Canon

LBP3560/6750dn/3580/6780x Series

Service Manual Rev.1

Product Description

Technology

Disassembly/Assembly

Maintenance and Inspection

Trouble Shooting

1 2 3 4 5

Appendix

Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair
of products. This manual covers all localities where the products are sold. For this reason, there may be information in this
manual that does not apply to your locality.

Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products. When
changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need
arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition
of this manual.
The following paragraph does not apply to any countries where such provisions are inconsistent with local law.

Trademarks

The product names and company names used in this manual are the registered trademarks of the individual companies.

Copyright

Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

Explanation of Symbols

The following symbols are used throughout this Service Manual.

Symbols	Explanation		Symbols	Explanation
	Used to show permission.			Remove the screw.
	Used to show prohibition.			Tighten the screw.
	Check.			Remove the claw.
	Check visually.			Insert the claw.
	Check the noise.			Use the bundled part.
	Disconnect the connector.			Push the part.
	Connect the connector.			Plug the power cable.
	Remove the cable/wire from the cable guide or wire saddle.			Turn on the power.
	Set the cable/wire to the cable guide or wire saddle.			

T-0-1

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

   In the diagrams, ▬▮▮▮▬ represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow ⟶ indicates the direction of the electric signal.

   The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

   In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.
All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine.

Contents

Safety Precautions

- Laser Safety
- CCDRH Regulation
- Toner Safety
- Ozone Safety
- How to Handle the Laser Scanner Unit
- Points to Note when Replacing/Discarding a Lithium Battery
- Points to Note when Performing Disassembly/ Assembly

CANON

LBP3560/6750dn/3580

/6780x Series

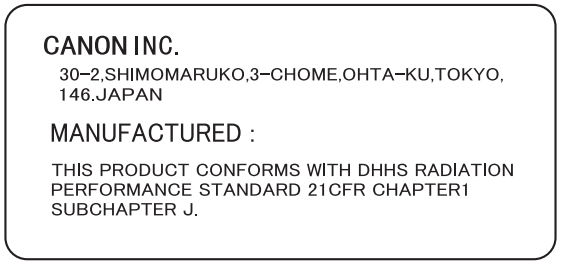
Safety Information

Laser Safety

Laser beam radiation sometimes causes a danger to human body. To prevent such a danger, the optical laser system used in this machine is hermetically closed by the protection housing and external cover so that a laser beam does not leak to outside. Therefore, a laser beam does not leak out of this machine as long as a user operates the machine in an ordinary manner.

CCDRH Regulation

CDRH (Center for Devices and Radiological Health), which belongs to Food and Drug Administration in USA, put a regulation concerning laser products on August 2, 1976. This regulation is applied to laser products manufactured on and after August 1, 1976, and sales activities are prohibited in USA without receiving permission under the regulation.
The following figure shows the label indicating that permission has been received under the CDRH regulation, and it is obliged to attach it on all products sold in USA.



F-0-1

CAUTION:
A part of the description may be different depending on the type of product model.

Toner Safety

About Toner

Toner is a nontoxic substance which consists of plastic, iron, and a small amount of pigment.

CAUTION:
Be sure not to throw toner into the fire. Doing so may cause an explosion.

How to Handle Adhered Toner

When toner adhered to skin or clothes, completely remove it with dried tissue and wash with water.
If hot water is used, toner cannot be removed because it becomes gel and penetrates into clothes permanently.
Do not make toner come into contact with vinyl because it easily reacts with a vinyl materia

Ozone Safety

An infinitesimal amount of ozone gas (O3) is generated during corona discharge from the charging roller
used in this printer. The ozone gas is emitted only during the printer operation.
The printer meets ozone emission reference value set by Underwriters Laboratory (UL) at the time ofshipping from the manufacture.

How to Handle the Laser Scanner Unit

An invisible laser beam is irradiated in the laser scanner unit.
If the laser beam enters an eye, it may cause damage to the eye. So, be sure not to disassemble the laser scanner unit. No adjustment can be made to the laser scanner unit in this machine in the field.
The label shown in the following figure is attached to the bottom of the laser scanner unit.

F-0-2

Points to Note when Replacing/Discarding a Lithium Battery

The main controller PCB in this machine contains a lithium battery as backup power supply for various data just in the case when a blackout occurs or the power plug is removed.

CAUTION:
If the battery is replaced with an incorrect type of battery, it may cause an explosion.
Discard a used battery according to the instruction manual.

Points to Note when Performing Disassembly/Assembly

The service technician is to identify the cause of printer failures according to the "Chapter 5 TROUBLESHOOTING"
on Page 3-1-1 and to follow the disassembly procedures of each part to replace the defective parts or the consumable parts.

Note the following precautions when working on the printer.

1. CAUTION: Before disassembling or reassembling the printer, be sure to disconnect its power cord from the electrical outlet
2. During disassembly, reassembly or transportation of the printer, remove the cartridge if required.
   When the cartridge is out of the printer, put it in a protective bag even in a short period of time to prevent the adverse effect of light.
3. Reassembling procedures are followed by the reverse of disassembly unless otherwise specified.
4. Note the length, diameters, and locations of screws as you remove them. When reassembling the printer, be sure to use them in their original locations.
5. Do not run the printer with any parts removed as a general rule.
6. Ground yourself by touching the metal part of the printer before handling the PCB to reduce the possibility of damage caused by static electricity.
7. When you replace the part that the rating plate or the product code label is attached, be sure to remove the rating plate or the product code label and put it to the new part.

Product Description

- Features
- System Construction
- List of Parts
- Using The Machine

Features

1. Small and high-speed printer

The printer is compact size that realizes print speed of approximately 42 pages per minute on letter-size media and approximately 40 pages per minute on A4-size media .

2. Automatic duplex print

Automatic two-sided printing is available with standard equipped duplex unit.

3. High-volume continuous printing

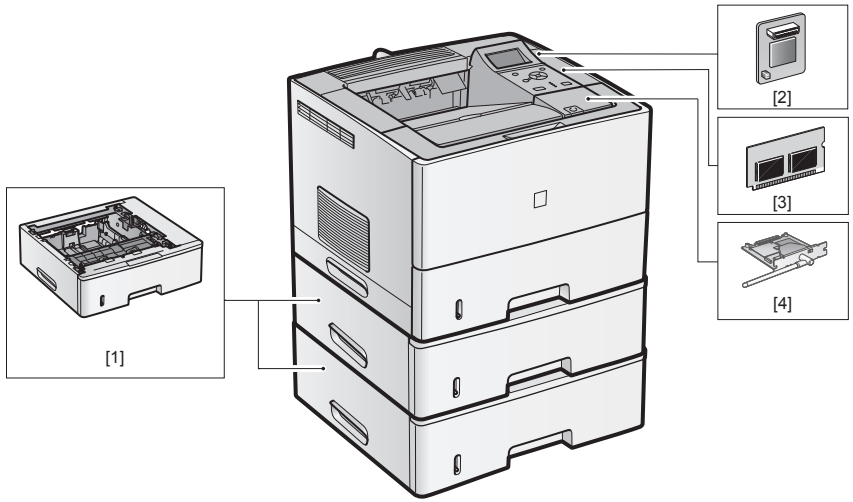
In addition to the standard equipped universal cassette (holds up to 500 sheets of 64g/m2 paper) and Multi-purpose tray (holds up to 100 sheets of 64g/m2 paper), the printer supports optional paper feeder (holds up to 500 sheets of 64g/m2 paper) for a total capacity of 1600 sheets. Thus high-volume continuous printing is available.

4. Improved usability

- A6 size media is available
- Front access of the power switch

System Construction

System Construction (LBP3560/6750dn)

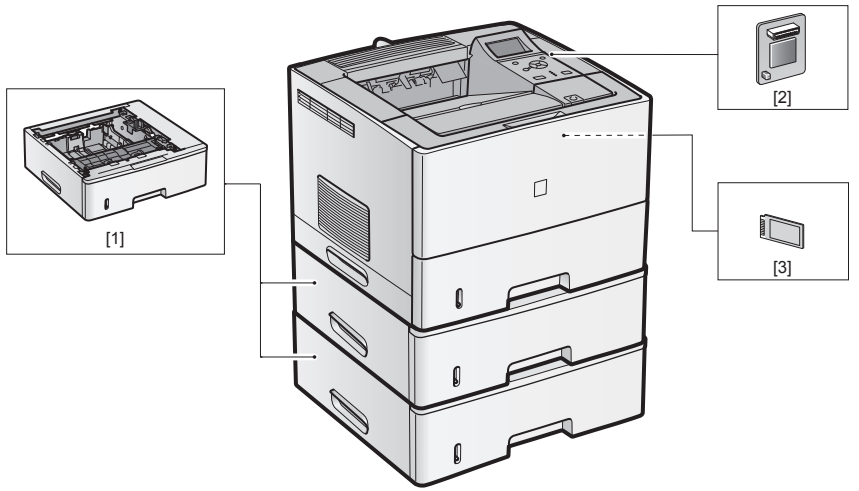


F-1-1

No.	Name
[1]	Paper Feeder Unit PF-45
[2]	PS/Barcode ROM A-45
[3]	Expansion RAM ER-64/128/256
[4]	Built-in Wireless Print Server NB-W2

T-1-1

System Construction (LBP3580/6780x)



F-1-2

No.	Name
[1]	Paper Feeder Unit PF-45
[2]	Barcode Printing Kit-F1
[3]	SD CARD-B1

T-1-2

Product Specifications

LBP3560/6750dn

Installation Format	Desktop type page printer
Photosensitive Element	OPC drum
Exposure Principle	Laser beam method
Development Principle	Jumping development
Transfer Principle	Roller transfer
Separation Principle	Self stripping
Cassette Feed Principle	Separate design
Multi Purpose Tray Principle	Pad separation
Drum Cleaning Principle	Rubber blade cleaning
Fixing Method	On-demand
Paper Output Principle	Face-down/Face-up
Toner Supply Principle	Toner cartridgesNumber
Warm-up Time	11.2 seconds or less (Time from power on to printer ready)
Print Area	Top 5.0 mm, Bottom 5.0 mm, Left/Right 5.0 mm (Envelope: Top/Bottom/Left/Right 10.0 mm, Right 10.0 mm)
Printing Resolution	600 dpi
First Print Output Time	7.9 seconds or less. (When performing 1-sided printing on Letter size paper and outputting face-down)
Printing Speed (A4)	Approx. 40 pages/minute
Cassette Paper Size	Standard sizes: A4, B5, A5, A6, Legal, Letter, Executive, Statement, Foolscap, and 16K Custom size range (user-specified): Width 4.1 to 8.5 inches (105.0 to 215.9 mm), Length 5.8 to 14.0 inches (148.0 to 355.6 mm) If you are using the UFR II printer driver, you can load custom size paper that is 5.8 to 8.5 inches (148.0 to 215.9 mm) wide and 5.8 to 8.5 inches (148.0 to 215.9 mm) long also in landscape orientation.
Multi Purpose Paper Size	Standard sizes: A4, B5, A5, A6, Legal, Letter, Executive, Statement, Foolscap, 16K, Index Card, Envelope DL, Envelope No.10, Envelope ISO-C5, Envelope ISO-B5, and Envelope Monarch Custom size range (user-specified): Width 3.0 to 8.5 inches (76.2 to 215.9 mm), Length 5.0 to 14.0 inches (127.0 to 355.6 mm) If you are using the UFR II printer driver, you can load custom size paper that is 5.0 to 8.5 inches (127.0 to 215.9 mm) wide and 5.0 to 8.5 inches (127.0 to 215.9 mm) long also in landscape orientation.
Cassette Paper Type	Plain paper (60 to 90 g/m2), Heavy paper (91 to 199 g/m2),
Multi Purpose Paper Type	Plain paper (60 to 90 g/m2), Heavy paper (91 to 199 g/m2), OHP film, label paper, postcard, envelope
Cassette Paper Capacity	Approx. 500 sheets (Plain paper 80 g/m2)
Multi Purpose Paper Capacity	Approx. 100 sheets (Plain paper 80 g/m2)
Output Tray Paper Capacity	Face-down output tray: approx. 250 sheets (80 g/m2), Face-up output slot: approx. 50 sheet (80 g/m2)
Duplex Printing Principle	Auto Duplex
Interfaces	USB: HI-Speed USB/USB
	Network: 10 Base-T/100BASE-TX common (RJ-45) Full duplex/half duplex
Memory Capacity	Standard: 128 MB, Option: Expandable up to 384 MB
Hard Disk Capacity	Standard: None, Option: None
Ambient Temperature Range for Use	10 to 30 degrees Celsius
Ambient Humidity Range for Use	20 to 80% RH
Operation Noise Level	55 dB or less (During printing: rated sound emission level according to ISO9296)
Power Requirements	120 to 127V(+/- 10%), 50/60(+/- 2Hz) 220 to 240V(+/- 10%), 50/60(+/- 2Hz)
Max. Power Consumption	1056 W or less (120 V) 1140 W or less (230 V)
Power Consumption	Average power consumption during operation: approx. approx. 710 W (120 V), approx. 570 W (230 V) Average power consumption during standby: approx. 12 W (120 V), approx. 13 W (230 V)
Dimensions	453 (W) x 424 (D) x 342 (H) mm
Weight	Printer main unit: approx. 16.5 kg (excl. toner cartridges)
Option	Paper Feeder

T-1-3

LBP3580/6780x

Installation Format	Desktop type page printer
Photosensitive Element	OPC drum
Exposure Principle	Laser beam method
Development Principle	Jumping development
Transfer Principle	Roller transfer
Separation Principle	Self stripping
Cassette Feed Principle	New Hybrid Separate design
Multi Purpose Tray Principle	Pad separation
Drum Cleaning Principle	Rubber blade cleaning
Fixing Method	On-demand
Paper Output Principle	Face-down/Face-up
Toner Supply Principle	Toner cartridgesNumber
Warm-up Time	28 seconds or less
Print Area	Top 5.0 mm, Bottom 5.0 mm, Left/Right 5.0 mm (Envelope: Top/Bottom/Left/Right 10.0 mm, Right 10.0 mm)
Printing Resolution	600 dpi
First Print Output Time	8.5 seconds (Letter) , 8.6 seconds (A4)
Printing Speed (LTR)	Approx. 42 pages/minute

Cassette Paper Size	Standard sizes: A4, B5, A5, A6, Legal, Letter, Executive, Statement, Foolscap, and 16K Custom size range (user-specified): Width 4.13 to 8.50 in. (105.0 to 215.9 mm), Length 5.83 to 14.00 in. (148.0 to 355.6 mm) If you are using the UFR II printer driver, you can load custom size paper that is 5.83 to 8.50 in. (148.0 to 215.9 mm) wide and 5.83 to 8.50 in. (148.0 to 215.9 mm) long also in landscape orientation.
Multi Purpose Paper Size	Standard sizes: A4, B5, A5, A6, Legal, Letter, Executive, Statement, Foolscap, 16K, Index Card, Envelope DL, Envelope No.10, Envelope ISO-C5, and Envelope Monarch Custom size range (user-specified): Width 3.00 to 8.50 in. (76.2 to 215.9 mm), Length 5.00 to 14.00 in. (127.0 to 355.6 mm) If you are using the UFR II printer driver, you can load custom size paper that is 5.00 to 8.50 in. (127.0 to 215.9 mm) wide and 5.00 to 8.50 in. (127.0 to 215.9 mm) long also in landscape orientation.
Cassette Paper Type	Plain paper (60 to 90 g/m2), Heavy paper (91 to 120 g/m2),
Multi Purpose Paper Type	Plain paper (60 to 90 g/m2), Heavy paper (91 to 199 g/m2), OHP film, label paper, postcard, envelope, indexcard
Cassette Paper Capacity	Approx. 500 sheets (Plain paper 64 g/m2)
Multi Purpose Paper Capacity	Approx. 100 sheets (Plain paper 64 g/m2)
Output Tray Paper Capacity	Face-down output tray: approx. 250 sheets (64 g/m2), Face-up output slot: approx. 50 sheet (64 g/m2)
Duplex Printing Principle	Auto Duplex
Interfaces	USB: Hi-Speed USB × 3 (1 top and 2 back)
	Network: Shared 10BASE-T/100BASE-TX/1000BASE-T (RJ-45) Full duplex/Half duplex
Memory Capacity	Standard: 768 MB, ROM Slot : 1 SD Card Slot : 1
Hard Disk Capacity	Standard: None, Option: None
Ambient Temperature Range for Use	10 to 30 degrees Celsius
Ambient Humidity Range for Use	20 to 80% RH
Operation Noise Level	54.5 dB or less (Indicates the sound pressure level of each bystander position is below the ISO 7779 absolute criteria for the background noise level.)
Power Requirements	120 to 127V(+/- 10%), 50/60(+/- 2Hz) 220 to 240V(+/- 10%), 50/60(+/- 2Hz)
Max. Power Consumption	1500 W or less (120 V) 1400 W or less (230 V)
Power Consumption	Average power consumption during operation: approx. approx. 700 W (120 V), approx. 660 W (230 V) Average power consumption during standby: approx. 14 W (120 V), approx. 15 W (230 V)

Dimensions	454 (W) x 424 (D) x 345 (H) mm
Weight	Printer main unit: approx. 16.6 kg (excl. toner cartridges)
Option	Paper Feeder PF-45 , SD Card-B1 , Barcode Printing Kit-F1

T-1-4

Printing Speed

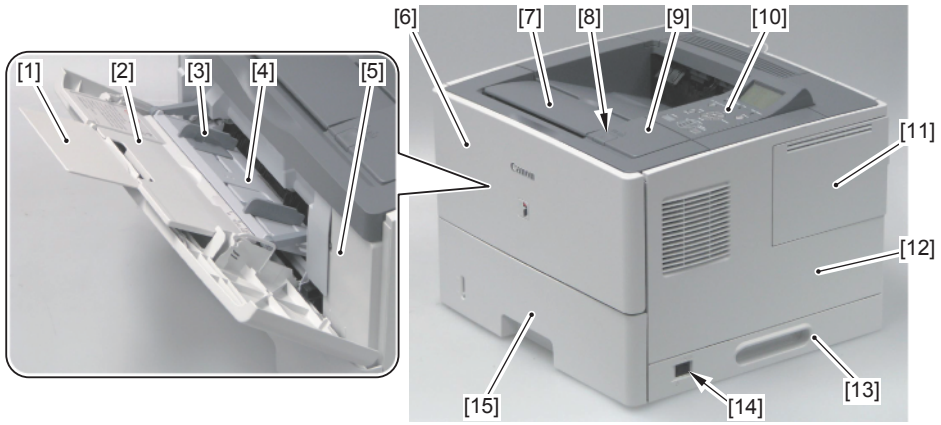
	Face-down output					
	Cassette feed		Manual tray feed		OP cassette feed	
	Single-sided	Duplex print	Single-sided	Duplex print	Single-sided	Duplex print
A4	40	20	38	19.8	40	20
LTR	42	20.5	40	20.3	42	20.5
LGL	34	18.5	33	18.3	34	18.5
B5	15→12		15→12		15→12	
A5	15→12→10		15→12→10		15→12→10	
A6	15→12→10		15→12→10		15→12→10	
Envelope (Japanese Western-style)			15→8→6			
Postcard			8.3→6→4.1			

T-1-5

List of Parts

External View (LBP3560/6750dn)

Front Side

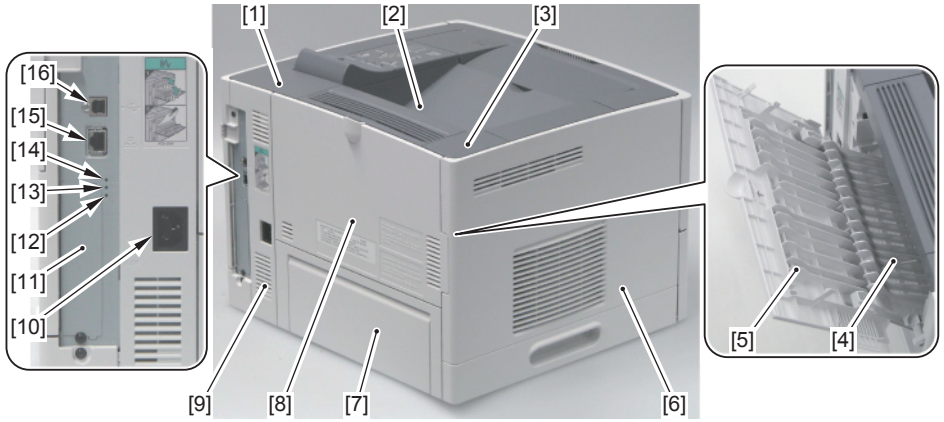


F-1-3

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-28)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	-
[15]	Cassette	-

T-1-6

Rear Side



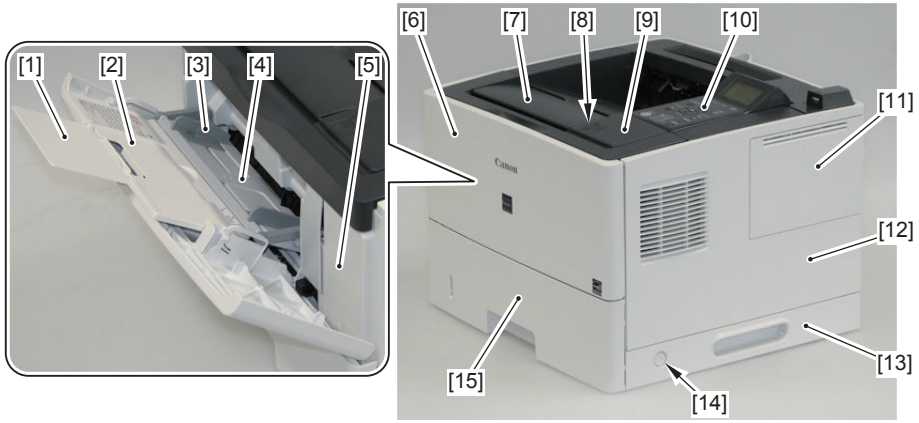
F-1-4

Key No.	Name	Reference
[1]	Upper Right Cover	-
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	TX/RX Indicator	-
[13]	10 Indicator	-
[14]	100 Indicator	-
[15]	LAN Connector	-
[16]	USB Connector	-

T-1-7

External View (LBP3580/6780x)

Front Side

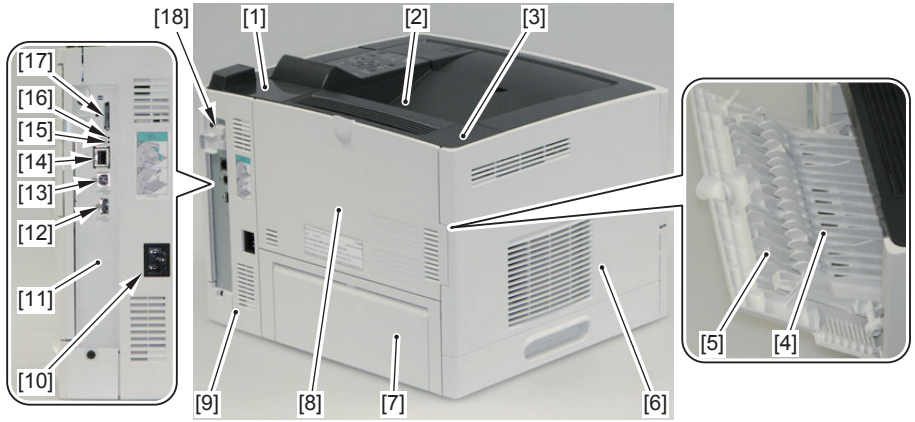


F-1-5

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-29)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	(Refer to page 3-40)
[15]	Cassette	-

T-1-8

Rear Side

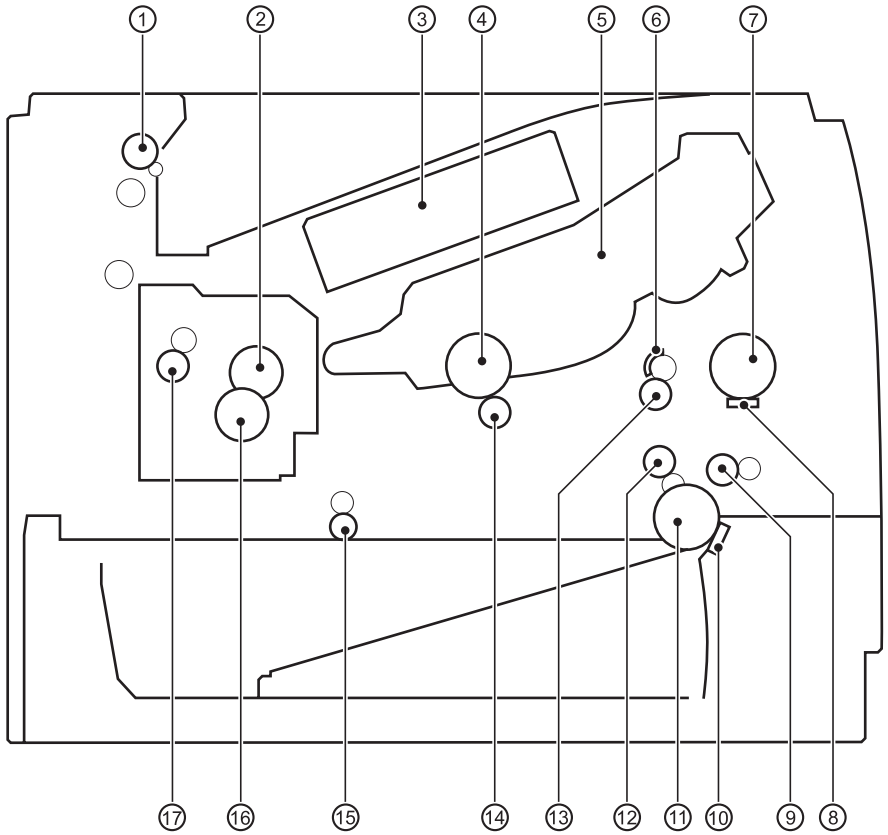


F-1-6

Key No.	Name	Reference
[1]	USB Cover Unit	(Refer to page 3-24)
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	USB Connector (for USB Device)	-
[13]	USB Connector (for Computer Connection)	-
[14]	LAN Connector	-
[15]	LNK Indicator (Green)	-
[16]	ACT Indicator (Green)	-
[17]	SD Card Slot	-
[18]	SD Card Slot Cover	-

T-1-9

Cross Sectional View



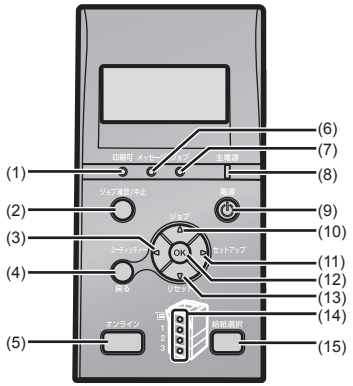
F-1-7

No.	Name	Service Parts No.	Reference
[1]	Delivery Roller	-	-
[2]	Fixing Film Unit	-	-
[3]	Laser Scanner Unit	-	-
[4]	Photosensitive Drum	-	-
[5]	Cartridge	-	-
[6]	Registration Shutter	-	-
[7]	Multi-purpose Pickup Roller	-	-
[8]	Multi-purpose Separation Pad	-	-
[9]	Feed Roller	-	-
[10]	Cassette Pickup Roller	-	-
[11]	Cassette Separation Pad	-	-
[12]	Duplex Re-pickup Roller	-	-
[13]	Registration Roller	-	-
[14]	Transfer Roller	-	-
[15]	Duplex Feed Roller	-	-
[16]	Pressure Roller	-	-
[17]	Fixing Delivery Roller	-	-

T-1-10

Using The Machine

Control Panel(LBP3560/6750dn)



F-1-8

Panel Indicators

No.	Name	Condition	
[1]	Ready Indicator	On	The printer is ready to print.
		Blinking	The printer is preparing to print.
[5]	Online Indicator	On	Online (The printer can receive print data from the computer.) If the printer enters Power Save Mode, the Online indicator is off even when the printer is online.
[6]	Message Indicator	On	A problem has occurred and printing cannot be performed. (If the printer enters Power Save Mode when it is offline, the Message indicator comes on even when no problem is occurring.).
[7]	Job Indicator	On	The printer is receiving data. Data remains in the printer memory.
		Blinking	The printer is processing data.
[8]	Main Power Indicatorr	On	The power of the printer is on.
[14]	Paper Source Indicators	On	A paper source is selected.
		Blinking	Printing cannot be performed because no paper is loaded. The paper cassette is not installed. (For the multi-purpose tray, the indicator comes on even when no paper is loaded.)

