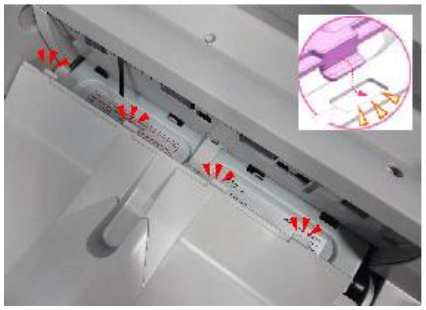


m0ajm2014b

34. Insert the 4 hooks on the paper exit tray [A] into the slots (hook x 4).
When attaching the paper exit tray, do not put the movable plate [B] under the paper exit tray, because that would interfere with the operation of the internal multi-fold unit.



m0ajm2019b



35. Tighten the screws to secure the paper exit tray (coin screw x2 :M4x8).



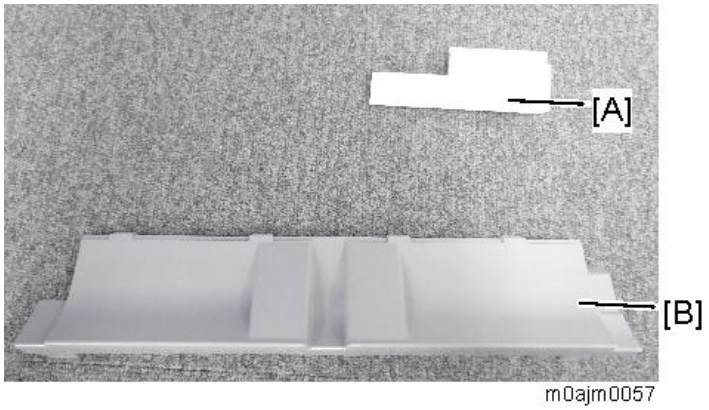
m0ajm2020

36. Attach the paper relay cover (coin screw x2: M4x8).

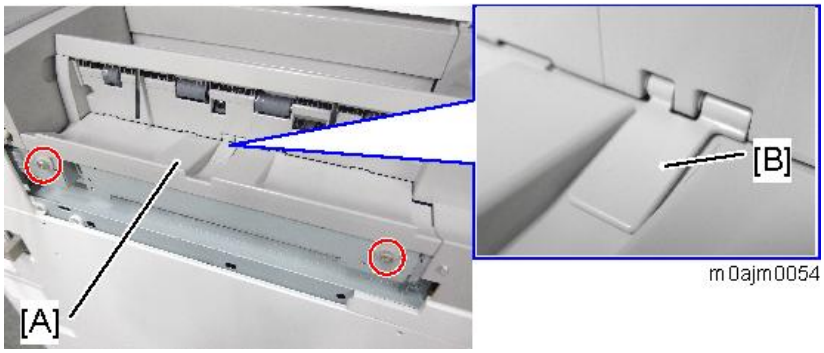


When Attaching a Finisher Downstream from the Internal Multi-Fold Unit

When attaching a finisher downstream from the internal multi-fold unit, attach the supplied left upper cover [A] and paper exit guide (relay) [B].

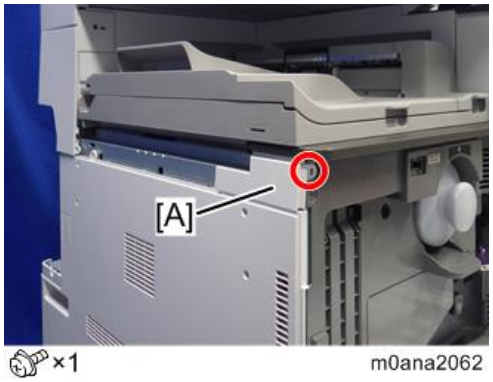


1. Attach the paper exit guide (relay) [A] provided with this unit (coin screw x2).
When attaching the paper exit tray, do not put the movable plate [B] under the paper exit tray, because that would interfere with the operation of the internal multi-fold unit.



2. Attach the left upper cover [A] provided with this unit. (Use the screw removed in step 10 of Installation

Procedure.)



3. To complete installation of the finisher, refer to the finisher installation below.

- Finisher SR3230 (D3BA-17, -21)
- Finisher SR3210 (D3B8-17, -21)

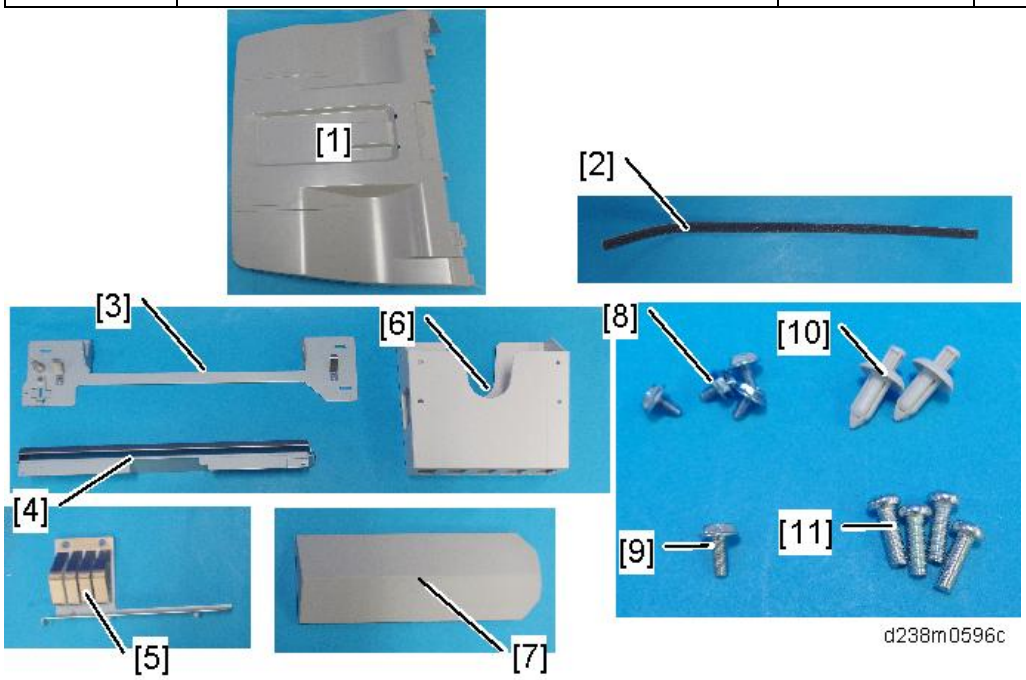
Finisher SR3230 (D3BA-17, -21)

Important

- To install this optional unit, the following optional units are required.
  1. Bridge Unit BU3070 (D685), or Internal Multi-fold Unit FD3000 (M482)
  2. LCIT PB3260 (M496), or Paper Feed Unit PB3240 (M494)

Accessory Check

No.	Description	Q'ty	Remarks
1	Shift Tray	1	
2	Cushion	1	
3	Joint Bracket	1	
4	Relay Guide Plate	1	
5	Ground Plate	1	
6	Tray Holder	1	
7	Proof Support Tray	1	
8	Screws (M3x6)	4	
9	Screws (M3x8)	1	
10	Round Rivets	2	
11	Screws (M4x12)	4	



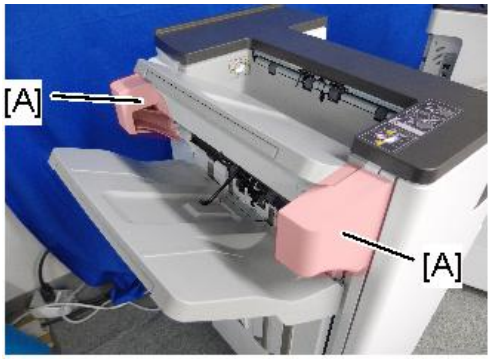
Installation Procedure

⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Important

- When you unpack or move this unit, do not hold the paper exit guide [A]. Doing so may damage the unit.



m0ajm0076

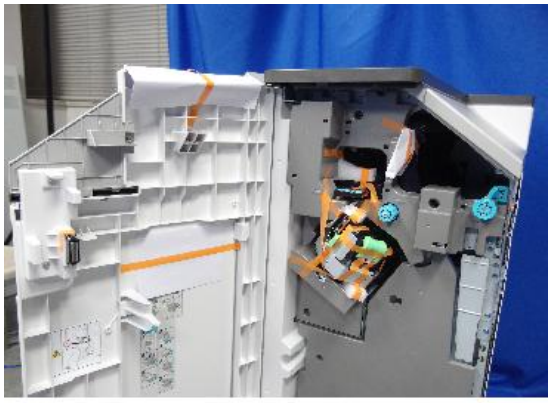
Note

- Before installing this option, install the following options first;
  1. Bridge Unit BU3070 (D685), or Internal Multi-fold Unit FD3000 (M482)
  2. LCIT PB3260 (M496), or Paper Feed Unit PB3240 (M494)

1. Remove the orange tape on the exterior covers and remove the shipping retainers. Then remove the accessories in the package (fixing screws, etc.).


d238m0597b

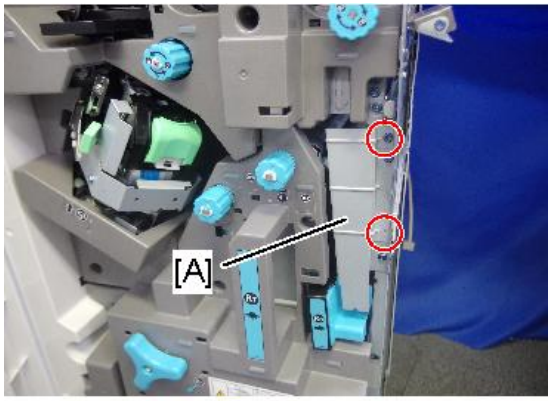
2. Open the front cover, and remove the orange tapes and shipping retainers.



d238m0598b

3. Remove the plate [A] only when installing the punch unit.

For details about the punch unit installation, refer to Punch Unit PU3060 (D706-00, -01, -02).



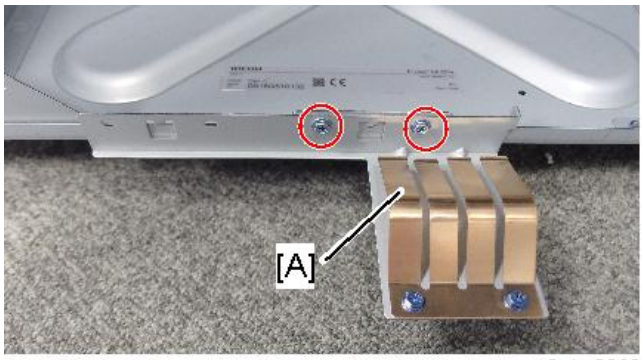
x2 d238m0759

4. Attach the shift tray [A] (×1: M3x8).



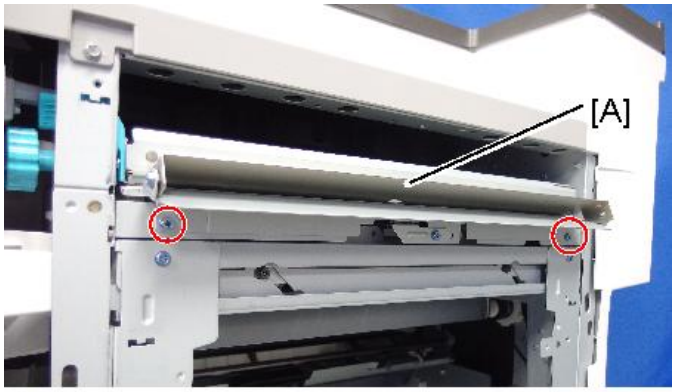
d1462544

5. Attach the ground plate [A] (M3x6).



x2 m0ajm0060

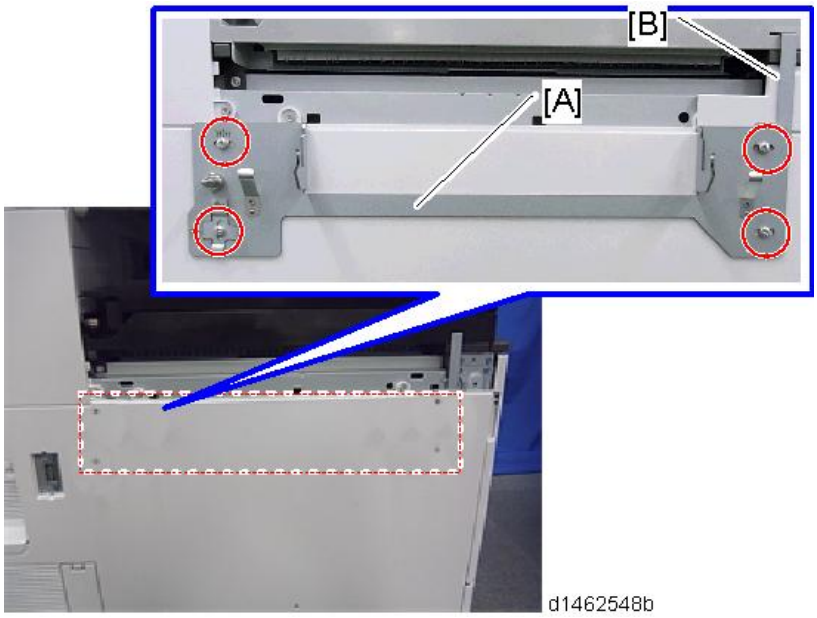
6. Attach the relay guide plate [A] (M3x6).



x2 m0ajm0059

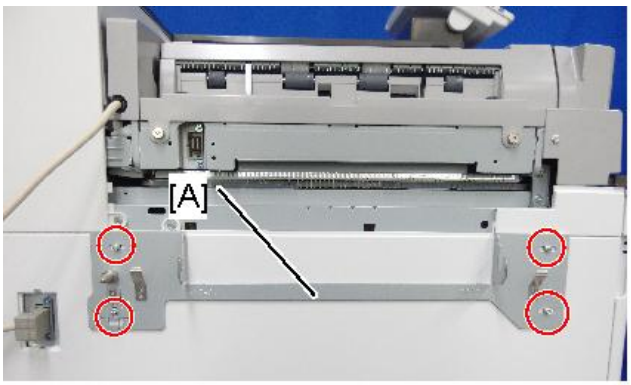
7. Attach the joint bracket [A] to the main machine (x4: M4x12).

If the machine is equipped with the bridge unit, attach the joint bracket [A] together with the L type connecting bracket [B] of the bridge unit.



d1462548b

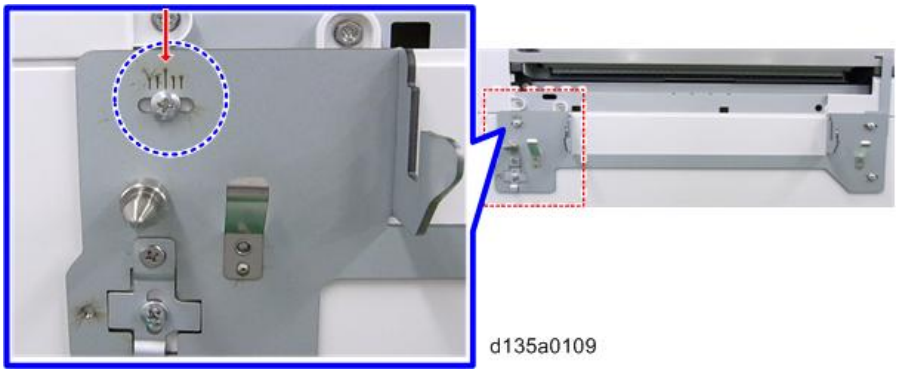
If the machine is equipped with the internal multi-fold unit, attach the joint bracket [A] only.



x4 m0ajm0061

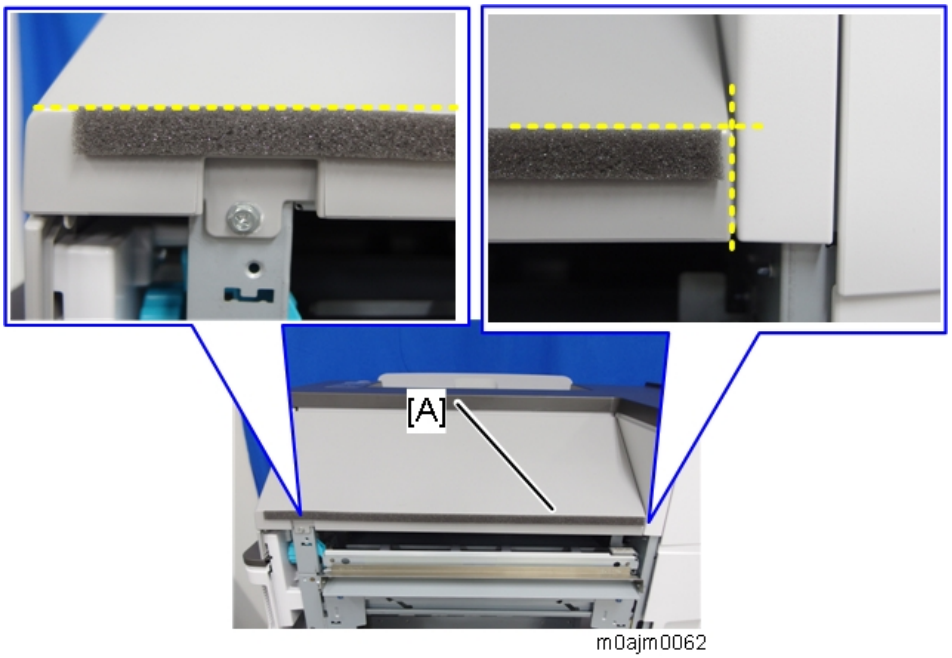
Note

- Attach the screw so that the screw head is at the center of the mark.



8. Clean the right side of the upper cover with a cloth moistened with alcohol, and then attach the cushion [A] to the finisher.

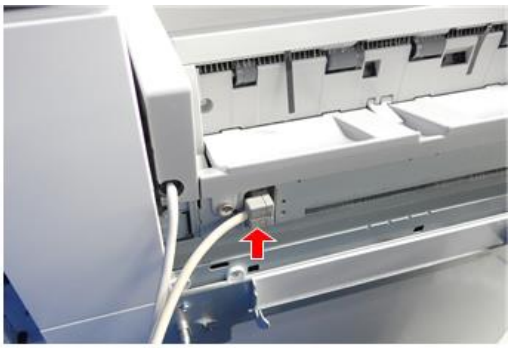
- Make sure that the cushion is aligned with the rear-upper edge of the upper cover.



m0ajm0062

9. If the internal multi-fold unit is installed, connect the finisher cable to the connector on the internal multi-fold

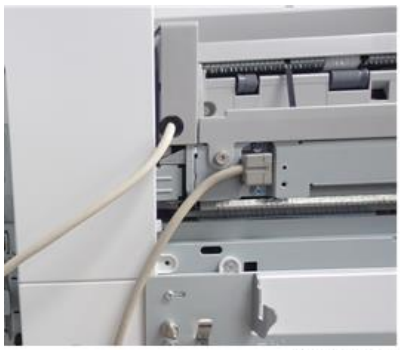
unit.



×1 m0ana2021

Important

Make sure that the finisher's 2 cables are not crossing each other before you connect the finisher.



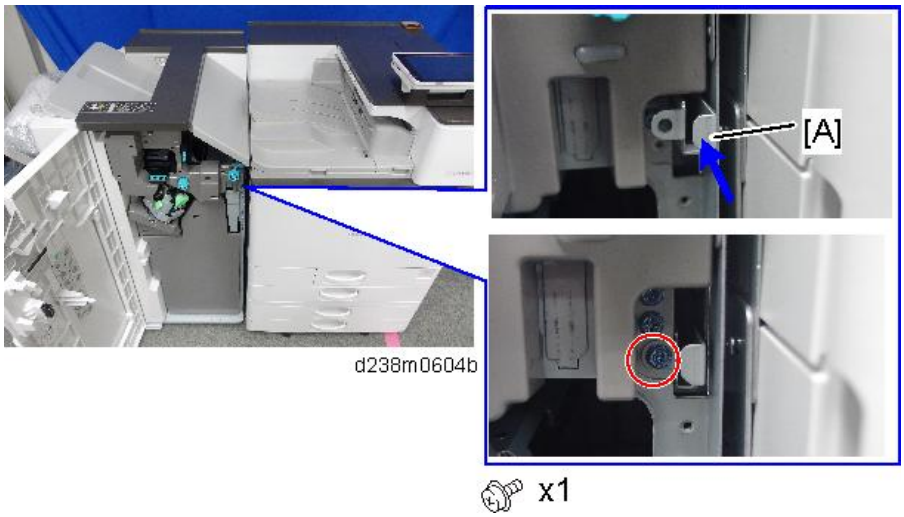
m0ana2065

10. Remove the screw on the connection lever [A] and pull the lever.

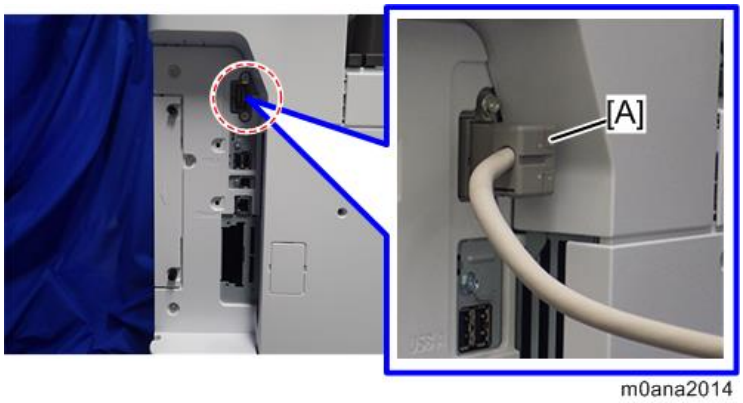


x1 d238m0603c

11. Connect the finisher to the main unit, and then push in the connection lever [A] to fasten it to the main unit.



12. If the bridge unit is installed, connect the interface cable [A] to the machine.



13. Attach the tray holder (x2).



14. Close the front cover of the finisher.

15. Turn ON the main power.

16. Deliver some A3/DLT paper to the proof tray and check if the vertical registration is correct according to the adjustment scale for A3/DLT paper (Finisher Registration Adjustment).

17. Check that the finisher can be selected on the operation panel, and check the finisher's operation.

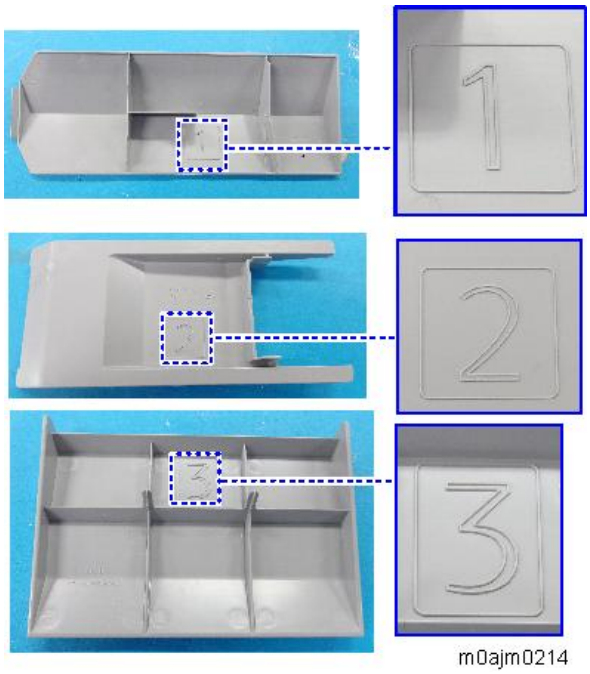
Attaching a Support Tray

Explain the following information to the users.

The sensor may detect that the exit tray is full prematurely when delivering z-folded sheets or curled paper to the tray.

If a message reporting a full paper exit tray appears, the job is suspended until the paper is removed from the paper exit tray. By attaching a support tray, you can prevent the premature full detection.

Three types of support tray are supplied with this finisher. Make sure that you understand the purpose of each support tray before installing one of them.



m0ajm0214

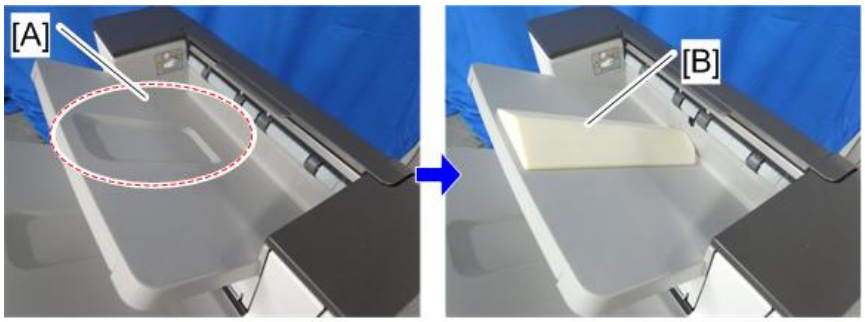
Proof Support Tray ("1" marked on the back), provided with this finisher

When using B4, LG or larger paper, or when using limp paper, the sheet may become bent, resulting in premature full detection.



d1826009

This can be solved by attaching the proof support tray [B] on the proof tray [A].



d1826010

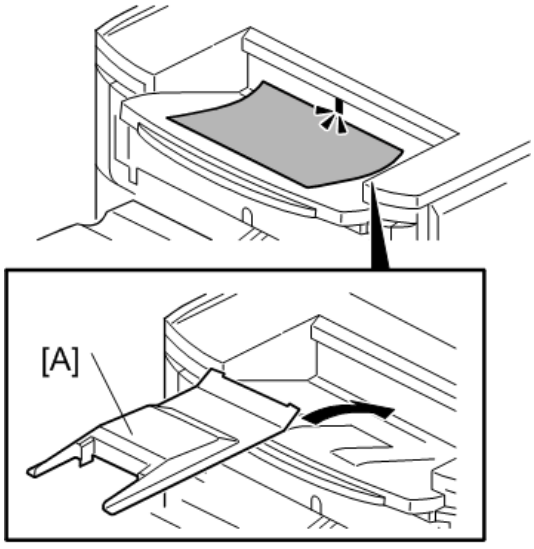
Problem that may occur after attaching this support tray:

When printing A4, LT or smaller paper with the support tray, the machine stacks only 200 sheets, which is less than the standard specification of 250 sheets.

When printing B4, LG or larger paper with the support tray, the machine stacks 50 sheets, which is the same as the standard specification.

Support Tray: Proof ("2" marked on the back), provided with the multi-fold unit

By attaching Support Tray: Proof [A], more sheets can be stacked when delivering z-folded sheets to the proof tray, preventing premature full detection.



d1354040

Support Tray: Shift ("3" marked on the back), provided with the multi-fold unit

By attaching Support Tray: Shift [A], more sheets can be stacked when delivering z-folded sheets to the shift tray, preventing premature full detection.

The sensor is located at the paper exit. During the installation, be careful not to remove the feeler.



m0ajm0116

Output Jogger Unit Type M25 (D3CJ-01)

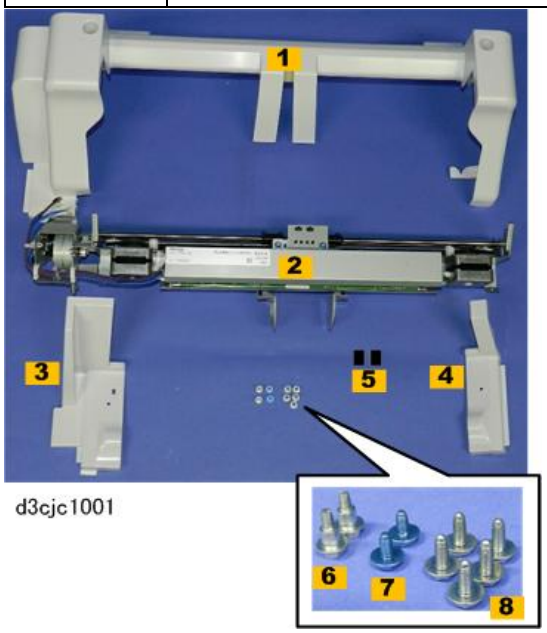
Important

- This jogger unit is installed and used with Finisher SR3230 only.

Accessory Check

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

No.	Description	Q'ty	Remarks
1	Jogger Unit Cover	1	
2	Jogger Unit	1	
3	Rear End Cover	1	
4	Front End Cover	1	
5	Cushions	5	
6	Shoulder Screws	2	
7	Screws (Blue) M3x6	2	
8	Screws (Silver) M3x8	5	



d3cjc1001

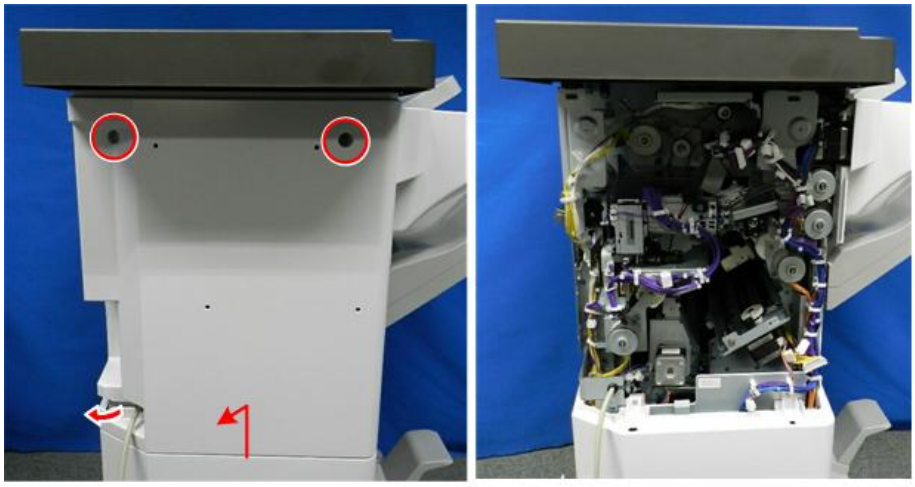
Installation Procedure

⚠CAUTION

- Always switch the machine off and unplug the machine before doing the following procedure.

1. Disconnect the finisher from the main frame.

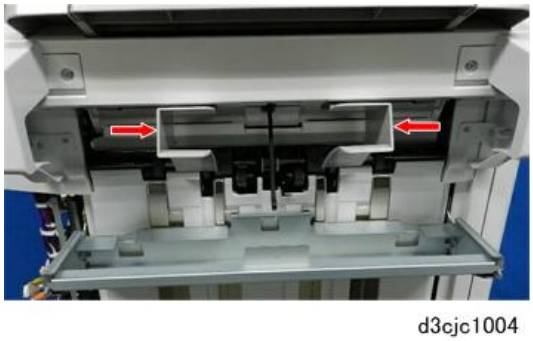
2. Remove the rear cover.



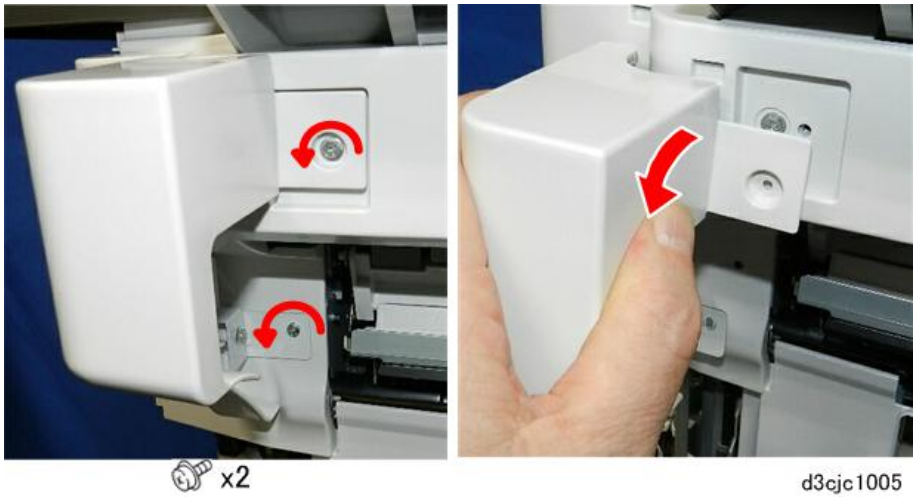
3. Remove the shift tray.



4. Push the paper guides to the center.



5. Remove the rear paper guide cover.



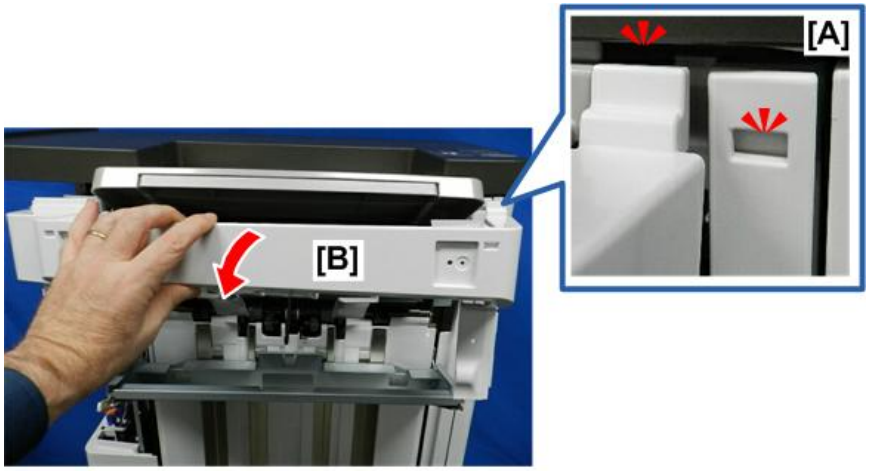
6. Remove the front paper guide cover.



7. Disconnect the main paper guide cover.

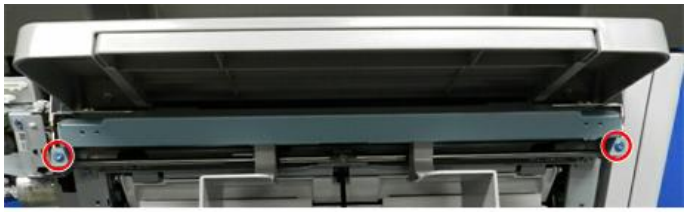


8. Carefully, separate the front tabs at [A], and then remove the main paper guide cover [B].



d3cjc1008

9. Disconnect the cover installation bracket.



x2

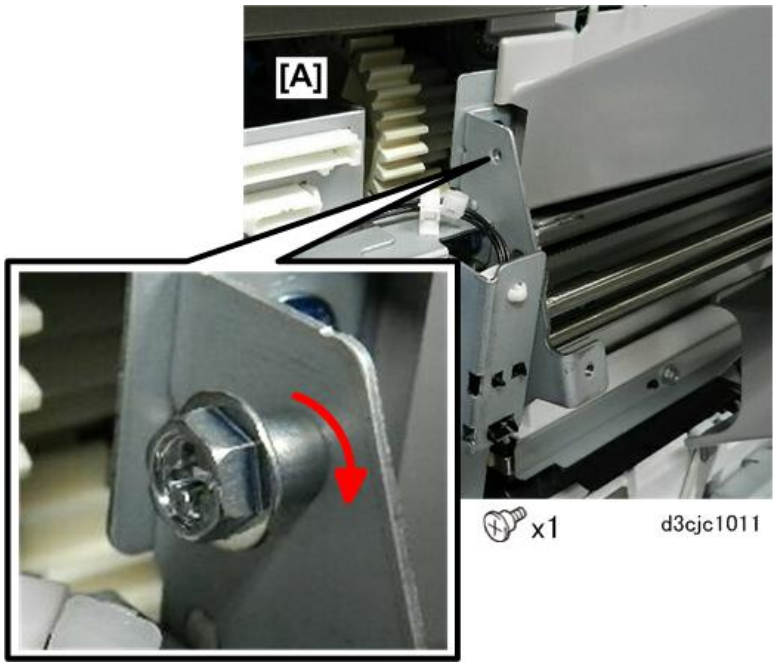
d3cjc1009

10. Slowly, disconnect the bracket from the rail above, and then remove it.

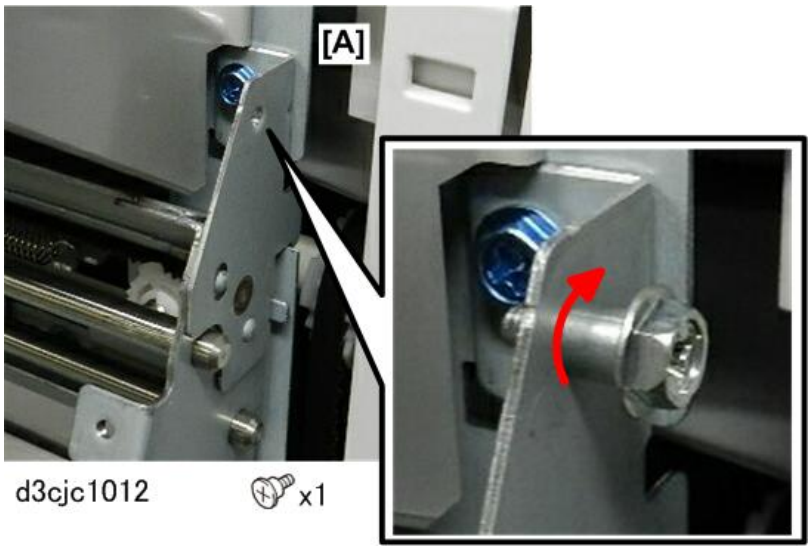


d3cjc1010

11. At the rear [A], set one shoulder screw.



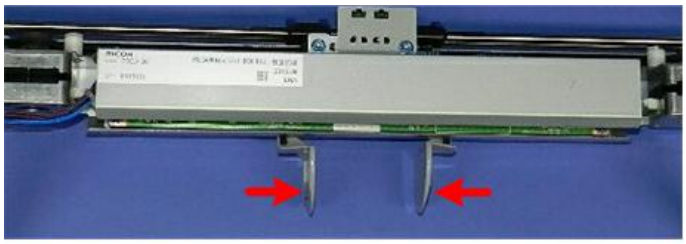
12. At the front [A], set the other shoulder screw.



13. Spread the paper guides to the maximum width.



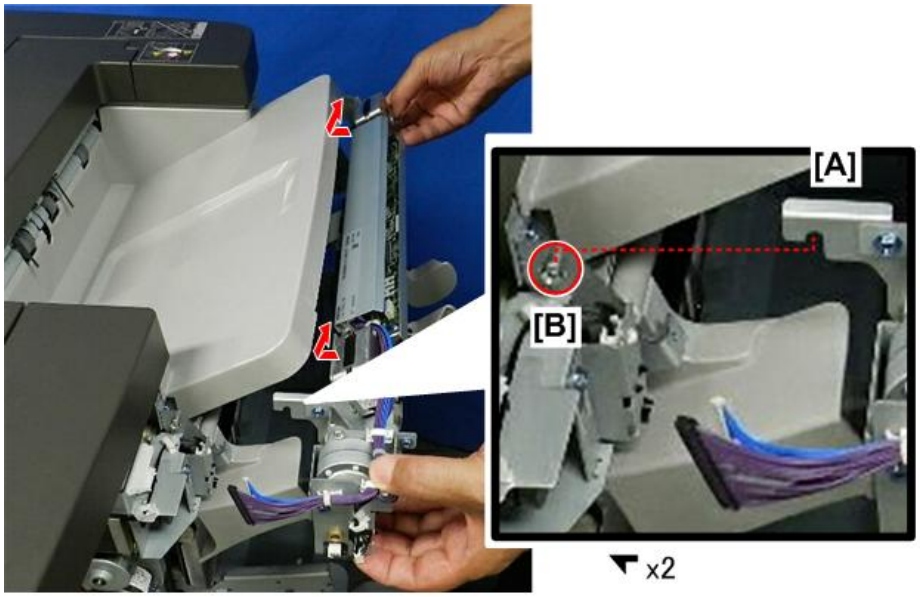
14. Move the jogger arms on the jogger unit to the center.



d3cjc1014

15. Hold the jogger unit so the hooks [A] on both ends of the unit are in line with the installed shoulder screws [B].

16. Rotate the jogger unit slightly up under the output tray so that the motors on both ends of the unit go under the tray, and then hang the hooks on the shoulder screws at the front and rear.



d3cjc1015

17. Confirm that the rear bracket [A] is on the shoulder screw.

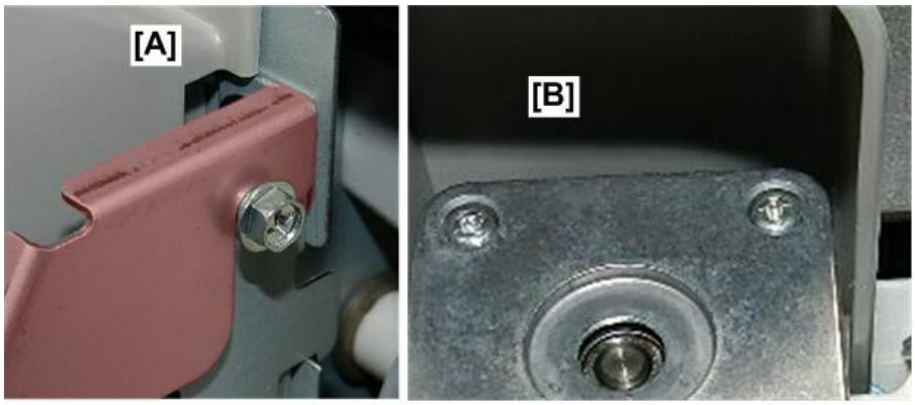
18. Confirm that the rear motor [B] is up under the tray.



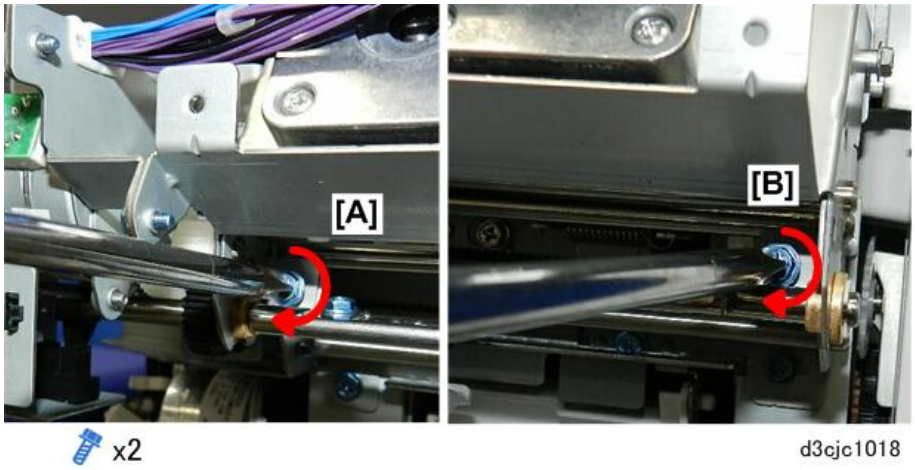
d3cjc1016

19. Confirm that the front bracket [A] is on the shoulder screw.

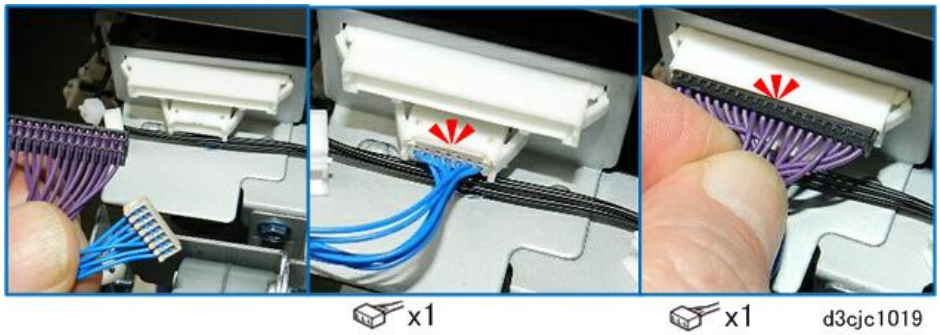
20. Confirm that the front motor [B] is up under the tray.



21. Fasten the jogger unit at the rear [A] and front [B].

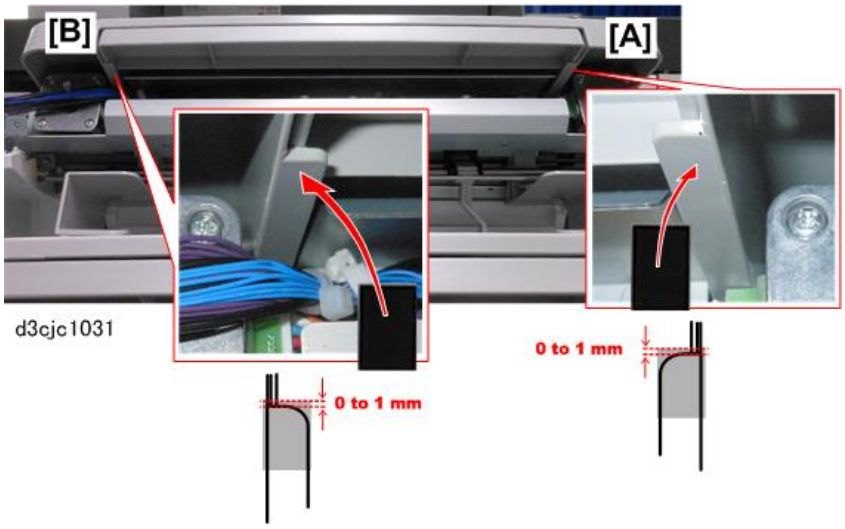


22. Connect the jogger unit at the rear.

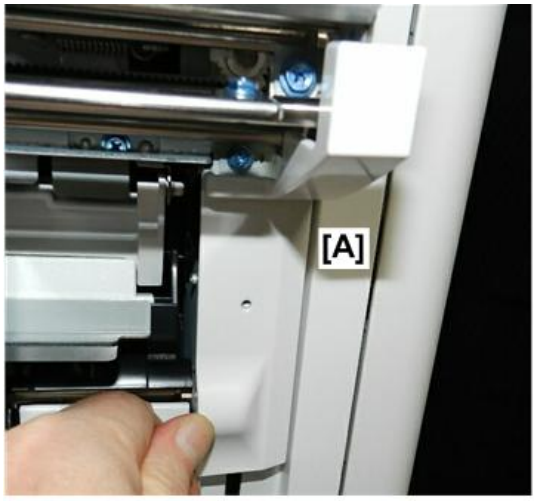


23. Peel the back off the two accessory cushions.

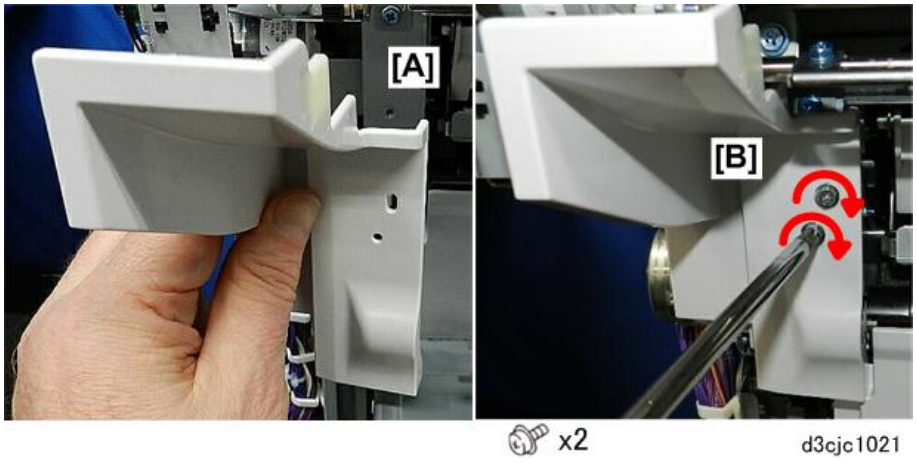
24. Attach the cushions to the front [A] and rear [B] of the lower arms of the output tray.



25. Set the front end cover [A]. Do not attach the screw yet.

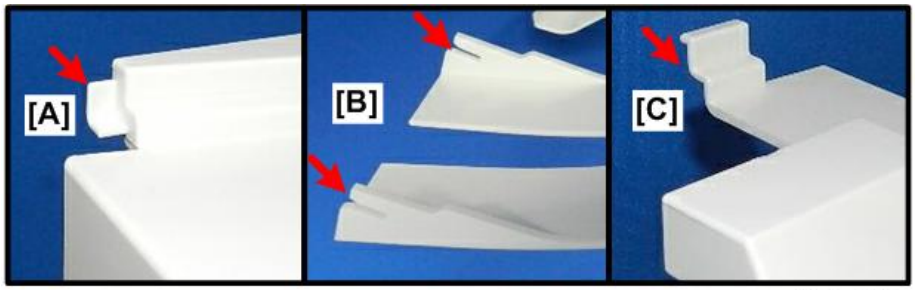


26. Set the rear end cover [A], and then fasten it [B].



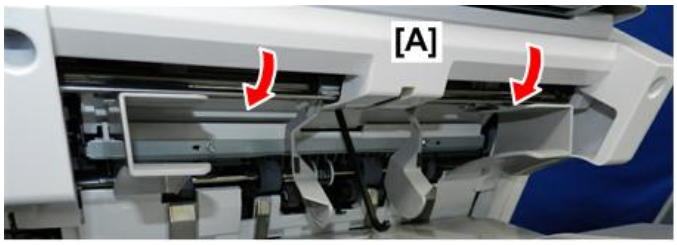
27. Look at the jogger cover. Note the tabs and slots on the rear end [A], center arm covers [B], and front end

[C].



d3cjc1022

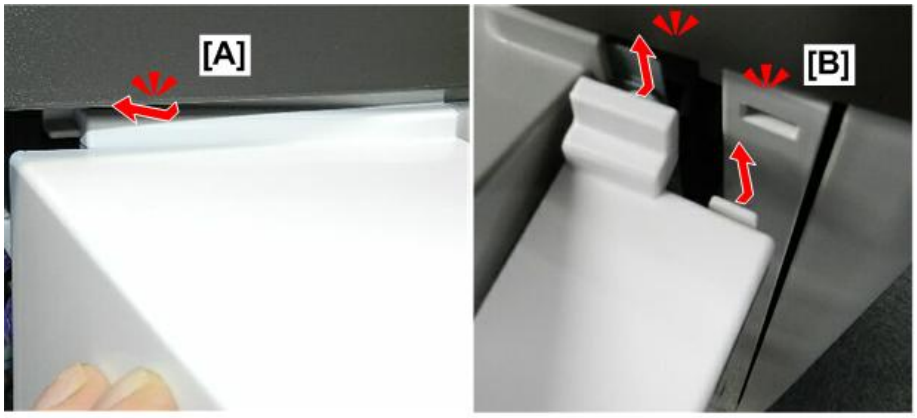
28. Slowly, set the jogger cover [A] on the jogger unit.



d3cjc1023

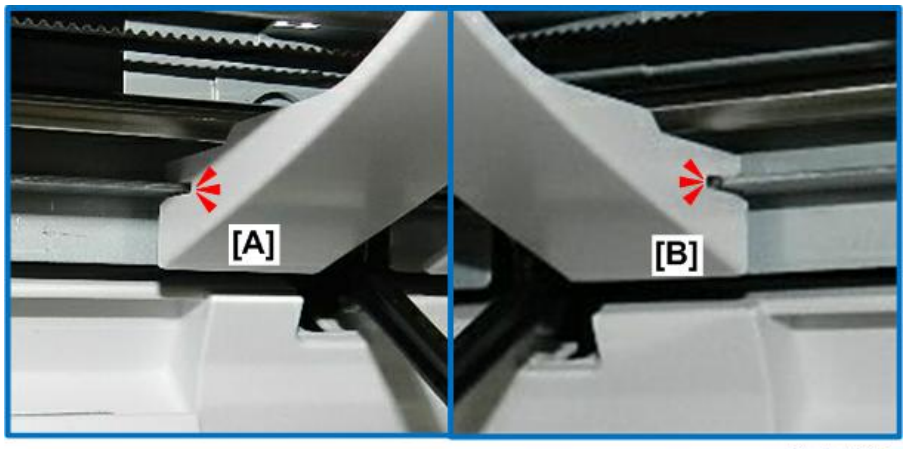
29. At the rear [A] confirm that the tab inserts correctly.

30. At the front [B] confirm that both tabs set correctly.



d3cjc1024

31. In the center under the jogger unit, make sure the rear arm cover [A] and front arm cover [B] fit over the edge of the plate as shown.

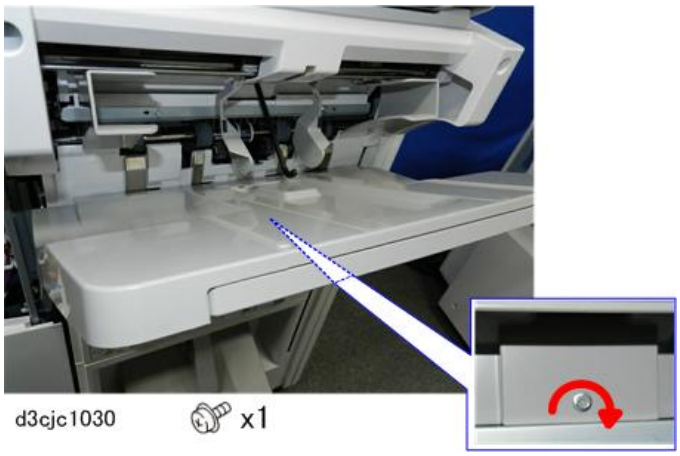


d3cjc1025

32. After making sure that all tabs are set correctly, fasten the cover to the jogger unit.

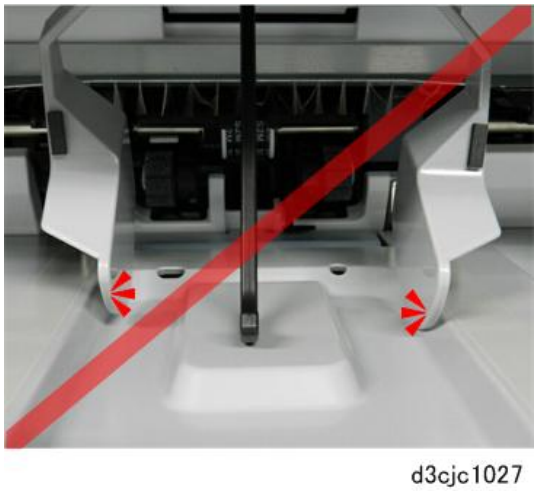


33. Re-install the shift tray.



34. Check the center of the shift tray.

If the jogger arms are touching the surface of the shift tray as shown, this will cause a jam when the machine is turned on because the arms will move and hit the tray.

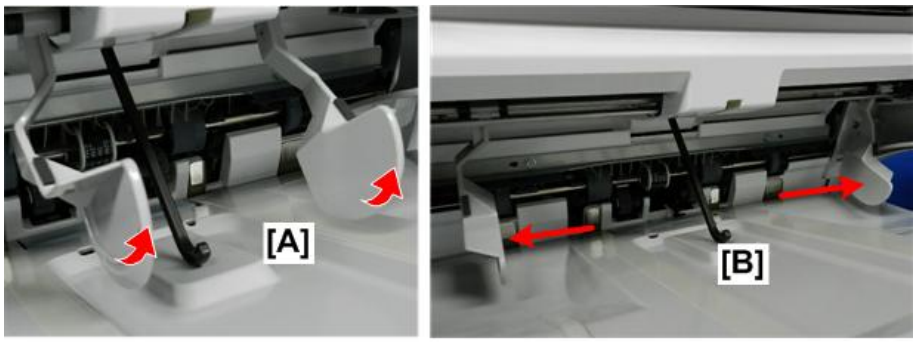


35. To avoid a jam at power on, before you turn the machine on you can:

Raise the jogger arms [A] slightly so they are not touching the shift tray below.

-or-

You can spread the jogger arms [B] away from the center so they are not touching the surface of the tray.



d3cjc1028

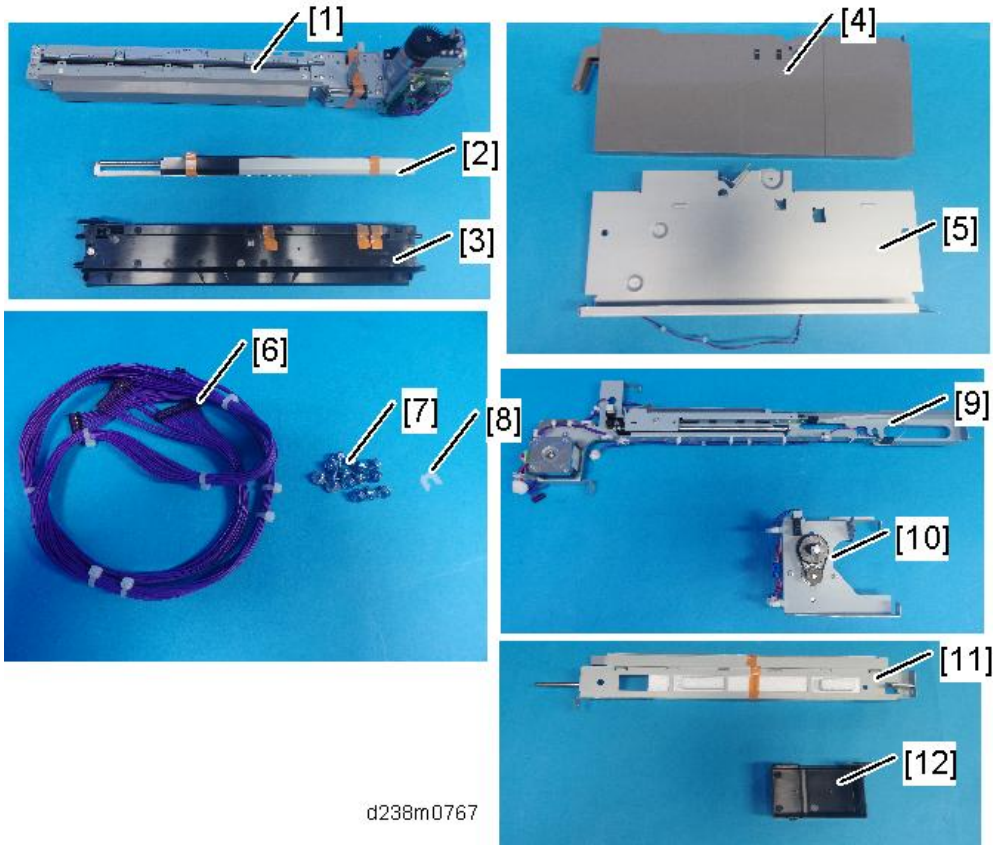
Punch Unit PU3060 (D706-00, -01, -02)

Note

- This Punch Unit is for Finisher SR3230 (D3BA).

Accessory Check

No.	Description	Q'ty	Remarks
1	Punch Unit	1	
2	Registration Guide Plate	1	
3	Punch Waste Paper Guide	1	
4	Hopper	1	
5	Hopper Bracket	1	
6	Harness	1	
7	Tapping Screw- M3×6	15	
8	Clip Ring	1	
9	Side-to-side Detection Unit	1	
10	Punch Unit Movement Motor Unit	1	
11	Punch Unit Stay	1	
12	Cover	1	

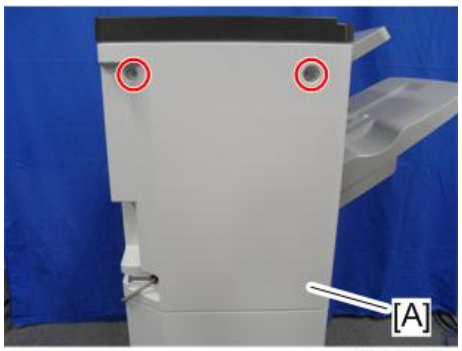


Installation Procedure

⚠CAUTION

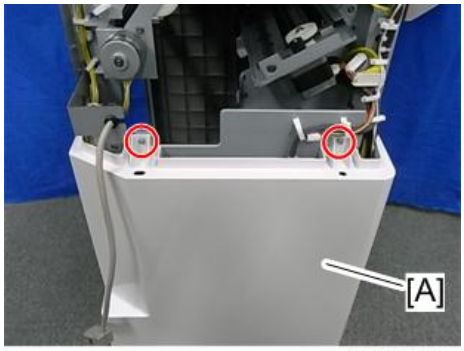
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

1. Remove the rear upper cover [A] (×2)



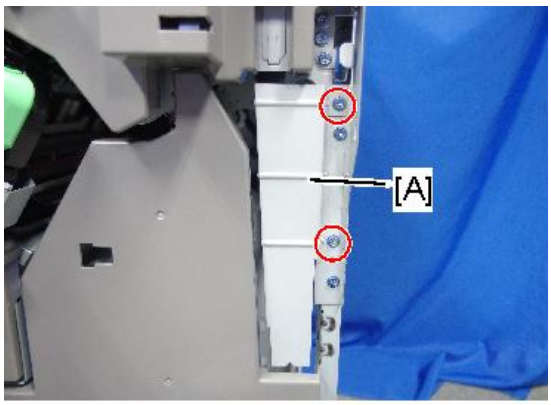
d7060011

2. Remove the rear lower cover [A] (×2)



d7060012

3. Remove the plate [A].



x2 m0ajm0058

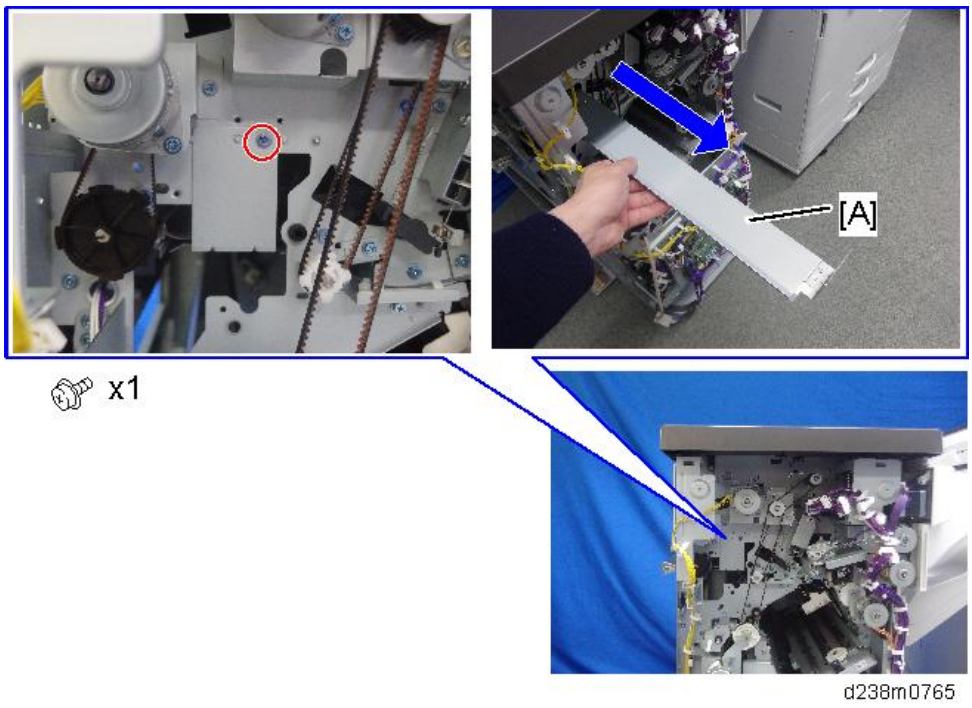
4. Remove the inner cover [A] (×3, ×1)

Note

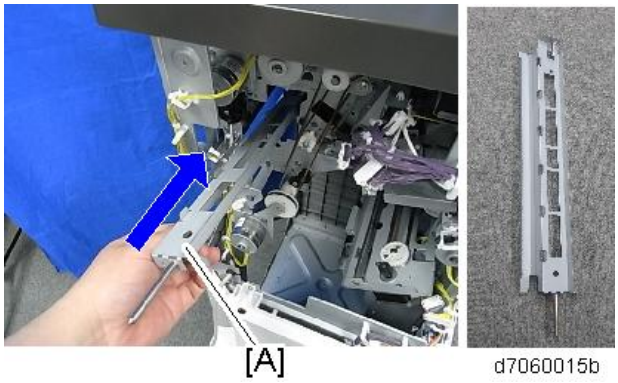
- There is a connector on the back of the inner cover.



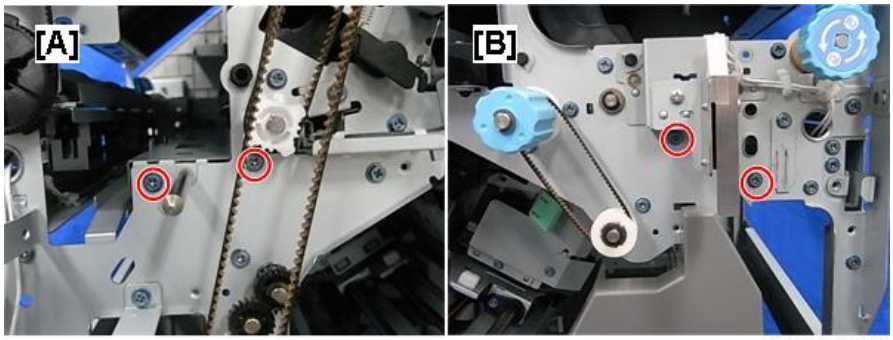
5. Remove the punch guide plate [A].



6. Attach the punch unit stay [A] (×4).



[A]: Rear, [B]: Front

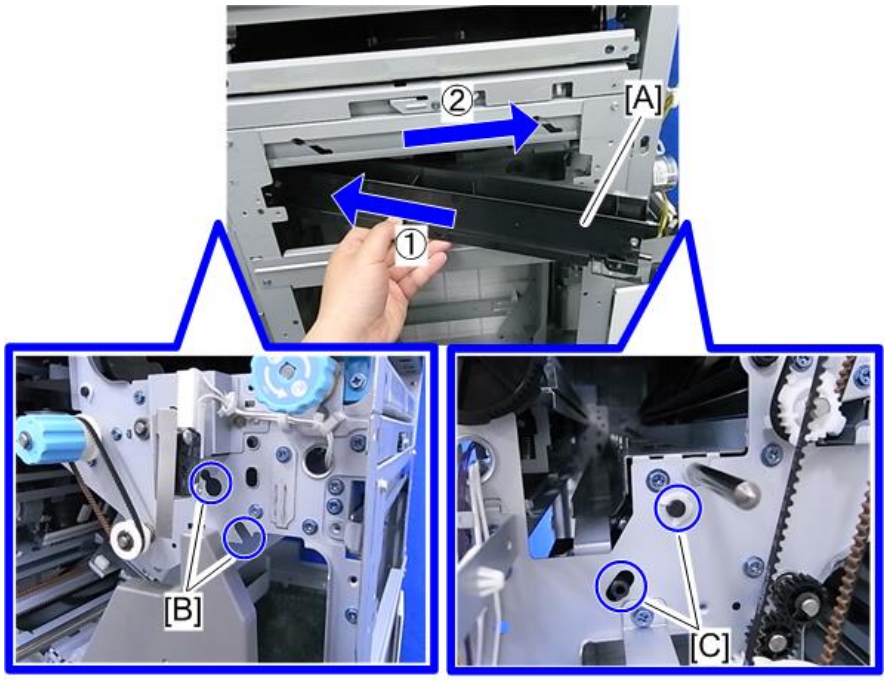


d238m0930a

7. Attach the punch waste paper guide [A] (×1).

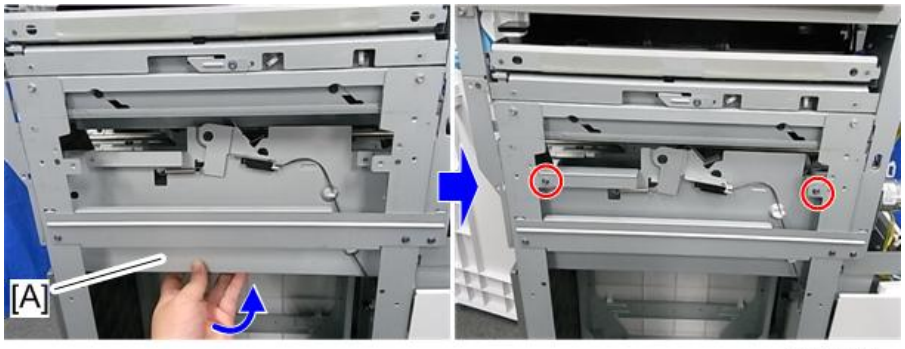
Note

- After inserting the front tab of the punch waste paper guide into the frame [B] of the finisher, insert the rear tab into the frame [C].



d7060017a

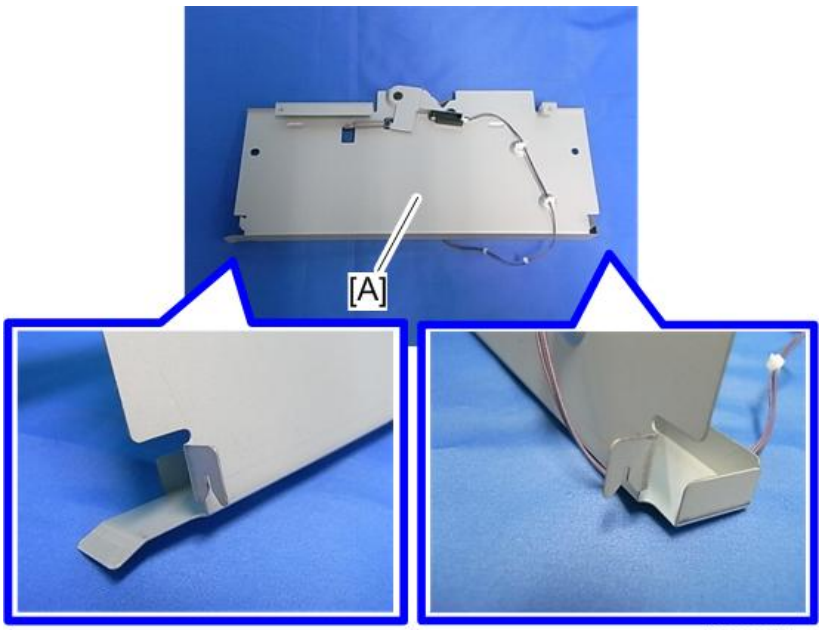
8. Attach the hopper bracket [A], inserting from the outside frame of the finisher. (×2, 2 hooks)



d7060018

Note

- Hook the hooks of the hopper bracket [A] onto the back side of the frame.



d7060019



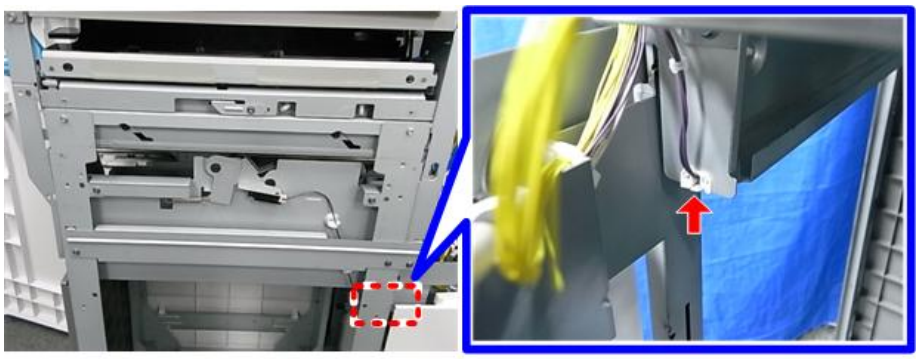
d7060020

- Hook the upper frame of the hopper bracket onto the outside frame of the finisher.



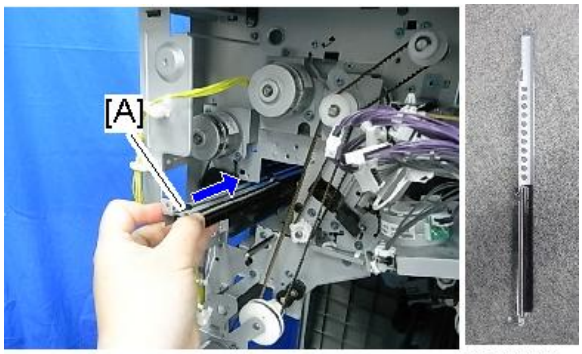
d7060021

9. Fix the harness of the hopper sensor. (×1)



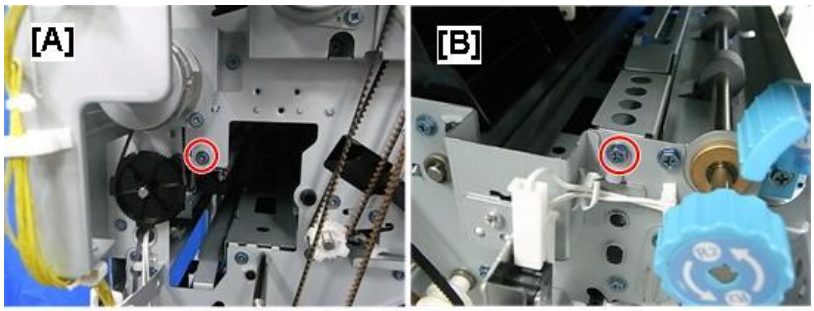
d7060022

10. Attach the registration guide plate [A]. (×2)



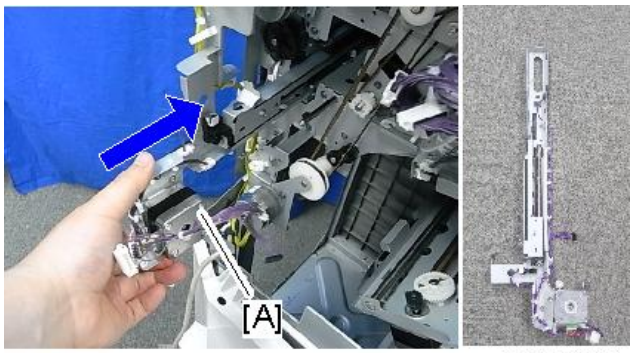
d7060023b

[A]: Rear, [B]: Front

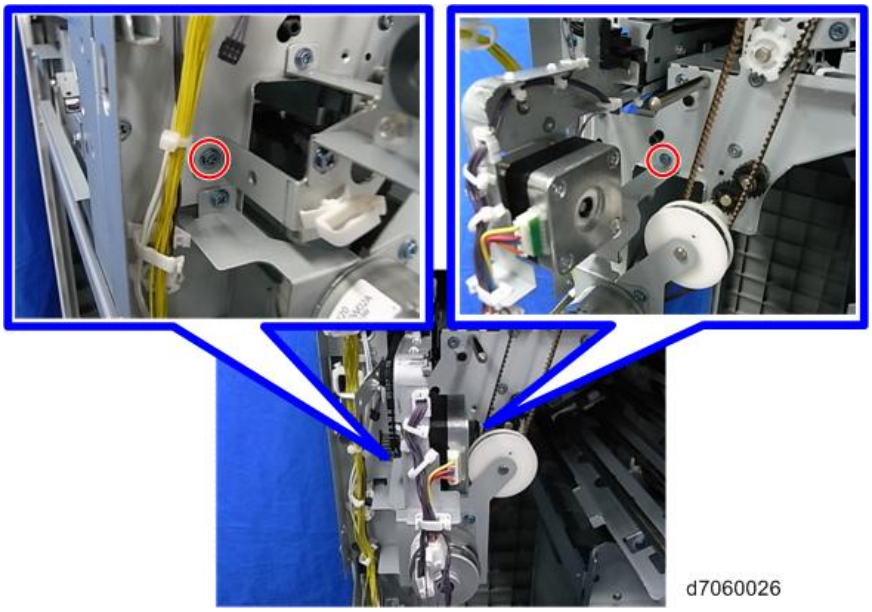


d238m0931a

11. Attach the side-to-side detection unit [A]. (×2)



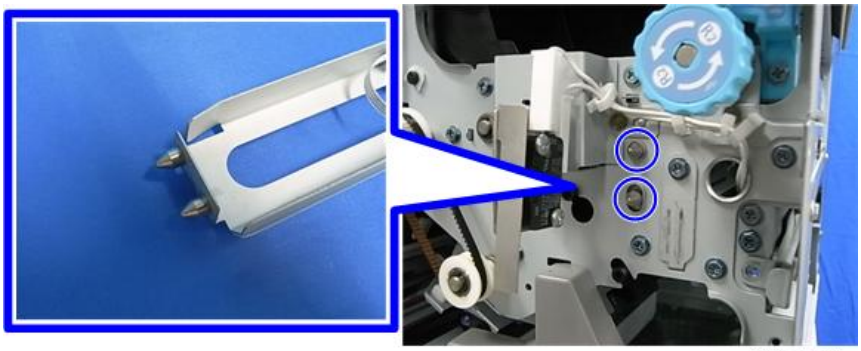
d7060025b



d7060026

Note

- Insert the front pins of the side-to-side detection unit into the holes of the frame.

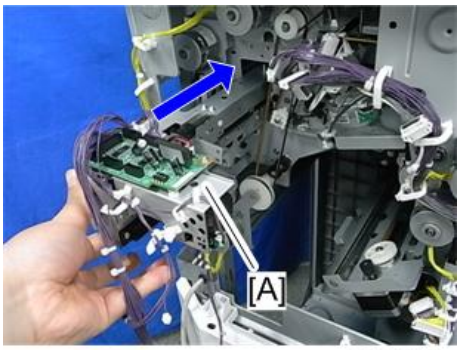


d7060027

12. Attach the punch unit [A]. (×2)

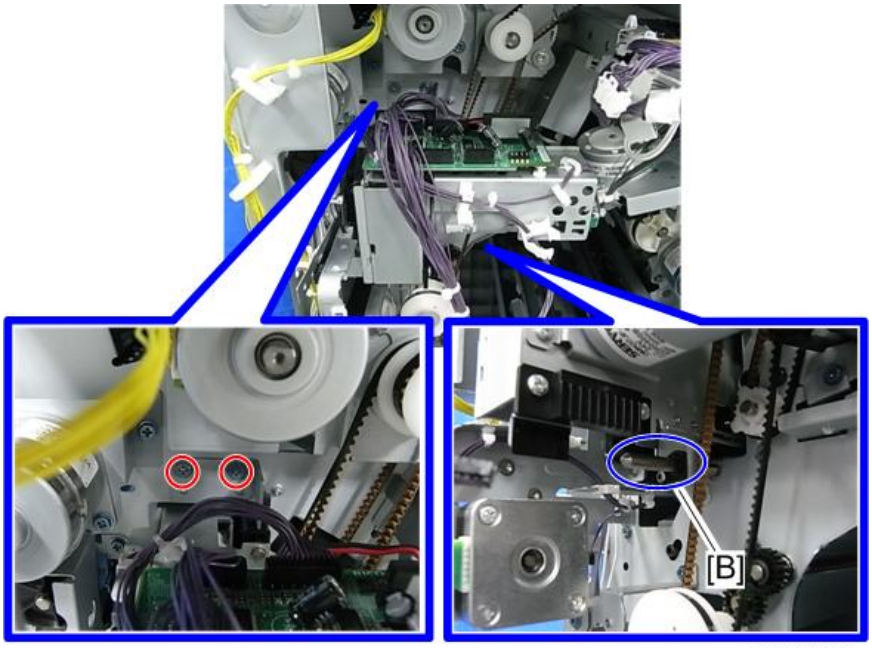
Note

- After inserting the pins [B] of the punch unit stay into the front and rear holes of the punch unit, fix the punch unit with two screws.



d7060028

- Rear



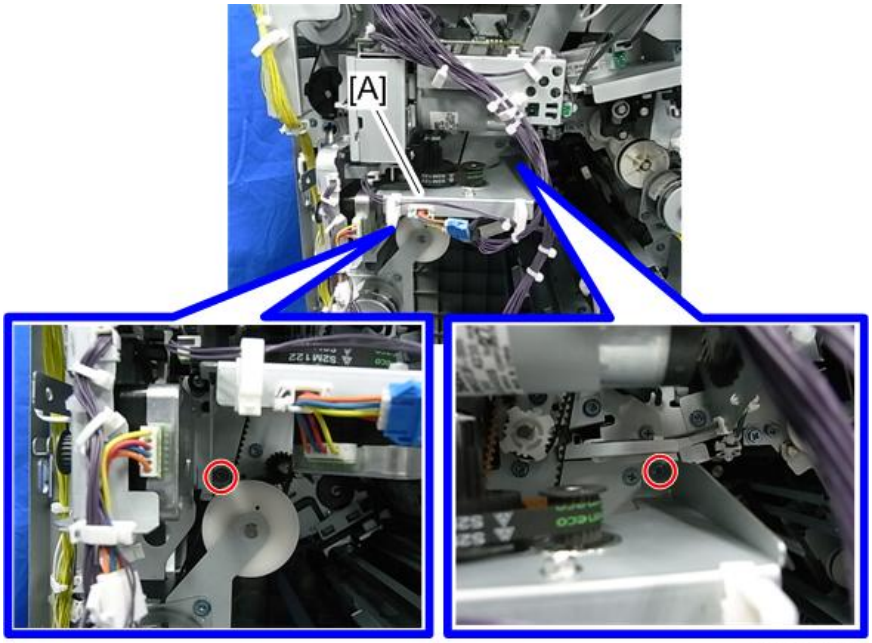
d7060029

- Front



d7060030

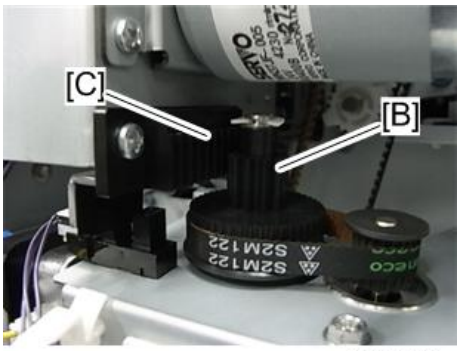
13. Attach the punch unit movement motor unit [A]. (×2)



d7060031

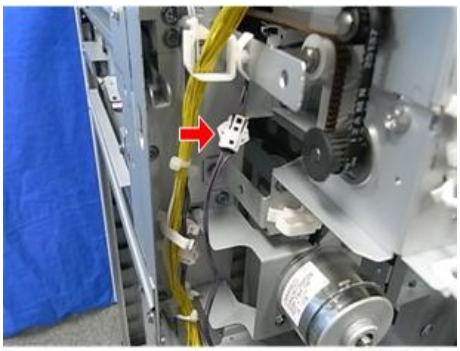
Note

- Engage the gear [B] of the punch unit movement motor unit with the rack [C] of the punch unit.



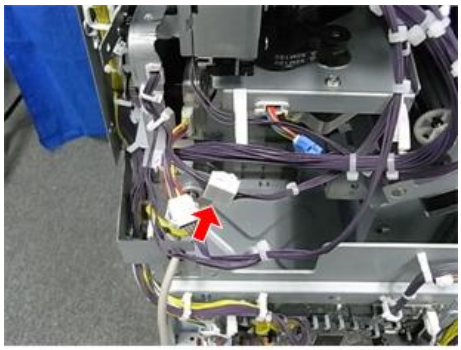
d7060032

14. Connect the harness of the hopper sensor to the connector of the finisher.(×1)



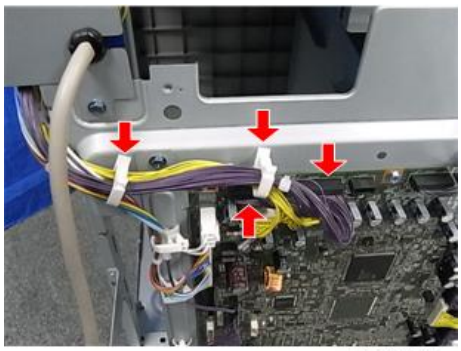
d7060033

15. Connect the harness of the punch unit to the connector of the registration drive unit.(×1)



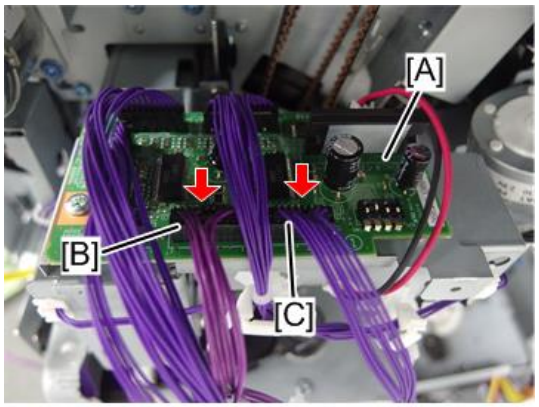
d7060034

16. Connect the harness of the punch unit to the main board, and then clamp it. (×2, ×2)



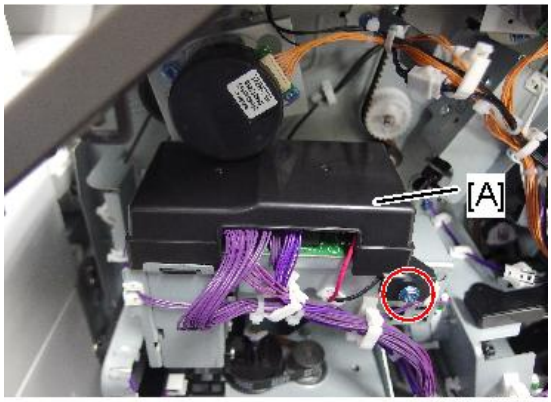
d7060035

17. Connect the harness [B] of the punch unit movement motor unit and the harness [C] of the side-to-side detection unit to the punch unit board [A].



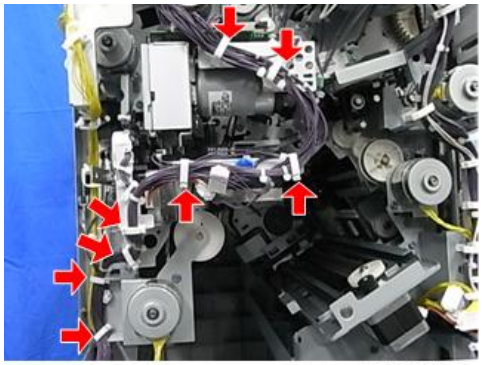
×2 d284a8019

18. Attach the supplied cover [A] to the punch unit board.



x1 d238m0814

19. Clamp all the harnesses of the punch unit PU3060. (×8)



d7060037

20. Attach the hopper [A].



d7060038

21. Attach the rear upper cover, the rear lower cover, the inner cover, and the punch guide plate.

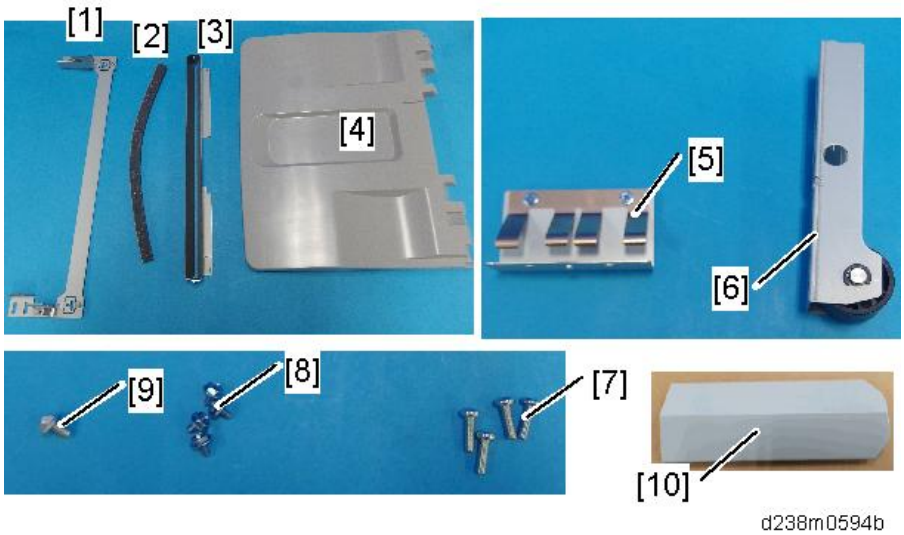
Finisher SR3210 (D3B8-17, -21)

Important

- To install this optional unit, the following optional units are required.
  1. Bridge Unit BU3070 (D685), or Internal Multi-fold Unit FD3000 (M482)
  2. LCIT PB3260 (M496), or Paper Feed Unit PB3240 (M494)

Accessory Check

No.	Description	Q'ty	Remarks
1	Joint Bracket	1	
2	Cushion	1	
3	Relay Guide Plate	1	
4	Shift Tray	1	
5	Ground Plate	1	
6	Stabilizer	1	This part must be attached to the finisher just after it is taken out of the shipping box.
7	Screws - M4 × 12	4	
8	Tapping screws - M3 × 6	4	
9	Tapping screw - M4 × 8	1	
10	Proof Support Tray	1	
-	Installation Instruction for stabilizer	1	



Installation Procedure

⚠CAUTION

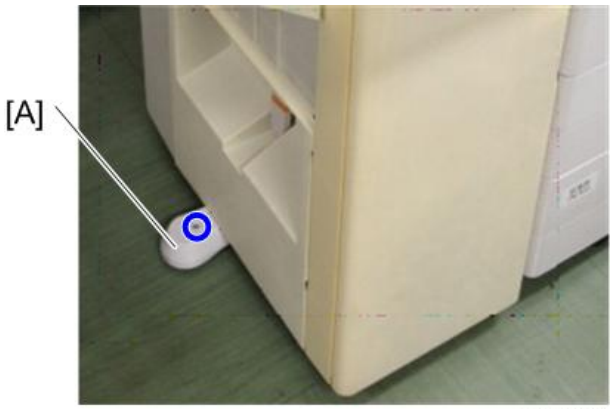
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

- Before installing this option, install the following options first;

1. Bridge Unit BU3070 (D685), or Internal Multi-fold Unit FD3000 (M482)
2. LCIT PB3260 (M496), or Paper Feed Unit PB3240 (M494)

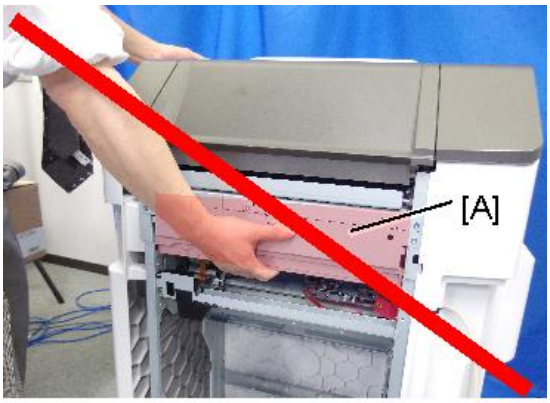
- This finisher is light and has a high center of gravity, so it easily topples when installing or moving it. Therefore, it is equipped with the stabilizer [A] attached to it when shipped.



d1463221

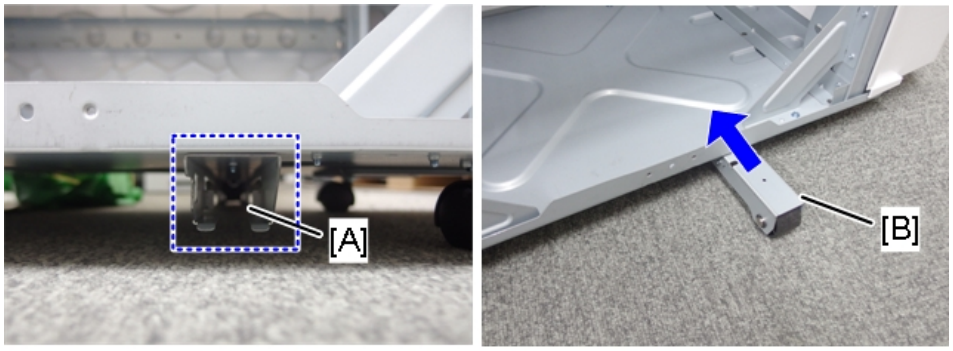
Important

- When you lift the finisher at the time of unpacking, do not hold the part [A]. Doing so may damage the frame.



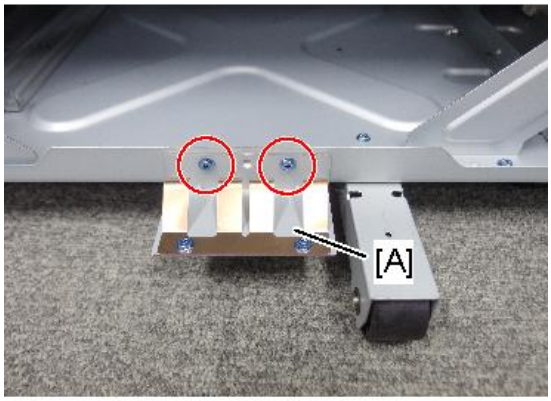
d238m0601b

1. After unpacking, immediately attach the stabilizer [B] to prevent toppling.
Push it in thoroughly along the guide [A] until it clicks.



m0ajm0201

2. Attach the ground plate [A] (M3×6).



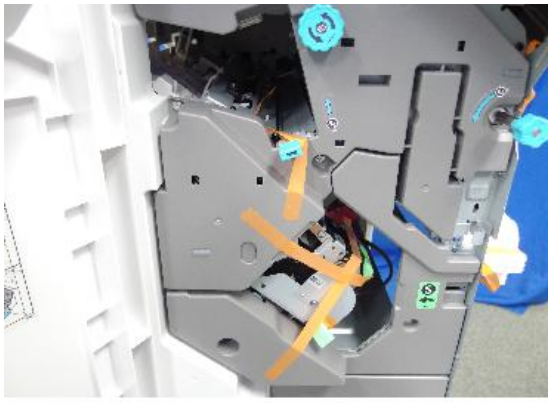
x2 m0ajm0075

3. Remove the external orange tape and shipping retainers.



d238m0585b

4. Open the front cover, and then remove the orange tapes and shipping retainers.

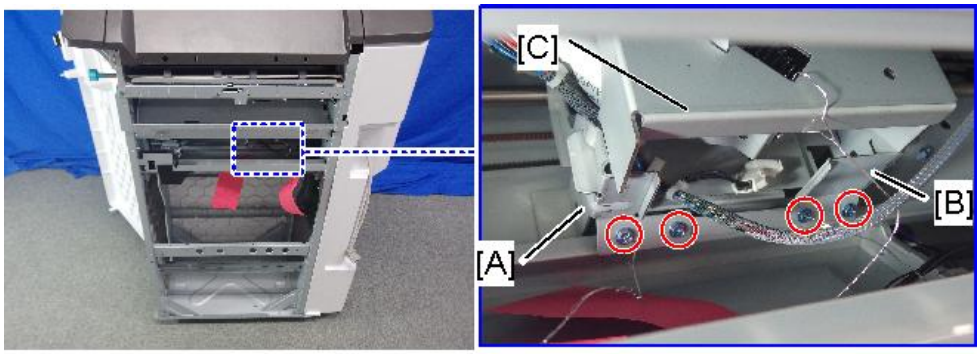


d238m0586b

5. Remove the accessories in the package (fixing screws, etc.).

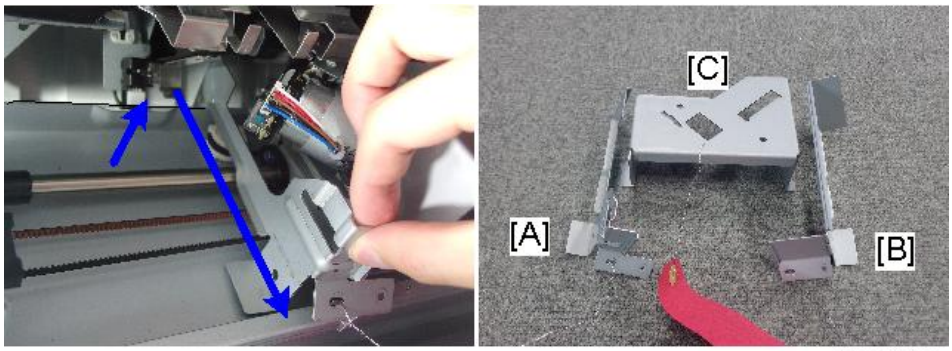
6. Remove the fixing brackets of the stapleless stapler unit.

Remove the fixing brackets in the order of [A], [B], and [C].



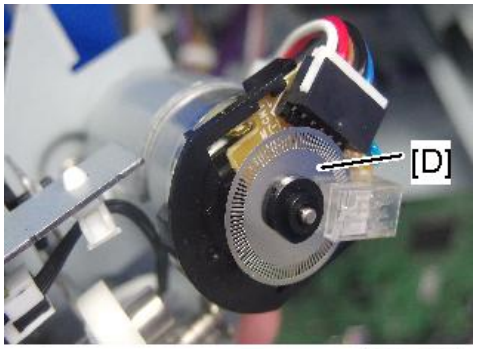
d238m587

The fixing brackets are hooked onto a metal plate, so lift them slightly and then remove them.



d238m588

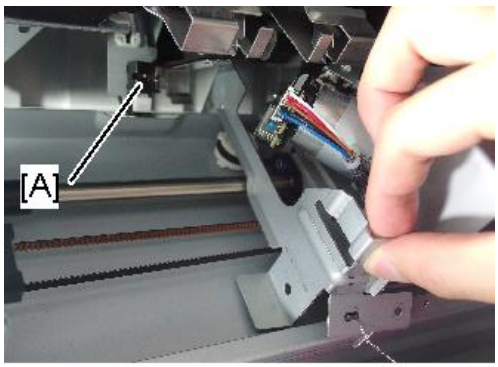
Be careful not to touch the encoder [D] at the back of the motor.



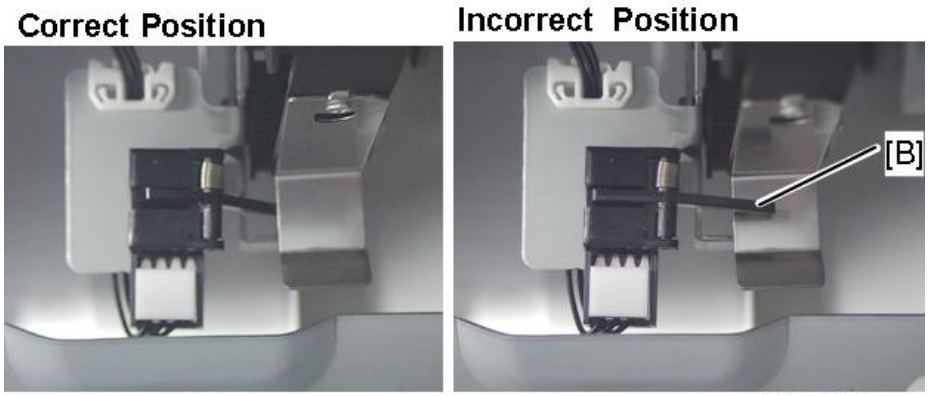
d238m0807

Be careful so that the fixing brackets do not come into contact with the feedout pawl HP sensor [A].

If they come into contact, check that the feeler [B] for the feedout pawl HP sensor is positioned correctly.



d238m589



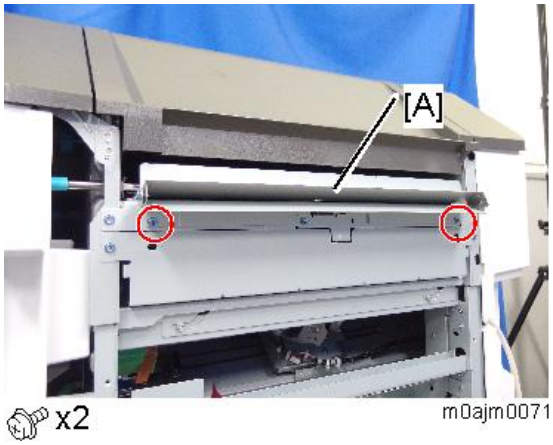
w_d238m0590a_en

7. Attach the shift tray [A] (×1: M4 × 8).



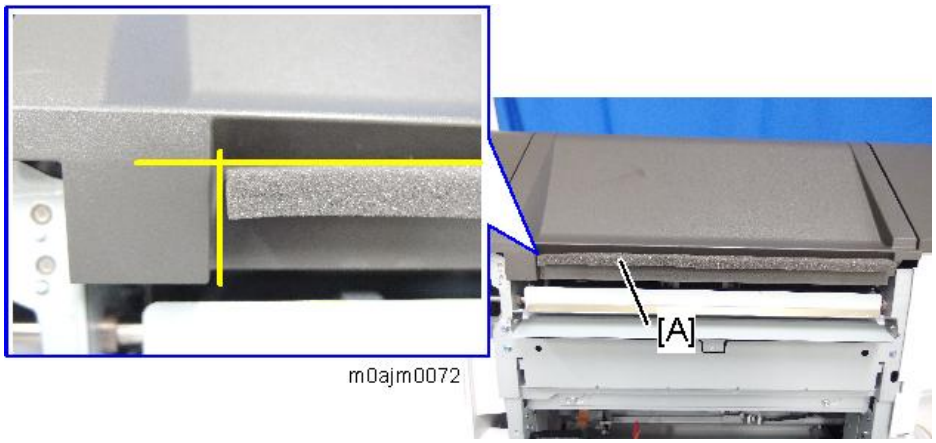
d1462529

8. Attach the relay guide plate [A]. (M3 × 6)



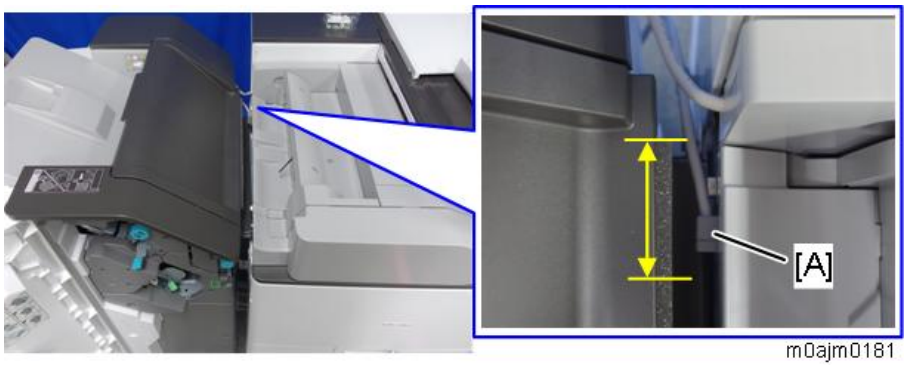
9. Clean the right side of the upper cover with a cloth moistened with alcohol, and then attach the cushion to the finisher.

- Make sure that the cushion is aligned with the left-upper edge [A] of the upper cover.



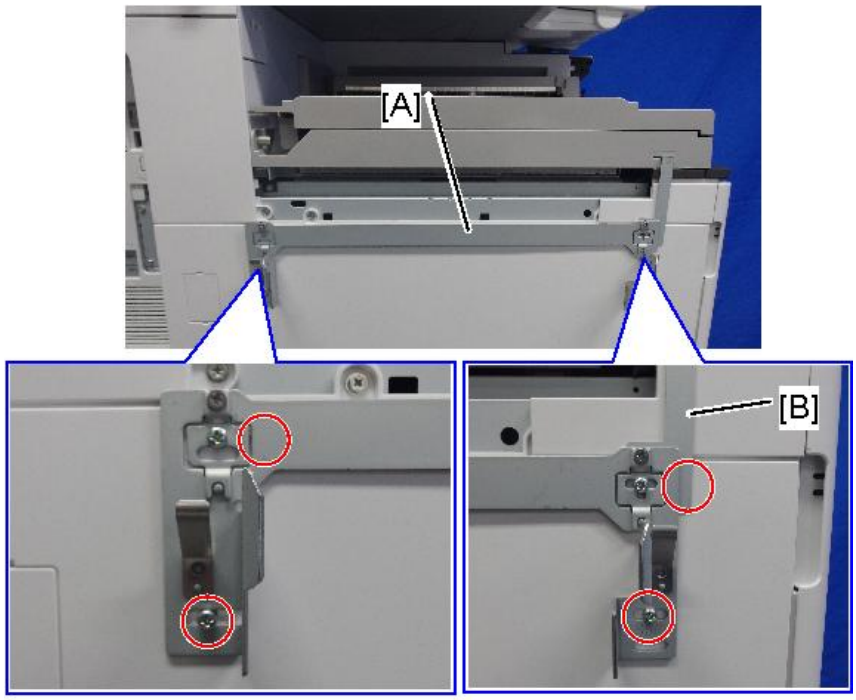
Important

If the internal multi-fold unit is installed on the main machine, cut off the section of the cushion indicated by the notch so that the cushion does not interfere with the I/F connector [A] of the finisher.

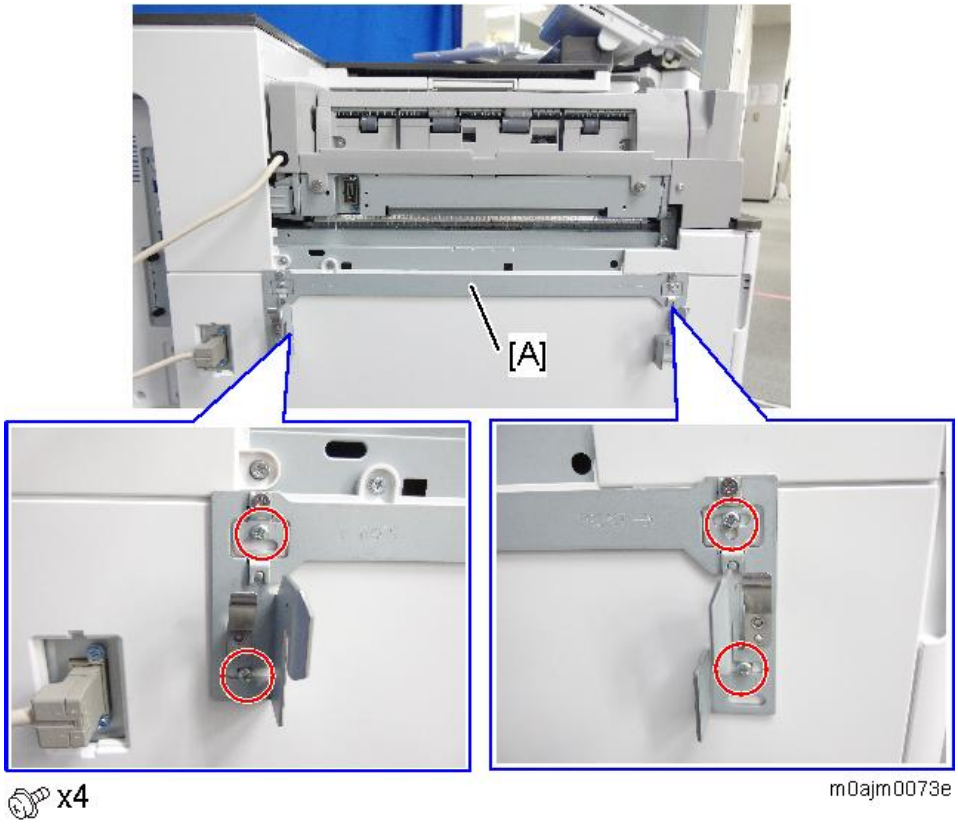


10. Attach the joint bracket [A] to the main machine (M4x12).

If the machine is equipped with the bridge unit, attach the joint bracket [A] together with the L type connecting bracket [B] of the bridge unit.

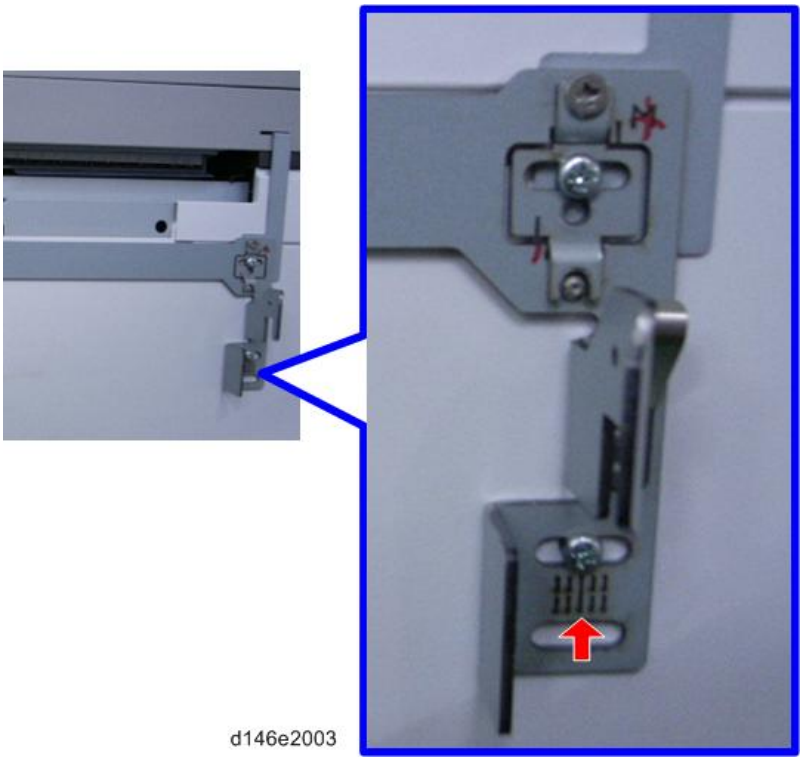


If the machine is equipped with the internal multi-fold unit, attach the joint bracket [A] only.

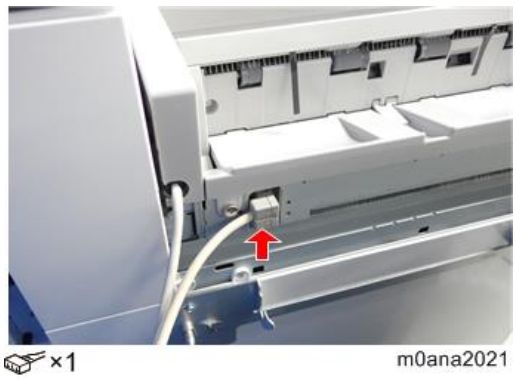


Note

- Attach the screw so that the screw head is at the center of the mark.



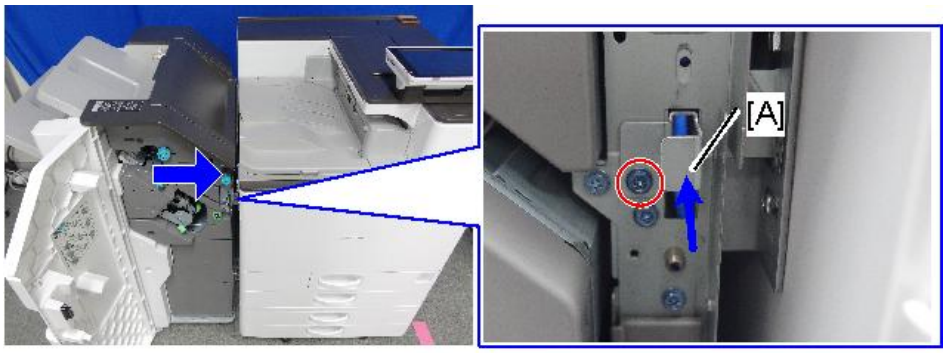
11. If the internal multi-fold unit is installed, connect the finisher cable to the connector on the internal multi-fold unit.



12. Remove the screw on the connection lever [A] and pull the lever.



13. Connect the finisher to the main unit, and then push in the connection lever [A] to fasten it to the main unit.



x1

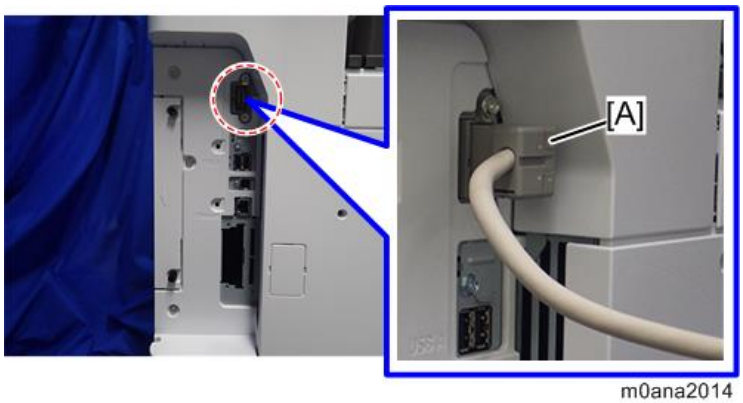
d238m0595d

If the internal multi-fold unit is installed, make sure that the finisher's 2 cables are not crossing each other before you connect the finisher.



m0ajm0074

14. Connect the interface cable [A] to the machine (only when the bridge unit is installed).



m0ana2014

15. Close the front cover.

16. Turn ON the main power.

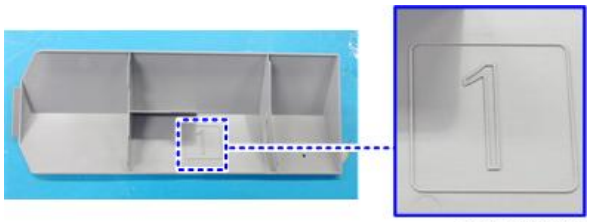
17. Deliver some A3/DLT paper to the proof tray and check if the vertical registration is correct according to the adjustment scale for A3/DLT paper (Finisher Registration Adjustment).

18. Check that the finisher can be selected on the operation panel, and check the finisher's operation.

Attaching a Proof Support Tray

Explain the following information to the users.

The sensor may detect that the exit tray is full prematurely when delivering z-folded sheets or curled paper to the tray.
If a message reporting a full paper exit tray appears, the job is suspended until the paper is removed from the paper exit tray. By attaching a support tray, you can prevent the premature full detection.



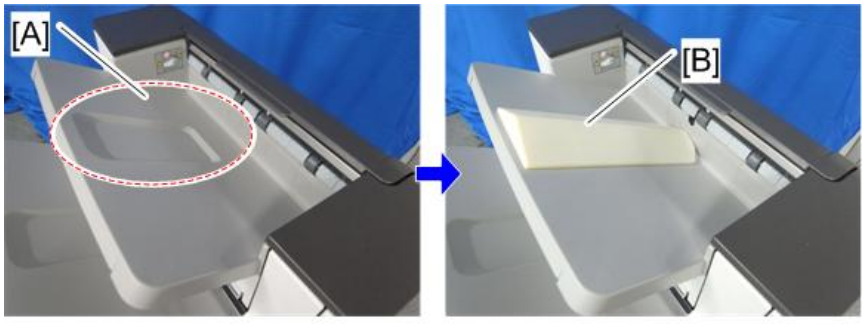
m0ajm0215b

Proof Support Tray ("1" marked on the back), provided with this finisher

When using B4, LG or larger paper, or when using limp paper, the sheet may become kinked, resulting in premature full detection.


d1826009

This can be solved by attaching the proof support tray [B] on the proof tray [A].



d1826010

Problem that may occur after attaching this support tray:
When printing A4, LT or smaller paper with the support tray, the machine stacks only 200 sheets, which is less than the standard specification of 250 sheets.
When printing B4, LG or larger paper with the support tray, the machine stacks 50 sheets, which is the same as the standard specification.

Stapleless Stapler Initial Settings

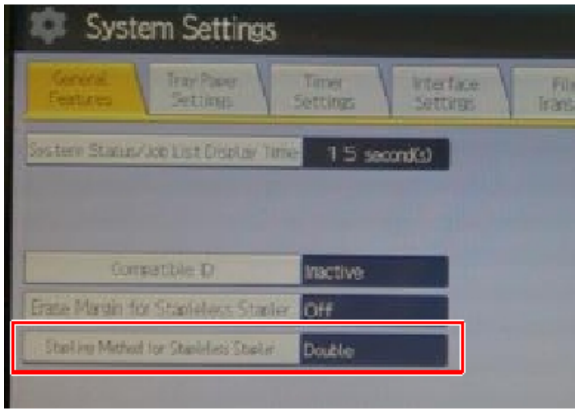
Note

- To adjust the strength of the crimp between sheets of stapled paper, there is a setting to select either single or double stapling.
- The crimp is weakened when there is an image (toner) at the point which is to be stapled. There also is a setting to mask the image on the point for stapling, in order to prevent the crimp from being weakened.
- Depending on users demands, explain the settings/methods of the settings by checking the following instructions.

How to change the setting of Staple Method for Stapleless Stapler

Use this procedure to select the type of stapling that is done by the stapleless stapler.

1. Press the [User Tools] icon on Home screen.
2. Press [Machine Features] > [System Settings] > [General Settings] > [Stapling Method for Stapleless Stapler].
3. Select [Double] or [Single].

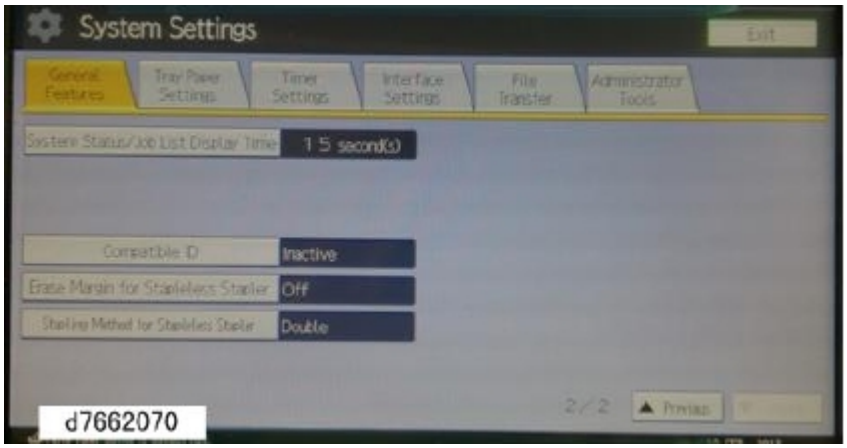


d7665070a

How to set Margin Erase for Stapleless Stapler

1. Press the [User Tools] icon.
2. Press [Machine Features] > [System Setting] > [General Setting].

3. Press [Erase Margin for Stapleless Stapler].



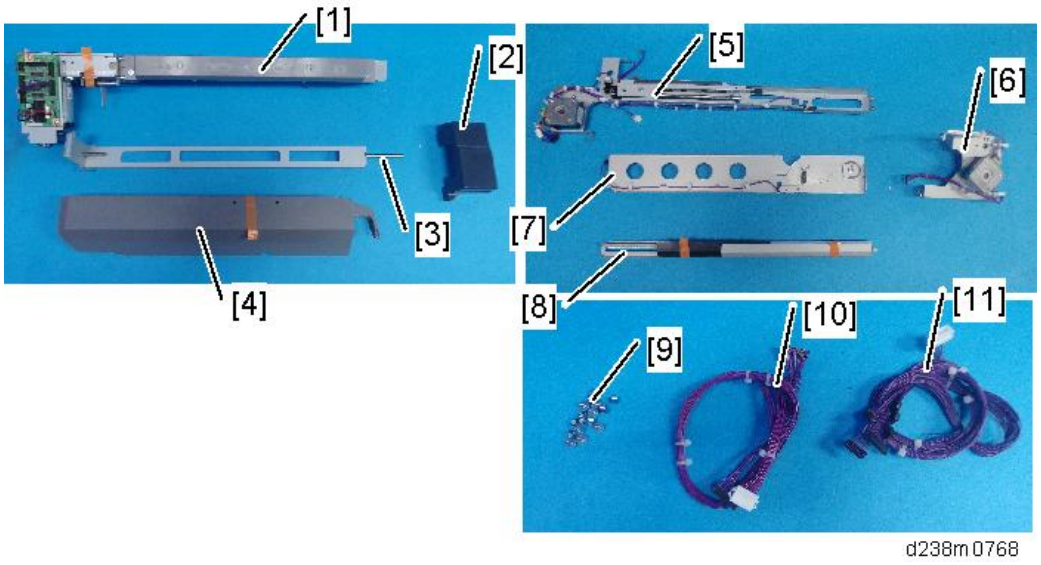
Punch Unit PU3050

Note

- This Punch Unit is for the Finisher SR3210 (D3B8).

Accessory Check

No.	Description	Q'ty	Remarks
1	Punch unit	1	
2	Cover	1	
3	Stay	1	
4	Hopper	1	
5	Side-to-side detection unit	1	
6	Punch unit movement motor unit	1	
7	Hopper guide plate	1	
8	Guide plate	1	
9	Tapping screws - M3 × 6	16	
10	Harness (Short)	1	Not used in this machine
11	Harness (Long)	1	



Installation Procedure

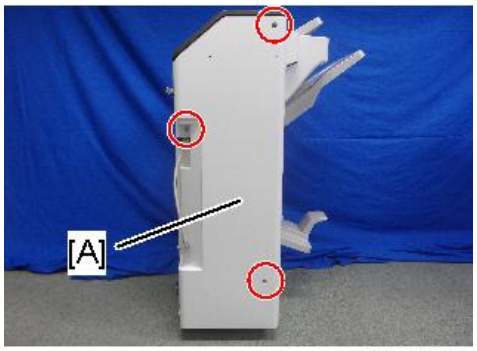
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

1. Take out of the box, and remove the orange tape and shipping retainers.

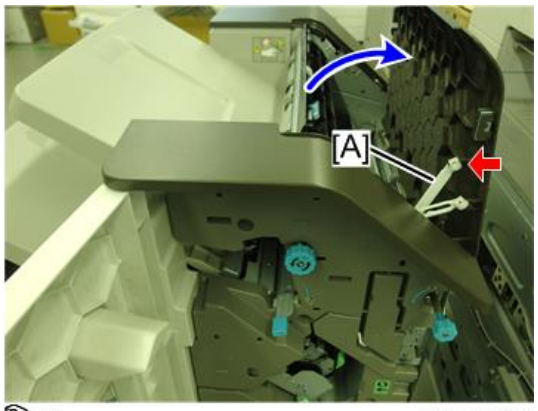
2. Pull out the finisher interface cable, and move it away from the machine.

3. Remove the finisher rear cover [A] (×3).



d238m0769

4. Open the top cover, and then remove the arm [A].



×1 m0ana2136

5. Open the finisher front cover, and remove the two knobs.

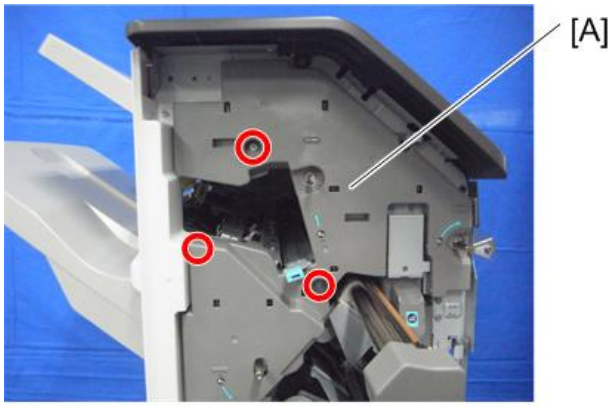
Note

- Knobs with a lock mechanism are removed using a knob screwdriver or similar while releasing the lock.



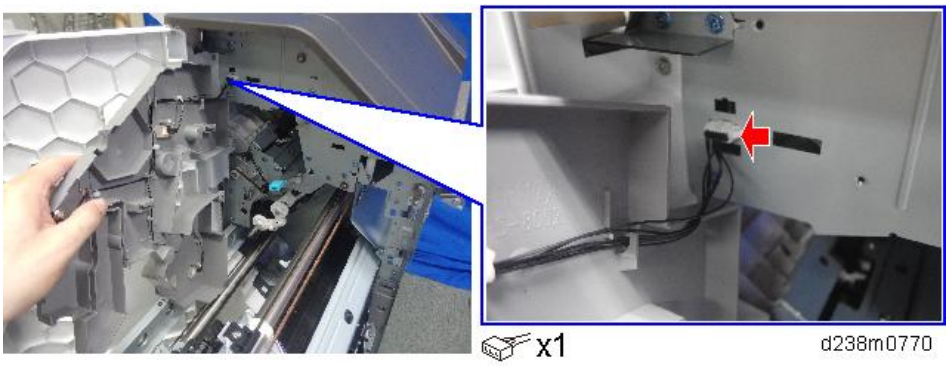
m0ana2137

6. Remove the finisher inner cover [A] (×3).

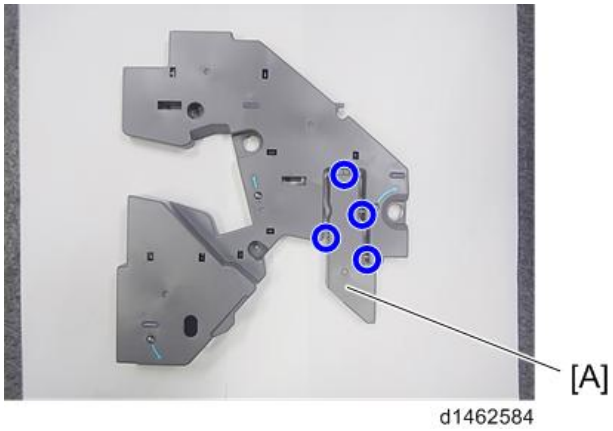


Note

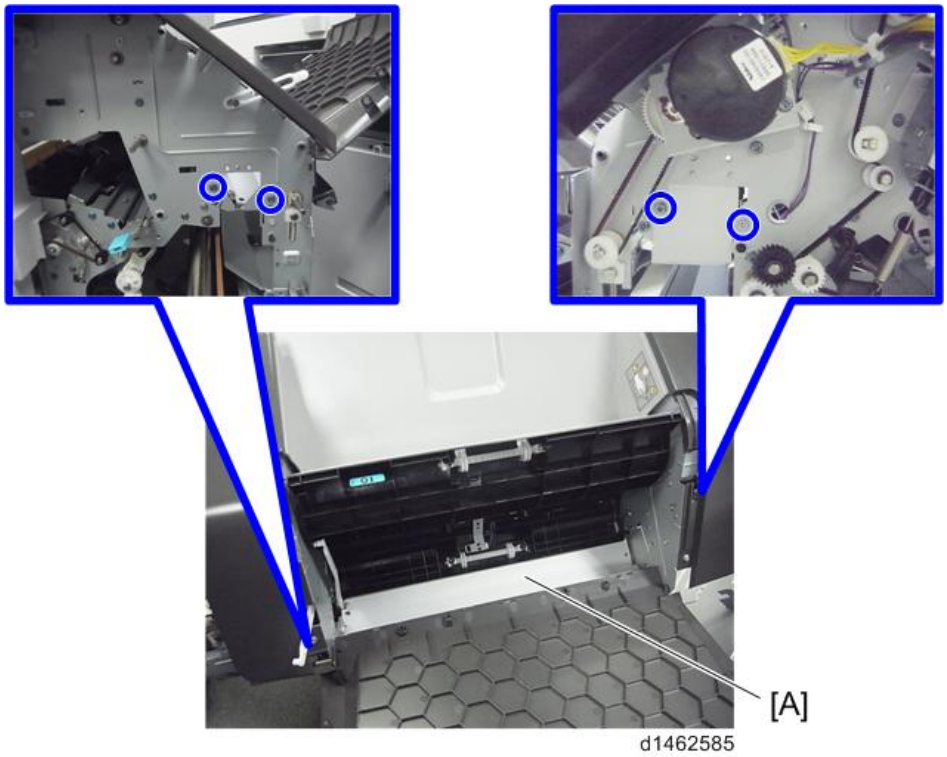
- Disconnect the connector at the back of the inner cover.



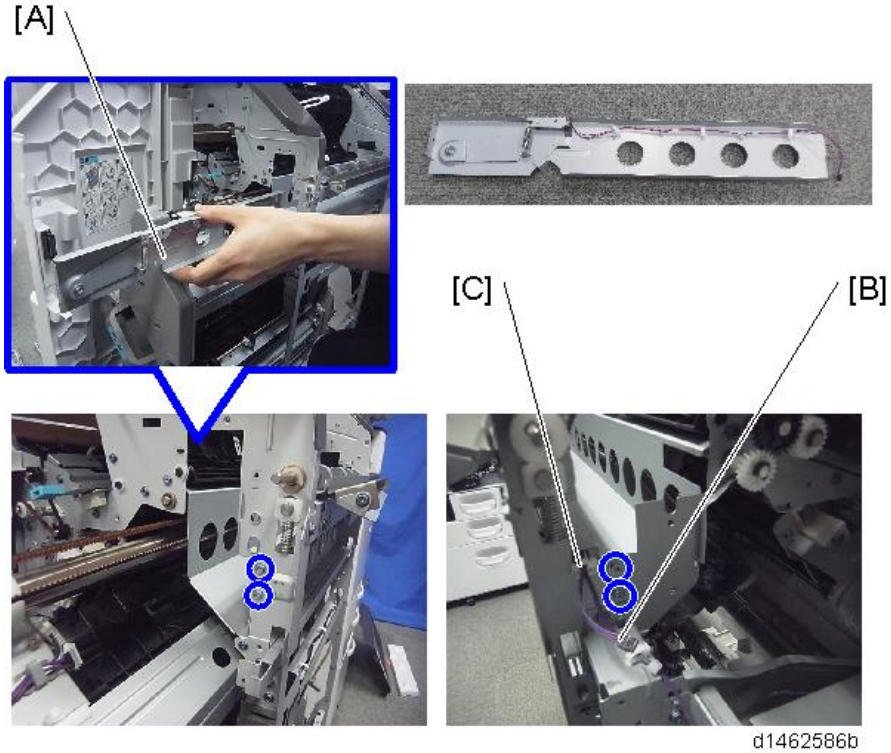
7. Cut off part of the finisher inner cover [A].



8. Remove the guide plate [A] (×4).



9. Insert and attach the hopper guide plate [A] from the front (×4).
At this time, pass the harness [B] through the clamp [C].

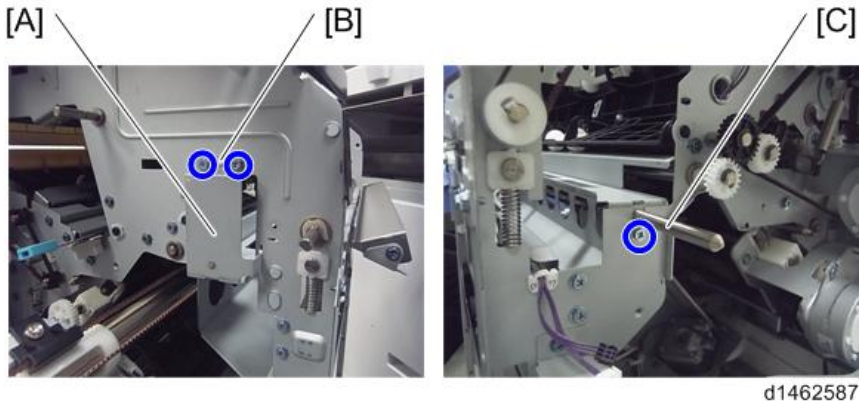


10. Attach the stay [A] (×3).

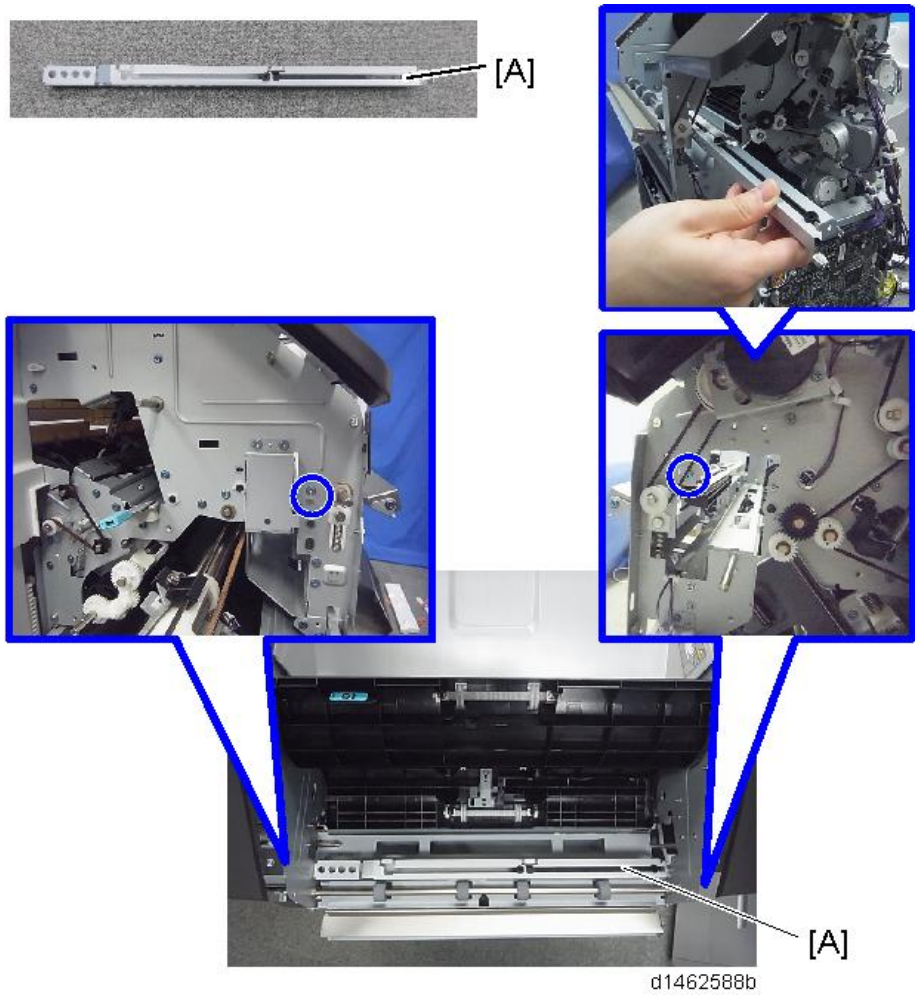


Front [B]: Insert the holes in the stay over the embossed parts on the finisher.

Rear [C]: Place the axis of the stay through the notch in the finisher.

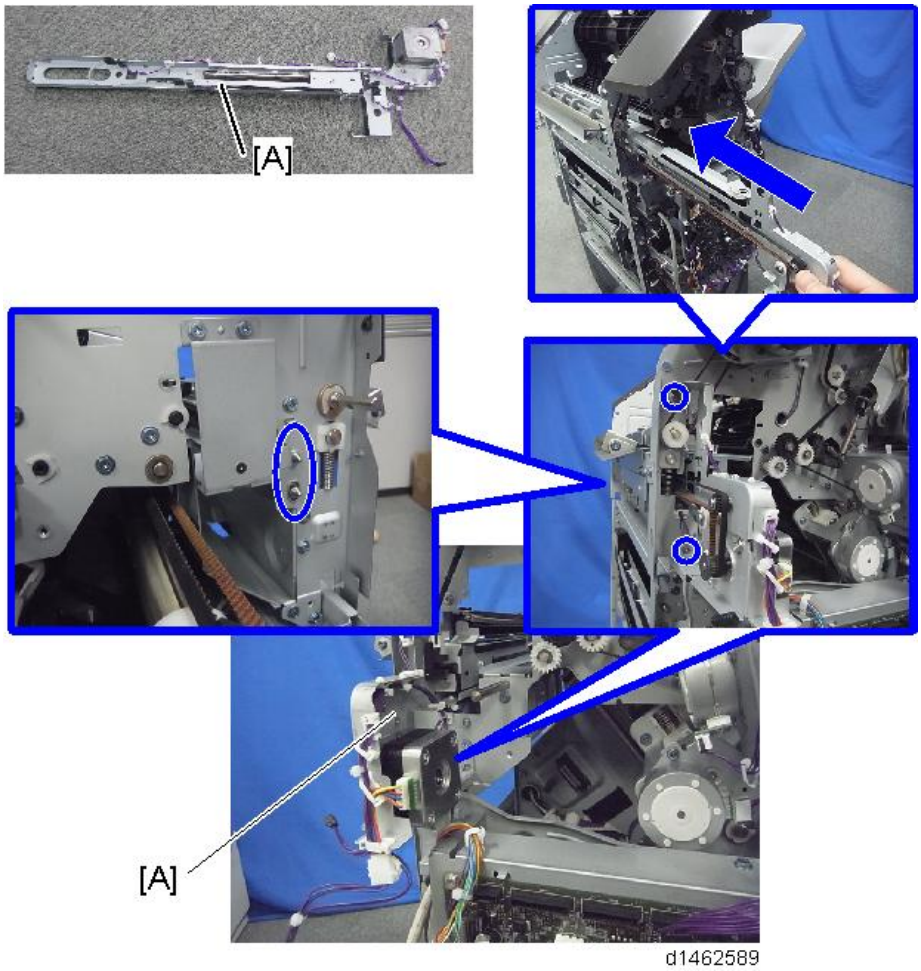


11. Insert and attach the guide plate [A] from the rear (×2).

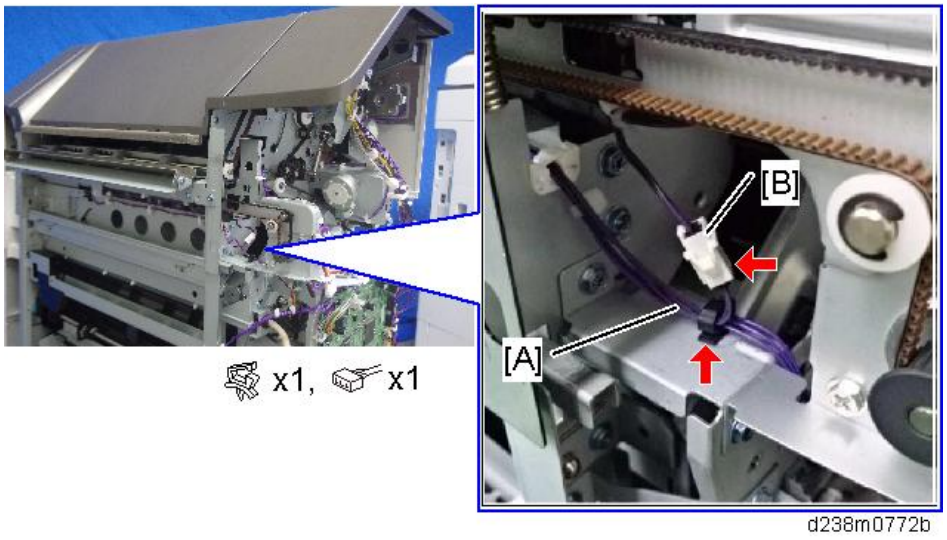


12. Insert and attach the side-to-side detection unit [A] from the rear (×2).

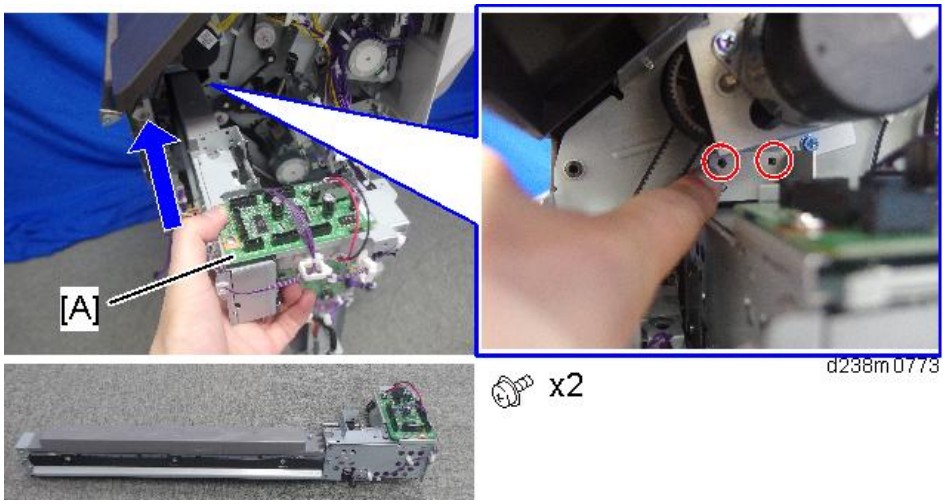
Front: The two shafts of the unit are passed through bearings in the finisher.



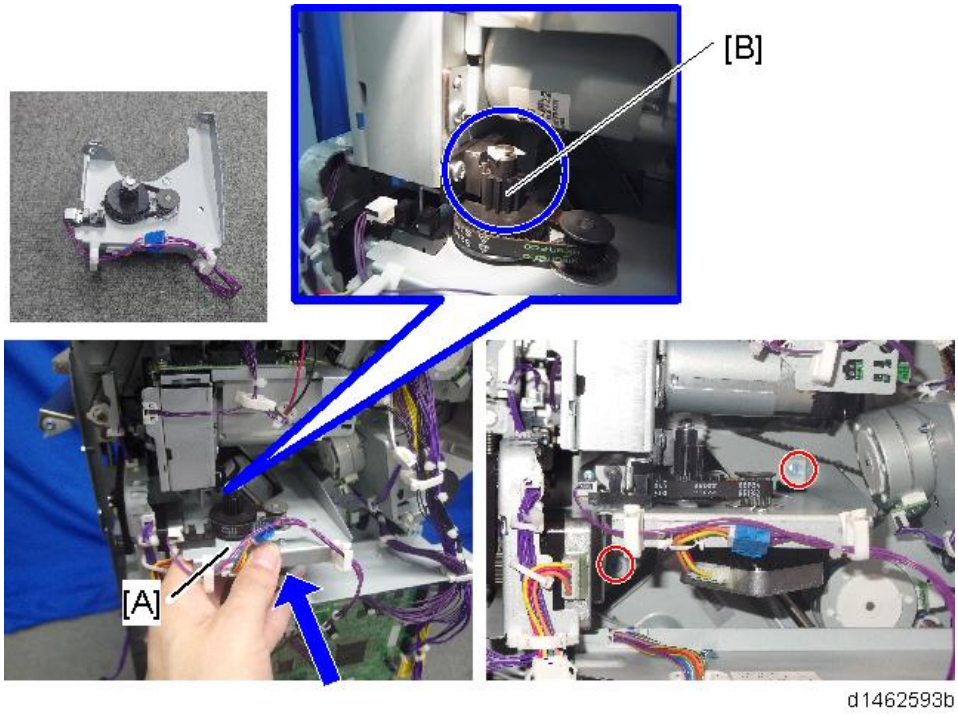
13. Connect the harness [A] of the hopper guide plate to the relay connector [B] of the side-to-side detection unit, and then clamp the harness.



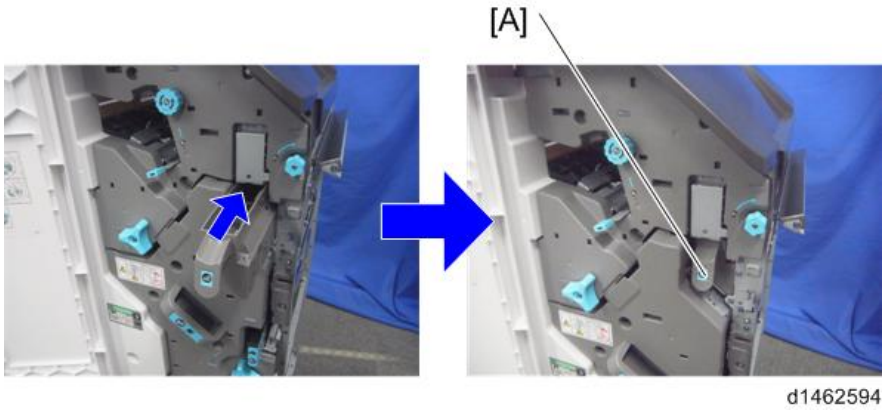
14. Insert and attach the punch unit [A] from the rear.



15. Attach the punch unit movement motor unit [A] so that the gear [B] meshes firmly (×2).

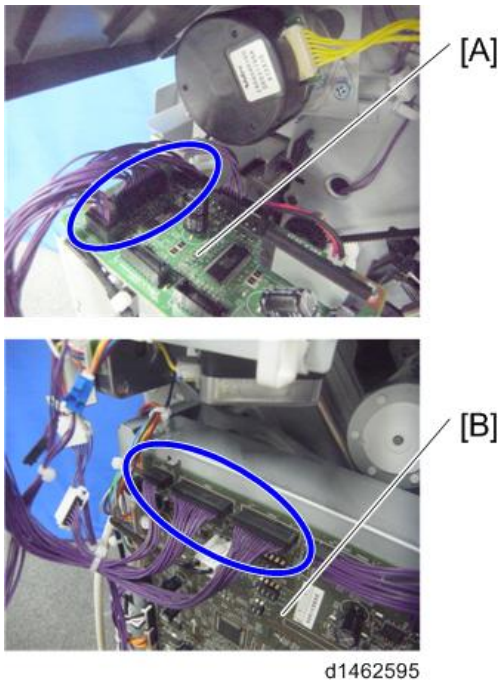


16. Insert the hopper [A].



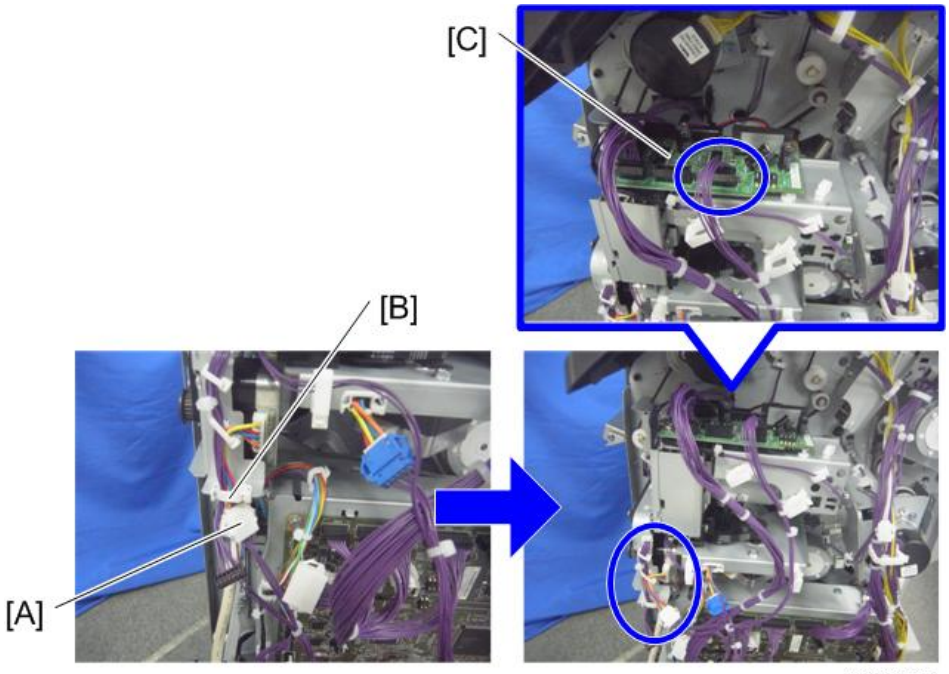
17. Connect the provided harness to the punch unit board [A] and the control board [B] of the finisher (×6).

Use Harness (long) for Finisher SR3210.



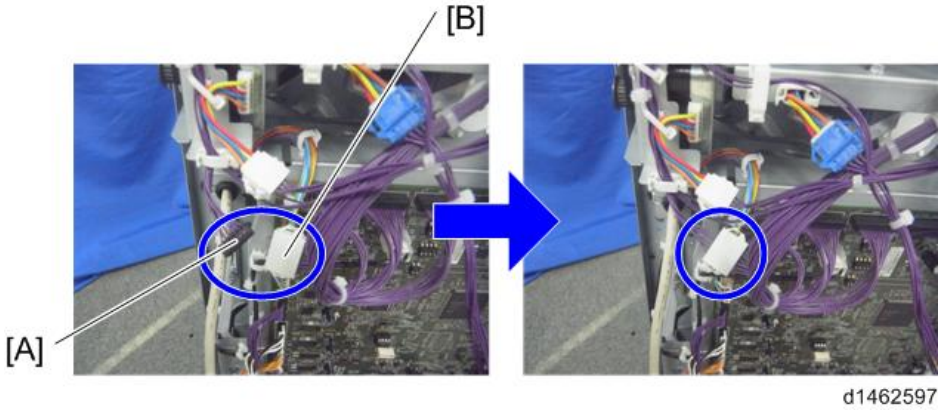
d1462595

18. Remove the harness [A] from the clamp [B], and connect it to the punch unit board [C] (×1).

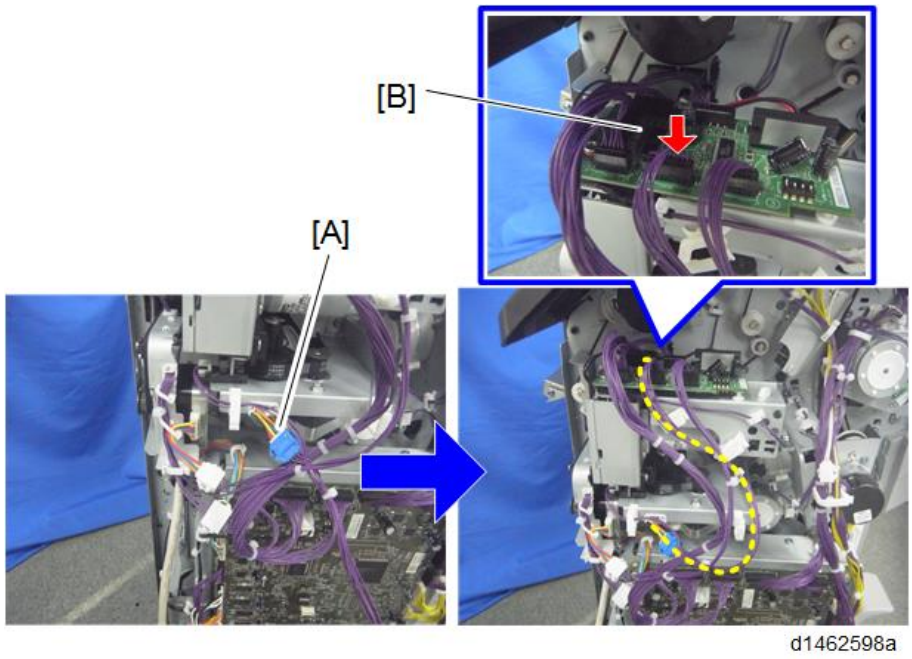


d1462596

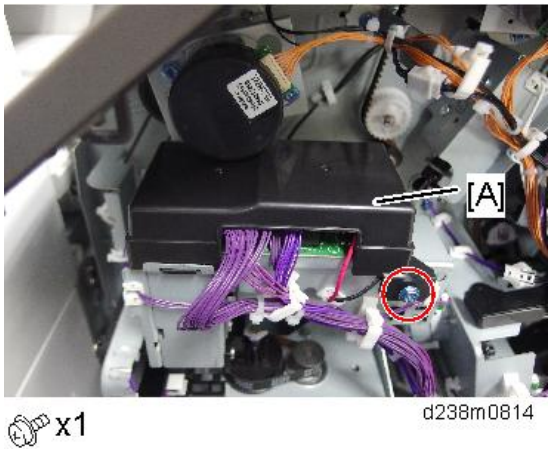
19. Connect the harness [A] of the side-to-side detection unit to the relay connector [B] of the harness (×1).



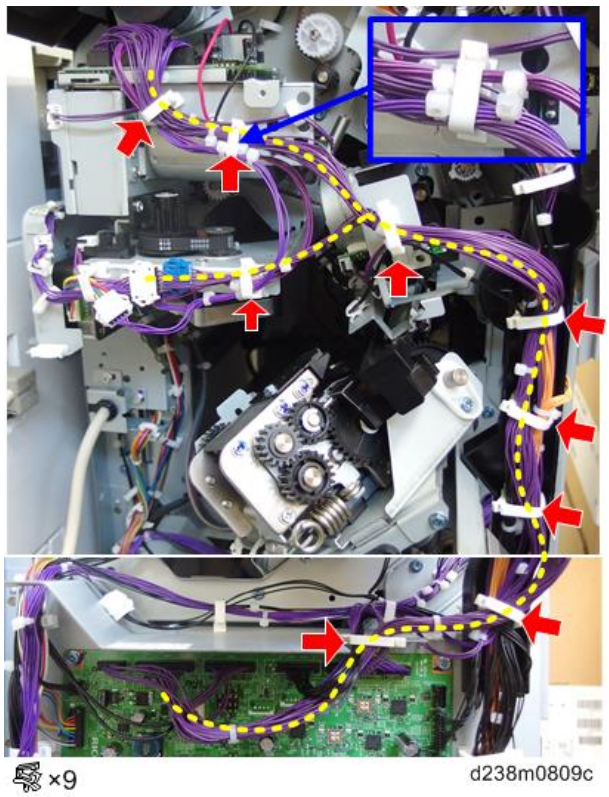
20. Connect the harness [A] of the punch unit movement motor unit to the punch unit board [B] (×1).



21. Attach the supplied cover [A] to the punch unit board.



22. Clamp the harnesses.



23. Reattach the finisher rear cover.

24. Reattach the finisher inner cover and three knobs.

25. Close the front cover.

26. Close the top cover.

27. Reconnect the finisher to the machine, and connect the interface cable.

28. Turn ON the main power.

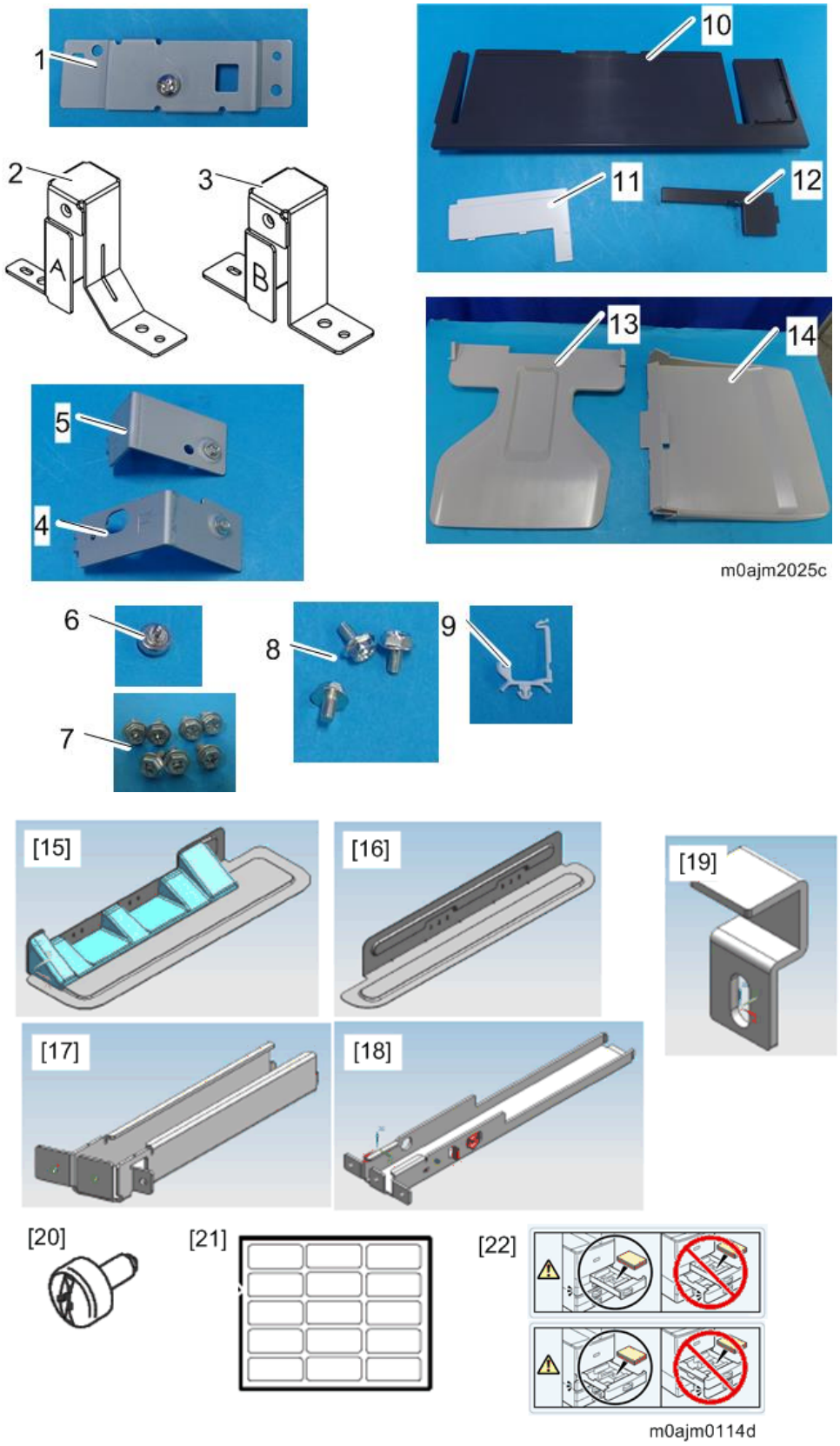
29. Check that the punch can be selected at the operation panel, and check the operation.

Mail Box CS3010 (M481-17)

Accessory Check

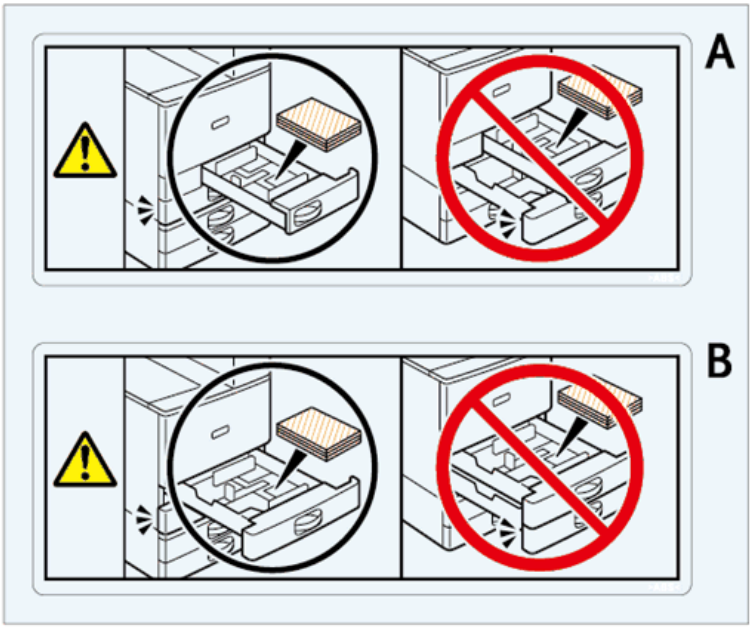
No.	Description	Q'ty	Remarks
1	Rear bracket (with shoulder screw)	1	For this machine, use the shoulder screw only.
2	Support bracket A	1	Not used for SP 8400DN
3	Support bracket B	1	RTB 1: Use bracket B
4	Front securing bracket (with M4x6 screw and nut)	1	
5	Rear securing bracket (with M4x6 screw and nut)	1	
6	Shoulder screw	1	
7	Screw M4x6	7	
8	Screw M3x6	3	
9	Clamp	1	
10	Top right cover	1	
11	Rear cover	1	
12	Rear top cover	1	
13	Paper exit tray	4	
14	Inverter tray	1	
15	Right stabilizer	1	
16	Left stabilizer	1	
17	Right arm	2	
18	Left arm	2	
19	Securing bracket	4	
20	Coin screw	10	
21	Tray information decal	1	
22	Caution decal	1	
-	Sheet: EMC address	1	

2.Installation



Important

- With this model, use decal [B]. (The illustrations on the decals look similar, but the shape of the tray is different.)



m0ana2112

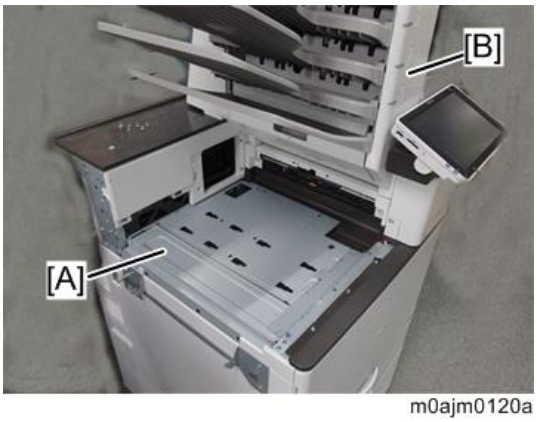
Installation Procedure

⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Important

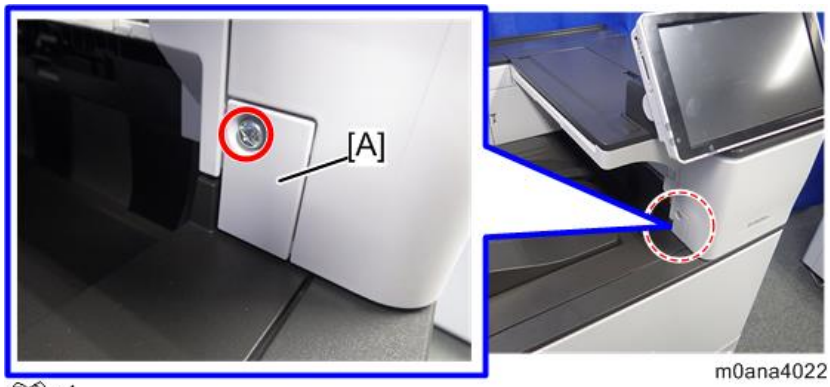
- When installing the Internal Multi-fold Unit FD3000 and the Mail Box CS3010 at the same time, first install the base plate [A] of the internal multi-fold unit. Then install the mailbox [B]. Then install the internal multi-fold unit.



m0ajm0120a

Removal of the Machine Exterior

1. Remove the small cover [A].



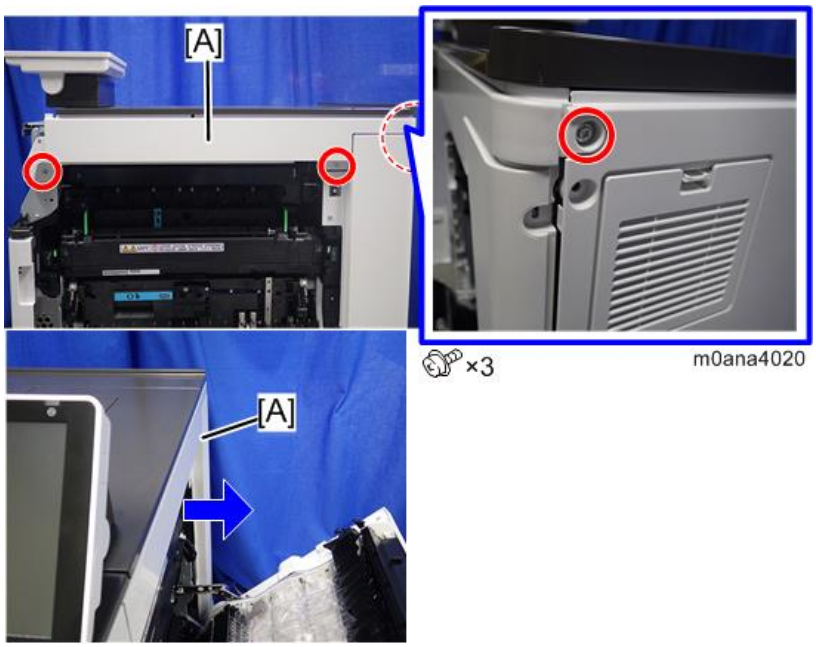
2. Open the right cover then remove the screw.



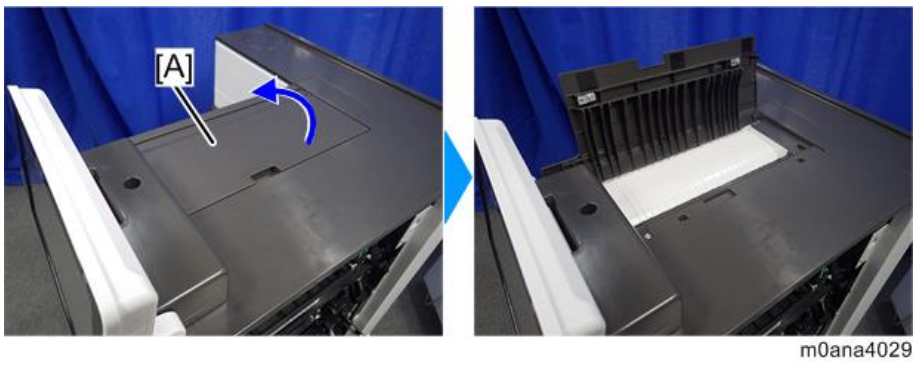
3. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove the upper front cover [A].



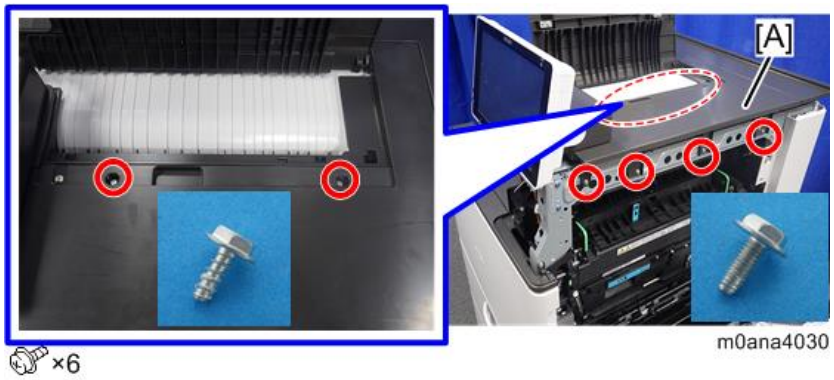
4. Remove the right upper cover [A] as shown by the arrow.



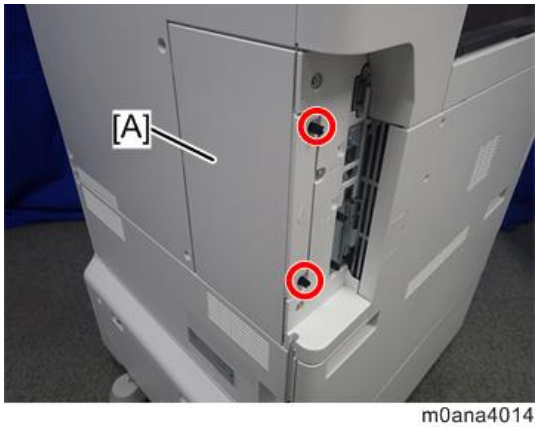
5. Open the cover [A].



6. Remove the top right cover [A].



7. Remove the rear left cover [A] (coin screw × 2).

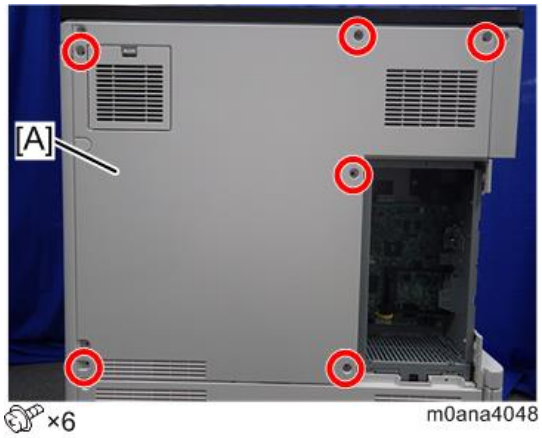


8. Remove the rear cover [A].

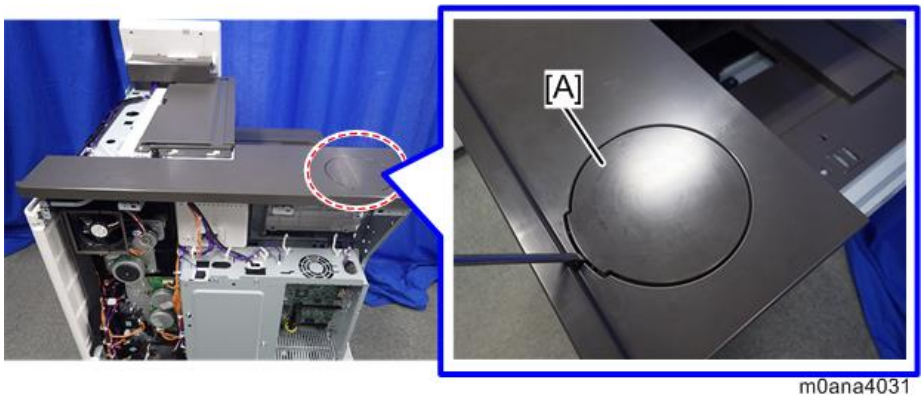
Note

Each part enclosed by a red dotted circle has a tab. Be careful not to damage it when attaching and detaching.

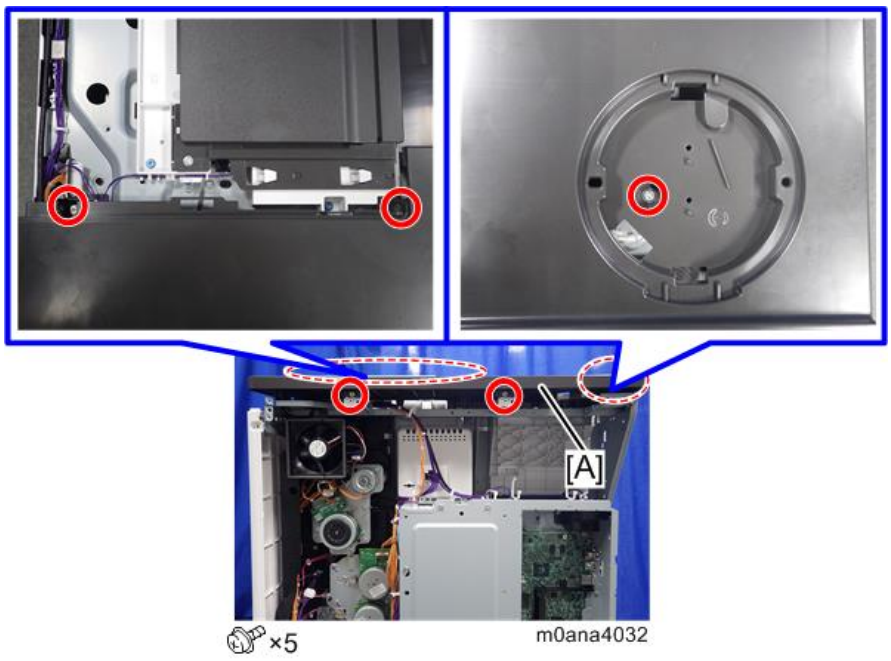




9. Using a flat-headed screwdriver, remove the cover [A].



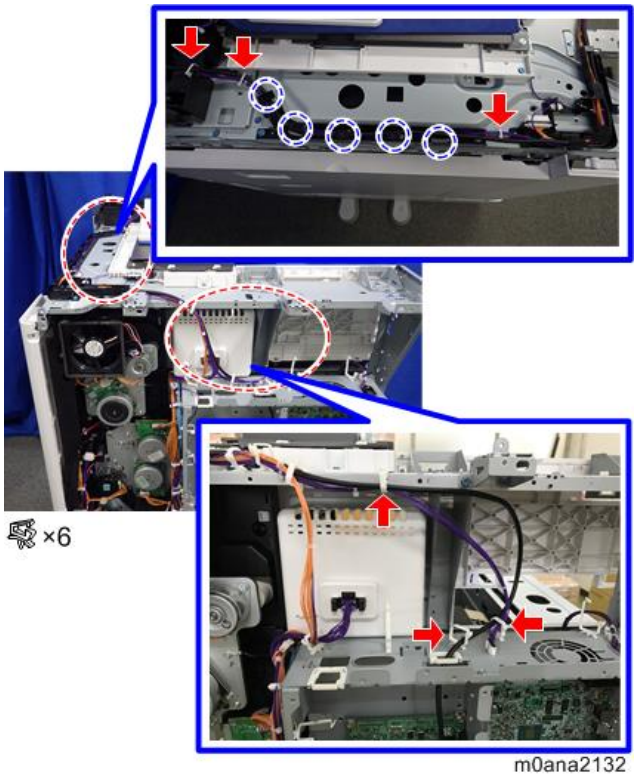
10. Remove the top rear cover [A].



Transferring the Operation Panel

To secure space for installing Mail Box CS3010, move the operation panel to the front. Also, pull out the USB cable connected to the operation panel as far as needed for the move.

1. Release the USB cable and the harness of the operation panel, and secure sufficient length to move the operation panel.

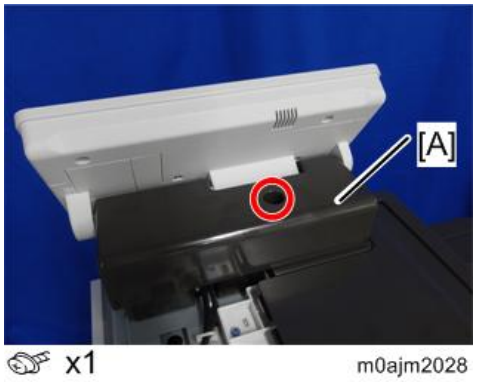


Note

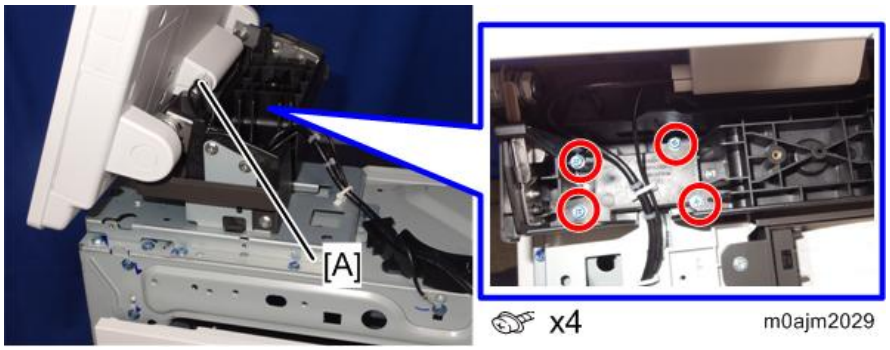
When installing the Mail Box CS3010 and the Attention Light AL3000 at the same time, install the attention light (Installation Procedure) after doing step 1.

Then install the mail box.

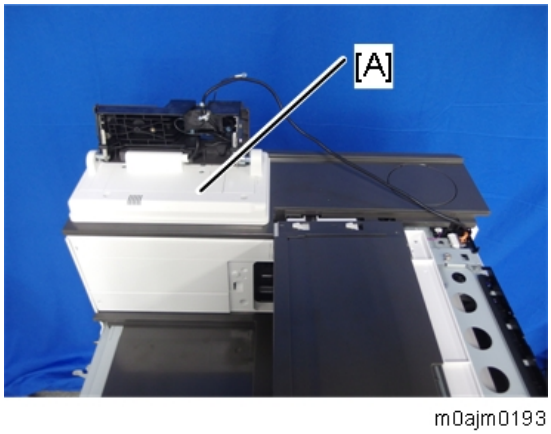
2. Reattach the covers in the following order: top rear cover, rear cover, rear left cover (coin screws).
3. Remove the operation panel upper cover [A].



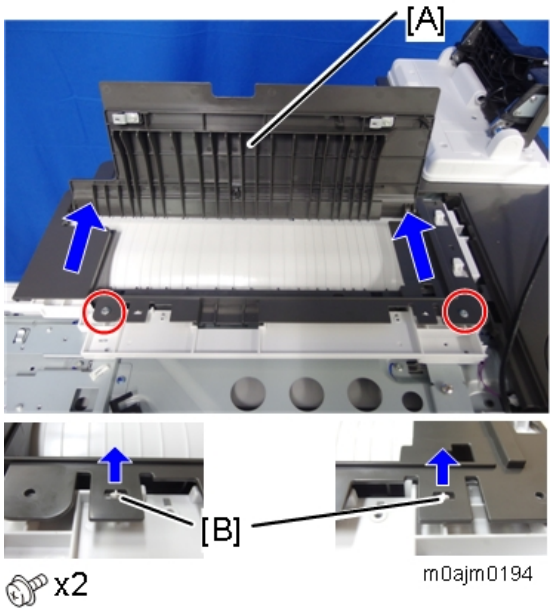
4. Remove the operation panel [A] from the machine while keeping the USB cable connected to the machine.



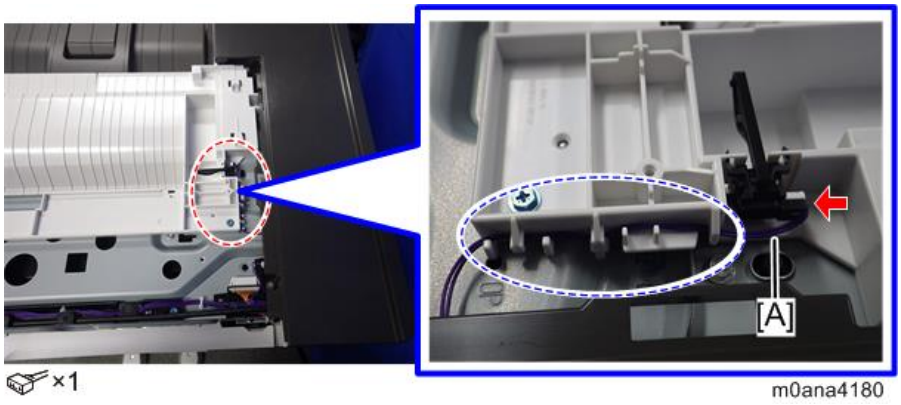
5. Place the operation panel [A] on the top rear cover with LCD facing down.



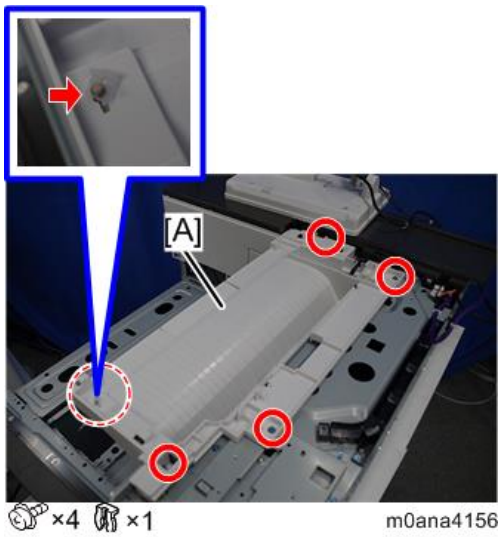
6. Open the inverter guide cover [A], and remove the inverter guide cover and its exterior cover.
Lift the exterior cover from the screw bosses [B], and then slide the inverter module in the direction of the blue arrow and remove it.



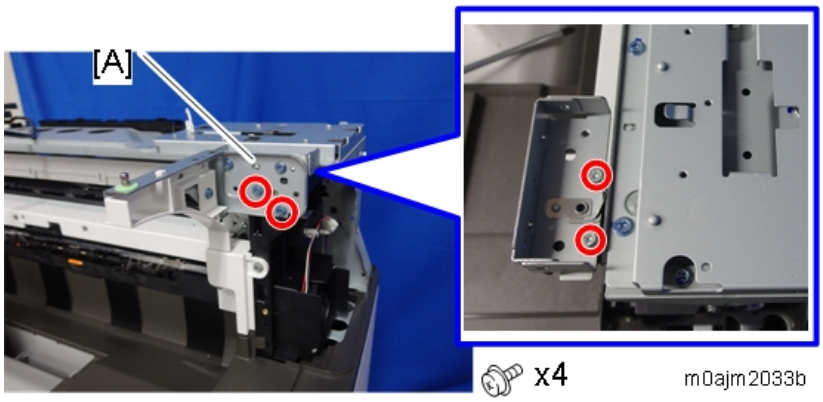
7. Release the harness [A] of the inverter guide cover sensor from the harness guide.



8. Remove the inverter guide [A].



9. Remove the inverter guide bracket [A].



10. Attach the operation panel more forward than before.

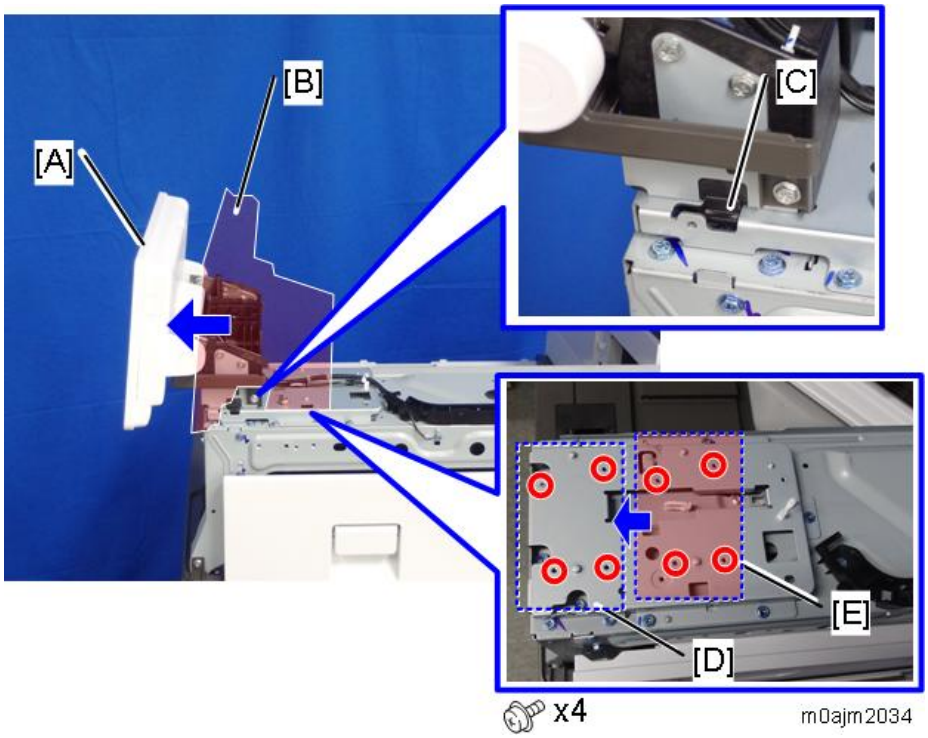
[A]: Installed position: After moving

[B]: Installed position: Before moving

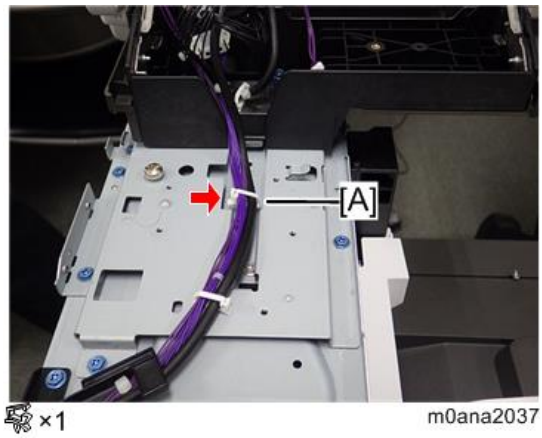
[C]: Adjust the tab at the base of the operation panel to the indicated position

[D]: Position of screw holes for operation panel securing brackets: After moving

[E]: Position of screw holes for operation panel securing brackets: Before moving



11. Fasten the USB cable and the harness at the position [A] using the supplied clamp.

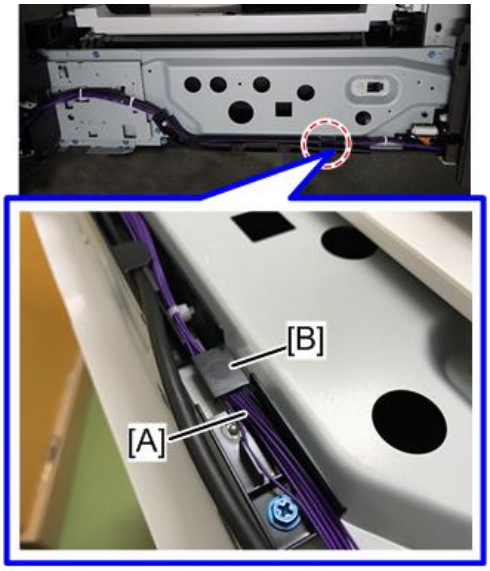


12. Reattach the harness.



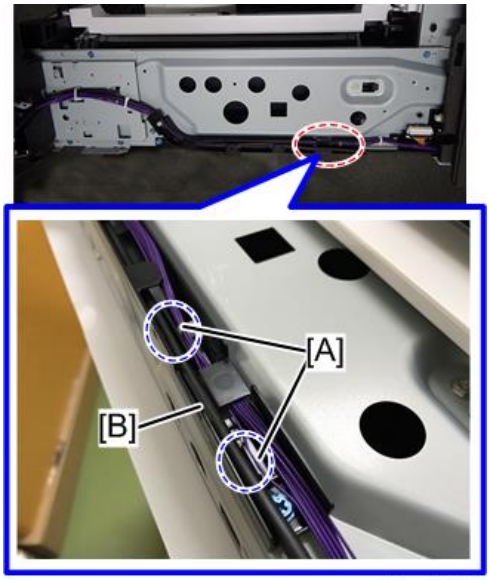
Note

Pass all the harnesses [A] below the guide [B].



m0ana2133

13. Pass the USB cable [B] between the ribs at the indicated locations ([A]).

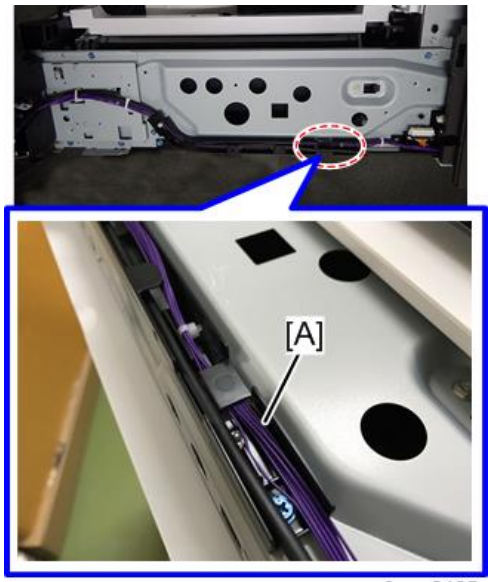


m0ana2134

Note

Check that the harness [A] is not outside of the guide.

If the harness is outside of the guide, the harness may become damaged.

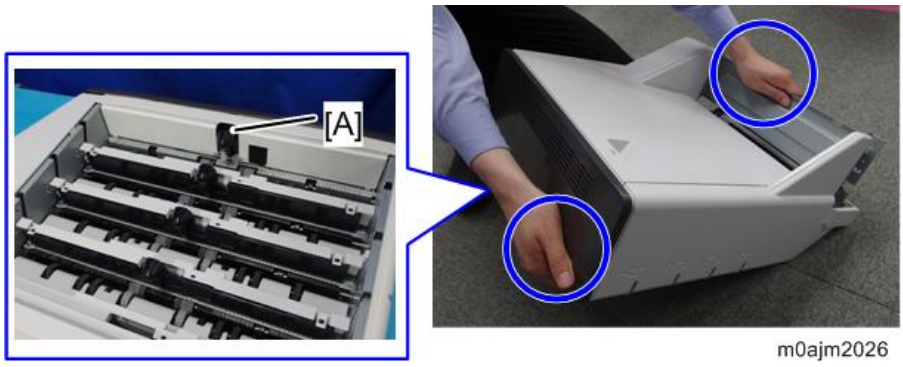


m0ana2135

Installation of the Mailbox

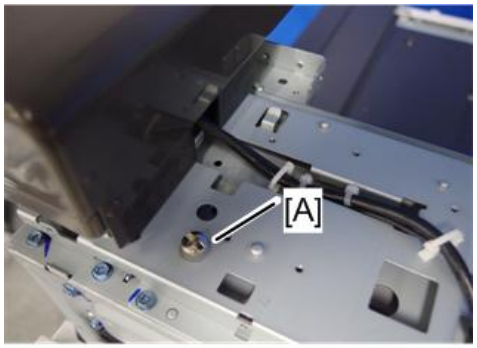
Important

- When lifting the mailbox to unpack it, hold the parts circled in blue.
- Be sure not to hold the unit's upper central part, where the feeler [A] to detect when the paper tray is full is located.
- Do not hold other parts. Doing so may damage the exterior cover or deform the frame.



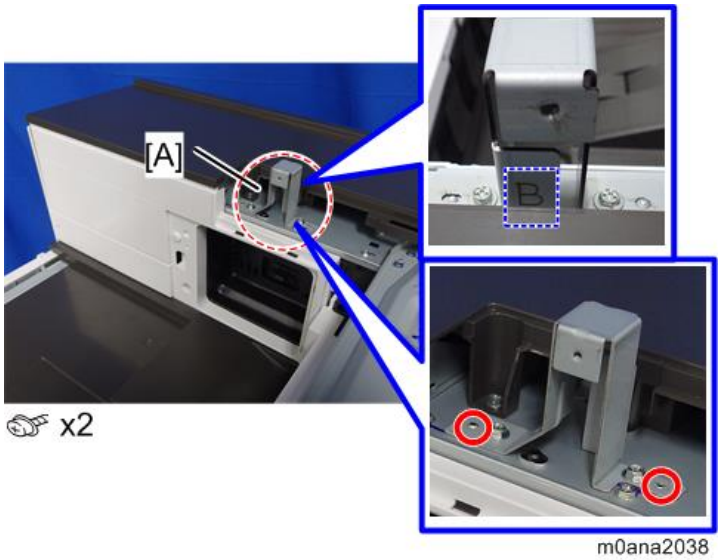
m0ajm2026

1. Attach the shoulder screw [A] (provided with this unit) to the base of the operation panel.

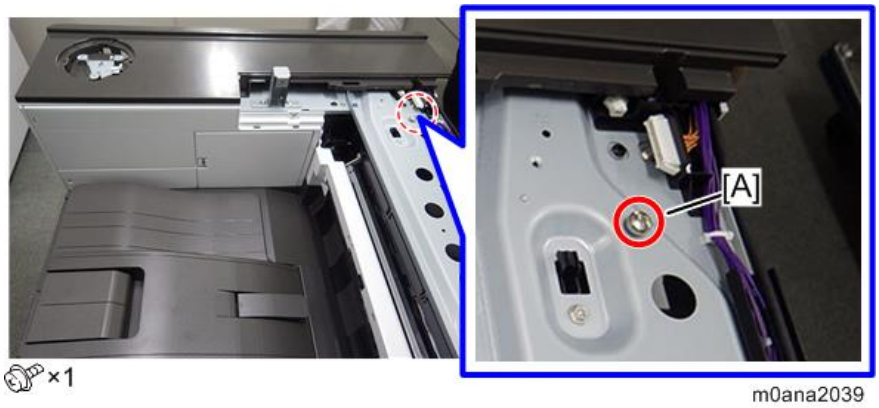


x1 m0ajm2037

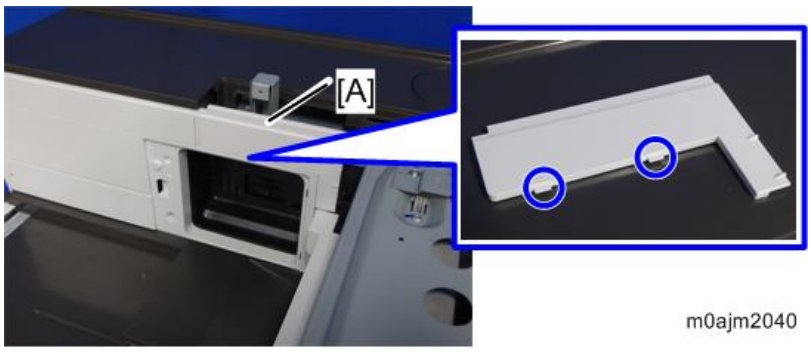
2. Attach the support bracket [A] (M4x6).
Use the bracket with “B” stamped on it.



3. Remove the shoulder screw from the bracket (provided with this unit), and attach the shoulder screw [A].



4. Attach the rear cover [A] provided with this unit (hook x 2).



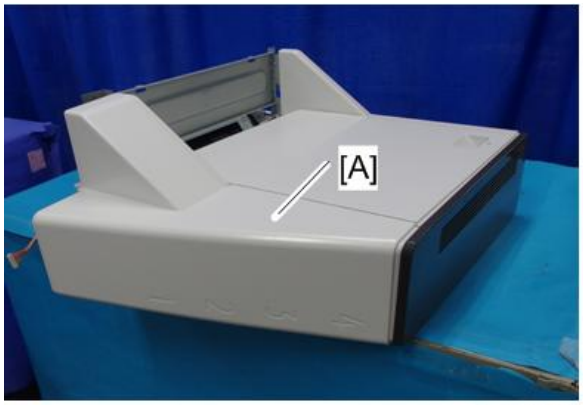
5. Attach the rear top cover [A] provided with this unit (M3x6, hook x 1).



6. Place the mailbox on a flat surface.

Important

- Put the mailbox on a table so that the rear part [A] is over the edge. Be careful not to drop the mailbox.



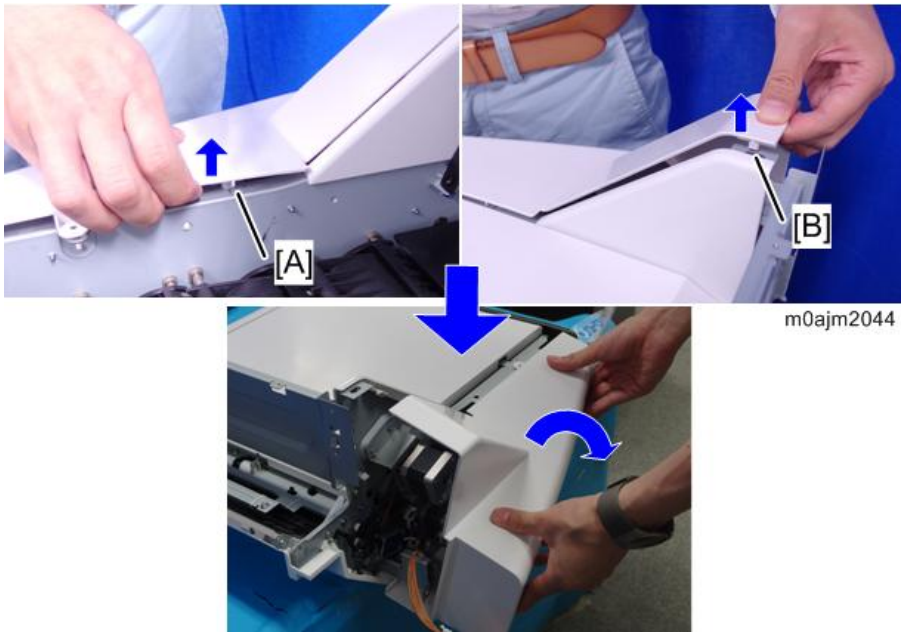
7. Remove the orange tapes.

8. Open the right door and remove the indicated screw (M3x8).



9. Release the rear cover's hooks [A] and [B], and then remove the rear cover by holding it at the top and

pulling it.



m0ajm2044

10. Hold the areas shown by the blue circles, and mount the mailbox on the machine.

When you mount the mail box, it is easier if you stand at the right side of the machine, facing the bypass tray.

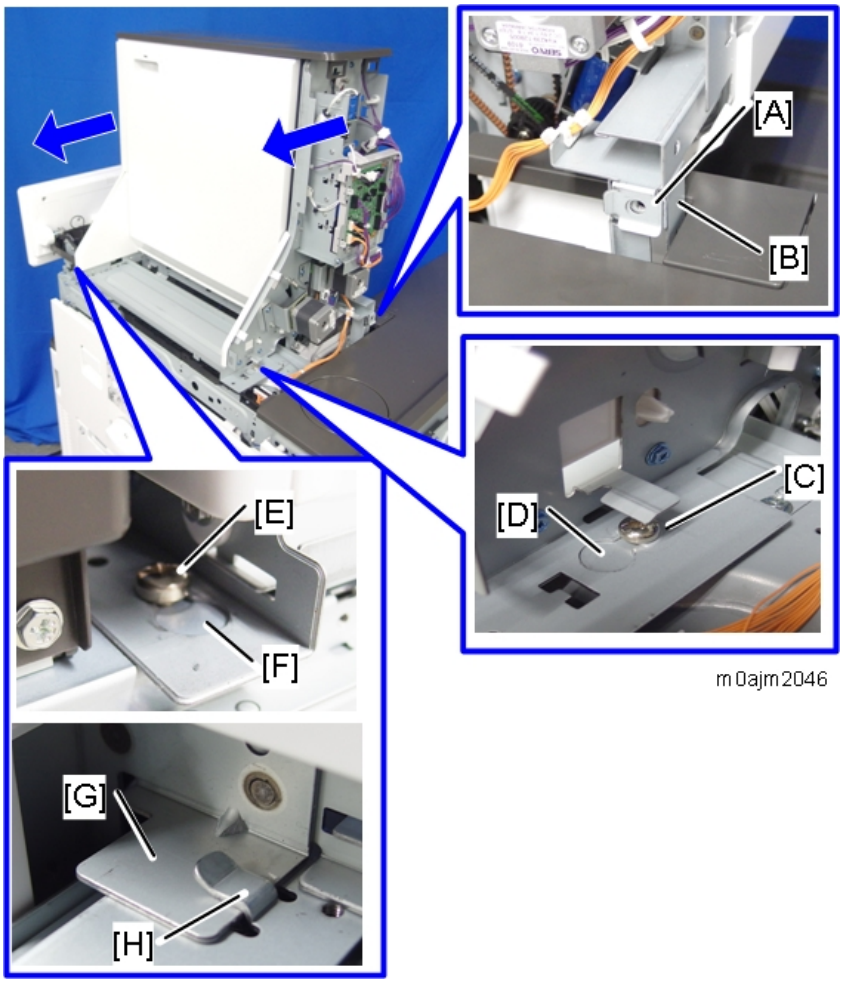


m0ajm0196

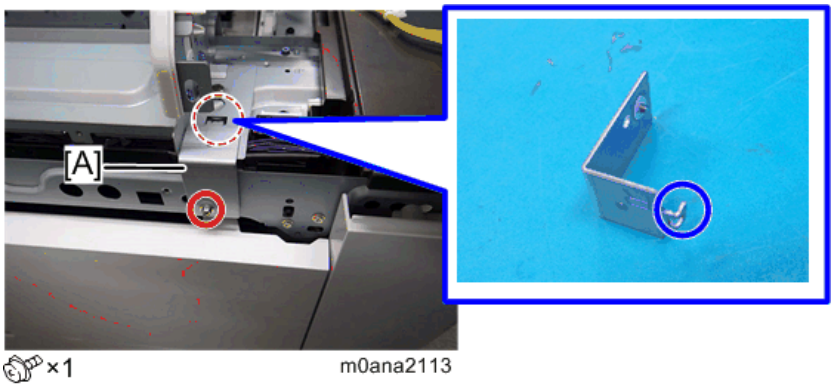
11. Slide the mailbox from left to right as viewed from the front.

- Mount the bracket [A] on the support bracket [B] at the rear of the mailbox, and then slide it to align the screw holes.
- Align the shoulder screw [C] with the positioning hole [D], and then slide it until it engages with the groove behind the hole.
- Align the shoulder screw [E] with the positioning hole [F], and then slide it until it engages with the groove behind the hole.

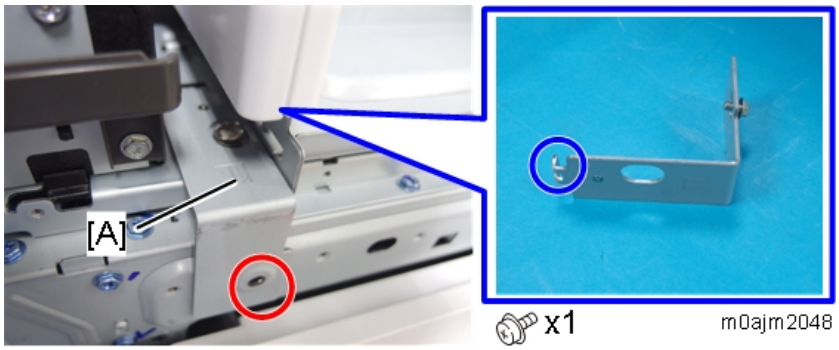
- Slide the mailbox plate [G] toward the stopper [H] on the machine's mounting base until it stops.



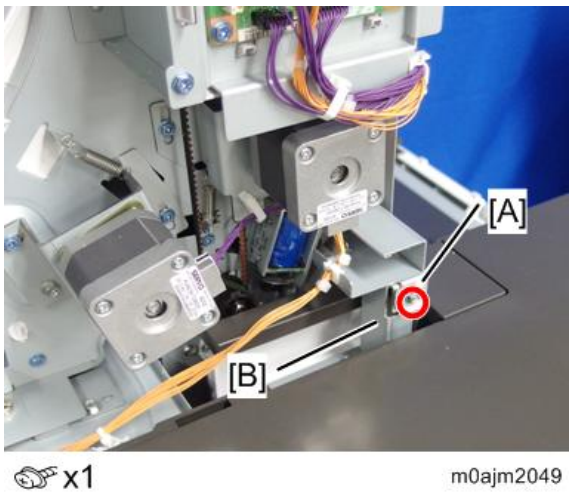
12. Attach the rear securing bracket [A] (hook x1).



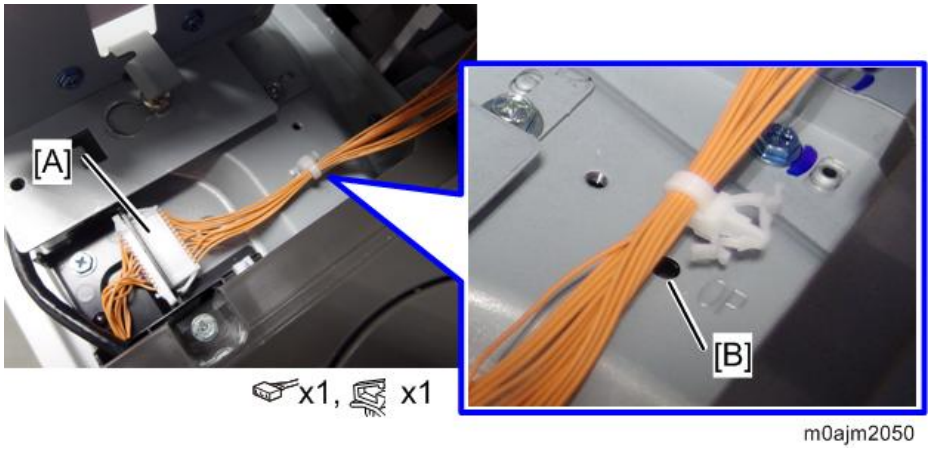
13. Attach the front securing bracket [A] (hook x1).



14. At the rear side of the mailbox, fasten the joint [A] to the indented part of the support bracket [B] (M4x6 screw) as shown.

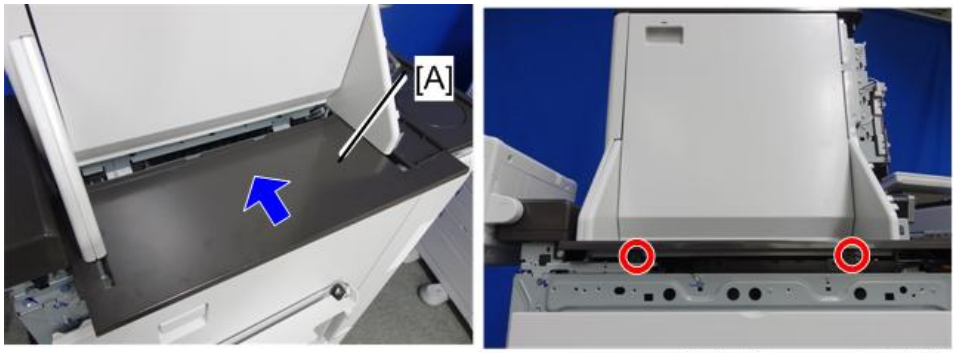


15. Connect the harness [A] to the relay connector on the machine, and insert the clamp attached to the harness into the hole [B] in the machine frame.



16. Insert the top right cover [A] (provided with this unit) beneath the mailbox, and secure it to the machine

(M3x6).



17. Reattach the rear cover [A] of the mailbox. (M3x8)



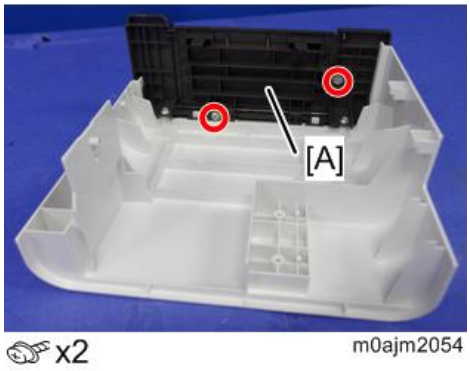
18. Attach the supplied inverter tray.



19. Attach the four supplied paper exit trays.



20. Remove the canopy [A] of the upper front cover.



21. Reattach the right upper cover, upper front cover, and small cover.

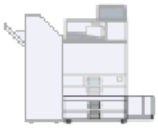
22. Reattach the operation panel top cover.

Make sure that the harness and USB cable are not caught when attaching the operation panel top cover.

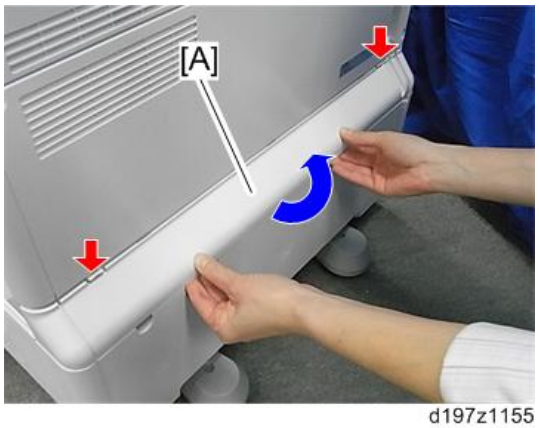
Installation of Stabilizers

Install stabilizers according to the following table.

Configuration	Securing brackets	Right stabilizer	Left stabilizer
Main unit only 	**Not required**	**Not required**	**Not required**
With 2-tray PFU (or Tandem Tray) 	Required	Required	Required
With 2-tray PFU (or Tandem Tray) and Side LCIT 	Required	**Not required** (Cannot be installed because it interferes with the LCIT.)	Required
With Finisher 	Required	Required	**Not required** (The connection between the main unit and the finisher functions as a stabilizer.)
With Internal Multi-fold	Required	Required	Required

Configuration	Securing brackets	Right stabilizer	Left stabilizer
Unit 			
With Finisher and Side LCIT 	Required	**Not required** (Cannot be installed because it interferes with the LCIT.)	**Not required** (The connection between the main unit and the finisher functions as a stabilizer.)

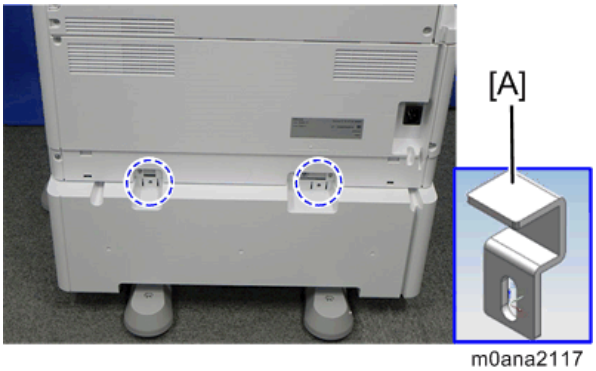
1. Remove the rear lower gap cover [A]. (hook×2)



d197z1155

2. Remove the brackets that secure the optional paper feed unit to the machine, and replace them with the securing brackets [A] provided with the mailbox.

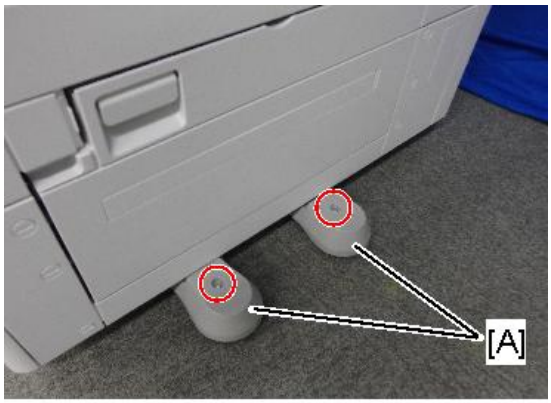
- Use the screws from the removed brackets.



m0ana2117

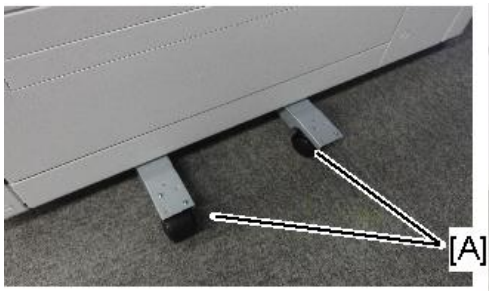
3. Reattach the rear lower gap cover.

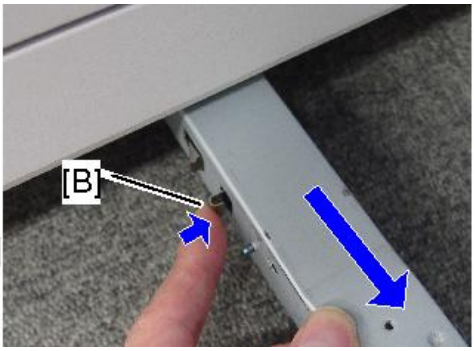
4. Remove the two covers for the stabilizers [A] at the right of the paper feed unit.



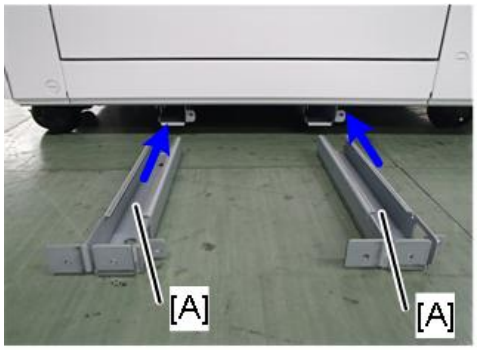
5. Remove the two arms [A].

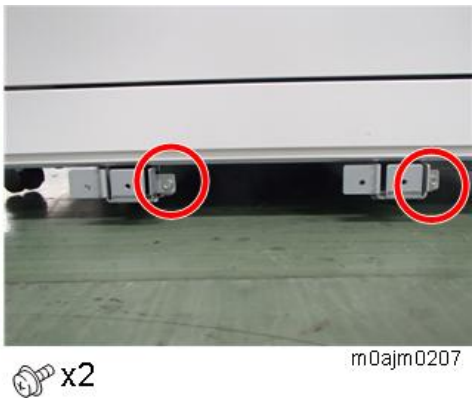
Pull out the arms while pressing the lock [B].



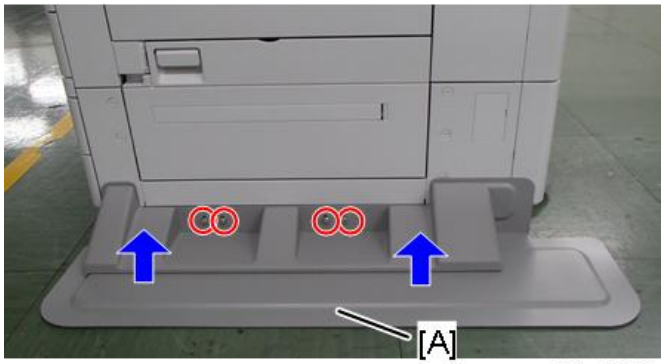


6. Insert the two right arms [A] (provided with the mailbox) where the old ones went (M4x6).



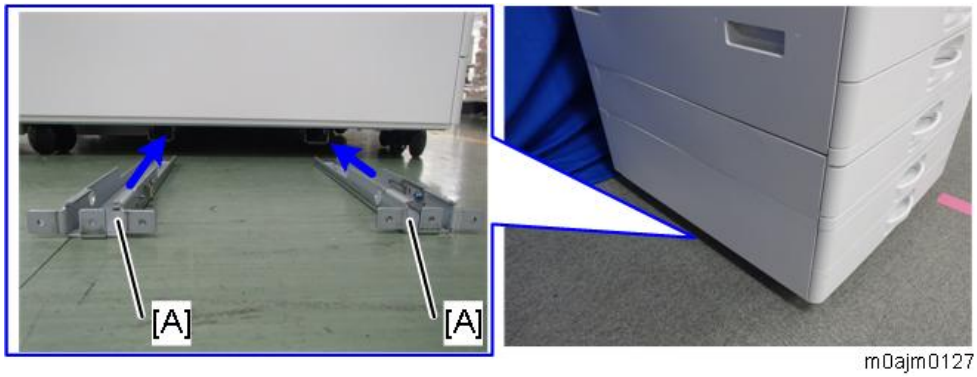


7. Place the right stabilizer [A] on a level floor, push it against the paper feed unit, and tighten the arms and stabilizer together (coin screw x 4).



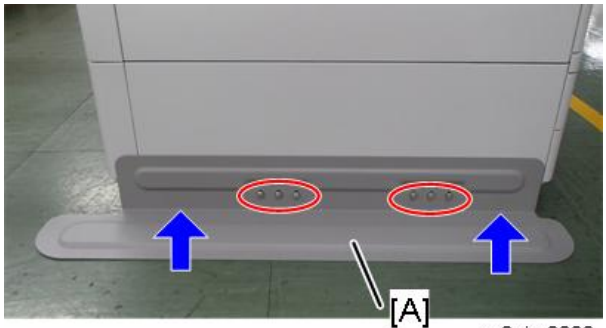
m0ajm0206

8. Insert the two left arms [A] until they stop.



m0ajm0127

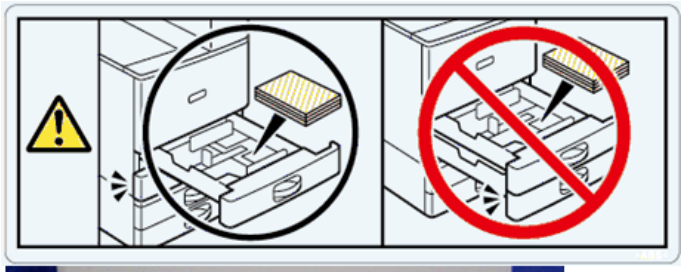
9. Place the left stabilizer [A] on a level floor, push it against the paper feed unit, and tighten the arms and stabilizer together (coin screw x 6).



m0ajm0209

10. Attach the caution decal at the position [A]. Two decals come with the accessories. One of them is for use

with another model, so make sure you attach the correct one.





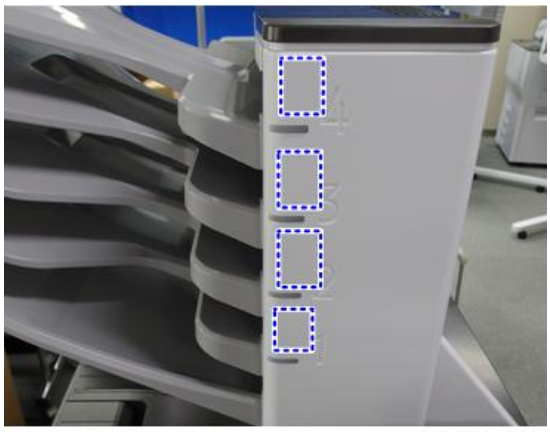
m0ana2041

Important

The decal cautions users not to pull out more than one tray at the same time. Be sure to instruct users to pull out the paper feed trays one at a time when using the machine with the mailbox. Pulling out more than one paper feed tray at the same time may cause the machine to overbalance and topple forward.

11. Give the tray decals to the customer.

The customer will write down information such as department name or location on the decals and attach them to the front cover.

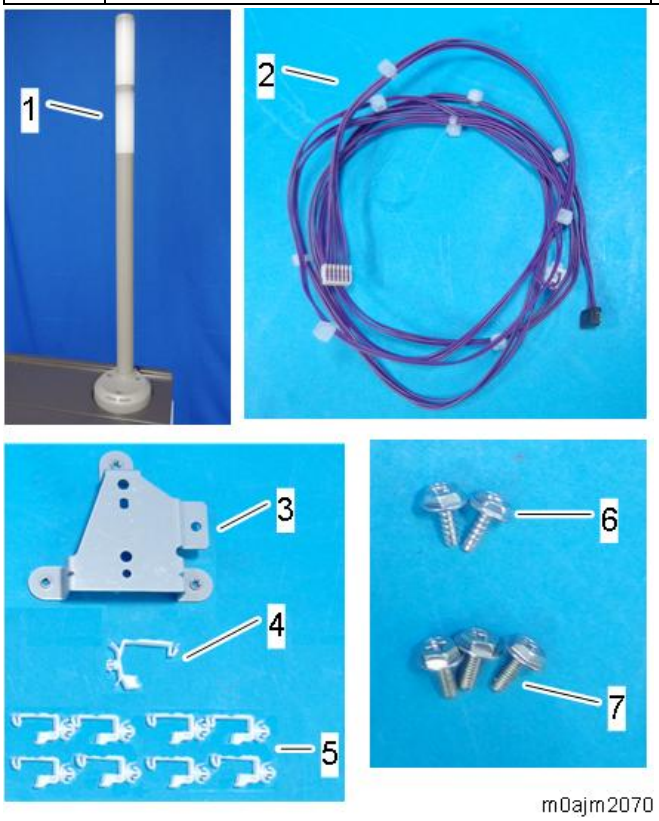


m0ajm0172

Attention Light AL3000 (M500-36)

Component Check

No.	Description	Q'ty	Remarks
1	Attention Light	1	
2	Harness	1	
3	Bracket	1	
4	Large Clamp	1	
5	Small Clamp	8	Use only two in this machine.
6	Screw (M3x8)	2	
7	Screw (Round-headed) (M3x8)	3	



RTB 2
Important notice about the harness

Installation Procedure

⚠CAUTION

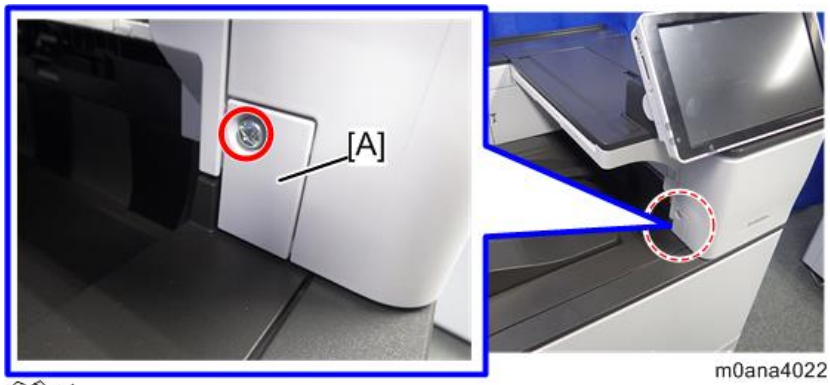
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

When installing the Attention Light AL3000 and the Mail Box CS3010 at the same time, install the attention light after step 1 of Transferring the Operation Panel in the mail box installation procedure.

1. Unpack the attention light and the accessories (fixing screws, etc.) provided with this unit.

2. Remove the small cover [A].



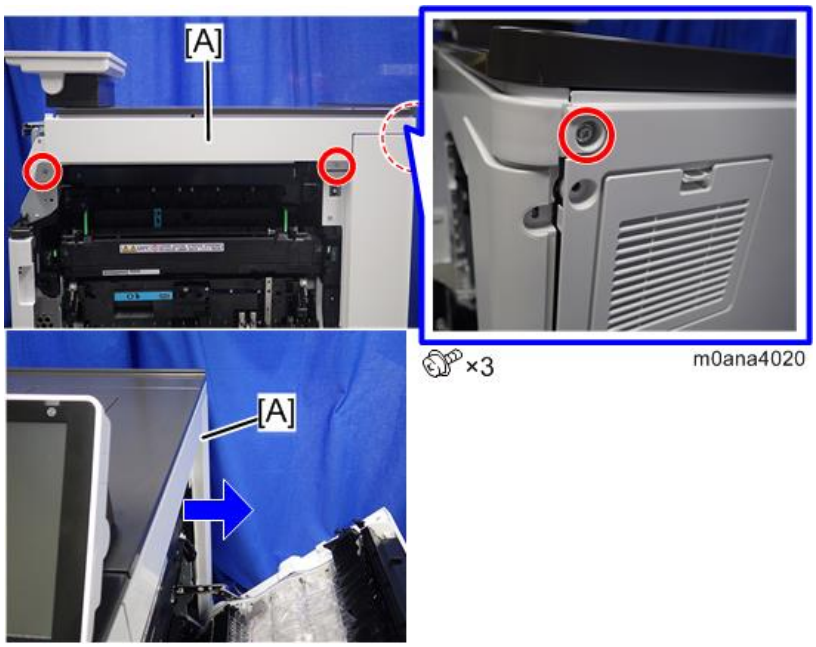
3. Open the right cover then remove the screw.



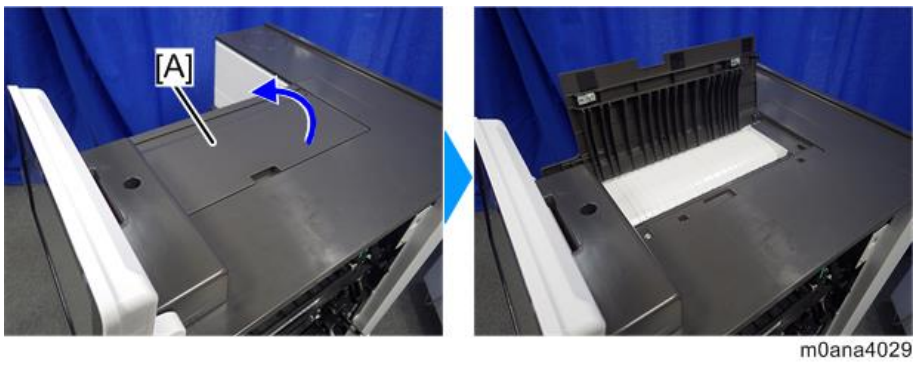
4. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove the upper front cover. Remove the upper front cover [A].



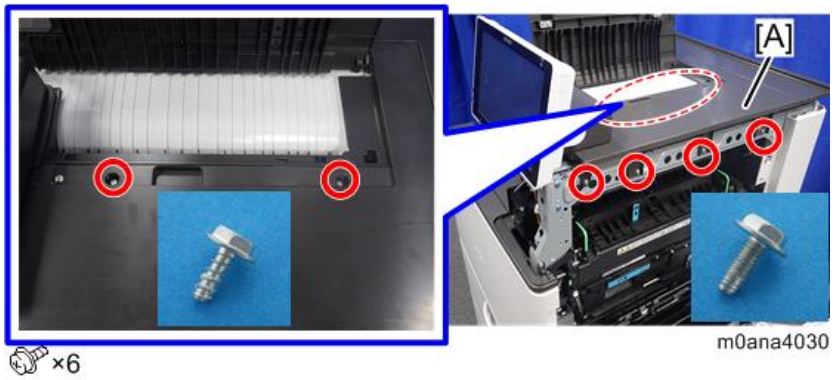
5. Remove the right upper cover [A] as shown by the arrow.



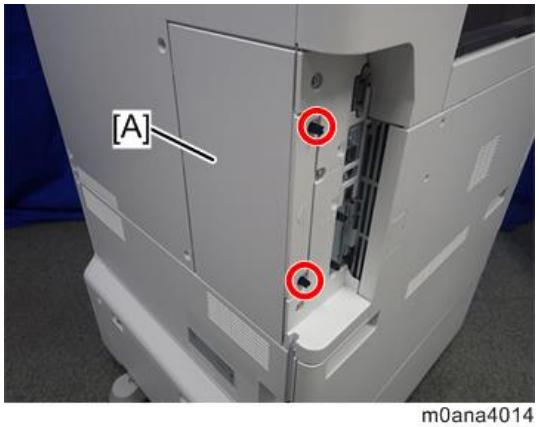
6. Remove the cover [A].



7. Remove the top right cover [A].



8. Remove the rear left cover [A] (coin screw x2).



m0ana4014

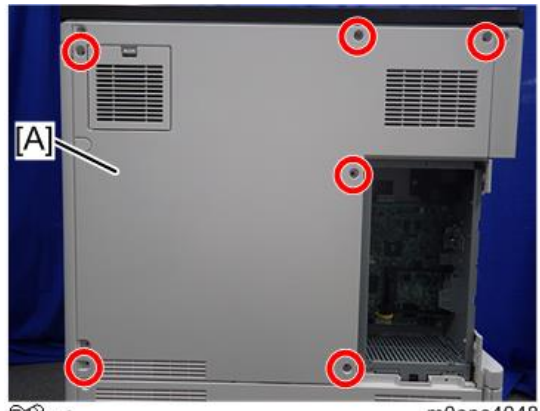
9. Remove the rear cover [A].

Note

Each part enclosed by a red dotted circle has a tab. Be careful not to damage it when attaching and detaching.

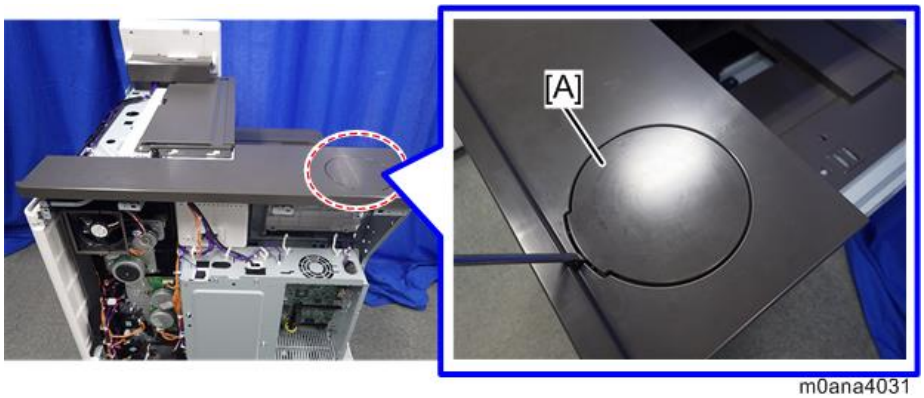


m0ana4015

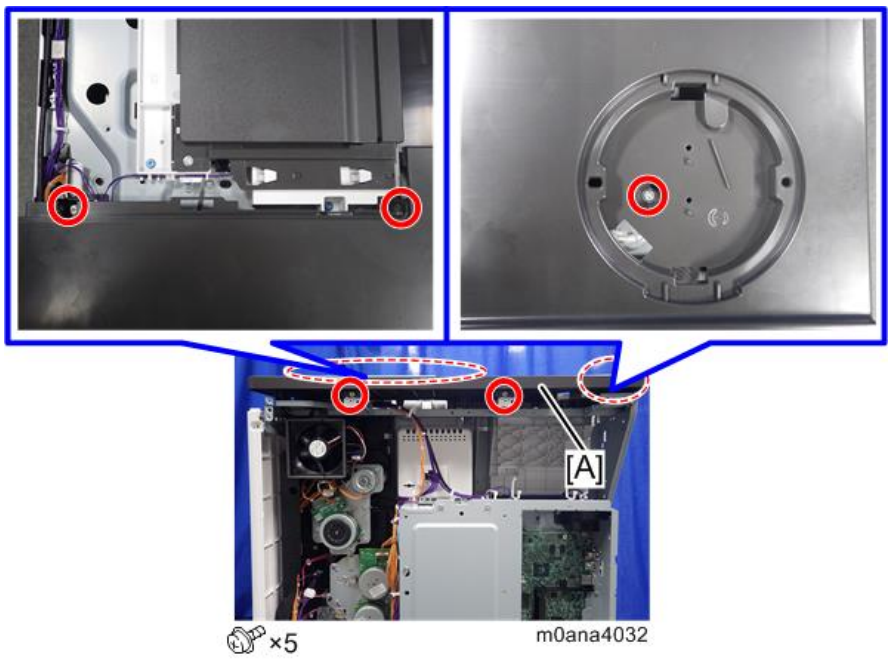


×6 m0ana4048

10. Using the flat-headed screwdriver, remove the cover [A].

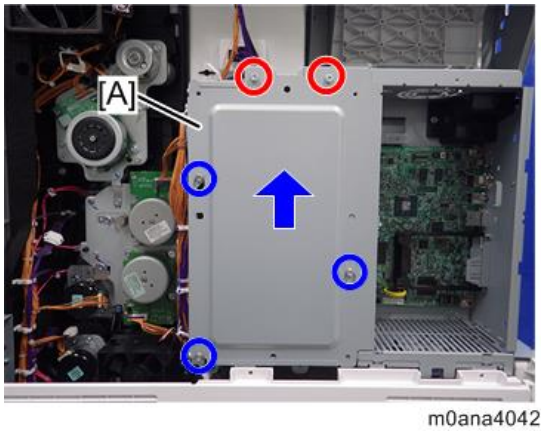


11. Remove the top rear cover [A].

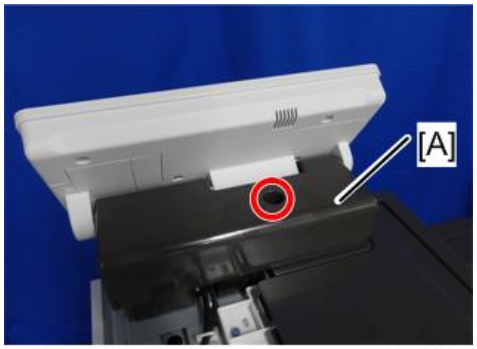


12. Remove the controller box cover [A].

Red Circle: Remove, Blue Circle: Loosen



13. Remove the operation panel upper cover [A].



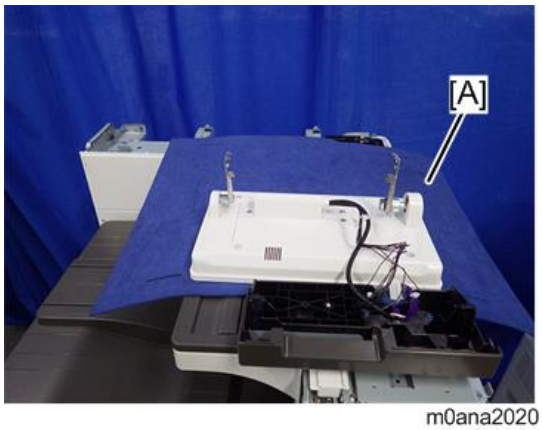
14. Remove the screws and clamps securing the operation panel to the hinge.



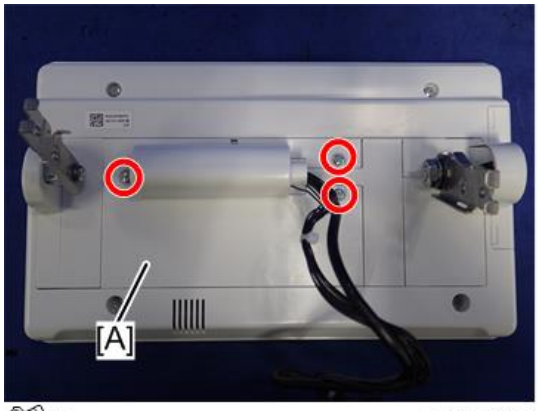
15. Spread out the service mat [A] on top of the machine, detach the operation panel from the hinge, and then place the operation panel face down on the mat.

Important

Be sure the service mat remains spread out underneath the operation panel to protect the display.

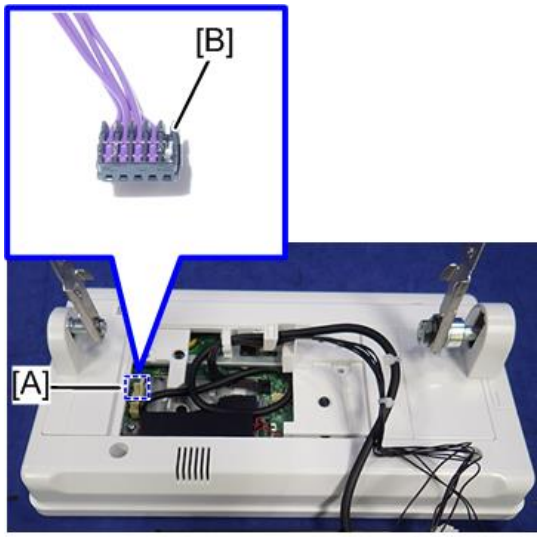


16. Remove the rear center cover [A].



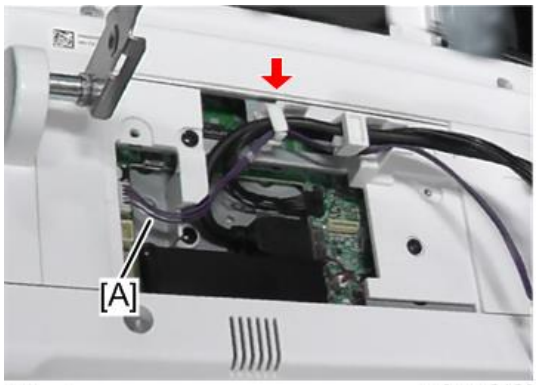
×3 m0ana4161

17. Connect the 5-pin connector [B] to the operation panel connector [A].



m0ana2122

18. Secure the harness with the clamp and route the harness [A] along the USB cable.

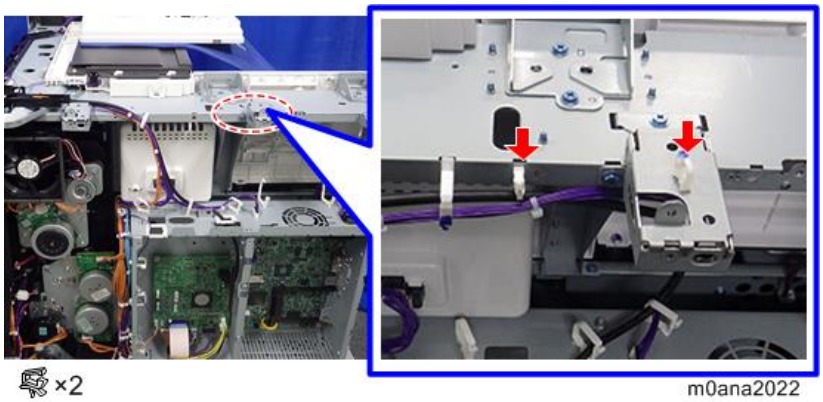


×1 m0ana2123

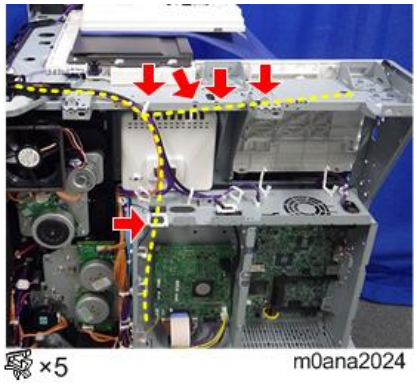
19. Reattach the rear center cover of the operation panel, and then reattach the operation panel.

20. Reattach the operation panel upper cover.

21. Attach the clamps (provided with this unit) on the rear side.

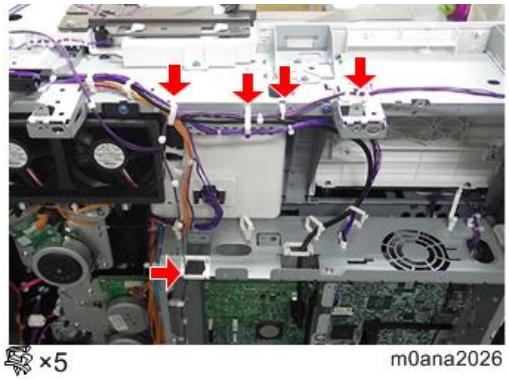


22. Route the harness on the rear side.

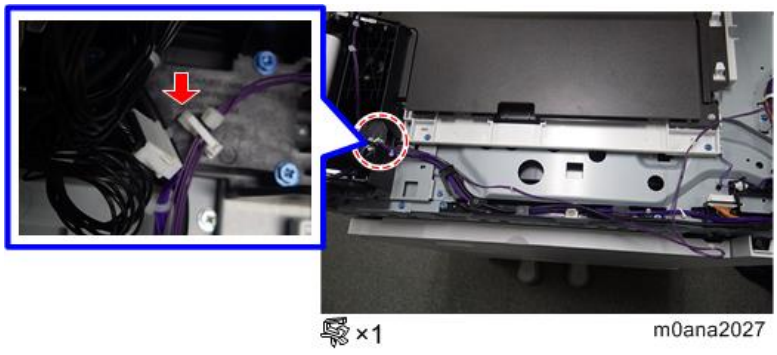


Note

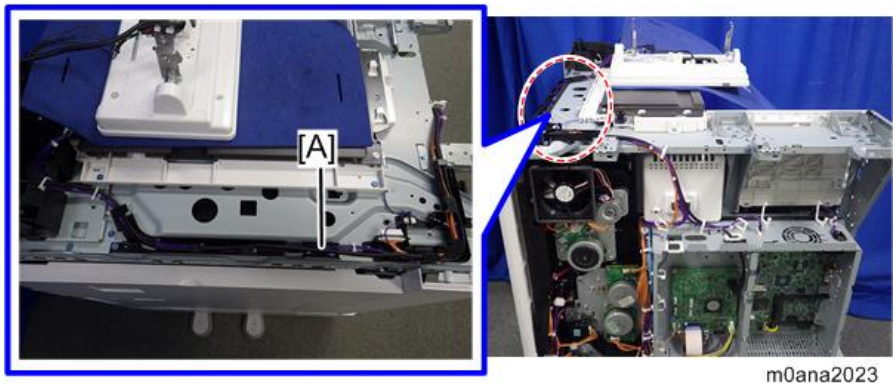
EU/AA:



23. Fix the harness on the front side.

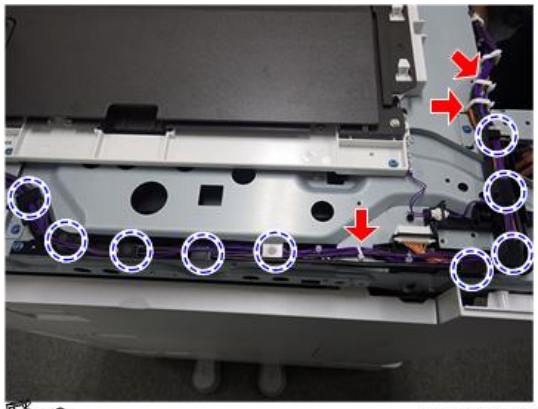


24. Release the USB cable [A] from the cable guide.



m0ana2023

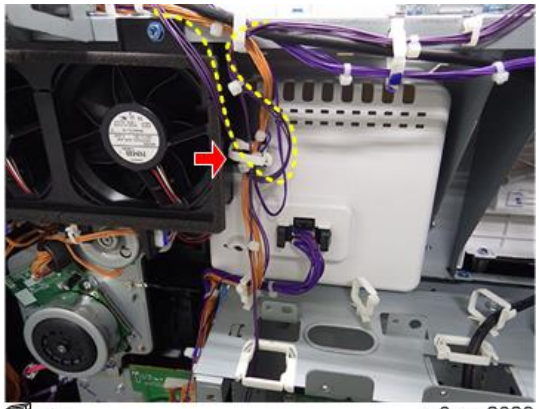
25. Route the harness as shown below, then reattach the USB cable.



×3 m0ana2028

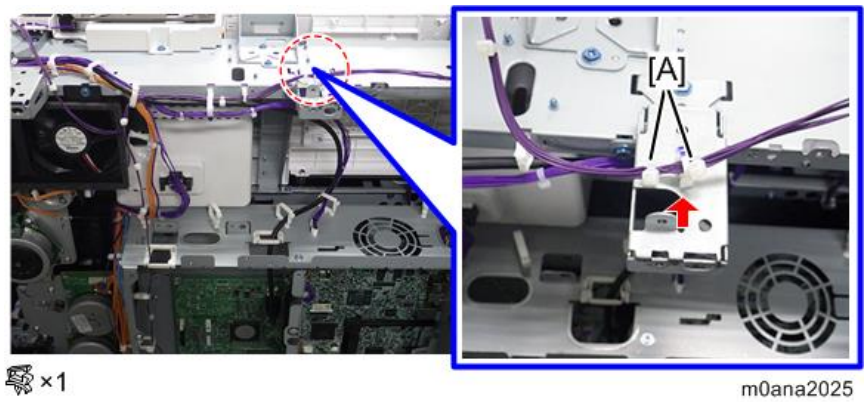
Note

Attach the surplus length of the harness as shown below. (EU/AA only)

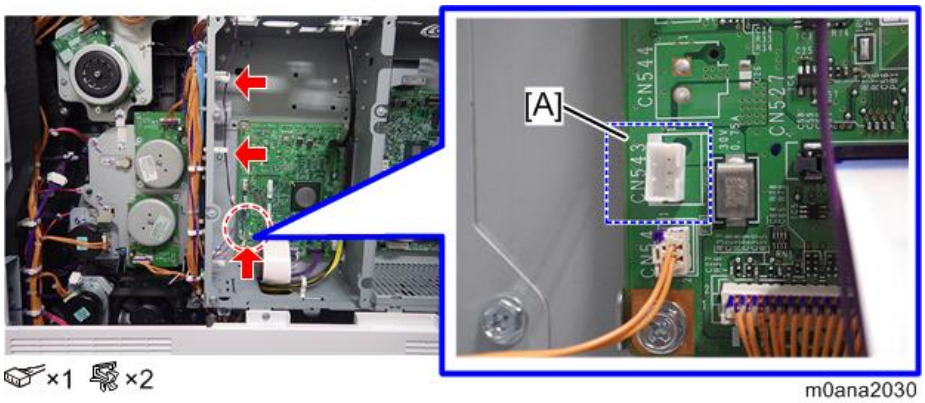


×1 m0ana2029

26. Position the clamp between the two cable ties [A]. (This is in order to prevent the harness from coming off.)

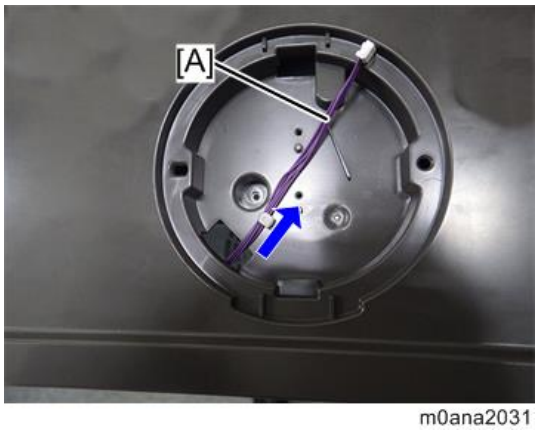


27. Connect the white 3-pin connector to CN543 [A] on the IPU.



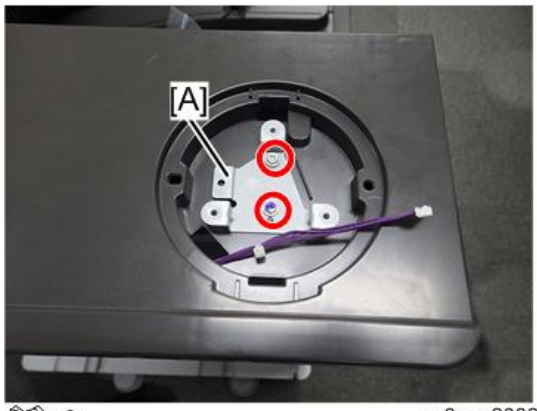
28. Reattach the top rear cover.

29. Pull out the white 5-pin connector of the harness [A] routed in steps 22-25.



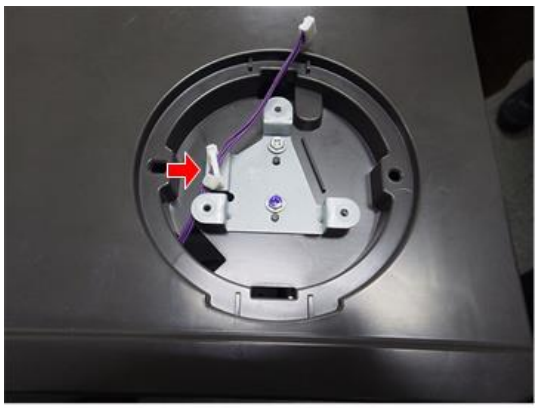
30. Reattach the covers in the following order: controller box cover, rear left cover, and rear cover.

31. Attach the bracket [A] (M3x8).



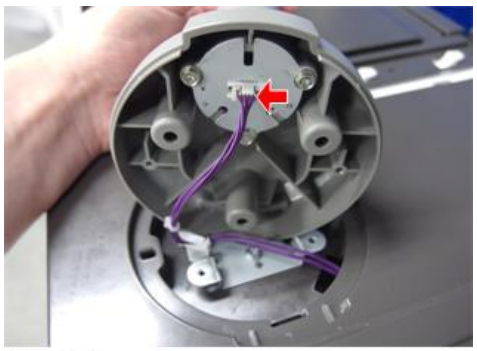
×2 m0ana2032

32. Attach the large clamp (provided with this unit) on the bracket.



×1 m0ana2033

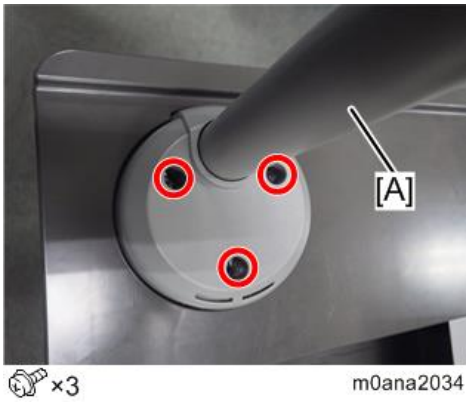
33. Connect the harness to the connector of the attention light.



x1 m0ajm0177

34. Attach the attention light [A] on the main machine (M3x8 round-head screws).

Make sure the harness does not get caught when attaching the attention light.



35. Reattach the covers in the following order: top right cover, upper front cover, and small cover.

Indicator Behavior

When multiple conditions coincide, statuses are indicated in the following order:

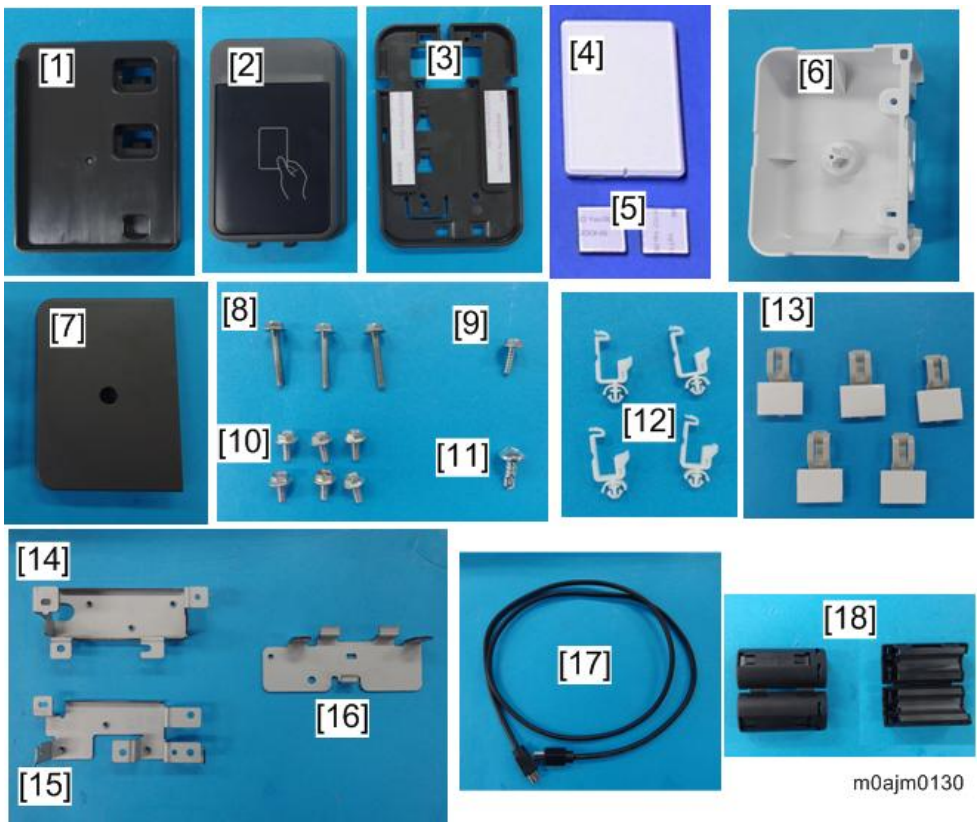
Priority	Indication	Machine Status
1	Lights in red	Unable to execute a job. User intervention required to resume job. For example, a condition such as the following has occurred: • Normal SC (SC type D) • Fatal SC (SC type A) • Paper misfeed • Memory full • Paper end • Toner end
2	Flashes in yellow	The following borderline condition occurred while executing a job: • Toner near end • Waste toner near end • Paper near end*1
3	Flashes in blue	Data-in
4	Lights in blue	Printing
5	Unlit	Status other than those described in 1, 2, 3, and 4.

*1: For the paper near-end status, the indicator flashes yellow only if "Low Paper Indicator (Yellow Flashing)" is set to "Active" in "User Tools" icon > "Machine Features" > "System Settings" > "Basic Settings".

NFC Card Reader Type P11 (M512-18)

Accessory Check

No.	Description	Q'ty	Remarks
1	Reader Spacer	1	
2	Reader Cover	1	
3	Reader Holder	1	
4	NFC Reader	1	
5	Sponge Cushions	2	
6	Lower Cover	1	
7	Upper Cover	1	
8	Screw (M3x20)	3	
9	Screw (M3x10)	1	
10	Screw (M3x8)	6	
11	Tapping screw (M5x13)	1	This screw is used for making threaded holes in the cover.
12	Clamp	4	Not used in this machine
13	Stick-type Clamp	5	
14	Bracket A	1	Not used in this machine
15	Bracket B	1	
16	Bracket for Side Table	1	
17	USB cable 800mm	1	
18	Ferrite Core	2	
-	Decal: RoHS	1	

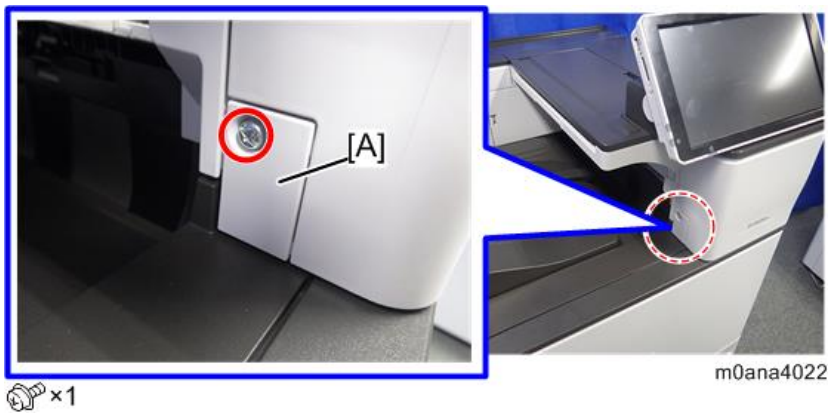


Installation Procedure

⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

1. Remove the small cover [A].



×1

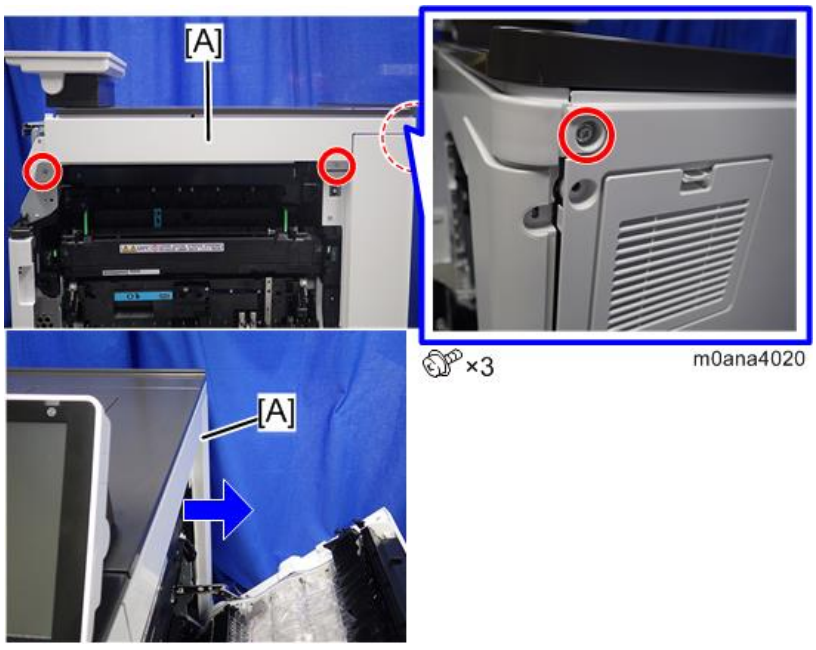
2. Open the right cover, then remove the screw.



3. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove the upper front cover [A].



4. Remove the right upper cover [A] as shown by the arrow.

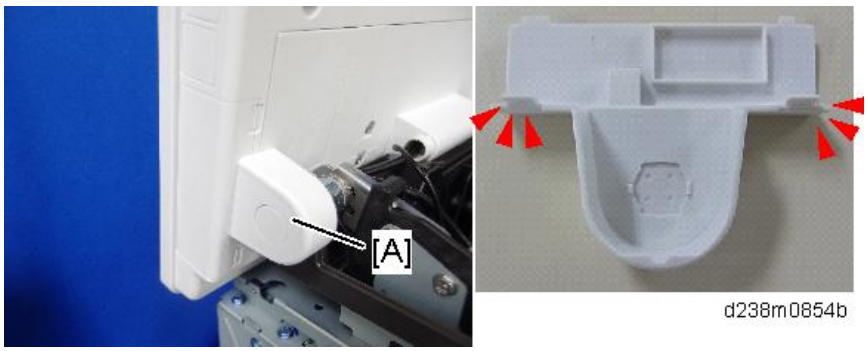


5. Remove the operation panel upper cover [A].



x1 m0ajm0135a

6. Remove the operation panel right cover [A].



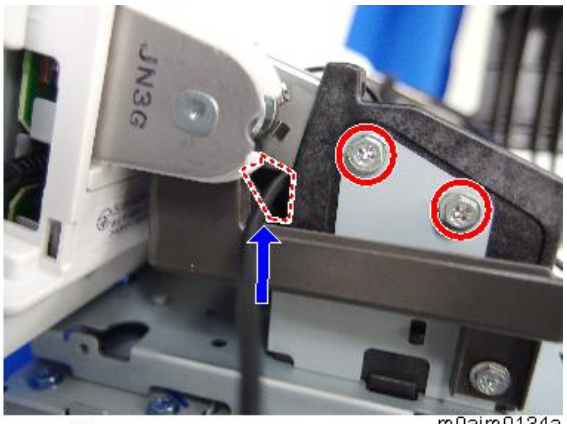
d238m0854b

7. Connect the USB cable (800mm) to the machine's operation panel connector.



x1 m0ajm0136

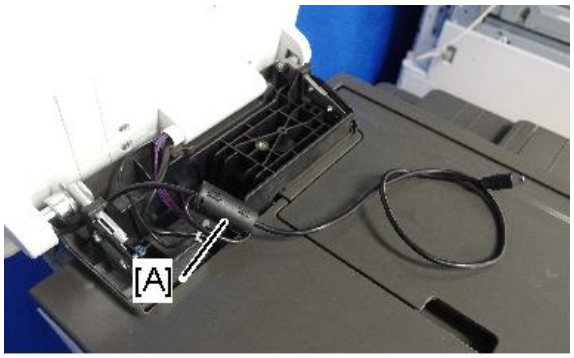
8. Pass the connector at the other end of the cable through the gap in the hinge.
If it is difficult to pass the cable through, loosen the two screws of the hinge to widen the gap. After passing the USB cable through, fasten the screws again.



m0ajm0134a

x2

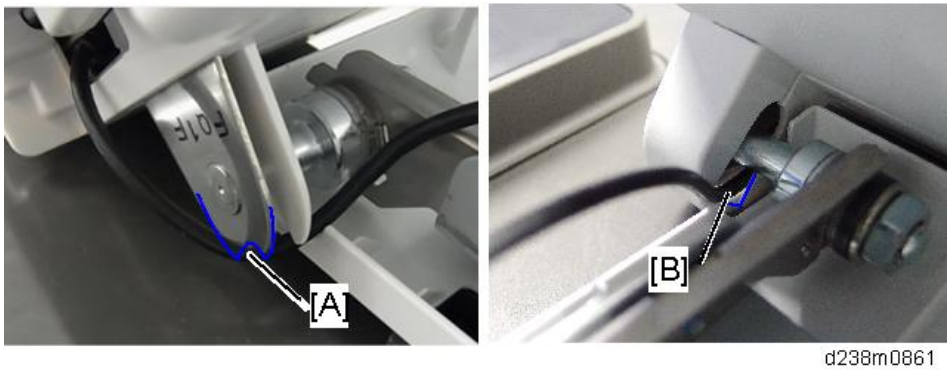
9. Make a single loop in the part of the cable which has passed through the gap in the hinge, and attach the ferrite core [A] to it.



m0ajm0168a

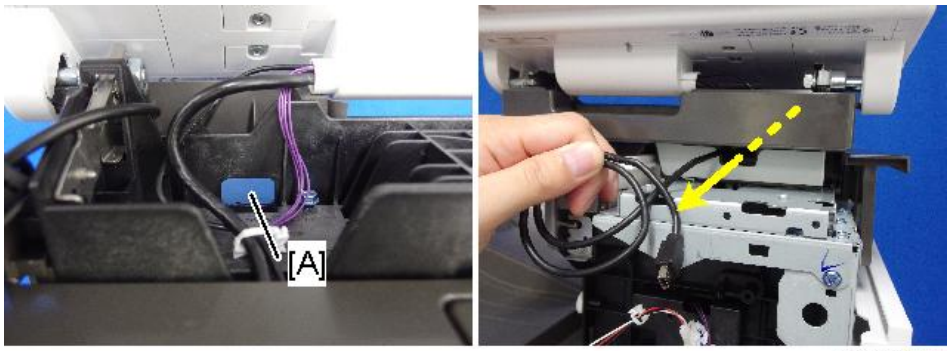
10. Reattach the operation panel right cover.

When reattaching the cover, pass the USB cable through the U-shaped groove [A] at the hinge of the operation panel and notch [B] on the cover under the cover.



d238m0861

11. Pass the USB cable through the hole at the front [A].



12. Reattach the operation panel upper cover.

Note

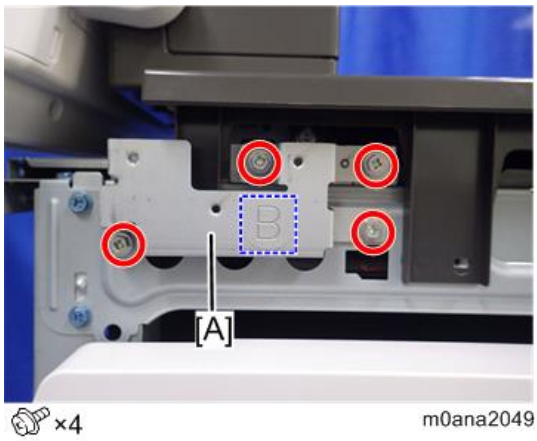
Depending on the part where the NFC reader is attached, store the surplus part of the USB cable under the operation panel upper cover.

Store the ferrite core behind the operation panel upper cover as shown below:



When attaching the cover, be careful not to trap the USB cable or harness between the covers.

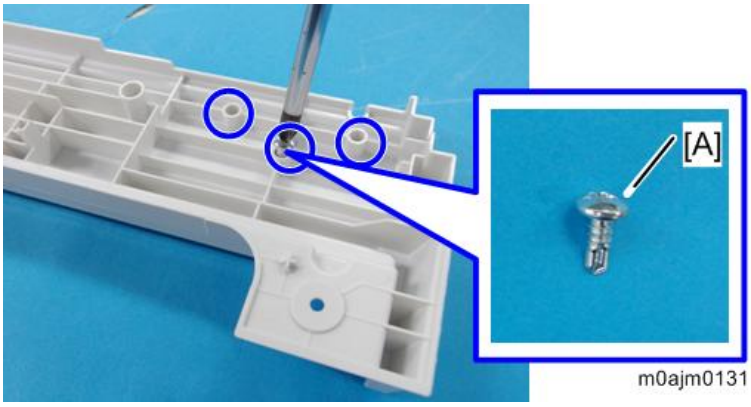
13. Attach Bracket B [A] to the machine's right frame (M3x8).



14. Thread holes in the removed right upper cover (3 points).

Important

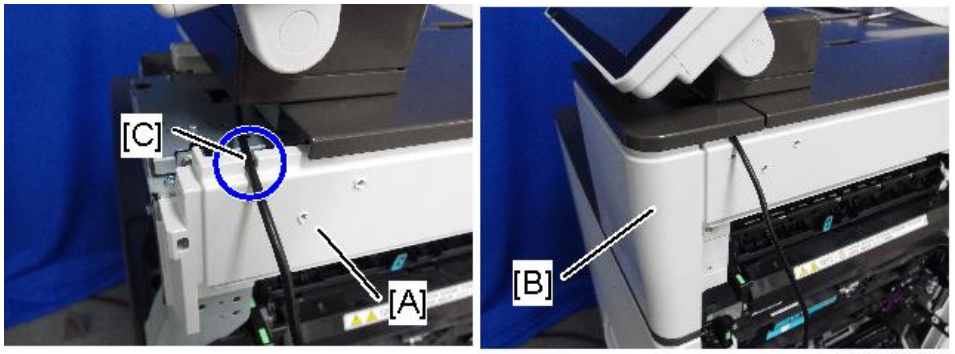
- Using the supplied tapping screw (M5x13) [A], position the screw at the center part of the guide rib and thread each hole. After threading each hole, use a tool such as a screwdriver to enlarge the hole so that the fastening screw (M3x20) can go through it.



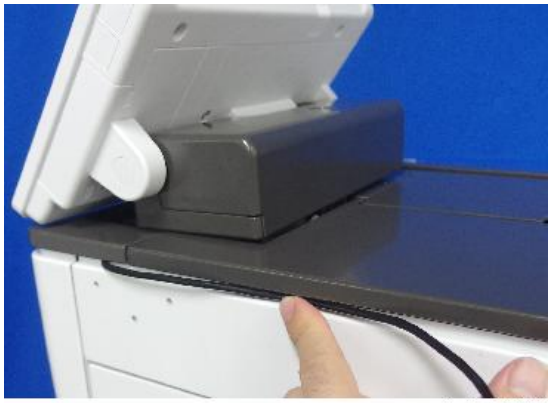
- Be careful not to drop the shavings into the machine (do not leave shavings around the holes).

15. Reattach the covers in the following order: right upper cover [A], upper front cover [B], small cover.

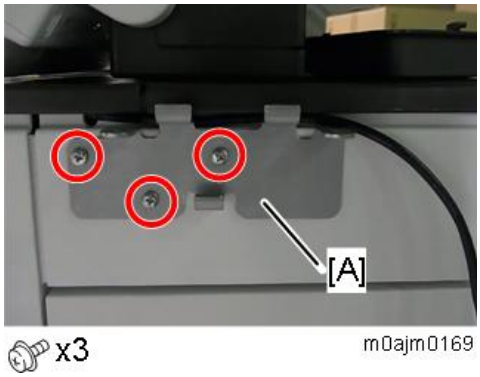
When attaching the right upper cover, pass the USB cable through the notch [C] in the right upper cover.



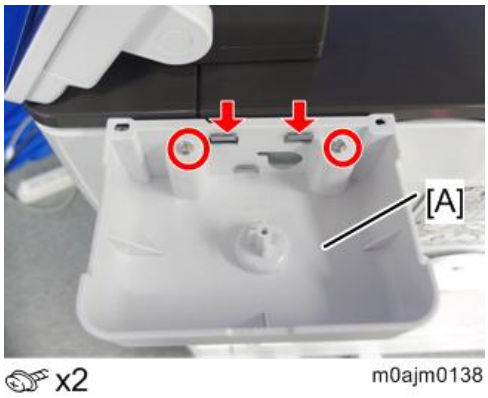
16. Pass the USB cable through the groove in the cover.



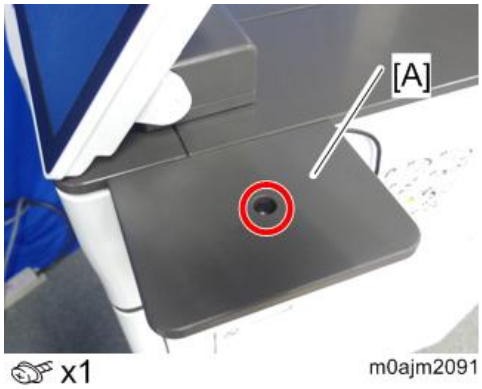
17. Attach the bracket for side table [A] to the right upper cover (M3x20).



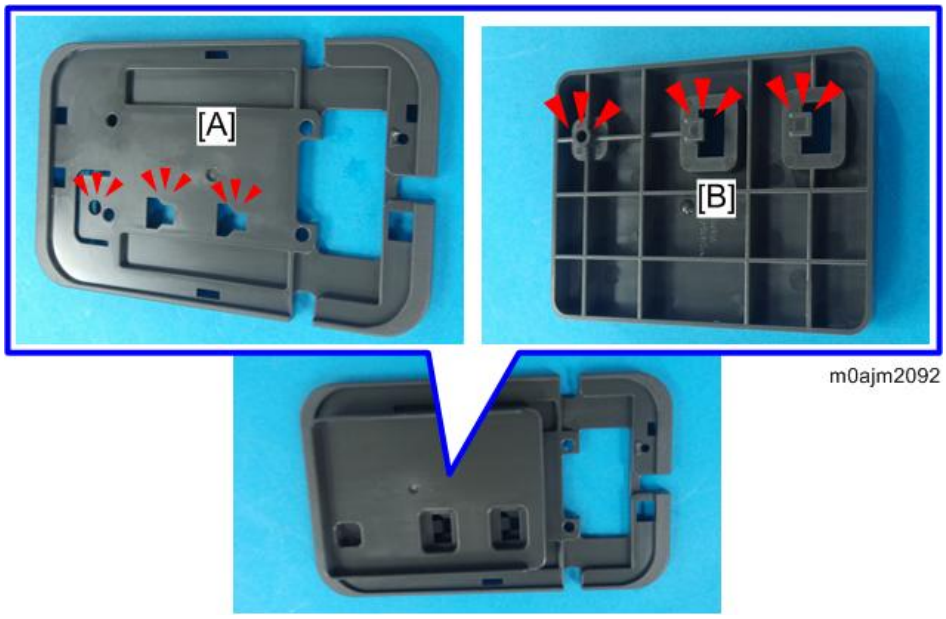
18. Attach the lower cover [A] by engaging it with the two tabs on Bracket B (M3x8).



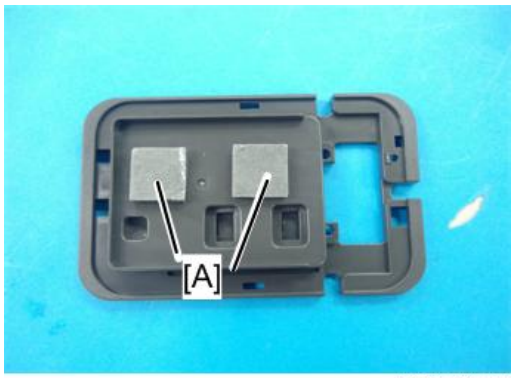
19. Attach the upper cover [A] (M3x10).



20. Attach the reader spacer [B] to the reader holder [A].

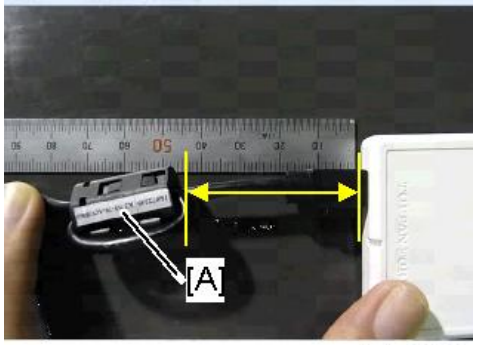


21. Attach the sponge cushions [A] to two points on the reader spacer as shown.



M0ajm2093

22. Make a single loop in the USB cable, and then attach the ferrite core [A].
Attach the ferrite core to the cable 45 mm away from the cable end.



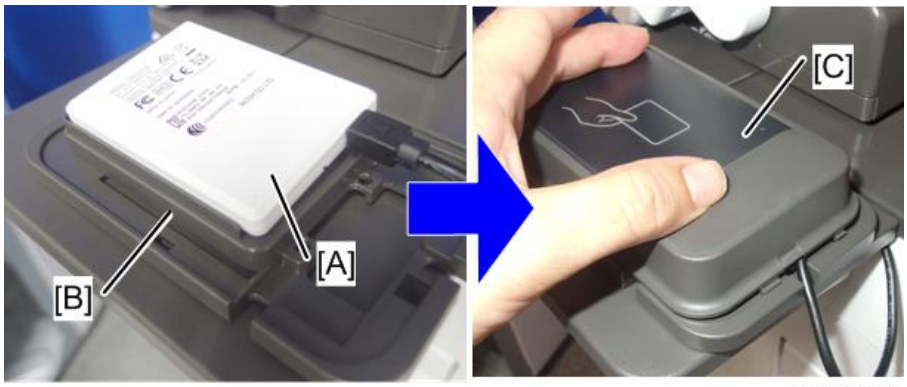
m0ajm0170b

23. Connect the USB cable to the NFC reader.



x1 m0ajm0170a

24. Place the NFC reader [A] on the spacer [B], and then attach the reader cover [C].
Be careful not to trap the USB cable between the covers.



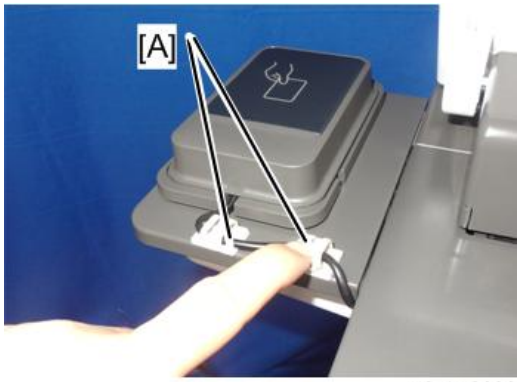
m0ajm2094

25. Remove the release paper [A] at the back of the reader holder, and then secure the NFC reader on the table.



m0ajm2095

26. As required, use the stick-type clamps [A] to secure the USB cable.



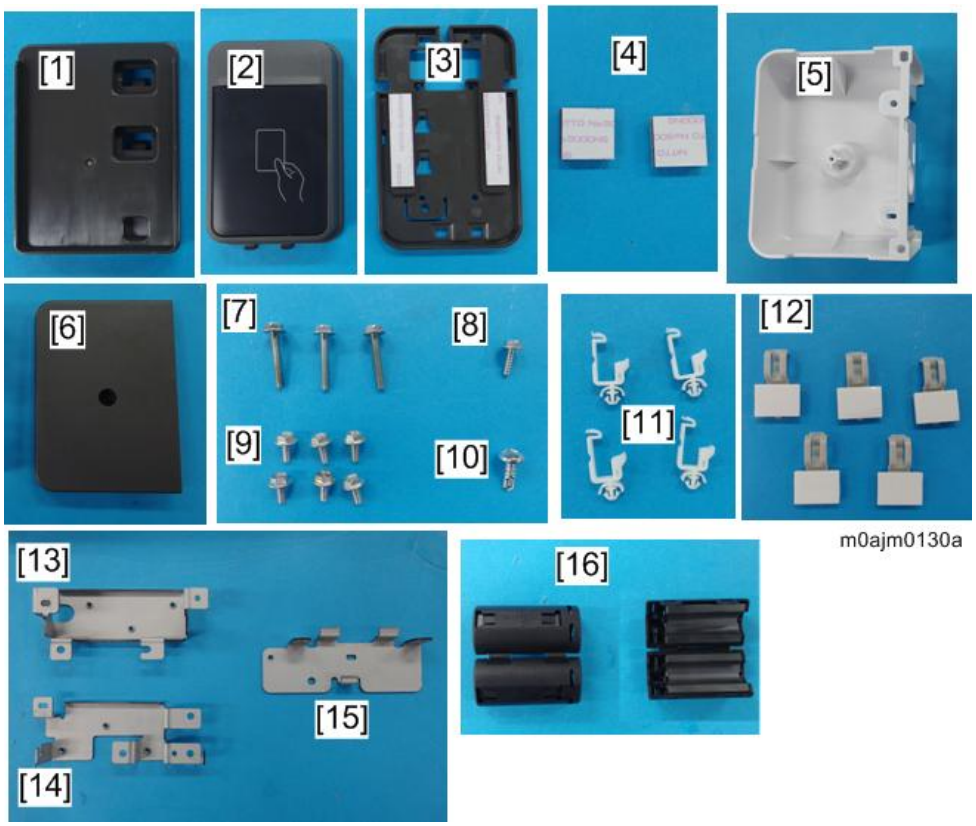
m0ajm2096

External NFC Card Reader Bracket Type P11 (M512-17)

Accessory Check

No.	Description	Q'ty	Remarks
1	Reader Spacer	1	
2	Reader Cover	1	
3	Reader Holder	1	
4	Sponge Cushions	2	
5	Lower Cover	1	
6	Upper Cover	1	
7	Screw (M3x20)	3	
8	Screw (M3x10)	1	
9	Screw (M3x8)	6	
10	Tapping screw (M5x13)	1	This screw is used for making threaded holes in the cover.
11	Clamp	4	
12	Stick-type Clamp	5	
13	Bracket A	1	Not used in this machine
14	Bracket B	1	
15	Bracket for Side Table	1	
16	Ferrite Core	2	
-	Decal: RoHS	1	

2.Installation



Installation Procedure

An IC card reader and a USB cable (recommended length: 800 mm) are not included with this unit. The customers must obtain these themselves, and the technicians must install them.

The installation procedure depends on whether the USB type is a USB mini [A] or standard type A [B] connector.



In the case of USB mini, connect directly to the control panel (in the same way as for the NFC Card Reader Type P11); in the case of standard type A, connect to the machine's interface connector.

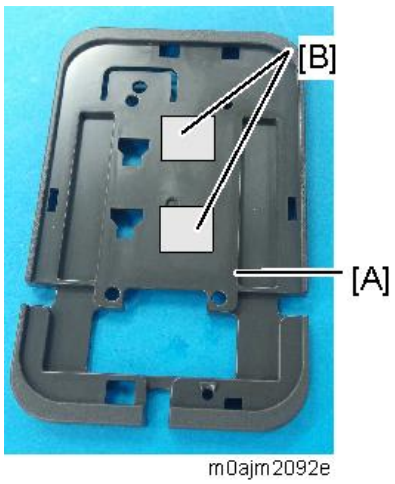
Procedure for Connecting to the Operation Panel USB Slot

The installation procedure is the same as for NFC Card Reader Type P11. For details, see NFC Card Reader Type P11 (M512-18)

Important

The IC card reader provided by the customer may be too thick to attach to the reader cover. If this happens, it is

not necessary to attach the spacer to the reader holder. Directly attach the sponge cushions [B] to the IC card reader holder [A].

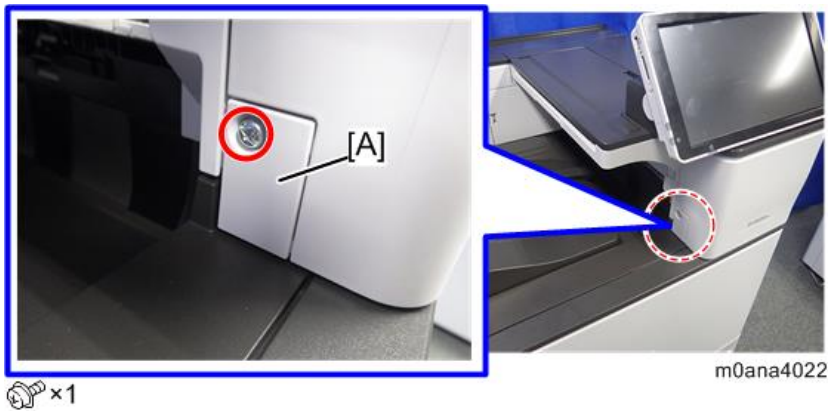


Procedure for Connecting to the Main Machine USB Slot

⚠CAUTION

When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

1. Remove the small cover [A].

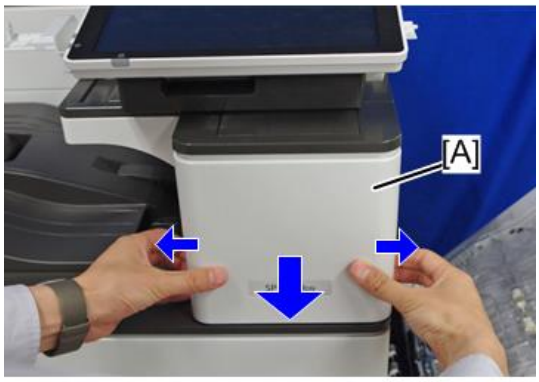


2. Open the right cover then remove the screw.



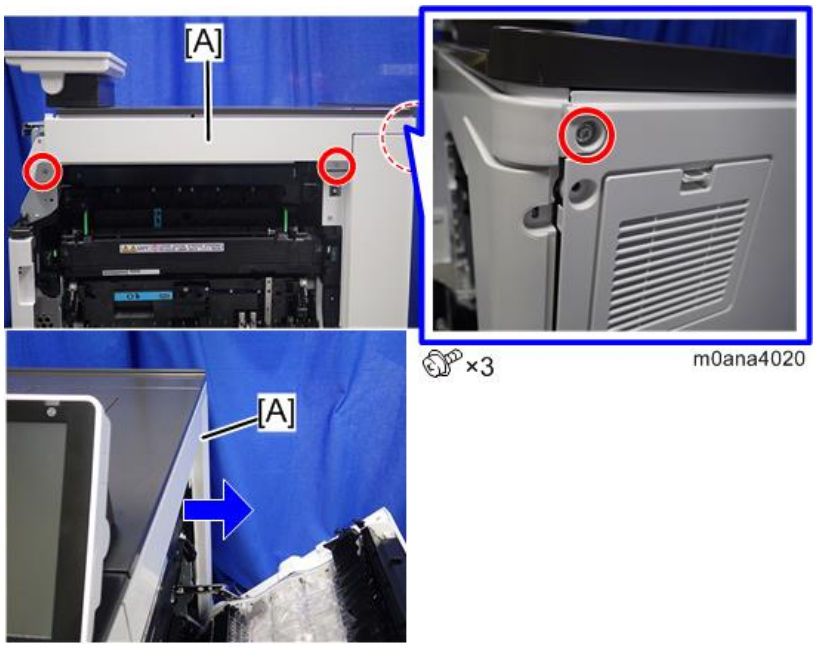
3. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove

the upper front cover. Remove the upper front cover [A].



m0ana4037

4. Remove the right upper cover [A] as shown by the arrow.



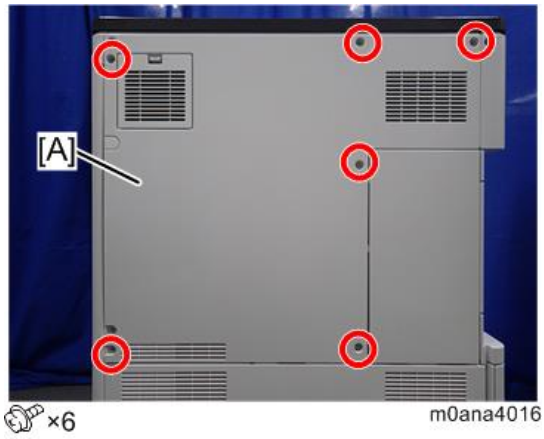
5. Remove the rear cover [A].

Note

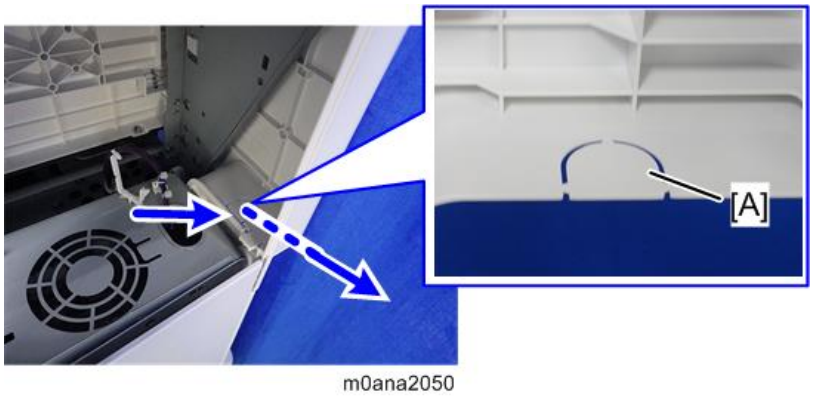
Each part enclosed by a red dotted circle has a tab. Be careful not to damage it when attaching and detaching.



m0ana4015



6. Remove the cover [A] over the machine's USB slot and pass the cable through.

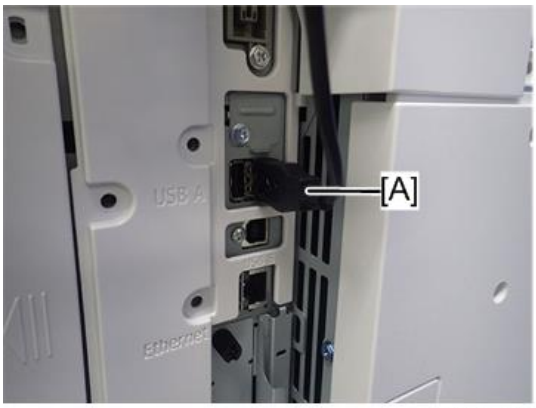


7. Make a single loop in the USB cable, and then attach the ferrite core [A].



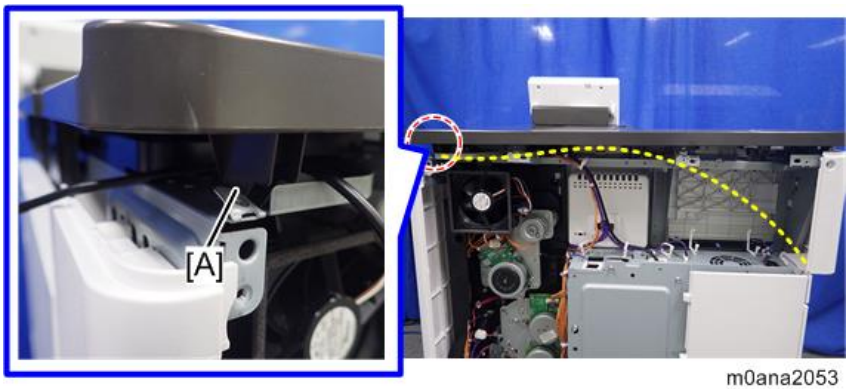
8. Connect the USB cable [A] to the machine's USB port.

There are two USB ports. You can connect to either.



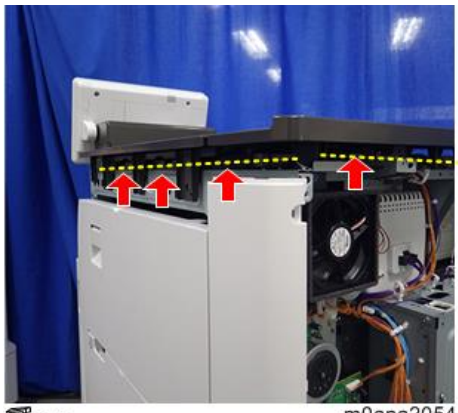
m0ana2052

9. Pass the USB cable from the back to the right side of the machine.
Pass the cable behind the pillar [A].



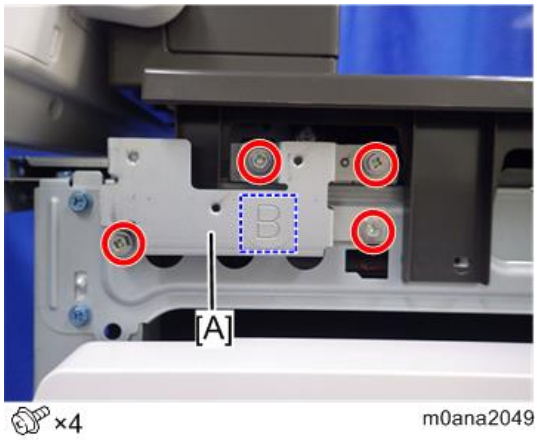
m0ana2053

10. Clamp the cable at four points on the right side.
Use the clamps supplied with this option.



×4 m0ana2054

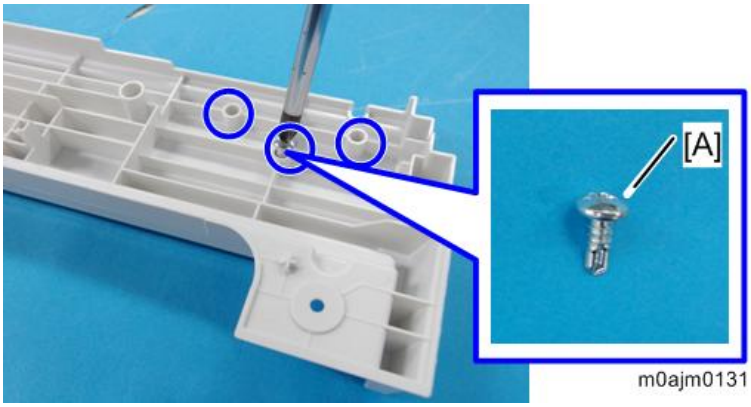
11. Attach Bracket B [A] to the machine's right frame (M3x8).



12. Thread the holes in the removed right upper cover (3 points).

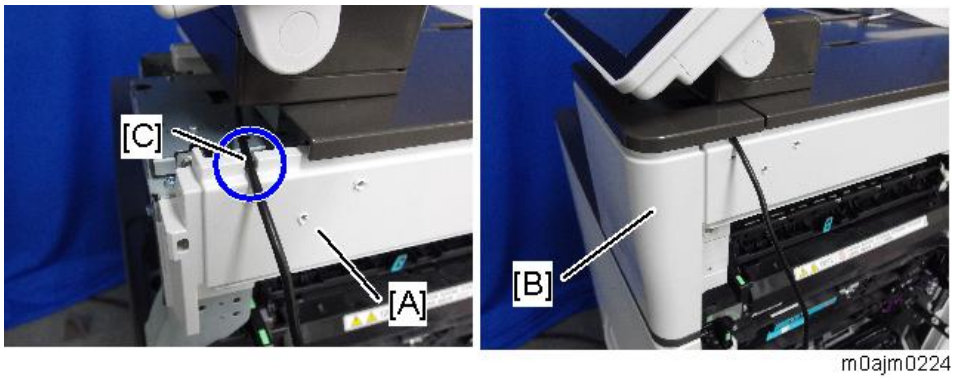
Important

- Using the supplied tapping screw (M5x13) [A], position the screw to the center part of the guide rib and thread each hole. After threading each hole, use a tool such as a screwdriver to enlarge the hole so that the fastening screw (M3x20) can go through it.

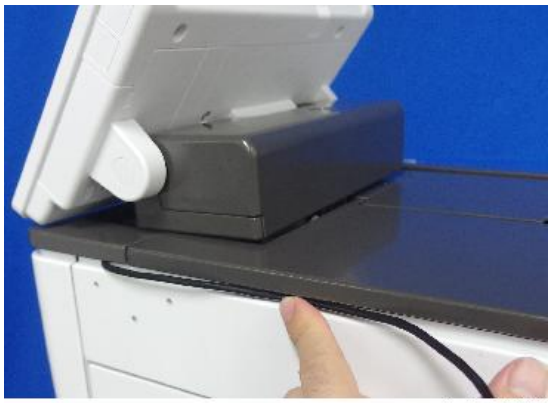


- Be careful not to drop the shavings in the machine (do not leave shavings around the holes).

13. Reattach the covers in the following order: right upper cover [A], upper front cover [B], small cover.
When attaching the right upper cover, pass the USB cable through the notch [C] in the right upper cover.

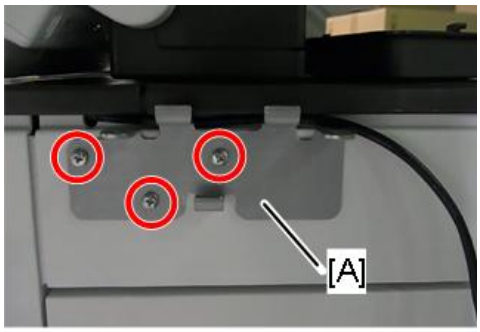


14. Pass the USB cable through the groove in the cover.



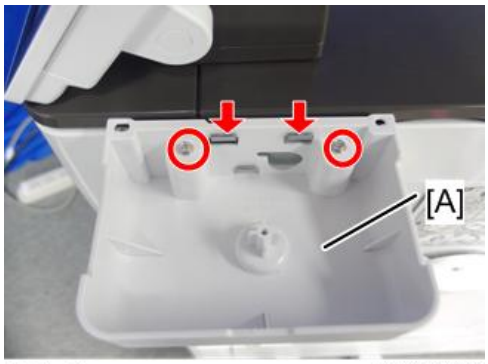
m0ajm0144b

15. Attach the bracket for side table [A] to the right upper cover (M3x20).



x3 m0ajm0169

16. Attach the lower cover [A] by engaging it with the two tabs on Bracket B (M3x8).



x2 m0ajm0138

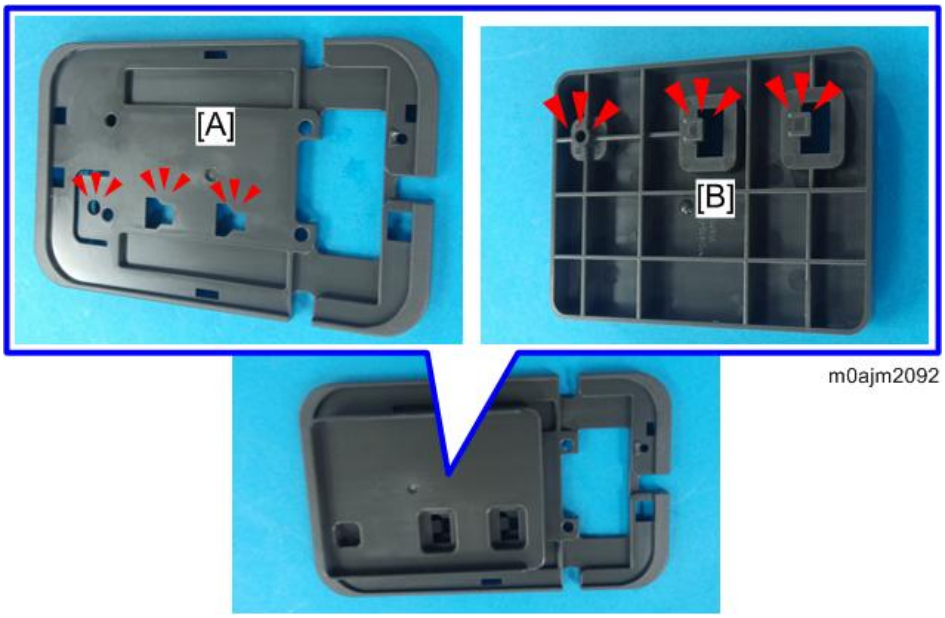
17. Attach the upper cover [A] (M3x10).



x1 m0ajm2091

18. Attach the reader spacer [B] to the reader holder [A].

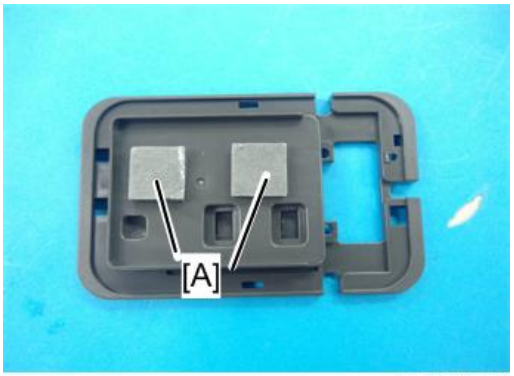
The IC card reader may be too thick to attach the reader cover. If this happens, it is not necessary to attach the spacer to the reader holder.



m0ajm2092

19. Attach the sponge cushions [A] on two points on the reader spacer as shown.

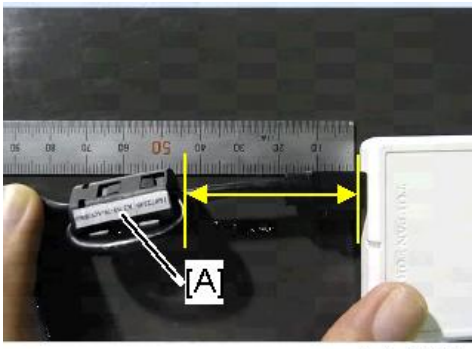
If you do not attach the spacer, attach them to the reader holder.



M0ajm2093

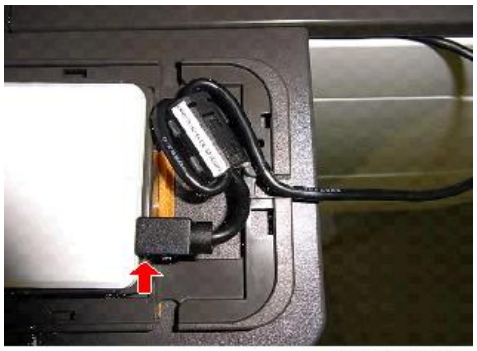
20. Make a single loop in the USB cable, and then attach the ferrite core [A].

Attach the ferrite core to the cable at a point 45 mm away from the cable end.

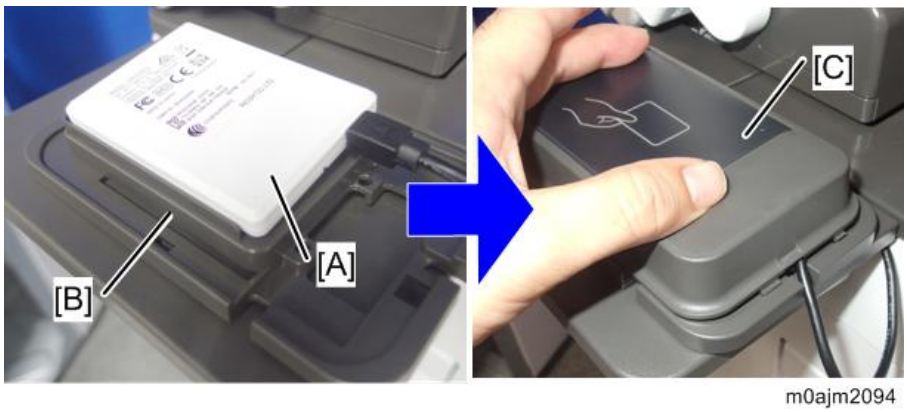


m0ajm0170b

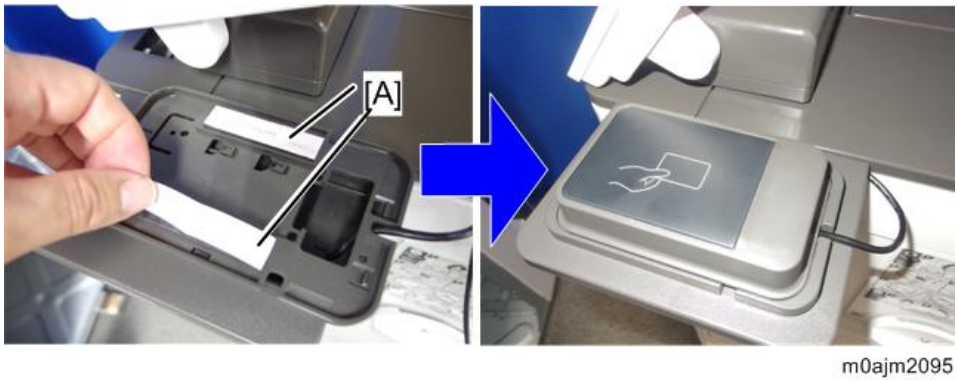
21. Connect the USB cable to the NFC reader.



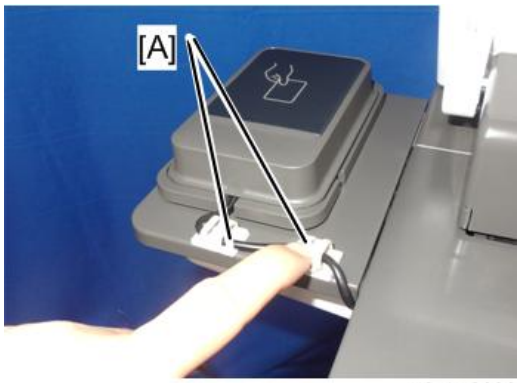
22. Place the NFC reader [A] on the spacer [B], and then attach the reader cover [C].
Be careful not to trap the USB cable between the covers.



23. Remove the release paper [A] at the back of the reader holder, and then secure the NFC reader on the table.

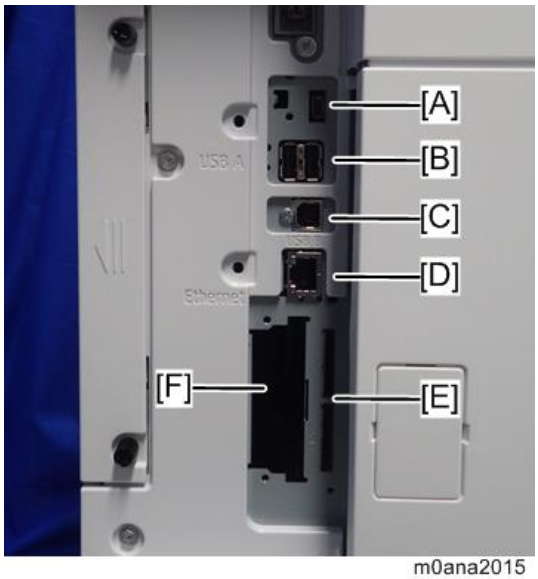


24. As required, use the stick-type clamps [A] to secure the USB cable.



m0ajm2096

Internal Options



Slot		Option
[A]	USB mini	Usually the cover is attached. It is not used by the user.
[B]	USB port (type A)	Used for IC card authentication *1
[C]	USB port (type B)	For printing via USB, a USB port on the Extended USB Board is used.
[D]	Ethernet port	Used for the print function (via network)
[E]	SD card slot	Refer to SD Card Slots
[F]	I/F slot	Used for one of the following internal options: • Extended USB Board Type M19 (D3BS-01) • IEEE 1284 Interface Board Type M19 (D3C0-17) • IEEE 802.11a/b/g/n Interface Unit Type M19 (D3BR-01) • RC-GATE

*1 There is no difference between the left and right USB ports.

IEEE 1284 Interface Board Type M19 (D3C0-17)

Accessory Check

No.	Description	Q'ty	Remarks
1	IEEE 1284 Interface Board	1	
2	FCC document	1	
3	Notes for users	1	

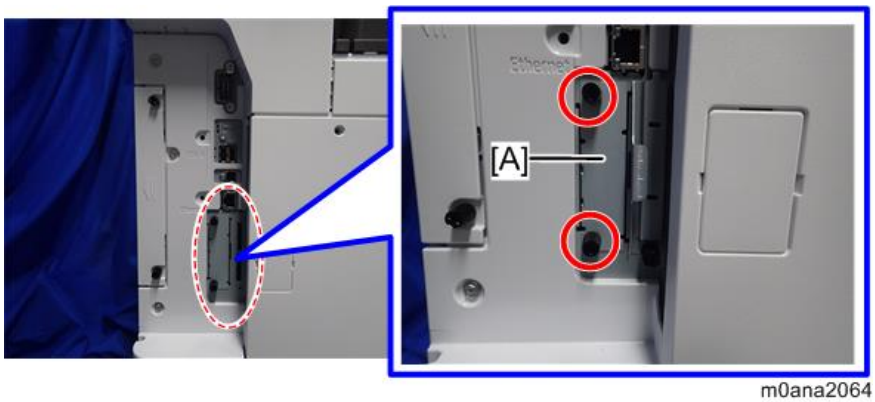


Installation Procedure

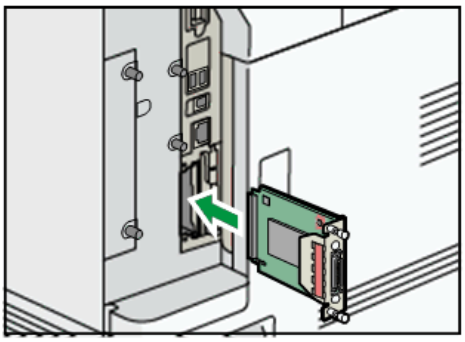
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Do not put your hand into the controller box. It will result in a malfunction or injury.
- Before doing any work, touch a metal object to discharge static electricity from the body. There is a possibility that the IEEE 1284 Interface Board may malfunction due to static electricity.

1. Remove the slot cover. (coin screw x2)



2. Insert the IEEE 1284 Interface Board into the I/F slot. (coin screw x2)



m0ana2083

3. Turn ON the main power.

4. Print out the "Configuration Page", and then check if this option is correctly recognized.

- User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

Note

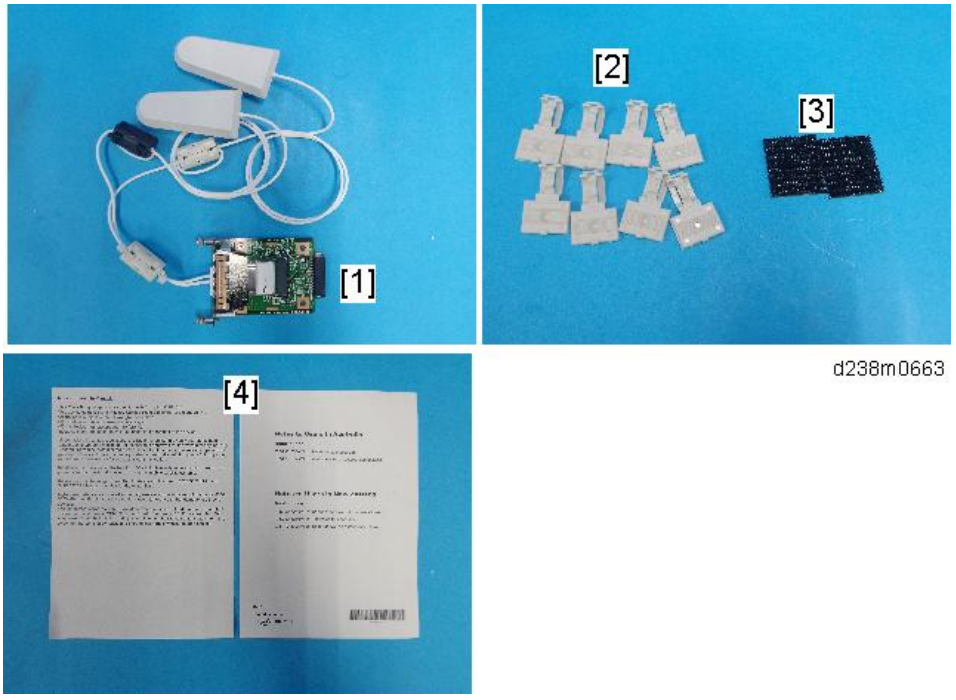
- The customer should keep the slot covers which were removed.

IEEE 802.11a/b/g/n Interface Unit Type M19 (D3BR-01)

.

Accessory Check

No.	Description	Q'ty
1	IEEE802.11a/b/g/n Unit	1
2	Clamps	8
3	Velcro Fasteners	2
4	Notes for Users	2



Important

- Since disassembly/alteration of a wireless LAN board is illegal, during service replacements, replace the whole PCB assembly.
- Be sure to give the provided leaflet to the customer.

Installation Procedure

⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Do not put your hand into the controller box. It will result in a malfunction or injury.
- Before doing any work, touch a metal object to discharge static electricity from the body. There is a possibility that the extension wireless LAN board may malfunction due to static electricity.

Important

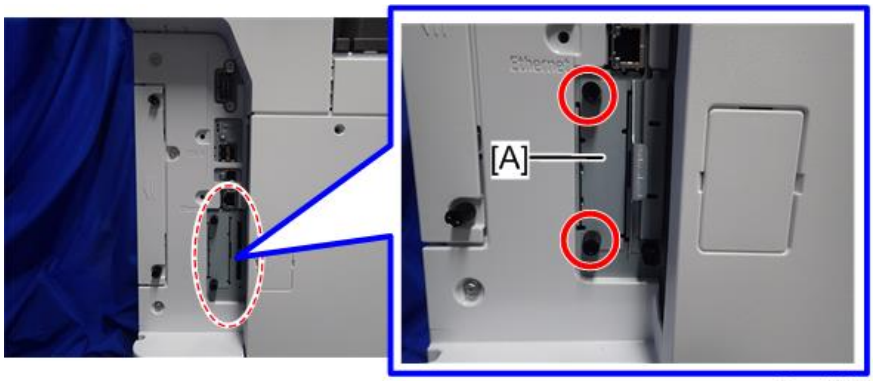
- When using wireless LAN (IEEE802.11 b/g/n:2.4-GHz band), this radio product uses the 2.4-GHz band.

Check that industrial, scientific and medical devices using the same frequency bands, such as a microwave oven or a cordless telephone, are not used nearby.

- If there is interference, communication may become unstable. Check that there are no devices likely to cause interference in the surrounding area.

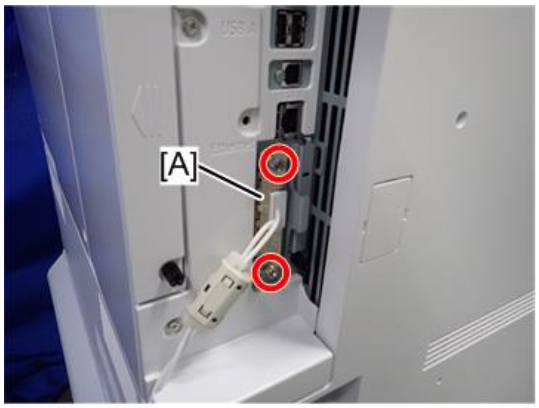
Attaching the boards

1. Remove the slot cover [A] (coin screw x 2).



m0ana2064

2. Insert the extended wireless LAN board [A] into the slot (coin screw x 2)



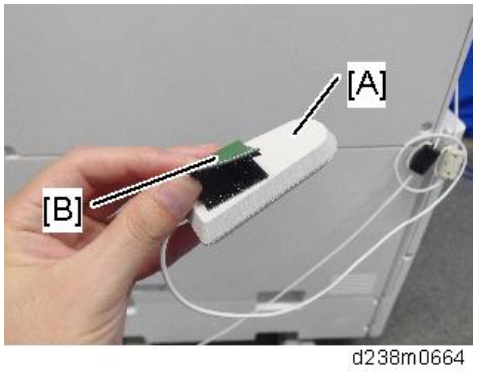
m0ana4163

Note

- Press the extended wireless LAN board firmly in, and check it is firmly connected.
- The customer should keep the slot covers which were removed.

Attaching the Antenna

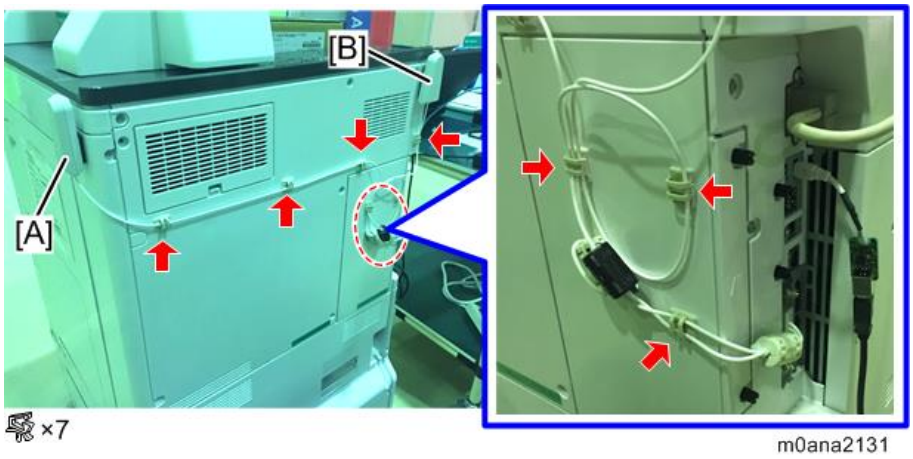
1. Attach the velcro fastener [B] (provided with this unit) on the antenna [A].



Note

- Attach the velcro fastener to the bottom half of the case (where the cable is located).
- You may attach the velcro fastener on either side of the case.

2. Peel the backing paper off the velcro fastener, and attach the antennas [A] and [B] as shown.



Note

- When attaching 2 antennas, attach them at least 12 cm or more away from each other.
- Take care to loop it around so that it does not interfere with other options or I/F cables.

3. Turn ON the main power.
4. Print out the "Configuration Page", and then check if this option is correctly recognized.
   - User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

User Tool Settings for IEEE 802.11a/b/g/n

Go into the User Tools mode and do the procedure below. These settings take effect every time the machine is powered on.

Note

- IEEE 802.11a/b/g/n function is disabled while using Ethernet.

1. Press the "User Tools" icon.

2. Press "Machine Features" > "System Settings".

Note

- Select "Interface Settings"> "Network" > "LAN Type". The "LAN Type" (default: Ethernet) must be set for either Ethernet or wireless LAN.

3. Select "Interface Settings"> "Wireless LAN". Only the wireless LAN options show.
4. Set the "Communication Mode".
5. Enter the "SSID setting". (The setting is case sensitive.)
6. Set the "Ad-hoc Channel". You need this setting when Ad Hoc Mode is selected. The allowed range for the channel settings may vary for different countries.
   - For mainly Europe and Asia
     2412 - 2462 MHz (1 - 11 channels)
     5180 - 5240 MHz (36, 40, 44 and 48 channels)
     (default: 11)

     Note
     - In some countries, only the following channels are available: 2412 - 2462 MHz (1 - 11 channels)
   - For mainly North America
     2412 - 2462 MHz (1 - 11 channels)
     5180 - 5240 MHz (36, 40, 44 and 48 channels)
     (default: 11)
7. Set the "Security Method" to specify the encryption of the Wireless LAN.
   - The "WEP" (Wired Equivalent Privacy) setting is designed to protect wireless data transmission. The same WEP key is required on the receiving side in order to unlock encoded data. There are 64 bit and 128 bit WEP keys.
     - Range of Allowed Settings:
       64 bit: 10 characters
       128 bit: 26 characters
   - Specify "WPA2" when "Communication Mode" is set to "Infrastructure Mode". Set the "WPA2 Authent. Method".
     - WPA2 Authent. Method:
       Select either "WPA2-PSK" or "WPA2".
       If you select "WPA2-PSK", enter the pre-shared key (PSK) of 8-63 characters in ASCII code.
       When "WPA2" is selected, authentication settings and certificate installation settings are required.
8. Press "Wireless LAN Signal" to check the machine's radio wave status using the operation panel.
   - Press "Restore Factory Defaults" to initialize the wireless LAN settings.

SP Mode Settings for IEEE 802.11 Wireless LAN

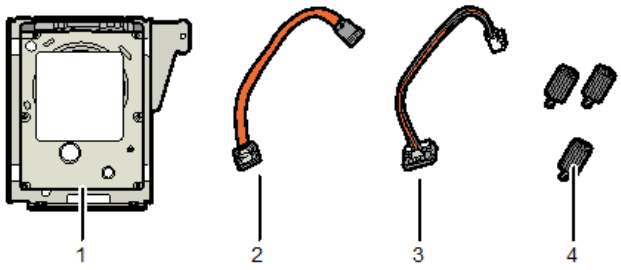
The following SP commands and UP modes can be set for IEEE 802.11

SP No.	Name	Function
SP5-840-006	Channel MAX	Sets the maximum range of the channel settings for the country.
SP5-840-007	Channel MIN	Sets the minimum range of the channels settings allowed for your country.
SP5-840-011	WEP Key Select	Used to select the WEP key (Default: 00).
UP mode	Name	Function
	SSID	Used to confirm the current SSID setting.
	WEP Key	Used to confirm the current WEP key setting.
	WEP Mode	Used to show the maximum length of the string that can be used for the WEP Key entry.
	WPA2 Authent. Method	Used to confirm the current WPA authentication setting and pre-shared key.

HDD Option Type P13 (M513-19)

Component Check

No.	Description	Q'ty	Remarks
1	HDD	1	
2	Power Cord	1	
3	FFC	1	
4	Coin Screw	3	
-	EMC Address	1	



m0ana2085

Installation Procedure

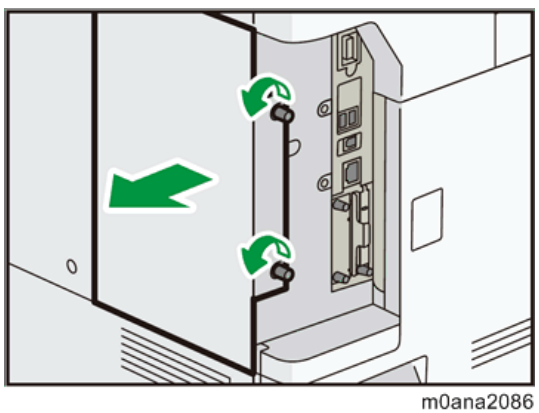
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Before beginning work, ground yourself by touching something metal to discharge any static electricity. Static electricity can damage the HDD option.

Note

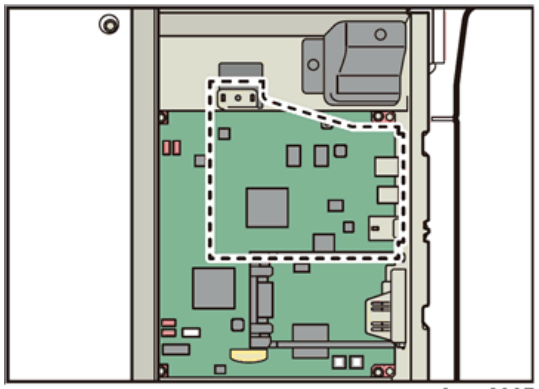
- Do not give a physical shock to an HDD.

1. Remove the rear left cover (coin screw x 2).



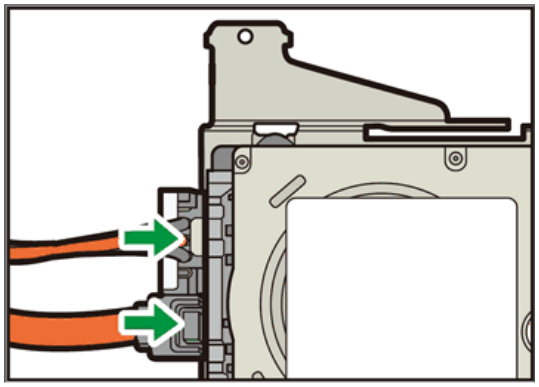
m0ana2086

2. Install the HDD option in the indicated position.



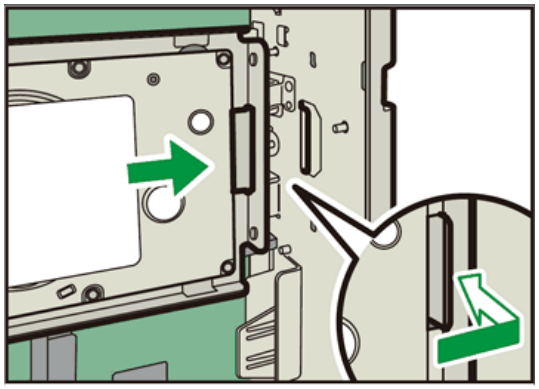
m0ana2087

3. Connect the power cord and FFC to the HDD option.



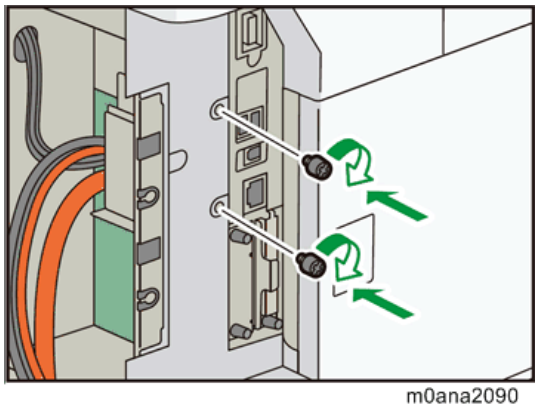
m0ana2088

4. Hook the mounting indents on the HDD option onto the tabs on the side frame.



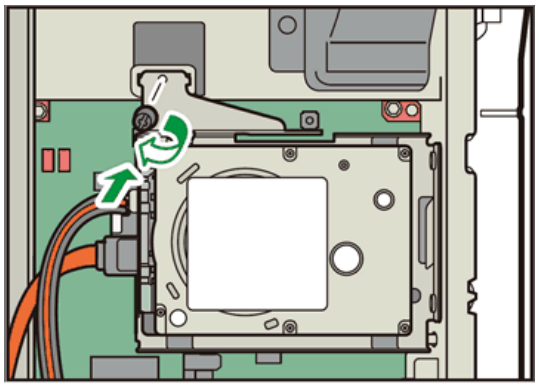
m0ana2089

5. Fasten the HDD option (coin screw x2).



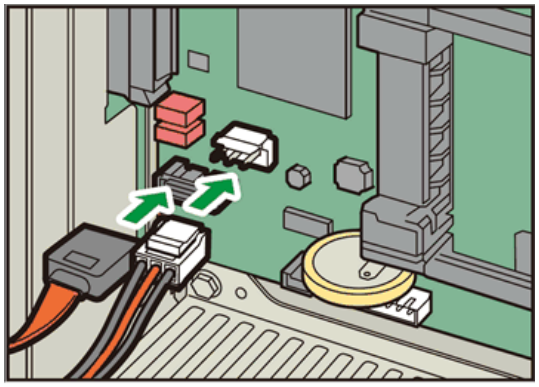
m0ana2090

6. Fasten the HDD option to the controller board (coin screw x1).



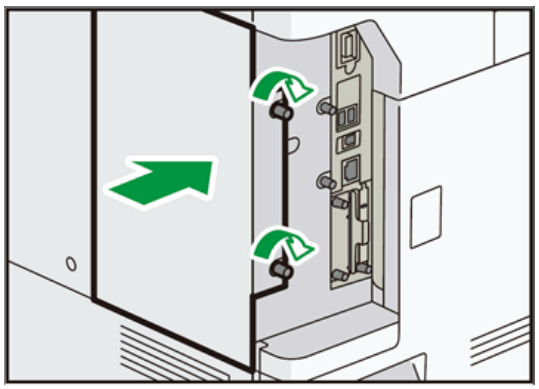
m0ana2091

7. Connect the power cord and FFC to the controller board.



m0ana2092

8. Reattach the rear left cover (coin screw x 2).



9. Turn ON the main power.

Initialization (formatting) of the HDD automatically starts.

10. Print out the "Configuration Page", and then check if this option is correctly recognized.

- User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

11. Select "HDD" in "Advanced Options" tab of the printer driver.

Follow the procedure below on Windows 7 as an example;

(1) Point to the "Start" menu > "Devices and Printers", and right click the printer icon.

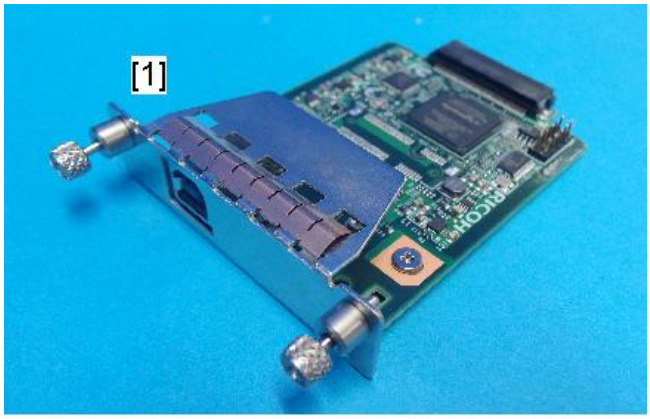
(2) Click "Printer Properties", and click the "Advanced Options" tab.

(3) Select "HDD".

Extended USB Board Type M19 (D3BS-01)

Component Check

No	Items	Q'ty	Remarks
1	Extended USB Board	1	



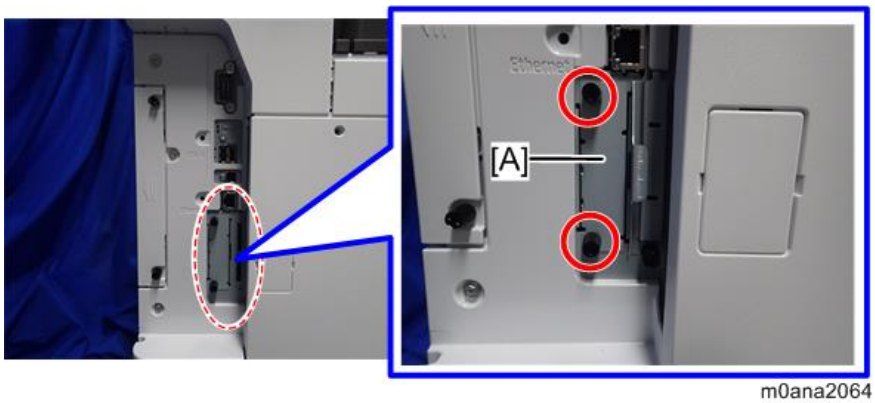
d238m0668

Installation Procedure

⚠CAUTION

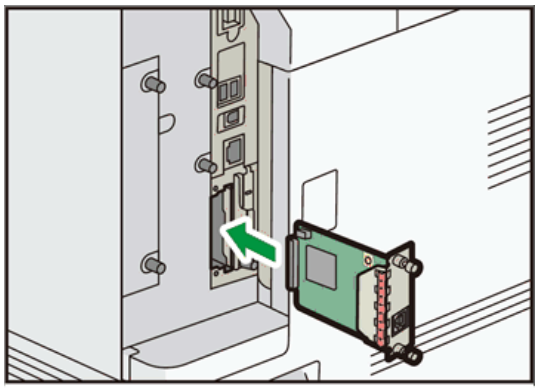
- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.
- Do not put your hand into the controller box. It will result in a malfunction or injury.
- Before doing any work, touch a metal object to discharge static electricity from the body.

1. Remove the slot cover. (coin screw x 2)



m0ana2064

2. Insert the Extended USB Board into the I/F slot. (coin screw x 2)



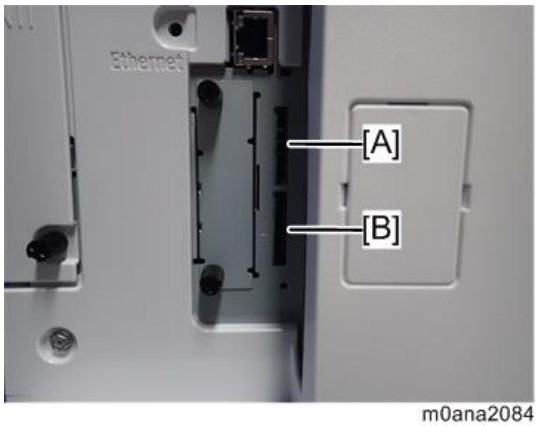
m0ana2094

3. Turn ON the main power.
4. Print out the "Configuration Page", and then check if this option is correctly recognized.
   - User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

- Note
  - The customer should keep the slot covers which were removed.

SD Card Options

SD Card Slots



[A]: SD card slot 1 (option slot)

[B]: SD card slot 2 (service slot)

List of Slots Used

Optional SD cards can be set in either slot 1 or slot 2. But slot 2 is the service slot, so we recommend that you use slot 1 to install the SD card options.

SD card options for this machine

- VM Card Type P13 (VM Card Type P13 (M513-25, -26, -27))
- IPDS Unit Type P13 (IPDS Unit Type P13 (M513-13, -14, -15))
- XPS Direct Print Option Type P13 (XPS Direct Print Option Type P13 (M513-09, -10, -11))
- PostScript3 Unit Type P13 (PostScript3 Unit Type P13 (M513-22, -23, -24))

Note

- In this machine, it is possible to transfer data from a "Postscript3 Unit" SD card, unlike in earlier models, due to a change in the software licensing (the part of the Postscript software that requires licensing is now built into the controller, so the portion on the SD card can be moved to another SD card).

SD Card Appli Move

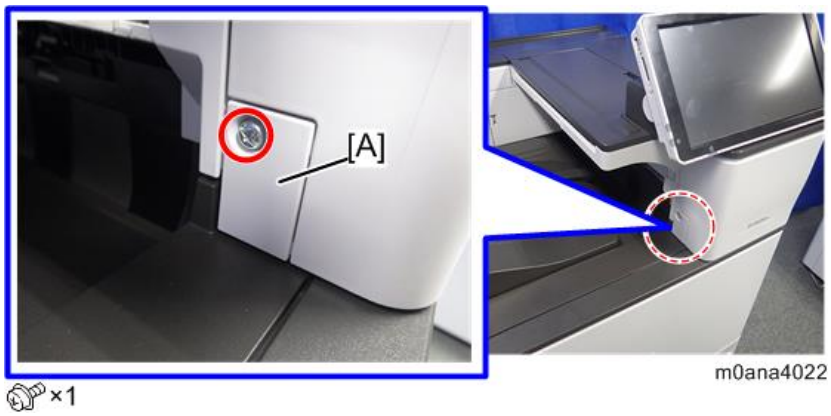
Overview

Since there are only two SD card slots (one of them is a service slot), three or more SD card applications cannot be used simultaneously.
However, if multiple SD card applications are merged, three or more SD card options can be used.
This function is referred to as the "**SD card merge function**".
The "**SD card merge function**" is a function which enables the use of three or more functions within the capacity of two SD cards by physically transferring the function of one SD card to other SD cards (all SD card options can be stored in two SD cards).
However, SD card applications are under license, therefore, since an SD card license after merge is transferred to the target SD card, it cannot be used even if it is moved to the target machine.
Also, a process to prevent illegal copying is performed.

Note

- After merge, store the empty SD card in the location shown below.

1. Remove the small cover [A].

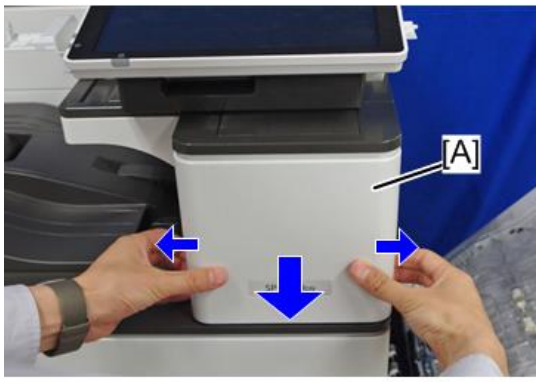


2. Open the right cover, then remove the screw.



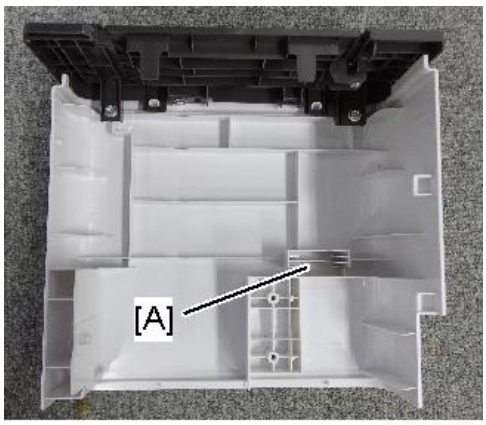
3. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove

the upper front cover [A].



m0ana4037

4. Insert the SD card in the storage location [A] inside the cover.



m0ajm0035

5. Reattach the upper front cover and small cover.

Move Exec

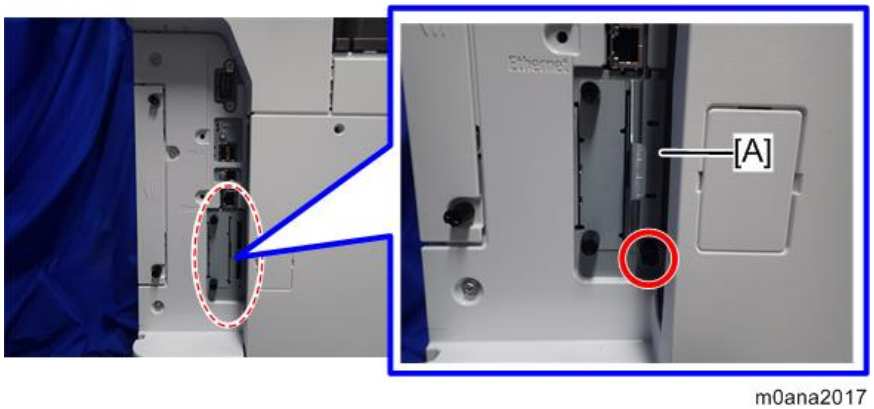
"Move Exec" (SP5-873-001) lets you move application programs from the original SD card to another SD card.

Note

- When merging SD cards, any type of SD card can be used.

1. Turn the OFF the main power.

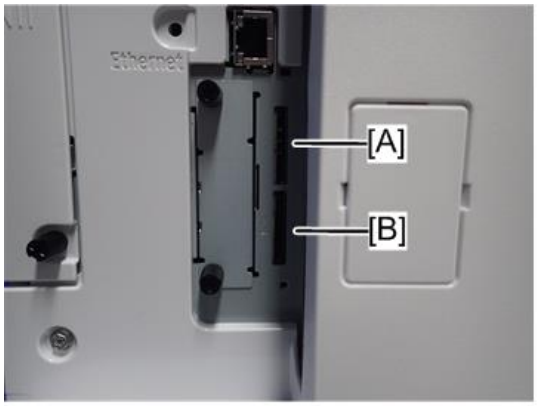
2. Remove the SD card slot cover [A]. (coin screw x 1)



m0ana2017

3. Set the destination SD card (SD card where data is to be stored) in Slot 1 [A], and set the original SD card

(SD card from which data is to be transferred) in Slot 2 [B].



m0ana2016

4. Turn ON the main power, and press [ENTER] in SP5-873-001 (SD Card Appli Move: Move Exec).
5. When a confirmation screen is displayed, press [ENTER] (it takes about 2 - 3 minutes).

Note

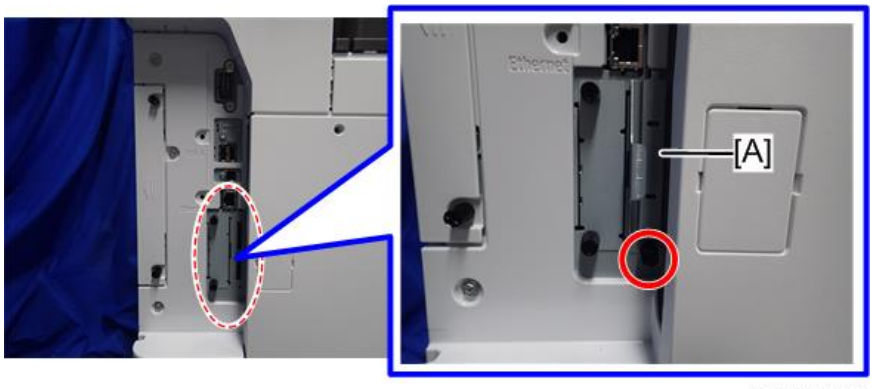
- If [CANCEL] is pressed, the display returns to the previous screen.
- Note that if the power supply is turned off, a panel operation is performed, or the cover is opened during merge, it will result in a malfunction.

6. When merge is complete, and the following screen is displayed, press [CLOSE].

Note

- If the process is terminated abnormally, perform the merge in SP mode again.
- If the capacity of the destination SD card is insufficient, the merge operation cannot be performed.

7. Press [END] twice.
8. Turn OFF the main power.
9. Remove the empty SD card after transfer from Slot 2.
10. Reattach the slot cover [A]. (coin screw x 1)



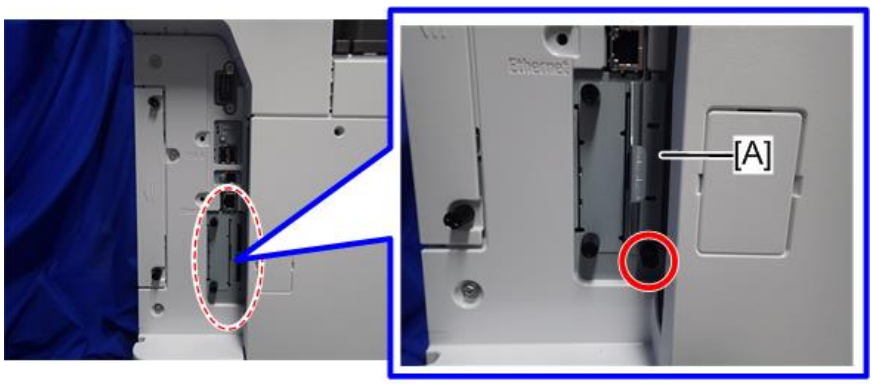
m0ana2017

11. Turn ON the main power, output the system setting list, and check that the options are recognized correctly.

Undo Exec

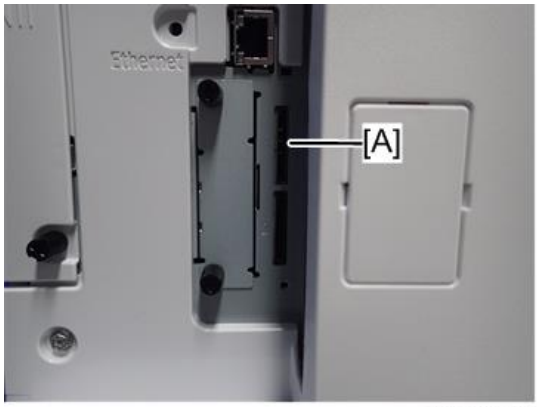
"Undo Exec" (SP5-873-002) lets you move back application programs from an SD card in Slot 1 (upper) to the original SD card in Slot 2 (lower). You can use this program when, for example, you have mistakenly copied some programs by using "Move Exec".

1. Turn OFF the main power.
2. Remove the SD card slot cover [A]. (coin screw x 1)



m0ana2017

3. Insert the integrated SD card in Slot 1 [A: Upper].



m0ana2018

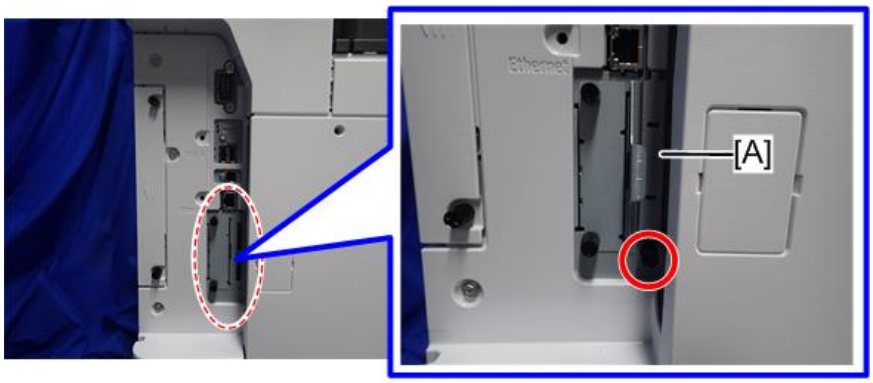
4. Insert the SD card which became empty after integration in Slot 2 (B: lower slot).
5. Turn On the main power, and press [ENTER] in SP5-873-002 (SD Card Appli Move: Undo Exec).
6. When a confirmation screen is displayed, press [ENTER].

Note

- If [CANCEL] is pressed, the display returns to the previous screen.
- Note that if the power supply is turned off, a panel operation is performed, or the cover is opened during cancellation, it will result in a malfunction.

7. When cancellation is complete, press [CLOSE].
8. Press [END] twice.
9. Turn OFF the main power.

10. Reattach the SD card slot cover [A]. (coin screw x 1)

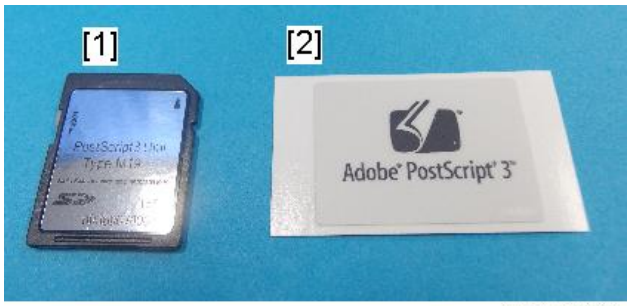


11. Turn ON the main power, and check that the application has been deleted.

PostScript3 Unit Type P13 (M513-22, -23, -24)

Accessory Check

No.	Description	Q'ty
1	SD Card (PostScript3 Unit)	1
2	PS3 Decal	1



Overview of PostScript3 Unit Type P13 (Adobe PS)

This machine is equipped with a clone program for emulating Adobe PostScript/PDF (hereafter "Clone PS") as a standard feature. So, by factory default, it can perform printing using PostScript 3 and PDF Direct Print, in addition to RPCS.

However, the variety and number of built-in fonts (device fonts) differ between Adobe PS and Clone PS, sometimes resulting in different printing results.

To address the possible customer needs listed below, the PostScript3 Unit Type P13 is made available as an option.

- When you want to use device fonts supplied with Adobe PS.
- Since forms and ledgers have been created based on device fonts supplied with Adobe PS, a changeover to Clone PS requires redesign of these documents.
- From the viewpoint of precise printing operation, it is impossible to accept any differences in output results in comparison with Adobe PS.

Note

For details of the functions of Adobe PS and Clone PS, refer to Adobe PS vs. Clone PS.

Installation procedure (Adobe PS)

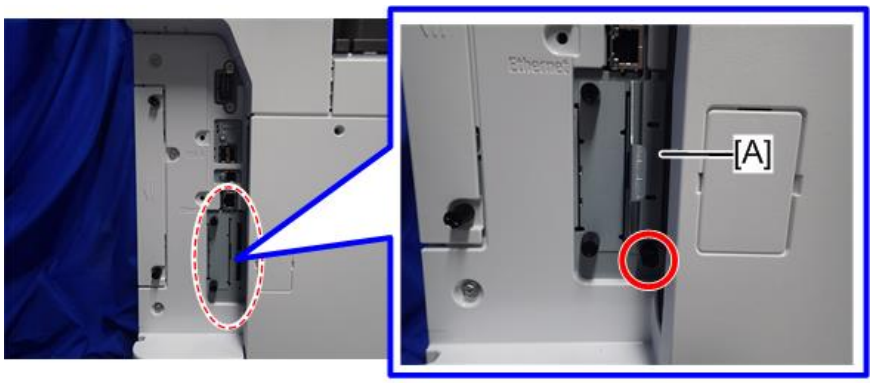
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

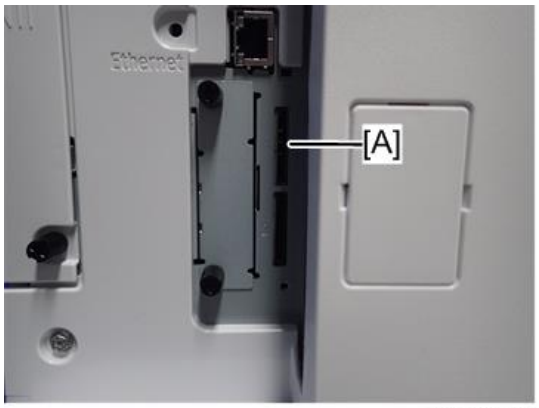
- Clone PS and Adobe PS cannot be run simultaneously. If PostScript3 Unit Type P13 (Adobe PS) is installed, Clone PS will be disabled.
- When installing more than one SD card, perform the merge operation (SD Card Appli Move).

1. Remove the SD card slot cover [A] (coin screw x 1).



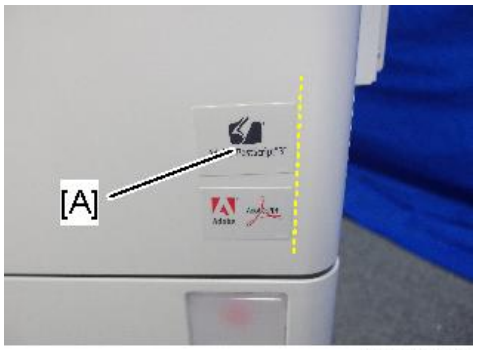
m0ana2017

2. Insert the PS3 SD card in SD card slot 1 [A: Upper Slot].



m0ana2018

3. Reattach the SD card slot cover (coin screw x 1).
4. Stick the "Adobe PostScript3" decal [A] on the front face of the machine.



d238m0643

5. Turn ON the main power.

   Adobe PostScript3 installation starts.

6. Press [Restart] when the following message appears.



m0ajm0311

7. Print out the "Configuration Page", and then check if this option is correctly recognized.
   - User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page
     Note that the description of Firmware Version shown in the printed Configuration Page differs between Clone PS and Adobe PS.

PS type	Description of Firmware Version
When PostScript3 Unit Type P13 (Adobe PS) is installed	RPCS [x.xx.xx] **Adobe PostScript 3** [x.xx], **Adobe PDF** [x.xx]
Clone PS	RPCS [x.xx.xx] **PS3** [x.xx], **PDF** [x.xx]

Initial Settings for the Printer Driver

After installation of an SD card, configure the settings for the printer driver in accordance with the type of PS to be used.

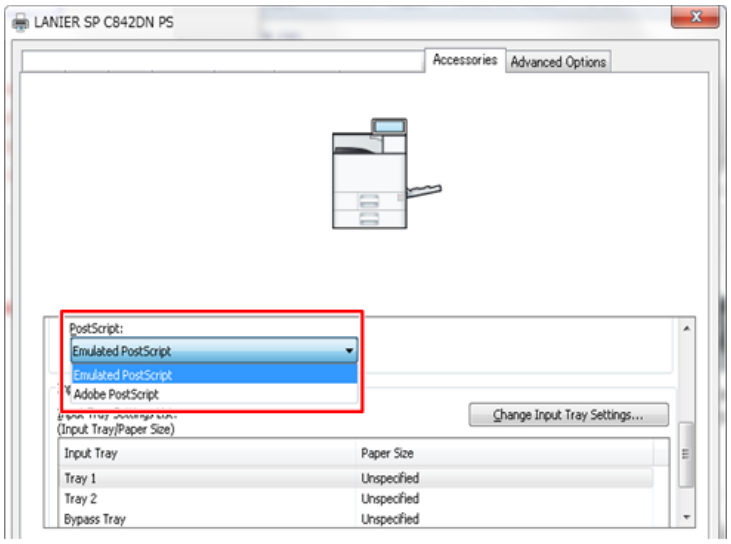
Note

The same printer driver, PS3 printer driver, can be used for printing either for Adobe PS or Clone PS.

- **Setting items (Windows):**
  In an environment where interactive communication is enabled, the machine attempts to acquire information to perform automatic configuration.
  When manual configuration is to be performed, select “Adobe PostScript” if Adobe PS is used, and choose “Emulated PostScript” if Clone PS is used.

1. On the [Start] menu, click [Devices and Printers].
2. Right-click the icon of the printer you want to use.
3. Click [Printer properties].
4. Click the “Accessories” tab and configure settings for Adobe PS/Clone PS using the PostScript pull-down

menu.



m0ajm0301

- **Setting items (Mac OS X):**

  If the driver is installed by means of the Bonjour function or “HP Jetdirect - Socket”, the settings will be automatically configured.

  Automatic configuration will not work if any other protocol is used for installation. In this case, manual configuration is required.

  When manual configuration is to be performed, select “Adobe PostScript” if Adobe PS is used, and “Emulated PostScript” if Clone PS is used.

Switching back to Clone PS from Adobe PS

Clone PS can be resumed by removing the Adobe PS card from the SD card slot and applying the firmware for Clone PS/PDF (“.fwu” or “.rfu”).

Note: The work should be carried out by customer engineers.

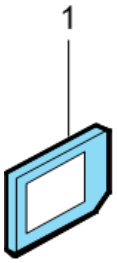
In doing this, be sure to apply both PS3 and PDF firmware modules. If only one of them is applied, the machine will not operate properly. (As a stopgap measure to fix the malfunction, insert the optional Adobe PS card again into the SD card slot to enable the use of Adobe PS. Then, Clone PS can be resumed by applying both the PS3 and PDF firmware modules once again.)

Classification	Firmware name	Software part number
Clone PS component firmware	IRIPS Font	M1365277
	IRIPS PS3	M0AN5544
	IRIPS PDF	M0AN5546
Adobe PS component firmware	Adobe PS3	M5135731
	Adobe PDF	M5135733
	PS3 Font	D2415681

XPS Direct Print Option Type P13 (M513-09, -10, -11)

Accessory Check

No.	Description	Q'ty	Remarks
1	SD Card (XPS Direct Print)	1	



d595i900b

Installation Procedure

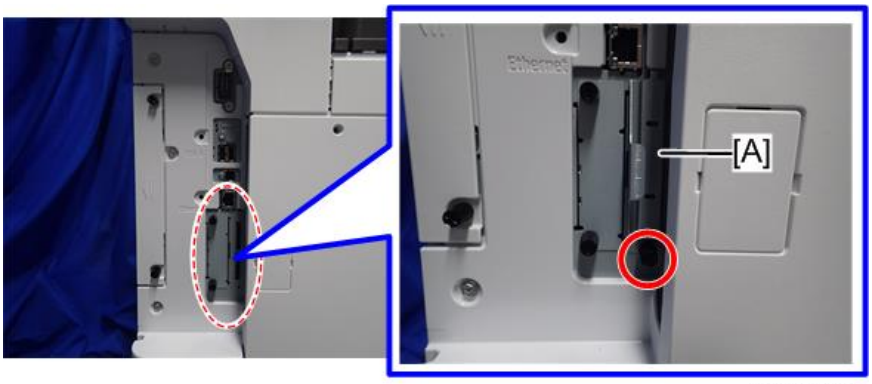
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

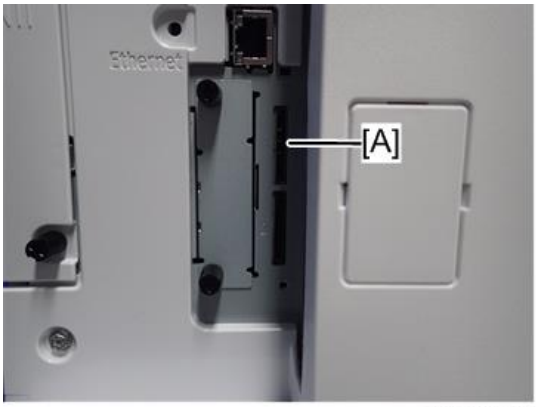
- When installing more than one SD card, perform the merge operation (SD Card Appli Move).

1. Remove the SD card slot cover [A] (Coin screw x 1).



m0ana2017

2. Insert the XPS SD card in SD card slot 1 [A: Upper Slot].



m0ana2018

3. Turn ON the main power.

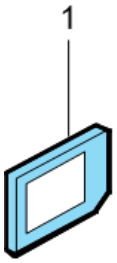
4. Print out the "Configuration Page", and then check if this option is correctly recognized.

- User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

VM Card Type P13 (M513-25, -26, -27)

Accessory Check

No.	Description	Q'ty
1	SD Card (VM Card)	1



d595i900b

Installation Procedure

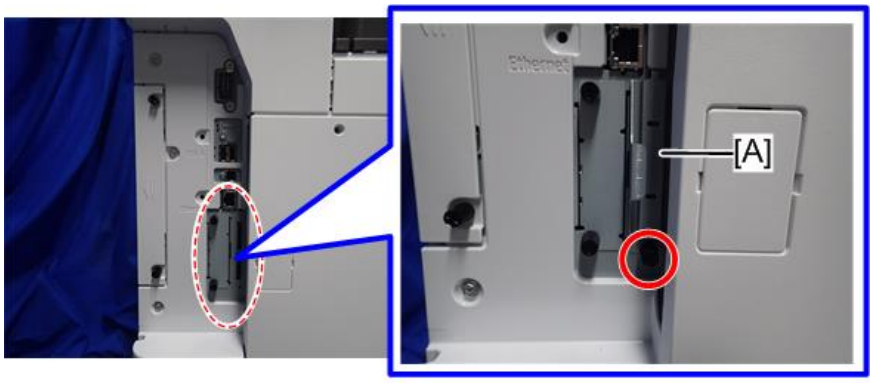
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

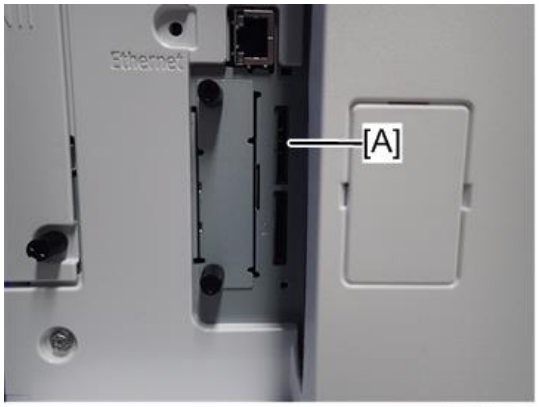
- If using the VM Card, it is necessary to install the hard disk.
- When installing more than one SD card, perform the merge operation (SD Card Appli Move).

1. Remove the SD card slot cover [A] (coin screw x 1).



m0ana2017

2. Insert the VM card in SD card slot 1 [A: Upper Slot].



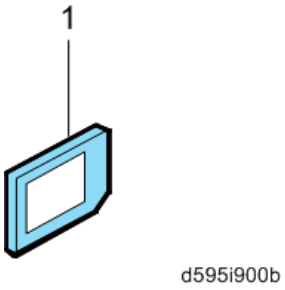
m0ana2018

3. Reattach the SD card slot cover (coin screw x 1).
4. Turn ON the main power.
5. Print out the "Configuration Page", and then check if this option is correctly recognized.
   - User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

IPDS Unit Type P13 (M513-13, -14, -15)

Accessory Check

No.	Description	Q'ty	Remarks
1	SD Card (IPDS Unit)	1	



d595i900b

Installation Procedure

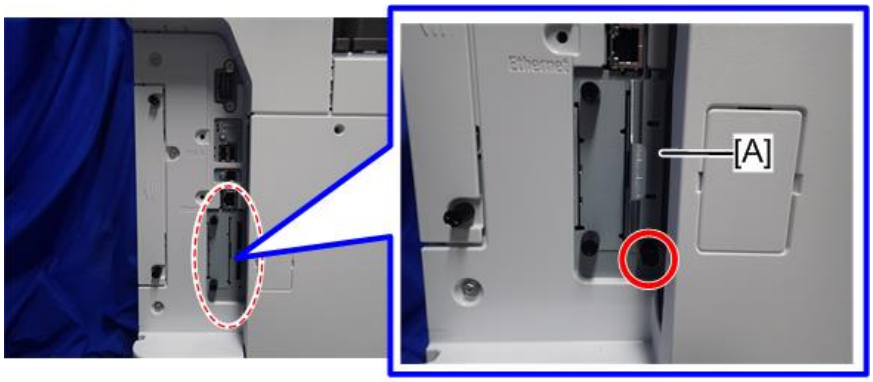
⚠CAUTION

- When installing this option, turn OFF the main power and unplug the power cord from the wall socket. If installing without turning OFF the main power, an electric shock or a malfunction may occur.

Note

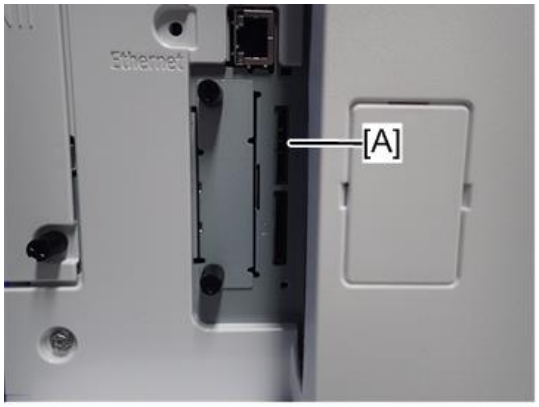
- When installing more than one SD card, perform the merge operation (SD Card Appli Move).

1. Remove the SD card slot cover [A] (coin screw x 1).



m0ana2017

2. Insert the IPDS card in SD card slot 1 [A: Upper Slot].



m0ana2018

3. Reattach the SD card slot cover (Coin screw x 1).
4. Turn ON the main power.
5. Print out the "Configuration Page", and then check if this option is correctly recognized.
   - User Tools > Machine Features > Printer Features > List/Test Page > Configuration Page

@Remote Settings

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 SP5-816-201 in the mainframe must be "0".
2. Print the SMC with SP5-990-002 and then check if a device ID2 (SP5-811-003) must be correctly programmed.
   - 6 spaces must be put between the 3-digit prefix and the following 8-digit number (e.g. xxx_____xxxxxxxx).
   - ID2 (SP5-811-003) and the serial number (SP5-811-001) must be the same (e.g. ID2: A01_____23456789 = serial No. A0123456789)
   - Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
3. The following settings must be correctly programmed.
   - Proxy server IP address (SP5-816-063)
   - Proxy server Port number (SP5-816-064)
   - Proxy User ID (SP5-816-065)
   - Proxy Password (SP5-816-066)
4. Get a Request Number

Execute the @Remote Settings

1. Enter the SP mode.
2. Input the Request number which you have obtained from @Remote Center GUI, and then enter [OK] with SP5-816-202.
3. Confirm the Request number, and then click [EXECUTE] with SP5-816-203.
4. Check the confirmation result with SP5-816-204.

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

Value	Meaning	Solution/ Workaround
12	Parameter error	-
20	Dial-up authentication error	* These errors occur only in the modems that support @Remote.
21	Answer tone detection error	
22	Carrier detection error	
23	Invalid setting value (modem)	
24	Low power supply current	
25	unplugged modem	
26	Busy line	

5. Make sure that the screen displays the Location Information with SP5-816-205 only when it has been input at the Center GUI.

6. Click [EXECUTE] to execute the registration with SP5-816-206.

7. Check the registration result with SP5-816-207.

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 (Authentication error)	Check Proxy user name and password.
8	Other error	See "SP5-816-208 Error Codes" below this.
9	Request number confirmation executing	Processing… Please wait.
11	Already registered	-
12	Parameter error	-
20	Dial-up authentication error	* These errors occur only in the modems that support @Remote.
21	Answer tone detection error	
22	Carrier detection error	
23	Invalid setting value (modem)	
24	Low power supply current	
25	unplugged modem	
26	Busy line	

8. Exit the SP mode.

SP5-816-208 Error Codes

Caused by Operation Error, Incorrect Setting

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.
-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.
-12009	The ID2 in the NVRAM does not match the ID2 in the individual certification.	Check ID2 of the mainframe.
-12010	The certification area is not initialized.	Initialize the certification area.

Error Caused by Response from GW URL

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
-2392	Parameter error	
-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.

SP descriptions

- **SP5-816-201 (Remote Service: Regist Status DFU(SSP))**

  Displays a number that indicates the status of the @Remote service device.

  0: Neither the registered device by the external nor embedded RCG device is set.

  1: The embedded RCG device is being set. Only Box registration is completed. In this status, this unit cannot

answer a polling request from the external RCG.

2: The embedded RCG device is set. In this status, the external RCG unit cannot answer a polling request.

3: The registered device by the external RCG is being set. In this status the embedded RCG device cannot be set.

4: The registered module by the external RCG has not started.

- **SP5-990-002 (SP Print Mode: SP(Mode Data List)**
  Prints the configuration sheets of the system and user settings: SMC.
  Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
- **SP5-811-003 (Machine No. Setting: ID2 Code Display)**
  Sets the ID-2 code used to identify the @remote device at installation.
- **SP5-816-063 (Remote Service: Proxy server IP address)**
  This SP sets the address of the proxy server used for communication between the RCG device and the gateway. Use this SP to set up or display the customer proxy server address.
  The address is necessary to set up the embedded RCG-N.
  The address display is limited to 127 characters. Characters beyond the 127
  characters are ignored.
  This address is customer information and is not printed in the SMC report.
- **SP5-816-064 (Remote Service: Proxy server Port number)**
  This SP sets the port number of the proxy server used for communication between the embedded RCG-N and the gateway. This setting is necessary to set up the embedded RC Gate-N.
  This port number is customer information and is not printed in the SMC report.
- **SP5-816-065 (Remote Service: Proxy User ID)**
  This SP sets the HTTP proxy certification user name.
  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.
- **SP5-816-066 (Remote Service: Proxy Password)**
  This SP sets the HTTP proxy certification password.
  The length of the password 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.
- **SP5-816-202 (Remote Service: Letter Number DFU(SSP))**
  Allows entry of the number of the request needed for the RCG-N device.
- **SP5-816-203 (Remote Service: Confirm Execute)**
  Executes the inquiry request to the @Remote GW URL.
- **SP5-816-204 (Remote Service: Confirm Result DFU(SSP))**
  Displays a number that indicates the result of the inquiry executed with SP5816 203.
- **SP5-816-205 (Remote Service: Confirm Place DFU(SSP))**
  Displays the installed section informed from G/W for response of request number inquiry if the section is enrolled on the G/W.

- **SP5-816-206 (Remote Service: Register Execute)**
  Executes "Embedded RCG Registration".
- **SP5-816-207 (Remote Service: Register Result DFU(SSP)**
  Displays a number that indicates the registration result.

Operation Guidance for Users

Function/Operation	Instruction to provide
Basic machine functions, operations	• How to load the toner bottle • How to load paper and other consumables/supplies • How to turn the main power switch ON/OFF • How to clear paper jams • How to program, modify, and delete Address Book entries • How to customize the UI and home screen • Overview of machine options/peripherals • How to take the proper action for SC errors (clearing the error, contacting service and support, etc.), how to interpret @Remote notifications • Important notes to keep in mind whenever moving the machine • Product limitations
Printer	• How to install printer drivers (using the recommended method) • How to connect to a PC (performing the port settings) • How to print out a test page • Overview of various settings inside each tab in the printer driver (e.g. duplex printing)

3. Preventive Maintenance

PM Parts Settings

Replacement procedure of the PM parts

When you replace the PM parts, you need to reset the PM counter manually.

There are two ways to reset the PM counter for this machine.

- Method 1: Reset by SP3-701 (Manual New Unit Set). This is the conventional method.
- Method 2: Reset by [PM Counter / New Unit Set] Menu.

"Method 2" is recommended for its ease of operation.

Note

- For the following units, there is a new unit detection mechanism. It is not necessary to reset PM counters.
  - Fusing unit
  - PCDU
  - Waste Toner Bottle (When the machine stopped because the waste toner bottle was full)
  - Transfer Roller Unit

Note

- If you only replace the development unit (not replacing the PCU), the PCU counter will not be cleared when you set SP3-701-023 (Manual New Unit Set: Development Unit) in advance.

Note

- Toner recycling mode is not available.

Method 1: By SP3701

1. Enter the SP mode.
2. Output the SMC logging data with SP5-990-004.
   Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
   Set the following SPs (New Unit Detection) to "1".

Item	SP
PCU	SP3-701-002
Development Unit	SP3-701-023
Waste Toner Bottle (When the bottle is replaced before the machine detects bottle full and stops)	SP3-701-142

3. Turn the main power switch OFF, and disconnect the power cord from the outlet.
4. Replace the PM parts and turn the main power ON.
   The machine will reset the PM counters automatically. In the case of the development unit, developer initialization will also be done automatically.

5. Exit the SP mode.

Method 2: By [PM Counter / New Unit Set] Menu

1. Enter the SP mode.
2. Output the SMC logging data with SP5-990-004.
   Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
3. Press [PM Counter / New Unit Set].



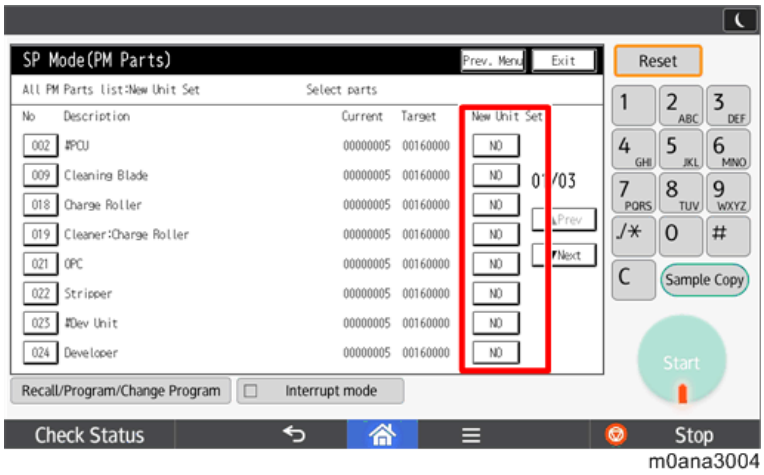
m0ana3003

4. Press [All PM Parts List : New Unit Set].



d257a7540a

5. Set the PM part that you want to replace to "YES" under "New Unit Set".
   After pressing "YES", the [Exit] key will not be available.



6. Turn OFF the main power and unplug the power cord from the wall outlet.
7. Replace the PM parts and turn the main power ON.
   The machine will reset the PM counters automatically. In the case of the development unit, developer initialization will also be done automatically.
8. Exit the SP mode.

After installing the new PM parts

1. Output the SMC logging data with SP5-990-004 and check the counter values.
   Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
2. Make sure that the PM counters for the replaced units are "0" with SP7-621, or SP7-944. If the PM counter for a unit was not reset, then execute the new unit detect setting with SP3-701 again and turn the machine OFF/ON.
3. Make sure that the exchange counter counts up with SP7-853.
4. Make sure that the counters for the previous units (SP7-908) on the new SMC logging data list (from step 2 above) are equal to the counters (SP7-621, or SP7-944) for these units on the previous SMC logging data list (the list that was output in the "Before removing the old parts" section).
5. Make sure that the unit replacement date is updated with SP7-950.

SP descriptions

- **SP7-621-001 (PM Counter Display: Paper)**
  Displays the number of sheets printed for each current maintenance unit.
  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 (SP7-906-2 to 10) and is reset to "0".
- **SP7-625 (Previous Unit Counter: Pages)**
  Displays the number of sheets printed for the previous unit.
- **SP7-853 (Replace Counter)**
  Displays the number of times each PM part has been replaced.

- **SP7-906 (Previous Unit Counter:Distance)**
  Displays the rotation distance of the previous drum.
- **SP7-908 (Previous Unit Counter: Pages (%))**
  Displays the PM counter of the previous PM Part which was replaced last time.
- **SP7-944 (PM Counter Display: Distance)**
  Displays the rotation distance of the current drum.
- **SP7-950 (Unit Replacement Date)**
  Displays the replacement date of each PM unit.
- **SP5-990**
  Prints the configuration sheets of the system and user settings: SMC.
  Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.

PM Parts List

See “Appendices” for the following information:

- Preventive Maintenance Items

4. Replacement and Adjustment

Notes on the Main Power Switch

Push Switch

The main power button of this machine has been changed to a push-button switch from the conventional rocker switch. The push switch has characteristics and specifications different from the rocker switch. Care must be taken when replacing and adjusting parts.

Characteristics of the Push Switch (DC Switch)

Power is supplied to the machine even when the main power switch is turned OFF.

The push switch in this machine uses DC (direct current). Therefore, if the AC power cord is connected to an electrical outlet, power is supplied to the controller board, the operation unit and other modules even when the main power is turned OFF. When replacing the controller board and the operation unit in this state, not only these boards, it will damage other electrical components.
So, when performing maintenance work such as replacing parts, in addition to turning off the main power with the push switch, always unplug the AC power cord.

When you disconnect the power cord from the AC wall outlet, inside the machine there is still residual charge.

When you disconnect the power cord from the AC wall outlet, inside the machine for a while there is still residual charge. Therefore, if you remove boards in this state, it can cause a blown fuse or memory failure.

- How to remove the residual charge inside the machine
  After you unplug the power cord from the AC wall outlet, in order to remove the residual charge from inside the machine, be sure to press the main power switch. Thus, the charge remaining in the machine is released, and it is possible to remove boards.

When you reconnect the AC power cord into an AC wall outlet, the machine will start automatically.

In order to remove the residual charge, push the main power switch while you disconnect the AC power cord. At that time, the power ON flag inside the machine is set. Therefore, after you finish work on the machine and reconnect the power cord to the AC, even if you do not press the main power switch, the machine will start automatically and the moving parts will begin to move. **When working on moving parts, be careful that fingers or clothes do not get caught.**

Note

- Automatic restart deals with cases when you accidentally unplugged the AC power cord or unexpected power outages. By keeping the power flag ON, after the resumption of power, the machine will start up automatically.

In rare cases, when you reconnect the AC power cord to a power outlet, the machine does not start automatically.

In this case, the machine has not failed. The cause is due to the timing of releasing the residual charge. If you press the main power switch while the residual charge was already released, the power ON flag will not be set. At this time, start the machine manually by pressing the main power switch.

Shutdown Method

1. Press the main power switch [A] on the machine.



m0ana4120

2. The shutdown message appears. After the shutdown process, the main power is turned off automatically. The operation panel and the main power indicator are turned off when the machine completes the shutdown.

Important

- Even after the shutdown message disappears, do not disconnect the power cord while the main power indicator [A] is flashing to indicate that the machine is still shutting down.



d238m1030

⚠CAUTION

- Before removing and adjusting electrical boards, do the following procedure. Otherwise, the board can be damaged by the residual charge inside the machine and must be replaced.

1. Take out the power cord after shutdown.

2. Press the power switch for a second to remove the residual charge inside the machine.

Forced Shutdown

In case normal shutdown does not complete for some reason, the machine has a forced shutdown function.
To make a forced shutdown, press and hold the main power switch for 6 seconds.
In general, do not use the forced shutdown.

Important

- Forced shutdown may damage the hard disk and memory, and can cause damage to the machine. Use a

forced shutdown only if it is unavoidable.

Beforehand

⚠WARNING

- Turn off the main power switch and disconnect the power cord.
- After replacing, make sure that all removed harnesses are connected up again and secured in their clamps.

Special Tools and Lubricants

The following special tools should be prepared for maintenance of this model in the field.

Unique or Common:

U: Unique for this model

C: Common with listed model

Item	Part Number	Description	Q'ty	Unique or Common
1	B6455020	SD Card (1GB)	1	C (General)
2	B6455060	SD Card (16GB)	1	C (General)
3	A2579300	Grease Barrierta – S552R	1	C (General)
4	C4019503	20× Magnification Scope	1	C (General)
5	VSSG9002	FLUOTRIBO MG GREASE: 100G	1	C (General)

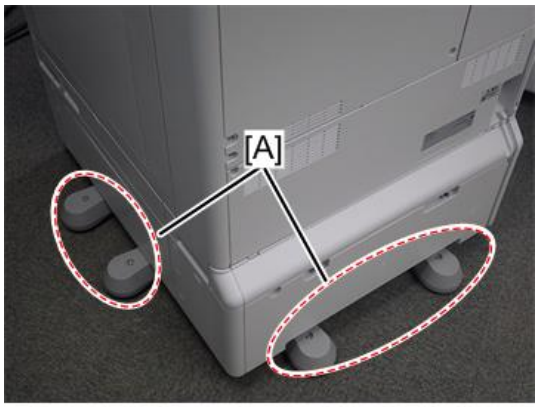
Note

- A PC (Personal Computer) is required for creating the Encryption key file on an SD card when replacing the controller board in which HDD encryption has been enabled.

Exterior Covers

Precautions concerning Stabilizers

The stabilizers [A] are necessary for meeting the requirements of IEC60950-1, the international standard for safety.



m0ana4053

The aim of these components is to prevent the products, which are heavy, from toppling as a result of people running into or leaning onto the products, which can lead to serious accidents such as persons becoming trapped under the product. (U.S.: UL60950-1, Europe: EN60950-1)

Overview

Front and Rear Covers



m0ana4001

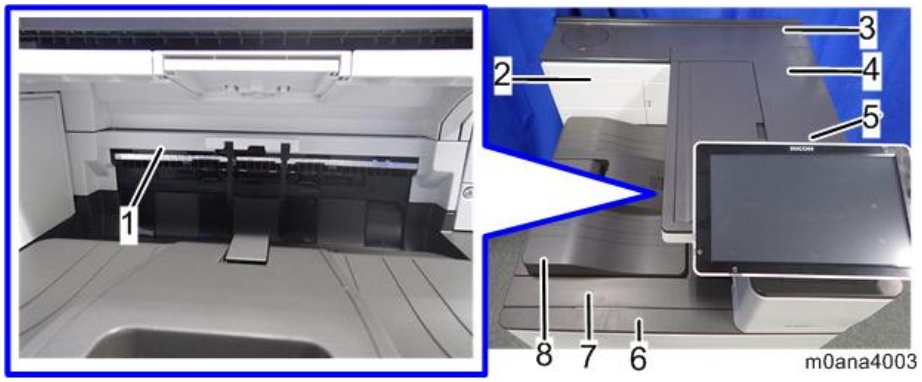
No.	Cover name
1	Upper front cover
2	Front cover
3	Main power switch cover
4	Rear left cover
5	Rear cover
6	Rear lower cover

Left and Right Side Covers



No.	Cover name
1	Left rear cover
2	Controller cover
3	Left cover
4	Left upper cover
5	Right upper cover
6	Right door
7	Right rear cover

Paper Exit Covers/Top Covers



No.	Cover name
1	Paper exit cover
2	Upper inner cover
3	Top rear cover
4	Top right cover
5	Operation panel upper cover
6	Paper exit front cover
7	Paper exit lower cover
8	Paper exit tray

Inner Cover

Note

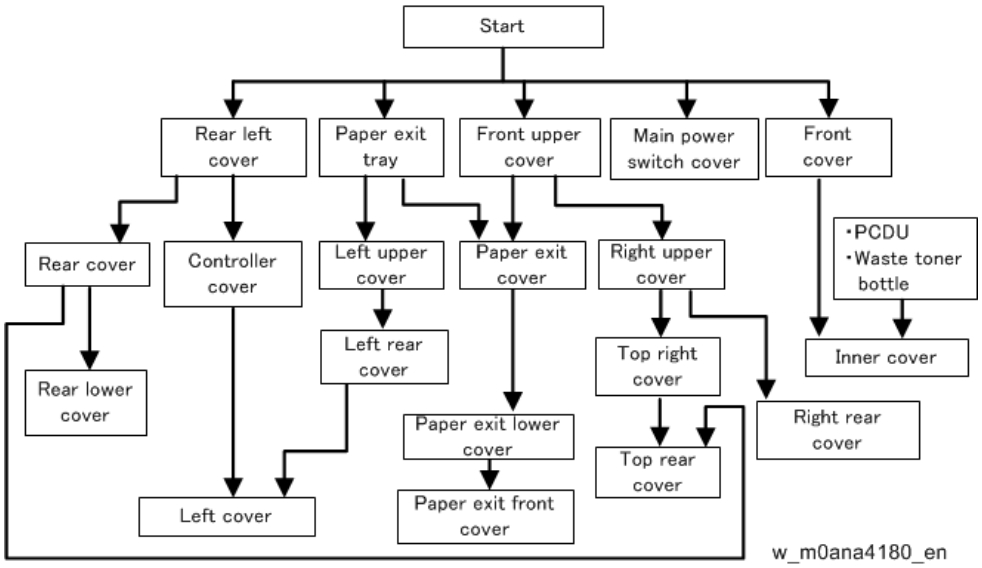
The colors of parts and decals may vary depending on the model.



m0ana4004

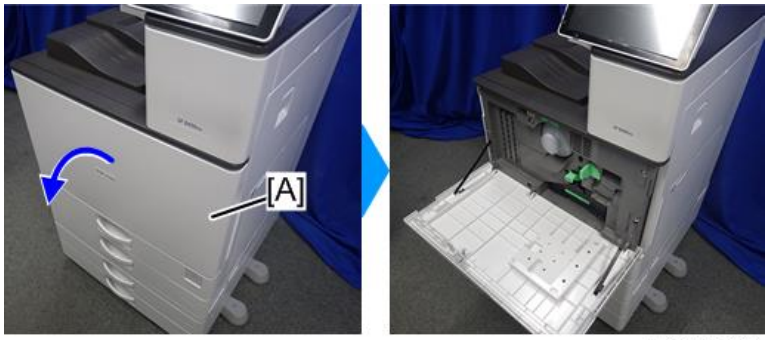
No.	Cover name
1	Inner cover

Quick Reference for Removing Covers



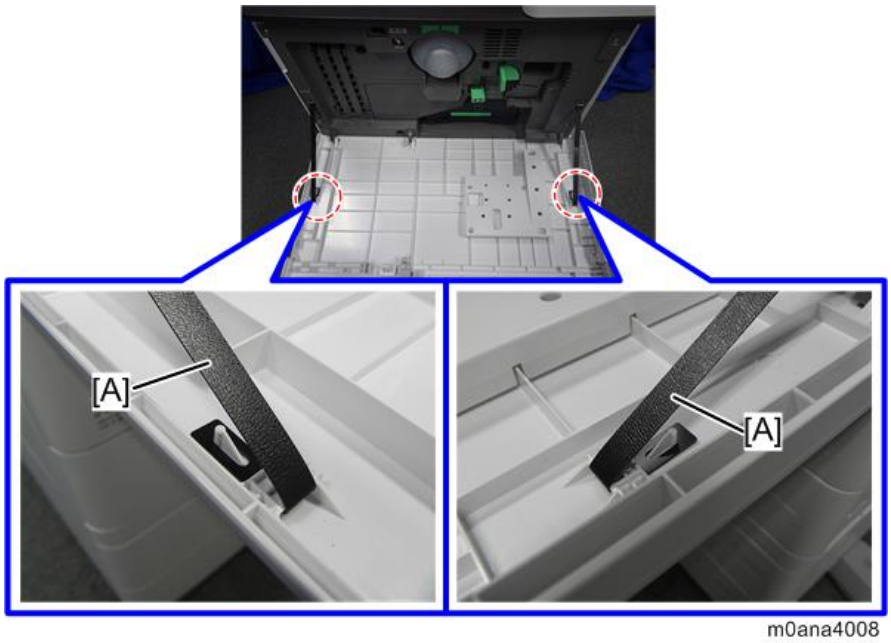
Front Cover

1. Open the front cover [A].



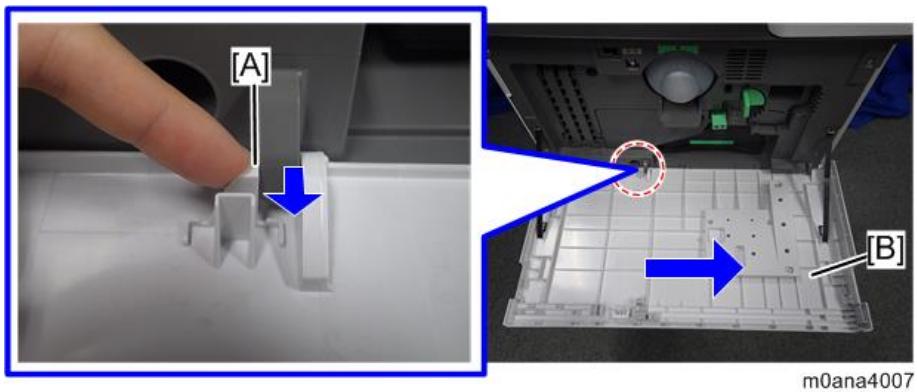
m0ana4006

2. Unhook the belt tip and detach it [A].



m0ana4008

3. Pressing down the stopper [A], slide the front cover [B] to the right and detach it.

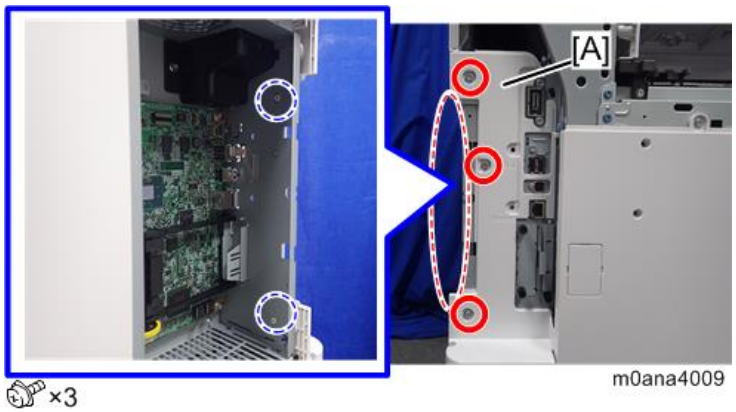


m0ana4007

Controller Cover

1. Remove the rear left cover.(Rear Left Cover)

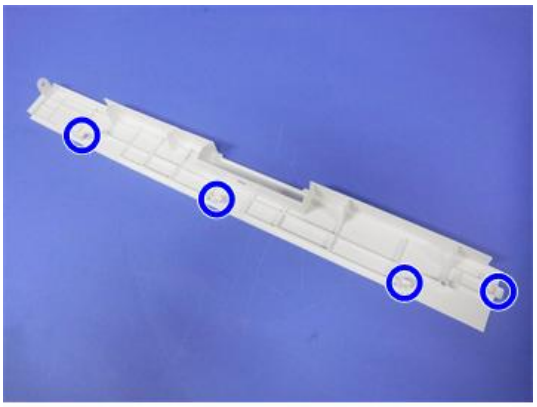
2. Release the two bosses at the back, and remove the controller cover [A].



Left Upper Cover

⚠CAUTION

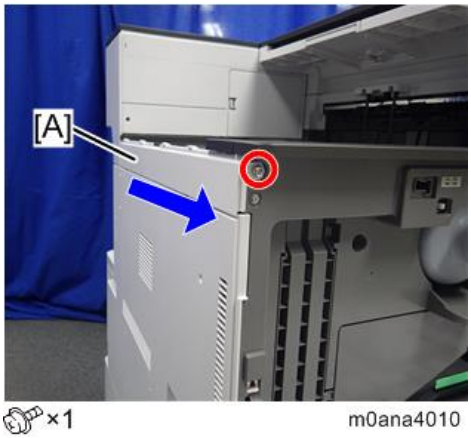
- Each part enclosed by a blue circle has a tab. Be careful not to damage it when attaching and detaching.



1. Open the front cover. (Front Cover)
2. Remove the paper exit tray. (Paper Exit Tray)
3. Remove the left upper cover [A].

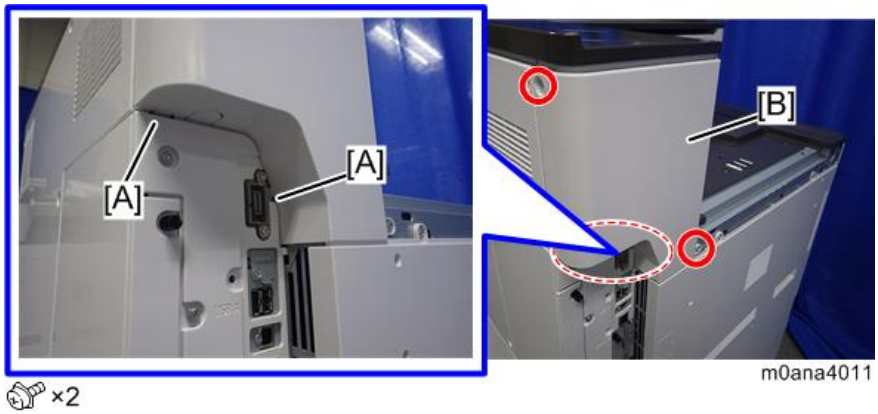
Note

- Slide the cover in the direction of the arrow.



Left Rear Cover

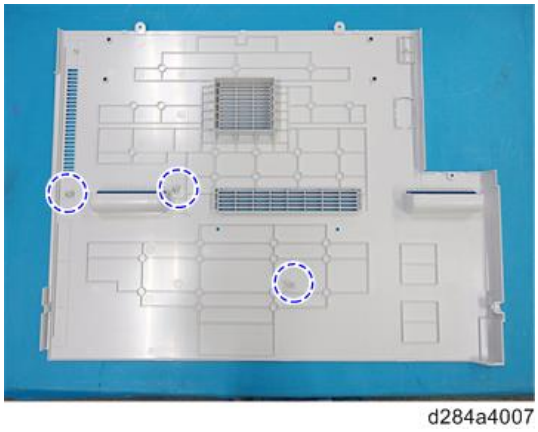
1. Remove the left upper cover. (Left Upper Cover)
2. Release the hooks [A], and remove the left rear cover [B].



Left Cover

Note

Each part enclosed by a blue circle has a tab. Be careful not to damage it when attaching and detaching.

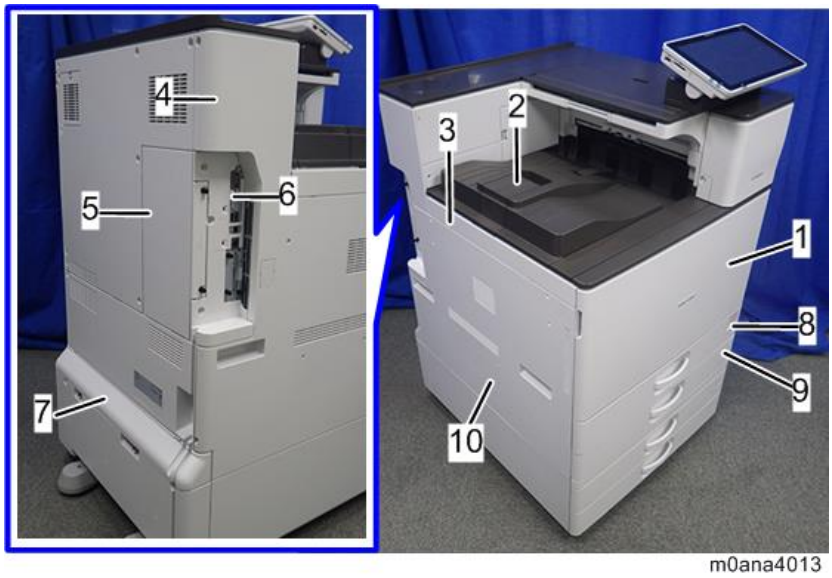


1. Remove the left rear cover. (Left Rear Cover)
2. Remove the controller cover. (Controller Cover)
3. Remove the rear lower gap cover. (Rear Lower Gap Cover)
4. Pull out the 1st and 2nd paper feed trays.

5. Remove the left cover [A].



Order to remove

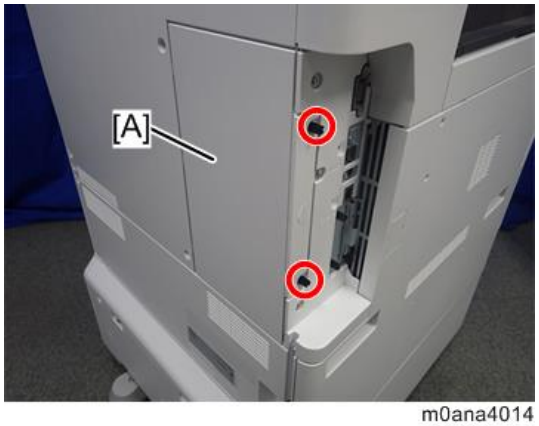


1. Front cover
2. Paper exit tray
3. Left upper cover
4. Left rear cover
5. Rear left cover
6. Controller cover
7. Rear lower gap cover
8. 1st paper feed tray
9. 2nd paper feed tray

10. Left cover

Rear Left Cover

1. Remove the rear left cover [A] (coin screw x 2).



m0ana4014

Rear Cover

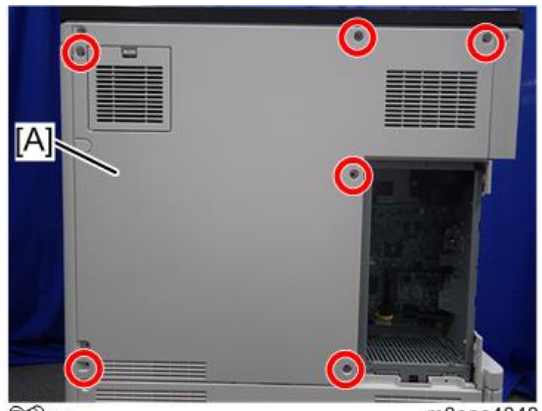
Note

Each part enclosed by a red dotted circle has a tab. Be careful not to damage it when attaching and detaching.


m0ana4015

1. Remove the rear left cover. (Rear Left Cover)

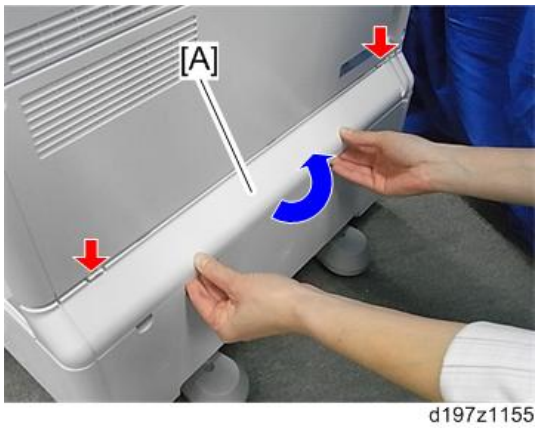
2. Remove the rear cover [A].



m0ana4048

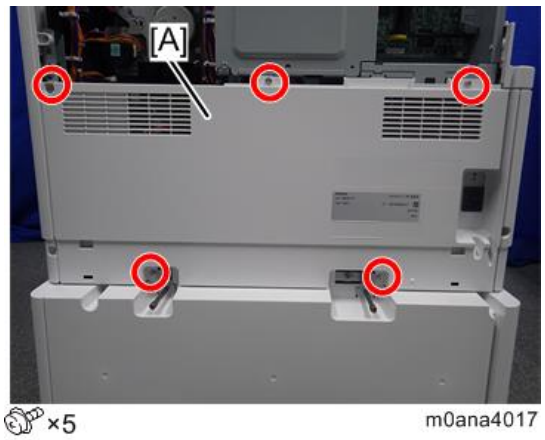
Rear Lower Gap Cover

1. Remove the rear lower gap cover [A]. (hook×2)



Rear Lower Cover

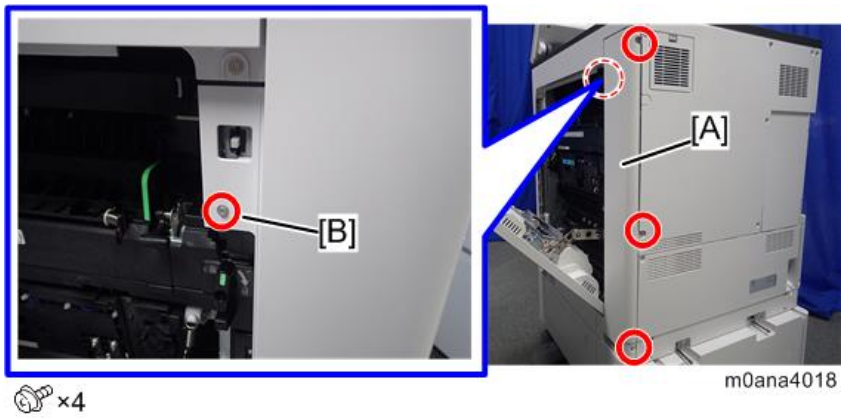
1. Remove the rear left cover. (Rear Left Cover)
2. Remove the rear cover. (Rear Cover)
3. Remove the rear lower gap cover. (Rear Lower Gap Cover)
4. Remove the rear lower cover [A].



Right Rear Cover

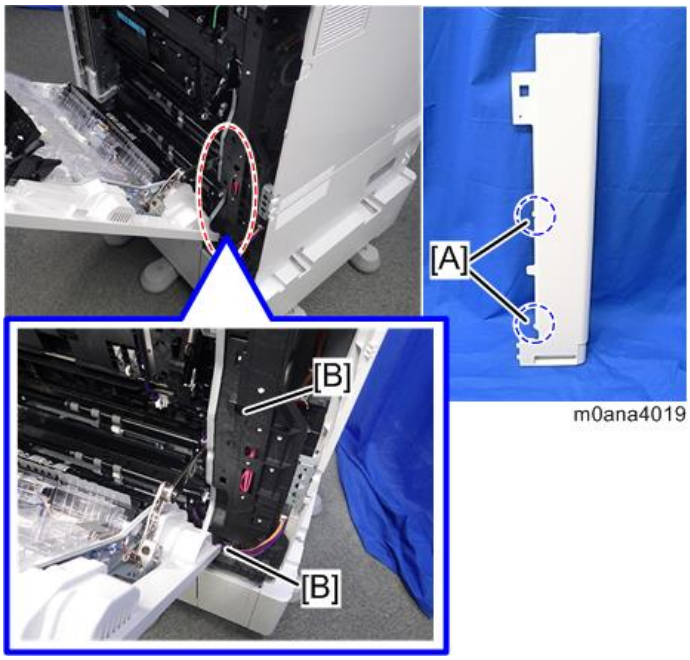
1. Remove the right upper cover. (Right Upper Cover)
2. Remove the rear lower gap cover. (Rear Lower Gap Cover)

3. Remove the right rear cover [A]. (x4, among them, tapping screw [B] x1)



Note

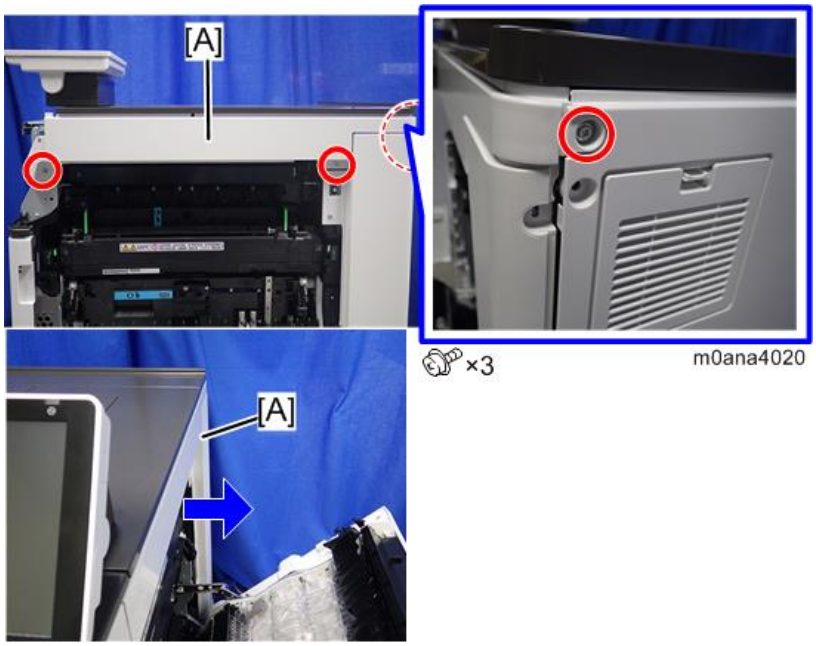
- When installing, insert the projections [A] in the holes [B], taking care not to trap the harness.



Right Upper Cover

1. Remove the upper front cover. (Upper Front Cover)

2. Remove the right upper cover [A] as shown by the arrow.



Right Cover

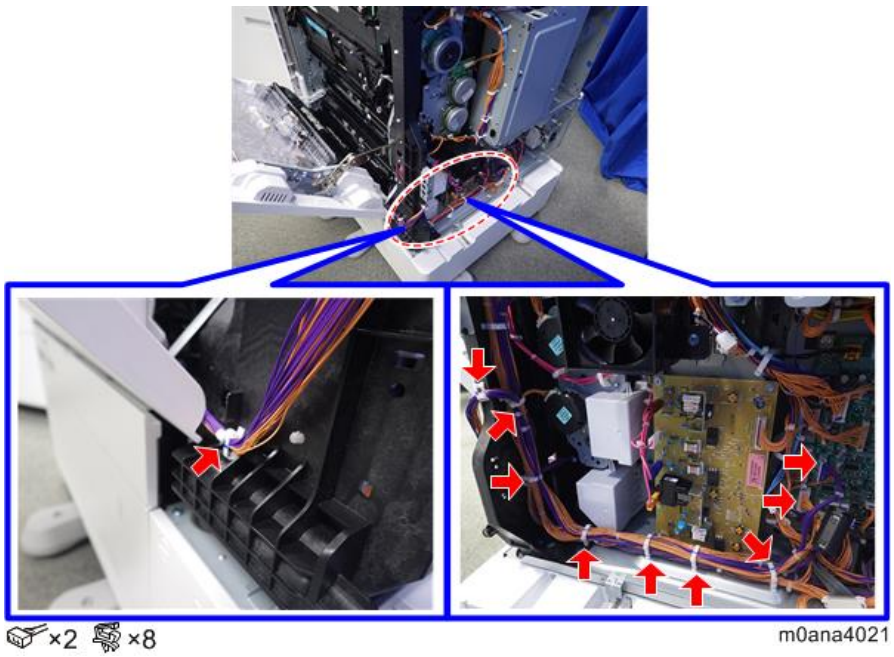
1. Remove the main power switch cover. (Main Power Switch Cover)

2. Open the right cover.

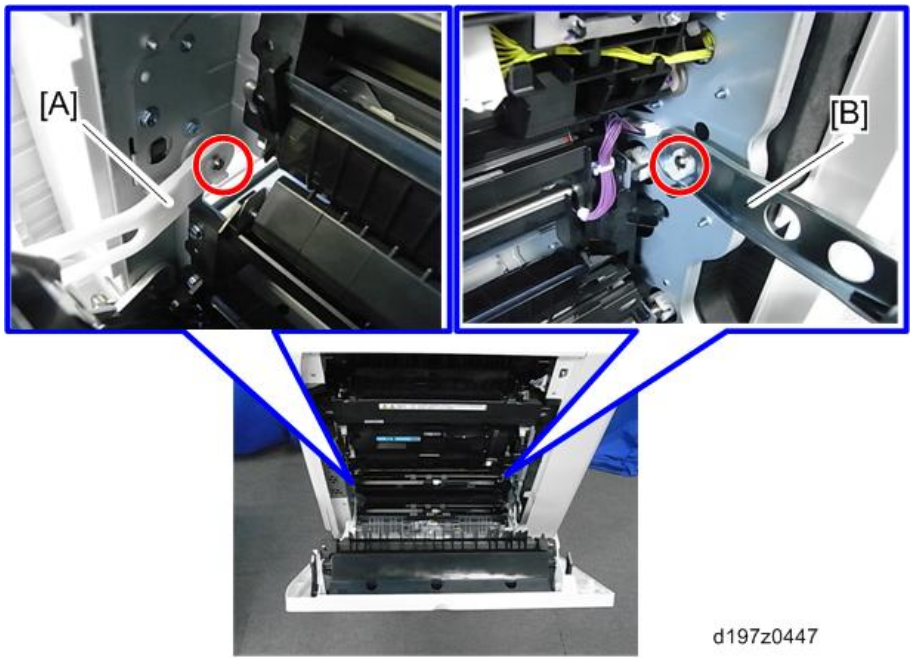
3. Remove the right rear cover. (Right Rear Cover)

4. Remove the rear lower cover. (Rear Lower Cover)

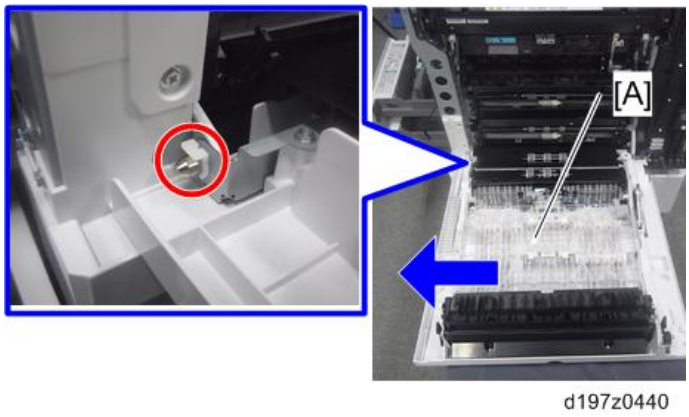
5. Remove clamps and connectors.



6. Release the right cover arms [A] [B]. (×2)

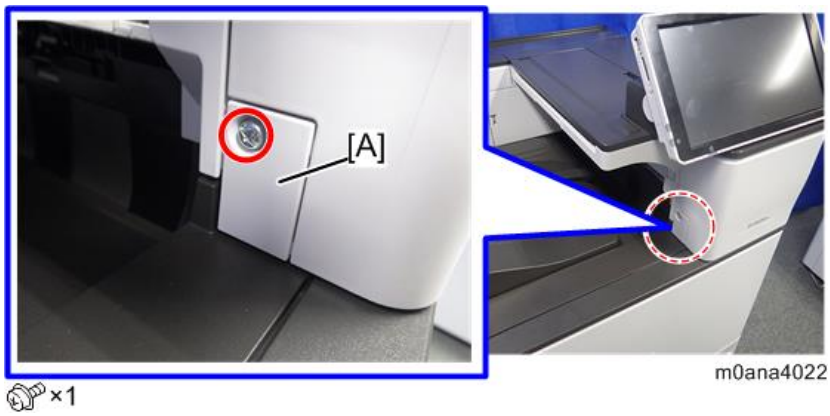


7. Slide to the left and remove the right cover [A]. (×1)



Upper Front Cover

1. Remove the small cover [A].



2. Open the right cover, then remove the screw.



3. Release the hooks on the inside of the upper front cover [A] by pulling the cover's sides outward, and remove the upper front cover [A].

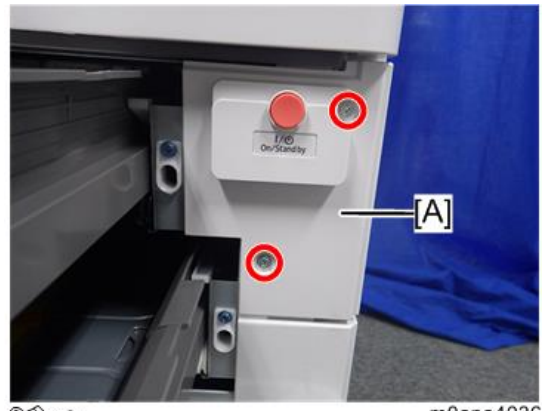


Main Power Switch Cover

1. Pull out paper trays 1 [A] and 2 [B].



2. Remove the main power switch cover [A].



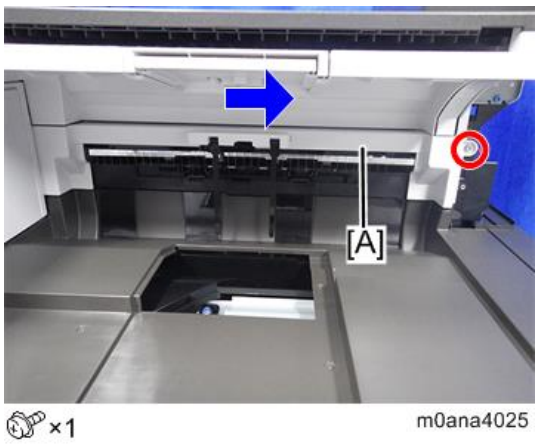
Paper Exit Tray

1. Remove the paper exit tray [A].



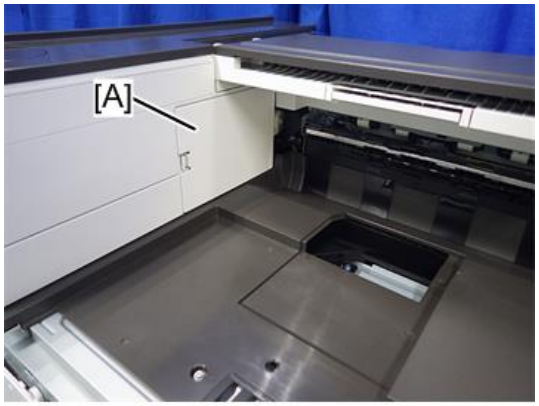
Paper Exit Cover

1. Remove the upper front cover. (Upper Front Cover)
2. Remove the paper exit tray. (Paper Exit Tray)
3. Remove the paper exit cover [A].



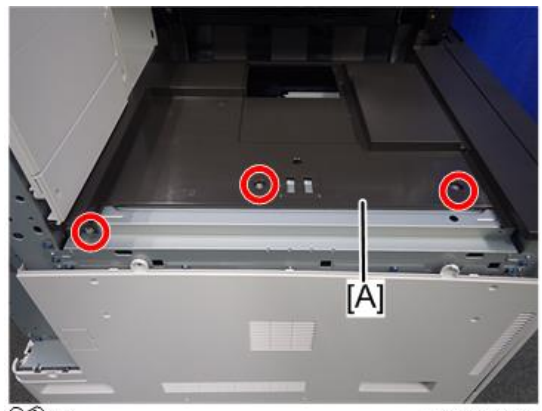
Paper Exit Lower Cover

1. Remove the left rear cover. (Left Rear Cover)
2. Remove the paper exit cover. (Paper Exit Cover)
3. Remove the connector cover [A].



m0ana4026

4. Remove the paper exit lower cover [A].

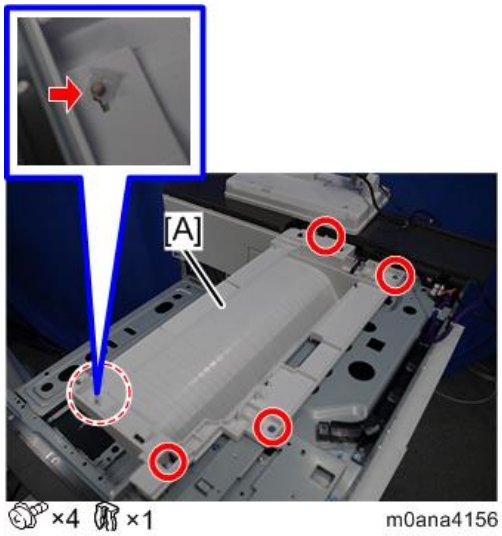


m0ana4027

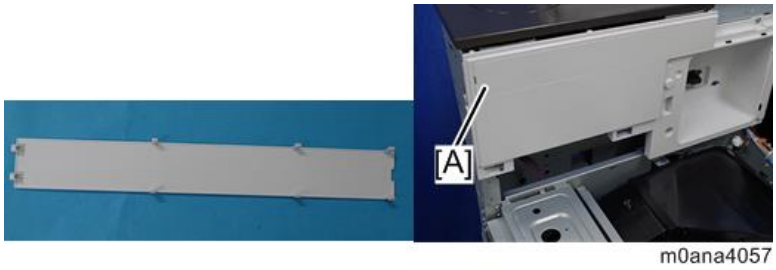
Upper Inner Cover

1. Remove the paper exit lower cover. (Paper Exit Lower Cover)
2. Turn over the operation panel. (Operation Panel Unit)
3. Remove the inverter guide cover sensor. (Inverter Guide Cover Sensor)

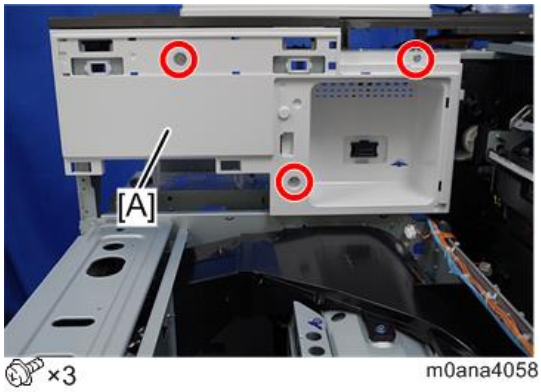
4. Remove the inverter guide [A].



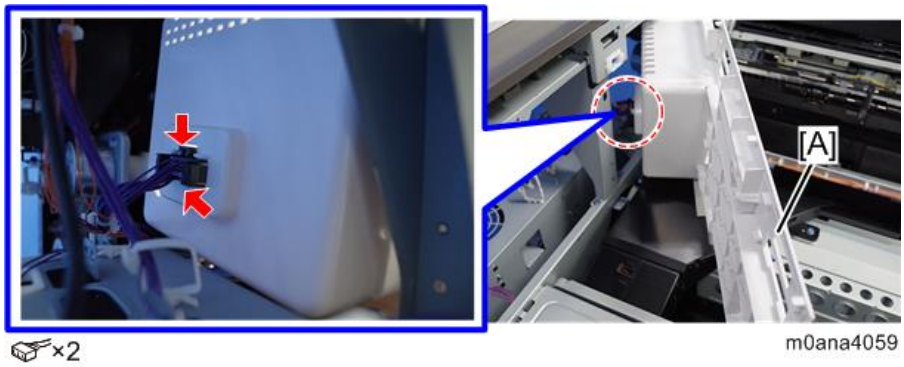
5. Remove the cap [A].



6. Remove the screw of the upper inner cover [A].

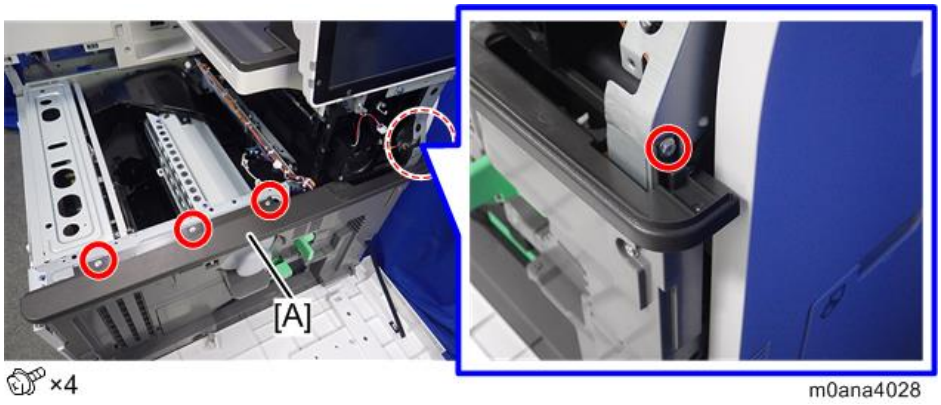


7. Remove the upper inner cover [A].



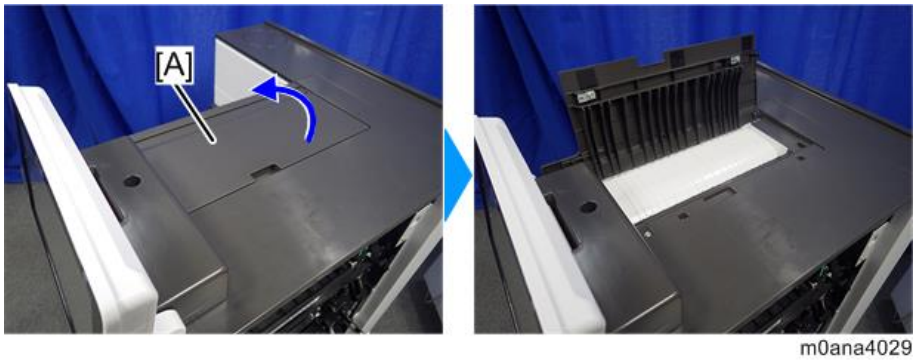
Paper Exit Front Cover

1. Remove the paper exit lower cover. (Paper Exit Lower Cover)
2. Remove the paper exit front cover [A].

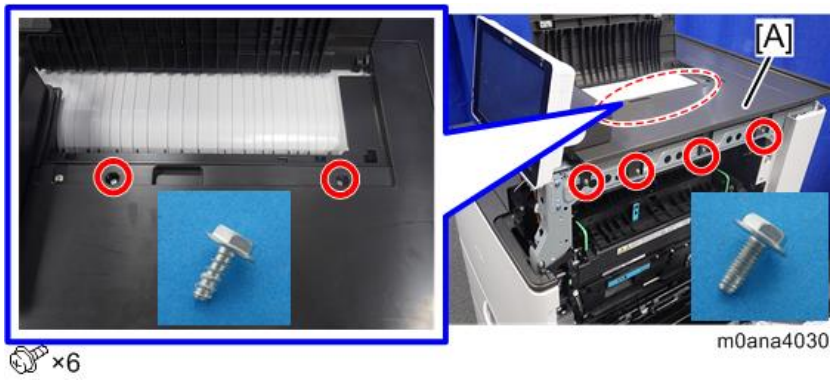


Top Right Cover

1. Remove the upper front cover. (Upper Front Cover)
2. Remove the right upper cover. (Right Upper Cover)
3. Open the cover [A].