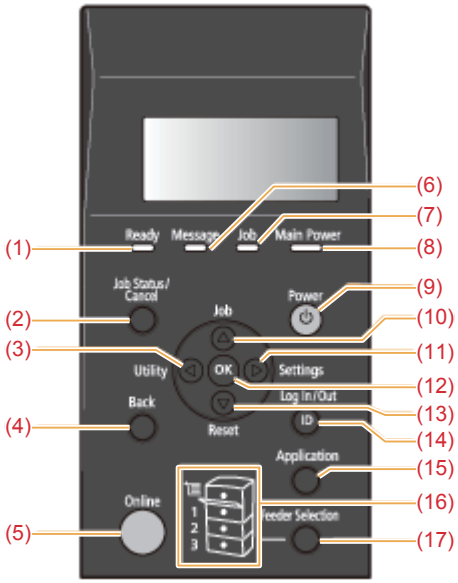
T-1-11

Key Operations

No.	Name	Function		
[2]	Job Status/ Cancel	Cancels the job when the Job indicator is on or blinking. Does not function when the Job indicator is off. The printer is ready to print..		Does not function.
[3]	Utility	Displays the [Utility] menu. Prints information about the printer settings including the current settings.	Does not function.	Goes back up the previous hierarchy.
[4]	Back	Does not function.		Goes back up the previous hierarchy.
[5]	Online	Switches between online and offline. The printer is online when the indicator under the key is on and is offline when the indicator is off.		
[9]	Power	If [Power Save Mode] is set to a setting other than [Off], the printer enters Power Save Mode.		
[10]	Job	Displays the [Job] menu. You can print various log lists.	Does not function.	Selects the next upper item in the same hierarchy. When the setting value is numeric, increases the value. If you keep holding down the key, the speed of the value increasing is increased depending on the item.
[11]	Settings	Displays the [Setup] menu. Configure the printing environment including the layout adjustment and scaling print output.		Goes down the hierarchy.
[12]	OK	Does not function.		Executes the selected item. Otherwise, goes down the hierarchy.
[13]	Reset	Displays the [Reset] menu. Performs the printer reset operation, the print data output, and the shutdown operation.		Selects the next lower item in the same hierarchy. When the setting value is numeric, reduces the value. If you keep holding down the key, the speed of the value decreasing is increased depending on the item.
[15]	Feeder Selection	Displays the [Select Feeder] menu. Specify which paper source is used to print between the paper cassette and multi-purpose tray and the paper size.		Does not function.

T-1-12

Control Panel (LBP3580/6780x)



F-1-9

Panel Indicators

No.	Name	Condition	
[1]	Ready Indicator	 (On)	The printer is ready to print.
		 (Blinking)	The printer is preparing to print.
[5]	Online Indicator	 (On)	Online (The printer can receive print data from the computer.) If the printer enters Power Save Mode, the Online indicator is off even when the printer is online.
[6]	Message Indicator	 (On)	A problem has occurred and printing cannot be performed. (If the printer enters Power Save Mode when it is offline, the Message indicator comes on even when no problem is occurring.).
[7]	Job Indicator	 (On)	The printer is receiving data. Data remains in the printer memory.
		 (Blinking)	The printer is processing data.
[8]	Main Power Indicatorr	 (On)	The power of the printer is on.
[16]	Paper Source Indicators	 (On)	A paper source is selected.
		 (Blinking)	Printing cannot be performed because no paper is loaded. The paper cassette is not installed. (For the multi-purpose tray, the indicator comes on even when no paper is loaded.)

T-1-13

■ Key Operations

No.	Name	Function		
[2]	 (Job Status/Cancel)	Cancels the job when the Job indicator is on or blinking. Does not function when the Job indicator is off. The printer is ready to print..		Does not function.
[3]	 (Utility)	Displays the [Utility] menu. Prints information about the printer settings including the current settings.	Does not function.	Goes back up the previous hierarchy.
[4]	 (Back)	Does not function.		Goes back up the previous hierarchy.
[5]	 (Online)	Switches between online and offline. The printer is online when the indicator under the key is on and is offline when the indicator is off.		
[9]	 (Power)	If [Power Save Mode] is set to a setting other than [Off], the printer enters Power Save Mode.		
[10]	 (Job)	Displays the [Job] menu. You can print various log lists.	Does not function.	Selects the next upper item in the same hierarchy. When the setting value is numeric, increases the value. If you keep holding down the key, the speed of the value increasing is increased depending on the item.
[11]	 (Settings)	Displays the [Setup] menu. Configure the printing environment including the layout adjustment and scaling print output.		Goes down the hierarchy.
[12]	 (OK)	Does not function.		Executes the selected item. Otherwise, goes down the hierarchy.
[13]	 (Reset)	Displays the [Reset] menu. Performs the printer reset operation, the print data output, and the shutdown operation.		Selects the next lower item in the same hierarchy. When the setting value is numeric, reduces the value. If you keep holding down the key, the speed of the value decreasing is increased depending on the item.
[14]	 (Log In/Out)	The log in screen for using MEAP function is displaed.		
[15]	 (Feeder Selection)	Displays the [Select Feeder] menu. Specify which paper source is used to print between the paper cassette and multi-purpose tray and the paper size.		Does not function.
[17]	 (Feeder Selection)	Displays the [Select Feeder] menu. Specify which paper source is used to print bitween the paper size. purpose tray and the paper size.		

T-1-14

Setup Menu (LBP3560/6750dn)

Control Menu

NOTE:

- Bold values in the table indicate the default settings.
- After changing the setting items with "*1", cycle the power of the printer or perform a hard reset to make the settings effective.
- The setting items or setting values with "*2" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Power Save Mode]	[Off], [Panel Off], [On], **[Deep Sleep]**
[Power Save in Error]	[Off], **[On]**
[Power Save Time]	[1 minute], **[5 minutes]**, [15 minutes], [30 minutes], [60 minutes], [180 minutes]
[Timer Settings]	
[Wake Up Timer]	**[Off]**, [On]
[Wake Up Time]	00:00 to **12:00** to 23:59
[Power Save Timer]	**[Off]**, [On]
[Power Save Time]	00:00 to **12:00** to 23:59
[Deep Sleep Timer]	**[Off]**, [On]
[Deep Sleep Time]	00:00 to **12:00** to 23:59
[Warning Step]	
[Check Toner]	**[Continue Printing]**, [Stop Printing]
[Auto Error Skip]	**[Off]**, [On]
[Panel Language]	[Deutsch], **[English]**, [Español], [Français], [Italiano], [Chinese], [Korean]
[Alarm]	[Off], **[On]**
[Show Warnings]	
[Check Toner]	[Off], **[On]**
[Cassette Empty]	[Off], **[On]**
[Date and Time]	
[Date Settings]:	01/01/2001 to 31/12/2089
[Time Settings (24 Hour)]:	00:00:00 to 23:59:59
[Daylight Saving Time]*1	
[DST Settings]	[Off], **[On]**
[Start Date and Time]/[End Date and Time]	[Month], [Week], [Day], [Time Settings]
[Time Zone]*1	GMT-12:00 to GMT+12:00
[PDL Select (PnP)]*1*2	**[UFR. II]**, [PCL5E], [PCL6], [PS3]*2
[Adjust Screen]	
[Contrast]	-3 to **0** to 3
[Backlight Brightness]	[Off], [Level 1], [Level 2], **[Level 3]**
[Animated Instruction]	[Off], **[On]**
[Show Toner Gauge]	[Off], **[On]**
[Set. completed notif.]	[Off], [1 second], [2 seconds], **[3 seconds]**

T-1-15

Paper Source Menu

NOTE:

- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[MP Tray Paper Size]	[A6], [A5], [B5], **[A4]**, [LTR], [LGL],[EXEC], [Mixed Sizes], [Custom Size],[Custom Size R], [ENV. ISO-C5], [ENV.No.10], [ENV. Monarch], [ENV. DL], [ENV. ISO-B5], [Index Card], [STMT], [FLSC], [16K]
[MP Tray Priority]	**[Off]**, [On]
[Cassette 1 Size	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [Mixed Sizes], [Custom Size], [Custom Size R], [STMT], [FLSC], [16K]
[Cassette 2 Size]*	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [Mixed Sizes], [Custom Size], [Custom Size R], [STMT], [FLSC], [16K]
[Cassette 3 Size]*	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [Mixed Sizes], [Custom Size], [Custom Size R], [STMT], [FLSC], [16K]
[Standard Paper Size]	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [ENV. ISO-C5], [ENV. No.10], [ENV. Monarch], [ENV. DL], [ENV. ISO-B5], [Index Card], [STMT], [FLSC], [16K]
[Invalid Paper Tray]	**[Off]**, [On]
[Auto Selection]	
[Multi-purpose Tray]	[Off], **[On]**
[Cassette 1]	[Off], **[On]**
[Cassette 2]*	[Off], **[On]**
[Cassette 3]*	[Off], **[On]**
[Standard Paper Type]	**[Plain Paper]**, [Plain Paper L], [Heavy Paper 1], [Heavy Paper 2],[Transparencies], [Envelope], [Label]
[2-Sided Printing]	**[Off]**, [On]

T-1-16

Std Network Menu

NOTE:

- After changing the settings for this item, cycle the power of the printer or perform a hard reset to make the settings effective.
- This item is displayed only when all the following conditions are fulfilled.
  [Network] in [Interface Connection] is set to [On].
  If [Primary Network Setting] is set to [Standard Network], specify the setting for [Primary Network Setting] in the [Extension Card] page in the Remote UI or [Extension Card] on the control panel.
- This option is displayed only when [Network] in [Interface Connection] is set to [On].
- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[TCP/IP Settings]	
[IP v.4 Settings]	
[IP Mode]	[Auto], **[Manual]**
[Protocol]*	
[Use DHCP]	[Off], **[On]**
[Use BOOTP]	**[Off]**, [On]
[Use RARP]	**[Off]**, [On]
[IP Address Settings]:	
[IP Address]	0.0.0.0
[Subnet Mask]	0.0.0.0
[Gateway Address]	0.0.0.0
[IP Address Range]:	
[Reject Receive/Print	**[Off]**, [On]
[Reject Address Set.]*	Reject IP Address 1 to 8
[Permit Receive/Print]	**[Off]**, [On]
[Permit Address Set.]*	Permit IP Address 1 to 8
[Reject Set/Browse]]	**[Off]**, [On]
[Reject Address Set.]*	Reject IP Address 1 to 8
[Permit Set/Browse]	**[Off]**, [On]
[Permit Address Set.]*	Permit IP Address 1 to 8
[DNS]:	
[Primary Address]	0.0.0.0
[Secondary Address]	0.0.0.0
[IP v.6 Settings]	
[IP v.6]	**[Off]**, [On]
[WINS Resolution]	**[Off]**, [On]
[ARP/PING]	[Off], **[On]**
[FTP]	
[FTP Print]	**[Off]**, [On]
[FTP Settings]	**[Off]**, [On]
[LPD Print]	[Off], **[On]**
[RAW Print]	[Off], **[On]**
[IPP Print]	[Off], **[On]**
[WSD]	
[WSD Print]	[Off], **[On]**
[WSD Browsing]*	[Off], **[On]**
[Multicast Discovery]	[Off], **[On]**
[HTTP]	[Off], **[On]**
[Proxy Settings]*	
[Proxy]	**[Off]**, [On]
[Server Address]*	-
[Port Number]*	0 to **80** to 99999
[Same Domain]*	[Use Proxy], **[Do Not Use Proxy]**
[Proxy Authentication]*	**[Off]**, [On]
[User Name]*	-
[Password]*	-
[SNTP]	**[Off]**, [On]
[Response]	[Off], **[On]**
[MAC Address Settings]	
[Permit Receive	**[Off]**, [On]
[Permit Address Set.]*	[Permit MAC Add. 1] to [Permit MAC Add. 50]
[NetWare Settings]	
[NetWare]	**[Off]**, [On]
[Frame Type]*	**[Auto Detect]**, [Ethernet II], [Ethernet 802.2], [Ethernet 802.3], [Ethernet SNAP]
[Print Service]	[Bindery PServer], [RPrinter], **[NDS PServer]**, [NPrinter]
[AppleTalk]	**[Off]**, [On]
[SNMP v.1]	[Off], **[On]**
[SNMP v.3 Settings]	
[SNMP v.3]	**[Off]**, [On]
[User Settings 1] to [User Settings 5]*	[Authent. Password]
[Encryption Password]	[Encryption Password]
[Start Wait Time]*	**0** to 300 seconds
[Remote UI Settings]	
[Remote UI]	[Off], **[On]**
[SSL]*	**[Off]**, [On]*
[Ethernet Driver]*	
[Auto Detect]	[Off], **[On]**
[Communication Mode]*]	**[Half Duplex]**, [Full Duplex]
[Ethernet Type]*	**[10 Base-T]**, [100 Base-TX]
[MAC Address]*	(Display only)
[Initialize Network]	-

T-1-17

Layout Menu

NOTE:
- Bold values in the table indicate the default settings.

Setting Item	Setting Value
[Copies]	**1** to 9999
[Offset Y]	-50.0 to **0.0** to 50.0 (mm)
[Offset X]	-50.0 to **0.0** to 50.0 (mm)
[Binding Location]	**[Long Edge]**, [Short Edge]
[Gutter]	-50.0 to **0.0** to 50.0 (mm)
[Alternative Method]	[Off], **[On]**

T-1-18

Quality Menu

NOTE:
- Bold values in the table indicate the default settings.

Setting Item	Setting Value
[Image Refinement]	[Off], **[On]**
[Gradation Level]	**[Standard]**, [High]
[Toner Save]	**[Off]**, [On]
[Density]	-4 to **0** to 11
[Halftones]	
[Text]	**[Resolution]**, [Gradation], [Color Tone], [High Resolution]
[Graphics]	[Resolution], [Gradation], **[Color Tone]**, [High Resolution]
[Image]	[Resolution], [Gradation], **[Color Tone]**, [High Resolution]
[Quality Change]	**[Continue Printing]**, [Stop Printing]

T-1-19

Interface Menu

NOTE:
- Bold values in the table indicate the default settings.
- After changing the setting items with "*1", cycle the power of the printer or perform a hard reset to make the settings effective.
- The setting items or setting values with "*2" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Interface Connection]*1	
[USB]	[Off], **[On]**
[Network]	[Off], **[On]**
[Mode Timeout]	
[Mode Timeout]	[Off], [On]
[Time]	5 to **15** to 300 seconds
[Connection Recog.]*1	[Off], **[On]**
[Extension Card]*2	-
[Extended RX Buffer]*1*2	**[Off]**, [On]

T-1-20

User Maintenance

NOTE:
- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Adj. Start Position]	
[Offset Y (MP Tray)]	-5.0 to **0.0** to 5.0 (mm)
[Offset X (MP Tray)]	-5.0 to **0.0** to 5.0 (mm)
[Offset Y (Cass. 1)]	-5.0 to **0.0** to 5.0 (mm)
[Offset X (Cass. 1)]	-5.0 to **0.0** to 5.0 (mm)
[Offset Y (Cass. 2)]*	-5.0 to **0.0** to 5.0 (mm)
[Offset X (Cass. 2)]*	-5.0 to **0.0** to 5.0 (mm)
[Offset Y (Cass. 3)]*	-5.0 to **0.0** to 5.0 (mm)
[Offset X (Cass. 3)]*	-5.0 to **0.0** to 5.0 (mm)
[Offset Y (Duplex)]	-5.0 to **0.0** to 5.0 (mm)
[Offset X (Duplex)]	-5.0 to **0.0** to 5.0 (mm)
[Recovery Printing]	**[Off]**, [On]
[Check Paper Size]	**[Off]**, [On]
[Substitute Size]	**[Off]**, [On]

Setting Item	Setting Value
[Special Print Adj. A]	[Off], **[Mode 1]**, [Mode 2], [Mode 3], [Mode 4]
[Special Print Mode]	
[Curl Adjustment]	
[Multi-purpose Tray]	**[Off]**, [On]
[Cassette 1]	**[Off]**, [On]
[Cassette 2]*	**[Off]**, [On]
[Cassette 3]*	**[Off]**, [On]
[Special Print Adj. C]	**[Off]**, [On]
[Update Firmware]	
[USB]	-
[Standard Network]	-
[Paper Feed Method]	
[Multi-purpose Tray]	**[Speed Priority]**, [Print Side Priority]
[Cassette 1]	**[Speed Priority],** [Print Side Priority]
[Cassette 2]*	**[Speed Priority]**, [Print Side Priority]
[Cassette 3]*	**[Speed Priority]**, [Print Side Priority]
[Show Job List]	[Off], **[On]**

T-1-21

Print Mode

NOTE:

- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Mode Selection]	**[Auto Selection]**, [PCL], [PS]*
[Auto Switch]	
[PCL]	[Off], **[On]**
[PS]*	[Off], **[On]**
[Mode Priority]	**[None]**, [PCL], [PS]*

T-1-22

Counter Check

Setting Item	Setting Values
Counter Check	101: Total 1(for Noth America (Model1), Oceania, Asia) 102: Total 2 (for Noth America (Model2)) 113: Total (Black/S) (for Europe) 114:Total 1(2-Sided) (for Asia)

T-1-23

- "*" indicates factory default setting.

PCL

NOTE:

- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Paper Save]	**[Off]**, [On]
[Orientation]	**[Portrait]**, [Landscape]
[Font Number]	0 to 104
[Point Size]*	4.00 to **12.00** to 999.75 point
[Pitch]*	0.44 to **10.00** to 99.99 cpi
[Form Lines]	5 to **64** to 128 lines
[Symbol Set]	**[PC8]**, [ROMAN8], [ROMAN9], [ISOL1], [ISOL2], [ISOL5], [ISOL6], [ISOL9], [PC775], [PC8DN], [PC850], [PC852], [PC858], [PC8TK], [PC1004], [WINL1], [WINL2], [WINL5], [WINBALT], [DESKTOP], [PSTEXT], [LEGAL], [ISO4], [ISO6], [ISO11], [ISO15], [ISO17], [ISO21], [ISO60], [ISO69], [WIN 30], [MCTEXT], [PC864], [ARABIC8], [WINARB], [PC866], [ISOCYR], [WINCYR], [PC851], [GREEK8], [ISOGRK], [PC8GRK], [WINGRK], [PC862], [HEBREW7], [HEBREW8], [ISOHEB]
[Custom Size]	**[Do Not Set]**, [Set]
[Unit of Measure]*	[Inches], **[Millimeters]**
[X dimension]*	76.2 to 215.9 mm; **215.9 mm** (3.00 to 8.50 in.; **8.50 in.**)
[Y dimension]*	127.0 to 355.6 mm; **355.6 mm** (5.00 to 14.00 in.; **14.00 in.**)
[Append CR to LF]	-
[Enlarge A4 Width]	**[Off]**, [On]
[BarDIMM]*	[Enable],**[Disable]**
[Freescape]*	[Off], [**~**], ["], [**#**], [$], [/], [\], [?], [{], [}], [|]

T-1-24

UFR II

NOTE:

- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Paper Save]	[Off], **[On]**

T-1-25

Imaging

NOTE:
- Bold values in the table indicate the default settings.

Setting Item	Setting Value
[Image Orientation]	**[Auto]**, [Vertical], [Horizontal]
[Zoom]	**[Off]**, [Auto]
[Print Position]	**[Auto]**, [Center], [Top Left]
[Show Warnings]	[Off], **[Print]**, [Panel]
[Enlarged Print Area]	**[Off]**, [On]

T-1-26

PS

NOTE:
- Bold values in the table indicate the default settings.

Setting Item	Setting Value
[Job Timeout]	**0** to 3600 seconds
[Wait Timeout]	0 to **300** to 3600 seconds
[Print PS Errors]	**[Off]**, [On]
[Halftones]	
[Text]	**[Resolution]**, [Gradation], [High Resolution]
[Graphics]	**[Resolution]**, [Gradation], [High Resolution]
[Image]	**[Resolution]**, [Gradation], [High Resolution]

T-1-27

Utility Menu (LBP3560/6750dn)

NOTE:
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Configuration Page]	-
[Network Status Print]	-
Test Print B*1	continuous printing (grid pattern)
Test Print D*1	continuous printing (E pattern)
Test Print D1*1	counter reading/service printing
Test Print I*1	image test printing (black pattern)
Test Print J*1	image test printing (2dot/3space pattern)
Test Print K*1	image test printing (half tone pattern)
Test Print L*1	image test printing (grid pattern)
Test Print X*1	image test printing (half grid pattern)
Test Print Z*1	image test printing (white pattern)
Test Print AW*1	Counter list
Device Log List*1	Device log printing Log1: Jam log Log3: Error log
[PCL Utility]	[Fonts List]
[PS Utility]*	[Configuration Page], [Fonts List]
[Cleaning]	[A4], [LTR]
[Extension Card List]*	-
[Printing Pos. Print]	-
[Page Count List]	-
[Counter Report]	-
[Serial Number]	(Display only)
[Consumables]	[Paper Information], [Cartridge], [Remaining Toner]

T-1-28

Job (LBP3560/6750dn)

NOTE:
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Job Print Log List]*	-
[Report Print Log]*	-

T-1-29

Reset (LBP3560/6750dn)

Setting Item	Setting Value
[Soft Reset]/[Hard Reset]	-
[Form Feed]	-
[Shut Down]	-

T-1-30

Select Feeder (LBP3560/6750dn)

NOTE:

- Bold values in the table indicate the default settings.
- The setting items or setting values with "*" may not be displayed depending on the availability of the optional accessories and other settings.

Setting Item	Setting Value
[Paper Source]	**[AUTO]**, [Cassette 1], [Cassette 2]*, [Cassette 3]*, [Multi-purpose Tray]
[MP Tray Paper Size]	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [Mixed Sizes], [Custom Size], [Custom Size R], [ENV. ISO-C5], [ENV. No.10], [ENV. Monarch], [ENV. DL], [ENV. ISO-B5], [Index Card], [STMT], [FLSC], [16K]
[Cassette 1 Size]/[Cassette 2 Size]*/ [Cassette 3 Size]*	[A6], [A5], [B5], **[A4]**, [LTR], [LGL], [EXEC], [Mixed Sizes], [Custom Size], [Custom Size R], [STMT], [FLSC], [16K]
[2-Sided Printing]	**[Off]**, [On]

T-1-31

Setup Menu (LBP3580/6780x)

Control Menu

Setting Item	Setting Value
Sleep Mode	High (Deep Sleep)* , Mid (Printer Sleep) , Low (Panel Sleep) , Off
Sleep Even if Error	Off , On*
Auto Sleep Time	5 minutes* , 10 minutes , 15 minutes , 30 minutes , 60 minutes , 180 minutes
Timer Settings	Wake Up Timer : Off* , On
	Wake Up Time : -
	Auto Reset Time : Off , 10 seconds , 20 seconds , 30 seconds , 40 seconds , 50 seconds , 1 minute , 2 minutes* , 3 minutes , 4 minutes , 5 minutes , 6 minutes , 7 minutes , 8 minutes , 9 minutes
	Sleep Mode Timer : Off* , On
	Sleep Mode Time : -
Warning Step	Toner Cart. Warning : Continue Printing* , Stop Printing
Auto Continue	Off* , On
Panel Language	Deutsch , English* , Españo , Français , Italiano , Chinese, Korean
Alarm	Off , On
Show Warnings	Toner Cart. Warning : Off , On*
	Drawer Empty : Off , On*
	E-Mail Trans. Error : Off , On
Date / Time Settings	Date : -
	12 / 24 Hour Clock : AM / PM* , 24 Hour
Daylight Savings	DDT Setting : Off* , On
Stert Date / Time	Month : January* , February , March , April , May , June , July , August , September , October , November , December
	Week : 1st Week* , 2nd Week , 3rd Week , 4th Week , Last Week
	Day : Sunday* , Monday , Tuesday , Wednesday , Thursday , Friday , Saturday
	Time :-
End DAte / Time	Month : January* , February , March , April , May , June , July , August , September , October , November , December
	Week : 1st Week* , 2nd Week , 3rd Week , 4th Week , Last Week
	Day : Sunday* , Monday , Tuesday , Wednesday , Thursday , Friday , Saturday
	Time :-
Time Zone	-
SD Card	Off , On*
Interrupt Print	On* , Off
Sec. Print Del. Time	1 hour , 2 hours , 3 hours , 6 hours , 12 hours , 24 hours

Setting Item	Setting Value
Secure Job Log	Off* , On
Select PDL (PnP)	UFR II* , UFR II XPS , PCL5e , PCL6 , PS3 , XPS (Direct)
Mng. Settings	Settings Key Lock : Off* , On
Adjust Screen	Contrast : (-3 Dark - 0* - +3 Light)
	Backlight Brightness : Off , Level 1 , Level 2 , Level 3*
Animated Instruction	Off , On*
Show Toner Gauge	Off , On*
Set. Comp. Notify	Off , 1 second , 2 seconds , 3 seconds*
Scrolling Speed	Slow , Normal* , Fast

T-1-32

- "*" indicates factory default setting.

Paper Source Menu

Setting Item	Setting Value
Paper Feeder	Paper Source : Auto* , Drawer 1 , Drawer 2 , Drawer 3
MP Tray Paper Size	A6 , A5 , A5R , B5 , A4 , LTR* , LGL , EXEC , Mixed Size , Custom Size , Custom Size R , Env. ISO-C5 , Env. Monarch , Env. No. 10 , Env. DL , Index Card , STMT , FLSC , 16K
NP Tray Priority	Off* , On
Drawer 1 Priority	A6 , A5 , A5R , B5 , A4 , LTR* , LGL , EXEC , Mixed Sizes , Custom Size , Custom Size R , Env. ISO-C5 , Env. Monarch , Env. No. 10 , Env. DL , Index Card , STMT , FLSC , 16K
Drawer 2 Priority	A6 , A5 , A5R , B5 , A4 , LTR* , LGL , EXEC , Mixed Sizes , Custom Size , Custom Size R , Env. ISO-C5 , Env. Monarch , Env. No. 10 , Env. DL , Index Card , STMT , FLSC , 16K
Drawer 3 Priority	A6 , A5 , A5R , B5 , A4 , LTR* , LGL , EXEC , Mixed Sizes , Custom Size , Custom Size R , Env. ISO-C5 , Env. Monarch , Env. No. 10 , Env. DL , Index Card , STMT , FLSC , 16K
Standard Paper Size	A6 , A5 , B5 , A4 , LTR* , LGL , EXEC , Env. No. 10 , Env. No. 10 , Env. DL , Index Card . STMT , FLSC , 16K
Dif. Paper Tray	Off* , On
Auto Selection	Multi-Purpose Tray : Off , ON*
	Drawer 1 : Off , On*
	Drawer 2 : Off , On*
	Drawer 3 : Off , On*
Default Paper Type	Plain* , Plain L , Heavy 1 , Heavy 2 , Transparency , Envelope , Labele , Labels
2-Sided Printing	On , Off*

T-1-33

- "*" indicates factory default setting.

Std Network Menu

Setting Item	Setting Value
IPv4 Setting	IPv4 : Off , On*
	IP Mode : Auto* : Manual
	Protocol : -
	Use DHCP : Off , On*
	Use BOOTP : Off* , On
	Use RARP : Off* , On
	IP Address Setting
	IP Address : -
	Subnet Mask : -
	Gateway Address : -
	DNS : -
	DHCP Option : -
	Acquire Host name : Off , On
	DNS Dynamic Update : Off : On*
IPv6 Setting	IPv6 : On , Off*
WINS Resolution	On* , Onn
FTP	FTP : On , Off*
	FTP Settings : On , Off*
LPD Print	On* , Off
RAW Print	On* , Off
BMLinkS	On , Off*
IPP Print	On , Off*
WSD	WSD Print : On , Off*
	WSD Browsing : On , Off*
HTTP	On* , Off
	Message
Proxy Setting	Proxy : On , Off*
	Server Address
	Port Number : 0 to 80* to 65535
	Same Domain : Use Proxy , Do Not Use Proxy*
	Proxy Authentication : On , Off*
	User Name
	Password
SNTP	On , Off*
Discovery Response	On* , Off
IPSec	On , Off*
NetWare Settings	On , Off*
	Frame Type : Auto Detect* , Ethenet II , Ethenet 8022 , Ethenet 8023 , Ethenet SNAP
	Print Service : Bindery PServer , RPrinter , NDS PServer* , NPrinter
Apple Talk	On , Off*
SMB	SMB Server : On , Off*
	SMB Print : On , Off*

Setting Item	Setting Value
SNP v. 1 Settings	SNMP v. 1 : On* , Off
	Dctd. Community : Off , Read / Write , Read Only*
SNMP v. 3 Settings	SNMP v. 3 : On , Off*
	User Settings 1 Auth. Password Encryption Password
	User Settings 2 Auth. Password Encryption Password
	User Settings 3 Auth. Password Encryption Password
	User Settings 4 Auth. Password Encryption Password
	User Settings 5 Auth. Password Encryption Password
Spooler	On , Off*
Network delay Time	0* to 300
Remote UI Settings	Remote UI : On* , Off
	SSL : On OFF*
Ethernet Driver	Auto Detect : On* , Off
	Communication Mode : Half Duplex* , Full Duplex
	Ethernet Type : 10 Base-T* , 100 Base-TX , 1000 Base-T
IEEE802.1X	On , Off*
	Message
Address Filter	On* ,Off
MAC Address	-
E-Male Print Set	POP3 RX Interval : 0* to 90
	POP3 RX : On , Off*
	SMTP RX : On , Off*
Net Eye	Monitoring Service
	Comm. Test
	Comm. Log
Init. Network Set.	