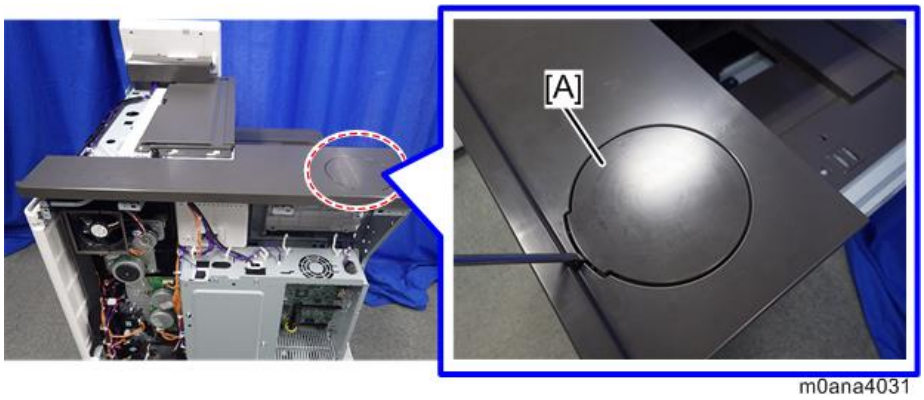
4. Remove the top right cover [A].



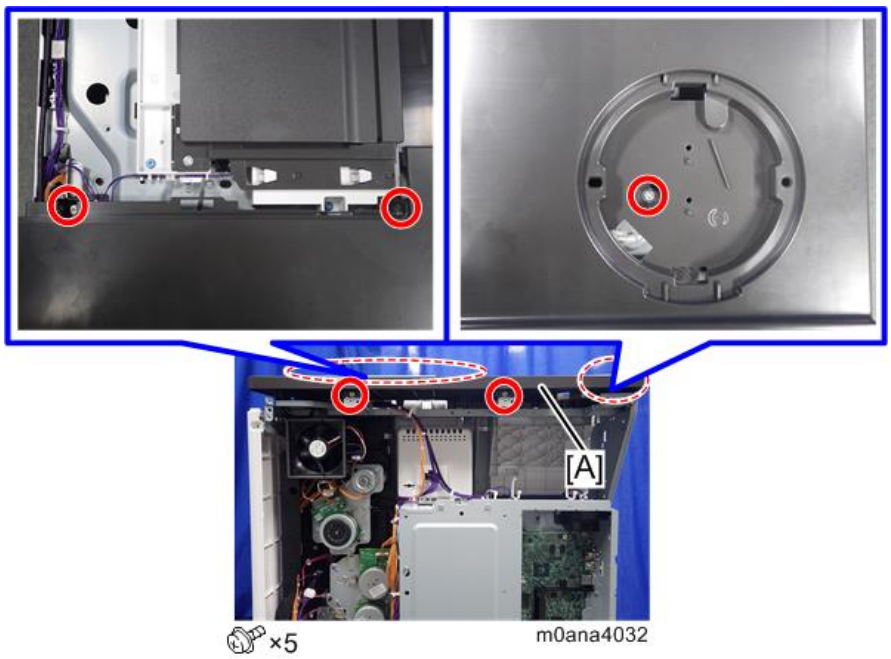
Top Rear Cover

1. Remove the top right cover. (Top Right Cover)
2. Remove the rear cover. (Rear Cover)

3. Using a flat-headed screwdriver, remove the cover [A].



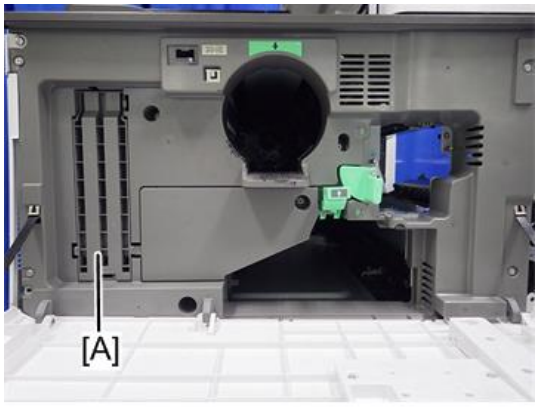
4. Remove the top rear cover [A].



Inner Cover

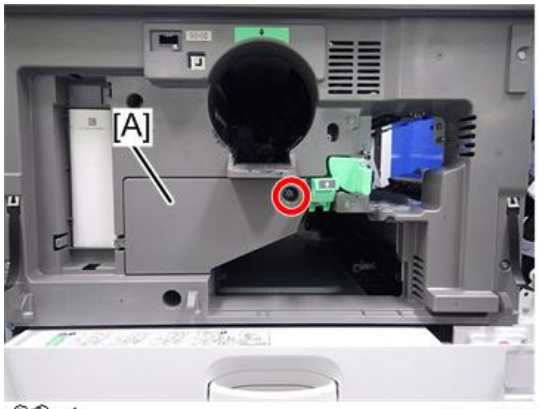
1. Pull out the toner bottle.
2. Remove the PCDU. (PCDU)
3. Remove the waste toner bottle. (Waste Toner Bottle)
4. Remove the front cover. (Front Cover)

5. Remove the support [A].



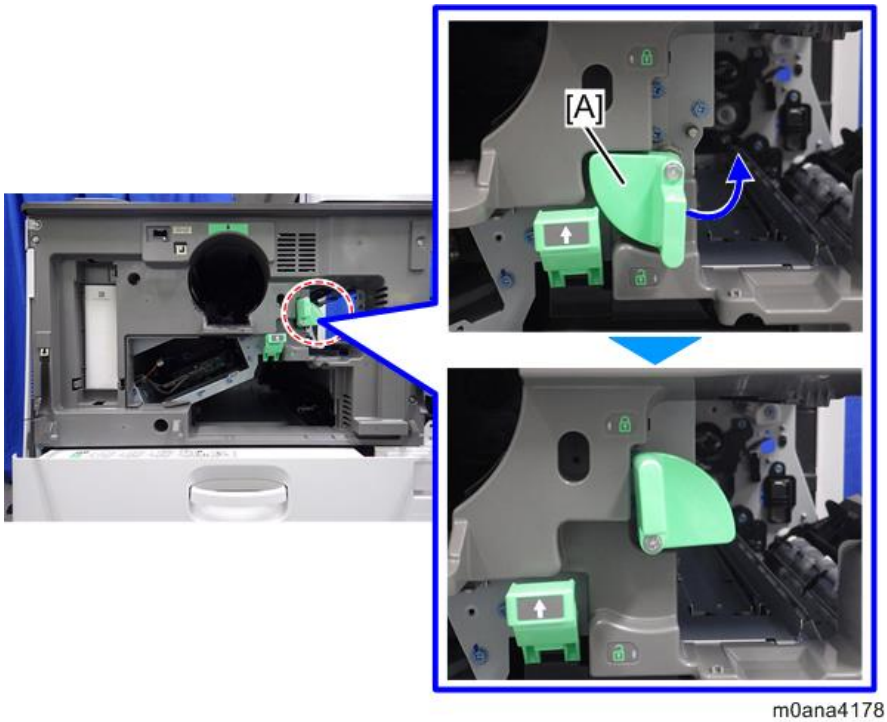
m0ana4176

6. Remove the laser unit cover [A].



m0ana4177

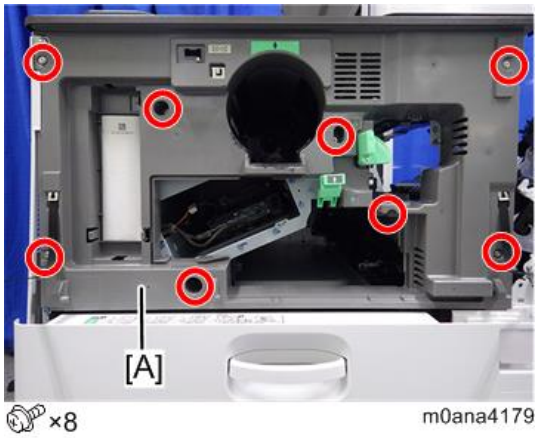
7. Lift the lever [A].



m0ana4178

8. Pull the 1st paper feed tray a short way out.

9. Remove the inner cover [A].



Toner Supply Housing

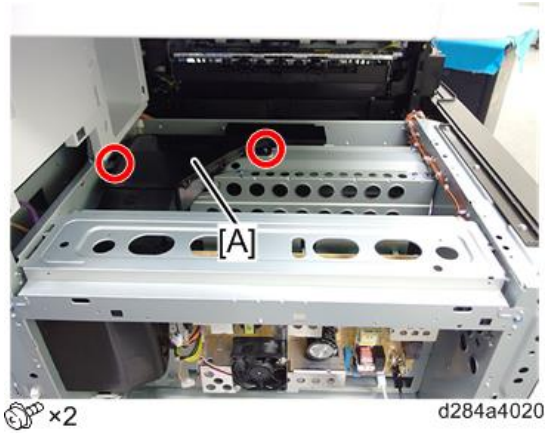
1. Pull out the toner bottle.

2. Remove the paper exit lower cover. (Paper Exit Lower Cover)

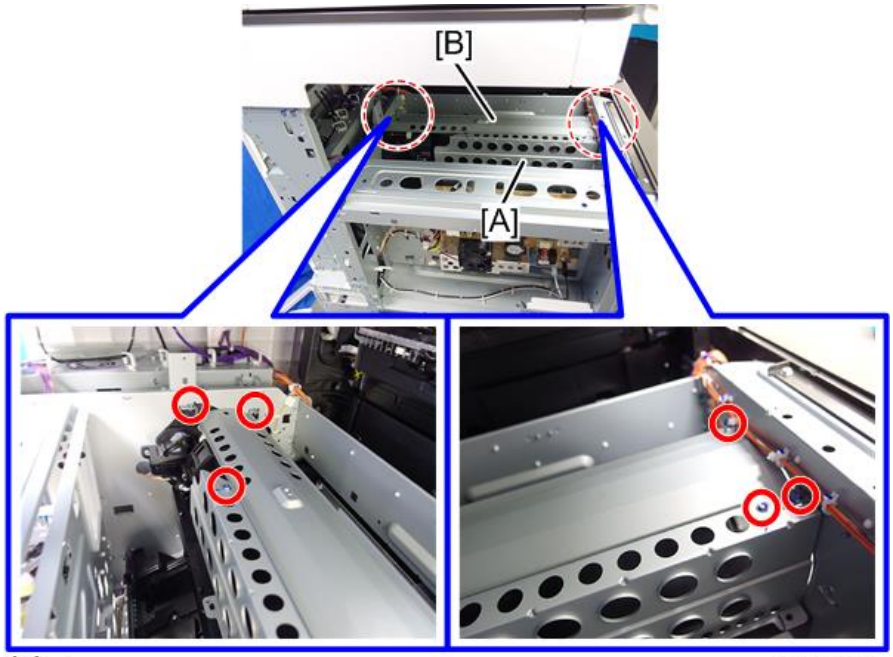
3. Remove the upper inner cover. (Upper Inner Cover)

4. Remove the development exhaust fan. (Development Exhaust Fan)

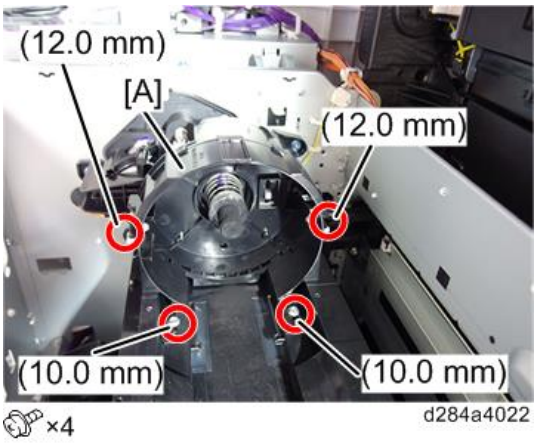
5. Remove the duct [A].



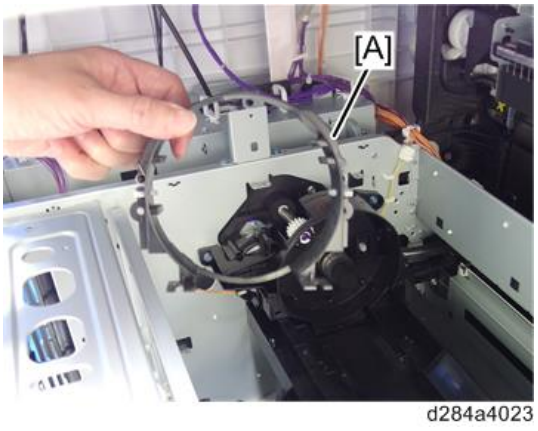
6. Remove the brackets [A] and [B].



7. Remove the screws on the toner supply housing [A].



8. Remove the toner supply housing [A].



Smart Operation Panel

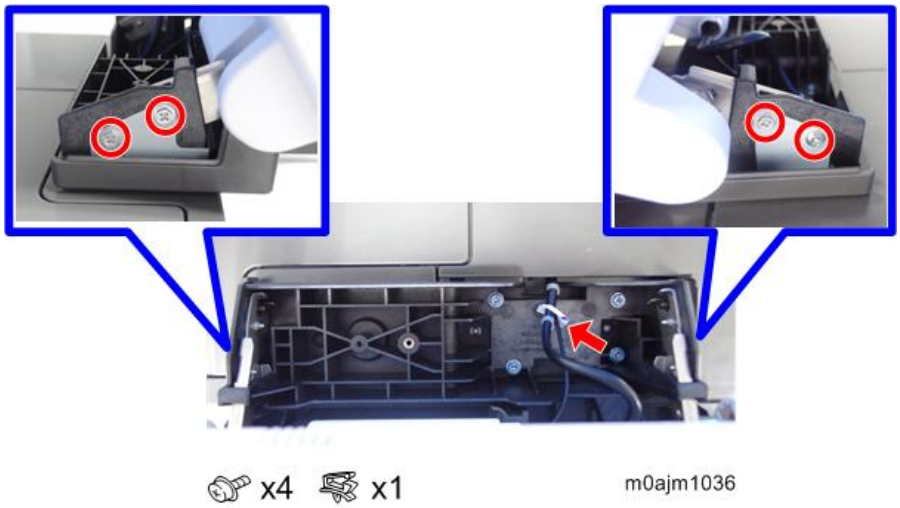
This section explains how to remove the Smart Operation Panel from the machine. For details about disassembling the Smart Operation Panel, See the service manual for Smart Operation Panel 2nd Generation.

Operation Panel Unit

1. Remove the operation panel upper cover [A].



2. Remove the screws and clamps that secure the operation panel.



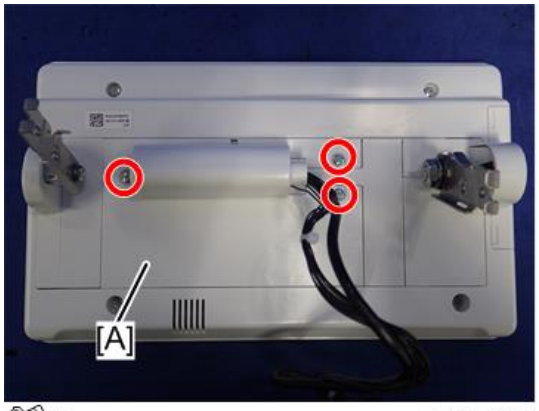
3. Spread a cloth or service mat [A] on the machine's top panel to protect the display. Place the operation panel

on the exposure glass so that the display faces down.



m0ajm1037

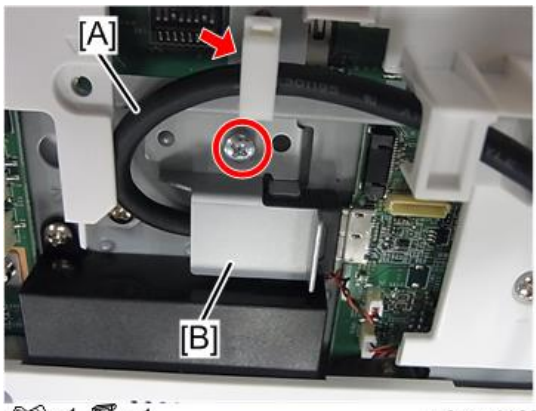
4. Remove the rear center cover [A].



×3 m0ana4161

5. Release the clamp, and then make the cable straight [A].

6. Remove the bracket [B].

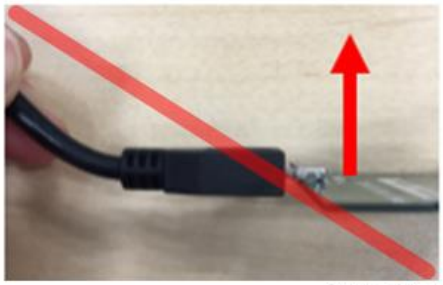


×1 ×1 m0ana4160

Note

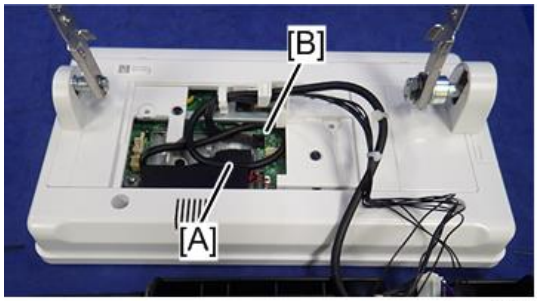
When installing, attach the bracket [B] first, and then bend the cable [A] and secure it.

Do not apply excessive force on the connector part. Applying excessive upward force on the connector may cause connection failure.



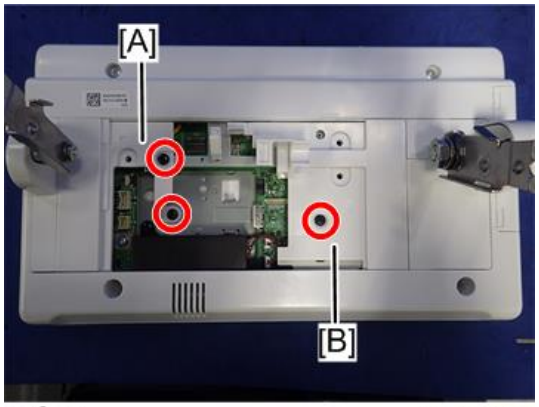
d238m0927b

7. Disconnect the USB cable [A] and the harness [B].



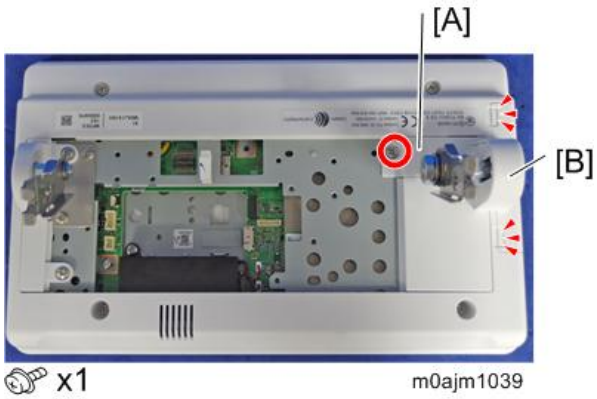
m0ana4155

8. Remove the left small cover [A] and right cover [B].



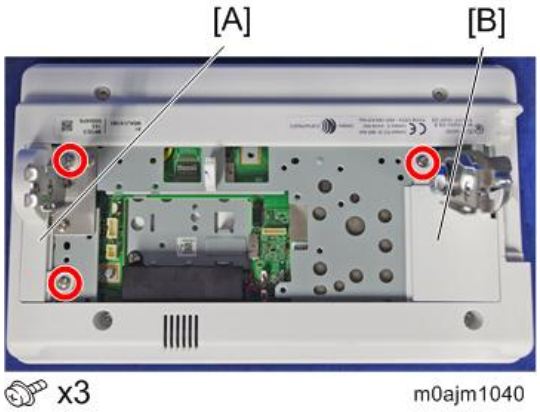
×3 m0ana4162

9. Remove the right small cover [A] and right hinge cover [B]. (Hook x 2)

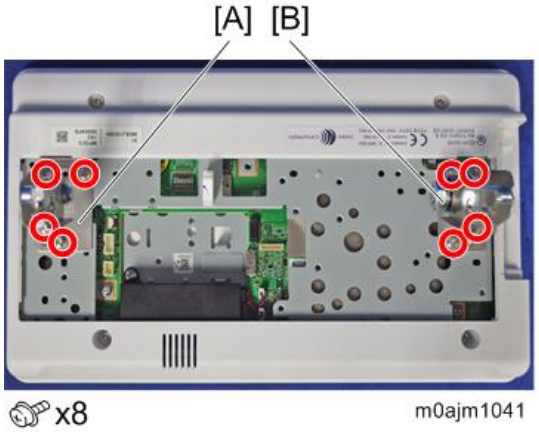


x1 m0ajm1039

10. Remove the left hinge cover [A] and right medium cover [B].



11. Remove the hinges [A] [B].





Internal Parts

Refer to the FSM for the Smart Operation Panel.

USB Cable / Harness

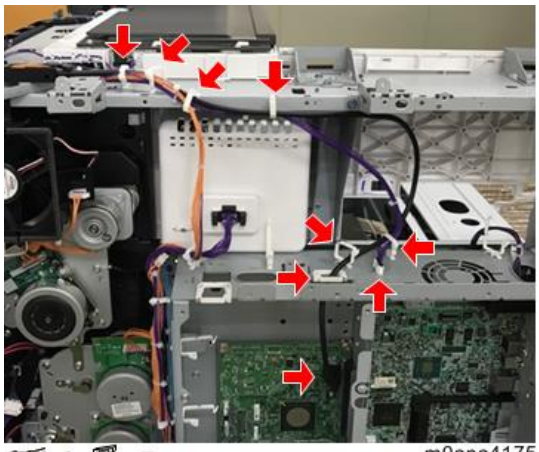
1. Disconnect the USB connector and the harness on the operation panel. (Operation Panel Unit)

2. Remove the top right cover. (Top Right Cover)

3. Remove the top rear cover. (Top Rear Cover)

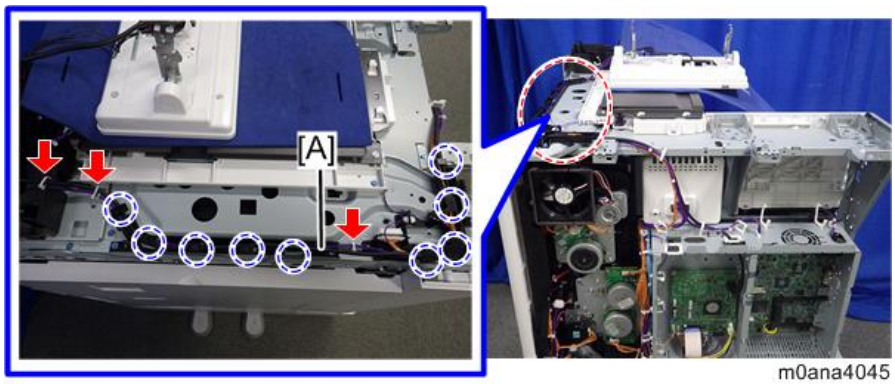
4. Remove the controller box cover. (Controller Box Cover)

5. Disconnect the USB cable on the IPU and release the harness.



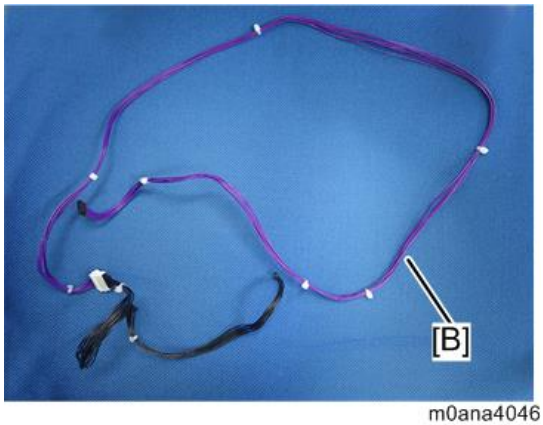
×2 ×7 m0ana4175

6. Remove the USB cable [A] and the harness [B] from the harness guide.



m0ana4045

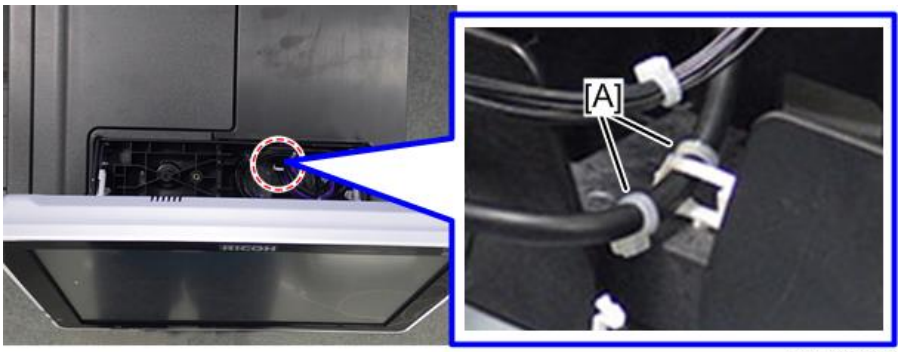
×3



m0ana4046

Important

- When connecting the USB cable, position the clamp between the two cable ties [A].



m0ana4047

Laser Unit

⚠WARNING

- Turn off the main power 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.



m0ana4072

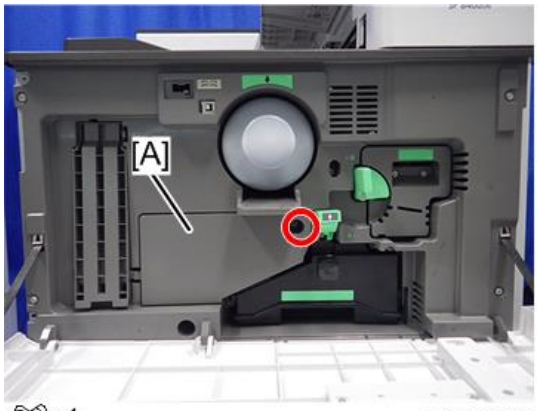
⚠WARNING

- Be sure to turn off the main power 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 660 nm and an output of 17 mW. The laser can cause serious eye injury.

Laser Unit

Removing the Laser Unit

1. Open the front cover.
2. Remove the laser unit cover [A].



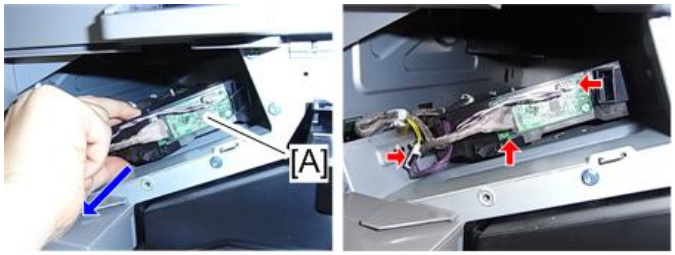
×1 m0ana4074

3. Release the stopper [A].



d197f0003

4. Pull out the laser unit [A]. (x 3)



d197f0004

Installing a New Laser Unit

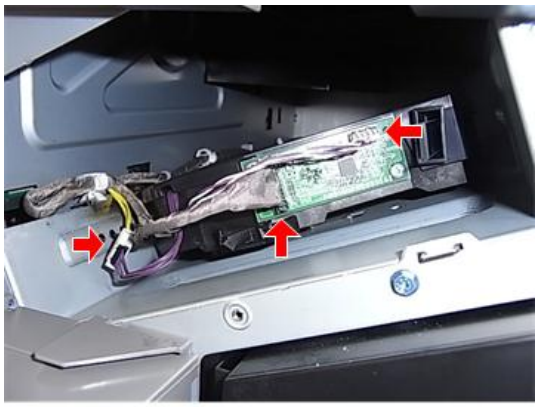
1. Replace the laser unit with a new laser unit.

2. Insert the new laser unit [A] halfway.



d197f0005

3. Connect three harnesses to the new laser unit (x 3).



d197f0006

4. Insert the new laser unit along the guide frame [A].

Note

- Make sure that the new laser unit claws fit into two mainframe claws as shown below.

Mainframe Claws



d197f0007

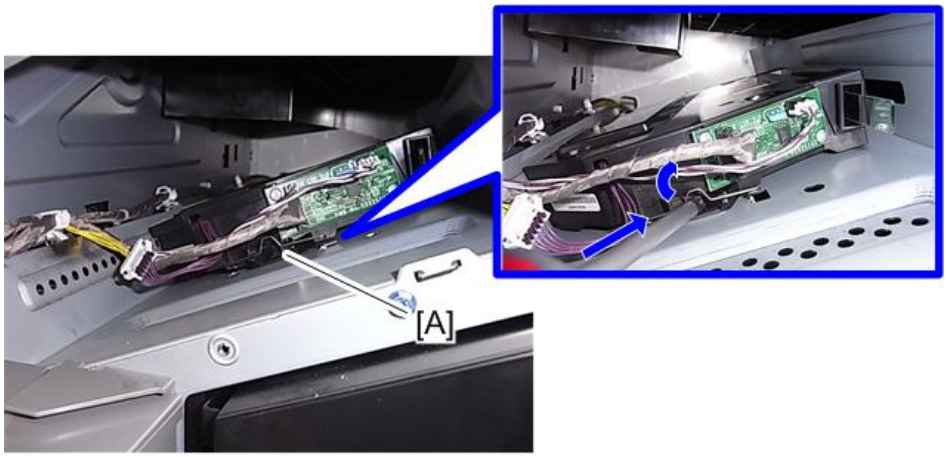
Laser Unit Claws



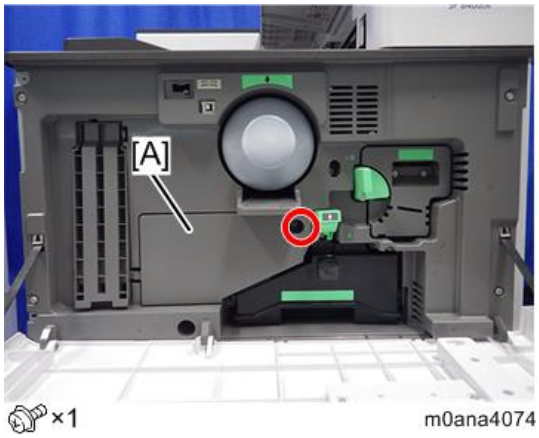
d284a4108

5. Set the laser unit with the stopper [A].

- Use a screw driver to pry in the stopper.



6. Attach the laser unit cover [A].



After Installing the New Laser Unit

Download new data stored in a new laser unit to the mainframe.

1. Close the front cover.
2. Plug in and turn on the main power switch.
3. Enter the SP mode.
4. Download the new data stored in the new laser unit to the mainframe with SP2-110-005.

Note

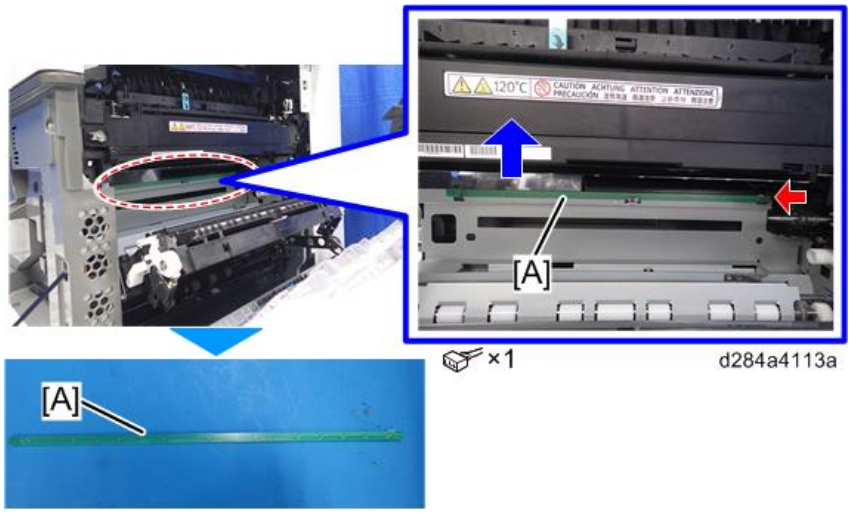
- If the error message indicating the failure of the data download appears, execute SP2-110-005 again.
- If this step is not correctly done, an image problem may occur on printouts.

5. Perform image adjustments if needed (Adjustment after Replacement).

Quenching Lamp

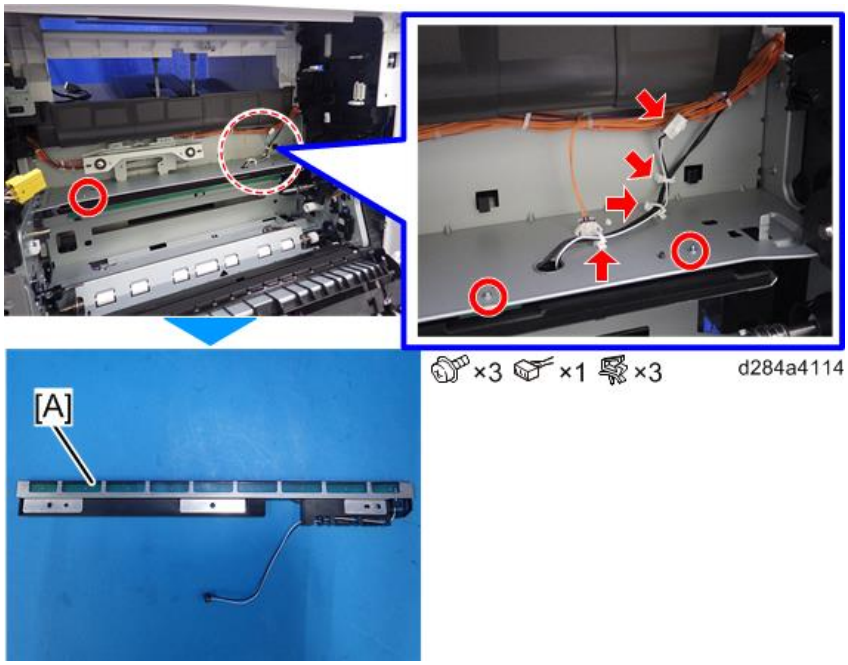
1. Remove the PCDU. (PCDU)

2. Remove the quenching lamp [A].



PCL (Pre Cleaning Light)

1. Remove the PCDU. (PCDU)
2. Remove the fusing unit. (Replacement)
3. Remove the PCL [A].



PCDU

Important

- To prevent damage from toner spillage during the PCDU removal, be sure to place a ground cloth on the floor.
- To prevent damage from excess light, wrap the OPC drum with protective paper and store the OPC drum in a cool dark place.
- **Do not** touch the OPC drum, cleaning blade, or any seals or tapes.
- **Do not** use any alcohols or solvents to clean the OPC drum; Be sure to wipe with a dry cloth. If excess dirt exists, first wipe with a damp cloth, and next wipe off completely with a dry cloth.
- **Do not** rotate the OPC drum clockwise after the PCDU has been installed.

PCDU

Note

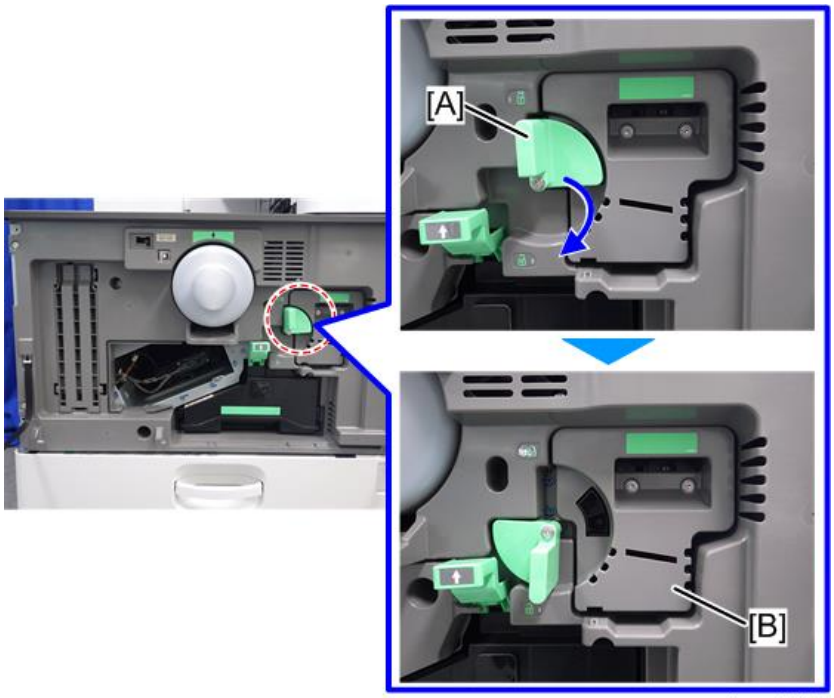
- If you install a complete new PCDU, you do not need to perform SP 3-701. This is because the machine detects a new unit automatically when you cycle the main power off/on, and performs the initial adjustment automatically.

1. Open the front cover.
2. Open the right cover.
3. Tilt the transfer unit [A].



m0ana4039

4. Release the lever [A] then remove the PCDU [B].



m0ana4040

Note

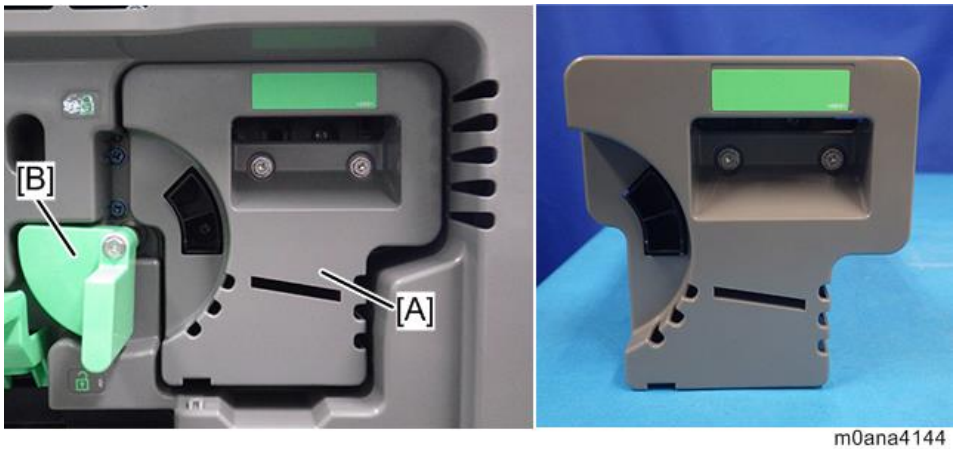
Carefully and slowly pull out the PCDU without tilting, to prevent toner spillage.



m0ana4041

Important

When installing the PCDU, push the PCDU [A] into the machine while screwing it in, as shown below, and then lock the lever [B]. If the PCDU is not installed straight, the transfer roller contact and release mechanism does not work properly and dirt may appear on the 2nd side of outputs.



PCU/Development Unit

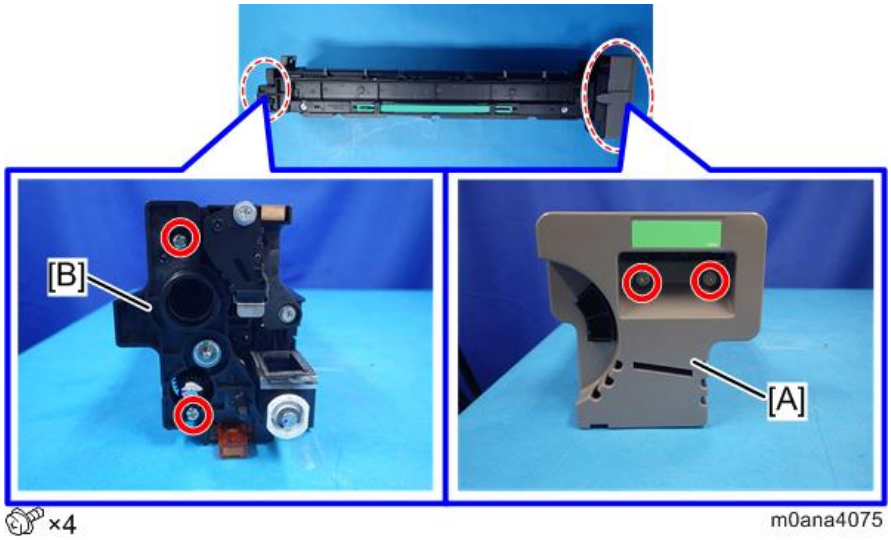
Before Replacing the PCU or Development Unit

Important

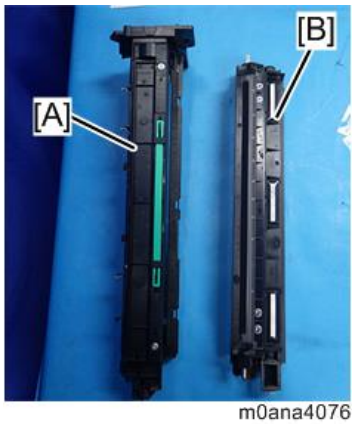
- Before replacing the PCU, set SP3-701-002 (Manual New Unit Set: PCU) to “1” and turn off the main power switch. After replacing the PCU, turn on the main power.
- Before replacing the development unit, set SP3-701-023 (Manual New Unit Set: Development Unit) to "1" and turn off the main power switch. After replacing the development unit, turn on the main power.

Replacement Procedure

1. Remove the PCDU. (PCDU)
2. Remove the face plates [A] [B].



3. Split the assembly into the PCU [A] and development unit [B].



m0ana4076

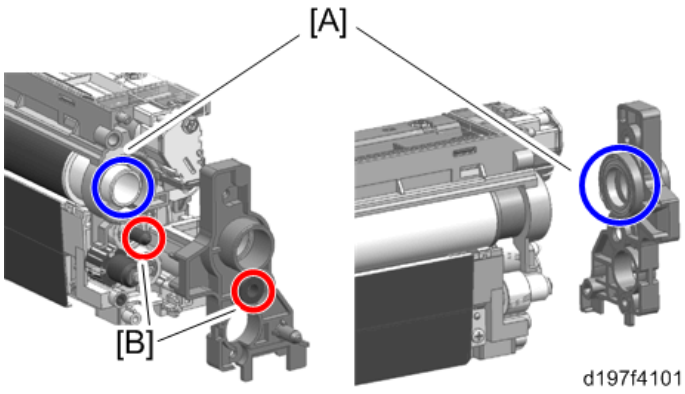
Notes When Installing the Face Plates

When installing the face plates, check the fitting points as shown below.

[A]: The bearing of the face plate fits the OPC drum.

[B]: The bearing of the face plate fits the bearing of the development roller.

Face plate for rear side

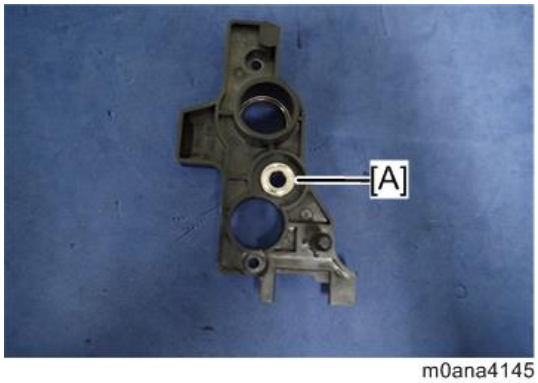


d197f4101

Note

The ball bearing [A] may come off or move.

If the ball bearing moved, push it in.



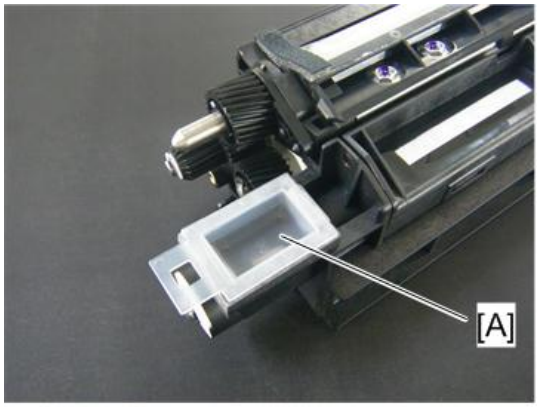
m0ana4145

Installing a PCU

1. Disassemble the PCDU into PCU and development unit (PCU/Development Unit).
2. Replace the used PCU with a new one.
3. Reassemble the PCDU.

Installing a Development Unit

1. Disassemble the PCDU into PCU and development unit (PCU/Development Unit).
2. Replace the used development unit with a new one.
3. Reassemble the PCDU.
4. Remove the cap [A].

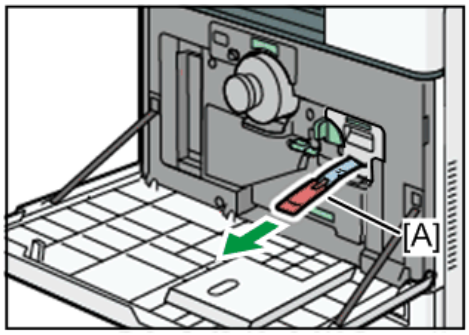


d197z0430

Note

- Attach the removed cap to the used development unit.

5. Attach the development unit to the main machine.
6. Pull out the heat seal [A].



m0ana4150

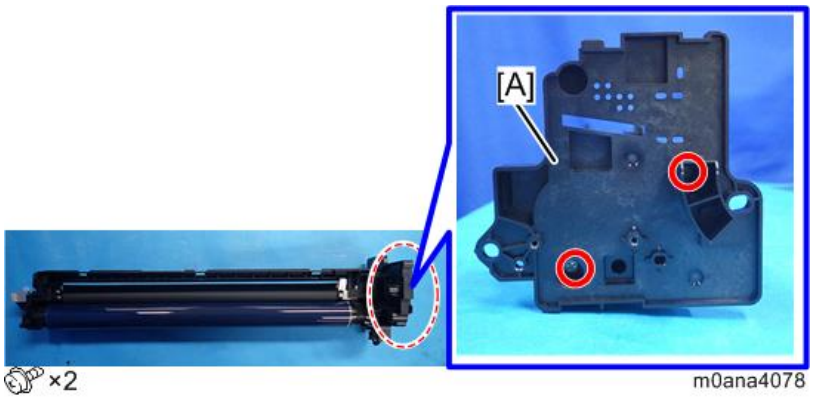
OPC Drum

Important

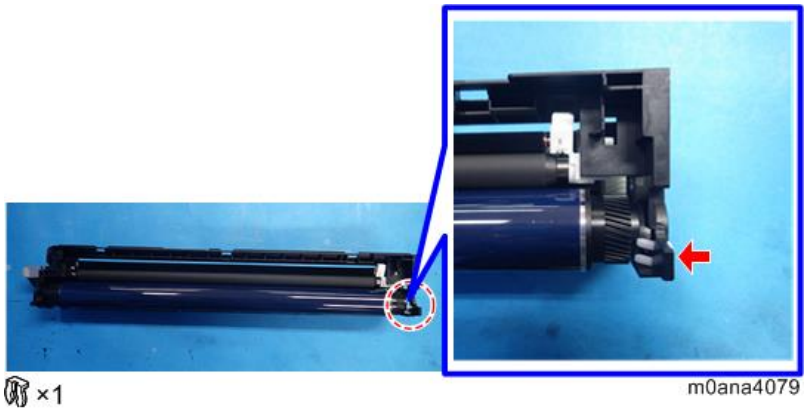
- Before replacing the OPC drum, set SP3-701-021 to “1” and turn off the main power switch.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the OPC drum, turn on the main power on.

1. Remove the PCU. (PCU/Development Unit)

2. Remove the face plate [A].



3. Remove the stopper for the PCU.



4. Pull out the OPC drum [A].

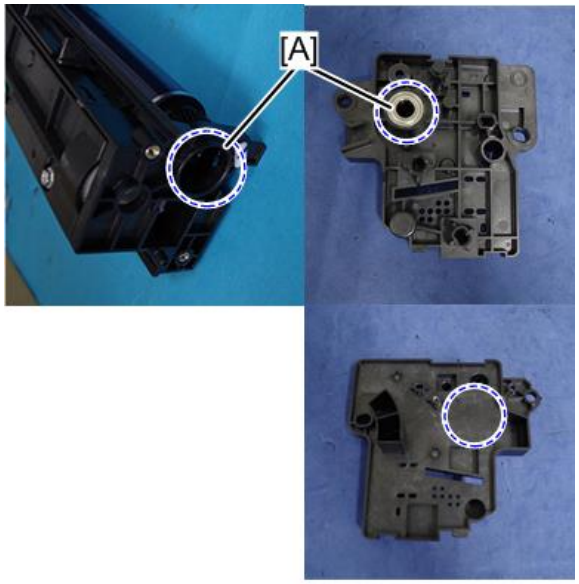


Notes When Installing the Face Plates

When installing the face plates, check the fitting points as shown below.

[A]: The bearing of the face plate fits the OPC drum.

Face plate for front side

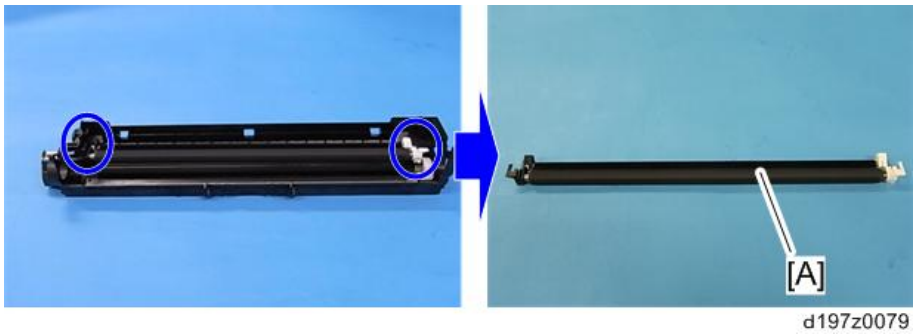


Charge Roller, Cleaning Roller

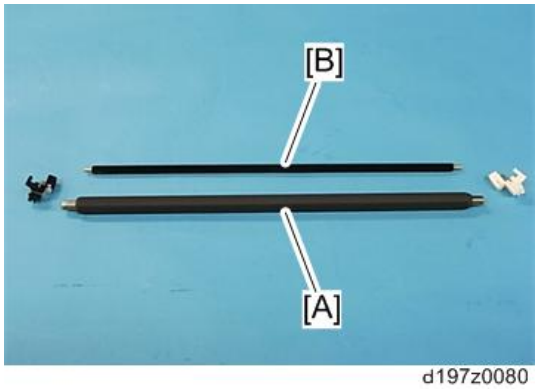
Important

- Before replacing these rollers, set SP3-701-018 for the charge roller and/or SP3-701-019 for the cleaning roller to “1” and turn the main power switch OFF.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the rollers, turn the main power switch ON.

1. Remove the OPC drum. (OPC Drum)
2. Remove the charge roller and cleaning roller [A] with its bearing.



3. Split the assembly into the charge roller [A] and cleaning roller [B].

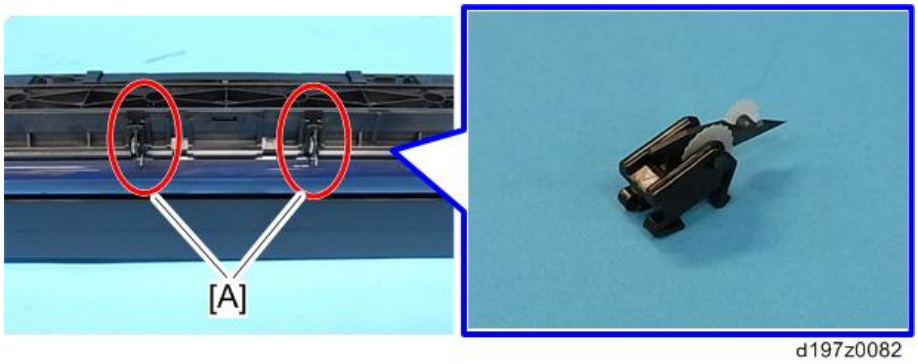


Pick-off Pawls

Important

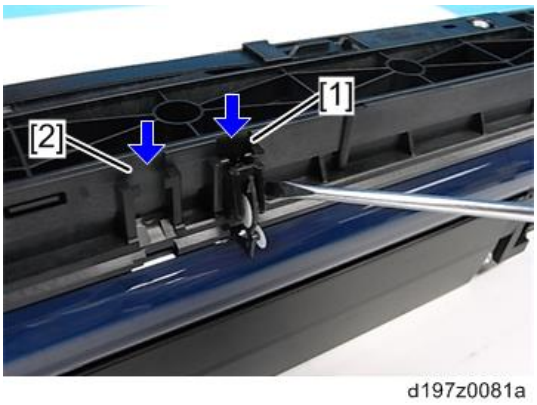
- Before replacing the pick-off pawls, set SP3-701-022 to “1” and turn off the main power switch.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the pick-off pawls, turn on the main power on.

1. Remove the PCU. (PCU/Development Unit)
2. Remove the pick-off pawls [A].



Note

- Use a screw driver to pry away the tabs of the pick-off pawl. If the pick-off pawl has marked the drum with a line, the pick-off pawl position can be moved from 1 to 2.



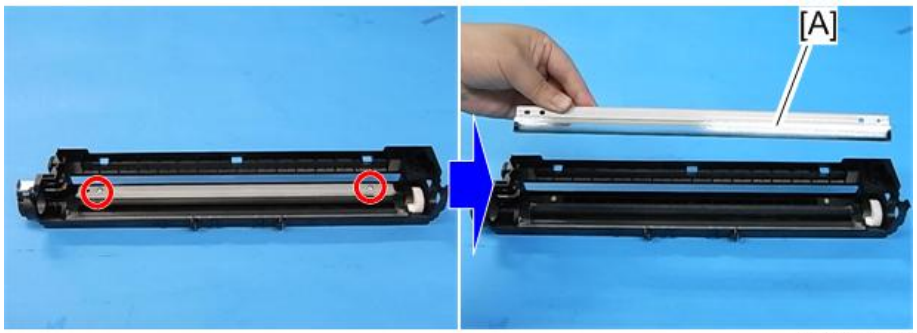
Cleaning Blade

Important

- Before replacing the cleaning blade, set SP3-701-009 to “1” and turn the main power switch OFF.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the cleaning blade, turn the main power switch ON.

1. Remove the charge roller and cleaning roller. (Charge Roller, Cleaning Roller)

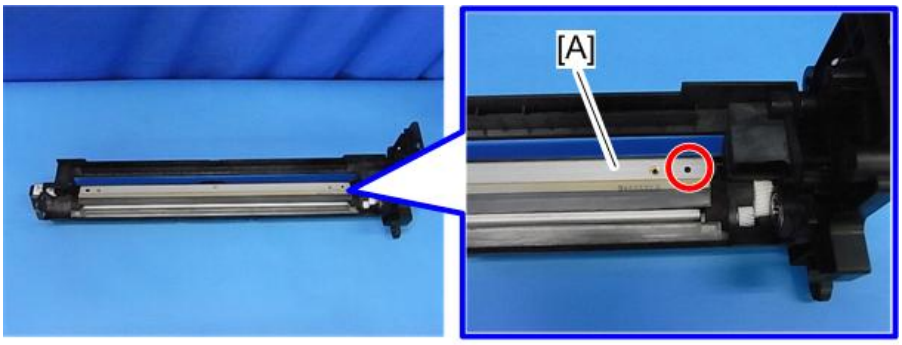
2. Remove the cleaning blade [A]. (x2)



d197z0083

Note

- The cleaning blade [A] has two different types of holes: a circle (○), and an oval (⬭). Remove the screw on the circle side first, and then, remove the oval side.

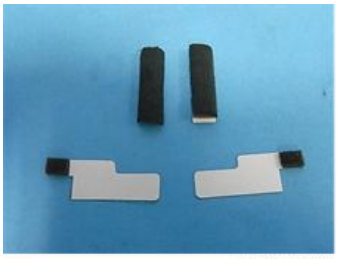


d197z0487

Developer

Preparation

- These sheets used in steps 6, 11, and 12 are not provided as accessories; please do not forget to order them with the developer.



d197f0608

Important

- Before replacing the developer, set SP3-701-024 to "1" and turn the main power switch OFF.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the developer, turn the main power switch ON.

Note

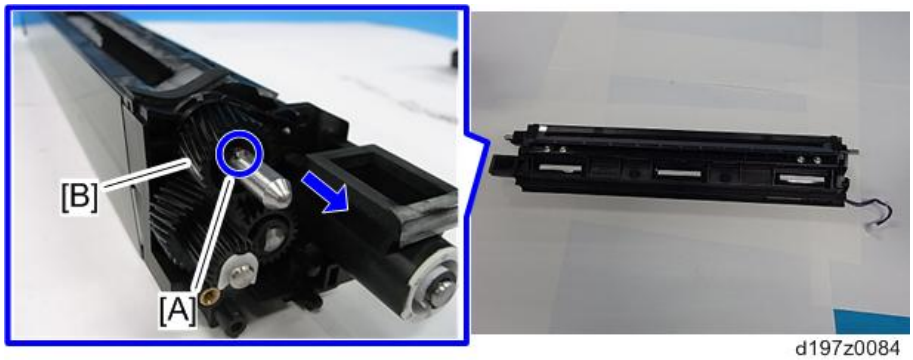
- If you replace developer together with the development filters, first replace the developer, then replace the filters.

1. Remove the development unit. (PCU/Development Unit)
2. Remove the bearing (front) [A]. (E-ring x1)



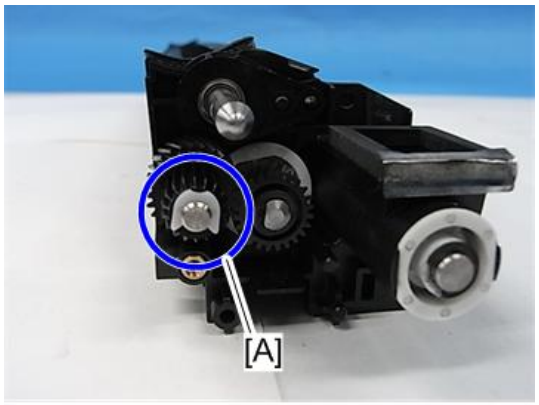
d197z0087

3. Pull the shaft toward the blue arrow shown below, then remove the pin [A] and the gear [B].



d197z0084

4. Remove the gear [A]. (x1)



d197z0088

5. Remove the bearing (rear) [A].



d197z0085

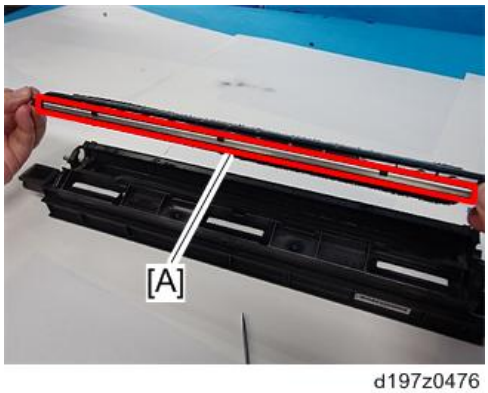
6. Remove the development side seal and development case entrance seal [A] at each end.



7. Lift up the development sleeve unit [A].



⚠CAUTION



- Do not touch or hold the development sleeve edge [A] when holding the sleeve unit. Otherwise, it may cause an injury.

8. Remove the developer after turning the development unit upside down in the reverse direction of the development filter.

Note

- Rotate the gear to remove as much toner as you can.



d197z0090

9. Stand the development unit up, and add new developer evenly across the width of the development unit while rotating the gear.

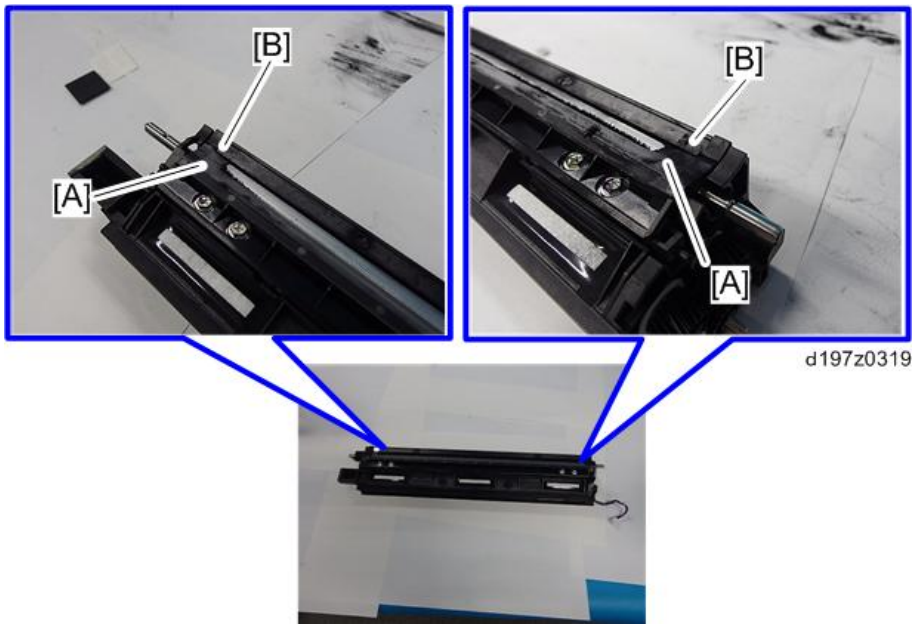


d197f4081

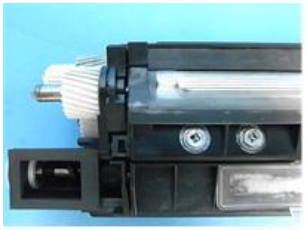
10. Reassemble the development sleeve unit, gear and bearing.

Note

- The sheets for the development sleeve unit [A] must be under the sheets [B] for the development unit.

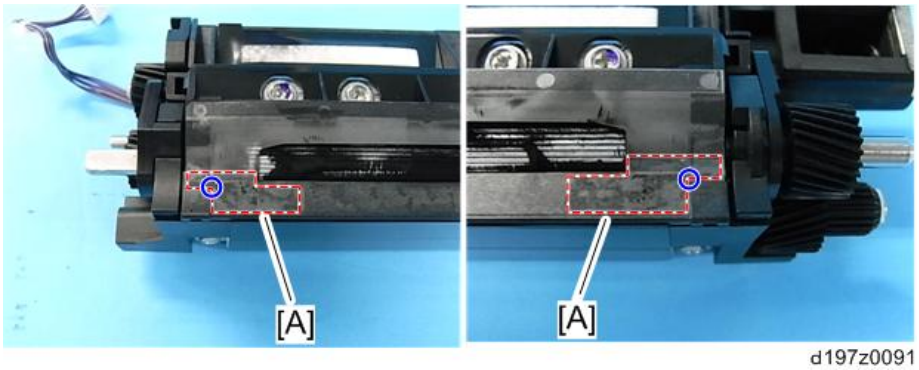


d197z0319

Correct	Wrong
 d197f0605	 d197f0606

11. Wipe off the areas [A] indicated by the red-dashed line and paste new development case entrance seals to cover the blue-circled position.

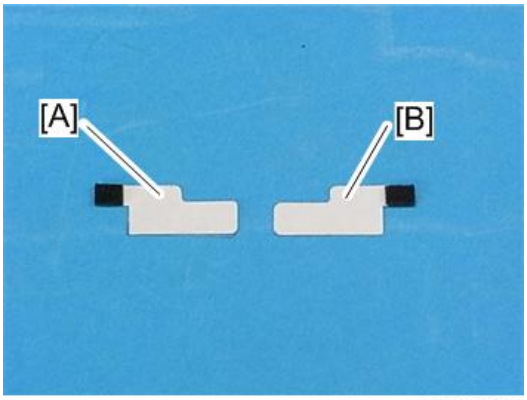
- These seals are part of the development seal set, which must be ordered together with the new developer.



d197z0091

Note

- The seal [A] for the front side is not the same shape as the one [B] for the rear side, as shown below. Be careful when you paste them.

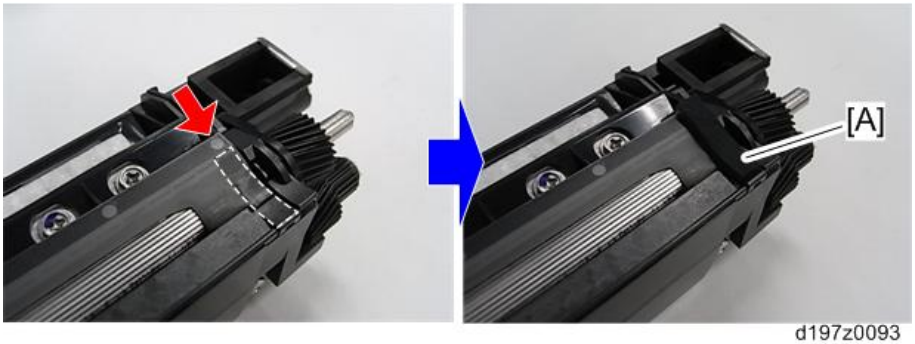


d197z0405

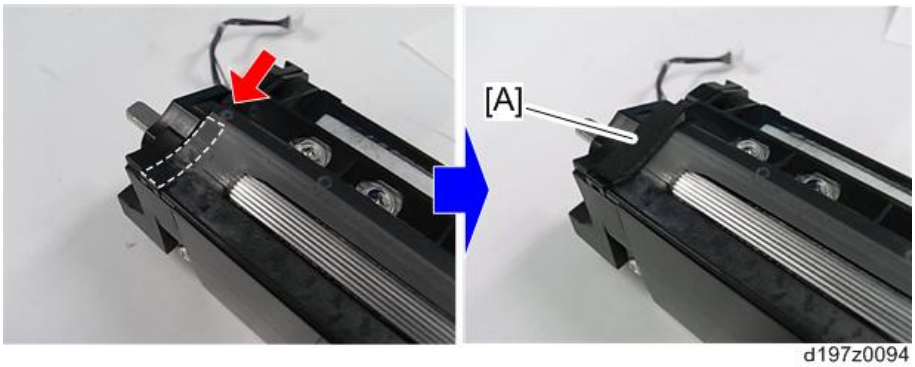
12. Paste the new development side seals [A] on the face of the development sleeve unit as shown below.

- These seals are part of the development seal set, which must be ordered together with the new

developer.



d197z0093



d197z0094

13. Reassemble the PCU and development unit.
14. Turn on the main power switch.
    The machine detects the new developer and starts the initial adjustment.

Development Filters

Important

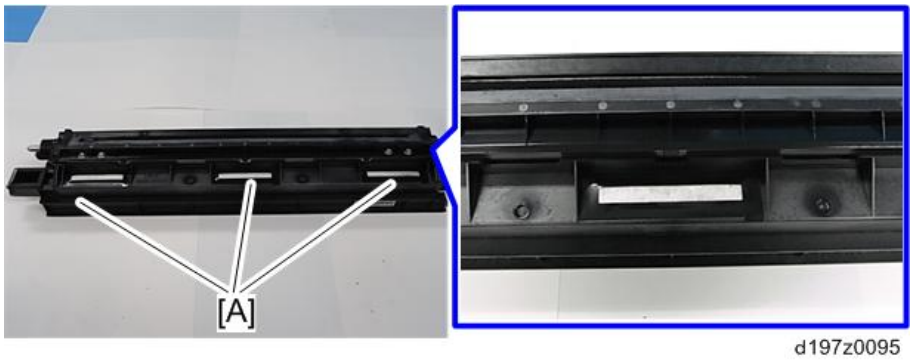
- Before replacing the development filters, set SP3-701-025 to "1" and turn the main power switch OFF.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the development filters, turn the main power switch ON.

Note

- If you replace the development filter together with developer, first replace the developer, then replace the filters.

1. Remove the development unit. (PCU/Development Unit)

2. Remove the development filters [A].

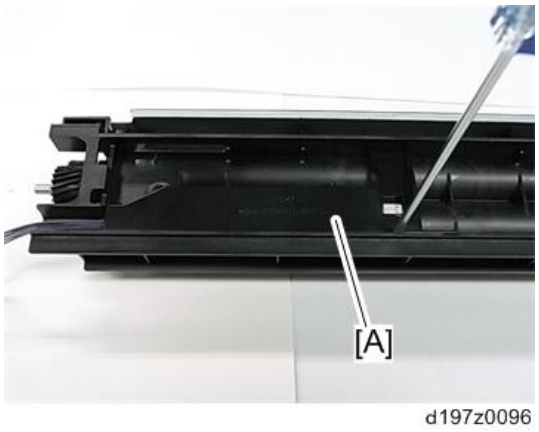


TD Sensor

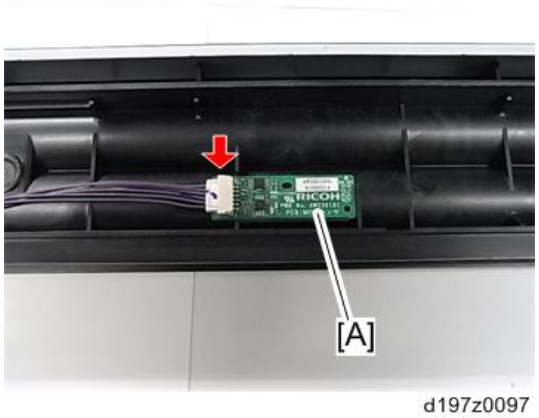
1. Remove the development unit. (PCU/Development Unit)
2. Remove the TD sensor cover [A].

Note

- Use a screw driver to release the tab(s) of the cover.



3. Remove the TD sensor [A]. (x1)



Development Mixing Auger Bearings

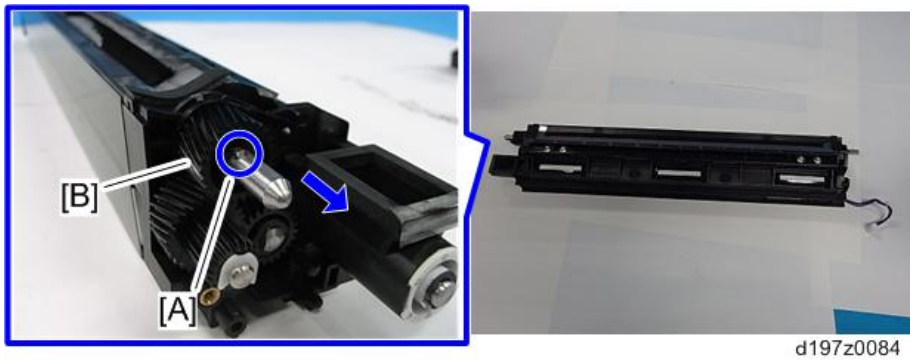
Important

- Before replacing the development mixing auger bearings, set SP3-701-028 to “1” and turn the main

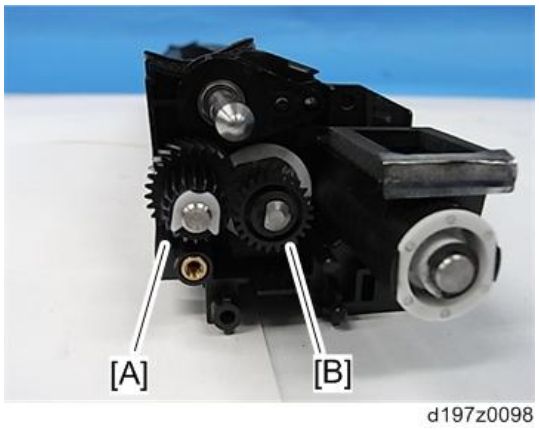
power switch OFF.

- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the development mixing auger bearings, turn the main power switch ON.

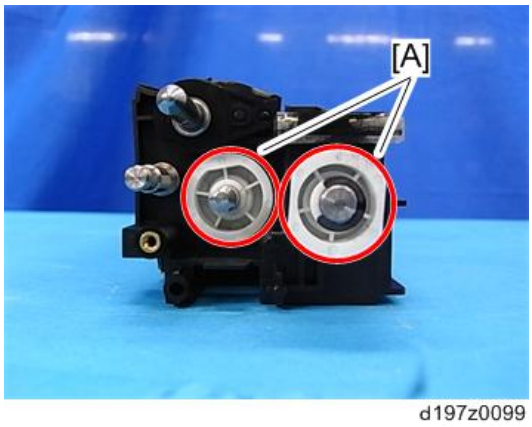
1. Remove the development unit. (PCU/Development Unit)
2. Pull the shaft toward you, and then pull out the pin [A] and remove the gear [B].



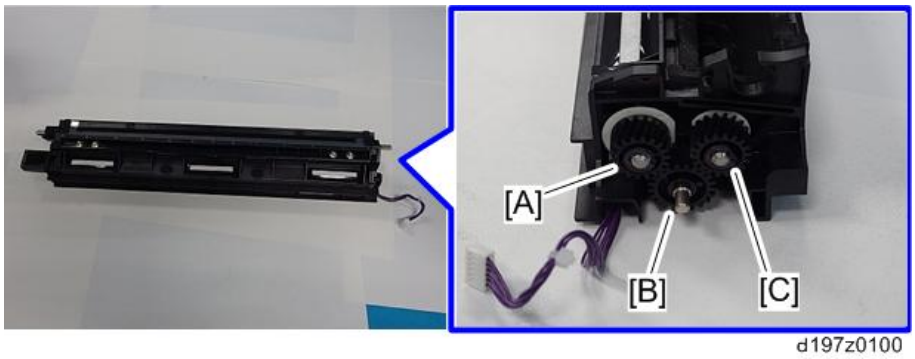
3. Remove the gears [A] [B]. (x1, E-ring x1)



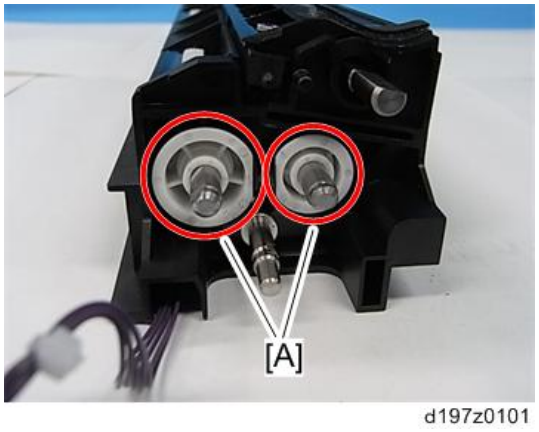
4. Remove the two development mixing auger bearings [A] (E-ring x1).



5. Remove the gears [A] [B] [C]. (E-ring x2)



6. Remove the two development mixing auger bearings [A].



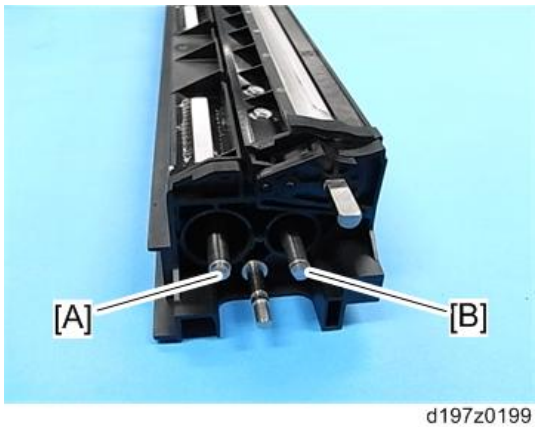
Note

- The development mixing auger bearings are D-shaped. Make sure that you install them in the orientation exactly as shown above.

Development Mixing Auger (L / R)

Note

- [A]: Development Mixing Auger (L)
- [B]: Development Mixing Auger (R)

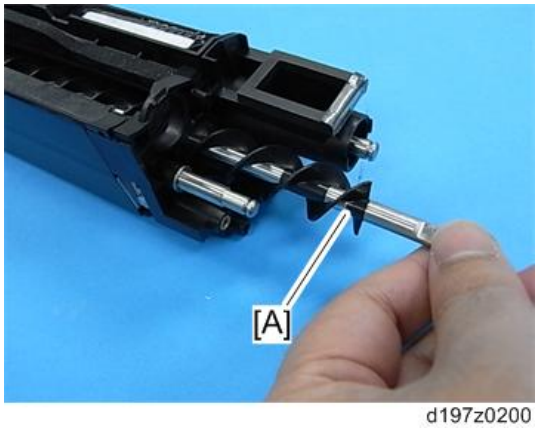


1. Remove the development unit. (PCU/Development Unit)

2. Remove the developer. (Developer)

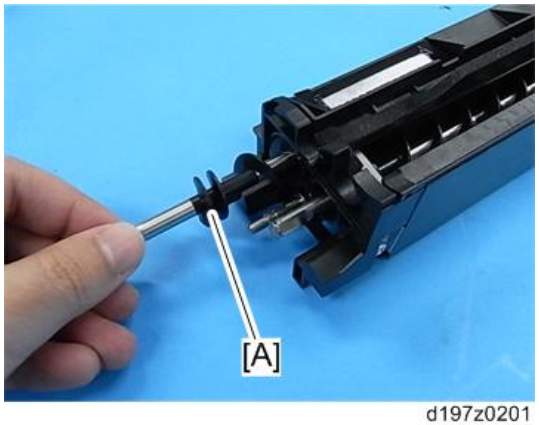
3. Remove the development mixing auger bearings. (Development Mixing Auger Bearings)

4. Remove the development mixing auger (L) [A].



d197z0200

5. Remove the development mixing auger (R) [A].



d197z0201

Note

- Each auger is different; please make sure that the augers are attached correctly.
- [A]: Development Mixing Auger (L)
- [B]: Development Mixing Auger (R)



d197z0202

Waste Toner

Waste Toner Bottle

Before Replacing the Waste Toner Bottle

When the bottle is replaced after the machine detects that the waste toner bottle is full and stops, the counter for the Waste Toner Bottle is reset automatically.

When the bottle is replaced before the machine stops due to a full bottle, it is necessary to reset the PM counter manually (set SP3-701-142 to “1” before replacing the bottle, then switch the power off).

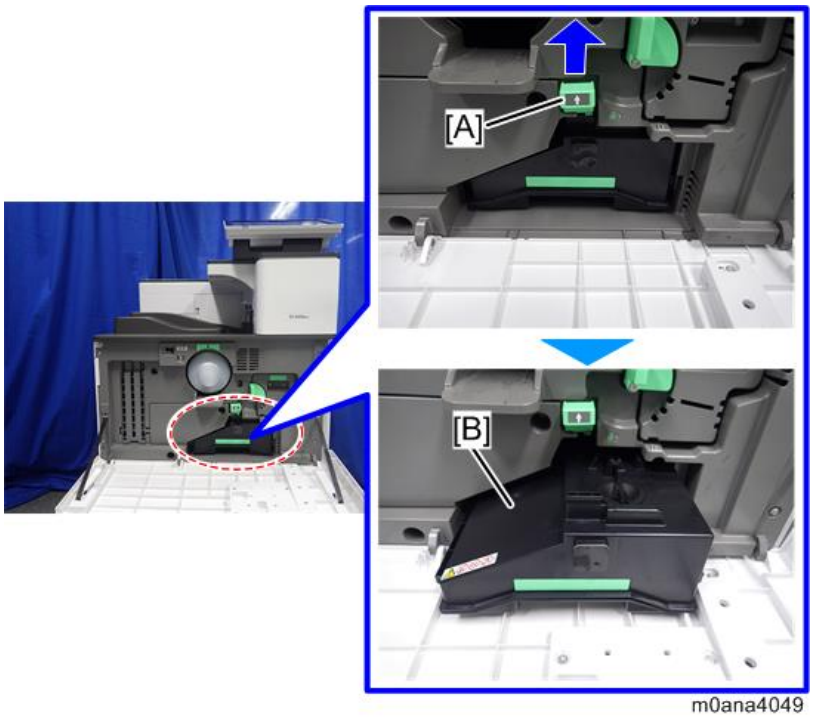
SP3-701 (Manual New Unit Set)

This SP is the new unit detection flag.

0: new unit detection flag OFF, 1: new unit detection flag ON

Item	SP
Waste toner bottle	SP3-701-142

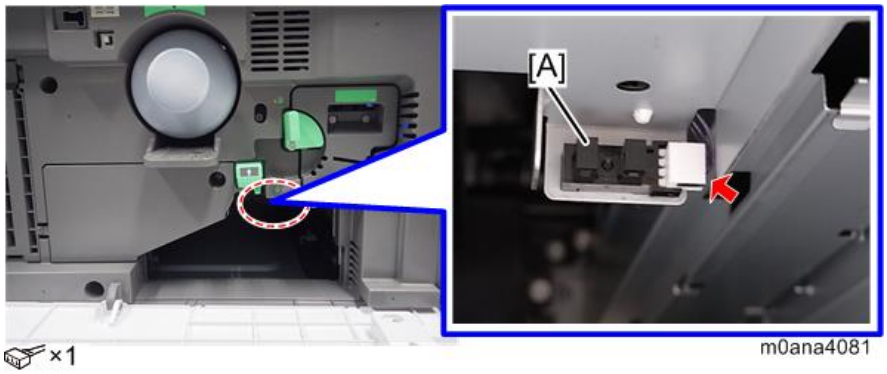
1. Open the front cover.
2. Lift the lever [A] then pull out the waste toner bottle [B].



Toner Collection Full Sensor

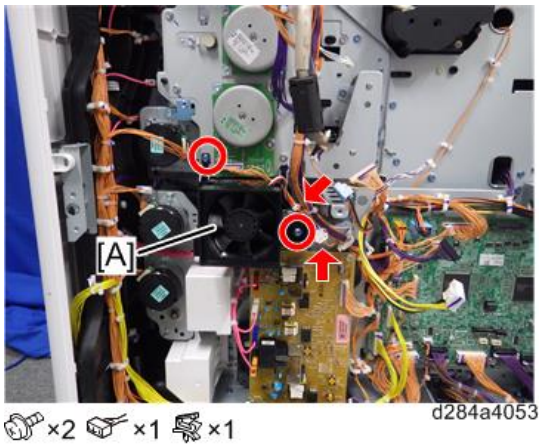
1. Remove the waste toner bottle. (Waste Toner Bottle)

2. Remove the toner collection full sensor [A].

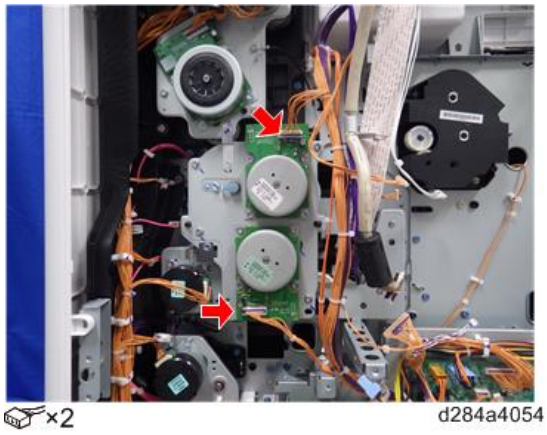


Recycling Shutter

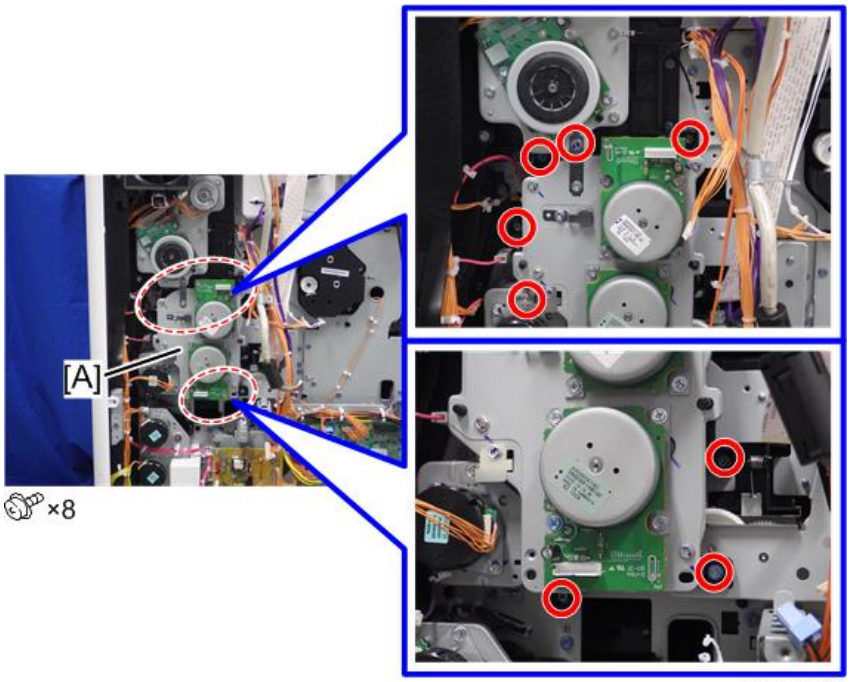
1. Remove the waste toner bottle. (Waste Toner Bottle)
2. Remove the PCDU. (PCDU)
3. Remove the controller box. (Controller Box)
4. Remove the duct [A].



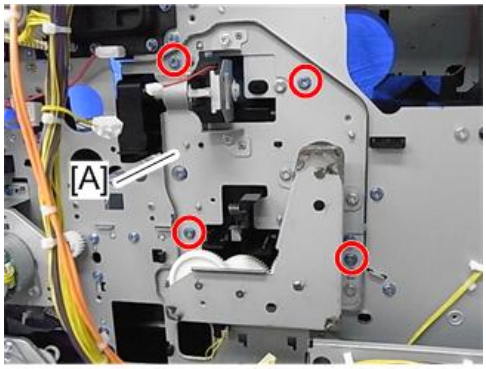
5. Remove the connectors.



6. Remove the motor unit [A].



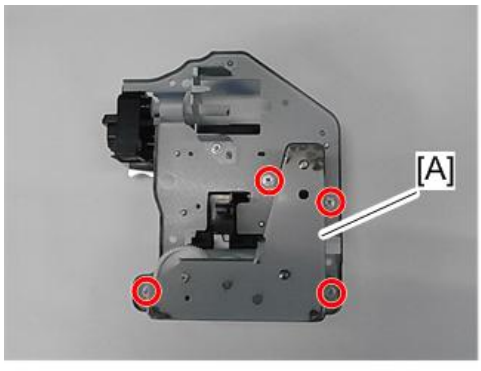
7. Remove the recycling shutter bracket [A]. (×4)



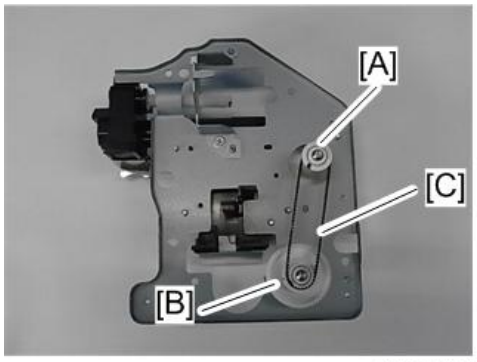
Note

- Spread paper on the floor to catch possible toner spills.

8. Remove the bracket [A] (×4).

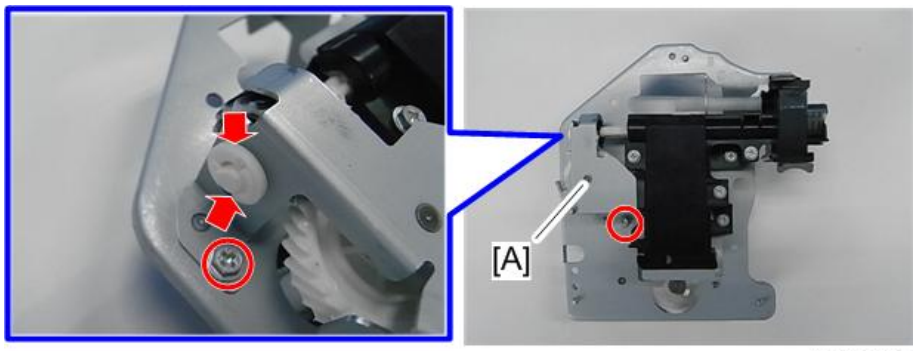


9. Remove the two pulleys [A] [B] and the belt [C]. (×1)



d197z0481

10. Remove the bracket [A]. (×2, ×1, bearing × 1)

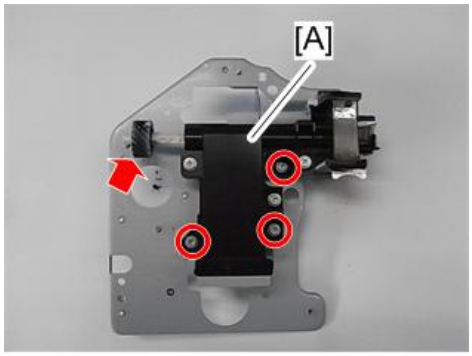


d197z0482

Note

- Place a sheet of paper underneath the bracket, and then put the bracket on the sheet. Otherwise, the grease applied to the gear in the bracket may adhere to the floor.

11. Remove the recycling shutter unit [A]. (×3, Gear × 1)



d197z0483

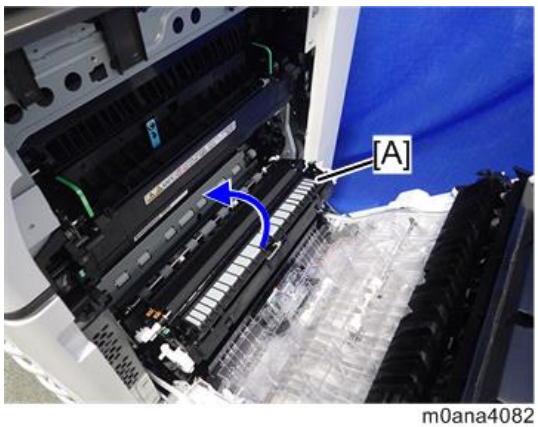
Note

- Place a sheet of paper underneath the recycling shutter unit, and then put the recycling shutter unit on the sheet. Otherwise, the grease applied to the gear in the unit may adhere to the floor.

Transfer Unit

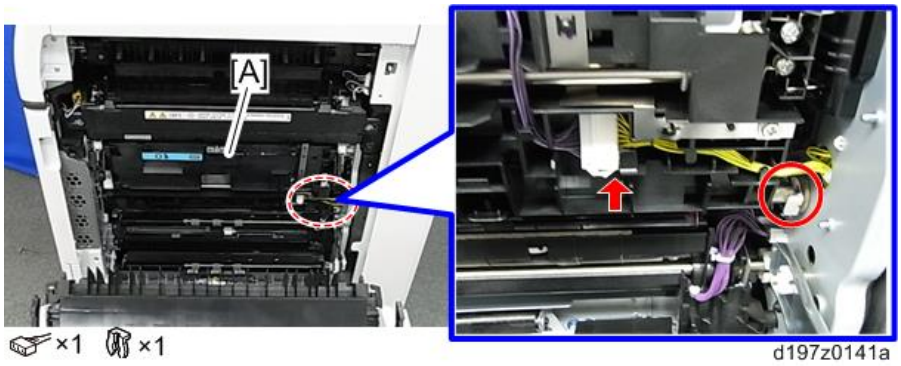
Transfer Unit

1. Open the right cover.
2. Close the transfer unit [A].



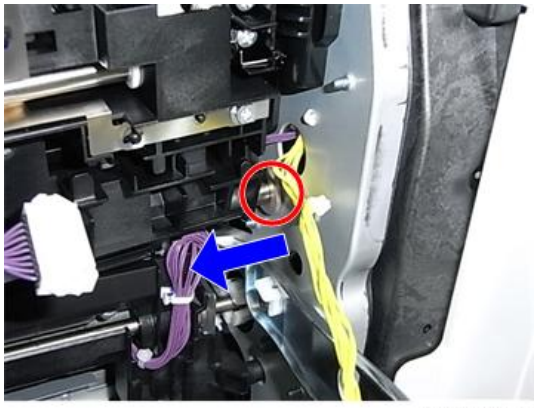
m0ana4082

3. Remove the clip of the transfer unit [A] and disconnect the connector.

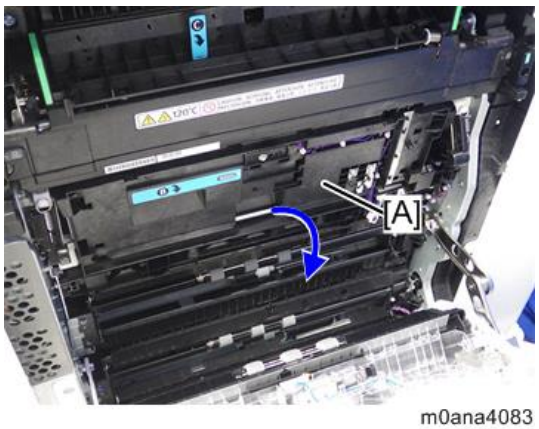


d197z0141a

4. Slide the bearing in the blue arrow direction to release it from the frame of the main machine.

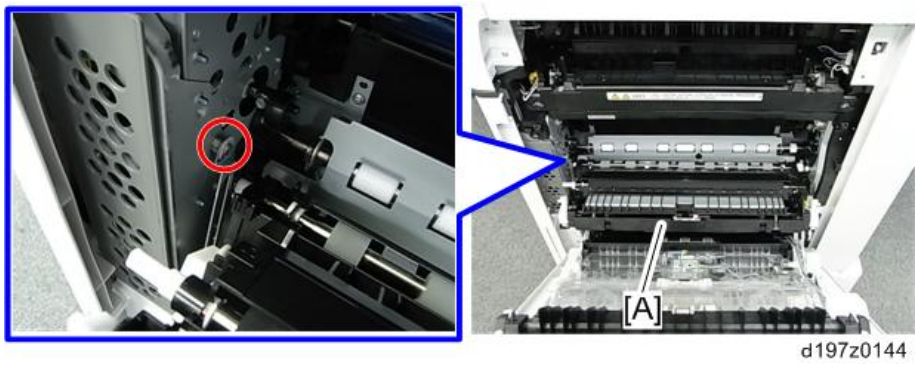

d197z0142

5. Open the transfer unit [A].



m0ana4083

6. Release the arm of the transfer unit [A] (×1).



d197z0144

7. Remove the transfer unit [A].



d197z0145

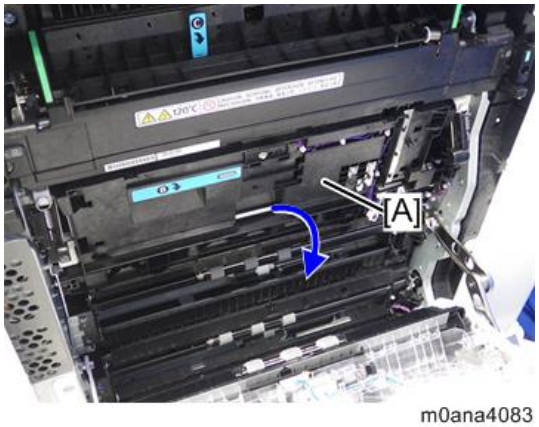
Transfer Roller Unit

Important

The transfer roller unit has a new unit detection mechanism, so it is not necessary to set SPs (New Unit Detection) when replacing an old transfer roller unit.

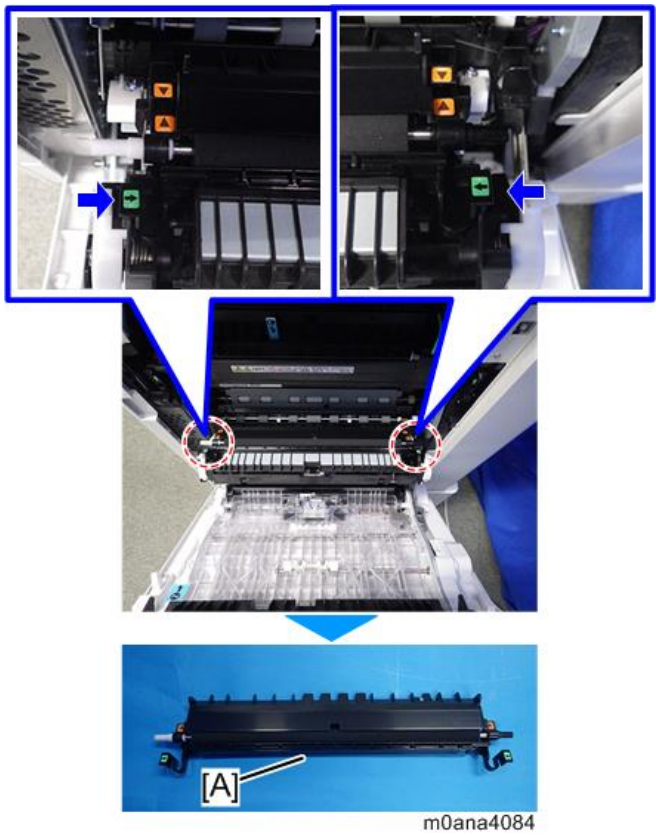
1. Open the right cover.

2. Open the transfer unit [A].



m0ana4083

3. Release the right and left locks, and remove the transfer roller unit [A].



m0ana4084

ID Sensor

Before Replacing the ID Sensor

Note

- You must take note of the original value of SP3-331-061 to prepare for the possibility that the process control after replacement will not be done properly.

A QR-code is pasted on the sensor head of an ID sensor, which includes the characteristic value for the sensor. This characteristic value must be input into SP3-331-061 before replacing the ID sensor.

1. Take a note of the characteristic value on the new ID sensor (surrounded by a red dashed line in the following

photo).

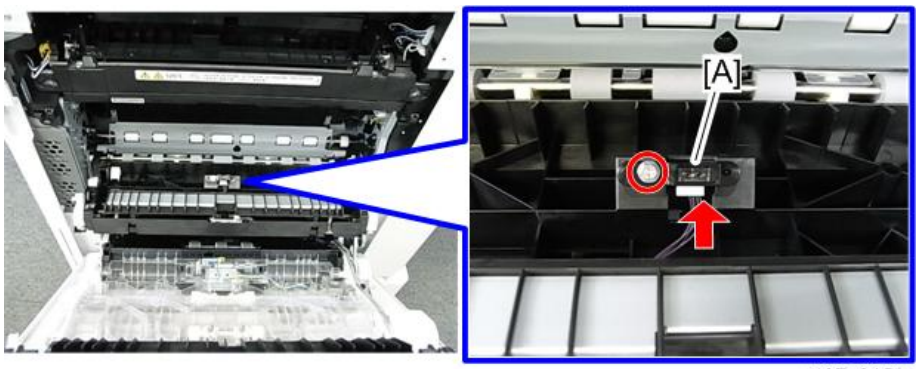


d197z0181

2. Turn the main power ON and enter SP mode.
3. Input the characteristic value into SP3-331-061.

Replacement Procedure

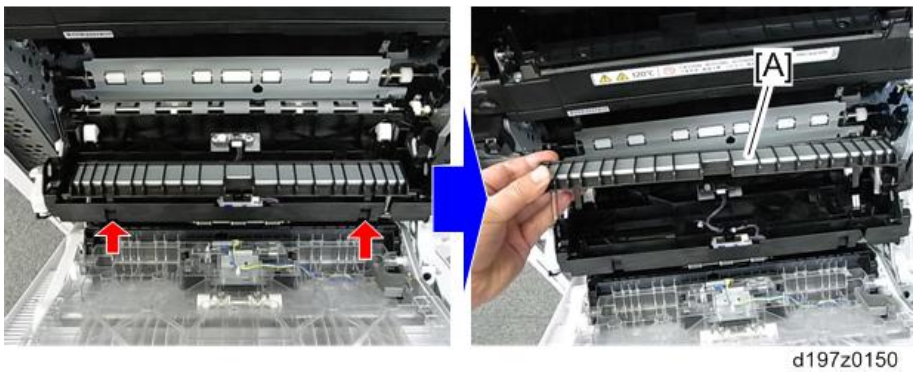
1. Remove the transfer roller unit. (Transfer Roller Unit)
2. Remove the ID sensor [A]. (×1, ×1)



d197z0153

Transfer Unit Open/Closed LED

1. Remove the transfer roller unit. (Transfer Roller Unit)
2. Remove the guide plate [A]. (×2)



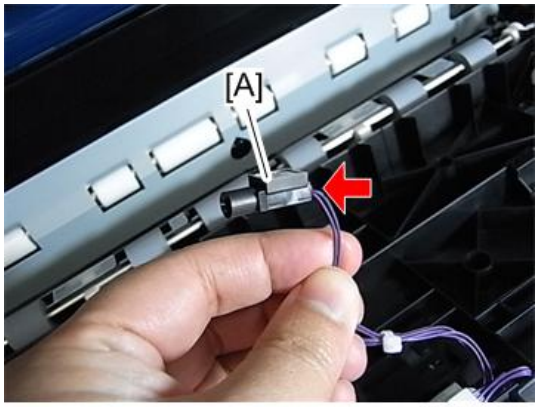
d197z0150

3. Remove the LED cover [A]. (×1)



d197z0151

4. Remove the transfer unit open/closed LED [A]. (×1)



d197z0152

Temperature/Humidity Sensor

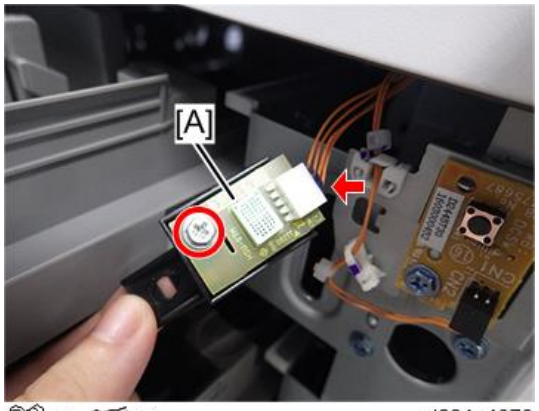
1. Remove the main power switch cover. (Main Power Switch Cover)

2. Inserting a driver through the frame hole, remove the screw of the temperature/humidity sensor.



×1 d284a4075

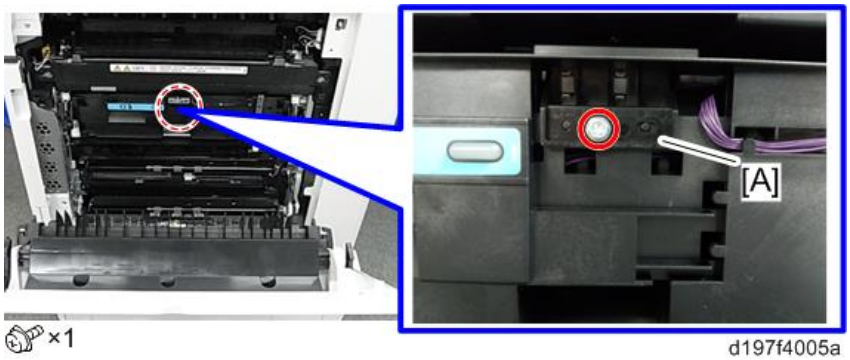
3. Remove the temperature/humidity sensor [A].



Fusing Entrance Sensor

1. Open the right cover.

2. Remove the fusing entrance sensor [A] with bracket.



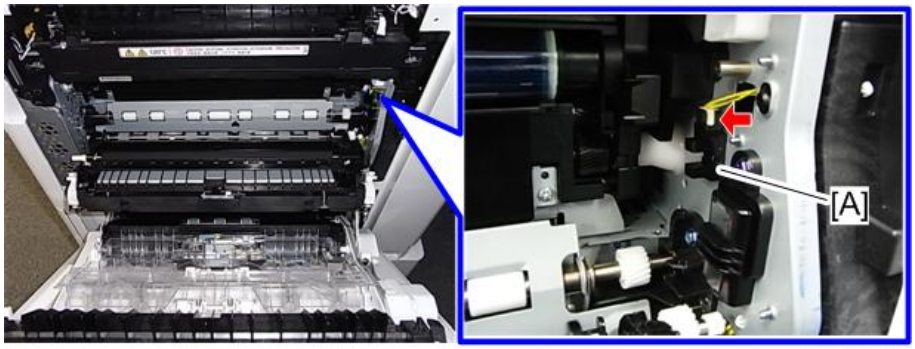
3. Remove the fusing entrance sensor [A]. (×1)



Transfer Unit Open/Closed Sensor

1. Open the right cover.

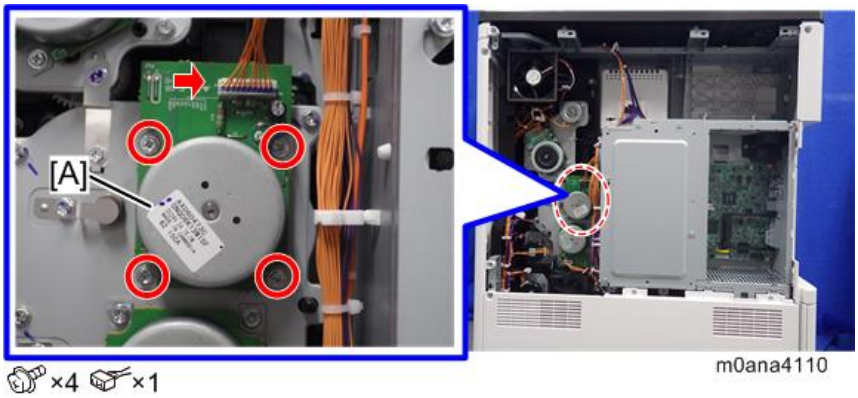
2. Remove the transfer unit open/closed sensor [A]. (×1, hooks)



Drive Unit

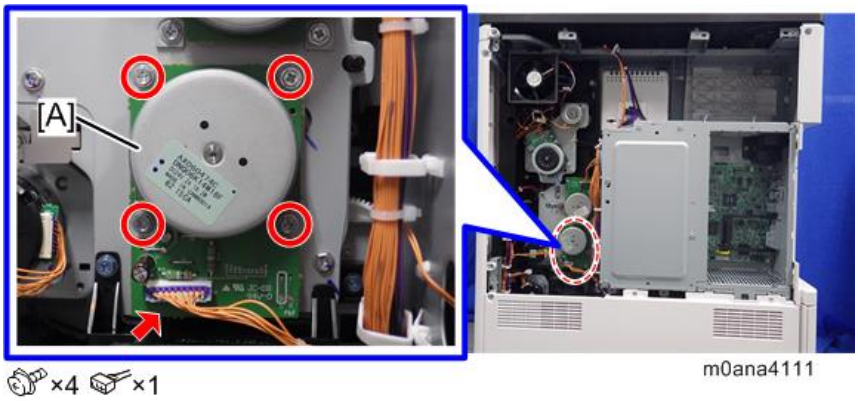
Drum/Waste Toner Motor

1. Remove the rear cover. (Rear Cover)
2. Remove the drum/waste toner motor [A].



Development Motor

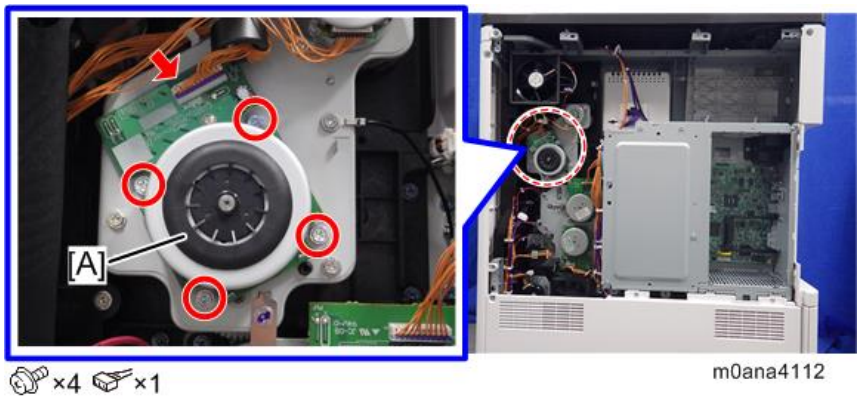
1. Remove the rear cover. (Rear Cover)
2. Remove the development motor [A].



Fusing Motor

1. Remove the rear cover. (Rear Cover)

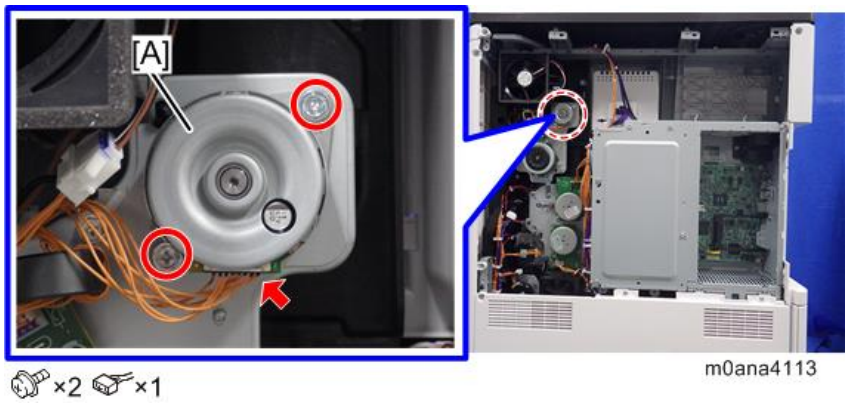
2. Remove the fusing motor [A].



Paper Exit Motor

1. Remove the rear cover. (Rear Cover)

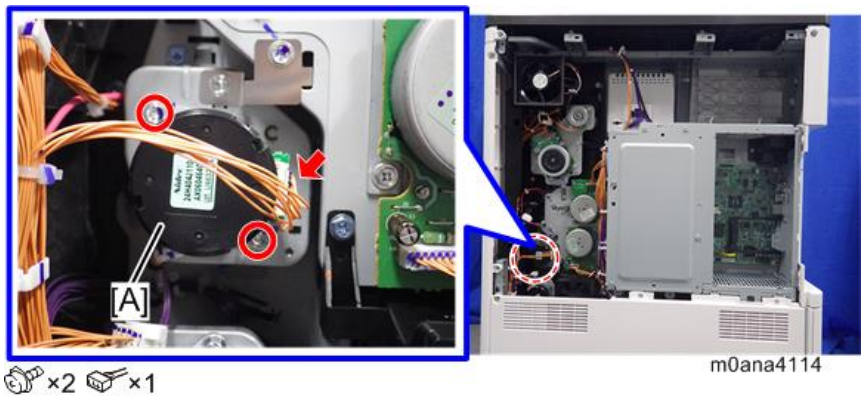
2. Remove the paper exit motor [A].



Registration Motor

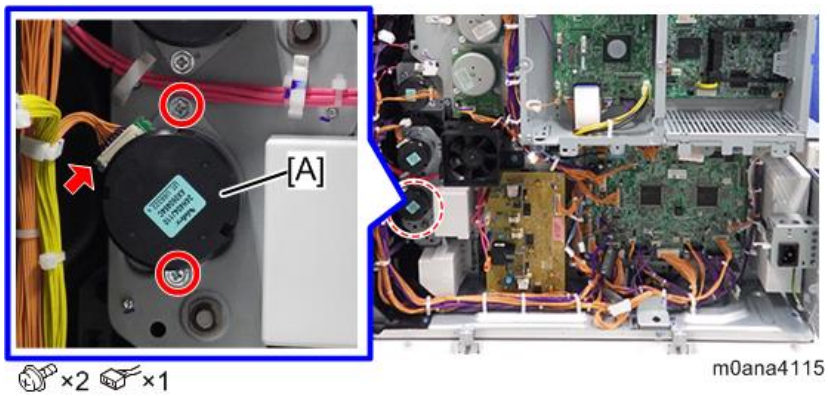
1. Remove the rear cover. (Rear Cover)

2. Remove the registration motor [A].



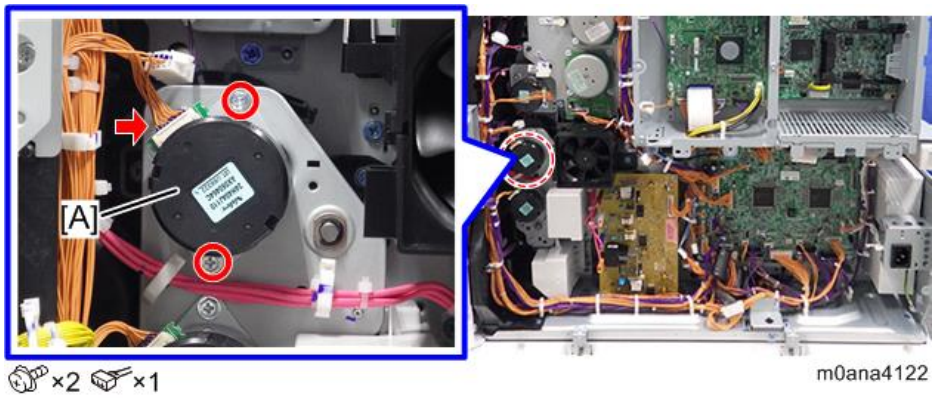
Paper Feed Motor

1. Remove the rear lower cover. (Rear Lower Cover)
2. Remove the paper feed motor [A].



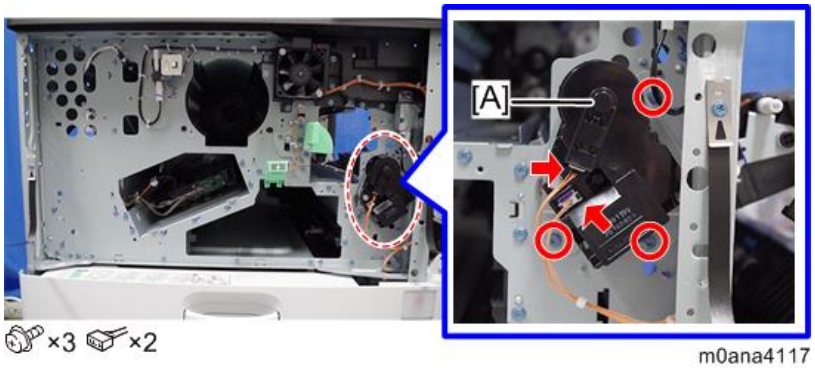
Vertical Transport Motor

1. Remove the rear lower cover. (Rear Lower Cover)
2. Remove the vertical transport motor [A].



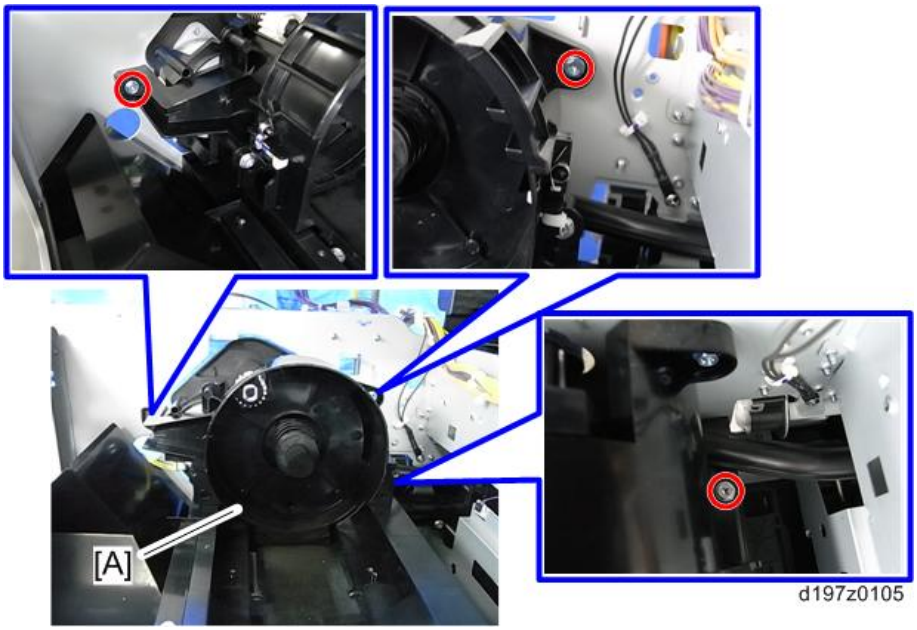
Transfer Roller Contact Motor

1. Remove the inner cover. (Inner Cover)
2. Remove the transfer roller contact motor [A].

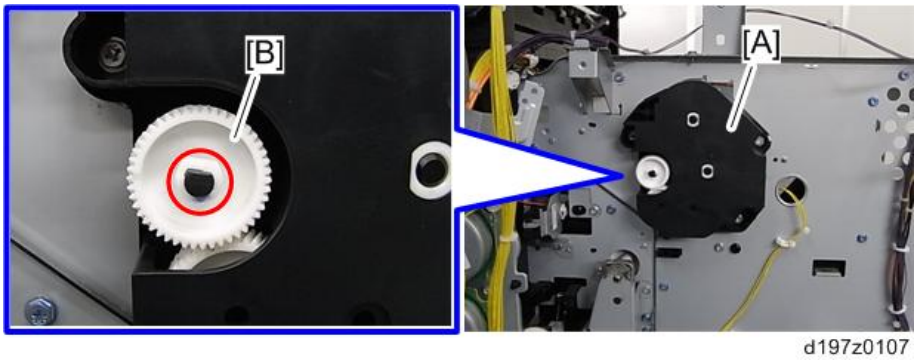


Toner Hopper

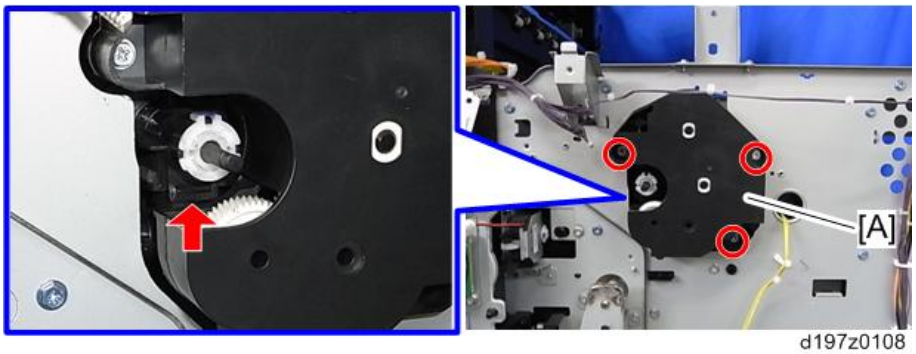
1. Pull out the toner bottle.
2. Remove the paper exit lower cover. (Paper Exit Lower Cover)
3. Remove the upper inner cover. (Upper Inner Cover)
4. Remove the development exhaust fan. (Development Exhaust Fan)
5. Remove the toner supply housing. (Toner Supply Housing)
6. Remove the controller box. (Controller Box)
7. Remove the screws on the toner hopper [A]. (×3)



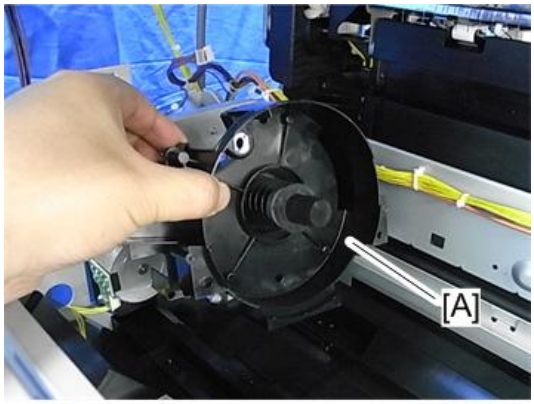
8. Remove the gear [B] on the gearbox [A]. (×1)



9. Remove the screws and tab on the gearbox [A]. (×3, tab×1)



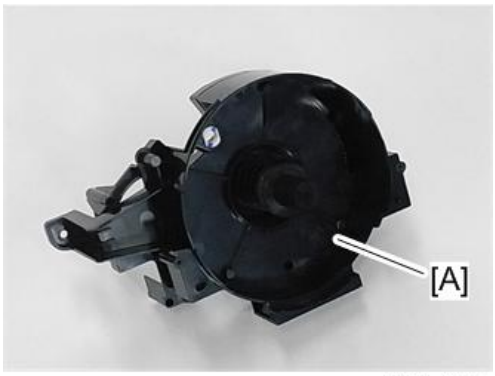
10. Remove the toner hopper [A].



d197z0109

Note

- Toner remains in the toner hopper [A]. Be sure to place the toner hopper on a sheet of paper to protect against toner spillage.

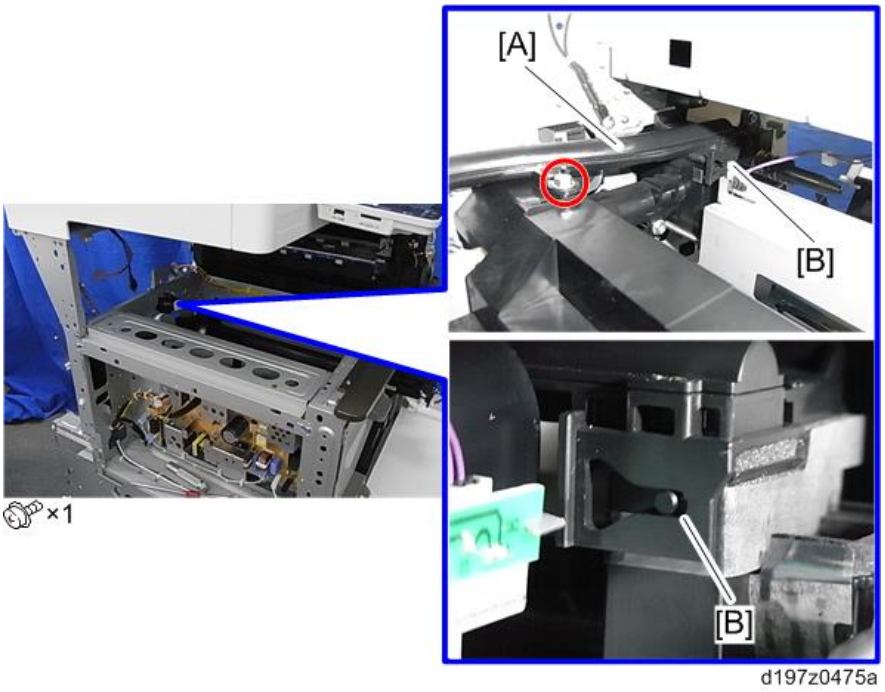


d197z0110

Important

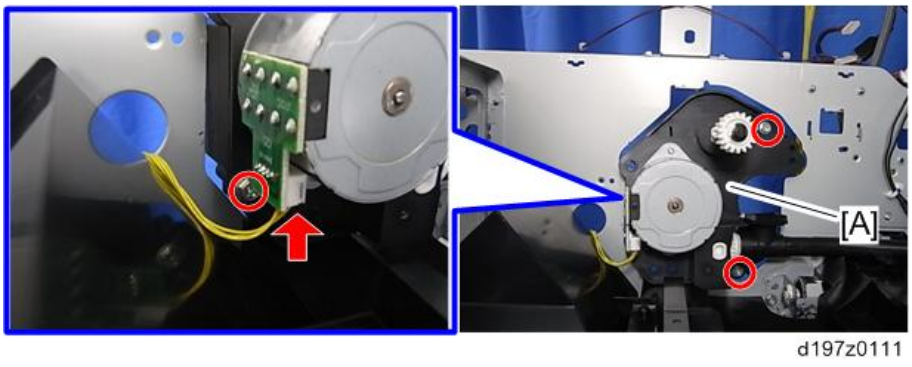
- Attach the toner supply pipe [A] before installing the gear box and toner hopper.

- Fit the pin [B] into the hole in the supply pipe assembly and then stabilize the pipe.

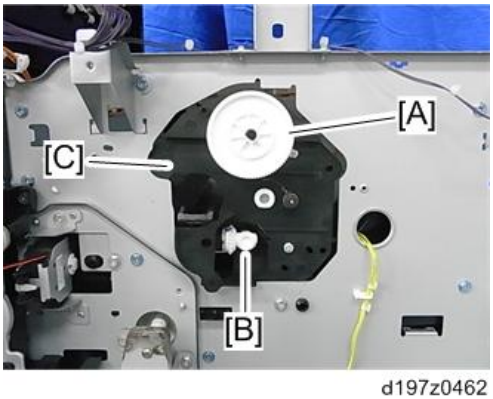


Toner Supply Motor

1. Remove the toner hopper. (Toner Hopper)
2. Remove the screws and connector on the gearbox [A]. (×3, ×1)

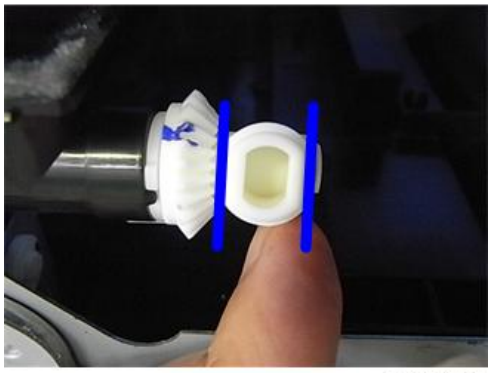


3. Remove the gear [A] and part [B] from the gear box cover [C].



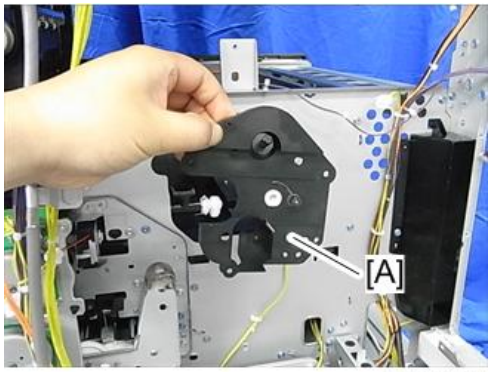
Note

- Make sure that the angle of the part [B] is as shown below when attaching the part [B] to the gear box cover.



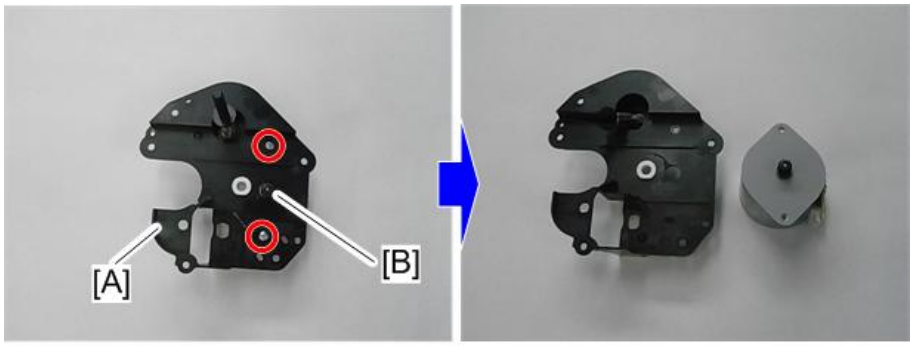
d197z0463

4. Remove the gear box cover [A].



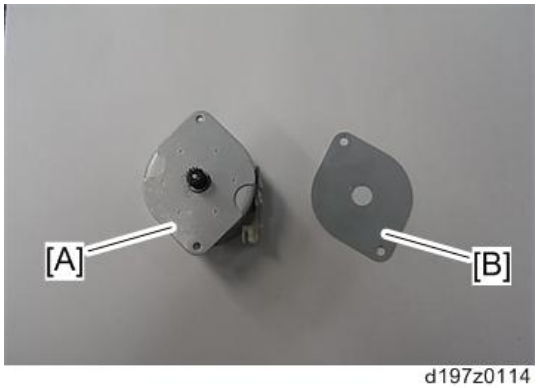
d197z0464

5. Remove the toner supply motor [B] with its spacer from the gear box cover [A]. (×2)



d197z0465

6. Remove the spacer [B] from the toner supply motor [A].



Fusing Unit

Replacement

⚠CAUTION

- In 100 V models, only one of the AC lines for the fusing unit is shut off when you turn off the main power; the other line carries current even when you turn off the main power switch. Because of this, turn off the main power switch, and also always pull out the AC power cord from the wall socket before doing replacement.
- Because there is a danger of burns on contact with hot parts of the fusing unit, start work when the temperature drops to a low enough temperature.
- To clear SC544-02 or SC554-02, replace the fusing unit or install a fuse (provided in the heating sleeve belt unit) in the fusing unit. If you will install a new fusing unit, follow the procedure below to clear SC544-02 or SC554-02.
  1. Install a new fusing unit.
  2. Clear SC544-02 or SC554-02 with SP5-810-002
  3. Turn the machine off and on.

Note

When the fusing unit is used past its PM cycle, the fusing unit may break, causing a service call. Therefore, the machine displays a warning on the operation panel at 320K pages and stops at 350K pages.

Note

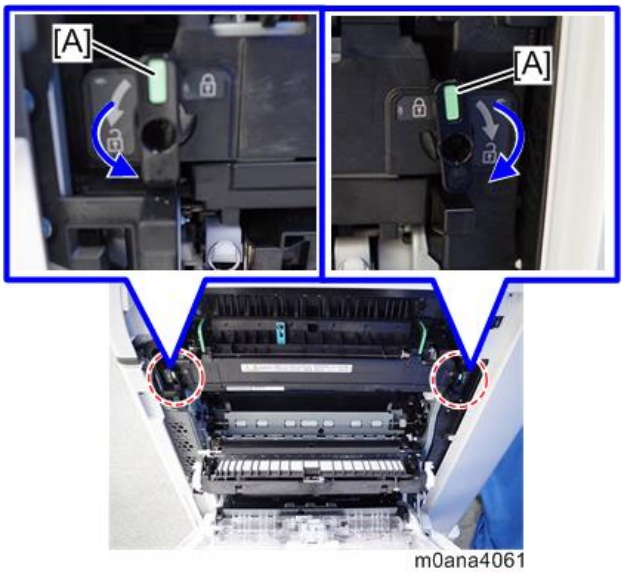
- If you replace a whole fusing unit, you do not need to perform SP3-701. This is because the machine detects a new unit automatically. If you replace only a part of the fusing unit, however, such as the pressure roller, you must set SP3-701 for that part.

1. Open the right cover and open the transfer unit [A].

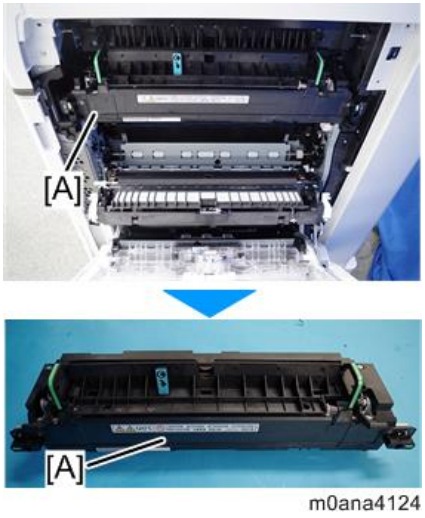


m0ana4060

2. Release the right and left locks [A].



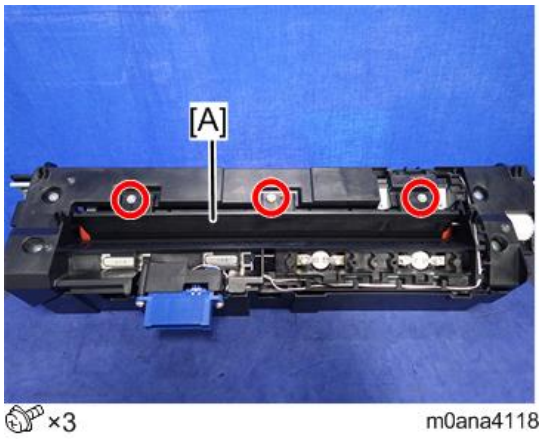
3. Remove the fusing unit [A].



Fusing Entrance Guide Plate

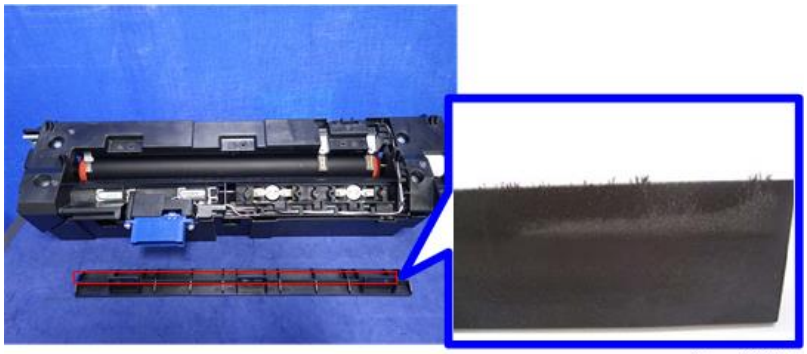
1. Remove the fusing unit. (Replacement)

2. Remove the fusing entrance guide plate [A].



Cleaning the Fusing Entrance Guide Plate

Carefully remove toner adhering as shown in the diagram below with a dry cloth. Then, wipe with a cloth moistened with alcohol.



m0ana4119

Fusing Exit Guide Plate

1. Remove the fusing unit. (Replacement)
2. Open the fusing exit guide plate [A].



m0ana4121

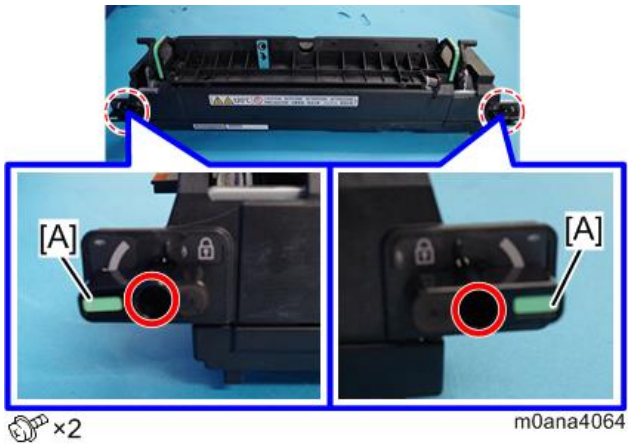
Note

- Wipe clean with a dry cloth. Then wipe clean with a cloth dampened with alcohol.

Fusing Upper Cover

1. Remove the fusing unit. (Replacement)

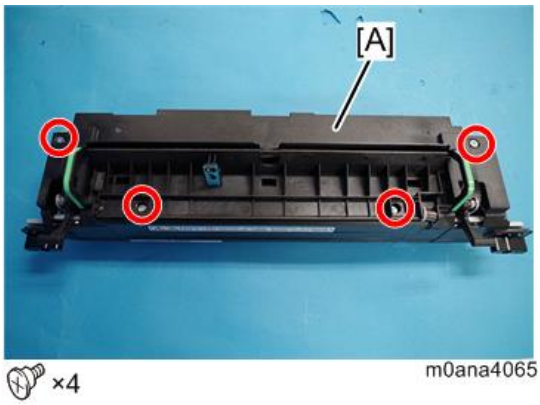
2. Remove the levers [A].



Note

Use a screwdriver with a shaft diameter of 5 mm.

3. Remove the fusing upper cover [A].



Note

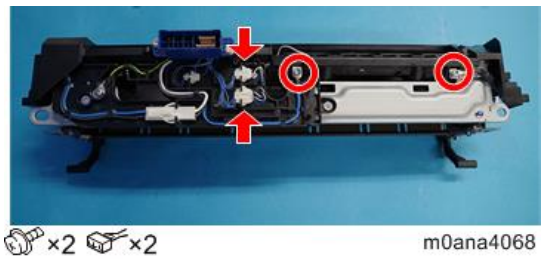
- You must route the harnesses for the pressure roller temperature sensor and the fusing roller temperature sensor correctly when reassembling the fusing unit. See the notes when reassembling the fusing unit. (Notes When Reassembling the Fusing Unit)

Fusing Lower Cover

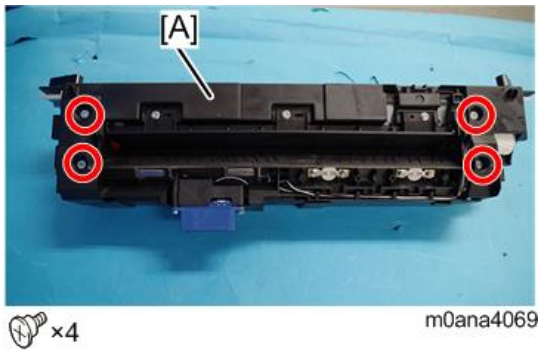
1. Remove the fusing unit. (Replacement)

2. Remove the fusing upper cover. (Fusing Upper Cover)

3. Remove the screws and the connectors.



4. Remove the fusing lower cover [A].



Note

- You must route the harnesses for the pressure roller temperature sensor and the fusing roller temperature sensor correctly when reassembling the fusing unit. See the notes when reassembling the fusing unit. (Notes When Reassembling the Fusing Unit)

Heating Sleeve Belt Unit

Preparation

- Set SP3-701-116 to “1” and turn the main power OFF before replacing.
- If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.
- After replacing the unit, turn the main power ON.

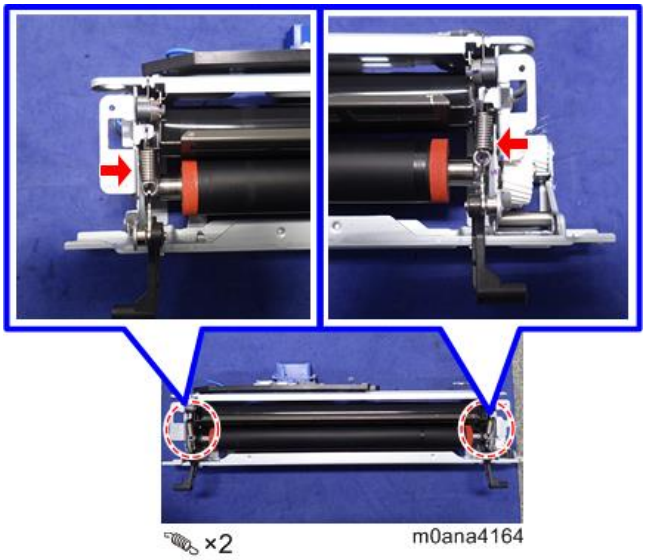
⚠CAUTION

- To clear SC544-02 or SC554-02, replace the fusing unit or install a fuse (provided in the heating sleeve belt unit) in the fusing unit.
- When clearing SC544-02 or SC554-02 by installing a fuse (provided in the heating sleeve belt unit) in the fusing unit, see To Clear SC544-02 or SC554-02.
- The new unit detection fuse packed with the heating sleeve belt unit is used to cancel SC544-02/554-02. Discard the fuse if these SCs did not occur.
- When replacing the heating sleeve belt unit at EM replacement, installing a fuse is not necessary. Do not use the fuse for EM replacement.

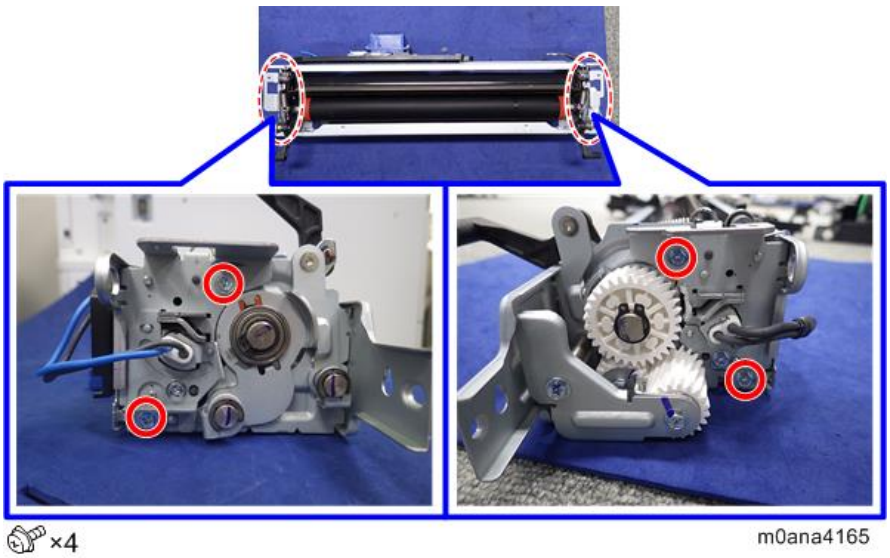
Replacement

1. Remove the fusing lower cover. (Fusing Lower Cover)

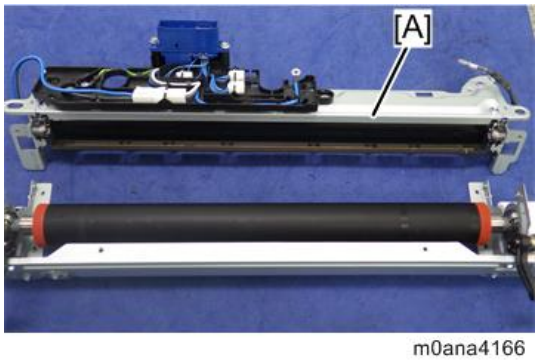
2. Remove the two pressure springs.



3. Remove the screws from the left and right frames.



4. Remove the heating sleeve belt unit [A].



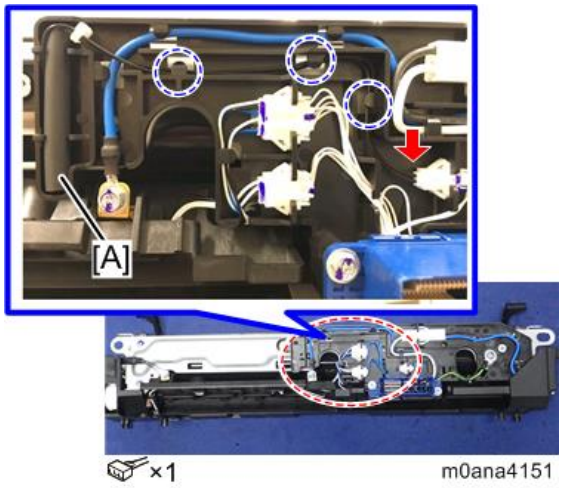
To Clear SC544-02 or SC554-02

⚠CAUTION

- To clear SC544-02 or SC554-02, attach the new unit detection fuse provided with the heating sleeve belt

unit or replace the fusing unit.

1. Prepare a new fuse provided with the heating sleeve belt unit.
2. Remove the fusing upper cover. (Fusing Upper Cover)
3. Install the fuse [A].



4. Reassemble the fusing unit.
5. Install the fusing unit in the machine.
6. Enter the SP mode, and then clear SC544-02 or SC554-02 with SP5-810-002.
7. Turn the machine off and on.

Pressure Roller, Pressure Roller Bearings and Pressure Roller Idler Gears

Adjustment before Replacing the Pressure Roller and Pressure Roller Bearings

Before replacing the pressure roller, set SP3-701-118 to "1" and switch the power OFF. Then replace the pressure roller and turn the main power ON.

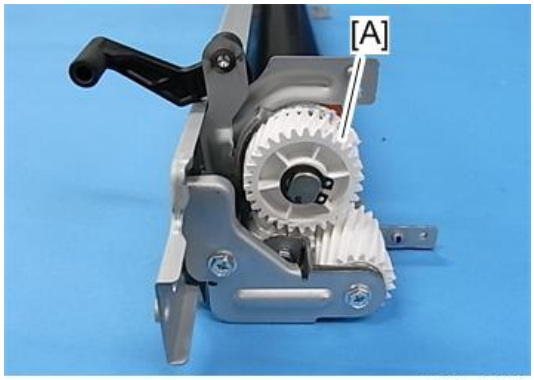
Before replacing the pressure roller bearings, set SP3-701-119 to "1" and turn the main power OFF. Then replace the pressure roller bearings and turn the main power ON.

If you have to turn the power on again before replacing the part, execute the SP again before replacing the part.

Replacement: Pressure Roller, Pressure Roller Bearings

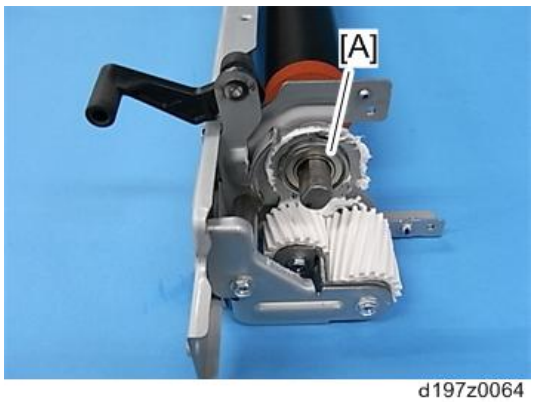
1. Remove the heating sleeve belt unit. (Heating Sleeve Belt Unit)

2. Remove the pressure roller gear [A]. (C-ring x1)



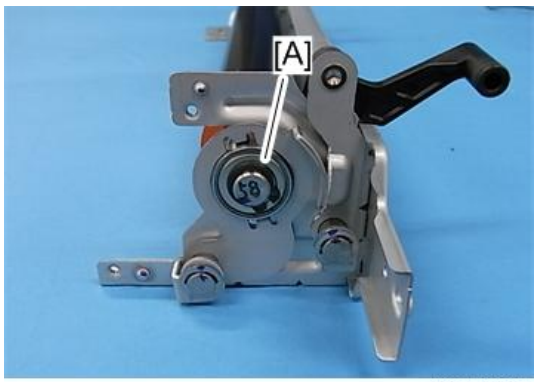
d197z0063

3. Remove the pressure roller rear bearing [A].



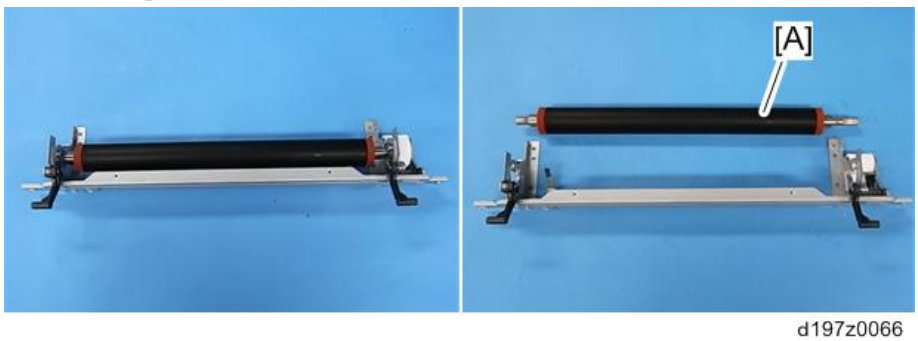
d197z0064

4. Remove the pressure roller front bearing [A]. (C-ring x1)



d197z0065

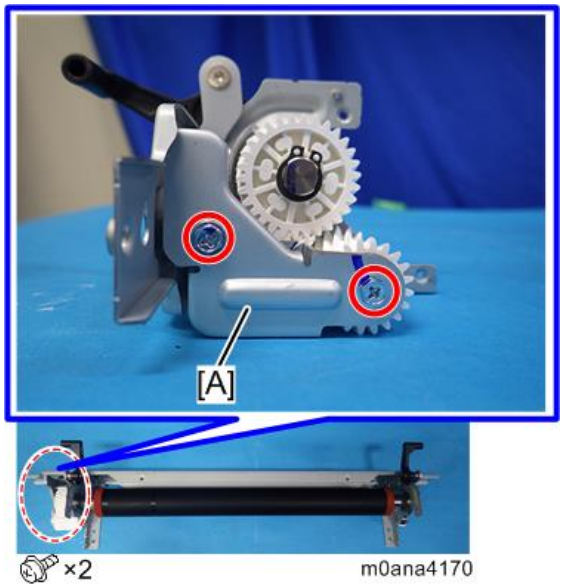
5. Remove the pressure roller [A].



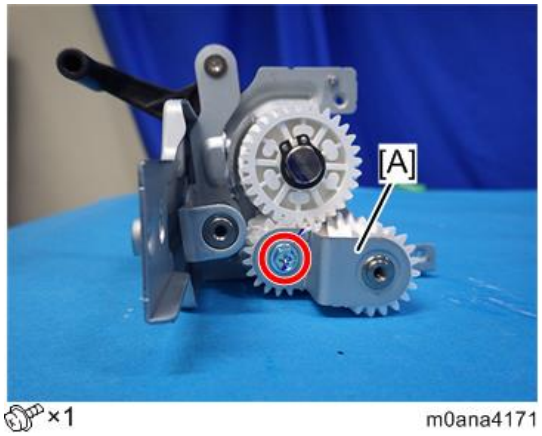
d197z0066

Replacement: Pressure Roller Idler Gears

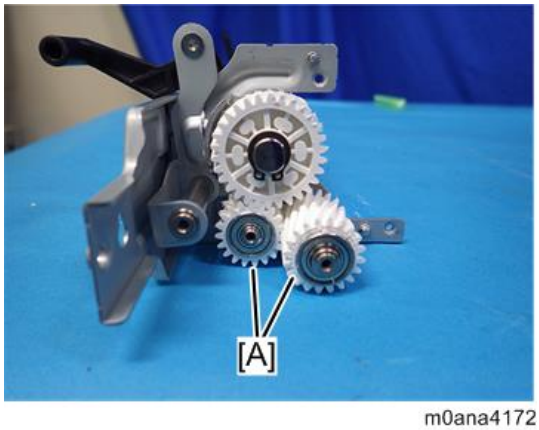
1. Remove the heating sleeve belt unit. (Heating Sleeve Belt Unit)
2. Remove the bracket [A].



3. Remove the bracket [A].



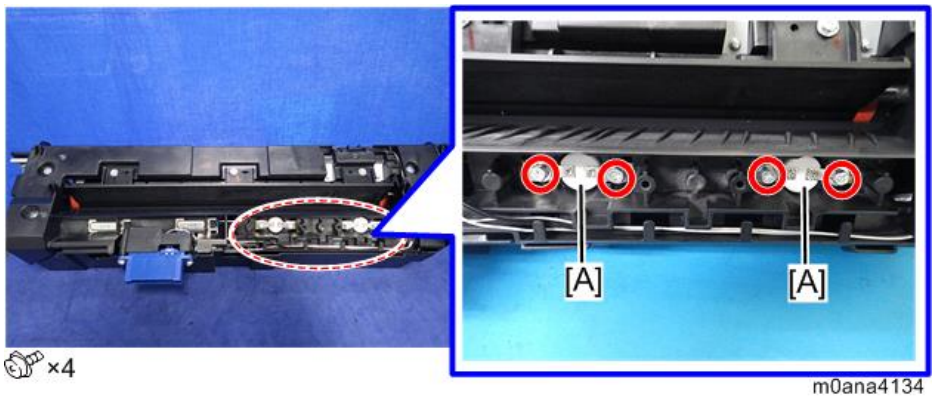
4. Remove the pressure roller idler gears [A].



Thermostat Unit

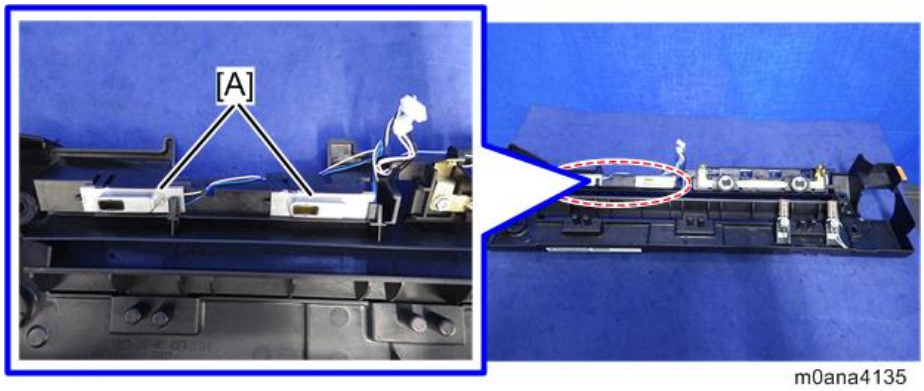
1. Remove the fusing unit. (Replacement)

2. Remove the thermostats [A].



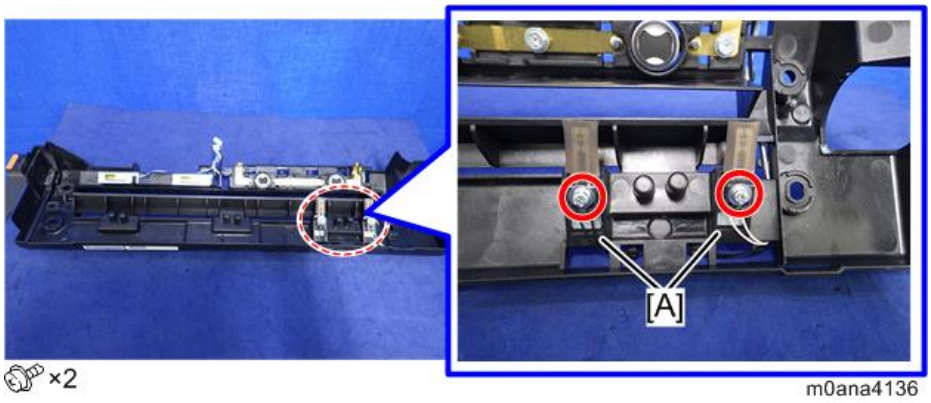
Fusing Roller Temperature Sensors

1. Remove the fusing lower cover. (Fusing Lower Cover)
2. Remove the fusing roller temperature sensors [A].

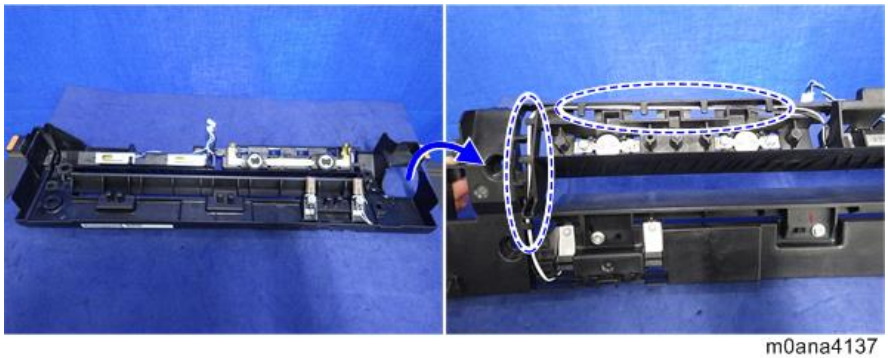


Pressure Roller Temperature Sensors

1. Remove the fusing lower cover. (Fusing Lower Cover)
2. Remove the screws of the pressure roller temperature sensors [A].

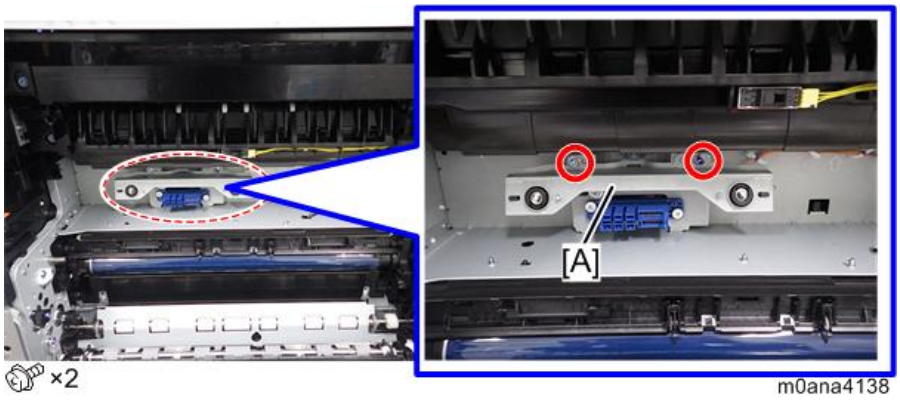


3. Remove the pressure roller temperature sensors from the harness guide.

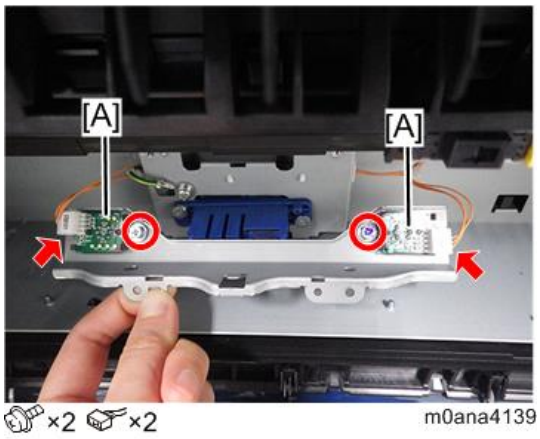


Fusing Thermopiles

1. Remove the fusing unit. (Replacement)
2. Remove the fusing thermopile unit [A].



3. Remove the fusing thermopiles [A].

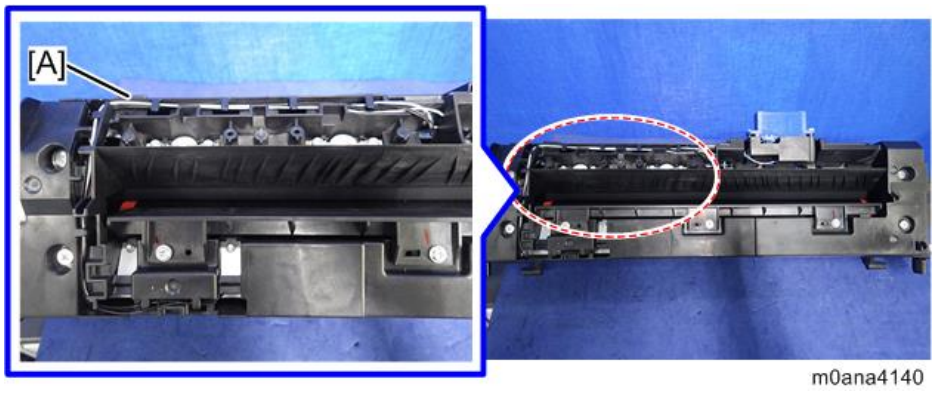


Notes When Reassembling the Fusing Unit

Route the harnesses for the pressure roller temperature sensor and the fusing roller temperature sensor correctly when reassembling the fusing unit.

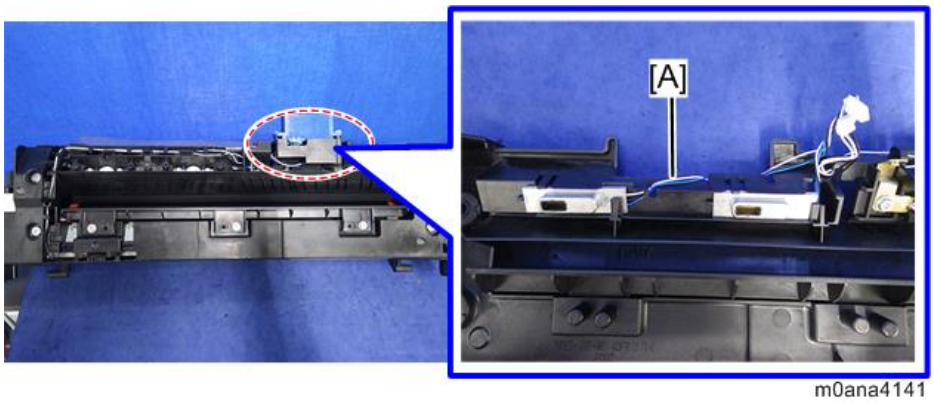
The harness [A] for the pressure roller temperature sensor has black and white wires. Routing starts from the

bottom of the fusing unit, then the rear, and to the side.



m0ana4140

The harness [A] for the fusing roller temperature sensor has black, white, and blue wires.

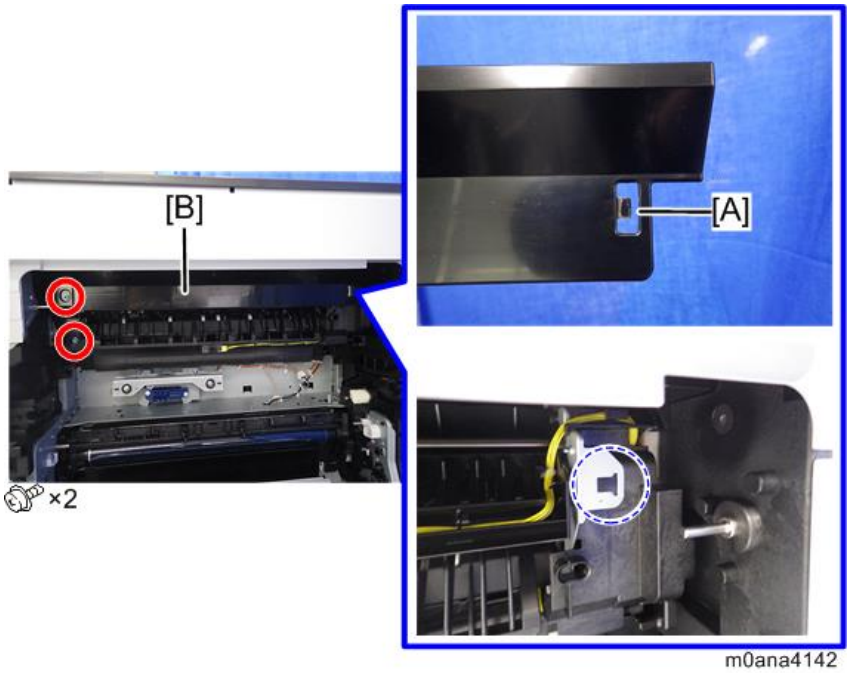


m0ana4141

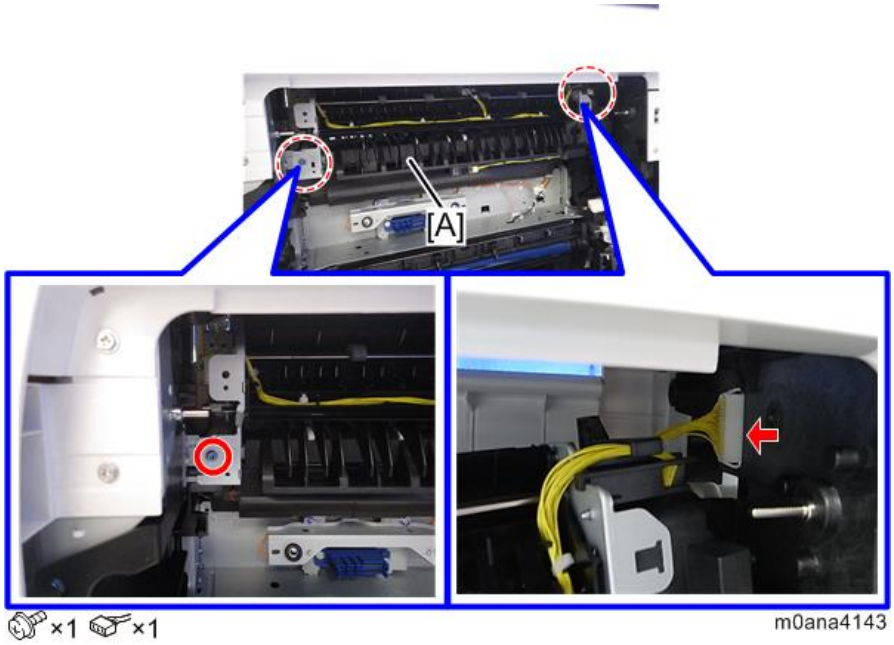
Paper Exit

Paper Exit Unit

1. Open the right cover.
2. Remove the fusing unit. (Fusing Unit)
3. Release the hook [A], and remove the inner cover [B].

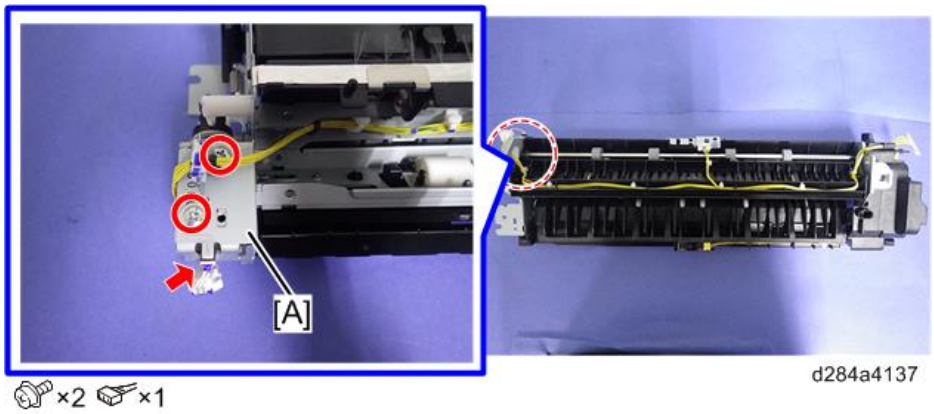


4. Remove the paper exit cover. (Paper Exit Cover)
5. Remove the paper exit unit [A].



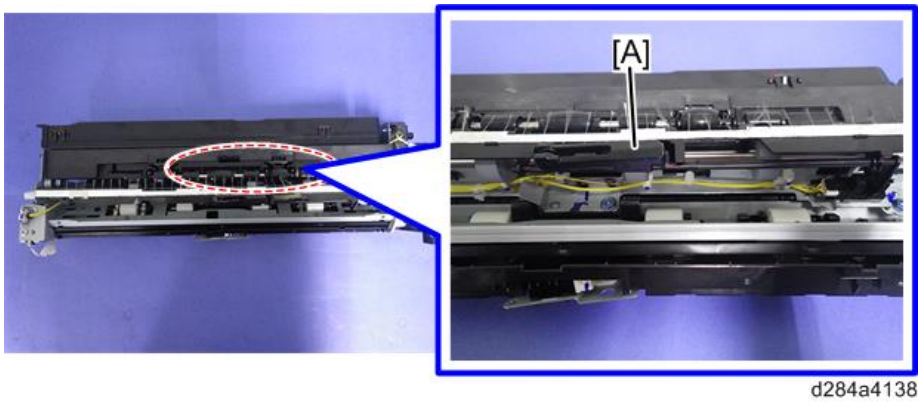
Paper Exit Switching Solenoid

1. Remove the paper exit unit. (Paper Exit Unit)
2. Remove the paper exit switching solenoid [A].

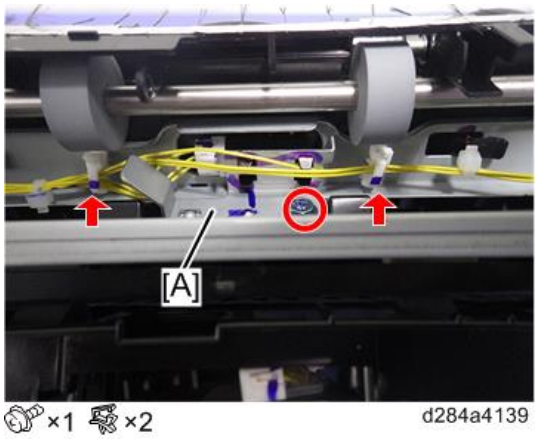


Paper Exit Sensor

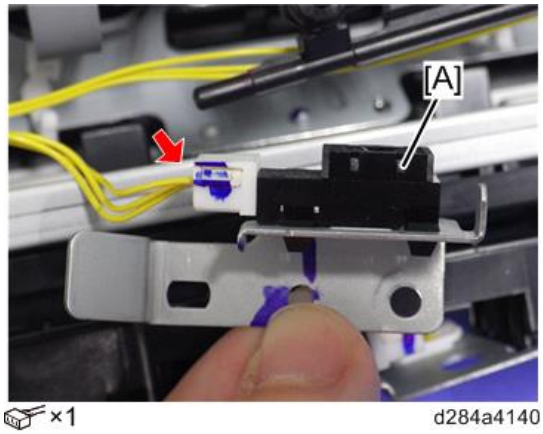
1. Remove the paper exit unit. (Paper Exit Unit)
2. Remove the feeler [A].



3. Remove the paper exit sensor with bracket [A].



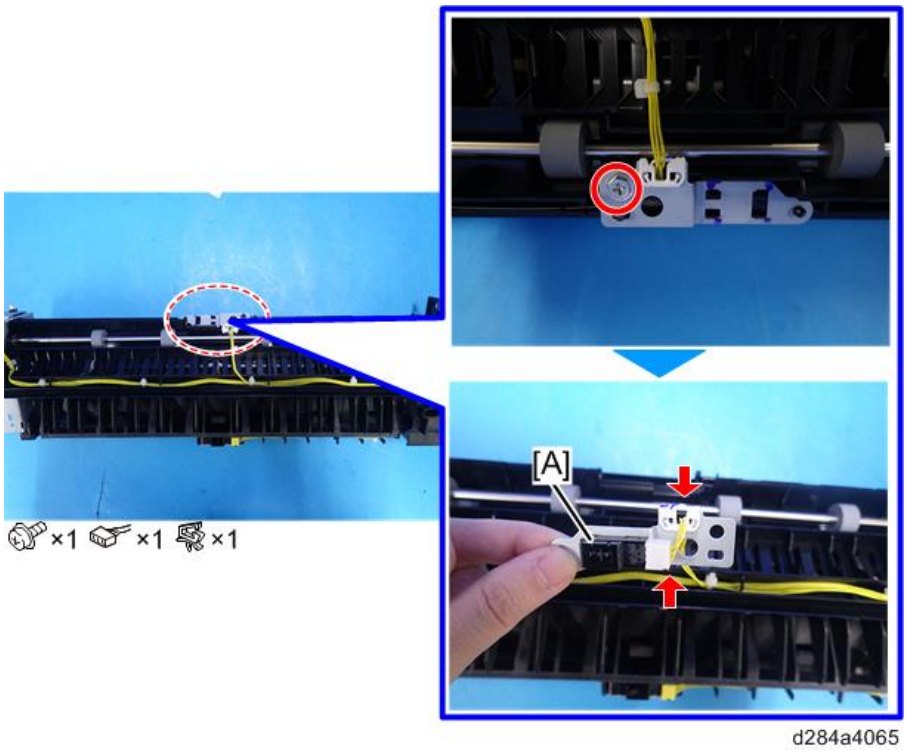
4. Remove the paper exit sensor [A].



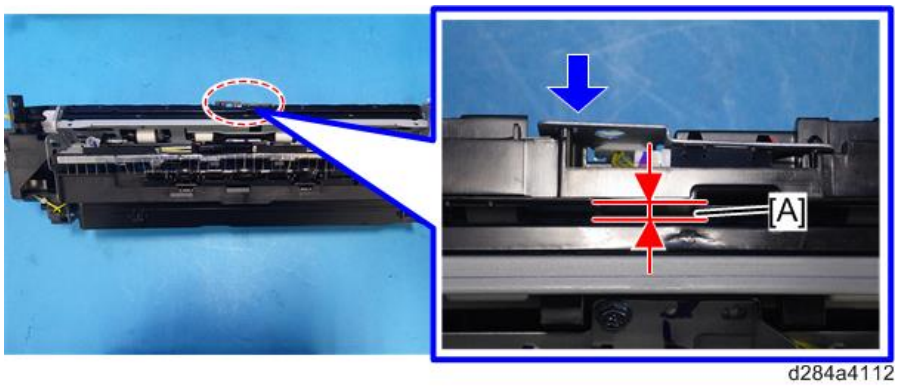
Reverse Sensor

1. Remove the paper exit unit. (Paper Exit Unit)

2. Remove the reverse sensor [A].

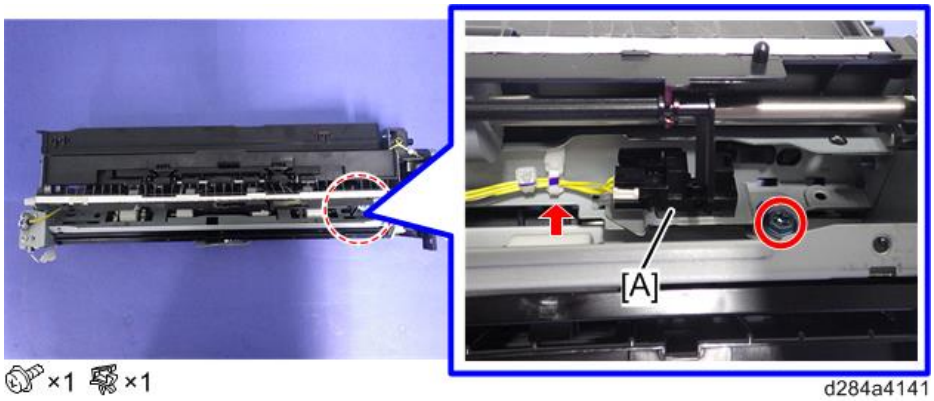


When attaching the reverse sensor, if you screw too tightly in the direction of the blue arrow, it may cause the gap between the guide plates [A] to be too narrow, resulting in paper jams. Make sure that there is a gap [A] of 3mm or more after you fasten the screw.

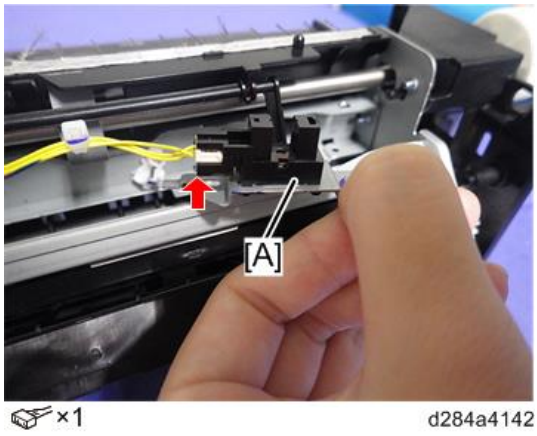


Paper Exit Full Sensor

1. Remove the paper exit unit. (Paper Exit Unit)
2. Remove the paper exit full sensor with bracket [A].



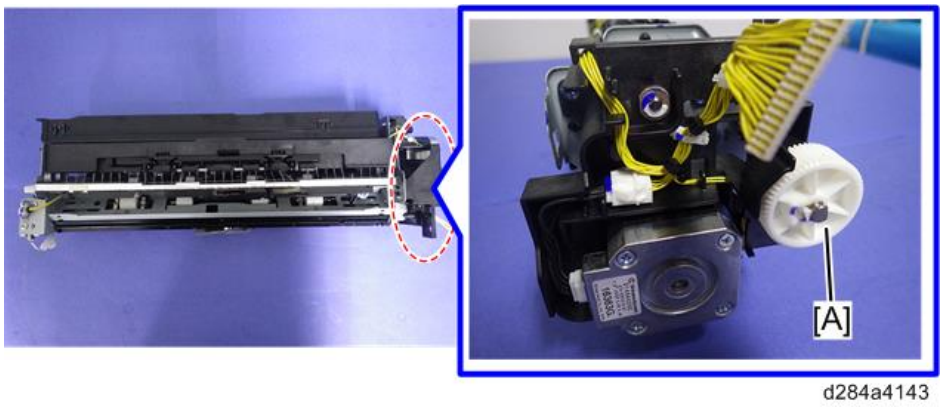
3. Remove the paper exit full sensor [A].



Reverse Motor

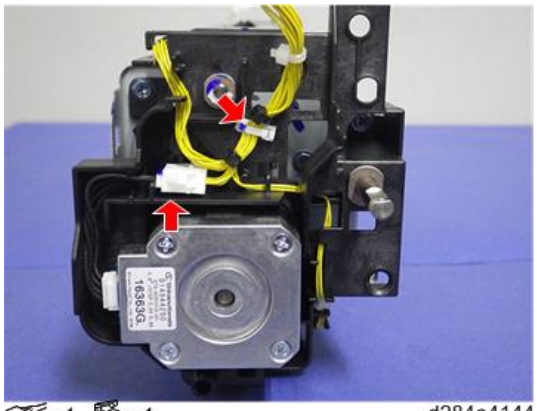
1. Remove the paper exit unit. (Paper Exit Unit)

2. Remove the gear [A].



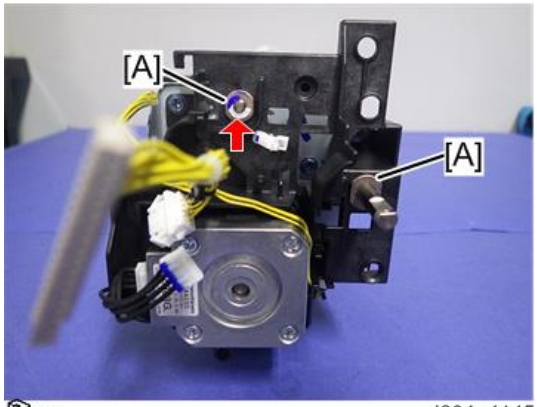
d284a4143

3. Release the harness.



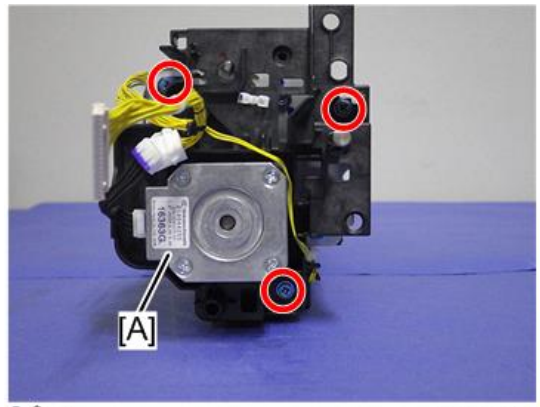
×1 ×1 d284a4144

4. Remove the bearings [A].



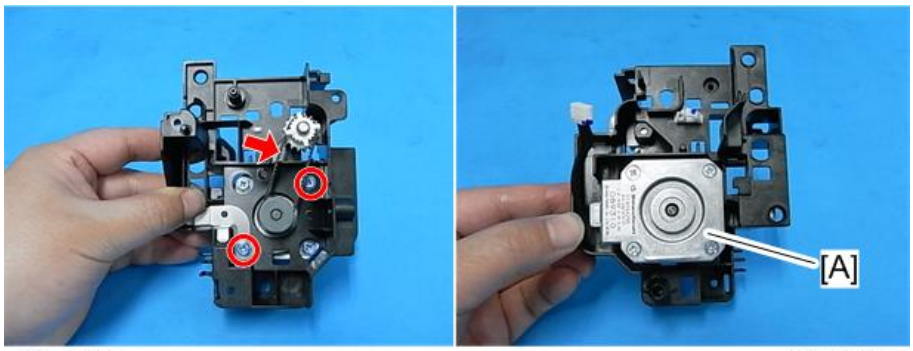
×1 d284a4145

5. Remove the reverse motor with bracket [A].



×3 d284a4146

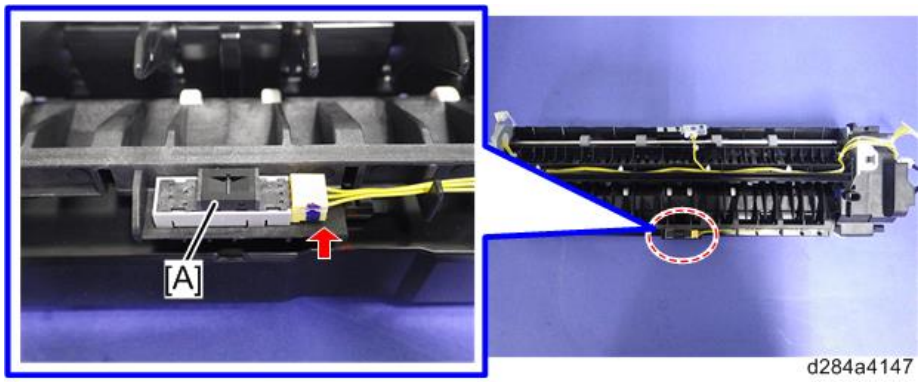
6. Remove the reverse motor [A].



×2 ×1 d197z0044a

Fusing Exit Sensor

1. Remove the paper exit unit. (Paper Exit Unit)
2. Remove the fusing exit sensor [A].



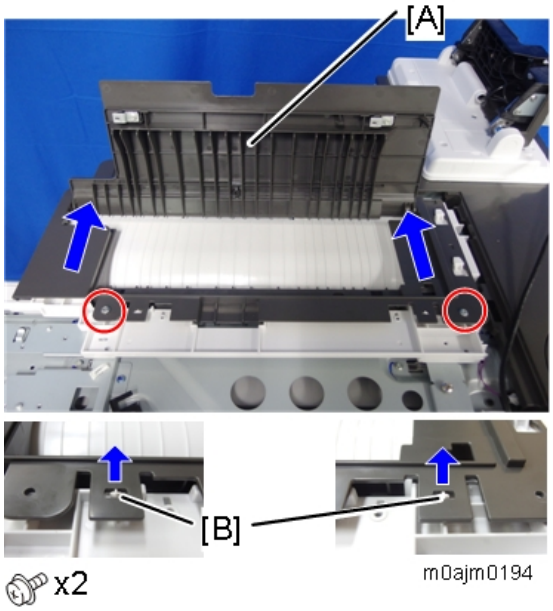
d284a4147

×1

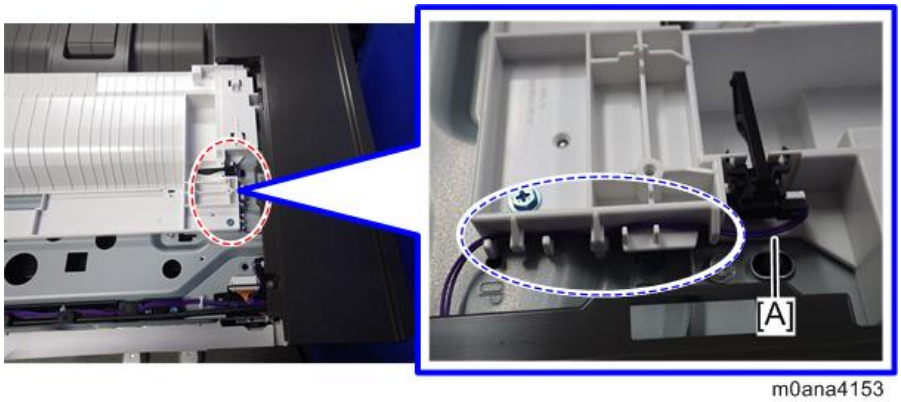
Inverter Guide Cover Sensor

1. Remove the top right cover. (Top Right Cover)
2. Turn over the operation panel. (Operation Panel Unit)
3. Remove the inverter guide cover [A].

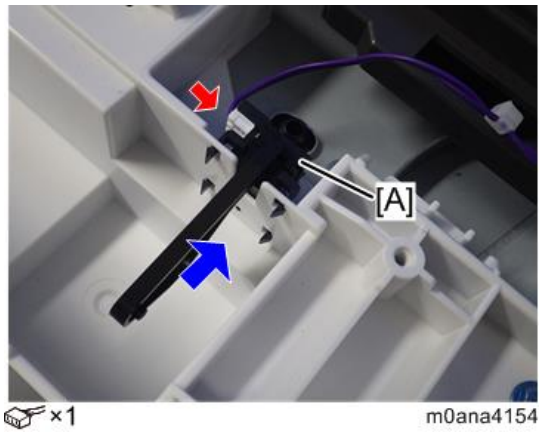
Lift the exterior cover from the screw bosses [B], and then slide the inverter module in the direction of the blue arrow and remove it.



4. Release the harness [A] from the harness guide.



5. Remove the inverter guide cover sensor [A].



Paper Feed

Note

- The 1st paper feed unit can be removed without removing the duplex unit (just open the right cover), and you can remove the paper feed unit after pulling out the paper tray.
- Note that the 1st paper feed unit and 2nd paper feed unit are not interchangeable.

Paper Feed Unit

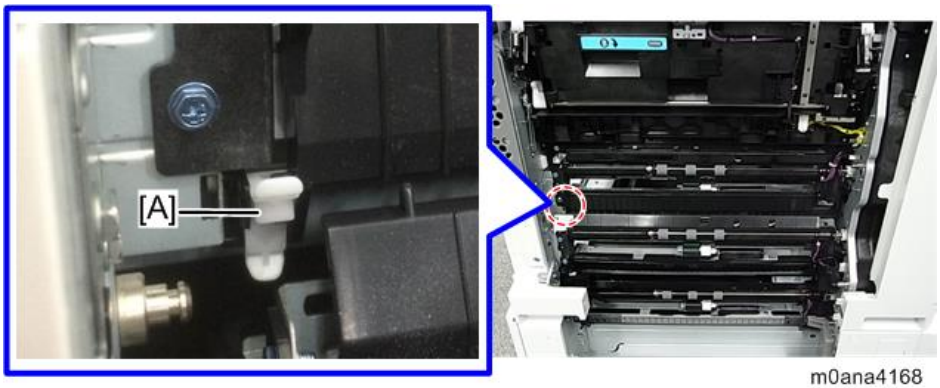
1st Paper Feed Unit

1. Remove the right cover. (Right Cover)
2. Pull out the 1st paper feed tray.
3. Remove the screws attached to the 1st paper feed unit [A] (x2).



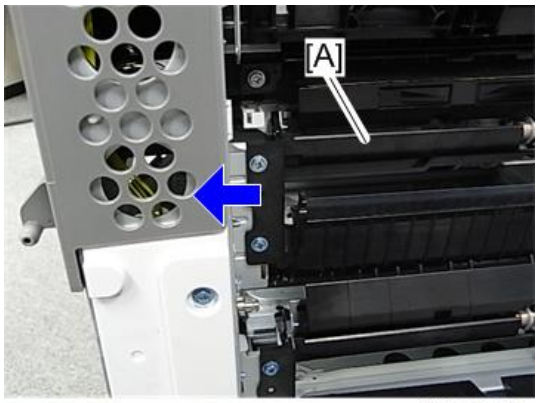
d197z0328

4. Remove the stopper [A].



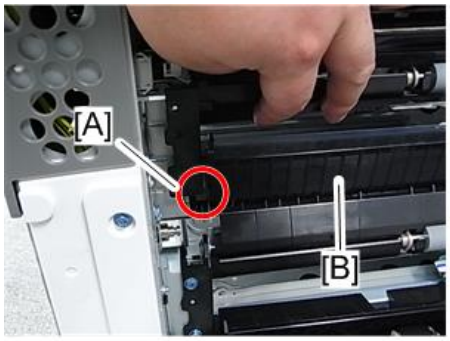
m0ana4168

5. Pull out the 1st paper feed unit [A] slightly toward the front.



d197z0328a

6. Release the shaft [A] on the front side first to remove the paper feed guide plate [B].

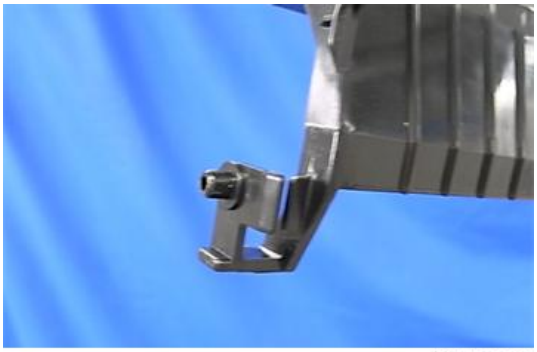




d197z0329a

Note

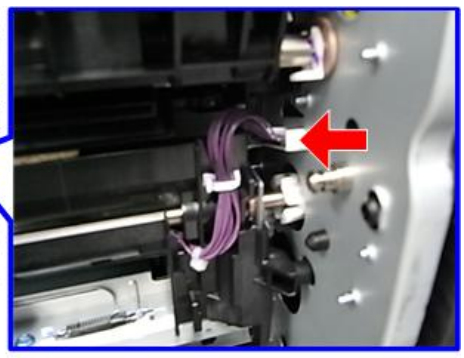
- The following picture shows the shape of the guide plate at the front side.



d197z0007

7. Remove the 1st paper feed unit [A]. (x1)

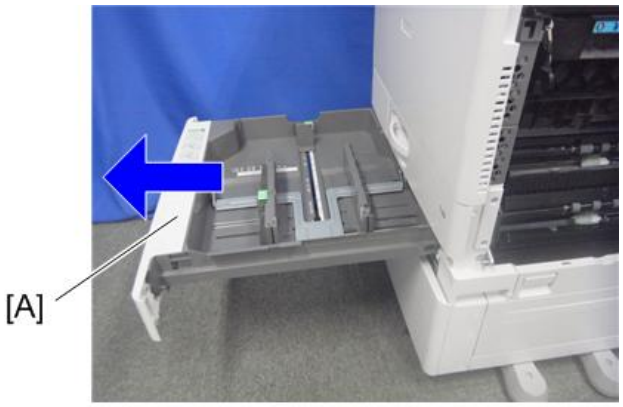




d197z0330

2nd Paper Feed Unit

1. Remove the right cover. (Right Cover)
2. Pull out the 2nd paper feed tray [A].

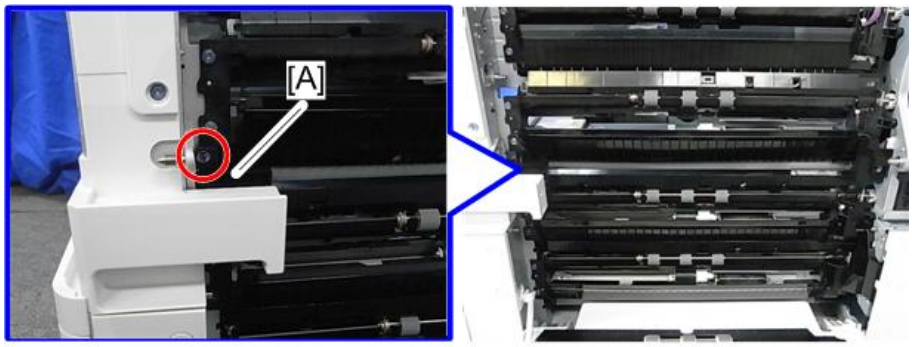


d1462184

Note

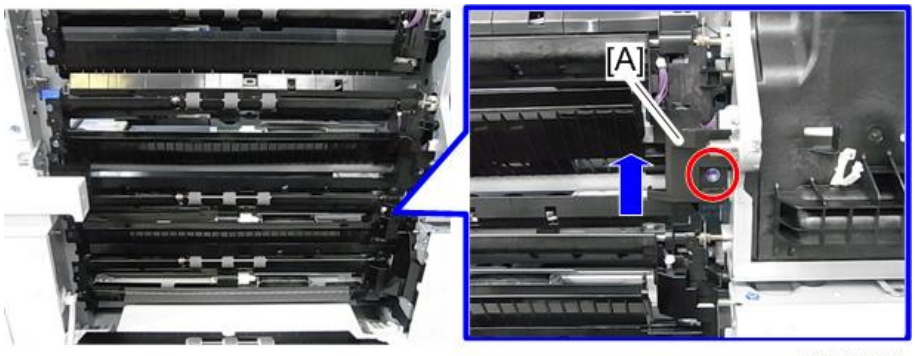
- Depending on the model, remove the right lower cover or open the paper transport cover.

3. Remove the bracket [A]. (×1)



d197z0441

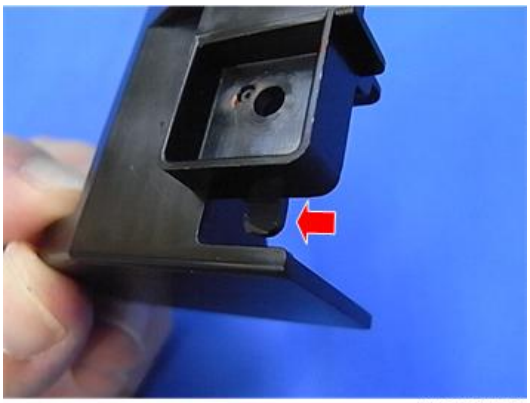
4. Lift the harness guide [A], and then remove it (×1).



d197z0442

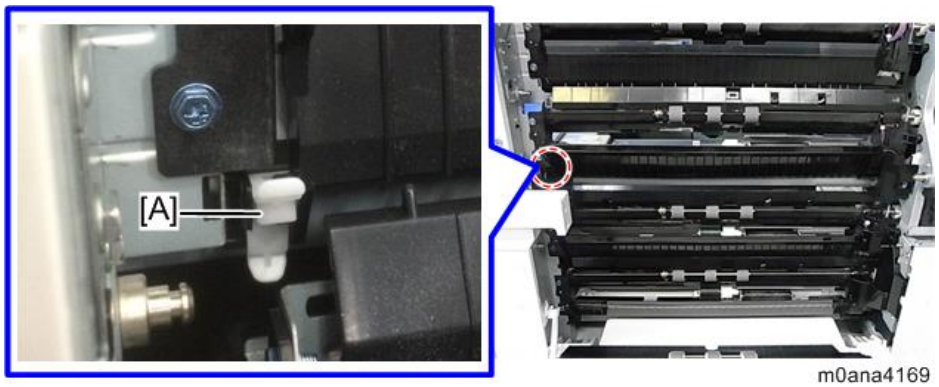
Note

- The harness guide has a claw, so make sure that you do not break it when removing.



d197z0443

5. Remove the stopper [A].



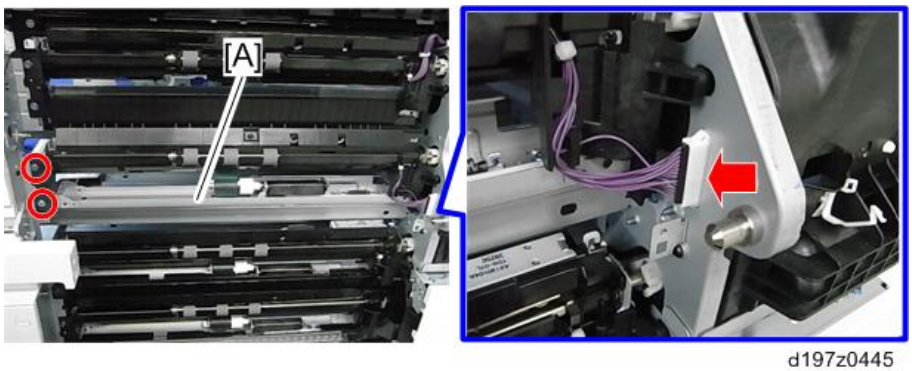
m0ana4169

6. Release the front side first to remove the paper feed guide plate [A].



d197z0444

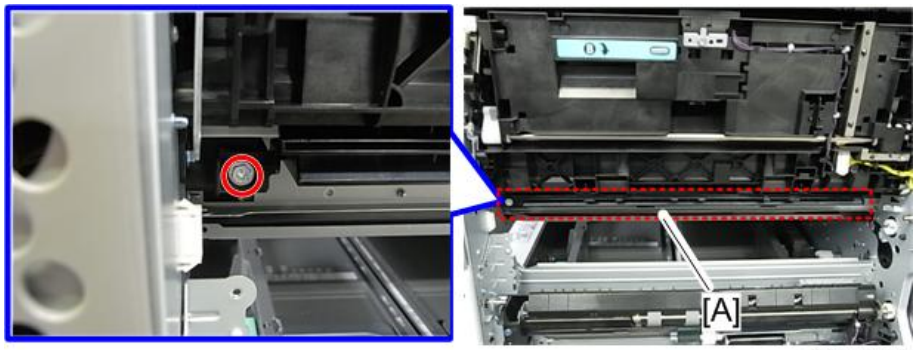
7. Remove the 2nd paper feed unit [A]. (×2, x1)



d197z0445

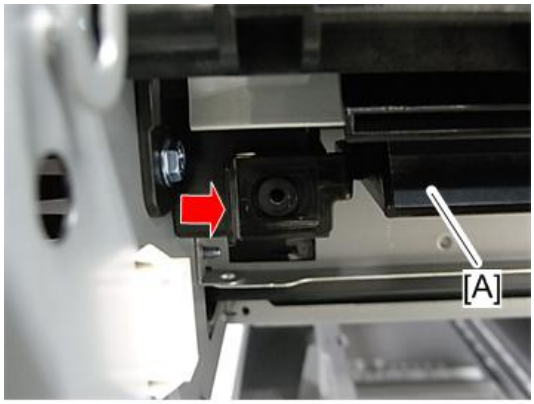
Paper Dust Collection Unit

1. Open the right cover.
2. Remove the screw on the paper dust collection unit [A]. (×1)



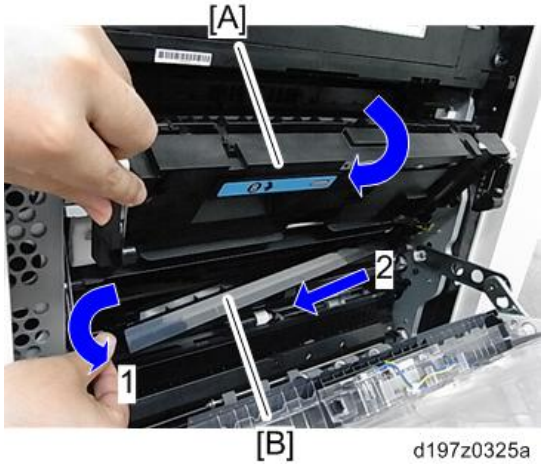
d197z0323

3. Release the tab on the paper dust collection unit [A] (×1).



d197z0324

4. While slightly opening and holding the transfer unit [A] with your hand, remove the paper dust collection unit [B] in the order shown in the picture below.

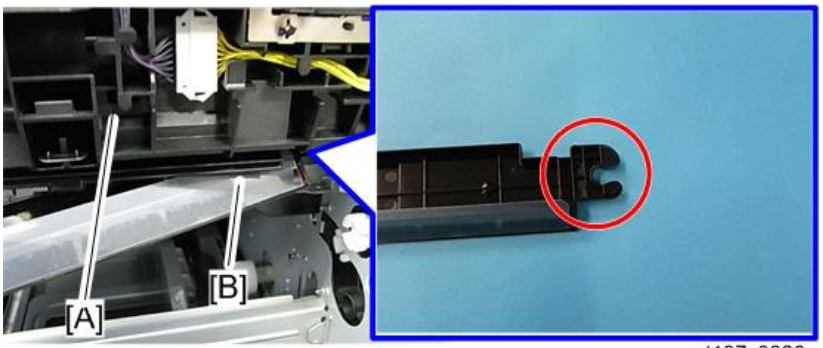


d197z0325a

Note

- The right side of the paper dust collection unit has a C-shaped cutout. Do not pull the unit by force

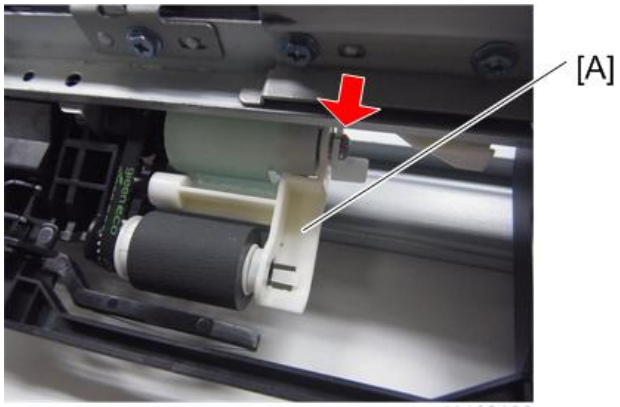
during removal. When installing, open the transfer unit [A] to prevent the sheet [B] from breaking.



d197z0326a

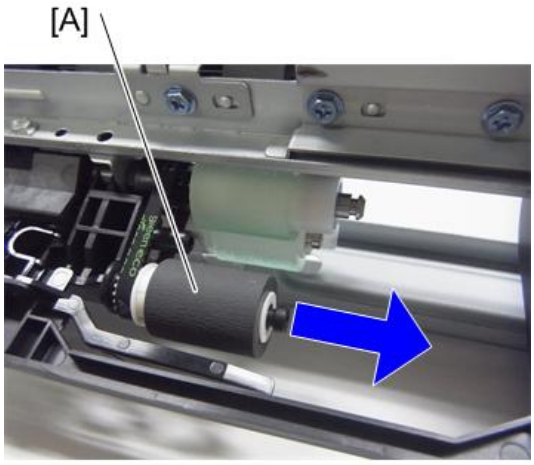
Pick-up Roller, Paper Feed Roller, Separation Roller, Torque Limiter

1. Remove the roller holder [A]. (×1)



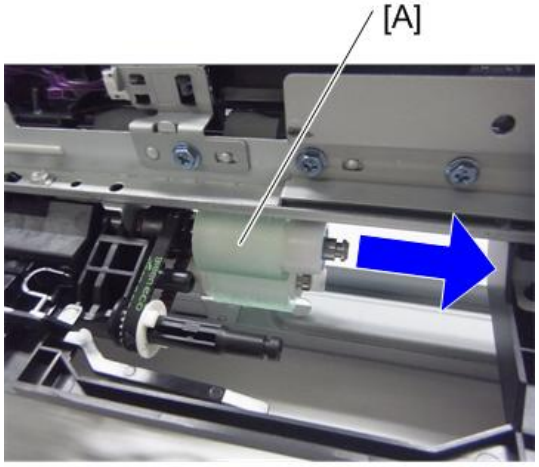
d1462188

2. Remove the pickup roller [A].



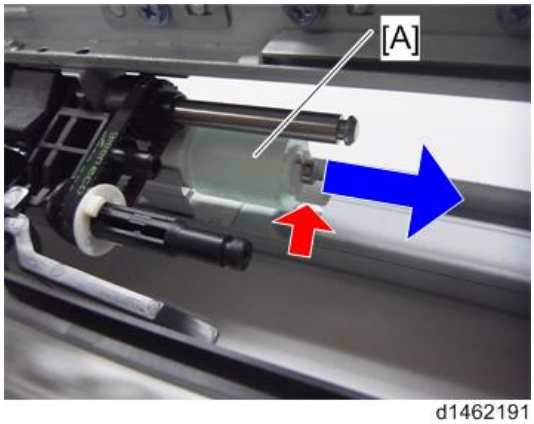
d1462189

3. Remove the paper feed roller [A].



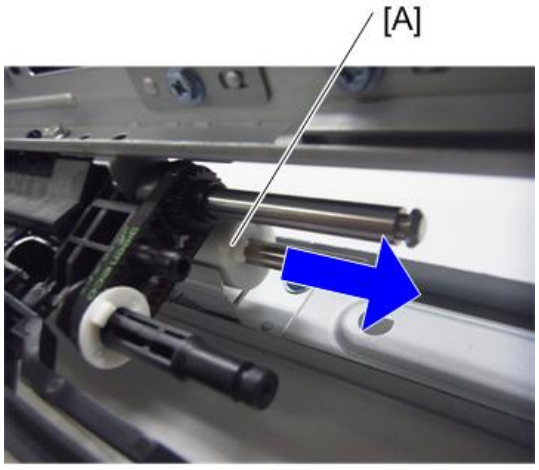
d1462190

4. Remove the separation roller [A]. (×1)



d1462191

5. Remove the torque limiter [A].

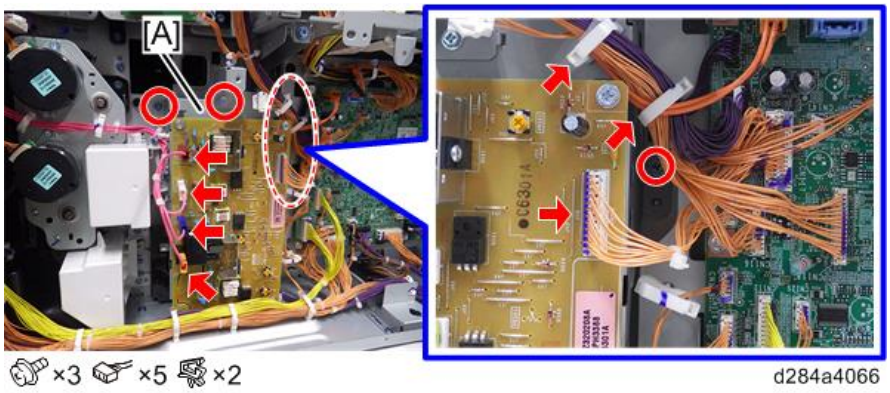


d1462192

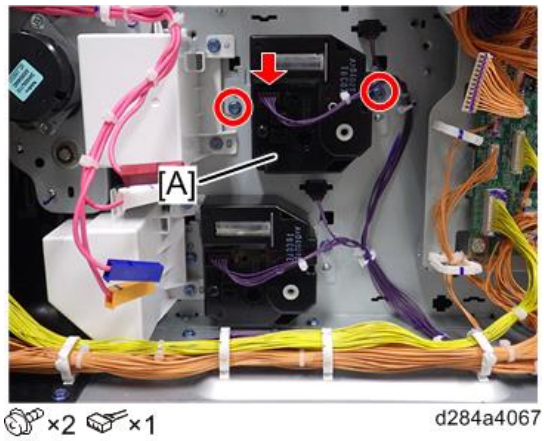
1st / 2nd Paper Feed Tray Lift Motor

1. Remove the development bearing cooling fan. (Development Bearing Cooling Fan)

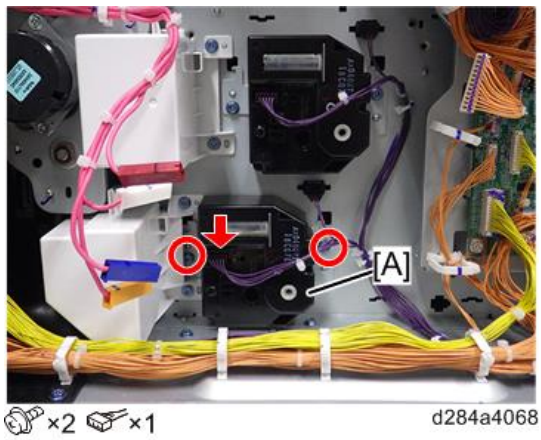
2. Remove the HVPS [A] along with the bracket.



3. Remove the 1st paper feed tray lift motor [A].



4. Remove the 2nd paper feed tray lift motor [A].



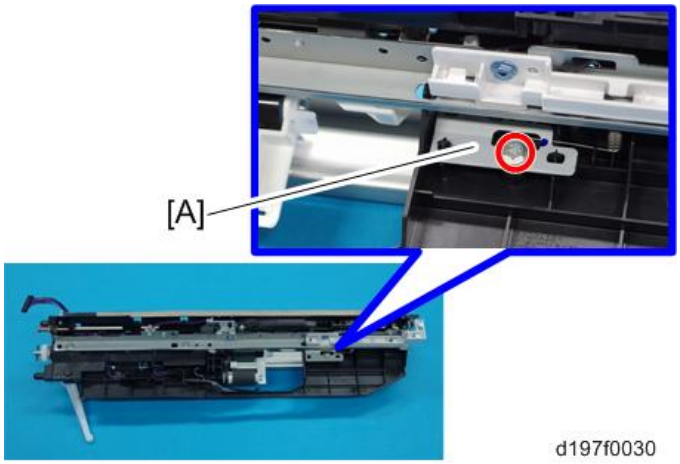
1st / 2nd Paper Feed Sensor

Note

- There is no difference in removal procedure between 1st paper feed sensor and 2nd paper feed sensor.

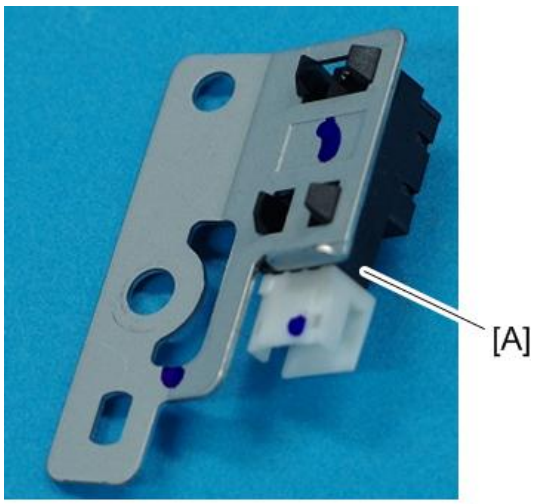
1. Remove the paper feed unit. (Paper Feed Unit)

2. Remove the paper feed sensor bracket [A]. (×1, ×1)



d197f0030

3. Remove the paper feed sensor [A] (hooks).

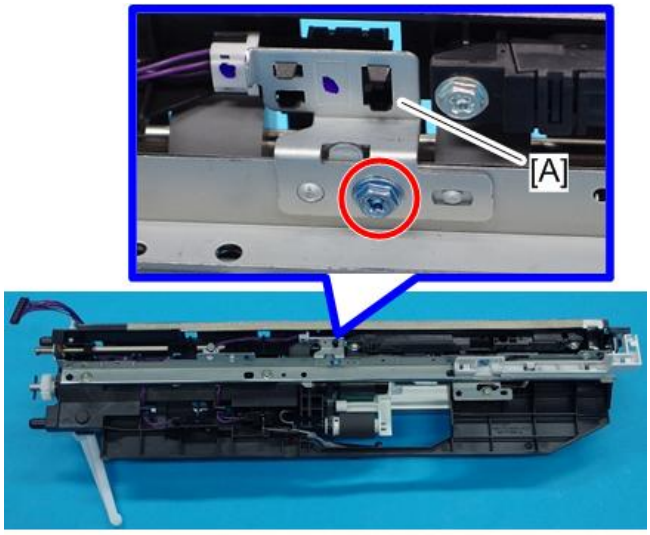


d197f0031

Vertical Transport Sensor

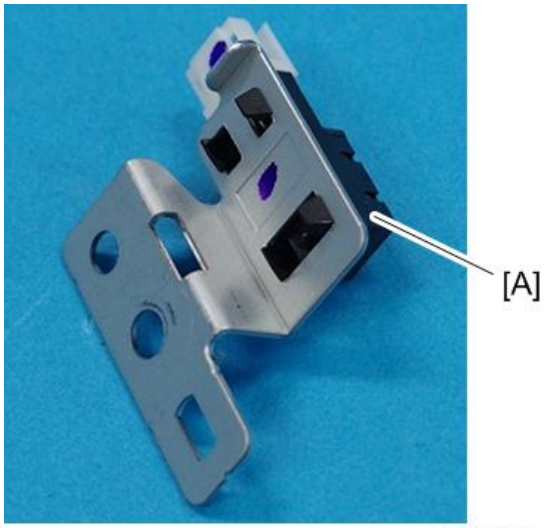
1. Remove the paper feed unit. (Paper Feed Unit)

2. Remove the vertical transport sensor unit [A]. (×1, ×1)



d197f0033

3. Remove the vertical transport sensor [A] (hooks).



d197f0034

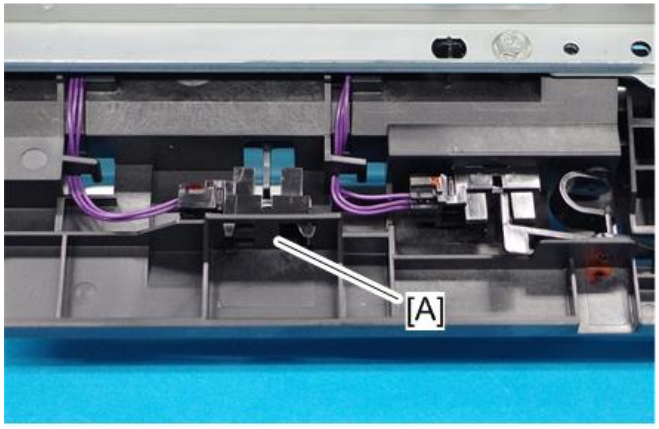
Limit Sensor

Note

- There are two limit sensors in this model but the removal procedure is the same.

1. Remove the paper feed unit. (Paper Feed Unit)

2. Remove the limit sensor [A]. (×1)



d197f0035

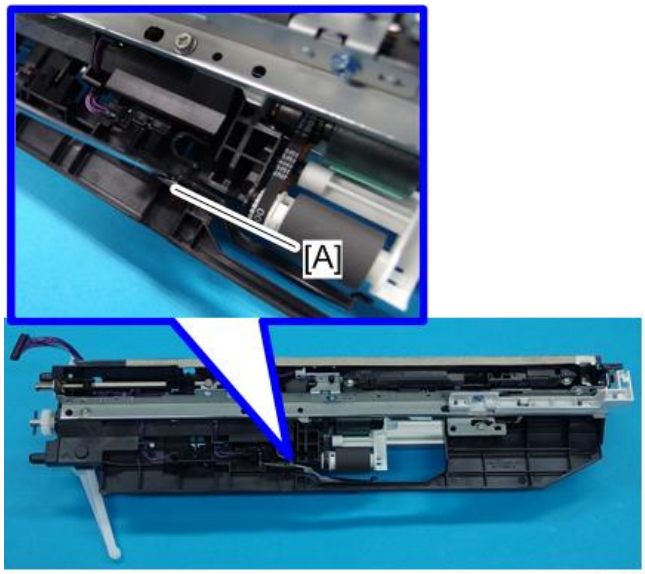
1st Paper End Sensor / 2nd Paper End Sensor

Note

- There is no difference in removal procedure between 1st paper end sensor and 2nd paper end sensor.

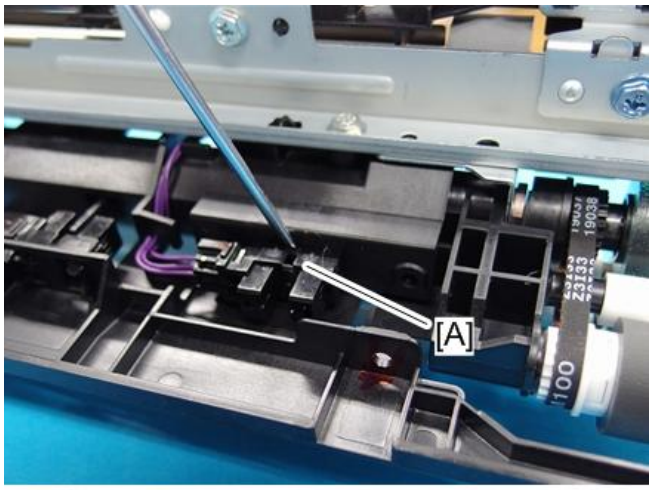
1. Remove the paper feed unit. (Paper Feed Unit)

2. Remove the feeler [A]. (×1)



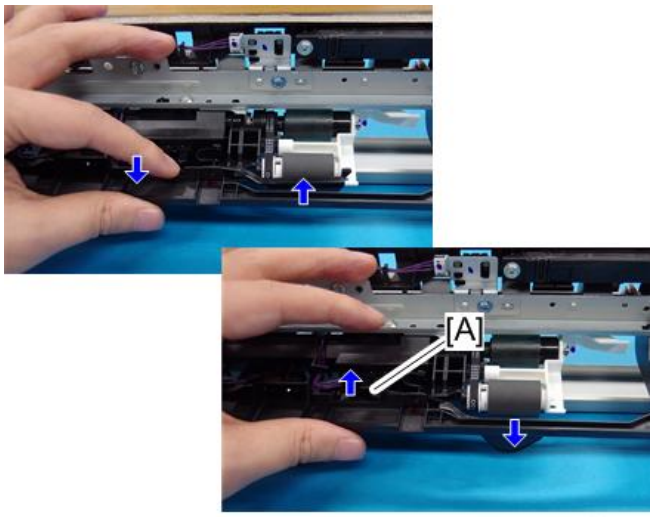
d197f0036

3. Remove the paper end sensor [A]. (×1)



d197f0037

4. After reinstalling the paper end sensor, check the operation of the actuator [A].



d197f0038

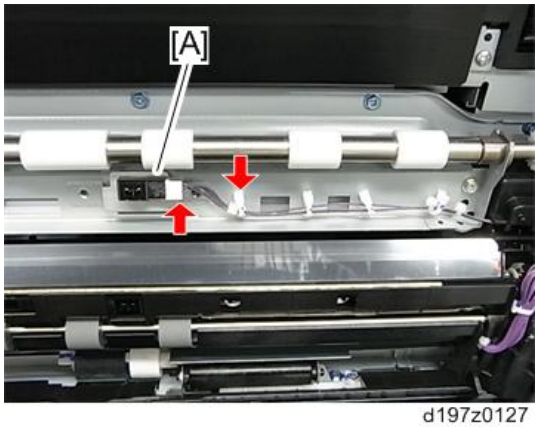
Registration Sensor

1. Remove the transfer unit. (Transfer Unit)
2. Remove the inner guide bracket [A]. (×2)



d197z0126

3. Remove the registration sensor [A] (hooks, ×1, x1).

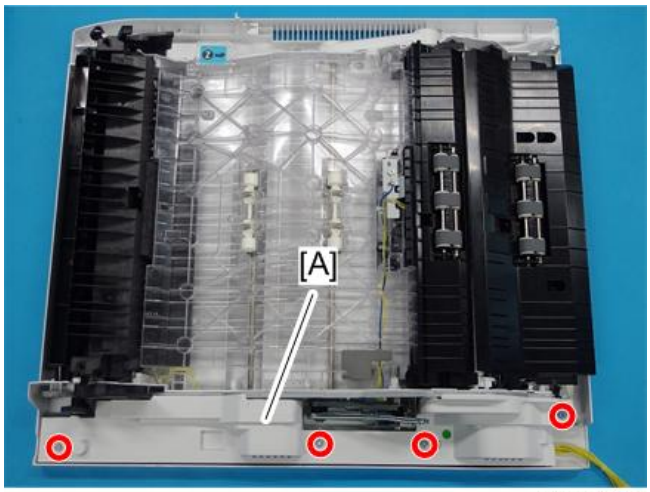


d197z0127

Duplex Unit

Duplex/By-pass Motor

1. Remove the right cover. (Right Cover)
2. Remove the duplex inner cover [A]. (×4)



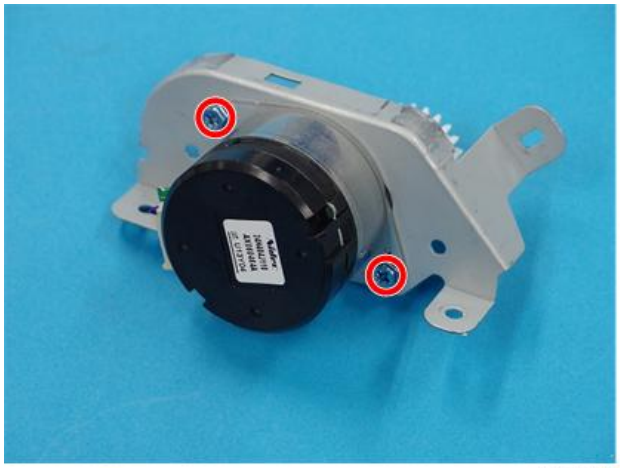
d197f0057

3. Remove the duplex/by-pass motor unit [A] (×3, ×1)



d197f0058

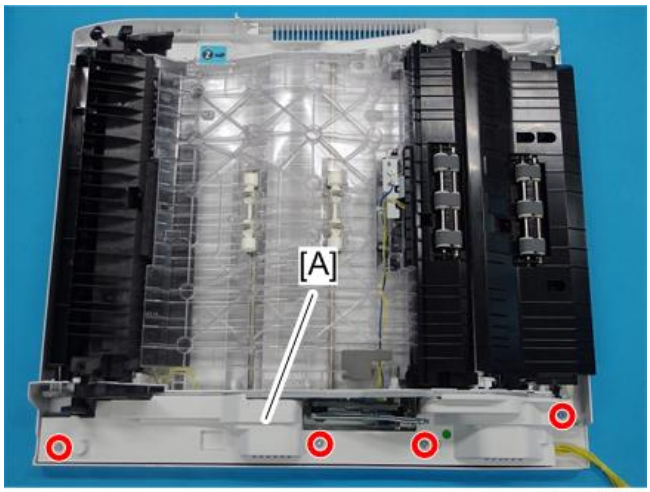
4. Remove the duplex/by-pass motor. (×2)



d197f0059

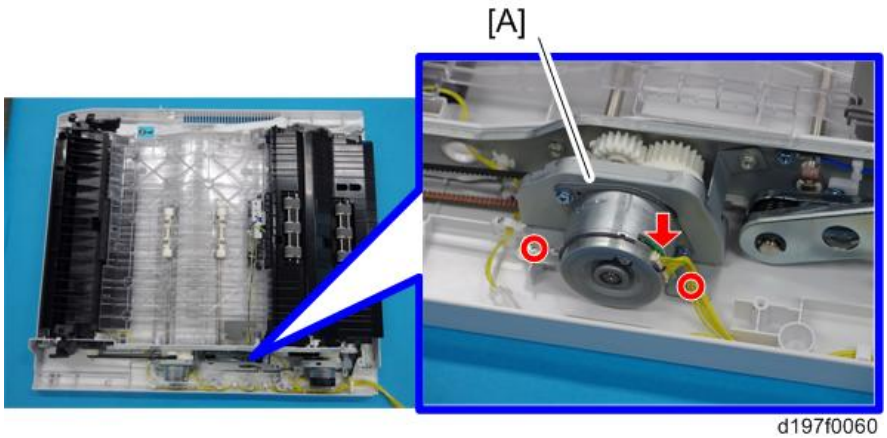
Duplex Entrance Motor

1. Remove the right cover. (Right Cover)
2. Remove the duplex inner cover [A]. (×4)



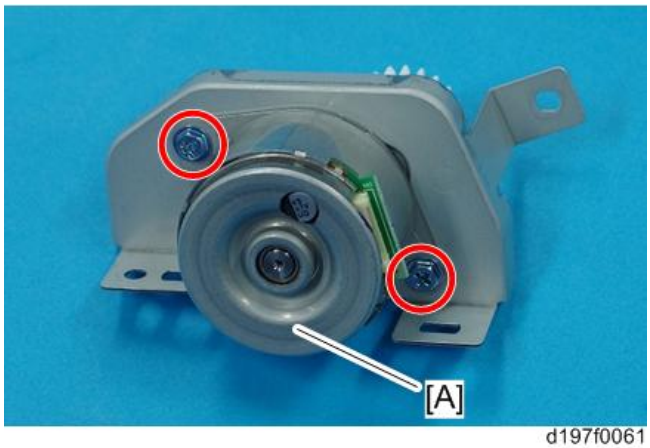
d197f0057

3. Remove the duplex entrance motor bracket [A]. (×2, ×1)



d197f0060

4. Remove the duplex entrance motor [A]. (×2)



d197f0061

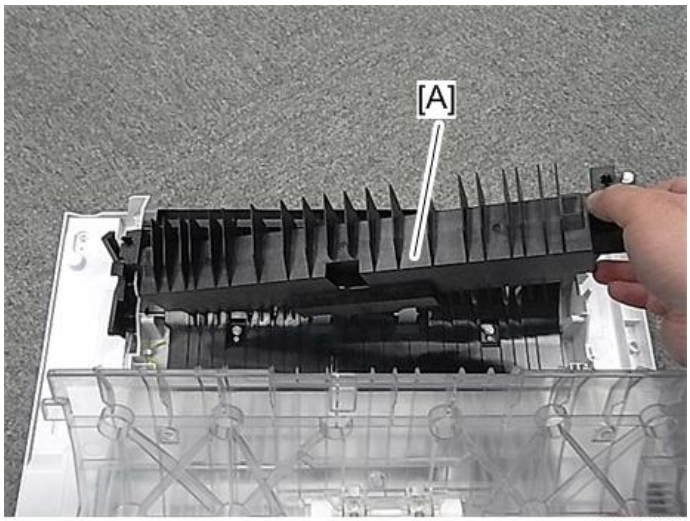
Duplex Entrance Sensor

1. Open the right cover wide. (Bypass Tray)
2. Remove the screws and stoppers for the paper transfer guide plate [A]. (×2, ×1)



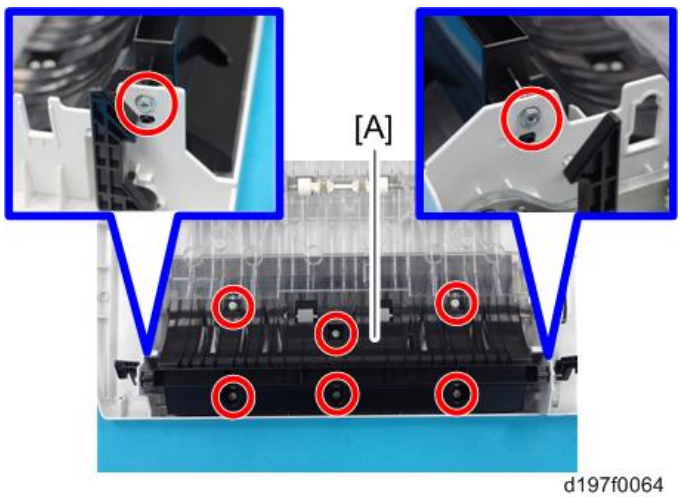
d197f0062

3. Remove the duplex inner entrance guide [A].

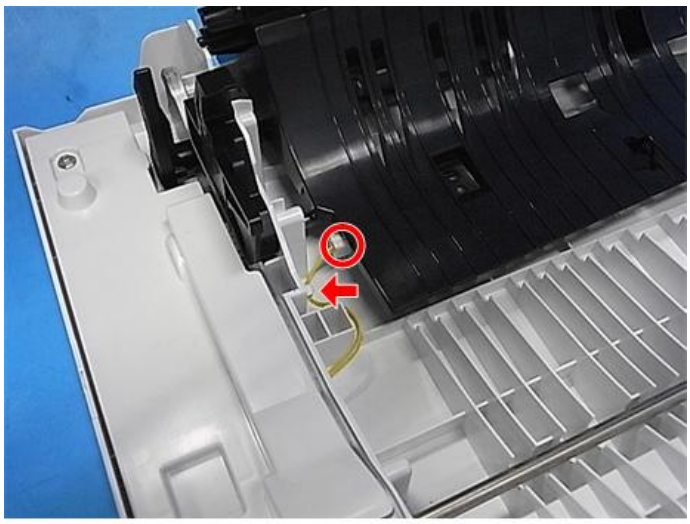


d197f4062

4. Remove the duplex outer entrance guide [A]. (×8, ×1, ×1)

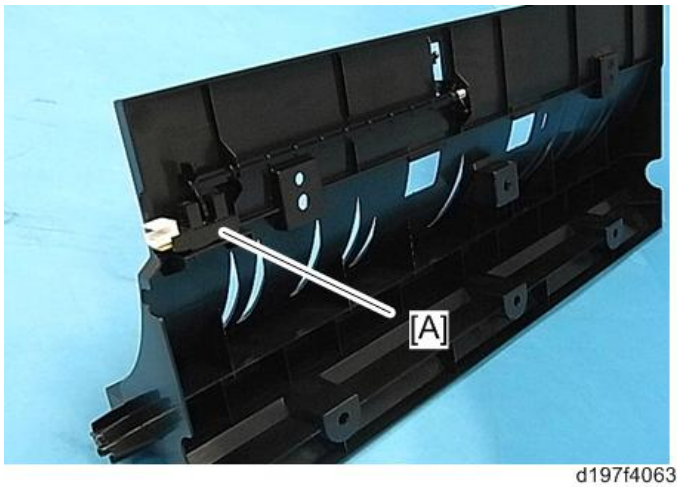


d197f0064



d197f0065

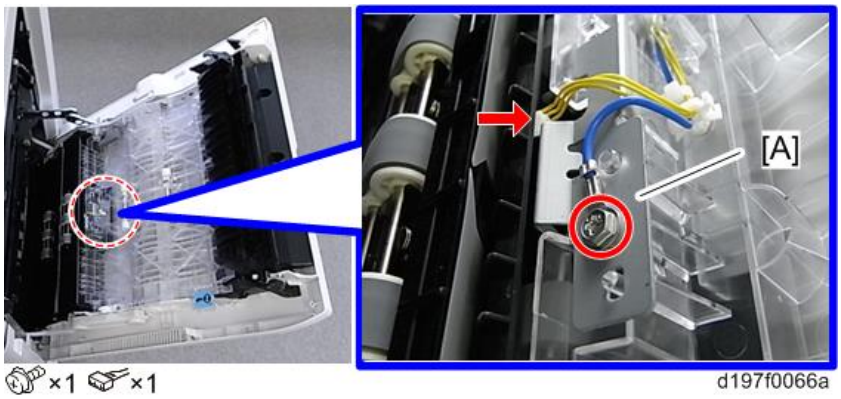
5. Remove the duplex entrance sensor [A] (hooks).



d197f4063

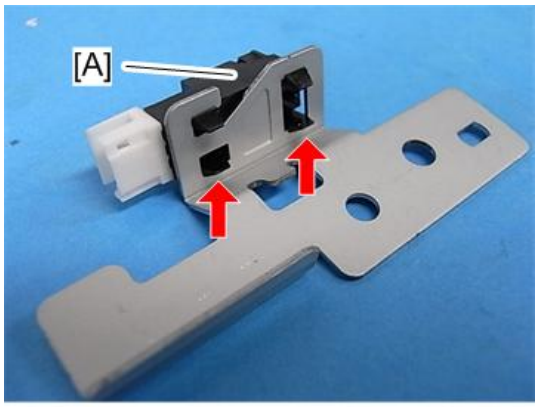
Duplex Exit Sensor

1. Open the right cover.
2. Remove the duplex exit sensor bracket [A].



d197f0066a

3. Remove the duplex exit sensor [A] (hooks).

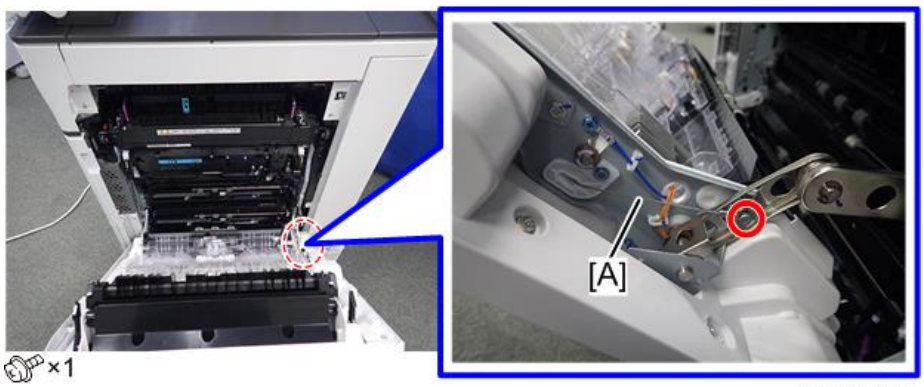


d197z0403

Bypass Tray Unit

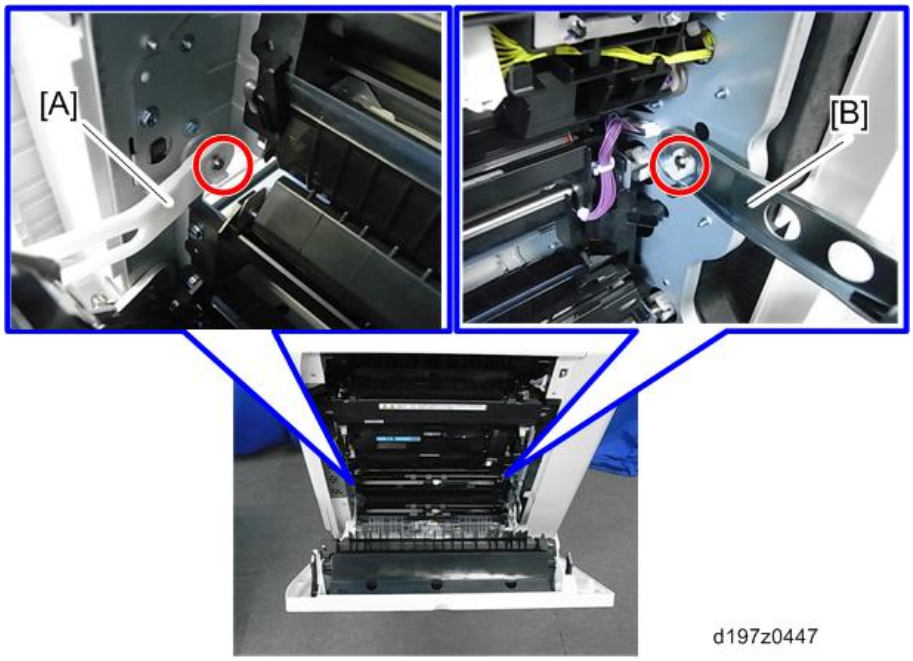
Bypass Tray

1. Open the right cover.
2. Remove the wire [A].



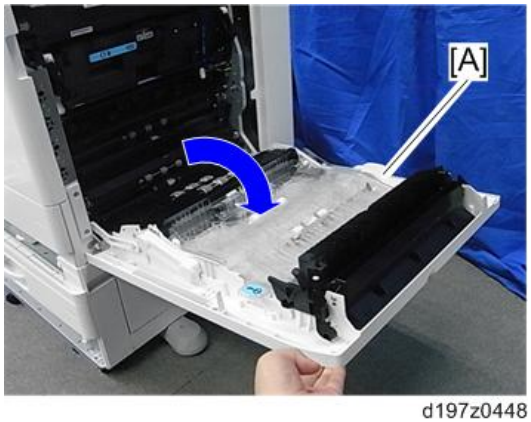
m0ana4157

3. Release two arms [A] [B]. (×2)



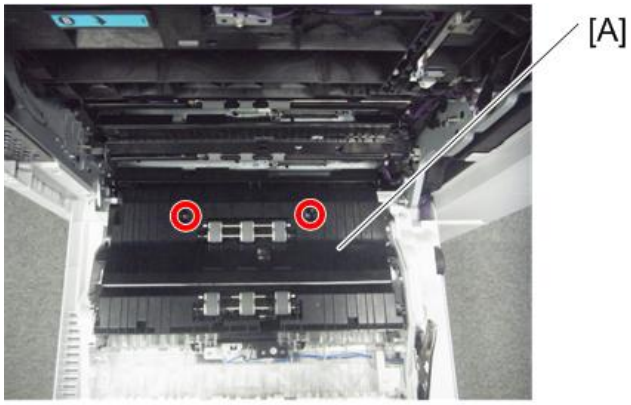
d197z0447

4. Open the right cover [A] wide.



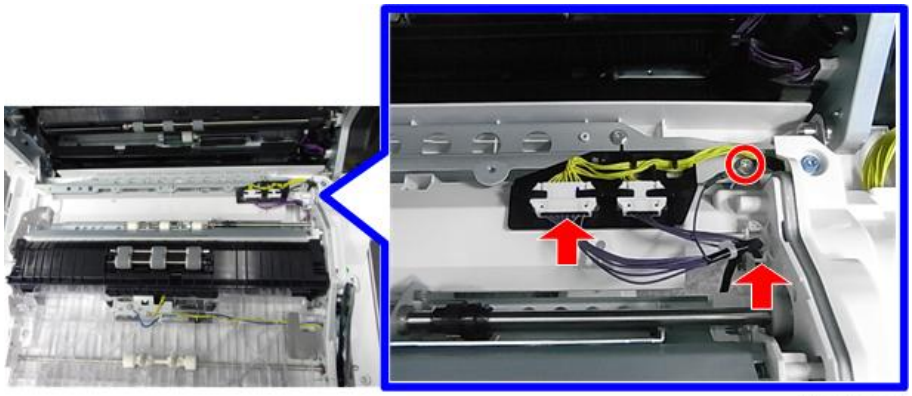
d197z0448

5. Remove the paper transport guide [A]. (×2)



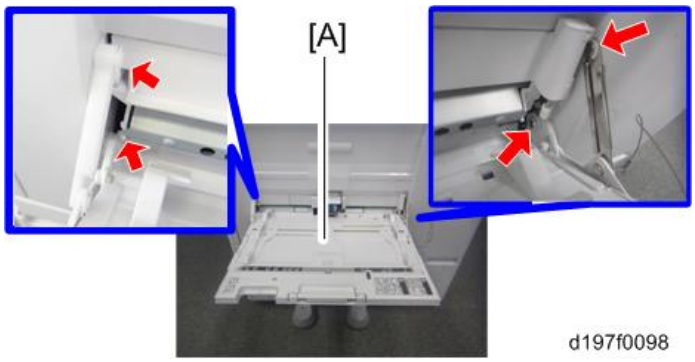
d1462411

6. Remove the harness. (×1,×1, ×1)



d197f0097

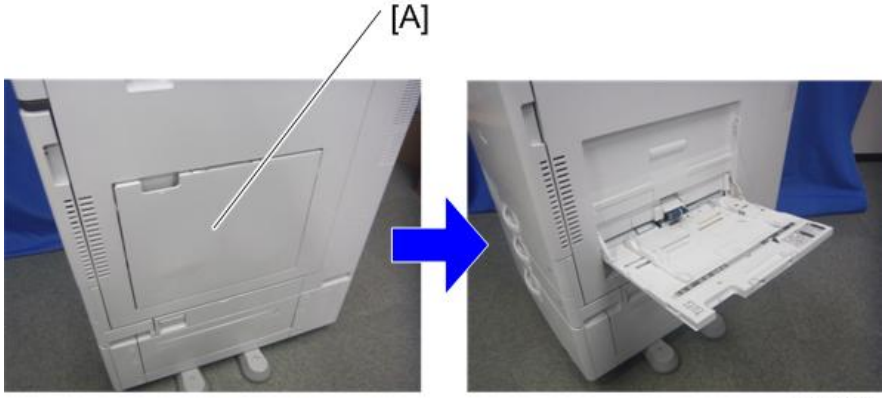
7. Remove the bypass tray [A]. (×4)



d197f0098

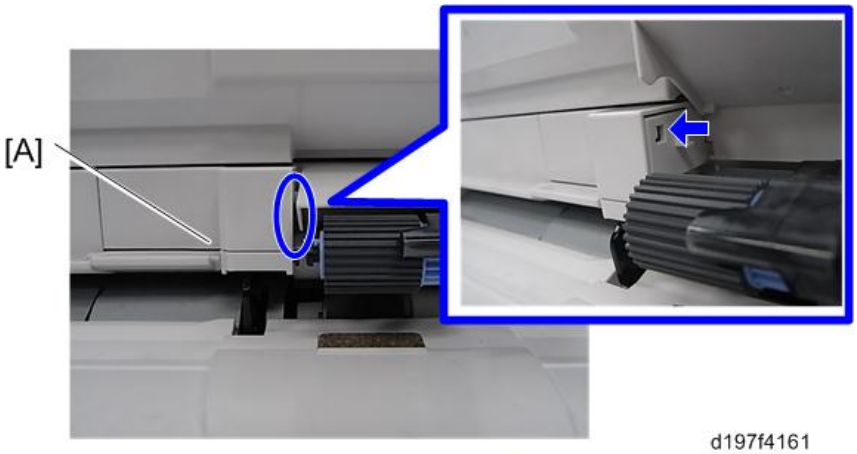
Bypass Paper End Sensor

1. Open the bypass tray [A].



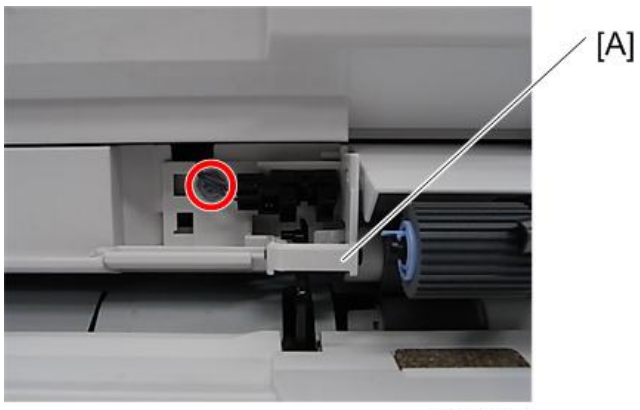
d1462416

2. Remove the bypass paper end sensor cover [A].



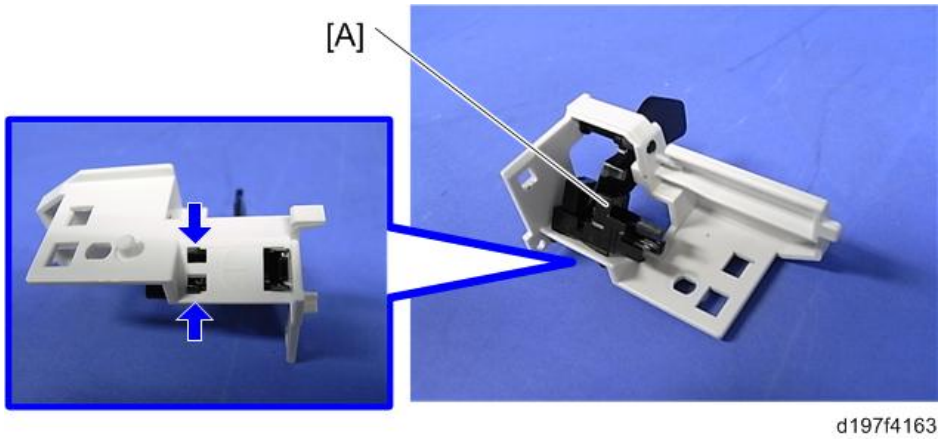
d197f4161

3. Remove the bypass paper end sensor unit [A]. (×1, ×1)



d197f4162

4. Remove the bypass paper end sensor [A] from the bracket (hooks).



d197f4163

Bypass Pick-up Roller

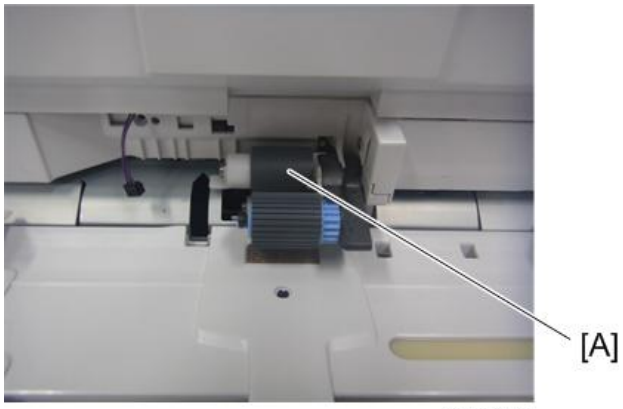
1. Open the bypass tray (Bypass Tray).
2. Remove the bypass pick-up roller [A]. (×1)



d1462417

Bypass Paper Feed Roller

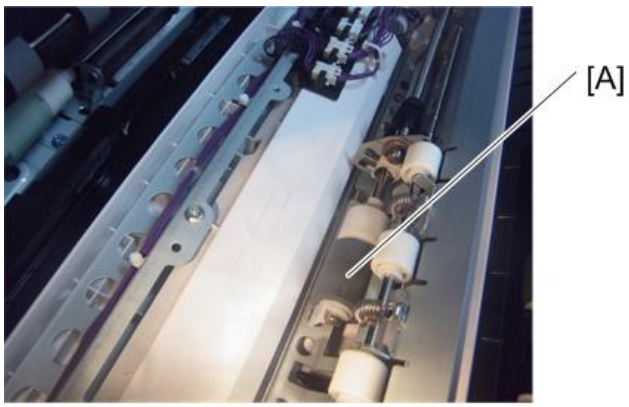
1. Remove the bypass paper end sensor unit. (Bypass Paper End Sensor)
2. Remove the bypass paper feed roller [A]. (×1)



d1462418

Bypass Separation Roller

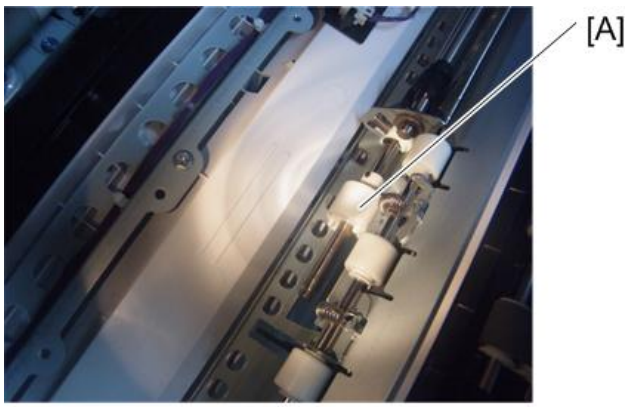
1. Remove the paper transport guide. (Bypass Tray)
2. Remove the bypass separation roller [A]. (×1)



d1462419

Torque Limiter

1. Remove the bypass separation roller. (Bypass Separation Roller)
2. Remove the torque limiter [A].

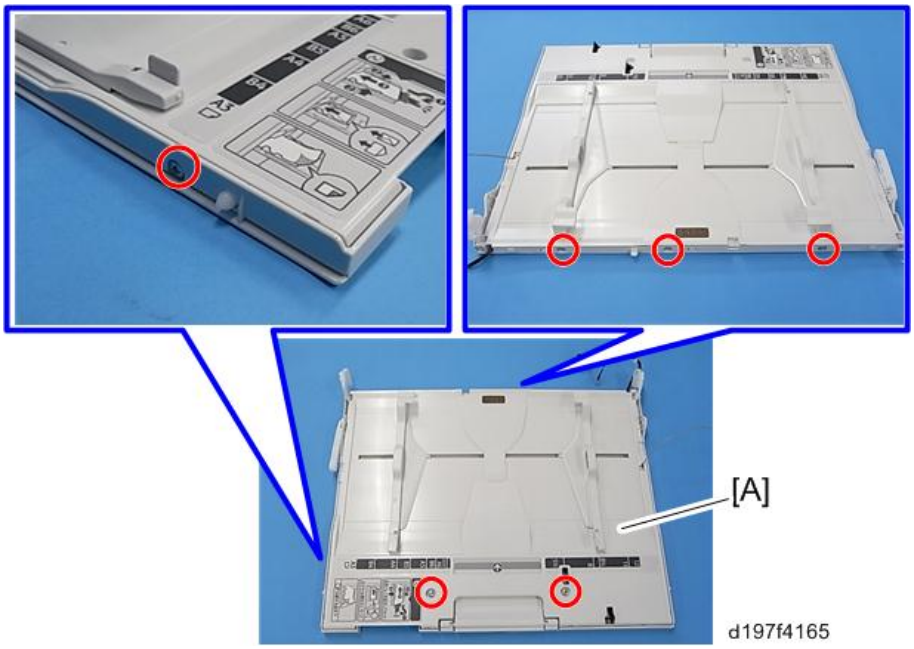


d1462420

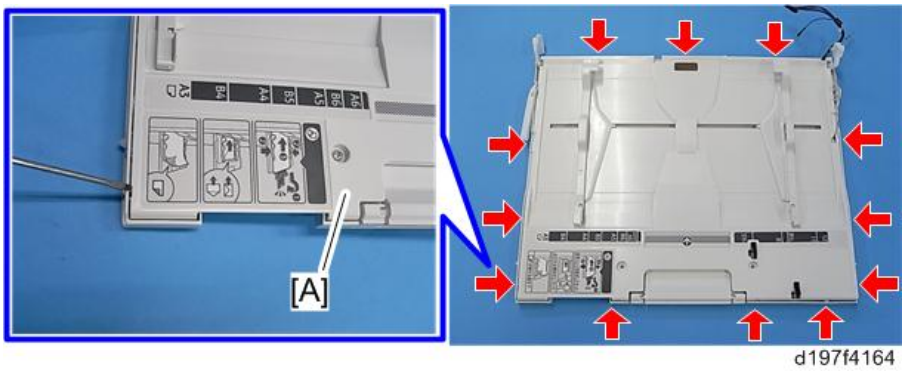
Bypass Width Sensor

1. Remove the bypass tray. (Bypass Tray)

2. Remove the six screws on the bypass tray [A]. (×6).

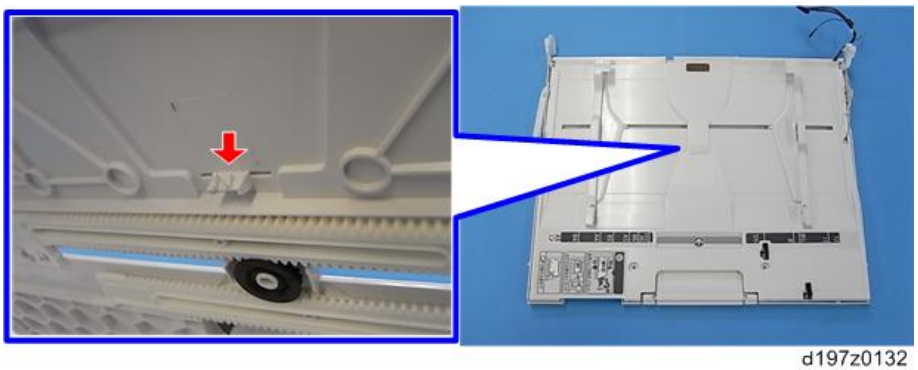


3. Release the hooks around the bypass tray [A].

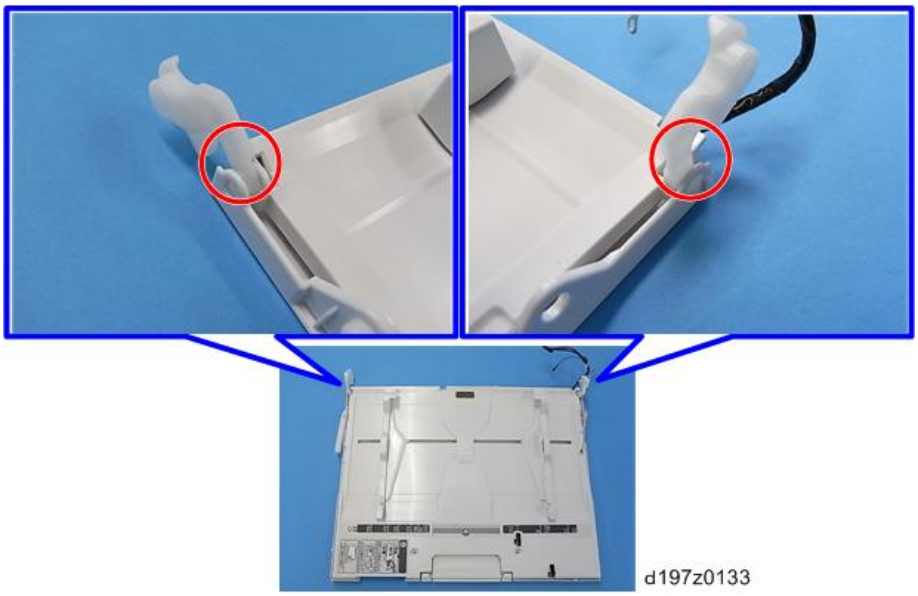


Note

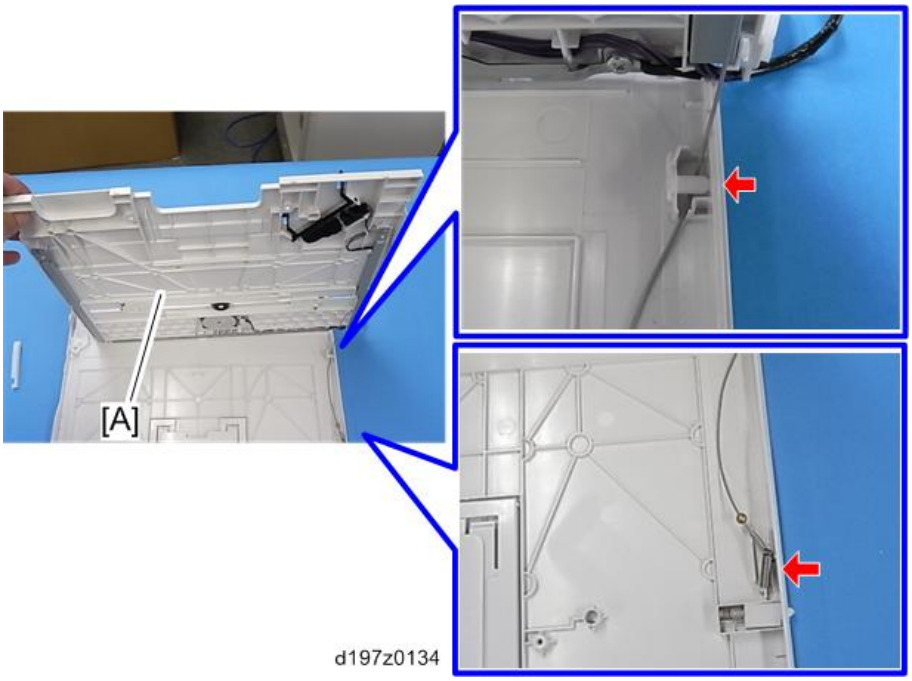
- There is a hook in the tray cover. Be careful not to damage it during removal or installation.



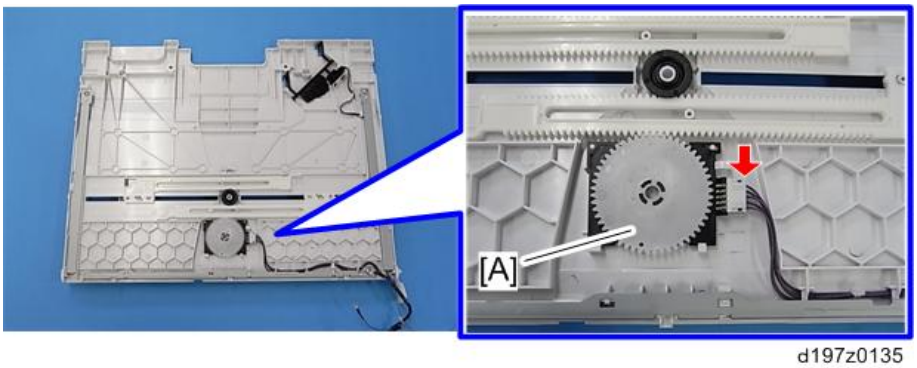
4. Release the links.



5. Remove the bypass tray upper cover [A]. (pin x 1, x1)

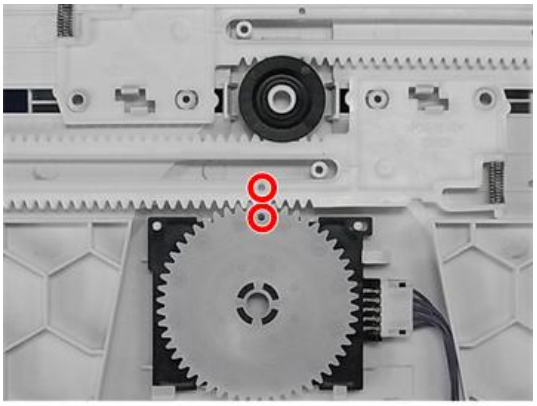


6. Remove the bypass width sensor [A]. (×1, x2)



Note

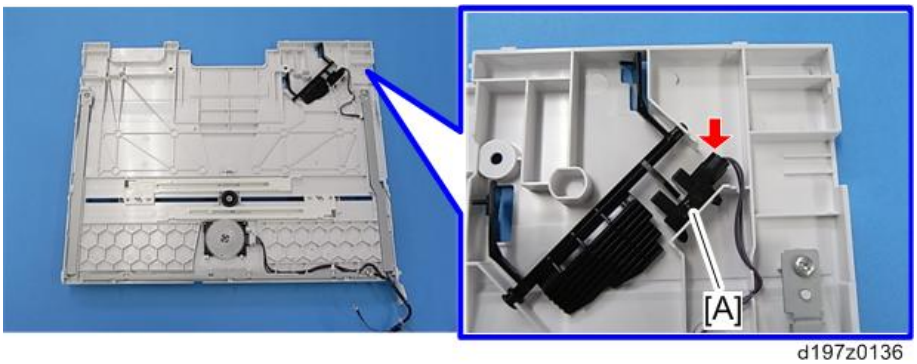
- When installing, the holes must align as shown below.



d197z0449

Bypass Length Sensor

1. Remove the bypass tray upper cover. (Bypass Width Sensor).
2. Remove the bypass length sensor [A]. (×1, hooks)



d197z0136

PCBs and Other Items

Overview

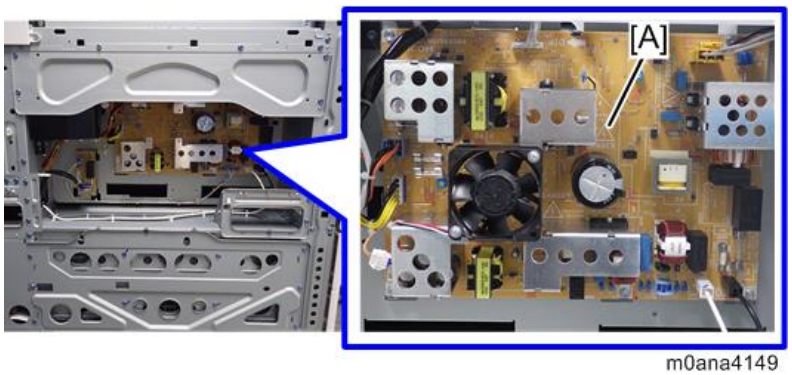
Around the Controller Box



m0ana4092

[A]	IPU
[B]	Controller Board
[C]	BCU
[D]	HVPS

Around the Power Supply Box



m0ana4149

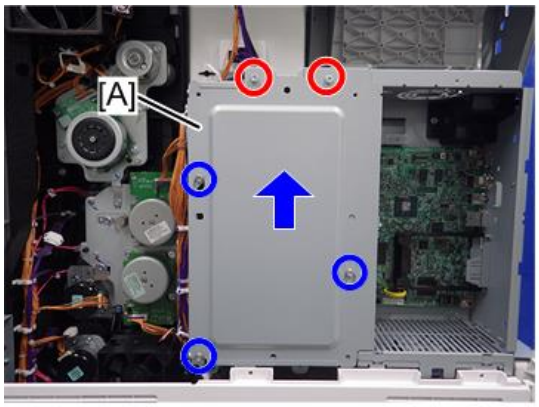
[A]	PSU

Controller Box Cover

1. Remove the rear left cover. (Rear Left Cover)

2. Remove the rear cover. (Rear Cover)
3. Remove the controller box cover [A].

Red Circle: Remove, Blue Circle: Loosen

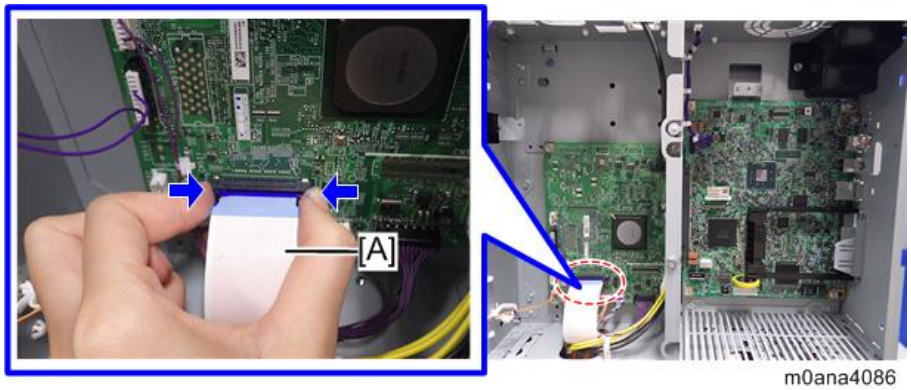


m0ana4042

IPU

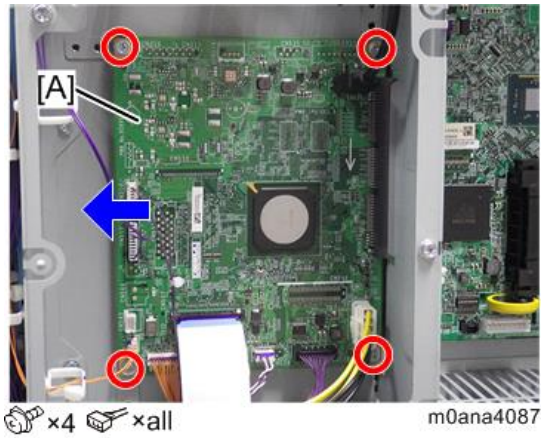
⚠CAUTION

For the FCC connector [A], pull out it by pressing the release levers on both sides.



m0ana4086

1. Remove the controller box cover. (Controller Box Cover)
2. Remove the IPU [A].



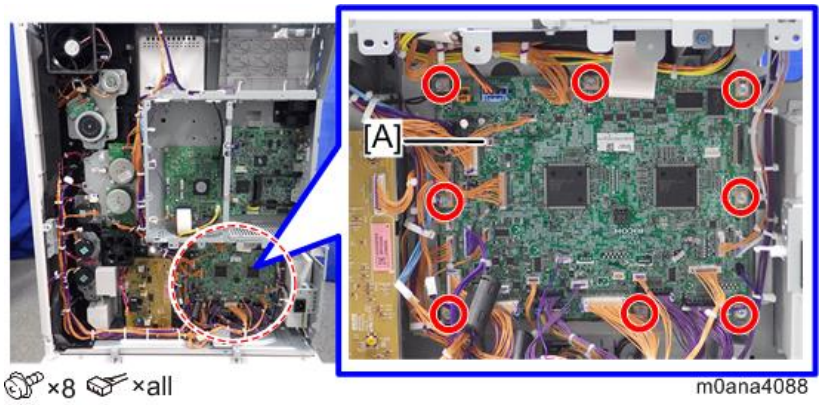
m0ana4087

BCU

⚠CAUTION

- The FFC connector has a lock mechanism. Do not use force to pull it out.

1. Remove the rear lower cover. (Rear Lower Cover)
2. Remove the BCU [A].



When installing the new BCU

Remove the NVRAM (EEPROM) from the old BCU. Then install it on the new BCU after you replace the BCU. Replace the NVRAM (Replacing the NVRAM (EEPROM) on the BCU) if the NVRAM on the old BCU is defective.

Note

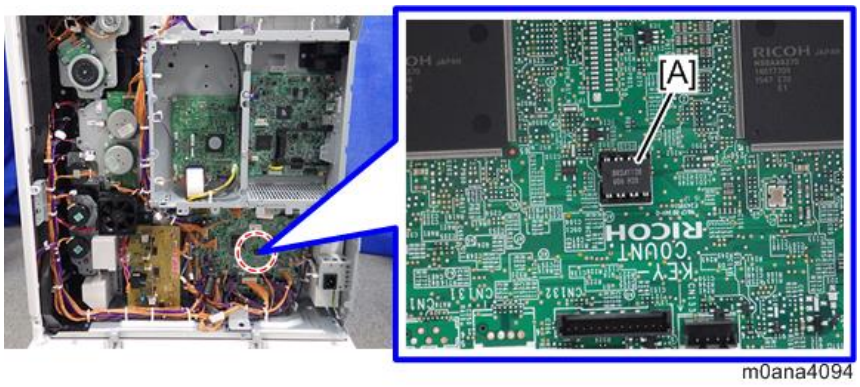
- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM (EEPROM).

⚠CAUTION

- Keep NVRAMs (EEPROM) away from any objects that can cause static electricity. Static electricity can damage NVRAM data.
- Make sure the serial number is input in the machine for the NVRAM data with SP5-811-004, if not, SC995-001 occurs

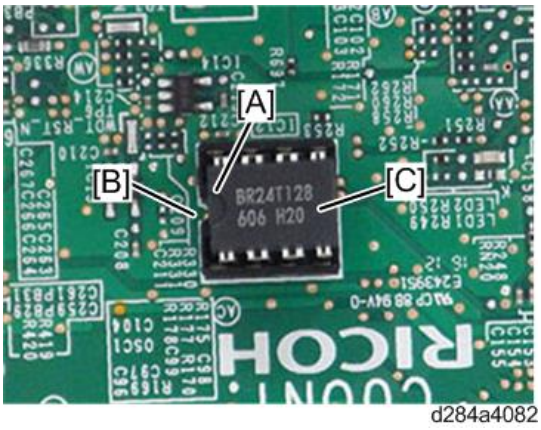
Replacing the NVRAM (EEPROM) on the BCU

1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
2. Output the SMC data (“ALL”) using SP5-990-001/SP5-992-001.
3. Turn off the main switch.
4. Insert a blank SD card in the SD slot #2, and then turn on the main switch.
5. Use SP5-824-001 to upload the NVRAM data from the BCU.
6. Turn off the main power switch and unplug the power cord.
   Replace the NVRAM [A] on the BCU with a new one.



Note

- Install a new NVRAM [C] so that the indentation [A] on the NVRAM corresponds with the mark [B] on the BCU. Incorrect installation of the NVRAM will damage both the BCU and NVRAM.



7. Plug in, and then turn on the main switch.
8. Select the destination setting. (SP5-131-001) (JPN: 0, NA: 1, EU/AA: 2)
9. Check the machine serial number with SP5-811-004, and then set the machine serial number of SP5-811-001.

Note

- For information on how to configure SP5-811-001, contact the supervisor in your branch office.

10. Set the area selection with SP5-807-001.

Note

- For information on how to configure SP5-807-001, contact the supervisor in your branch office.

11. Turn off the machine, and then turn it back on.
12. Use SP5-801-002 “Memory Clear Engine”.

Important

- After changing the EEPROM, Some SPs do not have appropriate initial values. Because of this, steps 10 to 12 must be done.

13. Turn off the machine, and then turn it back on.
14. From the SD card where you saved the NV-RAM data in step 5, download the NV-RAM data with SP5-825-001.
15. Turn off the machine, and then remove the SD card from SD slot 2.
16. Turn on the main switch.

17. Check the factory setting sheet and the SMC data printout from step 2, and set the user tool and SP settings so they are the same as before.

Controller Board

Note

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

Note

Special Procedure for Machines that have a Self Encrypting Drive (SED) Installed

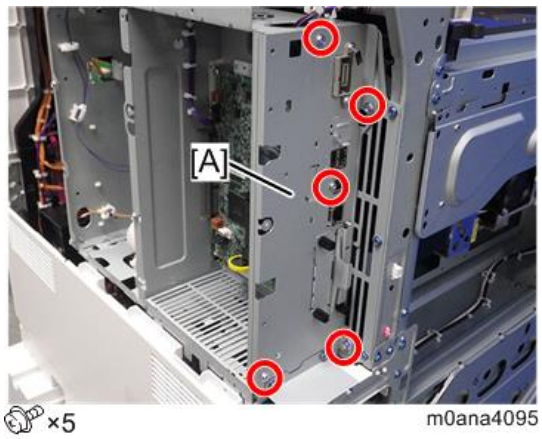
- The machine holds data, linking the controller board and SED, created automatically during SED installation. The data, however, will not be deleted automatically at controller board replacement. Therefore, before replacing a controller board, you must delete the link data manually so that the machine can create new link data.
- Do the following steps when doing the replacement.
  - Execute [Erase All Memory] on the operation panel
    [System Settings] – [Administrator Tools] – [Erase All Memory]
  - Turn OFF the main power switch
  - Replace the controller board
  - Turn ON the main power switch
  - **Do not** turn the main power ON after step 3, until after you replaced the board.

1. Remove the left rear cover. (Left Rear Cover)

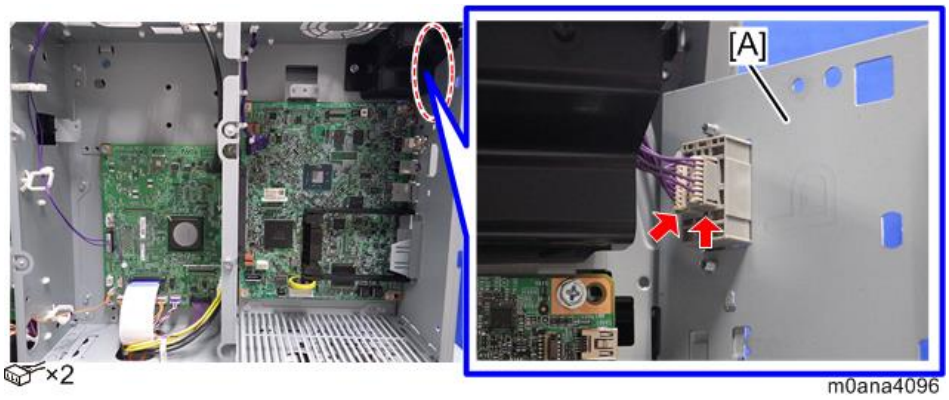
2. Remove the controller cover. (Controller Cover)

3. Remove the controller box cover. (Controller Box Cover)

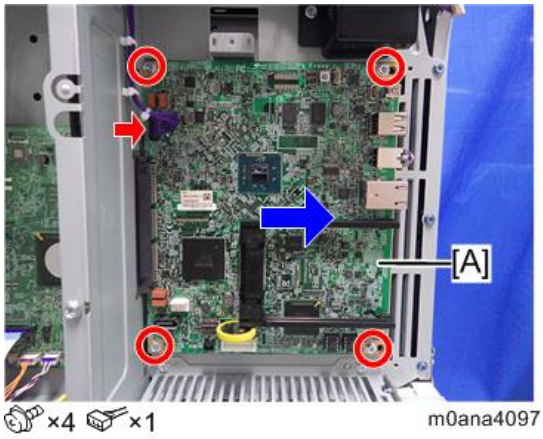
4. Remove the screws of the controller bracket [A].



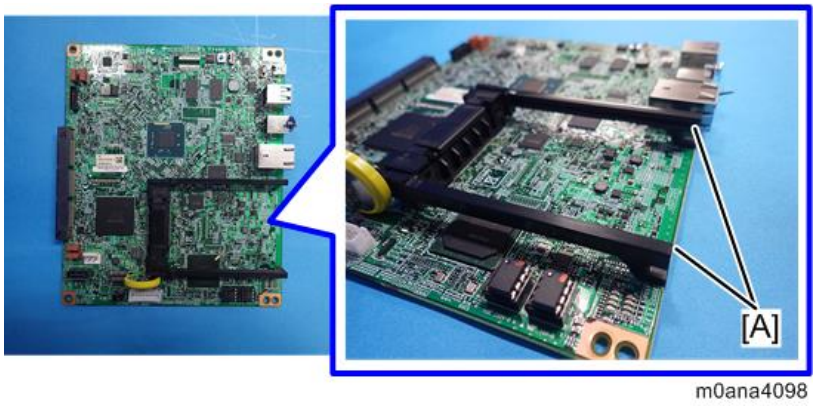
5. Remove the controller bracket [A].



6. Slide the controller board [A] to the right side to remove it.

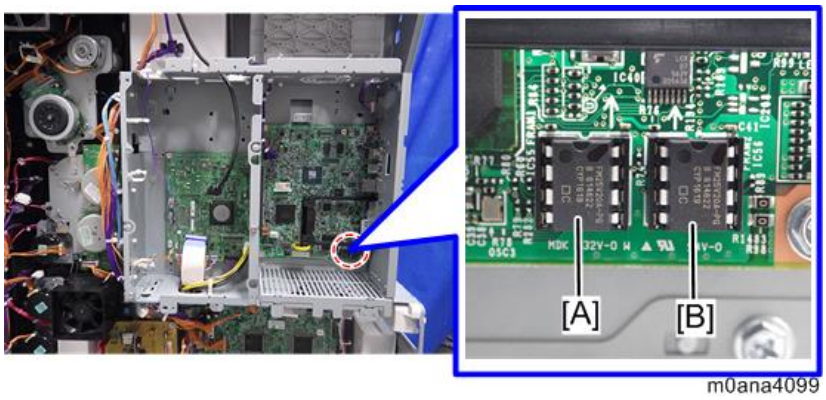


7. Release the guide rail [A].



8. Remove the two used NVRAMs 1 [A] and 2 [B] from the old controller board and install them on the new

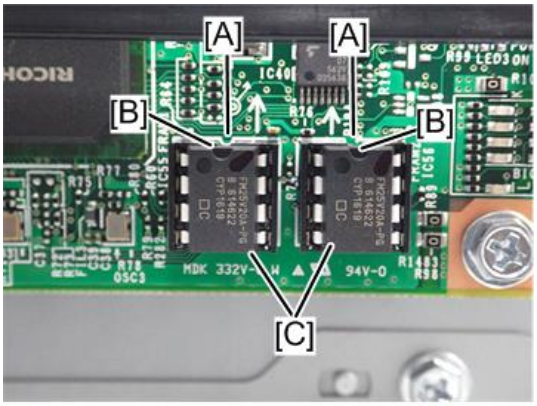
controller board.



m0ana4099

Note

- When installing a new controller board, install the NVRAM removed from the old board, or a new NVRAM if the old NVRAM is defective. Install the NVRAM [C] so that the indentation [B] on the NVRAM corresponds with the mark [A] on the controller board. Incorrect installation of the NVRAM will damage both the controller board and the NVRAM.



m0ana4100

Replacing the NVRAM on the controller board

⚠CAUTION

- Referring to the previous procedure, be sure that there are no mistakes in the mounting position and orientation of the NVRAM.

⚠CAUTION

- If you mounted the NVRAM in the wrong direction, each component needs to be replaced because a short circuit was caused in the controller board and the NVRAM.

1. Make sure you have the SMC report (factory settings). This report comes with the machine.
2. Output all the SMC data using SP5-990-001 (SP Print Mode: All (Data List)).
3. Turn off the main power switch.
4. Insert a blank SD card in SD slot 2, and then turn on the main power switch.
5. Use SP5-824-001 to upload the NVRAM data from the controller board.
6. Make sure the customer has a backup of their address book data. If not, obtain the backup by referring to the following procedure.

1. Insert an SD card into SD slot 2, and then turn the main power ON.
2. Save the address book data in the SD card using SP5-846-051.

Important

- The address data stored in the machine will be discarded later during this procedure. So be sure to obtain a backup of the customer's address book data.
- Note that the counters for the user will be reset when doing the backup/restore of the address book data.
- If they have a backup of the address book data, use their own backup data for restoring. This is because there is a risk that the data cannot be backed up properly depending on the NVRAM condition.

7. Turn the main power OFF and unplug the power supply cord.

8. Push the main power switch ON again to discharge the residual charge.

9. Remove the SD card from SD slot 2.

10. Replace the NV-RAM with a brand-new one.

11. Turn the power ON while the SD card is removed from SD slot 2.

Note

- SC673 appears at start-up, but this is normal behavior. This is because the controller and the smart operation panel cannot communicate with each other due to changing the SP settings for the operation panel.

12. Change the SP settings for the operation panel.

If you switch the screen to enter the SP mode, SC995-02 is displayed. However, continue the following steps.

- SP5-748-101: (OpePanel Setting: Op Type Action Setting): Change bit 0 from 0 to 1.
- SP5-748-201: (OpePanel Setting: Cheetah Panel Connect Setting): Change the value from 0 to 1.

13. Cycle the power OFF/ON.

Note

- The model information is written on the NVRAM (Novita), so SC995-02 does not occur.
- Program/Change Administrator will be displayed in Japanese, but this is normal.

14. Turn OFF the main power, take the SD card to which the NV-RAM data has been uploaded, and insert it into SD slot 2.

15. Turn ON the main power.

16. Download the NV-RAM data stored in the SD card to the brand-new NV-RAM using SP5-825-001 (NV-RAM Data Download).

Note

- The download will take a couple of minutes.

17. Turn the power OFF and remove the SD card from slot 2.

18. Turn the power ON.

The screen "Program/Change Administrator" will be displayed in the language that is the same language as the time when the data was uploaded to the SD card in step 5.

19. If the security functions (e.g. Stored file encryption/ Auto Erase Memory Setting) were applied, set the

functions again.

20. Ask the customer to restore their address book. Or restore the address book data using SP5-846-052 (UCS Setting: Restore All Addr Book), and ask the customer to ensure the address book data has been restored properly.

Important

- If you obtained the backup of the customer's address book data in step 3, delete the backup immediately after the NV-RAM replacement to avoid accidentally taking out the customer's data.

21. Output all the SMC data with SP5-990-001 and make sure all the SP/UP settings except for counter information are properly restored, by checking the SMC data obtained in step 2.

Note

- The counters will be reset.

22. If the setting is different from the original setting after the replacement of the NVRAM, then set it again to the original setting.

23. Execute the process control (SP3-011-001).

24. Cycle the power OFF/ON.

Important

- If you cannot execute SP5-824-001 or SP5-825-001 for some reason, try all the following things.
  - Check the changed SP value on the SMC which was output in step 2 and set it manually. Especially, ensure that the values of the following SPs are same as the setting before the replacement.
  - a. SP5-104-001 (A3/DLT Double Count)
  - b. SP5-104-002 (Bypass Paper Size Undetection)
  - c. SP5-302-002 (Set Time: Time Difference)
- Because the PM counters have been reset during NV-RAM replacement, it is necessary to replace all the PM parts for proper PM management.

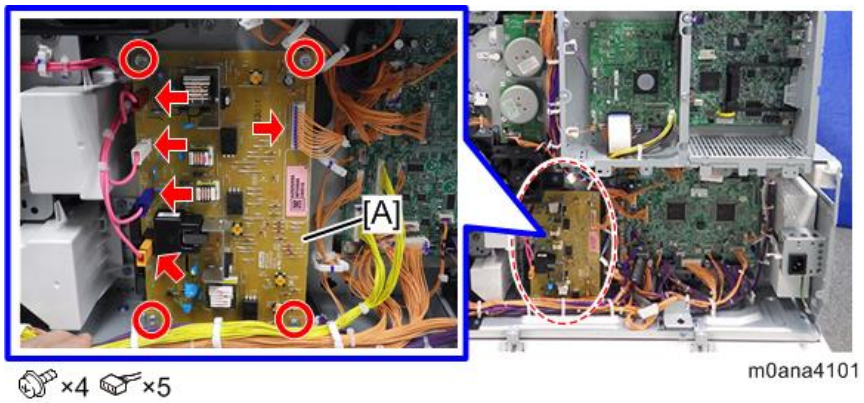
Note

- If a message tells you need a SD card to restore displays after the NV-RAM replacement, create a "SD card for restoration" and restore with the SD card.

HVPS

1. Remove the rear lower cover. (Rear Lower Cover)

2. Remove the HVPS [A].

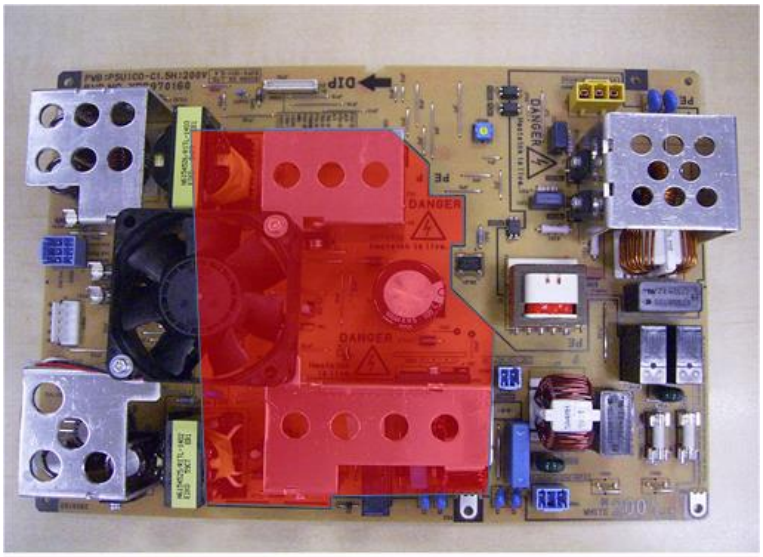


PSU

⚠CAUTION

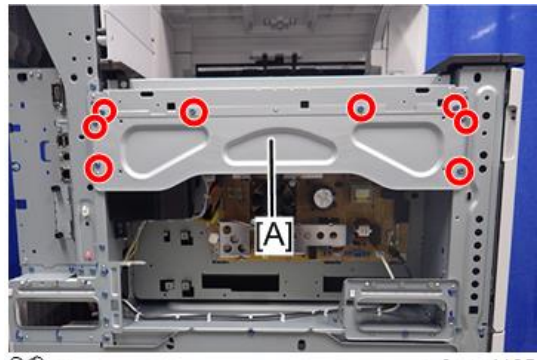
- NEVER touch the areas outlined in red in the photos below, to prevent electric shock caused by residual charge.
- A residual charge of about 100V-400V remains in the AC circuits on the PSU board for several months even when the board has been removed from the machine after turning off the machine power and unplugging the power cord.
- The procedure to discharge residual charge from the machine by unplugging the power cord from the AC wall outlet and pressing the main power switch works only for the DC circuits on this board.

Residual charge remains in the AC circuits.



d284a4111

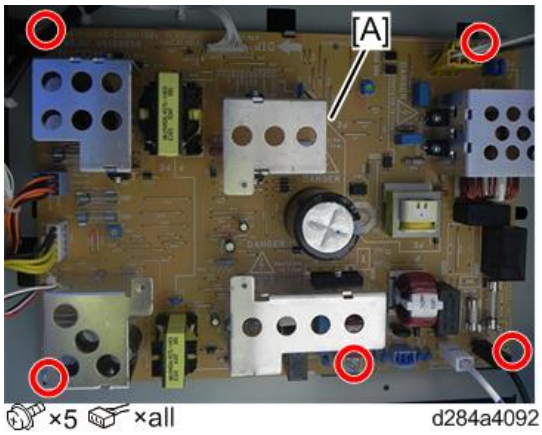
1. Remove the left cover. (Left Cover)
2. Remove the bracket [A].



m0ana4125

3. Remove the PSU cooling fan. (PSU Cooling Fan)

4. Remove the PSU [A].



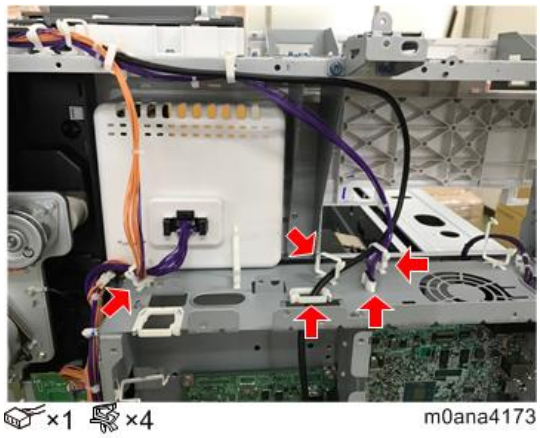
Controller Box

1. Remove the left cover. (Left Cover)

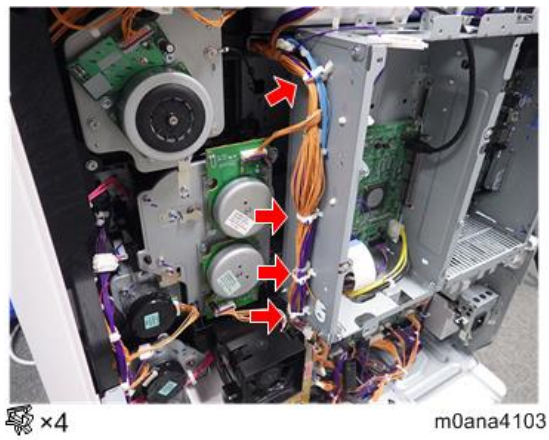
2. Remove the rear lower cover. (Rear Lower Cover)

3. Remove the controller box cover. (Controller Box Cover)

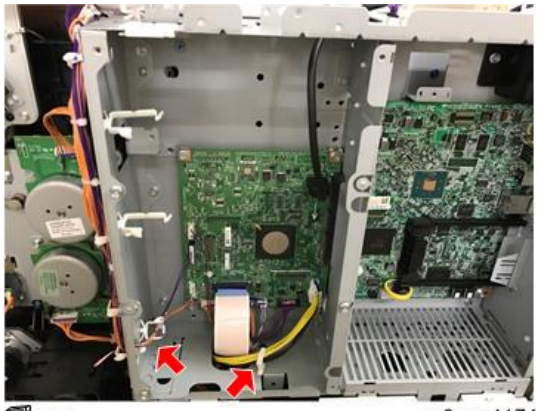
4. Release the clamps and the connector on the upper side of the controller box.



5. Release the clamps on the side of the controller box.



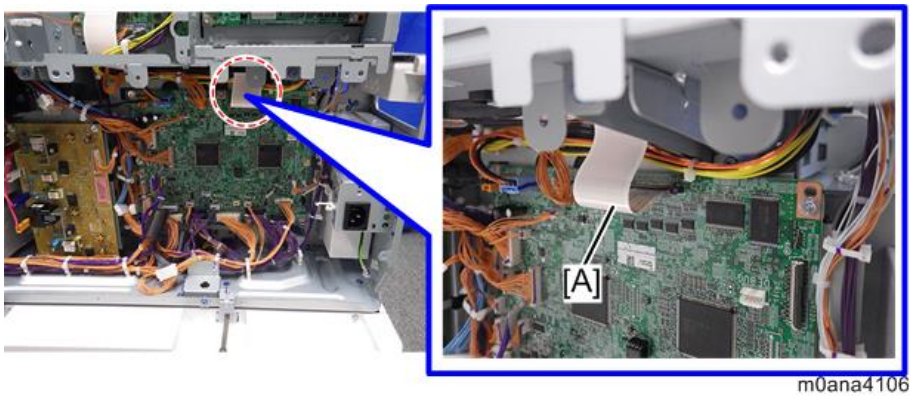
6. Release the clamps in the controller box.



7. Remove the connectors on the IPU [A].



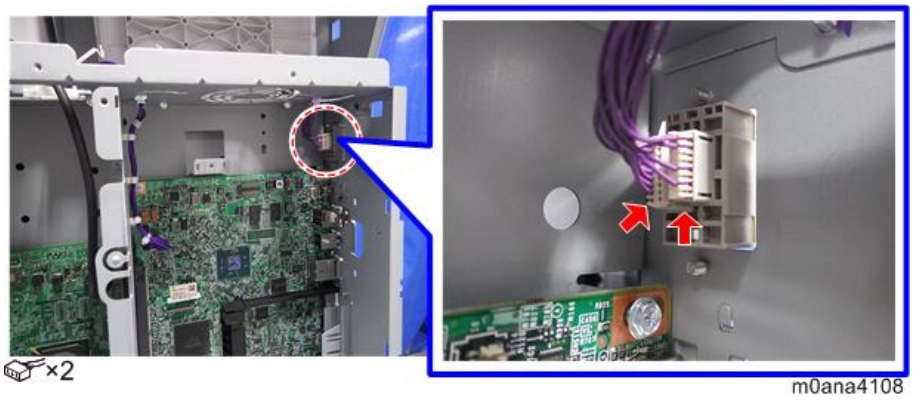
8. Remove the FFC on the BCU [A].



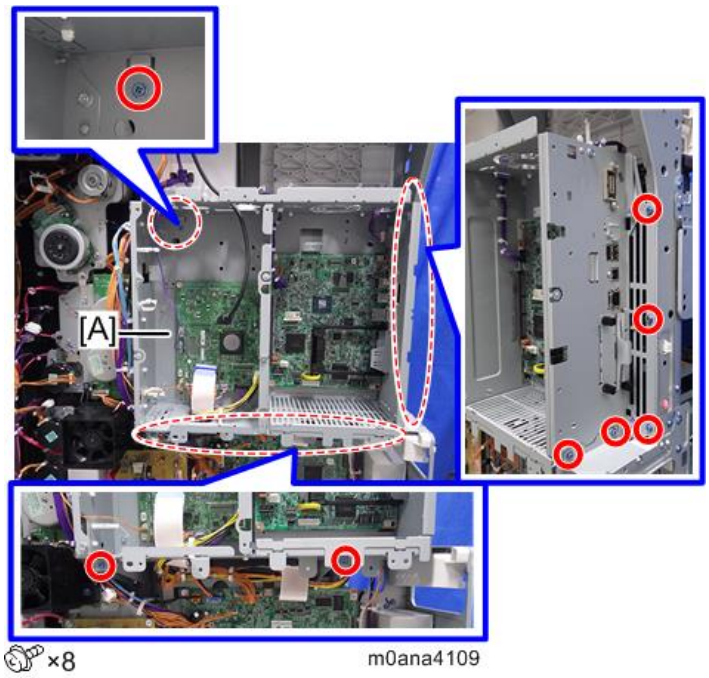
9. Remove the cover [A].



10. Remove the connector.



11. Remove the controller box [A].



Temperature Sensor

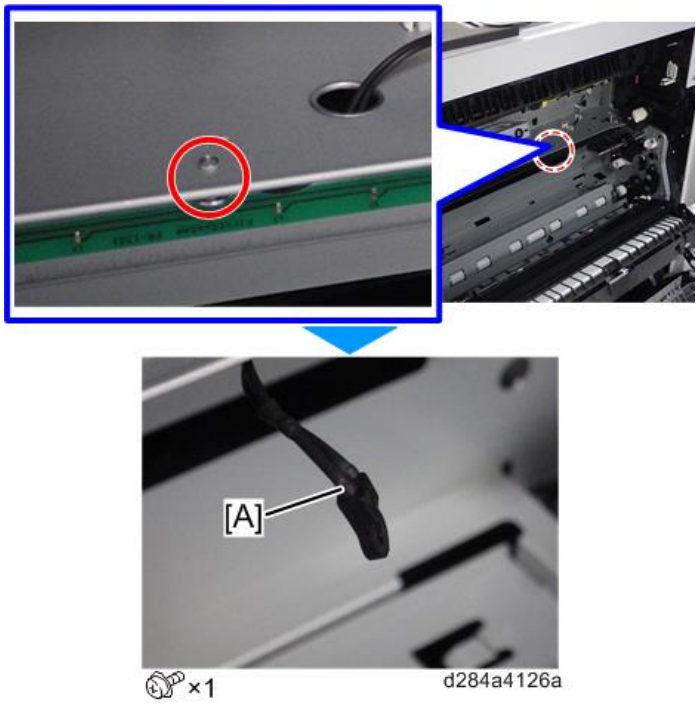
1. Remove the rear cover. (Rear Cover)

2. Remove the connector.



3. Remove the PCL. (PCL (Pre Cleaning Light))

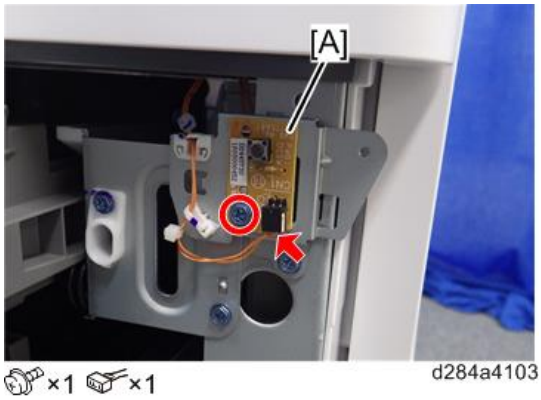
4. Remove the imaging temperature sensor (thermistor) [A].



DC SW board

1. Remove the main power switch cover. (Main Power Switch Cover)

2. Remove the DC SW board [A].



Fans/Filters

Odor Filter

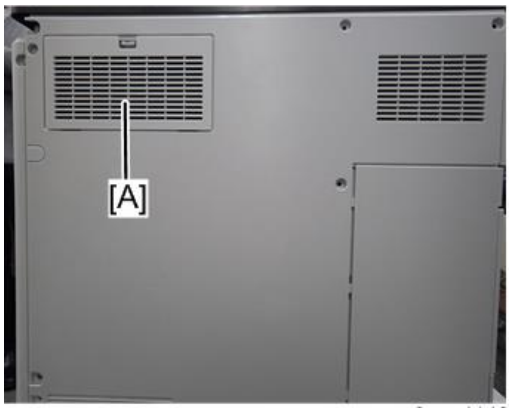
1. Remove the odor filter box [A].



m0ana4129

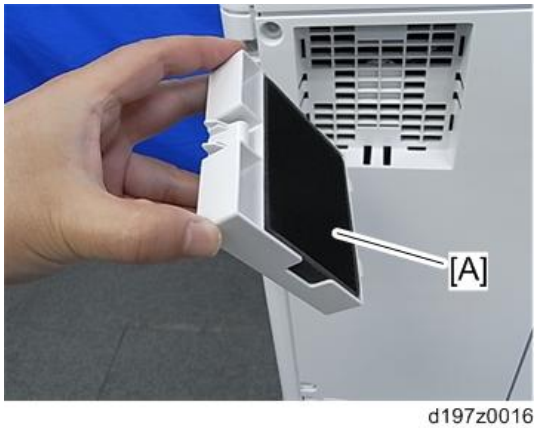
Note

EU/AA:



m0ana4146

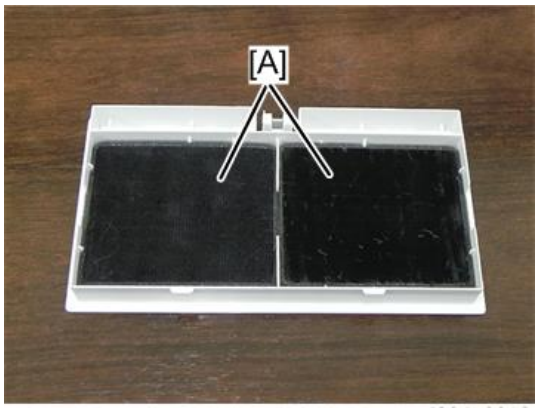
2. Remove the odor filter [A].



d197z0016

Note

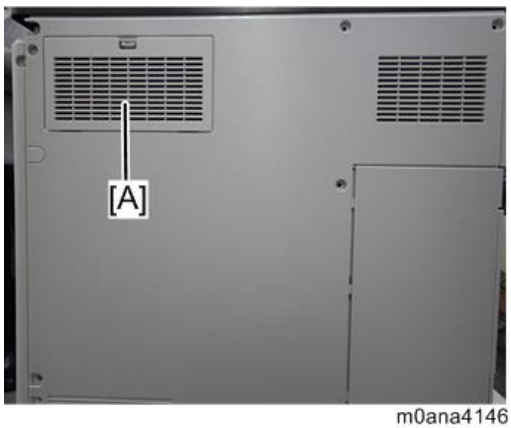
EU/AA:



d284a8012

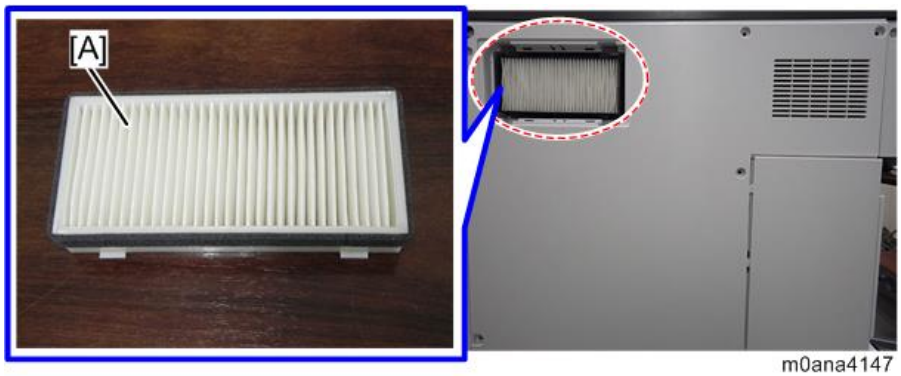
Particulate Filter (EU/AA only)

1. Remove the odor filter box [A].



m0ana4146

2. Remove the particulate filter [A].

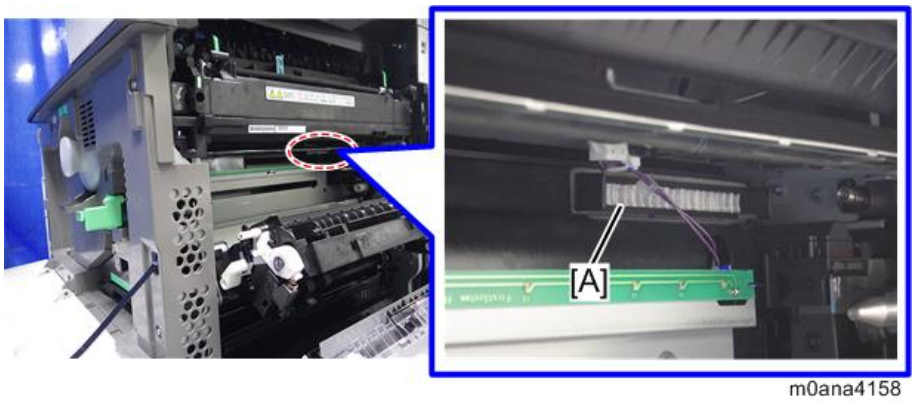


m0ana4147

Dust filter

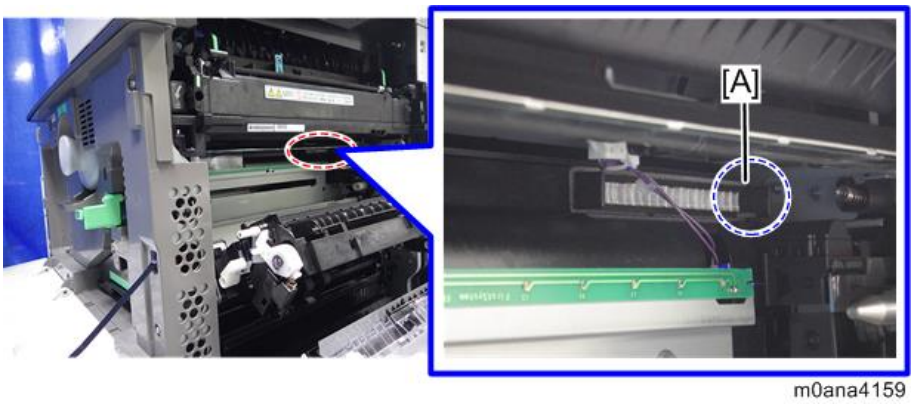
1. Remove the PCDU. (PCDU)

2. Remove the dust filter [A].



Note

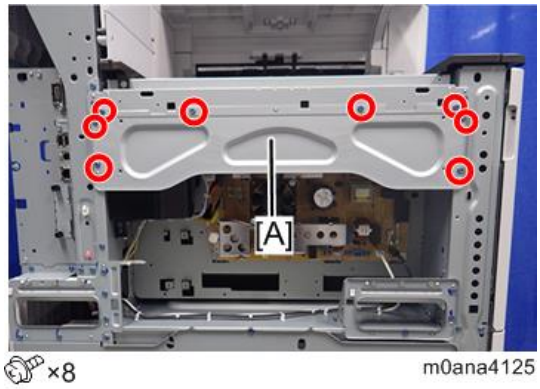
- Attach the right side [A] of the filter first when you mount it.



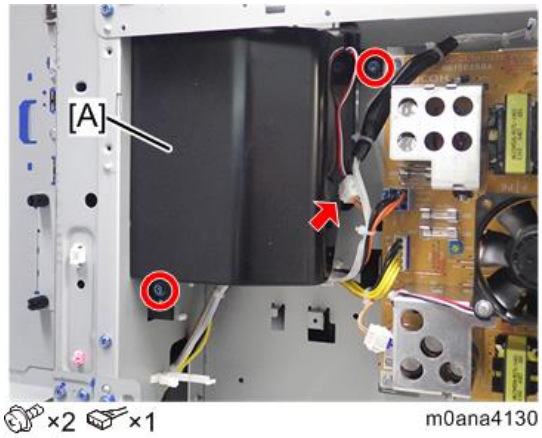
Development Exhaust Fan

1. Remove the left cover. (Left Cover)

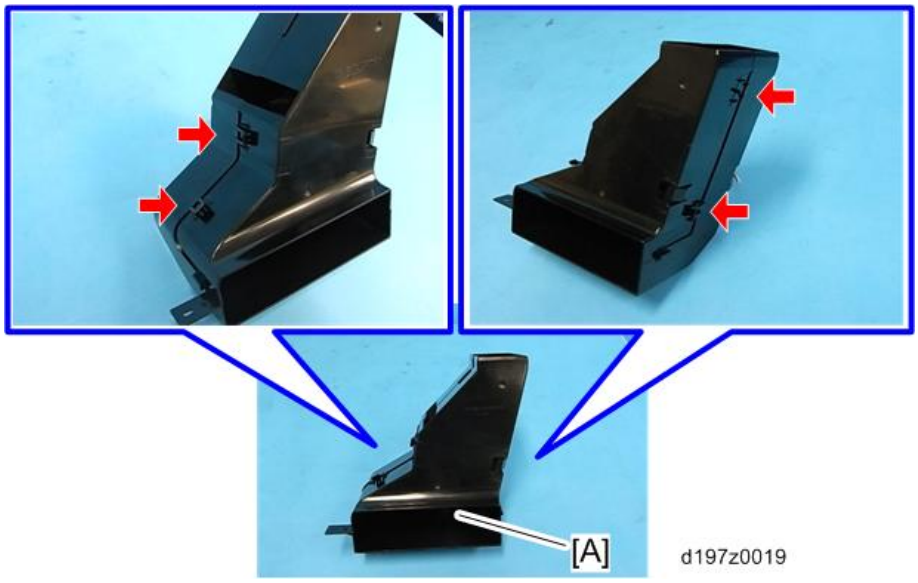
2. Remove the bracket [A].



3. Remove the development exhaust fan with duct [A].



4. Dismantle the duct [A]. (×4)



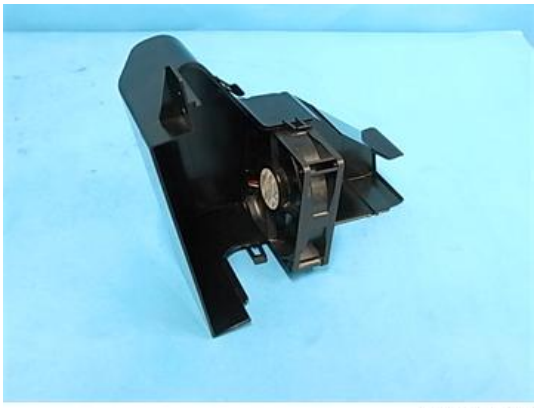
5. Remove the development exhaust fan [A].



Note

- Pay attention to the direction of the fan when installing. The decal pasted on the fan must face the

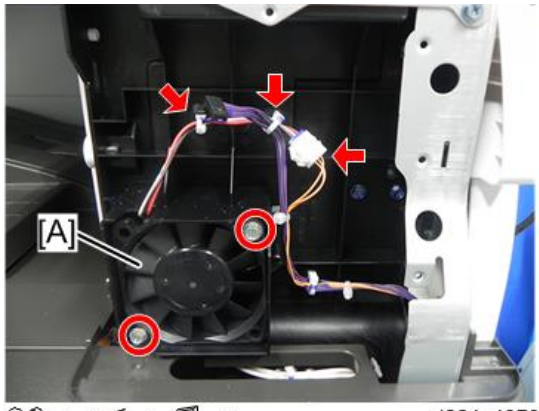
outside.



d197z0021

Paper Exit Cooling Fan

1. Remove the upper front cover. (Upper Front Cover)
2. Remove the paper exit cooling fan [A].



d284a4070

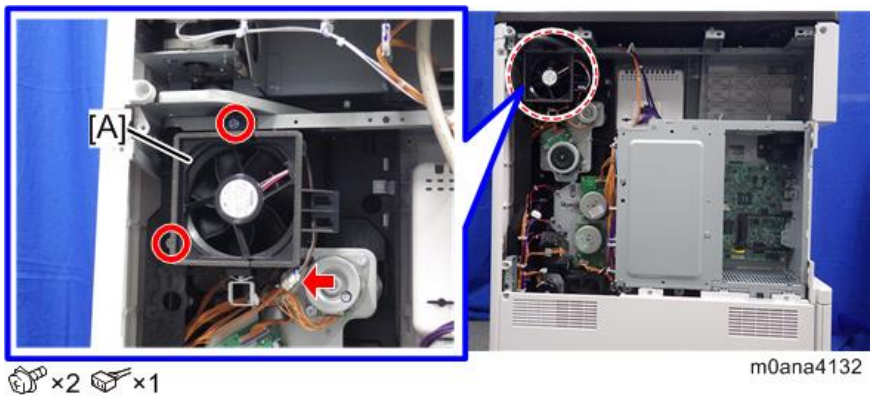
Note

- Pay attention to the direction of the fan when installing. The decal pasted on the fan must face the inside.

Fusing Fan

1. Remove the rear cover. (Rear Cover)

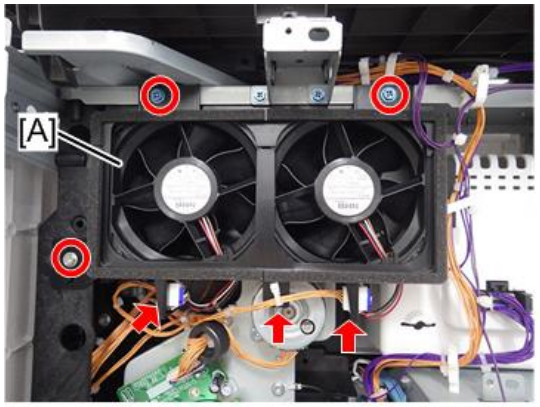
2. Remove the fusing exhaust heat fan [A] with duct.



×2 ×1

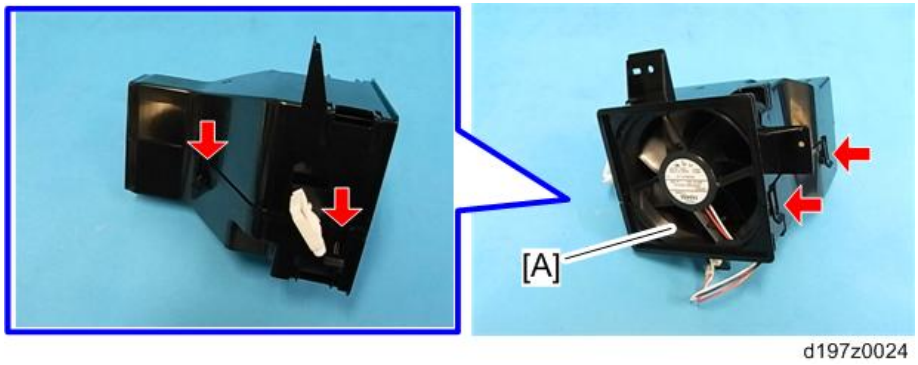
Note

EU/AA:



×3 ×2 ×1

3. Remove the fusing exhaust heat fan [A]. (×4)



Note

- Pay attention to the direction of the fan when installing. The decal pasted on the fan must face the

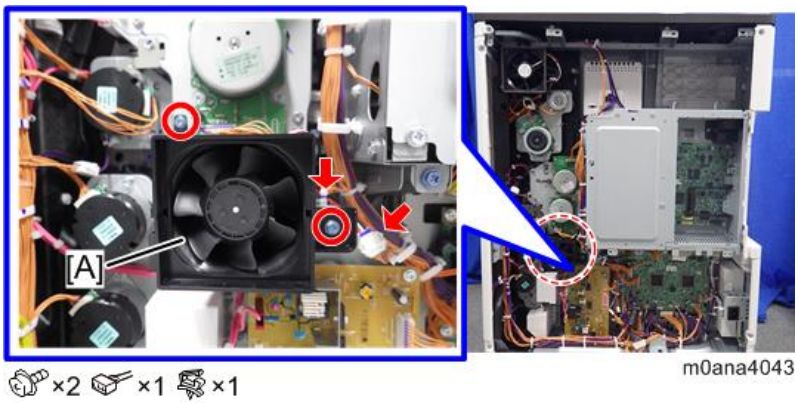
outside.



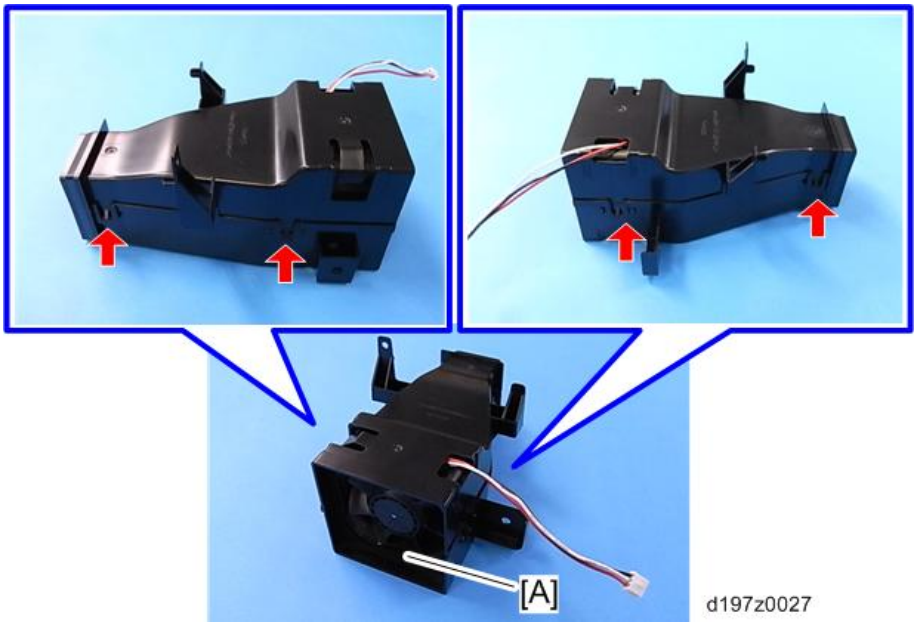
d197z0025

Development Bearing Cooling Fan

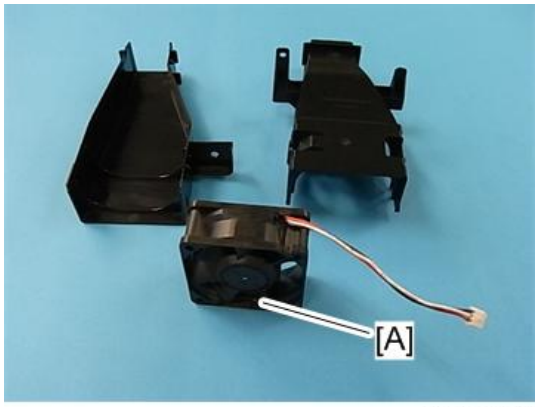
1. Remove the rear lower cover. (Rear Lower Cover)
2. Remove the development bearing cooling fan with duct [A].



3. Dismantle the duct [A]. (×4)



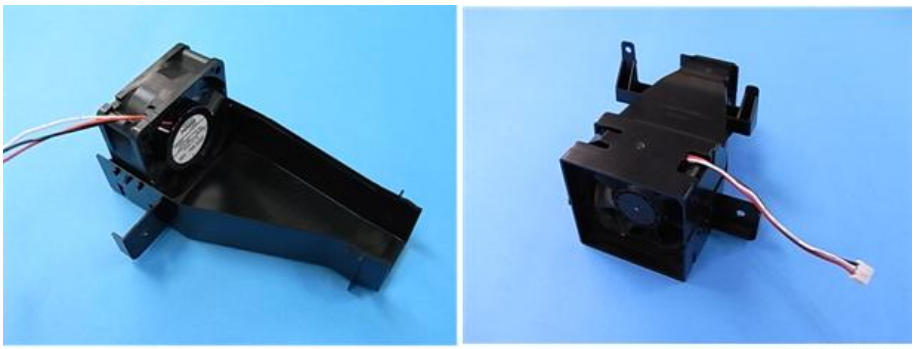
4. Remove the development bearing cooling fan [A].



d197z0028

Note

- Pay attention to the direction of the fan when installing. The decal pasted on the fan must face the outside.

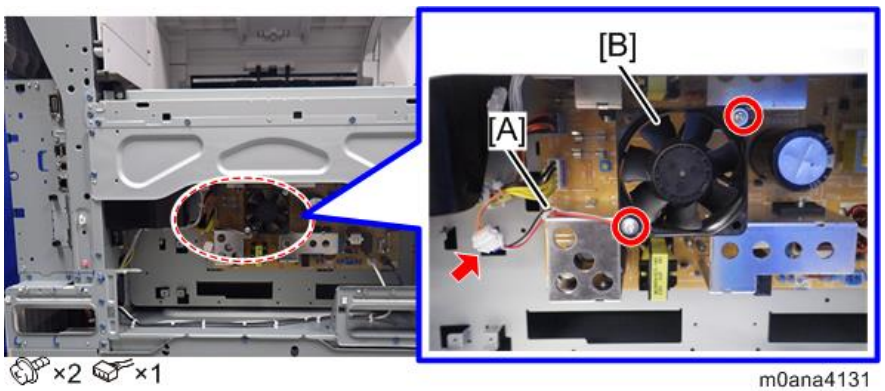


d197z0029

PSU Cooling Fan

1. Remove the left cover. (Left Cover)

Remove the tie wrap band [A], and remove the PSU cooling fan [B].



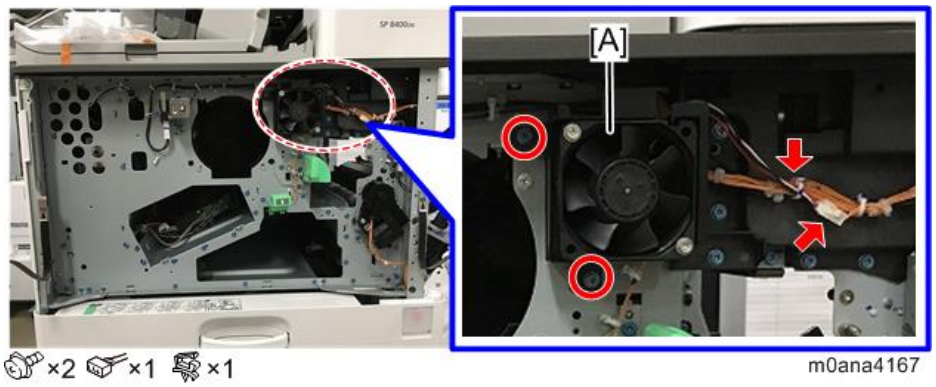
m0ana4131

Note

- Pay attention to the direction of the fan when installing. The decal pasted on the fan must face the inside.

Front Development Cooling Fan

1. Remove the inner cover. (Inner Cover)
2. Remove the fan assembly [A].



3. Remove the front development cooling fan [A].



Adjustment after Replacement

Test Pattern Printing

Printing a test pattern: SP2-109-XXX

After changing an SP value for registration or image adjustment, print a test pattern to check the adjustment result.

Note

- Some of these test patterns are used for print image adjustments but most are used primarily for design testing.
- Do not operate the machine until the test pattern is printed out completely. Otherwise, SC will occur.

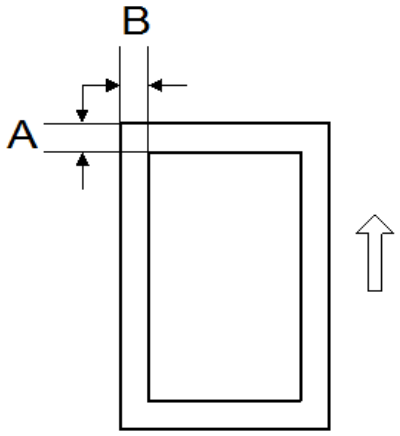
1. Enter the SP mode.
2. Select SP2-109-003 (Test Pattern: Pattern Selection).
3. Select the pattern number for print from the list, then press [OK].

No.	Pattern	No.	Pattern
0	None (Default value)	13	Independent Pattern (4dot)
1	Vertical Line (1dot)	14	Trimming Area
2	Vertical Line (2dot)	15	Hound's Tooth Check (Horizontal)
3	Horizontal Line (1dot)	16	Hound's Tooth Check (Vertical)
4	Horizontal Line (2dot)	17	Band (Horizontal)
5	Grid Vertical Line	18	Band (Vertical)
6	Grid Horizontal Line	19	Checker Flag Pattern
7	Grid Pattern Small	20	Grayscale (Vertical Margin)
8	Grid Pattern Large	21	Grayscale (Horizontal Margin)
9	Argyle Pattern Small	22	2 Beam Density Pattern
10	Argyle Pattern Large	23	Full Dot Pattern
11	Independent Pattern (1dot)	24	All White Pattern
12	Independent Pattern (2dot)		

4. When changing the density of the test pattern, select the density with SP2-109-006 (Test Pattern Density).
5. Execute SP5-990-005 (SP print mode Diagnostic Report).
6. After checking the test pattern, SP2-109-003 must be set to "0: None".

Image Adjustment

Registration - Leading Edge/Side-to-Side



A: Leading Edge Registration (4.2 ± 1.5 mm)

B: Side-to-side Registration (2 ± 1.5 mm)

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

After doing the registration adjustment, do the Blank Margin Adjustment in the next section.

1. Check the leading edge registration [A] for each paper feed station, and adjust them using SP1-001.

Tray	SP No.	Threshold
Tray1: Thin	SP1-001-001	4.2 ± 1.5 mm
Tray1: Plain	SP1-001-002	
Tray1: MidThick	SP1-001-003	
Tray1: Thick1	SP1-001-004	
Tray1: Thick2	SP1-001-005	
Tray1: Thick3	SP1-001-006	
Tray1: Thick4	SP1-001-007	
Tray2: Thin	SP1-001-008	4.2 ± 1.5 mm
Tray2: Plain	SP1-001-009	
Tray2: MidThick	SP1-001-010	
Tray2: Thick1	SP1-001-011	
Tray2: Thick2	SP1-001-012	
Tray2: Thick3	SP1-001-013	
Tray2: Thick4	SP1-001-014	
Bypass: Thin	SP1-001-015	4.2 ± 1.5 mm
Bypass: Plain	SP1-001-016	
Bypass: MidThick	SP1-001-017	
Bypass: Thick1	SP1-001-018	
Bypass: Thick2	SP1-001-019	

Tray	SP No.	Threshold
Bypass: Thick3	SP1-001-020	
Bypass: Thick4	SP1-001-021	
Duplex: Thin	SP1-001-022	4.2 ± 1.5 mm
Duplex: Plain	SP1-001-023	
Duplex: MidThick	SP1-001-024	
Duplex: Thick1	SP1-001-025	
Duplex: Thick2	SP1-001-026	
Duplex: Thick3	SP1-001-027	
Tray1: Thin: 1200	SP1-001-028	4.2 ± 1.5 mm
Tray1: Plain: 1200	SP1-001-029	
Tray1: MidThick: 1200	SP1-001-030	
Tray1: Thick1: 1200	SP1-001-031	
Tray1: Thick2: 1200	SP1-001-032	
Tray1: Thick3: 1200	SP1-001-033	
Tray1: Thick4: 1200	SP1-001-034	
Tray2: Thin: 1200	SP1-001-035	4.2 ± 1.5 mm
Tray2: Plain: 1200	SP1-001-036	
Tray2: MidThick: 1200	SP1-001-037	
Tray2: Thick1: 1200	SP1-001-038	
Tray2: Thick2: 1200	SP1-001-039	
Tray2: Thick3: 1200	SP1-001-040	
Tray2: Thick4: 1200	SP1-001-041	
Bypass: Thin: 1200	SP1-001-042	4.2 ± 1.5 mm
Bypass: Plain: 1200	SP1-001-043	
Bypass: MidThick: 1200	SP1-001-044	
Bypass: Thick1: 1200	SP1-001-045	
Bypass: Thick2: 1200	SP1-001-046	
Bypass: Thick3: 1200	SP1-001-047	
Bypass: Thick4: 1200	SP1-001-048	
Duplex: Thin: 1200	SP1-001-049	4.2 ± 1.5 mm
Duplex: Plain: 1200	SP1-001-050	
Duplex: MidThick: 1200	SP1-001-051	
Duplex: Thick1: 1200	SP1-001-052	
Duplex: Thick2: 1200	SP1-001-053	
Duplex: Thick3: 1200	SP1-001-054	

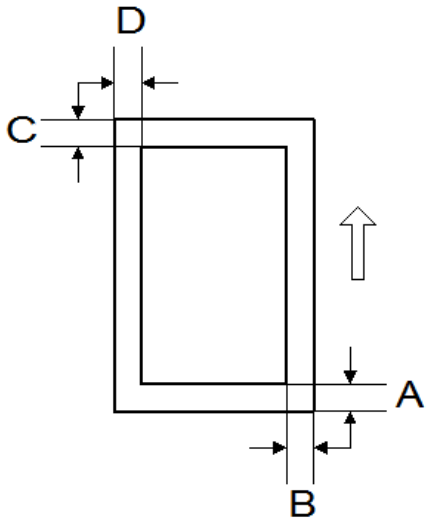
2. Check the side-to-side registration [B] for each paper feed station, and adjust them using SP1-002.

Tray	SP No.	Threshold
Tray 1	SP1-002-002	2 ±1.5 mm
Tray 2	SP1-002-003	
Tray 3 (Optional PFU tray 1 or LCT)	SP1-002-004	
Tray 4 (Optional PFU tray 2)	SP1-002-005	
Duplex (side 1)	SP1-002-006	
LCT	SP1-002-007	

Blank Margin

Note

- After adjusting the Leading Edge Registration and Side Registration settings (see the previous section), do the Blank Margin Adjustment. To do this, check the values of Margins C and D.
- If they are not within the specifications (see below), then adjust C and D with SP2-103-001 to -020 as explained below. Then check Margins A and B again.



A: Trailing Edge Blank Margin

B: Right Edge Blank Margin

C: Leading Edge Blank Margin

D: Left Edge Blank Margin

1. Check the trailing edge [A], right edge [B], leading edge [C], left edge [D] blank margins, and adjust them using the following SP modes.

Edge	SP No.	Adjustment Range
Leading Edge	SP2-103-001	4.2 ± 1.5 mm (Plain, Thin)
Trailing Edge	SP2-103-002	More than 0.5 mm
Left Edge	SP2-103-003	2.0 ±1.5 mm
Right Edge	SP2-103-004	2.0 +2.5 /-1.5 mm
Duplex: Trailing Edge: L Size: Plain	SP2-103-006	2.0 ±2.0 mm

Edge	SP No.	Adjustment Range
Duplex: Trailing Edge: M Size: Plain	SP2-103-007	
Duplex: Trailing Edge: S Size: Plain	SP2-103-008	
Duplex: Left Edge Plain	SP2-103-009	-2.0 ±1.5 mm
Duplex: Right Edge: Plain	SP2-103-010	2.0 +2.5 /-1.5 mm
Duplex: Trailing Edge: L Size: Thick	SP2-103-011	2.0 ±2.0 mm
Duplex: Trailing Edge: M Size: Thick	SP2-103-012	
Duplex: Trailing Edge: S Size: Thick	SP2-103-013	
Duplex: Left Edge Thick	SP2-103-014	-2.0 ±1.5 mm
Duplex: Right Edge: Thick	SP2-103-015	2.0 +2.5 /-1.5 mm
Duplex Trail. L Size:Thin	SP2-103-016	-4.0 ± 4.0 mm
Duplex Trail. M Size:Thin	SP2-103-017	
Duplex Trail. S Size:Thin	SP2-103-018	
Lead Edge Width:Thin	SP2-103-019	0.0 ± 9.9 mm
Trail. Edge Width:Thin	SP2-103-020	

- L Size: Paper Length is 297.1 mm or more
- M Size: Paper Length is 216.1 to 297 mm
- S Size: Paper Length is 216 mm or less.

Parallelogram Image Adjustment

Laser unit adjustment is to fix parallelogram images that developed as a result of the laser operation, by means of adjusting the physical angle of the laser unit itself. This adjustment must be done after the skew-correction for the paper feed unit.

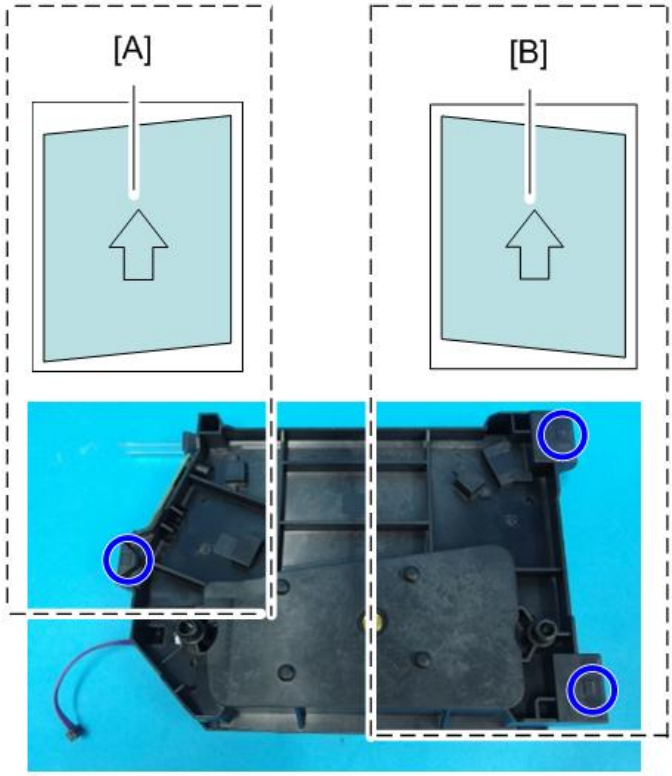
1. Enter into the SP mode.
2. Using SP2-109-003, output a trimming pattern to measure the parallelogram.
   - It is not necessary to do this step if output image is developed properly.

   Note
   - If the laser unit causes a parallelogram image, there is a slanted line in the main-scan direction, and there is a straight line in the sub-scan direction.
3. Remove the laser unit (Laser Unit).

4. Paste the adjustment sheet(s) on the reference points located on the back side of the laser unit (two points on the inside and/or one point on the front side).

Note

- A set of four sheets is provided as service parts. The number of sheets to be pasted depends on the condition of the image.
- If lines slant down to the left [A], paste one or two sheets on the front side.
- If lines slant down to the right [B], paste one or two sheets at each position on the rear side.
- Adjustable amount: 0.5mm – 0.6mm/sheet



d197f0092

5. Do step 1 and 2 again to check that there is no parallelogram image.

5. System Maintenance

Service Program Mode

⚠CAUTION

- 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 copier to process the data.

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.

Entering SP Mode

If there is no printer icon (Classic) on the HOME screen, follow the procedure below to display the number keyboard.

1. Press and hold the button [A] located at the left side of the operation panel and "Check Status [B]" at the same time, until the number keyboard is displayed.



d238m0747



2. Enter the key code for SP mode.



For details of the key code to enter the SP mode, ask your supervisor.

Exiting SP Mode

Press "Exit" on the LCD twice to return to the printer screen.

Types of SP Modes

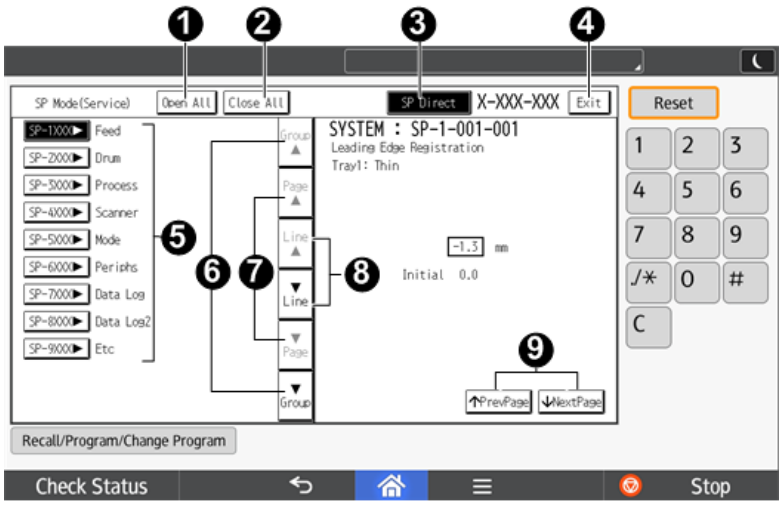
- System SP: SP modes related to the engine functions
- Printer SP: SP modes related to the controller functions

Select one of the Service Program modes (System and Printer) from the touch panel as shown in the diagram below after you access the SP mode.



SP Mode Button Summary

Here is a short summary of the touch-panel buttons.



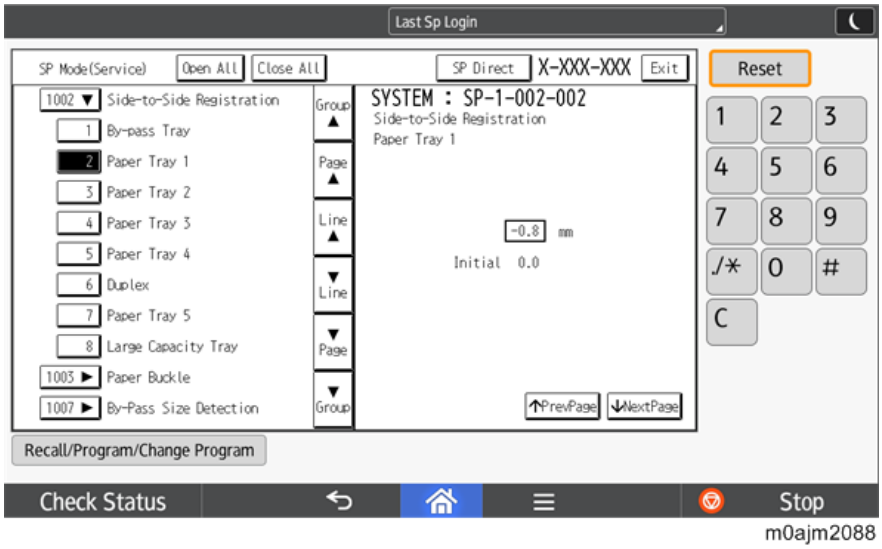
1	Opens all SP groups and sublevels.
2	Closes all open groups and sublevels and restores the initial SP mode display.
3	Enter the SP code directly with the number keys if you know the SP number. Then press [#]. The required SP Mode number will be highlighted when pressing [#]. If not, just press the required SP Mode number.
4	Press two times to leave the SP mode and return to the printer screen to resume normal operation.
5	Press any Class 1 number to open a list of Class 2 SP modes.
6	Press to scroll the show to the previous or next group.
7	Press to scroll to the previous or next display in segments the size of the screen display (page).
8	Press to scroll the show the previous or next line (line by line).
9	Press to move the highlight on the left to the previous or next selection in the list.

Selecting the Program Number

Program numbers have two or three levels.

1. Refer to the SP Tables to find the SP that you want to adjust before you begin.
2. Press the Group number on the left side SP Mode window that contains the SP that you want to adjust.
3. Use the scrolling buttons in the center of the SP mode window to show the SP number that you want to open.
4. Then press that number to expand the list.
5. Use the center touch-panel buttons to scroll to the number and title of the item that you want to set and press it.

   The small entry box on the right activates and shows the below default or the current settings.



Note

- Refer to the SP Tables for the range of allowed settings.

6. Do this procedure to enter a setting:

1. Press [./*] to toggle between plus and minus and use the keypad to enter the appropriate number. The number you enter writes over the previous setting.
2. Press [#] to enter the setting. (The value is not registered if you enter a number that is out of range.)
3. Press "Exit" to go back to user operation screen.

Service Mode Lock/Unlock

At locations where the machine contains sensitive data, the customer engineer cannot operate the machine until the Administrator turns the service mode lock off. This function makes sure that work on the machine is always done with the permission of the Administrator.

1. If you cannot go into the SP mode, ask the Administrator to log in with the User Tool and then set "Service Mode Lock" to OFF after he or she logs in:
User Tools > Machine Features > System Settings > Administrator Tools > Service Mode Lock > OFF

- This unlocks the machine and lets you get access to all the SP codes.
- The CE can service the machine and turn the machine power OFF then ON. It is not necessary to ask the Administrator to log in again each time the main power is turned ON.

2. Go into the SP mode and set SP5-169 to "1" if you must use the printer bit switches.

3. After machine servicing is completed:

- Change SP5-169 from "1" to "0".
- Turn the machine power OFF then ON. Tell the administrator that you have completed servicing the machine.
- The Administrator will then set the "Service Mode Lock" to ON.

Remarks

The maximum number of characters which can show 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.

Item	Description
Paper Weight	Thin paper: 52-59 g/m^2, 14-15lb. Bond Plain Paper1: 60-74 g/m^2, 16-20lb. Bond Plain Paper2: 75-81 g/m^2, 20lb. Bond Middle Thick: 82-105 g/m^2, 20-28lb. Bond Thick Paper1: 106-169 g/m^2, 28lb. Bond-90lb. Index Thick Paper2: 170-220 g/m^2, 65-80lb. Cover Thick Paper3: 221-256 g/m^2, 80lb. Cover-140lb. Index Thick Paper4: 257-300 g/m^2, 140lb. Index-110lb. Cover
Paper Type	N: Normal paper MTH: Middle thick paper TH: Thick paper
Paper Feed Station	P: Paper tray B: By-pass table
Print Mode	S: Simplex D: Duplex

Others

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.

The following symbols are used in the SP mode tables.

Notation	What it means
ENG	Engine SP
CTL	Controller SP
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 in the front cover.
DFU	Design/Factory Use only: Do not touch these SP modes in the field.
*	An asterisk (*) to the left side of ENG/CTL 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

Notation	What it means
SSP	This denotes a "Special Service Program" mode setting.

SP Mode Tables

See "Appendices" for the following information:

- Engine SP1000
- Engine SP2000
- Engine SP3000
- Engine SP4000
- Engine SP5000
- Engine SP6000
- Engine SP7000
- Controller SP5000
- Controller SP6000
- Controller SP7000
- Controller SP8000
- Printer SP Mode
- Input Check
- Output Check

Firmware Update (SD Card)

Overview

In order to update the firmware of this machine, it is necessary to download the latest version of firmware on an SD card.

Insert the SD card into SD card slot 2 beside the rear left of the controller box.

Types of firmware update files, supported update methods:

	SFU	SD Card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

Firmware Type

Firmware type	Firmware location
System	Controller Board
Engine	BCU
Operation Panel	Smart Operation Panel
Finisher1	Finisher
Bank	Optional PFU
LCT	LCIT
Mail Box	MailBox
Network Support	Smart Operation Panel – CPU board
Bank2	Bank
BIOS	BCU
HDD format option	Controller Board
Folding unit	Folding unit
RPCS	Controller Board
PS	Controller Board
PCL	Controller Board
PDF	Controller Board
PictBridge	Controller Board
XPS	Controller Board
MediaPrint: JPEG	Controller Board
MediaPrint: TIFF	Controller Board
FONT	Controller Board
FONT2	Controller Board
FONT6	Controller Board
NetworkDocBox	Smart Operation Panel – CPU board

Firmware type	Firmware location
Printer apl	Smart Operation Panel – CPU board
Websupport	Smart Operation Panel – CPU board
WebUapl	Smart Operation Panel – CPU board

What is Included in the Firmware Package

Modules included in the firmware package are indicated by ticks (✓) in the firmware download web site. Firmware not included in the package requires updating by SD cards, etc.

Procedure

Important

- An SD card is a precision device, so when you handle an SD card, respect the following.
- When the power is switched ON, do not insert or remove a card.
- During installation, do not switch the power OFF.
- Since the card is manufactured to high precision, do not store it in a hot or humid location, or in direct sunlight.
- Do not bend the card, scratch it, or give it a strong shock.
- Before downloading firmware to an SD card, check whether write-protection of the SD card is canceled. If write-protection is enabled, an error code (error code 44, etc.) will be displayed during download, and the download will fail.
- Before updating firmware, remove the network cable from this machine.
- During software update, disconnect network cables and interface cables, remove wireless boards, etc., (so that they are not accessed during the update).

Preparing the SD Card

Note

- When preparing the SD card, do not include other applications in the one for the VM version update.

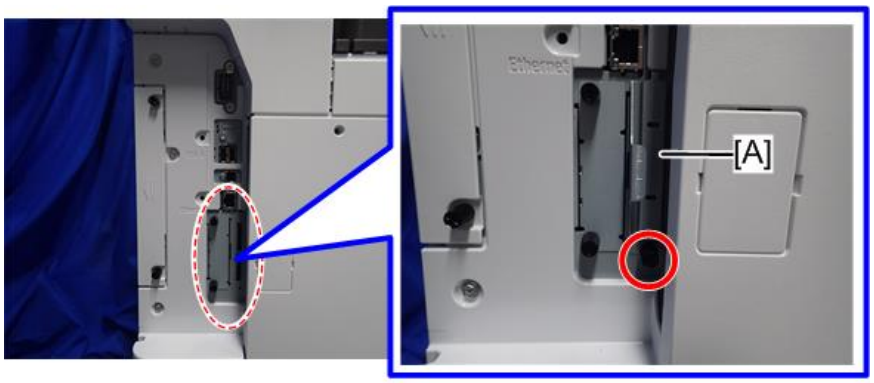
1. Format an SD card.
2. Create a folder in the SD card and name it "romdata".
3. Download the firmware from SERES BB and store it in the "romdata" folder.
4. Unzip the downloaded file.
5. From the unzipped folder, move the necessary firmware files (e.g. M0ANxxxx.fwu)"fwu" file to the "romdata" folder created in step 2.

Note

- Do not remove the SD card from SD card slot until data writing is finished.
- Do not put multiple machine firmware programs on the same SD card. Copy the only model firmware you want.

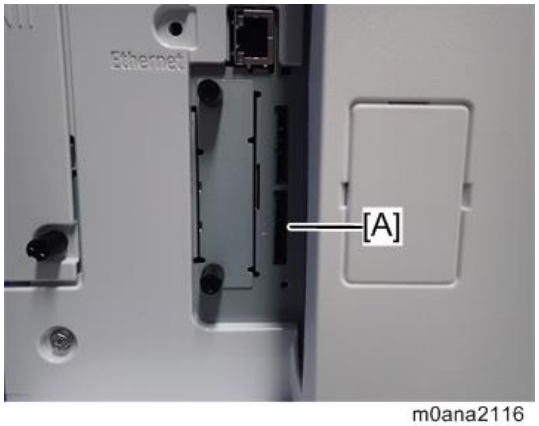
Update Procedure

1. First download the new firmware to the SD card.
2. Turn OFF the main power.
3. Remove the SD card slot cover [A] (coin screw x 1).



m0ana2017

4. Insert the SD card into SD card slot 2 [A: Lower Slot].

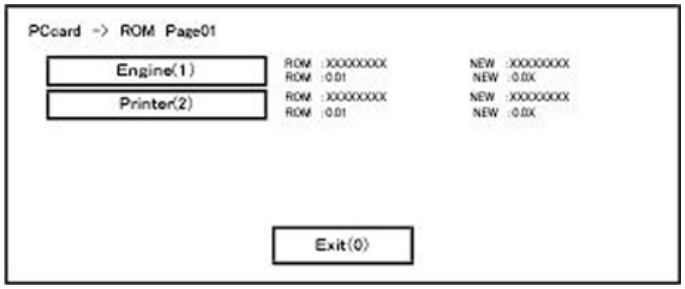


m0ana2116

Note

- Check whether the card is properly in the SD card slot. When a SD card is inserted, a click is heard, and it is locked.
- To remove the card, release by pressing once.

5. Turn ON the main power.
6. Wait until the update screen starts (about 45 seconds).
   When it appears, "Please Wait" is displayed.
7. Check whether a program installation screen is displayed. (English display) When the SD card contains two or more software modules, they are displayed as follows.



<<When two or more software names are displayed>>

1. Press the module selection button or [1] - [5] on the 10-key pad.
2. Choose the appropriate module. (If already selected, cancel the selection)

Operation of keys or buttons

Keys or buttons to press	Contents
[Exit] or 10-key pad [0]	Returns to normal screen.
[Start] Key	Select all modules.
[Clear/Stop] key	Cancel all selections.

Display contents

On the above screen, two programs, i.e., engine firmware and printer application are displayed. (The screen may change depending on the firmware or application).

The display contents are as follows:

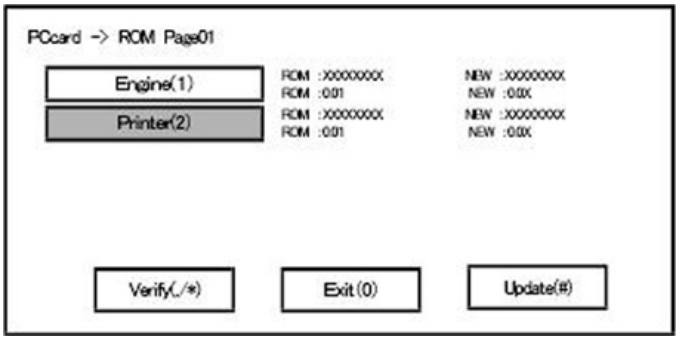
Display	Contents
ROM:	Display installed module number / version information.
NEW:	Display module number / version information in the card.

The upper row corresponds to the module name, the lower row corresponds to the version number.

8. Select the module with the module selection button or 10 key pad operation. The selected module is highlighted, and [Verify] and [Update] are displayed.

Note

- Depending on the combination of modules to update, it may not be possible to select all of them simultaneously.



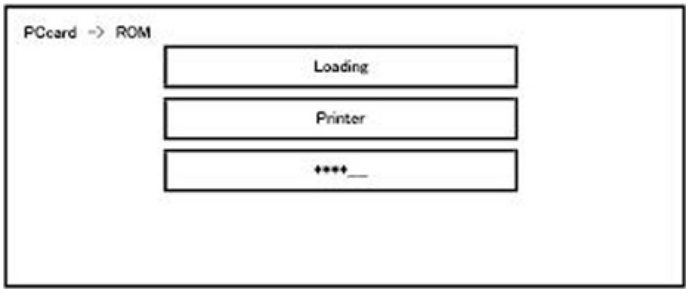
<<Key or button operations>>

Keys or buttons to press	Contents
[Update] or [#] key	Update the ROM of the selected module.
[Verify] button or [./*] key	Perform verification of the selected module.

9. Press the [Update] or [#] key, and perform software update.

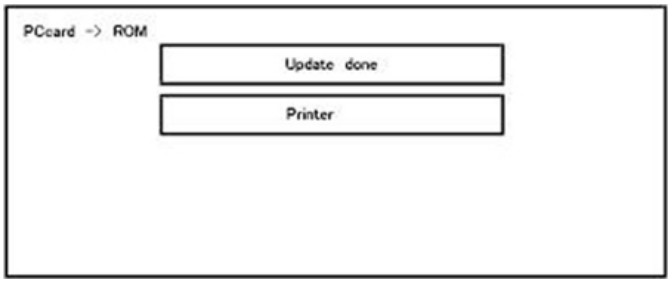
10. During firmware update, a "firmware update/ verification progress screen" is displayed. When firmware

update is complete, a "firmware update end screen" is displayed.



- In the middle row, the name of the module currently being updated is displayed. (in this case, the printer module is being updated)
- In the lower row, a progress bar is displayed in ten steps. (The more *, the more the progress.)

<<Firmware update end screen>>



- This screen is displayed when all selected firmware modules are to be updated. "Printer" in the second row shows that the module updated last is the printer. (When more than one were updated simultaneously, only the module that was updated last is displayed.)
- When Verify has completed normally, the Update done display of the above screen is "Verify done." If "Verify Error" is displayed, reinstall the software of the application displayed in the lower row.

11. After turning the main power OFF, remove the SD card.

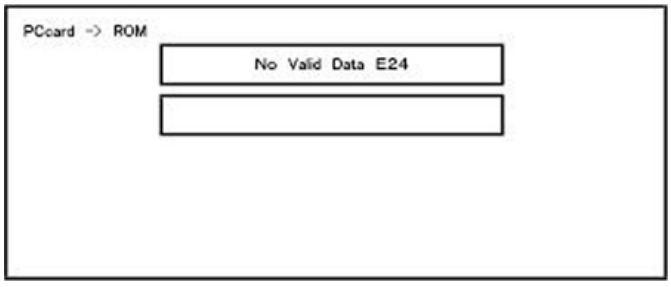
12. Turn the main power ON again, and check whether the machine is operating normally.

13. Return the SD card slot cover to the original position.

Note

- When the power supply is switched OFF during firmware update, update is interrupted, and the power is switched ON again, normal operation cannot be guaranteed.
- To guarantee operation, an update error continues to be displayed until update is successful. In this case, insert the SD card again, switch the power ON, and continue download of firmware from the SD card automatically.

Error Screens During Updating



EXX shows an error code.

For error codes, refer to the following table:

Error Code List

Code	Contents	Solutions
20	Physical address mapping cannot be performed.	• Switch the main power supply off and on to try again. • Re-insert the SD card to reboot it. • Replace the controller board if the above solutions do not solve the problem.
21	Insufficient memory for the download	• Switch the main power supply off and on to try again. • Replace the controller board if the updating cannot be done by switching the power off and on.
22	Decompression of compressed data failed.	• Switch the main power supply off and on to try again. • Replace the SD card used for the update. • Replace the controller board if the above solutions do not solve the problem.
24	SD card access error	• Re-insert the SD card. • Switch the main power supply off and on to try again. • Replace the SD card used for the update. • Replace the controller board if the above solutions do not solve the problem.
32	The SD card used after download suspension is incorrect. SD cards are different between the one which was inserted before power interruption and the one which was inserted after power interruption.	• Insert the SD card containing the same program as when the firmware update was suspended, and then switch the main power supply off and on to try again. • There is a possibility that the SD card is damaged if the update cannot be done after the correct SD card has been inserted. In this case, try again with a different SD card. • Replace the controller board if the above solutions do not solve the problem. Replace all relevant boards if the update is done for the BCU and FCU. Replace the operation panel unit if the update is done for the operation panel.
33	Card version error.	• Install the correct ROM update data for each

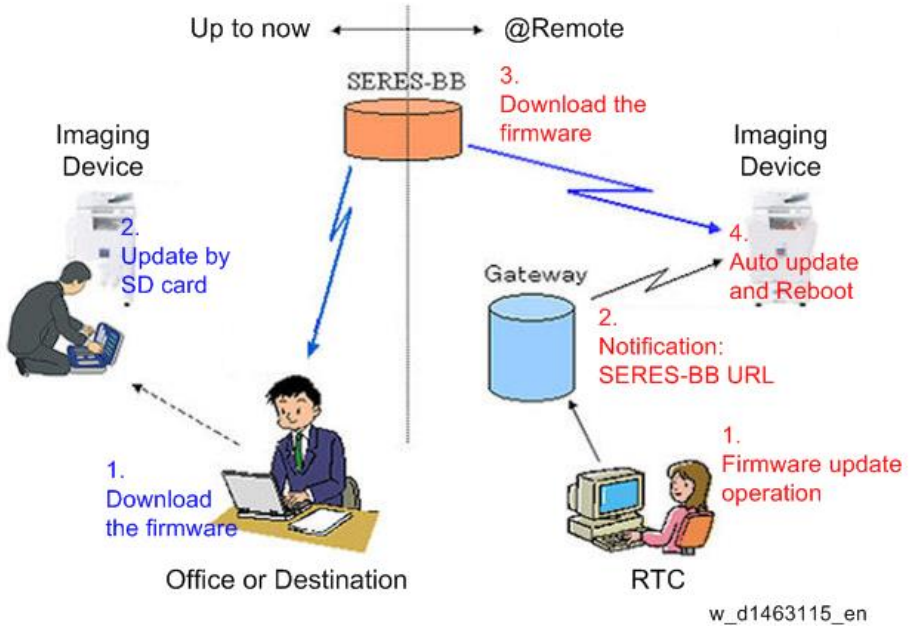
Code	Contents	Solutions
	The wrong card version is downloaded.	version in the SD card.
34	Destination error. A card for the wrong destination is inserted.	• Install the correct ROM update data for each destination (JPN/ EXP/ OEM) in the SD card.
35	Model error. A card for the wrong model is inserted.	• Install the correct ROM update data for each model in the SD card.
36	Module error. The program to be downloaded does not exist on the main unit. The download destination specified by the card does not match up to the destination for the main unit's program.	• Install the program to be updated in advance. • There is a possibility that the SD card containing the program to be updated has not been mounted. Check to confirm that the SD card has been correctly mounted. • The SD card is incorrect if the program to be updated has been correctly installed. In this case, insert the correct SC card.
38	The version of the downloaded program has not been authorized for the update.	• Make sure that the program to be overwritten is the specified version.
40	Engine download fails.	• Switch the main power supply off and on to try again. • If the download fails again, replace the controller board and the BCU.
42	Control panel / language download fails.	• Switch the main power supply off and on to try again. • If the download fails again, replace the controller board and the operation panel unit.
43	Printing download fails.	• Switch the main power supply off and on to try again. • The SD card is damaged if the update fails again. Replace the SD card.
44	The data to be overwritten cannot be accessed when controller-related programs are downloaded.	• Switch the main power supply off and on to try again. • Install the correct ROM update data in the SD card. • Replace the controller board if the data to be overwritten is contained on the controller board.
49	Firmware updates are currently prohibited.	• The setting of Update Firmware in the Administrator Tools has been set to [Prohibit] by an administrator. Amend the setting to [Do not Prohibit] and try again.
50	The results of the electronic authorization	• Install the correct ROM update data in the SD

Code	Contents	Solutions
	check have rejected the update data.	card.
57	@Remote is not connected at the date/time reserved for receiving the package firmware update from the network.	• Check the @Remote connection.
58	Update cannot be done due to a reception route problem.	• Check the @Remote connection.
59	HDD is not mounted.	• Check the HDD connection.
60	HDD could not be used during the package firmware update.	• Try again. • Replace the HDD if the download fails again.
61	The module ID for the package firmware update is incorrect.	• Prepare the correct package files.
62	The configuration of the package firmware update files is incorrect.	• Prepare the correct package files.
63	Reception fails due to the power off at the reserved date/time of the remote firmware update from the network.	• Update is to be done automatically when the next reception time has elapsed.
64	Reception fails due to the power off at the reserved date/time of the package firmware update from the network.	• Reset the reservation date/time for the remote update.
65	Reception fails due to the status error of the machine at the reserved date/time of the remote firmware update from the network.	• Update is to be done automatically when the next reception time has elapsed.
66	Reception failed due to the status error of the machine at the reserved date/time of the package firmware update from the network.	• Reset the reservation date/time for the remote update.
67	Acquisition of the latest version information from the Gateway fails at the reserved date/time of the remote firmware update from the network.	• Check that the network is connected correctly.
68	Acquisition of the latest version information from the Gateway fails.	• Check that the network is connected correctly.
69	Download fails at the reserved date/time of the remote firmware update from the network.	• Check that the network is connected correctly.
70	Package firmware download from the network fails.	• Check that the network is connected correctly.
71	Network communication error occurs at the	• Check that the network is connected correctly.

Code	Contents	Solutions
	reserved date/time of the package firmware update from the network.	
72	The setting of @Remote is invalid at the reserved date/time of the package firmware update from the network.	• Set the setting of @Remote Service in the Administrator Tools to [Do not Prohibit].

Firmware Update (Remote Firmware Update)

In this machine, software can be updated by remote control using @Remote.



Types of firmware update files, supported update methods:

	SFU	SD Card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

RFU Performable Condition

RFU is performable for a device which meets the following conditions.

1. The customer consents to the use of RFU.
2. The device is connected to a network via TCP/IP for @Remote.

Firmware Update (Smart Firmware Update)

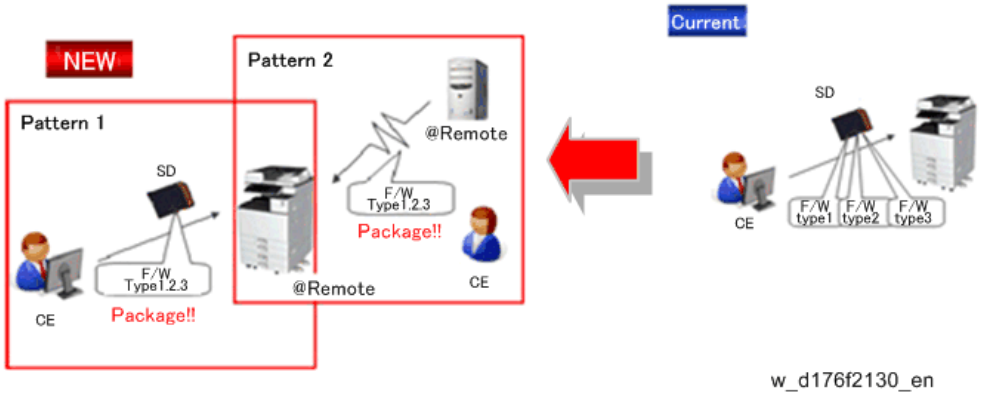
⚠CAUTION

- A HDD unit must be installed on the machine to enable the SFU or the package firmware update via SD card.

Overview

Each firmware module (such as System, Engine, etc.) used to be updated individually. However, an all-inclusive firmware package (package_ALL) is now available.

There are several ways to update using the firmware package.



Package Firmware Update via a network: SFU (Smart Firmware Update)

- There are two methods for SFU.
  - Immediate Update: To update the firmware when visiting
  - Update at the next visit: To set the date and time for downloading. The firmware will be automatically downloaded beforehand and updated at the following visit.
- "Update at the next visit" is recommended since firmware download may take some minutes due to the network condition.

Note

- SFU requires the connection to @Remote via a device which has the embedded @Remote communicating function. When a machine is connected to @Remote via an intermediate device (RC Gate), the SFU function is disabled.

Other than SFU, package firmware update can also be performed by using the following three methods.

- Package Firmware Update via a network: ARFU (Auto Remote Firmware Update)
- Package Firmware Update via an SD Card
- Package Firmware Update via a network: RFU (Remote Firmware Update)

Types of firmware update files, supported update methods:

	SFU	SD Card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

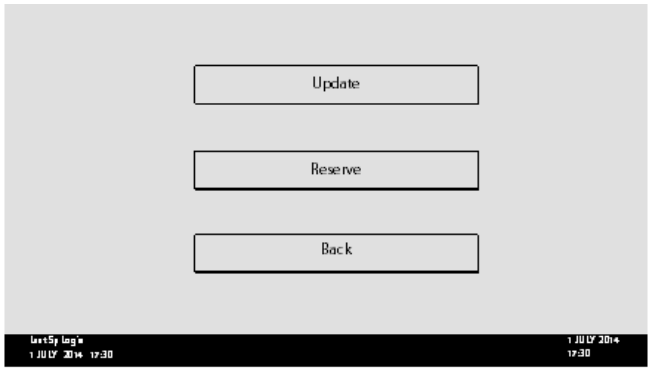
Immediate Update

Enter the [Firmware Update] menu in the SP mode and update the package firmware.

Note

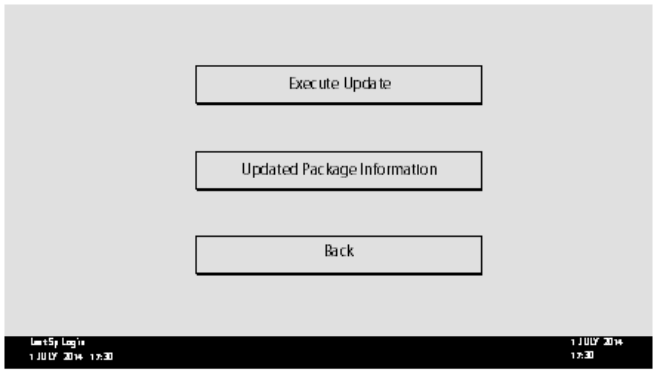
- The [Firmware Update] button will appear even when a machine is connected to @Remote with a device which does not have an embedded @Remote communicating function.
- If an error code is displayed, refer to Error Screens During Updating.

1. Enter the SP mode.
2. Touch [Firmware Update].
3. Touch [Update].



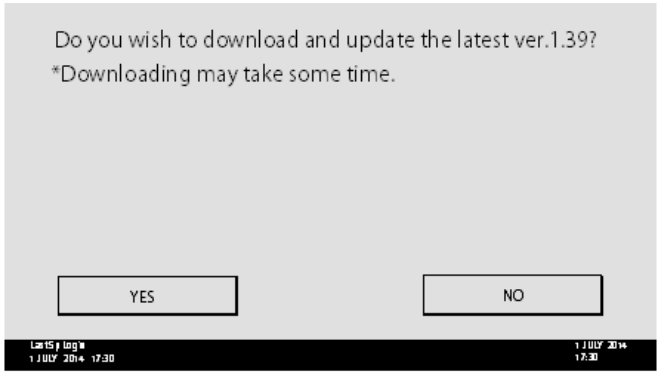
d197f0508

4. Touch [Execute Update].



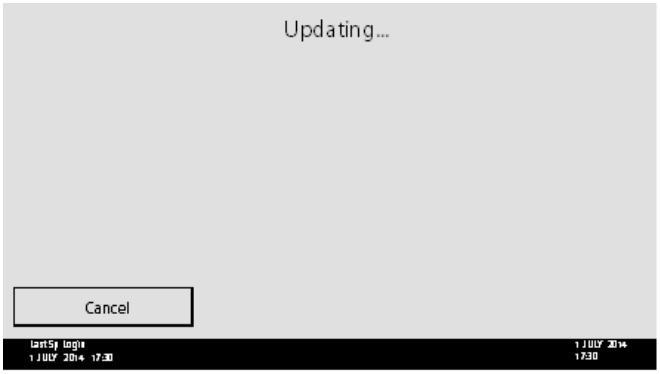
d197f0509

5. Touch [YES].



d197f0514

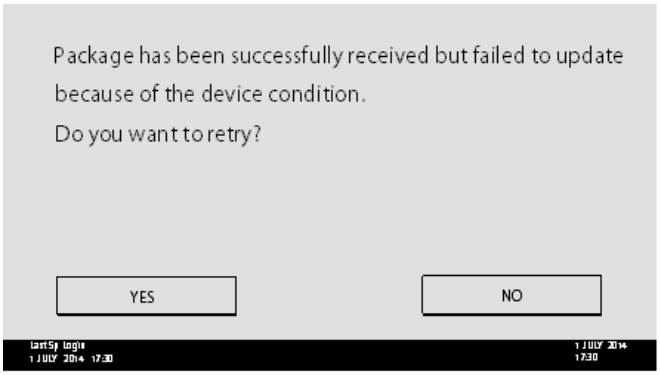
6. The following will be displayed.



d197f0513

Note

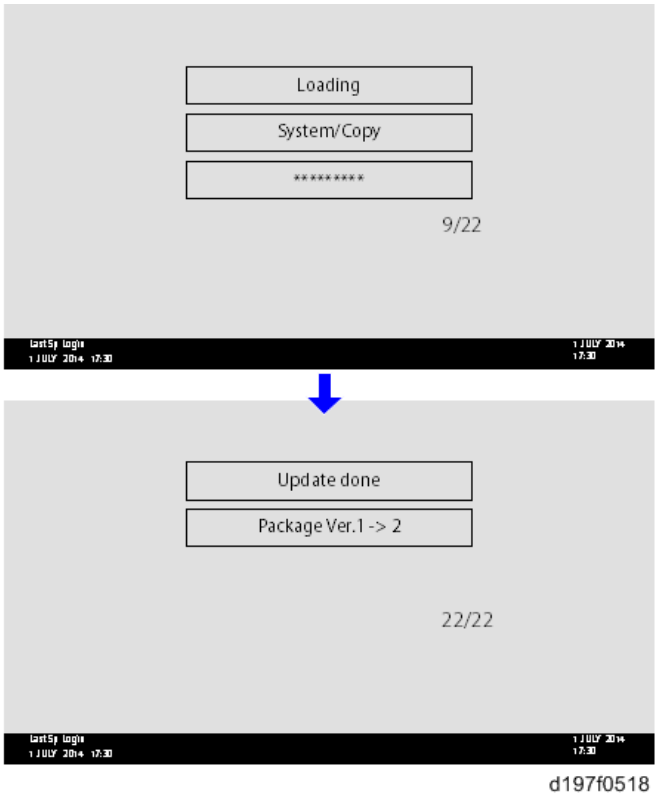
- If the error code E66, which indicates that the download of the firmware has failed, is displayed, go back to step 1.
- Update will be started automatically after the download is finished.
- When the machine is in the update mode, the automatic update is suspended if a print job is started. After the print job is finished, touch [YES] on the display shown below to restart updating.



d197f0515

7. [Update done] is displayed.

- The machine will automatically reboot itself.



d197f0518

Note

- The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".

Update at the Next Visit (Reserve)

It is possible to set the machine to download the package firmware which is necessary for SFU in advance, and then perform the actual installation at the next service visit. This saves waiting time for the firmware to download at the service visit.

How to Set the Machine to Download Firmware Later (Reserve)

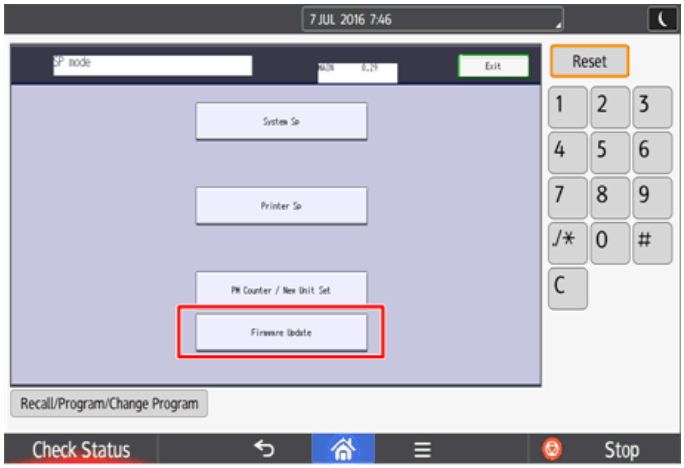
Enter the [Firmware Update] menu in the SP mode and update the package firmware.

Note

- The [Firmware Update] button will appear even when a machine is connected to @Remote with a device which does not have an embedded @Remote communicating function. If an error code is displayed, refer to Error Screens During Updating.

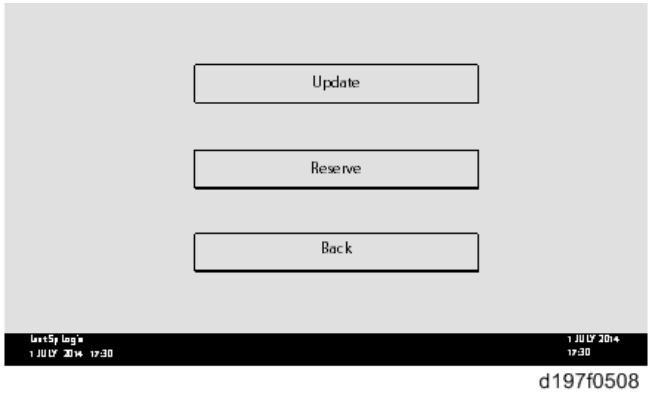
1. Enter the SP mode.

2. Touch [Firmware Update].



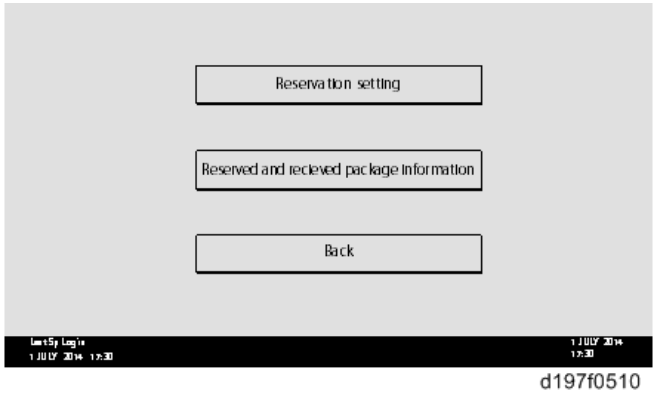
m0ajm0179

3. Touch [Reserve].



d197f0508

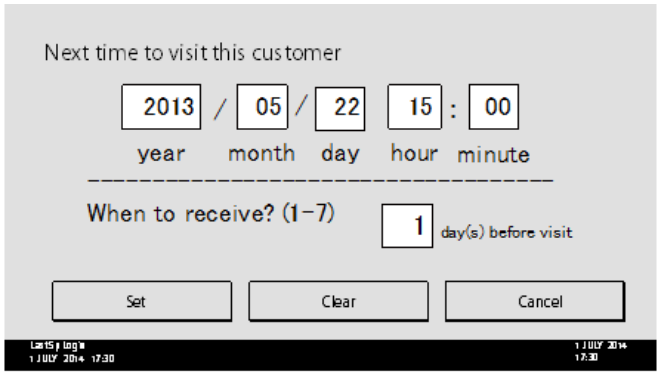
4. Touch [Reservation setting].



d197f0510

5. Enter the dates and times of the next visit and the start of receiving data.

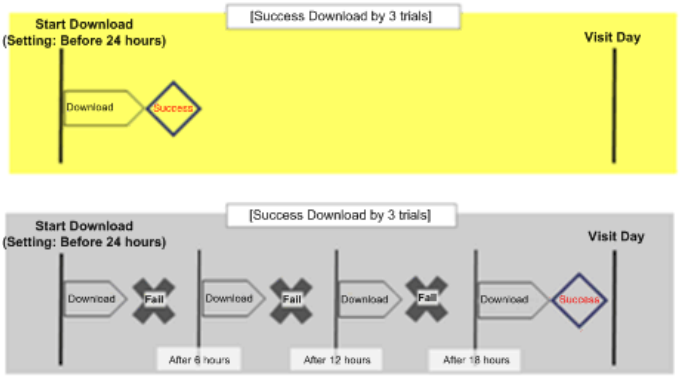
- "Next time to visit this customer": The package firmware will be automatically downloaded by this time/date.
- "When to receive? (1-7)": The download of the package firmware will begin this number of days before the next visit.



d197f0512

Successful Download

In the two diagrams below, the firmware is set to be downloaded by the day before the next scheduled visit. In the first diagram, the download is successful on the first try. In the second diagram, the download fails three times and is successful on the fourth try.



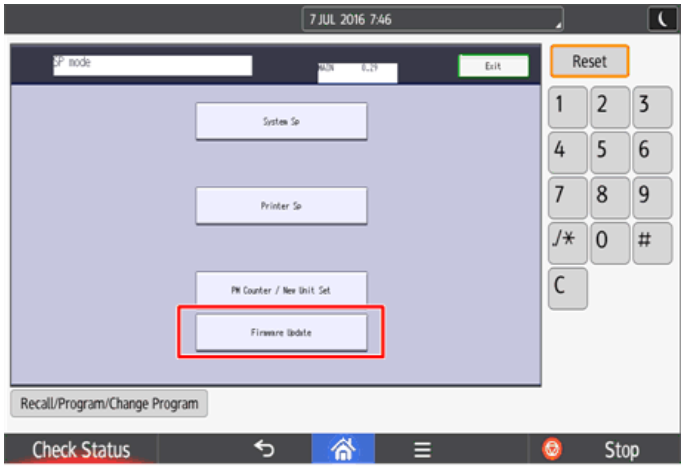
w_d197f0507_en

- If the firmware download fails or cannot be completed due to the network settings/condition, no power to the machine, or other reason, the machine will continue retrying every six hours until the scheduled deadline (up to a maximum of four tries). For example, if the download is set for the day before the next visit, the machine will attempt the download at 24 hours before the visit, and then continue trying every six hours (max. four tries total).
- The retry is only performed in cases when the firmware download has failed.
- If the machine is in Energy Saver mode when the download is scheduled to begin, the download will be performed in the background and the machine/panel will stay in Energy Saver mode.
- The download will continue uninterrupted even if the customer initiates a print job or other operation while the download is in progress.
- The download will be terminated if the customer turns the power off while the download is in progress.
- If the download cannot be completed successfully by the time of the next scheduled visit, the machine will stop trying to download the firmware.

How to Check if the Firmware Downloaded with Reserve

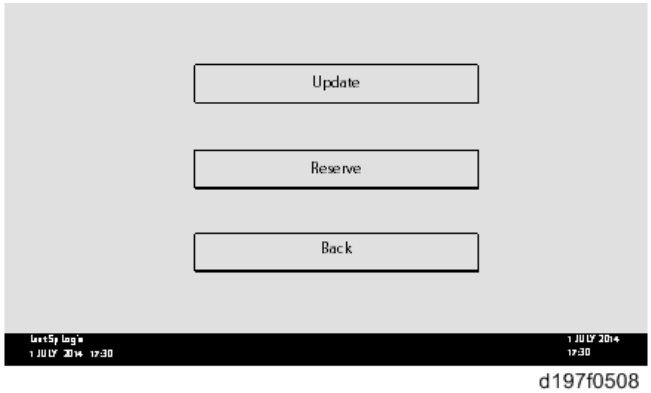
1. Enter the SP mode.

2. Touch [Firmware Update].



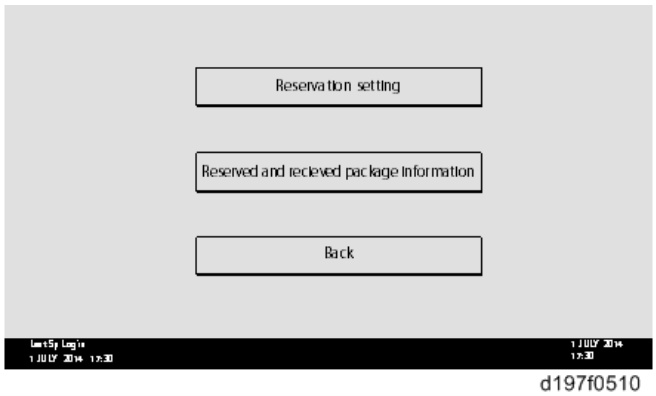
m0ajm0179

3. Touch [Reserve].



d197f0508

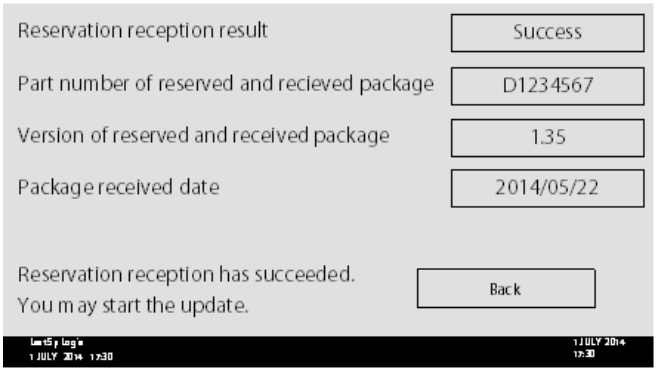
4. Touch [Reserve and received package information].



d197f0510

5. Check the information displayed.

When the package firmware was downloaded successfully, the details of the download result are displayed as the following picture shows.



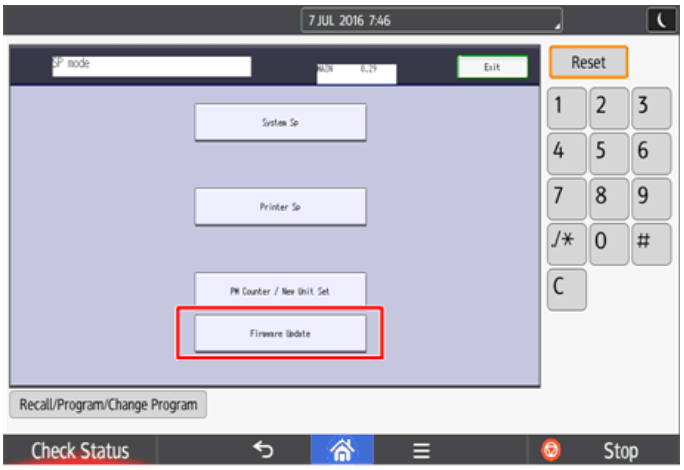
d197f0511

Note

- This information will only be displayed if the reserved firmware has already been downloaded. If not, all the data items are indicated with "-".

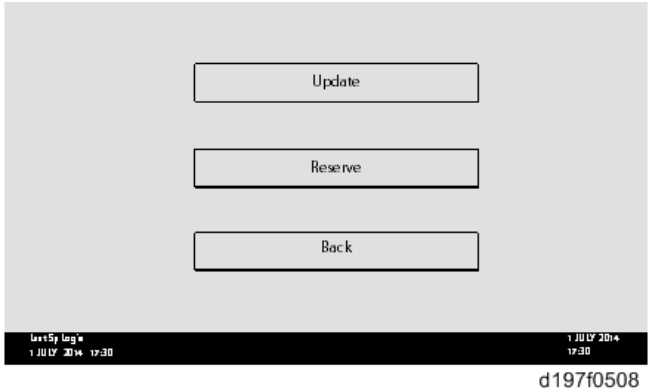
How to Install Firmware Downloaded with Reserve

1. Enter the SP mode.
2. Touch [Firmware Update].



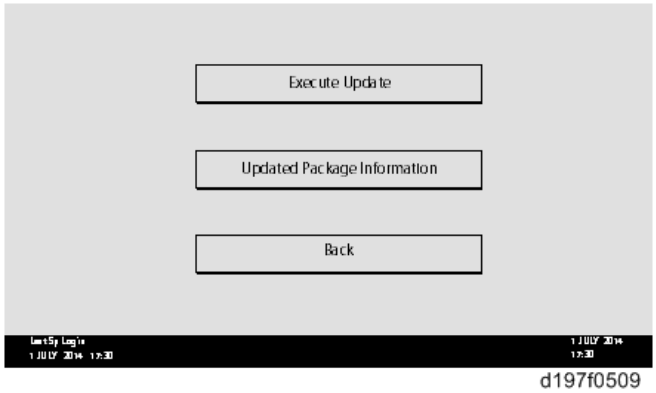
m0ajm0179

3. Touch [Update].



d197f0508

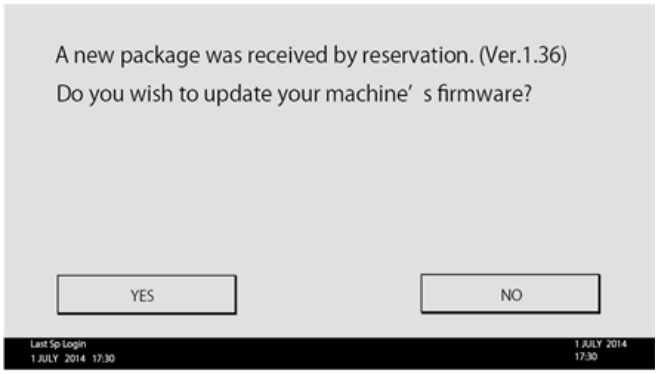
4. Touch [Execute Update].



d197f0509

5. Check the version of the received package firmware, and then touch [YES].

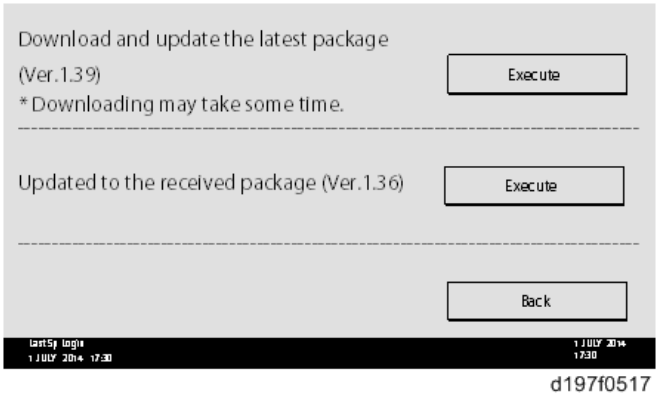
- Update is started.



d197f0516

Note

- If the version of the reserved package in the HDD is older than the latest version, the messages shown in the following picture are displayed.

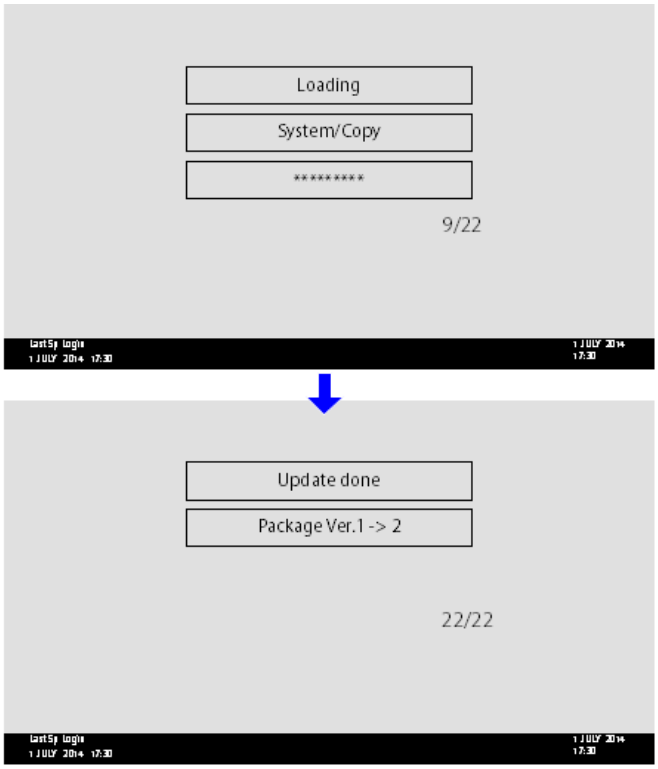


d197f0517

- If you wish to download the latest version, touch [Execute] beside the message "Download and update the latest package." Then update of the package firmware will be started.
- If you wish to update using the firmware in the HDD (old version), touch [Execute] beside the message "Update to the received package."

6. [Update done] is displayed.

- The machine will automatically reboot itself.



d197f0518

Note

- The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".

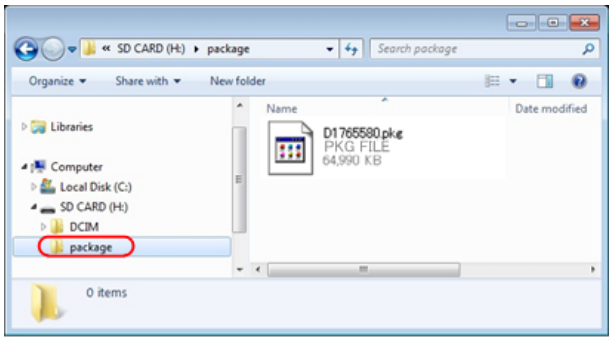
Update via SD Card

Update with an SD card, which is the conventional method, is available if you write the package firmware to the SD card.

Note

- If an error code is displayed, refer to Error Screens During Updating.

1. Create a new folder in the SD card, and then name it "package".
2. Copy the package firmware (xxxxxxxx.pkg) to this folder.



d197f0504

Important

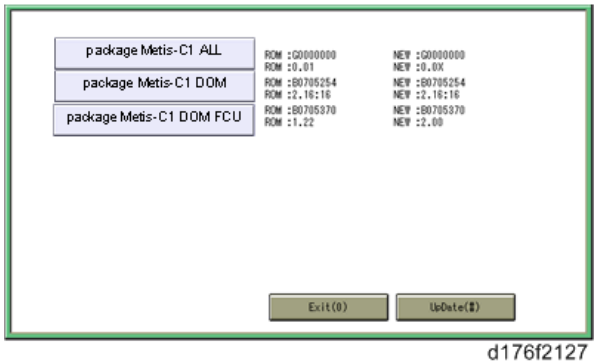
- If you copy the package firmware into the conventional "romdata" folder, the update will not work.
- Only one version of the package firmware should be copied into the folder. If you copy multiple

versions of package firmware to the SD card, the machine will select only one version of the firmware randomly.

3. Turn the power OFF.

4. Insert the SD card which contains the package into SD card slot 2 (for service).

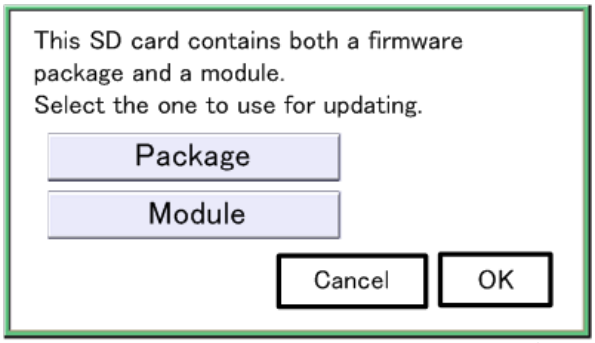
5. Turn the power ON and touch [Update].



d176f2127

Note

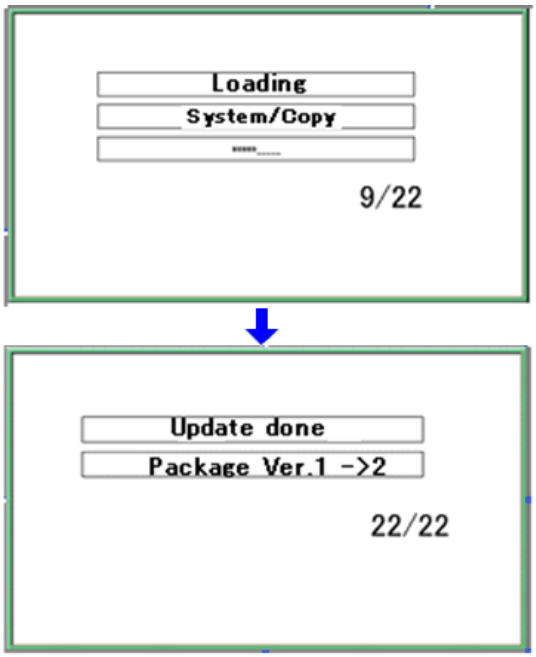
- When the SD card contains both a firmware package and one or more modules, the following display may show up. Select [Package] and touch [OK] to move to step 5 above.



d176f2128

6. Update is started automatically after the package firmware download to the HDD has been completed.

7. When update is completed, "Update done" is displayed.



d177z0021a

Note

- The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".

8. Turn the main power switch OFF, and then pull out the SD card from SD card slot 2.

9. Turn the power ON.

Firmware Update (Auto Remote Firmware Update)

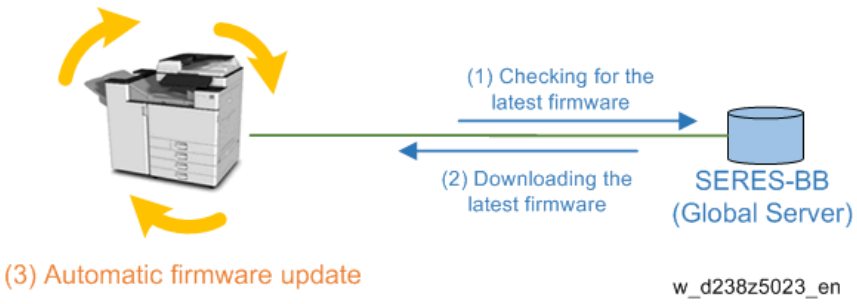
Note

- Auto remote firmware update (ARFU) requires connection to the Internet. Be sure to get permission from the customer before setting up this feature.
- ARFU can only be used on machines that have a HDD. If using ARFU at machine installation, an optional HDD is required.

Overview

By Auto Remote Firmware Update (ARFU), the firmware is updated by checking the global server every 76 hours and downloading the latest package if it is newer than the one installed on the machine.

Function Overview



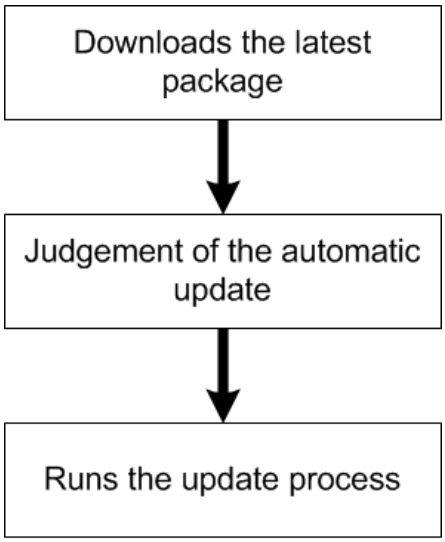
Types of firmware update files, supported update methods:

	SFU	SD Card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

What is Included in the Firmware Package

Modules included in the firmware package are indicated by ticks (✓) in the firmware download web site. Firmware not included in the package requires updating by SD cards, etc.

Downloading and Updating Process



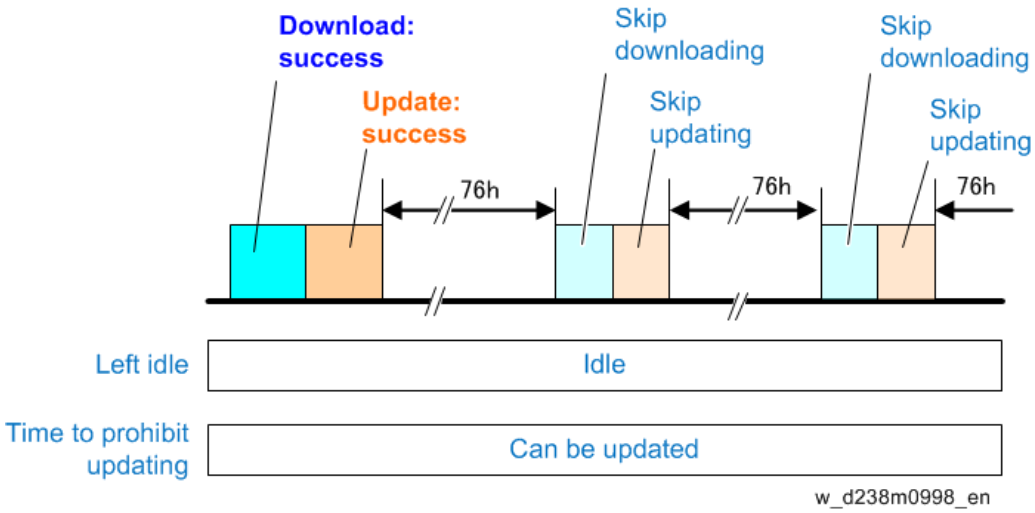
w_d238z5024_en

Downloads the Latest Package

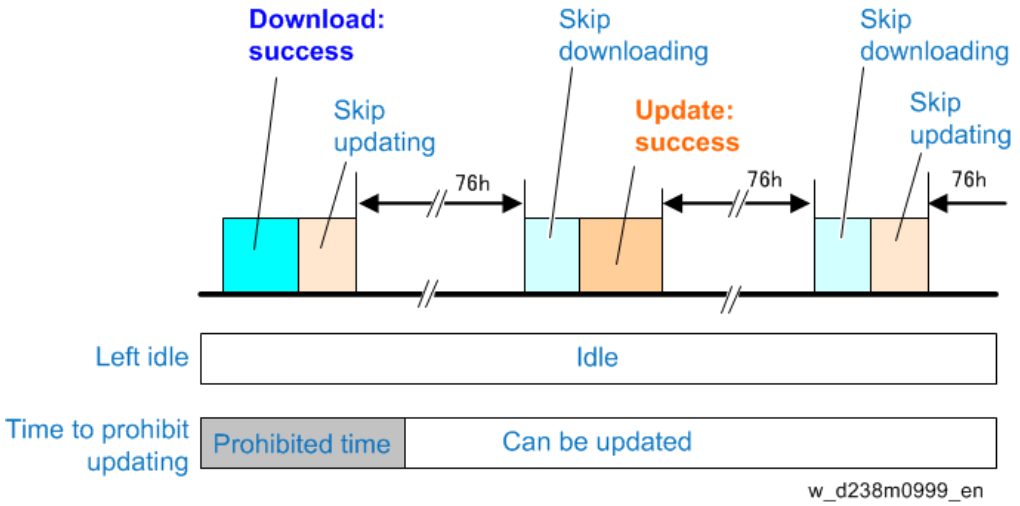
The machine checks the server for the latest package version.
If the version of the package on the global server is later than that of the package installed on the machine, or if the machine has not downloaded the firmware package, the machine downloads the latest package in the background even when the customer is using the machine.
If download fails, the machine will retry downloading 76 hours later.
The downloaded package can also be used with SFU (Smart Firmware Update). A package downloaded with SFU (Smart Firmware Update) can be used with ARFU (Auto Remote Firmware Update) and vice versa.
When replacing the hard disk, the firmware package data becomes lost from the hard disk. Even if the latest firmware is on the new hard disk, be sure to receive the latest package data.
When the machine connects to the server where the package files are stored, the DNS settings and the name solution by DNS are needed. The machine will still try to download the package even if the name cannot be resolved, but will fail as the name is not resolved.
The time and date to send the next inquiry to the global server can be checked with SP5-886-116 (Farm Update Setting: Auto Update Next Date).
The auto remote firmware update is executed every 76 hours.

Judgement of ARFU

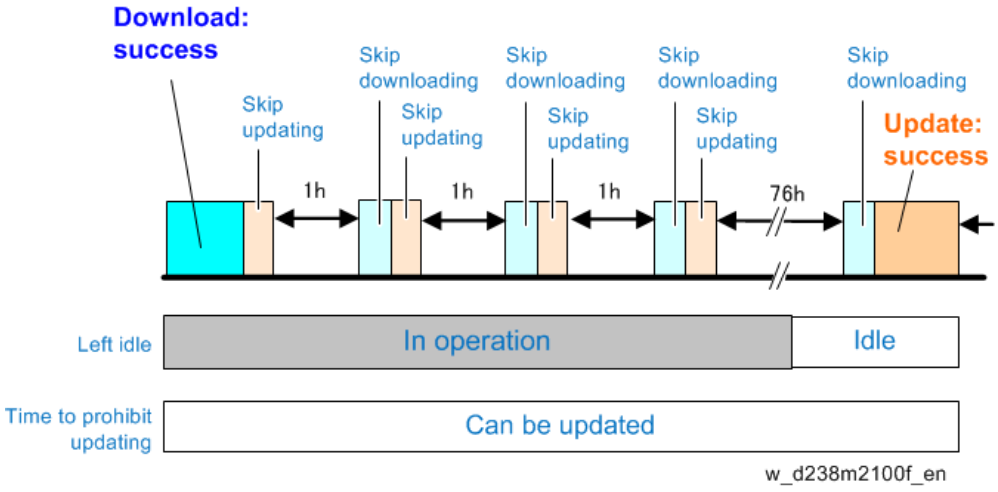
Update judgement is done when the latest update package is successfully downloaded, or the package has already been downloaded.



If the judgement timing is in the range of the update prohibited time or day set with SP or WIM, the machine will retry the update after 76 hours.



If the machine is in use when the judgement process runs, the process is retried. Retry is done up to three times every hour (can be changed with SP) and if the machine is in use for all three retries, the machine will retry the update after 76 hours

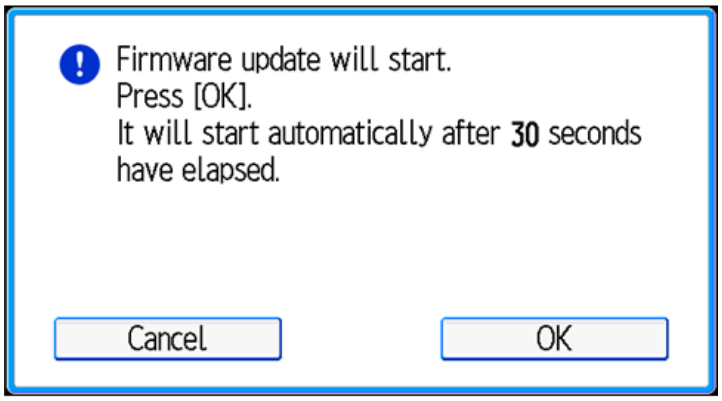


Situations judged as machine in use

No.	Situations judged as machine in use
1	When the control panel is used within 30 seconds
2	During firmware update
3	While firmware update is disabled
4	While printing (re-printing via network)
5	Retrieving image data via network
6	While initial setting (User Tools settings) or SP is being set
7	While shifting to/from the energy server mode
8	When not being able to run firmware update due to the modules that are running e.g.) Waiting for DCS transfer (refer to appendix), accessing devices such as HDD/SD card, etc.
9	While displaying a preview
10	While displaying the printer menu
11	While writing log information
12	While accessing the address book
13	During SC

Update Process

When the machine has decided to run the auto firmware update, the following message is displayed.



d238m2106

The popup will have "Cancel" and "OK" buttons and the update process will start either when the "OK" button is selected or 30 seconds has passed.

When the "Cancel" button is selected, the machine will run the "Retry update" process.

When the device update and three retries in recovery mode both fail, it is determined as a device defect and will display an SC for the defective device. If such an SC appears, replace the indicated board. In the case of SC845, the SC cannot be reported to the call center.

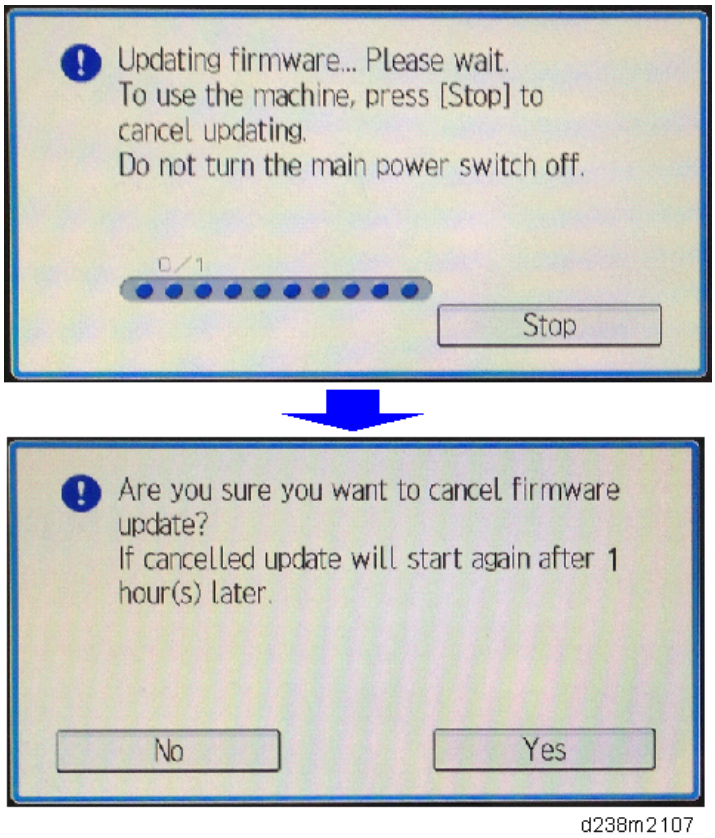
Device and corresponding SC number.

Device name	SC number
Engine board	SC845-01
Controller board	SC845-02

Device name	SC number
Operation panel (normal panel)	SC845-03
Operation panel (smart panel)	SC845-04

Canceling the update

It is possible to cancel the Auto Remote Firmware Update (ARFU) or update in recovery mode from the operation panel.



d238m2107

But this is not possible while updating the operation panel itself. On the other hand, the update for the operation panel will run at the final stage of the update. Thus canceling the update at that stage has no real effect.
When the update is cancelled, the machine will reboot when updates for all modules of one of the following devices is done.

1. Engine Board
2. Controller Board
3. Operation Panel

For example, when the update process is cancelled while updating the first module of the operation panel, the machine will reboot when all modules in the operation panel have been updated.
The firmware contents included in the package can be referred to in the release note in SERES release of the package.
The next update will run 76 hours after the cancellation. The old (cancelled) package will be discarded if the package downloaded 76 hours later is the latest.

Checking the ARFU Result

1. Enter the SP mode.
2. Press [Firmware update].
3. Press [Update].
4. Press [Update Package Information].
5. If the firmware package is the same as the one on the global server, the update was completed successfully. Otherwise, check the result using the logging data.

In SP7-520-041 to -045 (Update Log: Auto:Version), you can check the versions of the packages updated by ARFU. (-041 displays the latest result. It is also printed on the SMC sheet.)

Checking the Result Using the Logging Data

1. Enter the SP mode.
2. Press [System].
3. Check the results for ARFU by SP7-520-051 to 060 (Update Log: Auto:Result)

"-051" is the latest update result. For details about the number of each result log, see the next section "Related SP".

Related SP

SP Number	Selection **Def.**	Overview
SP5-886-111	**0: OFF** 1: ON	Sets auto update ON/OFF by ARFU.
SP5-886-112	**0: OFF** 1: ON	Will not run the update when update prohibited time setting is ON and the current time is in the range of the time set. • Start time < End time: Prohibited time is from the start time to the end time on the same day. • Start time > End time: Prohibited time is from the start time to the end time on the next day. • Start time == End time: Prohibited time setting is disabled. (Update will not be prohibited.)
SP5-886-113	0 to 23 **9**	
SP5-886-114	0 to 23 **17**	
SP5-886-115	**0: OFF** 1: ON	Even when the update function is disabled, downloading the package is allowed. The downloaded package can be used with SFU.
SP5-886-116	Display only	Displays when the latest package check will run.
SP5-886-117	1 to 24 **1**	Set time for the next version check after retry.

SP Number	Selection **Def.**	Overview
SP5-886-120	**0x00**	Update will not run if the corresponding bit for each day below is set to 1. • Prohibited at all times: bit 7 • Monday: bit 6 • Tuesday: bit 5 • Wednesday: bit 4 • Thursday: bit 3 • Friday: bit 2 • Saturday: bit 1 • Sunday: bit 0 This setting is not affected by the prohibited time setting. e.g.) Prohibited on Mon., Fri., Sat., and Sun. : 0x47 (01000111)
SP7-520-011 to 015	Display only	History of date and time when update has started. The five most recent are recorded, the lowest number being most recent. If the last update failed, this is not recorded.
SP7-520-021 to 025	Display only	History of date and time when update has finished. The five most recent are recorded, the lowest number being most recent. The record is created when the update has successfully finished. When the update is cancelled, no record is created.
SP7-520-031 to 035	Display only	History of the package number (including suffix) for which update has completed. The five most recent are recorded, the lowest number being most recent. The record is created when the update has successfully finished. When the update is cancelled, no record is created.
SP7-520-041 to 045	Display only	History of the package version for which update has completed. The five most recent are recorded, the lowest number being most recent. The record is created when the update has successfully finished. When the update is cancelled, no record is created.
SP7-520-051 to 060	Display only	History of the result of the download and the update. Refer below for the numbers set.

Numbers set for the result history for SP7-520-051 to 060

No.	Result	Description
1	Downloading with SFU	Cannot download or update as the machine is now downloading the package for SFU.
2	HDD uninstalled	Cannot download or update as the machine has no HDD.
3	Updating with SFU	Cannot download or update as the machine is being updated with SFU.

No.	Result	Description
4	HDD error	Cannot download or update as the HDD cannot be used.
5	Version information obtain error	Cannot download or update as the version information cannot be obtained.
6	Update download error	Cannot download or update as the update download failed. In non @Remote method, this shows that the download failed because there was no proxy set.
7	Name resolution error	Cannot download or update as the name cannot be resolved upon downloading the update.
8	Auto update setting disabled	The package has been downloaded but will not run the update as SP5-886-111 (auto update setting) is disabled and SP5-886-115 (auto download setting for SFU) is enabled.
9	Update prohibited time	Cannot start to update as the auto update prohibited time setting (SP5-886-112) is enabled and the time update initiated was in the range of prohibited time (SP5-886-113 to 114). Or the day which update was initiated was a day for which update was prohibited (SP5-886-120).
10	Update postponed due to machine in use	Cannot start update due to the following conditions when update was initiated. • The machine is in use by a user (the panel was used within 30 seconds) • Machine offline for other reasons • Operation prohibited • Displaying SP/UP menu • Firmware update is running with another method • Configuration change prohibited • Verifying the operation panel (smart panel)
11	Update cancelled by user	Update was cancelled because a user selected "Cancel" in the popup shown before starting the update.
12	Offline failed	Cannot start to update as the machine is offline for other reasons.
13	Update successful	Update was started and successfully completed.
14	Update failed	Update was started but failed.
15	Update deemed completed	Update was cancelled after the process was initiated because a user selected "Cancel". There is no need to resume the update due to one of the following reasons: • A newer update has been released and received. • When retrying ARFU, the update has already been completed by another method.

No.	Result	Description
16	Update cancelled by user after update initiated	Update was cancelled after the process initiated because a user selected "Cancel" during the update.
17	Version information obtain error (communication failure caused by host name)	Cannot download or update as the name resolution failed when obtaining version information.
18	Version information obtain error (proxy verification failure)	Cannot download or update as the proxy verification failed with proxy settings when obtaining version information.
19	Version information obtain error (other than proxy verification failure when proxy is set)	Cannot download or update as an error other than proxy verification with proxy settings occurred when obtaining version information.
20	Update download error (proxy verification failure)	Cannot download or update as the proxy verification failed with proxy settings when downloading the package.
21	Update download error (other than proxy verification failure when proxy is set)	Cannot download or update as an error other than proxy verification with proxy settings occurred when downloading the package.
22	Update by retry successful	After power failure, unsuccessful update, or rebooting, update by retry is executed successfully. However, this does not apply to the case where the update was cancelled after the process was initiated because a user selected "Cancel". In this case, the update is "successful" if the retry is not executed between the start and completion of the next update (76 hours after the cancellation).

Updating JavaVM

Overview

Updating Java VM is performed with a PC using the update tool.

- Prepare the following items in advance.
  - SD memory card reader/writer
  - PC
- The updating procedure is as follows.

1. Deactivate the SDK applications
2. Remove the VM Card Type P13 from the main machine.
3. Update Java VM with the PC using the update tool.
4. Insert the VM Card Type P13 in the main machine.
5. Activate the SDK applications

Deactivating SDK Applications and Removing the VM Card

Operation from Operation Panel

1. Enable [Machine Management] of the administrator authentication, and log in as the machine administrator. Select the [User Tools] icon > [Machine Features] > [System Settings] > [Administrator Tools] > [Administrator authentication] > [Machine Management]. Enable [Machine Management] and login as the machine administrator.

2. Press the [User Tools] icon on Home screen.

3. Press [Machine Features].

4. Press [Extended Feature Settings] twice.

5. Press the [Administrator Tools] tab and then [Heap / Stack Size Settings].

6. Take a note of the current heap size settings in order to check them after version update.

7. Return to the [Extended Feature Settings] screen, and press the [Startup Setting] tab.

8. Disable all SDK applications except Java TM Platform.

9. Press the SDK applications until the status changes from "Starting Up"/"Suspend"/"Ending" to "Stop".

10. Press the [Extended Feature Info] tab.

11. Press the stopped SDK applications to set "Auto Start" to "Off".

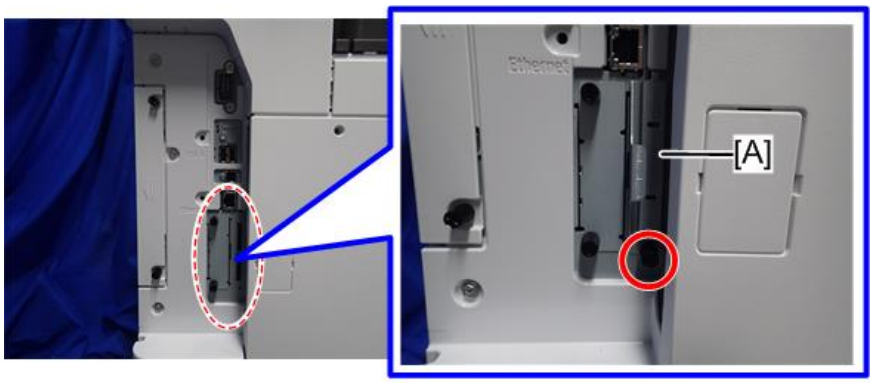
Note

"Auto Start" settings can be enabled on this screen if Type-J SDK applications are enabled.

12. Select [OK] > [Exit].

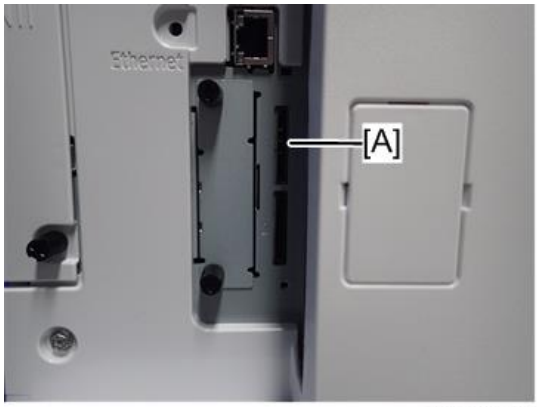
13. Turn the main power OFF.

14. Remove the SD card slot cover [A] (coin screw x 1).



m0ana2017

15. Remove VM Card Type P13 from the SD Card Slot 1 [A] (Upper slot).



m0ana2018

Operation from Web Image Monitor

1. Log in as the administrator from Web Image Monitor.

2. Take a note of the current heap size setting in [Heap / Stack Size Settings].

- [Device Management] -> [Configuration] -> [Extended Feature Settings] -> [Administrator Tools] -> [Heap / Stack Size Settings]

3. Stop all SDK applications except for Java TM Platform.

1. Display the [Startup Setting] menu.
   - [Device Management] -> [Configuration] -> [Extended Feature Settings] -> [Startup Setting]
2. Check the radio button of the SDK application which status is "Starting Up".
3. Click [Start Up/Stop] to stop the application.
4. "Stop" is displayed in the status column.

Note

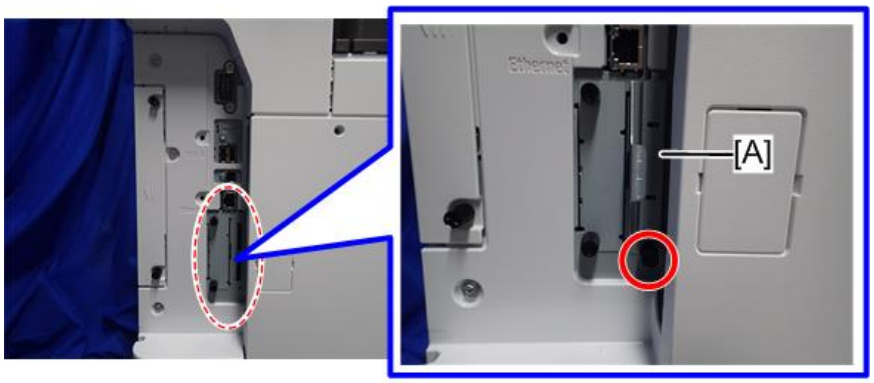
- Do not change the status of Java TM Platform to "Stop".

4. Make sure that "Auto Start" is set to "Off" for each SDK application.

1. Click the [Details] icon ( ) for each SDK application in [Startup Setting].
2. Make sure that "Auto Start" is set to "Off". (Default: On)

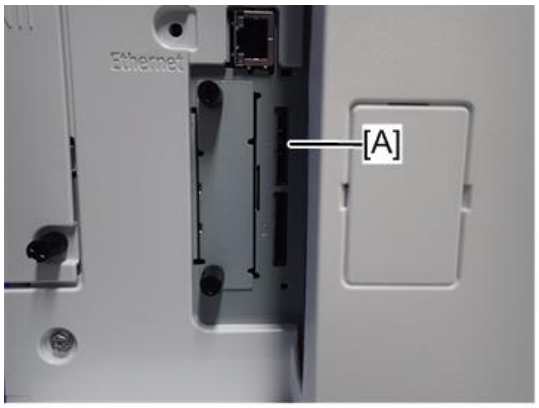
5. Turn the main power OFF.

6. Remove the SD card slot cover [A] (Coin screw x 1).



m0ana2017

7. Remove VM Card Type P13 from the SD Card Slot 1 [A] (Upper slot).



m0ana2018

Updating JavaVM and Inserting the VM Card

1. Insert VM Card Type P13 into the SD memory card reader/writer of your PC.
2. Check that the SD memory card reader/writer is detected on your PC, and then write down the drive letter. (If the SD memory card reader/writer is detected as (F:), the drive letter is "f")
3. Download the update modules from the Firmware Download Center.
4. Unzip the downloaded file, and then execute the .exe file.
5. The folder is generated.
6. Execute the .bat file in the folder.
7. Input the drive letter following the message "Please input drive letter of SD card [a - x]: ". (If the SD memory card reader/writer is detected as (F:), input "f")



d255a1520

8. Press the [Enter] key to start updating Java VM.

It takes 3 minutes to update Java VM.

9. After completing the update, remove VM Card Type P13 from the SD memory card reader/writer of your PC.

10. Insert VM Card Type P13 into SD Card Slot 1 (Upper slot) of the machine.

Activating SDK Applications

1. Make sure that the VM card is fully inserted, and then turn the main power ON.

2. Log in as the machine administrator from Operation panel / Web Image Monitor.

3. Set "Auto Start" whose status is "OFF" to "On".

4. Compare the current heap size settings and the values recorded before update.
If the settings are not the same as the recorded values, correct the settings to the recorded values.

5. Enable the disabled SDK application.

NVRAM Data Upload/Download

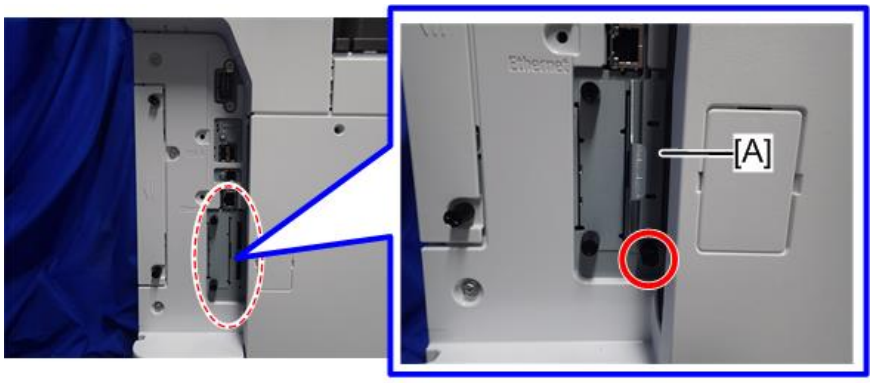
Uploading Content of NVRAM to an SD card

Do the following procedure to upload SP code settings from NVRAM to an SD card.

Note

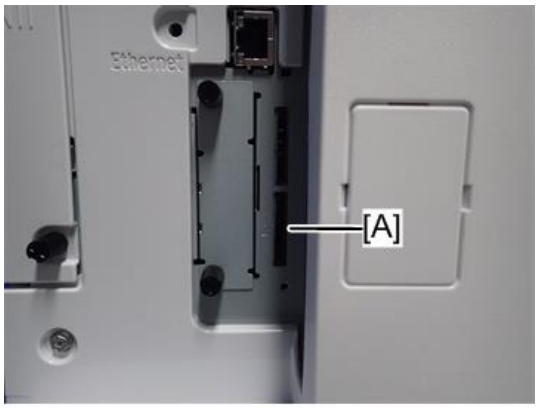
- This data should always be uploaded to an SD card before the NVRAM is replaced.
- Make sure that the write protection of an SD card is unlocked.