T-1-34

- "*" indicates factory default setting.

Layout Menu

Setting Item	Setting Value
Copies	1* to 9999
Offset Y	-50 to 0* to 50 (mm)
Offset X	-50 to 0 to 50 (mm)
Binding Location	Long Edge* , Short Edge
Gutter	-50 to 0* to 50 (mm)
Alternative Method	On* , Off

T-1-35

- "*" indicates factory default setting.

Quality Menu

Setting Item	Setting Value
Resolution	1200 dpi , 600dpi*
Image Refinement	On* , Off
Toner Save	On , Off*
Density	-8 Light to +8 Dark
Density (Fine Adj)	High : -8 Light to 0* to +8 Dark
	Mid : -8 Light to 0* to +8 Dark
	Low : -8 Light to 0* to +8 Dark
Halftones	Text : Resolutions , Color Tone* , Gradation , High Resolution
	Graphics : Resolutions , Color Tone* , Gradation , High Resolution
	Image : Resolutions , Color Tone* , Gradation , High Resolution
Reduce Quality	Continue Printing* , Stop Printing

T-1-36

- "*" indicates factory default setting.

Interface Menu

Setting Item	Setting Value
Interface Selection	
USB	On* , Off
Net Work	On* , Off
USB Strage Device	MEAP Driver : On , Off*
Timeout	On* , Off
	Timeout Time : 5 to 15* to 300 (seconds)
Connection Recog.	On* , Off
Extended RX Buffer	On , Off*

T-1-37

- "*" indicates factory default setting.

User Maintenance

Setting Item	Setting Value
Adj. Start Position	Offset Y (MP Tray) : -5 to 0* to 5 (mm)
	Offset X (MP Tray) : -5 to 0* to 5 (mm)
	Offset Y (Drawer 1) : -5 to 0* to 5 (mm)
	Offset X (Drawer 1) : -5 to 0* to 5 (mm)
	Offset Y (Drawer 2) : -5 to 0* to 5 (mm)
	Offset X (Drawer 2) : -5 to 0* to 5 (mm)
	Offset Y (Drawer 3) : -5 to 0* to 5 (mm)
	Offset X (Drawer 3) : -5 to 0* to 5 (mm)
	Offset Y (2-Sided) : -5 to 0* to 5 (mm)
	Offset X (2-Sided) : -5 to 0* to 5 (mm)
Recovery Printing	On* , Off
Check Paper Size	On , Off*
Special Print Mode A	Off , Mode 1* , Mode 2 , Mode 3 , Mode 4
SD Card Maintenance	Format :
Special Mng. Mode	Maintenance Code
	Cancel Paper Limit : On , Off*
	Dot Counter : On , Off*
	Sp. Transfer Mode : On Off*
	Custom Sz. Vertical : On , Off*
	Cancel Jobs OnebyOne : On* , Off
	Special Density Mode : On , Off*
	Wrincle Correction : On , Off*
	Wrincle Correction 2 : On , Off*
	Curl Correction 2 : On , Off*
	Sp. Transfer Mode 2 : On , Off*
	USB
	Network
	Rewrite Paper Att. : On* , Off
	Special Print Mode B : Off* , Mode 1 , Mode 2 , Mode 3
	Fix USB Serial No. : On , Off*
	Limit Export Items : On* , Off
	Monitoring Service : On , Off*
	Remote Console : On , Off*
	MEAP Function : On* , Off
	S-Size Sdp. Priority : On , Off*
	Sleep Settings : Mode 1*[1] , Mode 2*[2]
	Clear MEAP
	Clear CDS
Special Print Mode	Curl Correction
	Multi-Purpose Tray : On , Off*
	Drawer 1 : On , Off*
	Drawer 2 : On , Off*
	Drawer 3 : On , Off*
	Plain L Speed Prior. : On , Off*
Special Print Adj. C	On , Off*
Special Print Adj. D	On , Off
Update Firmware	USB
	NetWork
Paper Feed Method	Multi-Purpose Tray : Speed Priority* , Print Side Priority
	Drawer 1 : Speed Priority* , Print Side Priority
	Drawer 2 : Speed Priority* , Print Side Priority
	Drawer 3 : Speed Priority* , Print Side Priority
Show job List	On* , Off
IMPORT / EXPORT	EXPORT
	IMPORT

T-1-38

- "*" indicates factory default setting.

Print Mode

Setting Item	Setting Value
Auto Mode Selection	Auto Selection* , PCL , PS , PDF , XPS
Auto Select	PCL : On* , Off
	PS : On* , Off
	PDF : On* , Off
Mode Priority	None* , PCL , PS , PDF , XPS

T-1-39

- "*" indicates factory default setting.

MEAP Setting

Setting Item	Setting Value
Select Def. Screen	Print Screen* , MEAP

T-1-40

- "*" indicates factory default setting.

Counter Check

Setting Item	Setting Values
Counter Check	101: Total 1 102: Total 2 108: Total (Black 1) 109: Total (Black 2) 112: Total (Black/L) 113: Total (Black/S) 114:Total 1(2-Sided)

T-1-41

- "*" indicates factory default setting.

Initialize Menu

Setting Item	Setting Values
Paper Save	On* , Off

T-1-42

- "*" indicates factory default setting.

LIPSLX Setting

Setting Item	Setting Values
Initialize Menu	-

T-1-43

- "*" indicates factory default setting.

PCL

Setting Item	Setting Value
Paper Save	On , Off*
Orientation	Portrate* , Landscape
Font Number	0* to 104
Point Size	4.00 to 12.00* to 999.75
Pitch	0.44 to 10.00* to 99.99 cpi
Form Lines	Lines : 5 to 128 Default US (60) , EU (64)
Symbol Set	Character Code : PC8* , ROMAN8 , ROMAN9 , ISOL1 , ISOL2 , ISOL5 , ISOL6 , ISOL9 , PC775 , PC8DN , PC850 , PC852 , PC858 , PC8TK , PC1004 , WINL1 , WINL2 , WINL5 , WINBALT , DESKTOP , PSTEXT , LEGAL , ISO4 , ISO6 , ISO11 , ISO15 , ISO17 , ISO21 , ISO60 , ISO69 , WIN30 , MCTEXT , PC864 , ARABIC8 , WINARB , PC866 , ISOCYR , WINCYR , PC851 , GREEK8 , ISOGRK , PC8GRK , WINGRK , PC862 , HEBREW7 , HEBREW8 , ISOHEB
Custom Paper	Custom Size : Set , Do Not Set*
Unit Of Measure	Unit Of Measurement : Default US (Inches) Besides US (Millimeters)
X Dimension	76.2 to 215.9 mm
	3.00 to 8.50 in
Y Dimension	127.0 to 355.6 mm
	5.00 to 14.00 in
Append CR to LF	Yes* , No
Wide A4	On , Off*

T-1-44

- "*" indicates factory default setting.

Imaging

Setting Item	Setting Value
Image Orientation	Auto* , Vertical , Horizontal
Zoom	Off* , Auto
Print Position	Auto* , Center , Top Left
Show Warnings	Off , Print* , Panel
Print E-Mail Text	On* , Off
Limit E-Mail Print	On , Off*
EnLarge Print Area	On , Off*
Halfftones	Resolution , Gradation* , High Resolution
Grayscale Conversion	sRGB , NTSC* , Uniform RGB

T-1-45

- "*" indicates factory default setting.

XPS

Setting Item	Setting Value
Fit toPage	-
Halftones	Text : Resolution* , Gradation , High Resolution
	Graphics : Resolution* , Gradation , High Resolution
	Image : Resolution* , Gradation , High Resolution
Grayscale Conversion	Text : sRGB* , NTSC , Uniform RGB
	Graphics : RGB* , NTSC , Uniform RGB
	Image : RGB* , NTSC , Uniform RGB
Compressed Img. Mode	Image Priority* , Output Priority
Compressed Img. Output	Output* , Display Error

T-1-46

- "*" indicates factory default setting.

PDF

Setting Item	Setting Value
Fit to Page	On , Off*
Print Area Wide	Enlarged Print Area : On , Off*
N-up Print	N on 1 : Off* , 2 on 1 , 4 on 1 , 6 on 1 , 8 on 1 , 9 on 1 , 16 on 1
Comment Print	Auto* , Off
Halftones	text : Resolution* , Gradation , High Resolution
	Graphics : Resolution* , Gradation , High Resolution
	Image : Resolution* , Gradation , High Resolution
Grayscale Conversion	sRGB , NTSC* , Uniform RGB
Dot Gain Adjustment	-10% , -5% , Standarad* , +5% , +10%

T-1-47

- "*" indicates factory default setting.

AdobePS

Setting Item	Setting Value
Job timout	seconds
Date Protocol	Auto* , ASCII , RAE/TBCP
Print PS Errors	On , Off*
ICC Profile Settings	Text : Resolution* , Gradation , High Resolution
Halftones	Graphics : Resolution* , Gradation , High Resolution
	Image : Resolution* , Gradation , High Resolution
Grayscale Conversion	sRGB , NTSC* , Uniform RGB
Dot Gain Adjustment	-10% , -5% , Standard* , +5% , +10%

T-1-48

- "*" indicates factory default setting.

2 Technology

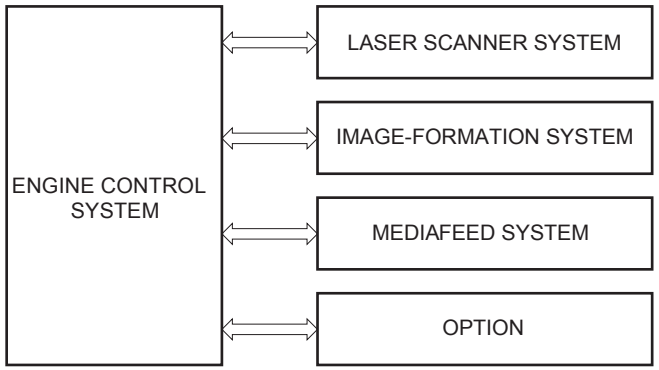
- Basic Operation
- Sequence of Operation
- Laser Exposure System
- Image Formation System
- Fixing System
- Pickup Feeding System
- Controller System
- Embedded RDS
- MEAP

Basic Operation

Function Structure

The function structure of the printer contains the following five systems:

- Engine control system
- Laser scanner system
- Image-formation system
- Media feed system
- Option



F-2-1

Sequence of Operation

Outline

The operation sequence is controlled by the DC Controller in the engine control system.

Operations for each period of a print operation from the machine is turned on until the motor stops rotating are described below.

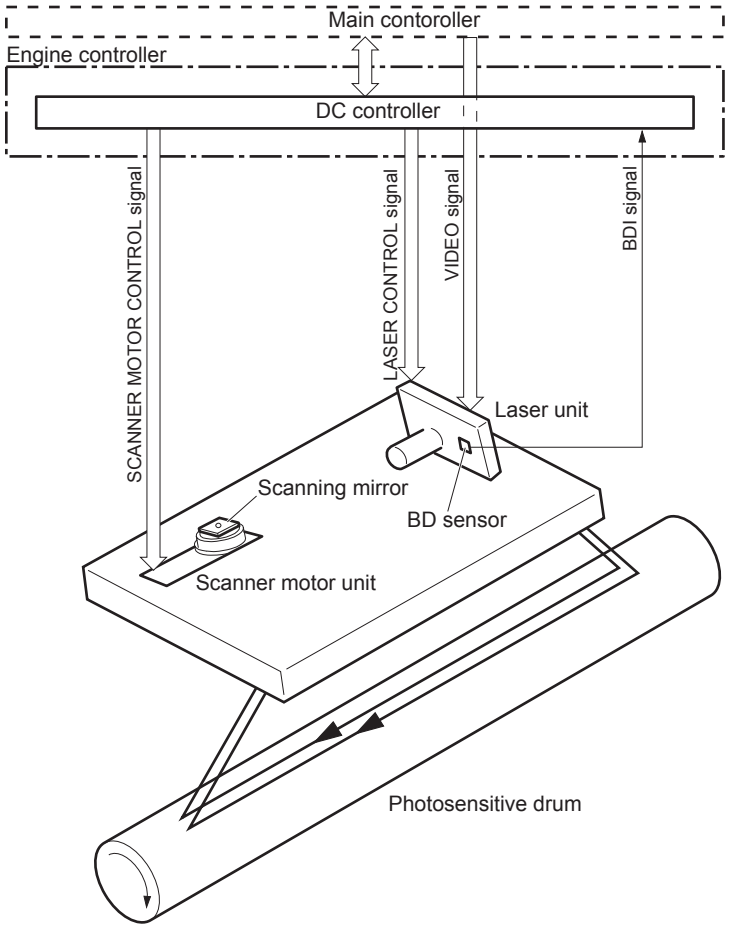
Period	Duration	Operation
WAIT	From the time power switch is turned on or the dooe is closed unitil the printer gets ready for a print operation.	Brings the printer to printable condition. The rpinter performs the following during this period:-Detects cartridge presence.
STBY (Standby)	From the end of WAIT or LSTR period until either the print command is received the main controller or the power switch is turned off.	Maintains the printer in printable condition.
INTR (Initial rotation)	From the time print command is received from the main controller unit the temperature of the fixing unit reaches its targeted temperature.	Starts up each high-voltage biases, laser scanner and fixing unit in preparing for print operation.
PRINT	From the end of INTR period unit the last media completes the fixing operation.	Forme the image on the photosensitive drum based on the VIDEO signals from the main controlloer. Transfers and fuses the toner image to the print media.
LSTR (Last rotation)	From the end of PRINT period unit the motor stops rotationg.	Moves the last printed sheet out of the printer. Stops laser scanner operation and high-voltage biases output. The printer enters INTR period as the LSTR period is completed if the main controller sends another print command.

T-2-1

Laser Exposure System

Outline

The laser exposure system forms a latent image on the photosensitive drum according to the VIDEO signalssent from the Main Controller.
The main components of the laser scanner are the laser unit and the scanner motor unit, which arecontrolled by the signals sent from the DC controller.
Diagram of the Laser Scanner Unit is shown below.



F-2-2

Optical Unit Failure Detection

The optical unit failure detection manages the laser scanner failure detection functions.
The DC controller determines an optical unit failure and notifies E100 to the Main controller if the laser scanner encounters the following conditions:

- If the scanner motor does not reach a specified rotation within a specified period of start-up.
- If the rotation of the scanner motor is out of specified range for a specified period during drive.
- If an out of specified BD interval is detected during a print operation.

Image Formation System

Outline

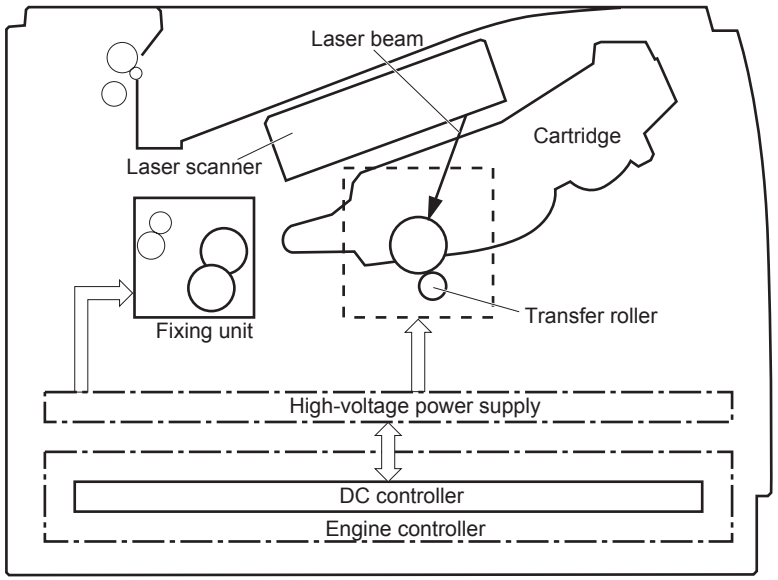
The image formation system forms a toner image on print media.

The following are the main components of the image formation system:

- Cartridge
- Transfer roller
- Fixing unit
- Laser scanner

The DC controller controls the laser scanner and high-voltage power supply to form the toner imageon the photosensitive drum. The image is transferred to the print media and fixed.

Diagram of the image formation system is shown below.



F-2-3

Image Formation Process

Outline

The image formation process consists of the following seven steps divided among five functional blocks:

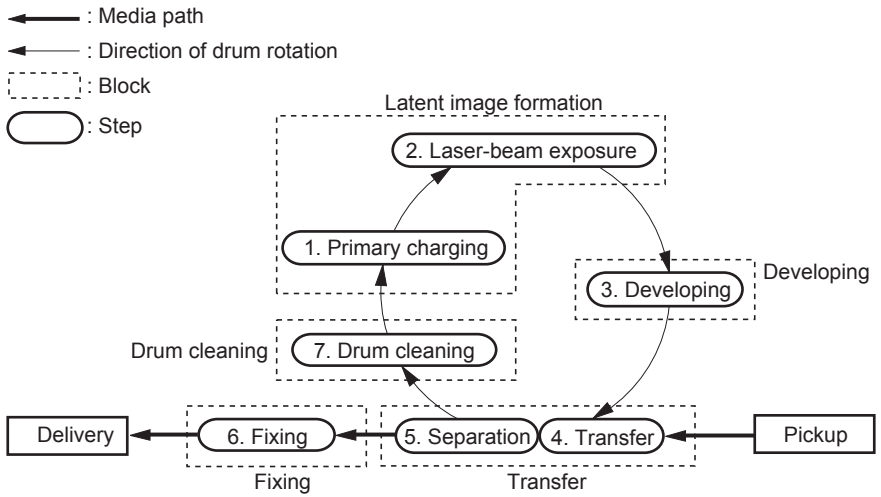
Latent image formation block
- Step 1: Primary charging
- Step 2: Laser-beam exposure

Developing block
- Step 3: Developing

Transfer block
- Step 4: Transfer
- Step 5: Separation

Fixing block
- Step 6: Fixing

Drum cleaning block
- Step 7: Drum cleaning



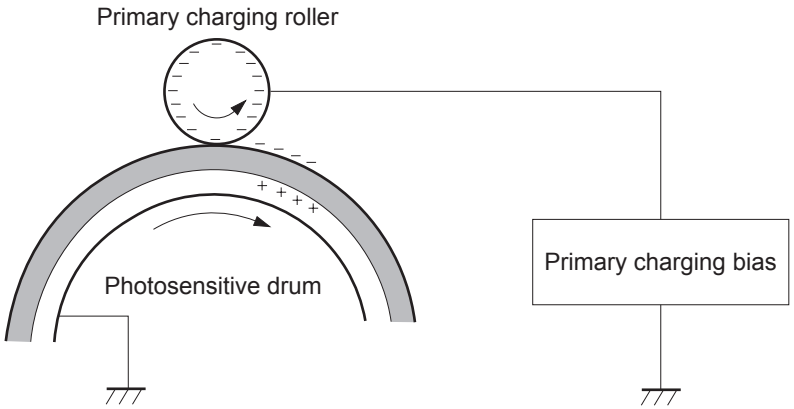
F-2-4

Latent image formation block

During the two steps that comprise this block, an invisible latent image is formed on the photosensitivedrum.

Step 1: Primary charging

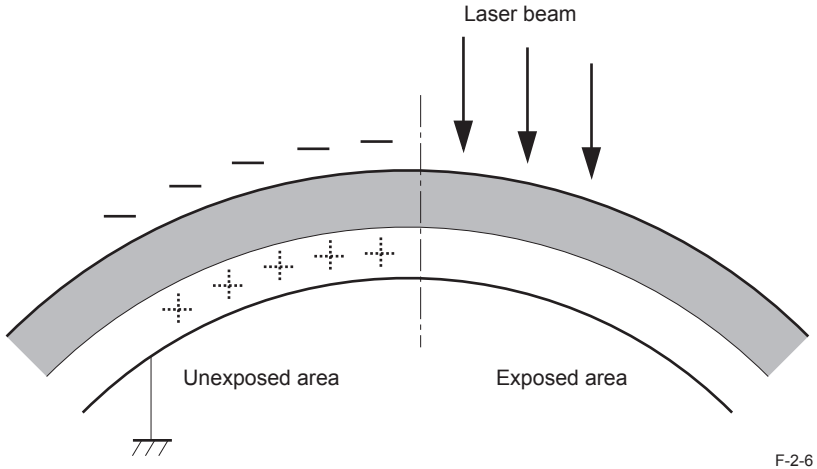
To prepare for latent image formation, the surface of the photosensitive drum is charged with a uniform negative potential. The primary charging bias is applied to the primary charging roller and the roller charges the drum directly.



F-2-5

Step 2: Laser-beam exposure

The laser beam scans the photosensitive drum to neutralize the negative charge on portions of the drum surface. An electrostatic latent image forms where the negative charge was neutralized.



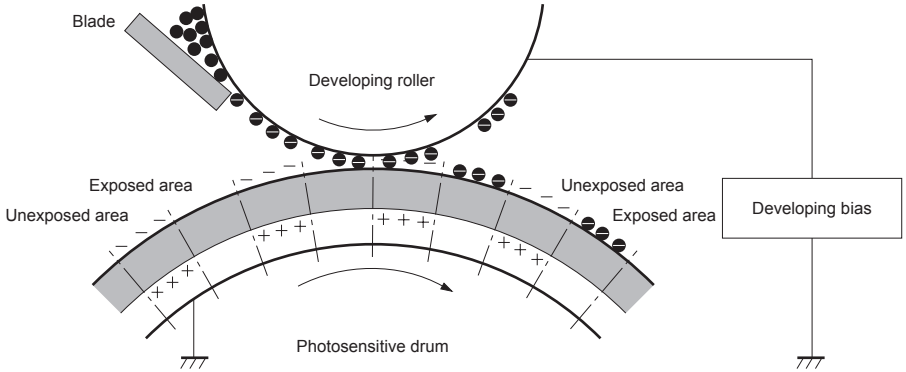
F-2-6

Developing block

Toner adheres to the electrostatic latent image on the photosensitive drum, which becomes visible.

Step 3: Developing

Toner acquires a negative charge from the friction that occurs when the developing roller rotates against the developing blade. The negatively charged toner is attracted to the latent image on the photosensitive drum surface because the drum surface has a higher potential. The developing bias is applied to the developing roller.



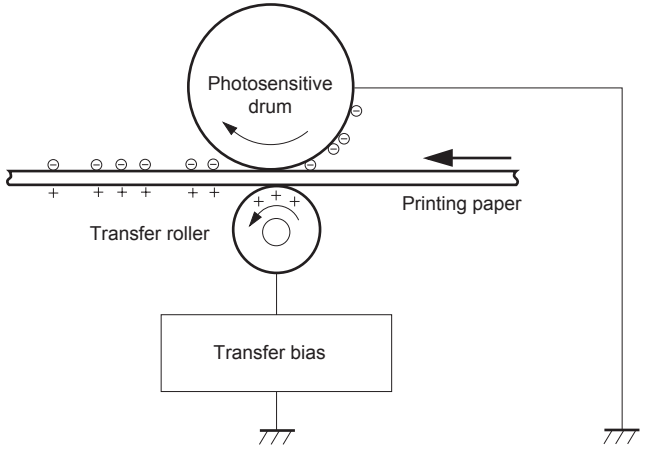
F-2-7

Transfer block

During the two steps that comprise this block, a toner image on the photosensitive drum is transferred to the print media.

Step 4: Transfer

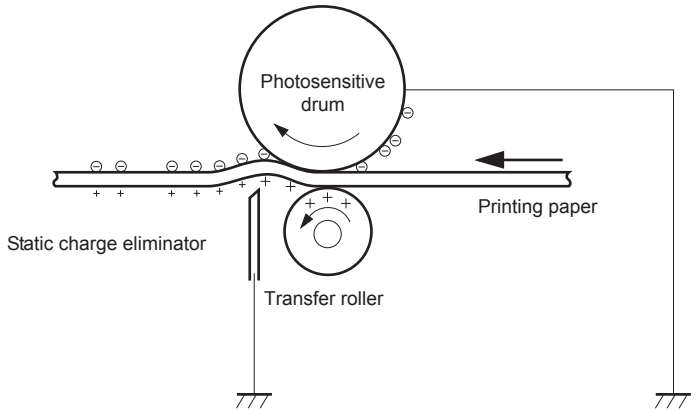
The transfer bias is applied to the transfer roller to charge the print media positive. The positively charged media attracts the negatively charged toner from the photosensitive drum surface.



F-2-8

Step 5: Separation

The elasticity of the print media and the curvature of the photosensitive drum cause the media to separate from the drum surface. The static charge eliminator reduces back side static discharge of the media for stable media feed and image quality.



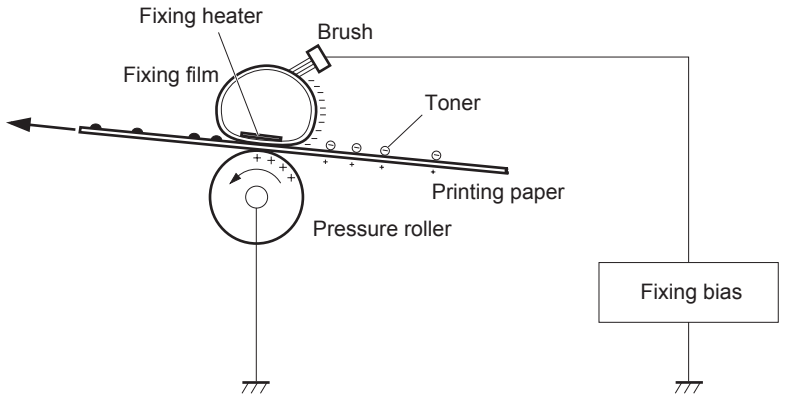
F-2-9

Fixing block

The toner image is fixed onto the print media.

Step 6: Fixing

The printer uses an on-demand fixing method. The toner image is permanently affixed to the print media by heat and pressure. The fixing bias is applied to the fixing film to improve image quality.



F-2-10

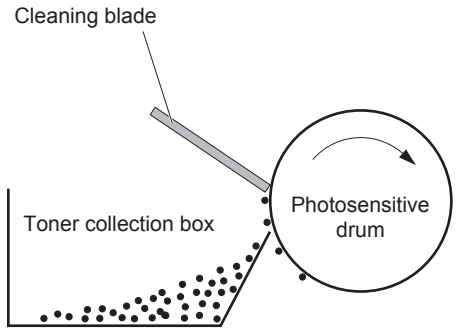
Drum cleaning block

The residual toner is cleared from the photosensitive drum surface.

Step 7: Drum cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum.

The residual toner is deposited in the toner collection box.



F-2-11

High-voltage Power Supply

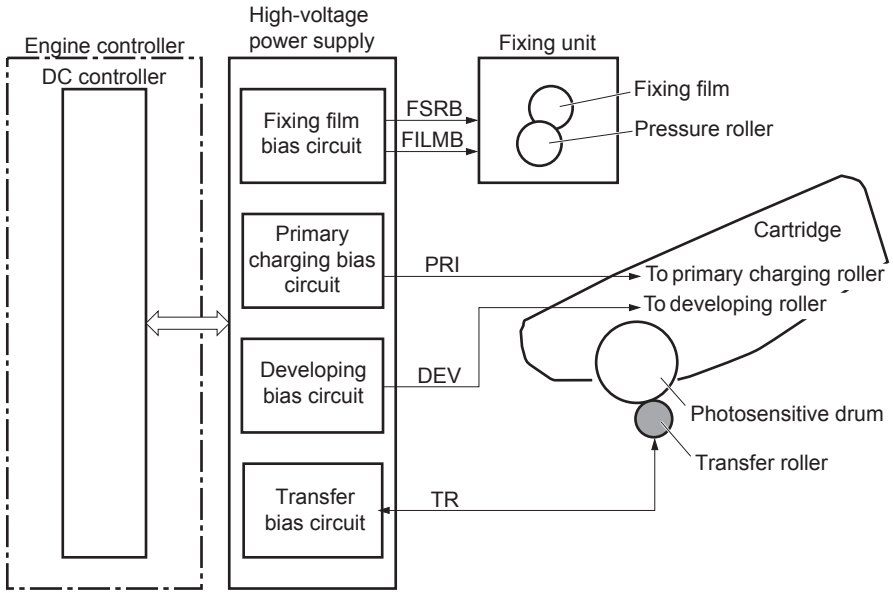
Outline

The high-voltage power supply applies biases to the following components:

- Primary charging roller
- Developing roller
- Transfer roller
- Fixing film

The DC controller controls the high-voltage power supply to generate biases.