1. Do SP5-990-001 (SP Print Mode: All(Data List)) before you switch the machine off. You will need a record of the NVRAM settings if the upload fails.
   Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
2. Turn OFF the main power.
3. Remove the SD card slot cover [A] (Coin screw x 1).



m0ana2017

4. Insert the SD card in Service Slot [A: Lower Slot].



m0ana2116

5. Turn ON the main power.
6. Execute SP5-824-001 (NVRAM Data Upload) and then press the "Execute" key.
7. The following files are coped to an NVRAM folder on the SD card when the upload procedure is finished.
   The file is saved to the path and the following filename:
   NVRAM\<serial number>.NV
   Here is an example with Serial Number "K5000017114":
   NVRAM\K5000017114.NV

8. In order to prevent an error during the download, be sure to mark the SD card that holds the uploaded data with the number of the machine from which the data was uploaded.

Note

- You can upload NVRAM data from more than one machine to the same SD card.

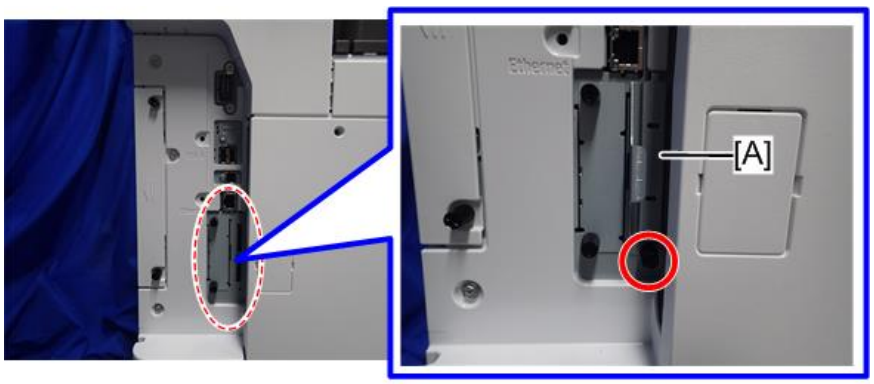
Downloading an SD Card to NVRAM

Do the following procedure to download SP data from an SD card to the NVRAM in the machine.

- The NVRAM data download may fail if the SD card with the NVRAM data is damaged, or if the connection between the controller and BCU is defective.
- Do the download procedure again if the download fails.
- Do the following procedure if the second attempt fails:
- Enter the NVRAM data manually using the SMC print you created before uploading the NVRAM data.

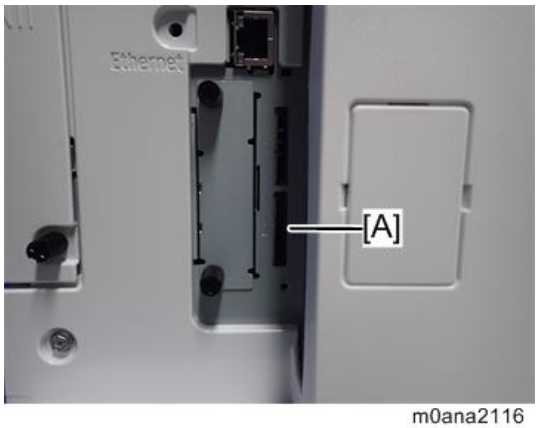
1. Turn OFF the main power.

2. Remove the SD slot cover [A] (Coin screw x 1).



m0ana2017

3. Insert the SD card with the NVRAM data into SD Card Slot 2 [A: Lower Slot].



m0ana2116

4. Turn ON the main power.

5. Do SP5-825-001 (NVRAM Data Download) and press the "Execute" key.

Note

- The serial number of the file on the SD card must match the serial number of the machine for the NVRAM data to download successfully. The download fails if the serial numbers do not match.

This procedure does not download the following data to the NVRAM:

- Total Count
- C/O, P/O Count

UP/SP Data Import/Export

Overview

With this machine, you can save and restore the UP/SP setting data on the SD card.

You can import the data from another machine of the same series regardless of its model or option configuration.

UP Data Import/Export

Data that Can Be Imported and Exported

- Printer Features
- Browser Settings
- Web Image Monitor Setting
- Web Service Settings
- System Settings
- Screen Features
- Home screen customization settings*1

  *1 Wallpaper cannot be exported if "Live Wallpapers" is selected.

Data that Cannot Be Imported or Exported

- Some System Settings *1 *2*3*4

  *1 The setting for the date, settings that require the device certificate, and settings that need to be adjusted for each machine (for example, image adjustment settings) cannot be imported or exported.

  *2 Settings only for executing functions and settings only for viewing cannot be imported or exported.

  *3 Software setting for IC Card/Bluetooth cannot be imported or exported.

  *4 Language switching cannot be imported or exported.
- Extended Feature Settings
- Address book
- Programs (printer function)
- Settings that can be specified via telnet
- @Remote-related data
- Counters
- Settings that can only be specified via Web Image Monitor or Web Service (for example, Bonjour, SSDP setting)

Exporting Device Information

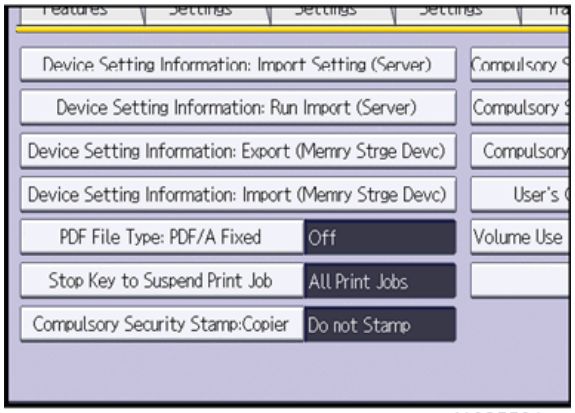
This can be exported / imported by an administrator with all privileges.

When exporting SP device information from the control panel, the data is saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.

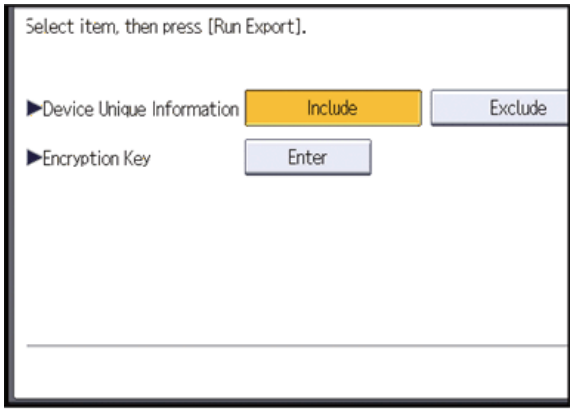
2. Log in from the control panel as an administrator with all privileges.

3. Press [User Tools] icon > [Machine Features] > [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Device Setting Information: Export (Memry Strge Devc)].



d1825501

7. Set the export conditions.



d1825502

- Specify whether to [Include] or [Exclude] the "Device Unique Information". "Device Unique Information" includes the IP address, host name, etc.
- Specify an encryption key.

8. Press [Run Export].
9. Press [OK].
10. Press [Exit].
11. Log out.

Note

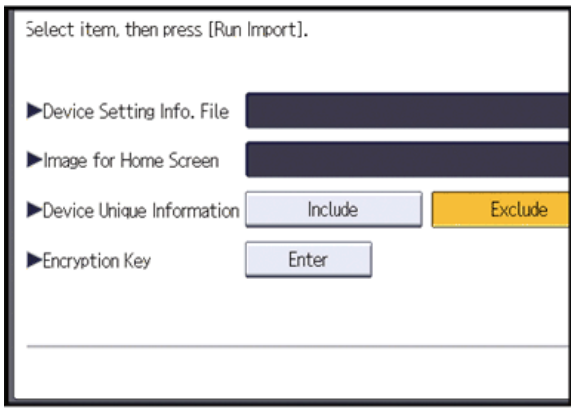
- If export fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.
- When device Information is periodically imported, it is necessary to create the device setting information file with special software and store it on the web server.

Importing Device Information

This can be exported / imported by an administrator with all privileges.

Import device information saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.
2. Log in from the control panel as an administrator with all privileges.
3. Press [User Tools] icon > [Machine Features] > [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Device Setting Information: Import (Memry Strge Devc)].
7. Configure the import conditions.



- Press [Select] of the "Device Setting Info. File" to select the file(s) to import.
- When inserting a file into a home screen, press [Select] for the Image for Home screen and select the file. You cannot use this setting when using the Smart Operation Panel.
- Specify whether to [Include] or [Exclude] the "Device Unique Information". "Device Unique Information" includes the IP address, host name, etc.
- Enter the encryption key that was specified when the file was exported.

8. Press [Run Import].
9. Press [OK].
10. Press [Exit].

    The machine restarts.

Note

- If import fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.

SP Data Import/Export

Data that can be imported and exported

- System SP
- Printer SP

Exporting Device Information

When exporting SP device information from the control panel, the data is saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.
2. Enter SP mode.
3. Press SP5-749-001 (Import/Export: Export)
4. Select "Target" SP settings (System/Printer/Smart Operation Panel) to be exported.

Select "Option" settings (Unique/Secret).

Item	Specification	Note
Unique	Unique information of the machine is included in the exported file if you select "Unique" setting.	**Unique information that can be updated** #1. Items that are to be used to identify the machine. Example: Network Information/ Host name / Mail address assigned to the machine #2. Items for specifying the options equipped on the machine. Example: Lot number for developer Note • Import/export of the host name: Follow the rule to use the default host name (RNP + MAC address) only if the user setting of the host name has not been specified. • If the default host name is imported to the machine on which the host name has been specified, the host name is not overwritten, and an error does not occur. **Unique information that cannot be updated** #1. Items that may cause a problem if imported Example: Serial number / Information related to @Remote / PnP name #2. Items for managing the history of the machine Example: Time and date / Counter information / Installation date #3. Items that vary between each machine even among the same models. Example: Setting values for the Engine
Secret	Secret information is exported if you select "Secret" setting.	**Secret information** #1. Data that cannot be exported without being encrypted. (Exported data is encrypted.) Example: Password / Encryption key / PIN code #2. Confidential information for the customer Example: User name / User ID / Department code / Employee number / Mail address / **Phone number** #3. Personal information Example: Document name / Image data

Item	Specification	Note
		#4. Sensitive information for the customer Example: IP address / MAC address / Network parameters / Characters that can be entered #5. Data that can be exported to identify the user without revealing personal information (unless the machine is identified.) Example: Registration number (abbreviated)

* The IP address is exported when both 'Unique' and 'Secret' are selected.

1. Select "Crpt config" setting (Encryption).

Encryption	Select whether to encrypt or not when exporting. If you push the "Encryption" key, you can export secret information.	If the encryption function is used, setting of an encryption key is required by direct input. • Type the arbitrary password using the soft keyboard • Can enter up to 32 characters

2. Press [Execute].
3. Press [OK].

Note

- If export fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.

Importing Device Information

Import device information saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.
2. Enter SP mode.
3. Press SP5-749-101(Import/Export: Import)
4. Select a unique setting.

Note

- If you set "Device Unique Information" to [Exclude], the import of items categorized as the device unique information is skipped.

5. Press [Encryption Key], if the encryption key was created when the file was exported.
6. Select an encryption setting.

Unique	If you want to apply the unique information to the target machine, select the "Unique" key.	Refer to the above information.
Encryption	If an encrypted file is selected as the import file, this setting is required.	

7. Press [Execute].
8. Press [OK].

Note

- If import fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.

Possible solutions for import/export problems

The access log file is created when export/import is executed. The file is stored in the same location as the exported device setting information file.
If an error occurs, check the log's result code in the access log file first. Values other than 0 indicate that an error occurred.
The result code will appear in the circled area illustrated below.
- Example of a log file



d1825500

If you cannot solve the problem or do not know how to solve it after checking the code, note down the error log entry, then contact your supervisor.

Result Code	Cause	Solutions
2 (INVALID REQUEST)	A file import was attempted between different models or machines with different device configurations.	Import files exported from the same model with the same device configurations.
4 (INVALID OUTPUT DIR)	Failed to write the device information to the destination device.	Check whether the destination device is operating normally.
7(MODULE ERROR)	An unexpected error occurred during import or export.	Switch the power off and then back on, and then try the operation again. If the error persists, contact your supervisor.
8 (DISK FULL)	The available storage space on the external medium is insufficient.	Execute the operation again after making sure there is enough storage space.
9 (DEVICE ERROR)	Failed to write or read the log file.	Check whether the path to the folder for storing the file or the folder in which the file

Result Code	Cause	Solutions
		is stored is missing.
10 (LOG ERROR)	Failed to write the log file. The hard disk is faulty.	Contact your supervisor.
20 (PART FAILED)	Failed to import some settings.	The reason for the failure is logged in "NgCode". Check the code. **Reason for the Error (Ng-Name)** 2. INVALID VALUE The specified value exceeds the allowable range. 3. PERMISSION ERROR The permission to edit the setting is missing. 4. NOT EXIST The setting does not exist in the system. 5. INTERLOCK ERROR The setting cannot be changed because of the system status or interlocking with other specified settings. 6. OTHER ERROR The setting cannot be changed for some other reason.
21 (INVALID FILE)	Failed to import the file because it is in the wrong format in the external medium.	Check whether the file format is correct. The import file should be a CSV file.
22 (INVALID KEY)	The encryption key is not valid.	Use the correct encryption key.

Note

- When exporting device information from the control panel, the data can be saved only on an SD card.
- The file format for exports is CSV.

Address Book Upload/Download

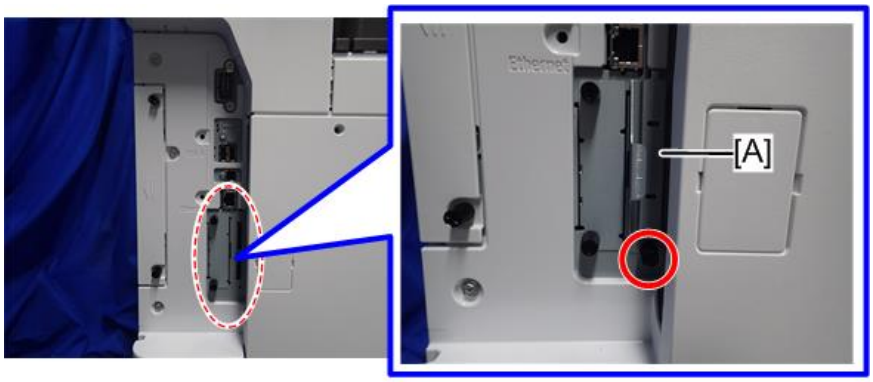
Information List

The following information is possible to be uploaded and downloaded.

- Registration No.
- Key Display
- Select Title
- Display Priority
- User Code
- Auth. Info at Login for Basic, Windows, LDAP Authentication (User Name and Login Password)
- Available Functions
- Protect Destination
- Group Information

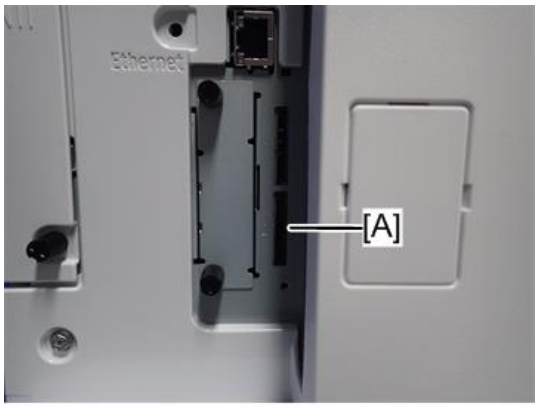
Download

1. Prepare a formatted SD card.
2. Make sure that the write-protection on the SD card is off.
3. Turn OFF the main power.
4. Remove the SD card slot cover [A] (Coin screw x 1).



m0ana2017

5. Insert the SD card into SD card slot 2 [A: Lower Slot].



m0ana2116

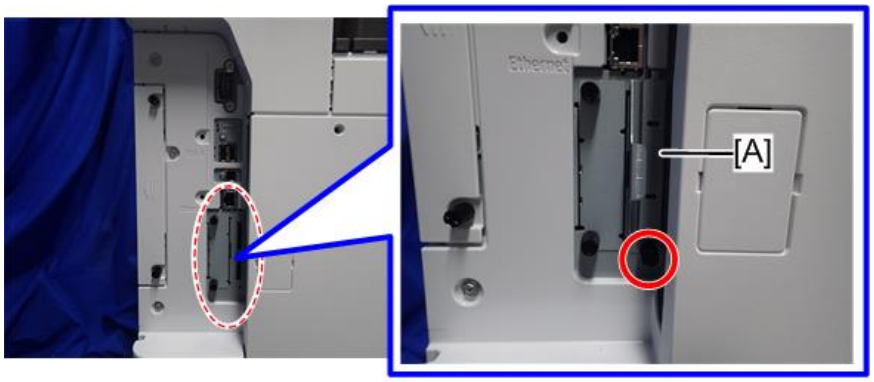
6. Turn ON the main power switch.
7. Enter the SP mode.
8. Do SP5-846-051 (Backup All Addr Book).
9. Exit the SP mode, and then turn OFF the main power switch.
10. Remove the SD card form the SD card slot 2 (lower).
11. Install the SD slot cover.

Note

- If the capacity of SD card is not enough to store the local user information, an error message is displayed.
- Make sure that the write protection of an SD card is unlocked.
- Carefully handle the SD card, which contains user information. Do not take it back to your location.

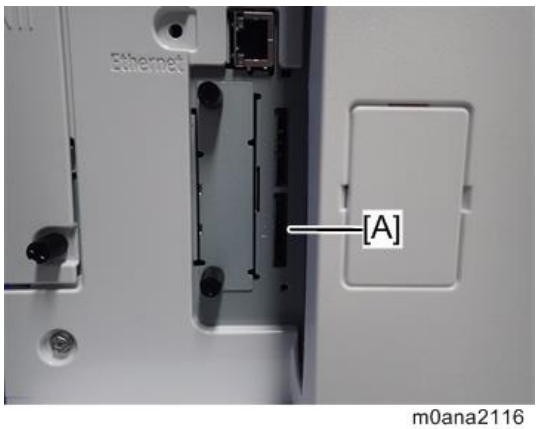
Upload

1. Turn OFF the main power.
2. Remove the SD card slot cover [A] (Coin screw x 1).



m0ana2017

3. Install the SD card, which has already been uploaded, into SD card slot 2 [A: Lower Slot].



m0ana2116

Note

- Check whether the card is properly in the SD card slot. When a SD card is inserted, a click is heard, and it is locked.
- To remove the card, release by pressing once.

4. Turn ON the main power.

5. Enter the SP mode.
6. Do SP5-846-052 (Restore All Addr Book).
7. Exit the SP mode, and then turn OFF the main power switch.
8. Remove the SD card form the SD card slot 2 (lower).
9. Install the SD slot cover.

Note

- The counter in the user code information is initialized after uploading.
- The information of an administrator and supervisor cannot be downloaded nor uploaded.
- If there is no data of address book information in the SD card, an error message is displayed.

Capturing the Device Logs

Overview

With this feature, you can save device logs that are stored in the machine (HDD or operation panel) on an SD card. It allows the Customer Engineer to save and retrieve error information for analysis.

The Capturing Log feature can save the following logs.

- Controller device log including operation log
- Engine device log
- Operation panel log

Important

- In older models, a technician enabled the logging tool after a problem occurred. After that, when the problem had been reproduced, the technician was able to retrieve the device log.
- However, this new feature saves the device logs at the time that problems occur. Then you can copy the logs to an SD card.
- You can retrieve the device logs using a SD card without a network.
- Analysis of the device log is effective for problems caused by the software. Analysis of the device log is not valid for the selection of defective parts or problems caused by hardware.
- Make sure to shut down and reboot the machine once before retrieving the Device Logs. Otherwise, the latest settings may not be collected when the device logs are retrieved.

Types of device logs that can be saved

Type	Storage Timing	Destination (maximum storage capacity)
Controller device log including operation log	• Saved at all times	HDD (4 GB) or SD card connected to the service slot. When the data gets over 4.0 GB, the older data is deleted.
Engine device log	• When an engine SC occurs • When paper feeding/output stop because of a jam • When the machine doors are opened during normal operation	HDD or SD card connected to the service slot (Up to 300 times)
Operation panel log	• When an error related to the operation panel occurs.	Memory in the operation panel.

Note

- **Device logs are not saved in the following conditions:**
  - While erasing all memory
  - While data encryption equipment is installed
  - While changing the firmware configuration

- Forced power OFF (accidentally disconnecting the outlet)
- Engine device log while the machine is shutting down
- When the power supply to the HDD is off because of energy saving (engine OFF mode/STR mode)
- When one of the following SCs occurs: SC672, SC816, SC819, SC878, SC899, SC859, SC860, SC861, SC863, or SC864

Note

- **The following logs are not saved:**
  - Logs related to the energy saver mode (Engine-off, suspend-mode, or other cases)
  - Network communication log
  - Logs related to NRS
  - Access log for unauthorized users (guests)
  - HTTP session timeout log
  - Auto log-out log
  - IC card related log

Note

- The default save destination is the HDD. Except when it cannot be saved to the HDD for some reason, there is no need to change from the HDD to an SD card.
- If you want to change the save destination to an SD card, do the following.

1. Set SP5-858-002 (Collect Machine Info: Save To) to "1 (SD)"
2. Execute SP5-858-003 (Collect Machine Info: Make Log Trace Dir) to make a folder for the log in the SD card.
3. Turn the power switch OFF and ON.

- It is recommended to use the SD card (8 GB) provided as a service part. The part number of the SD card that is registered as a service part is "B6455040".

Security of the Operation Log

The following operation logs related to security are not saved.

- User ID
- Password
- IP address
- Telephone number
- Encryption key
- Transition to SP mode

Storing the Device Logs on an SD card (When the HDD option is not installed)

Important

- The model without HDD does not have space to store device logs. To capture device logs from such models, two SD cards are required. One SD card is used for storing the device logs via SD card slot 2 and the other SD card is used for retrieving the device logs via the operation panel.

- An SP 8400DN that has an optional HDD does not need this procedure if SP5-858-001 is "1 (ON)" and SP5-858-002 (Target) is "0 (HDD)". It is recommended to use the SD card (8 GB) provided as a service part. The part number of the SD card that is registered as a service part is "B6455040".

Procedure for Storing the Device Log on an SD Card

1. Insert the SD card into SD card slot 2.
2. Turn ON the main power.
3. Enter SP mode.
4. Set SP5-858-001 (Save Machine Info) to "1 (ON)"
5. Set SP5-858-002 (Target) to "1 (SD)"
6. Execute SP5-858-003 (Make LogTrace Dir)
7. Turn the power switch OFF and ON.
   - After the power switch is turned on, the machine starts to store the device logs on the SD card. However, because the logs on this SD card are not organized, the procedure to retrieve the logs with the other SD card via the operation panel (next section) is required.

Retrieving the Device Logs via Operation Panel

Important

- Retrieve device logs to identify the date of occurrence of the problems and to find details of the problems
- e.g.: At around 8:00 am on March 10, an engine stall occurred. The operation panel does not respond. Turn the main power supply off / on.
- Analysis of the device log is effective for problems caused by the software. Analysis of the device log is not valid for the selection of defective parts or problems caused by hardware.

Procedure for Retrieving the Device Log with SD Card

1. Insert the SD card into the slot on the side of the operation panel or the service slot.

   Important

   - It is recommended to use the SD card (2 GBs or 8 GBs) provided as a service part. This is because the log data can be acquired much faster than when using commercially available SD cards.
   - Format the SD card by using SD Formatter from Panasonic before copying the logs: https://www.sdcard.org/downloads/formatter_3/ (free software)
   - Insert the SD card into the machine's service slot instead of the SD slot on the side of the operation panel.
2. Turn ON the main power.
3. Enter SP mode.
4. Specify the date that the problem occurred in SP5-858-101 (Start Date) by setting it to the year-month-day calendar format.
   - For example, if a problem occurred on February 1, 2015, the date should be set to "20150201", as shown above.

- Be sure to confirm the date when the problem occurred before obtaining the logs.

5. Specify the number of days to collect the logs in SP5-858-102 (Days of Tracing).

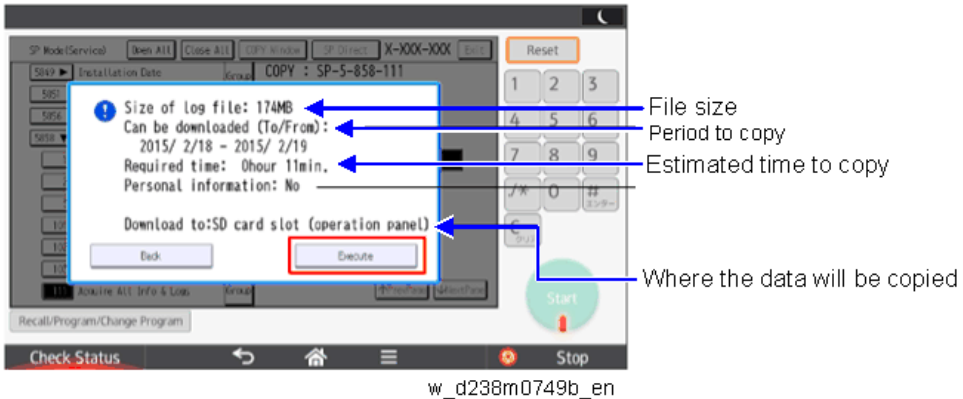
- "**2**" is set by default, which is the minimum needed for investigating the problem.
- A value of "1" to "180" can be set.

6. Execute SP5-858-111 (Acquire All Info & Logs) to copy all of the log types to an SD card.

It is possible to obtain the logs separately by the following SPs.

SP	Collectable Information and/or Logs
SP5-858-111	All of the information and logs that are collected by executing the SPs from SP5-858-121 to SP5-858-144, and SMC.
SP5-858-121	Configuration page
SP5-858-122	Font page
SP5-858-123	Print settings list
SP5-858-124	Printer Error log
SP5-858-141	Controller log, engine log, operation panel log, and SMC.
SP5-858-142	Controller log
SP5-858-143	Engine log
SP5-858-144	Operation panel log
SP5-992-001	SMC

7. After executing the SP for copying the information and/or logs, a confirmation screen will appear. To proceed with obtaining the information and/or logs, tap "Execute"

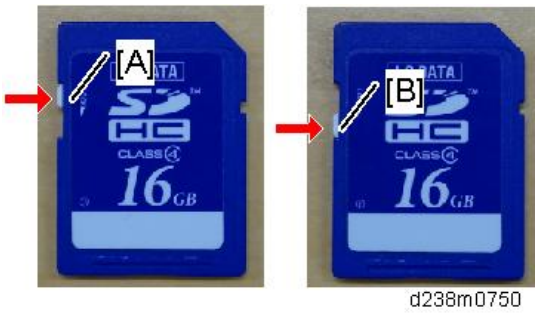


w_d238m0749b_en

Note

- The approximate time it takes to transfer the debug log is as follows. Transfer time may be affected by the type or format of the SD card.
  - Controller device log (GW device log): 2 - 20 minutes
  - Engine device log: 2 minutes
  - Operation panel device log: 2 - 20 minutes

If the estimated time is not calculated due to an error, an error code will be displayed.

Error Code	Description
-1	Other.
-2	No SD card is inserted in the service slot or in the SD slot on the side of the operation panel. In this case, insert an SD card into either of the SD slots.
-3	The SD card is locked. In this case, unlock the SD card, as shown below.  d238m0750 [A]: Unlocked, [B]: Locked

8. Wait for the information and/or logs to be copied to the SD card.



d238m0751

9. After a message stating that the process has completed appears on the operation panel, confirm that the LED light next to the SD card slot is not flashing and then remove the SD card.

10. Make sure that the SD card access LED is off, then remove the SD card.

Note

- The process of obtaining logs fails in the following cases:
  - When the size of the logs to obtain exceeds the amount of space available on the SD card.
  - When the SD card is removed while the logs are being copied to it.
  - When the SD card is not formatted.
- If 'failed' appears on the touch panel display, turn the power off, and then recover from step 1

again.

Retrieving the Device Logs via Web Image Monitor

The device logs can be retrieved via the Web Image Monitor.

1. Access the following URL and logon as an administrator:
   http://[IP address or host name]/web/entry/df/websys/direct/getSysInfo.cgi



d238m0884

2. Specify the date that the problem occurred and the number of days to download the logs, and then click "Download".

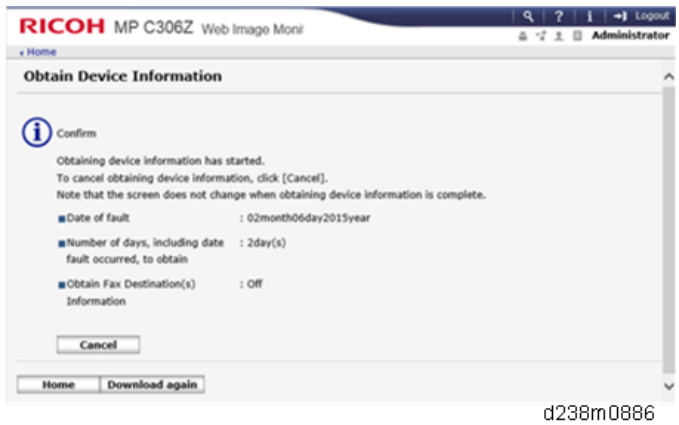


d238m0885

Note

- "2" is set by default for "Number of days, including date fault occurred, to obtain".

3. The confirmation screen will appear and the information and/or logs will start downloading. To proceed to download the information and/or logs, wait for the open-or-save dialog to appear.

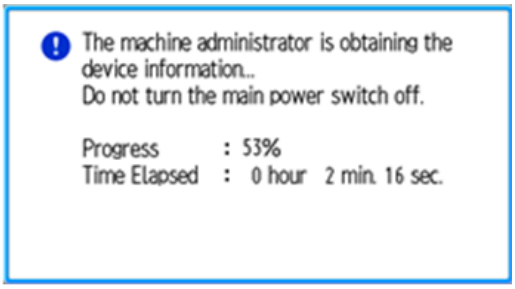


d238m0886

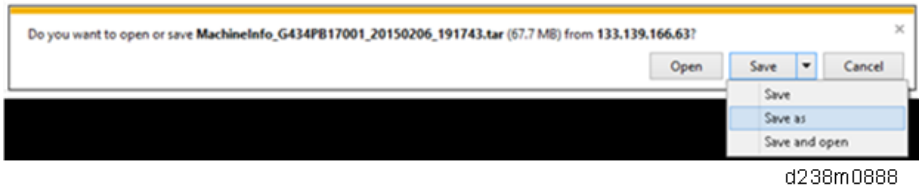
Note

- To cancel downloading, click "Cancel".
- To reconfigure some settings, click "Download again".

- Operation panel when downloading the logs:



4. After a while, the open-or-save dialog will appear. Specify where to download and save the file.



Note

- The debug logs are saved with the following file names. These names are the same as the files downloaded with SD card.

The device logs are saved with the following file names.

Controller log (mmesg)	/LogTrace/[the model number]/watching/[yyyymmdd_hhmmss]_[a unique value].gz
Engine device log	/LogTrace/[Machine Serial]/engine/[yyyymmdd_hhmmss].gz
Operation panel log	/LogTrace/[the model number]/opepanel/[yyyymmdd_hhmmss].tar.gz
SMC	/LogTrace/[the model number]/smc/[the model number]_[5992XXX]_[yyyymmdd]_[hhmmss].csv
Configuration page	/LogTrace/[the model number]/gps/ConfigrationPage/ConfigrationPage_ [yyyymmdd_hhmmss].csv
Font page	• /LogTrace/[the model number]/gps/FontPage/FontPage_PCL_[the page number]_[yyyymmdd_hhmmss].jpg • /LogTrace/[the model number]/gps/FontPage/FontPage_PDF_[the page number]_[yyyymmdd_hhmmss].jpg • /LogTrace/[the model number]/gps/FontPage/FontPage_PS_[the page number]_[yyyymmdd_hhmmss].jpg
Print settings list	• /LogTrace/[the model number]/gps/PrintSettingList/PrintSettingList_RPGL_[yyyymmdd_hhmmss].txt • /LogTrace/[the model number]/gps/PrintSettingList/PrintSettingList_RTIFF_[yyyymmdd_hhmmss].csv
Error log	/LogTrace/[the model number]/gps/ErrorLog/[yyyymmdd_hhmmss].csv

SMC List Card Save Function

Overview

The SMC List Card Save (SP Text Mode) function is used to save the SMC list as CSV files to the SD-card inserted into the operation panel SD card slot or SD card slot 2 (lower - service slot) .

Procedure

Important

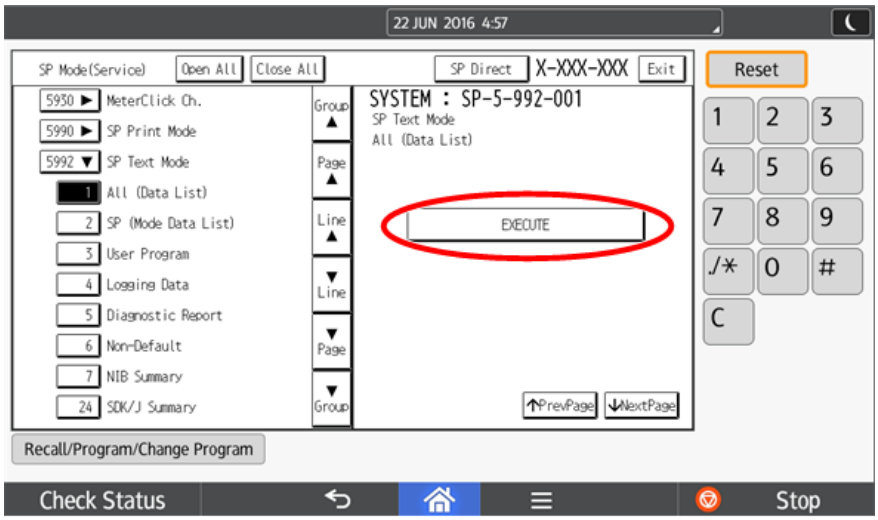
- Make sure to shut down and reboot the machine once before exporting the SMC sheet data. Otherwise, the latest settings may not be collected when the SMC is exported.

1. Turn OFF the main power.
2. Insert the SD card into the operation panel SD-card slot, and then turn OFF the main power.
3. Enter SP mode.
4. Select "System SP".
5. Select SP5-992-001 (SP Text Mode).
6. Select a detail SP number shown below to save data on the SD card.

SP5-992-xxx (SP Text Mode)

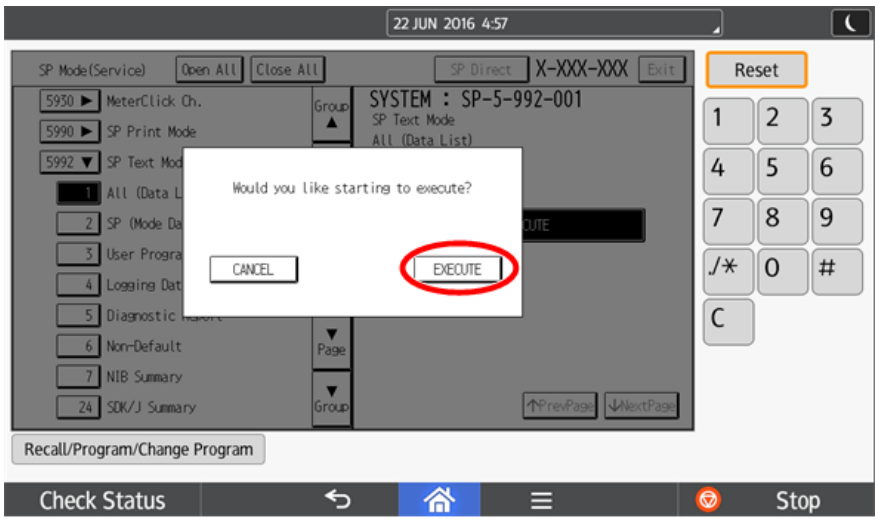
Detail No.	SMC Categories to Save
001	All (Data List)
002	SP (Mode Data List)
003	User Program
004	Logging Data
005	Diagnostic Report
006	Non-Default
007	NIB Summary
024	SDK/J Summary
025	SDK/J Application Info
026	Printer SP
027	Smart Operation Panel SP
028	Smart Operation Panel UP

7. Press [EXECUTE].



m0ajm2083

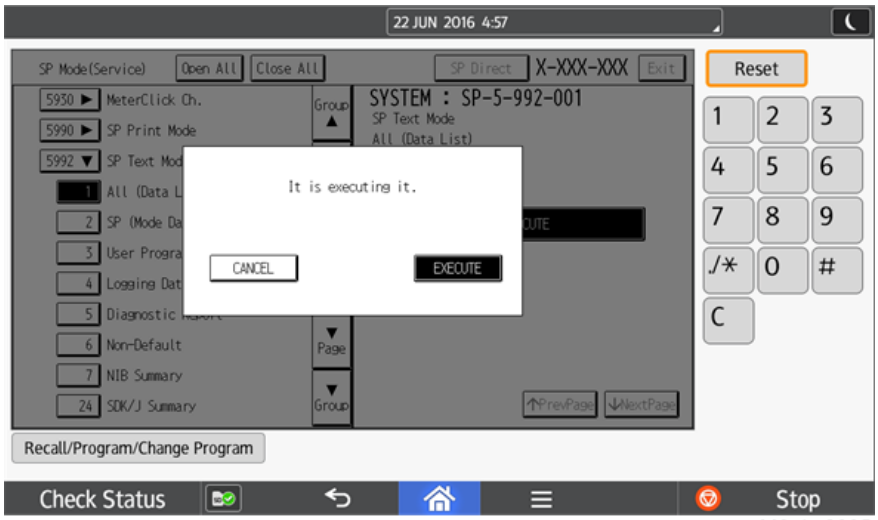
8. Press [EXECUTE] again to start. Press [CANCEL] to cancel the saving.



m0ajm2084

9. "It is executing it" is shown on the screen while executing.

Wait for 2 to 3 minutes until "Completed" is shown.

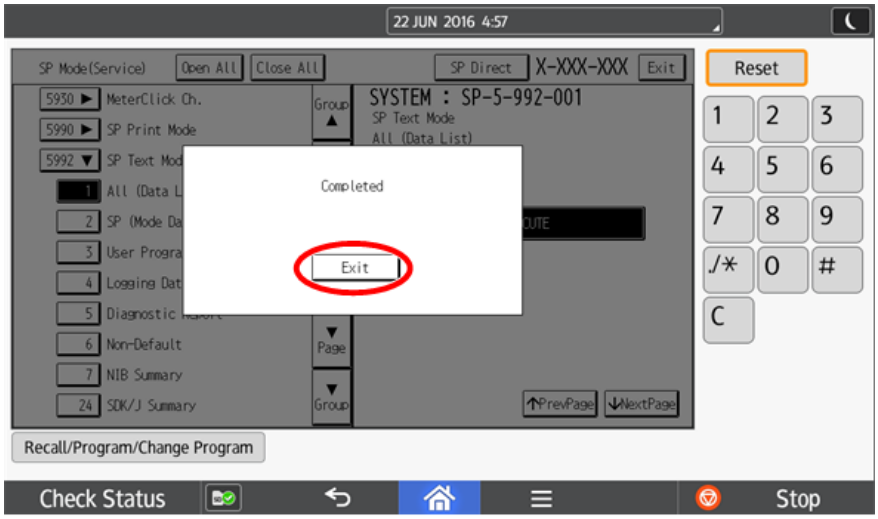


M0ajm2085

Note

- The SMC list saving may take from 2 to 3 minutes to complete.
- Press [CANCEL] to abort executing.

10. After "Completed" is displayed, press [Exit].



m0ajm2086

11. Exit the SP mode.

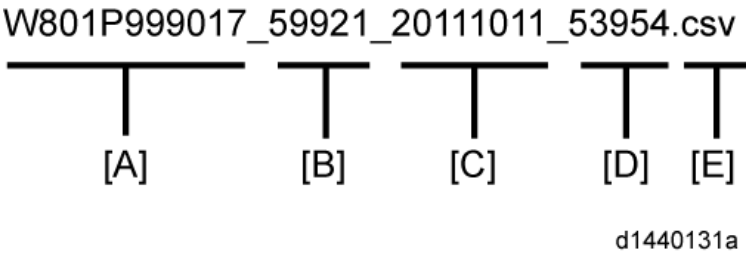
Notes on Using the SMC List Card Save Function

- If you remove the SD card while executing the SMC List Card Save function, it may cause the machine to stall.
- You can check the access (reading/writing) by the indicator on the slot.
- When you remove the SD card, be sure to check that the access indicator is off in advance.
- If the machine stalls, turn the power off and then back on.

File Names of the Saved SMC Lists

The SMC list data saved on the SD card will be named automatically. The file naming rules are as follows.

Example:



A:

Machine serial number (fixed for each machine)

B:

SP number saved in this file.

First four digits (5992) in this part are fixed. The other one or two digits are the detail SP number(s). In this case, it is one digit. Therefore, this file is of SP5-992-001 (All data list). See the upper SP table for the correspondence between SP detail numbers and the contents.

C:

File creation date

Year/Month/Day ("Zero" will be omitted if each is one digit.)

D:

File creation time

Hour/Minute/Second ("Zero" will be omitted if each is one digit.)

E:

File Extension CSV (Comma Separated Value)

This part is fixed.

Note

- A folder named by the machine serial number will be created on the SD card when this function is executed.
- This function can save the SMC list data only to an SD card inserted into the operation panel SD card slot.

Error Messages

SMC List Card Save error message:

- **Failed:**
  FACTOR: Read-only file system, Unformatted device, No space left on device.

If an error occurs, pressing "Exit" will cause the device to discard the job and return to the ready state.

Card Save Function

Card Save

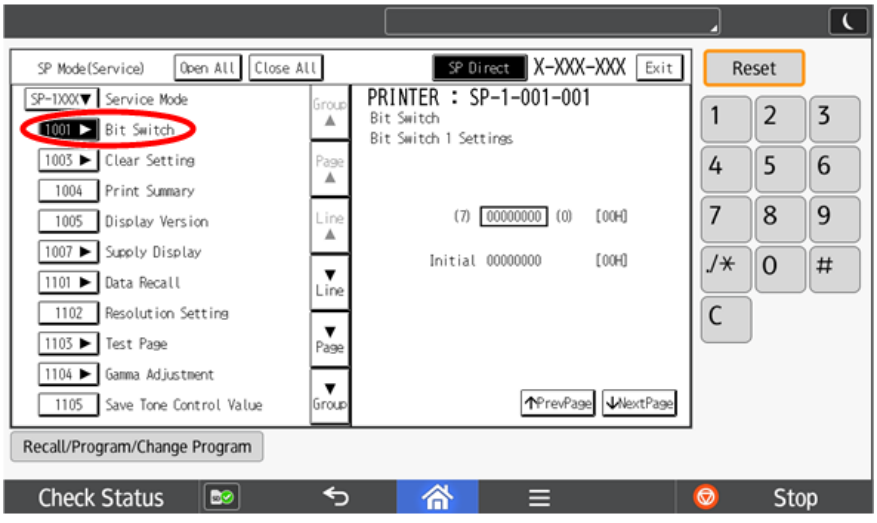
- The Card Save function is used to save print jobs received by the printer on an SD card with no print output. Card Save mode is toggled using printer Bit Switch #1 bit number 4. Card Save will remain enabled until the SD card becomes full, or until all file names have been used.
- Captures are stored on the SD card in the folder /prt/cardsave. File names are assigned sequentially from PRT00000.prn to PRT99999.prn. An additional file PRT.CTL will be created. This file contains a list of all files created on the card by the card save function.
- Previously stored files on the SD card can be overwritten or left intact. Card Save SD has "Add" and "New" menu items.
  - **Card Save (Add):** Appends files to the SD Card. Does not overwrite existing files. If the card becomes full or if all file names are used, an error will be displayed on the operation panel. Subsequent jobs will not be stored.
  - **Card Save (New):** Overwrites files in the card's /prt/cardsave directory.

Limitation:

- Card Save cannot be used with PJL Status Readback commands. PJL Status Readbacks will not work. In addition they will cause the Card Save to fail.

Procedure

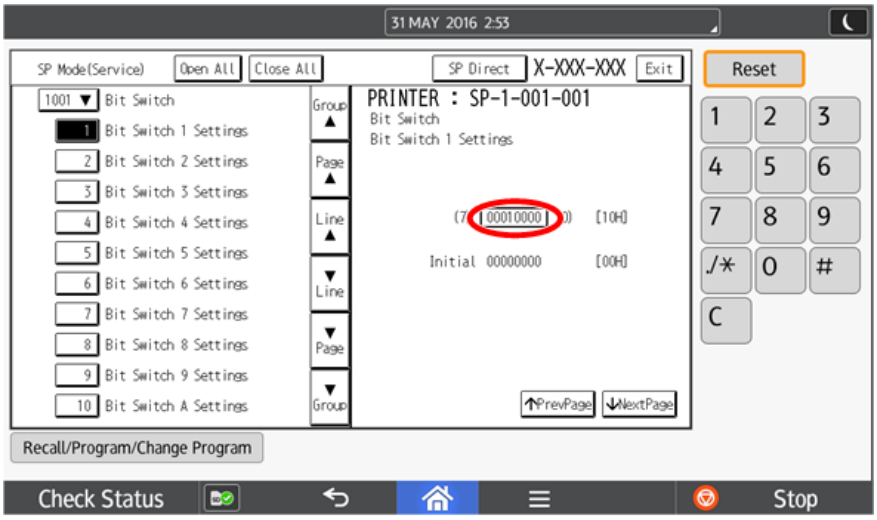
1. Turn OFF the main power.
2. Insert the SD card into slot 2 (lower), then turn ON the main power.
3. Enter SP mode.
4. Select the "Printer SP".
5. Select SP-1001 "Bit Switch".



m0ajm2065

6. Select "Bit Switch 1 Settings" and use the numeric keypad to turn bit 4 ON and then press the "#" to register

the change. The result should look like: 00010000. By doing this, Card Save option will appear in the "List/Test Print" menu.

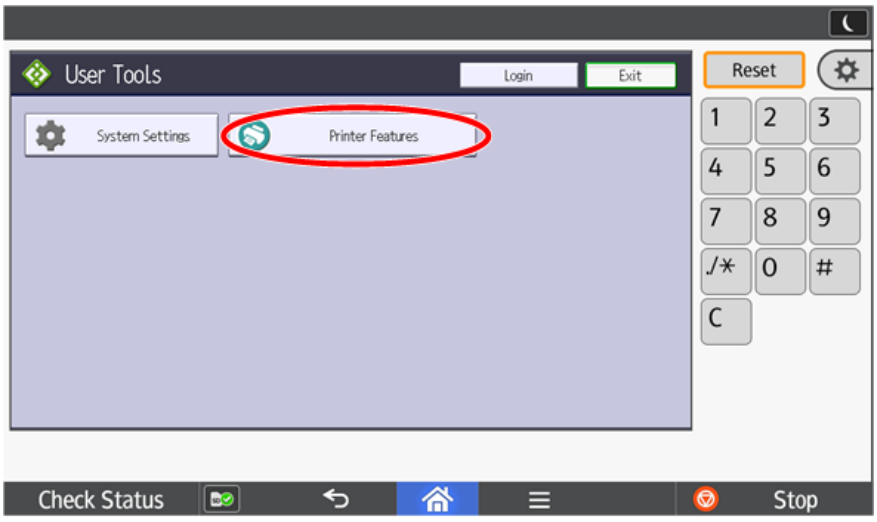


m0ajm2066

7. Press "Exit" to exit SP Mode.

8. Press the "User Tools" icon > "Machine Features".

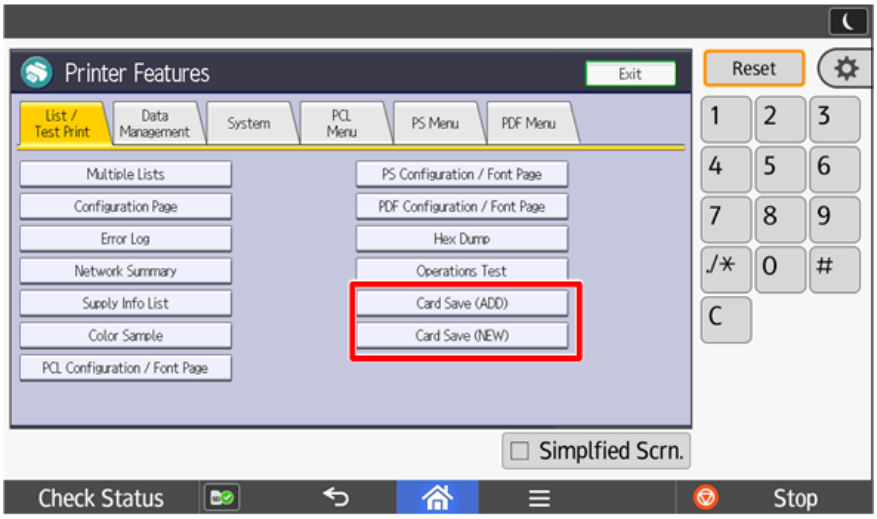
9. Select "Printer Features".



m0ajm2067

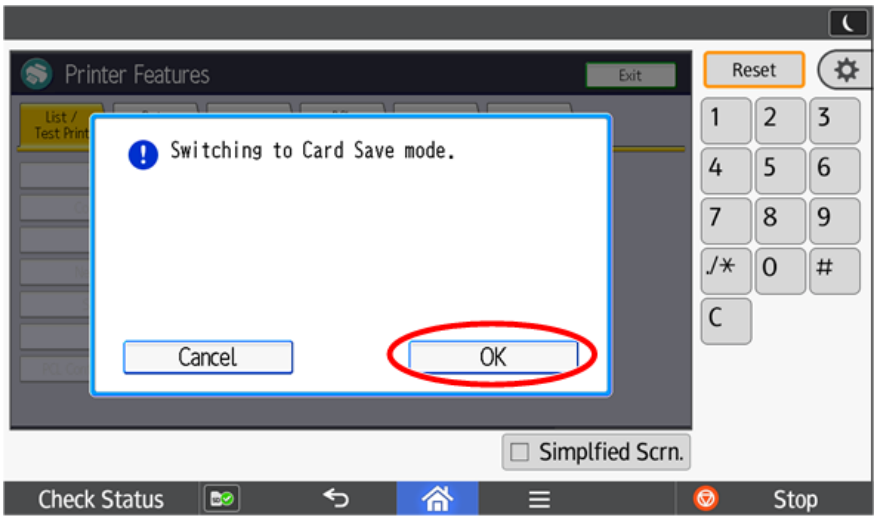
10. Card Save (Add) and Card Save (New) should be displayed on the screen. Select Card Save (Add) or Card

Save (New).



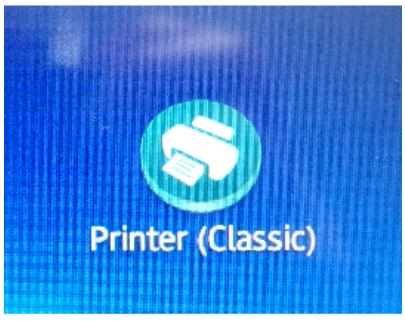
m0ajm2068

11. Press "OK" and then return to Home screen.



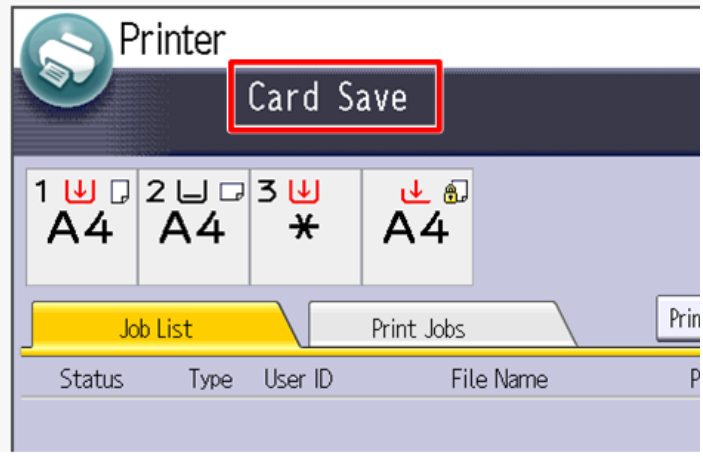
m0ajm2069

12. Press the "Printer (Classic)" icon.



d238m0937

13. "Hex Dump Mode" is be displayed in the top left of the display panel.



d238m0936a

14. Send a job to the printer. The Communicating light should start blinking.

15. As soon as the printer receives the data, it will be stored on the SD card automatically with no print output. Nothing is displayed on the screen, indicating that a Card Save operation was successful.

16. Press "Reset" to exit Card Save mode.



d238m0938a

17. Change the Bit Switch Settings back to the default 00000000, then press the "#" in the numeric keypad to register the changes.

18. Remove the SD card after the main power switch is turned OFF.

Error Messages

Card Save error messages:

- **Init error:** A card save process (e.g. card detection, change to kernel mode) failed to initialize.
- **Card not found:** Card cannot be detected in the slot.
- **No memory:** Insufficient working memory to process the job.
- **Write error:** Failed to write to the card.
- **Other error:** An unknown error occurred.

If an error occurs, pressing "OK" will cause the device to discard the job and return to the ready state.

6. Troubleshooting

Self-Diagnostic Mode

Service Call Conditions

The 'SC Table' section shows the SC codes for controller errors and other errors. The latter are put into four types. The type is determined by their reset procedures. The table shows the classification of the SC codes.

Type	Display	How to reset	SC call or SC alarm in customer support system
A	The SC is immediately displayed on the operation panel when SC occurs. The error involves the fusing unit. The machine operation is disabled. The user cannot reset the error.	Reset the SC (set SP5-810-001) and then cycle the main power off and on.	Occurrence & alarm count ↓ Immediate alarm
B	When a function is selected, the SC is displayed on the operation panel. The machine cannot be used (down-time mitigation).	Turn the operation switch off and on.	Occurrence & alarm count ↓ Power OFF and ON ↓ Alarm count and alarm only if recurrence
C	No display on the operation panel. The machine operates as usual.	Only the SC history is updated.	Occurrence ↓ Logging count & alarm count
D	The SC is displayed on the operation panel. The machine cannot be used (machine-error SC).	Turn the main power switch off and on.	Occurrence & alarm count ↓ Power OFF and ON ↓ Alarm count and alarm only if recurrence

Note

- When an ordinary SC (type D) is generated, an automatic reboot is performed. When an event is reported by the customer support system, even in the event of an ordinary SC, reboot is not performed. During automatic reboot, a confirmation screen is displayed after the reboot.

- When automatic reboot occurs twice continuously, an SC is displayed without rebooting, and logging count is performed. Also, when an SMC print is output, an * mark is added alongside the SC number for clarity.
- Automatic reboot can be enabled or disabled with SP5-875-001 (SC automatic reboot setting) (default value: OFF).

SP descriptions

- **SP5-875-001 (SC automatic reboot: Reboot Setting)**
  Enables or disables the automatic reboot function when an SC error occurs.
  0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot.
  1: The machine does not reboot when an SC error occurs.
  The reboot is not executed for the pattern A or C.

SC Logging

When an SC is generated, the "total count value when the SC is generated" and the "SC code" are logged. However, if the total count value during the SC is the same as last time, logging is not performed.
Logged data can be checked by outputting an administrative report (SMC print). The SC history is logged up to the last 10 entries, and if there are more than 10 entries, data are progressively deleted starting from the oldest.

SC Automatic Reboot

When an ordinary SC (pattern D) is generated, automatically reboot is performed. Automatic reboot or reboot by user operation can be set by SP5-875-001 (SC automatic reboot setting out) (default value: 1 "OFF").
When a type D occurs, automatic reboot is done or the machine display asks the customer if it can reboot. However, when the SC occurs twice in a short time, the machine sends a report to the @Remote server without rebooting. This is because just rebooting may not be a good solution if an SC occurs twice.
When an automatic reboot is performed, a confirmation screen is displayed after reboot. The confirmation screen can be cancelled by pressing the [OK] key (display is not cancelled only when the main power switch is switched OFF to ON).

Screen display during reboot

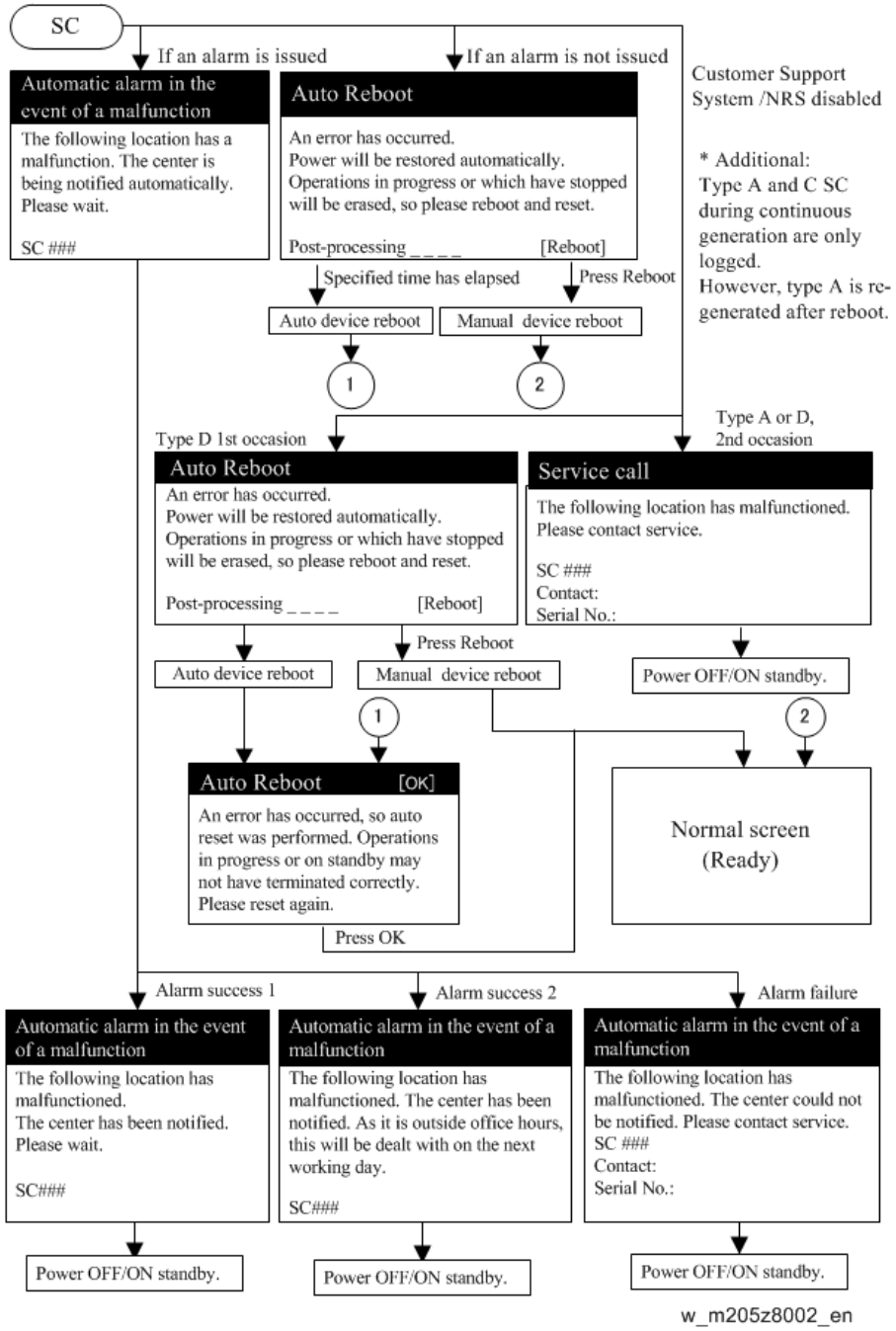
- Status display on the current screen
  - Post-processing ..... Post-processing during printing, etc.
  - Automatic reboot .... After operation end
    Post-processing
    ■■□□□□□□□□
    Until automatic reboot
    □□□□□□□□□□
- Reset key (Reboot key)
  Key to perform reboot

Cancel key is not displayed.

- Turn ON spanner LED (same as when an SC is generated).

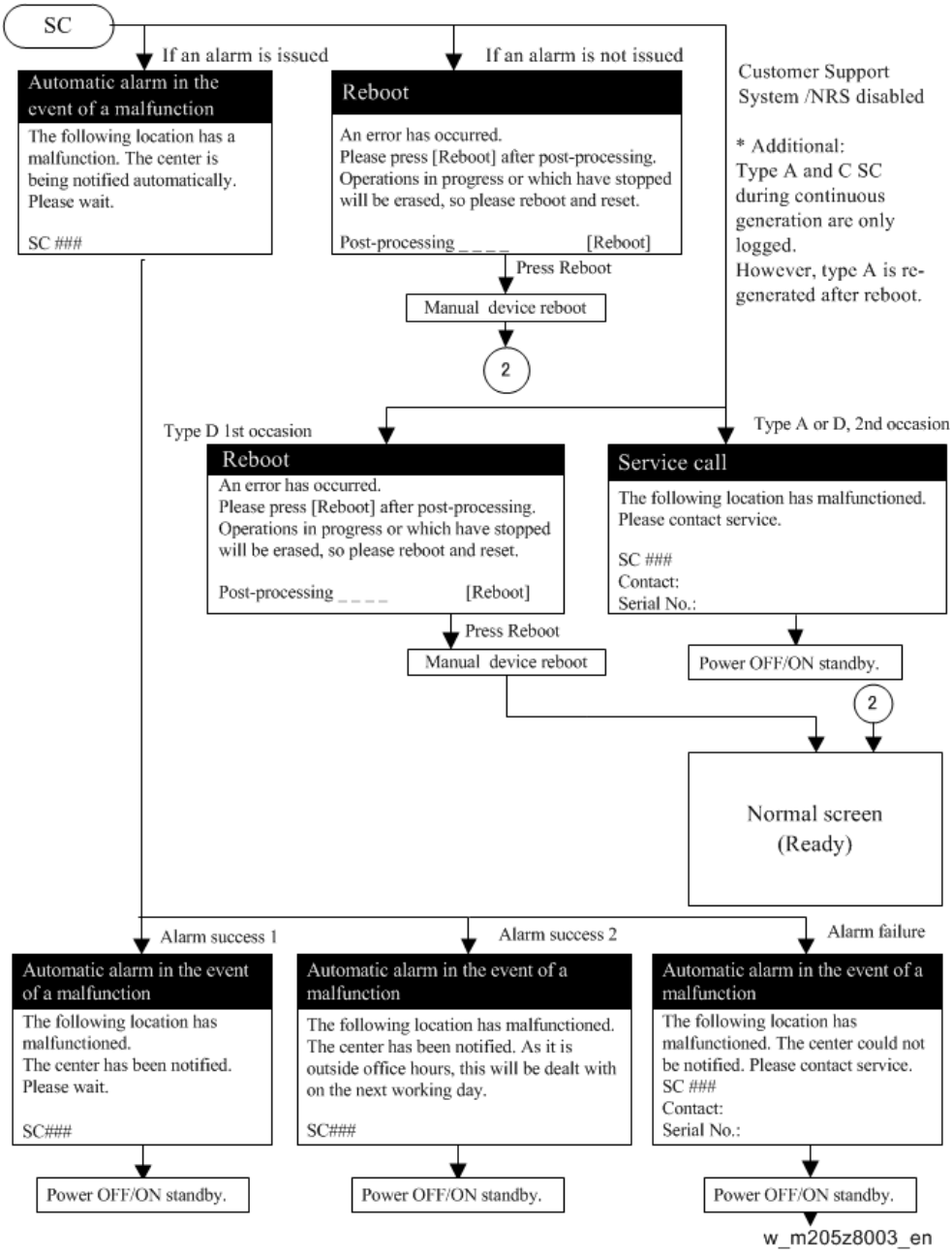
Operation during SC reboot

- Timing of SC reboot
  When @Remote is enabled, and when a NRS alarm*1 is not generated, the corresponding SC is the object of an automatic reboot.
  *1 NRS alarm: Issued when an ordinary SC (type D) is generated twice while the total counter counts 10 times.
- Time to automatic reboot
  Reboot is performed 30 seconds after an engine reboot is possible, after the end of post-processing during printing, etc.
  At that time, a reboot is performed even if the printer is operating. The engine does not start process control when a reboot is possible.
- Automatic reboot
  See the flowchart below.



SC Manual Reboot

When the automatic reboot is disabled in SP5-875-001 (SC automatic reboot setting), user reboot the machine manually. See the flowchart below.



Controller Self-diagnosis Outline

Controller self-diagnosis includes 3 types, i.e., "ordinary self-diagnosis", "detailed self-diagnosis", and "SC detection". "Ordinary self-diagnosis" is diagnosis performed for every power ON, and "detailed self-diagnosis" is diagnosis treated as part of the service tools. "SC detection" detects mechanical faults when power is switched on or when the machine is operating.

Detailed self-diagnosis - Method

1. After attaching the option "IEEE 1284 board" to the controller board, connect the provided conversion connector.
2. Set a loop back connector in the reference centronics I/F.
3. Press the main power supply switch while simultaneously pressing the "#" and "./* key. The display changes

to the following screen, and self-diagnosis starts.



4. After the end of detailed self-diagnosis, a "Self-diagnosis results report" is automatically printed.

Note

- If a centronics loopback connector is not fitted, a centronics diagnosis error (SC 835) is generated.

HDD-related Message

When an error occurs to the HDD, the HDD abnormality message appears on the operation panel and the screen for formatting is displayed. Also when replacing the HDD, a message "Hard Disk is replaced." appears on the operation panel and the screen for formatting is displayed.
Refer to the table shown below for the conditions of the message display.

Even when replacing the controller board, a banner "Hard Disk is replaced." appears. It is because the machine recognizes HDD has been replaced when the controller board that does not hold the HDD identification information is attached.

Message list

Message	Display Type	Normal/ Abnormal	Error Condition/ Major Cause/ Solution
SC870	banner	abnormal	The HDD cannot be accessed at power-on.
			NVRAM defective
			Turn the main power off/on to initialize the machine. *When replacing the NVRAM, if possible, back up the address book before replacing the NVRAM and restore it after replacing the NVRAM.
Hard Disk will be formatted due to problem with Hard Disk.	pop-up formatting button	abnormal	Management file on the HDD can not be read. Or the file system can not be mounted.
			HDD defective
			Replace the HDD.
Problem with the Encryption Key for Hard Disk. Format	pop-up formatting	abnormal	The encryption key for the HDD is abnormal.
			HDD defective

Message	Display Type	Normal/ Abnormal	Error Condition/ Major Cause/ Solution
Hard Disk.	button		Replace the HDD.
Hard Disk is replaced. Format Hard Disk.	pop-up formatting button	normal	A new HDD is attached.
			A new HDD attached
			Push the formatting button.
Hard Disk is replaced.	banner	abnormal	The HDD is replaced (Data can be read).
			• Controller board replaced • After starting the machine without an HDD, a new HDD is attached to the machine and then restart the machine.
			Turn the main power off/on.
Formatting Hard Disk... Please wait, also make sure the main power switch is not turned off.	pop-up	abnormal	Pushing the formatting button.
			Formatting the HDD
			-
Hard Disk is formatted. Turn main power switch off then on.	pop-up	abnormal	Formatting the HDD is finished.
			Formatting the HDD
			Turn the main power off/on.

List of Automatic Reboot Target SC

Engine SC

Automatic reboot target SC is as follows. For details of Automatic reboot, refer to SC Automatic Reboot.

SC code	Name
202-00	Polygon Motor: ON Timeout Error
203-00	Polygon Motor: OFF Timeout Error
204-00	Polygon Motor: XSCRDY Signal Error
220-00	Laser Synchronization Detection Error: Leading Edge
230-00	FGATE ON Error
231-00	FGATE OFF Error
240-00	LD Error
272-01	LD Driver Communication Error
272-10	LD driver communication error: Others
302-00	High Voltage Power Source: Charge: Output Error
324-01	Development motor: Bk: Lock
360-01	TD sensor adjustment error
391-00	High Voltage Power Source: Development : Output Error
396-01	Drum Motor Lock
440-00	High Voltage Power Source: Paper Transfer : Output Error
452-00	Paper transfer contact motor error
460-00	High Voltage Power Source: Separation : Output Error
531-00	Development Bearing Cooling Fan Lock
533-00	PSU Cooling Fan Lock
533-01	Development Bearing Cooling Fan
534-00	Development Exhaust Fan
535-00	Paper Exit Cooling Fan Lock
540-00	Fusing/Paper Exit Motor: Lock
547-01	Zero cross error (relay-contact soldering)
547-02	Zero cross error (relay contact error)
547-03	Zero cross error (low-frequency error)
621-01	Finisher communication error
621-02	Mailbox communication error
622-11	Paper tray 1 communication error for Paper Feed Unit PB3160 (D693)
622-31	Paper tray 1 communication error for LCIT PB3170/PB3230 (D695)
623-00	Paper tray 2 communication error for LCIT RT3030 (D696)
664-01	Access Permission Error to VODKA SRAM
664-02	Write Error to VODKA SRAM

SC code	Name
664-03	VODKA Program Startup Error
669-36	EEPROM: Verify Error
669-37	EEPROM: Failure Detection Error
682-01	Invalid Device ID
682-06	Channel Error
682-11	Device Error
682-16	Communication Aborted (error during communication)
682-21	Communication Timeout
682-26	Device Stopped (logically stopped)
682-31	Requested Buffer Full
682-36	PCU: Verify Error
687-00	PER Not Received Error
780-01	Tray 1 (Upper optional paper tray) Protection Device Intercept Error
781-01	Tray 2 (Lower optional paper tray) Protection Device Intercept Error
791-00	No Bridge Unit when Finisher is Present

Controller SC

Automatic reboot target SC is as follows. For details of Automatic reboot, refer to SC Automatic Reboot.

SC code	Name
641-00	Communication error between BCU and Controller board
670-02	Engine start up error when the machine is in operation
673-10	Flair connection error of Smart Operation Panel
816-01	Subsystem error
816-02	Sysarch (LPUX_GET_PORT_INFO) error
816-03	Transition to STR was denied.
816-04	Interrupt in kernel communication driver
816-05	Preparation for transition to STR failed.
816-07	Sysarch (LPUX_GET_PORT_INFO) error
816-08	Sysarch (LPUX_ENGINE_TIMERCTRL) error
816-09	Sysarch (LPUX_RETURN_FACTOR_STR) error
816-10 to 12	Sysarch (LPUX_GET_PORT_INFO) error
816-13	open() error
816-14	Memory address error
816-15 to 18	open() error
816-19	Double open() error
816-20	open() error
816-22	Parameter error

SC code	Name
816-23	read() error
816-24	read() error
816-25	write () error
816-26	write() communication retry error
816-27	write() communication retry error
816-28	write() communication retry error
816-29	read() communication retry error
816-30	read() communication retry error
816-35	read() error
816-36 to 99	Subsystem error
840-00	EEPROM access error
841-00	EEPROM read data error
865-00	HD access error
867-00	SD card removed
868-00 to 02	SD card authentication error
874-05	Delete all error (Delete data area) : No device file
874-06	Delete all error (Delete data area) : Start option error
874-09	Delete all error (Delete data area) : No designated sector number
874-10	Delete all error (Delete data area) : failure in performing hdderase
874-12	Delete all error (Delete data area) : Other fatal errors
874-13	Delete all error (Delete data area) : End by cancellation
874-14	Delete all error (Delete data area) : library error
874-15	Delete all error (Delete data area) : Unavailable
874-16	Delete all error (Delete data area) : Erasing not finished
874-41	Delete all error (Delete data area) : HDD format failure (Normal)
874-42	Delete all error (Delete data area) : HDD format failure (Abnormal)
874-61 to 65	Delete all error (Delete data area) : Unauthorized library
874-66	Delete all error (Delete data area) : Read error
874-67	Delete all error (Delete data area) : Write error
874-68	Delete all error (Delete data area) : No response from HDD
874-69	Delete all error (Delete data area) : Error in Kernel
874-70	Delete all error (Delete data area) : No designated partition
875-01	Delete all error (HDD erasure) (hddchack –i error)
875-02	Delete all error (HDD erasure) (Data deletion failure)
990-00	Software operation error
992-00	Undefined SC issued.
997-00	Application function selection error

SC code	Name
998-00	Application start error

SC Code Classification

The table shows the classification of the SC codes:

Class	Section
SC2xx	Image Writing
SC3xx	Image Processing 1: Charge, Development, Around the drum
SC4xx	Image Processing 2: Transfer/ Separation, Cleaning and others
SC5xx	Paper feed, Duplex, Transport, Fusing and others
SC6xx	Communication and Others
SC7xx	Peripherals
SC8xx	Controller
SC9xx	Others

SC Tables: SC2xx (Image Writing)

SC202-00 to SC272-10

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC202-00	D	Polygon Motor: ON Timeout Error
		After the polygon motor turned on, or within 10 sec. after the rpm's changed, the motor did not enter READY status.
		• The interface harness to the polygon motor driver damaged or not connected correctly. • Polygon motor or polygon motor driver defective • Polygon motor drive pulse cannot be output correctly. (Polygon controller) • XSCRDY signal observation failing (Polygon controller)
		• Turn the power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC203-00	D	Polygon Motor: OFF Timeout Error
		The XSCRDY signal (polygon ready) never becomes inactive (H) within 3 sec. after the polygon motor went OFF.
		• The interface harness to the polygon motor driver damaged or not connected correctly. • Polygon motor or polygon motor driver defective • Polygon motor drive pulse cannot be output correctly. (Polygon controller) • XSCRDY signal observation failing (Polygon controller)
		• Turn the power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC204-00	D	Polygon Motor: XSCRDY Signal Error
		During polygon motor rotation, the XSCRDY signal was inactive (H) for longer than one rotation of the polygon.
		• The interface harness to the polygon motor driver damaged or not connected correctly. • Polygon motor or polygon motor driver defective
		• Turn the power off/on. • Replace the laser unit. • Replace the harness.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC220-00	D	Laser Synchronization Detection Error: Leading Edge
		The laser synchronizing detection signal for the start position of the LD was not output for 200msec. after LDB unit turned on with the polygon motor rotating normally.
		• The interface harness to the synchronization detection unit damaged or not connected correctly. • Synchronization detection board defective • Beam does not enter photo detector. • Abnormality around GAVD • IDB (LED driver) defective • LDB defective • IPU defective
		• Turn the power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC230-00	D	FGATE ON Error
		The FGATE signal did not turn ON within the given time period after the writing process started.
		• GAVD defective • Image processing ASIC defective • BCU, controller board not connected correctly or defective • Harness between BCU and LDB defective
		• Turn the power off/on. • Replace the harness between IPU and laser unit. • Replace the IPU board. • Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC231-00	D	FGATE OFF Error
		The FGATE signal did not turn OFF within the given time period after the writing process ended.
		• GAVD defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Image processing ASIC defective • IPU, controller board not connected correctly or defective • Harness between IPU and LDB defective
		• Turn the power off/on. • Replace the harness between IPU and laser unit. • Replace the IPU board. • Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC240-00	D	LD Error
		• The LD error status of LD driver is asserted after the LD is initialized. • The LD driver's error signal is detected during LD initialization.
		• LD degradation (LD broken, shift of output characteristics etc.) • The interface harness damaged or not connected correctly. • LD driver defective
		• Cycle the main power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC272-01	D	LD Driver Communication Error
		If the value is not same when the machine reads and writes the same registration at the machine start-up. If the communication parity retries three consecutive times, the SC is generated.
		• CPU defective • IPU defective • BCU defective • Harness defective
		• Cycle the main power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC272-10	D	LD Driver Communication Error: Others
		If the “Door Open” status does not change to “Door Close” after closing the door.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• CPU defective • IPU defective • BCU defective • Harness defective
		• Cycle the main power off/on. • Replace the laser unit. • Replace the harness. • Replace the IPU board.

SC Tables: SC3xx (Image Processing 1: Charge, Development, Around the drum)

SC302-00 to SC396-01

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC302-00	D	High Voltage Power Source: Charge: Output Error
		The machine detects the error detection signal "L (unexpected)" 10 times for 200 msec consecutively when monitoring the error signal every 20 msec during outputting the PWM signal.
		Hardware error • Input / Output connector is disconnected. • Input / Output harness is short-circuited. • Surface/air clearance insufficient (arc discharge) • BCU error (signal error) • HVPS defective **Load error** • Grounding fault of charging output, short-circuit with other outputs • Surface/air clearance insufficient in charging output path (including distance from other outputs) • Unexpected deterioration of drum and over current due to pinholes gap error between the drum and charge roller (PCU error). • Over current due to drum surface condensation • PCU is disconnected.
		• Cycle the main power off/on. • Replace the HVPS. • Replace the harness of the HVPS. • Replace the harness of the PCU. • Replace the PCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC324-01	D	Development Motor: Bk: Lock
		Lock signals are observed at 2 sec intervals during motor ON, and a High level is detected at least 20 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • Unit torque increased

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the development motor. • Reconnect the connector. • Replace the harness. • Replace the BCU. • Replace the development unit. • Replace the driven unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC360-01	D	TD Sensor Adjustment Error

		• When Mu count exceeds the judgment threshold of no developer status.
		• When Mu count does not satisfy the following target ranges for 3 times in a row.
		  • Upper threshold
		  • Lower threshold

		• TD sensor defective • Loose connection • Harness broken • Developer toner density differs from initial developer
		• Replace the TD sensor harness. • Reconnect the TD sensor connector. • Replace the TD sensor. • Replace the development unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC361-01	D	TD Sensor Output Error: Upper Limit (K)
		The following condition continuously exceeds the upper limit threshold value (SP3-211-003). • TD sensor output: Vt (SP3-210-001) > output upper limit error threshold (SP3-211-002)
		• TD sensor connector dropout (connection fault)
		• Check if the TD sensor connector is connected. • Check the harness of the TD sensor (disconnection, etc.). • Replace the TD sensor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC362-01	D	TD Sensor Output Error: Lower limit (K)
		TD sensor output: Vt (SP3-210-001) < output lower limit error threshold (SP3-211-004) is continuously below the lower limit occurrence threshold value (SP3-211-005)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		TD sensor connector missing/dropout
		• Check if the TD sensor connector is connected. • Check the harness of the TD sensor (disconnection, etc.). • Replace the TD sensor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC370-00	C	ID Sensor Calibration Error
		Regular reflection optical output voltage of the ID sensor: Vsg_reg cannot be adjusted to within target range. Upper limit (SP3-320-013: initial value 4.5V) Lower limit (SP3-320-014: initial value 3.5V)
		• ID sensor connector missing/connection fault • ID sensor detection window dirt • ID sensor malfunction
		• Check the ID sensor connector. If it is not connected, reconnect it. • Check for dirt on the ID sensor detection window. If the detection window is dirty, clean by the predetermined method (do not wipe it dry). • If neither of the above have occurred, replace the ID sensor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC391-00	D	High Voltage Power Source: Development : Output Error
		When the machine detects the error detection signal “L (abnormal)” 10 times for 200 ms consecutively by monitoring the error detection signal every 20ms during output of the PWM signal used as an error detection target.
		Hardware error • Input / Output connector is disconnected. • Surface/air clearance insufficient (arc discharge) • Input / Output harness is short-circuited. • BCU error (signal error) • HVPS defective **Load error** • Grounding fault of charging output, short-circuit with other outputs • Surface/air clearance insufficient in charging output path (including distance from other outputs) • Unexpected deterioration of drum, and over current due to pinholes • Over current due to drum surface condensation • PCDU is not set properly.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Cycle the main power off/on • Replace the harness between the BCU and HVPS. • Reconnect or replace the harness between the BCU and HVPS. • Reinstall or replace the development unit. • Check if the contact and separation movement of the transfer unit works correctly. • Replace the HVPS. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC396-01	D	Drum Motor Lock
		Lock signals are observed at 2 sec intervals during motor ON, and a High level is detected at least 20 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • PCU torque increased
		• Reconnect the connector. • Replace the harness of the drum/waste toner motor. • Replace the drum/waste toner motor. • Replace the PCDU. • Replace the BCU.

SC Tables: SC4xx (Image Processing 2: Transfer/ Separation, Cleaning and others)

SC440-00 to SC498-00

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC440-00	D	High Voltage Power Source: Paper Transfer : Output Error
		The machine detects the error detection signal “L (unexpected)” 10 times for 200 msec consecutively when monitoring the error signal every 20 msec during outputting the PWM signal.
		Hardware error • Input / Output connector is disconnected. • Input / Output harness is short-circuited. • BCU error (signal error) • HVPS defective **Load error** • Transfer roller's impedance increases. • Transfer unit is not set properly.
		• Cycle the main power off/on. • Reconnect or replace the harness of the HVPS (power pack). • Reconnect or replace the harness between the BCU and the HVPS. • Reset or replace the transfer unit. • Check if the contact and separation movement of the transfer unit works correctly. • Replace the HVPS. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC452-00	D	Transfer Roller Contact Motor Error
		When the machine does not detect the high/low signal for a specified time after the transfer roller contact motor has been turned on.
		• Motor overload, Motor defective • Connector disconnected • Harness broken • Interlock mechanism is defective.
		• Cycle the main power off/on • Check if the contact and separation movement of the transfer unit works correctly. • Replace the transfer roller contact motor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC460-00	D	High Voltage Power Source: Separation : Output Error
		The machine detects the error detection signal “L (unexpected)” 10 times for 200 msec consecutively when monitoring the error signal every 20 msec during outputting the PWM signal.
		Hardware error • Input / Output connector is disconnected. • Input / Output harness is short-circuited. • Transfer unit is not set properly. • BCU error (signal error) • HVPS defective **Load error** • Grounding fault of separation power output, short-circuit with other outputs • Surface/air clearance insufficient in separation power output path (including distance from other outputs)
		• Cycle the main power off/on • Reconnect or replace the harness of the HVPS (power pack). • Reconnect or replace the harness between the BCU to the HVPS. • Reset or replace the transfer unit. • Check if the contact and separation movement of the transfer unit works correctly. • Replace the HVPS. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC497-00	C	Machine Temperature Detection Thermistor Error
		The output of the temperature sensor is out of the following range. • 0.56 V or less (90°C or more) • 3.0 V or more (-18°C or less)
		• Imaging temperature sensor is not set (connector disconnected or broken) • Imaging temperature sensor defective
		• Reconnect the connector. • Replace the connector. • Replace the imaging temperature sensor (thermistor).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC498-00	C	Temperature and Humidity Sensor Error (Main machine)
		The output of the temperature/humidity sensor is out of the following range. • 0.76 V or less/ 2.90 V or more (temperature sensor)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• 2.4 V or more (humidity sensor)
		• Temperature/Humidity sensor is not set (connector disconnected or broken) • Temperature/Humidity sensor defective
		• Reconnect the connector. • Replace the connector. • Replace the temperature/humidity sensor.

SC Tables: SC5xx (Paper feed, Duplex, Transport, Fusing and others)

SC501-01 to SC589-02

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC501-01	B	1st Tray Lift Error
		The machine detects the error of the 1st paper feed tray lift motor 3 times consecutively when the 1st paper feed tray is lifted. (The message of resetting the tray is displayed when the machine detects the error consecutively 2 times or less.)
		• 1st paper feed tray limit sensor connector disconnection, malfunction or sensor's dirt. • 1st paper feed tray lift motor connector disconnection, malfunction • Foreign matter, such as paper scrap, is caught between the paper feed tray and the paper feed tray lift motor. • Paper set fault
		• Reset the paper. • Remove the foreign matter (1st paper feed tray limit sensor, 1st paper feed tray lift motor). • Check the harness. • Reset or replace the connector. • Replace the 1st paper feed unit and 1st paper feed tray. • Replace the BCU.
SC501-02	B	1st Tray Lowering Error
		The machine detects the error of the 1st paper feed tray lift motor 5 times consecutively when the 1st paper feed tray is lowered. (The message of resetting the tray is displayed when the machine detects the error consecutively 4 times or less.)
		• 1st paper feed tray limit sensor connector disconnection, malfunction or sensor's dirt. • 1st paper feed tray lift motor connector disconnection, malfunction • Foreign matter, such as paper scrap, is caught between the paper feed tray and the paper feed tray lift motor. • Paper set fault • Paper overload
		• Reset the paper. • Remove the foreign matter (1st paper feed tray limit sensor, 1st paper feed tray lift motor). • Check the harness. • Reset or replace the connector. • Replace the 1st paper feed unit, 1st paper feed tray.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC502-01	B	2nd Tray Lift Error
		The machine detects the error of the 2nd paper feed tray lift motor 3 times consecutively when the 2nd paper feed tray is lifted. (The message of resetting the tray is displayed when the machine detects the error consecutively 2 times or less.)
		• 2nd paper feed tray limit sensor connector disconnection, malfunction, dirt • 2nd paper feed tray lift motor connector disconnection, malfunction • Foreign matter, such as paper scrap, is caught between the paper feed tray and the paper feed tray lift motor • Paper set fault
		• Reset the paper. • Remove the foreign matter (2nd paper feed tray limit sensor, 2nd paper feed tray lift motor). • Check the harness. • Reset or replace the connector. • Replace the 2nd paper feed unit, 2nd paper feed tray. • Replace the BCU.
SC502-02	B	2nd Tray Lowering Error
		The machine detects the error of the 2nd paper feed tray lift motor 5 times consecutively when the 2nd paper feed tray is lowered. (The message of resetting the tray is displayed when the machine detects the error consecutively 4 times or less.)
		• The 2nd paper feed tray limit sensor connector disconnection, malfunction, and dirt • 2nd paper feed tray lift motor connector disconnection, malfunction • Foreign matter, such as paper scrap, is caught between the paper feed tray and the paper feed tray lift motor • Paper set fault • Paper overload
		• Reset the paper. • Remove the foreign matter (2nd paper feed tray limit sensor, 2nd paper feed tray lift motor). • Check the harness. • Reset or replace the connector. • Replace the 2nd paper feed unit, 2nd paper feed tray. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC503-11	B	3rd Tray Lift Error (M494)
		The machine detects the lift error of the tray lift motor for the PFU (M494) 3 times consecutively when the 3rd tray is lifted at the machine's initialization. (The message of resetting the tray is displayed when the machine detects the error consecutively 2 times or less.)
		• Tray lift motor connector disconnected • Upper limit sensor harness disconnected or broken • Controller board defective • Foreign matter, such as paper scrap, is caught between the paper feed tray and the tray lift motor • Paper set fault
		• Reset the paper. • Remove the foreign matter. • Replace the tray lift motor. • Reset the connector. • Replace the harness. • Replace the upper limit sensor. • Replace the controller board for the optional PFU (M494). • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm.
SC503-12	B	3rd Tray Lowering Error (M494)
		The machine detects the lowering error of the tray lift motor for the PFU (M494) 3 times consecutively when the 3rd tray is lowered at the machine's initialization. (The message of resetting the tray is displayed when the machine detects the error 2 times consecutively.)
		• Tray lift motor connector disconnected • Upper limit sensor harness disconnected or broken • Controller board defective • Paper overload • Foreign matter, such as paper scrap, is caught between the paper feed tray and the tray lift motor • Paper set fault
		• Reset the paper. • Remove the foreign matter. • Replace the tray lift motor. • Reset the connector.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the harness. • Replace the upper limit sensor. • Replace the controller board for the optional PFU (M494). • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm.
SC503-31	B	3rd Tray Lift Error (LCIT: M496)
		• The machine detects the lift error of the tray lift motor for the LCIT (M496) 3 times consecutively when the 3rd tray is lowered at the machine's initialization. • The machine detects the lift error of the tray lift motor for the LCIT (M496) 3 times consecutively when the 3rd tray is lifted at the machine's initialization. (The message of resetting the tray is displayed when the machine detects the error consecutively 2 times or less.)
		• Tray lift motor connector disconnected • Limit sensor harness disconnected or broken • Controller board defective • Foreign matter, such as paper scrap, is caught between the right tray and the tray lift motor. • Paper set fault • Timing belt damage or dropout • Timing pulley damage or dropout • Base plate damaged or plate horizontality fault • Paper feed roller missing • Pickup arm damage • Foreign matter, such as paper scrap, is caught inside the right tray.
		• Reset the paper. • Remove the foreign matter. • Replace the tray lift motor. • Reset the connector. • Replace the harness. • Replace the limit sensor. • Replace the controller board for the optional LCIT (M496). • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm. • Replace the timing belt. • Replace the timing pulley. • Replace the base plate.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC503-32	B	3rd Tray Lowering Error (LCIT: M496)
		• The machine detects the lift error of the tray lift motor for the LCIT (M496) 3 times consecutively when the 3rd tray is lowered at the machine's initialization. • The machine detects the lift error of the tray lift motor for the LCIT (M496) 3 times consecutively when the 3rd tray is lifted at the machine's initialization. (The message of resetting the tray is displayed when the machine detects the error consecutively 2 times or less.)
		• Tray lift motor connector disconnected • Lower limit sensor harness disconnected or broken • Controller board defective • Foreign matter, such as paper scrap, is caught between the right tray and the tray lift motor. • Paper set fault • Timing belt damage or dropout • Timing pulley damage or dropout • Base plate damaged or plate horizontality fault • Foreign matter, such as paper scrap, is caught inside the right tray.
		• Reset the paper. • Remove the foreign matter. • Replace the tray lift motor. • Reset the connector. • Replace the harness. • Replace the lower limit sensor. • Replace the controller board for the LCIT (M496). • Replace the tray. • Replace the timing belt. • Replace the timing pulley. • Replace the base plate.
SC503-33	B	3rd Tray Paper Overload Error (LCIT: M496)
		Both of the upper limit sensor and lower limit sensor detects the base plate 3 times consecutively at the machine's initialization. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Paper overload • Paper set fault • Upper limit sensor harness disconnected or broken • Lower limit sensor harness disconnected or broken • Control board defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Foreign matter, such as paper scrap, is caught inside the right tray.
		• Reset the paper. • Remove the foreign matter. • Reset the connector. • Replace the harness. • Replace the upper limit sensor. • Replace the lower limit sensor. • Replace the controller board for the LCIT (M496).
SC503-34	B	3rd Tray Paper Position Error (LCIT: M496)
		During left/right tray set, or when power is switched ON, or when transfer is complete, "open" is detected 5 times consecutively by end fence open/close detection. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 4 times or less.)
		• Paper set fault (paper is offset from position for pushing end fence) • Foreign matter entry (foreign matter is caught in the position for pushing end fence) • Paper transport cover open/close switch error, connector missing • Harness broken • Bank controller board defective
		• Reset the paper. • Remove the foreign matter. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional paper feed tray.
SC503-35	B	3rd Tray Transfer Error (LCIT: M496)
		• Transfer end detection error At right tray paper end (right tray lower limit detection, left tray paper detection), left tray paper is transferred to the right tray, but the left tray paper sensor is detected although a predetermined time elapsed (transfer paper missing is not detected), for 3 times consecutively. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Paper transfer motor error/connector missing • Left tray paper sensor error/connector missing • Harness broken • Bank control board defective • Paper overload • Foreign matter, such as paper scrap, is caught between the left tray and the paper tray

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		transfer motor • Paper set fault • Timing belt damage/dropout • Timing pulley damage/dropout • Transfer fence defective • Foreign matter, such as paper scrap, is caught inside the left tray
		• Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional paper feed tray. • Reset the paper. • Remove the foreign matter. • Replace the tray. • Replace the timing belt. • Replace the timing pulley. • Replace the end fence of the left tray.
SC503-36	B	3rd Tray Transfer HP Error (LCIT: M496)
		• HP detection error (during transfer start) At right tray paper end (right tray lower limit detection, left tray paper detection), left tray paper is transferred to the right tray, but the transfer fence home position sensor is detected although a predetermined time elapsed (home position sensor missing cannot be detected). • HP detection error (during transfer fence HP return) During transfer fence HP not detected (stop after paper transfer, during power supply ON, during left tray set), the transfer fence is moved to HP, but the transfer fence home position sensor is not detected although a predetermined time elapsed. *If an error occurs 3 times consecutively: LCIT transmits "3rd paper feed tray transfer HP error" to the main machine. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Paper transfer motor error/connector missing • Transfer fence home position sensor error/connector missing • Harness broken • Bank controller board defective • Paper overload • Foreign matter, such as paper scrap, is caught between the left tray and the paper transport motor

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Paper set fault • Timing belt damage/dropout • Timing pulley damage/dropout • Transfer fence defective • Foreign matter, such as paper scrap, is caught inside the left tray
		• Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional paper feed tray. • Reset the paper. • Remove the foreign matter. • Replace the tray. • Replace the timing belt. • Replace the timing pulley. • Replace the end fence of the left tray.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC504-21	B	4th Tray Lift Error (M494)
		• Lift motor ascent error detection During tray initialization (upper limit not detected/lower limit detection), the tray base plate is raised to check the tray base plate position, but the upper limit sensor is not detected although a predetermined time elapsed, for 3 times consecutively. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Tray lift motor error/connector missing • Upper limit sensor error/connector missing • Harness broken • Bank controller board defective • Foreign matter, such as paper scrap, is caught between the paper feed tray and the tray lift motor • Paper set fault
		• Reset the paper. • Remove the foreign matter. • Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the controller board for the optional paper feed tray. • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm.
SC504-22	B	4th Tray Lowering Error (M494)
		• Lift motor descent error detection During tray initialization, the tray base plate is lowered to check the tray base plate position, but the upper limit sensor is detected although a predetermined time elapsed, for 3 times consecutively. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Tray lift motor error/connector missing • Upper limit sensor error/connector missing • Harness broken • Bank controller board defective • Paper overload • Foreign matter, such as paper scrap, is caught between the paper feed tray and the tray lift motor • Paper set fault
		• Reset the paper. • Remove the foreign matter. • Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional paper feed tray. • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC505-41	B	Side LCIT Limit Detection Error (D696)
		• Upper limit detection error (during descent) During tray initialization (upper limit detection/lower limit not detected), the tray base plate is lowered to check the tray base plate position, but the upper limit sensor is detected although a predetermined time elapsed. • Upper limit detection error (during ascent) During tray initialization (upper limit not detected /lower limit detection), the tray base

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		plate is raised to check the tray base plate position, but the upper limit sensor is not detected although a predetermined time elapsed. *If an error occurs for 3 times consecutively: the side LCIT transmits a "5th paper feed tray upper limit detection error" to the main machine. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Tray lift motor error/connector missing • Upper limit sensor error/connector missing • Harness broken • Bank controller board defective • Paper set fault • Timing belt damage/dropout • Timing pulley damage/dropout • Base plate damage/horizontality fault • Paper feed roller missing item • Pickup arm defective • Foreign matter, such as paper scrap, is caught inside the tray
		• Reset the paper. • Remove the foreign matter. • Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional side LCT. • Replace the tray. • Replace the paper feed roller. • Replace the pick-up arm. • Replace the timing belt. • Replace the timing pulley. • Replace the base plate.
SC505-42	B	Side LCIT Lower Limit Detection Error (D696)
		• Lower limit detection error (during descent) During tray initialization (upper limit not detected /lower limit eject detection), the tray base plate is lowered to check the tray base plate position, but the lower limit sensor is not detected although a predetermined time elapsed. Alternatively, at paper end, the tray base plate is lowered, but the lower limit sensor is not detected although a predetermined time elapsed. • Lower limit detection error (during ascent)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		During tray initialization (upper limit not detected/lower limit detection), the tray base plate is raised to check the tray base plate position, but the lower limit sensor is detected although a predetermined time elapsed. *If an error occurs for 3 times consecutively: the side LCIT transmits a "5th paper feed tray upper limit detection error" to the main machine. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Tray lift motor error/connector missing • Lower limit sensor error/connector missing • Harness broken • Bank control board defective • Paper set fault • Timing belt damage/dropout • Timing pulley damage/dropout • Base plate damage/horizontality fault • Foreign matter, such as paper scrap, is caught inside the tray
		• Reset the paper. • Remove the foreign matter. • Replace the motor. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional side LCT. • Replace the tray. • Replace the timing belt. • Replace the timing pulley. • Replace the base plate.
SC505-43	B	Side LCIT Paper Overload Error (D696)
		During tray initialization, both the upper limit and lower limit are detected for 3 times consecutively. (The message of resetting the tray is displayed when the both sensors detect the error consecutively 2 times or less.)
		• Paper overload • Paper set fault • Upper Limit sensor error/connector missing • Lower limit sensor error/connector missing • Harness broken • Bank control board defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Foreign matter, such as paper scrap, is caught inside the tray
		• Reset the paper. • Remove the foreign matter. • Reset the connector. • Replace the harness. • Replace the sensor. • Replace the controller board for the optional side LCT.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC508-00	B	Bypass Tray Size Detection Error
		The paper size detected on the bypass tray is different from any of the pattern of automatic size detection.
		• Bypass Length Sensor or Bypass Width Sensor malfunction • Bypass Length Sensor or Bypass Width Sensor harness disconnected
		• Replace the Bypass Length Sensor, or Bypass Width Sensor. • Replace the harness for Bypass Length Sensor, or Bypass Width Sensor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC520-01	C	Registration Motor: Lock
SC520-02	C	Paper feed Motor: Lock
SC520-03	C	Vertical Transport Motor: Lock
		During motor ON, after checking the motor error notification registers (err_velo and err_posi) for 500msec, the error state of either register was detected at least 5 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • Encoder defective
		• Replace the motor. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC521-01	C	Duplex Entrance Motor: Lock
SC521-02	C	Duplex By-pass Motor: Lock
		During motor ON, after checking the motor error notification registers (err_velo and err_posi) for 500msec, the error state of either register was detected at least 5 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • Encoder defective
		• Replace the motor. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC522-00	C	Paper Exit Motor: Lock
		During motor ON, after checking the motor error notification registers (err_velo and err_posi) for 500msec, the error state of either register was detected at least 5 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • Encoder defective
		• Replace the motor. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC530-00	D	Fusing Fan Lock
		In the motor ON state, the value of the lock sensor is checked every 100msec. If a lock signal is not obtained for 50 times consecutively.
		• Motor defective • Connector disconnected • Harness broken

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• BCU defective
		• Replace the fusing fan. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC531-00	D	Development Bearing Cooling Fan Lock
		In the motor ON state, the value of the lock sensor is checked every 100msec. If a lock signal is not obtained for 50 times consecutively.
		• Motor defective • Connector disconnected • Harness broken • BCU defective
		• Replace the development bearing cooling fan • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC533-00	D	PSU Cooling Fan Lock
SC533-01	D	Development Bearing Cooling Fan
		In the motor ON state, the value of the lock sensor is checked every 100msec. If a lock signal is not obtained for 50 times consecutively.
		• Motor defective • Connector disconnected • Harness broken • BCU defective
		• Replace the development bearing cooling fan. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC534-00	D	Development Exhaust Fan
		In the motor ON state, the value of the lock sensor is checked every 100msec. If a lock signal is not obtained for 50 times consecutively.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Motor defective • Connector disconnected • Harness broken • BCU defective
		• Replace the development exhaust fan. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC535-00	D	Paper Exit Cooling Fan Lock
		In the motor ON state, the value of the lock sensor is checked every 100msec. If a lock signal is not obtained for 50 times consecutively.
		• Motor defective • Connector disconnected • Harness broken • BCU defective
		• Replace the paper exit cooling fan. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC540-00	D	Fusing/paper Exit Motor: Lock
		During motor ON, after checking lock signals for 2sec, a High level was detected at least 20 times.
		• Motor defective • Connector disconnected • Harness broken • BCU defective • Unit torque increased
		• Replace the fusing/paper exit motor. • Reset the connector. • Replace the harness. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC541-01	A	Fusing Thermopile (Center) Disconnection
		Below a predetermined temperature (or below CB) is detected for specified seconds continuously. Detection frequency: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the thermopile (center). • Replace the harness between the fusing unit and the BCU. • Replace the BCU.
SC541-02	A	NC Sensor (Center) Disconnection
		3ED - 3FF (FB voltage: 3.243V-3.300V) is detected for specified seconds continuously (NC sensor (center): detection & compensation, NC sensor (end): detection & compensation). Detection period: 100 ms, detection frequency: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the NC sensor (center). • Replace the harness between the fusing unit and the BCU. • Replace the BCU.
SC541-03	A	NC Sensor (Center) Short-circuit
		AD value: 0-13 (FB voltage: 0.000V-0.041V) is detected for specified seconds continuously. Detection period: 100 ms, detection frequency: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the NC sensor (center). • Replace the harness between the fusing unit and the BCU. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC542-02	A	Fusing Thermopile (Center) Thermopile Does Not Reload
		When the thermopile (center) does not reach a predetermined temperature for 7 seconds consecutively.
SC542-03	A	Fusing Thermopile (Center) Does Not Reload
		When the thermopile (center) does not reach the permission temperature of heat central reloading for specified seconds continuously.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC542-05	C	Fusing Thermopile (Center) Does Not Reload (Low Voltage)
		When the thermopile (center) does not reach a predetermined temperature for 7 seconds consecutively.
SC542-06	C	Fusing Thermopile (Center) Does Not Reload (Low Voltage)
		When the thermopile (center) does not reach the permission temperature of heat central reloading for specified seconds continuously.
		• Thermopile (center) lens dirt • Thermopile (center) installed incorrectly • Thermopile (center) deformed or not installed (or mounted) properly • Outside input voltage guarantee • After excessive temperature rise prevention unit operation
		• Remove the jammed paper in the fusing unit. • Check and replace the thermopile (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC543-00	A	Fusing Thermopile (Center) High Temperature Detection (Software)
		When the thermopile (center) detects a predetermined temperature or above for specified seconds consecutively. Detection period 100ms, detection count: 10 times or more.
		• Triac short-circuit • Engine controller defective • Fusing roller temperature sensor (center) defective • Fusing control software defective
		• Check the fusing unit. • Check that the triac of the AC controller on the PSU does not short-circuit. • Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU board. • Replace the fusing unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC544-	A	Fusing High Temperature Detection (hardware)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
01		(Fusing Thermopile (Center) High Temperature Error)
		In the event of an error
		• Triac defective (short-circuit) • Engine controller defective • Fusing roller temperature sensor (center) defective • Fusing control software: out of control

		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.
		  • SP1-141-101 (Thermopile (center))
		  • SP1-141-102 (Thermopile (edge))
		  • SP1-141-103 (Thermistor (center))
		  • SP1-141-104 (Thermistor (edge))
		  • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated)
		  • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated)
		  • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated)
		  • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated)
		  Note: The high temperature state of the fusing unit is detected when the temperature detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position.
		• Check the fusing unit.
		• Check the triac of the AC controller on the PSU and replace the PSU.
		• Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit
		• Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit
		• Replace the BCU board.
		• Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC544-02	A	Fusing High Temperature Detection (hardware) (Non-Contact thermistor High Temperature Error)
		In the event of an error
		• Triac defective (short-circuit) • Engine controller defective • Fusing roller temperature sensor (center) defective • Fusing control software: out of control
		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• SP1-141-101 (Thermopile (center)) • SP1-141-102 (Thermopile (edge)) • SP1-141-103 (Thermistor (center)) • SP1-141-104 (Thermistor (edge)) • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated) • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated) • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated) • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated) Note: The high temperature state of the fusing unit is detected when the temperature detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position. • Check the fusing unit. • Check the triac of the AC controller on the PSU and replace the PSU. • Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU board. • Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC545-01	A	Fusing Central Heater Continuously Heat
		After waiting for full power for more than specified seconds continuously, not detected for specified seconds. • Definition of heater full power Continuously heating rate set point (maximum heating rate) • Measurement start point After reload (after heater extinguished, after rotation complete) below the standby temperature (target temperature), measurement starts after a heater heat-up request is issued. • Measurement stop condition Rotation started due to a print signal during measurement or other. • Maximum heat-up Duty (SP interlinked value) 0% is excluded.
		• Thermopile (center) lens dirt • Thermopile (center) installed incorrectly • Thermopile bracket deformation • Heater disconnection • After excessive temperature rise prevention unit operates

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Outside input voltage guarantee
		• Remove the jammed paper in the fusing unit • Check and replace the thermopile (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC545-05	C	Fusing Central Heater Continuously Heat (Low Voltage)
		After waiting for full power for more than specified seconds continuously, not detected for specified seconds. • Definition of heater full power Continuously heating rate set point (maximum heating rate) • Measurement start point After reload (after heater extinguished, after rotation complete) below the standby temperature (target temperature), measurement starts after a heater heat-up request is issued. • Measurement stop condition Rotation started due to a print signal during measurement or other. • Maximum heat-up Duty (SP interlinked value) 0% is excluded.
		• Thermopile (center) lens dirt • Thermopile (center) installed incorrectly • Thermopile bracket deformation • Heater disconnection • After excessive temperature rise prevention unit operates • Outside input voltage guarantee
		• Remove the jammed paper in the fusing unit • Check and replace the thermopile (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC547-01	D	Zero cross Error (relay-contact soldering)
		In the event of an error
		• Fusing relay defective (contact soldering) • Fusing relay drive circuit fault

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Turn the main power supply switch OFF/ON • If the fusing relay is damaged, replace the PSU. • Check the connection between PSU and controller board, and replace harness and board if necessary.
SC547-02	D	Zero cross Error (relay contact fault)
		In the event of an error
		• Fusing relay damage (contact open) • Fusing relay drive circuit fault • PSU fuse (24VS) blowout
		• Turn the main power supply switch OFF/ON. • If the fusing relay is damaged, replace the PSU. • Check the connection between PSU and controller board, and replace harness and board if necessary. • If the PSU fuse (24VS) blows out, replace the fuse.
SC547-03	D	Zero cross Error (low-frequency error)
		In the event of an error
		Frequency instability of commercial power line
		• Turn the main power supply switch OFF/ON. • Check the power source. • Check the connection between PSU and controller board, and replace harness and board if necessary.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC551-01	A	Fusing Thermopile (Edge) Disconnection
		When the thermopile (edge) detects a predetermined temperature or less for specified seconds consecutively.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the thermopile (edge). • Replace the harness between the fusing unit and the BCU. • Replace the BCU.
SC551-02	A	NC Sensor (End) Disconnection
		3ED - 3FF (FB voltage: 3.243V-3.300V) is detected for specified seconds continuously (NC sensor (center): detection & compensation, NC sensor (end): detection & compensation). Detection period: 100 ms, detection frequency: 10 times or more.
		• Harness broken

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Reset the NC sensor. • Replace the harness between the fusing unit and the BCU. • Replace the BCU.
SC551-03	A	NC Sensor (End) Short-circuit
		AD value: 0-13 (FB voltage: 0.000V-0.041V) is detected for specified seconds continuously. Detection period: 100 ms, detection frequency: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Reset the NC sensor. • Replace the harness between the fusing unit and the BCU. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC552-02	A	Fusing Thermopile (Edge) Does Not Reload
		When the thermopile (edge) does not reach a predetermined temperature for specified seconds consecutively.
SC552-03	A	Fusing Thermopile (Edge) Does Not Reload
		Heating edge reload permission temperature not reached after heater 1 ON for specified seconds.
SC552-05	C	Fusing Thermopile (Edge) Does Not Reload (Low Voltage)
		When the thermopile (edge) does not reach a predetermined temperature for specified seconds consecutively.
SC552-06	C	Fusing Thermopile (Edge) Does Not Reload (Low Voltage)
		When the thermopile (edge) does not reach the permission temperature of heat edge reloading for specified seconds continuously.
		• Thermopile (edge) lens dirt • Thermopile (edge) installed incorrectly • Thermopile modification • Outside input voltage guarantee • After excessive temperature rise prevention unit operation
		• Remove the jammed paper in the fusing unit. • Check and replace the thermopile (edge). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC553-00	A	Fusing Thermopile (Edge) High Temperature Detection (software)
		Above a predetermined temperature detected for specified seconds continuously. Detection period: 100ms, detection count: 10 times or more.
		• Triac short-circuit • Engine controller defective • Fusing roller temperature sensor (center) defective • Fusing control software defective
		• Check the fusing unit. • Check that the triac of the AC controller on the PSU does not short-circuit. • Reconnect the following connectors CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU board. • Replace the fusing unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC554-01	A	Fusing Thermopile (Edge) High Temperature Detection (hardware)
		In the event of an error
		• Triac defective (short-circuit) • Engine controller defective • Fusing roller temperature sensor (center) defective • Fusing control software: out of control

		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.
		  • SP1-141-101 (Thermopile (center))
		  • SP1-141-102 (Thermopile (edge))
		  • SP1-141-103 (Thermistor (center))
		  • SP1-141-104 (Thermistor (edge))
		  • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated)
		  • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated)
		  • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated)
		  • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated)
		Note: The high temperature state of the fusing unit is detected when the temperature

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position. • Check the fusing unit. • Check that the triac of the AC controller on the PSU does not short-circuit. • Replace the PSU. • Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU board. • Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC554-02	A	NC Sensor (End) High Temperature Detection (hardware)
		In the event of an error
		• Triac defective (short-circuit) • Engine controller defective • Fusing roller temperature sensor defective (rear) • Fusing control software: out of control

		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.
		  • SP1-141-101 (Thermopile (center))
		  • SP1-141-102 (Thermopile (edge))
		  • SP1-141-103 (Thermistor (center))
		  • SP1-141-104 (Thermistor (edge))
		  • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated)
		  • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated)
		  • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated)
		  • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated)
		Note: The high temperature state of the fusing unit is detected when the temperature detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position.
		• Check the fusing unit.
		• Check that the triac of the AC controller on the PSU does not short-circuit.
		• Replace the PSU.
		• Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit
		• Replace the following harness: CN115 of BCU, connectors between the fusing unit and

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		the BCU, connectors connected to the fusing unit • Replace the BCU board. • Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC555-01	A	Fusing Edge Heater Continuously Heat
SC555-05	C	Fusing Edge Heater Continuously Heat (Low Voltage)
		After waiting for full power for more than specified seconds continuously, not detected for specified seconds. • Definition of heater full power Continuously heating rate set point (maximum heating rate) • Measurement start point After reload (after heater extinguished, after rotation complete) below the standby temperature (target temperature), measurement starts after a heater heat-up request is issued. • Measurement stop condition Rotation started due to a print signal during measurement or other • Maximum heat-up Duty (SP interlinked value) 0% is excluded
		• Thermopile (edge) lens dirt • Thermopile (edge) installed incorrectly • Thermistor deformation • Heater disconnection • After excess temperature rise prevention unit operation • Outside input voltage guarantee
		• Remove the jammed paper in the fusing unit. • Check and replace the thermopile (edge). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC557-00	C	Zero Cross Frequency Exceeded
		In the event of an error
		Frequency instability of commercial power line/Noise
		-

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC558-01	C	Low Input Voltage
		On the mains power supply, detected the input voltage that is less than the specification and is more than 50V.
		Low input of mains power supply
		-

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC559-00	A	Fusing Jam Detected for 3 Times Consecutively
		Fusing jam (does not reach fusing exit sensor) is detected for 3 times consecutively. • Detection conditions Displays the SC559-00 at the time of integrating the counter each time fusing jam occurs, became fusing jam counter value = 3. The counter value is retained without fusing jam also reset by OFF/ON the power supply. • Control ON/OFF And enables ON / OFF is this SC, the default is set to OFF, then ON at the time of customer requirements. SP1-142-001 0: OFF (default), 1: ON (Set at the time of customer requirements) • Counter reset condition occurs fusing jam 1. Normal paper exit has been done during this continuous fusing jam, fusing jam counter is reset. 2. When "1" is changed to "0" SP1-142-001, to reset the (SP9-912-001) fusing jam counter. 3. When after displaying SC559, SC release is made, reset the (SP9912-001) fusing jam counter.
		Fusing unit paper jam
		Remove the jam.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC561-00	A	Pressure Roller Thermistor (Center) Disconnection
		When the pressure roller thermistor (center) detects a predetermined temperature or less for specified seconds consecutively. Detection period 100ms, detection count: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the pressure roller thermistor (center).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the harness between the fusing unit and the BCU. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC562-02	A	Pressure Roller Thermistor (Center) Does Not Reload
		When the pressure roller thermistor (center) does not reach a predetermined temperature for specified seconds consecutively.
		• Thermistor dirt • Thermopile deformed or not installed (or mounted) properly • Outside input voltage guarantee • After excess temperature rise prevention unit operation
		• Remove the jammed paper in the fusing unit. • Check and replace the pressure roller thermistor (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the thermopile. • Replace the BCU.
SC562-05	C	Pressure Roller Thermistor (Center) Does Not Reload (Low Voltage)
		When the pressure roller thermistor (center) does not reach a predetermined temperature for specified seconds consecutively.
		• Thermistor dirt • Thermopile deformed or not installed (or mounted) properly • Outside input voltage guarantee • After excess temperature rise prevention unit operation
		• Remove the jammed paper in the fusing unit. • Check and replace the pressure roller thermistor (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the thermopile. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC563-00	A	Pressure Roller Thermistor (Center) High Temperature Detection (software)
		Above a predetermined temperature detected for specified seconds continuously. Detection period: 100ms, detection count: 10 times or more.
		• Triac short-circuit

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Engine controller defective • Pressure roller thermistor (end) defective • Fusing control software defective
		• Check the fusing unit. • Check that the triac of the AC controller on the PSU does not short-circuit. • Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU. • Replace the fusing unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC564-00	A	Fusing High Temperature Detection (hardware) (Pressure Roller Thermistor Error)
		In the event of an error
		• Triac short-circuit • Engine controller defective • Pressure roller thermistor (end) defective • Fusing controller software defective

		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.
		  • SP1-141-101 (Thermopile (center))
		  • SP1-141-102 (Thermopile (edge))
		  • SP1-141-103 (Thermistor (center))
		  • SP1-141-104 (Thermistor (edge))
		  • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated)
		  • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated)
		  • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated)
		  • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated)
		Note: The high temperature state of the fusing unit is detected when the temperature detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position.
		• Check the fusing unit.
		• Check that the triac of the AC controller on the PSU does not short-circuit.
		• Replace the PSU.
		• Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit. • Replace the BCU. • Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC571-00	A	Pressure Roller Thermistor (End) Disconnection
		When the pressure roller thermistor (end) detects a predetermined temperature or less for specified seconds consecutively. Detection period: 100 ms, detection counts: 10 times or more.
		• Harness broken • Connector disconnected
		• Reconnect the connectors between the fusing unit and the BCU. • Replace the pressure roller thermistor (end). • Replace the harness between the fusing unit and the BCU. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC572-02	A	Pressure Roller Thermistor (End) Does Not Reload
		When the temperature does not reach 40 degrees Centigrade for 100 seconds consecutively.
		• Thermistor dirt • Thermopile deformed or not installed (or mounted) properly • Outside input voltage guarantee • After excess temperature rise prevention unit operation
		• Remove the jammed paper in the fusing unit. • Check and replace the pressure roller thermistor (end). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the thermopile. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC573-00	A	Pressure Roller Thermistor (End) High Temperature Detection (software)
		When the pressure roller thermistor (end) detects a predetermined temperature or above for specified second consecutively.
		• Triac short-circuit • Engine controller defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Pressure roller thermistor (end) defective • Fusing controller software defective
		• Check the fusing unit. • Check that the triac of the AC controller on the PSU does not short-circuit. • Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit • Replace the BCU. • Replace the fusing unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC574-00	A	Pressure Roller Thermistor (End) High Temperature Detection (hardware)
		In the event of an error
		• Triac short-circuit • Engine controller defective • Pressure roller thermistor (end) defective • Fusing control: out of control

		• Check the sensor temperature with the following SPs. If the temperature is lower than 250°C, replace the thermopile or thermistor.
		  • SP1-141-101 (Thermopile (center))
		  • SP1-141-102 (Thermopile (edge))
		  • SP1-141-103 (Thermistor (center))
		  • SP1-141-104 (Thermistor (edge))
		  • SP1-141-151 (Thermopile (center): 200 msec before the SC is generated)
		  • SP1-141-152 (Thermopile (edge): 200 msec before the SC is generated)
		  • SP1-141-153 (Thermistor (center): 200 msec before the SC is generated)
		  • SP1-141-154 (Thermistor (edge): 200 msec before the SC is generated)
		Note: The high temperature state of the fusing unit is detected when the temperature detected by the sensor is 250°C or more. Therefore, if the temperature of the above SPs is lower than 250°C, the thermopile or thermistor may be defective or out of position.
		• Check the fusing unit.
		• Check that the triac of the AC controller on the PSU does not short-circuit.
		• Replace the PSU.
		• Reconnect the following connectors: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit
		• Replace the following harness: CN115 of BCU, connectors between the fusing unit and the BCU, connectors connected to the fusing unit

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the BCU. • Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC589-01	D	Fusing center: Low Temperature Detection
		When the thermopile (center) detects the temperature which is 180 degrees Centigrade lower than target Temperature for 12 seconds consecutively.
		• Central heater harness disconnected • Connector defective • After excess temperature rise prevention unit (thermostat) operation
		• Replace the jammed paper in the fusing unit. • Check and replace the thermopile (center). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU.
SC589-02	D	Fusing edge: Low Temperature Detection
		When the thermopile (edge) detects the temperature which is 180 degrees Centigrade lower than target Temperature for 12 seconds consecutively.
		• Edge heater harness disconnected • Connector defective • After excess temperature rise prevention unit (thermostat) operation
		• Replace the jammed paper in the fusing unit. • Check and replace the thermopile (edge). • Check the power supply voltage and reconnect the cable to the outlet. • Replace the thermostat. • Replace the BCU.

SC Tables: SC6xx (Communication and Others)

SC621-01 to SC687-00

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC621-01	D	Finisher communication error
SC621-02	D	Mailbox communication error
		• When the communication line has opened and the machine is in a normal communication state, it has received a break signal from a connected device. • There is not any response within 100 ms after the data frame transmission, and retries have failed with timeout error for 3 times in a row. • When changing the baud rate after program downloading starts, the machine has failed to detect the break signal of the finisher or has failed to detect that the break has been cleared.
		• Connection error between finisher and main machine. • The finisher-related firmware is not installed properly. • The engine firmware is not installed properly. • Finisher control board defective. • BCU, or IOB defective • Communication error caused by electrostatic noise
		Check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors in the finisher/mailbox are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Update the firmware to the latest version. 3. Check all harnesses in the mailbox or finisher. Replace any harness that is damaged. 4. Replace the BCU, or IOB. 5. Replace the controller board of the finisher or the mailbox.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622	D	Paper Bank Communication Error
SC622-11	D	Paper Bank 1 Communication Error (M494)
SC622-12	D	Paper Bank 1 Communication Error (M494)
SC622-31	D	Paper Bank 1 Communication Error (M496)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		Detected an error when connecting the communication line.
		• Paper bank control board defective • BCU defective • Paper bank-main machine connection fault
		Check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors in tray 1, 2, and optional paper tray are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Check the harness in tray 1, 2, and optional paper tray. Replace the harness if it is disconnected, or damaged. 3. Check if there are any signs of a short circuit on the Bank Main Board. If there are any defects, replace the board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC623-00	D	Paper Bank Communication Error (D696)
		When two trays PFU (M494) and side LICT (D696) or LCIT (M496) and side LCIT (D696) are installed, 1. When the upper stream unit (M494 or M496) recognizes the lower stream unit (D696), the break of the lower stream unit is not canceled within predetermined milliseconds. 2. After the upper stream unit (M494 or M496) recognizes the lower stream unit (D696), there is no ACK within predetermined milliseconds after transmission of a data frame to the lower stream unit, and a timeout error occurs for 3 times consecutively even if retransmission is performed.
		• Bank control board fault • Connector disconnected
		• Turn the power off/on. • Reset the optional paper tray connecting cable. • Replace the BCU. • Replace the optional paper tray.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC641-00	D	Communication error between BCU and Controller board.
		Controller board does not respond after BCU tries to communicate three times.
		• Controller board software error • Connection error between BCU and Controller board • Engine board software error
		• Check connections between Controller board and BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Turn the main switch off and on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC664-01	D	Access Permission Error to VODKA SRAM
SC664-02	D	Write Error to VODKA SRAM
SC664-03	D	VODKA Program Startup Error
		The machine detects the communication error between VODKA and SRAM when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-01	D	BCU-IPU Connection Error
		The machine detects the communication error between BCU and IPU (No FFC connection) when starting up, or recovery from energy saver mode.
		• BCU defective, IPU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Reconnect the FFC. • Replace the FFC. • Replace the BCU. • Replace the IPU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-04	D	BCU (IOB Module) Does Not Start
		The IOB does not start up when starting up, or recovery from energy saver mode.
		• No power supply to the BCU (IOB module) (power supply connector installed incorrectly, harness broken) • Board defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Reconnect the BCU power supply harness. • Replace the BCU power supply harness.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-05	D	Master Device Communication Error
		The machine detects the communication error between CPU and Slave1 when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-07	D	IPU signal Communication Error
		The machine detects the communication error between CPU and Slave1 when starting up, or recovery from energy saver mode.
		• BCU defective, IPU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Reconnect the FCC. • Replace the FCC. • Replace the BCU. • Replace the IPU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-08	D	IOB signal Communication Error
		The machine detects the communication error between CPU and Slave1 when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-01	D	Master Device Mode Setting Error
		The machine detects the CPU mode error when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Turn the power off/on. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-10	D	Slave1 Device Mode Setting Error
		The machine detects the Slave1 mode error when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-40	D	Macaron1 Mode Setting Error
		The machine detects the Macaron1 mode error when starting up, or recovery from energy saver mode.
		• BCU defective (Parts implementation defect, solder scrap, implemented parts defect, etc.)
		• Turn the power off/on. • Replace the BCU. • Replace the IPU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669		EEPROM Communication Error
SC669-01	D	EEPROM OPEN: ID error
SC669-02	D	EEPROM OPEN: Channel error
SC669-03	D	EEPROM OPEN: Device error
SC669-04	D	EEPROM OPEN: Communication abort error
SC669-05	D	EEPROM OPEN: Communication timeout error
SC669-06	D	EEPROM OPEN: Operation stopped error
SC669-	D	EEPROM OPEN: Buffer full

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
07		
SC669-08	D	EEPROM OPEN: No error code
SC669-09	D	EEPROM CLOSE: ID error
SC669-10	D	EEPROM CLOSE: No error code
SC669-11	D	EEPROM Data write: ID error
SC669-12	D	EEPROM Data write: Channel error
SC669-13	D	EEPROM Data write: Device error
SC669-14	D	EEPROM Data write: Communication abort error
SC669-15	D	EEPROM Data write: Communication timeout error
SC669-16	D	EEPROM Data write: Operation stopped error
SC669-17	D	EEPROM Data write: Buffer full
SC669-18	D	EEPROM Data write: No error code
SC669-19	D	EEPROM Data read: ID error
SC669-20	D	EEPROM Data read: Channel error
SC669-21	D	EEPROM Data read: Device error
SC669-22	D	EEPROM Data read: Communication abort error
SC669-23	D	EEPROM Data read: Communication timeout error
SC669-24	D	EEPROM Data read: Operation stopped error
SC669-25	D	EEPROM Data read: Buffer full

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669-26	D	EEPROM Data read: No error code
		Received an error notification during EEPROM communication and does not resume after 3 retries.
		• Electrical noise • EEPROM not connected fully • EEPROM damaged • BCU damaged
		• Turn the power off/on. • Check the EEPROM. • Replace the EEPROM. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669-36	D	EEPROM: Verify Error
		The machine receives an error notification during EEPROM (BCU) communication and does not resume after 2 retries. The machine detects an abnormal value in the EEPROM data when starting up, or recovery from energy saver mode.
		• Electrical noise • EEPROM not connected fully • EEPROM damaged • BCU damaged
		• Turn the power off/on. • Check the EEPROM. • Replace the EEPROM. • Replace the BCU.
SC669-37	D	EEPROM: Failure Detection Error
		The machine receives an error notification during EEPROM (BCU) communication and does not resume after 1 retries. The machine determined EEPROM failure in the EEPROM detection operation when starting up, or recovery from energy saver mode.
		• Electrical noise • EEPROM not connected fully • EEPROM damaged • BCU damaged
		• Turn the power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Check the EEPROM. • Replace the EEPROM. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-01	D	Engine start up error when the machine boots up
		• /ENGRDY signal was not asserted when the machine was turned on. • PCI I/F is not linked up when the machine returns from energy saver mode. • /IPURDY signal was not asserted when the machine was turned on or returned from energy saver mode. • EC/PC/SC response was not received within specified time from power on. • Writing to Rapi driver failed (the other party not found through PCI). • Connection defect between controller board and BCU. • BCU is down / unstable
		• BCU defective • PSU defective • Controller board defective
		Refer to When SC670 Is Displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-02	D	Engine start up error when the machine is in operation
		• CPU reset by software • CPU reset by anomaly CPU • CPU reset by hardware defect / noise • Hardware defect
		Engine board reset unexpectedly.
		Refer to When SC670 Is Displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-00	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established, or communication with controller was interrupted after a normal startup.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-10	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective • Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-11	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established, or communication with controller was interrupted after a normal startup.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective • Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-12	D	Controller start up error
		Communication with controller was interrupted after a normal startup.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective • Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-13	D	Controller start up error
		The operation panel detected that the controller is down.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective • Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-99	D	Controller start up error
		The operation panel software ended abnormally.
		• Controller stalled • Board installed incorrectly • Controller board defective • Operation panel connector loose, broken, or defective • Controller late
		Refer to When SC672 (Controller start up error) is displayed.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC673-10	D	Flair connection error of Smart Operation Panel
		The SC is issued only when the Smart Operation Panel is installed. The main machine does not respond to the smart operation panel with the Flair communication.
		The SP setting for the smart operation panel is mismatched.
		• Turn the main power off/on. • Set the SP5748-201 (OpePanel Setting) to [1: ON]. Note for the phone number: There is a phone number column on the SC673-10 display, but the phone number is not displayed because of this SC feature. Other Information: When the automatic reboot cannot be performed due to the hardware failure, SC672 or SC673 is displayed. The SC call is not issued. You cannot reboot the machine manually regardless of SP5-875-002 setting.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC682		PCU: ID Chip Communication Error
SC682-01	D	Invalid Device ID
SC682-06	D	Channel Error
SC682-11	D	Device Error
SC682-16	D	Communication Aborted (error during communication)
SC682-21	D	Communication Timeout
SC682-26	D	Device Stopped (logically stopped)
SC682-31	D	Requested Buffer Full
		Received an error notification during EEPROM communication and does not resume after 3 retries.
		• Device ID date error • Mu sensor / EEPROM defective • Electrical noise • PCU is not set properly.
		• Turn the power off/on. • Replace the PCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC682-36	D	PCU: Verify Error
		Received a error notification during EEPROM communication and does not resume after 2 retries.
		• Device ID date error • Mu sensor / EEPROM defective • Electrical noise • PCU is not set properly.
		• Turn the power off/on. • Replace the PCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC687-00	D	PER Not Received Error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		Unable to receive the PER command from the controller.
		• Communication error
		• Replace the BCU.

SC Tables: SC7xx (Peripherals)

SC720-03 to SC792-00

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC720		**Finisher SR3230 Error**
SC720-03	B	Protection Device Intercept Error 1
		Protection device intercept error state (fuse break) is detected.
		• Short-circuit defective • Overload defective • Motor defective • Solenoid defective
		Check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. • The target parts are all the motors and the sensors. 1. Check if the connector of the target part is connected securely. Reconnect the connector if it is disconnected, or loose. 2. Check the harness for the target part. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, sensors turn OFF/ON, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC720-06	C	Access error to NVRAM
		Error occurs when accessing NVRAM.
		Connection failure or malfunction of NVRAM
		Check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. 1. Pull out and reinsert the NVRAM to check if the NVRAM is correctly inserted into the IC socket. If the SC cannot be recovered, replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC720		**Finisher SR3230 Error**
SC720-10	B	Entrance Transport Motor Error
SC720-11	B	Horizontal Transport Motor Error
SC720-13	B	Transport Motor Error
SC720-	B	Pre-stack Transport Motor Error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
15		
SC720-17	B	Exit Motor Error
		Error Condition of -06, -10, -11, -13, -15, -17 • Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification)
SC720-20	B	Lower Junction Gate Motor Error
SC720-24	B	Paper Exit Guide Plate Motor Error
SC720-25	B	Punch Motor Error
SC720-27	B	Punch Unit Movement Motor Error
SC720-28	B	Punch Registration Motor Error
SC720-30	B	Jogger Motor Error
SC720-33	B	Positioning Roller Shift Motor Error
		Error Condition of -20, -24, -25, -27, -28, -30, -33 • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC720-34	B	Positioning Roller Motor Error
		• Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification)
SC720-35	B	Paper Stacking Holder Motor Error
		• Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification) • During movement to home, the home position could not be detected within a predetermined time (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined time (1st time is jam notification, 2nd time is SC notification).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC720-41	B	Stack Feed-out Motor Error
		• Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification) • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC720-42	B	Corner Stapler Movement Motor Error
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC720-44	B	Corner Stapler Motor Error
		• During movement to home, the home position could not be detected within a predetermined time (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined time (1st time is jam notification, 2nd time is SC notification).
SC720-50	B	Booklet Jogger Motor Error
SC720-51	B	Booklet Jogging Pawl Movement Motor Error
SC720-52	B	Press Folding Motor Error
SC720-53	B	Bottom Fence Motor Error
		Error Condition of -50, -51, -52, -53 • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC720-54	B	Fold Roller Motor Error
		Motor driver detects an error (short-circuit and overheating) (1st time is jam notification, 2nd time is SC notification).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC720-60	B	Booklet Stapler Motor Error
		• During movement to home, the home position could not be detected within a predetermined time (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined time (1st time is jam notification, 2nd time is SC notification).
SC720-70	B	Tray Lift Motor Error
		• Motor controller detects an error (overload) (1st time is jam notification, 2nd time is SC notification). • During descent, the paper surface sensor still detects paper even after a predetermined time (t0sec) elapses (1st time is jam notification, 2nd time is SC notification). • During ascent, the paper surface sensor could not detect the paper surface even after a predetermined time (t1sec) elapses (1st time is jam notification, 2nd time is SC notification).
SC720-71	B	Shift Motor Error
SC720-72	B	Shift Jogger Front Motor Error
SC720-73	B	Shift Jogger Rear Motor Error
SC720-74	B	Shift Jogger Retreat Motor Error
		Error Condition of -71, -72, -73, -74 • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC720-75	B	Return Roller Motor Error
		• Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification) • During movement to home, the home position could not be detected within a predetermined time (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined time (1st time is jam notification, 2nd time is SC notification).
SC720-80	B	Protection Device Intercept Error 3

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		Fuse blowout is detected
SC720-81	B	Shift Roller Drive Motor Error
		Motor driver detects an error (DC motor control error) (1st time is jam notification, 2nd time is SC notification)
SC720-82	B	Edge Guide Motor Error
SC720-83	B	Paper Guide Motor Error
		Error Condition of -82, -83 • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
		• Harness short-circuit -80 only • Overload • Motor defective • Solenoid defective -03, -80 only • Connector disconnected • Encoder defective -10, -25, -34 -81 only • Home position sensor defective
		Check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. • The target parts are the motor and related HP sensor that SC occurred. 1. Check if the connector of the target part is connected securely. Reconnect the connector if it is disconnected, or loose. 2. Check the harness for the target part. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, sensors turn OFF/ON, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC722		**Finisher SR3210 (D3B8) Error**
SC722-03	B	Protection Device Intercept Error 1
		Fuse blowout is detected

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC722-06	C	See the descriptions next table below.
SC722-10	B	Entrance Transport Motor Error
		Motor driver detects an error state (DC motor control error) (1st time is jam notification, 2nd time is SC notification).
SC722-11	B	Proof Transport Motor Error
		Motor driver detects an error state (DC motor control error) (1st time is jam notification, 2nd time is SC notification).
SC722-17	B	Paper Exit Transport Motor 2 Error
		Motor driver detects an error state (DC motor control error) (1st time is jam notification, 2nd time is SC notification).
SC722-24	B	Paper Exit Guide Plate Open/Close Motor Error
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC722-25	B	Punch Unit Drive Motor Error
		• During movement to home, the home position could not be detected within a predetermined time (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a predetermined time elapsed (1st time is jam notification, 2nd time is SC notification). • Output from the encoder could not be counted for a predetermined number of times within a predetermined time (1st time is jam notification, 2nd time is SC notification).
SC722-27	B	Horizontal Registration Unit Transfer Motor Error
SC722-28	B	Horizontal Registration Correction Motor Error
SC722-30	B	Jogger Motor Error
SC722-33	B	Positioning Roller Motor Error
SC722-	B	Feedout Pawl Motor Error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
41		
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a predetermined pulse elapsed (1st time is jam notification, 2nd time is SC notification).
SC722-42	B	Stapler Transfer Motor Error
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a predetermined pulse elapsed (1st time is jam notification, 2nd time is SC notification). • During movement from home, retreat sensor ON could not be detected even after a predetermined pulse elapsed (1st time is jam notification, 2nd time is SC notification). • During initialization, retreat sensor ON was detected simultaneously when the home position is detected (1st time is jam notification, 2ndbtime is SC notification).
SC722-44	B	Stapler Motor Error
		• Motor driver detects an error (short-circuit or overheating) (1st time is SC). • During movement to home, the home position could not be detected even after a predetermined time elapsed (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a predetermined time elapsed (1st time is jam notification, 2nd time is SC notification). • During motor drive, the output from the encoder could not be counted for a predetermined number of times within a predetermined time (1st time is jam notification, 2nd time is SC notification).
SC722-45	B	Stapleless Stapler Transfer Motor Error
		• Motor driver detects an error (short-circuit or overheating) (1st time is SC). • During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a predetermined pulse elapsed (1st time is jam notification, 2nd time is SC notification).
SC722-46	B	Stapleless Stapler Motor Error
		• Motor driver detects an error (short-circuit or overheating) (1st time is SC). • During movement to home, the home position could not be detected even after a predetermined time elapsed (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected even after a

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		predetermined time elapsed (1st time is jam notification, 2nd time is SC notification).
SC722-47	B	Paper Guide Drive Motor Error
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
SC722-70	B	Tray Lift Motor Error
		• Motor driver detects an error (short-circuit or overheating) (1st time is SC). • During descent, the paper surface sensor still detects paper even after a predetermined time (t0sec) elapses (1st time is jam notification, 2nd time is SC notification). • During ascent, the paper surface sensor could not detect the paper surface even after a predetermined time (t0sec) elapses (1st time is jam notification, 2nd time is SC notification).
SC722-71	B	Shift Motor Error
SC722-81	B	Paper Guide Drive Motor
		• During movement to home, the home position could not be detected within a predetermined pulse (1st time is jam notification, 2nd time is SC notification). • During movement from home, the home position was detected for longer than a predetermined pulse (1st time is jam notification, 2nd time is SC notification).
		• Overcurrent (-03 only) • Staple jam (-44 only) • Encoder error (-11, -11, -25, -44) • Motor defective • Connecter disconnected, or loose • Motor overload • HP sensor defective • Paper surface sensor defective (-70 only)
		Check if the SC occurs by opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. • The target parts are the motor and related HP sensor that SC occurred. 1. Check if the connector of the target part is connected securely. Reconnect the connector if it is disconnected, or loose. 2. Check the harness for the target part. Replace the harness if it is disconnected, or damaged.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		3. Check if the motor runs, sensors turn OFF/ON, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC727		**Internal Multi-fold Unit FD3000 Error**
SC727-01	B	Connection Error to Downstream Unit
		Communication error has occurred with the serial interface of the downstream unit. This is displayed as an SC code from its initial detection.
		• Harness defective • Downstream unit defective • Controller board defective • I/F connector defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Turn the power off, disconnect the interface connector connected to the machine, connect the interface connector of the downstream unit to the machine, and then turn the power on. 2. If the downstream unit does not operate, resulting in connection error, there is a problem with the downstream unit, so repair the downstream unit. 3. Check the harness connections between the controller board and each connector. Replace the harness if it is damaged, or connect it if it is disconnected. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-03	B	Protection Device Intercept Error 1
		• Fuse (FU3) break is detected • 24-V power supply line error This is displayed as an SC code from its initial detection.
		• Fuse (FU3) is blowout • Controller board defective • 24-V harness entrapment (short circuit)
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. • The target parts are all the motors and the sensors.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		1. Check that the harness between the PCB and motor/solenoid is not stripped or entrapped. Replace the harness if there are any defects. 2. Rotate each motor shaft by hand to check for any overload. Replace the motor if there are any defects. 3. Check if there is any unusual odor from the solenoid or any problem with its appearance. Replace the solenoid if there are any defects. 4. Check if there are any signs of a short circuit on PCB. Replace the PCB if there are any defects.
SC727-04	B	Protection Device Intercept Error 2
		• Poly-switch (FU4) break is detected • Limit line disturbances from inrush currents has occurred to the interlock system. • This is displayed as an SC code from its initial detection.
		• Poly-switch (FU4) trip (Trip refers to the phenomenon whereby an overcurrent flows into the poly-switch, resulting in high resistance.) • Controller board defective • 24-V harness entrapment (short circuit)
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. • The target parts are all the motors and the sensors. 1. Check that the harness between the PCB and the motor/solenoid is not stripped or entrapped. Replace the harness if there are any defects. 2. Rotate each motor shaft by hand to check for any overload. Replace the motor if there are any defects. 3. Check if there is any unusual odor from the solenoid or any problem with its appearance. Replace the solenoid if there are any defects. 4. Check if there are any signs of a short circuit on PCB. Replace the PCB if there are any defects.
SC727-06	C	NVRAM Error 1
		An error has occurred during an access to the NVRAM. This is displayed as an SC code from its initial detection.
		NVRAM is disconnected, or defective
		Turn the main power OFF then ON after checking whether there are no foreign objects (such as remaining paper) in the tray. If the SC occurs again, replace the controller board.
SC727-	B	Transport Motor Error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
10		
		Motor error (Encoder error) This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor harness entrapped (short circuit or breaking of wire) • Connector disconnected • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step 1. Check if all connectors between the controller board and the motors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-12	B	Registration Motor Error
		Motor error (Encoder error) This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor harness entrapped (short circuit or breaking of wire) • Connector disconnected • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-	B	JG Crease Motor Error 1

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
20		
		• Motor error (Encoder error) • The junction gate is not at the HP position. This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor/sensor harness entrapped (short circuit or breaking of wire) • Connector disconnected • Junction Solenoid HP Sensor defective • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors/sensors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if the sensor turns OFF/ON. Replace the parts if there are any defects. 5. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-39	B	1st Fold Motor Error
		Motor error (Encoder error) This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor harness entrapped (short circuit or breaking of wire) • Connector disconnected • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-41	B	JG Crease Motor Error 2
		• Motor error (Encoder error) • Crease Roller is not at the HP position. This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor/sensor harness entrapped (short circuit or breaking of wire) Connector disconnected • Crease HP Sensor defective • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors/sensors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if the sensor turns OFF/ON. Replace the parts if there are any defects. 5. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-71	B	2nd Fold Motor Error
		Encoder error This is reported as a jam error when detected for the first time. If it occurs again in a row, its SC code appears.
		• Motor defective • Motor harness entrapped (short circuit or breaking of wire) • Connector disconnected • Controller board defective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON, submitting a job, feeding paper, opening/closing covers, and input/output check. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors are connected

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.
SC727-72	B	The power supply for the sensor is defective.
		The power supply for the sensor (5V_SN) is defective. This is displayed as an SC code from its initial detection.
		• Sensor harness entrapped (short circuit or breaking of wire) • Sensor defective • Controller board defective
		Turn the main power OFF then ON after checking whether there are no foreign objects (such as remaining paper) in the tray. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if the harness is connected to the wrong sensor. Reconnect the connector if there are any defects. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the sensor turns OFF/ON. Replace the parts if there are any defects. 4. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 5. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC745		**Mail Box CS3010 Error**
SC745-03	D	Protection Device Intercept Error 1
		Protection device intercept error state (fuse break) is detected.
		• Harness short-circuit • Motor defective • Solenoid defective
SC745-04	D	Protection Device Intercept Error 2
		Protection device intercept error state (fuse2 break) is detected.
		• Harness short-circuit • Motor defective • Solenoid defective
SC745-80	D	The entrance fan motor lock is detected.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		The entrance fan motor lock is detected.
		• Motor defective • Harness broken • Connector disconnected • Controller board detective
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors between the controller board and the motors/sensors are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if the sensor turns OFF/ON. Replace the parts if there are any defects. 5. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC761		**Bridge Unit BU3070 (D685) Error**
SC761-03	B	Protection Device Intercept Error 5V
SC761-04	B	Protection Device Intercept Error 24V
		Fuse blowout occurs due to over current during power injection (output detected for longer than 2 seconds).
		• Over current of bridge unit motor • Over current due to short-circuit in PCB
		• Replace the bridge unit or side tray. • Replace the PCB of bridge unit or side tray.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC780-01	D	Bank 1 (Upper optional paper tray) Protection Device Intercept Error
		When original source of 5V power supply is ON, protection device intercept of 24V power system is detected.
		In 24V power supply system: • Motor defective • Solenoid defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Harness short- circuit
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors in tray 1, 2, and optional upper tray are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Check the harness in tray 1, 2, and optional upper tray. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC781-01	D	Bank 2 (Lower optional paper tray) Protection Device Intercept Error
		When original source of 5V power supply is ON, protection device intercept of 24V power system is detected.
		In 24V power supply system: • Motor defective • Solenoid defective • Harness short- circuit
		Remove the jammed paper or slip of paper from the tray, and check if the SC occurs by turning the main power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. 1. Check if all connectors in tray 1, 2, and optional upper/lower trays are connected securely. Reconnect the connectors if they are disconnected, or loose. 2. Check the harness in tray 1, 2, and optional upper/lower trays. Replace the harness if it is disconnected, or damaged. 3. Check if the motor runs, has no overloads, and is properly driven. Replace the parts if there are any defects. 4. Check if there are any signs of a short circuit. Replace the parts if there are any defects.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC791-00	D	No Bridge Unit when Finisher is Present
		When power supply is switched on or paper is transported, finisher set is detected but bridge unit set is not detected. (during internal finisher connection, not detected)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Bridge unit not attached • Bridge unit defective
		• Reset the bridge unit. • Turn the main power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC792-00	B	No Finisher, Bridge Unit Provided
		When power supply is switched on, it is recognized there is no finisher, and a bridge unit is fitted.
		• Finisher connector set incorrectly • In a machine which has a bridge unit connected, a finisher is not fitted • Finisher defective
		Connect finisher or disconnect bridge unit, and turn the main power off/on.

SC Tables: SC8xx (Controller)

SC816-01 to SC877-00

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC816	[0x0000]	Energy save I/O subsystem error
SC816-01	D	Subsystem error
SC816-02	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-03	D	Transition to STR was denied.
SC816-04	D	Interrupt in kernel communication driver
SC816-05	D	Preparation for transition to STR failed.
SC816-07	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-08	D	Sysarch (LPUX_ENGINE_TIMERCTRL) error
SC816-09	D	Sysarch (LPUX_RETURN_FACTOR_STR) error
SC816-10 to 12	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-13	D	open() error
SC816-14	D	Memory address error
SC816-15 to 18	D	open() error
SC816-19	D	Double open() error
SC816-20	D	open() error
SC816-22	D	Parameter error
SC816-23, 24	D	read() error
SC816-25	D	write () error
SC816-26 to 28	D	write() communication retry error
SC816-29, 30	D	read() communication retry error
SC816-35	D	read() error
SC816-36 to 99	D	Subsystem error
		Energy save I/O subsystem detected some abnormality.
		• Energy save I/O subsystem defective • Energy save I/O subsystem detected a controller board error (non-response). • Error was detected during preparation for transition to STR.
		• Turn the main power off/on. • Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC840-00	D	EEPROM access error
		• During the I/O processing, a reading error occurred. The 3rd reading failure causes this SC code. • During the I/O processing, a writing error occurred.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Defective EEPROM
		-

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC841-00	D	EEPROM read data error
		Mirrored data of the EEPROM is different from the original data in EEPROM.
		Data in the EEPROM is overwritten for some reason.
		-

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-00	C	Nand-Flash updating verification error
		SCS write error (verify error) occurred at the Nand-Flash module when remote ROM or main ROM was updated.
		Nand-Flash defective
		Turn the main power OFF/ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-01	B	Insufficient Nand-Flash blocks (threshold exceeded)
		At startup, or when machine returned from low power mode, the Nand-Flash status was read and judged that the number of unusable blocks had exceeded threshold, and then SCS generated the SC code.
		Number of unusable blocks exceeded threshold for Nand-Flash
		Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-02	B	Number of Nand-Flash block deletions exceeded
		At startup, or when the machined returned from low power mode, the Nand-Flash was read and judged that the number of deleted blocks had exceeded threshold, and then SCS generated this SC code.
		Number of blocks deleted exceeded threshold for Nand-Flash
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC845		Hardware Error Detected when the automatic firmware update
SC845-01	D	Engine Board
SC845-	D	Controller Board

No.	Type	Error Name/Error Condition/Major Cause/Solution
02		
SC845-03	D	Operation Panel (Normal)
SC845-04	D	Operation Panel (Smart Panel)
SC845-05	D	FCU
		When updating the firmware automatically (ARFU), the firmware cannot be read or written normally, and the firmware update cannot be completed even by 3 retries.
		Hardware abnormality of the target board
		Replace the target board. For SC845-02, HDD and memory may cause the problem. Replace the HDD or memory if the SC cannot be recovered by replacing the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC860-00	B	HDD startup error at main power on (HDD error)

		• The HDD is connected but the driver detected the following errors.
		  • SS_NOT_READY:/* (-2)HDD does not become READY*/
		  • SS_BAD_LABEL:/* (-4)Wrong partition type*/
		  • SS_READ_ERROR:/* (-5)Error occurred while reading or checking the label*/
		  • SS_WRITE_ERROR:/* (-6)Error occurred while writing or checking the label*/
		  • SS_FS_ERROR:/* (-7)Failed to repair the filesystem*/
		  • SS_MOUNT_ERROR:/* (-8)Failed to mount the filesystem*/
		  • SS_COMMAND_ERROR:/* (-9)Drive not responding to command*/
		  • SS_KERNEL_ERROR:/* (-10)Internal kernel error*/
		  • SS_SIZE_ERROR:/* (-11)Drive size too small*/
		  • SS_NO_PARTITION:/* (-12)The specified partition does not exist*/
		  • SS_NO_FILE:/* (-13)Device file does not exist*/
		• Attempted to acquire HDD status through the driver but there has been no response for 30 seconds or more.

		• Unformatted HDD • Label data corrupted • HDD defective
		Format the HDD through SP mode.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-00	D	HD access error
		During HDD operation, the HDD returned an error.
		The HDD returned an error that does not constitute SC863 (bad sector) or SC864 (CRC error).
		Replace the HDD.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC866-00	B	SD card authentication error
		A license error of an application that is started from the SD card was detected.
		Invalid program data is stored on the SD card.
		Store a valid program data on the SD card.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-00	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd0).
		Turn the main power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-01	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd1).
		Turn the main power off/on.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-02	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd2).
		Turn the main power OFF/ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-00	D	SD card access error
		The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd0)
		• SD card defective • SD controller defective
		• Reformat the SD card (using the "SD Formatter" made by Panasonic).*

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Check the SD card insertion status. • Replace the SD card. • Replace the controller board.

* Do not format an SD card supplied with the main machine or sold as an option. You may only format SD cards used for Firmware Update by a Customer Engineer.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-01	D	SD card access error
		The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd1)
		• SD card defective • SD controller defective

		SD card that starts an application
		• Turn the main power off and check the SD card insertion status.
		  • If no problem is found, insert the SD card and turn the main power on.
		  • If an error occurs, replace the SD card.
		• SD card for users
		  • In case of a file system error, reformat the SD card (using the "SD Formatter" made by Panasonic).*
		  • In case of a device access error, turn the main power off and check the SD card insertion status.
		  • If no problem is found, insert the SD card and turn the main power on.
		  • If an error occurs, use another SD card.
		• If the error persists even after replacing the SD card, replace the controller board.

* Do not format an SD card supplied with the main machine or sold as an option. You may only format SD cards used for Firmware Update by a Customer Engineer.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-02	D	SD card access error
		The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd1)
		• SD card defective • SD controller defective

		SD card that starts an application
		• Turn the main power off and check the SD card insertion status.
		  • If no problem is found, insert the SD card and turn the main power on.
		  • If an error occurs, replace the SD card.
		• SD card for users
		  • In case of a file system error, reformat the SD card (using the "SD Formatter"

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		made by Panasonic).* • In case of a device access error, turn the main power off and check the SD card insertion status. • If no problem is found, insert the SD card and turn the main power on. • If an error occurs, use another SD card. • If the error persists even after replacing the SD card, replace the controller board.

* Do not format an SD card supplied with the main machine or sold as an option. You may only format SD cards used for Firmware Update by a Customer Engineer.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC869-**		Malfunction of the proximity sensor is detected
SC869-01	C	Continuously detecting malfunction
		The proximity sensor keeps in a detection state and accumulated time exceeds 24 hours.
		The proximity sensor is disabled and is in the detection state at all times.
SC869-02	C	Continuously non-detecting malfunction
		In the non-detection state, the following operations are detected 20 times continuously. • Pressing "energy saver" key or touching the operation panel • Opening/closing the plate cover or ADF • Setting the original • Opening the front cover • Opening the paper feed tray
		The proximity sensor is disabled and is in the non-detection state at all times.
		1. Go to the SP5-102-203 (input check SP for the proximity sensor). 2. Cover the sensor with 10 sheets of plain paper, and then execute SP to confirm if it becomes “0”. (Do not place your hand near the sensor even over the papers when covering the sensor) 3. Remove the papers from the sensor and confirm if it becomes “1”. 4. If there is no issue after the confirmation in step 2 and 3, confirm that there are no possible factors around the machine that may cause the temperature change such as heater or fan. (Deal with the issue as necessary) 5. Replace the proximity sensors and proximity sensor board if the abnormal value is detected after the confirmation in step 2 and 3. 6. Turn on the main power on and perform step 1, 2, and 3 again. 7. If SC is not solved, turn the main power off and replace the harness which connects proximity sensors and proximity sensor board. 8. If SC is still not solved, there is a possibility that the other parts of the machine such as

No.	Type	Error Name/Error Condition/Major Cause/Solution
		the connector at the controller side or the harness between proximity sensor board and IPU are broken.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC870-00	B	Address Book data error (Anytime: Address Book Error.)
SC870-01	B	Address Book data error (On startup: Media required for storing the Address Book is missing.)
SC870-02	B	Address Book data error (On startup: encryption is configured but the module required for encryption (DESS) is missing.)
SC870-03	B	Address Book data error (Initialization: Failed to generate a file to store internal Address Book.)
SC870-04	B	Address Book data error (Initialization: Failed to generate a file to store delivery sender.)
SC870-05	B	Address Book data error (Initialization: Failed to generate a file to store delivery destination.)
SC870-06	B	Address Book data error (Initialization: Failed to generate a file to store information required for LDAP search.)
SC870-07	B	Address Book data error (Initialization: Failed to initialize entries required for machine operation.)
SC870-08	B	Address Book data error (Machine configuration: HDD is present but the space for storing the Address Book is unusable.)
SC870-09	B	Address Book data error (Machine configuration: Inconsistency in the NVRAM area used for storing settings required for Address Book configuration.)
SC870-10	B	Address Book data error (Machine configuration: Cannot make a directory for storing the Address Book in the SD/USB FlashROM.)
SC870-11	B	Address Book data error(On startup: Inconsistency in Address Book entry number.)
SC870-20	B	Address Book data error (File I/O: Failed to initialize file.)
SC870-21	B	Address Book data error (File I/O: Failed to generate file.)
SC870-22	B	Address Book data error (File I/O: Failed to open file.)
SC870-23	B	Address Book data error (File I/O: Failed to write to file.)
SC870-	B	Address Book data error (File I/O: Failed to read file.)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
24		
SC870-25	B	Address Book data error (File I/O: Failed to check file size.)
SC870-26	B	Address Book data error (File I/O: Failed to delete data.)
SC870-27	B	Address Book data error (File I/O: Failed to add data.)
SC870-30	B	Address Book data error (Search: Failed to obtain data from cache when searching in the machine Address Book. delivery destination/sender.)
SC870-31	B	Address Book data error (Search:Failed to obtain data from cache during LDAP search.)
SC870-32	B	Address Book data error (Search:Failed to obtain data from cache while searching the WS-Scanner Address Book.)
SC870-41	B	Address Book data error (Cache: failed to obtain data from cache.)
SC870-50	B	Address Book data error (On startup: Detected abnormality of the Address Book encryption status.)
SC870-51	B	Address Book data error (Encryption settings: Failed to create directory required for conversion between plaintext and encrypted text.)
SC870-52	B	Address Book data error (Encryption settings: Failed to convert from plaintext to encrypted text.)
SC870-53	B	Address Book data error (Encryption settings: Failed to convert from encrypted text to plaintext.)
SC870-54	B	Address Book data error (Encryption settings: Detected data inconsistency when reading the encrypted Address Book.)
SC870-55	B	Address Book data error (Encryption settings: Failed to delete file when changing encryption setting.)
SC870-56	B	Address Book data error (Encryption settings: Failed to erase the file that records the encryption key during an attempt to change the encryption setting.)
SC870-57	B	Address Book data error (Encryption settings: Failed to move a file during an attempt to change the encryption setting.)
SC870-58	B	Address Book data error (Encryption settings: Failed to delete a directory during an attempt to change the encryption setting.)
SC870-59	B	Address Book data error (Encryption settings: Detected a resource shortage during an attempt to change the encryption setting.)
SC870-60	B	Address Book data error (Unable to obtain the on/off setting for administrator authentication (06A and later).)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		When an error related to the Address Book is detected during startup or operation.
		• Software bug • Inconsistency of Address Book source location (machine/delivery server/LDAP server) • Inconsistency of Address Book encryption setting or encryption key (NVRAM or HDD was replaced individually without formatting the Address Book) • Address Book storage device (SD/HDD) was temporarily removed or hardware configuration does not match the application configuration. • Address Book data corruption was detected.
		Install a device that contains address book information correctly, and turn the main power off/on. If the SC occurs again, do the following steps. 1. After installing the HDD, or SD/USB ROM, execute SP5-846-046. 2. Wait more than 3 seconds, then execute SP5-832. 3. Cycle the main power off and on. **Procedure after SC870 is cleared** 1. If there is backup data in an SD card or Web Image Monitor, restore the address book data. (To restore from an SD card, enter the encryption password which is the same as when you enter to back up.)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC872-00	B	HDD mail reception error
		An error was detected on the HDD immediately after the machine was turned on.
		• HDD defective • Power was turned off while the machine used the HDD.
		• Format the HDD (SP5-832-007). • Replace the HDD. When you do the above, the following information will be initialized. • Partly received partial mail messages. • Already-read statuses of POP3-received messages (All messages on the mail server are handled as new messages).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC873-00	B	HDD mail reception error
		An error was detected on the HDD immediately after the machine was turned on.
		• HDD defective • Power was turned of while the machine used the HDD.
		• Format the HDD (SP5-832-007).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the HDD. When you do the above, the following information will be initialized. • Sender's mail text • Default sender name/password (SMB/FTP/NCP) • Administrator mail address • Scanner delivery history

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC874-05	D	Delete all error (Delete data area) : Read error
SC874-06	D	Delete all error (Delete data area) : Write error
SC874-09	D	Delete all error (Delete data area) : No response from HDD
SC874-10	D	Delete all error (Delete data area) : Error in Kernel
SC874-12	D	Delete all error (Delete data area) : No designated partition
SC874-13	D	Delete all error (Delete data area) : No device file
SC874-14	D	Delete all error (Delete data area) : Start option error
SC874-15	D	Delete all error (Delete data area) : No designated sector number
SC874-16	D	Delete all error (Delete data area) : failure in performing hdderase
SC874-41	D	Delete all error (Delete data area) : Other fatal errors
SC874-42	D	Delete all error (Delete data area) : End by cancellation
SC874-61 to -65	D	Delete all error (Delete data area) : library error
SC874-66	D	Delete all error (Delete data area) : Unavailable
SC874-67	D	Delete all error (Delete data area) : Erasing not finished
SC874-68	D	Delete all error (Delete data area) : HDD format failure (Normal)
SC874-69	D	Delete all error (Delete data area) : HDD format failure (Abnormal)
SC874-70	D	Delete all error (Delete data area) : Unauthorized library
SC874-99	D	Delete all error (Delete data area) : other errors
		An error occurred while data was being erased on HDD or NVRAM.
		• Error detected in HDD data delete program • Error detected in NVRAM data delete program • The "Delete All" option was not set
		• Turn the main power switch off and back on, and then execute "Erase All Memory" under UP mode again. (However, if there is a defective sector or other problem with the hard disk, the error will persist even after trying the above.) • If the "Delete All" option is not installed when this error occurs, install the option.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC875-01	D	Delete all error (HDD erasure) (hddchack –i error)
SC875-02	D	Delete all error (HDD erasure) (Data deletion failure)
		An error was detected before HDD/data erasure starts. (Failed to erase data/failed to logically format HDD)
		• HDD logical formatting failed. • The modules failed to erase data.
		Turn the main power off/on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-00	D	Log Data Error
		An error was detected in the handling of the log data at power on or during machine operation.
		• Damaged log data file. • Log encryption is enabled but encryption module is not installed. • Inconsistency of encryption key between NV-RAM and HDD. • Software bug.
		Try the SC876-01 to -99 solutions listed below. If it is not solved, do the following steps (for when only an HDD is replaced): 1. Disconnect the HDD and turn on the main power. 2. Execute SP5-801-019. 3. Turn off the main power. 4. Connect the HDD and turn on the main power. 5. Execute SP5-832-004. 6. Turn off the main power. The following step is to configure the logging/encryption setting again. 7. Turn on the main power. 8. Set SP9-730-002 through -004 to 1. 9. Cycle the main power off and on.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-01	D	Log Data Error 1
		An error was detected in the handling of the log data at power on or during machine operation.
		Damaged log data file
		Initialize the HDD (SP5-832-004).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-02	D	Log Data Error 2
		An error was detected in the handling of the log data at power on or during machine operation.
		Log encryption is enabled but encryption module is not installed.
		• Replace or set again the encryption module. • Disable the log encryption setting.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-03	D	Log Data Error 3
		An error was detected in the handling of the log data at power on or during machine operation.
		Inconsistency of encryption key between NV-RAM and HDD.
		• Disable the log encryption setting. • Initialize LCS memory (SP5801-019). • Initialize the HDD (SP5-832-004).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-04	D	Log Data Error 4
		An error was detected in the handling of the log data at power on or during machine operation.
		• Log encryption key is disabled but the log data file is encrypted. (NVRAM data corruption) • Log encryption key is enabled but the log data file is not encrypted. (NVRAM data corruption)
		Initialize the HDD (SP5-832-004).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-05	D	Log Data Error 5
		An error was detected in the handling of the log data at power on or during machine operation.
		• Only the NV-RAM has been replaced with one previously used in another machine. • Only the HDD has been replaced with one previously used in another machine.
		• Attach the original NV-RAM. • Attach the original HDD. • With the configuration that caused the SC, initialize the HDD (SP5-832-004).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC876-99	D	Log Data Error 99
		An error was detected in the handling of the log data at power on or during machine operation.
		Other causes
		-

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC877-00	B	Data Overwrite Security card error
		The "Auto Erase Memory" function of the Data Overwrite Security is set to on but it cannot be done.
		• Data Overwrite Security option SD card is broken. • Data Overwrite Security option SD card has been removed.
		• If the SD card is broken, prepare a new Data Overwrite Security option SD card and replace the NVRAM. • If the SD card has been removed, turn the main power off and reinstall a working Data Overwrite Security option SD card.

SC Tables: SC9xx (Others)

SC900-00 to SC998-00

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC900-00	A	Electric counter error
		The electric total counter value is out of specification. Error is detected when increasing the total counter.
		• Unexpected NV-RAM is attached. • NV-RAM defective • NV-RAM data corrupted. • Data written to unexpected area because of external factor etc. • The count requested by the SRM on receiving PRT is not completed.
		Replace the NV-RAM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-01	C	1st Paper Feed Tray Pickup Solenoid Non-Drive Error
SC940-02	C	2nd Paper Feed Tray Pickup Solenoid Non-Drive Error
SC940-03	C	Bypass Pickup Solenoid Non-Drive Error
SC940-04	C	Paper Exit Switching Solenoid Non-Drive Error
		When the solenoid is not moving, the registration value of the failure detection is "0" three times consecutively.
		• Connector disconnected • Harness broken • Solenoid defective SC940-01: 1st Paper Feed Tray Pickup Solenoid SC940-02: 2nd Paper Feed Tray Pickup Solenoid SC940-03: Bypass Pickup Solenoid SC940-04: Paper Exit Switching Solenoid • Driver defective (which drive the solenoid)
		• Turn the main power off/on. • Reconnect the connector on the BCU. • Reconnect the relay connector and electronic connector. • Replace the solenoid. • Replace the BCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		• Replace the harness.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-51	C	1st Paper Feed Tray Pickup Solenoid Drive Error
SC940-52	C	2nd Paper Feed Tray Pickup Solenoid Drive Error
SC940-53	C	Bypass Pickup Solenoid Drive Error
SC940-54	C	Paper Exit Switching Solenoid Drive Error
		When the solenoid is moving, the registration value of the failure detection is "1" three times consecutively.
		• Driver defective (which drive the solenoid)
		• Turn the main power off/on. • Replace the BCU. • Replace the harness.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC990-00	D	Software operation error
		Software attempted an unexpected operation.
		• Parameter error • Internal parameter error • Insufficient work memory • Operation error caused by abnormalities that are normally undetectable.
		• Turn the main power off/on. • Reinstall the software of the controller and BCU board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC991-00	C	Recoverable software operation error
		Software attempted an unexpected operation. SC991 covers recoverable errors as opposed to SC990.
		• Parameter error • Internal parameter error • Insufficient work memory • Operation error caused by abnormalities that are normally undetectable.
		Logging only

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC992-00	D	Undefined SC issued.
		An SC, that is not controlled by the system, occurred.
		• An SC for the previous model was used mistakenly, etc. • Basically a software bug.
		Turn the main power OFF/ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC994-00	C	Operation error caused by abnormalities that are normally undetectable.
		An error occurred because the number of records exceeded the limit for images managed in the service layer of the firmware.
		This can occur if there are too many application screens open on the operation panel.
		Logging only.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-01	D	CPM setting error 1
		Comparison of machine serial number (11 digits) and machine identification code. Details: • Machine serial number cannot be identified because of BICU replacement or malfunctioning. • Machine serial number cannot be identified because of NV-RAM replacement
		Machine serial number (11 digits) or machine identification code does not match.
		• Enter the machine serial number using SP5-811, and then turn the power on/off. • Attach the NV-RAM that was installed previously.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-02	D	CPM setting error 2
		Comparison of machine serial number (11 digits) and machine identification code. Details: Machine serial number cannot be identified because of NV-RAM replacement or malfunctioning.
		Machine serial number (11 digits) or machine identification code does not match.
		• Attach the NV-RAM that was installed previously. • Download data on the NV-RAM using SP5-825.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-	D	CPM setting error 3

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
03		Comparison of machine serial number (11 digits) and machine identification code. Details: Unable to recognize machine identification code because the controller was replaced incorrectly or is malfunctioning.
		Machine serial number (11 digits) or machine identification code does not match.
		Replace it with a compatible controller.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-04	D	CPM setting error 4
		Comparison of machine serial number (11 digits) and machine identification code.
		Machine serial number (11 digits) or machine identification code does not match.
		Return the parts to the original configuration, and then replace them according to the manual.

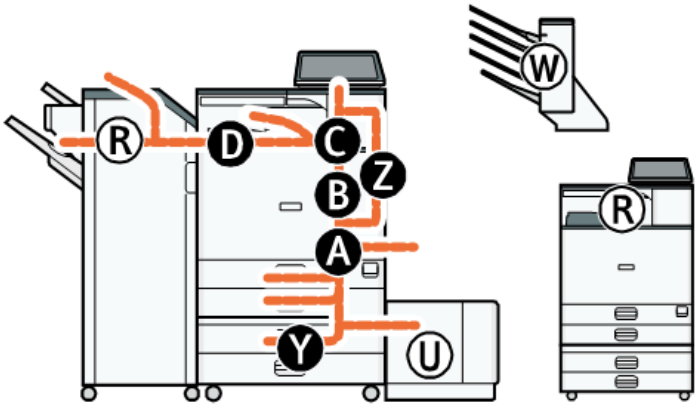
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC997-00	D	Application function selection error
		The application selected by the operation panel key operated abnormally (No response, abnormal ending).
		Software bug (mainly the application)
		• Check the optional RAM, DIMM, boards required by the application program. • Check if the combination of downloaded programs are correct.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC998-00	D	Application start error
		• No application was registered to system within a specified time after the main power was turned on. (No application starts/All applications have been terminated abnormally) • Application started but cannot be drawn now for some reason.
		• Software bug (mainly the application) • The optional RAM, DIMM, boards required by the application program. Are not installed correctly.
		• Turn the main power OFF/ON. • Check the optional RAM, DIMM, boards. • Check the combination of programs. • Replace the controller board.

Jam Detection

Paper Jam Display

When a jam occurs, the location is displayed on the operation panel.



m0ana6001

SP7-507 shows the paper jam history.

```
CODE :011
SIZE  :05h
TOTAL:000034
DATE  :Fri Feb 15 11:44:50 2006
```

- **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.

Note

- The 10 latest printer jams are displayed.
- Initial jams are not recorded.

Jam Codes and Display Codes

Note

- Jam code: Shows the cause of a jam. Appears in the log data.
- Position code: Shows the location of a jam. Appears on the operation panel.

These are lists of jam codes for the main machine and peripheral devices. Please note:

- **Late jam.** The paper has failed to arrive within the prescribed time due to a jam that has occurred upstream of the referenced sensor.
- **Lag jam.** The paper has failed to leave the location of the referenced sensor within the prescribed time due to a jam downstream of the referenced sensor.

Main Machine

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
001	Transport Sensor 1			✓	A
001	Transport Sensor 2			✓	A
001	Registration Sensor			✓	B
001	Fusing Entrance Sensor			✓	C
001	Fusing Exit Sensor			✓	C
001	Paper Exit Sensor			✓	C
001	Reverse Sensor			✓	C
001	Duplex Exit Sensor			✓	Z
001	Duplex Entrance Sensor			✓	Z
003	Paper not fed from tray 1	✓			A1
004	Paper not fed from tray 2	✓			A2
008	Paper not fed from bypass tray	✓			A
009	Paper not transported to duplex unit	✓			Z
096	Disappearance of the detection Timing Only remaining paper position information displayed				
011	Transport Sensor 1	✓			A
012	Transport Sensor 2	✓			A
017	Registration Sensor	✓			A
018	Fusing Entrance Sensor	✓			B
019	Fusing Exit Sensor	✓			C
020	Paper Exit Sensor	✓			C
051	Transport Sensor 1 (when paper not fed from Tray 1)		✓		A
048	Transport Sensor 1 (when paper not fed from Bypass Tray)		✓		A
052	Transport Sensor 2 (when paper not fed from Tray 2)		✓		A
057	Registration Sensor		✓		B
060	Paper Exit Sensor		✓		C
024	Reverse Sensor	✓			C
064	Reverse Sensor		✓		C
025	Duplex Exit Sensor	✓			Z
025	Duplex Exit Sensor & No Paper at Duplex Entrance Sensor	✓			Z
065	Duplex Exit Sensor		✓		Z

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
027	Duplex Entrance Sensor	✓			C
027	Duplex Entrance Sensor & No Paper at Reverse Sensor	✓			Z
067	Duplex Entrance Sensor		✓		Z
021	Relay Exit Sensor	✓			D
022	Relay Transport Sensor	✓			D
061	Relay Exit Sensor		✓		D
062	Relay Transport Sensor		✓		D

Paper Feed Unit PB3240

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
005	Paper not fed from tray 3	✓			Y1
013	Transport Sensor 3	✓			Y
053	Transport Sensor 3 (when paper not fed from Tray 3)		✓		Y
001	Transport Sensor 3			✓	Y
006	Paper not fed from tray 4	✓			Y2
014	Transport Sensor 4	✓			Y
054	Transport Sensor 4 (when paper not fed from Tray 4)		✓		Y
001	Transport Sensor 4			✓	Y

LCIT PB3260

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
005	Paper not fed from tray 3	✓			Y1
013	Transport Sensor 3	✓			Y
053	Transport Sensor 3 (when paper not fed from Tray 3)		✓		Y
001	Transport Sensor 3			✓	Y

LCIT RT3030

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
007	Paper not fed from LCT	✓			U1
015	LCT Transport Sensor	✓			U

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
055	LCT Transport Sensor (when paper not fed from LCT)		✓		U
001	LCT Transport Sensor			✓	U

Paper Feed Unit PB3240 and LCIT RT3030 configuration

Cause code	Cause of jam	Late Jam	Lag Jam	Stay Jam	Display code
005	Paper not fed from tray 3	✓			Y1
006	Paper not fed from tray 4	✓			Y2
013	Transport Sensor 3	✓			Y
014	Transport Sensor 4	✓			Y
053	Transport Sensor 3 (when paper not fed from Tray 3)		✓		Y
054	Transport Sensor 4 (when paper not fed from Tray 4)		✓		Y
001	Transport Sensor 3			✓	Y
001	Transport Sensor 4			✓	Y

LCIT PB3260 and LCIT RT3030 configuration

Cause code	Cause of jam	Late Jam	Lag Jam	Stay Jam	Display code
005	Paper not fed from tray 3	✓			Y1
013	Transport Sensor 3	✓			Y
053	Transport Sensor 3 (when paper not fed from Tray 3)		✓		Y
001	Transport Sensor 3			✓	Y

Finisher SR3230

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
001	Entrance Sensor			✓	R1-R5
001	Horizontal Transport Sensor			✓	R1-R5
001	Switchback Transport Sensor			✓	R1-R5
001	Proof Exit Sensor			✓	R1-R5
001	Shift Tray Exit Sensor			✓	R1-R5
001	Transport Path Paper Sensor			✓	R1-R5
150	Entrance Sensor	✓			R1-R5

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
151	Entrance Sensor		✓		R1-R5
152	Horizontal Transport Sensor	✓			R1-R5
153	Horizontal Transport Sensor		✓		R1-R5
154	Switchback Transport Sensor	✓			R1-R5
155	Switchback Transport Sensor		✓		R1-R5
156	Proof Exit Sensor	✓			R1-R5
157	Proof Exit Sensor		✓		R1-R5
158	Shift Tray Exit Sensor	✓			R1-R5
159	Shift Tray Exit Sensor		✓		R1-R5
162	Jam in Entrance Transport Motor	✓	✓		R1-R5
163	Jam in Horizontal Transport Motor	✓	✓		R1-R5
164	Jam in Pre-stack Transport Motor	✓	✓		R1-R5
165	Jam in Relay Transport Motor	✓	✓		R1-R5
166	Jam in Upper Tray Exit Motor	✓	✓		R1-R5
167	Jam in Trailing Edge Pressure Plate Motor	✓	✓		R1-R5
168	Jam in Paper Exit Gate Motor	✓	✓		R1-R5
169	Jam in Horizontal registration unit displace motor	✓	✓		R1-R5
170	Jam in Punch Drive Motor	✓	✓		R1-R5
171	Jam in Punch Registration Motor	✓	✓		R1-R5
172	Jam in Lower Junction Gate Motor	✓	✓		R1-R5
173	Jam in Jogger Motor	✓	✓		R1-R5
174	Jam in Positioning Roller Motor	✓	✓		R1-R5
175	Jam in Feed-out Belt Motor	✓	✓		R1-R5
176	Jam in Corner Stapler Movement Motor	✓	✓		R1-R5
177	Jam in Corner Stapler Motor	✓	✓		R1-R5
185	Jam in Tray Lift Motor	✓	✓		R1-R5
186	Jam in Shift Motor	✓	✓		R1-R5
187	Jam in Shift Jogger Front Motor	✓	✓		R1-R5
188	Jam in Shift Jogger Rear Motor	✓	✓		R1-R5
189	Jam in Shift Jogger Retreat Motor	✓	✓		R1-R5
190	Jam in Return Roller Motor	✓	✓		R1-R5
191	Jam in Paper Stacking Holder Motor	✓	✓		R1-R5
192	Jam in Positioning Roller Motor	✓	✓		R1-R5
193	Jam in Paper Guide Motor	✓	✓		R1-R5
194	Main instruction data defect	✓	✓		R1-R5

Finisher SR 3210

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
200	Paper Entrance	✓			R1-R4
201	Paper Entrance		✓		R1-R4
202	Proof Exit	✓			R1-R4
203	Proof Exit		✓		R1-R4
204	Intermediate transport (right)	✓			R1-R4
205	Intermediate transport (left)	✓			R1-R4
206	Intermediate transport (left)		✓		R1-R4
207	Shift Exit	✓			R1-R4
208	Shift Exit		✓		R1-R4
209	Stack Transport	✓			R5-R10
210	Rear Edge Stopper Transport	✓			R5-R10
211	Rear Edge Stopper Transport		✓		R5-R10
212	Paper did not reach middle folding exit	✓			R5-R10
213	Middle Folding exit		✓		R5-R10
220	Jam in entrance transport motor	✓	✓	✓	R1-R4
221	Jam in proof transport motor	✓	✓	✓	R1-R4
222	Jam in paper exit transport motor/positioning roller motor	✓	✓	✓	R1-R4
223	Jam in shift motor	✓	✓	✓	R1-R4
224	Jam in jogger motor	✓	✓	✓	R1-R4
225	Jam in paper exit guide plate open/close motor	✓	✓	✓	R1-R4
226	Jam in feedout pawl motor	✓	✓	✓	R1-R4
227	Jam in tray lift motor	✓	✓	✓	R1-R4
228	Jam in positioning roller motor	✓	✓	✓	R1-R4
229	Jam in stapler unit displacement motor	✓	✓	✓	R1-R4
230	Jam in stapler motor	✓	✓	✓	R1-R4
231	Jam in punch system motor	✓	✓	✓	R1-R4
232	Jam in booklet transport motors	✓	✓	✓	R5-R10
233	Jam in rear edge stopper motor	✓	✓	✓	R5-R10
234	Jam in folding blade motor	✓	✓	✓	R5-R10
235	Jam in paper exit guide drive motor	✓	✓	✓	R1-R4
236	Jam in stapleless stapler transfer motor	✓	✓	✓	R1-R4
237	Jam in stapleless stapler motor	✓	✓	✓	R1-R4
238	Jam in paper guide drive motor	✓	✓	✓	R1-R4
248	Paper exit end is not responding	✓	✓		R1-R4

Cause Code	Cause of Jam	Late Jam	Lag Jam	Stay Jam	Display Code
249	Main instruction data defect	✓	✓		R1-R4

Internal Multi-fold Unit FD3000

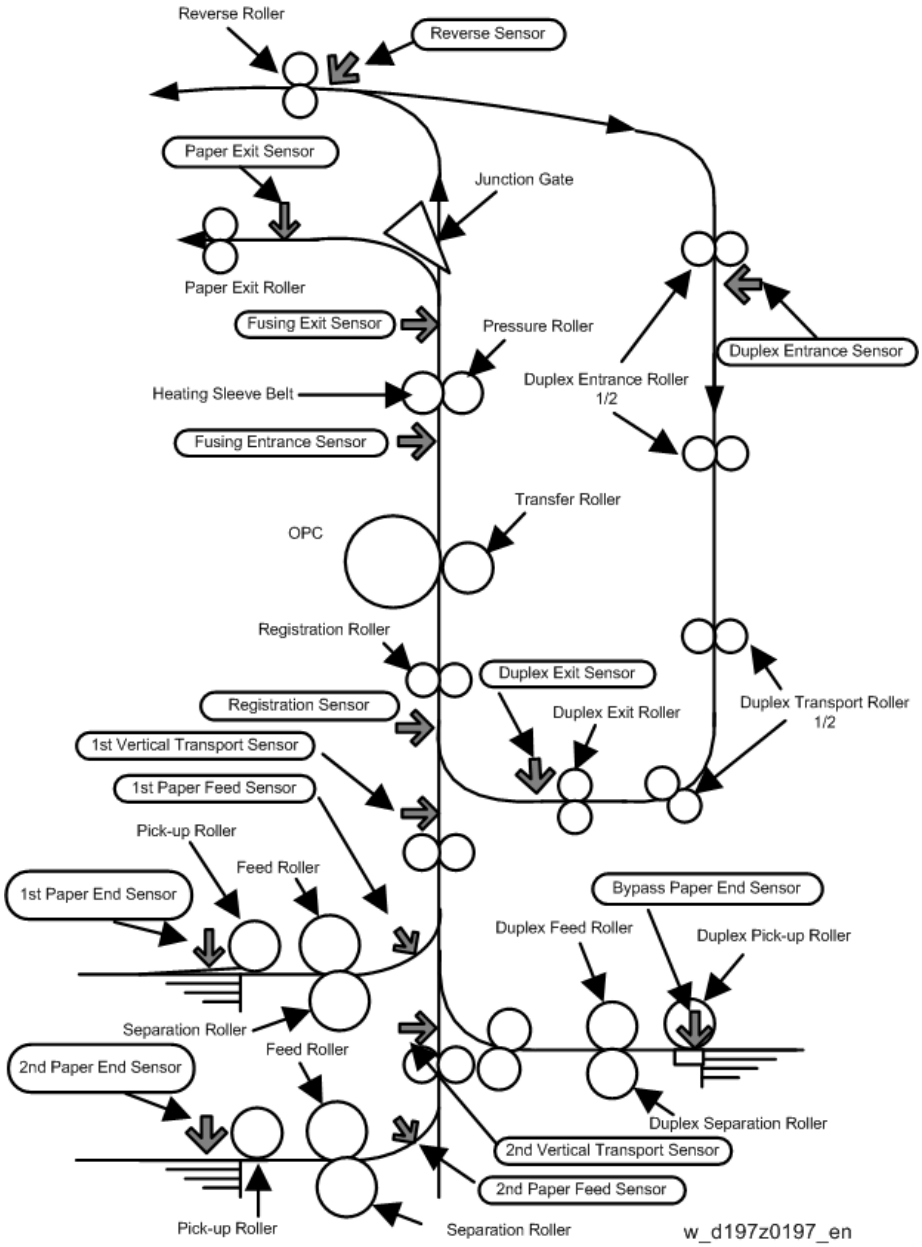
Cause code	Cause of jam	Late Jam	Lag Jam	Stay Jam	Display code
350	Registration sensor	✓			N1
351	Registration sensor		✓		N1
352	1st Fold sensor	✓			N1
353	1st Fold sensor		✓		N4-N5
354	2nd Fold Sensor	✓			N2-N3
355	2nd Fold Sensor		✓		N2-N3
356	Crease Sensor	✓			N2-N3
357	Crease Sensor		✓		N2-N3
358	Folder Tray Exit Sensor	✓			N4-N5
359	Folder Tray Exit Sensor		✓		N4-N5
360	Horizontal Path Exit Sensor	✓			N4-N5
361	Horizontal Path Exit Sensor		✓		N4-N5
370	Jam in mechanisms driven by Registration Motor	✓	✓	✓	N1
371	Jam in mechanisms driven by JG Crease Motor	✓	✓	✓	N4-N5
372	Jam in mechanisms driven by Transport Motor	✓	✓	✓	N4-N5
373	Jam in mechanisms driven by 1st Fold Motor	✓	✓	✓	N2-N3
374	Jam in mechanisms driven by 2nd Fold Motor	✓	✓	✓	N2-N3
375	Jam in mechanisms driven by JG Crease Motor	✓	✓	✓	N2-N3
398	Paper exit end is not responding	✓	✓		N1
399	Main instruction data defect	✓	✓		N1

Mail Box CS3010

Cause code	Cause of jam	Late Jam	Lag Jam	Stay Jam	Display code
001	Paper Entrance Sensor			✓	W1-W2
001	Paper Transport Sensor 1			✓	W2
001	Paper Transport Sensor 2			✓	W2
400	Paper Entrance Sensor	✓			W1-W2
401	Paper Entrance Sensor		✓		W1-W2
402	Paper Transport Sensor 1	✓			W2
403	Paper Transport Sensor 1		✓		W2

Cause code	Cause of jam	Late Jam	Lag Jam	Stay Jam	Display code
404	Paper Transport Sensor 2	✓			W2
405	Paper Transport Sensor 2		✓		W2
408	Paper exit end is not responding			✓	W2
409	Main instruction data defect			✓	W2

Sensor Locations



Paper Size Codes

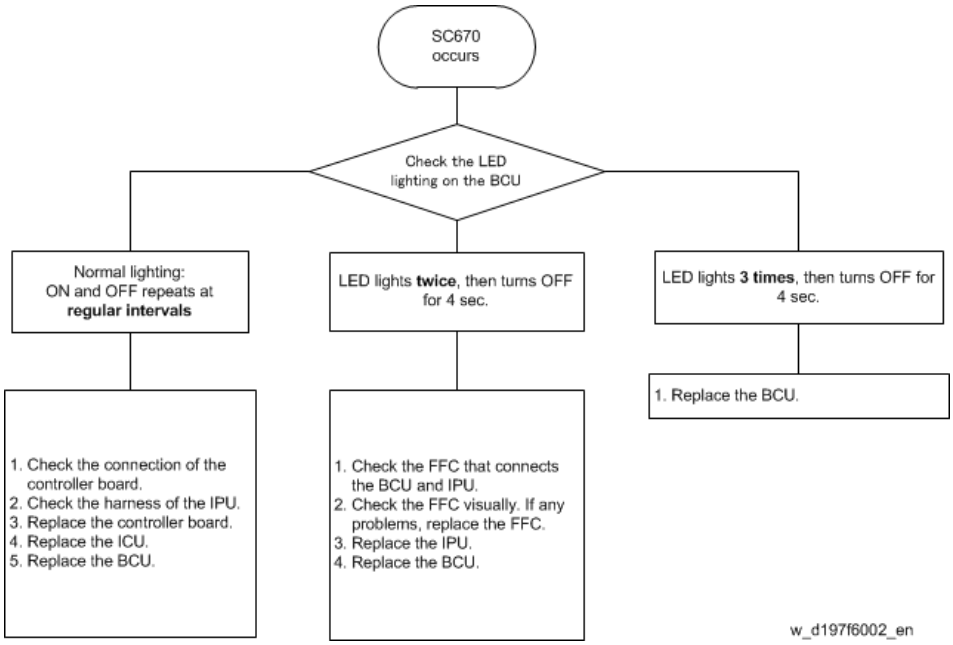
Paper size codes are as follows.

Note: The unit of Main Scan/Sub Scan Length is 0.1 mm.

Size Code	Paper Size Name	Orientation	Main Scan Length	Sub Scan Length
132(84H)	A3	SEF	2970	4200
005(05H)	A4	LEF	2970	2100
133(85H)	A4	SEF	2100	2970
141(8DH)	B4	SEF	2570	3640
006(06H)	A5	LEF	2100	1480
134(86H)	A5	SEF	1480	2100
014(0EH)	B5	LEF	2570	1820
142(8EH)	B5	SEF	1820	2570
135(87H)	A6	SEF	1050	1480
143(8FH)	B6	SEF	1280	1820
160(A0H)	11”x17”(DLT)	SEF	2794	4318
164(A4H)	8 1/2”x14”(LG)	SEF	2159	3556
166(A6H)	8 1/2”x11”(LT)	SEF	2159	2794
038(26H)	8 1/2”x11”(LT)	LEF	2794	2159
172(ACH)	5 1/2”x8 1/2”(HLT)	SEF	1397	2159
175(AFH)	12” x 18”	SEF	3048	4572

Other Problems

When SC670 Is Displayed



When SC672 (Controller start up error) is displayed

Symptom:

Note: CTL = Controller

The following occur:

SC672-00	Communication error between operation panel and CTL after machine is powered on.
SC672-10	Communication error (receive) between operation panel and CTL after machine is powered on.
SC672-11	Communication error (send) between operation panel and CTL after machine is powered on.
SC672-12	Communication error between operation panel and CTL after normal start-up.
SC672-13	Communication error between operation panel and CTL after normal start-up; Operation panel not detected.

Note

- SC672 does not appear on the SMC report, as it is not logged.
- The Smart Operation Panel communicates with the controller via a USB cable and IPU. SC672 is triggered when the panel cannot communicate with the controller.

Cause:

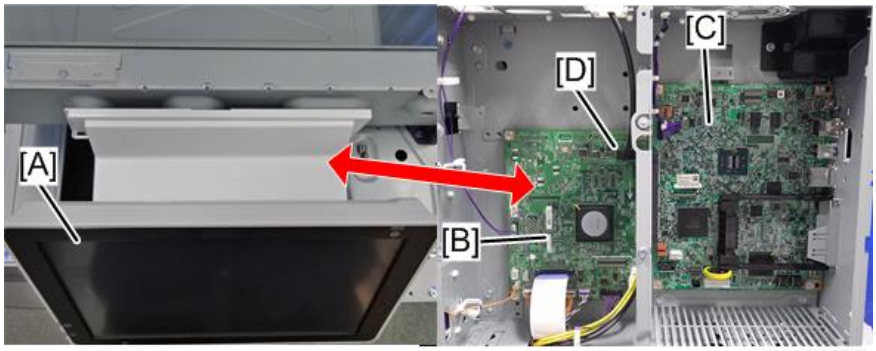
Possible causes of SC672 include:

- USB communication path failure (USB cable, IPU)
- CTL boot up error and/or operation panel boot up error due to abnormal break in operations of CTL.

Possible causes of operation panel cannot light include:

- USB communication path failure (USB cable, IPU)

  Operation panel cannot communicate with CTL due to CTL boot-up error



[A]: Operation Panel

[B]: IPU

[C]: Controller board

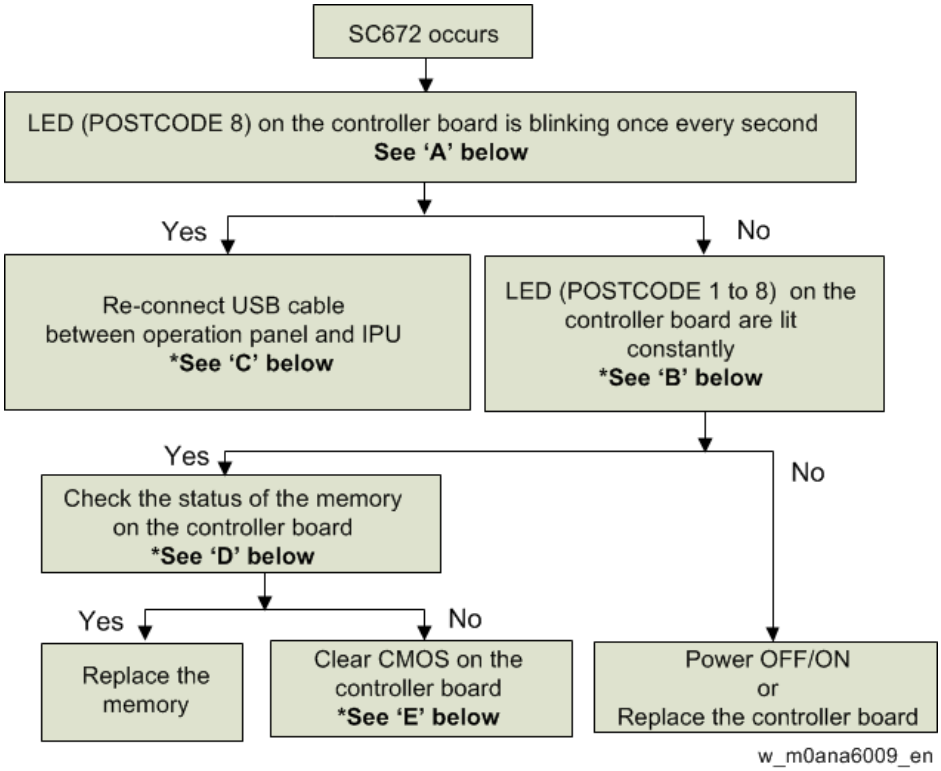
[D]: USB cable

Solution:

Do the following.

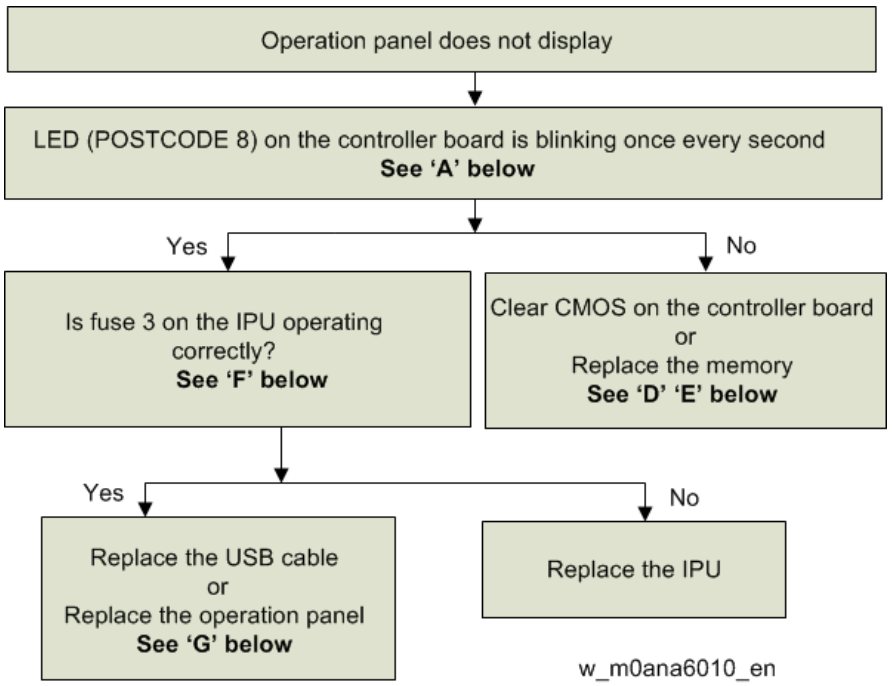
1. Turn the machine power OFF/ON.
2. Do the action in the flowchart below to determine the cause and best course of action when SC672 occurs.

Flowchart to determine parts to replace when SC672 occurs



Parts	How to determine the cause
USB cable	LED on the controller board blinks once every second
Operation panel	LED on the controller board blinks once every second
CTL	LEDs on the controller board are lit constantly
Memory	LEDs on the controller board are lit constantly

Flowchart to determine parts to replace when no display on operation panel



Parts	How to determine the cause
USB cable	LED on the controller board blinks once every second

Parts	How to determine the cause
Operation panel	LED on the controller board blinks once every second
IPU	Fuse 3 on the IPU
CTL	LED on the controller board does not blink
Memory	LED on the controller board does not blink

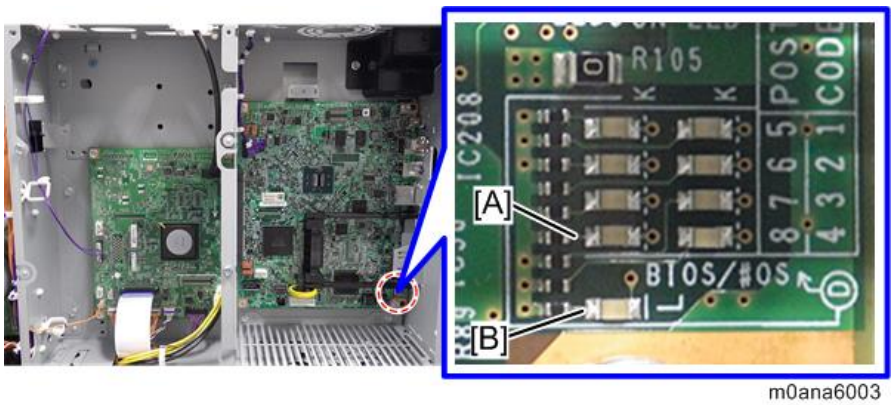
[A]: LEDs on the controller board

Check the condition (lit, off, blinking) of the LED on the controller board.

Normal situation: POSTCODE LED 8 [A] and BIOS LED [B] blink once every second

Note

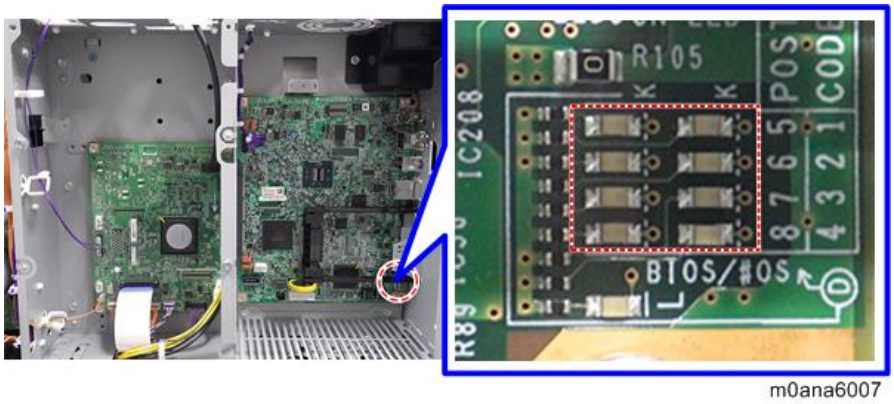
- The LED remains lit or is off when there is a problem with the CPU.



m0ana6003

[B]: Abnormal mode: LEDs on the controller board

POSTCODE LEDs 1 to 8 on the controller board are lit constantly



m0ana6007

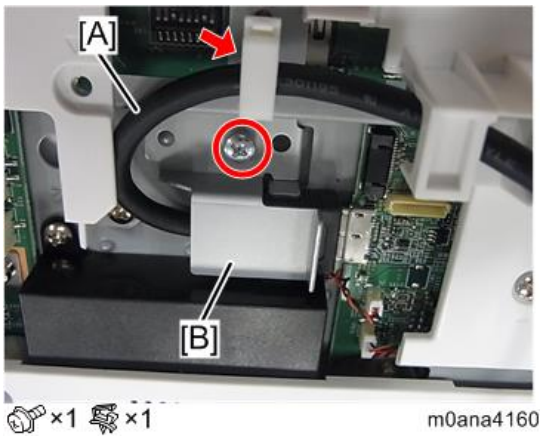
LED	Note
POSTCODE 1-8	1. For self-diagnosis code (BIOS). 2. After the BIOS starts up, POSTCODE 4,5,7 **turn off** and POSTCODE 1,2,3 ,6 **turn on** and POSTCODE 8 **blinks.** POSTCODE 8 remains **lit or off** when there is a problem with the CPU.
BIOS/OS	- LED is **lit** when the BIOS is running.

LED	Note
	- LED **blinks** when the OS is running.

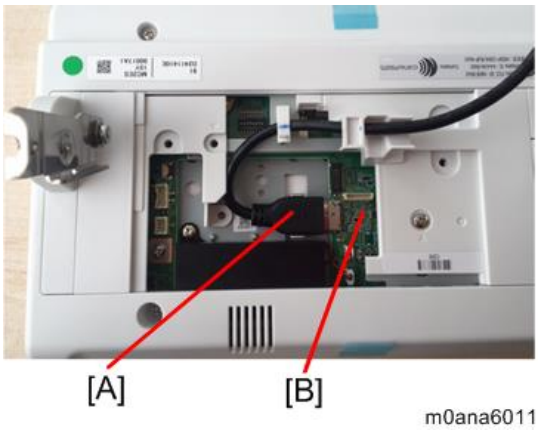
[C]: Reconnecting and replacing the USB cable

Re-connect the USB cable between the IPU board and the operation panel.

1. Release the clamp, and then make the cable straight [A].
2. Remove the bracket [B].



3. Re-connect the USB cable between the IPU board and the operation panel.

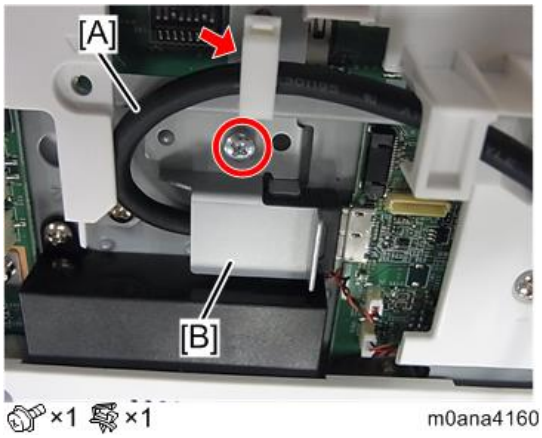


[A]: CABLE:USB3.0:AWG22:1600:ASS'Y

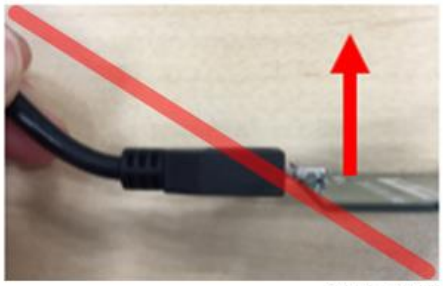
[B]: PCB:CHEETAHG2:NAIS:CO-P1.5:ASS'Y

Note

When installing, attach the bracket [B] first, and then bend the cable [A] and secure it.



Do not apply excessive force on the connector part. Applying excessive upward force on the connector may cause connection failure.



d238m0927b

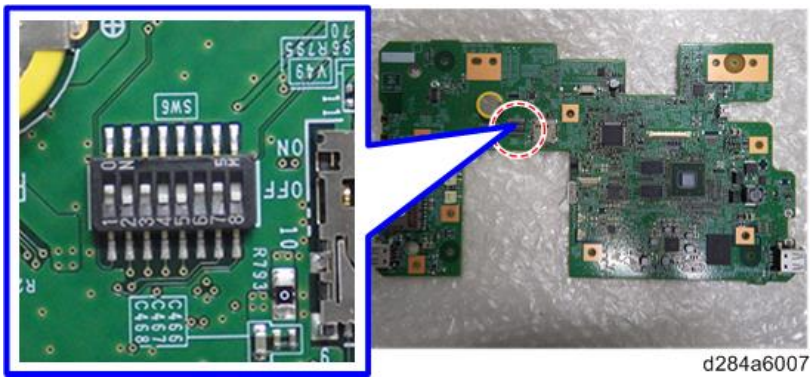
PCB for the operation panel



d284a6006

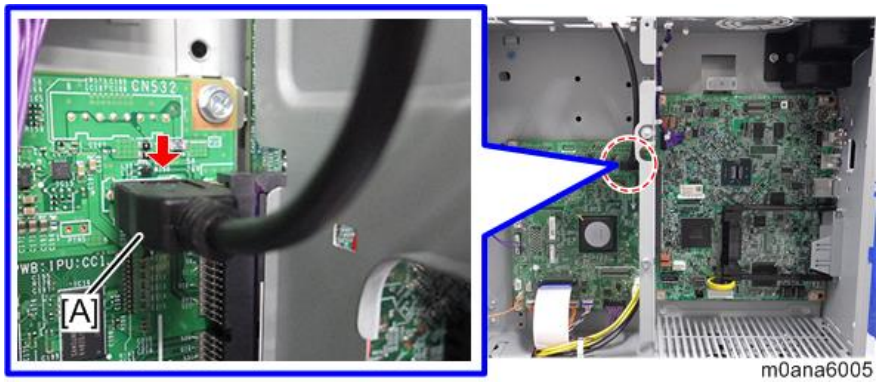
Note

- 1, 3, 6, and 7 are ON for normal.



d284a6007

USB connector [A] (IPU)



×1

[D]: Replacing the Memory

1. Turn the machine power OFF.
2. Attach the memory on the controller board as shown (in a vertical orientation).



d238m1513a

3. Lock the hook.

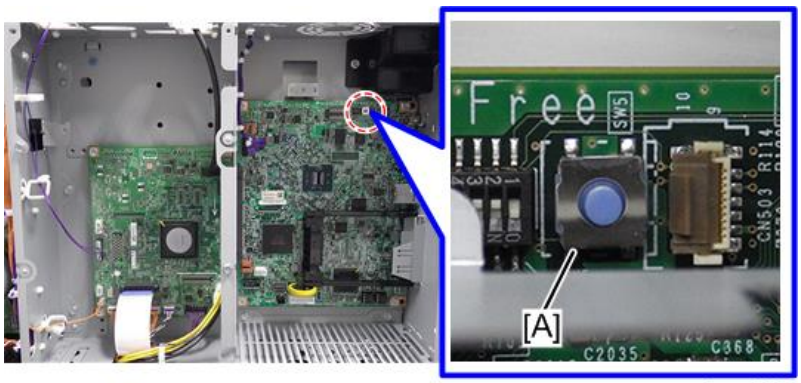


d238m1514a

[E]: CMOS clear

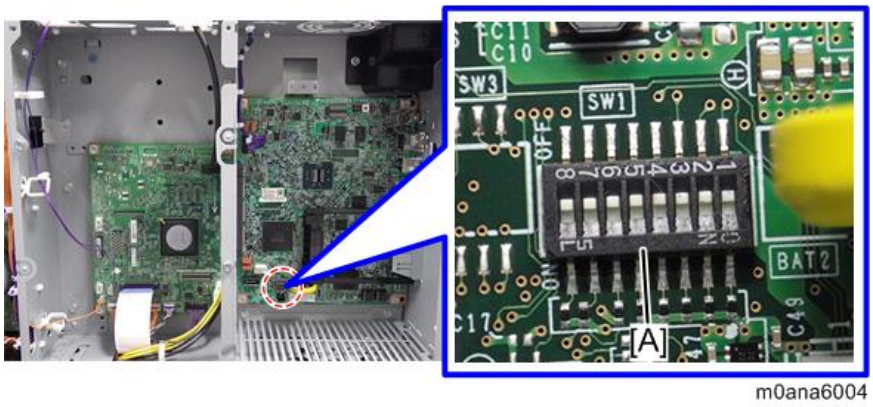
1. Turn the machine power OFF.
2. Turn switch 5 ON for 10 seconds.
3. Turn switch 5 OFF.
4. Turn the machine power ON.

Location of Switch 5 [A] (Controller Board)



[F]: Fuse on the IPU

Check that switch 1 [A] is operating normally.



Note

- In the normal operation, all of the switches in the SW1 block are OFF.

[G]: Replacing the USB cable and the operation panel

For details about replacing the USB cable, refer to USB Cable / Harness.

If the symptom is not resolved, escalate the issue using the normal process, together with the following information for further investigation.

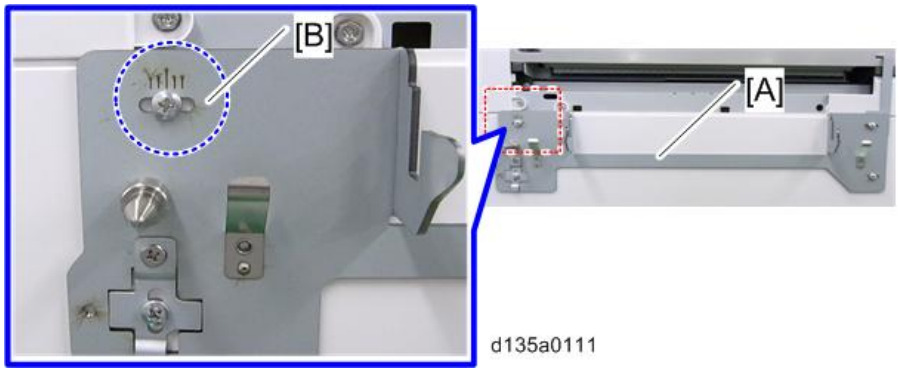
- SC sub code (SC672-10 or 99)
- Date/time of problem occurrence
- Factor(s) that trigger the problem (ex. SC672-11 occurred 3 minutes after tuning ON the main power switch.)
- Occurrence frequency (ex. One out of ten times when turning ON the main power switch)
- Parts replaced
- Date/time when parts were replaced

Finisher Registration Adjustment

A side-to-side registration error can be produced when the paper is being fed from the mainframe to the finisher.

For SR3230

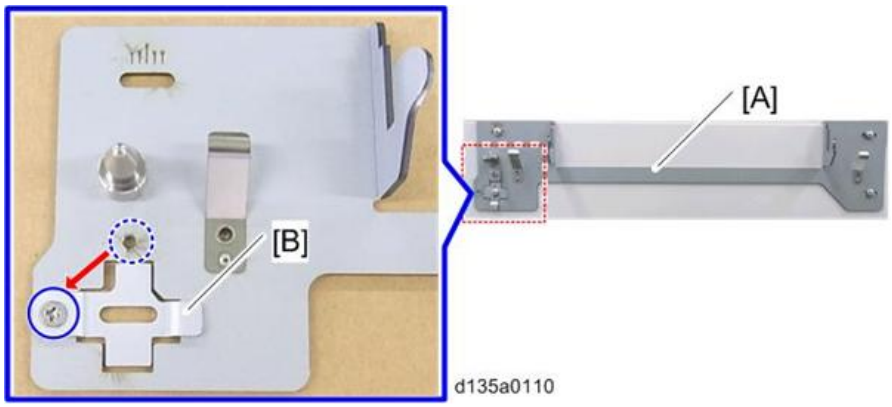
The docking bracket for SR3230 [A] (and its screw [B]) can adjust the side-to-side registration.



To adjust the side-to-side registration:

Change the position of the standard bracket [B] by rotating it 90 degrees as shown by the arrow. This makes the docking bracket [A] easier to slide horizontally.

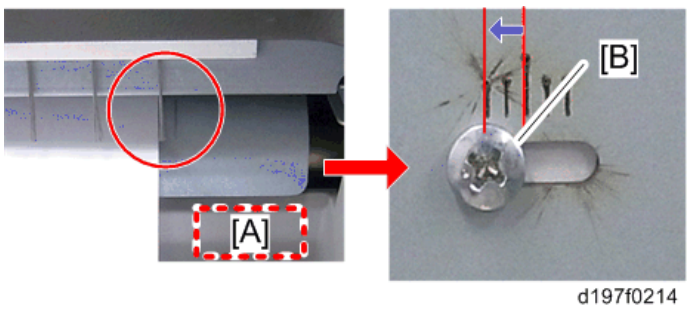
Then reattach the docking bracket [A] to the mainframe.



If the paper shifts toward the front

Slide the docking bracket forward by the amount which corresponds to that of the shift, to move the finisher in the same direction.

e.g.: When paper has shifted by 4 mm from the center toward the front (2 mm/division of the scale), move the docking bracket toward the front by 4 mm (2 divisions).



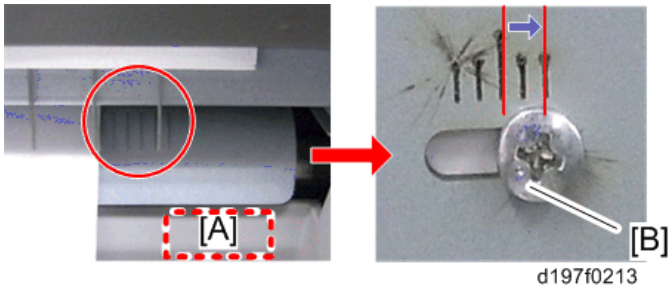
[A]: Proof tray

[B]: Docking Bracket Screw

If the paper shifts toward the rear

Slide the docking bracket backward by the amount which corresponds to that of the shift, to move the finisher in the same direction.

e.g.: When paper has shifted by 4 mm from the center toward the rear (2 mm/division of the scale), move the docking bracket backward by 4 mm (2 divisions).



[A]: Proof tray

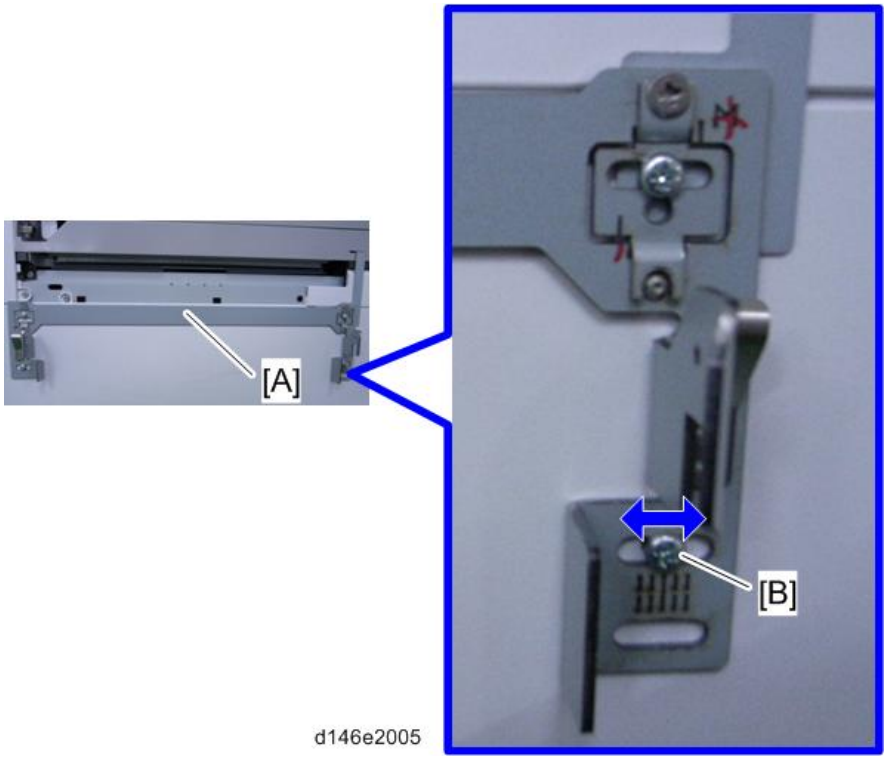
[B]: Docking Bracket Screw

Note

- After the adjustment, check the side-to-side registration by feeding paper out to the proof tray. If the shift has not been solved, adjust the docking bracket (screw for the docking bracket) slightly again.

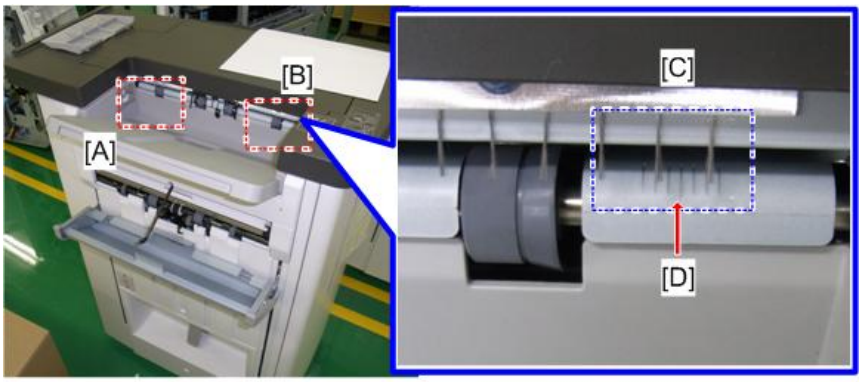
For SR3210

Side-to-side registration can be adjusted by the docking bracket for SR3210 [A] (and the docking bracket screw [B]).



1. Eject a sheet of A4(LEF) or A3 paper to the proof tray and check how many divisions of the scale the edge of

the paper has shifted from the center.



d135a3121

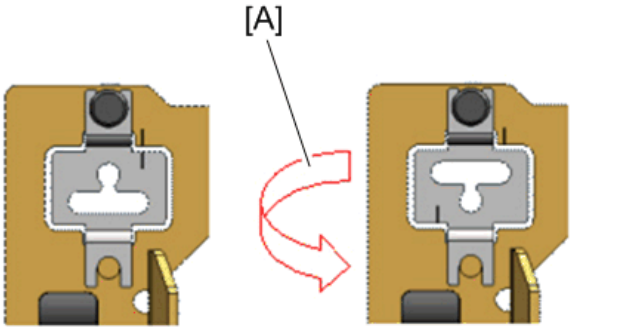
[A]: Scale marks for DLT

[B]: Scale marks for A3

[C]: 7 scale marks in 2mm intervals

[D]: Center mark

2. Change the position of the standard bracket by rotating it 180 degrees as shown below. This makes the docking bracket easier to slide horizontally. Then reattach the docking bracket to the mainframe.



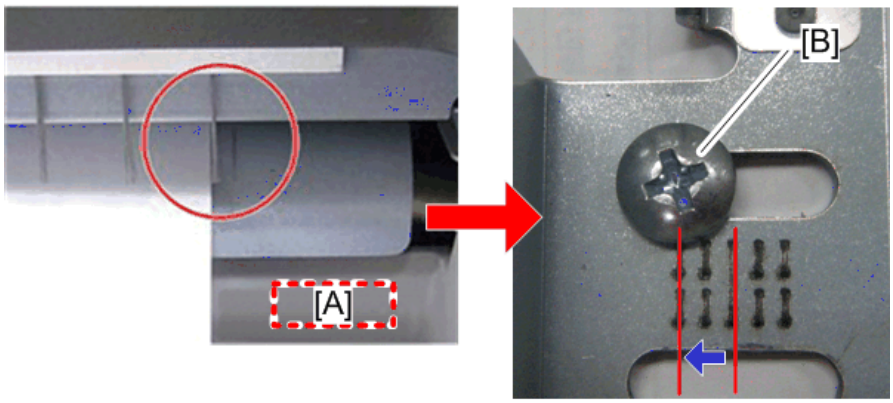
d197f0210

[A]: Reverse

If paper shifts toward the front

Slide the docking bracket backward by the amount which corresponds to that of the shift, in order to move the finisher in the same direction.

e.g.: When paper has shifted by 4 mm from the center toward the rear (2 mm/division of the scale), move the docking bracket backward by 4 mm (2 divisions).



d197f0211

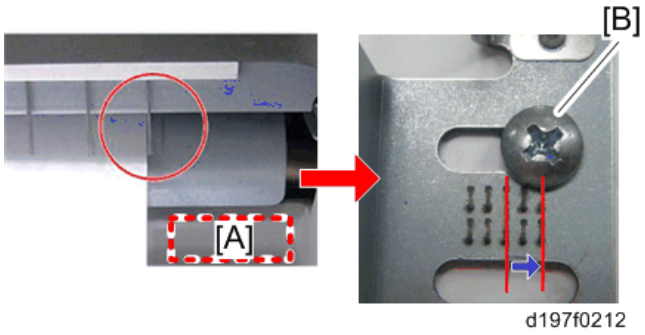
[A]: Proof Tray

[B]: Docking Bracket Screw

If paper shifts toward the rear

Slide the docking bracket backward by the amount which corresponds to that of the shift, in order to move the finisher in the same direction.

e.g.: When paper has shifted by 4mm from the center toward the rear (2 mm/division of the scale), move the docking bracket backward by 4 mm (2 divisions).



d197f0212

[A]: Proof Tray

[B]: Docking Bracket Screw

Note

- After the adjustment, check the side-to-side registration by feeding paper out to the proof tray. If the shift has not been solved, adjust the docking bracket (screw for the docking bracket) slightly again.

Stacking Problem at the Finisher SR3210

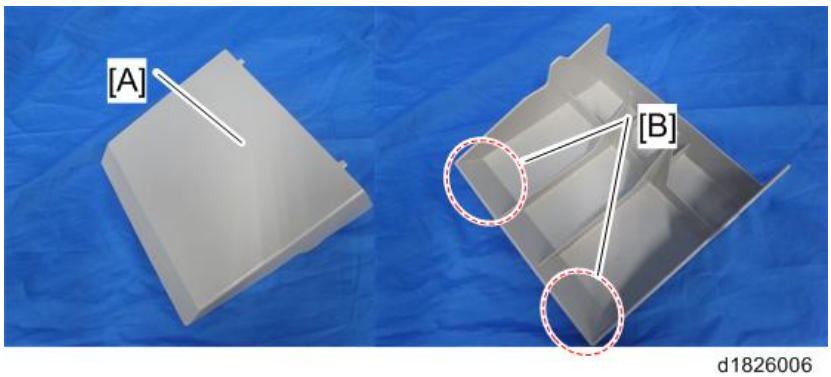
Stacking problems may occur due to paper curl depending on the paper type / size. In this case, it is possible to avoid the problem by attaching the auxiliary tray.



d1826011

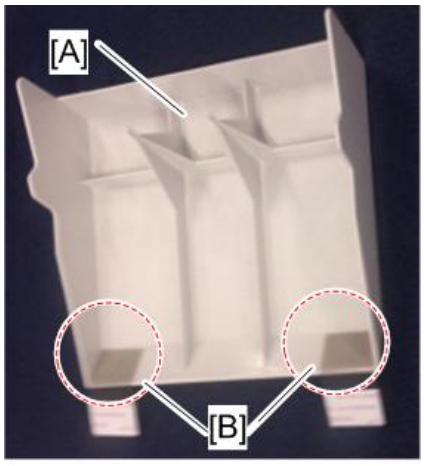
Installation procedure for attaching the sheet

1. Clean the back [B] of the auxiliary tray [A] with alcohol.



d1826006

2. Attach the fixing sheets [B] to the auxiliary tray [A].

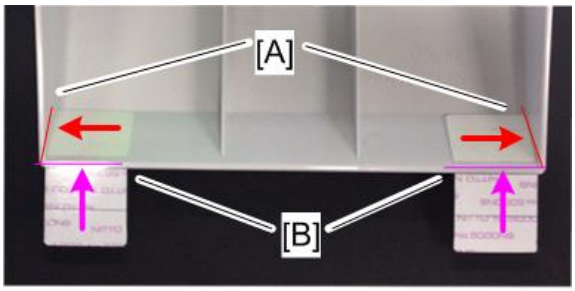


d1826001

Note

- Place the sheets on the outer ends [A] of the auxiliary tray and hook the bent portion [B] at the

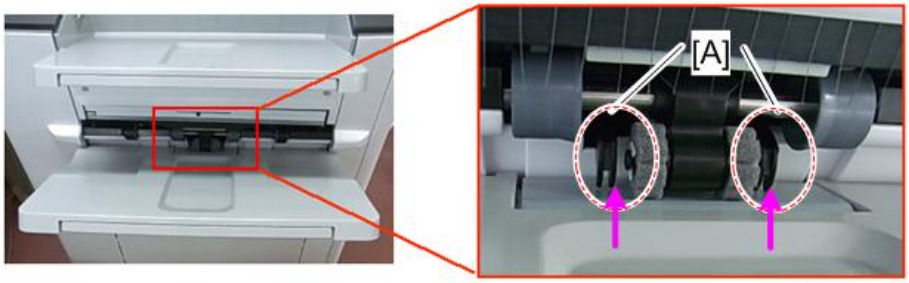
edge of the tray.



d1826002

Installation procedure for attaching the auxiliary tray to the Finisher SR3210

1. Turn on the machine.
2. Manually lift the paper surface detection feeler [A] to keep the sensor “ON”.
   Keep lifting the feeler until step 4.



d1826003

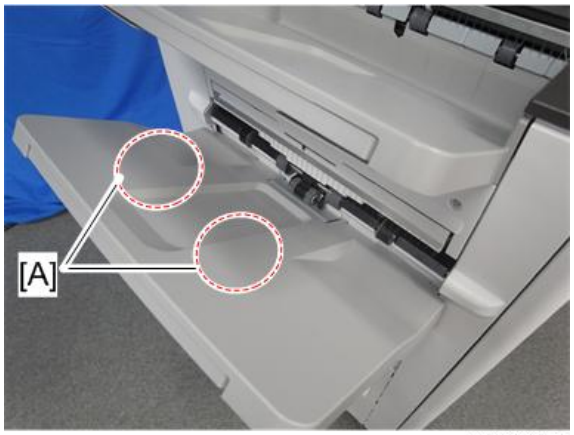
3. Open and close the upper cover [A] or the front cover [B]. The shift tray [C] starts to descend.



d1826004

4. "JAM227" is displayed about 3 seconds later. The shift tray descent is stopped. Release your hand from the feeler.

5. Clean the place [A] to attach the fixing sheet with alcohol.

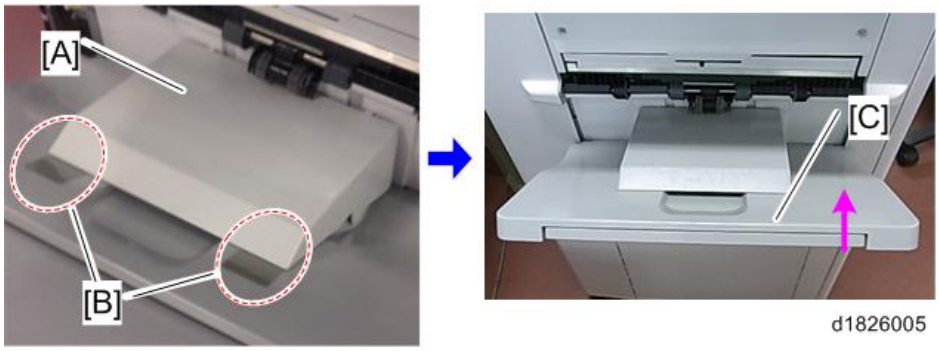


d1826007

6. Place the auxiliary tray [A] on the shift tray.

7. Attach the fixing sheet [B] on the shift tray and fasten the auxiliary tray.

8. Open and close the front cover or the upper cover. The shift tray starts to rise [C], and ”JAM227” is cleared.

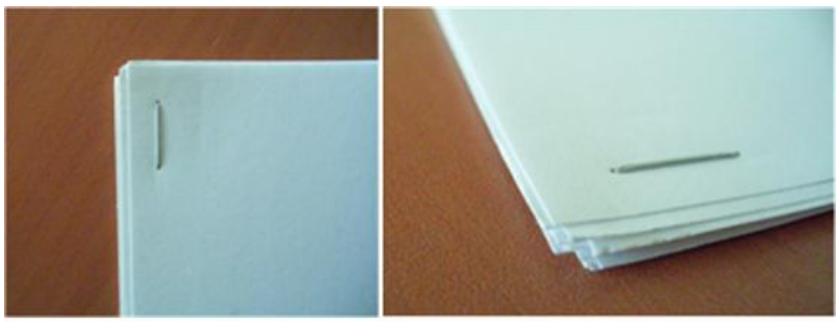


d1826005

Finisher Jogger Problem for Finisher SR3210 (D3B8)

Note

If a paper alignment problem occurs as shown below, do the following procedure to adjust the jogger width.



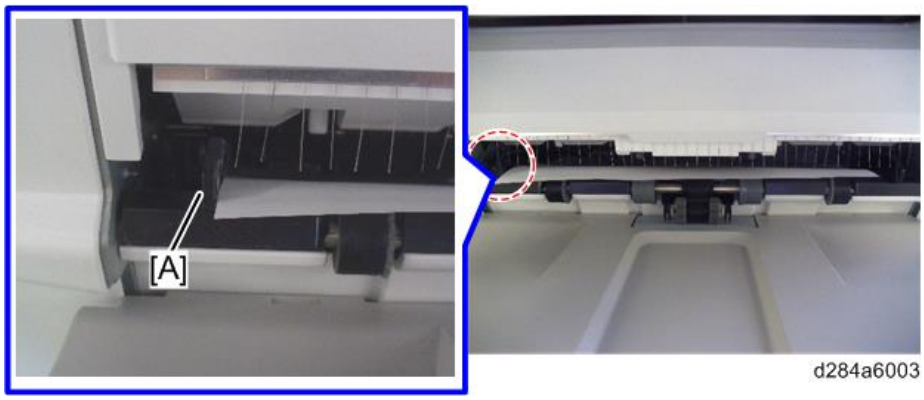
d146z0091

1. Place one A4 paper (LEF) in the paper tray.

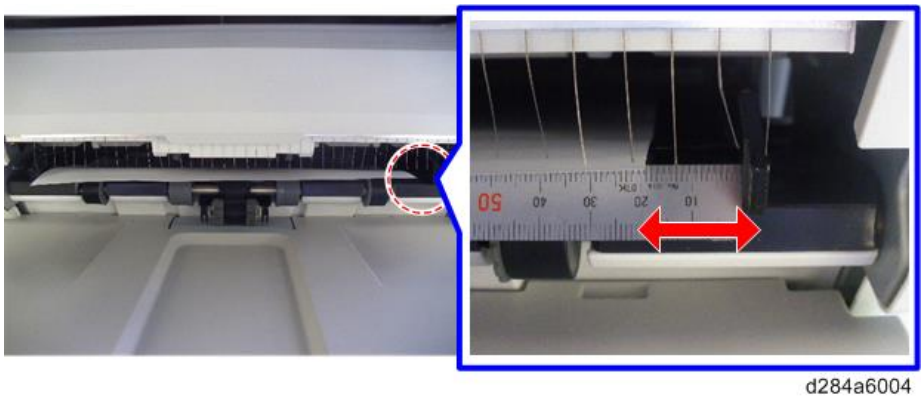
2. Select [Staple] in the printer driver and then execute printing (two or more originals).

3. Printing starts, but stops after one sheet because paper runs out.

4. The paper is put out on the staple tray. Put the paper next to the rear jogger [A].



5. Measure the distance between the aligning side of the front jogger and the edge of the paper with a scale.



6. Adjust the jogger width with SP6-143-004 (adjustable threshold: -1.5 to +1.5 mm for each paper size). SP6-143-004 (Jogger Pos Adj:1K FIN)

Note

Adjust the jogger width to be slightly narrower (approximately -0.5 mm) than the paper width.

7. Repeat step 1 through step 5 to make the jogger width same as the paper width.

Maximum number of sheets for stapling and what happens when the job has too many pages

Behavior: When the number of sheets exceeds the maximum staple capability

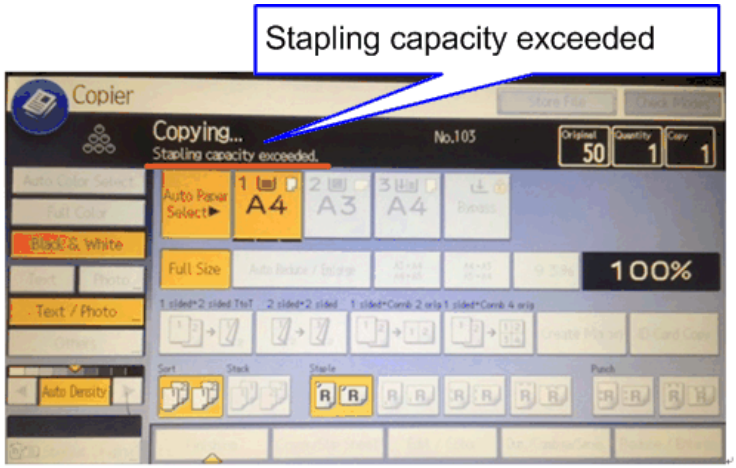
When corner stapling

Sheets are fed out without being stapled. First, the maximum number of sheets (50) is stacked in the staple tray and fed out. Following this, any remaining sheets that exceed this maximum are also stacked and fed out without being stapled, in the same way.

Example:

If 60 sheets are set to be stapled, the first 50 are stacked in the staple tray and then fed out without being stapled. The remaining 10 are then stacked in the tray and fed out without being stapled.

When the maximum number of originals for a stapled set has been scanned, "Stapling capacity exceeded" is displayed on the LCD.



w_d238m2101_en

There is no message displayed prompting the user to cancel or continue with the 51st original.

Specifications: Maximum sheet capability for staple jobs

Model	Corner Stapling
Finisher SR3210	50 sheets
Finisher SR3230	50 sheets

Fusing Offset Occurs at the Edge or Center of the Paper

Symptom:

Fusing offset occurs at the edge or center of the paper.

Note

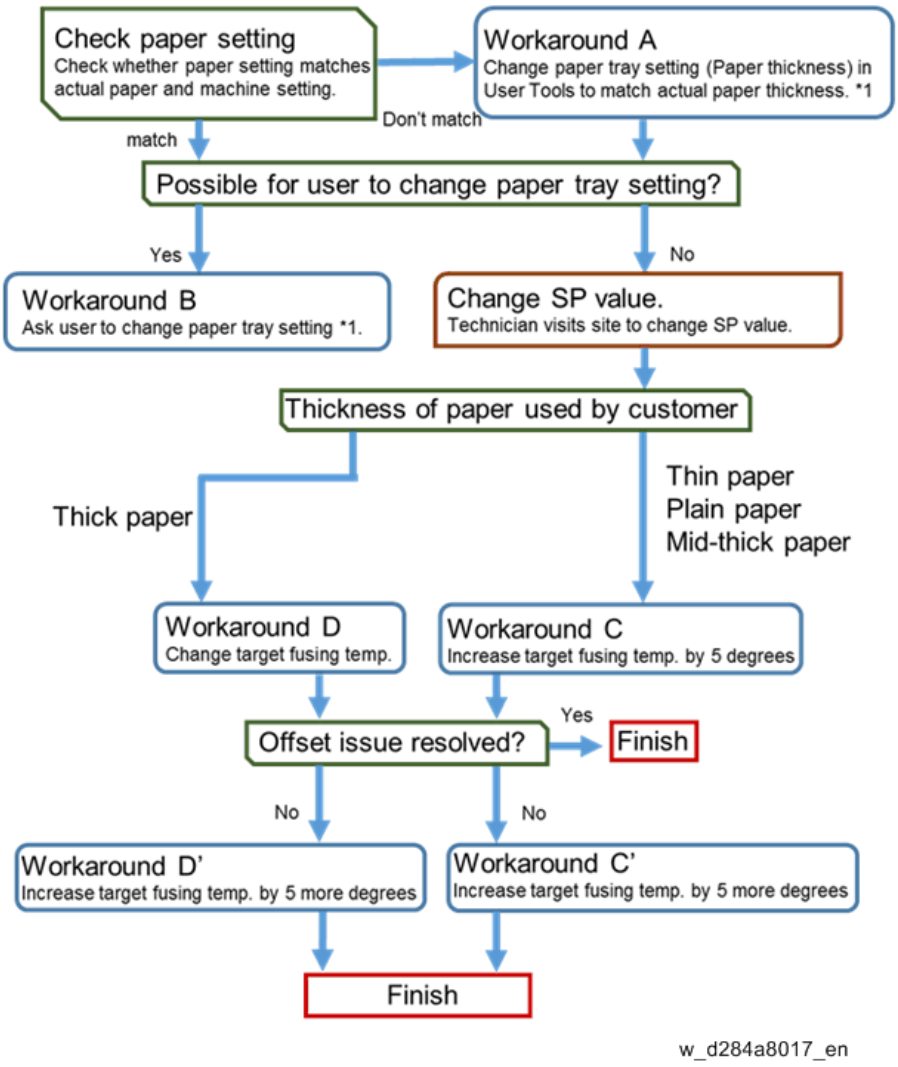
The customer may report a strange odor coming from the machine.

Cause:

The temperature is too low at the edge or center of the paper when the paper enters the fusing unit.

Solution:

If the symptom occurs, do the procedure in the Flowchart below.



Workaround A:

Change the paper tray setting (paper thickness setting) in User Tools to match the actual paper thickness.

*1: User Tools > Tray paper setting > page 2 > Select tray > Select paper thickness

Workaround B:

Change the paper tray setting in User Tools.

Note

- There is no workaround for Thick Paper 4.

Thin paper -> Plain paper

Plain paper -> Thick paper 1

Note

- The print speed will be reduced from 60cpm to 50cpm.

Mid thick -> Thick paper 1

Note

- The print speed will be reduced (See the chart below).

Thick paper 1 -> Thick paper 2

Note

- The print speed will be reduced (See the chart below).

Thick paper 2 -> Thick paper 3

Thick paper 3 -> Thick paper 4

Note

- Auto duplex cannot be used (See the chart below).

Postcards: Thick paper 2 -> Thick paper 3

Side effects: The following may occur, depending on the paper thickness.

- Paper curl
- Decreased productivity

Workaround C:

Increase the target fusing temperature by 5 degrees using the following SPs:

- SP 1-105-003
- SP 1-105-007
- SP 1-105-011
- SP 1-105-015

If the symptom occurs with 1200 dpi printing, also increase the target temperature by 5 degrees for these SPs as well:

- SP 1-105-107
- SP 1-105-137
- SP 1-105-111

Side effects: Paper curl may occur.

Workaround D:

Change the target temperature using the following SPs as shown below.

- SP 1- 105-019: 145 deg -> 150 deg
- SP 1- 105-023: 130 deg -> 140 deg
- SP 1- 105-027: 135 deg -> 140 deg
- SP 1- 105-141: 140 deg -> 145 deg
- SP 1- 105-115: 120 deg -> 125 deg (For 1200 dpi mode)

Side effects: Paper curl may occur.

Workaround C':

Increase the target fusing temperature by 5 more degrees using the following SPs:

- SP 1-105-003
- SP 1-105-007
- SP 1-105-011
- SP 1-105-015

For 1200 dpi printing:

- SP 1-105-107
- SP 1-105-137
- SP 1-105-111

Side effects: Paper curl may occur.

Workaround D':

Increase the target fusing temperature by 5 more degrees using the following SPs:

- SP 1- 105-019: 145 deg -> 150 deg -> 155 deg
- SP 1- 105-023: 130 deg -> 140 deg -> 145 deg
- SP 1- 105-027: 135 deg -> 140 deg -> 145 deg
- SP 1- 105-141: 140 deg -> 145 deg -> 150 deg
- SP 1- 105-115: 120 deg -> 125 deg -> 130 deg (For 1200 dpi mode)

Side effects: Paper curl may occur.

CPM information

	CPM
Plain paper	60
Mid-thick	50
Thick paper 1	30
Thick paper 2	18
Thick paper 3	18
Thick paper 4	18

Troubleshooting for Toner Density

Symptom:

The image density decreases with continuous printing, especially in solid image areas (though it is within specification).

Note

- This does not occur in text areas.

Cause:

This may occur due to the condition of the developer, and also occurs more easily when repeat prints are made from the same original.

Solution:

Change the following SP modes as shown.

- SP3-629-001 (Vc Vsp): Set to 530
- SP3-629-101 (Vb Vsp): Set to 330

Note

- This will increase the amount of toner used to develop the image.

- As a side effect, this will shorten the yield of the toner bottle.

Troubleshooting for Blots on Middle Thick Glossy or Coated Paper

Symptom:

Printed images contain blots when using middle thick (or thick) glossy or coated paper.

Note

- This may occur when paper weight is 82 g/m^2 or more and its smoothness is 100(S) or more.

Cause:

Glossy or coated paper contacts the PCU more closely than plain paper, and using middle thick or thick paper increases the transfer pressure.
So more dust or blots on the PCU may be transferred to the paper than usual.
These may result in more blots appearing on printouts.

Solution:

1. Change the following SP modes as shown.
   SP3-629-001 (Vc Vsp): Set to 630 (If the symptom still occurs, set to 680)
   SP3-629-101 (Vb Vsp): Set to 430 (If the symptom still occurs, set to 480)
2. Enter SP3-011-001 (Manual ProCon :Exe), and then press [Execute].
   Note
   Depending on the environment, the printout toner density may decrease.

Blown Fuse Conditions

Fuses: EU/AA

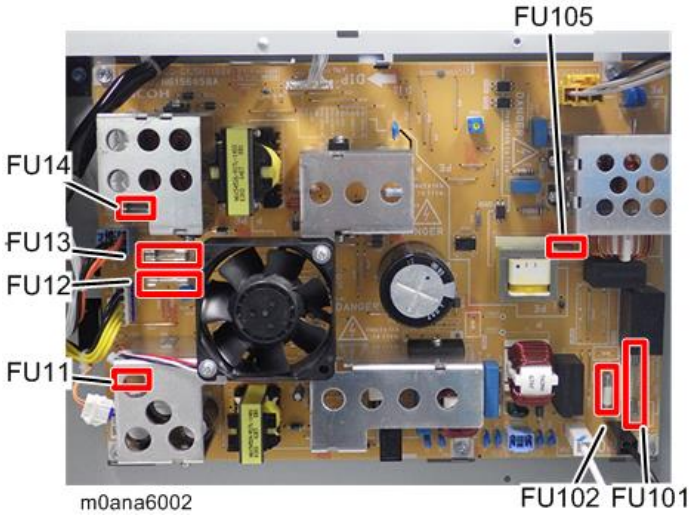
Name	Output connector	Capacity	Part number	Field replacement possible
		Voltage	Part name	Remarks
FU101	CN902 (Fusing Lamp)	8A	11071346	Yes
		AC	FIH250V8A (EM/CR)	-
FU102	CN904 (DHB) CN912-5,6 (BCU)	5A	11071344	Yes
		AC	FIH 250V 5A (TP/CR)	-
FU105	CN913-5, 12 (Zero cross circuit / DH Heater)	2A	-	No
		AC	SCT250V2A	-
FU11	CN911-3 (IPU)	5A	-	No
		5V	SLT250V5A	-
FU12	CN912-4 (NC)	10A	11071216	Yes
		24V	FBT250V10A (EM)	-
FU13	CN912-5 (BCU)	10A	11071216	Yes
		24V	FBT250V10A (EM)	-
FU14	CN912-6 (BCU)	10A	11071216	Yes
		24V	FBT250V10A (EM)	-

Fuses: NA

Name	Output connector	Capacity	Part number	Field replacement possible
		Voltage	Part name	Remarks
FU101	CN902 (Fusing Lamp)	15A	11071241	Yes
		AC	TLC-15A-N4	-
FU102	CN904 (DHB) CN912-5,6 (BCU)	10A	11071347	Yes
		AC	FIH 250V 10A (EM/CR)	-
FU105	CN913-5, 12 (Zero cross circuit / DH heater)	2A	-	No
		AC	SLT250V2A	-
FU11	CN911-3 (IPU)	5A	-	No
		5V	SLT250V5A	-
FU12	CN912-4 (NC)	10A	11071216	Yes
		24V	FBT250V10A (EM)	-
FU13	CN912-5 (BCU)	10A	11071216	Yes

Name	Output connector	Capacity	Part number	Field replacement possible
		Voltage	Part name	Remarks
		24V	FBT250V10A (EM)	-
FU14	CN912-6 (BCU)	10A	11071216	Yes
		24V	FBT250V10A (EM)	-

Fuse Locations



7. Detailed Descriptions

Guidance for Those Who are Familiar with Predecessor Products

Differences between Similar Models and Previous Models

The difference between this model and the previous (SP 8300DN, MP 6055/5055/4055) models are as follows:

Laser Exposure

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
LD	1ch-LD	2ch-LD	
Replacement unit	Individual parts	One unit	

PCDU

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Exchange unit	PCU + Development unit + Developer	PCU + Development unit (Developer preset)	

Waste toner

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Waste toner bottle	-	Available	
Recycling system	All recycled	No recycling	

Image Transfer

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Method	Transfer belt	Transfer roller (with Contact and Release mechanism)	
Replacement unit	Individual parts	One unit	

Feed / Transport Part

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Bypass tray / Main machine jam code	-	The following codes are used to isolate the cause; • JAM048: Transport Sensor Lag Jam from Bypass Tray • JAM051: Transport Sensor Lag Jam from 1st Feed Tray	
Main tray paper exit	-	• Improved stacking performance after feedout by adding resilience to the paper with the paper exit driven roller (drum shape). • To prevent paper jam when the paper is delivered from the machine's paper exit to the internal exit peripherals, attach the paper support guide (supplied with the peripherals).	

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
		• Replaced the paper exit driven roller to a flat type roller to prevent jamming when paper is fed to the internal exit peripherals.	
Paper feed transport mechanism	The paper exit driven roller is a flat roller. A plurality of paper drive rollers are arranged alternately to add resilience to the paper.	The paper exit driven roller is a drum-shaped roller, which have a diameter at a center side larger than both end diameter, to add resilience to the paper. Depending on the internal exit peripherals to be installed, the paper exit driven roller must be replaced with the flat type roller which is provided with the internal exit peripherals.	
Main machine tray	FRR (Feed and Reverse Roller)	RF (Roller Friction)	

Fusing

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
System	Fusing roller system	QSU-direct heating fusing	
Fusing web	Available	-	

Electrical parts

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
OPU	4.3-inch uWVGA	2nd generation Smart Operation Panel (10.1-inch WSVGA)	
FFC	With hooks	Without hooks	
Main power switch	AC switch	DC switch	

Exterior Cover/Air Flows (Fan Control)

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Rear Covers, Screws	1 cover, 6 screws	3 covers, 13 screws (upper part: 2 covers, 8 screws) (lower part: 1 cover, 5 screws)	2 covers, 12 screws (upper part: 1 cover, 7 screws) (lower part: 1 cover, 5 screws)
Main Power Switch	Main power switch cover (front side)	Right side of the 1st paper tray	
Fusing Fan (EU only)	1	2	
Odor Filter (EU only)	1	2	
Particulate Filter (EU	Not available	Available	

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
only)			

Drive Mechanisms

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Paper transport drive	Spur gears	Helical gears: By increasing the efficiency of engagement, the rattling noise is reduced.	
	Stepping motor	Inner rotor type DC brushless motor: For resource saving and energy saving.	
	An electromagnetic clutch is available.	Electromagnetic clutch is not available: To improve reliability.	
Silencing Grease	-	Grease is applied to the gears, shafts, and sliding parts, to reduce the drive noise.	

PM

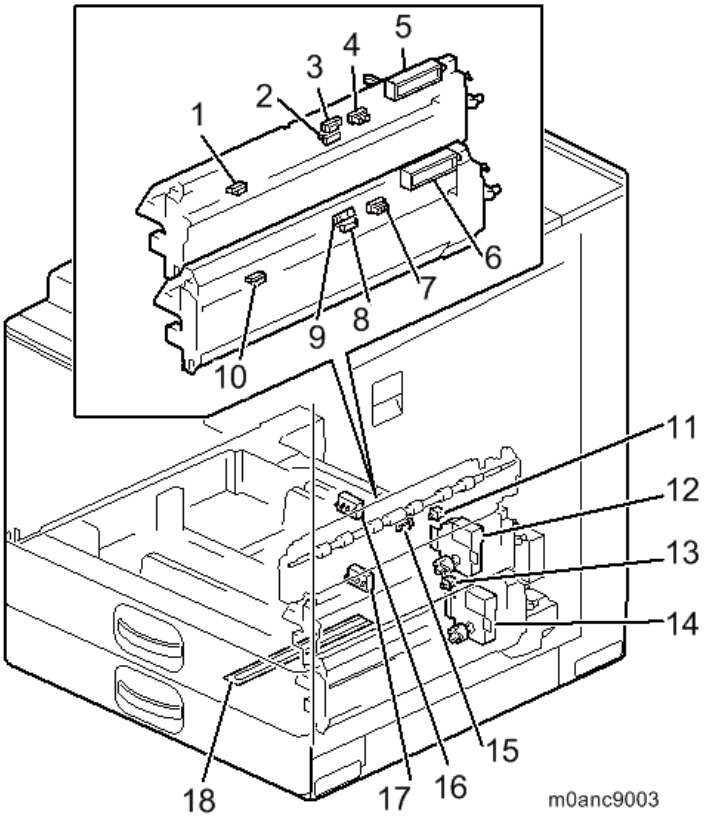
Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
System	Logging counter	Days remaining counter (New PM)	

Others, Options

Items	SP 8300DN	SP 8400DN	MP 6055/5055/4055
Finisher paper exit guide mechanism	-	Available	
Internal Multi-Fold Unit FD3000, Attention Light AL3000, Mail Box CS3010	Attention Light AL3000: Available Internal Multi-Fold Unit FD3000, Mail Box CS3010: Not available	Available	Internal Multi-Fold Unit FD3000 : Available Attention Light AL3000, Mail Box CS3010: Not available
Paper feed accuracy	-	Productivity Mode/Silent Mode (the UP selection is available)	
Replacing a paper exit roller on the main unit side when installing internal paper exit options	-	Replace to the flat roller and attach the paper support guide depending on the options.	
NFC card R/W options	-	Available	
Noise control	-	Equipped with the sound absorbing material and the sound insulation sheet.	
Stapleless Stapler Option	Not available	Available	

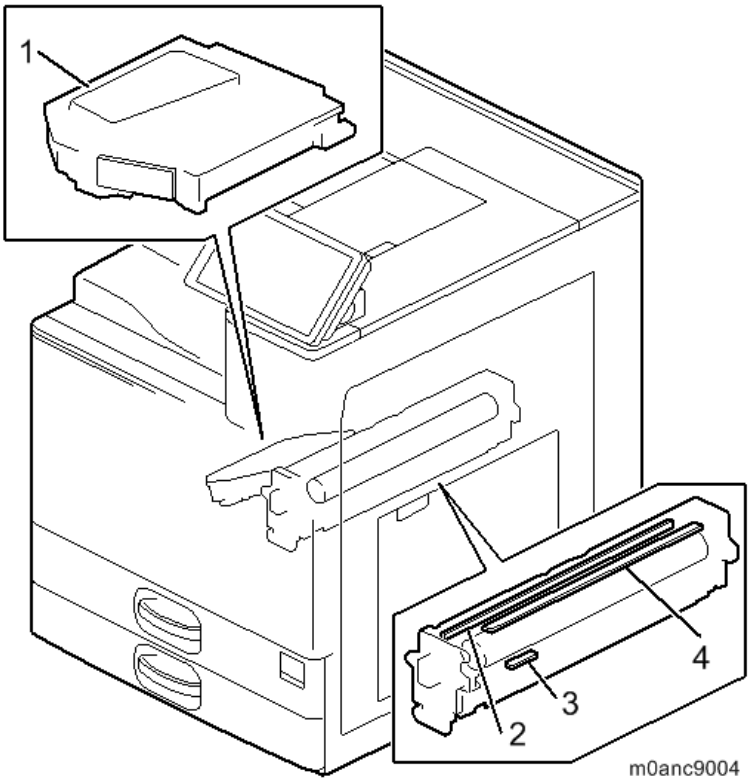
Component Layout

Paper Feed Unit



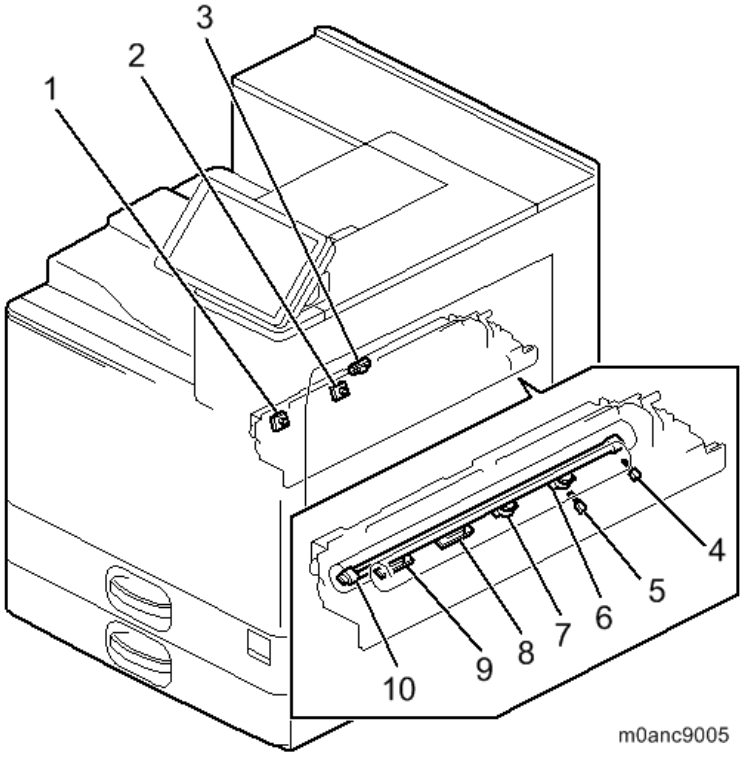
No.	Description	No.	Description
1	1st paper feed sensor	10	2nd paper feed sensor
2	1st paper end sensor	11	1st paper feed tray set switch
3	1st vertical transport sensor	12	1st paper feed tray lift motor
4	1st paper feed tray limit sensor	13	2nd paper feed tray set switch
5	1st paper feed tray pick up solenoid	14	2nd paper feed tray lift motor
6	2nd paper feed tray pick up solenoid	15	Registration sensor
7	2nd paper feed tray limit sensor	16	1st paper feed tray size switch
8	2nd vertical transport sensor	17	2nd paper feed tray size switch
9	2nd paper end sensor	18	Anti-condensation heater *Option

Laser Unit / PCDU



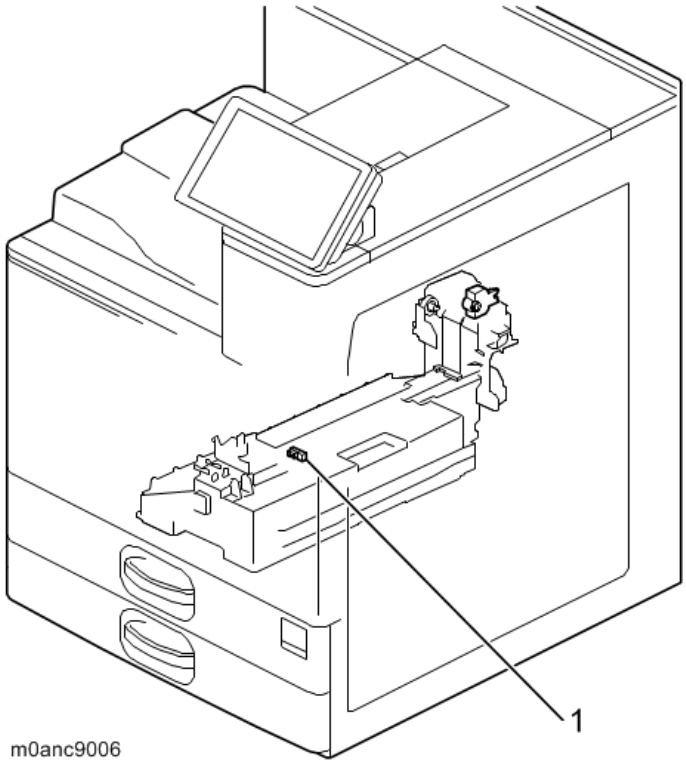
No.	Description	No.	Description
1	Laser Unit	3	TD sensor
2	Quenching lamp	4	PCL (Pre Cleaning Light)

Fusing Unit



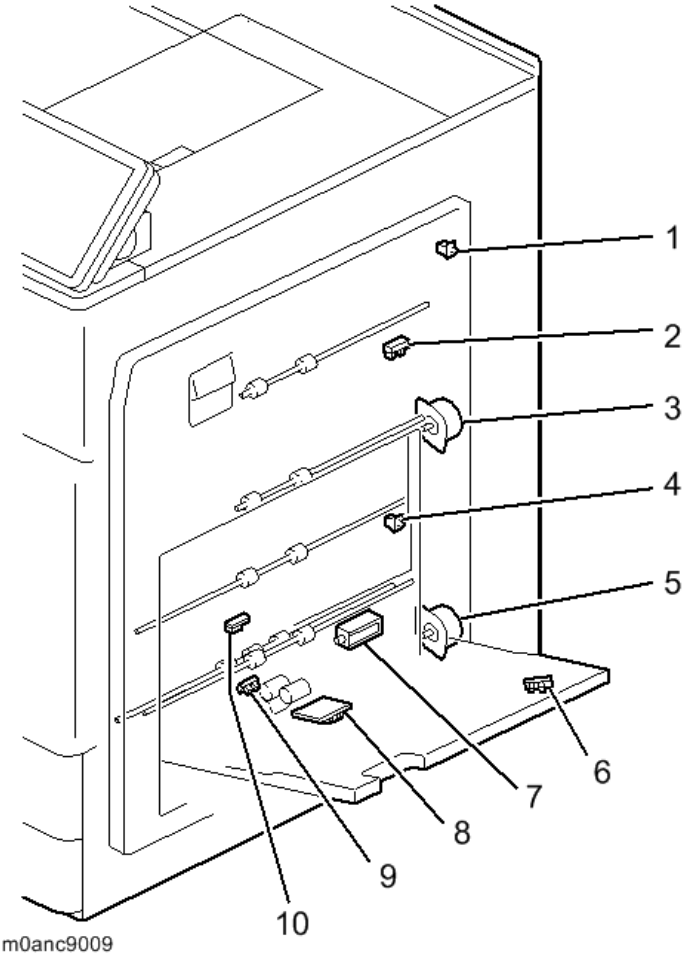
No.	Description	No.	Description
1	Fusing thermopile (End)	6	Thermostat (End)
2	Fusing thermopile (Center)	7	Thermostat (Center)
3	Fusing exit sensor	8	Fusing roller temperature sensors (Center)
4	Pressure roller temperature sensor (End)	9	Fusing roller temperature sensors (End)
5	Pressure roller temperature sensor (Center)	10	Fusing lamp

Waste Toner Bottle



No.	Description
1	Toner collection full sensor

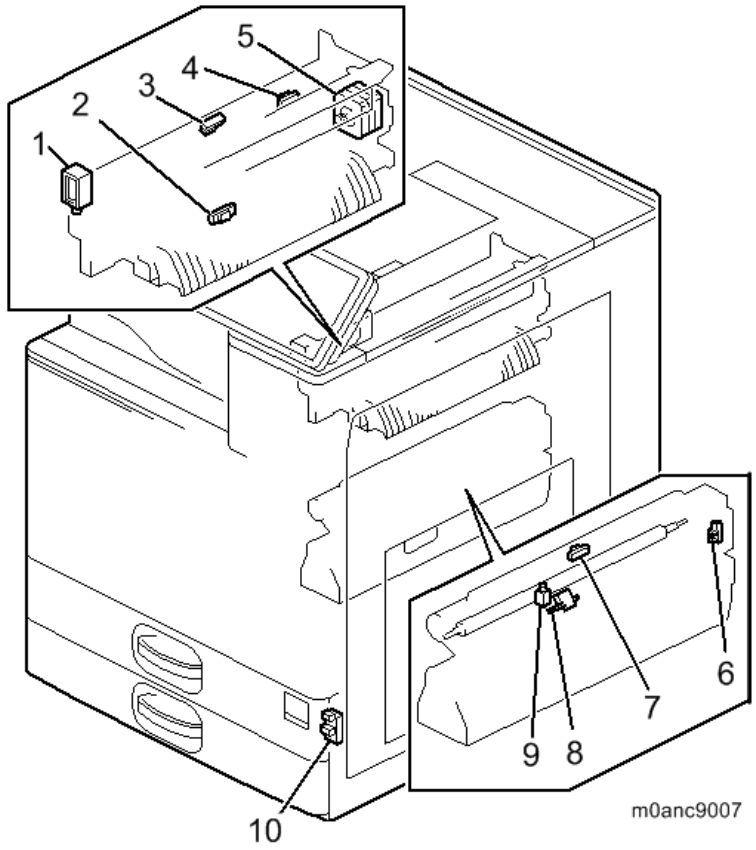
Duplex/Bypass Unit



m0anc9009

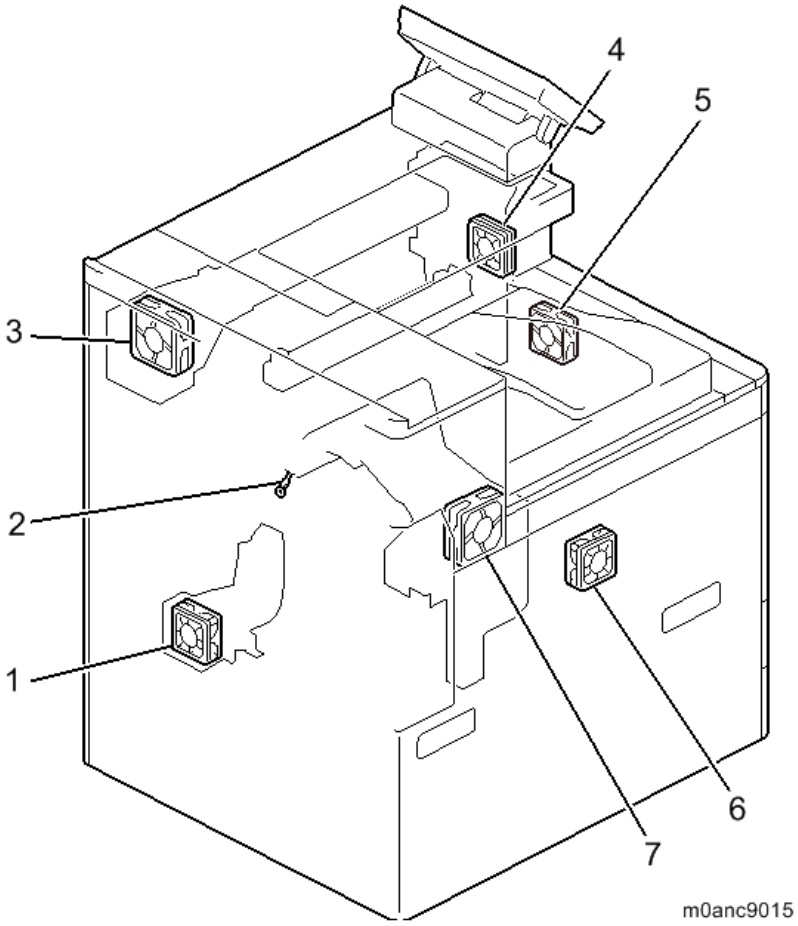
No.	Description	No.	Description
1	Right cover open/closed switch	6	Bypass length sensor
2	Duplex entrance sensor	7	Bypass pickup solenoid
3	Duplex entrance motor	8	Bypass width sensor
4	Duplex guide switch	9	Bypass paper end sensor
5	Duplex/bypass motor	10	Duplex exit sensor

Paper Exit/Reverse Unit



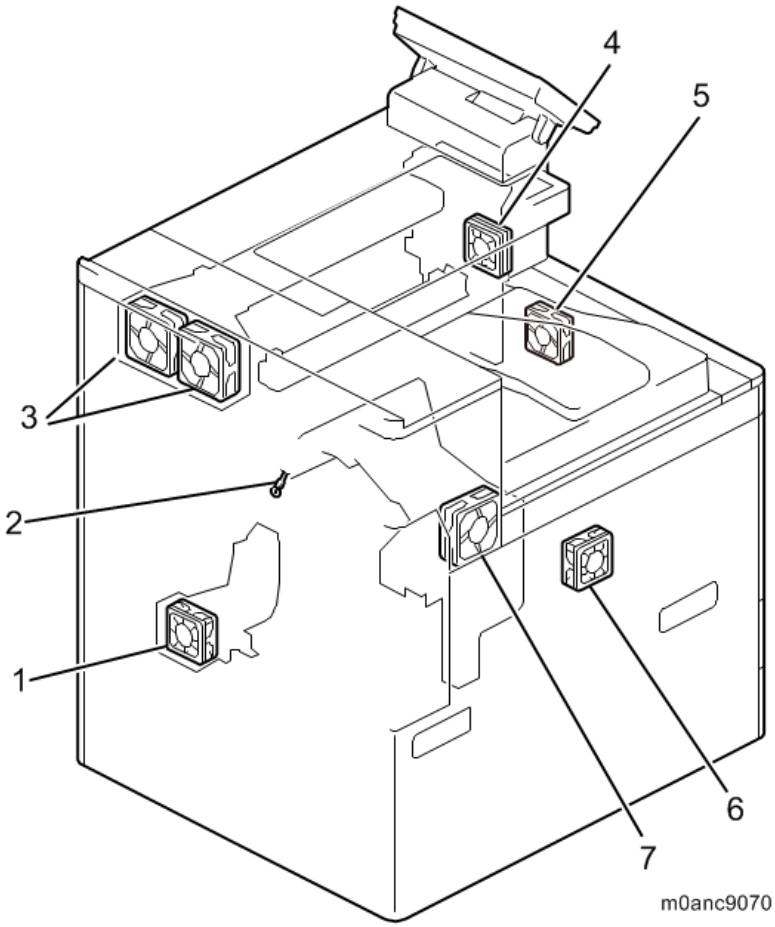
No.	Description	No.	Description
1	Paper exit switching solenoid	6	Transfer unit open/close sensor
2	Paper exit sensor	7	Fusing entrance sensor
3	Reverse sensor	8	ID sensor
4	Paper exit full sensor	9	Transfer Unit Open/Close LED
5	Reverse motor	10	Temperature / Humidity Sensor

Air Flow



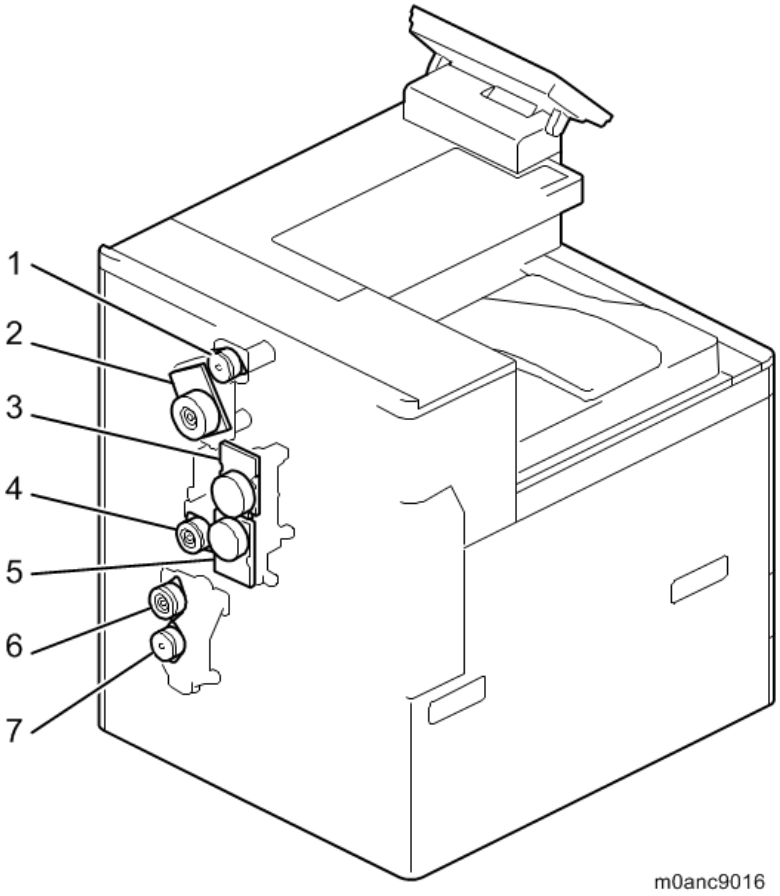
Note

EU/AA:



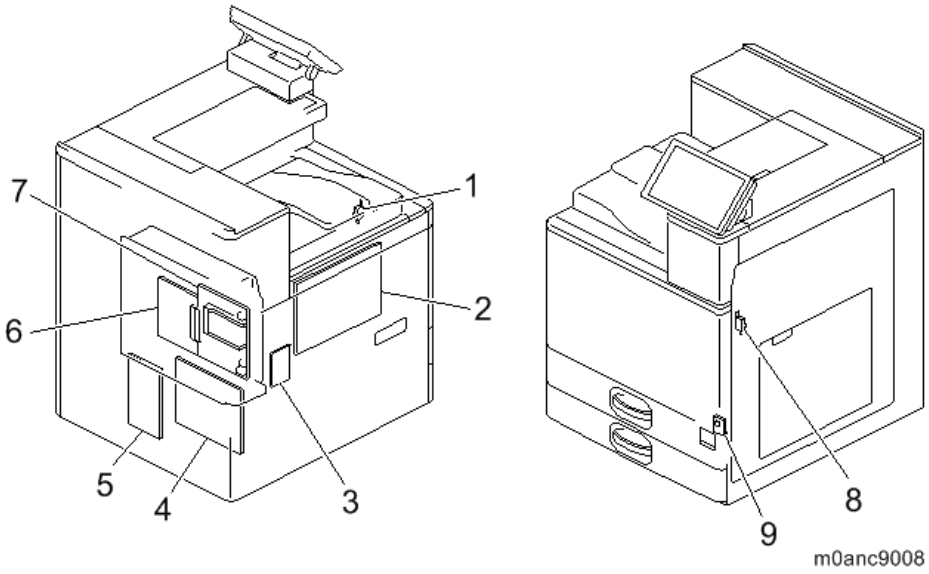
No.	Description	No.	Description
1	Development bearing cooling fan	5	Front Development Cooling Fan
2	Temperature sensor	6	PSU cooling fan
3	Fusing fan (For EU/AA models, there are two fans.)	7	Development exhaust fan
4	Paper exit cooling fan		

Drive Unit



No.	Description	No.	Description
1	Paper exit motor	5	Development motor
2	Fusing motor	6	Vertical transport motor
3	Drum/Waste toner motor	7	Paper feed motor
4	Registration motor		

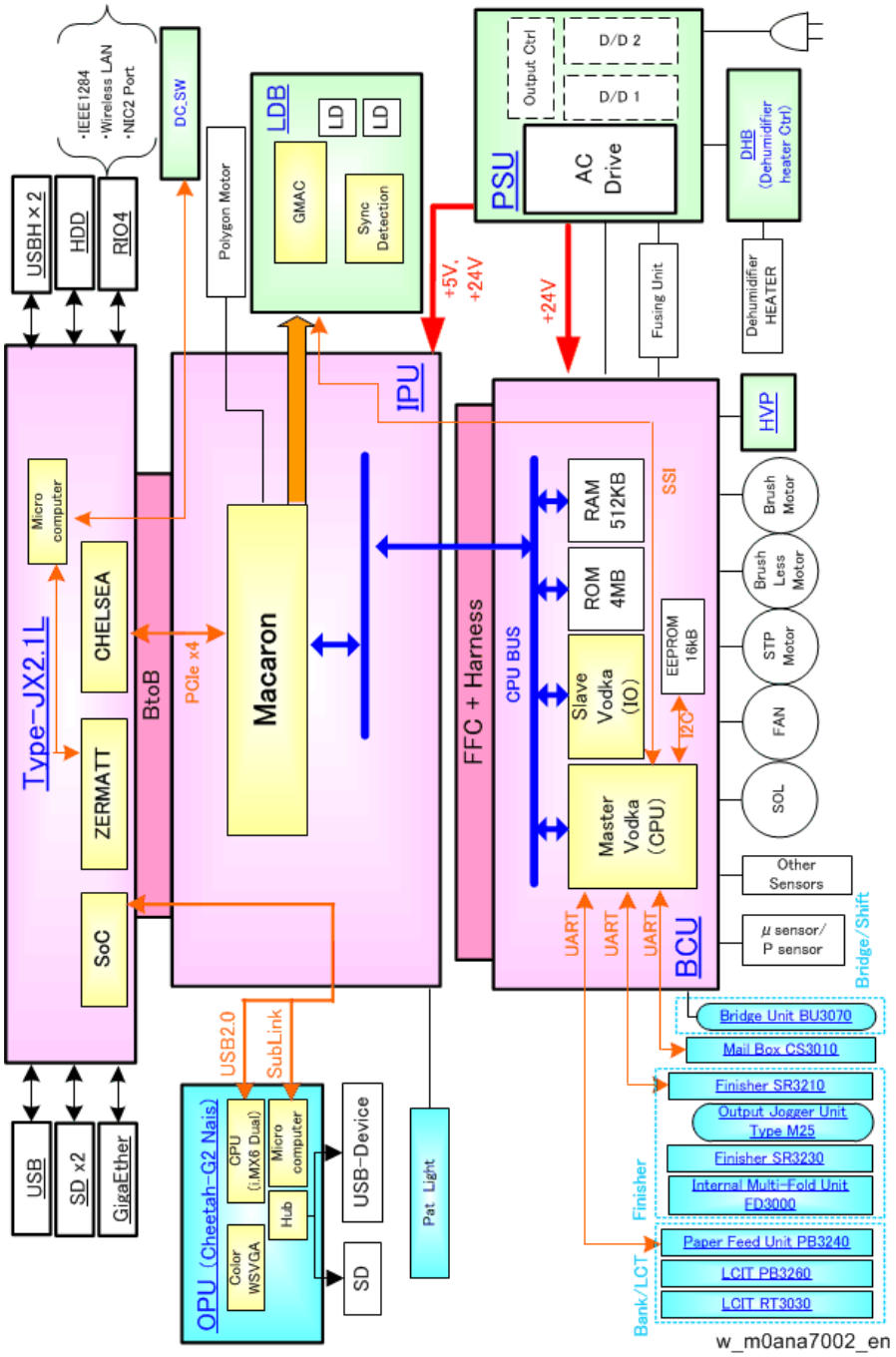
Electrical Components



No.	Description	No.	Description
1	Interlock switch (Front Cover)	6	IPU
2	PSU	7	Controller Board
3	DHB (Option)	8	Interlock Switch (Right Cover)
4	BCU	9	DC SW board
5	HVPS		

Image Processing

Structural block diagram



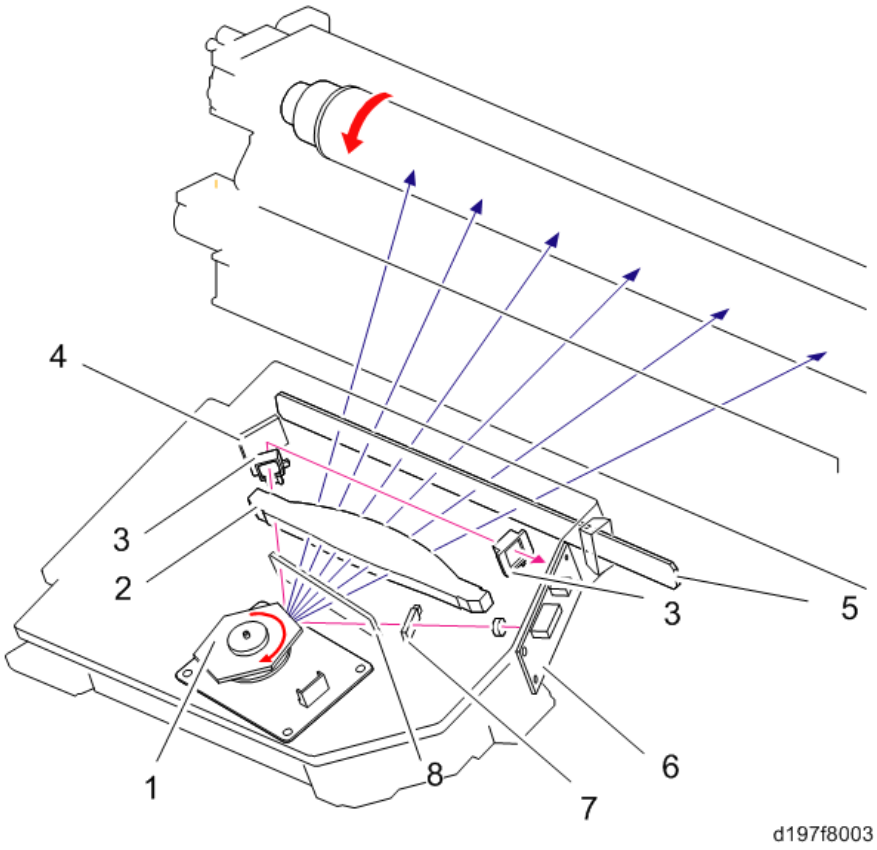
IPU Mechanism

Image processing function overview

The image signals from the controller (memory) are received via the PCI bus, and output to the LDB via a GAVD (the LDB is provided in the laser unit).

Laser Exposure

Overview

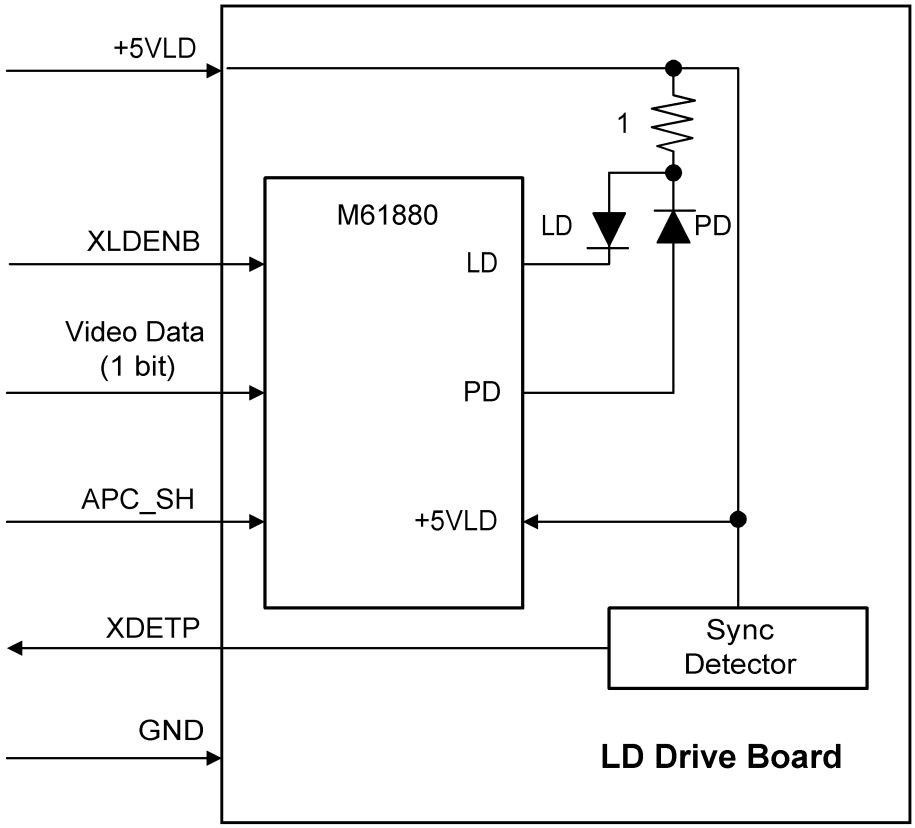


	Name
1	Polygon Mirror
2	F-theta Lens
3	Synchronization Detector Lens
4	Synchronization Detector Mirror
5	Toner Shield Glass
6	LD Board
7	Cylindrical Lens
8	Shield Glass

Note

- The LD drive board controls both the laser output and laser synchronization mechanism.
- The machine cuts off the power supply to the LD drive board if the front or right cover is opened.

Auto Power Control (APC)



The LD driver IC drives the laser diode. To prevent the intensity of the laser beam from changing because of the temperature, the machine monitors the current passing through the laser diode (LD). The machine adjusts the current to the laser diode by comparing it with the reference level from the reference circuit.

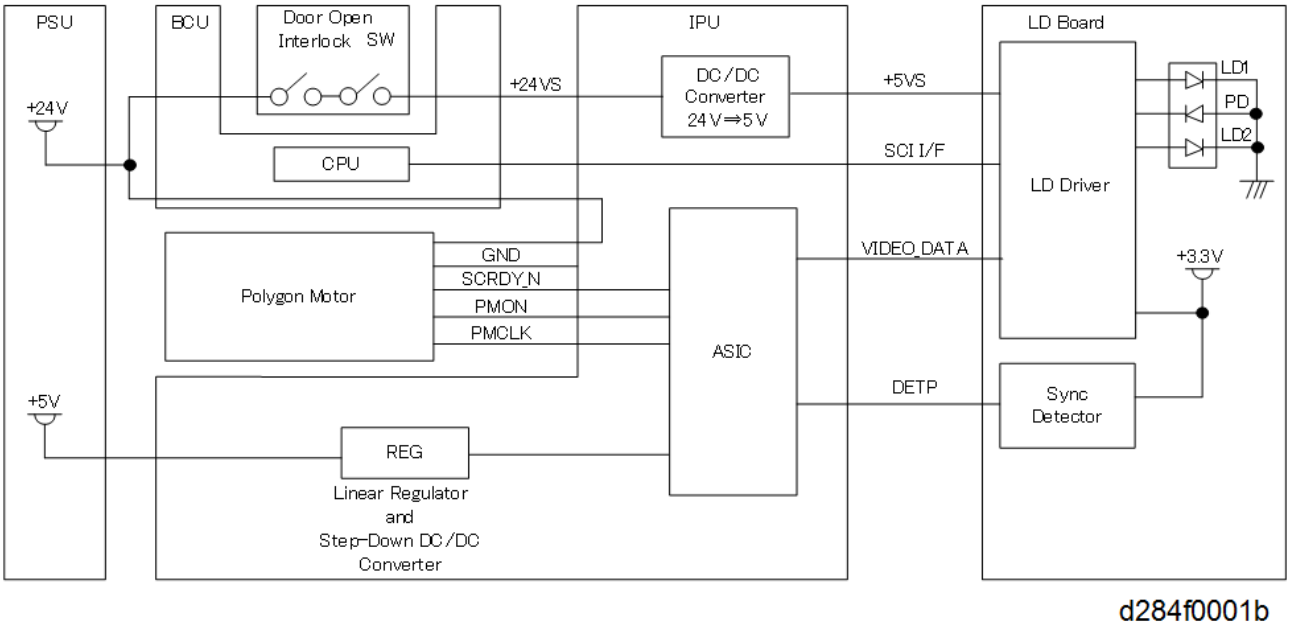
This auto power control is done just after the machine is turned on and during printing.

The laser diode power is adjusted on the production line.

Note

- Do not touch the variable resistors on the LD unit in the field.

LD Safety Switch

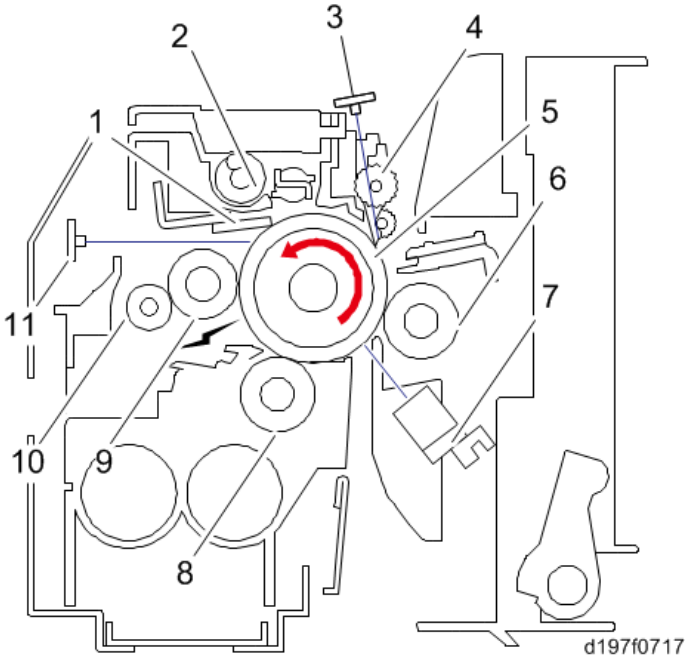


"+24V" goes through the BCU and is converted to "+5VS" on the IPU. "+5VS" is supplied to the LD Board. The interlock switch turns off when the front cover or the right door is opened. As a result, the power supply ("+24VS") to the BCU is cut off.

This system prevents unexpected laser emission, and ensures user safety and technician safety.

PCDU (Photo Conductor and Development

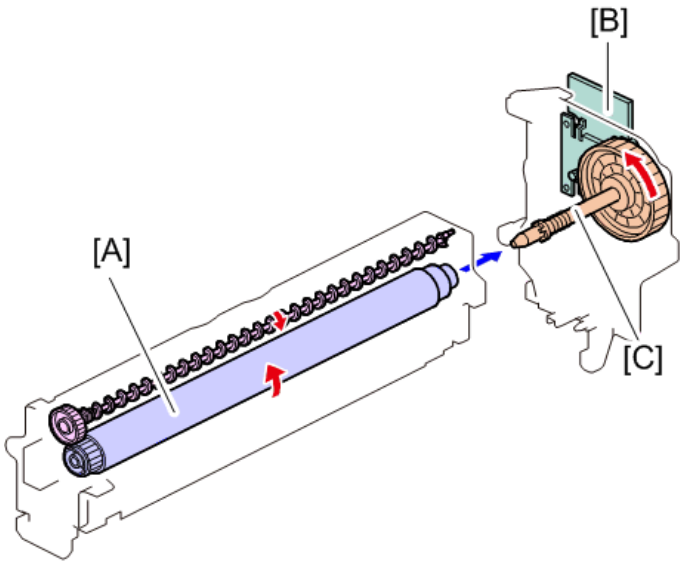
Overview



No.	Part Name	No.	Part Name
1	Cleaning Blade	7	ID Sensor
2	Toner Collection Coil	8	Development Sleeve
3	PCL (Pre Cleaning Light) *1	9	Charge Roller
4	Pick-off Pawl	10	Brush Roller
5	OPC Drum	11	Quenching Lamp
6	Transfer Roller		

*1 New feature. The PCL decreases the electro-static adhesion force generated between the OPC drum and remaining toner to enhance cleaning efficiency.

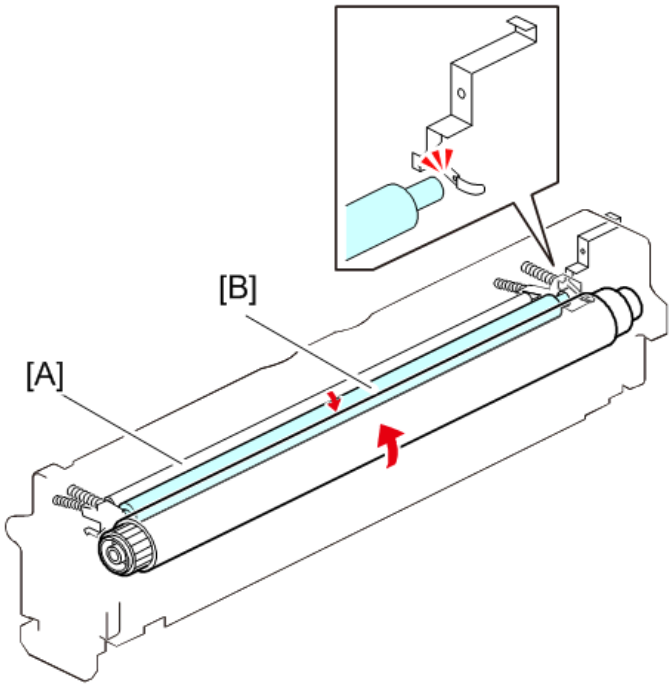
OPC Drum Drive Mechanism



d197f0718

The drum/waste toner motor [B] drives the OPC drum [A] through gears and the drum drive shaft [C].

Drum Charge

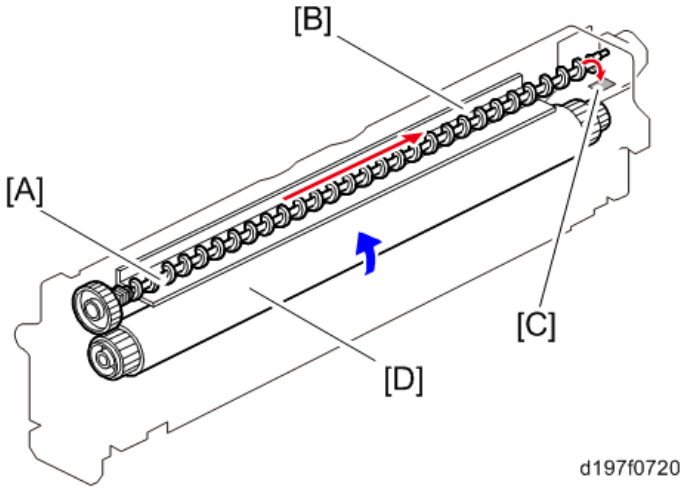


d197f0719

Charging to the drum is performed by the charge roller [B]. The charge roller always contacts the surface of the drum and applies a charge bias.

A power pack applies the bias to the charge roller via a receptacle and electrode terminal. Dirt can easily adhere to the charge roller because the roller always contacts to the drum with the pressure spring. Therefore, the brush roller [A] is in contact with the charge roller for cleaning.

Drum Cleaning, Toner Discarding



A counter blade cleaning system is used for drum cleaning. A cleaning blade [B] removes toner on the drum by always contacting the drum against the drum rotation. Toner scraped off by the blade is transferred by the toner collection coil [A] from the front to the rear, to be discarded into the waste toner bottle via the transportation route [C] to the rear of the drum. Depending on the job conditions, used toner may be discarded by the toner recycle/discard switch mechanism. Paper dust that adheres to the edge of the cleaning blade is removed by rotating the drum [D] in reverse after job end.

ID Sensor

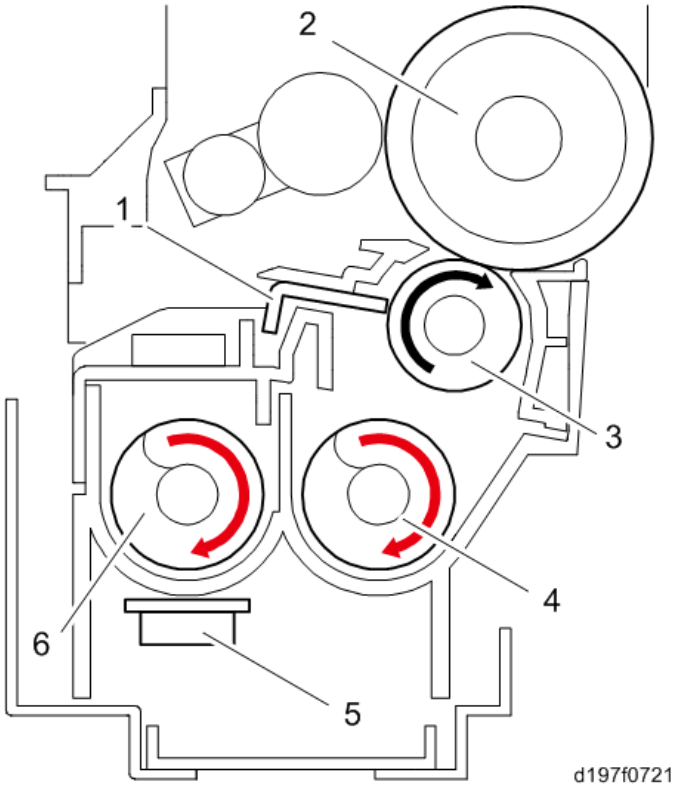
The ID sensor is used to keep image density by changing the value of ID sensor standard, development bias, drum potential and LD power with Vsp and Vsg.

The ID sensor operates at the following times:

1. When the machine has been unused beyond the time determined and the printed sheet count has exceeded the predetermined value.
2. When the temperature and/or humidity has changed by more than a certain range, and the machine restarts the engine (i.e. the main power is turned on, warming-up after the fusing-off mode, and the front cover is closed.)
3. When the machine is processing a job that has more than a set number of sheets (job is interrupted) or when the machine has completed a job that has the set number of sheets.

Development

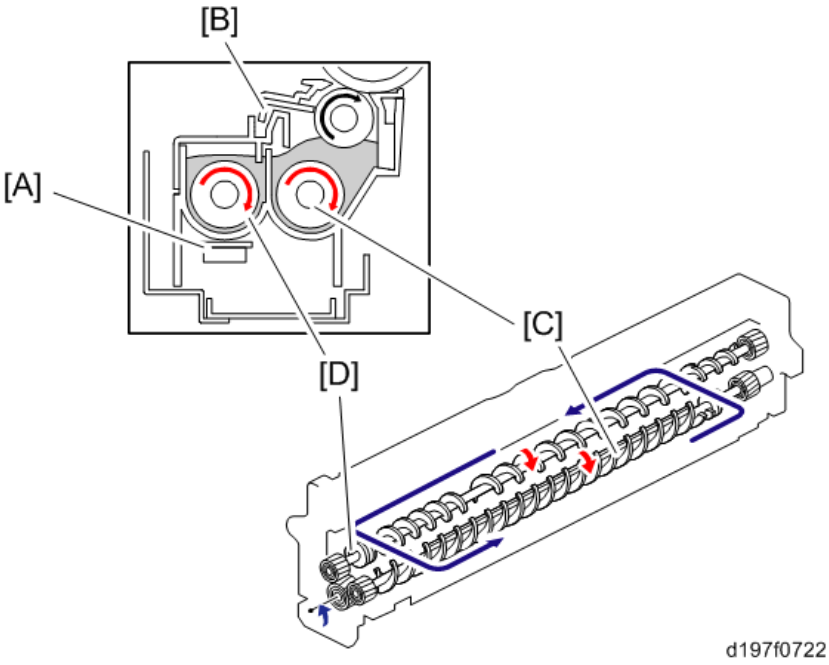
Overview



The development unit consists of the following parts.

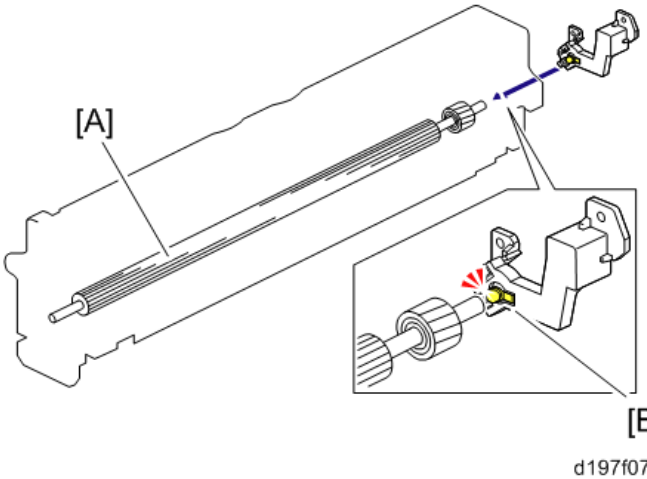
	Description		Description
1	Doctor Blade	4	Mixing Auger 2
2	OPC Drum	5	TD Sensor
3	Development Sleeve	6	Mixing Auger 1

Development Mechanism



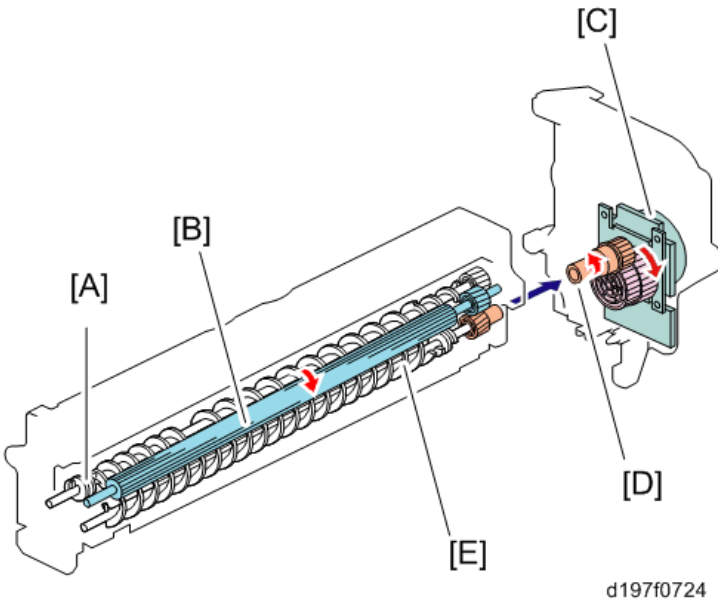
This machine uses a dry two-component magnetic brush development system.
This machine uses 2 mixing augers [C] and [D] to keep the developer evenly mixed. Mixing auger 2 [C] transports excess developer, scraped off the development roller by the doctor blade [B], towards the rear of the machine. Mixing auger 1 [D] returns the excess developer, along with new toner, to the front of the mixing assembly. Here the developer is reapplied to the development roller.
The TD sensor [A] detects the toner density in the development unit.

Development Bias



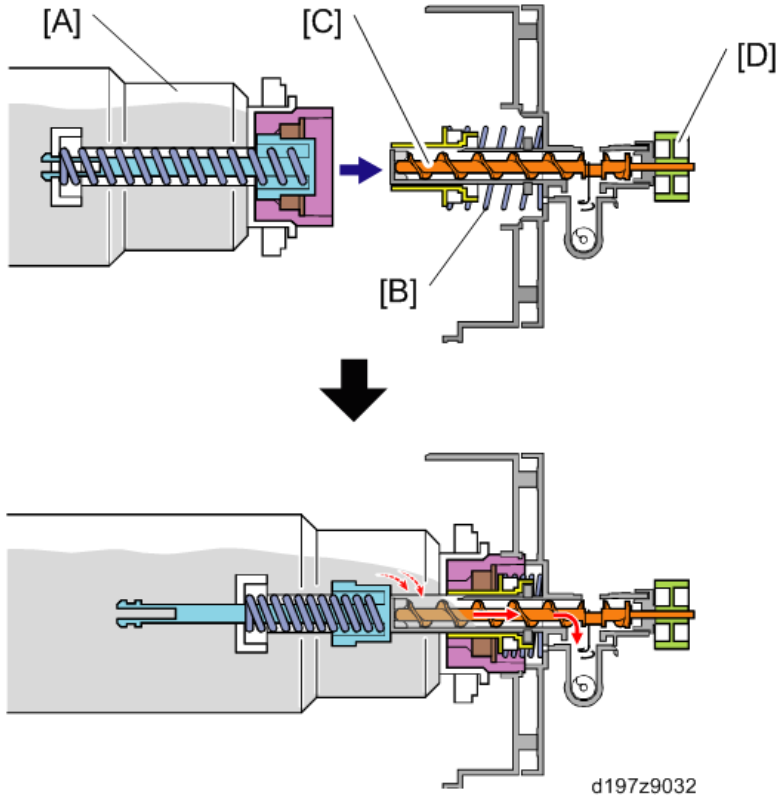
Development bias is generated by a power pack and is applied to the development sleeve [A] via the development sleeve drive shaft and bias terminal [B].

Drive



The development motor [C] drives the mixing auger 1 [A], mixing auger 2 [E] and development sleeve [B] through a serration gear [D].

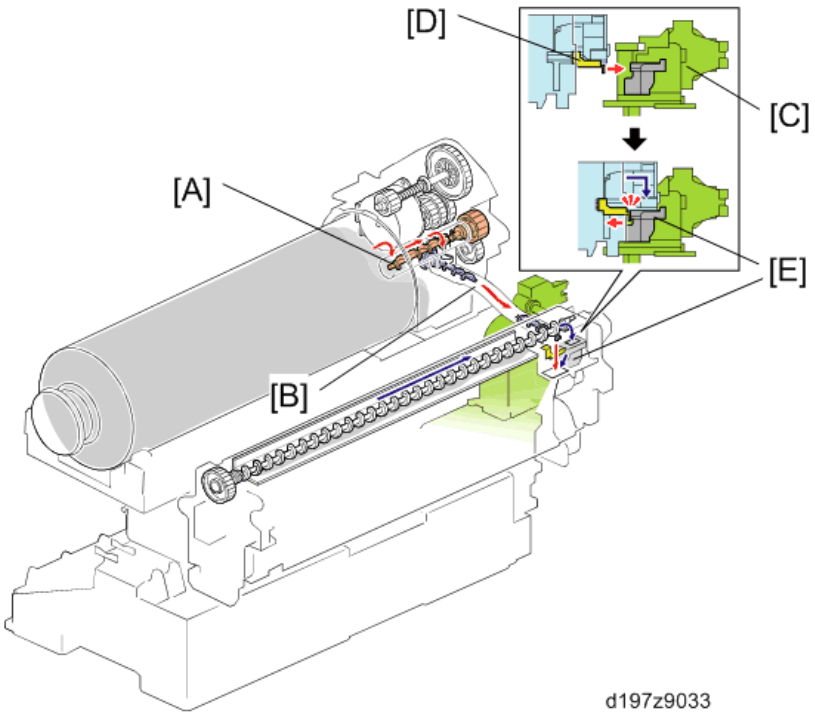
Toner Supply



When the toner bottle [A] is set, the transport nozzle [B] on the side of the main machine is inserted into the bottle (Hi-ACT system).

The drive of the toner supply motor is transmitted to the toner transport coil [C] through the drive gear [D], which

transports the toner in the bottle horizontally. Transporting by a coil provides a stable and accurate toner supply and low toner remaining.



Toner transported by the coil [A] falls directly into the development unit from the sub-hopper via the transport pipe [B]. To prevent toner from remaining, a coil is provided in the transport pipe.
When the PCDU is put in the machine, the sub-hopper [C] slides the shutter [D] on the bottle assembly and the toner goes to the entrance [E] of the development unit.

Toner Density Control

There is only one toner density control mode, called PID mode.

Mode	Toner supply decision	TD Sensor Reference Value	Toner Supply Amount	Toner End Detection
PID	Compares Vt with Vtref	ID sensor control corrects the TD sensor reference value.	The toner supply amount Is calculated with the difference between Vt and Vtref.	Available

Toner End Detection

The TD sensor detects toner near end.
If the difference between the TD sensor output and the target value is equal to or larger than the near end threshold, the machine detects that a “possible” toner near end exists. As the machine continues to operate, it starts to calculate an integrated value. If the integrated value is equal to or larger than the near end total threshold, the machine determines that a “true” toner near end exists. The toner near end indicator blinks on the operation panel at this time.

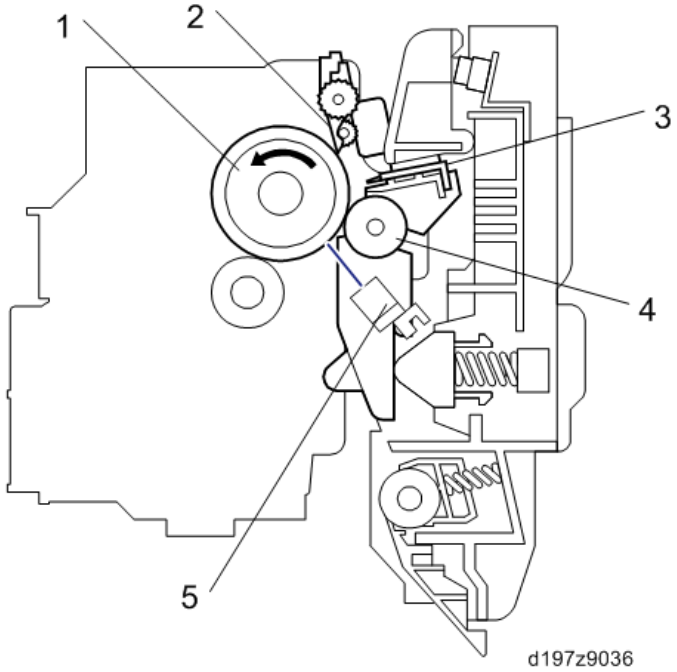
If the difference between the TD sensor output and the target value is less than the near end threshold twice in a row, the toner near end indicator is turned off.
If the difference between the TD sensor output and the target is equal to or larger than the end threshold, the machine detects that a “possible” toner end exists. As the machine continues to operate, it starts to calculate an integrated value. If the integrated value is equal or larger than the toner end total threshold, the machine determines that a “true” toner end exists.

Toner End Recovery

In a toner end condition or toner near end condition, if the front cover is kept open for more than 5 seconds and then it is closed, the machine changes to a toner end recovery mode. You must keep the main power on when you replace the toner bottle or toner end recovery will not work.

Transfer and Separation

Overview

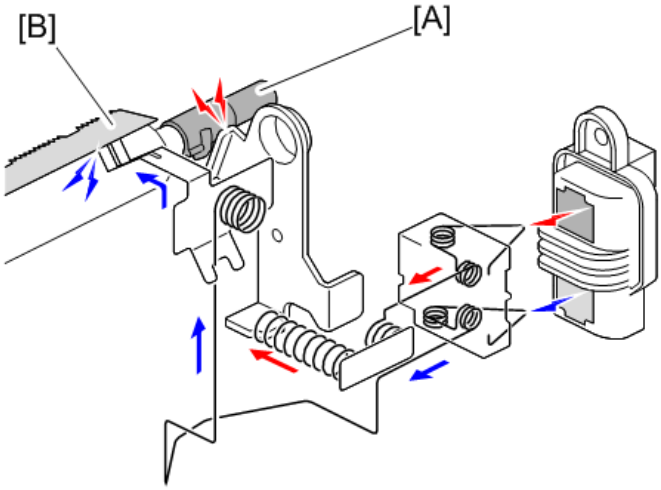


	Description		Description
1	OPC Drum	4	Transfer Roller
2	Pick-off Pawl	5	ID Sensor
3	Discharge Plate		

The machine uses a transfer roller [4], which touches the surface of the OPC drum [1]. The high voltage supply board supplies a positive current to the transfer roller, which attracts the toner from the drum onto the paper. The current depends on the paper width, paper type, and paper feed tray.

The curvature of the drum and the discharge plate [3] help the paper to separate from the drum. The high voltage supply board also supplies a negative dc voltage to the discharge plate. The drum/waste toner motor drives the transfer roller through the OPC drum [1].

Transfer Roller Unit Charge



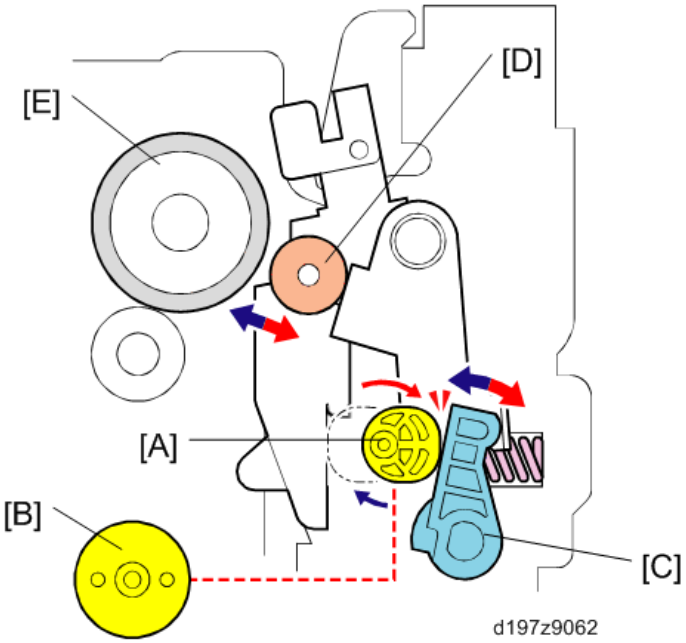
d197z9070

The high voltage supply board supplies a positive current to the transfer roller [A], which attracts the toner from the drum onto the paper. The current depends on the paper width, paper type, and paper feed tray.

The curvature of the drum and the discharge plate [B] help the paper to separate from the drum. The high voltage supply board also supplies a negative dc voltage to the discharge plate [B], which helps the paper to separate from the drum.

Transfer Roller Contact and Release Mechanism

The transfer roller contact and release mechanism prevents dirt and distortion. A transfer roller contact cam [A] in the front right side of the mainframe is driven by the transfer roller contact motor [C]. The transfer roller contact cam moves the transfer roller contact arm [C] by its rotation. The transfer roller [D] and OPC drum [E] are separated by the movement of the transfer roller contact arm during process control, discarding toner, or when the main power is turned off.

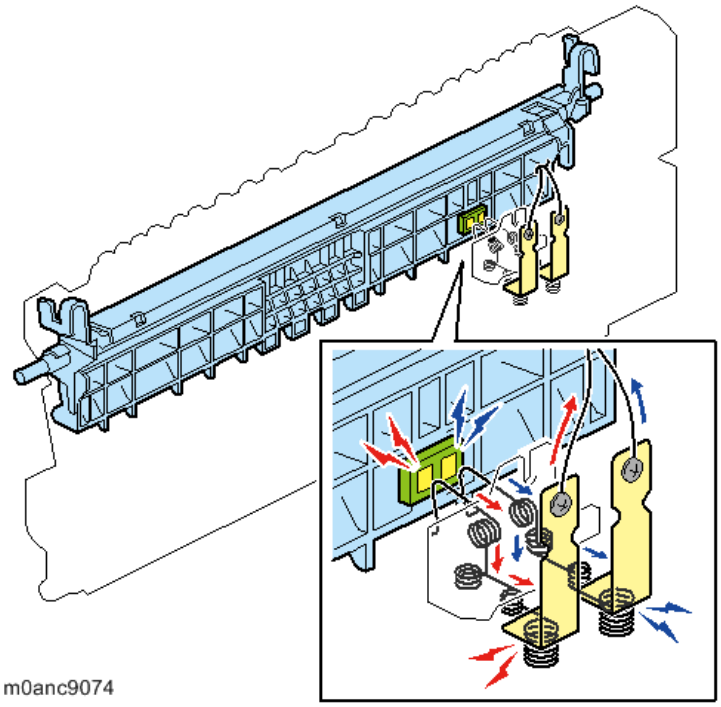


d197z9062

New unit detection of the transfer roller unit

The new unit detection fuse is attached to the transfer roller unit.

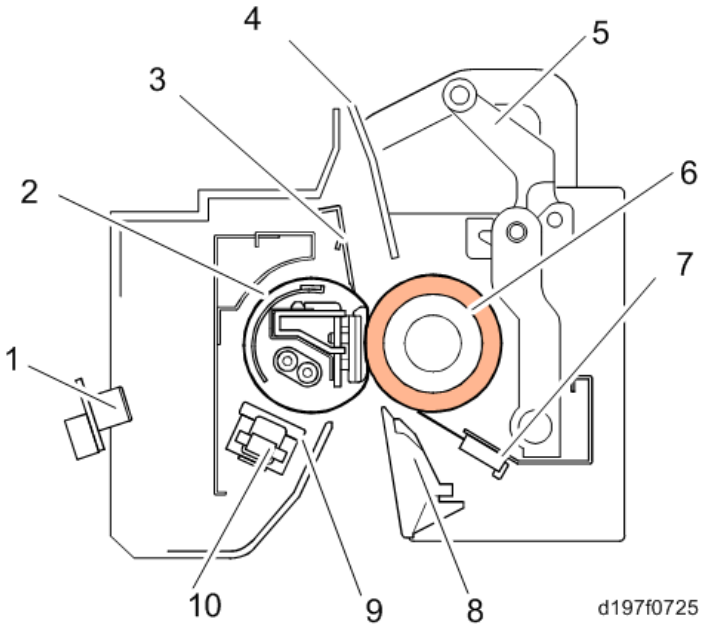
When the transfer roller unit is replaced, new unit is detected.



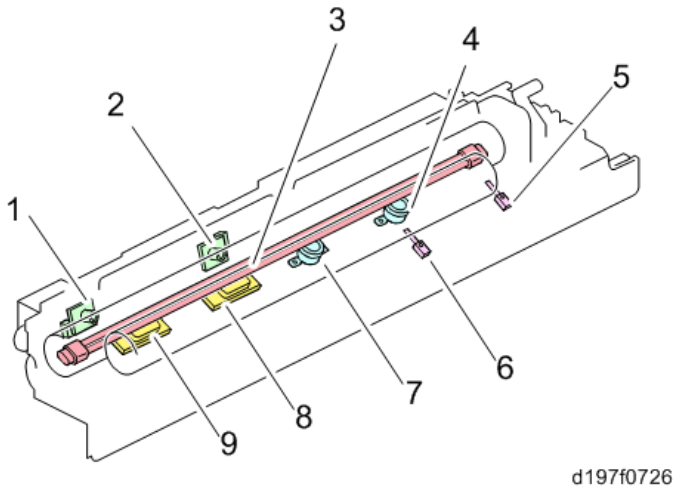
Fusing

Overview

This product uses a QSU-DH fusing system, in which a heater emits light to heat a fusing belt.



No.	Description	No.	Description
1	Thermopile	6	Pressure Roller
2	Heating Sleeve Belt	7	Pressure Roller Temperature Sensor
3	Stripper Plate	8	Fusing Entrance Guide Plate
4	Fusing Exit Guide Plate	9	Thermostat
5	Pressurizing/depressurizing Lever	10	NC Sensor

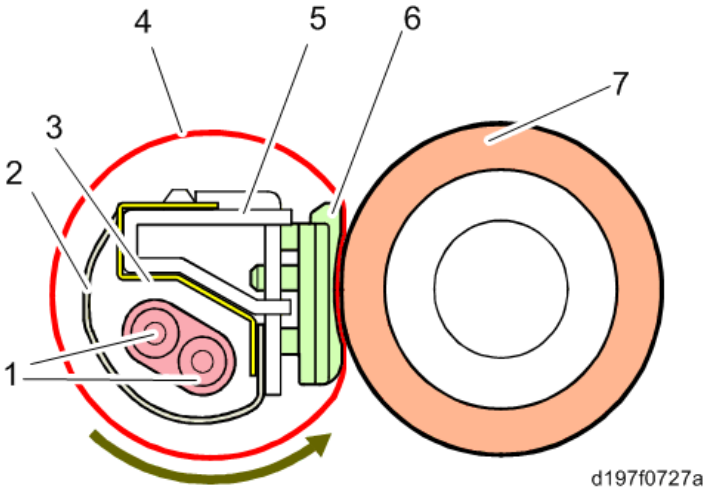


No.	Description	No.	Description
1	Thermopile (edge)	6	Thermistor (center)
2	Thermopile (center)	7	Thermostat (center)

No.	Description	No.	Description
3	Fusing lamp	8	Non-contact Thermistor (center)
4	Thermostat (edge)	9	Non-contact Thermistor (end)
5	Thermistor (edge)		

Mechanism

QSU-DH Fixing System



No.	Description	No.	Description
1	Halogen heater (Fusing Lamps)	5	Stay
2	Light Shielding Plate (at both ends)	6	Nip Pad (heat conduction plate method)
3	Reflector	7	Pressure Roller
4	Heating Sleeve Belt		

The heating sleeve belt is driven by drag rotation following the pressure roller, and presses a nip pad against the pressure roller to fix toner to the paper.

The fusing lamp emits light, and the area of the fusing sleeve belt which is heated moves in an anticlockwise direction so that heat is transmitted up to the contact point with the pressure roller.

- Fusing lamp

  There are two lamps

  Lamp power:

Center	800 W
Edge	412 W

- Nip pad

  Presses against the Pressure roller to form a fusing nip. The top surface is covered with a slippery sheet.

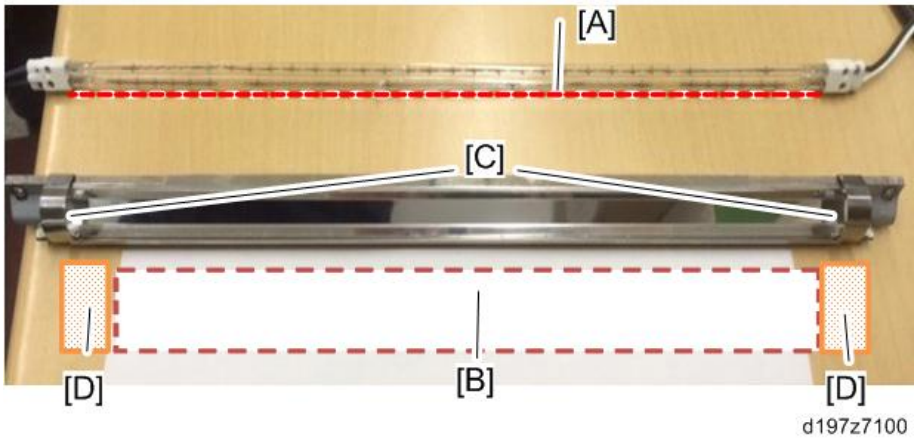
  Light Shielding plate and Heat Conduction Plate

  The heating sleeve belt unit in this model has light shielding and heat conduction plates. These prevent the fusing sleeve from damage caused by temperature increase. Otherwise, this could happen at parts of the

sleeve where paper does not pass by during a multi-page job using paper widths that are less than the full width of the sleeve.

When handling an A3 (SEF) or A4 (LEF) sheet

A cylindrical-shaped light shielding plate [C] covers the ends [D] of fusing lamp [A] where paper does not pass by, to prevent the temperature from rising at those places.

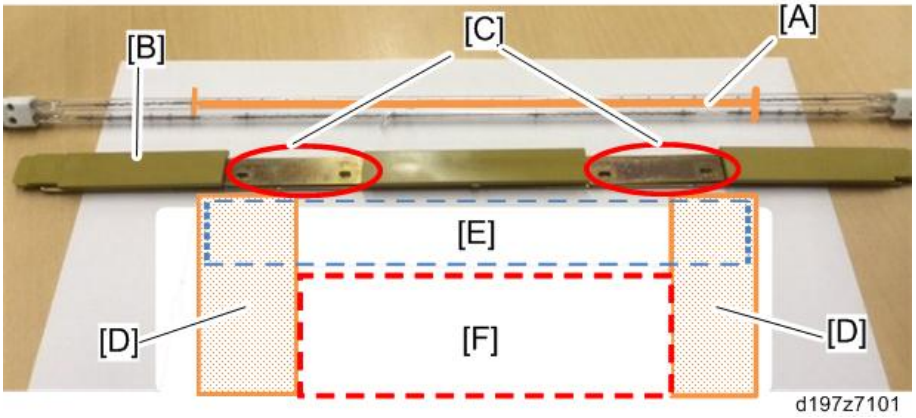


	Description
[A]	Area where the fusing lamp lights up
[B]	Print width of A3 (SEF) / A4 (LEF)
[C]	Light shielding plates
[D]	Areas where paper does not pass by and that would heat up without the light shielding plates

When handling an A4 (SEF) or smaller sheet

The machine lights up only the fusing lamp for center [A]. At this time, the temperature increases around the area [D] where paper does not pass. This is the gap between the lit part of the fusing lamp [A] and the edge of the sheet being fed.

To prevent the heating sleeve belt unit from damage caused by the temperature increase, heat conduction plates [C] which are made of a highly heat conductive material are attached to the nip pad [B] to release the heat.



	Description
[A]	Area where the fusing lamp lights up

	Description
[B]	Nip pad
[C]	Heat conductive plates
[D]	Areas where paper does not pass by and that would heat up without the heat conducting plates
[E]	Print width of A4 (SEF)
[F]	Print width of small size

- Reflector

  Transmits heat efficiently to the left of the fusing belt.

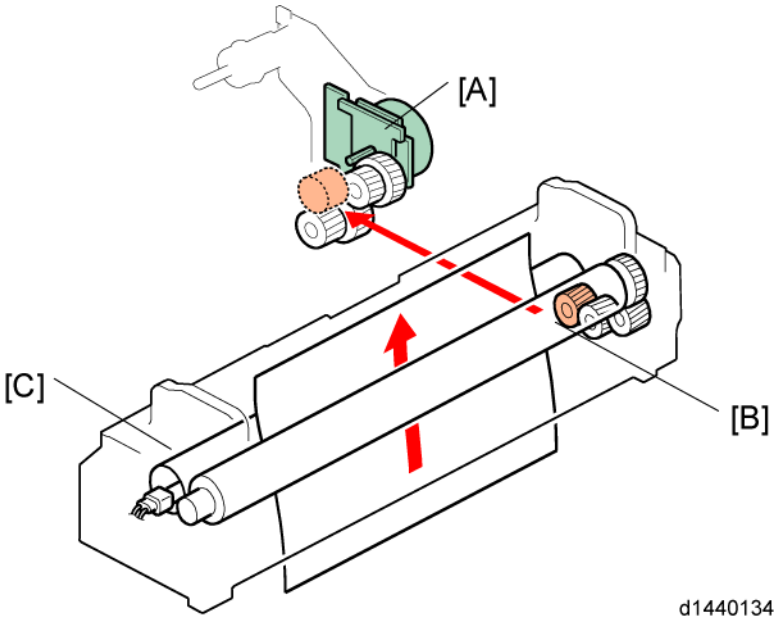
- Flanges

  Situated on both ends of the fusing belt. They maintain the shape of the belt.

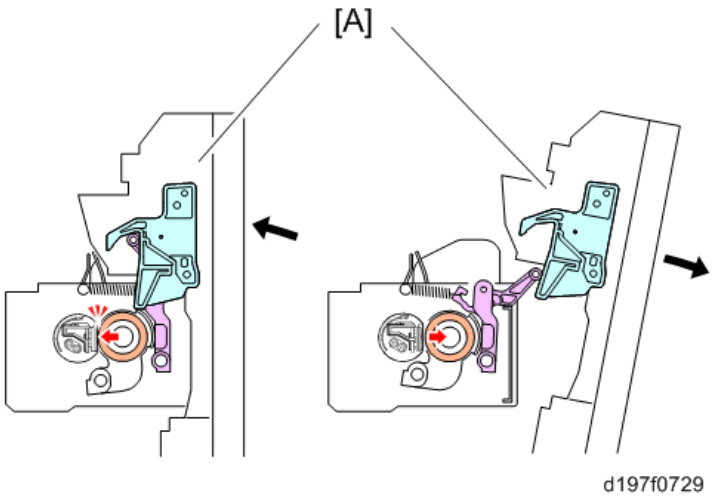
Fusing Drive

The pressure roller [B] is driven by the fusing motor or fusing/paper exit motor [A] (depending on the model).

The fusing belt [C] is driven by the pressure roller (drag rotation).



Pressure Release Mechanism



To easily remove paper in the event of a jam in the fusing unit, a pressure release mechanism is provided.
The pressing or releasing movement is applied together when the right cover [A] opens/closes: When the right cover is closed, pressure is applied. When the right cover is open, the pressure is released.

Fusing Temperature Control

- Warm-up mode
  After power ON, fusing warm-up begins. The fusing motor or fusing/paper exit motor is switched ON, the halogen heater is energized, and the fusing temperature is increased to the "reload target temperature."
  When the fusing warm-up is completed, the fusing motor or fusing/paper exit motor is switched ON for a certain time, and the fusing temperature is maintained at the "reload target temperature."
- Standby mode
  After fusing reload, when a certain time has elapsed, power supply to the halogen heater is switched OFF, and the fusing motor or fusing/paper exit motor is switched OFF. At the same time, the temperature is maintained at the "standby target temperature (SP1107-001)" by the halogen heater.
  In standby mode, the fusing motor or fusing/paper exit motor is switched ON intermittently.
- Printing ready mode
  After returning to standby mode, the halogen heater is re-energized, and the fusing temperature is raised to the "printing ready target temperature." If printing is not required, the machine again enters the standby mode after a certain time has elapsed.
  If printing is required during return to standby, the halogen heater is energized, the fusing temperature is increased to "target temperature after reload/after paper feed," and the print job starts.

CPM Down Control

To maintain image quality and printer quality, this printer has a low-temperature CPM mode and high-temperature CPM mode, and implements 3 levels of CPM down according to the usage situation and printer state.

- Low-temperature CPM mode
  In a low-temperature environment, the fusing lamp cannot keep up, and it may be difficult to maintain the target temperature. To handle this, the detection temperature of the fusing center thermopile is checked at given intervals, and if the detected temperature is below a threshold value, the CPM is decreased by 1 level.
  This low temperature CPM reduction is performed in the following 3 levels:

CPM down level

Mode	Level
Normal CPM	100%
CPM down 1	80%
CPM down 2	65%
CPM down 3	50%

- Hot CPM mode
  To shorten warm-up time and reduce the TEC value, this printer employs a fusing unit with a low heat capacity.
  For this reason, the temperature of those parts of the fusing belt where paper does not pass easily increases,

and outside of the paper width it may get extremely hot. In order to prevent the belt from breaking due to this excessive temperature rise, CPM down is implemented depending on the usage conditions. CPM down can be implemented in the following 3 levels depending on the detected temperature at the temperature sensor, or the paper passage time.

Note

- The down level % is a value for the case where a typical paper (Normal paper: A3/DLT/LT/A4) passes through the SEF. There may be some differences depending on paper size/paper thickness.

CPM down level

Mode	Level
Normal CPM	100%
CPM down 1	80%
CPM down 2	50%
CPM down 3	30%

CPM down determination using a temperature sensor

The temperature sensor is checked at given intervals, and if the detected temperature is above a threshold value, the CPM is decreased by 1 level.

Since the points at which temperature tends to increase depend on the paper size, the sensor used is changed depending on the paper size.

Paper width	Sensor used
A3/DLT/B4 (SEF)	Fusing thermistor (pressure roller end)
LT/A4 (SEF)	Fusing thermopile (end)
B5/A5/B6/A6 (SEF)	Fusing thermistor (pressure roller center)

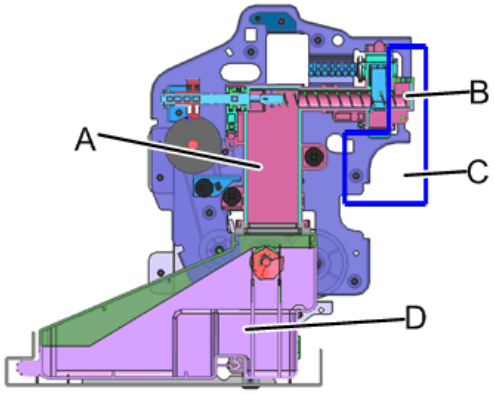
- CPM down determination using paper passage time

  Depending on the paper size, it may not be possible to use a sensor to determine the points on the fusing belt which tend to rise in temperature.

  Therefore, time conditions are also used to determine CPM down, and if continuous paper passage time is above a threshold value, CPM is decreased by 1 level.

  (When CPM down is performed by time conditions, CPM does not increase thereafter.)

Waste Toner



d284a4152

A: Silicone Pipe	C: PCDU
B: Waste Toner Transfer Coil	D: Waste Toner Bottle

The waste toner transfer coil transfers waste toner from the PCU to the waste toner bottle via a silicone pipe. The silicone pipe is part of the main machine.

Toner Discarding

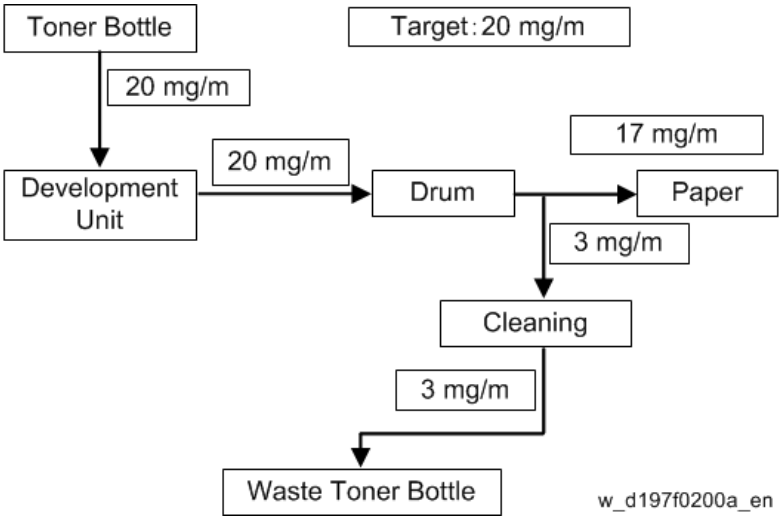
Overview

Printing with low toner coverage leaves a lot of uncharged toner in the development unit. This degrades developer more quickly. To keep toner in the development unit fresh, the machine makes a belt pattern on the drum at the end of a job when image coverage is less than 3%, to make sure that the equivalent toner for 3% coverage is consumed. This supplies a certain amount of fresh toner to the development unit. The belt pattern is cleaned off the drum, and the waste toner is stored in the cleaning unit and from there it goes to the waste toner bottle.

For these examples, let us say that toner consumption at 3% is 10 mg/m.

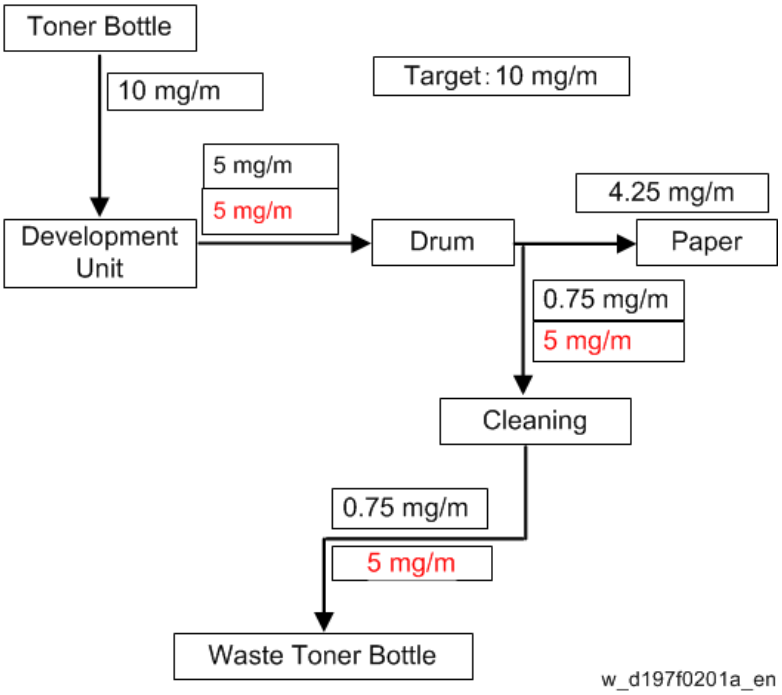
6% Coverage (Toner consumption ratio = 20 mg/m)

In the first example, we have 6% coverage. 20 mg/m of toner is sent from the development unit to the drum. 17 mg/m ends up on the paper and 3 mg/m is cleaned off the drum and goes to the waste toner bottle. 3 mg/m = 20 mg/m x 0.15. This factor of 0.15 is a constant for this development mechanism. In other words, at all times, 15% of the toner applied to the drum does not get on the paper, and is discarded.



1.5% Coverage (Toner consumption ratio = 5 mg/m)

In this example, we have a lot less than 3% coverage. 1.5% coverage is only 5 mg/m of toner. The development unit sends 5 mg/m of toner to the drum. 4.25 mg/m of this gets on the paper, and 0.75 mg/m is cleaned off the drum and sent to the waste toner bottle (this is the 15% factor we talked about above). In this job, only 4.25 mg/m was consumed. The machine has to consume 10 mg/m for each job. So, to make this 4.25 up to 10 mg/m for the preceding job, the machine then consumes 5 mg/m by making patterns on the drum (shown in red in the diagram). This toner is cleaned off the drum and sent to the waste toner bottle.

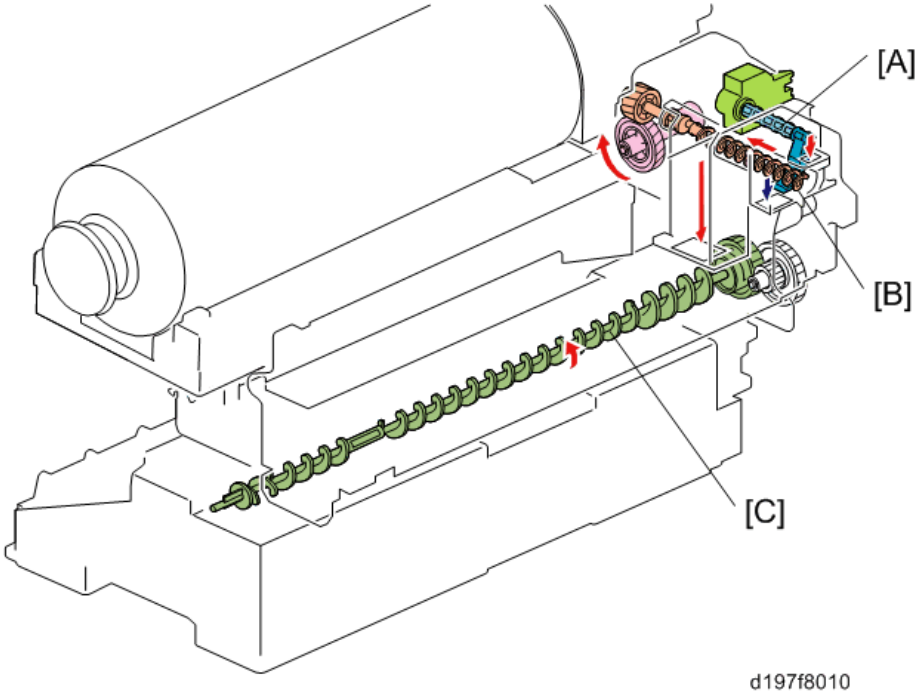


Note

- Red letters indicate the toner amount that the belt patterns forcibly consume.

Waste Toner Bottle

Waste Toner Bottle Drive Mechanism

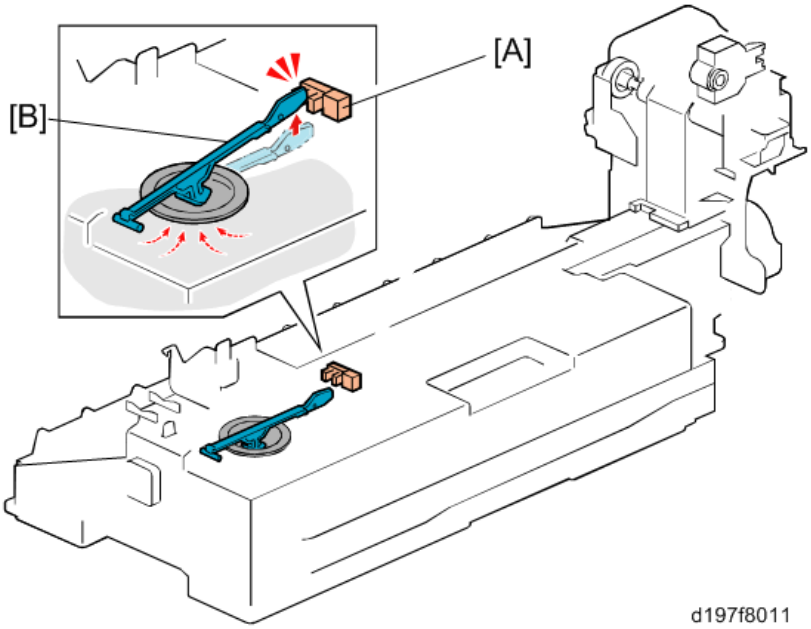


When the recycling shutter solenoid [A] moves the recycling shutter, collected toner is transported to the left side by the waste toner transfer coil [B] and falls into the development unit.

The collected toner in the waste toner bottle is moved to the front side by the waste toner bottle coil [C]. As a result, the height of the collected toner is kept level.

The drum/waste toner motor drives the waste toner transfer coil [B] and waste toner bottle coil [C]. In this model, there is a set detection mechanism for the waste toner bottle.

Toner Collection Full Detection Mechanism



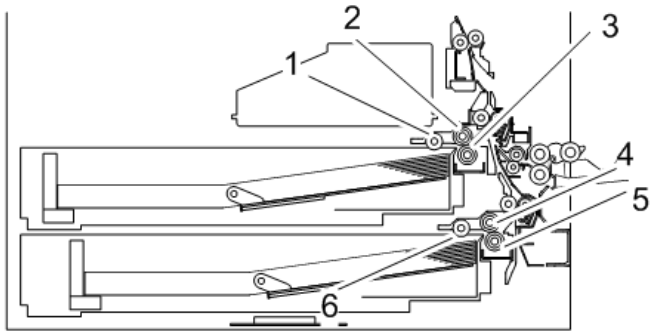
The toner collection full sensor [A] is located above the feeler [B] of the waste toner bottle. When the amount of collected toner in the waste toner bottle reaches about 90%, the feeler [B] is lifted and interrupts the toner collection full sensor. After the machine detects that the waste toner bottle is full based on the coverage counter or page counter, whichever comes first, the pixel counter calculates the remaining days for the waste toner bottle replacement. When the machine prints 37,000 sheets after detecting a bottle near full, the status is changed to bottle full. SP3-810-011 allows you to adjust the duration between bottle near full and bottle full.
The remaining day counter = 15 days: The machine informs the status via @remote (if connected).
The remaining day counter = 5 days: The machine displays a message that indicates the near full condition on the operation panel.
The remaining day counter = 0 days: The machine displays a warning on the operation panel and the machine stops.

(Reference) Waste Toner Bottle Life (Sheet count)

Coverage 3%: 460K
Coverage 6%: 320K
Coverage 10%: 230K

Feed/ Transport part

Overview



d197f0702

No.	Description	No.	Description
1	Pick-up roller (1st paper tray)	4	Feed roller (2nd paper tray)
2	Feed roller (1st paper tray)	5	Friction roller (2nd paper tray)
3	Friction roller (1st paper tray)	6	Pick-up roller (2nd paper tray)

Feed / transport part

The paper feed tray consists of 2 stages, i.e., a main double tray and a bypass feed tray. By using both the 1st and 2nd tray as universal trays, a space-saving two-step feed is enabled.

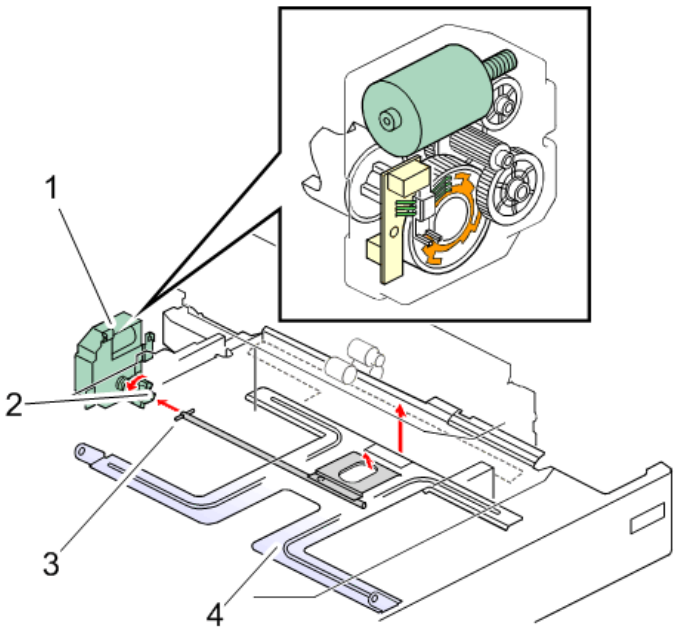
Tray	Paper size	Loading number of sheets	Corresponding paper thickness
1st/2nd paper tray	A3 - postcard	550 sheets	60 – 300 g/m^2
Bypass feed tray	12 x 18 - postcard	100 sheets	52 – 300 g/m^2
Duplex unit	A3 - postcard	Interleave	52 – 256 g/m^2

Tray bottom plate lifting

When the paper feed tray is set in the machine, the set switch at the rear of the tray switches ON, and it is detected that the tray is set.

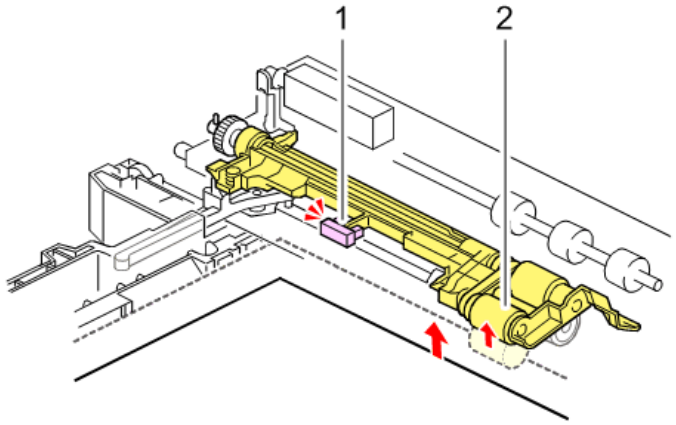
The coupling between the shaft at the rear of the tray and the lift motor then engages, the motor rotates, and the tray bottom plate is lifted. The tray bottom plate lifts until the paper surface pushes up the pick-up roller, the upper limit sensor switches OFF (interrupt), and the machine enters the paper feed standby mode.

When the tray is removed, the coupling is released, and the tray bottom plate moves down. The lift motor then rotates until the coupling returns to the home position.



d197f0703

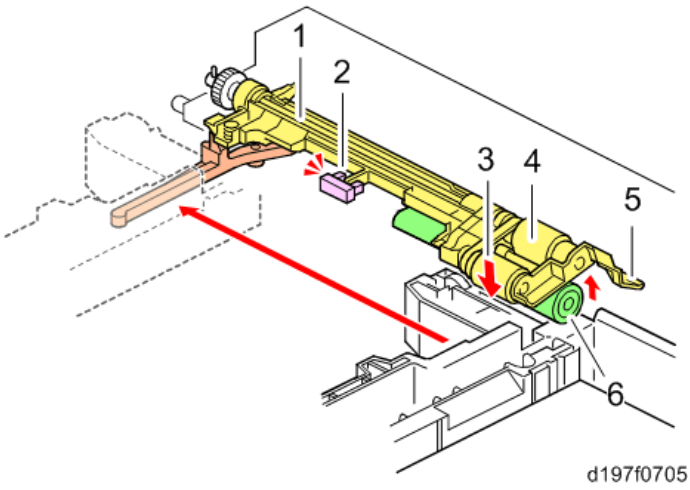
No.	Description	No.	Description
1	Tray lift motor	3	Tray rear axis
2	Coupling	4	Tray bottom plate



d197f0704

No.	Description	No.	Description
1	Upper limit sensor	2	Pick-up roller

Paper feed mechanism



No.	Description	No.	Description
1	Pickup arm	4	Feed roller
2	Upper limit sensor	5	Feed guide
3	Pick-up roller	6	Friction roller

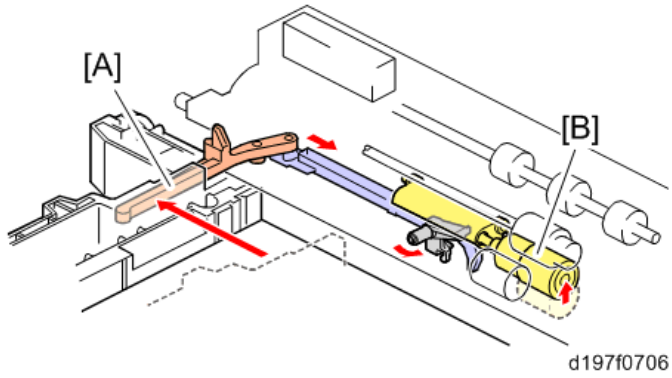
The paper feed unit employs an RF system.

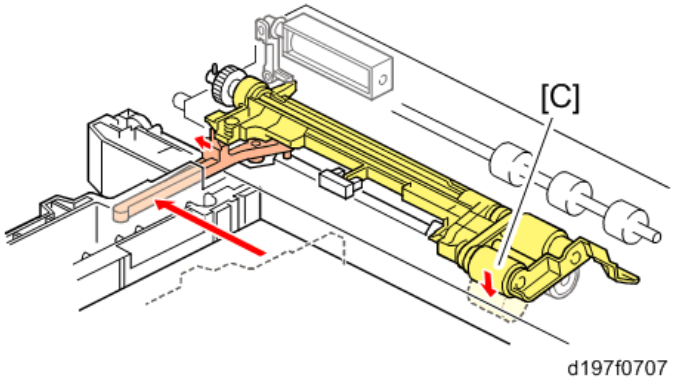
In a conventional FRR system, transport of 2 sheets at a time is prevented by reverse rotation of the separating roller, but in the RF system, paper separation is assisted by the resistance of a separating roller with a torque limiter (reverse drive is not performed).

When the paper feed tray is set in the machine, an arm [A] is pressed, the friction roller [B] comes in contact with the feed roller, and the pick-up roller [C] contacts the top of the paper (to prevent paper remaining, when the paper feed tray is withdrawn, the arm returns and contact with the rollers is released).

The machine enters paper supply standby mode when the tray bottom plate moves up. When the paper feed motor is switched ON, the rollers rotate and paper is supplied.

The roller holder functions as a paper guide and roller clip ring. The roller holder prevents the paper from winding up.





Paper feed transport mechanism

In order to maintain a proper interval of each paper, this machine has a paper feed sensor near the paper feed roller to adjust the timing of paper feeding.

1. The Paper feed motor is switched ON, and the first sheet is supplied.
2. The paper feed motor switches OFF right before the rear edge of the first sheet completely passes the paper feed roller.
3. The pick-up arm lowers the pick-up roller, which makes the pick-up roller contacting with the surface of the paper when the rear edge of the first sheet finishes passing the paper feed roller.
4. The paper feed motor switches ON to supply the second sheet of paper when the first sheet is transported for a predetermined distance by the downstream transport roller.

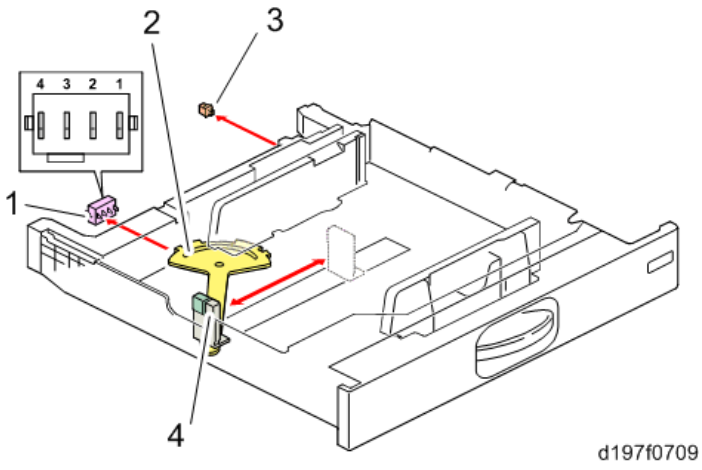
Paper size detection (1st / 2nd paper tray)

The end fence interlocking rotation detection plate is an automatic detection system which recognizes patterns by a 4-position push switch.

Size is detected by the detection patterns of knobs 1, 2, 3, and 4. Tray set is detected by the tray set switch.

If there has been a change in the pattern, “machine tray automatic size detection” control is performed continuously.

If the paper size is selected manually by user setting, the automatic size detection is overridden.



No.	Description	No.	Description
1	Size detection switch	3	Tray set switch
2	Size detection feeler	4	End fence

- Tray detection sizes:
  SRA3, A3, B4, A4 SEF, LT SEF, B5 SEF, A4 LEF, B5 LEF, and A5 LEF
- Tray size detection patterns

Size	Knob			
	4	3	2	1
A3(DLT)	0	1	0	0
B4(LG)	0	0	1	1
	0	1	1	1
A4 SEF	1	1	1	0
LT SEF	1	1	0	0
B5 SEF	1	0	0	0
A4 LEF (LT LEF)	0	0	0	1
B5 LEF (Exe LEF)	0	0	1	0
A5 LEF	0	1	0	1

* “0” is switch ON (PUSH), “1” is switch OFF.

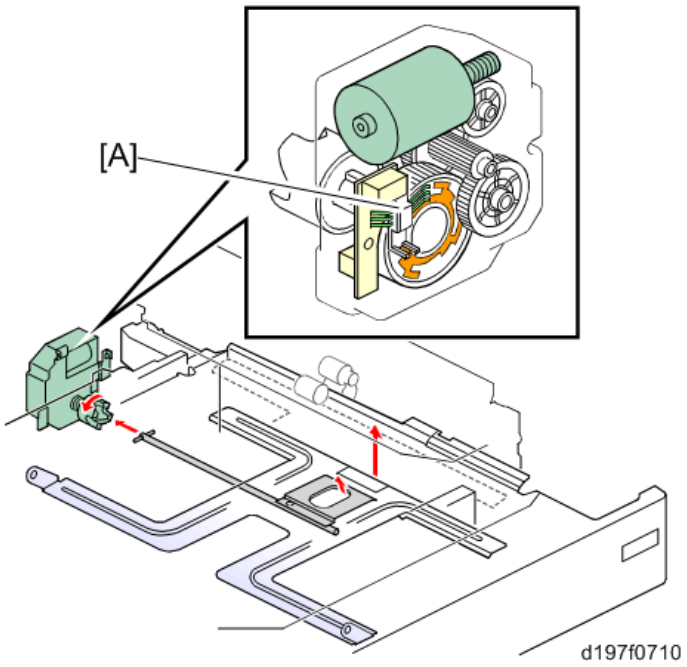
* The figures in parentheses are automatic detection sizes which can be switched over in SP mode (for SP settings, see “SP mode (paper supply transport)” : SP5-181-005 to 008, SP5-131-001).

* Exe LEF=10.5" x 7.25"

* If a pattern other than the above is detected, “Unknown Pattern” is displayed on the control panel.

Remaining paper detection

When the tray lift motor rotates, the remaining paper detection sensors 1, 2 [A] built into the motor switch ON (pass) or OFF (interrupt). Paper remaining in the paper feed tray is detected by a combination of this ON/OFF.

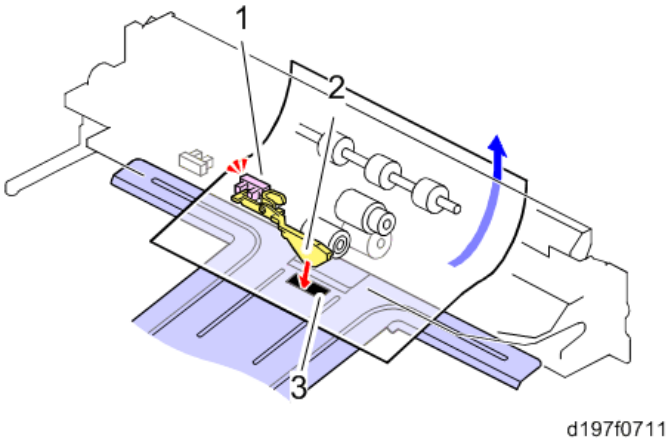


These are the following 4 remaining paper detection levels:

Remaining paper status	100%	70%	30%	10%
Remaining paper status sensor 1	OFF	OFF	OFF	ON
Remaining paper status sensor 2	OFF	ON	OFF	OFF
Control panel remaining paper display	Bar 4	Bar 3	Bar 2	Bar 1

Paper end detection

When there is no more paper in the paper feed tray, the leading edge of the paper end feeler falls into a notch in the tray bottom plate, and the paper end detection sensor at the rear edge of the end feeler switches ON (pass).

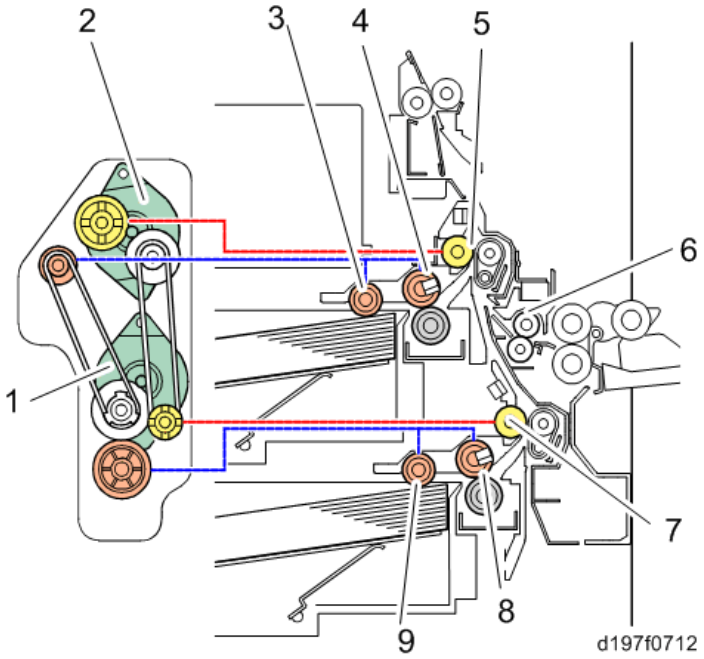


No.	Description	No.	Description
1	Paper end sensor	3	Notch
2	End feeler		

Paper feed drive

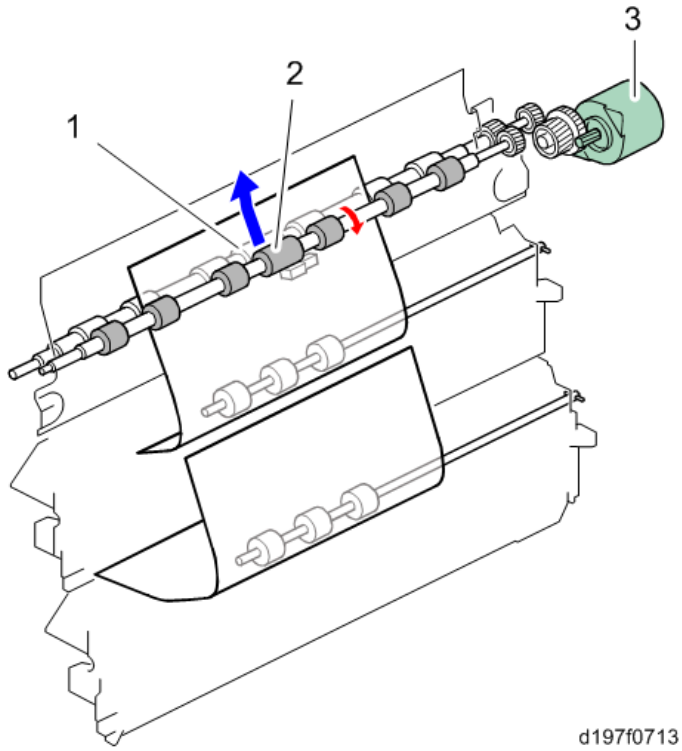
The 1st/2nd pick-up rollers and 1st/2nd paper feed rollers are driven by the paper feed motor. The 1st/2nd separating rollers are driven by the vertical transport motor.

A bypass transport roller is driven by a duplex/bypass motor, and the registration roller is driven by the registration motor.



No.	Description	No.	Description
1	Paper feed motor	6	Bypass transport roller
2	Vertical transport motor	7	Vertical transport roller (2nd tray)
3	Pick-up roller (1st tray)	8	Paper feed roller (2nd tray)
4	Paper feed roller (1st tray)	9	Pick-up roller (2nd tray)
5	Vertical transport roller (1st tray)		

Registration roller corrects skews of paper to match a leading edge of an image on the drum with paper selections. The registration roller (Driven) employs a plastic roller to correct skews. The registration roller (Drive) employs a rubber roller to enhance its transport capability. Registration buckle for each tray or paper type can be adjustable with SP1-003.

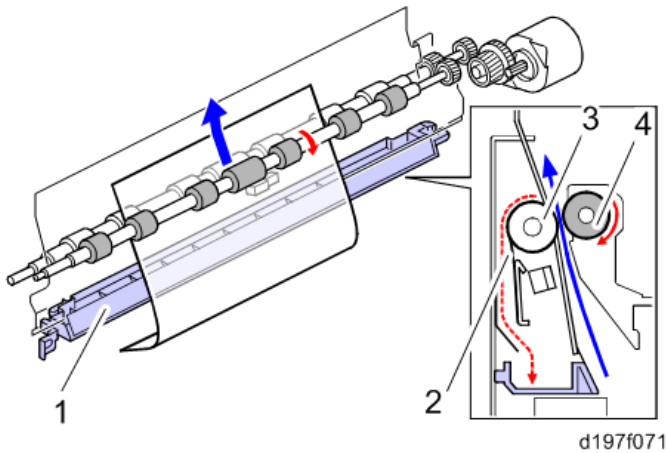


d197f0713

No.	Description	No.	Description
1	Registration roller (Driven)	3	Registration motor
2	Registration roller (Drive)		

Paper powder removal mechanism

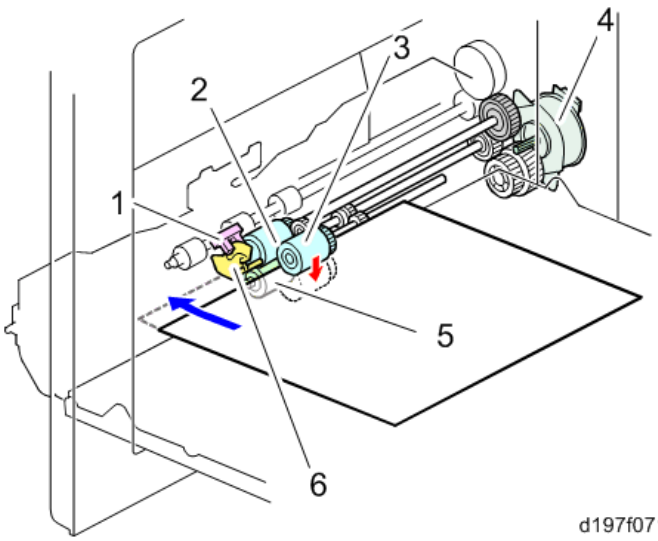
The registration part of the machine removes paper scrap by 1 paper removal sheet in contact with the driven roller (resin). Paper scrap removed by the paper removal sheet is collected in a paper removal container.



d197f0714

No.	Description	No.	Description
1	Paper powder removal container	3	Registration roller (Driven)
2	Paper powder removal sheet	4	Registration roller (Drive)

Bypass feed section



No.	Description	No.	Description
1	Bypass paper end sensor	4	Bypass/Duplex motor
2	Bypass paper feed roller	5	Bypass Reverse roller
3	Bypass pick-up roller	6	Paper detection feeler

Bypass feed paper/separation mechanism

The manual paper feed mechanism employs an FRR system. The bypass feed unit comprises a paper feed roller, reverse roller and bypass pick-up roller.

When the paper feed tray is selected and the machine is started, the bypass pick-up solenoid is switched OFF, and paper is supplied by the duplex/bypass motor (CCW).

*1 The bypass pick-up roller does not come in contact with the paper surface by default. It is opposite to the paper feed tray.

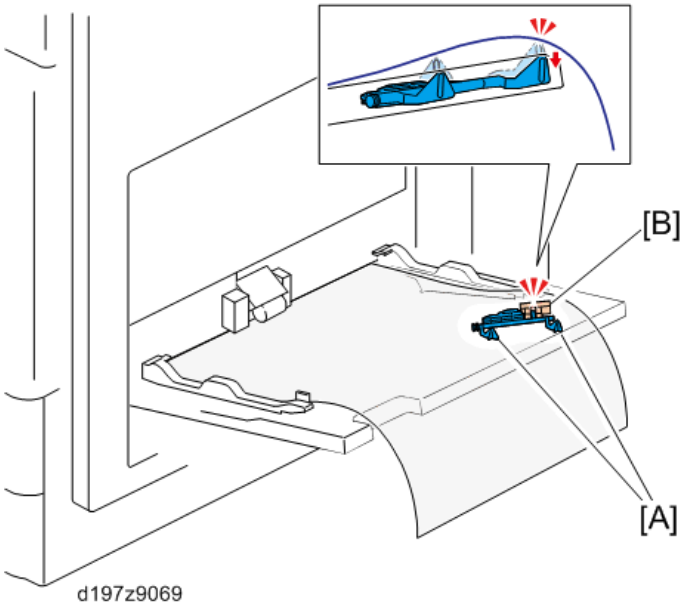
Bypass feed paper size detection

Paper size width detection is performed by a bypass feed size detection switch (rotary switch).

The bypass feed size detection switch has a rotation plate which rotates together with the side fence of the bypass feed table, and detects the paper size.

Paper portrait/landscape is determined by a length detection sensor.

Two feelers [A] for the bypass length sensor [B] are added to the rear of the tray to prevent a false detection in paper length detection caused by floating on the rear of paper when large size paper is set without pulling out the extension bypass tray.



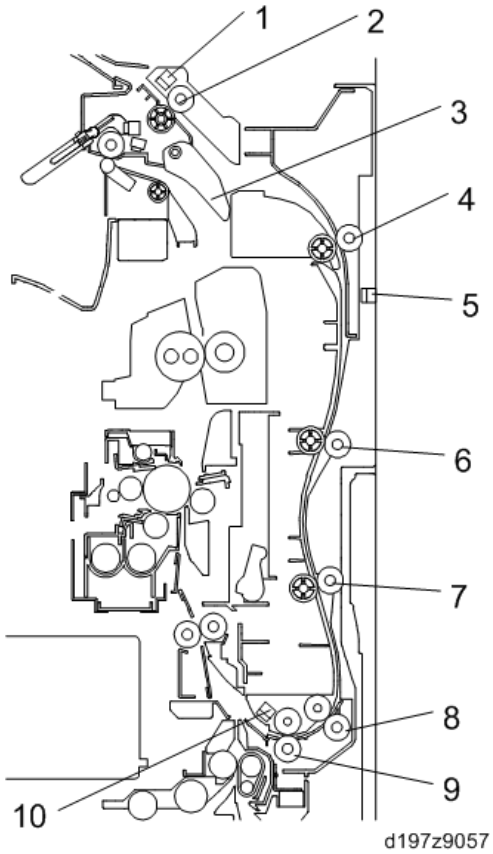
Bypass feed paper end detection

To detect bypass feed paper end, a paper detection feeler and bypass feed paper end sensor are provided.
When the paper is set, the bypass paper end sensor switches ON (interrupt), and paper set is detected.
When there is no more paper, a detection filler falls into a hole in the bypass feed table, the bypass paper end sensor switches OFF (pass), and paper end is detected.

Bypass paper feed drive

The paper feed roller, reverse roller and pick-up roller are driven by the duplex/bypass feed motor.

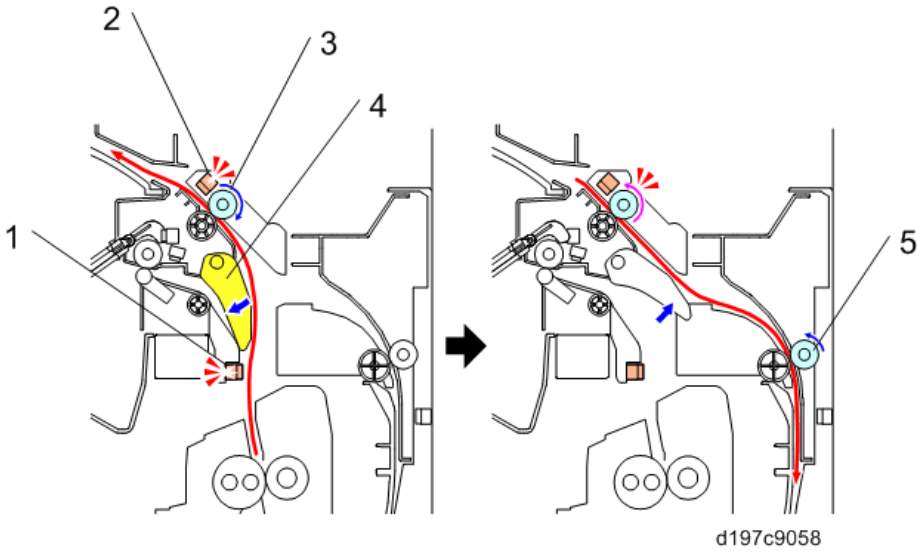
Duplex section



No.	Description	No.	Description
1	Reverse sensor	6	Duplex entrance roller 2
2	Reverse roller	7	Duplex transport roller 1
3	Junction gate	8	Duplex transport roller 2
4	Duplex entrance roller 1	9	Duplex exit roller
5	Duplex entrance sensor	10	Duplex exit sensor

Transport reverse mechanism

The paper passes through the junction gate, and is transported to the reverse tray by the reverse roller. After the trailing edge of paper has left the fusing exit sensor, the junction gate is moved to the duplex path direction and the reverse motor starts rotating reversely.



No.	Description	No.	Description
1	Fusing exit sensor	4	Junction gate
2	Reverse sensor	5	Duplex entrance roller 1
3	Reverse roller		

Duplex drive

The rollers are driven by the following motors:

Rollers	Drive sources
Reverse roller	Reverse motor
Duplex entrance roller 1	Duplex entrance motor
Duplex entrance roller 2	Duplex entrance motor
Duplex transport roller 1	Duplex/bypass motor
Duplex exit roller	Duplex/bypass motor

Interleave mechanism

The duplex unit performs interleave to reduce the overall duplex printing time.

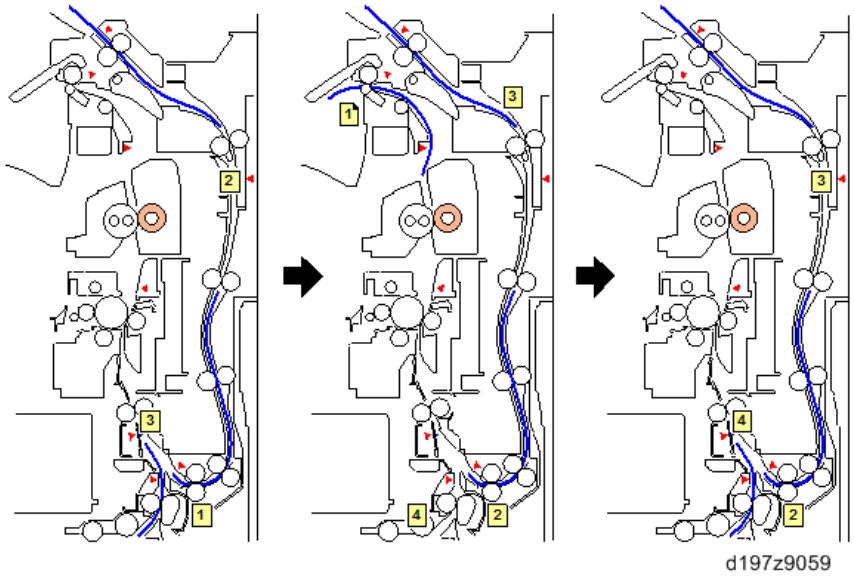
Paper exit from machine

Length	No. of interleaves
Less than 216 mm	3
216-432 mm	2
When bypass/duplexing (regardless of paper sizes)	1

1-bin tray exit from machine

Length	No. of interleaves
Less than 216 mm	2
216-432 mm	1

- 3 sheet interleave

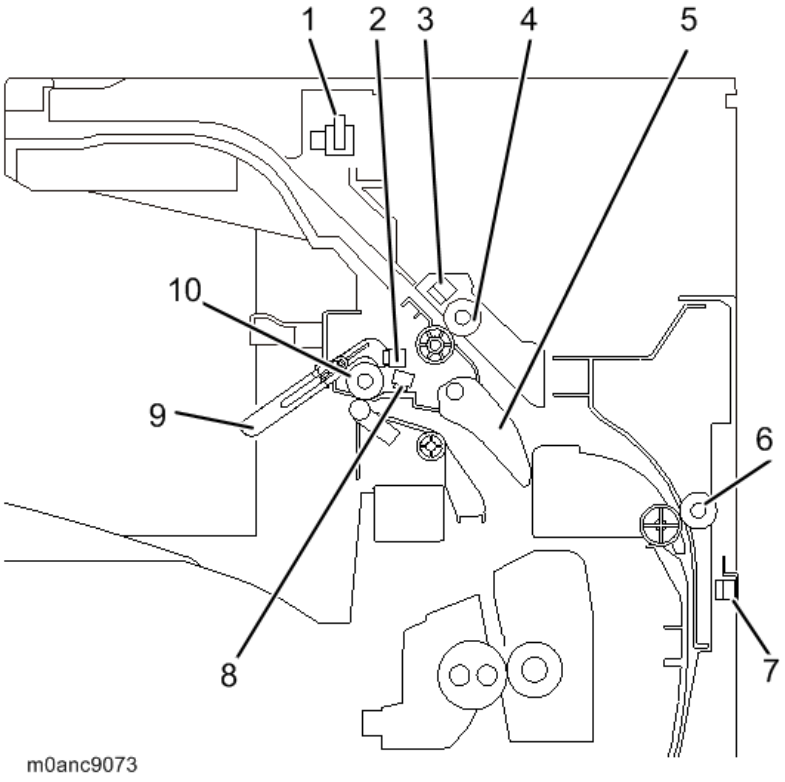


Back side of 1st sheet -> Back side of 2nd sheet -> Back side of 3rd sheet -> Front side of 1st sheet -> Back side of 4th sheet -> Front side of 2nd sheet

- 2 sheet leave

Back side of 1st sheet -> Back side of 2nd sheet -> Front side of 1st sheet -> Back side of 3rd sheet -> Front side of 2nd sheet

Paper exit unit



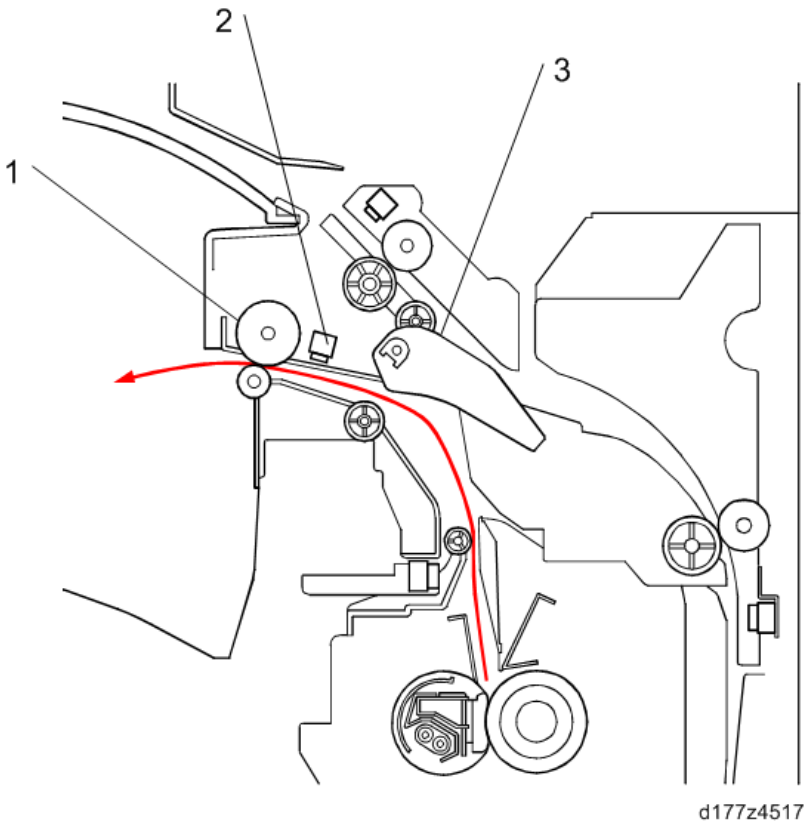
No.	Description	No.	Description
1	Inverter guide cover sensor	6	Duplex entrance roller
2	Paper exit full sensor	7	Duplex entrance sensor
3	Reverse sensor	8	Paper exit sensor
4	Reverse roller	9	Paper exit full feeler
5	Junction gate	10	Paper exit roller

Delivery location change-over

The paper transported from the fusing unit is changed over by the junction gate in the “machine paper exit/bridge unit” direction or the “reverse tray/1 bin unit” direction.

Machine paper exit/bridge unit direction

1. The registration sensor switches ON.
2. The paper exit motor switches ON (CCW).
3. When the rear edge of the paper leaves the paper exit roller, the paper exit motor switches OFF.

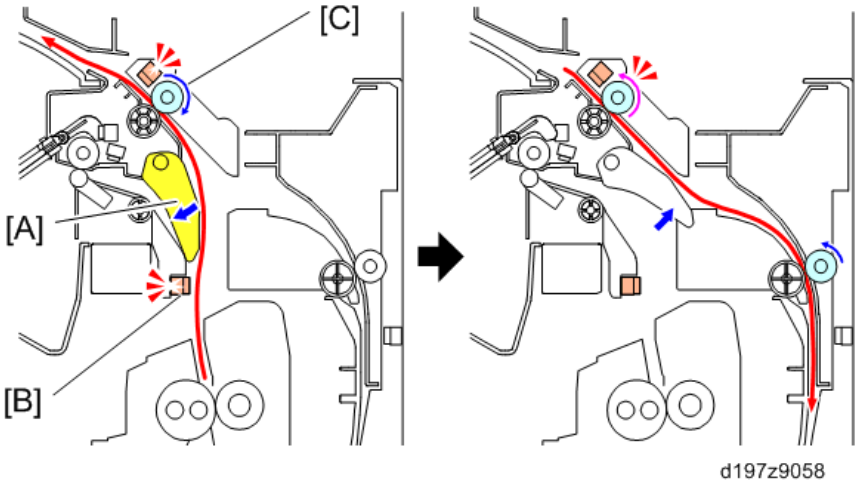


No.	Description
1	Paper exit roller
2	Paper exit sensor
3	Junction gate

Reverse tray/1 bin unit direction

1. Registration sensor switches ON.

2. The reverse motor switches ON (CCW).
3. Before the leading edge of the paper reaches the junction gate [A], the junction gate moves in the reverse tray/1 bin unit direction.
   * If the junction gate is in the reverse tray/1 bin unit direction, the junction gate is not changed over.
4. After the trailing edge of the paper has left the fusing exit sensor [B], the exit junction solenoid switches OFF.
5. When the trailing edge of the paper leaves the reverse roller [C], the reverse motor switches OFF.



Paper Exit Full, Jam Detection, Open/close detection

The paper exit full sensor detects paper exit jam.

When outputs push up the paper exit full feeler, the paper exit full sensor detects that standard output tray is full of outputs and a jam message is displayed after a job end.

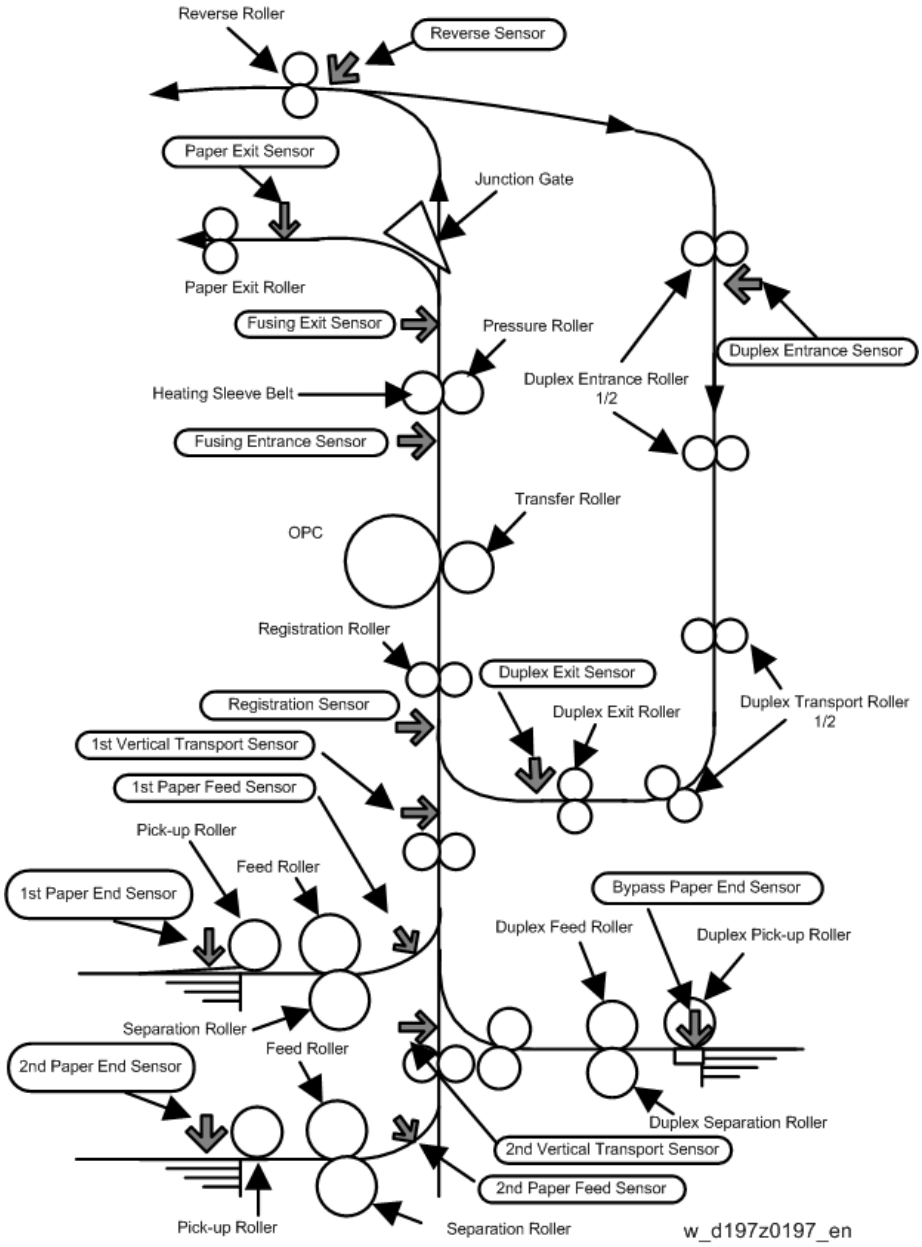
Paper exit sensor

When a sheet of paper stays in the paper exit unit, the paper exit sensor detects the paper jam and a jam message is displayed.

Reverse cover open/close sensor

The reverse cover open/close sensor detects opening and closing of the reverse cover.

Paper Path and Sensor Locations



Intervals of Rollers

Module	From	To	Interval (mm)
1st Paper Feed Unit	Pick-up Roller (1st tray)	Feed Roller (1st tray)	30.0
	Feed Roller (1st tray)	1st Vertical Transport Roller	43.0
2nd Paper Feed Unit	Pick-up Roller (2nd tray)	Feed Roller (2nd tray)	30.0
	Feed Roller (2nd tray)	2nd Vertical Transport Roller	43.0
	2nd Vertical Transport Roller	1st Vertical Transport Roller	96.9
Registration Unit	1st Vertical Transport Roller	Registration Roller	84.8
	Registration Roller	Transfer Roller	83.5
Fusing Unit	Transfer Roller	Heating Sleeve Belt	102.9
Paper Exit Unit	Heating Sleeve Belt	Paper Exit Roller	138.5
Reverse Unit	Heating Sleeve Belt	Reverse Roller	138.5

Module	From	To	Interval (mm)
	Reverse Roller	Duplex Entrance Roller 1	131.3
Duplex Unit	Duplex Entrance Roller 1	Duplex Entrance Roller 2	120.1
	Duplex Entrance Roller 2	Duplex Transport Roller 1	89.6
	Duplex Transport Roller 1	Duplex Transport Roller 2	84.0
	Duplex Transport Roller 2	Duplex Exit Roller	27.1
	Duplex Exit Roller	Registration Roller	88.0
Bypass Feed Unit	Duplex Pick-up Roller	Duplex Feed Roller	30.0
	Duplex Feed Roller	Duplex Transport Roller	24.5
	Duplex Transport Roller	1st Vertical Transport Roller	56.0

Intervals of Sensors

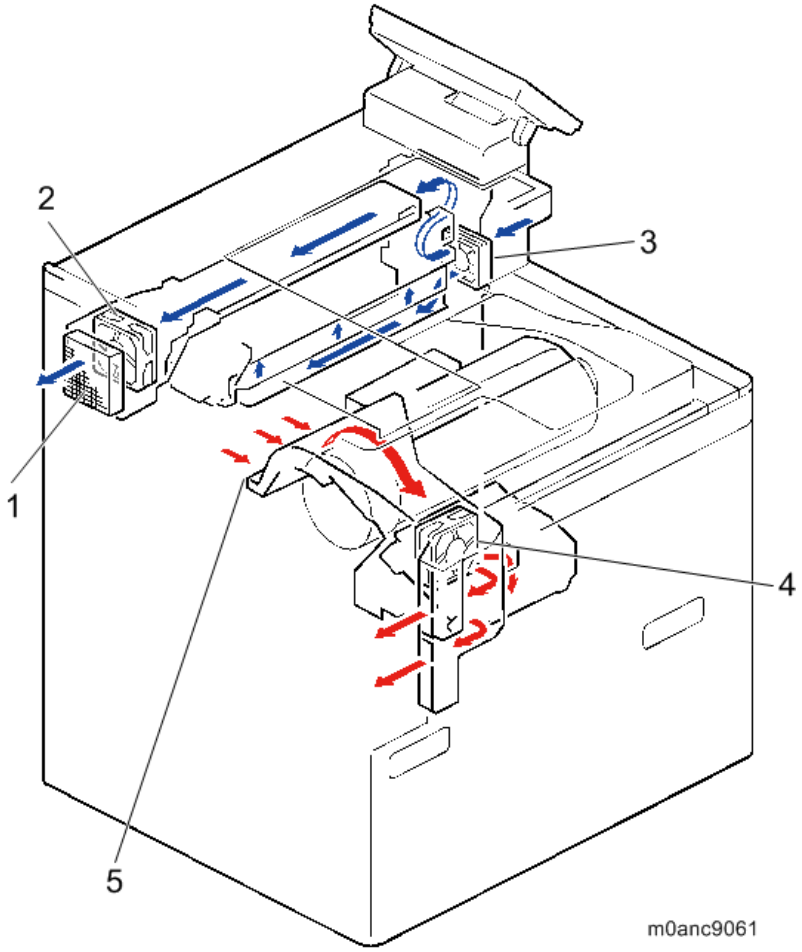
Module	From	To	Interval (mm)
1st Paper Feed Unit	Feed Roller (1st tray)	1st Paper Feed Sensor	5.0
	1st Vertical Transport Roller	1st Vertical Transport Sensor	16.8
2nd Paper Feed Unit	Feed Roller (2nd tray)	2nd Paper Feed Sensor	5.0
	2nd Vertical Transport Roller	2nd Vertical Transport Sensor	24.3
	2nd Vertical Transport Sensor	1st Vertical Transport Sensor	88.7
Registration Unit	Registration Sensor	Registration Roller	17.0
Paper Exit Unit	Paper Exit Sensor	Paper Exit Roller	17.0
Reverse Unit	Reverse Roller	Reverse Sensor	14.0
Duplex Unit	Duplex Entrance Roller 1	Duplex Entrance Sensor	34.0
	Duplex Exit Roller	Duplex Exit Sensor	17.1
1-bin Unit	Reverse Sensor	1-bin Exit Roller	-

Air Flows (Fan Control)

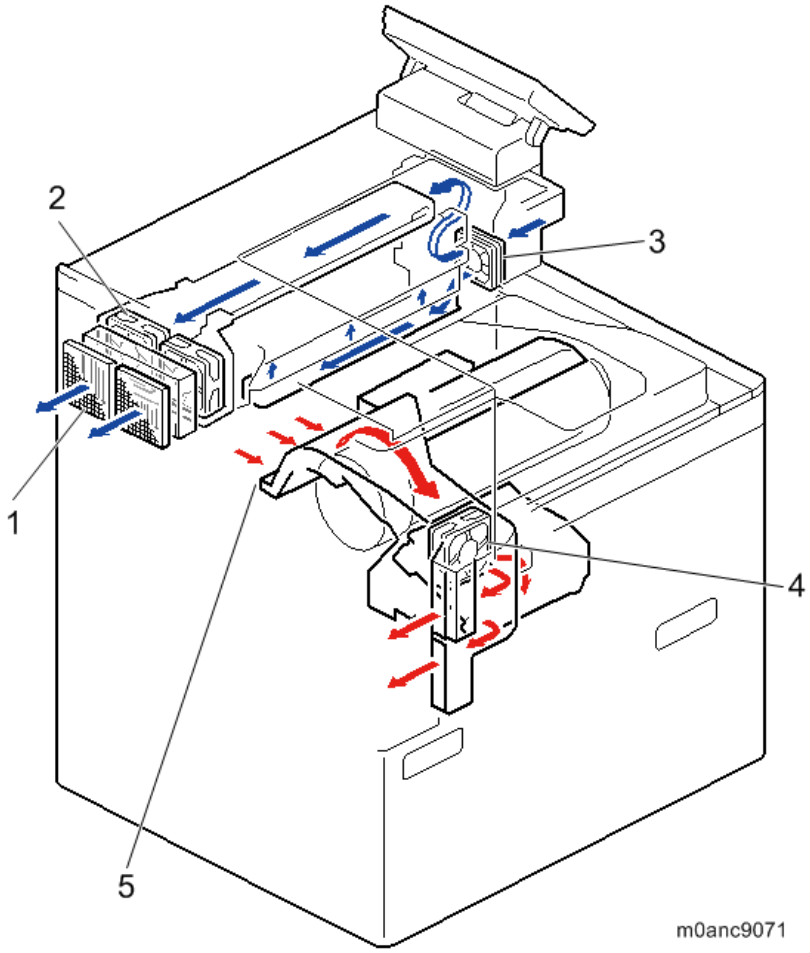
Overview

Around the Development Unit / Laser Unit

NA model

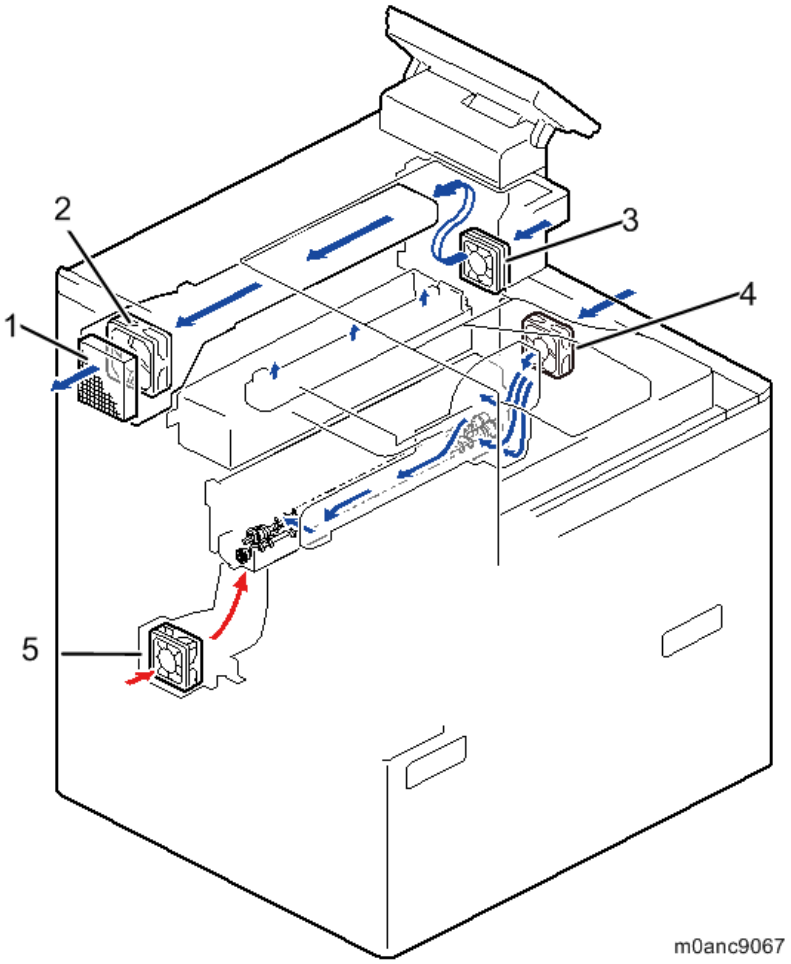


EU/AA models

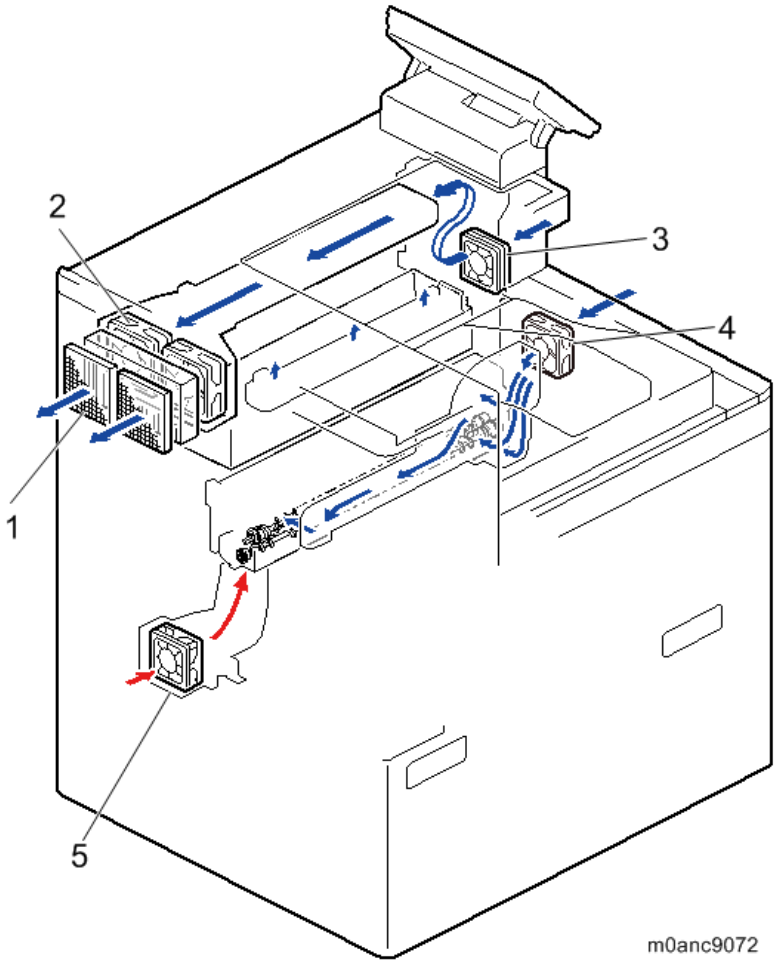


No.	Part Name
1	Odor filter
2	Fusing fan (For EU/AA models, there are two fans.)
3	Paper exit fan
4	Development exhaust fan
5	Dust filter

NA model

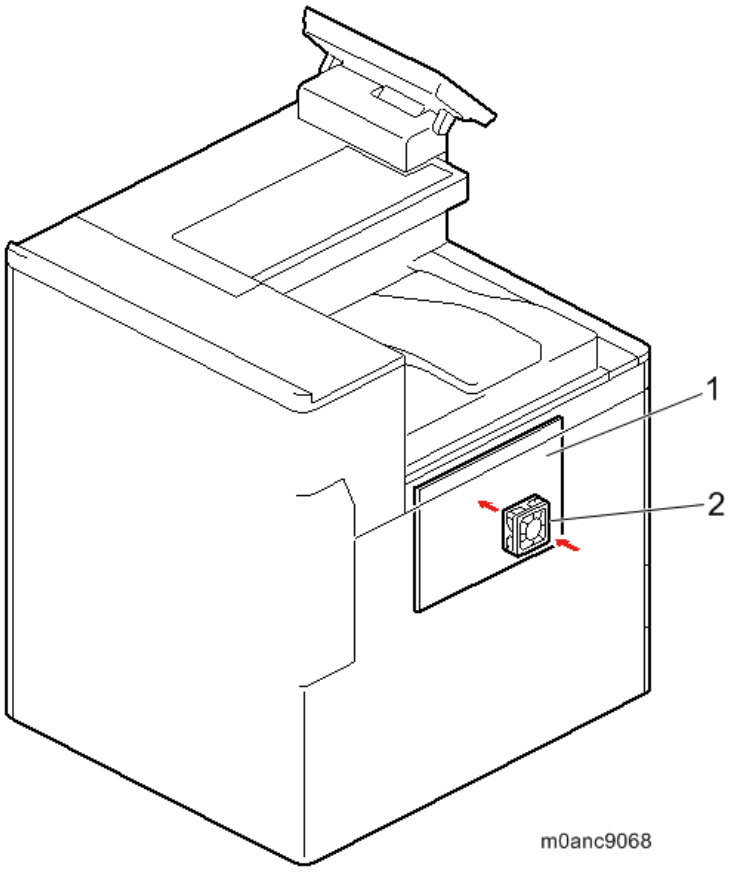


EU/AA models



No.	Part Name
1	Odor filter
2	Fusing fan (For EU/AA models, there are two fans.)
3	Paper exit fan
4	Front development cooling fan
5	Development bearing cooling fan

Around the PSU



No.	Part Name
1	PSU board
2	PSU cooling fan

Mechanism

By installing the duct corresponding to each fan, the air flow is efficiently controlled to a cooling target. Moreover, improvement in quietness and energy-saving efficiency is achieved by performing stepwise operation of the fan according to the imaging temperature.

Cooling of PSU

The PSU is cooled by the PSU cooling fan, cooling the PSU board directly.

Cooling of Development Unit

The cooling for development unit is provided by a development bearing cooling fan that takes air in from the rear of the machine outside and applies the air to the bearing of mixing auger and bottom side of the development unit.

Cooling of PCDU

Air taken in from the PCDU cleaning unit is taken out from the left rear exhaust. An air-flow duct is installed at

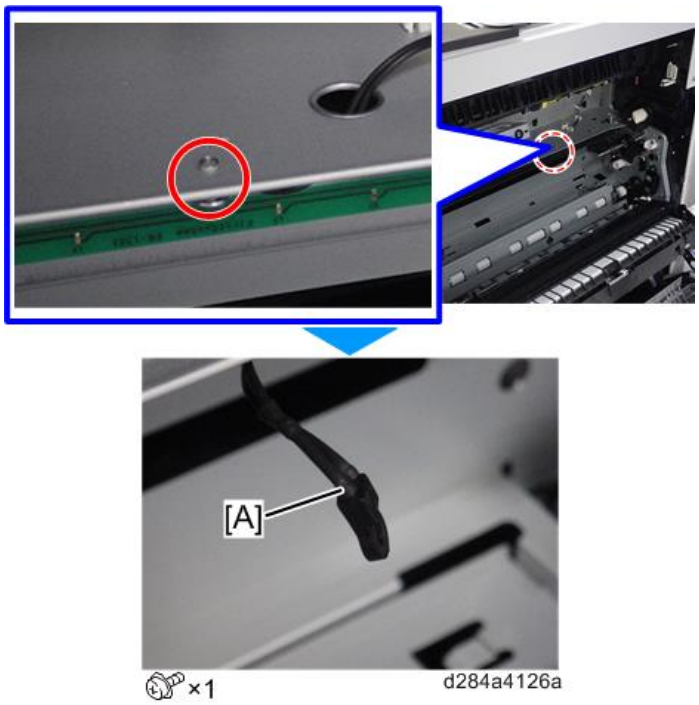
between the fusing unit and the toner bottle, to suppress excessive temperature rise of the toner bottle.
The front development cooling fan takes in air from the front, and blows air over the PCDU to cool it.

Cooling of Fusing Unit

Air taken in from the paper exit fan at the front is discharged from the fusing fan at the rear to outside the machine. By cooling the paper immediately after fusing, it is used for not only cooling of the paper exit sensor but also reduction of stored heat of stack paper and reduction of curl are realized. This also serves to prevent dew condensation of the paper discharge guide sheet. As a measure against odor, an odor filter is installed downstream from the fusing fan.

Crisis management when temperature rises in the Printer

In order to suppress excessive temperature rise in the printer and maintain equipment quality, a temperature detection sensor (imaging temperature sensor (thermistor)) [A] is installed in the printer. The imaging temperature sensor (thermistor) detects the temperature environment in the printer, and controls cooling.



Overview of cooling operation in the machine

The temperature in the machine is detected during output and after output, and the interior of the machine is cooled by fan operation (stepwise operation of fan, prolonged fan rotation after paper has passed through) according to the temperature inside the machine.
However, if the temperature inside the machine rises significantly due to passing a large volume of paper, in addition to fan operation, the CPM is specified to control the temperature in the machine.

The Conditions of Fans Operation

The following table illustrates how/when the fans operate under the specific conditions of the main machine.

Condition	Development Exhaust Heat Fan	Paper Exit Fan	Fusing Fan	Development Bearing Cooling Fan	PSU Cooling Fan	Front Development Cooling Fan
Warm-up	Stops	Stops	Stops	Stops	Stops	Stops
Standby	Rotates in low speed	Stops	Rotates in low speed	Stops	Stops	Stops
During printing	Rotates	Rotates	Rotates	Rotates	Rotates	Rotates
After printing	Rotates in low speed *1	Stops*1	Rotates in low speed*1	Stops*1	Stops*1	Stops
Abnormal (Jams)	Stops	Stops	Stops	Stops	Stops	Stops

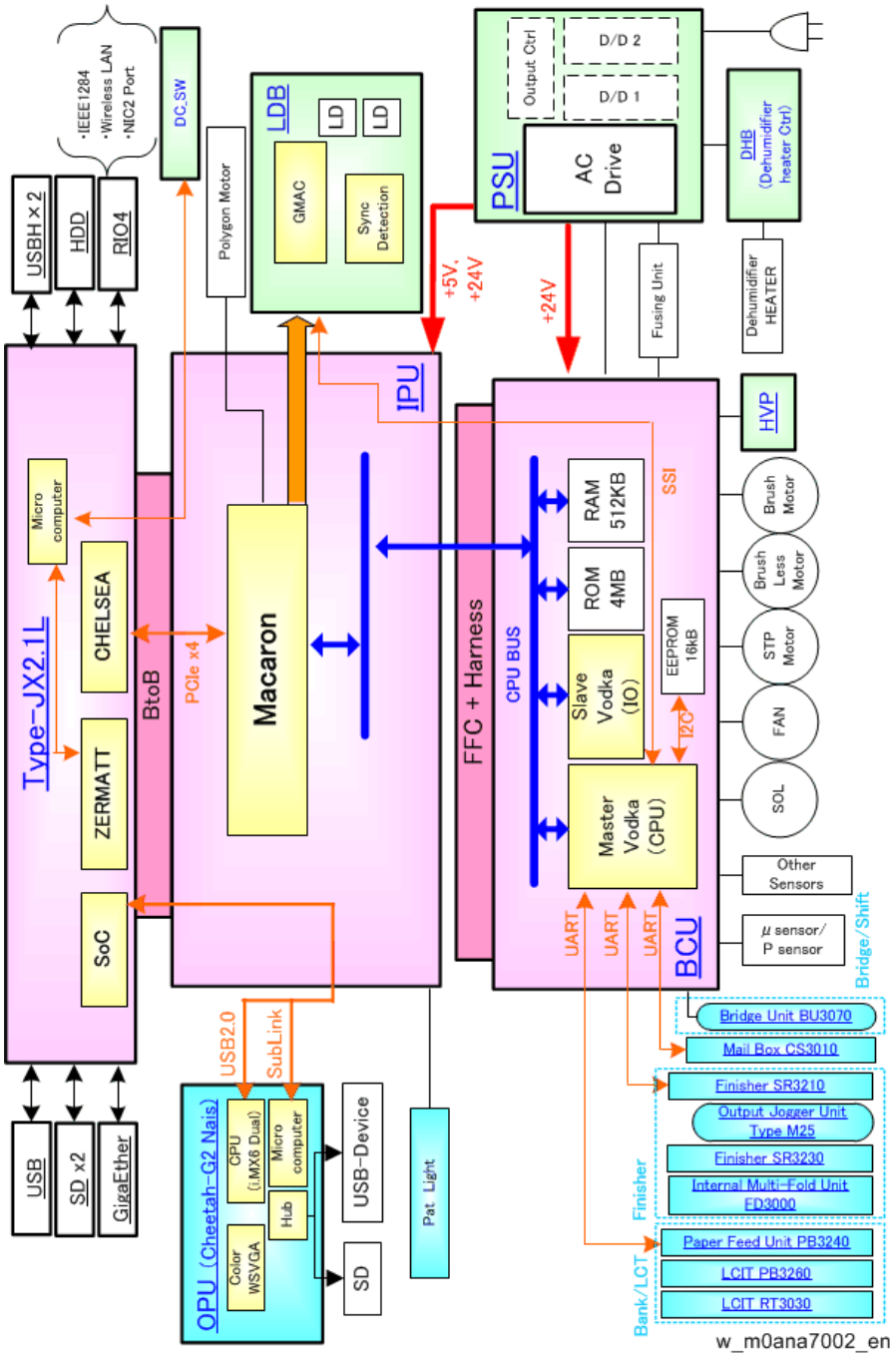
*1 When the temperature in the machine reaches 42 degrees, these fans keep revolving until the temperature decreases by two degrees.

Print Duty Control

1. The machine repeats a 16-page-print and 25-second-pause. The following two messages will alternatively appear on the operation panel.
   "The printing speed is now being limited, because the internal cooling fan is active."
   "Internal cooling fan is active."
2. All the fan motors in the machine works after printing and standby. The message will appear on the operation panel.
   "Internal cooling fan is active."
3. If the temperature of the image processing unit reaches under the pre-set temperature, the machine turns to the normal control.

Electrical parts

Block diagram



Board outline

Controller

Controls the printer system overall. Comprises an x86 CPU, controller ASIC, IO control ASIC, and RAM.

LDB

LD control circuit which drives the laser diode by a universal driver.

BCU

Controls the engine, as well as printer engine sensors, motors and solenoids (the BCU has the IOB functions).

IPU

Processes digital signals by an IPU.

OPU

Controls the control panel.

HVP

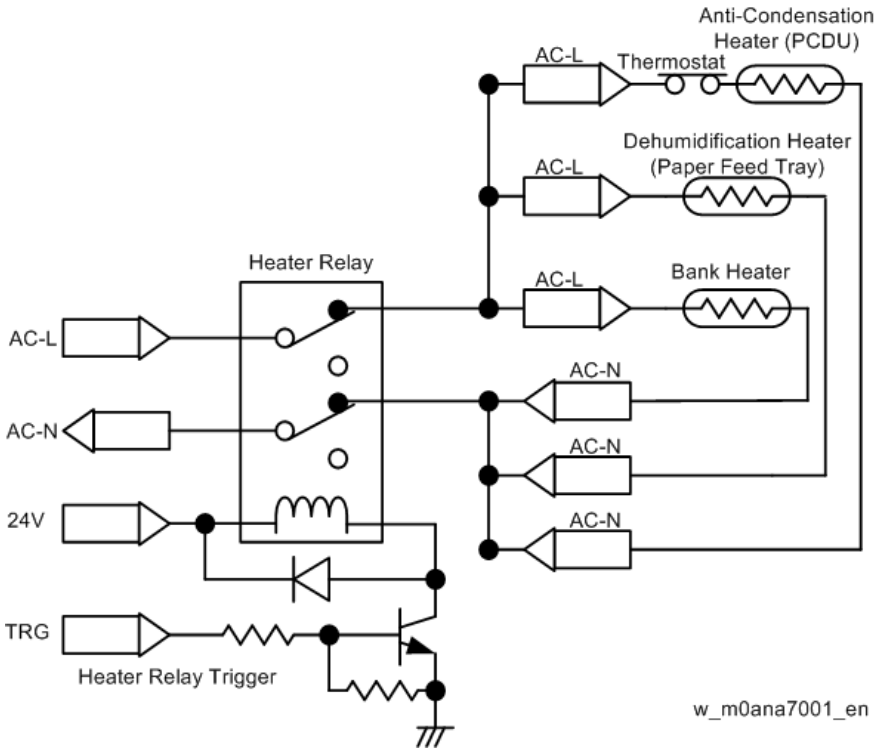
Generates the high-voltage power (Charge, Development, Transfer, Separation) required for process control.

PSU

Generates DC power from a commercial AC power supply, and supplies it to each control circuit. Comprises an A/C drive circuit for controlling the fusing lamp.

Feed tray dehumidifier heater, PCDU anti-condensation heater

Circuit configuration



If a heater is used in the main machine, it is required that the harness from the heater sub-board is connected to the

BCU. When this harness is connected to the BCU, the supply power is controlled based on the main machine operation and the setting of SP5-805-001 as shown in the following table.

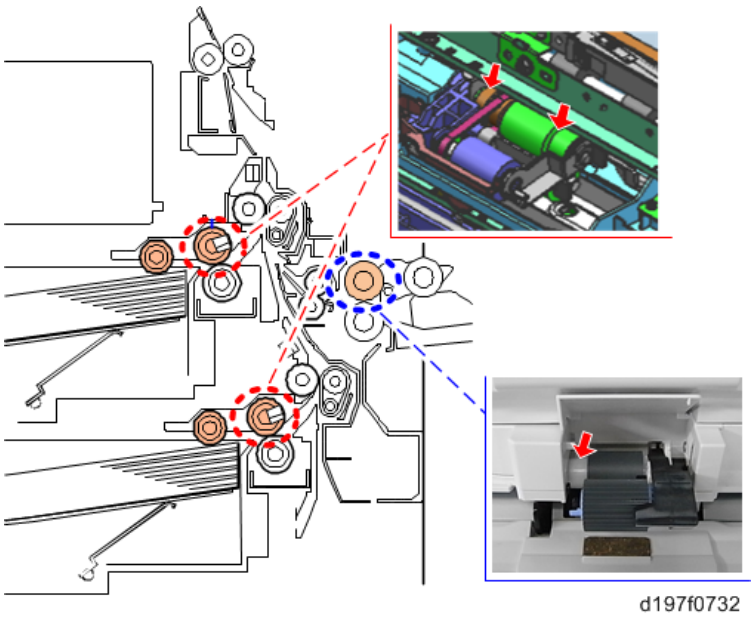
Heater	SP5-805-001	Plug-in	Sleep Mode	JAM/ Door Open/ SC	Stand-by Mode/ Fusing Unit Off Mode	Printing
Dehumidification Heater (Paper Feed Tray: Standard)	0 (OFF)	On	On	Off	Off	Off
	1 (ON)	On	On	On	On	Off
Dehumidification Heater (Paper Feed Tray: Option)	0 (OFF)	On	On	Off	Off	Off
	1 (ON)	On	On	On	On	Off
Anti-condensation heater (PCDU)	0 (OFF)	On	On	Off	Off	Off
	1 (ON)	On	On	On	On	Off

One-way Clutches

This machine adapts one-way clutches, used for paper feed mechanism.

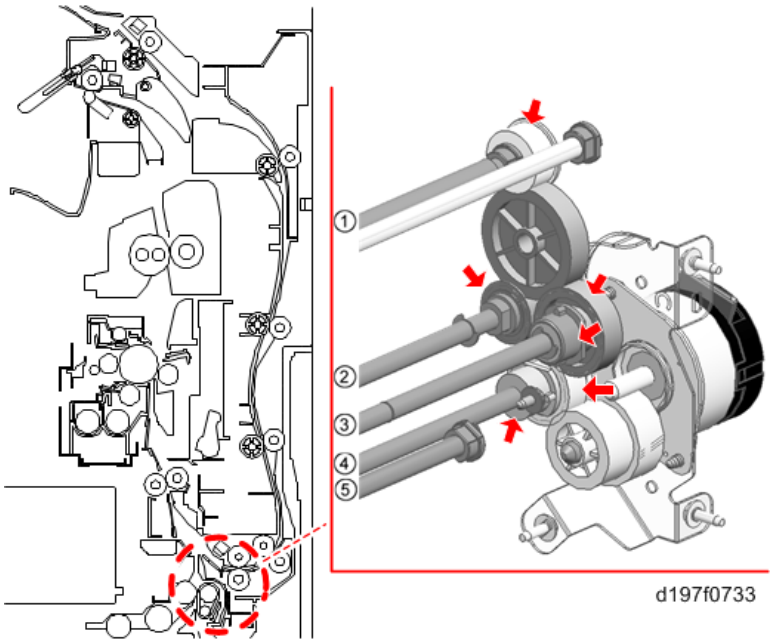
Each one-way clutch locations are pointed below.

Paper Feed/Bypass



d197f0732

Duplex



d197f0733

No.	Description
(1)	Duplex exit roller
(2)	Bypass Paper Feed Roller
(3)	Bypass Pick-up Roller

No.	Description
(4)	Bypass Separation Roller Drive Shaft
(5)	Bypass Separation Roller

Process Control

Image Density Control (Process Control)

Outline

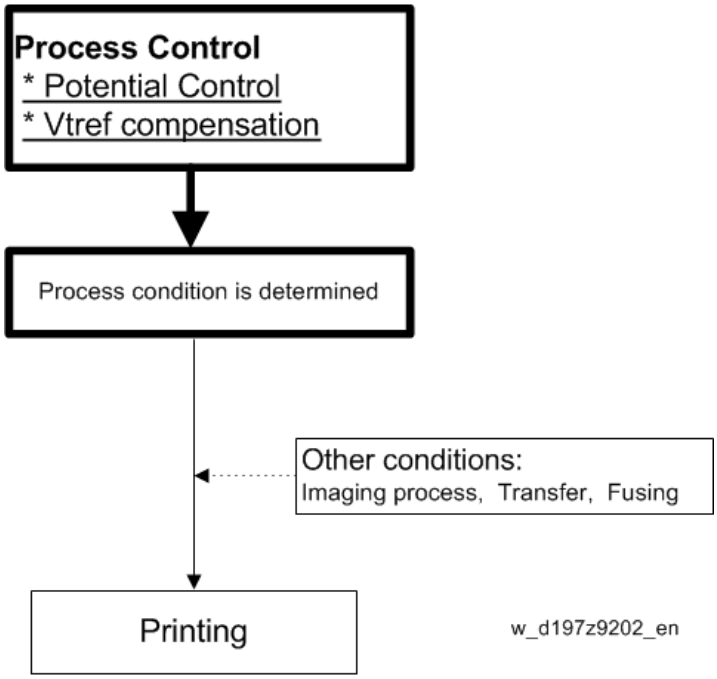
Process control is a system that adjusts the image creation process to maintain a constant image density. Process control is executed at the following conditions.

	Trigger	Operative Condition	Notes
1	• Power ON • Recovering from Energy Saver • Closing the front cover	• When a certain time passes after the previous job end, and when a certain number of sheets are printed after the last process control at the previous Power ON, recovering from Energy Saver mode or closing the front cover. • When a new PCDU is detected. • When the TD sensor detects a toner end before turning the power on.	No retry if an SC occurs during adjusting.
2	Job End	When the job end counter becomes more than the threshold.	• Process Control clears the Job end counter.
3	Job Interruption	When the job interrupt counter becomes more than the threshold.	Process control clears the job interrupt counter.
4	Non-use (Idle)	• When the non-use time counter becomes more than the threshold. • When significant environmental changes occur after the last job end.	Available only when the energy saver mode is off.
5	Manual process control	When SP 3-011-001 is executed.	-

The process control consists of the following features.

- Potential Control (Charge/Development Bias and LD power Control)
- Vtref Compensation

Flowchart: From Process Control to Printing



Potential Control

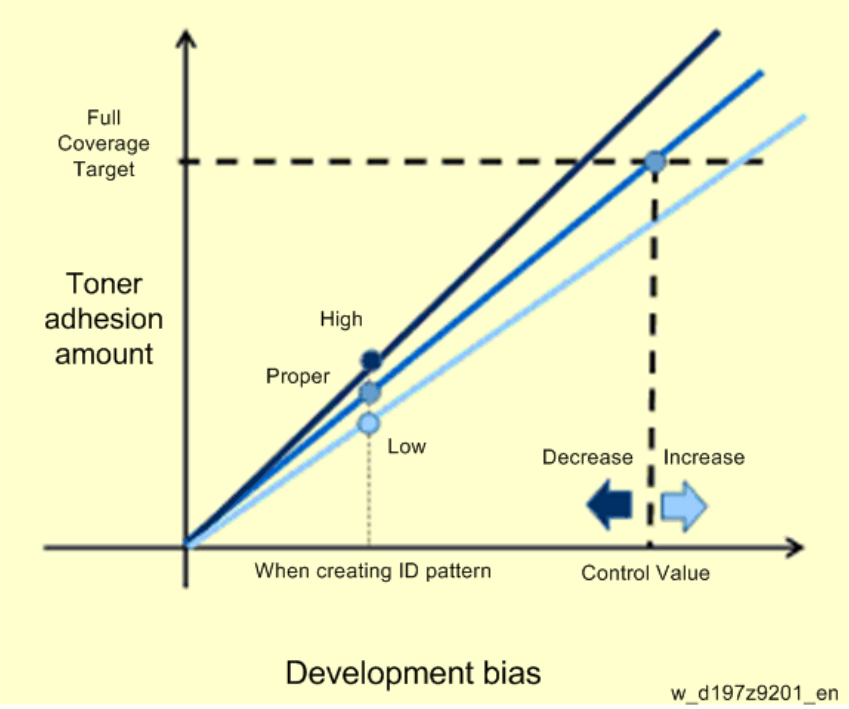
Potential Control adjusts Charge/Development bias and LD power to maintain a constant image output.
Charge roller, development roller, OPC drum and laser unit involve with imaging process.
Charge bias (Vc) is a bias for charge roller. Applying a charge bias to the OPC drum increases the potential of the OPC drum.
Development bias (Vb) is a bias for development roller. When a development bias is applied to developer (carrier), the OPC drum which is charged the opposite bias from development part attracts toner.
Development potential (Vd – Vb) is the ability to attract the toner to the OPC drum. A larger development potential increases the amount of toner adhesion.
In image density adjusting, the potential control process creates an ID pattern patch using the “bias for ID pattern creation” which has a lower density and lower Charge/Development bias than for printing.
With the results of Vsp (the ID sensor output from ID pattern patch) and Vsg (the ID sensor output from bare surface of the OPC drum), the potential control process adjusts the development bias so that the amount of toner adhesion becomes a specified target value.
Charge/Development Bias is done with the following operation. The operation time differs depending on the line speed.

- ID sensor Vsg Adjustment
  The machine adjusts the LED strength of the ID sensor so that the value of Vsg (the charge which is detected from the bare surface of the OPC drum) is in the range of 4.0V ±0.5V. When Vsg is detected as not within the target range three times, SC370 (ID sensor error) appears.
- Developer Stirring (0 to 5 seconds)
  The machine agitates the developer and reads the TD sensor (μ sensor) output.
- Bias Compensation
  The machine compensates the development bias (Vb) using the Vsp/Vsg ratio. The machine also

compensates charge bias (Vc) and LD power based on the Vb result.

Vsp/Vsg	Toner Density	Vb Compensation SP
High	High	SP3-235-011
Slightly high	Slightly high	SP3-235-012
Correct	Correct	SP3-235-013
Slightly low	Slightly low	SP3-235-014
Low	Low	SP3-235-015

Fig. 1: Relation b/w Dev. bias and Toner adhesion amount



Vtref Compensation

To maintain a constant/proper toner density, the toner density in the developer must be controlled as well as the bias control. Vtref is the target of the toner density in the developer.

- Vtref Determination
  With the output of the ID sensor and the TD sensor (μ sensor) in ID sensor detection, the machine determines the Vtref used for the reference value for the TD sensor (μ sensor).

TD sensor (μ sensor) Initial Setting When a New PCDU Is Installed

When a new PCDU is set in the mainframe, this is detected by the machine as a new PCDU, and the initial μ count (the output from the TD sensor (μ sensor) of initial developer setting) is determined after entering the TD sensor (μ sensor) initial setting mode. The TD sensor (μ sensor) initial setting is done as follows.