The Figure below shows the configuration of the High-voltage Power Supply.



F-2-12

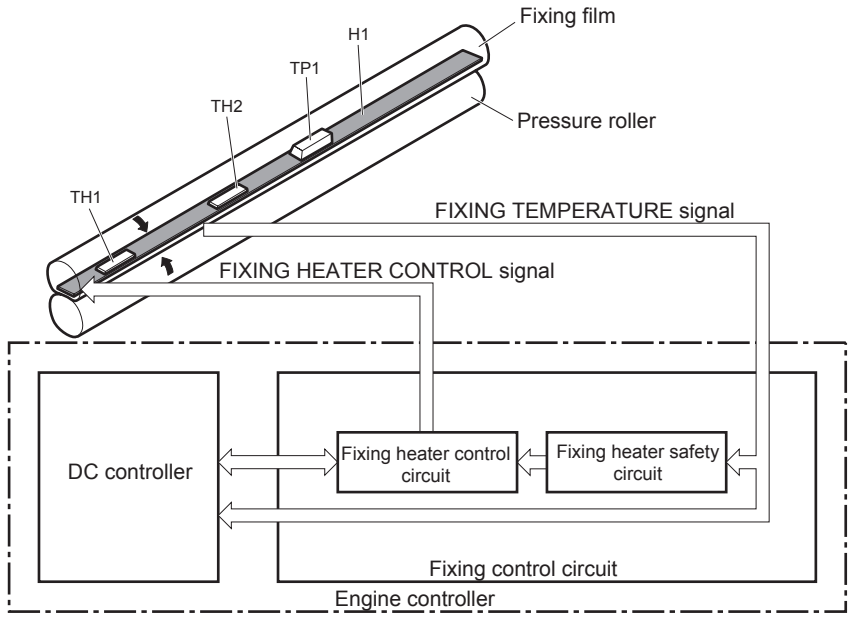
Fixing System

Fixing control circuit

Outline

The fixing control circuit controls the temperature in the fixing unit. The printer uses an on-demand fixing method.

The Figure below shows the configuration of the fixing control circuit.



F-2-13

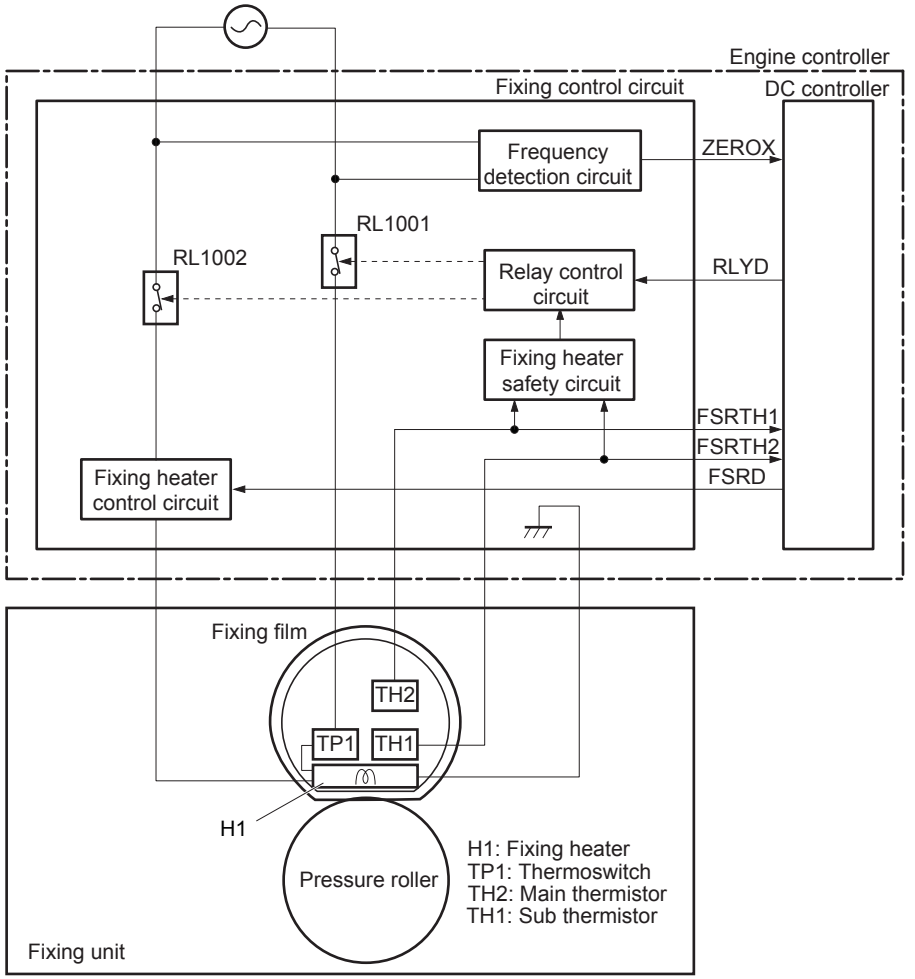
- Fixing heater (H1): Heats the fixing film
- Thermistor (TH1, TH2): Detects fixing temperature (Contact type)
  - Main thermistor (TH2): Controls temperature in the fixing unit (Contact type)
  - Sub thermistor (TH1): Detects one-sided temperature rise of the fixing unit Controls temperature in the fixing unit (Contact type)
- Thermoswitch (TP1): Prevents an abnormal temperature rise of the fixing heater (Contact type)

These temperature controls in the fixing unit are performed by the fixing heater control circuit and the fixing heater safety circuit according to the commands from the DC controller.

Fixing temperature control

The fixing temperature control maintains the temperature of the fixing heater temperature.

The Figure below shows the block diagram of the fixing temperature control.



F-2-14

The DC controller monitors the FIXING TEMPERATURE (FSRTH1, FSRTH2) signals and sends the FIXING HEATER CONTROL (FSRD) signal according to the detected temperature. The fixing heater control circuit controls the fixing heater depending on the signal so that the heater remains at the targeted temperature.

Protective function

The protective function detects an abnormal temperature rise of the fixing unit and interrupts power supply to the fixing heater.
The following three protective components prevent an abnormal temperature rise of the fixing heater:
• DC controller
• Fixing heater safety circuit
• Thermoswitch

1) DC controller
The DC controller interrupts power supply to the fixing heater when it detects an abnormal temperature of the fixing heater.
2) Fixing heater safety circuit
The fixing heater safety circuit interrupts power supply to the fixing heater when the detected temperature of the main and sub thermistors is abnormal.
3) Thermoswitch
The contact of the thermoswitch is broken to interrupt power supply to the fixing heater when the thermoswitch detects an abnormal temperature of the fixing heater.

Failure detection

The DC controller determines a fixing unit failure, deactivates the FIXING HEATER CONTROL signal,releases the relay to interrupt power supply to the fixing heater and notifies the formatter of a failure state when it encounters the following conditions:

1) Start-up failure
- If the main thermistor does not detect a specified temperature during the start-up process of the heater in the wait period.
- If the main thermistor does not detect a specified temperature during the heater temperature control in the initial rotation period.

2) Abnormal low temperature
- If the main thermistor detects an abnormal low temperature of the fixing unit during the printing operation.
- If the sub thermistor detects an abnormal low temperature of the fixing unit during the printing operation.

3) Abnormal high temperature
- If the main thermistor detects an abnormal high temperature of the fixing unit.
- If the sub thermistor detects an abnormal high temperature of the fixing unit.

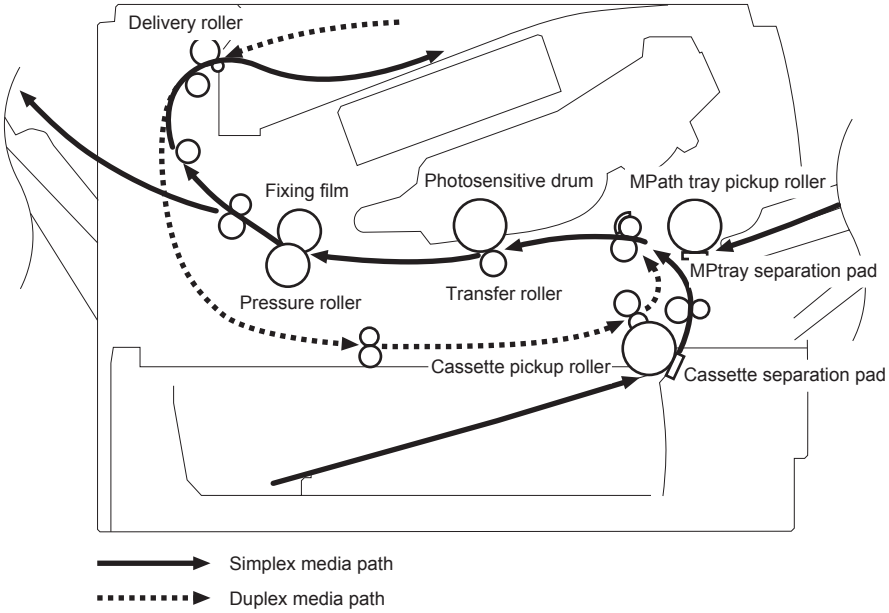
4) Frequency detection circuit failure
- If a specified frequency of the ZERO CROSSING signal is not detected within a specified period after the printer is turned on.

Pickup Feeding System

Outline

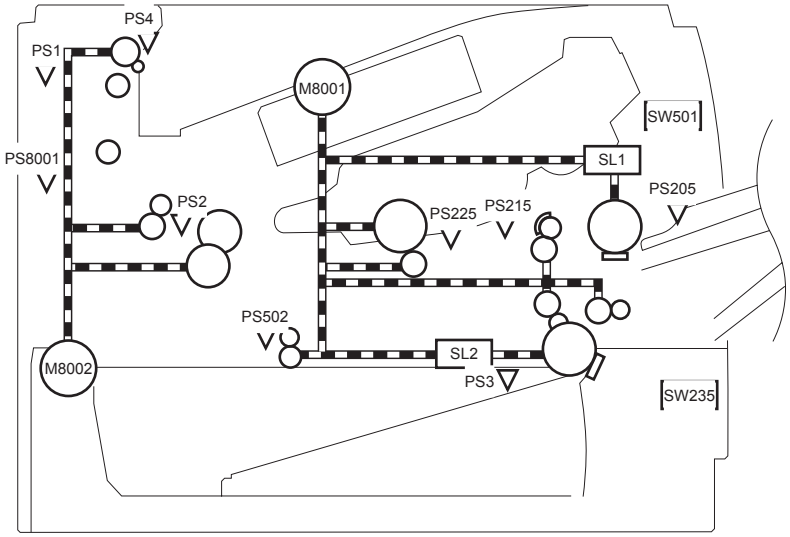
The pickup feeding system picks up, feeds and delivers the print media. It consists of several types of rollers.

The media path is shown below.



F-2-15

Diagram and table of the electrical components are shown below.



F-2-16

Electrical component		Signal
Main Motor	M8001	Main Motor Control Signal
Fixing Motor	M8002	Fixing Motor Control Signal
Multi-purpose Tray Pickup Solenoid	SL1	Multi-purpose Tray Pickup Solenoid Control Signal
Cassette Pickup Solenoid	SL2	Cassette Pickup Solenoid Control Signal
Face-up Sensor	PS1	Face-up Signal
Fixing Delivery Sensor	PS2	Fixing Delivery Signal
Cassette Media Presence Sensor	PS3	Cassette Media Presence Signal
Face-down Tray Media Full Sensor	PS4	Face-down Tray Media Full Signal
Multi-purpose Tray Media Presence Sensor	PS205	Multi-purpose Tray Media Presence Signal
TOP Sensor	PS215	TOP Signal
Media Width Sensor	PS225	Media Width Signal
Duplex Media Feed Sensor	PS502	Duplex Media Feed Signal
Rear Door Sensor	PS8001	Rear Door Open Detection Signal
Cassette Presence Swich	SW235	Cassette Presence Signal
Cartridge Door Swich	SW501	Cartridge Door Open Detection Signal

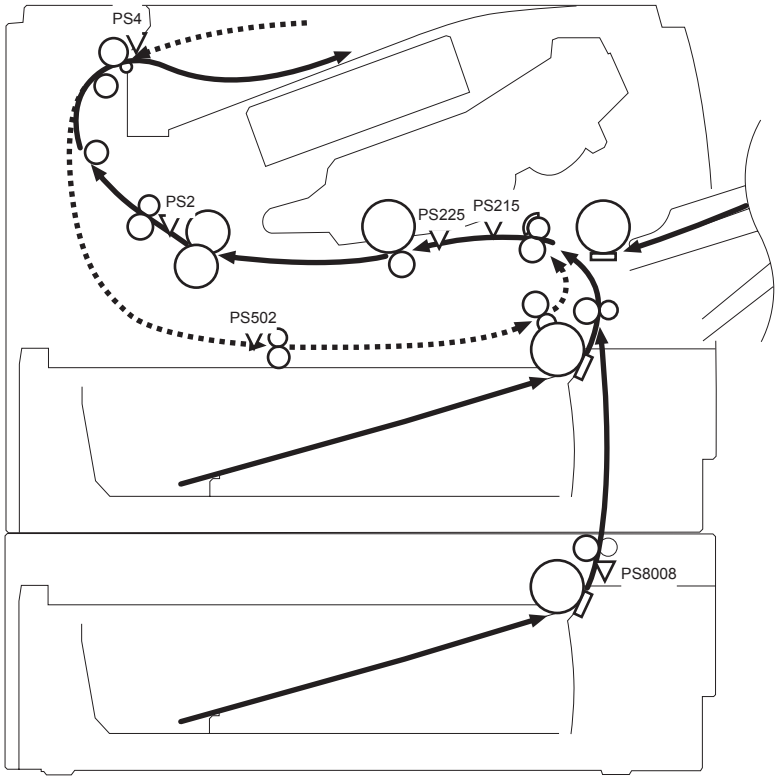
T-2-2

Jam Detection

Outline

The printer uses the following sensors to detect the presence of printing paper and to check whether the paper is being fed correctly or has jammed:

- Face-down tray media full sensor (PS4)
- TOP sensor (PS215)
- Fixing delivery sensor (PS2)
- Media width sensor (PS225)
- Duplex media feed sensor (PS502)
- PF media feed sensor (PS8008)



F-2-17

The printer detects the following jams:

1. Pickup delay jam 1
2. Pickup stationary jam
3. Delivery delay jam
4. Delivery stationary jam
5. Internal stationary jam 1
6. Internal stationary jam 2
7. Door open jam
8. Fixing paper wrapping jam
9. Duplex re-pickup jam

Pickup delay jam 1

In case of picking up paper from the Multi-purpose Tray or Cassette or feeding the 2nd side of paper at duplex print, when the leading edge of paper is not detected within the specified period of time by the TOP Sensor, it is judged as a pickup delay jam.

Pickup stationary jam

When the trailing edge of paper is not detected by the TOP Sensor even if the specified period of time is elapsed after the leading edge of paper is detected by the TOP Sensor, it is judged as a pickup stationary jam.

Delivery delay jam

When the leading edge of paper is not detected within the specified period of time by the Fixing Delivery Sensor after the leading edge of paper is detected by the TOP Sensor, it is judged as a delivery delay jam

Delivery stationary jam

When the trailing edge of paper is not detected within the specified period of time by the Fixing Delivery Sensor after the trailing edge of paper is detected by the TOP Sensor, it is judged as a delivery stationary jam.

Internal stationary jam 1

When either TOP Sensor, Fixing Delivery Sensor, Paper Width Sensor or Duplex Sensor detects presence of paper at the time of warm-up rotation, it is judged as a internal stationary jam 1.

Internal stationary jam 2

When either of the sensors (TOP Sensor, Paper Width Sensor, Fixing Delivery Sensor, Duplex Sensor or PF Paper Feed Sensor) on the paper delivery path detects presence of paper at the completion of printing, it is judges as a internal stationary jam 2.

Door open jam

When detecting the open door during paper feed, it is judged as a door open jam

Fixing paper wrapping jam

When absence of paper is detected by the Delivery Sensor while the area between 20mm from the leading edge and 20mm from the trailing edge passes the Delivery Sensor, it is judged as a fixing paper wrapping jam.

Duplex re-pickup jam

When the leading edge of paper is not detected within the specified period of time by the Duplex Sensor after the paper starts to be reversed, it is judged as a duplex re-pickup jam.

Controller System

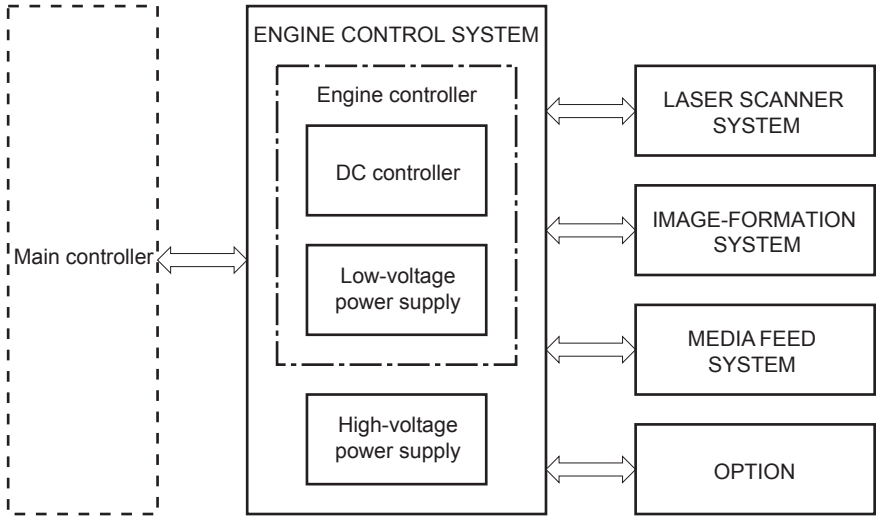
Outline

The controller system controls all the other systems according to commands from the Main Controller.

The controller system contains the following components:

- DC controller
- Low-voltage power supply
- High-voltage power supply

Block diagram of the controller system is shown below.



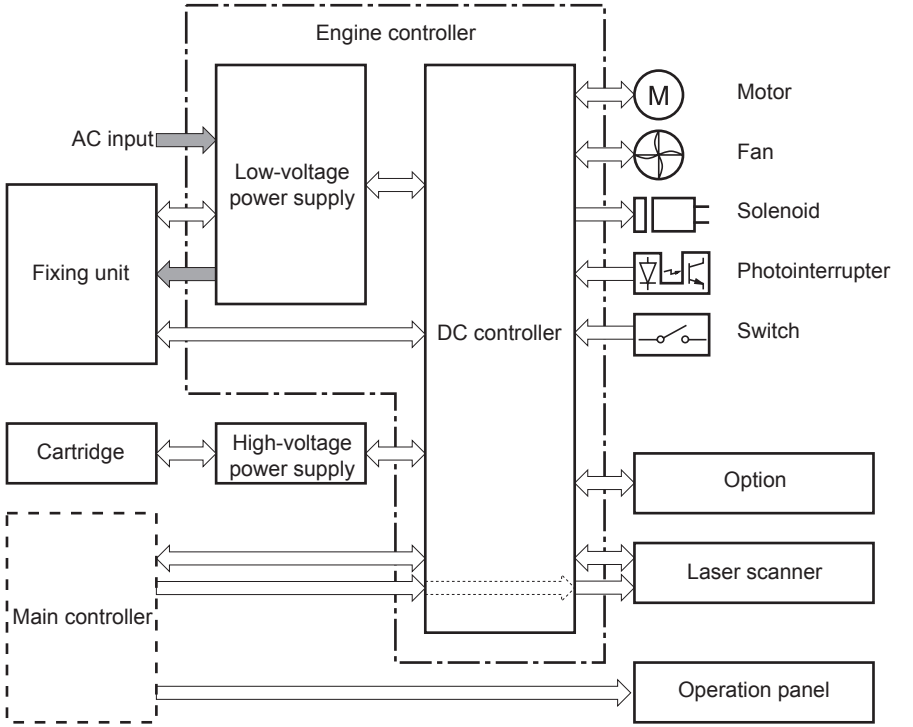
F-2-18

DC Controller

Outline

The DC controller controls the operational sequence of the printer.

Block diagram of the DC Controller and table of the electrical components are shown below.



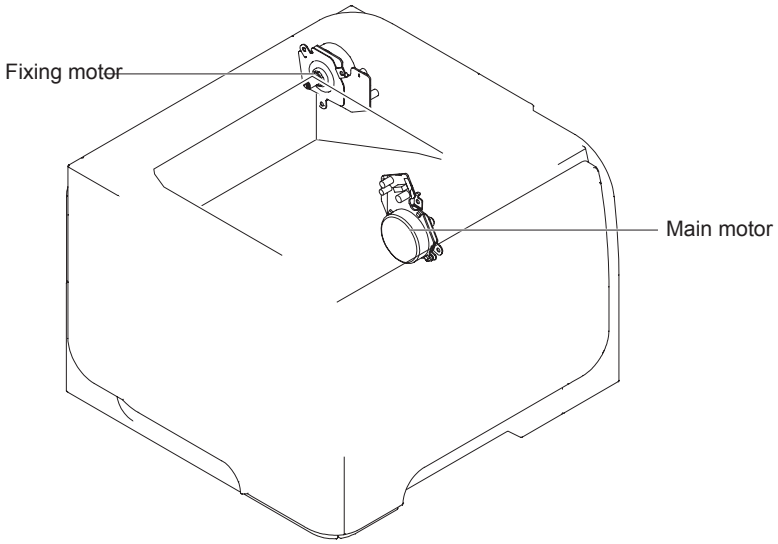
F-2-19

Symbol for component		Component
Motor	M8001	Main Motor
	M8002	Fixing Motor
Fan	FM1	Main Fan
	FM2	Sub Fan
Solenoid	SL1	Multi-purpose Tray Pickup Solenoid
	SL2	Cassette Pickup Solenoid
Photointerrupter	PS1	Face-up Sensor
	PS2	Fixing Delivery Sensor
	PS3	Cassette Media Presence Sensor
	PS4	Face-down Tray Media Full Sensor
	PS205	Multi-purpose Tray Media Presence Sensor
	PS215	TOP Sensor
	PS225	Media Width Sensor
	PS502	Duplex Media Feed Sensor
	PS8001	Rear Door Sensor
Switch	SW235	Cassette Presence Switch
	SW240	Power Switch
	SW250	Test Print Switch
	SW501	Cartridge Door Switch

T-2-3

Motor control

The printer has one motor for media feed and image formation.
Arrangement of motor and the specifications are shown below.



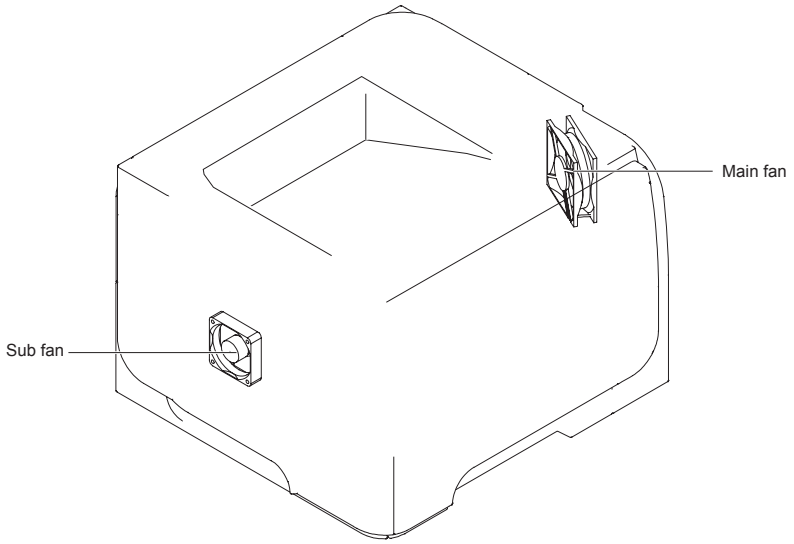
F-2-20

Description		Driving part	Failure detection
Main Motor	M8001	Pickup Roller,Feed Roller,Transfer Roller,Photosensitive Drum,Developing Roller,Dupiex Re-pickup Roller and Duplex Feed Roller	Yes
Fixing Motor	M8002	Pressur Roller,Delivery Roller and Fixing Delivery Roller	Yes

T-2-4

Fan control

The printer has one fan for preventing a temperature rising inside the printer.
Arrangement of fan motor and the specifications are shown below.



F-2-21

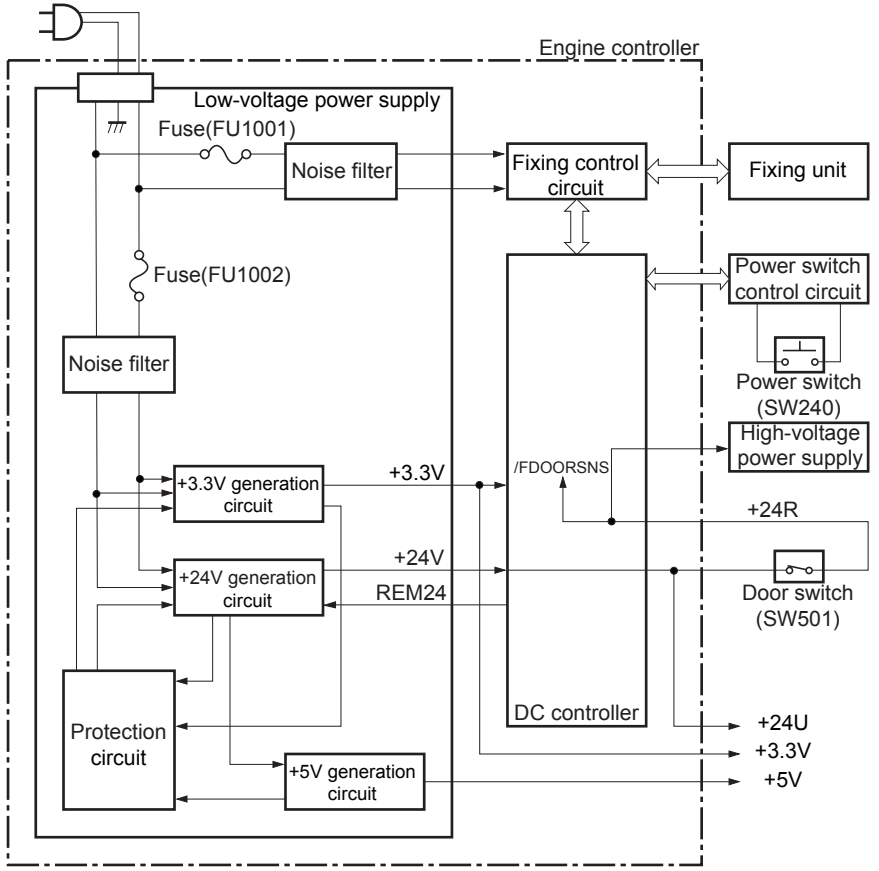
Description		Cooling area	Type	Speed
Main Fan	FM1	inside the printer	intake	Full
Sub Fan	FM2	inside the printer	intake	Full

T-2-5

Low-voltage Power Supply

Outline

The low-voltage power supply converts AC power from the power receptacle into DC power to cover the DC loads.
Block diagram of the Low Voltage Power Supply is shown below.



F-2-22

Protective function

The low-voltage power supply has a protective function against overcurrent and overvoltage to prevent failures in the power supply circuit. If there flows an overcurrent or an overvoltage, the system automatically cuts off the output voltage.
If the DC power is not being supplied from the low-voltage power supply, the protective function may
be running. In such case, turn off the power switch and unplug the power cord. Do not plug in the power cord or turn the power switch on again until the root cause is found.
In addition, two fuses in the low-voltage power supply protect against overcurrent.
If overcurrent lows into the AC line, the fuse blows and cuts off the power distribution.

Safety

For user and service technician's safety, the printer has a function to interrupt 24V power supply to the fixing unit and the high-voltage power supply unit.
The door switch is turned off and 24V stops under the following condition:

- If the cartridge door is opened (SW301 is turned off)

The printer has the power switch on the DC line so the AC power flows even the power switch is turned off. Be sure to unplug the power cord before disassembling the printer.