- Starting the developer initial setting
  The new unit detecting mechanism performs the TD sensor (μ sensor) initial setting.
- Developer Agitation
  The developer is stirred, with the development roller and the transport coil rotating (30 seconds).

- Initial µ Count Detection
  The machine detects the TD sensor (µ sensor) output while mixing the developer, and stores the output as the initial µ count.
  - SP3-030-061 Initial µ count (Line speed 1)
- Vt Calculation
  The machine refers to the initial µ count with the above SP according to the machine type and calculates Vt with the difference of the present µ count.
- If the initial µ count detected is out of the upper/lower output limit, the machine displays a TD sensor (µ sensor) calibration error (SC360-01).
- After replacing a PCDU and performing the initial TD sensor (µ sensor) setting, the machine forcibly executes the process control.

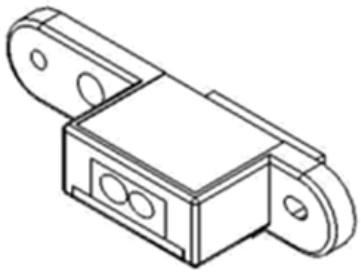
Mechanism

Sensor Composition

Sensor	Description
ID sensor	Used to measure the amount of toner that adhered on the OPC drum
TD Sensor	Used to measure the toner density in the developer

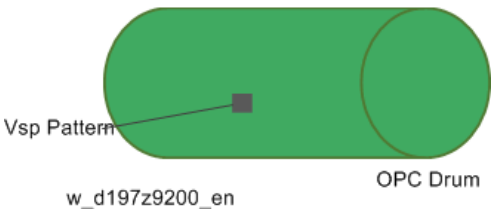
ID Sensor

An ID sensor consists of a light-receiving element located at the opposite position of LED.
It detects the amount of toner adhered using reflection from the LED.



d197z9204

ID sensor is fixed in the right cover of the mainframe and detects the patch density formed on the center of the OPC drum.



w_d197z9200_en

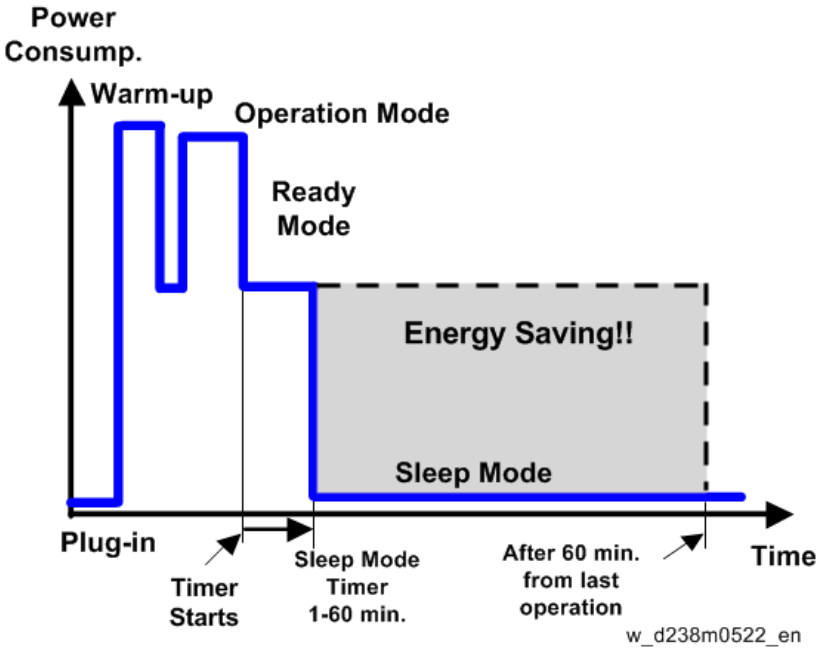
TD sensor (µ sensor)

In this model, a non-contact toner density (TD) sensor, which we call the TD sensor (µ sensor), is used for the toner density control.
The TD sensor (µ sensor) is attached on the lower side of the development unit. Unlike HST sensor, the board of the TD sensor (µ sensor) is exposed. So there is a cover around the sensor to protect the sensor and to maintain a good contact condition of the sensor and development unit.
The TD sensor (µ sensor) measures the permeability of the developer without contacting from outside of the case, and converts the measured value to the toner density.
According to the toner density measured by this sensor, the proper amount of toner is supplied to the developer.
A counter corresponding to the frequency is used as the unit of TD sensor (µ sensor) output. Thus, unlike HST sensor which directly detects Vt, the TD sensor (µ sensor) output is converted into Vt for the toner supply control.
In the TD sensor (µ sensor), there is an ID chip storing the machine identification information, the running distance information of Development unit and PCU, and other information used by the image density control.

Energy Save

Energy Saver Modes

Customers should use energy saver modes properly, to save energy and protect the environment.



The area shaded grey in this diagram represents the amount of energy that is saved when the timers are at the default settings. If the timers are changed, then the energy saved will be different. For example, if the timers are all set to 60 min., the grey area will disappear, and no energy is saved before 60 min. expires.

Setting items that are related to Energy Saving

The user can set these timers with User Tools (System settings > Timer setting)

Sleep Mode Timer

User Tools (System settings > Timer setting)

After a specified period has passed, or [Energy Saver] is pressed, the machine enters Sleep mode in order to conserve energy. Specify the time to elapse before Sleep mode.

Default: [1 minute(s)]

Sleep Mode Timer may not work when error messages appear.

Depending on which Embedded Software Architecture application is installed on it, the machine might take longer than indicated to enter Sleep mode.

Fusing Unit Off Mode (Energy Saving) On/Off

User Tools (System settings > Timer setting)

Specifies whether Fusing Unit Off mode is enabled or not.

When Fusing Unit Off mode is enabled, the display is on but the fusing unit is off to save energy.

The machine requires roughly the same time as warm-up time to recover from Fusing Unit Off mode.

Default: [Off]

If [Fusing Unit Off Mode (Energy Saving) On/Off] is set to [On], you can specify when to exit Fusing Unit Off mode and the time to elapse before entering Fusing Unit Off mode.

If [Exit Fusing Unit Off Mode] is set to [On Printing], the machine exits Fusing Unit Off mode when printing is performed.

If [Exit Fusing Unit Off Mode] is set to [On Operating Control Panel], the machine exits Fusing Unit Off mode when a key is pressed on the control panel of the machine.

If the timer is set to [On], you can set the time from 10 seconds to 240 minutes, using the number keys.

Energy Saving Recvry. for Business Applicatn.

User Tools (System settings > General Settings)

Specify whether or not to enable low-energy recovery from Sleep mode to use applications independent of the machine, such as Address Book Management or Browser.

Default: [Off]

If [On (Energy Saving)] is selected, it takes longer than usual to be ready to use the machine.

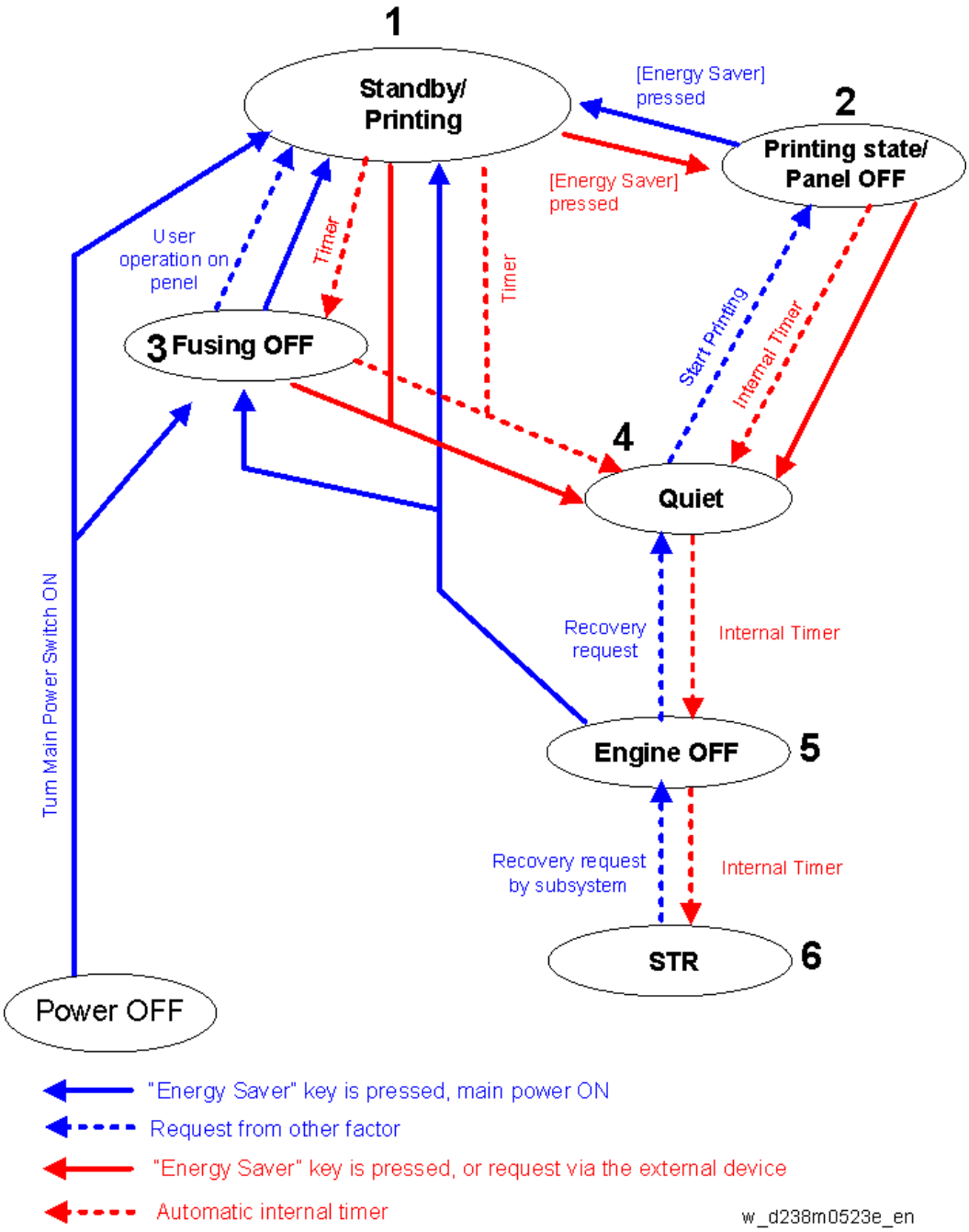
Recovery Time/Reduced Electrical Consumption

	Reduced electrical consumption in Sleep mode	Recovery time from Sleep mode
Mainly Europe and Asia	0.89 W	7 sec.
Mainly North America	0.79 W	7 sec.

Note

- The time it takes to switch out from energy saving functions and electrical consumption may differ depending on the conditions and environment of the machine.

Power States of this Machine



	State	Description
1	Standby/Printing	• State where normal operation is possible after warm-up • State during printing
2	Printing state/Panel OFF	State when printing with the backlight of the operation panel turned off
3	Fusing OFF	State where the Standby Fusing OFF state is entered when the time set with the **"Fusing Unit Off Mode (Energy Saving) On/Off"** setting of the User Tools has elapsed.

	State	Description
		• State where the operation panel is flashing and the fusing heater is OFF. • The bottom plate of the paper feed tray is raised.
4	**Quiet** state	**Quiet** state is entered when the Energy Saving key is pressed or the time set with the "**Sleep Mode Timer**" of the User Tools has elapsed. This is a temporary energy saving state before entering sleep mode. • Basically, no homing (initialization) of peripheral devices is performed. • The bottom plate of the paper feed tray is raised. • The fusing heater is turned OFF.
5	Engine OFF (Sleep mode)	Entered from **Quiet** state with internal timer. • The relevant power systems (24V, 12V, 5V) are turned OFF at the same time as the fusing heater. • When printing is performed in engine OFF state, warm-up is started and printing is performed while the backlight of the operation panel is turned OFF.
6	STR state (Sleep mode)	Supplying of power and clock to the CPU and peripheral chips on the controller board is stopped.

Device state for each Energy Saving state

State	Energy Saving LED	Operation panel LCD	Engine (Printer)	HDD	CTL
Standby/Printing	ON	ON	ON	ON	ON
Printing state/Panel OFF	ON	OFF	ON	ON	ON
fusing OFF	ON	ON	ON (Printer is in the **Quiet** state)	ON	ON
Quiet state	ON	OFF **ON*1**	ON (Printer is in the **Quiet** state)	ON	ON
Engine OFF	Blinking gradually **ON*1**	Sleep **OFF or ON*1**	OFF	OFF **ON*1**	ON
STR state	Blinking gradually	Sleep	OFF	OFF	STR

*1 When [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)], ON/OFF is determined by the internal timer of the Smart Operation Panel.

Transition of operation panel to Energy Saving when [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)]

Normally, the Energy Saving state of the operation panel LCD changes in step with the energy saving state of the main unit, but to support the scenario where an application that does not use the engine (printer) is executed from

the operation panel, the Energy Saving state of the operation panel is transitioned through the three states ON, OFF, and Sleep with its internal timer when [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)].

Verification of Up Time for each Energy Saving State

The up time for each power state of the machine can be checked with SP8-961 (Electricity Status). It is also output on the SMC sheet.

SP	Name	Description
SP8-961-001	Ctrl Standby Time	Cumulative time of Engine OFF mode, Quiet mode, and Standby mode
SP8-961-002	STR Time	Cumulative time of STR mode
SP8-961-003	Main Power Off Time	Cumulative time of state in which the power plug is connected to the outlet but the main power is off
SP8-961-004	Reading and Printing Time	Cumulative time of state in which the printer engine is running or warming up
SP8-961-005	Printing Time	Cumulative time of the state in which the printer engine is running
SP8-961-007	Eng Waiting Time	Cumulative time of state in which the power state of the engine is Standby state
SP8-961-008	Low Power State Time	Not used for this machine
SP8-961-009	**Quiet** State Time	Cumulative time of the state in which the power state of the engine is **Quiet** state
SP8-961-010	Heater Off State Time	Cumulative time of the state in which the power state of the engine is Fusing OFF state
SP8-961-011	LCD on Time	Cumulative time of the state in which the backlight of the LCD is on.

Checking the Up time by Device State

SP 8941 (Machine Status) keeps a record of the amount of time that the machine spends in each mode.

SP8-941-001	Operation Time	Cumulative time of the state in which the engine state notification is enabled. The state in which the engine is not running (such as when storing to HD only with the controller) is excluded from the running state.
SP8-941-002	Standby Time	Cumulative time of the state in which the engine state is not running.
SP8-941-	Low Power	Not used for this machine

003	Time	
SP8-941-004	Sleep mode time	Cumulative time in Sleep Mode state.
SP8-941-005	Off Mode Time	Cumulative time in which the Energy Saving state of the device is Engine OFF state.
SP8-941-006 to 009	Down time	Cumulative time in which the device is disabled because itself or its component is in the following state. • SP8-941-006: SC (excluding mode SC) • SP8-941-007: Jam (plotter) • SP8-941-009: Supply/PM unit end

With this data, and the power consumption values from the specifications, we can estimate the amount of energy that is used by the machine.

This should only be used as a reference value, because the power consumption specifications are measured in a controlled environment with a constant power supply.

To get an exact measurement at the customer's site, a watt meter must be used to measure the actual energy consumed.

To use SP8941 to calculate the energy consumed:

- At the start of the measurement period, read the values of SP8-941-001 to 005.
- At the end of the measurement period, read the values of SP8-941-001 to 005 again.
- Find the amount of time spent in each mode (subtract the earlier measurement from the later measurement).
- Multiply this by the power consumption spec for each mode.
- Convert the result to kWh (kilowatt hours)

Recommendation

We recommend that the default settings related to energy saving should be kept.

- If the customer requests that these settings should be changed, please explain that their energy costs could increase, and that they should consider the effects on the environment of extra energy use.

Adobe PS vs. Clone PS

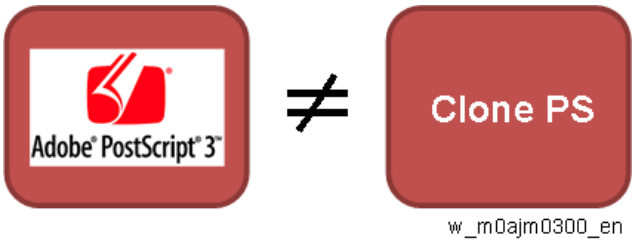
Overview

This machine is equipped with a clone program for emulating Adobe PostScript/PDF (hereafter “Clone PS”) as a standard feature. So, by default, it can perform printing using PostScript 3 and PDF Direct Print, in addition to RPCS.

- **What is Clone PS?**

  Based on the specifications of PostScript/PDF languages developed by Adobe, clone programs for interpretation of PostScript and PDF documents have been created by various companies other than Adobe. While the original program sold by the developer of the language is named Adobe PS, compatible programs made by other manufacturers are called clones. Strictly speaking, these clones must be fully compatible with the original program; however, they are called clones even if they have some differences, because they cannot completely imitate the original.

  Clone PS is basically designed to perform similar functions to Adobe PS, except for several differences such as inability to use Adobe fonts.



w_m0ajm0300_en

Note

- Adobe PS, previously offered as an optional product for past models, is available again as an option. (It comes in an SD card, as was the case for former models.)
- Clone PS and Adobe PS cannot be run simultaneously.
- The same printer driver can be used for Clone PS and Adobe PS.
- Clone PS emulates Adobe PostScript 3 version 3017. (The version of Adobe PS used in the SD card option is v. 3018.)
- For the PDF Direct Print function, Clone PS emulates Adobe PDF version 1.7.

How to Distinguish Adobe PS from Clone PS

In the operation panel screen, it is difficult to tell whether Adobe PS or Clone PS is in use.
Both “PS3” and “PDF” are shown on the screen, regardless of whether Adobe PS or Clone PS is used.
Identification can be done as follows:

- **Configuration Page**

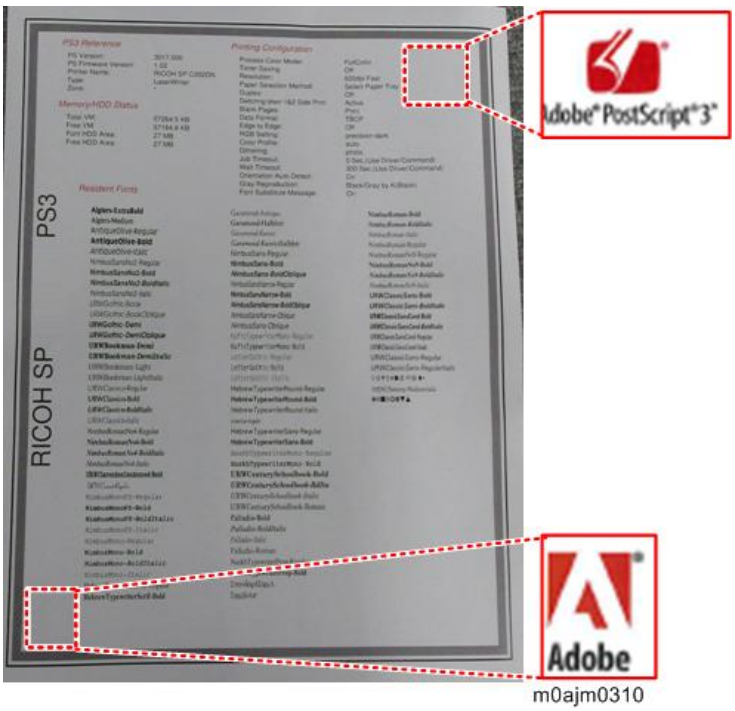
  The description of the Firmware Version listed on the page varies as shown below:

PS type	Description of Firmware Version
Adobe PS	RPCS [x.xx.xx] **Adobe PostScript 3** [x.xx], **Adobe PDF** [x.xx]
Clone PS	RPCS [x.xx.xx] **PS3** [x.xx], **PDF** [x.xx]

The manufacturers name “Adobe” is shown in the list if Adobe PS is used.

PS Configuration / Font Page

The “Adobe” logo is printed on the page if Adobe PS is used.

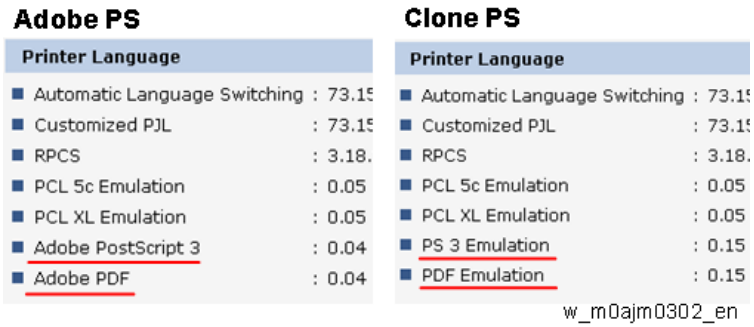


m0ajm0310

Web Image Monitor

Go to Status/Information > Device Info, and open the Printer Language menu.

If Adobe PS is used, the screen shows the program name “Adobe PostScript 3” and "Adobe PDF".



w_m0ajm0302_en

Operation Panel: Firmware Version

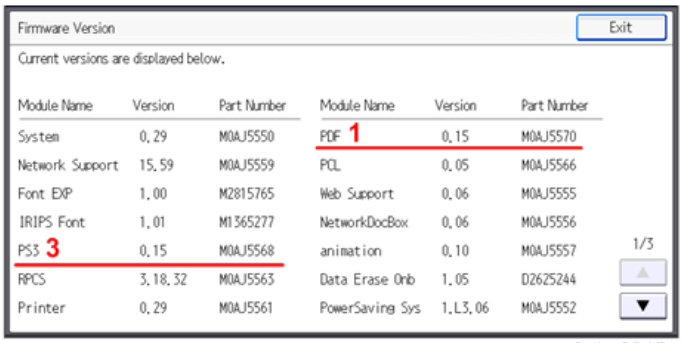
User Tools > Machine Features > System Settings > Administrator Tools > Firmware Version

When PostScript3 Unit Option (Adobe PS) is installed:



m0ajm0303

Clone PS only:



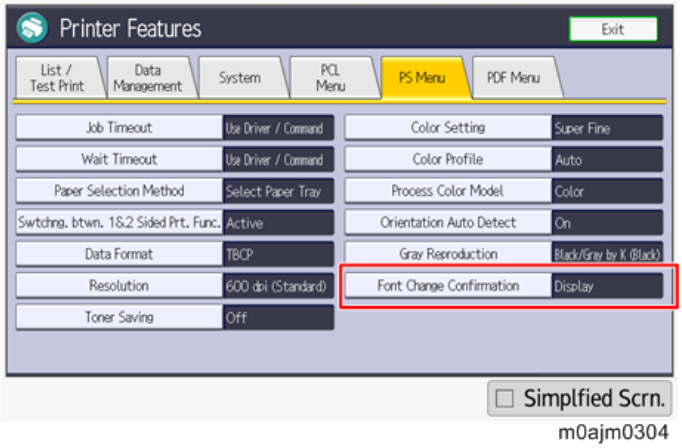
m0ajm0315

No.	Module Name	Description
1	PDF (1st page)	The **Clone** firmware number appears. The clone PS firmware number starts with "M0AN".
2	PDF (2nd page)	The **Adobe** firmware number "M5135733" appears. This module name appears in the firmware list only if PostScript3 Unit Option is installed.
3	PS3 (Left)	The **Clone PS** firmware number appears. The clone PS firmware number starts with "M0AN".
4	PS3 (Right)	The **Adobe PS** firmware number "M5135731" appears. This module name appears in the firmware list only if PostScript3 Unit Option is installed.

- **Font Change Confirmation screen**

  The “Font Change Confirmation” screen is accessible only when Clone PS is used.

  On the Home screen, select the User Tools icon > Machine Features > Printer Features > PS Menu > Font Change Confirmation.



Difference in Device Fonts

The variety and number of built-in fonts (device fonts) differ between Adobe PS and Clone PS.

PS type	Number of European fonts
Adobe PS	136 fonts
Clone PS	93 fonts

For license reasons, the device fonts for Adobe PS cannot be handled by Clone PS. Instead, Clone PS is equipped with fonts similar to Adobe device fonts under different names; when an Adobe PS font is specified in the data to be printed, Clone PS will replace it with a similar font.

Use of a substitute font sometimes leads to different printing results, as shown in the table below.

Example 1

PS type	Helvetica
Adobe PS	Helvetica findfont: Change before you have to!
Clone PS	Helvetica findfont: Change before you have to!
	When Helvetica is used in the original document, Clone PS applies a substitute font named NimbusSans-Regular, maintaining almost the same appearance as the original data.

Example 2

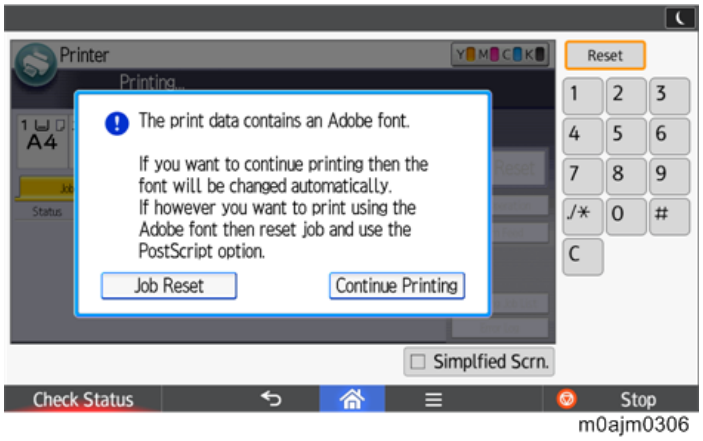
PS type	LetterGothic
Adobe PS	LetterGothic: Change before you have to!
Clone PS	LetterGothic: Change before you have to!
	When LetterGothic is originally used, Clone PS substitutes it with LetterGothic-Regular. In this case, the character spacing differs from that in the original data.

Example 3

PS type	Chicago
Adobe PS	**Chicago: Change before you have to!**
Clone PS	Chicago: Change before you have to!
	Clone PS does not support alternative fonts for Chicago; instead, the Courier font (*) is used. (The font shape differs significantly from Chicago.) * Since Courier itself is named among the Adobe PS device fonts, Clone PS substitutes it with an alternative font, NimbusMonoPS-Regular.

Font Change Confirmation Screen

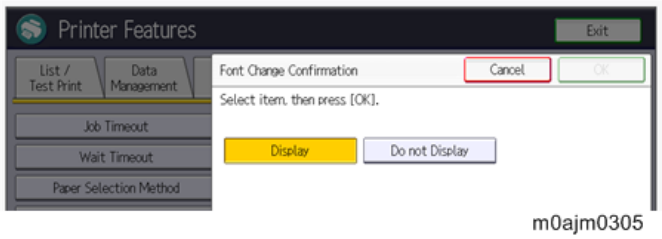
Clone PS itself incorporates no Adobe fonts in it, and therefore replaces them with similar fonts when Adobe PS fonts are specified in the print data output to the printer.
However, there is a possibility that a substitute font not desired by the customer may be used; to cope with this issue, the operation panel shows a confirmation screen whenever an Adobe font is to be replaced by a similar font.



m0ajm0306

If the customer often prints data containing Adobe fonts that are almost the same in terms of spacing and shape as their substitutes, the confirmation screen appears every time printing is performed, making the printing operation cumbersome. In such a case, the font change confirmation screen can be hidden.

- User Tools icon on Home screen > Machine Features > Printer Features > PS Menu > Font Change Confirmation



m0ajm0305

List of fonts and their replacements (Adobe PS -> Clone PS)

No.	Adobe PS	Clone PS
1	Courier	NimbusMonoPS-Regular

No.	Adobe PS	Clone PS
2	Courier-Bold	NimbusMonoPS-Bold
3	Courier-BoldOblique	NimbusMonoPS-BoldItalic
4	Courier-Oblique	NimbusMonoPS-Italic
5	Helvetica	NimbusSans-Regular
6	Helvetica-Bold	NimbusSans-Bold
7	Helvetica-BoldOblique	NimbusSans-BoldOblique
8	Helvetica-Oblique	NimbusSans-Oblique
9	Symbol	StandardSymL
10	Times-Bold	NimbusRoman-Bold
11	Times-BoldItalic	NimbusRoman-BoldItalic
12	Times-Italic	NimbusRoman-Italic
13	Times-Roman	NimbusRoman-Regular
14	AlbertusMT	NimbusMonoPS-Regular
15	AlbertusMT-Italic	NimbusMonoPS-Regular
16	AlbertusMT-Light	NimbusMonoPS-Regular
17	AntiqueOlive-Roman	NimbusMonoPS-Regular
18	AntiqueOlive-Italic	AntiqueOlive-Italic
19	AntiqueOlive-Bold	AntiqueOlive-Bold
20	AntiqueOlive-Compact	NimbusMonoPS-Regular
22	Apple-Chancery	NimbusMonoPS-Regular
22	ArialMT	NimbusSansNo2-Regular
23	Arial-ItalicMT	NimbusSansNo2-Italic
24	Arial-BoldMT	NimbusSansNo2-Bold
25	Arial-BoldItalicMT	NimbusSansNo2-BoldItalic
26	AvantGarde-Book	URWGothic-Book
27	AvantGarde-BookOblique	URWGothic-BookOblique
28	AvantGarde-Demi	URWGothic-Demi
29	AvantGarde-DemiOblique	URWGothic-DemiOblique
30	Bodoni	NimbusMonoPS-Regular
31	Bodoni-Italic	NimbusMonoPS-Regular
32	Bodoni-Bold	NimbusMonoPS-Regular
33	Bodoni-BoldItalic	NimbusMonoPS-Regular
34	Bodoni-Poster	NimbusMonoPS-Regular
35	Bodoni-PosterCompressed	NimbusMonoPS-Regular
36	Bookman-Light	URWBookman-Light
37	Bookman-LightItalic	URWBookman-LightItalic
38	Bookman-Demi	URWBookman-Demi

No.	Adobe PS	Clone PS
39	Bookman-DemiItalic	URWBookman-DemiItalic
40	Carta	NimbusMonoPS-Regular
41	Chicago	NimbusMonoPS-Regular
42	Clarendon	NimbusMonoPS-Regular
43	Clarendon-Light	NimbusMonoPS-Regular
44	Clarendon-Bold	NimbusMonoPS-Regular
45	CooperBlack	NimbusMonoPS-Regular
46	CooperBlack-Italic	NimbusMonoPS-Regular
47	Copperplate-ThirtyTwoBC	NimbusMonoPS-Regular
48	Copperplate-ThirtyThreeBC	NimbusMonoPS-Regular
49	Coronet-Regular	NimbusMonoPS-Regular
50	Eurostile	NimbusMonoPS-Regular
51	Eurostile-Bold	NimbusMonoPS-Regular
52	Eurostile-ExtendedTwo	NimbusMonoPS-Regular
53	Eurostile-BoldExtendedTwo	NimbusMonoPS-Regular
54	Geneva	NimbusMonoPS-Regular
55	GillSans	NimbusMonoPS-Regular
56	GillSans-Italic	NimbusMonoPS-Regular
57	GillSans-Bold	NimbusMonoPS-Regular
58	GillSans-BoldItalic	NimbusMonoPS-Regular
59	GillSans-Condensed	NimbusMonoPS-Regular
60	GillSans-BoldCondensed	NimbusMonoPS-Regular
61	GillSans-Light	NimbusMonoPS-Regular
62	GillSans-LightItalic	NimbusMonoPS-Regular
63	GillSans-ExtraBold	NimbusMonoPS-Regular
64	Goudy	NimbusMonoPS-Regular
65	Goudy-Italic	NimbusMonoPS-Regular
66	Goudy-Bold	NimbusMonoPS-Regular
67	Goudy-BoldItalic	NimbusMonoPS-Regular
68	Goudy-ExtraBold	NimbusMonoPS-Regular
69	Helvetica-Condensed	NimbusMonoPS-Regular
70	Helvetica-Condensed-Oblique	NimbusMonoPS-Regular
71	Helvetica-Condensed-Bold	NimbusMonoPS-Regular
72	Helvetica-Condensed-BoldObl	NimbusMonoPS-Regular
73	Helvetica-Narrow	NimbusSansNarrow-Regular
74	Helvetica-Narrow-Oblique	NimbusSansNarrow-Oblique
75	Helvetica-Narrow-Bold	NimbusSansNarrow-Bold

No.	Adobe PS	Clone PS
76	Helvetica-Narrow-BoldOblique	NimbusSansNarrow-BoldOblique
77	HoeflerText-Regular	NimbusMonoPS-Regular
78	HoeflerText-Italic	NimbusMonoPS-Regular
79	HoeflerText-Black	NimbusMonoPS-Regular
80	HoeflerText-BlackItalic	NimbusMonoPS-Regular
81	HoeflerText-Ornaments	NimbusMonoPS-Regular
82	JoannaMT	NimbusMonoPS-Regular
83	JoannaMT-Italic	NimbusMonoPS-Regular
84	JoannaMT-Bold	NimbusMonoPS-Regular
85	JoannaMT-BoldItalic	NimbusMonoPS-Regular
86	LetterGothic	LetterGothic-Regular
87	LetterGothic-Slanted	NimbusMonoPS-Regular
88	LetterGothic-Bold	LetterGothic-Bold
89	LetterGothic-BoldSlanted	NimbusMonoPS-Regular
90	LubalinGraph-Book	NimbusMonoPS-Regular
91	LubalinGraph-BookOblique	NimbusMonoPS-Regular
92	LubalinGraph-Demi	NimbusMonoPS-Regular
93	LubalinGraph-DemiOblique	NimbusMonoPS-Regular
94	Marigold	Mauritius-Regular
95	Monaco	NimbusMonoPS-Regular
96	MonaLisa-Recut	NimbusMonoPS-Regular
97	NewCenturySchlbk-Roman	URWCenturySchoolbook-Roman
98	NewCenturySchlbk-Italic	URWCenturySchoolbook-Italic
99	NewCenturySchlbk-Bold	URWCenturySchoolbook-Bold
100	NewCenturySchlbk-BoldItalic	URWCenturySchoolbook-BdIta
101	NewYork	NimbusMonoPS-Regular
102	Optima	NimbusMonoPS-Regular
103	Optima-Italic	NimbusMonoPS-Regular
104	Optima-Bold	NimbusMonoPS-Regular
105	Optima-BoldItalic	NimbusMonoPS-Regular
106	Oxford	NimbusMonoPS-Regular
107	Palatino-Roman	Palladio-Roman
108	Palatino-Italic	Palladio-Italic
109	Palatino-Bold	Palladio-Bold
110	Palatino-BoldItalic	Palladio-BoldItalic
111	StempelGaramond-Roman	NimbusMonoPS-Regular
112	StempelGaramond-Italic	NimbusMonoPS-Regular

No.	Adobe PS	Clone PS
113	StempelGaramond-Bold	NimbusMonoPS-Regular
114	StempelGaramond-BoldItalic	NimbusMonoPS-Regular
115	Tekton	NimbusMonoPS-Regular
116	TimesNewRomanPSMT	NimbusRomanNo9-Regular
117	TimesNewRomanPS-ItalicMT	NimbusRomanNo9-Italic
118	TimesNewRomanPS-BoldMT	NimbusRomanNo9-Bold
119	TimesNewRomanPS-BoldItalicMT	NimbusRomanNo9-BoldItalic
120	Univers	NimbusMonoPS-Regular
121	Univers-Oblique	NimbusMonoPS-Regular
122	Univers-Bold	URWClassicSans-Bold
123	Univers-BoldOblique	NimbusMonoPS-Regular
124	Univers-Light	NimbusMonoPS-Regular
125	Univers-LightOblique	NimbusMonoPS-Regular
126	Univers-Condensed	NimbusMonoPS-Regular
127	Univers-CondensedOblique	NimbusMonoPS-Regular
128	Univers-CondensedBold	NimbusMonoPS-Regular
129	Univers-CondensedBoldOblique	NimbusMonoPS-Regular
130	Univers-Extended	NimbusMonoPS-Regular
131	Univers-ExtendedObl	NimbusMonoPS-Regular
132	Univers-BoldExt	NimbusMonoPS-Regular
133	Univers-BoldExtObl	NimbusMonoPS-Regular
134	Wingdings-Regular	URWDingbats
135	ZapfChancery-MediumItalic	URWChancery-MediumItalic
136	ZapfDingbats	Dingbats

Differences in Driver Functions

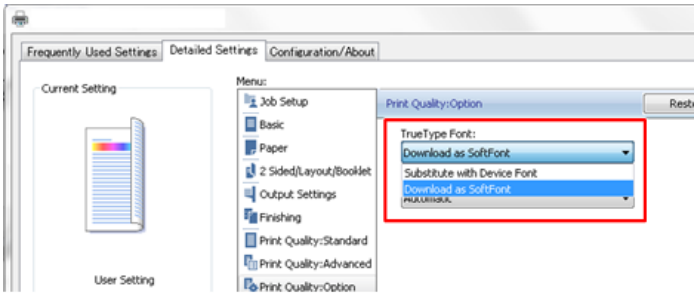
As shown below, there are differences in available driver functions between Adobe PS and Clone PS.

1. Font Substitution Table (Applicable only to driver for Windows OS)

Start > Device and Printer > Printer Properties > Device Settings

For Clone PS, the Font Substitution Table under the Device Settings menu will not be displayed. Clone PS has font substitution table data similar to that of Adobe PS, and performs font replacement as appropriate.

To disable font replacement, go to Printing Preferences > Detailed Settings > “Print Quality: Option” > “True Type Font:” option, and select “Download as SoftFont”.

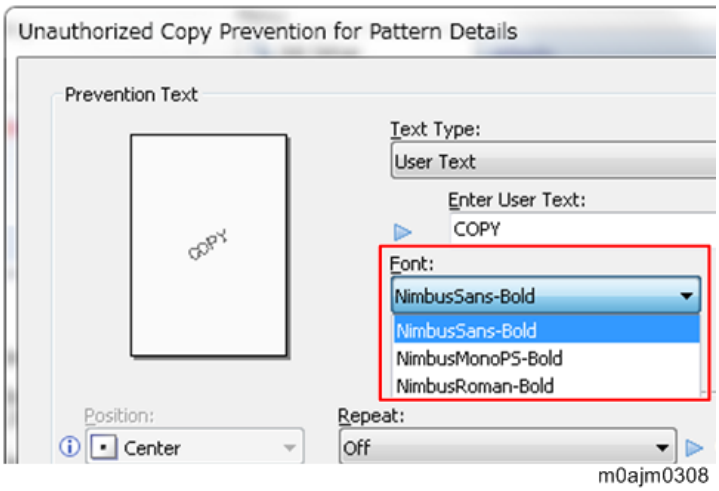


m0ajm0307

2. Fonts used for unauthorized copy prevention (Common to drivers for Windows OS and Mac OS X)

The watermark text used for unauthorized copy prevention consists of a device font. The range of available fonts varies between Adobe PS and Clone PS because of the difference in available device fonts.

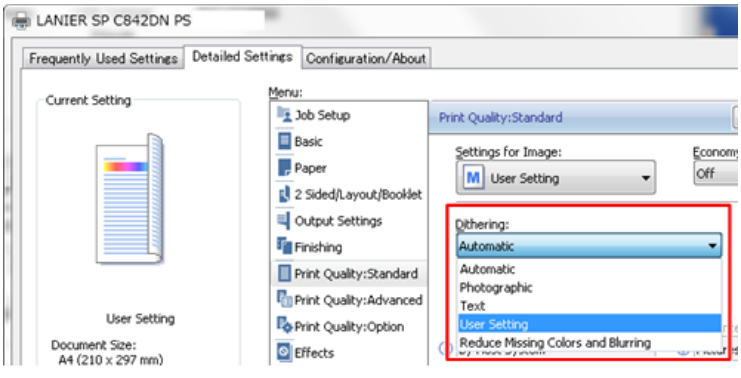
Adobe PS provides a choice from 136 fonts while 3 fonts are selectable for Clone PS.



m0ajm0308

3. "User Setting" for dithering (Common to drivers for Windows OS and Mac OS X)

Clone PS ignores the "User Setting" option for dithering and performs dithering in the same manner as when the "Automatic" setting (*) is selected.



m0ajm0309

* "Text Priority" is selected for text, and "Photo" for graphic objects and image objects.

In the driver menu for Mac OS X, the "User Setting" option is shown at half brightness and cannot be selected.

SP 8400DN
Machine Code: M0AN
Appendices
Ver 1.0

Latest Release: Apr, 2017
Initial Release: Apr, 2017
Copyright (c) 2017 Ricoh Co.,Ltd.

Table of Contents

1. Specifications 3
General Specifications 3
Mainframe 3
Printer Specifications 8
Supported Paper Sizes 10
Paper Feed 10
Paper Exit 14
Software Accessories 23
Printer Drivers 23
Optional Equipment 24
Finisher SR3210 (D3B8) 24
Finisher SR3230 (D3BA) 25
Mail Box CS3010 (M481) 29
Bridge Unit BU3070 (D685) 29
Output Jogger Unit Type M25 (D3CJ) 30
Punch Unit PU3050 NA/EU/SC (D717) 30
Punch Unit PU3060 NA/EU/SC (D706) 31
Internal Multi-fold Unit FD3000 (M482) 32
Paper Feed Unit PB3240 (M494) 32
LCIT PB 3260 (M496) 33
LCIT RT 3030 (D696) 33
2. Preventive Maintenance 34
Preventive Maintenance 34
Preventive Maintenance Items 34
Optional Peripheral devices 38
Other Yield Parts 42
3. Engine SP Mode Tables 43
Engine SP1-XXX (Feed) 43
Engine SP2-XXX (Drum) 60
Engine SP3-XXX (Process) 64
Engine SP4-XXX (LoCPP edge level) 72
Engine SP5-XXX (Mode) 73
Engine SP6-XXX (Peripherals) 79
Engine SP7-XXX (Data Log) 136
Input Check Table 147
Main Machine, Paper Feed Tray 147
Finisher / Mail Box / Folding Unit 153

Output Check Table 159
Main Machine, Paper Feed Tray 159
Finisher / Mailbox / Folding Unit 166
4. Controller SP Mode Tables 171
Controller SP5-XXX (Mode) 171
Controller SP6-XXX (Peripherals) 217
Controller SP7-XXX (Data Log1) 218
Controller SP8-XXX (Data Log2) 246
Remarks 246
SP8-001 to SP8-999 248
Printer SP Menu 262
SP1-XXX (Service Mode) 262
5. Software Configuration 272
Printing Features 272
Auto PDL Detection Function 272
Print Images Rotation 276
PJL USTATUS 277
Behavior of USB Printer Detection 279
Security Features 280
How to Restrict Access to the WIM Job Menu 280

1. Specifications

General Specifications

Mainframe

Item	Spec.
Configuration	Desktop
Photosensitivity type	OPC drum
Print process	Laser beam scanning and electro-photographic printing
Development	Dry two-component magnetic brush development system
Fusing	Direct Heating (DH) fusing
Resolution	600 dpi
Warm-up time (23 °C (73.4 °F), rated voltage)	20.5 seconds
Paper size (Tray 1-4)	**Plain Paper 1–Thick Paper 4** (Paper sizes that can be detected automatically.) • NA A4 SEF, A5 LEF,B5 JIS SEF, 11x17 SEF, 8 1/2" x14 SEF, 8 1/2" x11 SEF/LEF, 7 1/4" x10 1/2" LEF, 8 1/2" x13 2/5" SEF • EU/Asia A3 SEF, A4 SEF/LEF, A5 LEF, B4 JIS SEF,B5 JIS SEF/LEF, 8 1/2" x11 SEF **Plain Paper 1–Thick Paper 4** (Select the paper size using the Tray Paper Settings menu. Adjust the supporting side fence before loading B4 JIS SEF, A3 SEF, or 11x17 SEF paper into Trays 3–4.) • NA A3 SEF, A4 LEF, A5 SEF, A6 SEF, B4 JIS SEF,B5 JIS LEF, B6 JIS SEF, 8 1/2" x13 SEF, 8 1/4" x14 SEF,8 1/4" x13 SEF, 8x13 SEF, 8x10 SEF, 7 1/4" x10 1/2" SEF, 5 1/2" x8 1/2" SEF, 8K SEF, 16K SEF/LEF, 11x15 SEF, 10x14 SEF • EU/Asia A5 SEF, A6 SEF, B6 JIS SEF, 11x17 SEF, 8 1/2" x14 SEF, 8 1/2" x13 SEF, 8 1/2" x11 LEF, 8 1/4" x14 SEF, 8 1/4" x13 SEF, 8x13 SEF, 8x10 SEF, 7 1/4" x10 1/2" SEF/LEF, 5 1/2" x8 1/2" SEF, 8K SEF, 16K SEF/LEF, 11x15 SEF, 10x14 SEF, 8 1/2" x13 2/5" SEF **Custom size** (When loading paper with a vertical length of more than 279.4 mm (11.0 inches) in Tray 1, use paper that has a horizontal width of 420 mm (16.6 inches) or less.)

Item	Spec.
	• NA Vertical: 3.55–11.69 inches Horizontal: 5.83–17.00 inches • EU/Asia Vertical: 90.0–297.0 mm Horizontal: 148.0–431.8 mm **Envelopes** (Select the paper size using the Tray Paper Settings menu) 4 1/8" x9 1/2" SEF/LEF, 3 7/8" x7 1/2" SEF, C5 Env SEF/LEF, C6 Env SEF/LEF, DL Env SEF/LEF
Paper size (Bypass tray)	**Thin Paper–Thick Paper 4** (Paper sizes that can be detected automatically.) • NA A5 LEF,B5 JIS SEF, 11x17 SEF, 8 1/2" x11 SEF/LEF, 5 1/2" x8 1/2" SEF, 7 1/4" x10 1/2" LEF, 12x18 SEF • EU/Asia A3 SEF, A4 SEF/LEF, A5 SEF/LEF, A6 SEF, B4 JIS SEF,B5 JIS SEF/LEF, B6 JIS SEF **Thin Paper–Thick Paper 4** (Select the paper size using the Tray Paper Settings menu.) • NA A3 SEF, A4 SEF/LEF, A5 SEF, A6 SEF, B4 JIS SEF, B5 JIS LEF, B6 JIS SEF, 8 1/2" x14 SEF, 8 1/2" x13 SEF, 8 1/4" x14 SEF, 8 1/4" x13 SEF, 8x13 SEF, 8x10 SEF, 7 1/4" x10 1/2" SEF, 8K SEF, 16K SEF/LEF, 11x15 SEF, 10x14 SEF, 8 1/2" x13 2/5" SEF • EU/Asia 11x17 SEF, 8 1/2" x14 SEF, 8 1/2" x13 SEF, 8 1/2" x11 SEF/LEF, 8 1/4" x14 SEF, 8 1/4" x13 SEF, 8x13 SEF, 8x10 SEF, 7 1/4" x10 1/2" SEF/LEF, 5 1/2" x8 1/2" SEF, 8K SEF, 16K SEF/LEF, 12x18 SEF, 11x15 SEF, 10x14 SEF, 8 1/2" x13 2/5" SEF **Custom size** Vertical: When only the Internal Multi-folding unit is installed, the vertical size range is limited to 90.0–297.0 mm (3.55–11.69 inches). Horizontal: Paper that has a horizontal length of 432 mm (17.1 inches) or more is prone to creasing, feed failures, and jamming. • NA

Item	Spec.
	Vertical: 3.55–12.00 inches Horizontal: 5.83–23.62 inches • EU/Asia Vertical: 90.0–304.8 mm Horizontal: 148.0–600.0 mm **OHP transparencies** A4 SEF/LEF, 8 1/2" x11 SEF/LEF **Translucent paper** A3 SEF, A4 SEF/LEF, B4 JIS SEF, B5 JIS SEF/LEF **Label paper (adhesive labels)** A4 SEF/LEF, B4 JIS SEF **Envelopes** (Select the paper size using the Tray Paper Settings menu.) 4 1/8" x9 1/2" SEF/LEF, 3 7/8" x7 1/2" SEF/LEF, C5 Env SEF/LEF, C6 Env SEF/LEF, DL Env SEF/LEF
Paper size (Tray 3 (LCT))	**Plain Paper 1–Thick Paper 4** A4 LEF, 8 1/2" x11 LEF
Paper size (Large capacity tray (LCT))	**Plain Paper 1–Thick Paper 4** A4 LEF, B5 JIS LEF, 8 1/2" x11 LEF
Paper size (Duplex)	A3 SEF, A4 SEF/LEF, A5 SEF/LEF, A6 SEF, B4 JIS SEF,B5 JIS SEF/LEF, B6 JIS SEF, 11x17 SEF, 8 1/2" x14 SEF, 8 1/2" x13 SEF, 8 1/2" x11 SEF/LEF, 8 1/4" x14 SEF, 8 1/4" x13 SEF, 8x13 SEF, 8x10 SEF, 7 1/4" x10 1/2" SEF/LEF, 5 1/2" x8 1/2" SEF, 8K SEF, 16K SEF/LEF, 12x18 SEF, 11x15 SEF, 10x14 SEF, 8 1/2" x13 2/5" SEF • Custom size Vertical: 90.0–297.0 mm (3.55–11.69 inches) Horizontal: 148.0–431.8 mm (5.83–17.00 inches)
Paper weight	• Trays 1-4 60–300 g/m2 (16 lb. Bond–110 lb. Cover) • Bypass tray 52–300 g/m2 (14 lb. Bond–110 lb. Cover) • Tray 3 (LCT) 60–300 g/m2 (16 lb. Bond–110 lb. Cover) • Large capacity tray (LCT) 60–300 g/m2 (16 lb. Bond–110 lb. Cover) • Duplex 52–256 g/m2 (14 lb. Bond–140 lb. Index)
Missing image area	• Leading edge: 4.2 ± 1.5 mm (0.17 ± 0.06 inches)

Item	Spec.
	• Trailing edge: 0.5–6.0 mm (0.02–0.24 inches) • Left edge: 0.5–4.0 mm (0.02–0.16 inches) • Right edge: 0.5–4.0 mm (0.02–0.16 inches)
First print time (A4 LEF, 8 1/2" x11 LEF, delivered face down, feeding from tray 1)	2.7 seconds
Print speed (A4 LEF, 8 1/2" x11 LEF)	60 sheets/minute
Paper capacity (80 g/m^2, 20 lb. Bond)	**Trays 1–4** • Plain Paper 1–Thick Paper 4 550 sheets • Envelopes (LEF) 50 sheets • Envelopes (SEF) Double flap: 15 sheets Single flap: 25 sheets **Bypass tray** • Thin Paper–Thick Paper 4 100 sheets (up to 10 mm in height) Thick Paper 1: 40 sheets Thick Paper 2–Thick Paper 3: 20 sheets Thick Paper 4: 16 sheets • OHP transparencies 50 sheets • Translucent paper 1 sheet • Label paper (adhesive labels) 30 sheets • Envelopes 10 sheets **Tray 3 (LCT)** 1000 sheets x 2 **Large capacity tray (LCT)** 1500 sheets
Power requirements	• NA 120–127 V, 12 A, 60 Hz • EU/Asia

Item	Spec.
	220–240 V, 8 A, 50/60 Hz
Power consumption	NA • Main unit only *1 Ready: 38.6 W During printing: 790 W Maximum: 1,600 W or less • Complete system *2 Maximum: 1,600 W or less EU/Asia • Main unit only *1 Ready: 43.4 W During printing: 825 W Maximum: 1,780 W or less • Complete system *2 Maximum: 1,780 W or less *1 The power level when the main switch is turned off and the power cord is plugged into an outlet: 1 W or less *2 The complete system consists of the main unit, lower paper trays, bridge unit, and Finisher SR3230.
Dimensions(W x D x H)	587 x 653 x 720 mm (23.2 x 25.7 x 28.3 inches)
Space for main unit (W x D) (including the bypass tray and output trays)	1,149 x 1,205 mm (45.2 x 47.4 inches)
Weight	Approx. 57 kg (125.7 lb.)

Noise emission

Sound power level

		NA	EU/Asia
Main unit only	Stand-by	30.8 dB (A)	30.7 dB (A)
	Printing	65.1 dB (A)	65.2 dB (A)
Complete system	Stand-by	34.0 dB (A)	34.1 dB (A)
	Printing	70.8 dB (A)	71.2 dB (A)

Sound pressure level

		NA	EU/Asia
Main unit only	Stand-by	20.0 dB (A)	21.2 dB (A)
	Printing	52.6 dB (A)	52.5 dB (A)
Complete system	Stand-by	20.4 dB (A)	20.7 dB (A)
	Printing	57.4 dB (A)	58.0 dB (A)

Note

Sound power level and sound pressure level are actual values measured in accordance with ISO 7779.

Sound pressure level is measured from the position of the bystander.

The complete system consists of the main unit, lower paper trays, large capacity tray (LCT), Mailbox, bridge unit, Finisher SR3230.

Printer Specifications

Item	Spec.
Resolution	200 dpi, 300 dpi, 400 dpi, 600 dpi, 1200 dpi
Printing speed (A4 LEF, 8 1/2" x11 LEF, plain paper)	60 sheets/minute
Interface	• Standard Ethernet interface (1000BASE-T/100BASE-TX/10BASE-T) USB 2.0 (Type A) port (on the control panel) SD card slot (on the control panel) • Option IEEE 1284 parallel interface IEEE 802.11a/b/g/n wireless LAN interface Extended USB board USB device server
Network protocol	TCP/IP (IPv4, IPv6)
Printer language	• Standard RPCS, PCL 5e/6, PDF, MediaPrint(JPEG, TIFF), PostScript 3 • Option Adobe PostScript 3, IPDS, XPS
Fonts	• Standard PostScript 3: 93 fonts • Option Adobe PostScript 3: 136 fonts IPDS: 108 fonts
Memory	2 GB

Item	Spec.
USB interface	• Supported operating system Windows Vista/7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016, OS X 10.9 or later • Transmission spec USB 2.0 Standard • Connectable device Devices corresponding to USB 2.0 Standard

- The maximum length for the cable connecting the machine to an Ethernet network is 100 meters.

Supported Paper Sizes

Paper Feed

Tray 1 to 4, and the side LCT

Size (W x L) [mm]	Tray 1		Tray 2		Tray 3/4 2-drawer bank		Tray 3 Tandem LCT	
	NA	EU/AA	NA	EU/AA	NA	EU/AA	NA	EU/AA
A3 SEF (297 x 420)	G2	A2	G2	A2	G2	A2	-	-
A4 SEF (210 x 297)	A	A	A	A	A	A	-	-
A4 LEF (297 x 210)	G1	A1	G1	A1	G1	A1	K	H
A5 SEF (148 x 210)	B	B	B	B	B	B	-	-
A5 LEF (210 x 148)	A	A	A	A	A	A	-	-
A6 SEF (105 x 148)	B	B	B	B	B	B	-	-
B4 SEF (257 x 364)	G3	A3	G3	A3	G3	A3	-	-
B5 SEF (182 x 257)	A	A	A	A	A	A	-	-
B5 LEF (257 x 182)	G4	A4	G4	A4	G4	A4	-	-
B6 SEF (128 x 182)	B	B	B	B	B	B	-	-
DLT SEF (11" x 17")	A2	G2	A2	G2	A2	G2	-	-
Legal SEF ($8^1/_2$" x 14")	A3	G3	A3	G3	A3	G3	-	-
Foolscap SEF ($8^1/_2$" x 13")	B	B	B	B	B	B	-	-
LT SEF ($8^1/_2$" x 11")	A	A	A	A	A	A	-	-
LT LEF (11" x $8^1/_2$")	A1	G1	A1	G1	A1	G1	H	K
Gov. LG SEF ($8^1/_4$" x 14")	B	B	B	B	B	B	-	-
Folio SEF ($8^1/_4$" x 13")	B	B	B	B	B	B	-	-
F/GL SEF (8" x 13")	B	B	B	B	B	B	-	-
Eng Quatro SEF (8" x 10")	B	B	B	B	B	B	-	-
Executive SEF ($7^1/_4$" x $10^1/_2$")	B	B	B	B	B	B	-	-
Executive LEF ($10^1/_2$" x $7^1/_4$")	A4	G4	A4	G4	A4	G4	-	-
HLT SEF ($5^1/_2$" x $8^1/_2$")	B	B	B	B	B	B	-	-
Com10 SEF (104.8 x 241.3)	B	B	B	B	B	B	-	-
Com10 LEF (241.3 x 104.8)	B	B	B	B	B	B	-	-
Monarch SEF (98.4 x 190.5)	B	B	B	B	B	B	-	-
Monarch LEF (190.5 x 98.4)	-	-	-	-	-	-	-	-
C5 SEF (162 x 229)	B	B	B	B	B	B	-	-
C5 LEF (229 x 162)	B	B	B	B	B	B	-	-
C6 SEF (114 x 162)	B	B	B	B	B	B	-	-

Size (W x L) [mm]	Tray 1		Tray 2		Tray 3/4 2-drawer bank		Tray 3 Tandem LCT	
	NA	EU/AA	NA	EU/AA	NA	EU/AA	NA	EU/AA
C6LEF (162 x 114)	B	B	B	B	B	B	-	-
DL Env SEF (110 x 220)	B	B	B	B	B	B	-	-
DL Env LEF (220 x 110)	B	B	B	B	B	B	-	-
8K SEF (267 x 390)	B	B	B	B	B	B	-	-
16K SEF (195 x 267)	B	B	B	B	B	B	-	-
16K LEF (267 x 195)	B	B	B	B	B	B	-	-
12" x 18" SEF	-	-	-	-	-	-	-	-
11" x 15" SEF	B	B	B	B	B	B	-	-
10" x 14" SEF	B	B	B	B	B	B	-	-
8.5” x 13.4” SEF	A3	B	A3	B	A3	B	-	-

Remarks:

A	Auto detectable. Also can be selected with size button of initial setting.
B	Can be selected with size button from initial setting.
C	Select this size by setting the dial.
D	Set dial to “*”, then select with size button from initial setting.
E	Bypass setting Printer window/Bypass/Standard size/Size select or select with the print bypass paper size/size button from initial setting.
F	Select with SP from preset paper sizes. Cannot be selected from printer driver.
G	Switches which size to set as auto detect with SP. Example: The combination of A1-G1. G (When not auto detectable) will be as same as B. Combinations are only made from same region same tray. Example: The combination of G1 and J1. G (When not auto detectable) will be as same as E. Combinations are only made from same region same tray.
H	Size fixed when shipping.
I	Bypass setting With bypass tray, after 1st sheet trailing edge goes through, auto detects size, then fixed to size detected from the 2nd sheet.
J	Bypass setting Auto detect of Printer window/Bypass/Standard size/Select with size button.
K	Select with SP from preset paper sizes.

	Can be selected from printer driver.
-	Not available

Side LCT and Bypass Tray

Size (W x L) [mm]	Side LCT		Bypass	
	NA	EU/AA	NA	EU/AA
A3 SEF (297 x 420)	-	-	E	J
A4 SEF (210 x 297)	-	-	E	J
A4 LEF (297 x 210)	K	H	E	J
A5 SEF (148 x 210)	-	-	E	J
A5 LEF (210 x 148)	-	-	J	J
A6 SEF (105 x 148)	-	-	E	J
B4 SEF (257 x 364)	-	-	E	J
B5 SEF (182 x 257)	-	-	J	J
B5 LEF (257 x 182)	K	K	E	J
B6 SEF (128 x 182)	-	-	E	J
DLT SEF (11" x 17")	-	-	J	E
Legal SEF ($8^1/_2$" x 14")	-	-	G1	E
Foolscap SEF ($8^1/_2$" x 13")	-	-	E	E
LT SEF ($8^1/_2$" x 11")	-	-	J1	E
LT LEF (11" x $8^1/_2$")	H	K	J	E
Gov. LG SEF ($8^1/_4$" x 14")	-	-	E	E
Folio SEF ($8^1/_4$" x 13")	-	-	E	E
F/GL SEF (8" x 13")	-	-	E	E
Eng Quatro SEF (8" x 10")	-	-	E	E
Executive SEF ($7^1/_4$" x $10^1/_2$")	-	-	E	E
Executive LEF ($10^1/_2$" x $7^1/_4$")	-	-	J	E
HLT SEF ($5^1/_2$" x $8^1/_2$")	-	-	J	E
Com10 SEF (104.8 x 241.3)	-	-	E*1	E*1
Com10 LEF (241.3 x 104.8)	-	-	E*1	E*1
Monarch SEF (98.4 x 190.5)	-	-	E*1	E*1
Monarch LEF (190.5 x 98.4)	-	-	E*1	E*1
C5 SEF (162 x 229)	-	-	E*1	E*1
C5 LEF (229 x 162)	-	-	E*1	E*1
C6 SEF (114 x 162)	-	-	E*1	E*1
C6LEF (162 x 114)	-	-	E*1	E*1
DL Env SEF (110 x 220)	-	-	E*1	E*1

Size (W x L) [mm]	Side LCT		Bypass	
	NA	EU/AA	NA	EU/AA
DL Env LEF (220 x 110)	-	-	E[*1]	E[*1]
8K SEF (267 x 390)	-	-	E	E
16K SEF (195 x 267)	-	-	E	E
16K LEF (267 x 195)	-	-	E	E
12" x 18" SEF	-	-	J	E
11" x 15" SEF	-	-	E	E
10" x 14" SEF	-	-	E	E
8.5” x 13.4” SEF	-	-	E	E

Remarks:

A	Auto detectable. Also can be selected with size button of initial setting.
B	Can be selected with size button from initial setting.
C	Select this size by setting the dial.
D	Set dial to “*”, then select with size button from initial setting.
E	Bypass setting Printer window/Bypass/Standard size/Size select or select with the print bypass paper size/size button from initial setting.
F	Select with SP from preset paper sizes. Cannot be selected from printer driver.
G	Switches which size to set as auto detect with SP. Example: The combination of A1-G1. G (When not auto detectable) will be as same as B. Combinations are only made from same region same tray. Example: The combination of G1 and J1. G (When not auto detectable) will be as same as E. Combinations are only made from same region same tray.
H	Size fixed when shipping.
I	Bypass setting With bypass tray, after 1st sheet trailing edge goes through, auto detects size, then fixed to size detected from the 2nd sheet.
J	Bypass setting Auto detect of Printer window/Bypass/Standard size/Select with size button.
K	Select with SP from preset paper sizes. Can be selected from printer driver.
-	Not available

*1	Even the paper size is in the range or available sizes for duplex, envelopes cannot be done so.

Paper Exit

Remarks:

A	Paper through, paper exit available.
B	Will not guarantee, but paper can go through or exit.
-	Not available.

*1	Out of the true up precision guarantee.
*2	Multi folding can be done up to 5 sheets.
*3	Envelopes can only go through each at a time.
*4	Except envelopes with triangle flap.
*5	Only one sheet can be half folded with saddle stitch mode. Therefore, multi sheets/sets must be paginated and exit one at a time.
*6	Paper exit is available when using a folding option. If not using a folding option, paper exit is not available.
*7	Plain paper can be delivered to the tray only when Z-fold or half fold is partially specified in the job.
*8	Paper exit is not available even when using a folding option.

Finisher SR3230

Size (W x L) [mm]	Paper exit		Staple		Punch		
	Proof/shift	shifting	Single /Double stitch	Stapling amount	EU2 SC4 Holes	NA2 Holes	NA3 EU4 Holes
A3 SEF (297 x 420)	A	A	A	50	A	A	A
A4 SEF (210 x 297)	A	A	A	50	A	B	-
A4 LEF (297 x 210)	A	A	A	50	A	A	A
A5 SEF (148 x 210)	A	A	-	-	A	A	-
A5 LEF (210 x 148)	A	A	-	-	A	B	-
A6 SEF (105 x 148)	A	-	-	-	-	-	-
B4 SEF (257 x 364)	A	A	A	50	A	A	A
B5 SEF (182 x 257)	A	A	A	50	A	A	-
B5 LEF (257 x 182)	A	A	A	50	A	A	A
B6 SEF (128 x 182)	A	B	-	-	-	-	-
DLT SEF (11" x 17")	A	A	A	50	A	A	A
Legal SEF (8 1/2" x 14")	A	A	A	50	A	A	
Foolscap SEF (8 1/2" x 13")	A	A	A	50	A	A	-
LT SEF (8 1/2" x 11")	A	A	A	50	A	A	

Size (W x L) [mm]	Paper exit		Staple		Punch		
	Proof/shift	shifting	Single /Double stitch	Stapling amount	EU2 SC4 Holes	NA2 Holes	NA3 EU4 Holes
LT LEF (11" x 8$^1/_2$")	A	A	A	50	A	A	A
Gov. LG SEF (8$^1/_4$" x 14")	A	A	A	50	A	A	-
Folio SEF (8$^1/_4$" x 13")	A	A	A	50	A	A	-
F/GL SEF (8" x 13")	A	A	A	50	A	A	-
Eng Quatro SEF (8" x 10")	A	A	A	50	A	A	-
Executive SEF (7$^1/_4$" x 10$^1/_2$")	A	A	A	50	A	A	-
Executive LEF (10$^1/_2$" x 7$^1/_4$")	A	A	A	50	A	A	A
HLT SEF (5$^1/_2$" x 8$^1/_2$")	A	A	-	-	A	A	-
Com10 SEF (104.8 x 241.3)	-	-	-	-	-	-	-
Com10 LEF (241.3 x 104.8)	-	-	-	-	-	-	-
Monarch SEF (98.4 x 190.5)	-	-	-	-	-	-	-
Monarch LEF (190.5 x 98.4)	-	-	-	-	-	-	-
C5 SEF (162 x 229)	-	-	-	-	-	-	-
C5 LEF (229 x 162)	-	-	-	-	-	-	-
C6 SEF (114 x 162)	-	-	-	-	-	-	-
C6LEF (162 x 114)	-	-	-	-	-	-	-
DL Env SEF (110 x 220)	-	-	-	-	-	-	-
DL Env LEF (220 x 110)	-	-	-	-	-	-	-
8K SEF (267 x 390)	A	A	A	50	A	A	A
16K SEF (195 x 267)	A	A	A	50	A	A	-
16K LEF (267 x 195)	A	A	A	50	A	A	A
12" x 18" SEF	A	A	-	-	-	-	-
11" x 15" SEF	A	A	A	50	A	A	A
10" x 14" SEF	A	A	A	50	A	A	A
8.5” x 13.4” SEF	A	A	A	50	A	A	-

Finisher SR3210

Size (W x L) [mm]	Paper exit			Staple		Punch		
	Proof	Shift	Shifting	Single/Double stitch	Staple amount	EU2 SC4 Holes	NA2 Holes	NA3 EU4 Holes
A3 SEF (297 x 420)	A	A	A	A	30	A	A	A
A4 SEF (210 x 297)	A	A	A	A	50	A	B	-
A4 LEF (297 x 210)	A	A	A	A	50	A	A	A
A5 SEF (148 x 210)	A	A	A*1	-	-	A	A	-
A5 LEF (210 x 148)	A	A	A	-	-	A	B	-
A6 SEF (105 x 148)	A	B	-	-	-	-	-	-
B4 SEF (257 x 364)	A	A	A	A	30	A	A	A
B5 SEF (182 x 257)	A	A	A*1	A	50	A	A	-
B5 LEF (257 x 182)	A	A	A	A	50	A	A	A
B6 SEF (128 x 182)	A	A	A*1	-	-	-	-	-
DLT SEF (11" x 17")	A	A	A	A	30	A	A	A
Legal SEF (8 1/2" x 14")	A	A	A	A	30	A	A	-
Foolscap SEF (8 1/2" x 13")	A	A	A	A	30	A	A	-
LT SEF (8 1/2" x 11")	A	A	A	A	50	A	A	-
LT LEF (11" x 8 1/2")	A	A	A	A	50	A	A	A
Gov. LG SEF (8 1/4" x 14")	A	A	A	A	30	A	A	-
Folio SEF (8 1/4" x 13")	A	A	A	A	30	A	A	-
F/GL SEF (8" x 13")	A	A	A	A	30	A	A	-
Eng Quatro SEF (8" x 10")	A	A	A	A	50	A	A	-
Executive SEF (7 1/4" x 10 1/2")	A	A	A	A	50	A	A	-
Executive LEF (10 1/2" x 7 1/4")	A	A	A	A	50	A	A	A
HLT SEF (5 1/2" x 8 1/2")	A	A	A*1	-	-	A	A	-
Com10 SEF (104.8 x 241.3)	-	-	-	-	-	-	-	-
Com10 LEF (241.3 x 104.8)	-	-	-	-	-	-	-	-
Monarch SEF (98.4 x 190.5)	-	-	-	-	-	-	-	-

Size (W x L) [mm]	Paper exit			Staple		Punch		
	Proof	Shift	Shifting	Single/Double stitch	Staple amount	EU2 SC4 Holes	NA2 Holes	NA3 EU4 Holes
Monarch LEF (190.5 x 98.4)	-	-	-	-	-	-	-	-
C5 SEF (162 x 229)	-	-	-	-	-	-	-	-
C5 LEF (229 x 162)	-	-	-	-	-	-	-	-
C6 SEF (114 x 162)	-	-	-	-	-	-	-	-
C6LEF (162 x 114)	-	-	-	-	-	-	-	-
DL Env SEF (110 x 220)	-	-	-	-	-	-	-	-
DL Env LEF (220 x 110)	-	-	-	-	-	-	-	-
8K SEF (267 x 390)	A	A	A	A	30	A	A	A
16K SEF (195 x 267)	A	A	A	A	50	A	A	-
16K LEF (267 x 195)	A	A	A	A	50	A	A	A
12" x 18" SEF	-	-	-	-	-	-	-	-
11" x 15" SEF	A	A	A	A	30	A	A	A
10" x 14" SEF	A	A	A	A	30	A	A	A
8.5” x 13.4” SEF	A	A	A	A	30	A	A	-

Bridge Unit BU3070

Size (W x L) [mm]	Paper exit	Bridge
	Bridge upper paper exit	Finisher Bridge
A3 SEF (297 x 420)	A	A
A4 SEF (210 x 297)	A	A
A4 LEF (297 x 210)	A	A
A5 SEF (148 x 210)	A	A
A5 LEF (210 x 148)	A	A
A6 SEF (105 x 148)	A	A
B4 SEF (257 x 364)	A	A
B5 SEF (182 x 257)	A	A
B5 LEF (257 x 182)	A	A
B6 SEF (128 x 182)	A	A
DLT SEF (11" x 17")	A	A
Legal SEF ($8^1/_2$" x 14")	A	A
Foolscap SEF ($8^1/_2$" x 13")	A	A

Size (W x L) [mm]	Paper exit	Bridge
	Bridge upper paper exit	Finisher Bridge
LT SEF ($8^1/_2$" x 11")	A	A
LT LEF (11" x $8^1/_2$")	A	A
Gov. LG SEF ($8^1/_4$" x 14")	A	A
Folio SEF ($8^1/_4$" x 13")	A	A
F/GL SEF (8" x 13")	A	A
Eng Quatro SEF (8" x 10")	A	A
Executive SEF ($7^1/_4$" x $10^1/_2$")	A	A
Executive LEF ($10^1/_2$" x $7^1/_4$")	A	A
HLT SEF ($5^1/_2$" x $8^1/_2$")	A	A
Com10 SEF (104.8 x 241.3)	A*1, 3	-
Com10 LEF (241.3 x 104.8)	A*1, 3, 4	-
Monarch SEF (98.4 x 190.5)	A*1, 3	-
Monarch LEF (190.5 x 98.4)	A*1, 3, 4	-
C5 SEF (162 x 229)	A*1, 3	-
C5 LEF (229 x 162)	A*1, 3, 4	-
C6 SEF (114 x 162)	A*1, 3	-
C6LEF (162 x 114)	A*1, 3 ,4	-
DL Env SEF (110 x 220)	A*1, 3	-
DL Env LEF (220 x 110)	A*1, 3, 4	-
8K SEF (267 x 390)	A	A
16K SEF (195 x 267)	A	A
16K LEF (267 x 195)	A	A
12" x 18" SEF	A	A
11" x 15" SEF	A	A
10" x 14" SEF	A	A
8.5” x 13.4” SEF	A	A

For the unit without a finisher

Size (W x L) [mm]	Paper exit	Fold-supporting paper size (for folding one sheet)		
		Z-fold	Half fold	Letter fold in/Letter fold out
A3 SEF (297 x 420)	A	A	A	A
A4 SEF (210 x 297)	A	A	A	A
A4 LEF (297 x 210)	A	-	-	-
A5 SEF (148 x 210)	A	-	-	-
A5 LEF (210 x 148)	A	-	-	-
A6 SEF (105 x 148)	A	-	-	-
B4 SEF (257 x 364)	A	A	A	-
B5 SEF (182 x 257)	A	-	-	-
B5 LEF (257 x 182)	A	-	-	-
B6 SEF (128 x 182)	A	-	-	-
DLT SEF (11" x 17")	A	A	A	A
Legal SEF ($8^1/_2$" x 14")	A	A	A	A
Foolscap SEF ($8^1/_2$" x 13")	A	-	-	-
LT SEF ($8^1/_2$" x 11")	A	A	A	A
LT LEF (11" x $8^1/_2$")	A	-	-	-
Gov. LG SEF ($8^1/_4$" x 14")	A	-	-	-
Folio SEF ($8^1/_4$" x 13")	A	-	-	-
F/GL SEF (8" x 13")	A	-	-	-
Eng Quatro SEF (8" x 10")	A	-	-	-
Executive SEF ($7^1/_4$" x $10^1/_2$")	A	-	-	-
Executive LEF ($10^1/_2$" x $7^1/_4$")	A	-	-	-
HLT SEF ($5^1/_2$" x $8^1/_2$")	A	-	-	-
Com10 SEF (104.8 x 241.3)	B[*1,3,4]	-	-	-
Com10 LEF (241.3 x 104.8)	B[*1,3,4]	-	-	-
Monarch SEF (98.4 x 190.5)	B[*1,3,4]	-	-	-
Monarch LEF (190.5 x 98.4)	B[*1,3,4]	-	-	-
C5 SEF (162 x 229)	B[*1,3,4]	-	-	-
C5 LEF (229 x 162)	B[*1,3,4]	-	-	-
C6 SEF (114 x 162)	B[*1,3,4]	-	-	-
C6LEF (162 x 114)	B[*1,3,4]	-	-	-
DL Env SEF (110 x 220)	B[*1,3,4]	-	-	-
DL Env LEF (220 x 110)	B[*1,3,4]	-	-	-
8K SEF (267 x 390)	A	A	A	-
16K SEF (195 x 267)	A	-	-	-

Size (W x L) [mm]	Paper exit	Fold-supporting paper size (for folding one sheet)		
		Z-fold	Half fold	Letter fold in/Letter fold out
16K LEF (267 x 195)	A	-	-	-
12" x 18" SEF	-	-	-	-
11" x 15" SEF	A	-	-	-
10" x 14" SEF	A	-	-	-
8.5” x 13.4” SEF	A	A	A	A

For the unit with a finisher

Size (W x L) [mm]	Paper exit		Fold-supporting paper size (for folding one sheet)		
	Fold tray	Finisher	Z-fold	Half fold	Letter fold in/Letter fold out
A3 SEF (297 x 420)	A*6	A	A	A	A
A4 SEF (210 x 297)	A*6	A	A	A	A
A4 LEF (297 x 210)	A*7	A	-	-	-
A5 SEF (148 x 210)	-	A	-	-	-
A5 LEF (210 x 148)	A*7	A	-	-	-
A6 SEF (105 x 148)	-	A	-	-	-
B4 SEF (257 x 364)	A*6	A	A	A	-
B5 SEF (182 x 257)	-	A	-	-	-
B5 LEF (257 x 182)	A*7	A	-	-	-
B6 SEF (128 x 182)	-	A	-	-	-
DLT SEF (11" x 17")	A*6	A	A	A	A
Legal SEF (8 1/2" x 14")	A*6	A	A	A	A
Foolscap SEF (8 1/2" x 13")	-	A	-	-	-
LT SEF (8 1/2" x 11")	A*6	A	A	A	A
LT LEF (11" x 8 1/2")	A*7	A	-	-	-
Gov. LG SEF (8 1/4" x 14")	-	A	-	-	-
Folio SEF (8 1/4" x 13")	-	A	-	-	-
F/GL SEF (8" x 13")	-	A	-	-	-
Eng Quatro SEF (8" x 10")	-	A	-	-	-
Executive SEF (7 1/4" x 10 1/2")	-	A	-	-	-
Executive LEF (10 1/2" x 7 1/4")	-	A	-	-	-
HLT SEF (5 1/2" x 8 1/2")	-	A	-	-	-
Com10 SEF (104.8 x 241.3)	B*1,3,4	-	-	-	-
Com10 LEF (241.3 x 104.8)	B*1,3,4	-	-	-	-
Monarch SEF (98.4 x 190.5)	B*1,3,4	-	-	-	-
Monarch LEF (190.5 x 98.4)	B*1,3,4	-	-	-	-
C5 SEF (162 x 229)	B*1,3,4	-	-	-	-
C5 LEF (229 x 162)	B*1,3,4	-	-	-	-

Size (W x L) [mm]	Paper exit		Fold-supporting paper size (for folding one sheet)		
	Fold tray	Finisher	Z-fold	Half fold	Letter fold in/Letter fold out
C6 SEF (114 x 162)	B*1,3,4	-	-	-	-
C6LEF (162 x 114)	B*1,3,4	-	-	-	-
DL Env SEF (110 x 220)	B*1,3,4	-	-	-	-
DL Env LEF (220 x 110)	B*1,3,4	-	-	-	-
8K SEF (267 x 390)	A*6	A	A	A	-
16K SEF (195 x 267)	-	A	-	-	-
16K LEF (267 x 195)	A*7	A	-	-	-
12" x 18" SEF	A*8	A	-	A	-
11" x 15" SEF	-	A	-	-	-
10" x 14" SEF	-	A	-	-	-
8.5” x 13.4” SEF	A*6	A	A	A	A

Main unit tray, Mail Box CS3010

Size (W x L) [mm]	Main unit tray	Mail Box CS3010
	Main unit tray	Upper tray
A3 SEF (297 x 420)	A	A
A4 SEF (210 x 297)	A	A
A4 LEF (297 x 210)	A	A
A5 SEF (148 x 210)	A	A
A5 LEF (210 x 148)	A	A
A6 SEF (105 x 148)	A	A*1
B4 SEF (257 x 364)	A	A
B5 SEF (182 x 257)	A	A
B5 LEF (257 x 182)	A	A
B6 SEF (128 x 182)	A	A*1
DLT SEF (11" x 17")	A	A
Legal SEF (8 1/2" x 14")	A	A
Foolscap SEF (8 1/2" x 13")	A	A
LT SEF (8 1/2" x 11")	A	A
LT LEF (11" x 8 1/2")	A	A
Gov. LG SEF (8 1/4" x 14")	A	A
Folio SEF (8 1/4" x 13")	A	A
F/GL SEF (8" x 13")	A	A
Eng Quatro SEF (8" x 10")	A	A
Executive SEF (7 1/4" x 10 1/2")	A	A
Executive LEF (10 1/2" x 7 1/4")	A	A

Size (W x L) [mm]	Main unit tray	Mail Box CS3010
	Main unit tray	Upper tray
HLT SEF ($5^1/_2$" x $8^1/_2$")	A	A
Com10 SEF (104.8 x 241.3)	A	A*1, 3, 4
Com10 LEF (241.3 x 104.8)	A	A*1, 3, 4
Monarch SEF (98.4 x 190.5)	A	A*1, 3, 4
Monarch LEF (190.5 x 98.4)	A	A*1, 3, 4
C5 SEF (162 x 229)	A	A*1, 3, 4
C5 LEF (229 x 162)	A	A*1, 3, 4
C6 SEF (114 x 162)	A	A*1, 3, 4
C6LEF (162 x 114)	A	A*1, 3, 4
DL Env SEF (110 x 220)	A	A*1, 3, 4
DL Env LEF (220 x 110)	A	A*1, 3, 4
8K SEF (267 x 390)	A	A
16K SEF (195 x 267)	A	A
16K LEF (267 x 195)	A	A
12" x 18" SEF	-	-
11" x 15" SEF	A	A
10" x 14" SEF	A	A
8.5” x 13.4” SEF	A	A

Software Accessories

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer allows you to select which components to install.

Printer Drivers

Operating System[*1]	Printer Language		
	PCL 5e	PCL 6	PostScript 3
Windows Vista [*2]	Supported	Supported	Supported
Windows 7 [*3]	Supported	Supported	Supported
Windows 8.1 [*4]	Supported	Supported	Supported
Windows 10[*5]	Supported	Supported	Supported
Windows Server 2008 [*6]	Supported	Supported	Supported
Windows Server 2012 [*7]	Supported	Supported	Supported
Windows Server 2016 [*8]	Supported	Supported	Supported
OS X [*9]	**Not available**	**Not available**	Supported

*1 Windows operating system supports both versions (32/64 bit).

*2 Microsoft Windows Vista Ultimate/Microsoft Windows Vista Enterprise/Microsoft Windows Vista Business/Microsoft Windows Vista Home Premium/Microsoft Windows Vista Home Basic

*3 Microsoft Windows 7 Home Premium/Microsoft Windows 7 Professional/Microsoft Windows 7 Ultimate/Microsoft Windows 7 Enterprise

*4 Microsoft Windows 8.1/Microsoft Windows 8.1 Pro/Microsoft Windows 8.1 Enterprise

*5 Microsoft Windows 10 Home/Microsoft Windows 10 Pro/Microsoft Windows 10 Enterprise/Microsoft Windows 10 Education

*6 Microsoft Windows Server 2008 Standard/Microsoft Windows Server 2008 Enterprise/Microsoft Windows Server 2008 R2 Standard/Microsoft Windows Server 2008 R2 Enterprise

*7 Microsoft Windows Server 2012 Foundation/Microsoft Windows Server 2012 Essentials/Microsoft Windows Server 2012 Standard/Microsoft Windows Server 2012 R2 Foundation/Microsoft Windows Server 2012 R2 Essentials/Microsoft Windows Server 2012 R2 Standard

*8 Microsoft Windows Server 2016 Standard/Microsoft Windows Server 2016 Essentials/Microsoft Windows Server 2016 Datacenter/Microsoft Windows Server 2016 MultiPoint Premium Server

*9 OS X 10.9 or later

Note

- Some applications may require installation of the PCL 5e printer driver. In this case, you can install PCL 5e without having to install PCL 6.
- Adobe PostScript printer driver allows the computer to communicate with the printer using a printer language. PPD files allow the printer driver to enable specific printer functions.

Optional Equipment

Finisher SR3210 (D3B8)

Item	Specification
Paper size for the finisher upper tray:	A3 SEF B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF/LEF, A5 SEF/LEF, B6 JIS SEF, A6 SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 5 1/2 x 8 1/2 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8K SEF, 16K SEF/LEF, SRA3 SEF, SRA4 SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight for the finisher upper tray:	52–169 g/m^2 (14 lb. Bond–90 lb. Index)
Stack capacity for the finisher upper tray (80 g/m^2, 20 lb. Bond):	250 sheets: A4, 81/2 x 11 or smaller 50 sheets: B4 JIS, 81/2 x 14 or larger
Paper size for the finisher shift tray:	A3 SEF, B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF, /LEF, A5 SEF/LEF, B6 JIS SEF, A6 SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 7 1/4 x 10 1/2 SEF/LEF, 5 1/2 x 8 1/2 SEF, 8K SEF, 16K SEF/LEF, SRA3 SEF, SRA4 SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight for the finisher shift tray:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Paper sizes that can be shifted when delivered to the finisher shift tray:	A3 SEF, A4 SEF/LEF, A5 SEF/LEF, B4 JIS SEF, B5 JIS SEF/LEF, B6 JIS SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SLF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 7 1/4 x 10 1/2 SEF/LEF, 5 1/2 x 8 1/2 SEF, 8K SEF, 16K SEF/LEF, SRA4 LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight that can be shifted when delivered to the finisher shift tray:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Stack capacity for the finisher shift tray (80 g/m^2, 20 lb. Bond):	1,000 sheets: A4, 81/2 x 11 or smaller 500 sheets: B4 JIS, 81/2 x 14 or larger
Staple paper size:	A3 SEF, B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF/LEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 11 SEF/LEF, 7 1/4 x 10 1/2 SEF/LEF, 8 x 13 SEF, 8 1/2 x 13 LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 10 SEF, 12 x 18 SEF, 8K SEF, 16K SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Staple paper weight:	• Stapling with staples: 52–105 g/m^2 (14–28 lb. Bond) • Staple-free stapling: 64–80 g/m^2 (17–20 lb. Bond)

Item	Specification
	You can use two sheets of paper weighing up to 216 g/m^2 (80 lb. Cover) per set as cover sheets.
Staple capacity (80 g/m^2, 20 lb. Bond):	• Without Mixed Size: **30 sheets:** A3 SEF, B4 JIS SEF, 11 x 17 SEF, 8 1/2 x 14 SEF, 8 x 13 SEF, 8 1/2 x 13 LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 11 x 15 SEF, 10 x 14 SEF, 8K SEF, 12 x 18 SEF, 8 1/2 x 13 2/5 LEF **50 sheets:** A4 SEF/LEF, B5 JIS SEF/LEF, 8 1/2 x 11 SEF/LEF, 8 x 10 SEF, 7 1/4 x 10 1/2 SEF/LEF, 16K SEF/LEF • With Mixed Size: **22 sheets:** A3 SEF/A4 LEF, B4 JIS SEF/B5 JIS SEF, 11 x 17 SEF/8 1/2 x 11SEF

Stack capacity after stapling (80 g/m^2, 20 lb. Bond):	• Stapling with staples:
	  • 2–9 sheets: 100 sets (A4 LEF, B5 JIS LEF, 8 1/2 x 11 LEF)
	  • 10–50 sheets: 100–20 sets (A4 LEF, B5 JIS LEF, 8 1/2 x 11LEF)
	  • 10–50 sheets: 50–10 sets (A4 SEF, B5 JIS SEF, 8 1/2 x 11SEF)
	  • 2–9 sheets: 50 sets (A3 SEF, A4 SEF, B4 JIS SEF, B5 JIS SEF, 11 x 17 SEF, 8 1/2 x 14 SEF, 8 1/2 x 11 SEF)
	  • 10–30 sheets: 50–10 sets (A3 SEF, B4 JIS SEF, 11 x 17 SEF, 8 1/2 x 14 SEF)
	• Staple-free stapling:
	  • 2–5 sheets: 100 sets (A4 SEF, B5 JIS SEF, 8 1/2 x 11 SEF)
	  • 2–5 sheets: 50 sets (A3 SEF, A4 LEF, B4 JIS SEF, B5 JIS LEF, 11 x 17 SEF, 8 1/2 x 14 SEF, 8 1/2 x 11 LEF)

Staple position:	3 positions (Top, Bottom, 2 Staples)
Power consumption:	36 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	• Tray is folded: 575 x 620 x 960 mm (22.6 x 24.5 x 37.8 inches) • Tray is extended: 658 x 620 x 960 mm (25.9 x 24.5 x 37.8 inches)
Weight:	Approx. 34 kg (75.0 lb.)

Finisher SR3230 (D3BA)

Item	Specification
Paper size for the finisher upper tray:	A3 SEF, B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF/LEF, A5 SEF/LEF, B6 JIS SEF, A6 SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x

Item	Specification
	13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 5 1/2 x 8 1/2 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8K SEF, 16K SEF/LEF, SRA3 SEF, SRA4 SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight for the finisher upper tray:	52–220 g/m^2 (14 lb. Bond–80 lb. Cover)
Stack capacity for the finisher upper tray (80 g/m^2, 20 lb. Bond):	250 sheets: A4, 81/2 x 11 or smaller 50 sheets: B4 JIS, 81/2 x 14 or larger
Paper size for the finisher shift tray:	A3 SEF, B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF/LEF, A5 SEF/LEF, B6 JIS SEF, A6 SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 5 1/2 x 8 1/2 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8K SEF, 16K SEF/LEF, SRA3 SEF, SRA4 SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight for the finisher shift tray:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Paper sizes that can be shifted when delivered to the finisher shift tray:	A3 SEF, A4 SEF/LEF, A5 SEF/LEF, B4 JIS SEF, B5 JIS SEF/LEF, B6 JIS SEF, 12 x 18 SEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 5 1/2 x 8 1/2 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8K SEF, 16K SEF/LEF, SRA4 LEF, 8 1/2 x 13 2/5 LEF, custom size
Paper weight that can be shifted when delivered to the finisher shift tray:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Stack capacity for the finisher shift tray (80 g/m^2, 20 lb. Bond):	• 3,000 sheets: A4 SEF, 8 1/2 x 11 SEF • 1,500 sheets: A3 SEF, B4 JIS SEF, A4 LEF, B5 JIS SEF/LEF, 12 x 18 SEF, 11 x 17 SEF, 8 1/2 x 14 SEF, 8 1/2 x 11 LEF, SRA3LEF • 500 sheets: A5 SEF • 100 sheets: A5 LEF, B6 JIS SEF, A6 SEF, 5 1/2 x 8 1/2 SEF
Staple paper size:	A3 SEF, B4 JIS SEF, A4 SEF/LEF, B5 JIS SEF/LEF, 11 x 17 SEF, 11 x 15 SEF, 10 x 14LEF, 8 1/2 x 14 SEF, 8 1/2 x 11 SEF/LEF, 7 1/4 x 10 1/2 SEF/LEF, 8 x 13 SEF, 8 1/2 x 13 LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 10 SEF, 8K SEF, 16K SEF/LEF, 8 1/2 x 13 2/5 LEF, custom size
Staple paper weight:	52–105 g/m^2 (14–28 lb. Bond) You can use two sheets of paper weighing up to 256 g/m^2 (140 lb. Index) per set as cover sheets.
Staple capacity (80 g/m^2, 20 lb. Bond):	• Without Mixed Size: **50 sheets:** A3 SEF, A4 SEF/LEF, B4 JIS SEF, B5 JIS SEF/LEF, 11 x 17 SEF, 8 1/2 x 14

Item	Specification
	SEF, 8 x 13 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 x 10 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 11 x 15 SEF, 10 x 14 SEF, 8K SEF, 16K SEF/LEF, 8 1/2 x 13 2/5 LEF • With Mixed Size: **50 sheets:** A3 SEF/A4 LEF, B4 JIS SEF/B5 JIS SEF, 11 x 17 SEF/8 1/2 x 11 SEF • With Z-fold: 3 sheets (80 - 105g/m$^{2)}$ 6 sheets (52 - 80g/m^2) • Combination of with and without Z-fold For this combination, one sheet to be Z-folded is converted to 8 sheets (52 - 80 g/m^2) or 13 sheets (80 - 105 g/m^2) without Z-fold, and the limit value for no folding is used as the upper limit.
Stack capacity after stapling (80 g/m^2, 20 lb. Bond):	**Without Mixed Size:** • 2–19 sheets: 150 sets (A4 LEF, 8 1/2 x 11 LEF) • 20–50 sheets: 150–46 sets (A4 LEF, 8 1/2 x 11 LEF) • 2–14 sheets: 100 sets (A4 SEF, B5 JIS SEF/SEF, 8 1/2 x 11 SEF) • 15–50 sheets: 100–23 sets (A4 SEF, B5 JIS SEF/SEF, 8 1/2 x 11 ;SEF) • 2–14 sheets: 100 sets (other size paper) • 15–50 sheets: 100–23 sets (other size paper) **With Mixed Size:** • 2–50 sheets: 23 sets (A3 SEF/A4 LEF, B4 JIS SEF/B5 JIS SEF, 11 x 17 SEF/8 1/2 x 11 SEF)
Staple position:	4 positions (Top, Top Slant, Bottom, 2 Staples)
Power consumption:	64 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	657 x 613 x 960 mm (25.9 x 24.2 x 37.8 inches)
Weight:	• Approx. 34 kg (75.0 lb.) (without punch unit) • Approx. 39 kg (86.0 lb.) (with punch unit)

Paper Specifications

Size	Normal	Thin (52-59)	Norm 1 (60-74)	Norm 2 (75-81)	Med Thk (82-105)	Thk 1 (160-169)	Thk 2 (170-220)	Thk 3 (221-256)	Thk 4 (257-300)
A3 SEF	◎	◎	◎	◎	◎	●	●	△	▲
B4 SEF	◎	◎	◎	◎	◎	●	●	△	▲

1.Specifications

A4 SEF	◎	◎	◎	◎	◎	●	●	△	▲
A4 LEF	■	■	■	■	■	●	●	△	▲
B5 SEF	◎	◎	◎	◎	◎	●	●	△	▲
B5 LEF	■	■	■	■	■	■	●	△	▲
A5 SEF	●	●	●	●	●	●	●	△	▲
A5 LEF	●	●	●	●	●	●	●	△	▲
B6 SEF	◇	◇	◇	◇	◇	◇	◇	▲	▲
A6 SEF	◇	◇	◇	◇	◇	◇	◇	▲	▲
13”×19.2” SEF	-	◇	◇	◇	◇	◇	◇	▲	▲
12”×18” SEF	-	◇	◇	◇	◇	◇	◇	▲	▲
12.6”×17.7”(SRA3) SEF	-	◇	◇	◇	◇	◇	◇	▲	▲
11”×17” SEF	-	◎	◎	◎	◎	●	●	△	▲
8 1/2”×14” SEF	-	◎	◎	◎	◎	●	●	△	▲
8 1/2”×11” SEF	-	◎	◎	◎	◎	●	●	△	▲
$8^1/_2$”×11” LEF	-	■	■	■	■	●	●	△	▲
$5^1/_2$”×$8^1/_2$” SEF	-	●	●	●	●	●	●	△	▲
$5^1/_2$”×$8^1/_2$” LEF	-	◇	◇	◇	◇	◇	◇	▲	▲

Here is the key for the symbols.

◎: Corner stapling, paper shift, proof tray, punching possible

●: Shift tray, proof tray, punching possible

△: Shift tray, punching possible

◇: Shift tray, proof tray possible

▲: Shift tray possible

-:Incompatible

	Color	Translucent	Label SA	Postcard	Transparencies
A3 SEF	●	△	-	-	-
B4 SEF	●	△	△	-	-
A4 SEF	●	△	△	△	△
A4 LEF	◎	△	△	△	△
B5 SEF	●	△	-	-	△
B5 LEF	◎	△	-	-	△
A5 SEF	-	-	-	-	-
A5 LEF	-	-	-	-	-
B6 SEF	-	-	-	-	-
B6 LEF	-	-	-	-	-
12”×18” SEF	●*1	-	-	-	-
11”×17” SEF	●	△	-	-	-

8 1/2”×14” SEF	●	△	-	-	-
8 1/2”×11” SEF	●	△	-	-	-
$8^1/_2$”×11” LEF	◎	△	-	-	-
$5^1/_2$”×$8^1/_2$” SEF	-	-	-	-	-
$5^1/_2$”×$8^1/_2$” LEF	-	-	-	-	-

*[1] No corner stapling

Here is the key for the symbols.

◎: Corner stapling, paper shift, proof tray, punching possible

●: Shift tray, proof tray, punching possible

△: Shift tray, punching possible

- : Incompatible

Mail Box CS3010 (M481)

Item	Specification
Number of trays:	4 trays
Paper size:	A3 SEF, A4 LEF/SEF, A5 LEF/SEF, B4 SEF, B5 LEF/SEF, 11×17 SEF, $8^1/_2$×14 SEF, $8^1/_2$×13 SEF, $8^1/_2$×11 LEF/SEF, $8^1/_4$×14 SEF, $8^1/_4$×13 SEF, 8×13 SEF, 8×10 SEF, $7^1/_4$×10 1/2 LEF/SEF, $5^1/_2$×$8^1/_2$ SEF, 8K SEF, 16K LEF/SEF, 11×15 SEF, 10×14 SEF, SRA4 SEF, $8^1/_2$×$13^2/_5$ SEF Com10 SEF/LEF, Monarch SEF/LEF, C5 SEF/LEF, C6 SEF/LEF, DL Env SEF/LEF Note: B6 SEF, A6SEF, Com10 SEF/LEF, Monarch SEF/LEF, C5 SEF/LEF, C6 SEF/LEF, and DL Env SEF/LEF paper can be loaded, although their stackability is not ensured.
Paper weight:	52-169 g/m2 (14 lb. Bond–90 lb. Index)
Paper capacity (80 g/m2, 20 lb. Bond):	125 sheets per tray
Power requirements:	Power is supplied from the main unit.
Power consumption:	27.2 W
Dimensions (W × D × H):	555 × 544 × 506 mm (21.9 × 21.5 × 20.0 inches) excluding the stabilizer
Weight:	Approx. 13 kg (28.7 lb.) excluding the stabilizer Approx. 20.5 kg including the stabilizer

Bridge Unit BU3070 (D685)

Item	Specification
Stack capacity (80 g/m^2, 20 lb. Bond):	• 250 sheets: A4, 81/2 x 11 or smaller • 125 sheets: B4 JIS, 81/2 x 14 or larger

Item	Specification
Power consumption:	12 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	412 x 466 x 143 mm (16.3 x 18.4 x 5.7 inches)
Weight:	Approx. 4 kg (8.9 lb.)

Output Jogger Unit Type M25 (D3CJ)

Item	Specification
Paper size:	A3 SEF, A4 SEF/LEF, A5 LEF, B4 SEF, B5 LEF, 11 × 17 SEF, 8 1/2 × 14 SEF, 8 1/2 × 11 SEF/LEF, 5 1/2 × 8 1/2 LEF, 12 × 18 SEF
Power requirements:	Power is supplied from the main unit.
Power consumption:	15 W
Dimensions (W × D × H):	169 × 539 × 203 mm (6.7 × 21.3 × 8.0 inches)
Weight:	Approx. 2 kg (4.4 lb.)

Punch Unit PU3050 NA/EU/SC (D717)

Item	Specification	
Paper weight	52–256 g/m^2 (14 lb. Bond–140 lb. Index)	
Paper size	**Punch unit type**	**Paper size**
	2 & 4 holes type: 2 holes	SEF: A3, B4 JIS, A4, B5 JIS, A5, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 5 1/2 x 8 1/2, 7 1/4 x 10 1/2, 8 x 13, 8 1/2 x 13, 8 1/4 x 13, 8K, 16K, 8 1/4 x 14, 8 x 10, 11 x 15, 10 x 14
	2 & 4 holes type: 2 holes	LEF: A4, B5 JIS, A5, 8 1/2 x 11, 7 1/4 x 10 1/2, 16K
	2 & 4 holes type: 4 holes	SEF: A3, B4 JIS, 11 x 17, 11 x 15, 8K
	2 & 4 holes type: 4 holes	LEF: A4, B5 JIS, 8 1/2 x 11, 7 1/4 x 10 1/2, 16K
	4 holes type: 4 holes	SEF: A3, B4 JIS, A4, B5 JIS, A5, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 5 1/2 x 8 1/2, 7 1/4 x 10 1/2, 8 x 13, 8 1/2 x 13, 8 1/4 x 13, 8K, 16K, 8 1/4 x 14, 8 x 10, 11 x 15, 10 x 14
	4 holes type: 4 holes	LEF: A4, B5 JIS, A5, 8 1/2 x 11, 7 1/4 x 10 1/2, 16K
	2 & 3 holes type: 2 holes	SEF: A3, B4 JIS, B5 JIS, A5, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 5 1/2 x 8 1/2, 7 1/4 x 10 1/2, 8 x 13, 8 1/2 x 13, 8 1/4 x 13, 8K, 16K, 8 1/4 x 14, 8 x 10, 11 x 15, 10 x 14

Item	Specification	
	2 & 3 holes type: 2 holes	LEF: A4, B5 JIS, 8 1/2 x 11, 7 1/4 x 10 1/2, 16K
	2 & 3 holes type: 3 holes	SEF: A3, B4 JIS, 11 x 17, 11 x 15, 10 x 14, 8K
	2 & 3 holes type: 3 holes	LEF: A4, B5 JIS, 8 1/2 x 11, 7 1/4 x 10 1/2, 16K

Punch Unit PU3060 NA/EU/SC (D706)

Item	Specification	
Paper weight	52–256 g/m^2 (14 lb. Bond–140 lb. Index)	
Paper size	**Punch unit type**	**Paper size**
	2 & 4 holes type: 2 holes	SEF: A3, B4 JIS, A4, B5 JIS, A5, 11 x 17, 8^1/$_2$ x 14, 8^1/$_2$ x 11, 5^1/$_2$ x 8^1/$_2$, 7^1/$_4$ x 10^1/$_2$, 8 x 13, 8^1/$_2$ x 13, 8^1/$_4$ x 13, 8K, 16K, 8^1/$_4$ x 14, 8 x 10, 11 x 15, 10 x 14, custom size
	2 & 4 holes type: 2 holes	LEF: A4, B5 JIS, A5, 8^1/$_2$ x 11, 7^1/$_4$ x 10^1/$_2$, 16K, custom size
	2 & 4 holes type: 4 holes	SEF: A3, B4 JIS, 11 x 17, 11 x 15, 8K, custom size
	2 & 4 holes type: 4 holes	LEF: A4, B5 JIS, 8^1/$_2$ x 11,7^1/$_4$ x 10^1/$_2$, 16K, custom size
	4 holes type: 4 holes	SEF: A3, B4 JIS, A4, B5 JIS, A5, 11 x 17, 8^1/$_2$ x 14, 8^1/$_2$ x 11, 5^1/$_2$ x 8^1/$_2$, 7^1/$_4$ x 10^1/$_2$, 8 x 13, 8^1/$_2$ x 13, 8^1/$_4$ x 13, 8K, 16K, 8^1/$_4$ x 14, 8 x 10, 11 x 15, 10 x 14, custom size
	4 holes type: 4 holes	LEF: A4, B5 JIS, A5, 8^1/$_2$ x 11, 7^1/$_4$ x 10^1/$_2$, 16K, custom size
	2 & 3 holes type: 2 holes	SEF: A3, B4 JIS, B5 JIS, A5, 11 x 17, 8^1/$_2$ x 14, 8^1/$_2$ x 11, 5^1/$_2$ x 8^1/$_2$, 7^1/$_4$ x 10^1/$_2$, 8 x 13, 8^1/$_2$ x 13, 8^1/$_4$ x 13, 8K, 16K, 8^1/$_4$ x 14, 8 x 10, 11 x 15, 10 x 14, custom size
	2 & 3 holes type: 2 holes	LEF: A4, B5 JIS, 8^1/$_2$ x 11, 7^1/$_4$ x 10^1/$_2$, 16K, custom size
	2 & 3 holes type: 3 holes	SEF: A3, B4 JIS, 11 x 17, 11 x 15, 10 x 14, 8K, custom size
	2 & 3 holes type: 3 holes	LEF: A4, B5 JIS, 8^1/$_2$ x 11,7^1/$_4$ x 10^1/$_2$, 16K, custom size

Internal Multi-fold Unit FD3000 (M482)

Item	Specification
Fold type	Half Fold, Letter Fold-out, Letter Fold-in, Z-fold
Paper size:	• With Z-fold: A3 SEF, A4 SEF, B4 SEF, 11 × 17 SEF, 8 1/2 × 14 SEF, 8 1/2 × 11 SEF, 8K SEF, 8 1/2 × 13 2/5 SEF • With Half Fold: A3 SEF, A4 SEF, B4 SEF, 11 × 17 SEF, 8 1/2 × 14 SEF, 8 1/2 × 11 SEF, 8K SEF, 12 × 18 SEF*, SRA3 SEF*, 8 1/2 × 13 2/5SEF *12×18 SEF and SRA3 SEF papers can be delivered only if the finisher is connected beyond the internal multi-fold unit. • With Letter Fold-out, and Letter Fold-in: A3 SEF, A4 SEF, 11 × 17 SEF, 8 1/2 × 14 SEF, 8 1/2 × 11 SEF, 81/2 × 13 2/5 SEF
Paper weight:	64 - 105 g/m2 (17 - 28 lb. Bond)
Power requirements:	Power is supplied from the main unit.
Power consumption:	40 W
Dimensions (W × D × H):	• Without Finisher: • When the tray is stowed: 612 × 555 × 184 mm (9.5 × 21.9 × 7.3 inches) • When the tray is extended: 714 × 555 × 242 mm (28.2 × 21.9 × 9.6 inches) • With Finisher: 420 × 555 × 152 mm (16.6 × 21.9 × 6.0 inches)
Weight:	Approx. 15 kg (33.1 lb.)

Paper Feed Unit PB3240 (M494)

Item	Specification
Paper size:	A3 SEF, A4 SEF/LEF, A5 SEF, B4 JIS SEF, B5 JIS SEF/LEF, 11 x 17 SEF, 8 1/2 x 14 SEF, 8 1/2 x 13 LEF, 8 1/2 x 11 SEF/LEF, 8 1/4 x 14 SEF, 8 1/4 x 13 SEF, 8 x 13 SEF, 8 x 10 SEF, 7 1/4 x 10 1/2 SEF/LEF, 8K SEF, 16K SEF/LEF, 12 x 18 SEF, 11 x 15 SEF, 10 x 14 SEF, 4 1/8 x 9 1/2 SEF, C5 Env SEF, SRA3 SEF, custom size
Paper weight:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Paper capacity (80 g/m^2, 20 lb. Bond):	550 sheets x 2 trays
Power consumption:	21 W (Power is supplied from the main unit.)
Dimensions (W x	587 x 685 x 247 mm (23.2 x 27.0 x 9.8 inches)

Item	Specification
D x H):	
Weight:	Approx. 22 kg (48.5 lb.)

LCIT PB 3260 (M496)

Item	Specification
Paper size:	A4 LEF, 8 1/2 x 11 LEF
Paper weight:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Paper capacity (80 g/m^2, 20 lb. Bond):	1,000 sheets x 2 trays
Power consumption:	15 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	587 x 685 x 247 mm (23.2 x 27.0 x 9.8 inches)
Weight:	Approx. 22 kg (44.1 lb.) Except the bundled items.

LCIT RT 3030 (D696)

Item	Specification
Paper size:	A4 LEF, B5 JIS LEF, 8 1/2 x 11 LEF
Paper weight:	52–300 g/m^2 (14 lb. Bond–110 lb. Cover)
Paper capacity (80 g/m^2, 20 lb. Bond):	1,500 sheets
Power consumption:	13 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	340 x 540 x 290 mm (13.4 x 21.3 x 11.5 inches)
Weight:	Approx. 10 kg (22.1 lb.)

2. Preventive Maintenance

Preventive Maintenance

Preventive Maintenance Items

User maintenance ("U or S" column: U)

User maintenance items are supplied as the maintenance kits. User maintenance is performed by replacing these supplies.

Service maintenance ("U or S" column: S)

Service maintenance items are supplied as service parts. The table shows the expected yield figures for this item. The target is expressed as an average, since the technician can replace the parts based on continual monitoring of the printing condition.

The yield figures are based on the following conditions:

- A4 (LT) long-edge feed
- 5% image coverage ratio
- 3 prints/job
- Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Symbol keys: **C:** Clean, **R:** Replace, **L:** Lubricate, **I:** Inspect, **U:** Maintenance by User, **S:** Maintenance by Service

PCDU

Item	U or S	Maintenance Cycle	PM Parts	Remarks
PCDU	U	R 160K	✓	Displayed on the panel. Replace the unit.
Waste toner bottle	U	R 160K	✓	Displayed on the panel. Replace the waste toner bottle.
Developer	S	R 160K	✓	Before replacing, set SP3-701-024 to "1".
Development roller	S	C/I 160K		
Development filter	S	R 160K	✓	Before replacing, set SP3-701-025 to "1".
Development case	S	C/I 160K		
Development case entrance seal	S	C/I 160K		Remove the paper dust.

Item	U or S	Maintenance Cycle	PM Parts	Remarks
		As needed		
Development side seal	S	R 160K	✓	
Doctor blade	S	C/I 160K		Remove adhering developer.
Development Mixing Auger Bearings	S	R 320K	✓	Before replacing, set SP3-701-028 to "1".
Charge roller	S	R 160K	✓	Before replacing, set SP3-701-018 to "1".
Cleaning roller	S	R 160K	✓	Before replacing, set SP3-701-019 to "1".
Cleaning blade	S	R 160K	✓	Before replacing, set SP3-701-009 to "1".
Cleaning blade side seal	S	C/I 160K		
Cleaning entrance seal	S	C/I 160K		
OPC drum	S	R 160K	✓	Before replacing, set SP3-701-021 to "1".
Pick-off pawls	S	R 160K	✓	Before replacing, set SP3-701-022 to "1".
Quenching Lamp	S	C/I 160K		

Transfer

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Transfer roller unit	U	R 160K	✓	Displayed on the panel. Replace the unit.
Transfer exit guide	S	C/I 160K		
ID sensor	S	C/I 160K As needed		Perform SP3-011-001 after cleaning with a blower brush.

Fusing

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Fusing unit	U	R 320K	✓	Displayed on the panel Replace the unit. Replacement upper limit: 350K
Heating sleeve belt unit	S	R 320K	✓	Before replacing, set SP3-701-116 to "1". Replacement upper limit: 350K
Fusing entrance guide plate	S	C/I As needed		Remove toner deposits
Fusing exit guide plate	S	C/I As needed		Remove toner deposits
Stripper plate	S	C/I As needed		Remove toner deposits
Pressure roller	S	R 320K	✓	Before replacing, set SP3-701-118 to "1". Replacement upper limit: 350K
Pressure roller bearings	S	R 320K	✓	Lubricate with FLUOTRIBO MG GREASE: 100G. Before replacing, set SP3-701-119 to "1". Replacement upper limit: 350K
Fusing thermopile	S	C/I 320K As needed		Clean the lens part with a blower brush and a cotton swab.
Pressure roller gears	S	C/I/L As needed		Replace if worn out. Lubricate with Grease Barrierta – S552R.
Pressure roller idler gears	S	C/I/L As needed		Replace if worn out. Lubricate with Grease Barrierta – S552R.
Fusing entrance sensor	S	C/I 160K As needed		Clean the sensor with a blower brush.
Fusing exit sensor	S	C/I 160K As needed		Clean the sensor with a blower brush.

Paper Feed

Perform cleaning when the frequency of sensor failure, double feeding, or jam increases.

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Registration roller	S	When jams increased.		Damp cloth Remove paper dust.
Registration sensor	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.
Paper dust collection unit	S	When the paper dust collection unit is full.		Clean with a blower brush. Remove paper dust.
Paper feed roller 1/2	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Pick-up roller 1/2	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Separation roller 1/2	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Bypass paper feed roller	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Bypass pick-up roller	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Bypass transport roller	S	When jams and double-feeds increased.		Damp cloth Remove paper dust.
Vertical transport roller 1/2	S	When jams increased.		Damp cloth Remove paper dust.
Vertical transport sensor 1/2	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.
Paper feed sensor 1/2	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.
Tray bottom plate (trays 1/2, bypass tray)	S	When jams increased.		Damp cloth Remove paper dust.

Duplex

Perform cleaning when the frequency of sensor failure, double feeding, or jam increases.

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Duplex transport roller 1/2	S	When jams increased.		Damp cloth Remove paper dust.

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Duplex exit sensor	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.

Paper Exit

Perform cleaning when the frequency of sensor failure, double feeding, or jam increases.

Item	U or S	Maintenance Cycle	PM Parts	Remarks
Paper exit roller	S	When jams increased.		Damp cloth Remove paper dust.
Reverse roller	S	When jams increased.		Damp cloth Remove paper dust.
Paper exit sensor	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.
Reverse sensor	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.
Fusing exit sensor	S	When sensor failure occurred.		Clean sensors with a blower brush. Remove paper dust.

Optional Peripheral devices

Paper Feed Unit PB3240

Item	Cycle	Remarks
Paper feed roller	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Pick-up roller	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Separation roller	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Relay rollers	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Bottom plate pad	C As needed	Remove dust with a dry cloth.
Sensors	C As needed	Remove dust with a dry cloth.

LCIT PB3260/RT3030

Item	Cycle	Remarks
Transport roller	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Friction pad	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Transport sensor	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Paper feed sensor	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Feed roller	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Friction roller	C As needed	Wipe with a damp cloth, then a dry cloth.
Friction roller	C As needed	Wipe with a damp cloth, then a dry cloth.

Bridge Unit BU3070

Item	Cycle	Remarks
Paper exit roller	C As needed	Wipe with a damp cloth, then a dry cloth.
Transport roller 1	C As needed	Wipe with a damp cloth, then a dry cloth.
Transport roller 2	C As needed	Wipe with a damp cloth, then a dry cloth.
Transport roller 3	C As needed	Wipe with a damp cloth, then a dry cloth.

Internal Multi-fold Unit FD3000

Item	Cycle	Remarks
Paper transport rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Paper exit rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Driven rollers	C As	Wipe with a damp cloth, then a dry cloth.

2.Preventive Maintenance

Item	Cycle	Remarks
	needed	
Fold rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Trays	C As needed	Wipe with a damp cloth, then a dry cloth.
Paper sensor	C As needed	Remove paper dust with a blower brush or the corner of a triangular-folded cloth.
Bearings	C As needed	Lubricate with Silicone Grease G-501 when noise occurs.

Finisher SR3210

Item	Cycle	Remarks
Drive rollers	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Driven rollers	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Quenching brush	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Bearings	C As needed	Lubricate with Silicone Grease G-501 when noise occurs.
Sensors	C As needed	Clean with a blower brush.
Jogger fences	C As needed	Lubricate with Silicone Grease G-501 when abnormal noise is generated or abnormal operation occurs.
Stapler	R 500K	Replace when the staple counter in the logging data reached 500k. Staple a few times to test after replacement.

Finisher SR3230

Item	Cycle	Remarks
Drive rollers	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Driven rollers	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Quenching brush	C As needed	Wipe with a cloth dampened with ethyl alcohol.
Bearings	C As needed	Lubricate with Silicone Grease G-501 when noise occurs.
Sensors	C As needed	Clean with a blower brush.
Stapler (Corner)	R	Replace when the staple counter in the logging data reached 500k. Staple a few times to test after replacement.
Punch	R	Replace the unit when the punch reaches the end of life, i.e., when the number of punched sheets exceeds one million.
Punch dust	C As needed	Discard paper dust when the hopper is detected to be full.

Mail Box CS3010

Item	Cycle	Remarks
Paper transport rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Paper exit rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Driven rollers	C As needed	Wipe with a damp cloth, then a dry cloth.
Trays	C	Wipe with a damp cloth, then a dry cloth.

Item	Cycle	Remarks
	As needed	
Paper sensor	C As needed	Remove paper dust with a blower brush or the corner of a triangular-folded cloth.
Bearings	C As needed	Lubricate with Silicone Grease G-501 when noise occurs.

Other Yield Parts

Some of the parts mentioned in these tables have a target yield. However, the total print volume made by the machine will not reach the target yield within the machine's targeted lifetime if the machine is used under the target usage conditions. So, these parts are categorized not as PM parts but as yield parts (EM parts). The parts with “R” in this table are yield parts.

The yield figures are based on the following conditions:

- A4 (LT) long-edge feed
- 5% image coverage ratio
- 3 prints/job
- Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Symbol keys: **C:** Clean, **R:** Replace, **L:** Lubricate, **I:** Inspect, **U:** Maintenance by User, **S:** Maintenance by Service

Mainframe

Item	U or S	Maintenance Cycle	Remarks
Development Unit	S	R 900k	

3. Engine SP Mode Tables

Engine SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-001	Leading Edge Registration	Tray1: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-002	Leading Edge Registration	Tray1: Plain	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-003	Leading Edge Registration	Tray1: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-004	Leading Edge Registration	Tray1: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-005	Leading Edge Registration	Tray1: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-006	Leading Edge Registration	Tray1: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-007	Leading Edge Registration	Tray1: Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-008	Leading Edge Registration	Tray2: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-009	Leading Edge Registration	Tray2: Plain	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-010	Leading Edge Registration	Tray2: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-011	Leading Edge Registration	Tray2: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-012	Leading Edge Registration	Tray2: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-013	Leading Edge Registration	Tray2: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-014	Leading Edge Registration	Tray2: Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-015	Leading Edge Registration	By-pass: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-016	Leading Edge Registration	By-pass: Plain	ENG	[-9 to 9 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-017	Leading Edge Registration	By-pass: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-018	Leading Edge Registration	By-pass: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-019	Leading Edge Registration	By-pass: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-020	Leading Edge Registration	By-pass: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-021	Leading Edge Registration	By-pass: Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-022	Leading Edge Registration	Duplex: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-023	Leading Edge Registration	Duplex: Plain	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-024	Leading Edge Registration	Duplex: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-025	Leading Edge Registration	Duplex: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-026	Leading Edge Registration	Duplex: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-027	Leading Edge Registration	Duplex: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-028	Leading Edge Registration	Tray1: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-029	Leading Edge Registration	Tray1: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-030	Leading Edge Registration	Tray1: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-031	Leading Edge Registration	Tray1: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-032	Leading Edge Registration	Tray1: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-033	Leading Edge Registration	Tray1: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-034	Leading Edge Registration	Tray1: Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-035	Leading Edge Registration	Tray2: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-036	Leading Edge Registration	Tray2: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-037	Leading Edge Registration	Tray2: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-038	Leading Edge Registration	Tray2: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-039	Leading Edge Registration	Tray2: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-040	Leading Edge Registration	Tray2: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-041	Leading Edge Registration	Tray2: Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-042	Leading Edge Registration	By-pass: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-043	Leading Edge Registration	By-pass: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-044	Leading Edge Registration	By-pass: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-045	Leading Edge Registration	By-pass: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-046	Leading Edge Registration	By-pass: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-047	Leading Edge Registration	By-pass: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-048	Leading Edge Registration	By-pass: Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-049	Leading Edge Registration	Duplex: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-050	Leading Edge Registration	Duplex: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-051	Leading Edge Registration	Duplex: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-052	Leading Edge Registration	Duplex: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-053	Leading Edge Registration	Duplex: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-054	Leading Edge Registration	Duplex: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-055	Leading Edge Registration	Tray3: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-056	Leading Edge Registration	Tray3: Plain	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-057	Leading Edge Registration	Tray3: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-058	Leading Edge Registration	Tray3: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-059	Leading Edge Registration	Tray3: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-060	Leading Edge Registration	Tray3: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-061	Leading Edge Registration	Tray3: Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-062	Leading Edge Registration	Tray3: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-063	Leading Edge Registration	Tray3: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-064	Leading Edge Registration	Tray3: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-065	Leading Edge Registration	Tray3: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-066	Leading Edge Registration	Tray3: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-067	Leading Edge Registration	Tray3: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-068	Leading Edge Registration	Tray3: Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-069	Leading Edge Registration	Tray4: Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-070	Leading Edge Registration	Tray4: Plain	ENG	[-9 to 9 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-071	Leading Edge Registration	Tray4: Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-072	Leading Edge Registration	Tray4: Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-073	Leading Edge Registration	Tray4: Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-074	Leading Edge Registration	Tray4: Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-075	Leading Edge Registration	Tray4: Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-076	Leading Edge Registration	Tray4: Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-077	Leading Edge Registration	Tray4: Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-078	Leading Edge Registration	Tray4: Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-079	Leading Edge Registration	Tray4: Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-080	Leading Edge Registration	Tray4: Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-081	Leading Edge Registration	Tray4: Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-082	Leading Edge Registration	Tray4: Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-083	Leading Edge Registration	Tray5(LCT): Thin	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-084	Leading Edge Registration	Tray5(LCT): Plain	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-085	Leading Edge Registration	Tray5(LCT): Mid-thick	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-086	Leading Edge Registration	Tray5(LCT): Thick 1	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-087	Leading Edge Registration	Tray5(LCT): Thick 2	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-088	Leading Edge Registration	Tray5(LCT): Thick 3	ENG	[-9 to 9 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-001-089	Leading Edge Registration	Tray5(LCT): Thick 4	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-090	Leading Edge Registration	Tray5(LCT): Thin:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-091	Leading Edge Registration	Tray5(LCT): Plain:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-092	Leading Edge Registration	Tray5(LCT): Mid-thick:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-093	Leading Edge Registration	Tray5(LCT): Thick 1:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-094	Leading Edge Registration	Tray5(LCT): Thick 2:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-095	Leading Edge Registration	Tray5(LCT): Thick 3:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-001-096	Leading Edge Registration	Tray5(LCT): Thick 4:1200	ENG	[-9 to 9 / 0 / 0.1mm]
1-002-001	Side-to-Side Registration	By-pass Tray	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-002	Side-to-Side Registration	Paper Tray 1	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-003	Side-to-Side Registration	Paper Tray 2	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-004	Side-to-Side Registration	Paper Tray 3	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-005	Side-to-Side Registration	Paper Tray 4	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-006	Side-to-Side Registration	Duplex	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-007	Side-to-Side Registration	Large Capacity Tray	ENG*	[-4 to 4 / 0 / 0.1mm]
1-003-001	Paper Buckle	Paper Tray1: Thin	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-002	Paper Buckle	Paper Tray1: Plain	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-003	Paper Buckle	Paper Tray 1: Mid-thick	ENG	[-4 to 5 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-003-004	Paper Buckle	Paper Tray1: Thick1	ENG	[-4 to 5 / -2 / 0.1mm]
1-003-005	Paper Buckle	Tray2/3/4/5/LCT: Thin	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-006	Paper Buckle	Tray2/3/4/5/LCT: Plain	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-007	Paper Buckle	Tray 2/3/4/5/LCT: Mid-thick	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-008	Paper Buckle	Tray2/3/4/5/LCT: Thick 1	ENG	[-4 to 5 / -2 / 0.1mm]
1-003-009	Paper Buckle	By-pass: Thin	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-010	Paper Buckle	By-pass: Plain	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-011	Paper Buckle	By-pass: Mid-thick	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-012	Paper Buckle	By-pass:Thick1	ENG	[-4 to 5 / -1 / 0.1mm]
1-003-013	Paper Buckle	Duplex:Thin	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-014	Paper Buckle	Duplex:Plain	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-015	Paper Buckle	Duplex: Mid-thick	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-016	Paper Buckle	Duplex:Thick1	ENG	[-4 to 5 / -1 / 0.1mm]
1-003-017	Paper Buckle	Paper Tray1: Thin:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-018	Paper Buckle	Paper Tray1: Plain:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-019	Paper Buckle	Paper Tray 1: Mid-thick:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-020	Paper Buckle	Paper Tray1: Thick1:1200	ENG	[-4 to 5 / -2 / 0.1mm]
1-003-021	Paper Buckle	Tray2/3/4/5/LCT: Thin:1200	ENG	[-4 to 5 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
1-003-022	Paper Buckle	Tray2/3/4/5/LCT: Plain:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-023	Paper Buckle	Tray2/3/4/5/LCT: Mid:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-024	Paper Buckle	Tray2/3/4/5/LCT: Thick 1:1200	ENG	[-4 to 5 / -2 / 0.1mm]
1-003-025	Paper Buckle	By-pass: Thin:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-026	Paper Buckle	By-pass: Plain:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-027	Paper Buckle	By-pass: Mid-thick:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-028	Paper Buckle	By-pass:Thick1:1200	ENG	[-4 to 5 / -1 / 0.1mm]
1-003-029	Paper Buckle	Duplex:Thin:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-030	Paper Buckle	Duplex:Plain:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-031	Paper Buckle	Duplex: Mid-thick:1200	ENG	[-4 to 5 / 0 / 0.1mm]
1-003-032	Paper Buckle	Duplex:Thick1:1200	ENG	[-4 to 5 / -1 / 0.1mm]
1-007-001	By-Pass Size Detection	Switch LT SEF/LG SEF	ENG*	[0 to 1 / 0 / 1] 0: 8.5x11SEF 1: 8.5x14SEF
1-007-002	By-Pass Size Detection	By-Pass Jam Detection Set	ENG*	[0 to 1 / 0 / 1] 0: Normal 1: Simple Detect
1-009-001	Initial Operation Setting	Registration Gear Backlash Cut	ENG*	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-010-001	Solenoid Initial movement	Control ON/OFF 0:OFF/1:ON	ENG*	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-001	Pickup SOL Separate Setting	Paper Tray1: Thin	ENG	[0 to 1 / 0 / 1] 0: OFF

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				1: ON
1-011-002	Pickup SOL Separate Setting	Paper Tray1: Plain	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-003	Pickup SOL Separate Setting	Paper Tray1: Thick	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-004	Pickup SOL Separate Setting	Paper Tray2: Thin	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-005	Pickup SOL Separate Setting	Paper Tray2: Plain	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-006	Pickup SOL Separate Setting	Paper Tray2: Thick	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-007	Pickup SOL Separate Setting	Paper Tray3: Thin	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-008	Pickup SOL Separate Setting	Paper Tray3: Plain	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-009	Pickup SOL Separate Setting	Paper Tray3: Thick	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-010	Pickup SOL Separate Setting	Paper Tray4: Thin	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-011	Pickup SOL Separate Setting	Paper Tray4: Plain	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-012	Pickup SOL Separate Setting	Paper Tray4: Thick	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-013	Pickup SOL Separate Setting	Paper LCT: Thin	ENG	[0 to 1 / 0 / 1] 0: OFF

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				1: ON
1-011-014	Pickup SOL Separate Setting	Paper LCT: Plain	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-011-015	Pickup SOL Separate Setting	Paper LCT: Thick	ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-012-001	Operation Setting	Paper Exit Speed	ENG	[0 to 1 / 1 / 1] 0: OFF 1: ON
1-012-002	Operation Setting	ExitLineSpdSetting: AfterSpdDown	ENG	[0 to 3 / 1 / 1] 0: Standard Speed 1: 150mm/s 2: 128mm/s 3: 75mm/s
1-090-001	Leading Edge Registration User	Tray1	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-002	Leading Edge Registration User	Tray2	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-003	Leading Edge Registration User	By-pass Tray	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-004	Leading Edge Registration User	Duplex	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-005	Leading Edge Registration User	Tray3	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-006	Leading Edge Registration User	Tray4	ENG	[-9 to 9 / 0 / 0.1mm]
1-090-007	Leading Edge Registration User	Tray5(LCT)	ENG	[-9 to 9 / 0 / 0.1mm]
1-101-030	Flicker Control	Flicker Control	ENG*	[0 to 0 / 0 / 1]
1-105-003	Print Target Temp.	Plain1:BW:Center	ENG*	[100 to 180 / 144 / 1deg]
1-105-007	Print Target Temp.	Plain2:BW:Center	ENG*	[100 to 180 / 154 / 1deg]
1-105-	Print Target Temp.	Thin:BW:Center	ENG*	[100 to 180 / 130 /

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
011				1deg]
1-105-015	Print Target Temp.	M-thick:BW:Center	ENG*	[100 to 180 / 154 / 1deg]
1-105-019	Print Target Temp.	Thick1:BW:Center	ENG*	[100 to 180 / 142 / 1deg]
1-105-023	Print Target Temp.	Thick2:BW:Center	ENG*	[100 to 180 / 138 / 1deg]
1-105-027	Print Target Temp.	Thick3:BW:Center	ENG*	[100 to 180 / 138 / 1deg]
1-105-031	Print Target Temp.	Special1:BW:Center	ENG*	[100 to 180 / 149 / 1deg]
1-105-035	Print Target Temp.	Special2:BW:Center	ENG*	[100 to 180 / 141 / 1deg]
1-105-039	Print Target Temp.	Special3:BW:Center	ENG*	[100 to 180 / 128 / 1deg]
1-105-041	Print Target Temp.	Envelop:Center	ENG*	[100 to 180 / 132 / 1deg]
1-105-053	Print Target Temp.	Special1:BW:Center:Middle Speed	ENG*	[100 to 180 / 138 / 1deg]
1-105-057	Print Target Temp.	Special2:BW:Center:Middle Speed	ENG*	[100 to 180 / 142 / 1deg]
1-105-061	Print Target Temp.	Special3:BW:Center:Middle Speed	ENG*	[100 to 180 / 147 / 1deg]
1-105-103	Print Target Temp.	Plain1:BW:Center:Low Speed	ENG*	[100 to 180 / 109 / 1deg]
1-105-107	Print Target Temp.	Plain2:BW:Center:Low Speed	ENG*	[100 to 180 / 109 / 1deg]
1-105-111	Print Target Temp.	M-thick:BW:Center:Low Speed	ENG*	[100 to 180 / 114 / 1deg]
1-105-115	Print Target Temp.	Thick1:BW:Center:Low Speed	ENG*	[100 to 180 / 118 / 1deg]
1-105-119	Print Target Temp.	Special1:BW:Center:Low Speed	ENG*	[100 to 180 / 109 / 1deg]
1-105-123	Print Target Temp.	Special2:BW:Center:Low Speed	ENG*	[100 to 180 / 118 / 1deg]
1-105-	Print Target Temp.	Plain1:Glossy:Center	ENG*	[100 to 180 / 109 /

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
125				1deg]
1-105-127	Print Target Temp.	Plain2:Glossy:Center	ENG*	[100 to 180 / 109 / 1deg]
1-105-129	Print Target Temp.	M-thick:Glossy:Center	ENG*	[100 to 180 / 114 / 1deg]
1-105-131	Print Target Temp.	OHP:Center	ENG*	[100 to 180 / 157 / 1deg]
1-105-133	Print Target Temp.	Envelop:Center:Low Speed	ENG*	[100 to 180 / 133 / 1deg]
1-105-137	Print Target Temp.	Thin:BW:Center:Low Speed	ENG*	[100 to 180 / 109 / 1deg]
1-105-141	Print Target Temp.	Thick4:BW:Center	ENG*	[100 to 180 / 138 / 1deg]
1-105-143	Print Target Temp.	Postcard:Center	ENG*	[100 to 180 / 128 / 1deg]
1-105-147	Print Target Temp.	Special3:BW:Center:Middle Speed	ENG*	[100 to 180 / 128 / 1deg]
1-105-151	Print Target Temp.	Plain1:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 128 / 1deg]
1-105-153	Print Target Temp.	Plain2:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 133 / 1deg]
1-105-155	Print Target Temp.	Thin:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 118 / 1deg]
1-105-157	Print Target Temp.	M-thick:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 140 / 1deg]
1-105-159	Print Target Temp.	Special1:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 128 / 1deg]
1-105-161	Print Target Temp.	Special2:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 142 / 1deg]
1-105-163	Print Target Temp.	Special3:BW:Center:Mid.High Speed	ENG*	[100 to 180 / 128 / 1deg]
1-106-001	Fusing Temp. Display	Heat Center	ENG	[-10 to 250 / 0 / 1deg]
1-106-002	Fusing Temp. Display	Heat End	ENG	[-10 to 250 / 0 / 1deg]
1-106-	Fusing Temp.	Press Center	ENG	[-10 to 250 / 0 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
003	Display			
1-106-004	Fusing Temp. Display	Press End	ENG	[-10 to 250 / 0 / 1deg]
1-113-001	Curl Correction	Execute Pattern	ENG*	[0 to 2 / 0 / 1] 0: OFF 1: ON(No Decurl) 2: ON
1-133-001	Voltage Detection	Voltage Detection	ENG*	[0 to 350 / * / 0.1V] *NA: 117 *EU/AA/CHN/KOR: 227 *TWN: 107
1-133-002	Voltage Detection	Max	ENG*	[0 to 350 / 0 / 0.1V]
1-133-003	Voltage Detection	Min	ENG*	[0 to 350 / 350 / 0.1V]
1-133-004	Voltage Detection	Last	ENG*	[0 to 350 / 0 / 0.1V]
1-133-005	Voltage Detection	SC	ENG*	[0 to 350 / 0 / 0.1V]
1-133-006	Voltage Detection	Threshold Voltage	ENG*	[0 to 255 / * / 1V] *NA: 96 *EU/AA/CHN/KOR: 178 *TWN: 88
1-135-001	Inrush Control	Inrush Control	ENG*	[0 to 1 / 0 / 1]
1-141-001	Fusing SC Error Time Info	SC Number	ENG*	[0 to 99999 / 0 / 1]
1-141-101	Fusing SC Error Time Info	Htg Roller:Ctr Det1	ENG*	[-5 to 300 / 0 / 1deg]
1-141-102	Fusing SC Error Time Info	Htg Roller:End Det1	ENG*	[-5 to 300 / 0 / 1deg]
1-141-103	Fusing SC Error Time Info	Press Roller:Ctr Det1	ENG*	[-5 to 300 / 0 / 1deg]
1-141-	Fusing SC Error	Press Roller:End Det1	ENG*	[-5 to 300 / 0 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
104	Time Info			
1-141-151	Fusing SC Error Time Info	Htg Roller:Ctr Det2	ENG*	[-5 to 300 / 0 / 1deg]
1-141-152	Fusing SC Error Time Info	Htg Roller:End Det2	ENG*	[-5 to 300 / 0 / 1deg]
1-141-153	Fusing SC Error Time Info	Press Roller:Ctr Det2	ENG*	[-5 to 300 / 0 / 1deg]
1-141-154	Fusing SC Error Time Info	Press Roller:End Det2	ENG*	[-5 to 300 / 0 / 1deg]
1-141-201	Fusing SC Error Time Info	Htg Roller:Ctr Det3	ENG*	[-5 to 300 / 0 / 1deg]
1-141-202	Fusing SC Error Time Info	Htg Roller:End Det3	ENG*	[-5 to 300 / 0 / 1deg]
1-141-203	Fusing SC Error Time Info	Press Roller:Ctr Det3	ENG*	[-5 to 300 / 0 / 1deg]
1-141-204	Fusing SC Error Time Info	Press Roller:End Det3	ENG*	[-5 to 300 / 0 / 1deg]
1-142-001	Fusing Jam Detection	SC Display	ENG*	[0 to 1 / 0 / 1] 0: OFF 1: ON
1-152-001	Fusing Nip Band Check	Execute	ENG	[0 to 1 / 0 / 1]
1-153-001	Abnormal Noise Confirmation	Unit: Execute	ENG	[0 to 1 / 0 / 1]
1-153-002	Abnormal Noise Confirmation	No Unit: Execute	ENG	[0 to 1 / 0 / 1]
1-153-003	Abnormal Noise Confirmation	Operation Line Speed	ENG	[0 to 3 / 0 / 1] 0: Std Speed 1: Mid. High Speed 2: Middle Speed 3: Low Speed
1-301-001	Paper Thick Error Detect	Tray1	ENG*	[0 to 1 / 0 / 1]
1-301-002	Paper Thick Error Detect	Tray2	ENG*	[0 to 1 / 0 / 1]
1-301-	Paper Thick Error	Tray3	ENG*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
003	Detect			
1-301-004	Paper Thick Error Detect	Tray4	ENG*	[0 to 1 / 0 / 1]
1-301-005	Paper Thick Error Detect	LCT	ENG*	[0 to 1 / 0 / 1]
1-301-006	Paper Thick Error Detect	Bypass Tray	ENG*	[0 to 1 / 0 / 1]
1-306-001	Error Shiht Number of Sheets	Paper Thick Error Shiht Number of Sheets	ENG*	[1 to 999 / 1 / 1]
1-308-001	Paper Thikness Error Times	Tray1	ENG*	[0 to 999 / 0 / 1]
1-308-002	Paper Thikness Error Times	Tray2	ENG*	[0 to 999 / 0 / 1]
1-308-003	Paper Thikness Error Times	Tray3	ENG*	[0 to 999 / 0 / 1]
1-308-004	Paper Thikness Error Times	Tray4	ENG*	[0 to 999 / 0 / 1]
1-308-005	Paper Thikness Error Times	LCT	ENG*	[0 to 999 / 0 / 1]
1-308-006	Paper Thikness Error Times	Bypass Tray	ENG*	[0 to 999 / 0 / 1]
1-314-001	Paper Size	Tray1	ENG*	[0 to 10 / 0 / 1]
1-314-002	Paper Size	Tray2	ENG*	[0 to 10 / 0 / 1]
1-314-003	Paper Size	Tray3	ENG*	[0 to 10 / 0 / 1]
1-314-004	Paper Size	Tray4	ENG*	[0 to 10 / 0 / 1]
1-314-005	Paper Size	LCT	ENG*	[0 to 10 / 0 / 1]
1-314-006	Paper Size	Bypass Tray	ENG*	[0 to 10 / 0 / 1]
1-316-001	Paper Thick Start Time	Tray1	ENG*	[-50 to 50 / 0 / 1msec]
1-316-	Paper Thick Start	Tray2	ENG*	[-50 to 50 / 0 / 1msec]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
002	Time			
1-316-003	Paper Thick Start Time	Tray3	ENG*	[-50 to 50 / -20 / 1msec]
1-316-004	Paper Thick Start Time	Tray4	ENG*	[-50 to 50 / -20 / 1msec]
1-316-005	Paper Thick Start Time	LCT	ENG*	[-50 to 50 / -20 / 1msec]
1-316-006	Paper Thick Start Time	Bypass Tray	ENG*	[-50 to 50 / -20 / 1msec]
1-907-029	Paper Feed Timing Adj.	By-pass Size Decision Timing	ENG*	[1 to 3 / 3 / 1]
1-907-030	Paper Feed Timing Adj.	ExitLineSpdUp EndPos:StdSpd	ENG	[-30 to 15 / 0 / 1mm]
1-907-031	Paper Feed Timing Adj.	ExitLineSpdUp EndPos:MidSpd	ENG	[-30 to 15 / 0 / 1mm]
1-907-032	Paper Feed Timing Adj.	ExitLineSpdUp EndPos:LowSpd	ENG	[-30 to 15 / 0 / 1mm]
1-907-033	Paper Feed Timing Adj.	ExitLineSpdUp EndPos:LowSpd:1200:Plain	ENG	[-30 to 15 / 0 / 1mm]
1-907-034	Paper Feed Timing Adj.	ExitLineSpdUp EndPos:MidHighSpd	ENG	[-30 to 15 / 0 / 1mm]
1-907-109	Paper Feed Timing Adj.		ENG	[0 to 40 / 0 / 1mm]
1-955-008	Fan Control	Fusing Exit Fan High Temp Op Sw Temp	ENG*	[0 to 100 / 40 / 0.1deg]
1-955-021	Fan ON/OFF Switch Set	Front Development	ENG*	[0 to 1 / 1 / 1]
1-955-022	Fan ON/OFF Switch Set	Toner Bottle	ENG*	[0 to 1 / 1 / 1]
1-955-031	Fan Control	Fusing Exit Fan Low Speed Op DUTY	ENG*	[0 to 100 / 30 / 1%]
1-955-032	Fan Control	Fusing Exit Fan Middle Speed Op DUTY	ENG*	[0 to 100 / * / 1%] *NA/TWN/KOR: 60 *EU/AA/CHN: 65
1-955-033	Fan Control	Fusing Exit Fan Full Speed Op DUTY	ENG*	[0 to 100 / * / 1%] *NA/TWN/KOR: 60

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				*EU/AA/CHN: 80
1-955-041	Fan Control	Extra Fan Op Decision time	ENG*	[0 to 10000 / 480 / 1sec]
1-955-042	Fan Control	Fusing Exit Fan Extra Cooling Time Set	ENG*	[0 to 900 / * / 1sec] *NA/TWN/KOR: 0 *EU/AA/CHN: 120
1-955-043	Fan Control	Paper Exit Cooling Extra Cooling Time Set	ENG*	[0 to 900 / * / 1sec] *NA/TWN/KOR: 0 *EU/AA/CHN: 120
1-955-051	Fan Control	Condensation Prevent Fan Op ON/OFF Setting	ENG*	[0 to 1 / 0 / 1]
1-955-052	Fan Control	Condensation Prevent Fan Op Execution Temp	ENG*	[0 to 30 / 3 / 0.1deg]
1-955-061	Fan Control	Front Development Fan Extra Op Decision Temp	ENG*	[0 to 100 / 40 / 0.1deg]
1-955-062	Fan Control	Front Development Fan Extra Op Time Set	ENG*	[0 to 900 / 120 / 1sec]

Engine SP2-XXX (Drum)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
2-101-001	Reistration Correction	Main Dot	ENG*	[-512 to 511 / 0 / 1dot]
2-102-001	LSU Adjustment	Main Mag.	ENG*	[-1 to 1 / 0 / 0.1%]
2-103-001	Erase Margin Adjustment	Lead Edge Width	ENG	[0 to 9.9 / 4.2 / 0.1mm]
2-103-002	Erase Margin Adjustment	Trail. Edge Width	ENG	[0 to 9.9 / 4.2 / 0.1mm]
2-103-003	Erase Margin Adjustment	Left	ENG	[0 to 9.9 / 2 / 0.1mm]
2-103-004	Erase Margin Adjustment	Right	ENG	[0 to 9.9 / 2 / 0.1mm]
2-103-006	Erase Margin Adjustment	Duplex Trail. L Size	ENG	[-4 to 4 / 1 / 0.1mm]
2-103-007	Erase Margin Adjustment	Duplex Trail. M Size	ENG	[-4 to 4 / 0.8 / 0.1mm]
2-103-008	Erase Margin Adjustment	Duplex Trail. S Size	ENG	[-4 to 4 / 0.6 / 0.1mm]
2-103-009	Erase Margin Adjustment	Duplex Left Edge	ENG	[0 to 1.5 / 0.3 / 0.1mm]
2-103-010	Erase Margin Adjustment	Duplex Right Edge	ENG	[0 to 1.5 / 0.3 / 0.1mm]
2-103-011	Erase Margin Adjustment	Duplex Trail. L Size:Thick	ENG	[-4 to 4 / 1 / 0.1mm]
2-103-012	Erase Margin Adjustment	Duplex Trail. M Size:Thick	ENG	[-4 to 4 / 0.8 / 0.1mm]
2-103-013	Erase Margin Adjustment	Duplex Trail. S Size:Thick	ENG	[-4 to 4 / 0.6 / 0.1mm]
2-103-014	Erase Margin Adjustment	Duplex Left Edge:Thick	ENG	[0 to 1.5 / 0.3 / 0.1mm]
2-103-015	Erase Margin Adjustment	Duplex Right Edge:Thick	ENG	[0 to 1.5 / 0.3 / 0.1mm]
2-103-016	Erase Margin Adjustment	Duplex Trail. L Size:Thin	ENG	[-4 to 4 / 1 / 0.1mm]
2-103-	Erase Margin	Duplex Trail. M Size:Thin	ENG	[-4 to 4 / 0.8 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
017	Adjustment			
2-103-018	Erase Margin Adjustment	Duplex Trail. S Size:Thin	ENG	[-4 to 4 / 0.6 / 0.1mm]
2-103-019	Erase Margin Adjustment	Lead Edge Width:Thin	ENG	[0 to 9.9 / 4.2 / 0.1mm]
2-103-020	Erase Margin Adjustment	Trail. Edge Width:Thin	ENG	[0 to 9.9 / 4.2 / 0.1mm]
2-109-003	Test Pattern	Pattern Selection	ENG	[0 to 24 / 0 / 1] 0: None 1: 1dot Vertical 2: 2dot Vertical 3: 1dot Horizontal Line 4: 2dot Horizontal Line 5: Grid Vert 6: Grid Horizontal 7: Grid Pattern Small 8: Grid Pattern Large 9: Argyle Pattern Small 10: Argyle P:L 11: 1dot Ind. Pttrn 12: 2dot Ind. Pttrn 13: 4dot Ind. Pttrn 14: Trimming Area 15: HoundstoothH 16: Houndstooth V 17: Black Band H 18: Black Band V 19: Checker Flag Pattern 20: Grayscale V 21: Grayscale H 22: 2 Beam Density Pttrn 23: Full Dot Pattern 24: All White Pattern
2-109-006	Test Pattern	Density	ENG	[0 to 15 / 15 / 1]
2-110-001	LD Driver	Error	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
2-110-005	LD Driver	Memory Transfer	ENG	[0 to 1 / 0 / 1]
2-152-001	Shad. Correct Setting	Strandard Speed	ENG*	[50 to 150 / 100 / 0.1%]
2-152-005	Shad. Correct Setting	Middle Speed	ENG*	[50 to 150 / 100 / 0.1%]
2-152-009	Shad. Correct Setting	Low Speed	ENG*	[50 to 150 / 100 / 0.1%]
2-160-001	Vertical Line Width	600dpi:Indet	ENG*	[10 to 15 / 15 / 1]
2-160-002	Vertical Line Width	1200dpi:Indet	ENG*	[10 to 15 / 15 / 1]
2-242-100	TS Operation Env. Log	Log Clear	ENG	[0 to 1 / 0 / 1]
2-250-001	Interval DownMode	ON/OFF	ENG*	[0 to 1 / 0 / 1] 0: OFF 1: ON
2-400-002	Paper Transfer Roller Settings	Detatch timing in waiting	ENG*	[0 to 600 / 240 / 1min]
2-906-004	Tailing Control	Shift Range	ENG*	[0 to 1 / 0 / 0.1mm]
2-906-005	Tailing Control	Number of Sheets	ENG*	[0 to 10 / 0 / 1sheet]
2-970-004	Interrupt Transfer CL	Low-temperature, low-humidity	ENG	[0 to 1 / 0 / 1]
2-970-005	Interrupt Transfer CL	Moderate temperature and humidity	ENG	[0 to 1 / 0 / 1]
2-970-006	Interrupt Transfer CL	High-temperature, high-humidity	ENG	[0 to 1 / 0 / 1]
2-980-001	Drum Idling	Idle Time: Low-temperature, low-humidity	ENG*	[0 to 60 / 0 / 1sec]
2-980-002	Drum Idling	Idle Time: Moderate temperature and humidity	ENG*	[0 to 60 / 0 / 1sec]
2-980-003	Drum Idling	Idle Time: High-temperature, high-humidity	ENG*	[0 to 60 / 0 / 1sec]
2-990-	Print Duty Control	Forced CPM Down Thresh: No	ENG*	[0 to 5000 / 0 / 1page]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
004		Duty Control:MM		
2-990-007	Print Duty Control	Forced CPM Down Thresh: Duty Control	ENG*	[0 to 5000 / 16 / 1page]
2-990-008	Print Duty Control	Down-time_BW: Duty Control	ENG*	[0 to 240000 / 25000 / 10msec]
2-990-011	Print Duty Control	Execution Temp. Threshold	ENG*	[20 to 70 / 42 / 0.1deg]
2-990-101	Print Duty Control	Forced CPM Down Thresh: No Duty Control: LL	ENG*	[0 to 5000 / 0 / 1page]
2-990-102	Print Duty Control	Forced CPM Down Thresh: No Duty Control: ML	ENG*	[0 to 5000 / 0 / 1page]
2-990-103	Print Duty Control	Forced CPM Down Thresh: No Duty Control: HH	ENG*	[0 to 5000 / 0 / 1page]

Engine SP3-XXX (Process)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
3-011-001	Manual ProCon :Exe	Normal ProCon	ENG	[0 to 1 / 0 / 1]
3-012-001	ProCon OK?	History:Last	ENG*	[0 to 99 / 0 / 1]
3-012-002	ProCon OK?	History:Last 2	ENG*	[0 to 99 / 0 / 1]
3-012-003	ProCon OK?	History:Last 3	ENG*	[0 to 99 / 0 / 1]
3-012-004	ProCon OK?	History:Last 4	ENG*	[0 to 99 / 0 / 1]
3-012-005	ProCon OK?	History:Last 5	ENG*	[0 to 99 / 0 / 1]
3-012-006	ProCon OK?	History:Last 6	ENG*	[0 to 99 / 0 / 1]
3-012-007	ProCon OK?	History:Last 7	ENG*	[0 to 99 / 0 / 1]
3-012-008	ProCon OK?	History:Last 8	ENG*	[0 to 99 / 0 / 1]
3-012-009	ProCon OK?	History:Last 9	ENG*	[0 to 99 / 0 / 1]
3-012-010	ProCon OK?	History:Last 10	ENG*	[0 to 99 / 0 / 1]
3-030-001	Init TD Sensor :Exe	Execute	ENG	[0 to 1 / 0 / 1]
3-030-071	InitTDSensor :Exe	Init Temp: K	ENG*	[-100 to 100 / 23 / 0.1deg]
3-030-081	InitTDSensor :Exe	Init Rel Hum: K	ENG*	[0 to 100 / 50 / 0.1%RH]
3-030-091	InitTDSensor :Exe	Init Abs Hum: K	ENG*	[0 to 100 / 10.3 / 0.01g/m3]
3-030-101	InitTDSensor :Exe	Init Coverage: K	ENG*	[0 to 2147483647 / 0 / 1%]
3-030-111	InitTDSensor :Exe	Total DC: Dev: K	ENG*	[0 to 2147483647 / 0 / 1%]
3-031-	TD Sens Init OK?	K	ENG*	[0 to 9 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
001				
3-050-001	Force Tnr Supply :Exe	Execute	ENG	[0 to 1 / 0 / 1]
3-050-021	Force Tnr Supply :Exe	Supply Quantity	ENG*	[0 to 5 / 0.5 / 0.1wt%]
3-072-001	T Sensor: Check	Execute Check	ENG	[0 to 1 / 0 / 1]
3-073-001	T Sensor Measurement Value:	mu count	ENG*	[0 to 65535 / 0 / 1]
3-074-001	ID.Sens Check :Exe	All Sensors	ENG	[0 to 1 / 0 / 1]
3-075-001	ID.Sens Chk :Disp	Vsg reg	ENG*	[0 to 5.5 / 0 / 0.01V]
3-075-011	ID.Sens Chk :Disp	Voffset	ENG*	[0 to 5.5 / 0 / 0.01V]
3-100-001	Tonner End Detection: Set	ON/OFF	ENG*	[0 to 1 / 0 / 1] 0: Enable 1: Disable
3-100-003	Tonner End Detection: Set	TE Detection	ENG*	[0 to 2 / 1 / 1] 0: Page & Vt 1: Vt Only 2: Page Counter Only
3-101-001	Toner Status :Disp	K	ENG*	[0 to 2 / 2 / 1]
3-133-001	TE Detect :Set	Set Sheets	ENG*	[0 to 5000 / 90 / 1sheets]
3-133-011	TE Detect :Set	Page Cnt:K	ENG*	[0 to 5000 / 0 / 1sheets]
3-200-001	TnrDensity	K	ENG*	[0 to 25.5 / 0 / 0.1wt%]
3-201-001	TnrDensity	Upper TC	ENG*	[1 to 15 / 5.5 / 0.1wt%]
3-201-002	TnrDensity	Lower TC	ENG*	[1 to 15 / 2.7 / 0.1wt%]
3-210-001	TD.Sens:Vt :Disp	Current	ENG*	[0 to 5.5 / 0 / 0.01V]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
3-230-001	Vtref :Disp/Set	Current	ENG*	[0 to 5 / 2.5 / 0.01V]
3-250-001	ImgArea :Disp	ImgArea	ENG*	[0 to 9999 / 0 / 1cm2]
3-251-001	DotCoverage :Disp	DotCoverage	ENG*	[0 to 100 / 0 / 0.01%]
3-252-001	AccumImgArea :Disp	ImgArea	ENG*	[0 to 65535 / 0 / 1cm^2]
3-260-001	Temperature/Humidity: Display	Temperature	ENG	[-5 to 45 / 0 / 0.1deg]
3-260-002	Temperature/Humidity: Display	Relative Humidity	ENG	[0 to 100 / 0 / 0.1%RH]
3-260-003	Temperature/Humidity: Display	Absolute Humidity	ENG	[0 to 100 / 0 / 0.01g/m3]
3-310-001	ID.Sens :Voffset	Voffset reg	ENG*	[0 to 5.5 / 0 / 0.01V]
3-310-021	ID.Sens :Voffset	Voffset TM(Front)	ENG*	[0 to 5.5 / 0 / 0.01V]
3-320-001	Vsg Adj: Execute	P Sensor	ENG	[0 to 1 / 0 / 1]
3-320-011	Vsg Adj: Execute	Vsg Error Counter	ENG*	[0 to 99 / 0 / 1times]
3-321-001	Adjusted Vsg	Vsg reg	ENG*	[0 to 5.5 / 0 / 0.01V]
3-322-001	Adjusted Ifsg	Ifsg	ENG*	[0 to 50 / 10 / 0.001mA]
3-322-011	Adjusted Ifsg	Ifsg Min	ENG*	[0 to 50 / 27 / 0.001mA]
3-323-001	Vsg Adj OK?	Latest	ENG*	[0 to 9 / 0 / 1]
3-323-002	Vsg Adj OK?	Latest 2	ENG*	[0 to 9 / 0 / 1]
3-323-003	Vsg Adj OK?	Latest 3	ENG*	[0 to 9 / 0 / 1]
3-323-004	Vsg Adj OK?	Latest 4	ENG*	[0 to 9 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
3-323-005	Vsg Adj OK?	Latest 5	ENG*	[0 to 9 / 0 / 1]
3-323-006	Vsg Adj OK?	Latest 6	ENG*	[0 to 9 / 0 / 1]
3-323-007	Vsg Adj OK?	Latest 7	ENG*	[0 to 9 / 0 / 1]
3-323-008	Vsg Adj OK?	Latest 8	ENG*	[0 to 9 / 0 / 1]
3-323-009	Vsg Adj OK?	Latest 9	ENG*	[0 to 9 / 0 / 1]
3-323-010	Vsg Adj OK?	Latest 10	ENG*	[0 to 9 / 0 / 1]
3-331-061	ID.Sens Coef :Set	Vsp Coef	ENG*	[0.5 to 1.5 / 1 / 0.001]
3-331-071	ID.Sens Coef :Set	Vsdp Coef	ENG*	[0.5 to 1.5 / 1 / 0.001]
3-400-001	Toner Supply Type	K	ENG*	[0 to 2 / 2 / 1] 0: FIXED 2: PID
3-411-001	Toner Supply Qty	K	ENG	[0 to 40000 / 0 / 0.1mg]
3-440-001	Fixed Supply Mode	Fixed Rate	ENG*	[0 to 100 / 10 / 1%]
3-500-002	ImgQltyAdj :ON/OFF	ProCon	ENG*	[0 to 1 / 1 / 1] 0: OFF 1: ON
3-510-031	ImgQltyAdj :ExeFlag	Init Toner Replenish: K	ENG*	[0 to 1 / 0 / 1]
3-520-001	ImgQltyAdj :Interval	During Job	ENG*	[0 to 100 / 30 / 1pages]
3-520-002	ImgQltyAdj :Interval	During Stand-by	ENG*	[0 to 100 / 5 / 1minute]
3-529-006	ProCon Interval Control :Set	Page Cnt:BW	ENG*	[0 to 5000 / 0 / 1sheets]
3-530-001	PowerON ProCon :Set	Non-use Time Setting	ENG*	[0 to 1440 / 360 / 1minute]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
3-530-002	PowerON ProCon :Set	Temperature Range	ENG*	[0 to 99 / 10 / 1deg]
3-530-003	PowerON ProCon :Set	Relative Humidity Range	ENG*	[0 to 99 / 50 / 1%RH]
3-530-004	PowerON ProCon :Set	Absolute Humidity Range	ENG*	[0 to 99 / 6 / 1g/m3]
3-530-005	PowerON ProCon :Set	Interval:BW	ENG*	[0 to 5000 / 100 / 1sheets]
3-530-007	PowerON ProCon :Set	Page Cnt:BW	ENG*	[0 to 5000 / 0 / 1sheets]
3-531-001	Non-useTime Procon :Set	Non-use Time Setting	ENG*	[0 to 1440 / 360 / 1minute]
3-531-002	Non-useTime Procon :Set	Temperature Range	ENG*	[0 to 99 / 10 / 1deg]
3-531-003	Non-useTime Procon :Set	Relative Humidity Range	ENG*	[0 to 99 / 50 / 1%RH]
3-531-004	Non-useTime Procon :Set	Absolute Humidity Range	ENG*	[0 to 99 / 6 / 1g/m3]
3-531-005	Non-useTime Procon :Set	Maximum Execution Number	ENG*	[0 to 99 / 10 / 1times]
3-533-001	Interrupt ProCon :Set	Interval:Set:BW	ENG*	[0 to 5000 / 100 / 1sheets]
3-533-002	Interrupt ProCon :Set	Interval:Disp:BW	ENG*	[0 to 5000 / 100 / 1sheets]
3-533-003	Interrupt ProCon :Set	Corr(Short):BW	ENG*	[0 to 1 / 0.5 / 0.01]
3-533-004	Interrupt ProCon :Set	Corr(Mid):BW	ENG*	[0 to 1 / 1 / 0.01]
3-533-005	Interrupt ProCon :Set	Interval:Set:BW(Mid-High)	ENG*	[0 to 5000 / 200 / 1sheets]
3-533-006	Interrupt ProCon :Set	Interval:Disp:BW(Mid-High)	ENG*	[0 to 5000 / 200 / 1sheets]
3-533-007	Interrupt ProCon :Set	Corr(Short):BW(Mid-High)	ENG*	[0 to 1 / 1 / 0.01]
3-533-008	Interrupt ProCon :Set	Corr(Mid):BW(Mid-High)	ENG*	[0 to 1 / 1 / 0.01]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
3-534-001	JobEnd ProCon :Set	Interval:Set:BW	ENG*	[0 to 5000 / 100 / 1sheets]
3-534-002	JobEnd ProCon :Set	Interval:Disp:BW	ENG*	[0 to 5000 / 100 / 1sheets]
3-534-003	JobEnd ProCon :Set	Corr(Short):BW	ENG*	[0 to 1 / 0.5 / 0.01]
3-534-004	JobEnd ProCon :Set	Corr(Mid):BW	ENG*	[0 to 1 / 1 / 0.01]
3-534-005	JobEnd ProCon :Set	Interval:Set:BW(Mid-High)	ENG*	[0 to 5000 / 100 / 1sheets]
3-534-006	JobEnd ProCon :Set	Interval:Disp:BW(Mid-High)	ENG*	[0 to 5000 / 100 / 1sheets]
3-534-007	JobEnd ProCon :Set	Corr(Short):BW(Mid-High)	ENG*	[0 to 1 / 0.5 / 0.01]
3-534-008	JobEnd ProCon :Set	Corr(Mid):BW(Mid-High)	ENG*	[0 to 1 / 1 / 0.01]
3-551-010	Select Recycle/Waste	Select Status	ENG*	[0 to 1 / 0 / 1]
3-600-001	Select ProCon	Potential Control	ENG*	[0 to 1 / 1 / 1] 0: OFF 1: ON
3-611-001	Chrg DC Control	Std Speed	ENG*	[300 to 2000 / 790 / 1-V]
3-612-001	Dev DC Control	Std Speed	ENG*	[200 to 800 / 590 / 1-V]
3-623-101	LD Power :Set	UpperLimit	ENG*	[100 to 200 / 132 / 1%]
3-623-111	LD Power :Set	LowerLimit	ENG*	[0 to 100 / 67 / 1%]
3-630-001	Vsp :Disp/Set	Current	ENG*	[0 to 5.5 / 0 / 0.01V]
3-630-011	Dev gamma :Disp/Set	Target:K	ENG*	[0.5 to 2.55 / 0.95 / 0.01mg/cm2/-kV]
3-630-061	Dev gamma :Disp/Set	TnrDensity	ENG*	[0 to 25.5 / 0 / 0.1wt%]
3-631-	Vsdp :Disp	Current	ENG*	[0 to 5.5 / 0 / 0.01V]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
001				
3-700-001	New Unit Detection	ON/OFF Setting	ENG*	[0 to 1 / 1 / 1]
3-701-001	Manual New Unit Set	#PCU(residual life)	ENG*	[0 to 1 / 0 / 1]
3-701-002	Manual New Unit Set	#PCU	ENG*	[0 to 1 / 0 / 1]
3-701-009	Manual New Unit Set	Cleaning Blade	ENG*	[0 to 1 / 0 / 1]
3-701-018	Manual New Unit Set	Charge Roller	ENG*	[0 to 1 / 0 / 1]
3-701-019	Manual New Unit Set	Cleaner:Charge Roller	ENG*	[0 to 1 / 0 / 1]
3-701-021	Manual New Unit Set	OPC	ENG*	[0 to 1 / 0 / 1]
3-701-022	Manual New Unit Set	Separation Pawl	ENG*	[0 to 1 / 0 / 1]
3-701-023	Manual New Unit Set	#Development Unit	ENG*	[0 to 1 / 0 / 1]
3-701-024	Manual New Unit Set	Development	ENG*	[0 to 1 / 0 / 1]
3-701-025	Manual New Unit Set	Development Filter	ENG*	[0 to 1 / 0 / 1]
3-701-028	Manual New Unit Set	Bearing:Development Screw	ENG*	[0 to 1 / 0 / 1]
3-701-108	Manual New Unit Set	#PTR Unit	ENG*	[0 to 1 / 0 / 1]
3-701-115	Manual New Unit Set	#Fusing Unit	ENG*	[0 to 1 / 0 / 1]
3-701-116	Manual New Unit Set	Fusing Belt	ENG*	[0 to 1 / 0 / 1]
3-701-118	Manual New Unit Set	Pressure Roller	ENG*	[0 to 1 / 0 / 1]
3-701-119	Manual New Unit Set	Pressure Roller Bearings	ENG*	[0 to 1 / 0 / 1]
3-701-	Manual New Unit Set	Waste Toner bottle	ENG*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
142				
3-710-011	mu Concentration Control: Set	mu sensor resolution	ENG*	[0 to 3 / 1 / 1]
3-710-012	mu Concentration Control: Set	Ini mu count offset	ENG*	[0 to 10000 / 5912 / 1]
3-800-014	Waste Toner Full Detection	Threshold : Remainder days	ENG*	[1 to 255 / 15 / 1day]
3-903-001	Adjust Toner Remains	Bottle Motor Time	ENG*	[0 to 99999999 / 0 / 1msec]
3-903-002	Adjust Toner Remains	Toner Level	ENG*	[0 to 100 / 100 / 1%]
3-903-004	Adjust Toner Remains	Reset-Bottle Motor Time	ENG	[0 to 1 / 0 / 0]
3-903-005	Adjust Toner Remains	0:OFF 1:ON	ENG*	[0 to 1 / 0 / 1]

Engine SP4-XXX (LoCPP edge level)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
4-201-005	LoCPP edge level:K	600dpi 1bit edge1	ENG*	[0 to 15 / 11 / 1]
4-201-006	LoCPP edge level:K	600dpi 1bit edge23	ENG*	[0 to 15 / 11 / 1]
4-201-011	LoCPP edge lv:K	1200dpi1bit edge12	ENG*	[0 to 15 / 12 / 1]
4-201-012	LoCPP edge lv:K	1200dpi1bit edge34	ENG*	[0 to 15 / 12 / 1]

Engine SP5-XXX (Mode)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
5-126-001	Set F-size Document		ENG	[0 to 2 / 0 / 1] 0: 8 1/2x13 1: 8 1/4x13 2: 8x13
5-131-001	Paper Size Type Selection		ENG*	[0 to 2 / * / 1] 0: JP 1: NA 2: EU *NA: 1 *EU/AA/CHN/TWN/KOR: 2
5-135-001	LG_Oficio Change		ENG*	[0 to 1 / 0 / 1]
5-181-001	Size Adjust	TRAY 1: 1	ENG*	[0 to 1 / * / 1] 0: A4 LEF 1: 8 1/2x11 LEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-002	Size Adjust	TRAY 1: 2	ENG*	[0 to 1 / * / 1] 0: A3 1: 11x17 *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-003	Size Adjust	TRAY 1: 3	ENG*	[0 to 1 / * / 1] 0: B4 1: 8 1/2x14 SEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-004	Size Adjust	TRAY 1: 4	ENG*	[0 to 1 / * / 1] 0: B5 LEF 1: 7 1/4x10 1/2 LEF *NA: 1

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				*EU/AA/CHN/TWN/KOR: 0
5-181-005	Size Adjust	TRAY 2: 1	ENG*	[0 to 1 / * / 1] 0: A4 LEF 1: 8 1/2x11 LEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-006	Size Adjust	TRAY 2: 2	ENG*	[0 to 1 / * / 1] 0: A3 1: 11x17 *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-007	Size Adjust	TRAY 2: 3	ENG*	[0 to 1 / * / 1] 0: B4 1: 8 1/2x14 SEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-008	Size Adjust	TRAY 2: 4	ENG*	[0 to 1 / * / 1] 0: B5 LEF 1: 7 1/4x10 1/2 LEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-009	Size Adjust	TRAY 3/T-LCT: 1	ENG*	[0 to 1 / * / 1] 0: A4LEF 1: LTLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-010	Size Adjust	TRAY 3: 2	ENG*	[0 to 1 / * / 1] 0: A3 1: DLT *NA: 1 *EU/AA/CHN/TWN/KOR:

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				0
5-181-011	Size Adjust	TRAY 3: 3	ENG*	[0 to 1 / * / 1] 0: B4 1: LG *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-012	Size Adjust	TRAY 3: 4	ENG*	[0 to 1 / * / 1] 0: B5LEF 1: ExeLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-013	Size Adjust	TRAY 3: 5	ENG*	[0 to 1 / * / 1] 0: 12.6x17.7 1: 12x18 *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-014	Size Adjust	TRAY 4: 1	ENG*	[0 to 1 / * / 1] 0: A4LEF 1: LTLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-015	Size Adjust	TRAY 4: 2	ENG*	[0 to 1 / * / 1] 0: A3 1: DLT *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-016	Size Adjust	TRAY 4: 3	ENG*	[0 to 1 / * / 1] 0: B4 1: LG *NA: 1 *EU/AA/CHN/TWN/KOR: 0

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
5-181-017	Size Adjust	TRAY 4: 4	ENG*	[0 to 1 / * / 1] 0: B5LEF 1: ExeLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-018	Size Adjust	TRAY 4: 5	ENG*	[0 to 1 / * / 1] 0: 12.6x17.7 1: 12x18 *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-019	Size Adjust	TRAY 5: 1	ENG*	[0 to 1 / * / 1] 0: A4LEF 1: LTLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-020	Size Adjust	TRAY 5: 2	ENG*	[0 to 1 / * / 1] 0: A3 1: DLT *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-021	Size Adjust	TRAY 5: 3	ENG*	[0 to 1 / * / 1] 0: B4 1: LG *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-022	Size Adjust	TRAY 5: 4	ENG*	[0 to 1 / * / 1] 0: B5LEF 1: ExeLEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-	Size Adjust	TRAY 5: 5	ENG*	[0 to 1 / * / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
023				0: 12.6x17.7 1: 12x18 *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-181-024	Size Adjust	LCT	ENG*	[0 to 2 / * / 1] 0: A4LEF 1: LTLEF 2: B5LEF *NA: 1 *EU/AA/CHN/TWN/KOR: 0
5-186-001	RK4		ENG*	[0 to 1 / 0 / 1]
5-801-002	Memory Clear	Engine	ENG	[0 to 1 / 0 / 1]
5-805-001	Anti-Condensation Heater	0:OFF / 1:ON	ENG*	[0 to 1 / 0 / 1]
5-810-001	SC Reset	Fusing SC Reset	ENG	[0 to 1 / 0 / 1]
5-810-002	SC Reset	Hard High Temp. Detection	ENG	[0 to 1 / 0 / 1]
5-811-002	MachineSerial	Display	ENG*	[0 to 255 / 0 / 1]
5-811-004	MachineSerial Set	BCU	ENG	[0 to 255 / 0 / 1]
5-811-021	Machine Serial Update Date	Latest	ENG*	[0 to 1 / 0 / 1]
5-811-022	Machine Serial Update Date	Previous	ENG*	[0 to 1 / 0 / 1]
5-811-023	Machine Serial	Previous	ENG*	[0 to 255 / 0 / 1]
5-811-024	Machine Serial Update Date	Latest(BCU)	ENG*	[0 to 1 / 0 / 1]
5-811-025	Machine Serial Update Date	Previous(BCU)	ENG*	[0 to 1 / 0 / 1]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
5-811-026	Machine Serial	Previous(BCU)	ENG*	[0 to 255 / 0 / 1]
5-894-001	External Mech Count Setting	Mech Counter Switch Setting	ENG*	[0 to 2 / 0 / 1]
5-900-001	Engine Log Upload	Pattern	ENG*	[0 to 4 / 0 / 1]
5-900-002	Engine Log Upload	Trigger	ENG*	[0 to 3 / 0 / 1]
5-930-001	MeterClick Ch.	MeterClick Ch.	ENG*	[0 to 1 / 0 / 1] 0: OFF 1: ON
5-930-010	MeterClick Ch.	PCU	ENG*	[0 to 1 / 1 / 1] 0: OFF 1: ON
5-930-014	MeterClick Ch.	Paper Transfer Roller Unit	ENG*	[0 to 1 / 1 / 1] 0: OFF 1: ON
5-930-016	MeterClick Ch.	Fusing Unit	ENG*	[0 to 1 / 1 / 1] 0: OFF 1: ON

Engine SP6-XXX (Peripherals)

DFU: Design/Factory Use only

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-100-001	Sub-scanPunchPosAdj:2K/3K FIN	JPN/EU: 2-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-100-002	Sub-scanPunchPosAdj:2K/3K FIN	NA: 3-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-100-003	Sub-scanPunchPosAdj:2K/3K FIN	Europe: 4-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-100-004	Sub-scanPunchPosAdj:2K/3K FIN	NEU: 4-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-100-005	Sub-scanPunchPosAdj:2K/3K FIN	NA: 2-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-100-006	Sub-scanPunchPosAdj:2K/3K FIN	JPN: 1-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-101-001	Main-scanPunchPosAdj:2K/3K FIN	JPN/EU: 2-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-101-002	Main-scanPunchPosAdj:2K/3K FIN	NA: 3-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-101-003	Main-scanPunchPosAdj:2K/3K FIN	Europe: 4-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-101-004	Main-scanPunchPosAdj:2K/3K FIN	NEU: 4-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-101-005	Main-scanPunchPosAdj:2K/3K FIN	NA: 2-Hole	ENG	[-2 to 2 / 0 / 0.4mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-101-006	Main-scanPunchPosAdj:2K/3K FIN	JPN:1-1Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-102-001	SkewCorrectBuckleAdj:2K/3K FIN	A3 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-002	SkewCorrectBuckleAdj:2K/3K FIN	B4 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-003	SkewCorrectBuckleAdj:2K/3K FIN	A4 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-004	SkewCorrectBuckleAdj:2K/3K FIN	A4 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-005	SkewCorrectBuckleAdj:2K/3K FIN	B5 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-006	SkewCorrectBuckleAdj:2K/3K FIN	B5 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-007	SkewCorrectBuckleAdj:2K/3K FIN	A5 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-008	SkewCorrectBuckleAdj:2K/3K FIN	DLT SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-009	SkewCorrectBuckleAdj:2K/3K FIN	LG SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-010	SkewCorrectBuckleAdj:2K/3K FIN	Oficio SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-011	SkewCorrectBuckleAdj:2K/3K FIN	LT SEF	ENG	[-5 to 5 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-102-012	SkewCorrectBuckleAdj:2K/3K FIN	LT LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-013	SkewCorrectBuckleAdj:2K/3K FIN	HLT LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-014	SkewCorrectBuckleAdj:2K/3K FIN	12"x18"	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-015	SkewCorrectBuckleAdj:2K/3K FIN	8K SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-016	SkewCorrectBuckleAdj:2K/3K FIN	16K SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-017	SkewCorrectBuckleAdj:2K/3K FIN	16K LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-102-018	SkewCorrectBuckleAdj:2K/3K FIN	Other	ENG	[-5 to 5 / 0 / 0.2mm]
6-103-001	SkewCorrectCtrlSW:2K/3K FIN	A3 SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-002	SkewCorrectCtrlSW:2K/3K FIN	B4 SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-003	SkewCorrectCtrlSW:2K/3K FIN	A4 SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-103-004	SkewCorrectCtrlSW:2K/3K FIN	A4 LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-005	SkewCorrectCtrlSW:2K/3K FIN	B5 SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-006	SkewCorrectCtrlSW:2K/3K FIN	B5 LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-007	SkewCorrectCtrlSW:2K/3K FIN	A5 LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-008	SkewCorrectCtrlSW:2K/3K FIN	DLT SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-009	SkewCorrectCtrlSW:2K/3K FIN	LG SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-010	SkewCorrectCtrlSW:2K/3K FIN	Oficio SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-	SkewCorrectCtrlSW:2K/3K FIN	LT SEF	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
103-011				0: BuckleAdj On 1: BuckleAdj Off
6-103-012	SkewCorrectCtrlSW:2K/3K FIN	LT LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-013	SkewCorrectCtrlSW:2K/3K FIN	HLT LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-014	SkewCorrectCtrlSW:2K/3K FIN	12"x18"	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-015	SkewCorrectCtrlSW:2K/3K FIN	8K SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-016	SkewCorrectCtrlSW:2K/3K FIN	16K SEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-017	SkewCorrectCtrlSW:2K/3K FIN	16K LEF	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj On 1: BuckleAdj Off
6-103-	SkewCorrectCtrlSW:2K/3K FIN	Other	ENG	[0 to 1 / 0 / 1] 0: BuckleAdj

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
018				On 1: BuckleAdj Off
6-104-001	ShiftTrayJogPosAdj:2K/3K FIN	A3 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-002	ShiftTrayJogPosAdj:2K/3K FIN	B4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-003	ShiftTrayJogPosAdj:2K/3K FIN	A4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-004	ShiftTrayJogPosAdj:2K/3K FIN	A4 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-005	ShiftTrayJogPosAdj:2K/3K FIN	B5 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-006	ShiftTrayJogPosAdj:2K/3K FIN	A5 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-007	ShiftTrayJogPosAdj:2K/3K FIN	DLT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-008	ShiftTrayJogPosAdj:2K/3K FIN	LG SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-009	ShiftTrayJogPosAdj:2K/3K FIN	Oficio SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-010	ShiftTrayJogPosAdj:2K/3K FIN	LT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-011	ShiftTrayJogPosAdj:2K/3K FIN	LT LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-104-012	ShiftTrayJogPosAdj:2K/3K FIN	HLT LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-013	ShiftTrayJogPosAdj:2K/3K FIN	8K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-014	ShiftTrayJogPosAdj:2K/3K FIN	16K LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-104-015	ShiftTrayJogPosAdj:2K/3K FIN	Other	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-105-001	ShftTJogRtrctAngAdj:2K/3K FIN	A3 SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-002	ShftTJogRtrctAngAdj:2K/3K FIN	B4 SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-003	ShftTJogRtrctAngAdj:2K/3K FIN	A4 SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-004	ShftTJogRtrctAngAdj:2K/3K FIN	DLT SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-005	ShftTJogRtrctAngAdj:2K/3K FIN	LG SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-006	ShftTJogRtrctAngAdj:2K/3K FIN	Oficio SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-007	ShftTJogRtrctAngAdj:2K/3K FIN	LT SEF	ENG	[-10 to 10 / 0 / 5deg]
6-105-008	ShftTJogRtrctAngAdj:2K/3K FIN	8K SEF	ENG	[-10 to 10 / 0 / 5deg]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-105-009	ShftTJogRtrctAngAdj:2K/3K FIN	Other	ENG	[-10 to 10 / 0 / 5deg]
6-106-001	Use Paper Jogger: 2K/3K FIN	A3 SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-002	Use Paper Jogger: 2K/3K FIN	B4 SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-003	Use Paper Jogger: 2K/3K FIN	A4 SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-004	Use Paper Jogger: 2K/3K FIN	A4 LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-005	Use Paper Jogger: 2K/3K FIN	B5 LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-006	Use Paper Jogger: 2K/3K FIN	A5 LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-007	Use Paper Jogger: 2K/3K FIN	DLT SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-008	Use Paper Jogger: 2K/3K FIN	LG SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-009	Use Paper Jogger: 2K/3K FIN	Oficio SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-010	Use Paper Jogger: 2K/3K FIN	LT SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-011	Use Paper Jogger: 2K/3K FIN	LT LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-106-012	Use Paper Jogger: 2K/3K FIN	HLT LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-013	Use Paper Jogger: 2K/3K FIN	8K SEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-014	Use Paper Jogger: 2K/3K FIN	16K LEF	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-106-015	Use Paper Jogger: 2K/3K FIN	Other	ENG	[0 to 1 / 0 / 1] 0: Jogging On 1: Jogging Off
6-107-001	JogPosAdj(CrnrStplr):2K/3K FIN	A3 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-002	JogPosAdj(CrnrStplr):2K/3K FIN	B4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-003	JogPosAdj(CrnrStplr):2K/3K FIN	A4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-004	JogPosAdj(CrnrStplr):2K/3K FIN	A4 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-005	JogPosAdj(CrnrStplr):2K/3K FIN	B5 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-006	JogPosAdj(CrnrStplr):2K/3K FIN	B5 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-007	JogPosAdj(CrnrStplr):2K/3K FIN	DLT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-008	JogPosAdj(CrnrStplr):2K/3K FIN	LG SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-107-009	JogPosAdj(CrnrStplr):2K/3K FIN	Oficio SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-010	JogPosAdj(CrnrStplr):2K/3K FIN	LT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-011	JogPosAdj(CrnrStplr):2K/3K FIN	LT LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-012	JogPosAdj(CrnrStplr):2K/3K FIN	8K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-013	JogPosAdj(CrnrStplr):2K/3K FIN	16K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-014	JogPosAdj(CrnrStplr):2K/3K FIN	16K LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-107-015	JogPosAdj(CrnrStplr):2K/3K FIN	Other	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-001	JogPosAdj(BookStplr):2K/3K FIN (DFU)	A3 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-002	JogPosAdj(BookStplr):2K/3K FIN (DFU)	B4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-003	JogPosAdj(BookStplr):2K/3K FIN (DFU)	A4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-004	JogPosAdj(BookStplr):2K/3K FIN (DFU)	B5 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-005	JogPosAdj(BookStplr):2K/3K FIN (DFU)	DLT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-108-006	JogPosAdj(BookStplr):2K/3K FIN (DFU)	LG SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-007	JogPosAdj(BookStplr):2K/3K FIN (DFU)	Oficio SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-008	JogPosAdj(BookStplr):2K/3K FIN (DFU)	LT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-009	JogPosAdj(BookStplr):2K/3K FIN (DFU)	12"x18"	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-010	JogPosAdj(BookStplr):2K/3K FIN (DFU)	8K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-108-011	JogPosAdj(BookStplr):2K/3K FIN (DFU)	Other	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-109-001	CrnrStplrJogTimeAdj:2K/3K FIN	A3 SEF	ENG	[0 to 2 / 0 / 1times]
6-109-002	CrnrStplrJogTimeAdj:2K/3K FIN	B4 SEF	ENG	[0 to 2 / 0 / 1times]
6-109-003	CrnrStplrJogTimeAdj:2K/3K FIN	A4 SEF	ENG	[0 to 2 / 0 / 1times]
6-109-004	CrnrStplrJogTimeAdj:2K/3K FIN	A4 LEF	ENG	[0 to 2 / 0 / 1times]
6-109-005	CrnrStplrJogTimeAdj:2K/3K FIN	B5 SEF	ENG	[0 to 2 / 0 / 1times]
6-109-006	CrnrStplrJogTimeAdj:2K/3K FIN	B5 LEF	ENG	[0 to 2 / 0 / 1times]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-109-007	CrnrStplrJogTimeAdj:2K/3K FIN	DLT SEF	ENG	[0 to 2 / 0 / 1times]
6-109-008	CrnrStplrJogTimeAdj:2K/3K FIN	LG SEF	ENG	[0 to 2 / 0 / 1times]
6-109-009	CrnrStplrJogTimeAdj:2K/3K FIN	Oficio SEF	ENG	[0 to 2 / 0 / 1times]
6-109-010	CrnrStplrJogTimeAdj:2K/3K FIN	LT SEF	ENG	[0 to 2 / 0 / 1times]
6-109-011	CrnrStplrJogTimeAdj:2K/3K FIN	LT LEF	ENG	[0 to 2 / 0 / 1times]
6-109-012	CrnrStplrJogTimeAdj:2K/3K FIN	8K SEF	ENG	[0 to 2 / 0 / 1times]
6-109-013	CrnrStplrJogTimeAdj:2K/3K FIN	16K SEF	ENG	[0 to 2 / 0 / 1times]
6-109-014	CrnrStplrJogTimeAdj:2K/3K FIN	16K LEF	ENG	[0 to 2 / 0 / 1times]
6-109-015	CrnrStplrJogTimeAdj:2K/3K FIN	Other	ENG	[0 to 2 / 0 / 1times]
6-110-001	BookStplrJogTimeAdj:2K/3K FIN (DFU)	A3 SEF	ENG	[0 to 2 / 0 / 1times]
6-110-002	BookStplrJogTimeAdj:2K/3K FIN (DFU)	B4 SEF	ENG	[0 to 2 / 0 / 1times]
6-110-003	BookStplrJogTimeAdj:2K/3K FIN (DFU)	A4 SEF	ENG	[0 to 2 / 0 / 1times]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-110-004	BookStplrJogTimeAdj:2K/3K FIN (DFU)	B5 SEF	ENG	[0 to 2 / 0 / 1times]
6-110-005	BookStplrJogTimeAdj:2K/3K FIN (DFU)	DLT SEF	ENG	[0 to 2 / 0 / 1times]
6-110-006	BookStplrJogTimeAdj:2K/3K FIN (DFU)	LG SEF	ENG	[0 to 2 / 0 / 1times]
6-110-007	BookStplrJogTimeAdj:2K/3K FIN (DFU)	Oficio SEF	ENG	[0 to 2 / 0 / 1times]
6-110-008	BookStplrJogTimeAdj:2K/3K FIN (DFU)	LT SEF	ENG	[0 to 2 / 0 / 1times]
6-110-009	BookStplrJogTimeAdj:2K/3K FIN (DFU)	12"x18"	ENG	[0 to 2 / 0 / 1times]
6-110-010	BookStplrJogTimeAdj:2K/3K FIN (DFU)	8K SEF	ENG	[0 to 2 / 0 / 1times]
6-110-011	BookStplrJogTimeAdj:2K/3K FIN (DFU)	Other	ENG	[0 to 2 / 0 / 1times]
6-111-001	Staple Position Adj: 2K/3K FIN	A3 SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-002	Staple Position Adj: 2K/3K FIN	B4 SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-003	Staple Position Adj: 2K/3K FIN	A4 SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-004	Staple Position Adj: 2K/3K FIN	A4 LEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-111-005	Staple Position Adj: 2K/3K FIN	B5 SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-006	Staple Position Adj: 2K/3K FIN	B5 LEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-007	Staple Position Adj: 2K/3K FIN	DLT SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-008	Staple Position Adj: 2K/3K FIN	LG SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-009	Staple Position Adj: 2K/3K FIN	Oficio SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-010	Staple Position Adj: 2K/3K FIN	LT SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-011	Staple Position Adj: 2K/3K FIN	LT LEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-012	Staple Position Adj: 2K/3K FIN	8K SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-013	Staple Position Adj: 2K/3K FIN	16K SEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-014	Staple Position Adj: 2K/3K FIN	16K LEF	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-111-015	Staple Position Adj: 2K/3K FIN	Other	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-112-001	BookletStaplerPosAdj:2K/3K FIN (DFU)	A3 SEF	ENG	[-3 to 3 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-112-002	BookletStaplerPosAdj:2K/3K FIN (DFU)	B4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-003	BookletStaplerPosAdj:2K/3K FIN (DFU)	A4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-004	BookletStaplerPosAdj:2K/3K FIN (DFU)	B5 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-005	BookletStaplerPosAdj:2K/3K FIN (DFU)	DLT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-006	BookletStaplerPosAdj:2K/3K FIN (DFU)	LG SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-007	BookletStaplerPosAdj:2K/3K FIN (DFU)	Oficio SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-008	BookletStaplerPosAdj:2K/3K FIN (DFU)	LT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-009	BookletStaplerPosAdj:2K/3K FIN (DFU)	12"x18"	ENG	[-1.8 to 1.8 / 0 / 0.2mm]
6-112-010	BookletStaplerPosAdj:2K/3K FIN (DFU)	8K SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-112-011	BookletStaplerPosAdj:2K/3K FIN (DFU)	Other	ENG	[-1.8 to 1.8 / 0 / 0.2mm]
6-113-001	BookletFolderPosAdj:2K/3K FIN (DFU)	A3 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-002	BookletFolderPosAdj:2K/3K FIN (DFU)	B4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-113-003	BookletFolderPosAdj:2K/3K FIN (DFU)	A4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-004	BookletFolderPosAdj:2K/3K FIN (DFU)	B5 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-005	BookletFolderPosAdj:2K/3K FIN (DFU)	DLT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-006	BookletFolderPosAdj:2K/3K FIN (DFU)	LG SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-007	BookletFolderPosAdj:2K/3K FIN (DFU)	Oficio SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-008	BookletFolderPosAdj:2K/3K FIN (DFU)	LT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-009	BookletFolderPosAdj:2K/3K FIN (DFU)	12"x18"	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-010	BookletFolderPosAdj:2K/3K FIN (DFU)	8K SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-011	BookletFolderPosAdj:2K/3K FIN (DFU)	Other	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-012	BookletFolderPosAdj:2K/3K FIN (DFU)	A3 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-013	BookletFolderPosAdj:2K/3K FIN (DFU)	A3 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-014	BookletFolderPosAdj:2K/3K FIN (DFU)	A3 SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-113-015	BookletFolderPosAdj:2K/3K FIN (DFU)	A3 SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-016	BookletFolderPosAdj:2K/3K FIN (DFU)	B4 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-017	BookletFolderPosAdj:2K/3K FIN (DFU)	B4 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-018	BookletFolderPosAdj:2K/3K FIN (DFU)	B4 SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-019	BookletFolderPosAdj:2K/3K FIN (DFU)	B4 SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-020	BookletFolderPosAdj:2K/3K FIN (DFU)	A4 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-021	BookletFolderPosAdj:2K/3K FIN (DFU)	A4 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-022	BookletFolderPosAdj:2K/3K FIN (DFU)	A4 SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-023	BookletFolderPosAdj:2K/3K FIN (DFU)	A4 SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-024	BookletFolderPosAdj:2K/3K FIN (DFU)	B5 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-025	BookletFolderPosAdj:2K/3K FIN (DFU)	B5 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-026	BookletFolderPosAdj:2K/3K FIN (DFU)	B5 SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-113-027	BookletFolderPosAdj:2K/3K FIN (DFU)	B5 SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-028	BookletFolderPosAdj:2K/3K FIN (DFU)	DLT SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-029	BookletFolderPosAdj:2K/3K FIN (DFU)	DLT SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-030	BookletFolderPosAdj:2K/3K FIN (DFU)	DLT SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-031	BookletFolderPosAdj:2K/3K FIN (DFU)	DLT SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-032	BookletFolderPosAdj:2K/3K FIN (DFU)	LG SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-033	BookletFolderPosAdj:2K/3K FIN (DFU)	LG SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-034	BookletFolderPosAdj:2K/3K FIN (DFU)	LG SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-035	BookletFolderPosAdj:2K/3K FIN (DFU)	LG SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-036	BookletFolderPosAdj:2K/3K FIN (DFU)	Oficio SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-037	BookletFolderPosAdj:2K/3K FIN (DFU)	Oficio SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-038	BookletFolderPosAdj:2K/3K FIN (DFU)	Oficio SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-113-039	BookletFolderPosAdj:2K/3K FIN (DFU)	Oficio SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-040	BookletFolderPosAdj:2K/3K FIN (DFU)	LT SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-041	BookletFolderPosAdj:2K/3K FIN (DFU)	LT SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-042	BookletFolderPosAdj:2K/3K FIN (DFU)	LT SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-043	BookletFolderPosAdj:2K/3K FIN (DFU)	LT SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-044	BookletFolderPosAdj:2K/3K FIN (DFU)	12"x18"(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-045	BookletFolderPosAdj:2K/3K FIN (DFU)	12"x18"(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-046	BookletFolderPosAdj:2K/3K FIN (DFU)	12"x18"(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-047	BookletFolderPosAdj:2K/3K FIN (DFU)	12"x18"(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-048	BookletFolderPosAdj:2K/3K FIN (DFU)	8K SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-049	BookletFolderPosAdj:2K/3K FIN (DFU)	8K SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-050	BookletFolderPosAdj:2K/3K FIN (DFU)	8K SEF(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-113-051	BookletFolderPosAdj:2K/3K FIN (DFU)	8K SEF(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-052	BookletFolderPosAdj:2K/3K FIN (DFU)	Other(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-053	BookletFolderPosAdj:2K/3K FIN (DFU)	Other(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-054	BookletFolderPosAdj:2K/3K FIN (DFU)	Other(11-15)	ENG	[-3 to 3 / 0 / 0.2mm]
6-113-055	BookletFolderPosAdj:2K/3K FIN (DFU)	Other(16-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-114-001	Fold Speed Adj.: 2K/3K FIN (DFU)	A3 SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-002	Fold Speed Adj.: 2K/3K FIN (DFU)	B4 SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-003	Fold Speed Adj.: 2K/3K FIN (DFU)	A4 SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-004	Fold Speed Adj.: 2K/3K FIN (DFU)	B5 SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-	Fold Speed Adj.: 2K/3K FIN (DFU)	DLT SEF	ENG	[0 to 2 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
114-005				0: Std Speed 1: Middle Speed 2: Low Speed
6-114-006	Fold Speed Adj.: 2K/3K FIN (DFU)	LG SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-007	Fold Speed Adj.: 2K/3K FIN (DFU)	Oficio SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-008	Fold Speed Adj.: 2K/3K FIN (DFU)	LT SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-009	Fold Speed Adj.: 2K/3K FIN (DFU)	12"x18"	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-010	Fold Speed Adj.: 2K/3K FIN (DFU)	8K SEF	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-114-011	Fold Speed Adj.: 2K/3K FIN (DFU)	Other	ENG	[0 to 2 / 0 / 1] 0: Std Speed 1: Middle Speed 2: Low Speed
6-115-	Finisher Free Run: 2K/3K FIN	Free Run 5	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
005				
6-116-001	CrnrStplrMxPrstkShAdj:2K/3KFIN	A3 SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-002	CrnrStplrMxPrstkShAdj:2K/3KFIN	B4 SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-003	CrnrStplrMxPrstkShAdj:2K/3KFIN	A4 SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-004	CrnrStplrMxPrstkShAdj:2K/3KFIN	A4 LEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-005	CrnrStplrMxPrstkShAdj:2K/3KFIN	B5 SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-006	CrnrStplrMxPrstkShAdj:2K/3KFIN	B5 LEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-007	CrnrStplrMxPrstkShAdj:2K/3KFIN	DLT SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-008	CrnrStplrMxPrstkShAdj:2K/3KFIN	LG SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-009	CrnrStplrMxPrstkShAdj:2K/3KFIN	Oficio SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-010	CrnrStplrMxPrstkShAdj:2K/3KFIN	LT SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-011	CrnrStplrMxPrstkShAdj:2K/3KFIN	LT LEF	ENG	[-1 to 0 / 0 / 1sheets]
6-	CrnrStplrMxPrstkShAdj:2K/3KFIN	8K SEF	ENG	[-1 to 0 / 0 /

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
116-012				1sheets]
6-116-013	CrnrStplrMxPrstkShAdj:2K/3KFIN	16K SEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-014	CrnrStplrMxPrstkShAdj:2K/3KFIN	16K LEF	ENG	[-1 to 0 / 0 / 1sheets]
6-116-015	CrnrStplrMxPrstkShAdj:2K/3KFIN	Other	ENG	[-1 to 0 / 0 / 1sheets]
6-117-001	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	A3 SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-002	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	B4 SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-003	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	A4 SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-004	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	B5 SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-005	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	DLT SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-006	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	LG SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-007	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	Oficio SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-008	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	LT SEF	ENG	[-7 to 0 / 0 / 1sheets]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-117-009	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	12"x18"	ENG	[-7 to 0 / 0 / 1sheets]
6-117-010	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	8K SEF	ENG	[-7 to 0 / 0 / 1sheets]
6-117-011	BookStplrMxPrstkShAdj:2K/3KFIN (DFU)	Other	ENG	[-2 to 0 / 0 / 1sheets]
6-118-001	CrnrStplrPrstkOffsAdj:2K/3KFIN	A3 SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-002	CrnrStplrPrstkOffsAdj:2K/3KFIN	B4 SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-003	CrnrStplrPrstkOffsAdj:2K/3KFIN	A4 SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-004	CrnrStplrPrstkOffsAdj:2K/3KFIN	A4 LEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-005	CrnrStplrPrstkOffsAdj:2K/3KFIN	B5 SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-006	CrnrStplrPrstkOffsAdj:2K/3KFIN	B5 LEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-007	CrnrStplrPrstkOffsAdj:2K/3KFIN	DLT SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-008	CrnrStplrPrstkOffsAdj:2K/3KFIN	LG SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-009	CrnrStplrPrstkOffsAdj:2K/3KFIN	Oficio SEF	ENG	[-16 to 16 / 0 / 2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-118-010	CrnrStplrPrstkOffsAdj:2K/3KFIN	LT SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-011	CrnrStplrPrstkOffsAdj:2K/3KFIN	LT LEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-012	CrnrStplrPrstkOffsAdj:2K/3KFIN	8K SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-013	CrnrStplrPrstkOffsAdj:2K/3KFIN	16K SEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-014	CrnrStplrPrstkOffsAdj:2K/3KFIN	16K LEF	ENG	[-16 to 16 / 0 / 2mm]
6-118-015	CrnrStplrPrstkOffsAdj:2K/3KFIN	Other	ENG	[-16 to 16 / 0 / 2mm]
6-119-001	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	A3 SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-002	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	B4 SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-003	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	A4 SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-004	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	B5 SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-005	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	DLT SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-006	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	LG SEF	ENG	[-30 to 30 / 0 / 2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-119-007	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	Oficio SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-008	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	LT SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-009	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	12"x18"	ENG	[-30 to 30 / 0 / 2mm]
6-119-010	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	8K SEF	ENG	[-30 to 30 / 0 / 2mm]
6-119-011	BookStplrPrstkOffsAdj:2K/3KFIN (DFU)	Other	ENG	[-30 to 30 / 0 / 2mm]
6-120-001	CrnStpPosExFeedAmtAdj:2K/3KFIN	A3 SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-002	CrnStpPosExFeedAmtAdj:2K/3KFIN	B4 SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-003	CrnStpPosExFeedAmtAdj:2K/3KFIN	A4 SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-004	CrnStpPosExFeedAmtAdj:2K/3KFIN	A4 LEF	ENG	[0 to 30 / 0 / 10mm]
6-120-005	CrnStpPosExFeedAmtAdj:2K/3KFIN	B5 SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-006	CrnStpPosExFeedAmtAdj:2K/3KFIN	B5 LEF	ENG	[0 to 30 / 0 / 10mm]
6-120-007	CrnStpPosExFeedAmtAdj:2K/3KFIN	DLT SEF	ENG	[0 to 30 / 0 / 10mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-120-008	CrnStpPosExFeedAmtAdj:2K/3KFIN	LG SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-009	CrnStpPosExFeedAmtAdj:2K/3KFIN	Oficio SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-010	CrnStpPosExFeedAmtAdj:2K/3KFIN	LT SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-011	CrnStpPosExFeedAmtAdj:2K/3KFIN	LT LEF	ENG	[0 to 30 / 0 / 10mm]
6-120-012	CrnStpPosExFeedAmtAdj:2K/3KFIN	8K SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-013	CrnStpPosExFeedAmtAdj:2K/3KFIN	16K SEF	ENG	[0 to 30 / 0 / 10mm]
6-120-014	CrnStpPosExFeedAmtAdj:2K/3KFIN	16K LEF	ENG	[0 to 30 / 0 / 10mm]
6-120-015	CrnStpPosExFeedAmtAdj:2K/3KFIN	Other	ENG	[0 to 30 / 0 / 10mm]
6-121-001	NV Adj. Data Mod.	Jogger Pos. Factory Adj.	ENG	[-3 to 3 / 0 / 0.5mm]
6-121-002	NV Adj. Data Mod.	Folding Pos. Factory Adj.	ENG	[-1.4 to 1.4 / 0 / 0.2mm]
6-122-001	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	A3 SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-002	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	B4 SEF	ENG	[-5 to 5 / 0 / 1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-122-003	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	A4 SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-004	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	B5 SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-005	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	DLT SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-006	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	LG SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-007	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	Oficio SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-008	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	LT SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-009	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	12"x18"	ENG	[-5 to 5 / 0 / 1mm]
6-122-010	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	8K SEF	ENG	[-5 to 5 / 0 / 1mm]
6-122-011	BkFoldJogSolMovAmtAdj:2K/3KFIN (DFU)	Other	ENG	[-5 to 5 / 0 / 1mm]
6-125-001	Use Paper Guide(Big Size)	All Size	ENG	[0 to 1 / 0 / 1] 0: Guide On 1: Guide Off
6-126-001	Use Paper Guide(Small Size)	All Size	ENG	[0 to 1 / 0 / 1] 0: Guide On 1: Guide Off
6-127-001	Paper Guide PossAdj:2K/3K FIN	All Size	ENG	[-10 to 10 / 0 / 1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-128-001	Paper Guide RetraAdj:2K/3K FIN	All Size	ENG	[-50 to 50 / 0 / 5mm]
6-129-001	Paper Guide AceptAdj:2K/3K FIN	All Size	ENG	[-50 to 50 / 0 / 5msec]
6-140-001	Staple Position Adj: 1K FIN	Staple Stapler	ENG	[-3.5 to 3.5 / 0 / 0.5mm]
6-140-002	Staple Position Adj: 1K FIN	Stapleless Stapler	ENG	[-3 to 3 / 0 / 0.3mm]
6-141-001	Booklet Stapler Pos Adj:1K FIN (DFU)	A3 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-002	Booklet Stapler Pos Adj:1K FIN (DFU)	B4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-003	Booklet Stapler Pos Adj:1K FIN (DFU)	A4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-004	Booklet Stapler Pos Adj:1K FIN (DFU)	B5 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-005	Booklet Stapler Pos Adj:1K FIN (DFU)	DLT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-006	Booklet Stapler Pos Adj:1K FIN (DFU)	LG SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-007	Booklet Stapler Pos Adj:1K FIN (DFU)	Oficio SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-141-008	Booklet Stapler Pos Adj:1K FIN (DFU)	LT SEF	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-141-009	Booklet Stapler Pos Adj:1K FIN (DFU)	12"x18"	ENG	[-3 to 3 / 0 / 0.2mm]
6-142-001	Sub-scan Punch Pos Adj:1K FIN	JPN/EU: 2-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-142-002	Sub-scan Punch Pos Adj:1K FIN	NA: 3-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-142-003	Sub-scan Punch Pos Adj:1K FIN	Europe: 4-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-142-004	Sub-scan Punch Pos Adj:1K FIN	NEU: 4-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-142-005	Sub-scan Punch Pos Adj:1K FIN	NA: 2-Hole	ENG	[-7.5 to 7.5 / 0 / 0.5mm]
6-143-001	Jogger Pos Adj:1K FIN	A3 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-002	Jogger Pos Adj:1K FIN	B4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-003	Jogger Pos Adj:1K FIN	A4 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-004	Jogger Pos Adj:1K FIN	A4 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-005	Jogger Pos Adj:1K FIN	B5 SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-006	Jogger Pos Adj:1K FIN	B5 LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-143-007	Jogger Pos Adj:1K FIN	DLT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-008	Jogger Pos Adj:1K FIN	LG SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-009	Jogger Pos Adj:1K FIN	Oficio SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-010	Jogger Pos Adj:1K FIN	LT SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-011	Jogger Pos Adj:1K FIN	LT LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-012	Jogger Pos Adj:1K FIN	12"x18"	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-013	Jogger Pos Adj:1K FIN	8K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-014	Jogger Pos Adj:1K FIN	16K SEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-015	Jogger Pos Adj:1K FIN	16K LEF	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-143-016	Jogger Pos Adj:1K FIN	Other	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-144-001	Main-scan Punch Pos Adj:1K FIN	JPN/EU: 2-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-144-002	Main-scan Punch Pos Adj:1K FIN	NA: 3-Hole	ENG	[-2 to 2 / 0 / 0.4mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-144-003	Main-scan Punch Pos Adj:1K FIN	Europe: 4-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-144-004	Main-scan Punch Pos Adj:1K FIN	NEU: 4-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-144-005	Main-scan Punch Pos Adj:1K FIN	NA: 2-Hole	ENG	[-2 to 2 / 0 / 0.4mm]
6-145-001	Skew Correct Buckle Adj:1K FIN	A3 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-002	Skew Correct Buckle Adj:1K FIN	B4 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-003	Skew Correct Buckle Adj:1K FIN	A4 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-004	Skew Correct Buckle Adj:1K FIN	A4 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-005	Skew Correct Buckle Adj:1K FIN	B5 SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-006	Skew Correct Buckle Adj:1K FIN	B5 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-007	Skew Correct Buckle Adj:1K FIN	A5 LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-008	Skew Correct Buckle Adj:1K FIN	DLT SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-009	Skew Correct Buckle Adj:1K FIN	LG SEF	ENG	[-5 to 5 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-145-010	Skew Correct Buckle Adj:1K FIN	Oficio SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-011	Skew Correct Buckle Adj:1K FIN	LT SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-012	Skew Correct Buckle Adj:1K FIN	LT LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-013	Skew Correct Buckle Adj:1K FIN	HLT LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-014	Skew Correct Buckle Adj:1K FIN	12"x18"	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-015	Skew Correct Buckle Adj:1K FIN	8K SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-016	Skew Correct Buckle Adj:1K FIN	16K SEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-017	Skew Correct Buckle Adj:1K FIN	16K LEF	ENG	[-5 to 5 / 0 / 0.2mm]
6-145-018	Skew Correct Buckle Adj:1K FIN	Other	ENG	[-5 to 5 / 0 / 0.2mm]
6-146-001	Skew Correct Ctrl SW:1K FIN	A3 SEF	ENG	[0 to 1 / 0 / 1]
6-146-002	Skew Correct Ctrl SW:1K FIN	B4 SEF	ENG	[0 to 1 / 0 / 1]
6-146-003	Skew Correct Ctrl SW:1K FIN	A4 SEF	ENG	[0 to 1 / 0 / 1]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-146-004	Skew Correct Ctrl SW:1K FIN	A4 LEF	ENG	[0 to 1 / 0 / 1]
6-146-005	Skew Correct Ctrl SW:1K FIN	B5 SEF	ENG	[0 to 1 / 0 / 1]
6-146-006	Skew Correct Ctrl SW:1K FIN	B5 LEF	ENG	[0 to 1 / 0 / 1]
6-146-007	Skew Correct Ctrl SW:1K FIN	A5 LEF	ENG	[0 to 1 / 0 / 1]
6-146-008	Skew Correct Ctrl SW:1K FIN	DLT SEF	ENG	[0 to 1 / 0 / 1]
6-146-009	Skew Correct Ctrl SW:1K FIN	LG SEF	ENG	[0 to 1 / 0 / 1]
6-146-010	Skew Correct Ctrl SW:1K FIN	Oficio SEF	ENG	[0 to 1 / 0 / 1]
6-146-011	Skew Correct Ctrl SW:1K FIN	LT SEF	ENG	[0 to 1 / 0 / 1]
6-146-012	Skew Correct Ctrl SW:1K FIN	LT LEF	ENG	[0 to 1 / 0 / 1]
6-146-013	Skew Correct Ctrl SW:1K FIN	HLT LEF	ENG	[0 to 1 / 0 / 1]
6-146-014	Skew Correct Ctrl SW:1K FIN	12"x18"	ENG	[0 to 1 / 0 / 1]
6-146-015	Skew Correct Ctrl SW:1K FIN	8K SEF	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-146-016	Skew Correct Ctrl SW:1K FIN	16K SEF	ENG	[0 to 1 / 0 / 1]
6-146-017	Skew Correct Ctrl SW:1K FIN	16K LEF	ENG	[0 to 1 / 0 / 1]
6-146-018	Skew Correct Ctrl SW:1K FIN	Other	ENG	[0 to 1 / 0 / 1]
6-147-001	Booklet Folder Pos Adj:1K FIN (DFU)	A3 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-002	Booklet Folder Pos Adj:1K FIN (DFU)	B4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-003	Booklet Folder Pos Adj:1K FIN (DFU)	A4 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-004	Booklet Folder Pos Adj:1K FIN (DFU)	B5 SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-005	Booklet Folder Pos Adj:1K FIN (DFU)	DLT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-006	Booklet Folder Pos Adj:1K FIN (DFU)	LG SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-007	Booklet Folder Pos Adj:1K FIN (DFU)	Oficio SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-008	Booklet Folder Pos Adj:1K FIN (DFU)	LT SEF	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-009	Booklet Folder Pos Adj:1K FIN (DFU)	12"x18"	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-147-010	Booklet Folder Pos Adj:1K FIN (DFU)	A3 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-011	Booklet Folder Pos Adj:1K FIN (DFU)	A3 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-012	Booklet Folder Pos Adj:1K FIN (DFU)	A3 SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-013	Booklet Folder Pos Adj:1K FIN (DFU)	B4 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-014	Booklet Folder Pos Adj:1K FIN (DFU)	B4 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-015	Booklet Folder Pos Adj:1K FIN (DFU)	B4 SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-016	Booklet Folder Pos Adj:1K FIN (DFU)	A4 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-017	Booklet Folder Pos Adj:1K FIN (DFU)	A4 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-018	Booklet Folder Pos Adj:1K FIN (DFU)	A4 SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-019	Booklet Folder Pos Adj:1K FIN (DFU)	B5 SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-020	Booklet Folder Pos Adj:1K FIN (DFU)	B5 SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-021	Booklet Folder Pos Adj:1K FIN (DFU)	B5 SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-147-022	Booklet Folder Pos Adj:1K FIN (DFU)	DLT SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-023	Booklet Folder Pos Adj:1K FIN (DFU)	DLT SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-024	Booklet Folder Pos Adj:1K FIN (DFU)	DLT SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-025	Booklet Folder Pos Adj:1K FIN (DFU)	LG SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-026	Booklet Folder Pos Adj:1K FIN (DFU)	LG SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-027	Booklet Folder Pos Adj:1K FIN (DFU)	LG SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-028	Booklet Folder Pos Adj:1K FIN (DFU)	Oficio SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-029	Booklet Folder Pos Adj:1K FIN (DFU)	Oficio SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-030	Booklet Folder Pos Adj:1K FIN (DFU)	Oficio SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-031	Booklet Folder Pos Adj:1K FIN (DFU)	LT SEF(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-032	Booklet Folder Pos Adj:1K FIN (DFU)	LT SEF(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-033	Booklet Folder Pos Adj:1K FIN (DFU)	LT SEF(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-147-034	Booklet Folder Pos Adj:1K FIN (DFU)	12"x18"(1-5)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-035	Booklet Folder Pos Adj:1K FIN (DFU)	12"x18"(6-10)	ENG	[-3 to 3 / 0 / 0.2mm]
6-147-036	Booklet Folder Pos Adj:1K FIN (DFU)	12"x18"(11-over)	ENG	[-3 to 3 / 0 / 0.2mm]
6-148-001	Fold Times Adj: 1K FIN (DFU)		ENG	[0 to 29 / 0 / 1sec]
6-149-001	Last Paper Pos Time Adj:1K FIN		ENG	[0 to 1 / 0 / 1times]
6-150-001	PositioningStrtTimingAdj:1KFIN	A3 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-002	PositioningStrtTimingAdj:1KFIN	B4 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-003	PositioningStrtTimingAdj:1KFIN	A4 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-004	PositioningStrtTimingAdj:1KFIN	A4 LEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-005	PositioningStrtTimingAdj:1KFIN	B5 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-006	PositioningStrtTimingAdj:1KFIN	B5 LEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-007	PositioningStrtTimingAdj:1KFIN	DLT SEF	ENG	[-100 to 100 / 0 / 10msec]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-150-008	PositioningStrtTimingAdj:1KFIN	LG SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-009	PositioningStrtTimingAdj:1KFIN	Oficio SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-010	PositioningStrtTimingAdj:1KFIN	LT SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-011	PositioningStrtTimingAdj:1KFIN	LT LEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-012	PositioningStrtTimingAdj:1KFIN	12"x18"	ENG	[-100 to 100 / 0 / 10msec]
6-150-013	PositioningStrtTimingAdj:1KFIN	8K SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-014	PositioningStrtTimingAdj:1KFIN	16K SEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-015	PositioningStrtTimingAdj:1KFIN	16K LEF	ENG	[-100 to 100 / 0 / 10msec]
6-150-016	PositioningStrtTimingAdj:1KFIN	Other	ENG	[-100 to 100 / 0 / 10msec]
6-151-001	PosTimeAdj(LstPr2ndTime):1KFIN		ENG	[-100 to 100 / 0 / 10msec]
6-152-001	PosTiAdj(ExcLstPr3rdTi):1KFIN	A3 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-002	PosTiAdj(ExcLstPr3rdTi):1KFIN	B4 SEF	ENG	[-100 to 100 / 0 / 10msec]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-152-003	PosTiAdj(ExcLstPr3rdTi):1KFIN	A4 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-004	PosTiAdj(ExcLstPr3rdTi):1KFIN	A4 LEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-005	PosTiAdj(ExcLstPr3rdTi):1KFIN	B5 SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-006	PosTiAdj(ExcLstPr3rdTi):1KFIN	B5 LEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-007	PosTiAdj(ExcLstPr3rdTi):1KFIN	DLT SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-008	PosTiAdj(ExcLstPr3rdTi):1KFIN	LG SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-009	PosTiAdj(ExcLstPr3rdTi):1KFIN	Oficio SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-010	PosTiAdj(ExcLstPr3rdTi):1KFIN	LT SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-011	PosTiAdj(ExcLstPr3rdTi):1KFIN	LT LEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-012	PosTiAdj(ExcLstPr3rdTi):1KFIN	12"x18"	ENG	[-100 to 100 / 0 / 10msec]
6-152-013	PosTiAdj(ExcLstPr3rdTi):1KFIN	8K SEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-014	PosTiAdj(ExcLstPr3rdTi):1KFIN	16K SEF	ENG	[-100 to 100 / 0 / 10msec]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-152-015	PosTiAdj(ExcLstPr3rdTi):1KFIN	16K LEF	ENG	[-100 to 100 / 0 / 10msec]
6-152-016	PosTiAdj(ExcLstPr3rdTi):1KFIN	Other	ENG	[-100 to 100 / 0 / 10msec]
6-154-001	Pos Time Adj By Sheet: 1K FIN	1 - 10 Sheets	ENG	[-100 to 100 / 0 / 10msec]
6-154-002	Pos Time Adj By Sheet: 1K FIN	11 - 20 Sheets	ENG	[-100 to 100 / 0 / 10msec]
6-154-003	Pos Time Adj By Sheet: 1K FIN	21 - 30 Sheets	ENG	[-100 to 100 / 0 / 10msec]
6-154-004	Pos Time Adj By Sheet: 1K FIN	31 - 40 Sheets	ENG	[-100 to 100 / 0 / 10msec]
6-154-005	Pos Time Adj By Sheet: 1K FIN	41 - 50 Sheets	ENG	[-100 to 100 / 0 / 10msec]
6-155-001	Paper Guide Poss Adj: 1K FIN		ENG	[-10 to 10 / 0 / 1mm]
6-156-001	Paper Guide Retra Adj: 1K FIN		ENG	[-50 to 50 / 0 / 5mm]
6-157-001	Paper Guide Acept Adj: 1K FIN		ENG	[-50 to 50 / 0 / 5msec]
6-158-001	Bind Speed Setting: 1K FIN_HY		ENG	[1 to 3 / 3 / 2] 1: Bind Speed 1(Low) 3: Bind Speed 3(High)
6-	Bind Times: 1K FIN_HY		ENG*	[1 to 2 / 2 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
159-001				1: Once 2: Twice
6-160-004	Finisher Free Run: 1K FIN	Maintenance Part Positioning Free Run	ENG	[0 to 1 / 0 / 1]
6-163-001	Use Paper Guide	Big Size	ENG	[0 to 1 / 1 / 1] 0: Guide On 1: Guide Off
6-163-002	Use Paper Guide	Small Size	ENG	[0 to 1 / 0 / 1] 0: Guide On 1: Guide Off
6-164-001	NV Adj. Data Mod. 1KShtFIN	Jogger Pos. Factory Adj.	ENG	[-1.5 to 1.5 / 0 / 0.5mm]
6-164-002	NV Adj. Data Mod. 1KShtFIN	Stapling Pos. Factory Adj.	ENG	[-2 to 2 / 0 / 0.5mm]
6-164-003	NV Adj. Data Mod. 1KShtFIN HY	Stapling Pos. Factory Adj. (HY)	ENG	[-2.1 to 2.1 / 0 / 0.3mm]
6-164-004	NV Adj. Data Mod. 1KShtFIN HY	Stapleless Stapling Pos. Factory Adj.	ENG	[-2.1 to 2.1 / 0 / 0.3mm]
6-164-005	NV Adj. Data Mod. 1KShtFIN	Folding Pos. Factory Adj.	ENG	[-2 to 2 / 0 / 0.1mm]
6-202-001	Free Run Print Post	Free Run1	ENG	[0 to 1 / 0 / 1]
6-202-002	Free Run Print Post	Free Run2	ENG	[0 to 1 / 0 / 1]
6-202-003	Free Run Print Post	Free Run3	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-203-001	MotorSpeedAdj. PrintPost	ProcessSpeed:Plain:Low	ENG	[-5 to 5 / 0 / 0.1%]
6-203-002	MotorSpeedAdj. PrintPost	ProcessSpeed:Plain:MidHigh	ENG	[-5 to 5 / 0 / 0.1%]
6-203-003	MotorSpeedAdj. PrintPost	ProcessSpeed:Plain:Std	ENG	[-5 to 5 / 0 / 0.1%]
6-203-004	MotorSpeedAdj. PrintPost	ProcessSpeed:Mid-thick:Low	ENG	[-5 to 5 / 0 / 0.1%]
6-203-005	MotorSpeedAdj. PrintPost	ProcessSpeed:Mid-thick:MidHigh	ENG	[-5 to 5 / 0 / 0.1%]
6-203-006	MotorSpeedAdj. PrintPost	ProcessSpeed:Mid-thick:Std	ENG	[-5 to 5 / 0 / 0.1%]
6-203-007	MotorSpeedAdj. PrintPost	ProcessSpeed:Thick 1:Low	ENG	[-5 to 5 / 0 / 0.1%]
6-203-008	MotorSpeedAdj. PrintPost	ProcessSpeed:Thick 1:Mid	ENG	[-5 to 5 / 0 / 0.1%]
6-203-009	MotorSpeedAdj. PrintPost	ExitSpeed:Plain:Low	ENG	[-5 to 5 / 0 / 0.1%]
6-203-010	MotorSpeedAdj. PrintPost	ExitSpeed:Plain:MidHigh	ENG	[-5 to 5 / 0 / 0.1%]
6-203-011	MotorSpeedAdj. PrintPost	ExitSpeed:Plain:Std	ENG	[-5 to 5 / 0 / 0.1%]
6-203-012	MotorSpeedAdj. PrintPost	ExitSpeed:Mid-thick:Low	ENG	[-5 to 5 / 0 / 0.1%]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-203-013	MotorSpeedAdj. PrintPost	ExitSpeed:Mid-thick:MidHigh	ENG	[-5 to 5 / 0 / 0.1%]
6-203-014	MotorSpeedAdj. PrintPost	ExitSpeed:Mid-thick:Std	ENG	[-5 to 5 / 0 / 0.1%]
6-203-015	MotorSpeedAdj. PrintPost	ExitSpeed:Thick 1:Low	ENG	[-5 to 5 / 0 / 0.1%]
6-203-016	MotorSpeedAdj. PrintPost	ExitSpeed:Thick 1:Mid	ENG	[-5 to 5 / 0 / 0.1%]
6-301-001	Z-Fold:FineAdj 1st	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-002	Z-Fold:FineAdj 1st	B4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-003	Z-Fold:FineAdj 1st	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-004	Z-Fold:FineAdj 1st	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-005	Z-Fold:FineAdj 1st	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-006	Z-Fold:FineAdj 1st	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-007	Z-Fold:FineAdj 1st	8K SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-301-008	Z-Fold:FineAdj 1st	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-301-009	Z-Fold:FineAdj 1st	Other	ENG	[-4 to 4 / 0 / 0.1mm]
6-302-001	Z-Fold:FineAdj 2nd	A3 SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-002	Z-Fold:FineAdj 2nd	B4 SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-003	Z-Fold:FineAdj 2nd	A4 SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-004	Z-Fold:FineAdj 2nd	DLT SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-005	Z-Fold:FineAdj 2nd	LG SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-006	Z-Fold:FineAdj 2nd	LT SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-007	Z-Fold:FineAdj 2nd	8K SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-008	Z-Fold:FineAdj 2nd	Oficio SEF	ENG	[-4 to 4 / 0 / 0.2mm]
6-302-009	Z-Fold:FineAdj 2nd	Other	ENG	[-4 to 4 / 0 / 0.2mm]
6-304-001	Equal 1/2:FineAdjFld	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-002	Equal 1/2:FineAdjFld	B4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-304-003	Equal 1/2:FineAdjFld	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-004	Equal 1/2:FineAdjFld	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-005	Equal 1/2:FineAdjFld	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-006	Equal 1/2:FineAdjFld	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-007	Equal 1/2:FineAdjFld	8K SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-008	Equal 1/2:FineAdjFld	12"x18"	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-009	Equal 1/2:FineAdjFld	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-304-010	Equal 1/2:FineAdjFld	Other	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-001	Equal 3rds:Fine Adj 1st	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-002	Equal 3rds:Fine Adj 1st	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-003	Equal 3rds:Fine Adj 1st	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-004	Equal 3rds:Fine Adj 1st	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-307-005	Equal 3rds:Fine Adj 1st	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-006	Equal 3rds:Fine Adj 1st	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-307-007	Equal 3rds:Fine Adj 1st	Other	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-001	Equal 3rds:Fine Adj 2nd	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-002	Equal 3rds:Fine Adj 2nd	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-003	Equal 3rds:Fine Adj 2nd	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-004	Equal 3rds:Fine Adj 2nd	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-005	Equal 3rds:Fine Adj 2nd	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-006	Equal 3rds:Fine Adj 2nd	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-308-007	Equal 3rds:Fine Adj 2nd	Other	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-001	3rds 1 Flap:Fine Adj 1st	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-002	3rds 1 Flap:Fine Adj 1st	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]