Embedded RDS

Product Overview

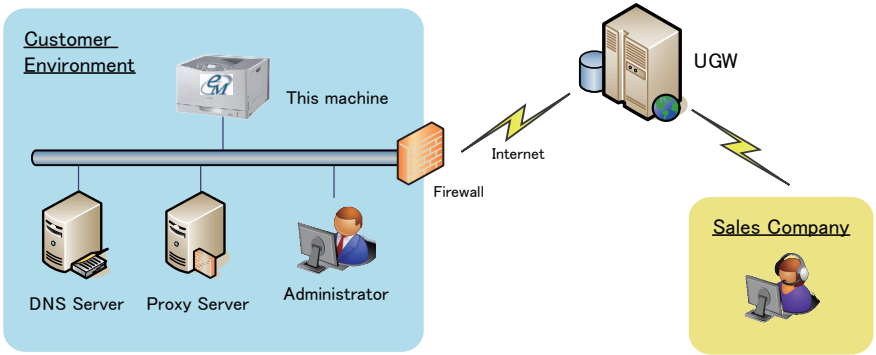
Overview

Embedded RDS (hereafter, referred to as E-RDS, which stands for EMBEDDED-RDS) is a network module embedded with a customer's device and enables e-Maintenance/ imageWARE Remote (Remote Diagnosis System), which can collect and transmit status changes, counter values, error logs, and consumable information such as the toner low/ out of the device to a remote maintenance server called UGW (Universal Gateway Server) via Internet.

The following device information/ status can be monitored.

- Service mode counter (Billing counts)
- Global click counter
- Parts counter
- Mode counter
- Firmware info
- Service call error log
- Jam log
- Alarm log
- Status changes (Toner low/ out, etc.)

Since high confidentiality is required for the information shown above, it performs communication between a device and the UGW using HTTPS/ SOAP protocol.



The e-Maintenance/ imageWARE Remote system configuration

F-2-23

Features and benefits

E-RDS embedded with a network module in advance can realize a front-end processing of e-Maintenance/ imageWARE Remote system without attaching any extra hardware equipment.

Service cautions

1) After performing the following service actions, it is necessary to perform initializing E-RDS settings (CLEAR), E-RDS settings (E-RDS SWITCH : ON) and communication test (COM-TEST).
Failure to do so will result that the counter transmitting value to the UGW may become unusual.
   - System upgrade
   - System installation
   - RAM clear of MNCON

   Also, after replacing the main controller board, all settings must be reprogrammed.

2) The following settings in service mode must not be change unless there are specific instructions to do so. Changing these values will cause error in communication with UGW.
   - Set port number of UGW
     [SERVICE MODE] > [NETWORK GR.] > [E-RDS] > [RGW-PORT]
     Default : 443

   - URL setting of UGW
     [SERVICE MODE] > [NETWORK GR.] > [E-RDS] > [RGW-ADDRESS]
     Default : https://a01.ugwdevice.net/ugw/agentif010

E-RDS Setup

Confirmation and preparation in advance

To monitor a device with e-Maintenance/ imageWARE Remote, the following settings are required.

(1) Advance confirmation

Confirm with the UGW administrator that the device to be monitored with e-Maintenance/ imageWARE Remote is registered in the UGW.

(2) Advance preparations

Interview the user's system administrator in advance to find out the following information about the network.

Information item 1

IP address settings

- Automatic setting : DHCP, RARP, BOOTP (ON/ OFF selection)
- Manual setting : IP address, subnet mask and gateway address to be set

Information item 2

Is there a DNS server in use?

If there is a DNS server in use, find out the following.

- Primary DNS server address
- Secondary DNS server address

Information item 3

Is there a proxy server?

If there is a proxy server in use, find out the following.

- Proxy server address
- Port No. for proxy server

Information item 4

Is proxy server authentication required?

If proxy server authentication is required, find out the following.

- User name and password required for proxy authentication

(3) Network settings

Based on the results of the information obtained in (2) Advance preparations, make the device network related settings.

See Users' Guide for detailed procedures.

CAUTION:

Ensure to reboot the device when any change is added to the network setting.

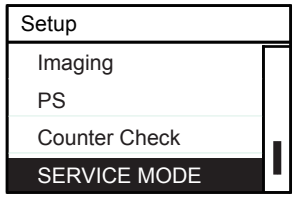
E-RDS setting items (service mode)

Item	Description
E-RDS SWITCH (NETWORK GR. > E-RDS)	Set use/ no use of Embedded-RDS function 0: Function not used / 1: Function used e-Maintenance/ imageWARE Remote system to send device information, counter data, error statuses to the UGW. Default : 0 (Function not used)
RGW-ADDRESS (NETWORK GR. > E-RDS)	URL setting of UGW Max 128 characters Default : https://a01.ugwdevice.net/ugw/agentif01
RGW-PORT (NETWORK GR. > E-RDS)	Set port number of UGW Validation : 1 to 65535 Default : 443
COM-TEST (NETWORK GR. > E-RDS)	Execution of a communication test with UGW / Display of the result Perform Communication test with UGW and set "Done." or "Could not execute." as the result.
COM-LOG (NETWORK GR. > E-RDS)	Display of detailed information about a communication error with UGW Error information of a connection failure with UGW is displayed. Error occurrence date and time, error code, and detailed error information are displayed. Max 5 latest loggings retained Max 128 characters for Error information.
CLEAR (NETWORK GR. > E-RDS)	Initialization of E-RDS SRAM data SRAM data of E-RDS is initialized and returned to the factory setting value at shipment.
CLEAR (NETWORK GR. > CA-KEY)	Initialization of CA certificate When the power is turned OFF/ ON after execution, the CA certificate in the factory setting is automatically installed.

T-2-6

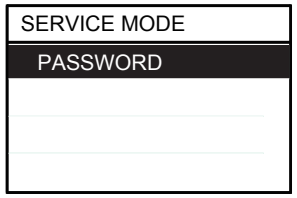
■ Steps to E-RDS settings

1. Start [Service Mode].
   1) Press [OK] and [▶] buttons at a time on the control panel.
   2) Select [SERVICE MODE] and press [OK] or [▶] button.



F-2-24

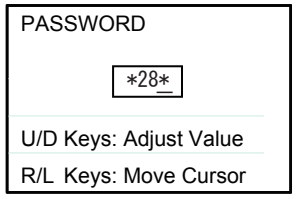
   3) Press [OK] or [▶] button.



F-2-25

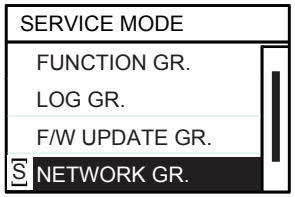
   4) Enter [*], [2], [8] and [*] and press [OK] button.

NOTE:
When entering your password, press [▲] or [▼] button to increment or decrement the value, and press [◀] or [▶] button to move forward/backward by digit.



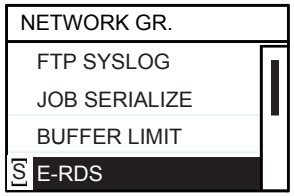
F-2-26

2. Select [NETWORK GR.] and press [OK] or [▶] button to go to the network setting menu.



F-2-27

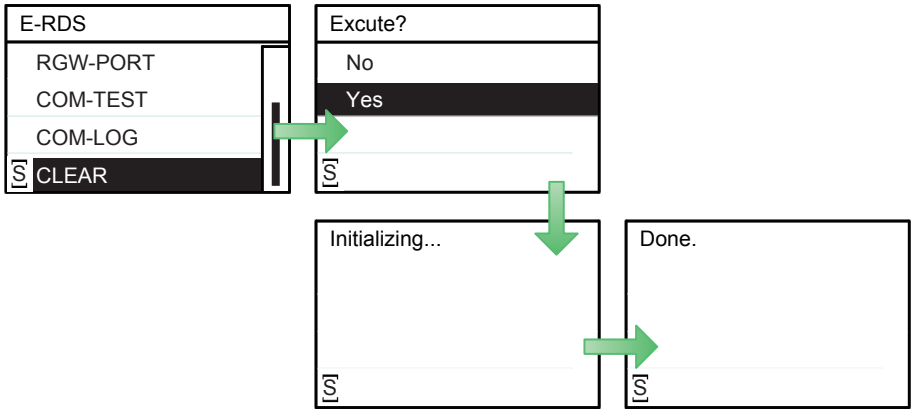
3. Select [E-RDS] and press [OK] or [▶] button to go to E-RDS setting menu.



F-2-28

4. Select [CLEAR] and press [OK] or [▶] button to display Confirm Initialization screen. Select [Yes] and press [OK] button.

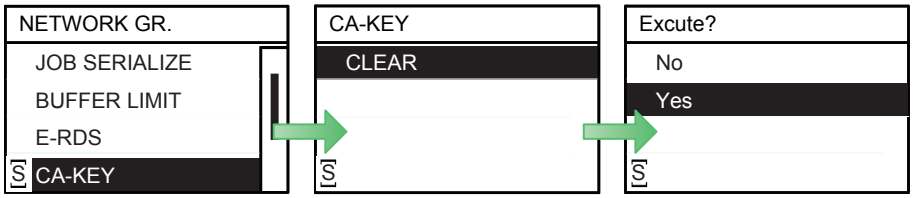
NOTE:
This operation initializes the E-RDS settings to factory setting values.
For the setting values to be initialized, see the section of “Initializing E-RDS settings”.



F-2-29

5. Perform installation or deletion of the CA certificate if necessary, and reboot the device.
- Installation of the CA certificate: Perform installation from SST.
- Deletion of the CA certificate: When the following operation is performed, the CA certificate in the factory setting is automatically installed.

1) Select [NETWORK GR.] > [CA-KEY] > [CLEAR] and press [OK] or [▶] button to display Confirm Clear screen. Select [Yes] and press [OK] button.

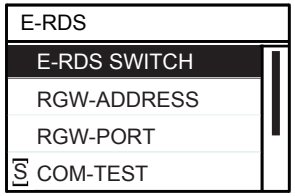


F-2-30

2) Reboot the device.

6. Activate [SERVICE MODE]. (See 1. for the procedure.)

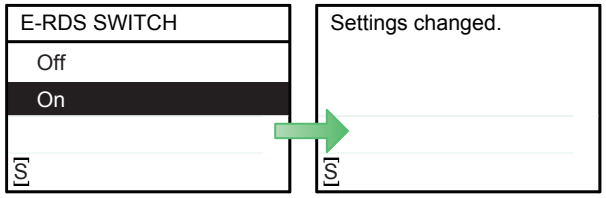
7. Select [NETWORK GR.] > [E-RDS] > [E-RDS SWITCH] and press [OK] or [▶] button.



F-2-31

8. Select [On] and press [OK] button.

NOTE:
This operation enables the communication function with UGW.



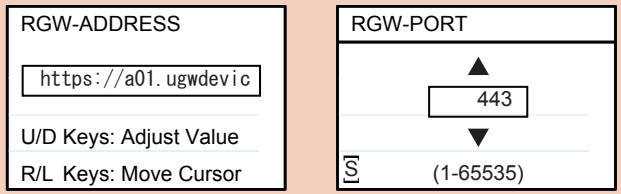
F-2-32

9. Press [Back] or [◀] button to go back to E-RDS Setup menu.

CAUTION:

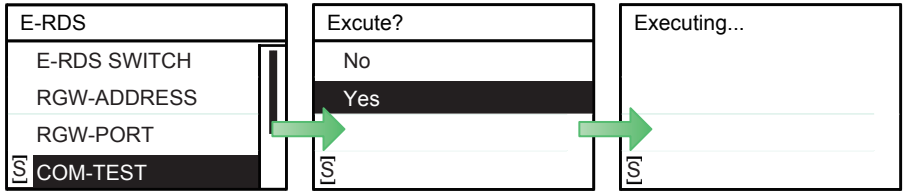
The following settings i.e. RGW-PORT and RGW-ADDRESS in Service mode must not be change unless there are specific instructions to do so.

Changing these values will cause error in communication with UGW.



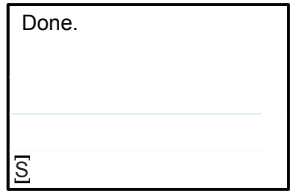
10. Select [COM-TEST] and press [OK] or [▶] button to display Confirm Communication Test screen. Select [Yes] and press [OK] button.

NOTE:
This initiates the communication test between the device and the UGW.



F-2-33

If the communication is successful, “Done.” is displayed. If “Could not execute.” (failed) appears, refer to the “Troubleshooting“ and repeat until “Done.” is displayed.



F-2-34

NOTE:
The communication results with UGW can be distinguished by referring to the communication log. By performing the communication test with UGW, E-RDS acquires schedule information and starts monitoring and meter reads operation.

Initializing E-RDS settings

It is possible to return E-RDS Settings to factory-shipments value.

Setting values and data to be initialized

The following E-RDS settings, internal data, and Alarm filtering information are initialized.

- E-RDS > E-RDS SWITCH
- E-RDS > RGW-ADDRESS
- E-RDS > RGW-PORT
- E-RDS > COM-LOG

CAUTION:

In case of replacing the CA certificate file, even if initialization of E-RDS is executed, the status is not returned to the factory default.

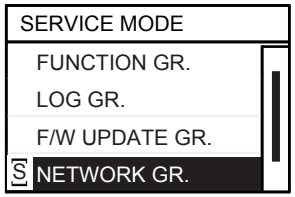
When installing the certificate file other than the factory default CA certificate file, it is required to delete the certificate file after E-RDS initialization and install the factory default CA certificate file.

For detailed procedures, see "Steps to E-RDS settings - step 5.".

Initialization procedure

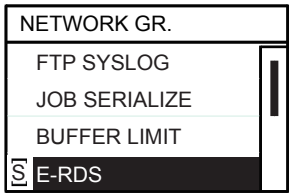
1. Start [Service Mode].
   For the procedures, see “Steps to E-RDS settings - step 1.“.

2. Select [NETWORK GR.] and press [OK] or [▶] button to go to the network setting menu.



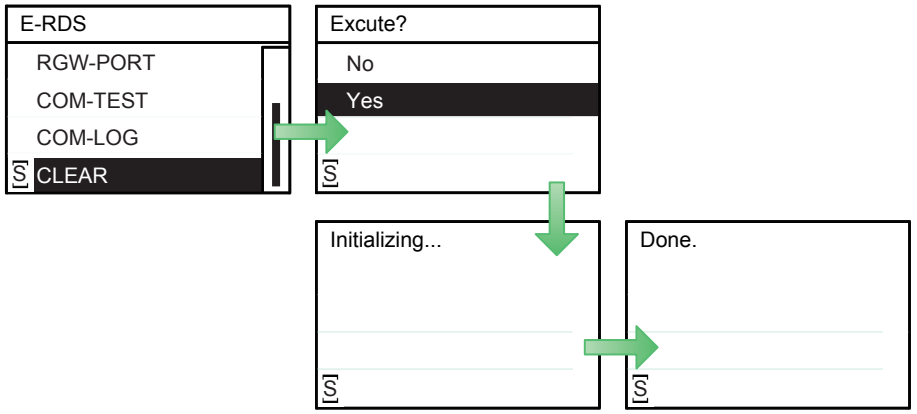
F-2-35

3. Select [E-RDS] and press [OK] or [▶] button to go to E-RDS setting menu.



F-2-36

4. Select [CLEAR] and press [OK] or [▶] button to display Confirm Initialization screen. Select [Yes] and press [OK] button.



F-2-37

FAQ

No.1

Q: In what case does a communication test with UGW fail?

A: The following cases can be considered in the becoming “Could not execute.“ case.

1. Name resolution was failed due to an incorrect host name or DNS server has been halted.
2. Network cable is blocked off.
3. Proxy server settings is not correct.

No.2

Q: I want to know the interval of data transmitting from E-RDS to the UGW, and what data size is sent to the UGW?

A: The schedule of data transmitting, the start time are determined by settings in the UGW side. The timing is once per 16 hours by default, and counter data volume could be maximum 250 bytes.

No.3

Q: Does error-retry carry out at the time of a communication error with the UGW?

A: Retry of SOAP communication is performed as follows.

- In the case of an error in SOAP communication (i.e. a trouble at UGW side) at transmission of the alarm code list and the service mode counter (postAlert) due to change of device status, the data failed in transmission equivalent to 3 retries is to be stored in the RAMDISC. In the case of anther transmission error (the 4th error), the oldest data of the stored data is deleted and the newly-generated retry data is stored in the RAMDISC.
- In the case of SOAP transmission errors as described below, the unsent (and remaining) data is sent again depending on the storage status of CPCA data:
  - At transmission of a jam log and service mode counter (postJamLog) when the jam log was obtained from the device.
  - At transmission of a service call log and service mode counter (postServiceCallLog) when the service log was obtained from the device.
  - At transmission of an alarm log and service mode counter (postAlarmLog) when the alarm log was obtained from the device.

NOTE:
- The retry data will be sent at interval of 5*n minutes. (n: retries, 5, 10, 15 minutes…up to 30 minutes)
- HDD is not installed in this device; even after the power is turned OFF/ON, postAlert, postJamLog, postServiceCallLog, postAlarmLog will not be resent.

No.4

Q: How many log-data can be stored?

A: Up to 5 log data can be saved. The data size of error information is maximum 128 characters.

No.5

Q: Although Microsoft ISA as a proxy server is introduced, the authentication check is failed. Can E-RDS adopt with Microsoft ISA?

A: E-RDS must comply with “Basic” while “Integrated” authentication is used for Microsoft ISA (as default); therefore, authentication with E-RDS is available if you change the setting to “Basic” authentication on the server.

No.6

Q: Can I turn the device power off during the e-Maintenance/ imageWARE Remote system operation?

A: While operating the e-Maintenance/ imageWARE Remote system, the power of the device must be ON. If power OFF is needed, do not leave the device power OFF for long time.
It will become "Device is busy, try later" errors if the power supply of network equipment such as HUB is made prolonged OFF.

No.7

Q: Although a Service call error may not be notified to UGW, the reason is what?

A: If a service technician in charge turns off the power supply of a device immediately after error occurred once, It may be unable to notify to UGW because data processing does not take a time from the controller of the device to NIC though, the data will be saved on the RAM.
If the power supply is blocked off while starting up, the data will be inevitably deleted.

No.8

Q: How does E-RDS operate while the device is placed in the sleep mode?

A: While being in Real Deep Sleep, and if data to be sent is in E-RDS, the system wakes up asleep, then starts to send the data to the UGW. The system also waits for completion of data transmission and let the device to shift to asleep status again.
However, transition time to the Real Deep Sleep depends on the device, and the transition to sleep won't be done if the next data transmission will be done within 1 minute.

No.9

Q: Is E-RDS compatible with Section counter (Department counter)?

A: No, E-RDS does not support Section counter.

Troubleshooting

No.1

Symptom: A communication test (COM-TEST) has failed.

Cause: Initial settings or network conditions is incomplete.

Remedy 1: Check and take actions mentioned below.

1) Check network connections

Is the status indicator LED for the HUB port to which the main unit is connected ON?

YES: Proceed to Step 2).

NO: Check that the network cable is properly connected.

2) Confirmation from another PC connected to same network.

Request the user to ping the main unit from a PC connected to same network.

Does the main unit respond?

YES: Proceed to Step 3).

NO: Confirm the details of the main unit's IP address and subnet mask settings.

3) Confirm DNS connection

(a) Take a note of both primary and secondary DNS server addresses.

See Users' Guide for detailed procedures.

(b) Use ping command to confirm the primary DNS server IP address against the note taken in Step (a).

See Users' Guide for detailed procedures.

Is the IP address properly configured?

YES: Proceed to Remedy 2.

NO: Confirm the secondary DNS server IP address against the note taken in Step (a).

Is the IP address properly configured?

YES: Proceed to Remedy 2.

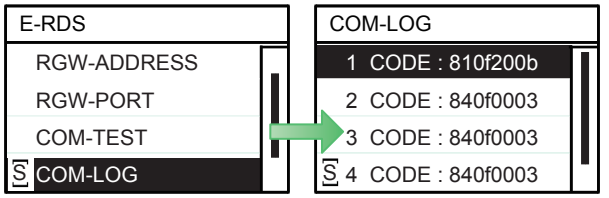
NO: There is a possibility that the DNS server address is wrong. Reconfirm the address with the user's system administrator.

Remedy 2: Troubleshooting using communication log (COM-LOG)

1) Start [Service Mode].

For the procedures, see "Steps to E-RDS settings - step 1.".

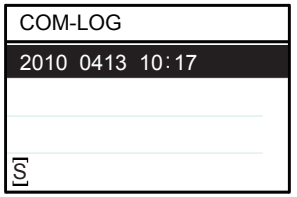
2) Select [NETWORK GR.] > [E-RDS] > [COM-LOG] and press [OK] or [▶] button to display List Communication Log screen.



F-2-38

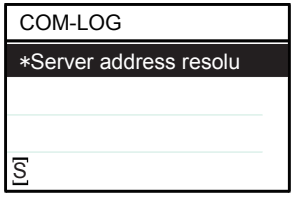
NOTE:
- Only the initial part of error information is displayed in the communication log list screen.
- "None." is shown when nothing is logged.

3) Select the log of your interest and press [OK] or [▶] button to show the date and time of the error occurrence.



F-2-39

4) Press [OK] or [▶] button to show the detailed error information.



F-2-40

NOTE:
- The detailed error information will be displayed in multiple screens as shown below. Use [◀] or [▶] button to move around the screens.

- The data size of error details information is Max 128 characters.
- Press [Back] button to return to Date and Time of Error Occurrence screen.

5) When a message is displayed, take an appropriate action referring to "Error code and strings".

No.2

Symptom: A communication test has failed even if network setting is set properly.

Causes: The network environment is inappropriate, or RGW-ADDRESS or RGW-PORT settings for E-RDS have been changed.

Remedy: The following points should be checked.

1) Check network conditions such as proxy server settings and so on.

2) Check the E-RDS setting values.

- Check the communication log from COM-LOG.
- Check whether RGW-ADDRESS or RGW-PORT settings has changed. If RGW-ADDRESS or RGW-PORT settings has changed, restore initial values. For initial values, see "E-RDS setting items (service mode)".

No.3

Symptom: Registration information of an E-RDS is once deleted from the UGW server, and is re-registered after that. If a communication test is not performed, then device information on the UGW becomes invalid.

Causes: When registration of the E-RDS is deleted from the UGW, the status will be changed to that the communication test has not completed because related information has lost from a database.

So, device information will also become invalid if that condition will be left for seven days without performing the communication test.

Remedy: Perform a communication test before becoming the invalidity state.

No.4

Symptom: There was a log, indicating "Device is not ready, try later" in error details of COM-LOG list.

Cause: A certain problem occurred in networking.

Remedy: Check and take actions mentioned below.

1) Check networking conditions and connections.

2) Turn on the power supply of a device and perform a communication test about 60 seconds later.

No.5

Symptom: "Unknown error" is displayed though a communication test has done successfully.

Cause: It could be a problem at the server side or the network load is temporarily faulty.

Remedy: Try again after a period of time. If the same error persists, check the UGW status with a network and UGW administrator.

Error code and strings

The following error information is output in the communication error log details display screen. (Here, “a server” means UGW.)

- The error information are displayed in the following form.
  [*] [Error strings] [Method name] [Error details provided by UGW]

NOTE:
“*” is added to the top of the error text in the case of an error in communication test (method name: getConfiguration or communicationTest) only.

No.	Code	Error strings	Cause	Remedy
1	0000 0000	SUSPEND: mode changed.	Unmatched Operation Mode	Clear E-RDS
2	0500 0003	SUSPEND: Communication test is not performed.	Rebooting the device while the communication test had not been performed although E-RDS is enabled.	Perform a communication test (COM-TEST).
3	0xxx 0003	E-RDS switch is setted OFF	A communication test has been attempted with the E-RDS switch being OFF.	Set E-RDS switch (E-RDS SWITCH) to ON, and then perform a communication test (COM-TEST).
4	0xxx 0003	Server schedule is not exist	Blank schedule data have been received from UGW.	Check the device settings status with the UGW administrator.
5	0xxx 0003	Communication test is not performed	Communication test has not completed.	Perform and complete a communication test (COM-TEST).
6	8000 0002 8000 0003 8000 0101 8000 0201 8000 0305 8000 0306 8000 0401 8000 0403 8000 0414 8000 0415	Event Registration is Failed	Processing (event processing) within the device has failed.	Turn the device OFF/ ON. If the error persists, replace the device system software. (Upgrade)
7	8000 0101	Server response error (NULL)	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding. When (Null) is displayed at the end of the message, this indicates that there has been an error in the HTTPS communication method.	Try again after a period of time. If the error persists, check the UGW status with the UGW administrator.
8	8300 0306	SRAM version unmatch!	Improper value is written in at the head of the Main Controller PCB 2 SRAM domain of E-RDS.	Turn the device OFF/ ON.
9	8xxx 0004	Operation is not supported	Method which E-RDS is not supporting attempted.	Contact help desk
10	8xxx 0201 8xxx 0202 8xxx 0203 8xxx 0204 8xxx 0206	Server schedule is invalid	During the communication test, there has been some kind of error in the schedule values passed from UGW.	When the error occurs, report the details to the support section. And then, after the UGW side has responded, try the communication test again.
11	8xxx 0207 8xxx 0208	Internal Schedule is broken	The schedule data in the inside of E-RDS is not right.	Perform a communication test (COM-TEST).
12	8xxx 0221	Server specified list is too big	Alert filtering error: The number of elements of the list specified by the server is over restriction value.	Specify the number of elements of alert filtering correctly. (Alarm filtering is not supported)
13	8xxx 0222	Server specified list is wrong	Alert filtering error: Unjust value is included in the element of the list specified by the server.	Specify the element of alert filtering with the right value. (Alarm filtering is not supported)
14	8xxx 0304	Device is busy, try later	The semaphore consumption error at the time of a communication test.	Try again a communication test after a period of time.
15	8xxx 2000	Unknown error	Some other kind of communication error has occurred.	Try again after a period of time. If the error persists, check the UGW status with the UGW administrator.
16	8xxx 2001	URL Scheme error (not https)	The header of the URL of the registered UGW is not in https format.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
17	8xxx 2002	URL server specified is illegal	A URL different to that specified by the UGW has been set.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.

No.	Code	Error strings	Cause	Remedy
18	8xxx 2003	Network is not ready, try later	Communication attempted without confirming network connection, just after booting up a device in which the network preparations are not ready.	Check the network connection, as per the initial procedures described in the troubleshooting. Perform a communication test (COM-TEST) about 60 seconds later, after turn on the device.
19	8xxx 2004	Server response error ([Hexadecimal]) [Error detailed in the UGW] *1)	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding.	Try again after a period of time. Check detailed error code (Hexadecimal) and [Error details in UGW] from UGW displayed after the message.
20	8xxx 200A	Server connection error	• TCP/IP communication fault • The IP address of device is not set.	Check the network connection, as per the initial procedures described in the troubleshooting.
21	8xxx 200B	Server address resolution error	Server address name resolution has failed.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
22	8xxx 2014	Proxy connection error	Could not connect to proxy server due to improper address.	Check proxy server address and re-enter as needed.
23	8xxx 2015	Proxy address resolution error	Could not connect to proxy server due to name resolution error of proxy address.	Check that the proxy server name is correct. If the proxy server name is correct, check the DNS connection, as per the initial procedures described in the troubleshooting.
24	8xxx 201E	Proxy authentication error	Proxy authentication is failed.	Check the user name and password required in order to login to the proxy, and re-enter as needed.
25	8xxx 2028	Server certificate error	• No route certificate installed in device. • Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device.	Install the latest device system software. (Upgrade)
26	8xxx 2029	Server certificate verify error	The server certificate verification error occurred.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
27	8xxx 2046	Server certificate expired	• The route certificate registered with the device has expired. • Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device. • The device time and date is outside of the certificated period.	Check that the device time and date are correctly set. If the device time and date are correct, upgrade to the latest system software.
28	8xxx 2047	Server response time out	Due to network congestion, etc., the response from UGW does not come within the specified time. (HTTPS level time out)	If this error occurs when the communication test is being run or Service Browser is being set, try again after a period of time.
29	8xxx 2048	Service not found	There is a mistake in the UGW URL, and UGW cannot be accessed. (Path is wrong)	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
30	8xxx 2052	URL error	The data which is not URL is inputted into URL field.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
31	8xxx 2063	SOAP Fault	SOAP communication error has occurred.	Check that the value of port number of UGW (RGW-PORT) is 443.
32	xxxx xxxx	Device internal error	An internal error, such as memory unavailable, etc., has occurred during a device internal error phase.	Turn the device OFF/ ON. Or replace the device system software. (Upgrade)
33	xxxx xxxx	SUSPEND: Initialize Failure!	Internal error occurred at the initiating E-RDS.	Turn the device OFF/ ON.

T-2-7

*1) [Hexadecimal]: indicates an error code returned from UGW.
[Error details in UGW]: indicates error details returned from UGW.

MEAP

Introduction

References by purpose

This chapter describes information for maintenance related to MEAP.

The following table lists references (item names and pages) by purpose.

Purpose	Reference
To install a MEAP application.	Installing an MEAP Application
To start or stop a MEAP application.	Procedure to start and stop a MEAP application
To uninstall a MEAP application.	Proc edure to uninstall the MEAP application
To change the method to log in to SMS.	System Application Management
To change the password for logging in to SMS.	Changing SMS Login Password
To change the method to log in to the device.	Procedure Changing Login Services
To install a login service for the device.	Procedure Installing Login Services
To check the device's resource information.	Resource Information
To check the device's platform information.	System Information
To check the device's system application information.	MEAP Application Information
To check the contents of the license file.	Check License
To delete the MEAP application's setting information.	MEAP Application Setting Information Management
To download the MEAP application's log information.	MEAP Application Log Management
To check information for using SMS	Preparation for Using SMS
To check the version of MEAP Specifications supported by the device.	MEAP Specifications

T-2-8

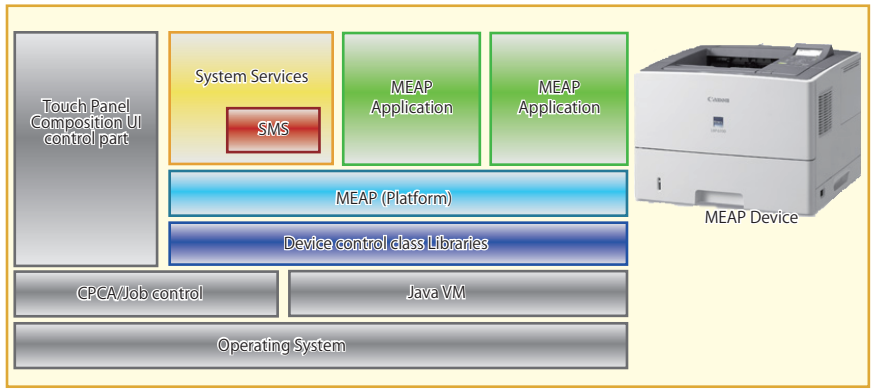
About MEAP

Overview

MEAP (Multifunctional Embedded Application Platform) is an application platform (execution platform) that allows the user to execute an application written in the Java language on a Java virtual machine installed on the device.

In this chapter, a device with MEAP is called a device supporting MEAP, and an application which runs on MEAP is called a MEAP application.

MEAP applications are installed on a MEAP device to provide various functions to the device.



F-2-41

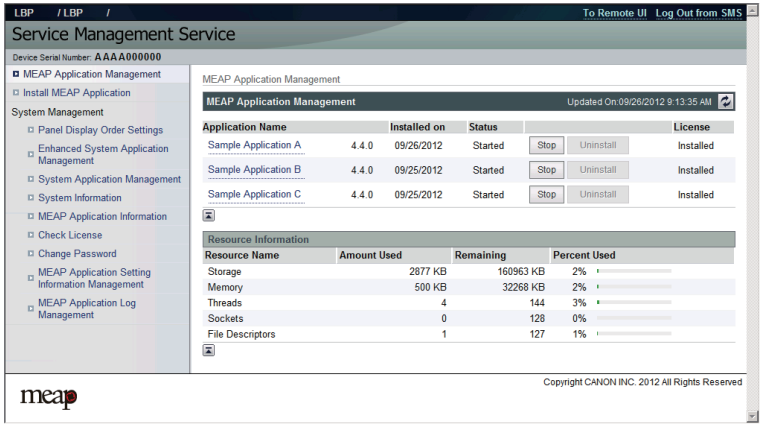
About SMS

Overview

MEAP has SMS (Service Management Service) as a service for managing login services and MEAP applications.
SMS is a servlet-type service which is used via a PC's browser.

F-2-42

Example of the SMS screen



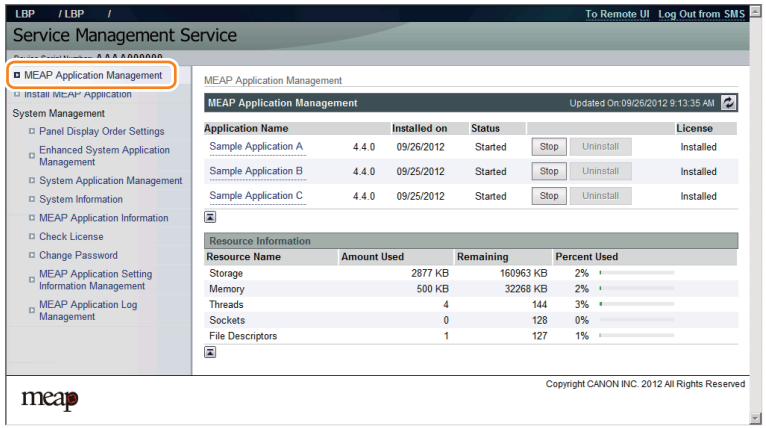
F-2-43

About the MEAP Application Management Screen

This screen is used to perform basic management of MEAP applications. Its main functions are listed below.

- Start and stop a MEAP application.
- Uninstall a MEAP application.
- Disable or delete a license file.
- Check the MEAP application information.
- Check the resource information.

Example of the MEAP application management screen



F-2-44

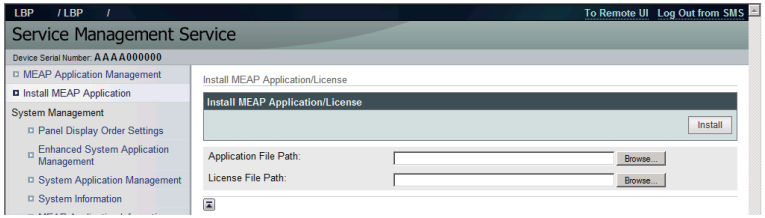
For details of this function, see "MEAP Application Management" in this chapter.

About the MEAP Application Installation Screen

It is used to install a MEAP application and license. Its main functions are listed below.

- Install a MEAP application and license file.

Example of the MEAP application installation screen



F-2-45

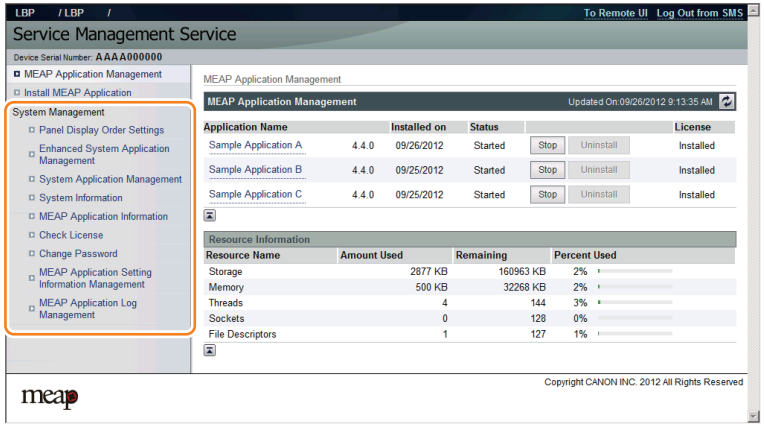
For details of this function, see "Installing an MEAP Application" in this chapter.

About System Management

It is used to perform MEAP management other than management of MEAP applications and installation of MEAP applications. Its main functions are listed below.

- Enhanced System Application Management
- System Application Management
- System Information
- MEAP Application Information
- Check License
- Change Password (Change SMS login password)
- MEAP Application Setting Information Management
- MEAP Application Log Management

Example of the system management screen



F-2-46

Preparation for Using SSO-H

Outline

When using Single Sign-On H (hereinafter referred to as SSO-H) for the login service, required system environments are different in server authentication or local device authentication.
See the following for system requirements in each of authentication methods:

Server authentication management

The system requirements necessary when using server authentication by SSO-H vary depending on the authentication server.
The system requirements for using each authentication server are shown below.

Active Directory authentication

In order to use Active Directory authentication in SSO-H, the following system environments are required.

1) Authentication server (Active Directory : Windows server)

- Active Directory and Domain Name System (DNS) should be installed.
- A group named "Canon Peripheral Admins" should be created on the Active Directory.
- The OS should be one of the followings.
  - Microsoft Windows Server 2003 SP2 *
  - Microsoft Windows Server 2003 R2 SP2 *
  - Microsoft Windows Server 2008 SP2 *
  - Microsoft Windows Server 2008 R2 SP1

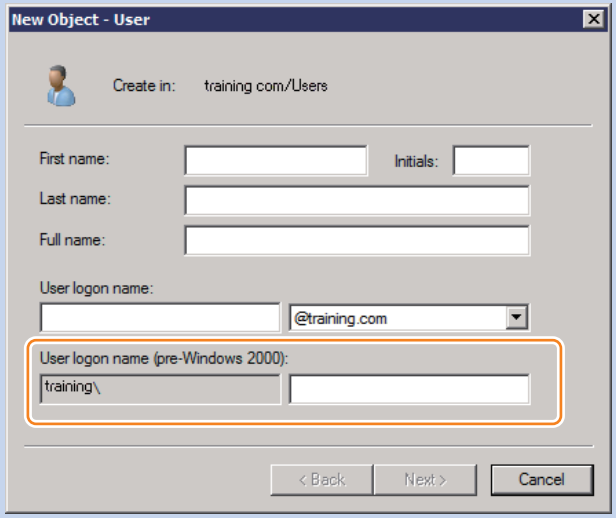
  * 64-bit version is not supported.

2) Users accessing the authentication server (Active Directory: Windows Server)

- The user should belong to the "Canon Peripheral Admins" group on the Active Directory.
- The user name should contain only single-byte alphanumeric characters, - (hyphen), _ (lowline), and % (percent).

Note:
As for the user name for logging into the machine, use the name registered as "User logon name (pre-Windows 2000)" in the Active Directory.

An example of the user registration screen (Windows Server 2003)



F-2-47

PC Environment of Administrator Users and General Users

The following environment is required to use this machine (managed by SSO-H) from a PC on the network.

OS of the PC and Other Environments

Classification	Operating System	Supported browser	Java Runtime Environment
Client OS	Windows XP Professional SP3	Internet Explorer 7 Internet Explorer 8	JRE 1.5 or later *1 *3
	WindowsVistaSP2	Internet Explorer 7 Internet Explorer 8	JRE 1.5 orlater*1*3
		Internet Explorer 9	JRE 1.5 orlater*2*3
	Windows7SP1	Internet Explorer 8	JRE 1.5 orlater*1*3
		Internet Explorer 9	JRE 1.5 orlater*2*3
Server OS	Windows Server 2003 SP2 Windows Server 2003 R2 SP2	Internet Explorer 7 Internet Explorer 8	JRE 1.5 or later *1 *3
	WindowsServer2008SP2	Internet Explorer 7 Internet Explorer 8	JRE 1.5 orlater*1*3
		Internet Explorer 9	JRE 1.5 orlater*2*3
	WindowsServer2008R2SP1	Internet Explorer 8	JRE 1.5 orlater*1*3
		Internet Explorer 9	JRE 1.5 orlater*2*3
Mac OS	Mac OS X v10.5	Safari 4.0.5 Safari 5.0.5	J2SE 5.0 *1 *3
	MacOSXv10.6	Safari 4.0.5 Safari 5.0.5 *4 Safari 5.1	
	MacOSXv10.7	Safari 5.1	

T-2-9

JRE : Java Runtime Environment
J2SE : Java 2 Platform Standard Edition

Note:
*1 Excluding JRE6 update4/5
*2 In order to use JRE1.6 with Internet Explorer 9, JRE1.6.0.24 or later is required.
*3 Refer to the website of JAVA (http://java.com/) for how to obtain the Java environment.
*4 Java does not work in the case of combination of Mac OS 10.6.8, Java for Mac OS X 10.6 Update 6 and Safari5.0.5. Either of the following measures needs to be taken to make it run.
- Not installing Java for Mac OS X 10.6 Update 6 (it is however not possible to uninstall it if it is already installed and running)
- Providing a symbolic link again using the command of "ln -s /System/Library/Frameworks/JavaVM.framework/Resources/JavaPluginCocoa.bundle"
- Upgrading Safari to version 5.1.

Note:
- The ActiveX plug-in should be enabled in Internet Explorer.
- In Internet Explorer, if [Run ActiveX controls and plug-ins] is disabled in [Internet Options] > [Security] > [Custom level...], a warning message that JRE has not yet been installed is displayed.
- JavaScript should be enabled in all the browsers.
- In the case of an IP v6 environment, JRE1.5 or later is required.
- When using Windows XP in an IP v6 environment, IP v6 may need to be installed manually in some cases.

Network ports used

	Port No.	Application
Connecting	53	Communication with DNS server (fixed)
	88	Kerberos authentication with KDC (Key Distribution Center)
	1-65535 (default:389)	Communication with directory service using LDAP (default is 389, may be changed to any port on LDAP service side)
Listening	10000 - 10100	

T-2-10

Preparation for Using SMS

To use SMS, you need to set up network settings for the PC, browser, and devices that are used to access SMS.

Preparation of PC for Accessing SMS

Checking of operation environment

The PC and browser used to access SMS require the following system environment.

Operating System	Supported browser
Windows XP Professional	Internet Explorer 7 Internet Explorer 8
Windows Vista SP2	Internet Explorer 7 Internet Explorer 8 Internet Explorer 9
Windows 7 SP1	Internet Explorer 8 Internet Explorer 9
Mac OS X 10.5	Safari 4.0.5 Safari 5.0.5
Mac OS X 10.6	Safari 4.0.5 Safari 5.0.5 Safari 5.1
Mac OS X Lion	Safari 5.1

T-2-11

In order to access SMS using RLS authentication, the environment should comply with the environment for using SSO-H as the login service. (For details, refer to "PC Environment of Administrator Users and General Users".)

PC and browser settings

The PC and browser used to access SMS must meet the following conditions.

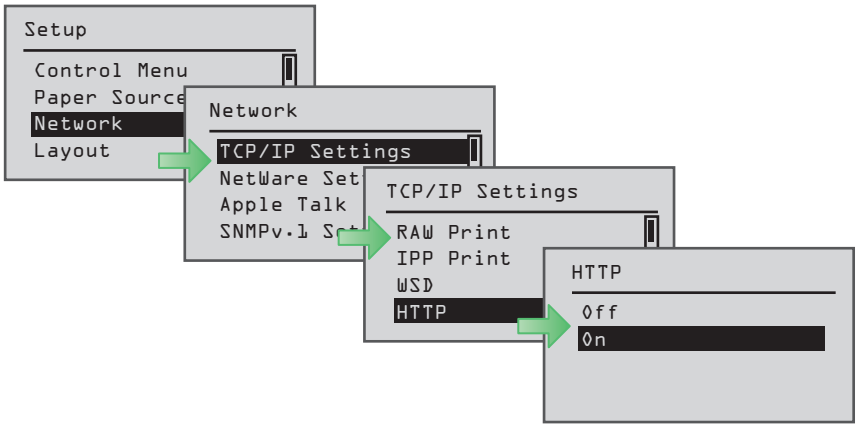
- Session cookie is enabled.
- Java Script is enabled.

Device Settings

Network configuration (Activate Netowork Settings)

To support a MEAP-enabled iR device via network (SMS, etc.), set up the network setting on the touch panel of the iR device (this setting is [ON] by default).

1) Press [Setup] button, select [Network] > [Control Menu] > [HTTP] and select [On].



F-2-48

2) Select [On], and then press [OK] on the Control Panel.
3) Restart the machine.

CAUTION:

- The setting [Use HTTP] is not actually enabled/disabled until you have restarted the device.
- You cannot make a connection through a proxy server. If a proxy server is in use, enter the IP address of the MEAP device in the Exceptions field for the browser. Open Internet Options dialog of Internet Explorer and select Connections tab, LAN Settings button, Use a proxy server option, and Advanced button of Proxy server group. Proxy Settings dialog will opens. The Exceptions field is in the dialog. As network settings vary among environments, consult the network administrator.
- If Cookie and JavaScript are not enabled in the Web browser, you will not be able to use SMS.

Key Pair and Server Certificate when Using Encrypted SSL Communication

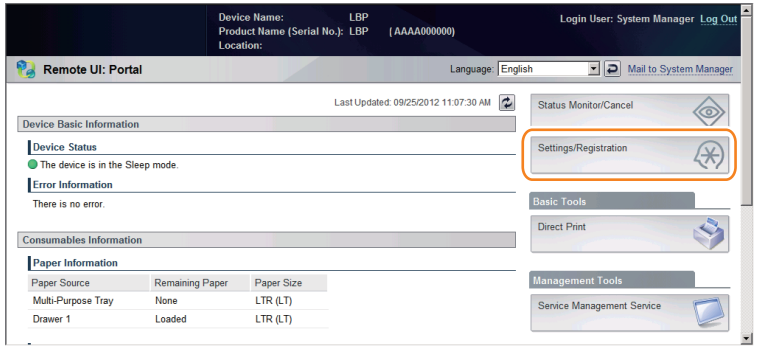
To use SMS via SSL connection, it is required to specify a key pair and server certificate as the key to be used.
Since a key (default key) that can be used for encrypted SSL communication is installed as standard on the device, advance setting of the key pair and server certificate is not required.
In order to use an encryption key other than the default key, follow the procedure "Generating a key pair" shown below to make settings for the key pair and server certificate necessary for encrypted SSL communication.

Note:

- This device has a server certificate registered as standard.
- For detailed procedures of the Default Key setting, refer to [e-Manual > Security].
- As for SMS, by setting a Default Key, encrypted SSL communication is always executed regardless of the following setting: [Settings/Registration] > [Management Settings] (Settings/Registration) > [MEAP Settings] > [SSL Settings]: ON/OFF.

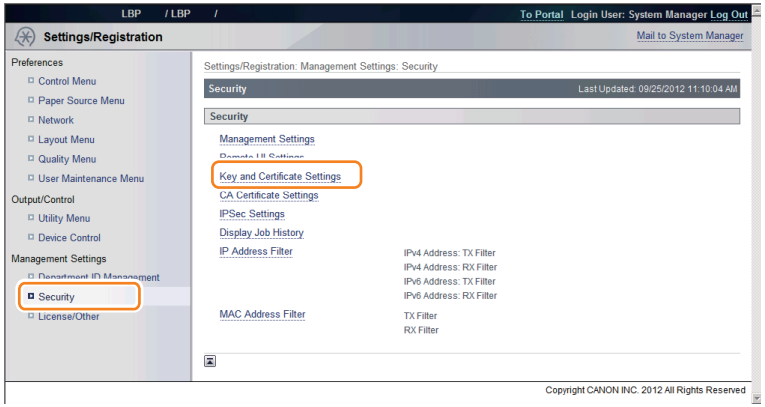
Generating a key pair

1) From a PC on the same network as the device, use a web browser to access the remote UI's portal page. Then, select [Settings/Registration] from the menu on the right side of the screen.
URL to access: http://<device's IP address>:8000/



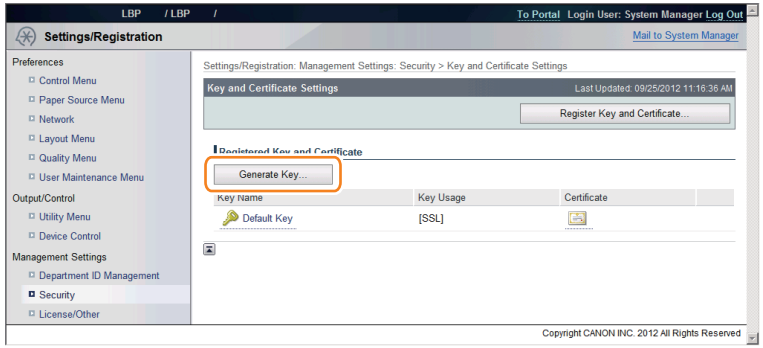
F-2-49

2) Click [Management Settings] > [Security] > [Key and Certificate Settings].



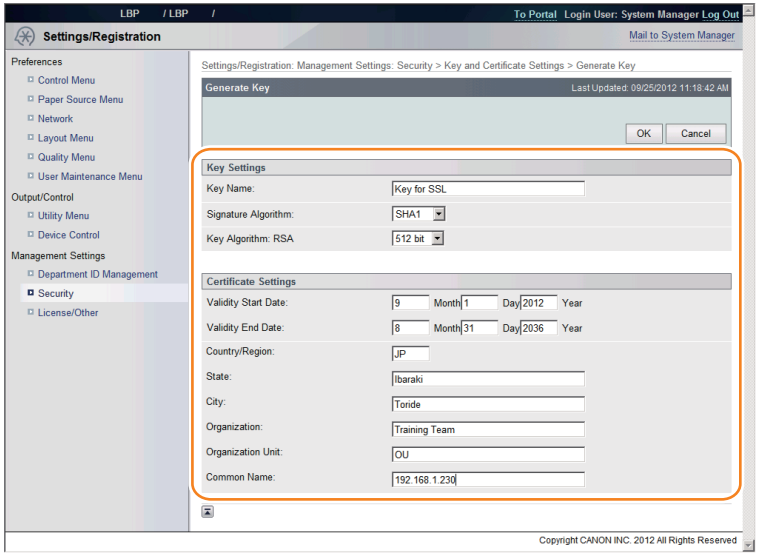
F-2-50

3) Click [Generate Key...] button.



F-2-51

4) Enter the necessary information, and then click the [OK] button.



F-2-52

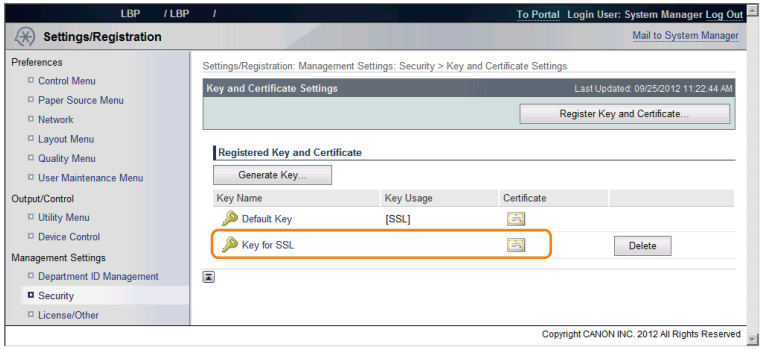
Input example

Item name	Type	Content	Entry
Key Settings			
Key Name	Compulsory	An arbitrary character string	Default Key
Signature Algorithm	Compulsory	Selected from:SHA1/SHA256/SHA384/SHA512	RSA
Key Algorithm	Compulsory	Selected from:512/1024/2048/4096	512
Certificate Settings			
Validity Start Date	Compulsory	Date	15/5/2011
Validity End Date	Compulsory	Date	15/5/2036
Country/Region	Compulsory	Country or region name	US
State	Arbitrary	State name	-
City	Arbitrary	City name	-
Organization	Arbitrary	Organization name	-
Organization Unit	Arbitrary	Organization unit	-
Common Name	Arbitrary	Common Name*	-

T-2-12

Note:
When the IP address of the device has been entered in the [Common Name] entry field, if you install a server certificate to the browser (see "Installing a server certificate (reference information)"), the message "Certificate Error" that usually appears when access is made from Internet Explorer 7 or later will not be displayed.

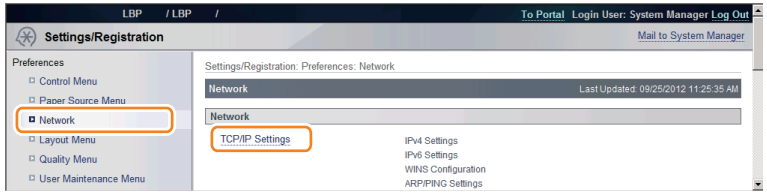
5) Check to see that the generated key appears in [Registered Key and Certificate].



F-2-53

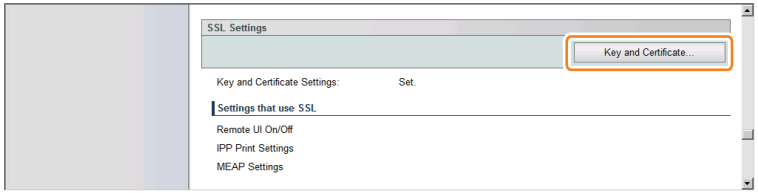
Default Key Settings

1) Click [Preferences] > [Network] > [TCP/IP Settings] .



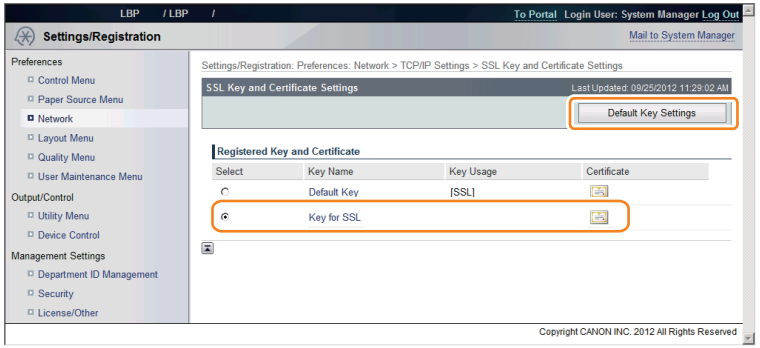
F-2-54

2) Click [Key and Certificate...] button.



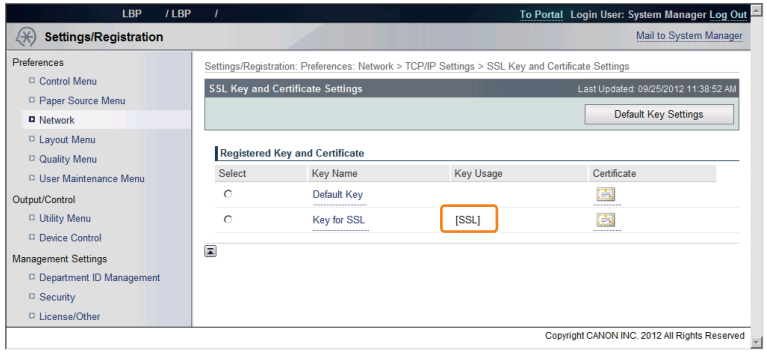
F-2-55

3) Select the generated key, and then click the [Default Key Settings] button.



F-2-56

4) Check that [SSL] is displayed in the [Key Usage] entry field.



F-2-57

5) Log out from the remote UI, and then restart the device.

Installing a server certificate (reference information)

On Internet Explorer 7 (IE) or later, if [Default Key] installed as standard on the device is used, "Certificate Error" appears during access due to "Internet Explorer Enhanced Security Configuration".

Error display example

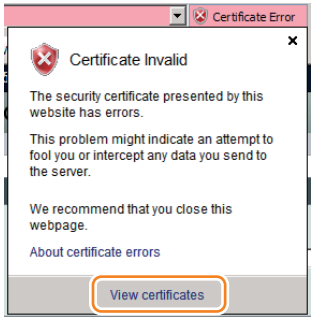
F-2-58

To disable display of "Certificate Error", use the following procedure (for IE8) to set the key generated in "Key Pair and Server Certificate when Using Encrypted SSL Communication" (i.e. the key with the IP address of the device specified as the shared name) as an SSL key.

1) Access SMS from the browser, and then click "Certificate Error" in the URL entry field.

F-2-59

2) Click [View certificates].

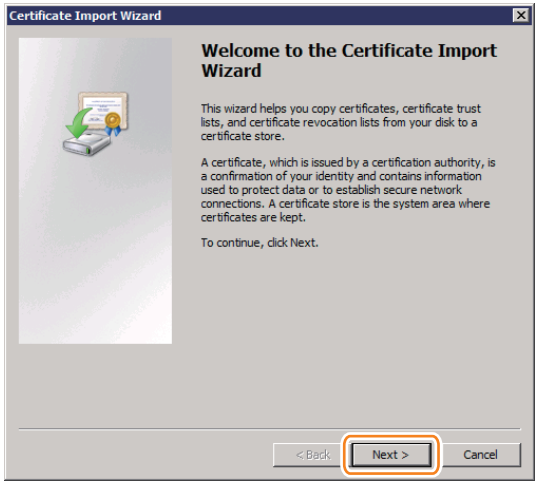


F-2-60

3) Click the [Install Certificate...] button on the [General] tab.

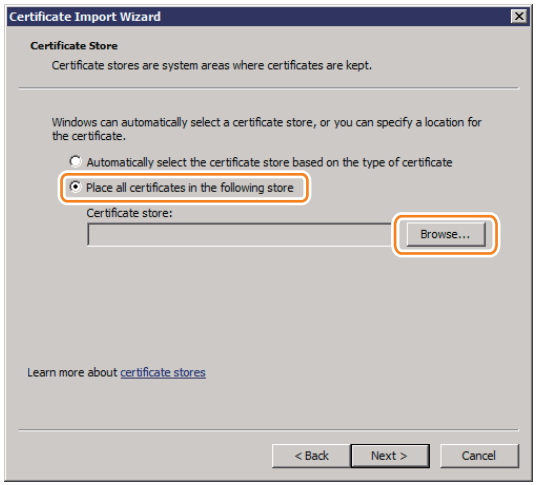
F-2-61

4) [Certificate Import Wizard] will appear. Click the [Next] button.