3.Engine SP Mode Tables

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-311-003	3rds 1 Flap:Fine Adj 1st	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-004	3rds 1 Flap:Fine Adj 1st	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-005	3rds 1 Flap:Fine Adj 1st	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-006	3rds 1 Flap:Fine Adj 1st	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-311-007	3rds 1 Flap:Fine Adj 1st	Other	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-001	3rds 1 Flap:Fine Adj 2nd	A3 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-002	3rds 1 Flap:Fine Adj 2nd	DLT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-003	3rds 1 Flap:Fine Adj 2nd	A4 SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-004	3rds 1 Flap:Fine Adj 2nd	LG SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-005	3rds 1 Flap:Fine Adj 2nd	LT SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-006	3rds 1 Flap:Fine Adj 2nd	Oficio SEF	ENG	[-4 to 4 / 0 / 0.1mm]
6-312-007	3rds 1 Flap:Fine Adj 2nd	Other	ENG	[-4 to 4 / 0 / 0.1mm]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-313-001	Registration Buckle Adjust	A3 SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-002	Registration Buckle Adjust	B4 SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-003	Registration Buckle Adjust	A4 SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-004	Registration Buckle Adjust	DLT SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-005	Registration Buckle Adjust	LG SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-006	Registration Buckle Adjust	LT SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-007	Registration Buckle Adjust	8K SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-008	Registration Buckle Adjust	12"x18"	ENG	[0 to 5 / 2 / 0.5mm]
6-313-009	Registration Buckle Adjust	Oficio SEF	ENG	[0 to 5 / 2 / 0.5mm]
6-313-010	Registration Buckle Adjust	Other	ENG	[0 to 5 / 2 / 0.5mm]
6-314-001	Registration Buckle Select		ENG	[0 to 1 / 0 / 1] 0: Mode1 1: Mode2
6-315-001	Set Number of Creasing		ENG	[0 to 4 / 1 / 1times] 0: -1

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				1: 0 2: 1 3: 2 4: 3
6-316-001	Silent Mode Select		ENG	[0 to 1 / 0 / 1] 0: OFF 1: ON
6-317-001	Not Fold Exit Speed	Plain: Large-Size	ENG	[1 to 5 / 2 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-002	Not Fold Exit Speed	Plain: Middle-Size	ENG	[1 to 5 / 2 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-003	Not Fold Exit Speed	Plain: Small-Size	ENG	[1 to 5 / 1 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				4: Exit Speed 4 5: Exit Speed 5(High)
6-317-004	Not Fold Exit Speed	Thick: Large-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-005	Not Fold Exit Speed	Thick: Middle-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-006	Not Fold Exit Speed	Thick: Small-Size	ENG	[1 to 5 / 1 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				5(High)
6-317-007	Not Fold Exit Speed	Thin: Large-Size	ENG	[1 to 5 / 4 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-008	Not Fold Exit Speed	Thin: Middle-Size	ENG	[1 to 5 / 4 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-317-009	Not Fold Exit Speed	Thin: Small-Size	ENG	[1 to 5 / 1 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-318-	Z-Fold Exit Speed	Plain: Large-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
001				1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-318-002	Z-Fold Exit Speed	Plain: Middle-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-318-003	Z-Fold Exit Speed	Plain: Small-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-319-001	Equal 1/2 Exit Speed	Plain: Large-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-319-002	Equal 1/2 Exit Speed	Plain: Middle-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-319-003	Equal 1/2 Exit Speed	Plain: Small-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-320-001	Equal 3rds Exit Speed	Plain: Large-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
				4 5: Exit Speed 5(High)
6-320-002	Equal 3rds Exit Speed	Plain: Middle-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-320-003	Equal 3rds Exit Speed	Plain: Small-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-321-001	3rds 1 Flap Exit Fold	Plain: Large-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
6-321-002	3rds 1 Flap Exit Fold	Plain: Middle-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-321-003	3rds 1 Flap Exit Fold	Plain: Small-Size	ENG	[1 to 5 / 3 / 1] 1: Exit Speed 1(Low) 2: Exit Speed 2 3: Exit Speed 3 4: Exit Speed 4 5: Exit Speed 5(High)
6-324-001	NV Adj. Data Mod.	1st Fold Pos. Factory Setting	ENG	[-3 to 3 / 0 / 0.1mm]
6-324-002	NV Adj. Data Mod.	2nd Fold Pos. Factory Setting	ENG	[-3 to 3 / 0 / 0.1mm]
6-324-003	NV Adj. Data Mod.	Crease Pos. Factory Setting	ENG	[-3 to 3 / 0 / 0.1mm]
6-325-001	Folder. Free Run	Free Run1(Not Fold)	ENG	[0 to 1 / 0 / 1]
6-325-	Folder. Free Run	Free Run2(Z-Fold)	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
002				
6-325-003	Folder. Free Run	Free Run3(Equal 1/2)	ENG	[0 to 1 / 0 / 1]
6-325-004	Folder. Free Run	Free Run4(Equal 3rds)	ENG	[0 to 1 / 0 / 1]
6-325-005	Folder. Free Run	Free Run5(3rds 1 Flap)	ENG	[0 to 1 / 0 / 1]
6-326-001	Z-Fold Full Detact Adjust	Large Size	ENG	[-1 to 1 / 0 / 0.2v]
6-326-002	Z-Fold Full Detact Adjust	Middle Size	ENG	[-1 to 1 / 0 / 0.2v]
6-326-003	Z-Fold Full Detact Adjust	Small Size	ENG	[-1 to 1 / 0 / 0.2v]
6-327-001	Equal 1/2 Full Detact Adjust	Large Size	ENG	[-1 to 1 / 0 / 0.2v]
6-327-002	Equal 1/2 Full Detact Adjust	Middle Size	ENG	[-1 to 1 / 0 / 0.2v]
6-327-003	Equal 1/2 Full Detact Adjust	Small Size	ENG	[-1 to 1 / 0 / 0.2v]

Engine SP7-XXX (Data Log)

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
7-621-002	PM Counter Display:Pages	#PCU	ENG	[0 to 99999999 / 0 / 1page]
7-621-009	PM Counter Display:Pages	Cleaning Blade	ENG	[0 to 99999999 / 0 / 1page]
7-621-018	PM Counter Display:Pages	Charge Roller	ENG*	[0 to 99999999 / 0 / 1page]
7-621-019	PM Counter Display:Pages	Cleaner:Charge Roller	ENG	[0 to 99999999 / 0 / 1page]
7-621-021	PM Counter Display:Pages	OPC	ENG	[0 to 99999999 / 0 / 1page]
7-621-022	PM Counter Display:Pages	Stripper	ENG	[0 to 99999999 / 0 / 1page]
7-621-023	PM Counter Display:Pages	#Dev Unit	ENG	[0 to 99999999 / 0 / 1page]
7-621-024	PM Counter Display:Pages	Developer	ENG	[0 to 99999999 / 0 / 1page]
7-621-025	PM Counter Display:Pages	Development Filter	ENG	[0 to 99999999 / 0 / 1page]
7-621-028	PM Counter Display:Pages	Bearing:Development Screw	ENG	[0 to 99999999 / 0 / 1page]
7-621-108	PM Counter Display:Pages	Paper Transfer Roller Unit	ENG	[0 to 99999999 / 0 / 1page]
7-621-115	PM Counter Display:Pages	Fusing Unit	ENG	[0 to 99999999 / 0 / 1page]
7-621-116	PM Counter Display:Pages	Fusing Belt	ENG	[0 to 99999999 / 0 / 1page]
7-621-118	PM Counter Display:Pages	Pressure Roller	ENG	[0 to 99999999 / 0 / 1page]
7-621-119	PM Counter Display:Pages	Bearing:Pressure Roller	ENG	[0 to 99999999 / 0 / 1page]
7-621-142	PM Counter Display:Pages	Waste Toner bottle	ENG	[0 to 99999999 / 0 / 1mg]
7-622-002	PM Counter Reset	#PCU	ENG	[0 to 1 / 0 / 1]
7-622-	PM Counter Reset	Cleaning Blade	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
009				
7-622-018	PM Counter Reset	Charge Roller	ENG	[0 to 1 / 0 / 1]
7-622-019	PM Counter Reset	Cleaner:Charge Roller	ENG	[0 to 1 / 0 / 1]
7-622-021	PM Counter Reset	OPC	ENG	[0 to 1 / 0 / 1]
7-622-022	PM Counter Reset	Stripper	ENG	[0 to 1 / 0 / 1]
7-622-023	PM Counter Reset	#Dev Unit	ENG	[0 to 1 / 0 / 1]
7-622-024	PM Counter Reset	Developer	ENG	[0 to 1 / 0 / 1]
7-622-025	PM Counter Reset	Development Filter	ENG	[0 to 1 / 0 / 1]
7-622-028	PM Counter Reset	Bearing:Development Screw	ENG	[0 to 1 / 0 / 1]
7-622-108	PM Counter Reset	Paper Transfer Roller Unit	ENG	[0 to 1 / 0 / 1]
7-622-115	PM Counter Reset	Fusing Unit	ENG	[0 to 1 / 0 / 1]
7-622-116	PM Counter Reset	Fusing Belt	ENG	[0 to 1 / 0 / 1]
7-622-118	PM Counter Reset	Pressure Roller	ENG	[0 to 1 / 0 / 1]
7-622-119	PM Counter Reset	Bearing:Pressure Roller	ENG	[0 to 1 / 0 / 1]
7-622-250	PM Counter Reset	SCS	ENG	[0 to 1 / 0 / 1]
7-628-002	PM Counter Reset	SCS	ENG	[0 to 1 / 0 / 1]
7-801-002	ROM No.	Engine	ENG	[0 to 0 / 0 / 0]
7-801-007	ROM No.	Finisher	ENG	[0 to 0 / 0 / 0]
7-801-	ROM No.	PTU	ENG	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
009				
7-801-010	ROM No.	LCT	ENG	[0 to 0 / 0 / 0]
7-801-011	ROM No.	MailBox	ENG	[0 to 0 / 0 / 0]
7-801-019	ROM No.	PTU2	ENG	[0 to 0 / 0 / 0]
7-801-025	ROM No.	Folder	ENG	[0 to 0 / 0 / 0]
7-801-102	Firmware Version	Engine	ENG	[0 to 0 / 0 / 0]
7-801-107	Firmware Version	Finisher	ENG	[0 to 0 / 0 / 0]
7-801-109	Firmware Version	PTU	ENG	[0 to 0 / 0 / 0]
7-801-110	Firmware Version	LCT	ENG	[0 to 0 / 0 / 0]
7-801-111	Firmware Version	MailBox	ENG	[0 to 0 / 0 / 0]
7-801-125	Firmware Version	Folder	ENG	[0 to 0 / 0 / 0]
7-904-001	Near End Setting	PCU	ENG*	[0 to 2 / 1 / 1]
7-904-004	Near End Setting	Paper Transfer Roller Unit	ENG*	[0 to 2 / 1 / 1]
7-904-006	Near End Setting	Fusing Unit	ENG*	[0 to 2 / 1 / 1]
7-942-002	PM Counter Display:Distance(%)	#PCU	ENG	[0 to 255 / 0 / 1%]
7-942-009	PM Counter Display:Distance(%)	Cleaning Blade	ENG	[0 to 255 / 0 / 1%]
7-942-018	PM Counter Display:Distance(%)	Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-942-019	PM Counter Display:Distance(%)	Cleaner:Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-942-	PM Counter	OPC	ENG	[0 to 255 / 0 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
021	Display:Distance(%)			
7-942-022	PM Counter Display:Distance(%)	Stripper	ENG	[0 to 255 / 0 / 1%]
7-942-023	PM Counter Display:Distance(%)	#Dev Unit	ENG	[0 to 255 / 0 / 1%]
7-942-024	PM Counter Display:Distance(%)	Developer	ENG	[0 to 255 / 0 / 1%]
7-942-025	PM Counter Display:Distance(%)	Development Filter	ENG	[0 to 255 / 0 / 1%]
7-942-028	PM Counter Display:Distance(%)	Bearing:Development Screw	ENG	[0 to 255 / 0 / 1%]
7-942-108	PM Counter Display:Distance(%)	Paper Transfer Roller Unit	ENG	[0 to 255 / 0 / 1%]
7-942-115	PM Counter Display:Distance(%)	Fusing Unit	ENG	[0 to 255 / 0 / 1%]
7-942-116	PM Counter Display:Distance(%)	Fusing Belt	ENG	[0 to 255 / 0 / 1%]
7-942-118	PM Counter Display:Distance(%)	Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-942-119	PM Counter Display:Distance(%)	Bearing:Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-944-002	PM Counter Display:Distance	#PCU	ENG*	[0 to 4294967295 / 0 / 1mm]
7-944-009	PM Counter Display:Distance	Cleaning Blade	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-018	PM Counter Display:Distance	Charge Roller	ENG*	[0 to 4294967295 / 0 / 1mm]
7-944-019	PM Counter Display:Distance	Cleaner:Charge Roller	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-021	PM Counter Display:Distance	OPC	ENG*	[0 to 4294967295 / 0 / 1mm]
7-944-022	PM Counter Display:Distance	Stripper	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-023	PM Counter Display:Distance	#Dev Unit	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-	PM Counter	Developer	ENG*	[0 to 4294967295 / 0 /

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
024	Display:Distance			1mm]
7-944-025	PM Counter Display:Distance	Development Filter	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-028	PM Counter Display:Distance	Bearing:Development Screw	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-108	PM Counter Display:Distance	Paper Transfer Roller Unit	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-115	PM Counter Display:Distance	Fusing Unit	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-116	PM Counter Display:Distance	Fusing Belt	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-118	PM Counter Display:Distance	Pressure Roller	ENG	[0 to 4294967295 / 0 / 1mm]
7-944-119	PM Counter Display:Distance	Bearing:Pressure Roller	ENG	[0 to 4294967295 / 0 / 1mm]
7-951-002	Remain Day Counter:Pages	#PCU	ENG	[0 to 255 / 255 / 1days]
7-951-009	Remain Day Counter:Pages	Cleaning Blade	ENG	[0 to 255 / 255 / 1days]
7-951-018	Remain Day Counter:Pages	Charge Roller	ENG	[0 to 255 / 255 / 1days]
7-951-019	Remain Day Counter:Pages	Cleaner:Charge Roller	ENG	[0 to 255 / 255 / 1days]
7-951-021	Remain Day Counter:Pages	OPC	ENG	[0 to 255 / 255 / 1days]
7-951-022	Remain Day Counter:Pages	Stripper	ENG	[0 to 255 / 255 / 1days]
7-951-023	Remain Day Counter:Pages	#Dev Unit	ENG	[0 to 255 / 255 / 1days]
7-951-024	Remain Day Counter:Pages	Developer	ENG	[0 to 255 / 255 / 1days]
7-951-025	Remain Day Counter:Pages	Development Filter	ENG	[0 to 255 / 255 / 1days]
7-951-028	Remain Day Counter:Pages	Bearing:Development Screw	ENG	[0 to 255 / 255 / 1days]
7-951-	Remain Day Counter:Pages	Paper Transfer Roller	ENG	[0 to 255 / 255 / 1days]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
108		Unit		
7-951-115	Remain Day Counter:Pages	Fusing Unit	ENG	[0 to 255 / 255 / 1days]
7-951-116	Remain Day Counter:Pages	Fusing Belt	ENG	[0 to 255 / 255 / 1days]
7-951-118	Remain Day Counter:Pages	Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-951-119	Remain Day Counter:Pages	Bearing:Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-951-142	Remain Day Counter:Pages	Waste Toner bottle	ENG	[0 to 255 / 255 / 1days]
7-952-002	Remain Day Counter:Distance	#PCU	ENG	[0 to 255 / 255 / 1days]
7-952-009	Remain Day Counter:Distance	Cleaning Blade	ENG	[0 to 255 / 255 / 1days]
7-952-018	Remain Day Counter:Distance	Charge Roller	ENG	[0 to 255 / 255 / 1days]
7-952-019	Remain Day Counter:Distance	Cleaner:Charge Roller	ENG	[0 to 255 / 255 / 1days]
7-952-021	Remain Day Counter:Distance	OPC	ENG	[0 to 255 / 255 / 1days]
7-952-022	Remain Day Counter:Distance	Stripper	ENG	[0 to 255 / 255 / 1days]
7-952-023	Remain Day Counter:Distance	#Dev Unit	ENG	[0 to 255 / 255 / 1days]
7-952-024	Remain Day Counter:Distance	Developer	ENG	[0 to 255 / 255 / 1days]
7-952-025	Remain Day Counter:Distance	Development Filter	ENG	[0 to 255 / 255 / 1days]
7-952-028	Remain Day Counter:Distance	Bearing:Development Screw	ENG	[0 to 255 / 255 / 1days]
7-952-108	Remain Day Counter:Distance	Paper Transfer Roller Unit	ENG	[0 to 255 / 255 / 1days]
7-952-115	Remain Day Counter:Distance	Fusing Unit	ENG	[0 to 255 / 255 / 1days]
7-952-	Remain Day	Fusing Belt	ENG	[0 to 255 / 255 / 1days]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
116	Counter:Distance			
7-952-118	Remain Day Counter:Distance	Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-952-119	Remain Day Counter:Distance	Bearing:Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-954-002	PM Counter Display:Pages(%)	#PCU	ENG	[0 to 255 / 0 / 1%]
7-954-009	PM Counter Display:Pages(%)	Cleaning Blade	ENG	[0 to 255 / 0 / 1%]
7-954-018	PM Counter Display:Pages(%)	Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-954-019	PM Counter Display:Pages(%)	Cleaner:Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-954-021	PM Counter Display:Pages(%)	OPC	ENG	[0 to 255 / 0 / 1%]
7-954-022	PM Counter Display:Pages(%)	Stripper	ENG	[0 to 255 / 0 / 1%]
7-954-023	PM Counter Display:Pages(%)	#Dev Unit	ENG	[0 to 255 / 0 / 1%]
7-954-024	PM Counter Display:Pages(%)	Developer	ENG	[0 to 255 / 0 / 1%]
7-954-025	PM Counter Display:Pages(%)	Development Filter	ENG	[0 to 255 / 0 / 1%]
7-954-028	PM Counter Display:Pages(%)	Bearing:Development Screw	ENG	[0 to 255 / 0 / 1%]
7-954-108	PM Counter Display:Pages(%)	Paper Transfer Roller Unit	ENG	[0 to 255 / 0 / 1%]
7-954-115	PM Counter Display:Pages(%)	Fusing Unit	ENG	[0 to 255 / 0 / 1%]
7-954-116	PM Counter Display:Pages(%)	Fusing Belt	ENG	[0 to 255 / 0 / 1%]
7-954-118	PM Counter Display:Pages(%)	Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-954-119	PM Counter Display:Pages(%)	Bearing:Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-954-	PM Counter	Waste Toner bottle	ENG	[0 to 255 / 0 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
142	Display:Pages(%)			
7-955-002	Estimated Remain Pages	#PCU	ENG	[0 to 9999999 / 0 / 1page]
7-955-009	Estimated Remain Pages	Cleaning Blade	ENG	[0 to 9999999 / 0 / 1page]
7-955-018	Estimated Remain Pages	Charge Roller	ENG	[0 to 9999999 / 0 / 1page]
7-955-019	Estimated Remain Pages	Cleaner:Charge Roller	ENG	[0 to 9999999 / 0 / 1page]
7-955-021	Estimated Remain Pages	OPC	ENG	[0 to 9999999 / 0 / 1page]
7-955-022	Estimated Remain Pages	Stripper	ENG	[0 to 9999999 / 0 / 1page]
7-955-023	Estimated Remain Pages	#Dev Unit	ENG	[0 to 9999999 / 0 / 1page]
7-955-024	Estimated Remain Pages	Developer	ENG	[0 to 9999999 / 0 / 1page]
7-955-025	Estimated Remain Pages	Development Filter	ENG	[0 to 9999999 / 0 / 1page]
7-955-028	Estimated Remain Pages	Bearing:Development Screw	ENG	[0 to 9999999 / 0 / 1page]
7-955-108	Estimated Remain Pages	Paper Transfer Roller Unit	ENG	[0 to 9999999 / 0 / 1page]
7-955-115	Estimated Remain Pages	Fusing Unit	ENG	[0 to 9999999 / 0 / 1page]
7-955-116	Estimated Remain Pages	Fusing Belt	ENG	[0 to 9999999 / 0 / 1page]
7-955-118	Estimated Remain Pages	Pressure Roller	ENG	[0 to 9999999 / 0 / 1page]
7-955-119	Estimated Remain Pages	Bearing:Pressure Roller	ENG	[0 to 9999999 / 0 / 1page]
7-956-002	Estimated Remain Days	#PCU	ENG	[0 to 255 / 255 / 1days]
7-956-009	Estimated Remain Days	Cleaning Blade	ENG	[0 to 255 / 255 / 1days]
7-956-	Estimated Remain Days	Charge Roller	ENG	[0 to 255 / 255 / 1days]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
018				
7-956-019	Estimated Remain Days	Cleaner:Charge Roller	ENG	[0 to 255 / 255 / 1days]
7-956-021	Estimated Remain Days	OPC	ENG	[0 to 255 / 255 / 1days]
7-956-022	Estimated Remain Days	Stripper	ENG	[0 to 255 / 255 / 1days]
7-956-023	Estimated Remain Days	#Dev Unit	ENG	[0 to 255 / 255 / 1days]
7-956-024	Estimated Remain Days	Developer	ENG	[0 to 255 / 255 / 1days]
7-956-025	Estimated Remain Days	Development Filter	ENG	[0 to 255 / 255 / 1days]
7-956-028	Estimated Remain Days	Bearing:Development Screw	ENG	[0 to 255 / 255 / 1days]
7-956-108	Estimated Remain Days	Paper Transfer Roller Unit	ENG	[0 to 255 / 255 / 1days]
7-956-115	Estimated Remain Days	Fusing Unit	ENG	[0 to 255 / 255 / 1days]
7-956-116	Estimated Remain Days	Fusing Belt	ENG	[0 to 255 / 255 / 1days]
7-956-118	Estimated Remain Days	Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-956-119	Estimated Remain Days	Bearing:Pressure Roller	ENG	[0 to 255 / 255 / 1days]
7-956-142	Estimated Remain Days	Waste Toner bottle	ENG	[0 to 255 / 255 / 1days]
7-960-002	Estimated Usage Rate	#PCU	ENG	[0 to 255 / 0 / 1%]
7-960-009	Estimated Usage Rate	Cleaning Blade	ENG	[0 to 255 / 0 / 1%]
7-960-018	Estimated Usage Rate	Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-960-019	Estimated Usage Rate	Cleaner:Charge Roller	ENG	[0 to 255 / 0 / 1%]
7-960-	Estimated Usage Rate	OPC	ENG	[0 to 255 / 0 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
021				
7-960-022	Estimated Usage Rate	Stripper	ENG	[0 to 255 / 0 / 1%]
7-960-023	Estimated Usage Rate	#Dev Unit	ENG	[0 to 255 / 0 / 1%]
7-960-024	Estimated Usage Rate	Developer	ENG	[0 to 255 / 0 / 1%]
7-960-025	Estimated Usage Rate	Development Filter	ENG	[0 to 255 / 0 / 1%]
7-960-028	Estimated Usage Rate	Bearing:Development Screw	ENG	[0 to 255 / 0 / 1%]
7-960-108	Estimated Usage Rate	Paper Transfer Roller Unit	ENG	[0 to 255 / 0 / 1%]
7-960-115	Estimated Usage Rate	Fusing Unit	ENG	[0 to 255 / 0 / 1%]
7-960-116	Estimated Usage Rate	Fusing Belt	ENG	[0 to 255 / 0 / 1%]
7-960-118	Estimated Usage Rate	Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-960-119	Estimated Usage Rate	Bearing:Pressure Roller	ENG	[0 to 255 / 0 / 1%]
7-960-142	Estimated Usage Rate	Waste Toner bottle	ENG	[0 to 255 / 0 / 1%]
7-979-001	CPU Reset Log	Data1	ENG*	[0x00 to 0xFF / 0x00 / 1]
7-979-002	CPU Reset Log	Data2	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-003	CPU Reset Log	Data3	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-004	CPU Reset Log	Data4	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-005	CPU Reset Log	Data5	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-006	CPU Reset Log	Data6	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-	CPU Reset Log	Data7	ENG*	[0x0000 to 0xFFFF /

SP No.	Large Category	Small Category	ENG or CTL	Min to Max/Init./Step]
007				0x0000 / 1]
7-979-008	CPU Reset Log	Data8	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-009	CPU Reset Log	Data9	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-010	CPU Reset Log	Data10	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-011	CPU Reset Log	Data11	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-012	CPU Reset Log	Data12	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-013	CPU Reset Log	Data13	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-014	CPU Reset Log	Data14	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-015	CPU Reset Log	Data15	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-016	CPU Reset Log	Data16	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-017	CPU Reset Log	Data17	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-018	CPU Reset Log	Data18	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-019	CPU Reset Log	Data19	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-020	CPU Reset Log	Data20	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-021	CPU Reset Log	Data21	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]

Input Check Table

Main Machine, Paper Feed Tray

5803	[INPUT Check]		
5-803-001	Registration Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-002	Paper Feed Sensor 1	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-003	Transport Sensor 1	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-004	Paper Feed Sensor 2	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-005	Transport Sensor 2	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-006	Fusing Exit Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-007	Fusing Entrance Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-008	Paper Exit Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-009	Inverter Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-010	Duplex Exit Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-011	Duplex Entrance Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-	Paper Exit Tray Full Sensor	ENG	[0 to 1 / 0 / 1]

5803	[INPUT Check]		
012			0: Not full 1: full
5-803-013	Tray 1 Remain Switch	ENG	[0 to 3 / 0 / 1] When full is 100%, 11: 71 to 100% 01: 31 to 70% 00: 11 to 30% 10: 1 to 10%
5-803-014	Tray 1 Upper Limit Sensor	ENG	[0 to 1 / 0 / 1] 0: less then limit 1: high then limit
5-803-015	Tray 1 Paper End Sensor	ENG	[0 to 1 / 0 / 1] 0: No paper 1: paper remaining
5-803-016	Tray 1 Set Switch	ENG	[0 to 1 / 0 / 1] 0: set 1: not set
5-803-017	Tray 2 Remain Switch	ENG	[0 to 3 / 0 / 1] When full is 100%, 11: 71 to 100% 01: 31 to 70% 00: 11 to 30% 10: 1 to 10%
5-803-018	Tray 2 Upper Limit Sensor	ENG	[0 to 1 / 0 / 1] 0: less then limit 1: high then limit
5-803-019	Tray 2 Paper End Sensor	ENG	[0 to 1 / 0 / 1] 0: No paper 1: paper remaining
5-803-020	Tray 2 Set Switch	ENG	[0 to 1 / 0 / 1] 0: set 1: not set
5-803-021	Tray 2 Size Switch	ENG	[0 to 15 / 0 / 1]
5-803-022	Bypass Paper End Sensor	ENG	[0 to 1 / 0 / 1] 0: No paper 1: paper remaining
5-803-	Bypass Main Scan Length Switch	ENG	[0 to 15 / 0 / 1]

5803	[INPUT Check]		
023			
5-803-024	Bypass Sub Scan Length Sensor	ENG	[0 to 1 / 0 / 1]
5-803-025	Main Door Interlock Switch	ENG	[0 to 1 / 0 / 1] 00: Unlocked 11: Locked
5-803-026	Right Door Open/Close Switch	ENG	[0 to 1 / 0 / 1] 0: close 1: open
5-803-027	Duplex Guide Plate Open/Close Switch	ENG	[0 to 1 / 0 / 1] 0: close 1: open
5-803-028	Transfer Open/Close Sensor	ENG	[0 to 1 / 0 / 1] 0: open 1: close
5-803-029	Transfer Contact Sensor	ENG	[0 to 1 / 0 / 1] 0: Abutting 1: Alienate
5-803-032	Waste Toner Bottle Near Full Sensor	ENG	[0 to 1 / 0 / 1] 0: Not full 1: full
5-803-033	Toner Bottle Set Switch	ENG	[0 to 1 / 0 / 1] 0: set 1: not set
5-803-038	Fusing Set & Country Detection	ENG	[0 to 7 / 0 / 1] 0111:200V System 1011:100V System
5-803-039	Fusing New Fuse Blown Detection	ENG	[0 to 1 / 0 / 1] 0: New 1: Old
5-803-048	Fusing Exit Fan1:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-049	Fusing Exit Fan2:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-	PSU Cooling Fan:Lock	ENG	[0 to 1 / 0 / 1]

5803	[INPUT Check]		
051			0: Running 1: Stopped, or locked
5-803-057	Main Exhaust Fan:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-058	Paper Exit Cooling Fan:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-060	Toner Bottle Cooling Fan:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-061	Development Motor:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-065	Fusing/Fusing Exit Motor:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-066	Drum Motor:Lock	ENG	[0 to 1 / 0 / 1] 0: Running 1: Stopped, or locked
5-803-067	HVP/Separation DC/(-):Abnormal Detection	ENG	[0 to 1 / 0 / 1] 0: SC detected 1: Normal
5-803-068	HVP/ChargeDC/(-):Abnormal Detection	ENG	[0 to 1 / 0 / 1] 0: SC detected 1: Normal
5-803-069	HVP/PTR DC/(+)&(-):Abnormal Detection	ENG	[0 to 1 / 0 / 1] 0: SC detected 1: Normal
5-803-070	HVP/Development DC/(-):Abnormal Detection	ENG	[0 to 1 / 0 / 1] 0: SC detected 1: Normal
5-803-075	1-Bin Remain Paper Detection	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-076	1-Bin Set Detection	ENG	[0 to 1 / 0 / 1] 0: paper exist

5803	[INPUT Check]		
			1: paper non exist
5-803-077	Bridge Relay Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-078	Bridge Exit Sensor	ENG	[0 to 1 / 0 / 1] 0: paper exist 1: paper non exist
5-803-079	Relay Set Detection Mechanism	ENG	[0 to 1 / 0 / 1] 0: set 1:not set
5-803-082	RelayTransCov OP Detect/LeftTransCov OP Sn	ENG	[0 to 1 / 0 / 1] 0: close 1: open
5-803-083	RelayPprExitCovOP Detect/UpperTransCovOP Sn	ENG	[0 to 1 / 0 / 1] 0: close 1: open
5-803-084	Shift Tray Set Detection Mechanism	ENG	[0 to 1 / 0 / 1] 01: set 11:not set
5-803-085	Shift Tray Position Sensor 1	ENG	[0 to 1 / 0 / 1] 0: Stop on this side. during moving towards inner 1: Stop on inner side. during moving towards this side
5-803-094	GAVD Open/Close Detection	ENG	[0 to 1 / 0 / 1]
5-803-095	Relay Fuse Blown Detection +24V	ENG	[0 to 1 / 0 / 1] 0: Not cut 1: Cut
5-803-096	Relay Fuse Blown Detection +5V	ENG	[0 to 1 / 0 / 1] 0: Not cut 1: Cut
5-803-100	PCB Ver Management	ENG	[0 to 15 / 0 / 1]
5-803-101	Tray 1 Size Switch	ENG	[0 to 15 / 0 / 1]
5-803-	Front Development Cooling Fan: Lock	ENG	[0 to 1 / 0 / 1]

5803	[INPUT Check]		
102			
5-803-103	Transfer New Fuse Blow Detection	ENG	[0 to 1 / 0 / 1]
5-803-104	Reverse Guide Plate Open/Close Switch	ENG	[0 to 1 / 0 / 1]
5-803-105	Waste Toner Bottle Set Detection	ENG	[0 to 1 / 0 / 1]
5-803-200	HP Senser	ENG	[0 to 1 / 0 / 1]
5-803-201	Platen Cover Sensor	ENG	[0 to 1 / 0 / 1]
5-803-211	Bank: Tray3: Feed Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-212	Bank: Tray4: Feed Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-213	Bank: Tray5: Feed Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-214	Bank: Tray3: Transport Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-215	Bank: Tray4: Transport Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-216	Bank: Tray5: Transport Sensor	ENG	[0 to 1 / 0 / 1] 0: paper not detected 1: paper detected
5-803-217	Bank: Feed Cover Open Detection 1	ENG	[0 to 1 / 0 / 1] 0: cover open 1: cover closed
5-803-218	Bank: Feed Cover Open Detection 2	ENG	[0 to 1 / 0 / 1] 0: cover open 1: cover closed
5-803-219	LCT Paper Supply Open/Close	ENG	[0 to 1 / 0 / 1] 0: cover open

5803	[INPUT Check]		
			1: cover closed
5-803-220	LCT Slide Open/Close	ENG	[0 to 1 / 0 / 1] 0: slide open 1: slide closed

Finisher / Mail Box / Folding Unit

3000-sheet finisher

DFU: Design/Factory Use only

6123	[INPUT Check: 2K/3K FIN]		
6-123-001	Entrance Sensor	ENG	[0 to 1 / 0 / 1]
6-123-002	Horizontal Transport Sensor	ENG	[0 to 1 / 0 / 1]
6-123-003	Switchback Transport Sensor	ENG	[0 to 1 / 0 / 1]
6-123-004	Proof Tray Exit Sensor	ENG	[0 to 1 / 0 / 1]
6-123-005	Shift Tray Exit Sensor	ENG	[0 to 1 / 0 / 1]
6-123-006	Booklet Stapler Exit Sensor (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-007	Paper Exit Open/Close Guide HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-008	Punch HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-009	Punch Move HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-010	S-to-S Registration Detection HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-011	Lower Junction Solenoid HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-012	Jogger HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-013	Positioning Roller HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-014	Feed-out HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-015	Stapler Moving HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-016	Booklet Stapler HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-017	Booklet Jogger HP Sensor (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-018	Booklet Jog Solenoid HP Sensor (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-019	Booklet Standard Fence HP Sensor (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-020	Booklet Stapler HP Sensor (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-022	Folder Blade Cam HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-023	Folder Blade HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-024	Shift Roller HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-028	Drag Roller Vibrating HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-029	LE Guide HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-030	TE Stack Plate HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-031	Staple Tray Paper Sensor	ENG	[0 to 1 / 0 / 1]
6-123-032	ITB Paper Sensor	ENG	[0 to 1 / 0 / 1]

6123	[INPUT Check: 2K/3K FIN]		
6-123-033	Booklet Stapler Transport Paper Sn: Upper (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-034	Booklet Stapler Transport Paper Sn: Lower (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-035	Paper Height Sensor: Shift	ENG	[0 to 1 / 0 / 1]
6-123-036	Corner Stapler Paper Height Sensor 1	ENG	[0 to 1 / 0 / 1]
6-123-037	Corner Stapler Paper Height Sensor 2	ENG	[0 to 1 / 0 / 1]
6-123-038	Proof Tray Full Sensor	ENG	[0 to 1 / 0 / 1]
6-123-039	Booklet Stapler Full Sensor 1 (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-040	Booklet Stapler Full Sensor 2 (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-041	S-to-S Registration Detection Sensor	ENG	[0 to 1 / 0 / 1]
6-123-042	Punch RPS Sensor	ENG	[0 to 1 / 0 / 1]
6-123-043	Corner Stapler Leading Edge Detection Sensor	ENG	[0 to 1 / 0 / 1]
6-123-044	Corner Stapler Staple End Sensor	ENG	[0 to 1 / 0 / 1]
6-123-045	Booklet Stapler Staple End Sensor: Front (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-046	Booklet Stapler Staple End Sensor: Rear (DFU)	ENG	[0 to 1 / 0 / 1]
6-123-047	Shift Tray Lower Limit Sensor 1	ENG	[0 to 1 / 0 / 1]
6-123-048	Shift Tray Lower Limit Sensor 2	ENG	[0 to 1 / 0 / 1]
6-123-049	Shift Tray Lower Limit Sensor 3	ENG	[0 to 1 / 0 / 1]
6-123-050	Shift Tray Lower Limit Sensor 4	ENG	[0 to 1 / 0 / 1]
6-123-051	Shift Tray Lower Limit Sensor 5	ENG	[0 to 1 / 0 / 1]
6-123-052	Punch Chad Full Sensor	ENG	[0 to 1 / 0 / 1]
6-123-053	Punch Set Detection	ENG	[0 to 1 / 0 / 1] 0: connected 1: not connected
6-123-054	Shift Jogger Set Detection	ENG	[0 to 1 / 0 / 1] 0: connected 1: not connected
6-123-055	Booklet Stapler Set Detection (DFU)	ENG	[0 to 1 / 0 / 1] 0: not connected 1: connected
6-123-056	Front Door SW	ENG	[0 to 1 / 0 / 1]
6-123-057	Dynamic Roller Open/Close Guide Plate Sensor	ENG	[0 to 1 / 0 / 1]
6-123-058	Tray Upper Limit SW	ENG	[0 to 1 / 0 / 1]
6-123-059	Paper Exit Open/Close Guide Plate Limit SW	ENG	[0 to 1 / 0 / 1]
6-123-060	Punch Selection DIPSW 1	ENG	[0 to 1 / 0 / 1]
6-123-061	Punch Selection DIPSW 2	ENG	[0 to 1 / 0 / 1]
6-123-065	Paper Guide HP Sensor	ENG	[0 to 1 / 0 / 1]
6-123-066	Shift Jogger HP Sensor: Front	ENG	[0 to 1 / 0 / 1]

6123	[INPUT Check: 2K/3K FIN]		
6-123-067	Shift Jogger HP Sensor: Rear	ENG	[0 to 1 / 0 / 1]
6-123-068	Shift Jogger Retraction HP Sensor: Upper	ENG	[0 to 1 / 0 / 1]
6-123-069	Shift Jogger Retraction HP Sensor: Lower	ENG	[0 to 1 / 0 / 1]

1000-sheet finisher

6161	[FIN (1K FIN) INPUT Check]		
6-161-001	Entrance Sensor	ENG	[0 to 1 / 0 / 1]
6-161-002	Upper Cover Open/Close Sensor	ENG	[0 to 1 / 0 / 1]
6-161-003	Proof Tray Exit Sensor	ENG	[0 to 1 / 0 / 1]
6-161-004	Proof Tray Full Sensor	ENG	[0 to 1 / 0 / 1]
6-161-005	Shift HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-006	Exit Guide Plate Open/Close HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-007	Shift Paper Exit (Lift Tray Exit) Sensor	ENG	[0 to 1 / 0 / 1]
6-161-008	Positioning Roller HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-009	Lift Tray Paper Sensor	ENG	[0 to 1 / 0 / 1]
6-161-010	Jogger HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-011	Feed Out HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-012	Lift Tray Lower Limit Sensor (Upper)	ENG	[0 to 1 / 0 / 1]
6-161-013	Lift Tray Lower Limit Sensor (Lower)	ENG	[0 to 1 / 0 / 1]
6-161-014	Staple Tray Paper Sensor	ENG	[0 to 1 / 0 / 1]
6-161-015	Stapler Transfer HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-016	Near End Sensor (Common: Corner/Bklt Stplr)	ENG	[0 to 1 / 0 / 1]
6-161-017	Self Priming Sensor (Common:Crnr/Bklt Stplr)	ENG	[0 to 1 / 0 / 1]
6-161-018	Driver HP Sensor (Corner/Booklet Stapler)	ENG	[0 to 1 / 0 / 1]
6-161-020	Clincher HP Sensor (Corner/Booklet Stapler)	ENG	[0 to 1 / 0 / 1]
6-161-022	Stapler Retraction Sensor	ENG	[0 to 1 / 0 / 1]
6-161-023	Stapleless Stapler Transfer HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-024	Stapleless Stapler HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-025	Staple: Stacking Guide Plate HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-026	Punch HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-027	Punch RP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-028	Punch Hopper Full Sensor	ENG	[0 to 1 / 0 / 1]
6-161-029	Punch Move HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-030	S-to-S Registration Detection HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-031	S-to-S Registration Detection Sensor	ENG	[0 to 1 / 0 / 1]
6-161-032	Punch Selection DIPSW 1	ENG	[0 to 1 / 0 / 1]
6-161-033	Punch Selection DIPSW 2	ENG	[0 to 1 / 0 / 1]
6-161-034	ITB Transport Sensor: Right	ENG	[0 to 1 / 0 / 1]

6161	[FIN (1K FIN) INPUT Check]		
6-161-035	ITB Transport Sensor: Left	ENG	[0 to 1 / 0 / 1]
6-161-036	Stack Transport Sensor	ENG	[0 to 1 / 0 / 1]
6-161-037	Stack Trans Upper Pressure Release HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-038	Stack Trans Lower Pressure Release HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-039	Fold Blade HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-040	Fold Cam HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-041	TE Stopper Transport Sensor	ENG	[0 to 1 / 0 / 1]
6-161-042	TE Stopper HP Sensor	ENG	[0 to 1 / 0 / 1]
6-161-043	Booklet Folder Exit Sensor	ENG	[0 to 1 / 0 / 1]
6-161-044	Booklet Folder Tray Full Sensor: Upper	ENG	[0 to 1 / 0 / 1]
6-161-045	Booklet Folder Tray Full Sensor: Lower	ENG	[0 to 1 / 0 / 1]
6-161-046	Door Open/Close SW	ENG	[0 to 1 / 0 / 1]
6-161-047	Lift Tray Upper Limit SW	ENG	[0 to 1 / 0 / 1]
6-161-048	Paper Guide HP Sensor	ENG	[0 to 1 / 0 / 1]

Mail Box

6200	[INPUT Check Print Post]		
6-200-001	Entrance Sn	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-002	Relay Sensor 1	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-003	Relay Sensor 2	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-004	Paper Sensor 1	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-005	Paper Sensor 2	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-006	Paper Sensor 3	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-200-007	Paper Sensor 4	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected

6200	[INPUT Check Print Post]		
6-200-008	Full Sensor 1	ENG	[0 to 1 / 0 / 1] 0: Not full 1: Full
6-200-009	Full Sensor 2	ENG	[0 to 1 / 0 / 1] 0: Not full 1: Full
6-200-010	Full Sensor 3	ENG	[0 to 1 / 0 / 1] 0: Not full 1: Full
6-200-011	Full Sensor 4	ENG	[0 to 1 / 0 / 1] 0: Not full 1: Full
6-200-012	Right Cover Sensor	ENG	[0 to 1 / 0 / 1] 0: Open 1: Close
6-200-013	Left Lower Cover Sensor	ENG	[0 to 1 / 0 / 1] 0: Open 1: Close

Folding Unit

6322	[INPUT Check]		
6-322-001	Registration Sensor	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-002	Folding Junction HP Sensor	ENG	[0 to 1 / 0 / 1] 0: Not HP 1: HP
6-322-003	1st 2-direction Paper Feed SN	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-004	2nd 2-direction Paper Feed SN	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-005	Crease Sensor	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-006	Crease HP Sensor	ENG	[0 to 1 / 0 / 1] 0: HP

6322	[INPUT Check]		
			1: Not HP
6-322-007	Top Tray Exit Sensor	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-008	Top Tray Full Sensor 1	ENG	[0 to 1 / 0 / 1] 0: Full 1: Not full
6-322-009	Top Tray Full Sensor 2	ENG	[0 to 1 / 0 / 1] 0: Not full 1: Full
6-322-010	Bridge Exit	ENG	[0 to 1 / 0 / 1] 0: Paper detected 1: No paper detected
6-322-011	Cover SW	ENG	[0 to 1 / 0 / 1] 0: Close 1: Open
6-322-012	Exit Unit Open/Close SW	ENG	[0 to 1 / 0 / 1] 0: Close 1: Open

Output Check Table

Main Machine, Paper Feed Tray

5804	[OUTPUT Check]		
5-804-001	Tray 1 Pickup Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-002	Tray 2 Pickup Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-003	Bypass Pickup Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-004	Paper Exit Junction Gate Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-005	Tray 1 Lift Motor:CW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-006	Tray 1 Lift Motor:CCW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-007	Tray 2 Lift Motor:CW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-008	Tray 2 Lift Motor:CCW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-009	Registration Motor:CCW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-010	Registration Motor:CCW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-011	Registration Motor:CCW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-012	Registration Motor:CCW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-013	Registration Motor:CCW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-015	Registration Motor:CCW:Position Hold	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-016	Feed Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-017	Feed Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-018	Feed Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON

5804	[OUTPUT Check]		
5-804-019	Feed Motor:CW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-020	Feed Motor:CW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-022	Feed Motor:CCW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-023	Feed Motor:CCW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-024	Feed Motor:CCW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-025	Feed Motor:CCW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-026	Feed Motor:CCW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-028	Vertical Transport Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-029	Vertical Transport Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-030	Vertical Transport Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-031	Vertical Transport Motor:CW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-032	Vertical Transport Motor:CW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-034	Vertical Transport Motor:Position Hold	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-041	Paper Exit Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-042	Paper Exit Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-043	Paper Exit Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-044	Paper Exit Motor:CW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-045	Paper Exit Motor:CW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-047	Inverter Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1]

5804	[OUTPUT Check]		
			OFF/ON
5-804-048	Inverter Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-049	Inverter Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-050	Inverter Motor:CW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-052	Inverter Motor:CW:Std Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-054	Inverter Motor:CW:Low Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-055	Inverter Motor:CW:Mid Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-056	Inverter Motor:CCW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-057	Inverter Motor:CCW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-058	Inverter Motor:CCW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-059	Inverter Motor:CCW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-061	Inverter Motor:CCW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-062	Inverter Motor:CCW:Mid Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-063	Inverter Motor:CCW:Low Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-064	Duplex Entrance Motor:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-065	Duplex Entrance Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-066	Duplex Entrance Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-067	Duplex Entrance Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-068	Duplex Entrance Motor:CW:Std Speed:FeedSpeed	ENG	[0 to 1 / 0 / 1] OFF/ON

5804	[OUTPUT Check]		
5-804-069	Duplex Entrance Motor:CW:Low Speed:FeedSpeed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-070	Duplex Entrance Motor:CW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-071	Duplex Bypass Motor:CW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-072	Duplex Bypass Motor:CW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-073	Duplex Bypass Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-074	Duplex Bypass Motor:CW:Std Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-075	Duplex Bypass Motor:CW:Low Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-076	Duplex Bypass Motor:CW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-077	Duplex Bypass Motor:CCW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-078	Duplex Bypass Motor:CCW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-079	Duplex Bypass Motor:CCW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-080	Duplex Bypass Motor:CCW:Std Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-081	Duplex Bypass Motor:CCW:Low Speed:Feed Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-082	Duplex Bypass Motor:CW:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-083	Duplex Bypass Motor:Position Hold	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-084	Duplex Bypass Motor:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-092	Fusing/Fusing Exit Motor:CCW:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON *See Important below the table
5-804-093	Fusing/Fusing Exit Motor:CCW:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON

5804	[OUTPUT Check]		
			*See Important below the table
5-804-094	Fusing/Fusing Exit Motor:CCW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON *See Important below the table
5-804-095	Fusing/Fusing Exit Motor:CCW:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON *See Important below the table
5-804-098	Fusing/Fusing Exit Motor:CW:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON *See Important below the table
5-804-104	Polygon Motor: L	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-105	Polygon Motor: M	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-106	Polygon Motor: H	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-108	Front Development Cooling Fan:Half Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-109	Front Development Cooling Fan:Full Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-110	Fusing Fan:Middle Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-111	Fusing Fan:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-113	PSU Cooling Fan	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-114	Toner Bottle Cooling Fan	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-115	Main Exhaust Fan:Half Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-116	Main Exhaust Fan:Full Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-118	Paper Exit Cooling Fan:Half Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-119	Paper Exit Cooling Fan:Full Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-120	Development Motor:Std Speed	ENG	[0 to 1 / 0 / 1]

5804	[OUTPUT Check]		
			OFF/ON
5-804-121	Development Motor:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-122	Development Motor:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-123	Development Motor:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-124	Drum Motor:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-125	Drum Motor:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-126	Drum Motor:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-127	Drum Motor:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-140	Transfer Contact Motor:CW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-141	Transfer Contact Motor:CCW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-162	Toner Bottle Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-163	Bridge Relay/Left Paper Feed Motor:Std Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-164	Bridge Relay/Left Paper Feed Motor:Mid Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-165	Bridge Relay/Left Paper Feed Motor:Low Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-166	BridgeRelay/LefExit Motor:Std Speed:IncSpd	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-167	BridgeRelay/LefExit Motor:Mid.High Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-169	BridgeRelay/LeftExit Junction Gate Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-170	<Shift Tray> Lift Motor:CW	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-171	<Shift Tray> Lift Motor:CCW	ENG	[0 to 1 / 0 / 1] OFF/ON

5804	[OUTPUT Check]		
5-804-179	HVP/ChargeDC/(-):PWM	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-187	HVP/Development DC/(-):PWM	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-194	HVP/Separation DC/(-):PWM	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-199	HVP/PTR DC/(+):PWM	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-200	HVP/PTR DC/(-):PWM	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-202	Scanner Lamp	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-206	Transfer Open/Close LED	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-209	ID Sensor	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-211	ID Tag Power	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-241	Bank: Tray3: Feed Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-242	Bank: Tray4: Feed Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-243	Bank: Tray5: Feed Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-244	Bank: Tray3: Transport Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-245	Bank: Tray4: Transport Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-246	Bank: Tray5: Transport Mt: Standard Speed	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-247	Bank: Tray3: PU Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-248	Bank: Tray4: PU Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-249	Bank: Tray5: PU Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
5-804-251	OPC Quenching LCD	ENG	[0 to 1 / 0 / 1]

5804	[OUTPUT Check]		
			OFF/ON
5-804-253	Anti-Condensation Heater Relay	ENG	[0 to 1 / 0 / 1] OFF/ON

Important: Use the procedure below to do the output checks for the fusing exit motor in SP5-804-092 to 098. If you do not follow this procedure, a kink will form in the fusing belt sleeve, and the fusing sleeve belt unit will need to be replaced.

1. Do one of the following:

- Open the right cover of the paper bank
- Remove one of the toner bottles
- Pull out the waste toner bottle half-way
- Remove the fusing unit

2. Enter SP mode.

3. Do the following out output checks:

- SP5-804-092 (Fusing Motor:CW:Standard Speed)
- SP5-804-093 (Fusing Motor:CW:Middle Speed)
- SP5-804-094 (Fusing Motor:CW:Low Speed)
- SP5-804-098 (Fusing Motor:CCW:Low Speed)

4. Without exiting SP mode, turn the main power switch off and then on again.

Important: If you exit SP mode before you turn the main power switch off, the fusing exit motor will stay off when the machine warms up. Heat will be concentrated in one area of the fusing belt sleeve and cause a kink to form. If this happens, you will need to replace the fusing sleeve belt unit.

5. Do the reverse of what you did in step 1 (for example, reattach the fusing unit).

Finisher / Mailbox / Folding Unit

3000-sheet finisher

DFU: Design/Factory Use only

6124	[OUTPUT Check: 2K/3K FIN]		
6-124-001	Entrance Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-002	Horizontal Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-003	Pre-Stack Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-004	ITB Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-005	Paper Exit Motor	ENG	[0 to 1 / 0 / 1] OFF/ON

6124	[OUTPUT Check: 2K/3K FIN]		
6-124-006	Upper Junction Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-007	TE Stack Plate Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-008	Paper Exit Open/Close Guide Plate Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-009	Punching Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-010	Punch Move Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-011	S-to-S Registration Detection Move Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-012	Lower Junction Solenoid Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-013	Jogger Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-014	Positioning Roller Rotation Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-015	Feed-out Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-016	Booklet Stapler Move Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-017	Corner Stapler Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-018	Booklet Stapler Jogger Motor (DFU)	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-019	Booklet Stapler Jog Solenoid Move Motor (DFU)	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-020	Booklet Stapler Standard Fence Motor (DFU)	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-021	Booklet Stapler Motor (DFU)	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-022	Dynamic Roller Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-023	Folder Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-025	Square-fold Motor	ENG	[0 to 1 / 0 / 1]

6124	[OUTPUT Check: 2K/3K FIN]		
			OFF/ON
6-124-026	Tray Lift Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-027	Shift Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-028	Front Shift Jogger Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-029	Rear Shift Jogger Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-030	Shift Jogger Retraction Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-031	Drag Roller Vibrating Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-032	LE Guide Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-033	Navigation LED (All)	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-037	Positioning Roller Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-124-038	Paper Guide Motor	ENG	[0 to 1 / 0 / 1] OFF/ON

1000-sheet finisher

6162	[FIN (1K FIN) OUTPUT Check]		
6-162-001	Entrance Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-002	Proof Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-003	Paper Feed/Positioning & Move Roller Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-004	Junction Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-005	Shift Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-006	Jogger Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-007	Exit Guide Plate Open/Close Motor	ENG	[0 to 1 / 0 / 1] OFF/ON

6162	[FIN (1K FIN) OUTPUT Check]		
6-162-008	Feed-out Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-009	Tray Lift Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-010	Paper Guide Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-011	Positioning Roller Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-012	Stapler Shift Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-013	Stapler Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-014	Stapleless Stapler Transfer Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-015	Stapleless Stapler Drive Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-016	Staple: Stacking Guide Plate Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-017	Punch Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-018	Punch Move Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-019	S-to-S Registration Detection Move Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-020	Stack Transport Motor: Upper	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-021	Stck Trns Uppr Prss Rls/Stndrd Fence Rtrct M	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-022	Stack Lower Pressure Release Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-023	Folder Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-024	TE Stopper Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-025	Folder Blade Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-162-026	Navigation LED (All)	ENG	[0 to 1 / 0 / 1]

6162	[FIN (1K FIN) OUTPUT Check]		
			OFF/ON

Mail Box

6201	[OUTPUT Check Print Post]		
6-201-001	Entrance Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-002	Vert Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-003	Junction Gate SOL	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-004	Turn Gate SOL1	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-005	Turn Gate SOL2	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-006	Turn Gate SOL3	ENG	[0 to 1 / 0 / 1] OFF/ON
6-201-007	Entrance Fan Motor	ENG	[0 to 1 / 0 / 1] OFF/ON

Folding Unit

6323	[OUTPUT Check]		
6-323-001	Transport Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-002	Registration Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-003	Folding Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-004	2nd 2-direct Paper Feed Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-005	JG/Crease Motor	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-006	Junction Solenoid	ENG	[0 to 1 / 0 / 1] OFF/ON
6-323-007	Navigation LED (All)	ENG	[0 to 1 / 0 / 1] OFF/ON

4. Controller SP Mode Tables

Controller SP5-XXX (Mode)

DFU: Design/Factory Use only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-009-201	Add display language	1-8	CTL*	[0 to 255 / 0 / 1]
5-009-202	Add display language	9-16	CTL*	[0 to 255 / 0 / 1]
5-009-203	Add display language	17-24	CTL*	[0 to 255 / 0 / 1]
5-009-204	Add display language	25-32	CTL*	[0 to 255 / 0 / 1]
5-009-205	Add display language	33-40	CTL*	[0 to 255 / 0 / 1]
5-009-206	Add display language	41-48	CTL*	[0 to 255 / 0 / 1]
5-009-207	Add display language	49-56	CTL*	[0 to 255 / 0 / 1]
5-024-001	mm/inch Display Selection	0:mm 1:inch	CTL*	[0 to 1 / * / 1] *NA: 1 *EU/AA: 0
5-037-001	Status Lamp Mode		CTL*	[0 to 1 / 1 / 1]
5-047-001	Paper Display	Backing Paper	CTL*	[0 to 1 / 0 / 1]
5-	Display IP address		CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
055-001				
5-061-101	Toner Remaining Window Display Change		CTL*	[0 to 255 / 3 / 1]
5-062-002	Part Replacement Alert Display	#PCU	CTL*	[0 to 1 / 0 / 1]
5-062-009	Part Replacement Alert Display	Cleaning Blade	CTL*	[0 to 1 / 0 / 1]
5-062-018	Part Replacement Alert Display	Charge Roller	CTL*	[0 to 1 / 0 / 1]
5-062-019	Part Replacement Alert Display	Cleaner:Charge Roller	CTL*	[0 to 1 / 0 / 1]
5-062-021	Part Replacement Alert Display	OPC	CTL*	[0 to 1 / 0 / 1]
5-062-022	Part Replacement Alert Display	Stripper	CTL*	[0 to 1 / 0 / 1]
5-062-023	Part Replacement Alert Display	#Dev Unit	CTL*	[0 to 1 / 0 / 1]
5-062-024	Part Replacement Alert Display	Developer	CTL*	[0 to 1 / 0 / 1]
5-062-025	Part Replacement Alert Display	Development Filter	CTL*	[0 to 1 / 0 / 1]
5-062-028	Part Replacement Alert Display	Bearing:Development Screw	CTL*	[0 to 1 / 0 / 1]
5-	Part Replacement Alert Display	#Paper Transfer Roller Unit	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
062-108				
5-062-115	Part Replacement Alert Display	#Fusing Unit	CTL*	[0 to 1 / 0 / 1]
5-062-116	Part Replacement Alert Display	Fusing Belt	CTL*	[0 to 1 / 0 / 1]
5-062-118	Part Replacement Alert Display	Pressure Roller	CTL*	[0 to 1 / 0 / 1]
5-062-119	Part Replacement Alert Display	Bearing:Pressure Roller	CTL*	[0 to 1 / 0 / 1]
5-062-142	Part Replacement Alert Display	#Waste Toner Bottle	CTL*	[0 to 1 / 0 / 1]
5-066-001	PM Parts Display		CTL*	[0 to 1 / 0 / 1]
5-067-002	Part Replacement Operation Type	#PCU	CTL*	[0 to 1 / 0 / 1]
5-067-009	Part Replacement Operation Type	Cleaning Blade	CTL*	[0 to 1 / 0 / 1]
5-067-018	Part Replacement Operation Type	Charge Roller	CTL*	[0 to 1 / 0 / 1]
5-067-019	Part Replacement Operation Type	Cleaner:Charge Roller	CTL*	[0 to 1 / 0 / 1]
5-067-021	Part Replacement Operation Type	OPC	CTL*	[0 to 1 / 0 / 1]
5-	Part Replacement Operation	Stripper	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
067-022	Type			
5-067-023	Part Replacement Operation Type	#Dev Unit	CTL*	[0 to 1 / 0 / 1]
5-067-024	Part Replacement Operation Type	Developer	CTL*	[0 to 1 / 0 / 1]
5-067-025	Part Replacement Operation Type	Development Filter	CTL*	[0 to 1 / 0 / 1]
5-067-028	Part Replacement Operation Type	Bearing:Development Screw	CTL*	[0 to 1 / 0 / 1]
5-067-108	Part Replacement Operation Type	#Paper Transfer Roller Unit	CTL*	[0 to 1 / 0 / 1]
5-067-115	Part Replacement Operation Type	#Fusing Unit	CTL*	[0 to 1 / 0 / 1]
5-067-116	Part Replacement Operation Type	Fusing Belt	CTL*	[0 to 1 / 0 / 1]
5-067-118	Part Replacement Operation Type	Pressure Roller	CTL*	[0 to 1 / 0 / 1]
5-067-119	Part Replacement Operation Type	Bearing:Pressure Roller	CTL*	[0 to 1 / 0 / 1]
5-067-142	Part Replacement Operation Type	#Waste Toner Bottle	CTL*	[0 to 1 / 0 / 1]
5-073-001	Supply Part Replacement Operation Type	Waste Tonner Bottle	CTL*	[0 to 1 / 0 / 1]
5-	Supply Part Replacement	Fuser Unit	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
073-003	Operation Type			
5-073-004	Supply Part Replacement Operation Type	Transfer Unit	CTL*	[0 to 1 / 0 / 1]
5-073-005	Supply Part Replacement Operation Type	Drum Unit	CTL*	[0 to 1 / 0 / 1]
5-074-002	Home Key Customization	Login Setting	CTL*	[0 to 255 / 0 / 1]
5-074-050	Home Key Customization	Show Home Edit Menu	CTL	[0 to 2 / 0 / 1]
5-074-091	Home Key Customization	Function Setting	CTL*	[0 to 2 / 0 / 1]
5-074-092	Home Key Customization	Product ID	CTL*	[0 to 0xffffffff / 0 / 1]
5-074-093	Home Key Customization	Application Screen ID	CTL*	[0 to 255 / 0 / 1]
5-075-003	USB Keyboard	Display setting	CTL*	[0 to 1 / 0 / 1]
5-081-001	ServiceSP Entry Code Setting		CTL*	[0 to 0 / 0 / 0]
5-083-001	LED Light Switch Setting	Toner Near End	CTL*	[0 to 1 / 0 / 1]
5-083-002	LED Light Switch Setting	Waste Toner Near End	CTL*	[0 to 1 / 0 / 1]
5-	Counter Size Setting	A3/DLT Double Count	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
104-001				
5-104-002	Counter Size Setting	Bypass Paper Size Undetection	CTL*	[0 to 1 / 0 / 1]
5-150-001	Length Setting	Bypass(0:OFF 1:Long)	CTL	[0 to 1 / 0 / 1]
5-169-001	CE Login		CTL*	[0 to 1 / 0 / 1]
5-191-001	Mode Set	Power Str Set	CTL*	[0 to 1 / 1 / 1]
5-195-001	Limitless SW		CTL*	[0 to 1 / 0 / 1]
5-199-001	Paper Exit After Staple End	Staple(1:Without 2:After 0:Auto)	CTL	[0 to 2 / 0 / 1]
5-199-002	Paper Exit After Staple End (DFU)	Saddle(1:Without 2:After 0:Auto)	CTL	[0 to 2 / 0 / 1]
5-199-003	Paper Exit After Staple End	Stapless(1:Without 2:After 0:Auto)	CTL	[0 to 2 / 0 / 1]
5-302-002	Set Time	Time Difference	CTL*	[-1440 to 1440 / * / 1] *NA: -300 *EU: 60 *AA: 480
5-305-101	Auto Off Set	Auto Off Limit Set	CTL*	[0 to 1 / 0 / 1]
5-307-001	Daylight Saving Time	Setting	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-307-003	Daylight Saving Time	Rule Set(Start)	CTL*	[0 to 0xffffffff / * / 1] *NA: 0x03200210 *EU: 0x03500010 *AA: 0x10500010
5-307-004	Daylight Saving Time	Rule Set(End)	CTL*	[0 to 0xffffffff / * / 1] *NA: 0x11100200 *EU: 0x10500100 *AA: 0x03100000
5-401-104	Access Control	Authentication Time	CTL*	[0 to 255 / 0 / 1sec]
5-401-162	Access Control	Extend Certification Detail	CTL*	[0 to 0xff / 0 / 1]
5-401-200	Access Control	SDK1 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-201	Access Control	SDK1 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-210	Access Control	SDK2 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-211	Access Control	SDK2 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-220	Access Control	SDK3 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-221	Access Control	SDK3 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-230	Access Control	SDK Certification Device	CTL*	[0 to 0xff / 0 / 1]
5-401-	Access Control	Detail Option	CTL*	[0 to 0xff / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
240				
5-402-101	Access Control	SDKJ1 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-102	Access Control	SDKJ2 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-103	Access Control	SDKJ3 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-104	Access Control	SDKJ4 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-105	Access Control	SDKJ5 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-106	Access Control	SDKJ6 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-107	Access Control	SDKJ7 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-108	Access Control	SDKJ8 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-109	Access Control	SDKJ9 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-110	Access Control	SDKJ10 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-111	Access Control	SDKJ11 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-	Access Control	SDKJ12 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
112				
5-402-113	Access Control	SDKJ13 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-114	Access Control	SDKJ14 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-115	Access Control	SDKJ15 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-116	Access Control	SDKJ16 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-117	Access Control	SDKJ17 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-118	Access Control	SDKJ18 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-119	Access Control	SDKJ19 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-120	Access Control	SDKJ20 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-121	Access Control	SDKJ21 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-122	Access Control	SDKJ22 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-123	Access Control	SDKJ23 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-	Access Control	SDKJ24 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
124				
5-402-125	Access Control	SDKJ25 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-126	Access Control	SDKJ26 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-127	Access Control	SDKJ27 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-128	Access Control	SDKJ28 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-129	Access Control	SDKJ29 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-130	Access Control	SDKJ30 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-141	Access Control	SDKJ1 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-142	Access Control	SDKJ2 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-143	Access Control	SDKJ3 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-144	Access Control	SDKJ4 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-145	Access Control	SDKJ5 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-	Access Control	SDKJ6 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
146				
5-402-147	Access Control	SDKJ7 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-148	Access Control	SDKJ8 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-149	Access Control	SDKJ9 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-150	Access Control	SDKJ10 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-151	Access Control	SDKJ11 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-152	Access Control	SDKJ12 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-153	Access Control	SDKJ13 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-154	Access Control	SDKJ14 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-155	Access Control	SDKJ15 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-156	Access Control	SDKJ16 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-157	Access Control	SDKJ17 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-	Access Control	SDKJ18 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
158				
5-402-159	Access Control	SDKJ19 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-160	Access Control	SDKJ20 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-161	Access Control	SDKJ21 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-162	Access Control	SDKJ22 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-163	Access Control	SDKJ23 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-164	Access Control	SDKJ24 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-165	Access Control	SDKJ25 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-166	Access Control	SDKJ26 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-167	Access Control	SDKJ27 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-168	Access Control	SDKJ28 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-169	Access Control	SDKJ29 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-	Access Control	SDKJ30 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
170				
5-404-001	User Code Count Clear	User Code Count Clear	CTL	[0 to 0 / 0 / 0]
5-404-101	User Code Count Clear	User Code Count Clear Permit Setting	CTL*	[0 to 1 / 0 / 1]
5-411-004	LDAP-Certification	Simplified Authentication	CTL*	[0 to 1 / 1 / 1]
5-411-005	LDAP-Certification	Password Null Not Permit	CTL*	[0 to 1 / 1 / 1]
5-411-006	LDAP-Certification	Detail Option	CTL*	[0 to 0xff / 0 / 1]
5-412-100	Krb-Certification	Encrypt Mode	CTL*	[0 to 0xFF / 0x1F / 1]
5-413-001	Lockout Setting	Lockout On/Off	CTL*	[0 to 1 / 0 / 1]
5-413-002	Lockout Setting	Lockout Threshold	CTL*	[1 to 10 / 5 / 1]
5-413-003	Lockout Setting	Cancelation On/Off	CTL*	[0 to 1 / 0 / 1]
5-413-004	Lockout Setting	Cancelation Time	CTL*	[1 to 9999 / 60 / 1min]
5-414-001	Access Mitigation	Mitigation On/Off	CTL*	[0 to 1 / 0 / 1]
5-414-	Access Mitigation	Mitigation Time	CTL*	[0 to 60 / 15 / 1min]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
002				
5-415-001	Password Attack	Permissible Number	CTL*	[0 to 100 / 30 / 1]
5-415-002	Password Attack	Detect Time	CTL*	[1 to 10 / 5 / 1]
5-416-001	Access Information	Access User Max Num	CTL*	[50 to 200 / 200 / 1]
5-416-002	Access Information	Access Password Max Num	CTL*	[50 to 200 / 200 / 1]
5-416-003	Access Information	Monitor Interval	CTL*	[1 to 10 / 3 / 1]
5-417-001	Access Attack	Access Permissible Number	CTL*	[0 to 500 / 100 / 1]
5-417-002	Access Attack	Attack Detect Time	CTL*	[10 to 30 / 10 / 1sec]
5-417-003	Access Attack	Productivity Fall Waite	CTL*	[0 to 9 / 3 / 1sec]
5-417-004	Access Attack	Attack Max Num	CTL*	[50 to 200 / 200 / 1]
5-420-041	User Authentication	Printer	CTL*	[0 to 1 / 0 / 1]
5-420-051	User Authentication	SDK1	CTL*	[0 to 1 / 0 / 1]
5-420-	User Authentication	SDK2	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
061				
5-420-071	User Authentication	SDK3	CTL*	[0 to 1 / 0 / 1]
5-420-081	User Authentication	Browser	CTL*	[0 to 1 / 0 / 1]
5-430-001	Auth Dialog Message Change	Message Change On/Off	CTL*	[0 to 1 / 0 / 1]
5-430-002	Auth Dialog Message Change	Message Text Download	CTL	[0 to 0 / 0 / 0]
5-430-003	Auth Dialog Message Change	Message Text ID	CTL	[0 to 0 / 0 / 0]
5-481-001	Authentication Error Code	System Log Disp	CTL*	[0 to 1 / 0 / 1]
5-481-002	Authentication Error Code	Panel Disp	CTL*	[0 to 1 / 1 / 1]
5-501-001	PM Alarm	PM Alarm Level	CTL*	[0 to 9999 / 0 / 1]
5-504-001	Jam Alarm		CTL*	[0 to 3 / 3 / 1]
5-504-002	Jam Alarm	Threshold	CTL*	[1 to 99 / 10 / 1]
5-505-001	Error Alarm		CTL*	[0 to 255 / 16 / 1]
5-505-	Error Alarm	Threshold	CTL	[1 to 99 / 5 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
002				
5-507-001	Supply/CC Alarm	Paper Supply Alarm	CTL*	[0 to 1 / 0 / 1]
5-507-002	Supply/CC Alarm	Staple Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-003	Supply/CC Alarm	Toner Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-005	Supply/CC Alarm	DrumLifeRemain Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-006	Supply/CC Alarm	WasteTonerBottle	CTL*	[0 to 2 / 1 / 1]
5-507-007	Supply/CC Alarm	Tensya Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-008	Supply/CC Alarm	Fuser Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-080	Supply/CC Alarm	Toner Call Timing	CTL*	[0 to 1 / 0 / 1]
5-507-081	Supply/CC Alarm	Toner Call Threshold	CTL*	[10 to 90 / 10 / 10%]
5-507-128	Supply/CC Alarm	Interval: Others	CTL*	[250 to 10000 / 1000 / 1]
5-507-132	Supply/CC Alarm	Interval: A3	CTL*	[250 to 10000 / 1000 / 1]
5-507-	Supply/CC Alarm	Interval: A4	CTL*	[250 to 10000 / 1000 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
133				
5-507-134	Supply/CC Alarm	Interval: A5	CTL*	[250 to 10000 / 1000 / 1]
5-507-141	Supply/CC Alarm	Interval: B4	CTL*	[250 to 10000 / 1000 / 1]
5-507-142	Supply/CC Alarm	Interval: B5	CTL*	[250 to 10000 / 1000 / 1]
5-507-160	Supply/CC Alarm	Interval: DLT	CTL*	[250 to 10000 / 1000 / 1]
5-507-164	Supply/CC Alarm	Interval: LG	CTL*	[250 to 10000 / 1000 / 1]
5-507-166	Supply/CC Alarm	Interval: LT	CTL*	[250 to 10000 / 1000 / 1]
5-507-172	Supply/CC Alarm	Interval: HLT	CTL*	[250 to 10000 / 1000 / 1]
5-508-001	CC Call	Jam Remains	CTL*	[0 to 1 / 0 / 1]
5-508-002	CC Call	Continuous Jams	CTL*	[0 to 1 / 0 / 1]
5-508-003	CC Call	Continuous Door Open	CTL*	[0 to 1 / 0 / 1]
5-508-011	CC Call	Jam Detection: Time Length	CTL*	[3 to 30 / 10 / 1]
5-508-	CC Call	Jam Detection: Continuous Count	CTL*	[2 to 10 / 5 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
012				
5-508-013	CC Call	Door Open: Time Length	CTL*	[3 to 30 / 10 / 1]
5-513-001	PartsAlermlevelCount	Normal	CTL	[1 to 9999 / 300 / 1]
5-513-002	PartsAlermlevelCount	Df	CTL	[1 to 9999 / 300 / 1]
5-514-001	PartsAlermlev	Normal	CTL	[0 to 1 / 1 / 1]
5-514-002	PartsAlermlev	Df	CTL	[0 to 1 / 0 / 1]
5-515-001	SC/Alarm Setting	SC Call	CTL*	[0 to 1 / 1 / 1]
5-515-002	SC/Alarm Setting	Service Parts Near End Call	CTL*	[0 to 1 / 0 / 1]
5-515-003	SC/Alarm Setting	Service Parts End Call	CTL*	[0 to 1 / 0 / 1]
5-515-004	SC/Alarm Setting	User Call	CTL*	[0 to 1 / 1 / 1]
5-515-006	SC/Alarm Setting	Communication Test Call	CTL*	[0 to 1 / 1 / 1]
5-515-007	SC/Alarm Setting	Machine Information Notice	CTL*	[0 to 1 / 1 / 1]
5-515-	SC/Alarm Setting	Alarm Notice	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
008				
5-515-010	SC/Alarm Setting	Supply Automatic Ordering Call	CTL*	[0 to 1 / 1 / 1]
5-515-011	SC/Alarm Setting	Supply Management Report Call	CTL*	[0 to 1 / 1 / 1]
5-515-012	SC/Alarm Setting	Jam/Door Open Call	CTL*	[0 to 1 / 0 / 1]
5-515-050	SC/Alarm Setting	Timeout:Manual Call	CTL*	[1 to 255 / 5 / 1min]
5-515-051	SC/Alarm Setting	Timeout:Other Call	CTL	[1 to 255 / 10 / 1min]
5-517-061	Get Machine Information	AutoDiscovery Execution Setting	CTL	[0 to 1 / 0 / 1]
5-517-062	Get Machine Information	AutoDiscovery Execution Interval	CTL	[0 to 1 / 0 / 1]
5-517-063	Get Machine Information	AutoDiscovery Execution Weekday	CTL	[0 to 6 / 0 / 1]
5-517-064	Get Machine Information	AutoDiscovery Execution Hour	CTL	[0 to 23 / 0 / 1]
5-517-065	Get Machine Information	AutoDiscovery Execution Minute	CTL	[0 to 59 / 0 / 1]
5-517-066	Get Machine Information	AutoDiscovery SNMP Community Name	CTL	[0 to 0 / 0 / 0]
5-728-	Network Setting	NAT Machine Port1	CTL*	[1 to 65535 / 49101 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
001				
5-728-002	Network Setting	NAT UI Port1	CTL*	[1 to 65535 / 55101 / 1]
5-728-003	Network Setting	NAT Machine Port2	CTL*	[1 to 65535 / 49102 / 1]
5-728-004	Network Setting	NAT UI Port2	CTL*	[1 to 65535 / 55102 / 1]
5-728-005	Network Setting	NAT Machine Port3	CTL*	[1 to 65535 / 49103 / 1]
5-728-006	Network Setting	NAT UI Port3	CTL*	[1 to 65535 / 55103 / 1]
5-728-007	Network Setting	NAT Machine Port4	CTL*	[1 to 65535 / 49104 / 1]
5-728-008	Network Setting	NAT UI Port4	CTL*	[1 to 65535 / 55104 / 1]
5-728-009	Network Setting	NAT Machine Port5	CTL*	[1 to 65535 / 49105 / 1]
5-728-010	Network Setting	NAT UI Port5	CTL*	[1 to 65535 / 55105 / 1]
5-728-011	Network Setting	NAT Machine Port6	CTL*	[1 to 65535 / 49106 / 1]
5-728-012	Network Setting	NAT UI Port6	CTL*	[1 to 65535 / 55106 / 1]
5-728-	Network Setting	NAT Machine Port7	CTL*	[1 to 65535 / 49107 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
013				
5-728-014	Network Setting	NAT UI Port7	CTL*	[1 to 65535 / 55107 / 1]
5-728-015	Network Setting	NAT Machine Port8	CTL*	[1 to 65535 / 49108 / 1]
5-728-016	Network Setting	NAT UI Port8	CTL*	[1 to 65535 / 55108 / 1]
5-728-017	Network Setting	NAT Machine Port9	CTL*	[1 to 65535 / 49109 / 1]
5-728-018	Network Setting	NAT UI Port9	CTL*	[1 to 65535 / 55109 / 1]
5-728-019	Network Setting	NAT Machine Port10	CTL*	[1 to 65535 / 49110 / 1]
5-728-020	Network Setting	NAT UI Port10	CTL*	[1 to 65535 / 55110 / 1]
5-728-101	Network Setting	PacketCapture	CTL	[0 to 1 / 0 / 1]
5-728-102	Network Setting	PacketCapture:mode	CTL	[0 to 1 / 0 / 1]
5-728-103	Network Setting	PacketCapture:interface	CTL	[0 to 3 / 0 / 1]
5-728-104	Network Setting	PacketCapture:length	CTL	[54 to 65535 / 128 / 1]
5-728-	Network Setting	PacketCapture:broadcast	CTL	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
105				
5-728-106	Network Setting	PacketCapture:specify port	CTL	[0 to 1 / 0 / 1]
5-728-107	Network Setting	PacketCapture:portnumber	CTL	[0 to 65535 / 0 / 1]
5-728-108	Network Setting	PacketCapture:time	CTL	[0 to 0xffffffff / 0 / 1]
5-730-010	Extended Function Setting	Expiration Prior Alarm Set	CTL*	[0 to 999 / 20 / 1days]
5-731-001	Counter Effect	Change Mk1 Cnt(Paper->Combine)	CTL*	[0 to 1 / 0 / 1]
5-745-211	DeemedPowerConsumption	Controller Standby	CTL*	[0 to 9999 / 0 / 1]
5-745-212	DeemedPowerConsumption	STR	CTL*	[0 to 9999 / 0 / 1]
5-745-213	DeemedPowerConsumption	Main Power Off	CTL*	[0 to 9999 / 0 / 1]
5-745-214	DeemedPowerConsumption	Scanning and Printing	CTL*	[0 to 9999 / 0 / 1]
5-745-215	DeemedPowerConsumption	Printing	CTL*	[0 to 9999 / 0 / 1]
5-745-216	DeemedPowerConsumption	Scanning	CTL*	[0 to 9999 / 0 / 1]
5-745-	DeemedPowerConsumption	Engine Standby	CTL*	[0 to 9999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
217				
5-745-218	DeemedPowerConsumption	Low Power Consumption	CTL*	[0 to 9999 / 0 / 1]
5-745-219	DeemedPowerConsumption	Silent condition	CTL*	[0 to 9999 / 0 / 1]
5-745-220	DeemedPowerConsumption	Heater Off	CTL*	[0 to 9999 / 0 / 1]
5-748-101	OpePanel Setting	Op Type Action Setting	CTL	[0 to 255 / 0 / 1]
5-748-201	OpePanel Setting	Cheetah Panel Connect Setting	CTL	[0 to 1 / 0 / 1]
5-749-001	Import/Export	Export	CTL	[0 to 0 / 0 / 0]
5-749-101	Import/Export	Import	CTL	[0 to 0 / 0 / 0]
5-751-001	Key Event Encryption Setting	Password	CTL*	[0 to 255 / 0 / 1]
5-758-001	RemoteUI Setting	Authentication	CTL*	[0 to 1 / 0 / 1]
5-761-001	SmartOperationPanel Setting	Restore the default Home screen	CTL	[0 to 255 / 0 / 1]
5-801-001	Memory Clear	All Clear	CTL	[0 to 0 / 0 / 0]
5-801-	Memory Clear	SCS	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
003				
5-801-004	Memory Clear	IMH Memory Clr	CTL	[0 to 0 / 0 / 0]
5-801-005	Memory Clear	MCS	CTL	[0 to 0 / 0 / 0]
5-801-008	Memory Clear	Printer Application	CTL	[0 to 0 / 0 / 0]
5-801-010	Memory Clear	Web Service	CTL	[0 to 0 / 0 / 0]
5-801-011	Memory Clear	NCS	CTL	[0 to 0 / 0 / 0]
5-801-014	Memory Clear	Clear DCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-015	Memory Clear	Clear UCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-016	Memory Clear	MIRS Setting	CTL	[0 to 0 / 0 / 0]
5-801-017	Memory Clear	CCS	CTL	[0 to 0 / 0 / 0]
5-801-018	Memory Clear	SRM Memory Clr	CTL	[0 to 0 / 0 / 0]
5-801-019	Memory Clear	LCS	CTL	[0 to 0 / 0 / 0]
5-801-	Memory Clear	ECS	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
021				
5-801-025	Cleae Memory	websys	CTL	[0 to 0 / 0 / 0]
5-801-026	Memory Clear	PLN	CTL	[0 to 0 / 0 / 0]
5-801-027	Memory Clear	SAS	CTL	[0 to 0 / 0 / 0]
5-801-028	Memory Clear	Rest WebService	CTL	[0 to 0 / 0 / 0]
5-812-001	Service Tel. No. Setting	Service	CTL*	[0 to 0 / 0 / 0]
5-812-002	Service Tel. No. Setting	Facsimile	CTL*	[0 to 0 / 0 / 0]
5-812-003	Service Tel. No. Setting	Supply	CTL*	[0 to 0 / 0 / 0]
5-812-004	Service Tel. No. Setting	Operation	CTL*	[0 to 0 / 0 / 0]
5-812-101	Service Tel. No. Setting	Disp Inquiry	CTL*	[0 to 1 / 0 / 1]
5-816-001	Remote Service	I/F Setting	CTL*	[0 to 2 / 2 / 1]
5-816-002	Remote Service	CE Call	CTL*	[0 to 1 / 0 / 1]
5-816-	Remote Service	Function Flag	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
003				
5-816-007	Remote Service	SSL Disable	CTL*	[0 to 1 / 0 / 1]
5-816-008	Remote Service	RCG Connect Timeout	CTL*	[1 to 90 / 30 / 1sec]
5-816-009	Remote Service	RCG Write Timeout	CTL*	[0 to 100 / 60 / 1sec]
5-816-010	Remote Service	RCG Read Timeout	CTL*	[0 to 100 / 60 / 1sec]
5-816-011	Remote Service	Port 80 Enable	CTL*	[0 to 1 / 0 / 1]
5-816-013	Remote Service	RFU Timing	CTL*	[0 to 1 / 1 / 1]
5-816-014	Remote Service	RCG Error Cause	CTL	[0 to 2 / 0 / 1]
5-816-021	Remote Service	RCG-C Registed	CTL*	[0 to 1 / 0 / 1]
5-816-023	Remote Service	Connect Type(N/M)	CTL*	[0 to 1 / 0 / 1]
5-816-061	Remote Service	Cert Expire Timing	CTL*	[0 to 0 / 0 / 1]
5-816-062	Remote Service	Use Proxy	CTL*	[0 to 1 / 0 / 1]
5-816-	Remote Service	Proxy Host	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
063				
5-816-064	Remote Service	Proxy PortNumber	CTL*	[0 to 0xffff / 0 / 1]
5-816-065	Remote Service	Proxy User Name	CTL*	[0 to 0 / 0 / 0]
5-816-066	Remote Service	Proxy Password	CTL*	[0 to 0 / 0 / 0]
5-816-067	Remote Service	CERT:Up State	CTL*	[0 to 255 / 0 / 1]
5-816-068	Remote Service	CERT:Error	CTL*	[0 to 255 / 0 / 1]
5-816-069	Remote Service	CERT:Up ID	CTL*	[0 to 0 / 0 / 0]
5-816-083	Remote Service	Firm Up Status	CTL*	[0 to 1 / 0 / 1]
5-816-085	Remote Service	Firm Up User Check	CTL*	[0 to 1 / 0 / 1]
5-816-086	Remote Service	Firmware Size	CTL*	[0 to 0xffffffff / 0 / 1]
5-816-087	Remote Service	CERT:Macro Ver.	CTL	[0 to 0 / 0 / 0]
5-816-088	Remote Service	CERT:PAC Ver.	CTL	[0 to 0 / 0 / 0]
5-816-	Remote Service	CERT:ID2Code	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
089				
5-816-090	Remote Service	CERT:Subject	CTL	[0 to 0 / 0 / 0]
5-816-091	Remote Service	CERT:SerialNo.	CTL	[0 to 0 / 0 / 0]
5-816-092	Remote Service	CERT:Issuer	CTL	[0 to 0 / 0 / 0]
5-816-093	Remote Service	CERT:Valid Start	CTL	[0 to 0 / 0 / 0]
5-816-094	Remote Service	CERT:Valid End	CTL	[0 to 0 / 0 / 0]
5-816-102	Remote Service	CERT:Encrypt Level	CTL*	[1 to 2 / 1 / 1]
5-816-103	Remote Service	Client Communication Method	CTL*	[0 to 3 / 0 / 1]
5-816-104	Remote Service	Client Communication Limit	CTL*	[1 to 7 / 7 / 1]
5-816-115	Remote Service	Network Information Waiting timer	CTL*	[5 to 255 / 5 / 1sec]
5-816-200	Remote Service	Manual Polling	CTL	[0 to 1 / 0 / 1]
5-816-201	Remote Service	Regist Status	CTL	[0 to 255 / 0 / 1]
5-816-	Remote Service	Letter Number	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
202				
5-816-203	Remote Service	Confirm Execute	CTL	[0 to 1 / 0 / 1]
5-816-204	Remote Service	Confirm Result	CTL	[0 to 255 / 0 / 1]
5-816-205	Remote Service	Confirm Place	CTL	[0 to 1 / 0 / 1]
5-816-206	Remote Service	Register Execute	CTL	[0 to 1 / 0 / 1]
5-816-207	Remote Service	Register Result	CTL	[0 to 255 / 0 / 1]
5-816-208	Remote Service	Error Code	CTL	[-2147483647 to 2147483647 / 0 / 0]
5-816-209	Remote Service	Instl Clear	CTL	[0 to 1 / 0 / 1]
5-816-240	Remote Service	CommErrorTime	CTL	[0 to 0 / 0 / 1]
5-816-241	Remote Service	CommErrorCode 1	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-242	Remote Service	CommErrorCode 2	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-243	Remote Service	CommErrorCode 3	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-	Remote Service	CommErrorState 1	CTL*	[0 to 0xffff / 0x0000 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
244				
5-816-245	Remote Service	CommErrorState 2	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-246	Remote Service	CommErrorState 3	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-247	Remote Service	SSL Error Count	CTL*	[0 to 255 / 0 / 1]
5-816-248	Remote Service	Other Err Count	CTL*	[0 to 255 / 0 / 1]
5-816-250	Remote Service	CommLog Print	CTL	[0 to 255 / 0 / 0]
5-821-002	Remote Service RCG Setting	RCG IPv4 Address	CTL*	[0 to 0xffffffff / 0 / 1]
5-821-003	Remote Service RCG Setting	RCG Port	CTL*	[0 to 65535 / 443 / 1]
5-821-004	Remote Service RCG Setting	RCG IPv4 URL Path	CTL*	[0 to 0 / 0 / 0]
5-821-005	Remote Service RCG Setting	RCG IPv6 Address	CTL*	[0 to 0 / 0 / 0]
5-821-006	Remote Service RCG Setting	RCG IPv6 URL Path	CTL*	[0 to 0 / 0 / 0]
5-821-007	Remote Service RCG Setting	RCG Host Name	CTL*	[0 to 0 / 0 / 0]
5-821-	Remote Service RCG Setting	RCG Host URL Path	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
008				
5-824-001	NV-RAM Data Upload		CTL	[0 to 0 / 0 / 0]
5-825-001	NV-RAM Data Download		CTL	[0 to 0 / 0 / 0]
5-828-039	Network Setting	User Class	CTL*	[0 to 0 / 0 / 0]
5-828-040	Network Setting	Class Id	CTL*	[0 to 0 / 0 / 0]
5-828-050	Network Setting	1284 Compatiblity (Centro)	CTL*	[0 to 1 / 1 / 1]
5-828-052	Network Setting	ECP (Centro)	CTL*	[0 to 1 / 1 / 1]
5-828-065	Network Setting	Job Spooling	CTL*	[0 to 1 / 0 / 1]
5-828-066	Network Setting	Job Spooling Clear: Start Time	CTL*	[0 to 1 / 1 / 1]
5-828-069	Network Setting	Job Spooling (Protocol)	CTL*	[0x00 to 0xff / 0x7f / 0]
5-828-087	Network Setting	Protocol usage	CTL*	[0x00000000 to 0xffffffff / 0x00000000 / 1]
5-828-090	Network Setting	TELNET(0:OFF 1:ON)	CTL*	[0 to 1 / 1 / 1]
5-828-	Network Setting	Web(0:OFF 1:ON)	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
091				
5-828-145	Network Setting	Active IPv6 Link Local Address	CTL	[0 to 0 / 0 / 0]
5-828-147	Network Setting	Active IPv6 Stateless Address 1	CTL	[0 to 0 / 0 / 0]
5-828-149	Network Setting	Active IPv6 Stateless Address 2	CTL	[0 to 0 / 0 / 0]
5-828-151	Network Setting	Active IPv6 Stateless Address 3	CTL	[0 to 0 / 0 / 0]
5-828-153	Network Setting	Active IPv6 Stateless Address 4	CTL	[0 to 0 / 0 / 0]
5-828-155	Network Setting	Active IPv6 Stateless Address 5	CTL	[0 to 0 / 0 / 0]
5-828-156	Network Setting	IPv6 Manual Address	CTL*	[0 to 0 / 0 / 0]
5-828-158	Network Setting	IPv6 Gateway Address	CTL*	[0 to 0 / 0 / 0]
5-828-161	Network Setting	IPv6 Stateless Auto Setting	CTL*	[0 to 1 / 1 / 1]
5-828-219	Network Setting	IPsec Aggressive Mode Setting	CTL	[0 to 1 / 0 / 1]
5-828-236	Network Setting	Web Item visible	CTL*	[0x0000 to 0xffff / 0xffff / 1]
5-828-	Network Setting	Web shopping link visible	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
237				
5-828-238	Network Setting	Web Supplies Link visible	CTL*	[0 to 1 / 1 / 1]
5-828-239	Network Setting	Web Link1 Name	CTL*	[0 to 0 / 0 / 0]
5-828-240	Network Setting	Web Link1 URL	CTL*	[0 to 0 / 0 / 0]
5-828-241	Network Setting	Web Link1 visible	CTL*	[0 to 1 / 1 / 1]
5-828-242	Network Setting	Web Link2 Name	CTL*	[0 to 0 / 0 / 0]
5-828-243	Network Setting	Web Link2 URL	CTL*	[0 to 0 / 0 / 0]
5-828-244	Network Setting	Web Link2 visible	CTL*	[0 to 1 / 1 / 1]
5-828-249	Network Setting	DHCPv6 DUID	CTL	[0 to 0 / 0 / 0]
5-832-001	HDD	HDD Formatting (ALL)	CTL	[0 to 0 / 0 / 0]
5-840-006	IEEE 802.11	Channel MAX	CTL*	[1 to 14 / 14 / 1]
5-840-007	IEEE 802.11	Channel MIN	CTL*	[1 to 14 / 1 / 1]
5-840-	IEEE 802.11	WEP Key Select	CTL*	[0x00 to 0x11 / 0x00 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
011				
5-840-045	IEEE 802.11	WPA Debug Lvl	CTL*	[1 to 3 / 3 / 1]
5-840-046	IEEE 802.11	11w	CTL*	[0 to 2 / 0 / 1]
5-840-047	IEEE 802.11	PSK Set Type	CTL*	[0 to 1 / 0 / 1]
5-841-001	Supply Name Setting	Toner Name Setting: Black	CTL*	[0 to 0 / 0 / 0]
5-841-011	Supply Name Setting	StapleStd1	CTL*	[0 to 0 / 0 / 0]
5-841-012	Supply Name Setting	StapleStd2	CTL*	[0 to 0 / 0 / 0]
5-841-013	Supply Name Setting	StapleStd3	CTL*	[0 to 0 / 0 / 0]
5-841-014	Supply Name Setting	StapleStd4	CTL*	[0 to 0 / 0 / 0]
5-841-101	Supply Name Setting	DrumUnit: Black	CTL*	[0 to 0 / 0 / 0]
5-842-001	GWWS Analysis	Setting 1	CTL*	[0x00 to 0xFF / 0 / 1]
5-842-002	GWWS Analysis	Setting 2	CTL*	[0x00 to 0xFF / 0 / 1]
5-844-	USB	Transfer Rate	CTL*	[1 to 4 / 4 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
001				
5-844-002	USB	Vendor ID	CTL*	[0x0000 to 0xffff / 0x05ca / 0]
5-844-003	USB	Product ID	CTL*	[0x0000 to 0xffff / 0x0403 / 0]
5-844-004	USB	Device Release Number	CTL*	[0 to 9999 / 100 / 1]
5-844-005	USB	Fixed USB Port	CTL*	[0 to 2 / 0 / 1]
5-844-006	USB	PnP Model Name	CTL*	[0 to 0 / 0 / 0]
5-844-007	USB	PnP Serial Number	CTL*	[0 to 0 / 0 / 0]
5-844-008	USB	Mac Supply Level	CTL*	[0 to 1 / 1 / 1]
5-844-009	USB	USB Toggle Clear Mode	CTL*	[0 to 1 / 0 / 1]
5-844-100	USB	Notify Unsupport	CTL*	[0 to 1 / 1 / 1]
5-845-003	Delivery Server Setting	Retry Interval	CTL*	[60 to 900 / 300 / 1sec]
5-845-004	Delivery Server Setting	Number of Retries	CTL*	[0 to 99 / 3 / 1]
5-845-	Delivery Server Setting	Rapid Sending Control	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
022				
5-846-010	UCS Setting	LDAP Search Timeout	CTL*	[1 to 255 / 60 / 1]
5-846-041	UCS Setting	Fill Addr Acl Info	CTL	[0 to 0 / 0 / 0]
5-846-043	UCS Setting	Addr Book Media	CTL*	[0 to 30 / 0 / 1]
5-846-047	UCS Setting	Initialize Local Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-049	UCS Setting	Initialize LDAP Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-050	UCS Setting	Initialize All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-051	UCS Setting	Backup All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-052	UCS Setting	Restore All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-053	UCS Setting	Clear Backup Info	CTL	[0 to 0 / 0 / 0]
5-846-060	UCS Setting	Search option	CTL*	[0x00 to 0xff / 0x0f / 1]
5-846-062	UCS Setting	Complexity option 1	CTL*	[0 to 32 / 0 / 1]
5-846-	UCS Setting	Complexity option 2	CTL*	[0 to 32 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
063				
5-846-064	UCS Setting	Complexity option 3	CTL*	[0 to 32 / 0 / 1]
5-846-065	UCS Setting	Complexity option 4	CTL*	[0 to 32 / 0 / 1]
5-846-094	UCS Setting	Encryption Stat	CTL*	[0 to 255 / 0 / 0]
5-848-004	Web Service	Access Ctrl: udirectory (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-009	Web Service	Access Ctrl: Job Ctrl (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-011	Web Service	Access Ctrl: Devicemanagement(Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-022	Web Service	Access Ctrl: uadministration (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-024	Web Service	Access Ctrl: Log Service (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-025	Web Service	Access Ctrl: Rest WebService (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-150	Web Service	Log Operation Mode	CTL*	[0 to 2 / 0 / 1]
5-848-217	LogTrans	Setting: Timing	CTL*	[0 to 2 / 0 / 1]
5-849-	Installation Date	Display	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
001				
5-849-002	Installation Date	Switch to Print	CTL*	[0 to 1 / 1 / 1]
5-849-003	Installation Date	Total Counter	CTL*	[0 to 99999999 / 0 / 1]
5-851-001	Bluetooth	Mode	CTL*	[0x00 to 0x01 / 0x00 / 1]
5-856-002	Remote ROM Update	Local Port	CTL	[0 to 1 / 0 / 1]
5-858-001	Collect Machine Info	0:OFF 1:ON	CTL	[0 to 1 / 1 / 1]
5-858-002	Collect Machine Info	Save To (0:HDD 1:SD)	CTL	[0 to 1 / 0 / 1]
5-858-003	Collect Machine Info	Make Log Trace Dir	CTL	[0 to 1 / 0 / 0]
5-858-101	Collect Machine Info	Failure Occuring Date	CTL	[0 to 20371212 / 0 / 1]
5-858-102	Collect Machine Info	Tracing Days	CTL	[1 to 180 / 2 / 1day]
5-858-103	Collect Machine Info	Acquire Fax Address(0:OFF 1:ON)	CTL	[0 to 1 / 0 / 1]
5-858-111	Collect Machine Info	Acquire All Info & Logs	CTL	[0 to 1 / 0 / 0]
5-858-	Collect Machine Info	Acquire Configuration Page	CTL	[0 to 1 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
121				
5-858-122	Collect Machine Info	Acquire Font Page	CTL	[0 to 1 / 0 / 0]
5-858-123	Collect Machine Info	Acquire Print Setting List	CTL	[0 to 1 / 0 / 0]
5-858-124	Collect Machine Info	Acquire Error Log	CTL	[0 to 1 / 0 / 0]
5-858-131	Collect Machine Info	Acquire Fax Info	CTL	[0 to 1 / 0 / 0]
5-858-141	Collect Machine Info	Acquire All Debug Logs	CTL	[0 to 1 / 0 / 0]
5-858-142	Collect Machine Info	Acquire Controller Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-143	Collect Machine Info	Acquire Engine Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-144	Collect Machine Info	Acquire Opepanel Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-145	Collect Machine Info	Acquire FCU Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-146	Collect Machine Info	Acquire Only Network Packets	CTL	[0 to 1 / 0 / 0]
5-860-002	SMTP/POP3/IMAP4	SMTP Server Port Number	CTL*	[1 to 65535 / 25 / 1]
5-860-	SMTP/POP3/IMAP4	SMTP Authentication	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
003				
5-860-006	SMTP/POP3/IMAP4	SMTP Auth. Encryption	CTL*	[0 to 2 / 0 / 1]
5-860-007	SMTP/POP3/IMAP4	POP before SMTP	CTL*	[0 to 1 / 0 / 1]
5-860-008	SMTP/POP3/IMAP4	POP to SMTP Waiting Time	CTL*	[0 to 10000 / 300 / 1ms]
5-860-009	SMTP/POP3/IMAP4	Mail Receive Protocol	CTL*	[1 to 3 / 1 / 1]
5-860-013	SMTP/POP3/IMAP4	POP3/IMAP4 Auth. Encryption	CTL*	[0 to 2 / 0 / 1]
5-860-014	SMTP/POP3/IMAP4	POP3 Server Port Number	CTL*	[1 to 65535 / 110 / 1]
5-860-015	SMTP/POP3/IMAP4	IMAP4 Server Port Number	CTL*	[1 to 65535 / 143 / 1]
5-860-016	SMTP/POP3/IMAP4	SMTP Receive Port Number	CTL*	[1 to 65535 / 25 / 1]
5-860-017	SMTP/POP3/IMAP4	Mail Receive Interval	CTL*	[2 to 1440 / 3 / 1min]
5-860-019	SMTP/POP3/IMAP4	Mail Keep Setting	CTL*	[0 to 2 / 0 / 1]
5-860-020	SMTP/POP3/IMAP4	Partial Mail Receive Timeout	CTL*	[1 to 168 / 72 / 1hour]
5-860-	SMTP/POP3/IMAP4	MDN Response RFC2298 Compliance	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
021				
5-860-022	SMTP/POP3/IMAP4	SMTP Auth. From Field Replacement	CTL*	[0 to 1 / 0 / 1]
5-860-025	SMTP/POP3/IMAP4	SMTP Auth. Direct Setting	CTL*	[0 to 0xff / 0 / 1]
5-860-026	SMTP/POP3/IMAP4	S/MIME:MIME Header Setting	CTL*	[0 to 2 / 0 / 1]
5-866-001	E-Mail Report	Report Validity	CTL	[0 to 1 / 0 / 1]
5-866-005	E-Mail Report	Add Date Field	CTL*	[0 to 1 / 0 / 1]
5-869-001	RAM Disk Setting	Mail Function	CTL*	[0 to 1 / 0 / 1]
5-870-001	Common KeyInfo Writing	Writing	CTL	[0 to 1 / 0 / 1]
5-870-003	Common KeyInfo Writing	Initialize	CTL	[0 to 1 / 0 / 1]
5-870-004	Common Key Info Writing	Writing: 2048bit	CTL	[0 to 1 / 0 / 1]
5-873-001	SDCardAppliMove	MoveExec	CTL	[0 to 0 / 0 / 1]
5-873-002	SDCardAppliMove	UndoExec	CTL	[0 to 0 / 0 / 1]
5-875-	SC Auto Reboot	Reboot Setting	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
001				
5-875-002	SC Auto Reboot	Reboot Type	CTL*	[0 to 1 / 0 / 1]
5-878-001	Option Setup	Data Overwrite Security	CTL	[0 to 0 / 0 / 0]
5-878-002	Option Setup	HDD Encryption	CTL	[0 to 0 / 0 / 0]
5-881-001	Fixed Phrase Block Erasing		CTL	[0 to 0 / 0 / 0]
5-885-205	Set WIM Function	MonitorDisable	CTL*	[0 to 1 / 0 / 1]
5-886-100	Farm Update Setting	Skip Version Check	CTL	[0 to 1 / 0 / 1]
5-886-101	Farm Update Setting	Skip LR Check	CTL	[0 to 1 / 0 / 1]
5-886-111	Farm Update Setting	Auto Update Setting	CTL*	[0 to 1 / 0 / 1]
5-886-112	Farm Update Setting	Auto Update Prohibit Term Setting	CTL*	[0 to 1 / 1 / 1]
5-886-113	Farm Update Setting	Auto Update Prohibit Start hour	CTL*	[0 to 23 / 9 / 1hour]
5-886-114	Farm Update Setting	Auto Update Prohibit End hour	CTL*	[0 to 23 / 17 / 1hour]
5-886-	Farm Update Setting	SFU Auto Download Setting	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
115				
5-886-116	Farm Update Setting	Auto Update Next Date	CTL*	[0 to 0 / 0 / 0]
5-886-117	Farm Update Setting	Auto Update Retry Interval Hour	CTL*	[1 to 24 / 1 / 1hour]
5-886-119	Farm Update Setting	Auto Update @Remote Using Setting	CTL*	[0 to 1 / 0 / 1]
5-886-120	Farm Update Setting	Auto Update Prohibit Day of Week Setting	CTL*	[0 to 255 / 0 / 1]
5-886-201	Farm Update Setting	Restore Date	CTL*	[0 to 0 / 0 / 0]
5-886-202	Farm Update Setting	Save Old Version List	CTL	[0 to 0 / 0 / 0]
5-887-001	SD GetCounter		CTL	[0 to 0 / 0 / 0]
5-888-001	Personal Information Protect		CTL*	[0 to 1 / 0 / 1]
5-893-001	SDK Application Counter	SDK-1	CTL	[0 to 0 / 0 / 0]
5-893-002	SDK Application Counter	SDK-2	CTL	[0 to 0 / 0 / 0]
5-893-003	SDK Application Counter	SDK-3	CTL	[0 to 0 / 0 / 0]
5-893-	SDK Application Counter	SDK-4	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
004				
5-893-005	SDK Application Counter	SDK-5	CTL	[0 to 0 / 0 / 0]
5-893-006	SDK Application Counter	SDK-6	CTL	[0 to 0 / 0 / 0]
5-893-007	SDK Application Counter	SDK-7	CTL	[0 to 0 / 0 / 0]
5-893-008	SDK Application Counter	SDK-8	CTL	[0 to 0 / 0 / 0]
5-893-009	SDK Application Counter	SDK-9	CTL	[0 to 0 / 0 / 0]
5-893-010	SDK Application Counter	SDK-10	CTL	[0 to 0 / 0 / 0]
5-893-011	SDK Application Counter	SDK-11	CTL	[0 to 0 / 0 / 0]
5-893-012	SDK Application Counter	SDK-12	CTL	[0 to 0 / 0 / 0]
5-907-001	Plug & Play Maker/Model Name		CTL*	[0 to 255 / 0 / 1]
5-990-001	SP Print Mode	All (Data List)	CTL	[0 to 255 / 0 / 0]
5-990-002	SP Print Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0]
5-990-	SP Print Mode	User Program	CTL	[0 to 255 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
003				
5-990-004	SP Print Mode	Logging Data	CTL	[0 to 255 / 0 / 0]
5-990-005	SP Print Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 0]
5-990-006	SP Print Mode	Non-Default	CTL	[0 to 255 / 0 / 0]
5-990-007	SP Print Mode	NIB Summary	CTL	[0 to 0 / 0 / 0]
5-990-024	SP Print Mode	SDK/J Summary	CTL	[0 to 0 / 0 / 0]
5-990-025	SP Print Mode	SDK/J Application Info	CTL	[0 to 0 / 0 / 0]
5-990-026	SP Print Mode	Printer SP	CTL	[0 to 255 / 0 / 0]
5-990-027	SP Print Mode	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0]
5-990-028	SP Print Mode	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0]
5-992-001	SP Text Mode	All (Data List)	CTL	[0 to 255 / 0 / 0]
5-992-002	SP Text Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0]
5-992-	SP Text Mode	User Program	CTL	[0 to 255 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
003				
5-992-004	SP Text Mode	Logging Data	CTL	[0 to 255 / 0 / 0]
5-992-005	SP Text Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 0]
5-992-006	SP Text Mode	Non-Default	CTL	[0 to 255 / 0 / 0]
5-992-007	SP Text Mode	NIB Summary	CTL	[0 to 0 / 0 / 0]
5-992-024	SP Text Mode	SDK/J Summary	CTL	[0 to 0 / 0 / 0]
5-992-025	SP Text Mode	SDK/J Application Info	CTL	[0 to 0 / 0 / 0]
5-992-026	SP Text Mode	Printer SP	CTL	[0 to 255 / 0 / 0]
5-992-027	SP Text Mode	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0]
5-992-028	SP Text Mode	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0]

Controller SP6-XXX (Peripherals)

DFU: Design/Factory Use only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
6-830-001	Extra	Staples 0 to 50 (Initial:0)	CTL*	[0 to 50 / 0 / 1]
6-830-002	Extra (DFU)	Saddles 0 to 50 (Initial:0)	CTL*	[0 to 50 / 0 / 1]
6-830-003	Extra	Half-Fold 0 to 50 (Initial:0)	CTL*	[0 to 50 / 0 / 1]
6-830-005	Extra	StaplessStaples 0 to 50 (Initial:0)	CTL*	[0 to 50 / 0 / 1]
6-890-001	Function Enabled	Z-Fold 0:No Punch 1:Punching OK	CTL	[0 to 1 / 0 / 1]

Controller SP7-XXX (Data Log1)

DFU: Design/Factory Use only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-401-001	Total SC	SC Counter	CTL*	[0 to 65535 / 0 / 0]
7-401-002	Total SC	Total SC Counter	CTL*	[0 to 65535 / 0 / 0]
7-403-001	SC History	Latest	CTL*	[0 to 0 / 0 / 0]
7-403-002	SC History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-403-003	SC History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-403-004	SC History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-403-005	SC History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-403-006	SC History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-403-007	SC History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-403-008	SC History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-403-009	SC History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-403-010	SC History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-404-001	Software Error History	Latest	CTL*	[0 to 0 / 0 / 0]
7-404-002	Software Error History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-404-003	Software Error History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-404-004	Software Error History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-404-005	Software Error History	Latest 4	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-404-006	Software Error History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-404-007	Software Error History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-404-008	Software Error History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-404-009	Software Error History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-404-010	Software Error History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-502-001	Total Paper Jam	Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-502-002	Total Paper Jam	Total Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-504-001	Paper Jam Location	At Power On	CTL*	[0 to 65535 / 0 / 0]
7-504-003	Paper Jam Location	Tray1: On	CTL*	[0 to 65535 / 0 / 0]
7-504-004	Paper Jam Location	Tray2: On	CTL*	[0 to 65535 / 0 / 0]
7-504-005	Paper Jam Location	Tray3: On	CTL*	[0 to 65535 / 0 / 0]
7-504-006	Paper Jam Location	Tray4: On	CTL*	[0 to 65535 / 0 / 0]
7-504-007	Paper Jam Location	LCT: On	CTL*	[0 to 65535 / 0 / 0]
7-504-008	Paper Jam Location	Bypass: On	CTL*	[0 to 65535 / 0 / 0]
7-504-009	Paper Jam Location	Duplex: On	CTL*	[0 to 65535 / 0 / 0]
7-504-011	Paper Jam Location	Transport 1: On	CTL*	[0 to 65535 / 0 / 0]
7-504-012	Paper Jam Location	Transport 2: On	CTL*	[0 to 65535 / 0 / 0]
7-504-013	Paper Jam Location	Vertical Trans. 3: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-014	Paper Jam Location	Vertical Trans. 4: On	CTL*	[0 to 65535 / 0 / 0]
7-504-015	Paper Jam Location	LCT Transport: On	CTL*	[0 to 65535 / 0 / 0]
7-504-017	Paper Jam Location	Registration: On	CTL*	[0 to 65535 / 0 / 0]
7-504-018	Paper Jam Location	Fusing Entrance: On	CTL*	[0 to 65535 / 0 / 0]
7-504-019	Paper Jam Location	Fusing Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-020	Paper Jam Location	Paper Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-021	Paper Jam Location	Bridge Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-022	Paper Jam Location	Bridge Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-504-024	Paper Jam Location	Inverter: On	CTL*	[0 to 65535 / 0 / 0]
7-504-025	Paper Jam Location	Duplex Exit Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-504-027	Paper Jam Location	Duplex Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-504-048	Paper Jam Location	Bypass Transport Sensor 1: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-051	Paper Jam Location	Tray1: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-052	Paper Jam Location	Tray2: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-053	Paper Jam Location	Tray3: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-054	Paper Jam Location	Tray4: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-055	Paper Jam Location	LCT Transport: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-057	Paper Jam Location	RegistratiOff: Off	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-060	Paper Jam Location	Paper Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-061	Paper Jam Location	Bridge Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-062	Paper Jam Location	Bridge Relay: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-064	Paper Jam Location	Inverter: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-065	Paper Jam Location	Duplex Exit Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-067	Paper Jam Location	Duplex Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-096	Paper Jam Location	Timing: On	CTL*	[0 to 65535 / 0 / 0]
7-504-150	Paper Jam Location	Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-504-151	Paper Jam Location	Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-152	Paper Jam Location	Horizontal Transport Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-504-153	Paper Jam Location	Horizontal Transport Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-154	Paper Jam Location	Switchback Transport Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-504-155	Paper Jam Location	Switchback Transport Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-156	Paper Jam Location	Proof Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-157	Paper Jam Location	Proof Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-158	Paper Jam Location	Shift Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-159	Paper Jam Location	Shift Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-162	Paper Jam Location	Enrance Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-163	Paper Jam Location	Horizontal Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-164	Paper Jam Location	Pre-Stack Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-165	Paper Jam Location	ITB Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-166	Paper Jam Location	Exit Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-167	Paper Jam Location	TE Press Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-168	Paper Jam Location	Ext Plate Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-169	Paper Jam Location	Punching Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-170	Paper Jam Location	Punch Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-171	Paper Jam Location	S-to-S Registration Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-172	Paper Jam Location	Lower Junction Solenoid Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-173	Paper Jam Location	Jogger Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-174	Paper Jam Location	Positioning Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-175	Paper Jam Location	Feed Out Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-176	Paper Jam Location	Corner Stapler Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-177	Paper Jam Location	Corner Stapler Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-185	Paper Jam Location	Output Tray Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-186	Paper Jam Location	Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-187	Paper Jam Location	Shift Tray Jogger Front Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-188	Paper Jam Location	Shift Tray Jogger Rear Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-189	Paper Jam Location	Shift Tray Jogger Retraction Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-190	Paper Jam Location	Stack Roller Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-191	Paper Jam Location	Leading Edge Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-192	Paper Jam Location	Positioning Roller Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-193	Paper Jam Location	Paper Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-194	Paper Jam Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-504-200	Paper Jam Location	Entrance: On	CTL*	[0 to 65535 / 0 / 0]
7-504-201	Paper Jam Location	Entrance: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-202	Paper Jam Location	Proof Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-203	Paper Jam Location	Proof Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-204	Paper Jam Location	Right Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-504-205	Paper Jam Location	Left Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-504-206	Paper Jam Location	Left Relay: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-207	Paper Jam Location	Shift Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-208	Paper Jam Location	Shift Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-209	Paper Jam Location	Stack: On	CTL*	[0 to 65535 / 0 / 0]
7-504-210	Paper Jam Location	TE Stopper: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-211	Paper Jam Location	TE Stopper: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-212	Paper Jam Location	Booklet Folder Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-504-213	Paper Jam Location	Booklet Folder Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-504-220	Paper Jam Location	Entrance Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-221	Paper Jam Location	Proof Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-222	Paper Jam Location	Exit Transport/ Positioning Roller Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-223	Paper Jam Location	Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-224	Paper Jam Location	Jogger Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-225	Paper Jam Location	Exit Guide Plate Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-226	Paper Jam Location	Feed Out Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-227	Paper Jam Location	Output Tray Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-228	Paper Jam Location	Positioning Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-229	Paper Jam Location	Stapler Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-230	Paper Jam Location	Stapler Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-231	Paper Jam Location	Punch Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-232	Paper Jam Location	Stack Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-233	Paper Jam Location	LE Stopper Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-234	Paper Jam Location	Folder Blade Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-504-235	Paper Jam Location	Paper Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-236	Paper Jam Location	Stapler Shift Motor(without staples)	CTL*	[0 to 65535 / 0 / 0]
7-504-237	Paper Jam Location	Stapler Motor(without staples)	CTL*	[0 to 65535 / 0 / 0]
7-504-238	Paper Jam Location	Movable Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-504-248	Paper Jam Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-504-249	Paper Jam Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-506-005	Jam Count by Paper Size	A4 LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-006	Jam Count by Paper Size	A5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-014	Jam Count by Paper Size	B5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-038	Jam Count by Paper Size	LT LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-044	Jam Count by Paper Size	HLT LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-132	Jam Count by Paper Size	A3 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-133	Jam Count by Paper Size	A4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-134	Jam Count by Paper Size	A5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-141	Jam Count by Paper Size	B4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-142	Jam Count by Paper Size	B5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-160	Jam Count by Paper Size	DLT SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-164	Jam Count by Paper Size	LG SEF	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-506-166	Jam Count by Paper Size	LT SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-172	Jam Count by Paper Size	HLT SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-255	Jam Count by Paper Size	Others	CTL*	[0 to 65535 / 0 / 0]
7-507-001	Plotter Jam History	Latest	CTL*	[0 to 0 / 0 / 0]
7-507-002	Plotter Jam History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-507-003	Plotter Jam History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-507-004	Plotter Jam History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-507-005	Plotter Jam History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-507-006	Plotter Jam History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-507-007	Plotter Jam History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-507-008	Plotter Jam History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-507-009	Plotter Jam History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-507-010	Plotter Jam History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-509-095	Paper Jam Location	Registration: On	CTL*	[0 to 65535 / 0 / 0]
7-509-096	Paper Jam Location	Registration: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-097	Paper Jam Location	1st 2-direction Paper Feed SN: On	CTL*	[0 to 65535 / 0 / 0]
7-509-098	Paper Jam Location	1st 2-direction Paper Feed SN: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-099	Paper Jam Location	2nd 2-direction Paper Feed SN: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-509-100	Paper Jam Location	2nd 2-direction Paper Feed SN: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-101	Paper Jam Location	Crease: On	CTL*	[0 to 65535 / 0 / 0]
7-509-102	Paper Jam Location	Crease: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-103	Paper Jam Location	Top Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-509-104	Paper Jam Location	Top Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-105	Paper Jam Location	Bridge Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-509-106	Paper Jam Location	Bridge Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-115	Paper Jam Location	Registration Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-116	Paper Jam Location	Folding Junction Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-117	Paper Jam Location	Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-118	Paper Jam Location	Folding Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-119	Paper Jam Location	2nd 2-direction Paper Feed Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-120	Paper Jam Location	Crease Motor	CTL*	[0 to 65535 / 0 / 0]
7-509-143	Paper Jam Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-509-144	Paper Jam Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-509-145	Paper Jam Location	Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-509-146	Paper Jam Location	Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-147	Paper Jam Location	Transfer Sensor 1: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-509-148	Paper Jam Location	Transfer Sensor 1: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-149	Paper Jam Location	Transfer Sensor 2: On	CTL*	[0 to 65535 / 0 / 0]
7-509-150	Paper Jam Location	Transfer Sensor 2: Off	CTL*	[0 to 65535 / 0 / 0]
7-509-153	Paper Jam Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-509-154	Paper Jam Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-514-001	Paper Jam Count by Location	At Power On	CTL*	[0 to 65535 / 0 / 0]
7-514-003	Paper Jam Count by Location	Tray1: On	CTL*	[0 to 65535 / 0 / 0]
7-514-004	Paper Jam Count by Location	Tray2: On	CTL*	[0 to 65535 / 0 / 0]
7-514-005	Paper Jam Count by Location	Tray3: On	CTL*	[0 to 65535 / 0 / 0]
7-514-006	Paper Jam Count by Location	Tray4: On	CTL*	[0 to 65535 / 0 / 0]
7-514-007	Paper Jam Count by Location	LCT: On	CTL*	[0 to 65535 / 0 / 0]
7-514-008	Paper Jam Count by Location	Bypass: On	CTL*	[0 to 65535 / 0 / 0]
7-514-009	Paper Jam Count by Location	Duplex: On	CTL*	[0 to 65535 / 0 / 0]
7-514-011	Paper Jam Count by Location	Transport 1: On	CTL*	[0 to 65535 / 0 / 0]
7-514-012	Paper Jam Count by Location	Transport 2: On	CTL*	[0 to 65535 / 0 / 0]
7-514-013	Paper Jam Count by Location	Vertical Trans. 3: On	CTL*	[0 to 65535 / 0 / 0]
7-514-014	Paper Jam Count by Location	Vertical Trans. 4: On	CTL*	[0 to 65535 / 0 / 0]
7-514-015	Paper Jam Count by Location	LCT Transport: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-017	Paper Jam Count by Location	Registration: On	CTL*	[0 to 65535 / 0 / 0]
7-514-018	Paper Jam Count by Location	Fusing Entrance: On	CTL*	[0 to 65535 / 0 / 0]
7-514-019	Paper Jam Count by Location	Fusing Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-020	Paper Jam Count by Location	Paper Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-021	Paper Jam Count by Location	Bridge Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-022	Paper Jam Count by Location	Bridge Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-514-024	Paper Jam Count by Location	Inverter: On	CTL*	[0 to 65535 / 0 / 0]
7-514-025	Paper Jam Count by Location	Duplex Exit Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-514-027	Paper Jam Count by Location	Duplex Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-514-048	Paper Jam Count by Location	Bypass Transport Sensor 1: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-051	Paper Jam Count by Location	Tray1: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-052	Paper Jam Count by Location	Tray2: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-053	Paper Jam Count by Location	Tray3: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-054	Paper Jam Count by Location	Tray4: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-055	Paper Jam Count by Location	LCT Transport: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-057	Paper Jam Count by Location	RegistratiOff: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-060	Paper Jam Count by Location	Paper Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-061	Paper Jam Count by Location	Bridge Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-062	Paper Jam Count by Location	Bridge Relay: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-064	Paper Jam Count by Location	Inverter: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-065	Paper Jam Count by Location	Duplex Exit Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-067	Paper Jam Count by Location	Duplex Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-096	Paper Jam Count by Location	Timing: On	CTL*	[0 to 65535 / 0 / 0]
7-514-150	Paper Jam Count by Location	Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-514-151	Paper Jam Count by Location	Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-152	Paper Jam Count by Location	Horizontal Transport Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-514-153	Paper Jam Count by Location	Horizontal Transport Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-154	Paper Jam Count by Location	Switchback Transport Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-514-155	Paper Jam Count by Location	Switchback Transport Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-156	Paper Jam Count by Location	Proof Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-157	Paper Jam Count by Location	Proof Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-158	Paper Jam Count by Location	Shift Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-159	Paper Jam Count by Location	Shift Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-162	Paper Jam Count by Location	Enrance Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-163	Paper Jam Count by Location	Horizontal Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-164	Paper Jam Count by Location	Pre-Stack Transport Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-165	Paper Jam Count by Location	ITB Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-166	Paper Jam Count by Location	Exit Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-167	Paper Jam Count by Location	TE Press Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-168	Paper Jam Count by Location	Ext Plate Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-169	Paper Jam Count by Location	Punching Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-170	Paper Jam Count by Location	Punch Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-171	Paper Jam Count by Location	S-to-S Registration Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-172	Paper Jam Count by Location	Lower Junction Solenoid Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-173	Paper Jam Count by Location	Jogger Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-174	Paper Jam Count by Location	Positioning Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-175	Paper Jam Count by Location	Feed Out Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-176	Paper Jam Count by Location	Corner Stapler Move Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-177	Paper Jam Count by Location	Corner Stapler Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-185	Paper Jam Count by Location	Output Tray Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-186	Paper Jam Count by Location	Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-187	Paper Jam Count by Location	Shift Tray Jogger Front Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-188	Paper Jam Count by Location	Shift Tray Jogger Rear Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-189	Paper Jam Count by Location	Shift Tray Jogger Retraction Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-190	Paper Jam Count by Location	Stack Roller Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-191	Paper Jam Count by Location	Leading Edge Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-192	Paper Jam Count by Location	Positioning Roller Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-193	Paper Jam Count by Location	Paper Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-194	Paper Jam Count by Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-514-200	Paper Jam Count by Location	Entrance: On	CTL*	[0 to 65535 / 0 / 0]
7-514-201	Paper Jam Count by Location	Entrance: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-202	Paper Jam Count by Location	Proof Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-203	Paper Jam Count by Location	Proof Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-204	Paper Jam Count by Location	Right Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-514-205	Paper Jam Count by Location	Left Relay: On	CTL*	[0 to 65535 / 0 / 0]
7-514-206	Paper Jam Count by Location	Left Relay: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-207	Paper Jam Count by Location	Shift Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-514-208	Paper Jam Count by Location	Shift Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-209	Paper Jam Count by Location	Stack: On	CTL*	[0 to 65535 / 0 / 0]
7-514-210	Paper Jam Count by Location	TE Stopper: On	CTL*	[0 to 65535 / 0 / 0]
7-514-211	Paper Jam Count by Location	TE Stopper: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-212	Paper Jam Count by Location	Booklet Folder Exit: On	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-213	Paper Jam Count by Location	Booklet Folder Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-514-220	Paper Jam Count by Location	Entrance Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-221	Paper Jam Count by Location	Proof Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-222	Paper Jam Count by Location	Exit Transport/ Positioning Roller Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-223	Paper Jam Count by Location	Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-224	Paper Jam Count by Location	Jogger Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-225	Paper Jam Count by Location	Exit Guide Plate Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-226	Paper Jam Count by Location	Feed Out Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-227	Paper Jam Count by Location	Output Tray Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-228	Paper Jam Count by Location	Positioning Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-229	Paper Jam Count by Location	Stapler Shift Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-230	Paper Jam Count by Location	Stapler Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-231	Paper Jam Count by Location	Punch Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-232	Paper Jam Count by Location	Stack Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-233	Paper Jam Count by Location	LE Stopper Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-234	Paper Jam Count by Location	Folder Blade Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-235	Paper Jam Count by Location	Paper Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-236	Paper Jam Count by Location	Stapler Shift Motor(without staples)	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-514-237	Paper Jam Count by Location	Stapler Motor(without staples)	CTL*	[0 to 65535 / 0 / 0]
7-514-238	Paper Jam Count by Location	Movable Guide Motor	CTL*	[0 to 65535 / 0 / 0]
7-514-248	Paper Jam Count by Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-514-249	Paper Jam Count by Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-516-005	Paper Size Jam Count	A4 LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-006	Paper Size Jam Count	A5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-014	Paper Size Jam Count	B5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-038	Paper Size Jam Count	LT LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-044	Paper Size Jam Count	HLT LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-132	Paper Size Jam Count	A3 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-133	Paper Size Jam Count	A4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-134	Paper Size Jam Count	A5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-141	Paper Size Jam Count	B4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-142	Paper Size Jam Count	B5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-160	Paper Size Jam Count	DLT SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-164	Paper Size Jam Count	LG SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-166	Paper Size Jam Count	LT SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-172	Paper Size Jam Count	HLT SEF	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-516-255	Paper Size Jam Count	Others	CTL*	[0 to 65535 / 0 / 0]
7-519-095	Paper Jam Count by Location	Registration: On	CTL*	[0 to 65535 / 0 / 0]
7-519-096	Paper Jam Count by Location	Registration: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-097	Paper Jam Count by Location	1st 2-direction Paper Feed SN: On	CTL*	[0 to 65535 / 0 / 0]
7-519-098	Paper Jam Count by Location	1st 2-direction Paper Feed SN: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-099	Paper Jam Count by Location	2nd 2-direction Paper Feed SN: On	CTL*	[0 to 65535 / 0 / 0]
7-519-100	Paper Jam Count by Location	2nd 2-direction Paper Feed SN: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-101	Paper Jam Count by Location	Crease: On	CTL*	[0 to 65535 / 0 / 0]
7-519-102	Paper Jam Count by Location	Crease: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-103	Paper Jam Count by Location	Top Tray Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-519-104	Paper Jam Count by Location	Top Tray Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-105	Paper Jam Count by Location	Bridge Exit: On	CTL*	[0 to 65535 / 0 / 0]
7-519-106	Paper Jam Count by Location	Bridge Exit: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-115	Paper Jam Count by Location	Registration Motor	CTL*	[0 to 65535 / 0 / 0]
7-519-116	Paper Jam Count by Location	Folding Junction Motor	CTL*	[0 to 65535 / 0 / 0]
7-519-117	Paper Jam Count by Location	Transport Motor	CTL*	[0 to 65535 / 0 / 0]
7-519-118	Paper Jam Count by Location	Folding Motor	CTL*	[0 to 65535 / 0 / 0]
7-519-119	Paper Jam Count by Location	2nd 2-direction Paper Feed Motor	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-519-120	Paper Jam Count by Location	Crease Motor	CTL*	[0 to 65535 / 0 / 0]
7-519-143	Paper Jam Count by Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-519-144	Paper Jam Count by Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-519-145	Paper Jam Count by Location	Entrance Sensor: On	CTL*	[0 to 65535 / 0 / 0]
7-519-146	Paper Jam Count by Location	Entrance Sensor: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-147	Paper Jam Count by Location	Transfer Sensor 1: On	CTL*	[0 to 65535 / 0 / 0]
7-519-148	Paper Jam Count by Location	Transfer Sensor 1: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-149	Paper Jam Count by Location	Transfer Sensor 2: On	CTL*	[0 to 65535 / 0 / 0]
7-519-150	Paper Jam Count by Location	Transfer Sensor 2: Off	CTL*	[0 to 65535 / 0 / 0]
7-519-153	Paper Jam Count by Location	No Exit Response	CTL*	[0 to 65535 / 0 / 0]
7-519-154	Paper Jam Count by Location	Main Machine Setting Incorrect	CTL*	[0 to 65535 / 0 / 0]
7-520-001	Update Log	ErrorRecord1	CTL*	[0 to 255 / 0 / 1]
7-520-002	Update Log	ErrorRecord2	CTL*	[0 to 255 / 0 / 1]
7-520-003	Update Log	ErrorRecord3	CTL*	[0 to 255 / 0 / 1]
7-520-004	Update Log	ErrorRecord4	CTL*	[0 to 255 / 0 / 1]
7-520-005	Update Log	ErrorRecord5	CTL*	[0 to 255 / 0 / 1]
7-520-006	Update Log	ErrorRecord6	CTL*	[0 to 255 / 0 / 1]
7-520-007	Update Log	ErrorRecord7	CTL*	[0 to 255 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-520-008	Update Log	ErrorRecord8	CTL*	[0 to 255 / 0 / 1]
7-520-009	Update Log	ErrorRecord9	CTL*	[0 to 255 / 0 / 1]
7-520-010	Update Log	ErrorRecord10	CTL*	[0 to 255 / 0 / 1]
7-520-011	Update Log	Auto:StartDate1	CTL*	[0 to 0 / 0 / 0]
7-520-012	Update Log	Auto:StartDate2	CTL*	[0 to 0 / 0 / 0]
7-520-013	Update Log	Auto:StartDate3	CTL*	[0 to 0 / 0 / 0]
7-520-014	Update Log	Auto:StartDate4	CTL*	[0 to 0 / 0 / 0]
7-520-015	Update Log	Auto:StartDate5	CTL*	[0 to 0 / 0 / 0]
7-520-021	Update Log	Auto:EndDate1	CTL*	[0 to 0 / 0 / 0]
7-520-022	Update Log	Auto:EndDate2	CTL*	[0 to 0 / 0 / 0]
7-520-023	Update Log	Auto:EndDate3	CTL*	[0 to 0 / 0 / 0]
7-520-024	Update Log	Auto:EndDate4	CTL*	[0 to 0 / 0 / 0]
7-520-025	Update Log	Auto:EndDate5	CTL*	[0 to 0 / 0 / 0]
7-520-031	Update Log	Auto:Piecemark1	CTL*	[0 to 0 / 0 / 0]
7-520-032	Update Log	Auto:Piecemark2	CTL*	[0 to 0 / 0 / 0]
7-520-033	Update Log	Auto:Piecemark3	CTL*	[0 to 0 / 0 / 0]
7-520-034	Update Log	Auto:Piecemark4	CTL*	[0 to 0 / 0 / 0]
7-520-035	Update Log	Auto:Piecemark5	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-520-041	Update Log	Auto:Version1	CTL*	[0 to 0 / 0 / 0]
7-520-042	Update Log	Auto:Version2	CTL*	[0 to 0 / 0 / 0]
7-520-043	Update Log	Auto:Version3	CTL*	[0 to 0 / 0 / 0]
7-520-044	Update Log	Auto:Version4	CTL*	[0 to 0 / 0 / 0]
7-520-045	Update Log	Auto:Version5	CTL*	[0 to 0 / 0 / 0]
7-520-051	Update Log	Auto:Result1	CTL*	[0 to 255 / 0 / 1]
7-520-052	Update Log	Auto:Result2	CTL*	[0 to 255 / 0 / 1]
7-520-053	Update Log	Auto:Result3	CTL*	[0 to 255 / 0 / 1]
7-520-054	Update Log	Auto:Result4	CTL*	[0 to 255 / 0 / 1]
7-520-055	Update Log	Auto:Result5	CTL*	[0 to 255 / 0 / 1]
7-520-056	Update Log	Auto:Result6	CTL*	[0 to 255 / 0 / 1]
7-520-057	Update Log	Auto:Result7	CTL*	[0 to 255 / 0 / 1]
7-520-058	Update Log	Auto:Result8	CTL*	[0 to 255 / 0 / 1]
7-520-059	Update Log	Auto:Result9	CTL*	[0 to 255 / 0 / 1]
7-520-060	Update Log	Auto:Result10	CTL*	[0 to 255 / 0 / 1]
7-617-001	PM Parts Counter Display	Normal	CTL*	[0 to 9999999 / 0 / 0]
7-617-002	PM Parts Counter Display	Df	CTL*	[0 to 9999999 / 0 / 0]
7-618-001	PM Parts Counter Reset	Normal	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-618-002	PM Parts Counter Reset	Df	CTL	[0 to 0 / 0 / 0]
7-624-002	Part Replacement Operation ON/OFF	#PCU	CTL	[0 to 1 / 1 / 1]
7-624-009	Part Replacement Operation ON/OFF	Cleaning Blade	CTL	[0 to 1 / 1 / 1]
7-624-018	Part Replacement Operation ON/OFF	Charge Roller	CTL	[0 to 1 / 1 / 1]
7-624-019	Part Replacement Operation ON/OFF	Cleaner:Charge Roller	CTL	[0 to 1 / 1 / 1]
7-624-021	Part Replacement Operation ON/OFF	OPC	CTL	[0 to 1 / 1 / 1]
7-624-022	Part Replacement Operation ON/OFF	Stripper	CTL	[0 to 1 / 1 / 1]
7-624-023	Part Replacement Operation ON/OFF	#Dev Unit	CTL	[0 to 1 / 1 / 1]
7-624-024	Part Replacement Operation ON/OFF	Developer	CTL	[0 to 1 / 1 / 1]
7-624-025	Part Replacement Operation ON/OFF	Development Filter	CTL	[0 to 1 / 1 / 1]
7-624-028	Part Replacement Operation ON/OFF	Bearing:Development Screw	CTL	[0 to 1 / 1 / 1]
7-624-108	Part Replacement Operation ON/OFF	#Paper Transfer Roller Unit	CTL	[0 to 1 / 1 / 1]
7-624-115	Part Replacement Operation ON/OFF	#Fusing Unit	CTL	[0 to 1 / 1 / 1]
7-624-116	Part Replacement Operation ON/OFF	Fusing Belt	CTL	[0 to 1 / 1 / 1]
7-624-118	Part Replacement Operation ON/OFF	Pressure Roller	CTL	[0 to 1 / 1 / 1]
7-624-119	Part Replacement Operation ON/OFF	Bearing:Pressure Roller	CTL	[0 to 1 / 1 / 1]
7-624-142	Part Replacement Operation ON/OFF	#Waste Toner Bottle	CTL	[0 to 1 / 1 / 1]
7-801-255	ROM No./ Firmware Version		CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-803-001	PM Counter Display	Paper	CTL*	[0 to 9999999 / 0 / 0]
7-804-001	PM Counter Reset	Paper	CTL	[0 to 0 / 0 / 0]
7-807-001	SC/Jam Counter Reset		CTL	[0 to 0 / 0 / 0]
7-832-001	Self-Diagnose Result Display		CTL	[0 to 0 / 0 / 0]
7-836-001	Total Memory Size		CTL	[0 to 0xffffffff / 0 / 0MB]
7-840-001	ServiceSP Entry Code Chg Hist	Change Time :Latest	CTL*	[0 to 0 / 0 / 0]
7-840-002	ServiceSP Entry Code Chg Hist	Change Time :Last1	CTL*	[0 to 0 / 0 / 0]
7-840-101	ServiceSP Entry Code Chg Hist	Initialize Time :Latest	CTL*	[0 to 0 / 0 / 0]
7-840-102	ServiceSP Entry Code Chg Hist	Initialize Time :Last1	CTL*	[0 to 0 / 0 / 0]
7-901-001	Assert Info.	File Name	CTL*	[0 to 0 / 0 / 0]
7-901-002	Assert Info.	Number of Lines	CTL*	[0 to 0 / 0 / 0]
7-901-003	Assert Info.	Location	CTL*	[0 to 0 / 0 / 0]
7-910-001	ROM No	System	CTL	[0 to 0 / 0 / 0]
7-910-002	ROM No	Engine	CTL	[0 to 0 / 0 / 0]
7-910-003	ROM No	Lcdc	CTL	[0 to 0 / 0 / 0]
7-910-005	ROM No (DFU)	ADF	CTL	[0 to 0 / 0 / 0]
7-910-007	ROM No	Finisher1	CTL	[0 to 0 / 0 / 0]
7-910-009	ROM No	Bank	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-910-010	ROM No	LCT	CTL	[0 to 0 / 0 / 0]
7-910-011	ROM No	Mail Box	CTL	[0 to 0 / 0 / 0]
7-910-018	ROM No	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-910-019	ROM No	Bank2	CTL	[0 to 0 / 0 / 0]
7-910-022	ROM No	BIOS	CTL	[0 to 0 / 0 / 0]
7-910-023	ROM No	HDD Format Option	CTL	[0 to 0 / 0 / 0]
7-910-025	ROM No	Folding Unit	CTL	[0 to 0 / 0 / 0]
7-910-150	ROM No	RPCS	CTL	[0 to 0 / 0 / 0]
7-910-151	ROM No	PS	CTL	[0 to 0 / 0 / 0]
7-910-152	ROM No	RPDL	CTL	[0 to 0 / 0 / 0]
7-910-153	ROM No	R98	CTL	[0 to 0 / 0 / 0]
7-910-154	ROM No	R16	CTL	[0 to 0 / 0 / 0]
7-910-155	ROM No	RPGL	CTL	[0 to 0 / 0 / 0]
7-910-156	ROM No	R55	CTL	[0 to 0 / 0 / 0]
7-910-157	ROM No	RTIFF	CTL	[0 to 0 / 0 / 0]
7-910-158	ROM No	PCL	CTL	[0 to 0 / 0 / 0]
7-910-159	ROM No	PCLXL	CTL	[0 to 0 / 0 / 0]
7-910-160	ROM No	MSIS	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-910-162	ROM No	PDF	CTL	[0 to 0 / 0 / 0]
7-910-165	ROM No	PJL	CTL	[0 to 0 / 0 / 0]
7-910-166	ROM No	IPDS	CTL	[0 to 0 / 0 / 0]
7-910-167	ROM No	MediaPrint:JPEG	CTL	[0 to 0 / 0 / 0]
7-910-168	ROM No	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-910-169	ROM No	XPS	CTL	[0 to 0 / 0 / 0]
7-910-180	ROM No	FONT	CTL	[0 to 0 / 0 / 0]
7-910-181	ROM No	FONT1	CTL	[0 to 0 / 0 / 0]
7-910-182	ROM No	FONT2	CTL	[0 to 0 / 0 / 0]
7-910-183	ROM No	FONT3	CTL	[0 to 0 / 0 / 0]
7-910-184	ROM No	FONT4	CTL	[0 to 0 / 0 / 0]
7-910-185	ROM No	FONT5	CTL	[0 to 0 / 0 / 0]
7-910-186	ROM No	FONT6	CTL	[0 to 0 / 0 / 0]
7-910-187	ROM No	FONT7	CTL	[0 to 0 / 0 / 0]
7-910-200	ROM No	Factory	CTL	[0 to 0 / 0 / 0]
7-910-202	ROM No	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-910-204	ROM No	Printer	CTL	[0 to 0 / 0 / 0]
7-910-210	ROM No	MIB	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-910-211	ROM No	Websupport	CTL	[0 to 0 / 0 / 0]
7-910-213	ROM No	SDK1	CTL	[0 to 0 / 0 / 0]
7-910-214	ROM No	SDK2	CTL	[0 to 0 / 0 / 0]
7-910-215	ROM No	SDK3	CTL	[0 to 0 / 0 / 0]
7-910-250	ROM No	Package	CTL	[0 to 0 / 0 / 0]
7-911-001	Firmware Version	System	CTL	[0 to 0 / 0 / 0]
7-911-002	Firmware Version	Engine	CTL	[0 to 0 / 0 / 0]
7-911-003	Firmware Version	Lcdc	CTL	[0 to 0 / 0 / 0]
7-911-005	Firmware Version (DFU)	ADF	CTL	[0 to 0 / 0 / 0]
7-911-007	Firmware Version	Finisher1	CTL	[0 to 0 / 0 / 0]
7-911-009	Firmware Version	Bank	CTL	[0 to 0 / 0 / 0]
7-911-010	Firmware Version	LCT	CTL	[0 to 0 / 0 / 0]
7-911-011	Firmware Version	Mail Box	CTL	[0 to 0 / 0 / 0]
7-911-018	Firmware Version	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-911-019	Firmware Version	Bank2	CTL	[0 to 0 / 0 / 0]
7-911-022	Firmware Version	BIOS	CTL	[0 to 0 / 0 / 0]
7-911-023	Firmware Version	HDD Format Option	CTL	[0 to 0 / 0 / 0]
7-911-025	Firmware Version	Folding Unit	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-911-150	Firmware Version	RPCS	CTL	[0 to 0 / 0 / 0]
7-911-151	Firmware Version	PS	CTL	[0 to 0 / 0 / 0]
7-911-152	Firmware Version	RPDL	CTL	[0 to 0 / 0 / 0]
7-911-153	Firmware Version	R98	CTL	[0 to 0 / 0 / 0]
7-911-154	Firmware Version	R16	CTL	[0 to 0 / 0 / 0]
7-911-155	Firmware Version	RPGL	CTL	[0 to 0 / 0 / 0]
7-911-156	Firmware Version	R55	CTL	[0 to 0 / 0 / 0]
7-911-157	Firmware Version	RTIFF	CTL	[0 to 0 / 0 / 0]
7-911-158	Firmware Version	PCL	CTL	[0 to 0 / 0 / 0]
7-911-159	Firmware Version	PCLXL	CTL	[0 to 0 / 0 / 0]
7-911-160	Firmware Version	MSIS	CTL	[0 to 0 / 0 / 0]
7-911-162	Firmware Version	PDF	CTL	[0 to 0 / 0 / 0]
7-911-165	Firmware Version	PJL	CTL	[0 to 0 / 0 / 0]
7-911-166	Firmware Version	IPDS	CTL	[0 to 0 / 0 / 0]
7-911-167	Firmware Version	MediaPrint:JPEG	CTL	[0 to 0 / 0 / 0]
7-911-168	Firmware Version	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-911-169	Firmware Version	XPS	CTL	[0 to 0 / 0 / 0]
7-911-180	Firmware Version	FONT	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-911-181	Firmware Version	FONT1	CTL	[0 to 0 / 0 / 0]
7-911-182	Firmware Version	FONT2	CTL	[0 to 0 / 0 / 0]
7-911-183	Firmware Version	FONT3	CTL	[0 to 0 / 0 / 0]
7-911-184	Firmware Version	FONT4	CTL	[0 to 0 / 0 / 0]
7-911-185	Firmware Version	FONT5	CTL	[0 to 0 / 0 / 0]
7-911-186	Firmware Version	FONT6	CTL	[0 to 0 / 0 / 0]
7-911-187	Firmware Version	FONT7	CTL	[0 to 0 / 0 / 0]
7-911-200	Firmware Version	Factory	CTL	[0 to 0 / 0 / 0]
7-911-202	Firmware Version	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-911-204	Firmware Version	Printer	CTL	[0 to 0 / 0 / 0]
7-911-210	Firmware Version	MIB	CTL	[0 to 0 / 0 / 0]
7-911-211	Firmware Version	Websupport	CTL	[0 to 0 / 0 / 0]
7-911-213	Firmware Version	SDK1	CTL	[0 to 0 / 0 / 0]
7-911-214	Firmware Version	SDK2	CTL	[0 to 0 / 0 / 0]
7-911-215	Firmware Version	SDK3	CTL	[0 to 0 / 0 / 0]
7-911-250	Firmware Version	Package	CTL	[0 to 0 / 0 / 0]

Controller SP8-XXX (Data Log2)

Remarks

Overview

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.).
P:	Print application.	
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.

Keys and Abbreviations

Abbreviation	What it means
/	"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
C	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.)
Full Bleed	No Margins
GenCopy	Generation Copy Mode

Abbreviation	What it means
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
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" 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
PrtPGS	Print Pages
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.
Rez	Resolution
SC	Service Code (Error SC code displayed)
Scn	Scan
Sim, Simplex	Simplex, printing on 1 side.
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
YMC	Yellow, Magenta, Cyan

Abbreviation	What it means
YMCK	Yellow, Magenta, Cyan, Black

SP8-001 to SP8-999

DFU: Design/Factory Use only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-001-001	T:Total Jobs		CTL*	[0 to 99999999 / 0 / 1]
8-004-001	P:Total Jobs		CTL*	[0 to 99999999 / 0 / 1]
8-061-001	T:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-061-002	T:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-061-003	T:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-061-004	T:FIN Jobs (DFU)	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-061-005	T:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-006	T:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-061-007	T:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-061-008	T:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-009	T:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-010	T:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-011	T:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-012	T:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-013	T:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-061-014	T:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-061-015	T:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-061-016	T:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-064-001	P:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-064-002	P:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-064-003	P:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-064-004	P:FIN Jobs (DFU)	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-064-005	P:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-006	P:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-064-007	P:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-064-008	P:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-009	P:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-010	P:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-011	P:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-012	P:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-013	P:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-064-014	P:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-064-015	P:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-064-016	P:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-001	O:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-067-002	O:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-067-003	O:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-067-004	O:FIN Jobs (DFU)	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-067-005	O:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-006	O:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-067-007	O:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-067-008	O:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-009	O:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-010	O:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-011	O:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-012	O:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-013	O:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-014	O:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-015	O:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-067-016	O:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-071-001	T:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-071-002	T:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-003	T:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-004	T:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-005	T:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-006	T:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-007	T:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-008	T:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-009	T:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-010	T:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-011	T:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-012	T:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-013	T:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-014	T:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-001	P:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-074-002	P:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-003	P:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-004	P:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-005	P:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-074-006	P:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-007	P:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-008	P:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-009	P:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-010	P:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-011	P:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-012	P:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-013	P:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-014	P:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-001	O:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-077-002	O:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-003	O:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-004	O:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-005	O:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-006	O:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-007	O:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-008	O:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-009	O:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-010	O:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-011	O:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-012	O:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-013	O:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-014	O:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-081-001	T:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-084-001	P:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-381-001	T:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-384-001	P:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-387-001	O:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-391-001	LSize PrtPGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-411-001	Prints/Duplex		CTL*	[0 to 99999999 / 0 / 1]
8-421-001	T:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-421-004	T:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-005	T:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-006	T:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-007	T:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-008	T:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-009	T:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-421-010	T:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-011	T:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-012	T:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-013	T:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-014	T:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-015	T:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-016	T:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-017	T:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-018	T:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-019	T:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-020	T:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-021	T:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-022	T:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-023	T:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-024	T:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-001	P:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-424-004	P:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-005	P:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-006	P:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-007	P:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-008	P:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-009	P:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-010	P:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-011	P:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-012	P:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-013	P:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-014	P:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-015	P:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-016	P:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-017	P:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-018	P:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-019	P:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-020	P:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-021	P:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-022	P:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-023	P:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-024	P:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-427-001	O:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-427-004	O:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-005	O:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-006	O:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-007	O:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-008	O:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-009	O:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-010	O:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-011	O:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-012	O:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-013	O:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-014	O:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-015	O:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-016	O:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-017	O:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-018	O:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-019	O:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-020	O:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-021	O:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-022	O:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-023	O:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-024	O:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-431-001	T:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-431-002	T:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-431-003	T:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-434-001	P:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-434-002	P:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-434-003	P:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-437-001	O:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-437-002	O:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-437-003	O:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-441-001	T:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-441-002	T:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-441-003	T:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-441-004	T:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-441-005	T:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-441-006	T:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-441-007	T:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-441-008	T:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-441-009	T:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-441-010	T:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-441-254	T:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-441-255	T:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-444-001	P:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-444-002	P:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-444-003	P:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-444-004	P:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-444-005	P:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-444-006	P:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-444-007	P:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-444-008	P:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-444-009	P:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-444-010	P:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-444-254	P:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-444-255	P:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-447-001	O:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-447-002	O:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-447-003	O:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-447-004	O:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-447-005	O:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-447-006	O:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-447-007	O:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-447-008	O:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-447-009	O:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-447-010	O:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-447-254	O:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-447-255	O:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-451-001	PrtPGS/Ppr Tray	Bypass Tray	CTL*	[0 to 99999999 / 0 / 1]
8-451-002	PrtPGS/Ppr Tray	Tray 1	CTL*	[0 to 99999999 / 0 / 1]
8-451-003	PrtPGS/Ppr Tray	Tray 2	CTL*	[0 to 99999999 / 0 / 1]
8-451-004	PrtPGS/Ppr Tray	Tray 3	CTL*	[0 to 99999999 / 0 / 1]
8-451-005	PrtPGS/Ppr Tray	Tray 4	CTL*	[0 to 99999999 / 0 / 1]
8-451-006	PrtPGS/Ppr Tray	Tray 5	CTL*	[0 to 99999999 / 0 / 1]
8-451-007	PrtPGS/Ppr Tray	Tray 6	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-451-008	PrtPGS/Ppr Tray	Tray 7	CTL*	[0 to 99999999 / 0 / 1]
8-451-009	PrtPGS/Ppr Tray	Tray 8	CTL*	[0 to 99999999 / 0 / 1]
8-451-010	PrtPGS/Ppr Tray	Tray 9	CTL*	[0 to 99999999 / 0 / 1]
8-451-011	PrtPGS/Ppr Tray	Tray 10	CTL*	[0 to 99999999 / 0 / 1]
8-451-012	PrtPGS/Ppr Tray	Tray 11	CTL*	[0 to 99999999 / 0 / 1]
8-451-013	PrtPGS/Ppr Tray	Tray 12	CTL*	[0 to 99999999 / 0 / 1]
8-451-014	PrtPGS/Ppr Tray	Tray 13	CTL*	[0 to 99999999 / 0 / 1]
8-451-015	PrtPGS/Ppr Tray	Tray 14	CTL*	[0 to 99999999 / 0 / 1]
8-451-016	PrtPGS/Ppr Tray	Tray 15	CTL*	[0 to 99999999 / 0 / 1]
8-451-101	PrtPGS/Ppr Tray	LC Inserter	CTL*	[0 to 99999999 / 0 / 1]
8-451-102	PrtPGS/Ppr Tray	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-461-001	T:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-461-002	T:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-461-003	T:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-461-004	T:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-461-005	T:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-006	T:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-007	T:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-461-008	T:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-464-001	P:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-464-002	P:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-464-003	P:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-464-004	P:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-464-005	P:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-006	P:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-007	P:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-464-008	P:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-471-001	PrtPGS/Mag	~49%	CTL*	[0 to 99999999 / 0 / 1]
8-471-002	PrtPGS/Mag	50%~99%	CTL*	[0 to 99999999 / 0 / 1]
8-471-003	PrtPGS/Mag	100%	CTL*	[0 to 99999999 / 0 / 1]
8-471-004	PrtPGS/Mag	101%~200%	CTL*	[0 to 99999999 / 0 / 1]
8-471-005	PrtPGS/Mag	201% ~	CTL*	[0 to 99999999 / 0 / 1]
8-481-001	T:PrtPGS/TonSave		CTL*	[0 to 99999999 / 0 / 1]
8-484-001	P:PrtPGS/TonSave		CTL*	[0 to 99999999 / 0 / 1]
8-511-001	T:PrtPGS/Emul	RPCS	CTL*	[0 to 99999999 / 0 / 1]
8-511-002	T:PrtPGS/Emul	RPDL	CTL*	[0 to 99999999 / 0 / 1]
8-511-003	T:PrtPGS/Emul	PS3	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-511-004	T:PrtPGS/Emul	R98	CTL*	[0 to 99999999 / 0 / 1]
8-511-005	T:PrtPGS/Emul	R16	CTL*	[0 to 99999999 / 0 / 1]
8-511-006	T:PrtPGS/Emul	GL/GL2	CTL*	[0 to 99999999 / 0 / 1]
8-511-007	T:PrtPGS/Emul	R55	CTL*	[0 to 99999999 / 0 / 1]
8-511-008	T:PrtPGS/Emul	RTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-511-009	T:PrtPGS/Emul	PDF	CTL*	[0 to 99999999 / 0 / 1]
8-511-010	T:PrtPGS/Emul	PCL5e/5c	CTL*	[0 to 99999999 / 0 / 1]
8-511-011	T:PrtPGS/Emul	PCL XL	CTL*	[0 to 99999999 / 0 / 1]
8-511-012	T:PrtPGS/Emul	IPDL-C	CTL*	[0 to 99999999 / 0 / 1]
8-511-013	T:PrtPGS/Emul	BM-Links	CTL*	[0 to 99999999 / 0 / 1]
8-511-014	T:PrtPGS/Emul	Other	CTL*	[0 to 99999999 / 0 / 1]
8-511-015	T:PrtPGS/Emul	IPDS	CTL*	[0 to 99999999 / 0 / 1]
8-511-016	T:PrtPGS/Emul	XPS	CTL*	[0 to 99999999 / 0 / 1]
8-514-001	P:PrtPGS/Emul	RPCS	CTL*	[0 to 99999999 / 0 / 1]
8-514-002	P:PrtPGS/Emul	RPDL	CTL*	[0 to 99999999 / 0 / 1]
8-514-003	P:PrtPGS/Emul	PS3	CTL*	[0 to 99999999 / 0 / 1]
8-514-004	P:PrtPGS/Emul	R98	CTL*	[0 to 99999999 / 0 / 1]
8-514-005	P:PrtPGS/Emul	R16	CTL*	[0 to 99999999 / 0 / 1]
8-514-006	P:PrtPGS/Emul	GL/GL2	CTL*	[0 to 99999999 / 0 / 1]
8-514-007	P:PrtPGS/Emul	R55	CTL*	[0 to 99999999 / 0 / 1]
8-514-008	P:PrtPGS/Emul	RTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-514-009	P:PrtPGS/Emul	PDF	CTL*	[0 to 99999999 / 0 / 1]
8-514-010	P:PrtPGS/Emul	PCL5e/5c	CTL*	[0 to 99999999 / 0 / 1]
8-514-011	P:PrtPGS/Emul	PCL XL	CTL*	[0 to 99999999 / 0 / 1]
8-514-012	P:PrtPGS/Emul	IPDL-C	CTL*	[0 to 99999999 / 0 / 1]
8-514-013	P:PrtPGS/Emul	BM-Links	CTL*	[0 to 99999999 / 0 / 1]
8-514-014	P:PrtPGS/Emul	Other	CTL*	[0 to 99999999 / 0 / 1]
8-514-015	P:PrtPGS/Emul	IPDS	CTL*	[0 to 99999999 / 0 / 1]
8-514-016	P:PrtPGS/Emul	XPS	CTL*	[0 to 99999999 / 0 / 1]
8-521-001	T:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-521-002	T:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-521-003	T:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-521-004	T:PrtPGS/FIN (DFU)	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-521-005	T:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-006	T:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-521-007	T:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-521-008	T:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-521-009	T:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-010	T:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-011	T:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-012	T:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-013	T:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-014	T:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-015	T:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-521-016	T:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-001	P:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-524-002	P:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-524-003	P:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-524-004	P:PrtPGS/FIN (DFU)	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-524-005	P:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-006	P:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-524-007	P:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-524-008	P:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-009	P:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-010	P:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-011	P:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-012	P:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-013	P:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-014	P:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-015	P:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-524-016	P:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-531-001	Staple	Staples	CTL*	[0 to 99999999 / 0 / 1]
8-531-002	Staple	Stapless	CTL*	[0 to 99999999 / 0 / 1]
8-551-001	T:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-002	T:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-003	T:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-001	P:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-002	P:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-003	P:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-561-001	T:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-002	T:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-003	T:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-004	T:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-001	P:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-564-002	P:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-003	P:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-004	P:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-001	O:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-002	O:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-003	O:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-004	O:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-581-001	T:Counter	Total	CTL*	[0 to 99999999 / 0 / 1]
8-581-032	T:Counter	Total(A3)	CTL*	[0 to 99999999 / 0 / 1]
8-591-001	O:Counter	A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-591-002	O:Counter	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-601-001	T:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-601-011	T:Coverage Counter	B/W Printing Pages	CTL*	[0 to 99999999 / 0 / 1]
8-604-001	P:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-617-001	SDK Apli Counter	SDK-1	CTL*	[0 to 99999999 / 0 / 1]
8-617-002	SDK Apli Counter	SDK-2	CTL*	[0 to 99999999 / 0 / 1]
8-617-003	SDK Apli Counter	SDK-3	CTL*	[0 to 99999999 / 0 / 1]
8-617-004	SDK Apli Counter	SDK-4	CTL*	[0 to 99999999 / 0 / 1]
8-617-005	SDK Apli Counter	SDK-5	CTL*	[0 to 99999999 / 0 / 1]
8-617-006	SDK Apli Counter	SDK-6	CTL*	[0 to 99999999 / 0 / 1]
8-617-007	SDK Apli Counter	SDK-7	CTL*	[0 to 99999999 / 0 / 1]
8-617-008	SDK Apli Counter	SDK-8	CTL*	[0 to 99999999 / 0 / 1]
8-617-009	SDK Apli Counter	SDK-9	CTL*	[0 to 99999999 / 0 / 1]
8-617-010	SDK Apli Counter	SDK-10	CTL*	[0 to 99999999 / 0 / 1]
8-617-011	SDK Apli Counter	SDK-11	CTL*	[0 to 99999999 / 0 / 1]
8-617-012	SDK Apli Counter	SDK-12	CTL*	[0 to 99999999 / 0 / 1]
8-621-001	Func Use Counter	Function-001	CTL*	[0 to 99999999 / 0 / 1]
8-621-002	Func Use Counter	Function-002	CTL*	[0 to 99999999 / 0 / 1]
8-621-003	Func Use Counter	Function-003	CTL*	[0 to 99999999 / 0 / 1]
8-621-004	Func Use Counter	Function-004	CTL*	[0 to 99999999 / 0 / 1]
8-621-005	Func Use Counter	Function-005	CTL*	[0 to 99999999 / 0 / 1]
8-621-006	Func Use Counter	Function-006	CTL*	[0 to 99999999 / 0 / 1]
8-621-007	Func Use Counter	Function-007	CTL*	[0 to 99999999 / 0 / 1]
8-621-008	Func Use Counter	Function-008	CTL*	[0 to 99999999 / 0 / 1]
8-621-009	Func Use Counter	Function-009	CTL*	[0 to 99999999 / 0 / 1]
8-621-010	Func Use Counter	Function-010	CTL*	[0 to 99999999 / 0 / 1]
8-621-011	Func Use Counter	Function-011	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-621-012	Func Use Counter	Function-012	CTL*	[0 to 99999999 / 0 / 1]
8-621-013	Func Use Counter	Function-013	CTL*	[0 to 99999999 / 0 / 1]
8-621-014	Func Use Counter	Function-014	CTL*	[0 to 99999999 / 0 / 1]
8-621-015	Func Use Counter	Function-015	CTL*	[0 to 99999999 / 0 / 1]
8-621-016	Func Use Counter	Function-016	CTL*	[0 to 99999999 / 0 / 1]
8-621-017	Func Use Counter	Function-017	CTL*	[0 to 99999999 / 0 / 1]
8-621-018	Func Use Counter	Function-018	CTL*	[0 to 99999999 / 0 / 1]
8-621-019	Func Use Counter	Function-019	CTL*	[0 to 99999999 / 0 / 1]
8-621-020	Func Use Counter	Function-020	CTL*	[0 to 99999999 / 0 / 1]
8-621-021	Func Use Counter	Function-021	CTL*	[0 to 99999999 / 0 / 1]
8-621-022	Func Use Counter	Function-022	CTL*	[0 to 99999999 / 0 / 1]
8-621-023	Func Use Counter	Function-023	CTL*	[0 to 99999999 / 0 / 1]
8-621-024	Func Use Counter	Function-024	CTL*	[0 to 99999999 / 0 / 1]
8-621-025	Func Use Counter	Function-025	CTL*	[0 to 99999999 / 0 / 1]
8-621-026	Func Use Counter	Function-026	CTL*	[0 to 99999999 / 0 / 1]
8-621-027	Func Use Counter	Function-027	CTL*	[0 to 99999999 / 0 / 1]
8-621-028	Func Use Counter	Function-028	CTL*	[0 to 99999999 / 0 / 1]
8-621-029	Func Use Counter	Function-029	CTL*	[0 to 99999999 / 0 / 1]
8-621-030	Func Use Counter	Function-030	CTL*	[0 to 99999999 / 0 / 1]
8-621-031	Func Use Counter	Function-031	CTL*	[0 to 99999999 / 0 / 1]
8-621-032	Func Use Counter	Function-032	CTL*	[0 to 99999999 / 0 / 1]
8-621-033	Func Use Counter	Function-033	CTL*	[0 to 99999999 / 0 / 1]
8-621-034	Func Use Counter	Function-034	CTL*	[0 to 99999999 / 0 / 1]
8-621-035	Func Use Counter	Function-035	CTL*	[0 to 99999999 / 0 / 1]
8-621-036	Func Use Counter	Function-036	CTL*	[0 to 99999999 / 0 / 1]
8-621-037	Func Use Counter	Function-037	CTL*	[0 to 99999999 / 0 / 1]
8-621-038	Func Use Counter	Function-038	CTL*	[0 to 99999999 / 0 / 1]
8-621-039	Func Use Counter	Function-039	CTL*	[0 to 99999999 / 0 / 1]
8-621-040	Func Use Counter	Function-040	CTL*	[0 to 99999999 / 0 / 1]
8-621-041	Func Use Counter	Function-041	CTL*	[0 to 99999999 / 0 / 1]
8-621-042	Func Use Counter	Function-042	CTL*	[0 to 99999999 / 0 / 1]
8-621-043	Func Use Counter	Function-043	CTL*	[0 to 99999999 / 0 / 1]
8-621-044	Func Use Counter	Function-044	CTL*	[0 to 99999999 / 0 / 1]
8-621-045	Func Use Counter	Function-045	CTL*	[0 to 99999999 / 0 / 1]
8-621-046	Func Use Counter	Function-046	CTL*	[0 to 99999999 / 0 / 1]
8-621-047	Func Use Counter	Function-047	CTL*	[0 to 99999999 / 0 / 1]
8-621-048	Func Use Counter	Function-048	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-621-049	Func Use Counter	Function-049	CTL*	[0 to 99999999 / 0 / 1]
8-621-050	Func Use Counter	Function-050	CTL*	[0 to 99999999 / 0 / 1]
8-621-051	Func Use Counter	Function-051	CTL*	[0 to 99999999 / 0 / 1]
8-621-052	Func Use Counter	Function-052	CTL*	[0 to 99999999 / 0 / 1]
8-621-053	Func Use Counter	Function-053	CTL*	[0 to 99999999 / 0 / 1]
8-621-054	Func Use Counter	Function-054	CTL*	[0 to 99999999 / 0 / 1]
8-621-055	Func Use Counter	Function-055	CTL*	[0 to 99999999 / 0 / 1]
8-621-056	Func Use Counter	Function-056	CTL*	[0 to 99999999 / 0 / 1]
8-621-057	Func Use Counter	Function-057	CTL*	[0 to 99999999 / 0 / 1]
8-621-058	Func Use Counter	Function-058	CTL*	[0 to 99999999 / 0 / 1]
8-621-059	Func Use Counter	Function-059	CTL*	[0 to 99999999 / 0 / 1]
8-621-060	Func Use Counter	Function-060	CTL*	[0 to 99999999 / 0 / 1]
8-621-061	Func Use Counter	Function-061	CTL*	[0 to 99999999 / 0 / 1]
8-621-062	Func Use Counter	Function-062	CTL*	[0 to 99999999 / 0 / 1]
8-621-063	Func Use Counter	Function-063	CTL*	[0 to 99999999 / 0 / 1]
8-621-064	Func Use Counter	Function-064	CTL*	[0 to 99999999 / 0 / 1]
8-771-001	Dev Counter	Total	CTL*	[0 to 99999999 / 0 / 1]
8-781-001	Toner_Botol_Info.	BK	CTL*	[0 to 99999999 / 0 / 1]
8-801-001	Toner Remain	K	CTL*	[0 to 100 / 0 / 1%]
8-811-001	Eco Counter	Eco Total	CTL*	[0 to 99999999 / 0 / 1]
8-811-004	Eco Counter	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-811-005	Eco Counter	Combine	CTL*	[0 to 99999999 / 0 / 1]
8-811-008	Eco Counter	Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-009	Eco Counter	Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-010	Eco Counter	Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-051	Eco Counter	Sync Eco Total	CTL*	[0 to 99999999 / 0 / 1]
8-811-054	Eco Counter	Sync Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-811-055	Eco Counter	Sync Combine	CTL*	[0 to 99999999 / 0 / 1]
8-811-058	Eco Counter	Sync Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-059	Eco Counter	Sync Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-060	Eco Counter	Sync Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-101	Eco Counter	Eco Totalr:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-104	Eco Counter	Duplex:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-105	Eco Counter	Combine:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-108	Eco Counter	Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-109	Eco Counter	Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-110	Eco Counter	Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-811-151	Eco Counter	Sync Eco Totalr:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-154	Eco Counter	Sync Duplex:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-155	Eco Counter	Sync Combine:Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-158	Eco Counter	Sync Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-159	Eco Counter	Sync Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-160	Eco Counter	Sync Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-851-011	Cvr Cnt:0-10%	0~2%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-021	Cvr Cnt:0-10%	3~4%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-031	Cvr Cnt:0-10%	5~7%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-041	Cvr Cnt:0-10%	8~10%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-861-001	Cvr Cnt:11-20%	BK	CTL*	[0 to 99999999 / 0 / 1]
8-871-001	Cvr Cnt:21-30%	BK	CTL*	[0 to 99999999 / 0 / 1]
8-881-001	Cvr Cnt:31%-	BK	CTL*	[0 to 99999999 / 0 / 1]
8-891-001	Page/Toner Bottle	BK	CTL*	[0 to 99999999 / 0 / 1]
8-901-001	Page/Toner_Prev1	BK	CTL*	[0 to 99999999 / 0 / 1]
8-911-001	Page/Toner_Prev2	BK	CTL*	[0 to 99999999 / 0 / 1]
8-921-001	Cvr Cnt/Total	Coverage(%):BK	CTL*	[0 to 2147483647 / 0 / 1%]
8-921-011	Cvr Cnt/Total	Coverage/P:BK	CTL*	[0 to 99999999 / 0 / 1]
8-941-001	Machine Status	Operation Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-002	Machine Status	Standby Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-003	Machine Status	Energy Save Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-004	Machine Status	Low Power Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-005	Machine Status	Off Mode Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-006	Machine Status	SC	CTL*	[0 to 99999999 / 0 / 1]
8-941-007	Machine Status	PrtJam	CTL*	[0 to 99999999 / 0 / 1]
8-941-008	Machine Status	OrgJam	CTL*	[0 to 99999999 / 0 / 1]
8-941-009	Machine Status	Supply PM Unit End	CTL*	[0 to 99999999 / 0 / 1]
8-961-001	Electricity Status	Ctrl Standby Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-002	Electricity Status	STR Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-003	Electricity Status	Main Power Off Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-004	Electricity Status	Reading and Printing Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-005	Electricity Status	Printing Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-006	Electricity Status	Reading Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-007	Electricity Status	Eng Waiting Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-008	Electricity Status	Low Pawer State Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-009	Electricity Status	Silent State Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-010	Electricity Status	Heater Off State Time	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
8-961-011	Electricity Status	LCD on Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-101	Electricity Status	Silent Print	CTL*	[0 to 99999999 / 0 / 1]
8-971-001	Unit Control	Engine Off Recovery Count	CTL*	[0 to 99999999 / 0 / 1]
8-971-002	Unit Control	Power Off Count	CTL*	[0 to 99999999 / 0 / 1]
8-971-003	Unit Control	Force Power Off Count	CTL*	[0 to 99999999 / 0 / 1]
8-999-001	Admin. Counter List	Total	CTL*	[0 to 99999999 / 0 / 1]
8-999-007	Admin. Counter List	Printer: BW	CTL*	[0 to 99999999 / 0 / 1]
8-999-012	Admin. Counter List	A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-999-013	Admin. Counter List	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-999-027	Admin. Counter List	Printer: BW(%)	CTL*	[0 to 2147483647 / 0 / 1]

Printer SP Menu

SP1-XXX (Service Mode)

1001	**[Bit Switch]**			
1-001-001	Bit Switch 1		0	1
	bit 0	DFU	-	-
	bit 1	Responding with the hostname as the sysName	Model name (PnP name)	Hostname
		This BitSwitch can change the value of the sysName. 0 (default): Model name (PnP name) such as "MP C401SP" 1: Host name		
	bit 2	DFU	-	-
	bit 3	**No I/O Timeout**	**Disabled**	Enabled
		Enables/Disables MFP I/O Timeouts. If enabled, the MFP I/O Timeout setting will have no affect. I/O Timeouts will never occur.		
	bit 4	**SD Card Save Mode**	**Disabled**	Enabled
		If this bit switch is enabled, print jobs will be saved to the GW SD slot and not output to paper.		
	bit 5	**[PS and PDF] Paper size error margin**	±5pt	±10pt
		When a PS job is printed by using a custom paper size, the job might not be printed because of a paper size mismatch caused by a calculation error. By default, the error margin for matching to a paper size is ±5 points. By enabling this BitSwitch, the error margin for matching to a paper size can be extended to ±10 points.		
	bit 6	DFU	-	-
	bit 7	**[RPCS,PCL]: Printable area frame border**	**Disabled**	Enabled
		Prints all RPCS and PCL jobs with a border around the printable area.		

1001	**[Bit Switch]**			
1-001-002	Bit Switch 2		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**Applying a Collate Type**	**Shift Collate**	Normal Collate
		A collate type (shift or normal) will be applied to all jobs that do not explicitly define a collate		

		type. **Note:** If #5-0 is enabled, this BitSwitch has no effect.		
	bit 3	**[PCL5e/c,PS]: PDL Auto Switching**	**Enabled**	Disabled
		Enables/Disables 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]**			
1-001-003	Bit Switch 3		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**[PCL5e/c]: Legacy HP compatibility**	**Disabled**	Enabled
		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>*r0A") will be changed to "<ESC>*r1A".		
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**[Bit Switch]**		
1-001-	Bit Switch 4	0	1

004	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**IPDS print-side reversal**	**Disabled**	Enabled
		If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**[Bit Switch]**			
1-001-005	Bit Switch 5		0	1
	bit 0	**Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.**	**Disabled**	Enabled
		If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Type from the operation panel. The available Types will depend on the device and configured options. After enabling this BitSw, the settings will appear under: "User Tools > Printer Features > System"		
	bit 1	**Multiple copies if a paper size or type mismatch occurs**	**Disabled (single copy)**	Enabled (multiple)
		If a paper size or type mismatch occurs during the printing of multiple copies, only a single copy is output by default. Using this BitSw, the device can be configured to print all copies even if a paper mismatch occurs.		
	bit 2	**Prevent SDK applications from altering the contents of a job.**	**Disabled**	Enabled
		If this BitSw is enabled, SDK applications will not be able to alter print data. This is achieved by preventing SDK applications from accessing a module called the "GPS Filter". Note: The main purpose of this BitSw is for troubleshooting the effects of SDK applications on data.		

	bit 3	**[PS] PS Criteria**	**Pattern3**	Pattern1
		Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not. For details, refer to "Printing Features".		
	bit 4	**Increase max. number of stored jobs.**	**Disabled (100)**	Enabled (750)
		Changes the maximum number of jobs that can be stored on the HDD. The default (disabled) is 100. If this is enabled, the max. will be raised to 750 or 1000 depending on the model.		
	bit 5	DFU	-	-
	bit 6	**Method for determining the image rotation for the edge to bind on.**	**Disabled**	Enabled
		If enabled, the image rotation will be performed as they were in the specifications of older models for the binding of pages of mixed orientation jobs. The old models are below: - PCL: Pre-04A models - PS/PDF/RPCS:Pre-05S models		
	bit 7	**Letterhead mode printing**	**Disabled**	Enabled (Duplex)
		Routes all pages through the duplex unit. If this is disabled, simplex pages or the last page of an odd-paged duplex job, are not routed through the duplex unit. This could result in problems with letterhead/pre-printed pages. Only affects pages specified as Letterhead paper.		

1001	**[Bit Switch]**			
1-001-006	Bit Switch 6		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**[Bit Switch]**			
1-001-007	Bit Switch 7		0	1
	bit	**Print path**	**Disabled**	Enabled

	0	If enabled, simplex pages (in mixed simplex/duplex PS/PCL5 jobs only) and the last page of an odd paged duplex job (PS, PCL5, PCL6), are always routed through the duplex unit. Not having to switch paper paths increases the print speed slightly.		
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**[Bit Switch]**			
1-001-008	Bit Switch 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**	**Disabled**	Enabled (allow BW jobs to print without a user code)
		BW jobs submitted without a user code will be printed even if usercode authentication is enabled. **Note:** Color jobs will not be printed without a valid user code.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit	**[PDF]: Orientation Auto Detect Function**	**Enabled**	Disabled

	7	Automatically chooses page orientations of PDF jobs (Landscape or Portrait) based on the content.

1001	**[Bit Switch]**			
1-001-009	Bit Switch 9		0	1
	bit 0	**PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).**	**Disabled (Immediately)**	Enabled (10 seconds)
		To be used if PDL auto-detection fails. A failure of PDL auto detection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 1	DFU	-	-
	bit 2	**Job Cancel**	**Disabled (Not cancelled)**	Enabled (Cancelled)
		If this bit switch, all jobs will be cancelled after a jam occurs. **Note:** If this bitsw is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	DFU	-	-
	bit 4	**Timing of the PJL Status ReadBack (JOB END) when printing multiple collated copies.**	**Disable**	Enable
		This bitsw determines the timing of the PJL USTATUS JOB END sent when multiple collated copies are being printed. 0 (default): JOB END is sent by the device to the client after the first copy has completed printing. This causes the page counter to be incremented after the first copy and then again at the end of the job. 1: JOB END is sent by the device to the client after the last copy has finished printing. This causes the page counter to be incremented at the end of each job.		
	bit 5	**Display UTF-8 text in the operation panel**	**Enabled**	Disabled
		Enabled (=0): Text composed of UTF-8 characters can be displayed in the operation panel. Disabled (=1): UTF-8 characters cannot be displayed in the operation panel. For example, job names are sometimes stored in the MIB using UTF-8 encoded characters. When these are displayed on the operation panel, they will be garbled unless this BitSw is enabled (=0).		
	bit	**Disable super option**	**Enabled**	Disabled

	6	Switches super option disable on / off. It this is On, multiple jobs are grouped at LPR port. PJL settings are enabled even jobs that are specified queue names are sent.		
	bit 7	**Enable/Disable Print from USB/SD's Preview function**	Enabled	**Disabled**
		Determines whether Print from USB/SD will have the Preview function. Enabled (=0): Print from USB/SD will have the Preview function. Disabled (=1): Print from USB/SD will not have the Preview function.		

1001	**[Bit Switch]**			
1-001-010	Bit Switch A		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	**Store and Skip Errored Job locks the queue**	**Queue is not locked after SSEJ**	Queue locked after SSEJ
		If this is 1, then after a job is stored using Store and Skip Errored Job (SSEJ), new jobs cannot be added to the queue until the stored job has been completely printed.		
	bit 6	**Allow use of Store and Skip Errored Job if connected to an external charge device.**	**Does not allow SSEJ with ECD**	Allows SSEJ with ECD
		If this is 0, Store and Skip Errored Job (SSEJ) will be automatically disabled if an external charge device is connected. **Note:** We do not officially support enabling this bitsw (1). Use it at your own risk.		
	bit 7	DFU	-	-

1001	**[Bit Switch]**			
1-001-011	Bit Switch B		0	1
	bit 0	**Show Menu List**	**Hide Menu List**	Show Menu List
		If this is 0, the Menu List button will be removed from Printer Features.		

	bit 1	**Print job interruption**	**Does not allow interruption**	Allow interruption
		0 (default): Print jobs are not interrupted. If a job is promoted to the top of the print queue, it will wait for the currently printing job to finish. 1: If a job is promoted to the top of the queue, it will interrupt the currently printing job and start printing immediately.		
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	**Add "Apply Auto Paper Select" is the condition that decides if the device's paper size or paper type should be overwritten.**	**Disabled**	Enabled
		If this BitSwitch is set to "1" (enabled), the "Apply Auto Paper Select" setting will decide if the paper size or paper type that is specified in the device settings should be overwritten by the job's commands when "Tray Setting Priority" is set to "Driver/Command" or "Any Type". - Apply Auto Paper Select = OFF: Overwritten (priority is given to the job's commands) - Apply Auto Paper Select = ON: Not overwritten (priority is given to the device settings)		
	bit 5	DFU	-	-
	bit 6	**The tray selection setting when a paper size or paper type mismatch occurs.**	**Disabled**	Enabled
		If the tray selection setting is enabled, selecting the tray that the "Apply Auto Paper Select" setting is configured to "Off" cannot be done when a paper size or paper type mismatch occurs.		
	bit 7	DFU	-	-

1001	**[Bit Switch]**			
1-001-012	Bit Switch C		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit	DFU	-	-

	3			
	bit 4	DFU	-	-
	bit 5	**Change the user ID type displayed on the operation panel**	**Disabled**	Enabled
		As of 15S models, the Login User Name can be displayed on the operation panel. The user ID type displayed on the operation panel can be changed by configuring BitSwitch #12-5 as follows: - 0 (default): Login User Name - 1: User ID. If this is enabled, User ID will be displayed, which is equivalent to the behavior exhibited in 14A and earlier models.		
	bit 6	**AirPrint**	**Enabled**	Disabled
		For 15S and later models that support AirPrint, AirPrint can be disabled by changing this Bit Switch from 0 (default) to 1.		
	bit 7	DFU	-	-

1003	**[Clear Setting]**		
1-003-001	Initialize Printer System	CTL*	[- / - / -] [Execute]
	Initializes settings in the "System" menu of the user mode.		
1-003-003	Delete Program	CTL*	[- / - / -] [Execute]

1004	**[Print Summary]**		
	Prints the service summary sheet (a summary of all the controller settings).		
1-004-001	Print Printer Summary	CTL	[- / - / -] [Execute]

1005	**[Display Version]**		
1-005-001	Printer Version	CTL	[- / - / -]
	Displays the version of the controller firmware.		

1007	**[Supply Display]**		
	Sets displaying remaining supply amount information or not. 0: Displays remaining supply amount information 1: Does not display remaining supply amount information		
2	PCU	CTL*	[0 or 1 / 1 / 1 /step]
4	Int. Transfer	CTL*	

6	Fuser	CTL*	

1110	**[Media Print Device Setting]**		
	Selects the setting for the media print device.		
1-110-002	0: Disable 1: Enable	CTL*	[0 or 1 / **1** / 1 / step]

1111	**[All Job Delete Mode]**		
1-111-001	0:excluding New Job 1:including New Job	CTL*	[0 or 1 / **1** / 1 / step]
	Selects whether to include an image processing job in jobs subject to full cancellation from the SCS job list.		

1112	**[Supply End]**		
1-112-001	0:continue 1:stop	CTL*	[0 or 1 / **0** / 1 / step]

5. Software Configuration

Printing Features

Auto PDL Detection Function

Overview

The Auto PDL Detection function gives the MFP/LP the ability to determine the PDL of a job or of specific parts of a job. This can be especially useful in cases where the PDL is not specified or if the job contains multiple PDLs. This is only possible if the job was not created using a driver.

Conditions for detection of the PDL

The MFP will only attempt to detect a job's PDL if all of the following conditions are met.

- No @PJL ENTER LANGUAGE command is contained in the job
- No submission protocol options (lpr, ftp, rcp, or rsh options) have been used to specify the PDL
- User Tools > Printer > System > Printer Language = Auto

Note

- The printer is unable to detect PCL6 or RPCS. However these are almost always created using a driver and therefore contain the PJL command specifying the PDL.

PDL detection by the printer system, PCL interpreter and PS interpreter

There are 3 components in the printer which can perform Auto PDL Detection:

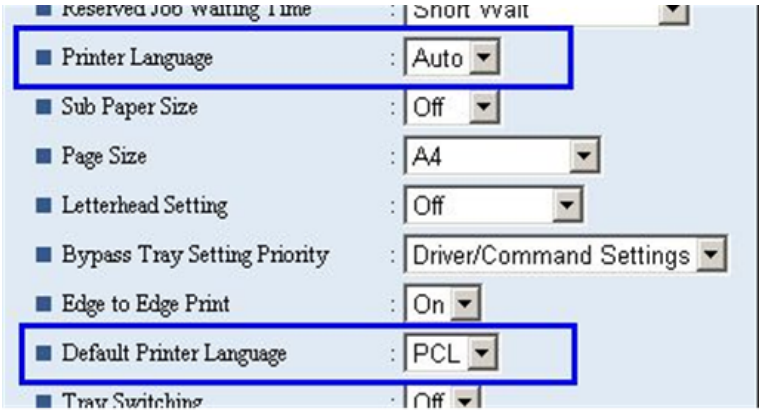
1. **Printer system:**
   Uses a set of triggers unique to PCL5, PS or PDF. Up to 2KB from the start of the job can be searched for triggers.
2. **PCL interpreter:**
   It can detect PS triggers in PCL data. If a PS trigger is detected, the PCL interpreter will abort processing and return the unprocessed part of the job back to the printer system. Up to 256 bytes from the start of each page can be searched for triggers.
3. **PS interpreter:**
   It can detect PCL5 triggers in PS data. If a PCL trigger is detected, the PS interpreter will abort processing and return the unprocessed part of the job back to the printer system. The entire page (regardless of the number of bytes) is searched for triggers.

Note

- 2. and 3. can be disabled using Printer Bit Switch 2-3=1.
- If the "Printer Language" is configured to anything other than Auto, all detection will be disabled.
- An interpreter submits a job page by page to the rasterizer. Therefore, when an interpreter detects a trigger mid-job, the previous pages will have already been submitted and will be output using the previously detected PDL.

- If the PDL cannot be detected by the printer system, then the PDL defaults to the one configured in "Configuration > Printer Basic Settings > Default Printer Language".

The Printer Language setting and Default Printer Language setting in WIM:

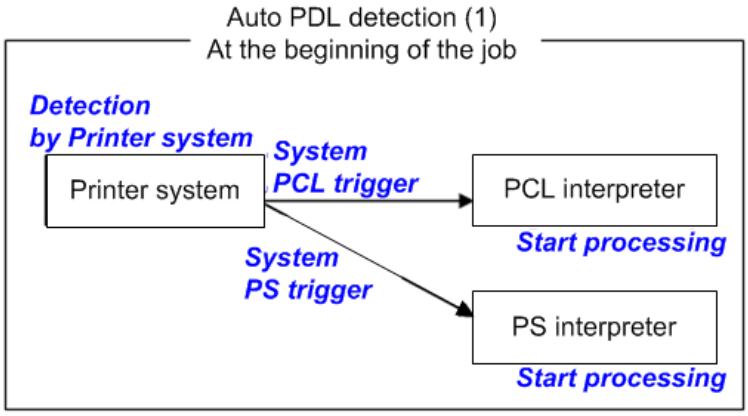


d238m3501

PDL selection and switching

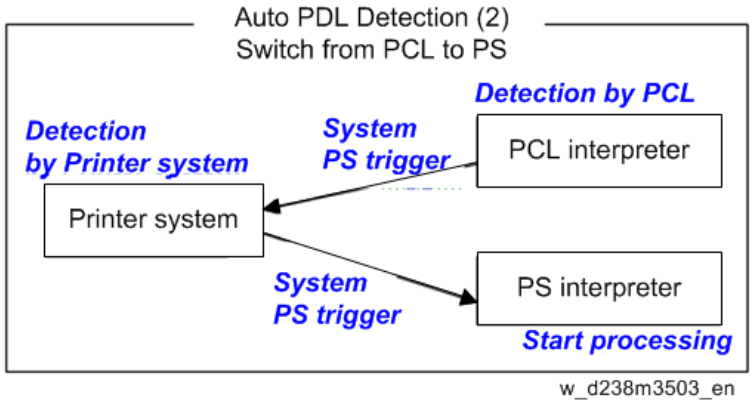
3 types of PDL selection/switching are performed:

1. PDL selection (PCL5 or PS (including PDF)) at the beginning of the job: performed by the printer system



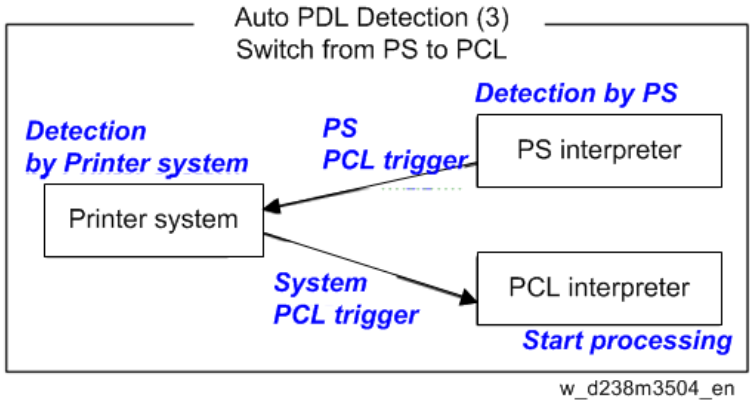
w_d238m3502_en

2. PDL switching from PCL5 to PS: performed by the PCL interpreter and the printer system



w_d238m3503_en

3. PDL switching from PS to PCL5: performed by the PS interpreter and the printer system



Triggers

Printer system

PCL5 triggers	[ESC]E [FF]
PS triggers	%!PS-Adobe-3.1 "%!" "dict begin" "bind def" "findfont" "showpage" "/statusdict" "0 startjob" [EOT] "}" + space character + "def" "userdict" (*)
PDF triggers	%PDF- %!PS-Adobe-M.nPDF- (*M, n=numeric)

* "userdict" is excluded by configuring Printer Bit Switch 5-3=1.

Note

- Up to 2KB from the start of the job can be searched for triggers.
- "%%" can be added to the PS triggers by configuring Printer Bit Switch 5-3=1
- If a job is identified as PDF, it will be sent to the PS interpreter to be processed as a regular PS job.

PS interpreter

PCL5 trigger	[ESC]E and 2 or more continuous PCL commands

Note

- Up to 256 bytes from the start of each page can be searched for triggers.

Some possible problems

Garbled output:

If a string of characters (or binary data) is mistaken as a trigger and an incorrect PDL is applied, the output will be garbled.

Incorrect printer settings:

Printer settings, for example the paper size, is incorrectly applied. This can happen when the printer settings at the beginning of the job are initialized before a PDL switch occurred and no settings were configured for the rest of the job.

Printer Bit Switch description

Bit Switch 2-3

This controls Auto PDL Detection by the PCL interpreter and PS interpreter.

BitSW 2-3=0 (default):

If PDL switching is applied to the job, all of the printer system, PCL interpreter and PS interpreter will search for switching criteria (triggers).

BitSW 2-3=1:

Only the printer system will search for switching criteria (triggers). PCL/PS interpreters will not.

Bit Switch 5-3

This affects the PDL switching criteria (triggers) used by the printer system.

BitSW 5-3=0 (default):

"%%" is not used as a printer system PS trigger. "%%" will not call the PS interpreter.

BitSW 5-3=1:

"%%" is used as a printer system PS trigger.

The reason that "%%" is not included as a trigger by default, is that a string of text in the body of the job such as the below, could result in a false positive. This would trigger a switch and result garbled output.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

However some customers prefer that "%%" be included as a switching criteria. BitSW5-3=1 should be used in such a case.

Note

- A side effect of BitSW5-3=1 is that "userdict" will no longer be used as a PS trigger.

Bit Switch 9-0

These determine whether Auto PDL Detection for print jobs transmitted via USB/parallel will wait 10 seconds to make sure the first 2KB of the job has been sent.

The Printer system portion of the Auto PDL Detection function is only performed on the first 2KB of a job and can wait up to 10 seconds for that first 2KB to arrive. As the printer is unable to detect the end of jobs submitted over a USB/Parallel connection, it might be preferable to not wait 10 seconds if jobs of less than 2KB are going to be printed. Enabling/disabling this waiting time is the purpose of BitSw 9-0.

BitSw 9-0=0 (default):

The printer system will not wait 10 seconds for the first 2KB of data to arrive.

BitSw 9-0=1:

The printer system will wait up to 10 seconds for the first 2KB of data to arrive.

Print Images Rotation

Printer Bit Switch description

Bit Switch 5-6

This change the way an MFP/LP rotates PCL, PS, PDF, or RPCS print images.

BitSW 5-6=0 (default):

A uniform binding edge (short or long edge) will be applied to every page of every job. Pages will always be rotated as if they were to be bound on that edge.

BitSW 5-6=1:

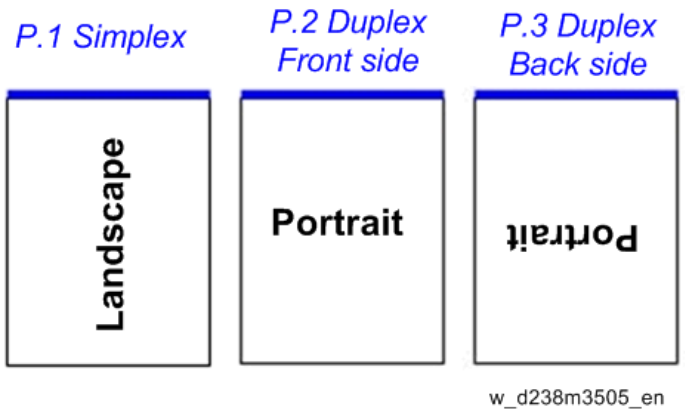
A uniform binding edge (short or long edge) will only be applied if the job is stapled, punched, or Z-folded. Otherwise, the bound edge might differ from page to page.

Example:

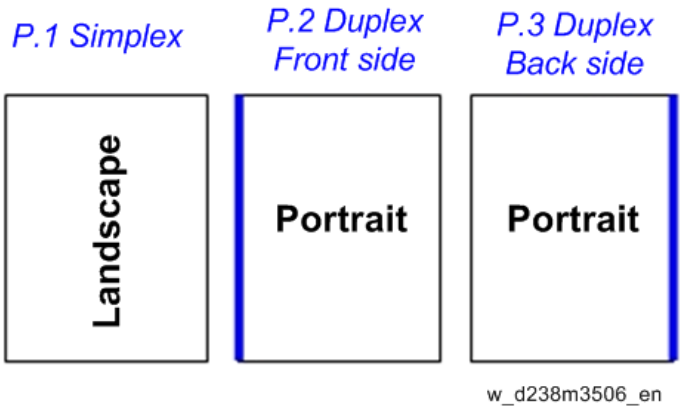
A 3-page job. Page 1 has the PCL simplex command. Page 2 and 3 have the PCL duplex long-edge bind commands.

No finishing options (staple, punch, z-fold) are used.

Bit Switch #5-6=0:



Bit Switch #5-6=1:



Note

- Used in conjunction with Bit Switch #5-6, Orientation Auto Detect for PS/PDF jobs might cause unexpected results.

PJL USTATUS

Printer Bit Switch description

Bit Switch 9-4

These control the way PJL USTATUS returns page count totals in cases where multiple copies of a job are being printed.

BitSw 9-4=0 (default):

This change the way an MFP/LP rotates PCL, PS, PDF, or RPCS print images.

1. The page count for a single copy is returned after the first copy is printed.
2. The page count for the rest of the copies, excluding the first copy, is returned after all copies have been printed.
3. This emulates an older HP PCL firmware spec. It is only needed for compatibility with legacy software.

BitSw 9-4=1:

The page count for all copies is output after all copies have been printed.

This emulates more recent HP PCL firmware specs.

For example, consider 3 copies of a 3 page job:

9-4 = 0

@PJL USTATUS JOB

START

NAME="TEST_page1-3"

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

3

@PJL USTATUS JOB

END

NAME="TEST_page1-3"

PAGES=3

<comment> The page count of the first copy is returned.</comment>

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

3

@PJL USTATUS PAGE

4

@PJL USTATUS PAGE

5

@PJL USTATUS PAGE

6

<comment> The page count of the remaining two copies is returned.</comment>

9-4 = 1

@PJL USTATUS JOB

START

NAME="Microsoft Word - TEST_page1-3"

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

3
@PJL USTATUS PAGE
4
@PJL USTATUS PAGE
5
@PJL USTATUS PAGE
6@PJL USTATUS PAGE
7
@PJL USTATUS PAGE
8
@PJL USTATUS PAGE
9
@PJL USTATUS JOB
END
NAME="Microsoft Word - TEST_page1-3"
PAGES=9
<comment> The page count of all three copies is returned.</comment>

Behavior of USB Printer Detection

An MFP/LP connected via USB sends its product name and unique serial number. With the data, the machine determines whether requires a printer driver for the USB device to be installed.
SP5-844-005 allows you to change how to determine the MFP/LP requires a printer driver installation:

- OFF
  If SP5-844-005 is set to OFF, the unique serial number of the device is sent to the computer. As a result, if the device is swapped out for a device of the same product, pop-up messages will appear, because the serial numbers between the two are different.
- Level 1
  If SP5-844-005 is set to Level 1, a common serial number for the product such as “RICOH MP 305+” series is sent to the computer. As a result, if the device is swapped out for a device of the same product, pop-up messages will not appear because the devices are recognized as having the same serial number.
- Level 2
  If SP5-844-005 is set to Level 2, a common serial number for all GW/GW+ models is sent to the computer. As a result, if a GW/GW+ device is swapped out for a different GW/GW+ device, pop-up messages will not appear because the devices are both recognized as being based on GW/GW+.

Security Features

How to Restrict Access to the WIM Job Menu

1. Enter Printer SP mode.
2. Set SP5-888-001

   0: (default): The Job menu is enabled.

   1: The Job menu is disabled.

   Note

   - This setting takes effect only if user authentication (other than User Code authentication) is disabled.