F-2-62

5) In [Certificate Store], select the [Place all certificates in the following store] option, and then click the [Browse] button.

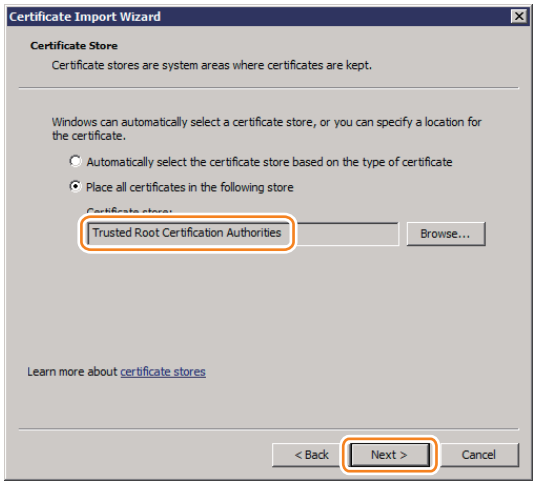


F-2-63

6) In [Select Certificate Store], select [Trusted Root Certification Authorities], and then click the [OK] button.

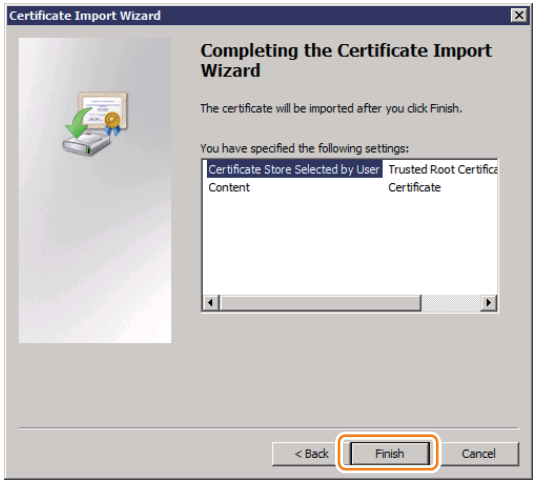
F-2-64

7) You will return to the [Certificate Store] dialog. Check that "Trusted Root Certification Authorities" appears in [Certificate], and then click the [Next] button.



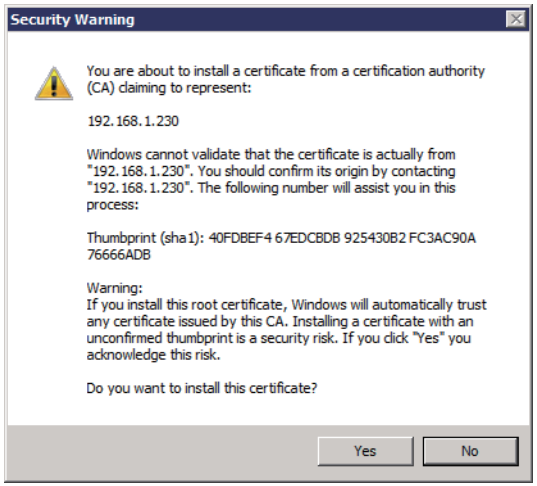
F-2-65

8) [Completing the Certificate Import Wizard] will appear. Click the [Finish] button.



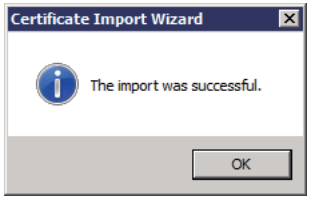
F-2-66

9) If the [Security Warning] appears, click the [Yes] button. (It does not appear when installing the same certificate again.)



F-2-67

10) A message will appear to indicate that import has been completed successfully. Click the [OK] button.



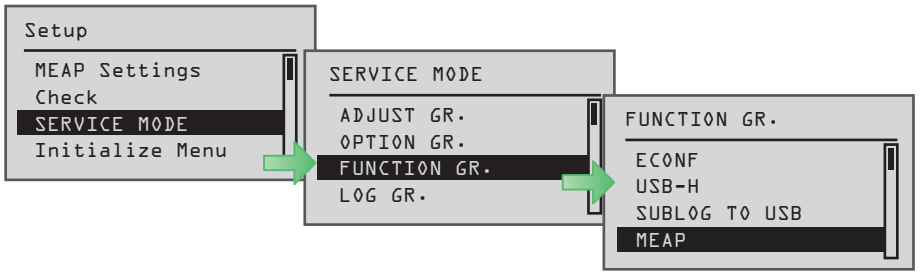
F-2-68

Network Port Settings

The default port of the HTTP server used for MEAP and MEAP applications to provide the servlet function is 8000, and the HTTPS server's default port is 8443. In the case that these ports have already used by the customer who is to introduce this application, the MEAP application cannot use the HTTP (or HTTPS) server(s).
By changing the following ports to use, however, the MEAP application can be used as well as the existing system.

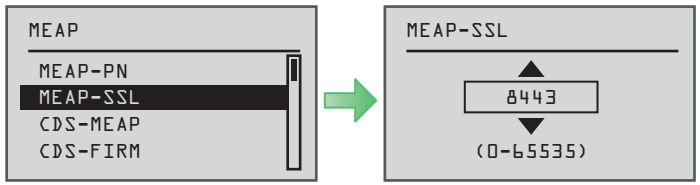
The procedure for setting the HTTP/HTTPS server port is shown below.

1) Start service mode. From the [Setup] menu, select [SERVICE MODE] > [FUNCTION GR.] > [MEAP].



F-2-69

2) To set up the HTTP server port, select [MEAP-PN]. To set up the HTTPS server port, select [MEAP-SSL]. When the port number setting screen appears, specify a port number. Use the Up and Down keys to specify the setting.



F-2-70

Note:
A port number can be any integer from 0 to 65535. To avoid port numbers that are frequently used, do not use any integer from 0 to 1023.

Server	Setting value	Default value / Value after RAM clear
HTTP Server	1024 to 65535	8000
HTTPS Server	1024 to 65535	8443

T-2-13

Note:
If PS Print Server Unit is connected, do not specify port 8080.
If port 8080 is specified, the RUI of the device where the MEAP authentication application is running cannot be displayed. (Port 8080 is reserved to allow the PS Print Server Unit to redirect to the iR device.)

3) Restart the device if the port number is set.

How to Check the Serial Number

When performing MEAP device support, the serial number of the device is necessary in some cases.

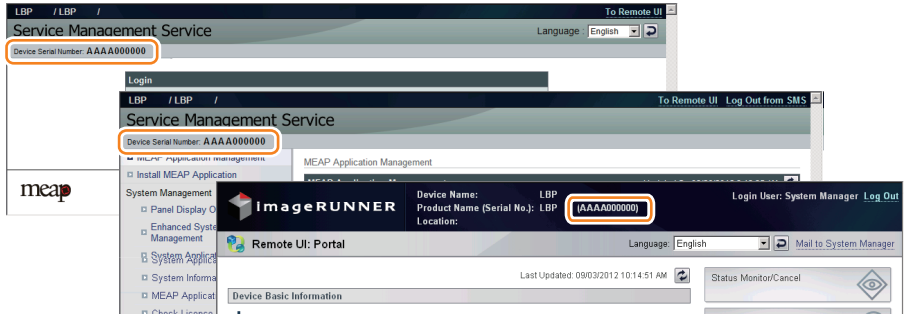
Examples of where the serial number is necessary

- When initializing SMS login password (obtaining a switch license)
- When obtaining a MEAP application license from LMS
- When obtaining a transfer license of MEAP application
- When obtaining a special license for reinstalling MEAP application

If a problem occurs in the MEAP device and you want to contact the support department of the sales company, you need to provide the serial number. Perform the following procedure to get the serial number.

Checking from the PC browser

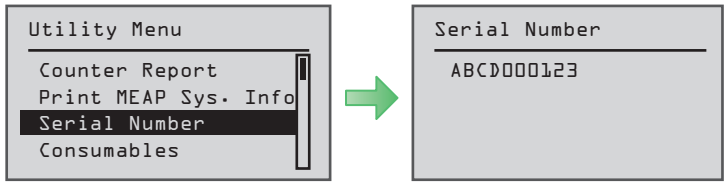
The serial number of the device is displayed on the SMS login screen, SMS screen, and remote UI portal screen.



F-2-71

Checking from the device's Control Panel

From [Utility Menu], select [Serial Number].



F-2-72

Note:
While MFPs of iR and iR-ADV series have 8-digit serial numbers, this machine (SFP) has a 10-digit serial number.

Login to SMS

Procedure to Log in

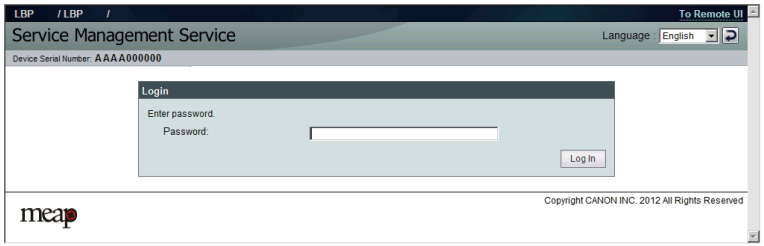
Use the following procedure to log in to SMS.

1) From a browser of a PC on the same network as the device, enter the following URL to access SMS.

URL: https://<MEAP Device IP address>:8443/sms/

Ex.) https://172.16.188.240:8443/sms/

Note:
To encrypt the password information input when logging in, SSL of the login screen was made effective. However, even if you access SMS using a URL that has not been encrypted with SSL (non-SSL), you will be redirected to a SSL encrypted URL (SSL enabled).

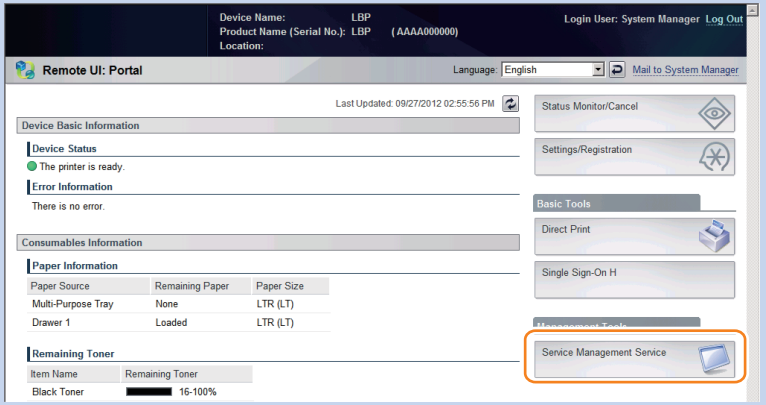


F-2-73

2) Enter the SMS login password in the password entry field, and then click the [Log In] button.

Note:
- The default password is “MeapSmsLogin.” (The password is case-sensitive.)
- When you want to change the display original language, change in the box in the right of the screen. This setting is not affect by the setting of the language of the device.

Note:
SMS Access can be gained also from Remote UI.
Access Remote UI and click on SMS shortcut shown on the lower right of the screen to gain access to SMS.



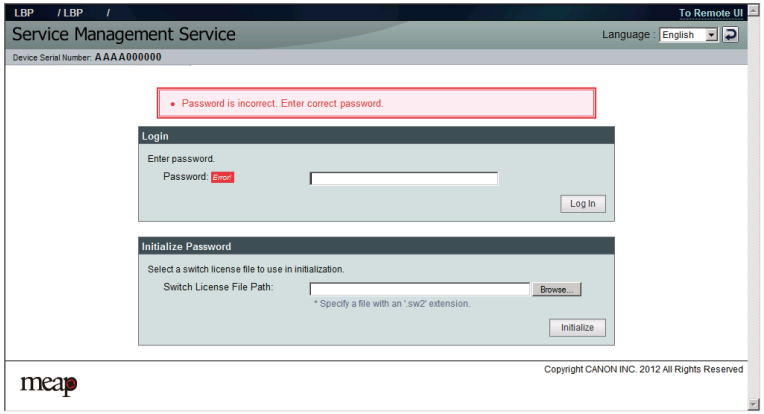
F-2-74

When SMS Cannot Be Accessed

If you forgot the password (SMS login password initialization)

After changing the default SMS login password, if you forgot the new password and cannot log in to SMS, you can use a switch license for password initialization to change the password back to the default value "MeapSmsLogin".
Note that there is no special password for service.

1) Obtain a switch license file for password initialization.
   Contact the person in charge of support at the sales company, give the device's serial number, and have a switch license file for password initialization issued.
2) Load the switch license file.
   With nothing entered, click the [Log in] button to display the area for specifying a switch license file for password initialization.



F-2-75

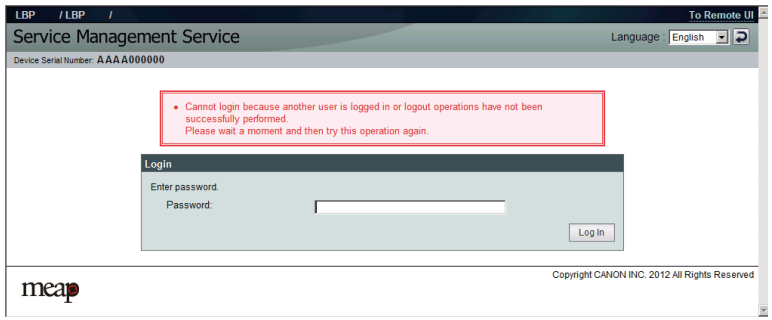
3) Specify the switch license file.
   Click the [Browse] button and specify the switch license file.
4) Initialize the login password.
   Click the [Initialize] button to display an initialization confirmation page, and click the [OK] button.

Note:
- The default password is "MeapSmsLogin." (The password is case-sensitive.)
- If you click the [Cancel] button on the initialization confirmation page, password initialization is not performed and the login page appears.

If login is not possible due to exclusive control

Because SMS uses exclusive control, if there is another user already logged in to the SMS of the same device, then you cannot log in.

Exclusive control message example



F-2-76

If you cannot log in due to exclusive control, you need to ask the other user to log out before you can try again.

Note:
If you close the browser without logging out, the session remains active. In this case, you cannot log in again.
If this problem occurs, you can wait for 5 minutes so that the session is disconnected. Or, you can restart the device to force the session to disconnect.

If [Key and Certificate Settings] is not set

If [Key and Certificate Settings] is not set correctly, you cannot access the URL for SMS (https://<devices's IP address>:8443/sms/). In this case, you can use the following procedure to solve the problem.

1) Go to http://<device's IP address>:8000/sms/, and check to see that "HTTP 500 Internal Server Error" appears.
2) If the message is displayed, see the procedure described in "Key Pair and Server Certificate when Using Encrypted SSL Communication" in this manual to deal with the problem.

Note:
As for SMS, by setting the key to be used, encrypted SSL communication is always executed regardless of the following setting: (Settings/Registration) > [Management Settings] > [License/Other] > [MEAP Settings] > [Use SSL] > ON/OFF.

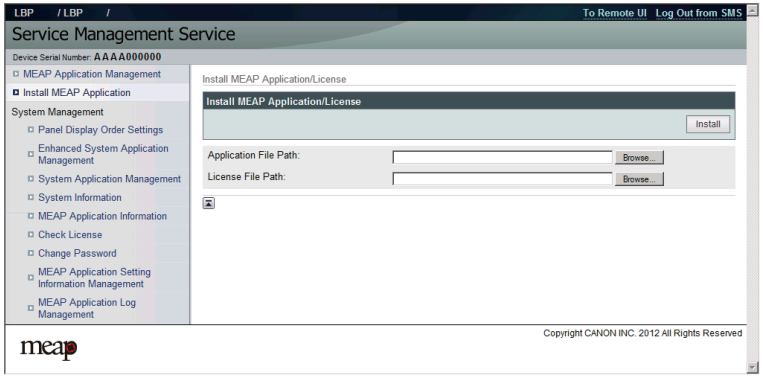
How to deal with a message "Certificate Error" appearing during access

If "Certificate Error" appears when you access SMS from a browser, refer to the procedure described in " Installing a server certificate (reference information) " in this manual to deal with the problem.

Installing an MEAP Application

Outline

From the MEAP application installation screen, you can install the MEAP application as well as the license file.



F-2-77

Before installing the MEAP application, be sure to check the following items.

Device compatibility with the MEAP application

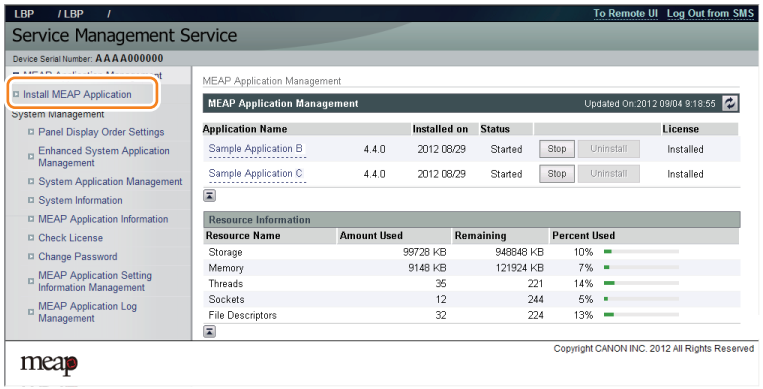
To find out whether the device is compatible with the MEAP application, check the devices supported by the MEAP application. Depending on the application, the device's firmware may require version upgrade.

Resources availability (remaining amount)

The necessary resources (free storage space and free memory available) must be secured for an MEAP application to run; otherwise, you cannot install the MEAP application.
To check the resource information, see "Device's resources," on p. 2-46. in this manual.

Procedure to install applications

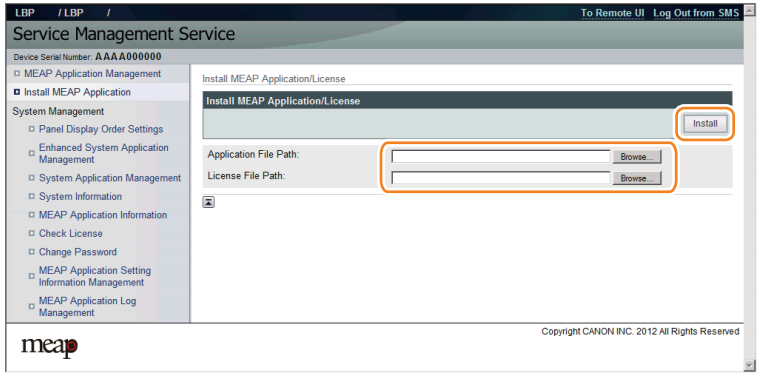
1) Long on to SMS.
2) Click [Install MEAP Application] on the menu.



F-2-78

3) Check [Install MEAP Application/License]page appears.
4) Click [Browse..] button, and select the application file and the license file of the application; then, click [Install] button.

Note:
Application File: identified by the extension “jar”.
License File: identified by the extension “lic”.

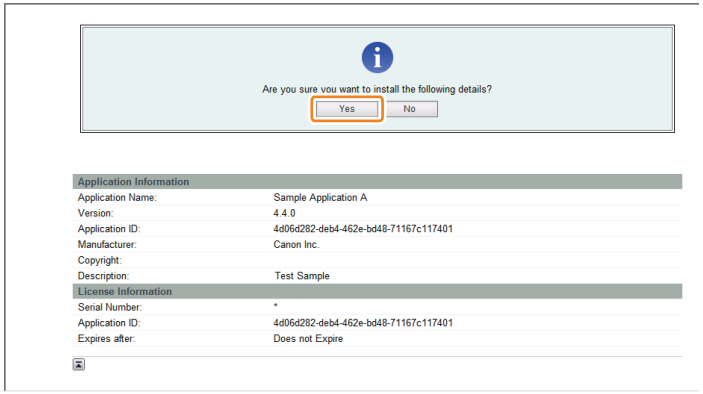


F-2-79

CAUTION:

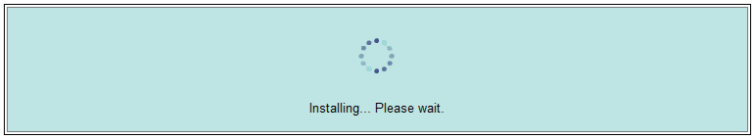
- You cannot install only the license.
- You will not be able to install the application without using the appropriate license. Be sure to select its license file.
- If you are adding a license to an existing application, see "Procedure adding a license file".
- If you are updating an existing application, stop the application; then, install the new application or its license file. You will not be able to update an application while it is running.

5) Check the contents of the Confirm page; then, click [Yes] button.



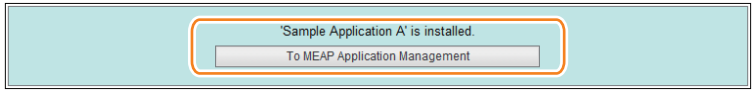
F-2-80

6) Some applications show a screen to indicate the terms of agreement. Read the terms, and click [OK].
7) Check the message "Installing...Please wait." appears, beginning the installation.



F-2-81

8) Upon installation completed, click [To MEAP Application Management] button shown on the screen to view MEAP Application Management page.

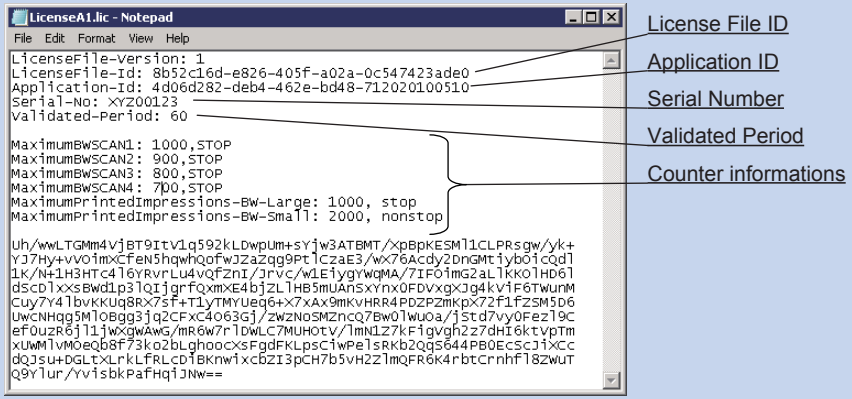


F-2-82

Note:
To use the application that you have just installed, you must make sure that the application status is Started.

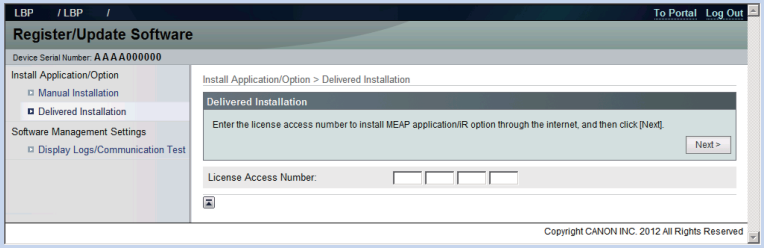
Note:
The license file is provided in text file format, enabling to view in a text editor. The application ID and device serial number shown in the file allow users to confirm which device to install with the license file.
Note that any changes added to the license file may disable installation. Cares should be taken when confirming the contents of the license file.

Sample file



F-2-83

Note:
There are two ways to install an MEAP application. You can install using SMS, or install using the [Register/Update Software] screen of the remote UI.
Screen example



F-2-84

[Register/Update Software] provides two types of installations. One is [Manual Installation] where you specify a jar file and a license file and then install. The other is [Delivered Installation] where you enter a license access number.
For details of the procedures, please refer to the e-Manual.

Resource Information

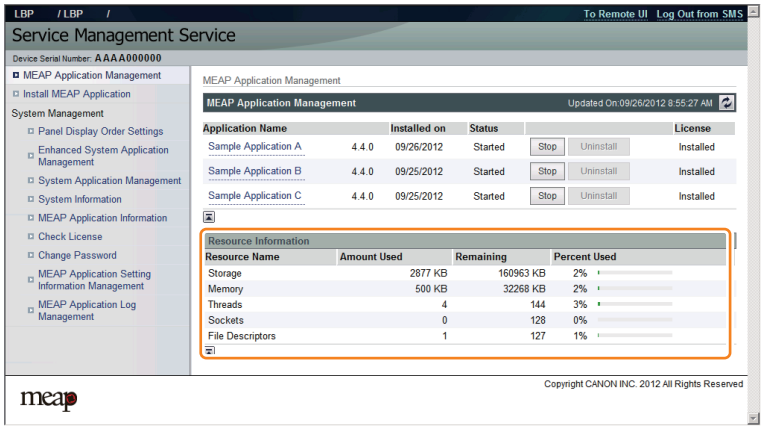
About MEAP Application Management Page

Application Management page shows [resource information] for information of the whole device resources including Amount Used, Remaining, and Percent Used.
This function enables users to judge the remaining resources before installing the additional application. Such resource information is shown based on the manifest header stated at the top of each application, which declares the resources required in the application. Therefore, the information does not necessarily show the resources actually in use.
The following resource information is shown:

- Storage
- Memory
- Thread
- Socket
- File Descriptor

You will not be able to install an application if the size of the remaining disk space falls short of the size declared by the application. Moreover, the specifications have been designed so that an application will not be able to start up if there is a shortage of memory for any of the foregoing items (i.e., memory, thread, socket, file descriptor).
Follow the steps below to check the remaining memory:

1) Log in to SMS.
2) Click [MEAP Application Management].
3) Check [Resource Information] for information of the whole device resources.



F-2-85

Device's resources

When 1 MEAP application operates, the resource volume allocated to each device is as follows (loaded resource list). Since the following value is an estimate, when installing the MEAP applications, it needs to check the available resource of SMS.
Since the indication of SMS resource volume fluctuates by the login service (authentication function) and configuration (future model), which the user selected, it may show a bigger value than the following values.

List of Available Resources

Product Name	Storage	Memory	Thread	Socket	File Description
None	160MB	32MB	148	128	128
None	160MB	32MB	148	128	128

T-2-14

Note:
- As for memory, check the available resource when starting up the application. For other resources other than memory, check them when installing.
- Some applications call for a specific set of conditions for installation. For details, see the User's Guide that comes with the individual applications.
- Maximum installable application is up to 8 even if the remaining resource is adequate. (However, the Send function consumes 1, it must be 19 in practice.) Authentication application is not included in this number.
- The MEAP application, which can be started simultaneously, is up to 5. (Authentication application is not included in this number.)

CAUTION:

To install an application, the user needs to use the following URL when accessing the license control system to obtain a license file. In doing so, he/she needs to register the license access number of the application and the serial number of the device.

http://www.canon.com/lms/license/

MEAP Specifications

What is MEAP Specifications (MEAP Spec Version)?

MEAP Specifications is one of the information required to judge whether MEAP applications can be operated or not. With MEAP Specifications, you can prevent an application that uses a specific function of device from being installed onto the device that does not have the function.

About Name

MEAP Specification is shown as 'MEAP Specifications' in the screen to check the version on the side of device that supports MEAP (counter confirmation button) and MEAP platform (SMS). On the other hand, in the manifest file of MEAP application, it is shown as 'MeapSpecVersion' (described in the same way in the SDK document)
(Note) 'MEAP Specifications' hereafter in this document.

Mechanism

MEAP platform judges whether MEAP applications can be operated on it using on the 2 information below:

- Device Specification ID
- MEAP Specifications

Device Specification ID shows information such as the original functions of the device (including print, scan, and copy), and one that differs by model such as maximum copy number, thus each model has a different ID. (It is easy to determine the IDs for this reason.)
MEAP application declares 1 or more Device Specification ID required for its execution. Declaration of multiple Device Specification IDs means that the application is operable in all the models declared. Upon installation of MEAP application in (using) SMS or MEAP Enterprise Service Manager, matching of Device Specification ID is executed on the side of MEAP platform machine. The machine which doesn't support the ID declared by the application rejects installation of such an application.
Meanwhile, MEAP Specifications shows other information than defined by Device Specification ID above, including network and security. Thus each model does not always have the same version.

MEAP application declares 1 or more MEAP Specifications required for its execution. Declaration of multiple Device Specification IDs means that the application is operable in all the environments declared. Upon installation of MEAP application in SMS or MEAP Enterprise Service Manager, matching of MEAP Specifications is executed on the side of MEAP platform machine. The machine which doesn't support the version declared by the application rejects installation of such an application.

MEAP Specifications for each model

Product Name	Initial MEAP SpecVer
None	11, 15, 18, 19, 25, 26, 27, 29, 34, 39, 43, 45, 47, 50, 51, 52, 54, 55, 57, 58, 60, 61, 62, 63, 74, 75, 76, 77
None	11, 15, 18, 19, 25, 26, 27, 29, 34, 39, 43, 45, 47, 50, 51, 52, 54, 55, 57, 58, 60, 61, 62, 63, 74, 75, 76, 77

T-2-15

MEAP Specifications List

Ver	Description
1	MEAP basic function
2	MEAP Spec Version 1 function and SSL/TSL + Proxy
5	MEAP Spec Version 1 function and CPCA V2 + ERS (Error Recovery Service) + New SSL/TSL
6	Reserved
7	MEAP Spec Version 5 function and Compact PDF + OCR PDF (Text Searchable) + USB Host (Buffering of Interrupt Transfer)
9	Reserved
10	MEAP Spec Version 5 function and USB-Host (Exception + Clear Feature + Set Feature+ Hot Plug) + WINS address acquisition using MIB Agent + Timer Service + SSL client authentication
11	MEAP Spec Version 5 function and AMS
13	MEAP Spec Version 5 function and J2ME1.1 Support + Encrypted PDF + Trace and smooth PDF + CTK2.0
14	Device signature PDF
15	IMI + ERS (API addition for IMI) , IPv6, Extended encryption function (AES/RC4)
17	Acquiring images of JBIG format
18	Parsing XML documents (XML parser)
19	Enhancement of IMI function (IMI Version1.2 series)
21	Reserved
25	API to access the HID/Mass Storage class devices.
26	MEAP driver preference function
27	Symbols that can be used with MibAgent added. (symbols for IPv6 address acquisition)
29	IMI API added (IMI version 1.2.1 enabled)
30	Extended address book function. (e-mail/group/i-FAX/file)
31	Integrated ERS function
32	Extended Imaging function (function to generate PDF/OOXML (PowerPoint) with visible signature)
33	Extended function for iR / iR-ADV series (API for address book/ CTK/ TopMenu)
34	Extended IMI Box function (v1.3.0)
35	Extended SIS function (function to check the network cable status, function to check PS print server unit status)
36	Reserved
37	CLS (Contextual Login Service) Supporting API Added
38	iR / iR-ADV Series administrative privileges supported
39	MEAP Specifications added according to Jcrypto API Specification Change

Ver	Description
40	ImagingAPI (Creation API of Visible Signature PDF) added
41	Reserved
42	Reserved
44	iR / iR-ADV Series Remote Address Book Supported, RemoteFAX Supported.
45	Addition of API that allows acquisition of the HID installation status
46	Multilingualization of the USB keyboard of the System Driver
47	Addition of API which executes a print order from the MEAP application of the IMI encryption PDF document
48	ID expressing the scan function for iR-ADV C2030/C2025/C2020 series
49	Reserved
50	SecurityOptionalPackage
51	IMI function expansion of iR-ADV C5051 series (Ver.50.xx or later) or later
52	(iR-ADV C5051 series (Ver.50.xx or later)) Addition of registered API to enable SSL communication setting (On/Off) for each URL
53	Disclosure of registration/deletion function to/from Quick Menu
54	Function to notify an event to the application at recovery from the sleep mode.
55	System account release function
56	MEAP User Preference Service
57	MEAP Application Configuration Service
58	MEAP Application Log Service
59	Reserved
60	SFP basic functions
61	LAVS
62	LSIS
63	LDT
64	IMI customization
65	Extension of MEAP User Preference Service (application sharing preference).
66	Reserved
67	Support for IMI WebConnect (WebDav supported) and BMLinkS IT (QR)
68	Addition of Office Open XML's Word creation API
69	Extension of the encrypted PDF function (AES 128 bit/256 bit)
70	Addition of 3 formats (uncompressed searchable PDF, XPS, and linearized searchable PDF)
71	Reserved
72	Reserved
73	IMI: API that supports A4 scanners and allows for specifying of the direction of the original image
74	SSL: Support for addition of the CN validation function
75	Reserved
76	Addition of the SFP ExtendedTextInputView class
77	Reserved
78	Reserved
79	Reserved
80	Reserved
81	Reserved
82	SIS: Support for API for recovering from Sleep1 (setLcdControl)

T-2-16

MEAP Application Management

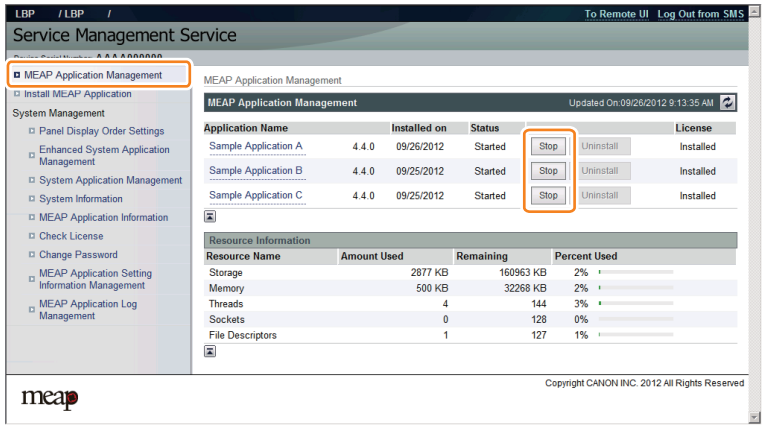
Outline

You can use the MEAP application management screen to perform basic management tasks of the MEAP application (start, stop, uninstall), or check the device's resource information.

Starting, Stopping, or Uninstalling the MEAP Application

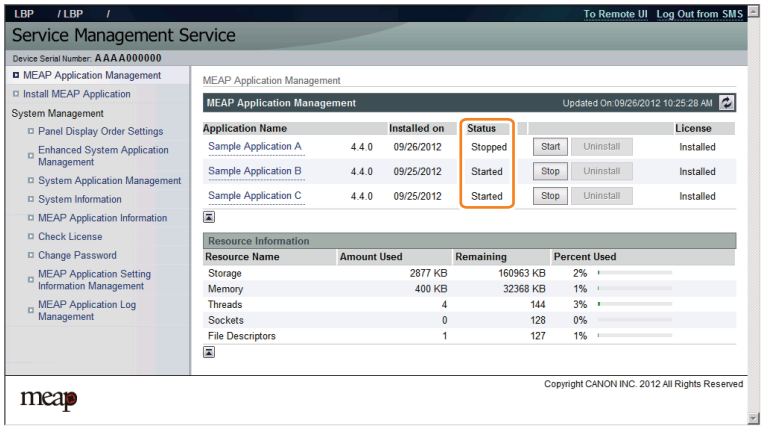
Procedure to start and stop a MEAP application

1) Log in to the SMS. (Refer to 'Login to SMS' in this manual.)
2) Click [Application List]. (If the Application List is already being displayed, this operation is not necessary.)
3) Click [Start] or [Stop] button shown for the MEAP application to be started or stopped.



F-2-86

4) Check to see that the status of the MEAP application in question is either [Started] or [Stopped].



F-2-87

If the MEAP application cannot be started

If the conditions to start the MEAP application are not satisfied, the MEAP application cannot be started.

If the MEAP application cannot be started, check the following items.

Is a valid license installed?

If the license has expired, you cannot start the application. If the license has already expired, obtain a new license and then update the license. (See "Managing the License File" in this manual.)

Are the necessary resources available?

If the resources such as memory capacity or number of threads are not sufficient, the application also cannot be started.

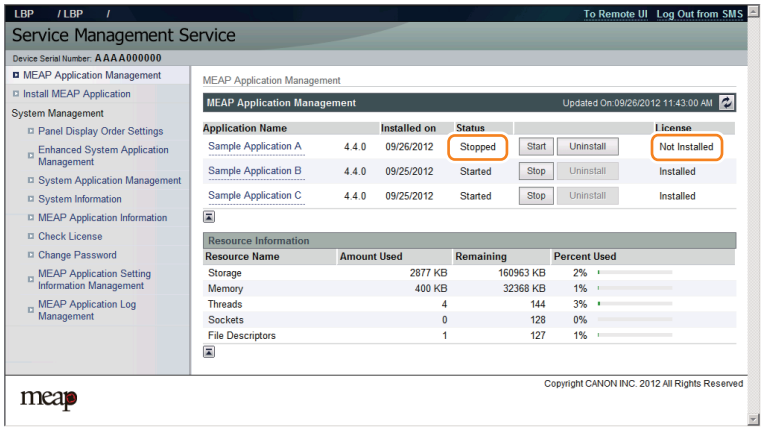
Delete any unnecessary data to secure sufficient resources.

If the application still cannot be started after checking the foregoing conditions, contact the support department of the sales company.

Proc edure to uninstall the MEAP application

Before uninstalling the MEAP application, check that the following conditions are met.

- The MEAP application has stopped.
- The license has been disabled or deleted. (The status is "Not Installed".)

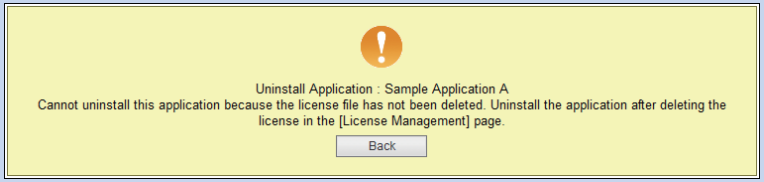


F-2-88

For information on the procedure to stop the MEAP application, see the previous section "Procedure to start and stop a MEAP application".

For information on the procedure to delete the license file, see the following section "Managing the License File".

Note:
When a user tries to uninstall an application before deleting the license, the following message is shown.



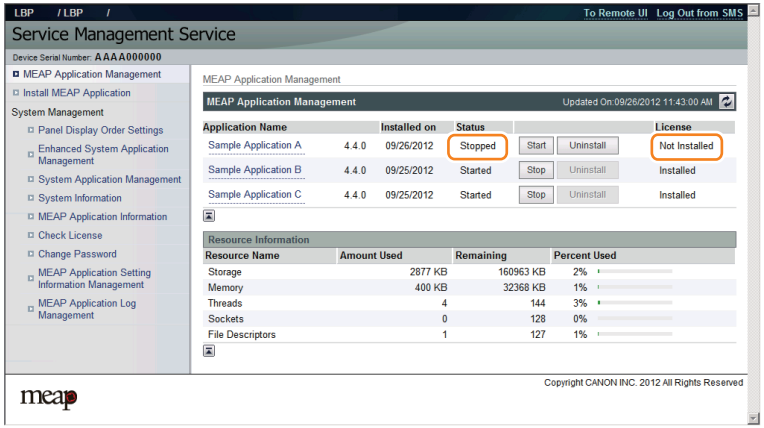
F-2-89

If the license file of the selected application cannot be deleted, the [Uninstall] button is grayed out and therefore the application cannot be uninstalled.

CAUTION:

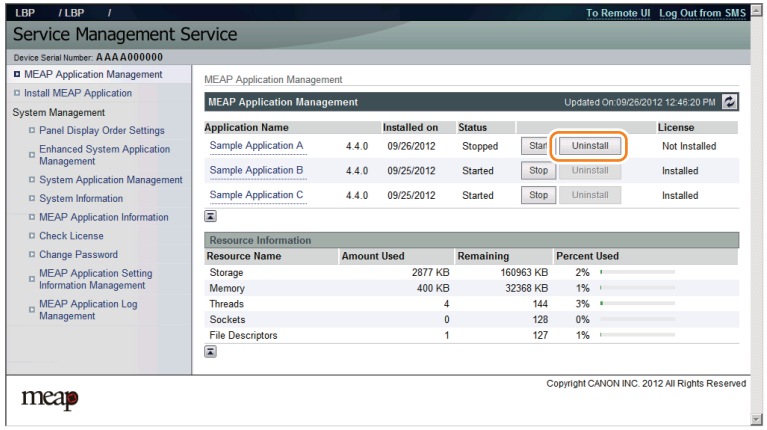
If the application you are uninstalling is associated with another application, a message will appear to indicate that the package exported by the application will no loner be available. Uninstalling such an application may also disable its associated applications.

1) Log in to SMS to click [MEAP Application Management] on the menu.
2) Check that the status of the application you want to uninstall is [Stop] and the license has been disabled. (The status is "Not Installed".)



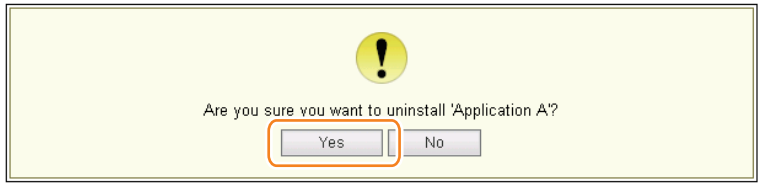
F-2-90

3) Click [Uninstall] button for the application to be uninstalled.



F-2-91

4) Check the application name to be uninstalled shown on the screen to click [Yes] button. Upon [Yes] button clicked, uninstallation process is started.



F-2-92

Managing the License File

Outline

The license file management functions allow you to perform the following operations related to the license file necessary for the MEAP application to run.

- Update the license which has already expired.
- Disable or delete the license file in order to uninstall the MEAP application.

These license management functions can be performed from the [MEAP Application Management] screen.

The main license management functions are as follows:

Adding a license

When the license has expired, you can add a license file.

Disabling a License File

Before uninstalling the MEAP application, the license needs to be deleted. In that case, you must first disable the license file because a license file which has not been disabled cannot be downloaded or deleted.

Downloading / Removing an Invalidated License File

Before uninstalling the MEAP application, you need to delete its license file which has already been disabled.

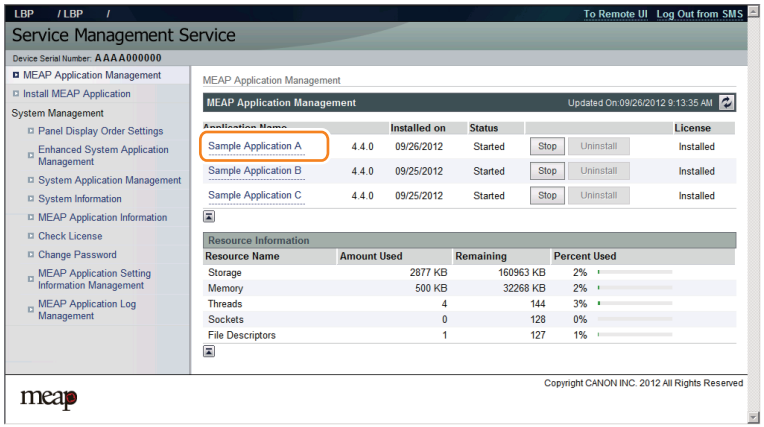
By downloading the license file to your PC before it is deleted, you can use it when installing the application again to the same device.

WARNING:

After deleting the license file which has been disabled, you can no longer download the license file.

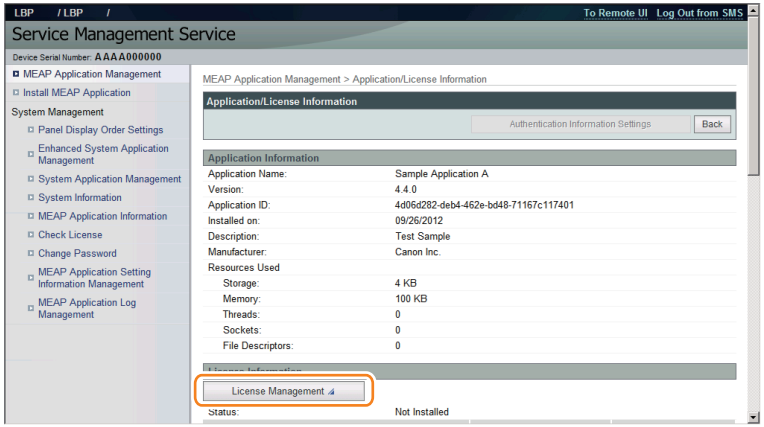
Procedure adding a license file

1) Log on to SMS.
2) On MEAP Application Management, click the name of the application to which you want to add a license file.



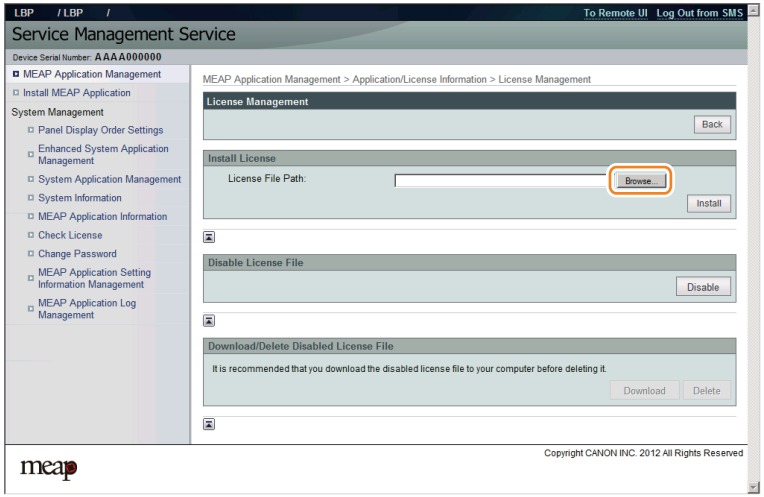
F-2-93

3) In [Application / License Information] page shown on the screen, click [License Management] button.



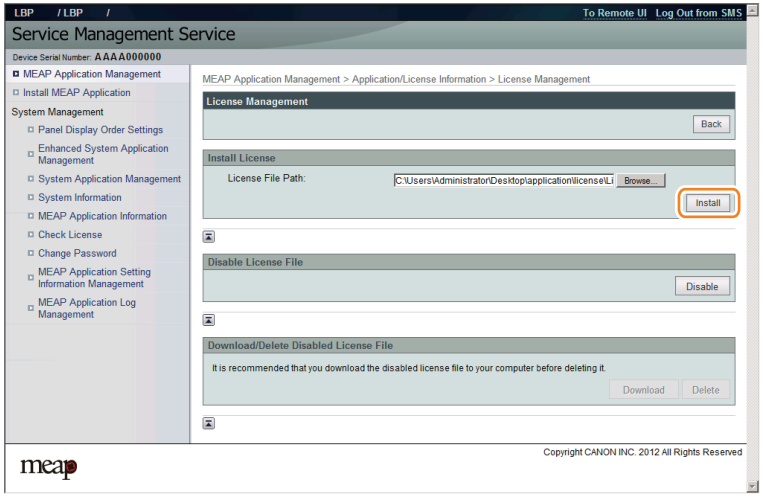
F-2-94

4) Click [Browse] button, and select the license file you want to install.



F-2-95

5) Click [Install] button.



F-2-96

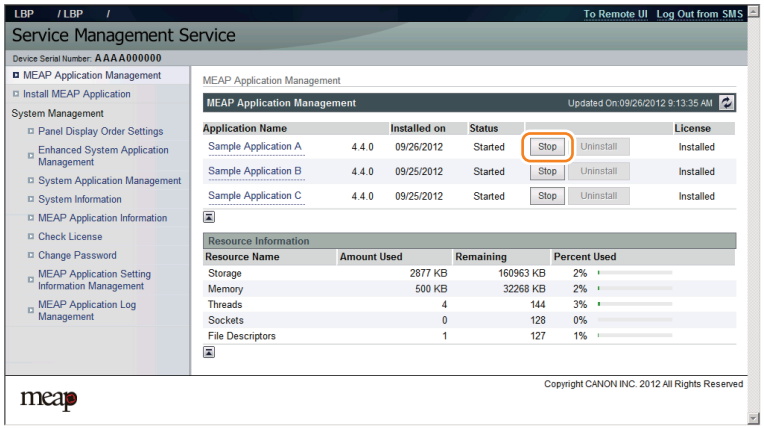
6) Check the content of the confirmation page, and click [OK] button.

Procedure disabling a license file (suspending a license)

CAUTION:

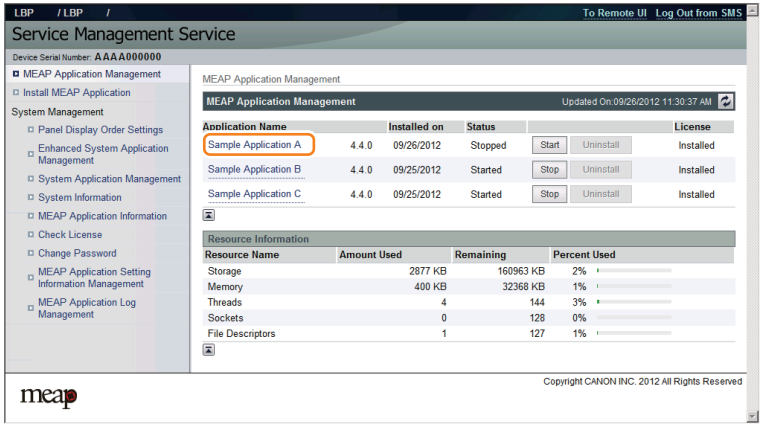
- Since the license file cannot be disabled when the application is still running, the application needs to be stopped before disabling the license file.
- Once suspended, the status of the license will be ‘Not Installed’, and its application will no longer be available for use.
- You can later restore a suspended license file as long as you are doing so on the same iR, the device with the same device serial number.
- If the machine needs to be replaced due to a device failure, use the transfer license during the replacement. (See "License for forwarding")

1) Stop the application you want to uninstall on MEAP Application Management page.



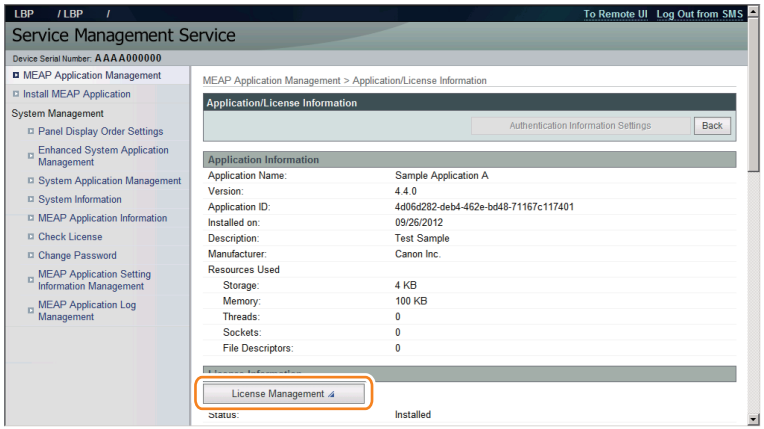
F-2-97

2) Click the name of the application that you want to disable.



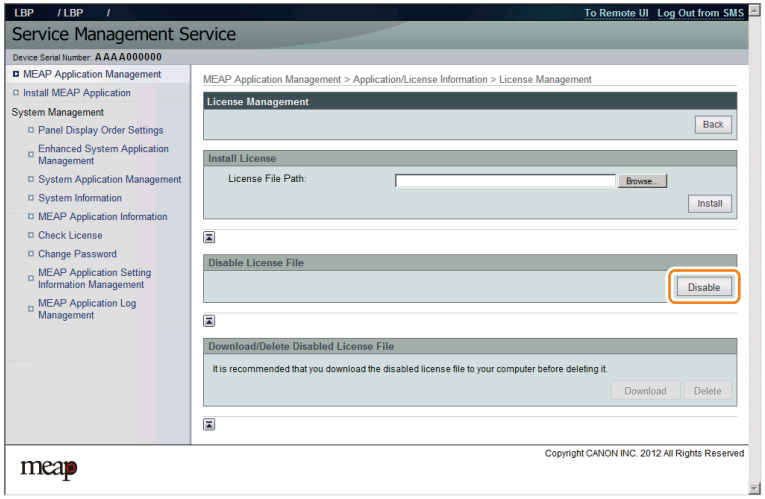
F-2-98

3) On Application/ License Information page, click [License Management] button.



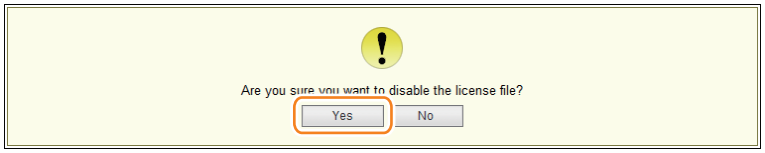
F-2-99

4) License Management page appears. Click [Disable] button.



F-2-100

5) Click [Yes].

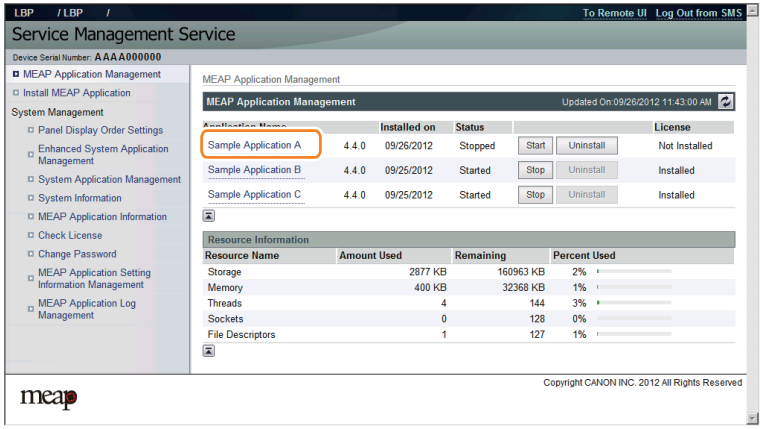


F-2-101

Procedure downloading / removing an invalidated license file

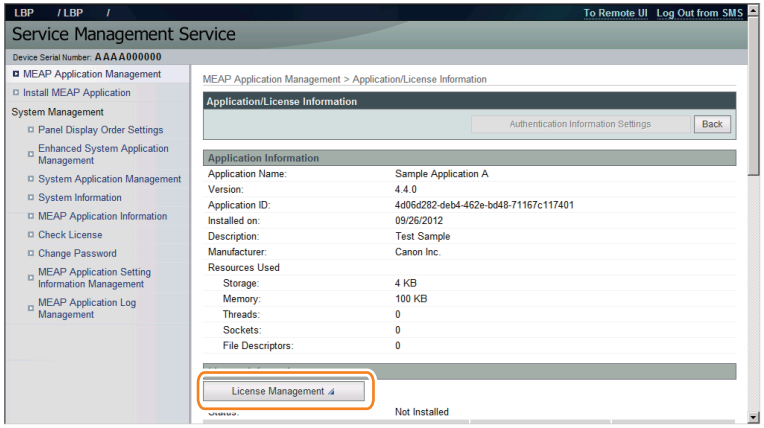
Note:
The downloaded license file can be used for reinstallation only in the same iR device (with the same device serial number).

1) Login to SMS.
2) Application List page appears. On MEAP Application Management page , click the name of the application you want.



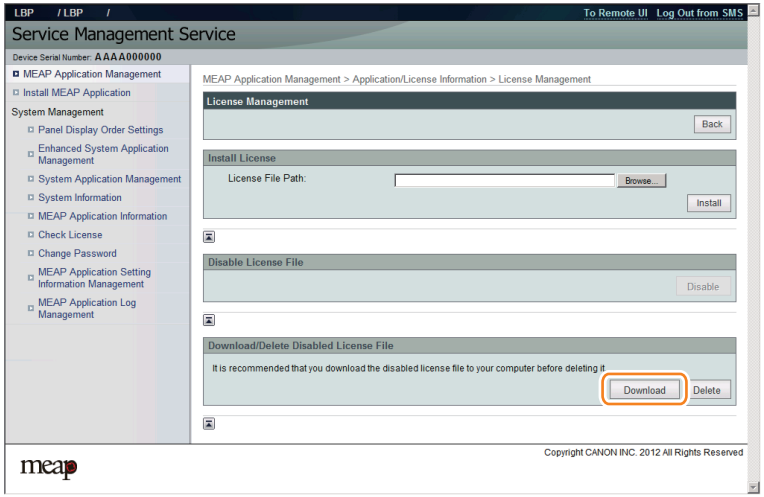
F-2-102

3) Check Application/ License Information page appears.
4) On Application / License Information page, click [License Management] button.



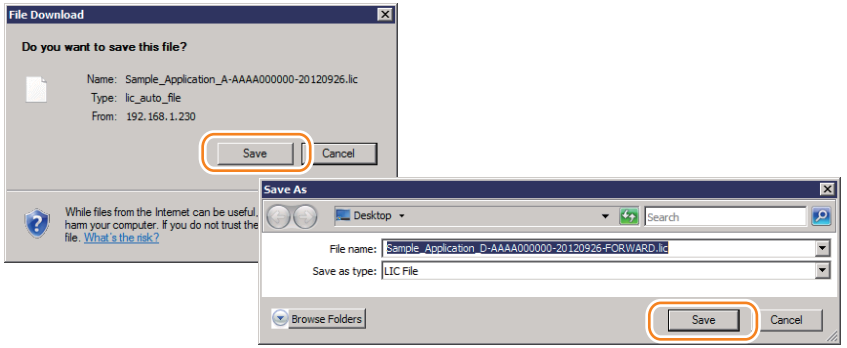
F-2-103

5) License Management page appears. To download, click [Download] button.



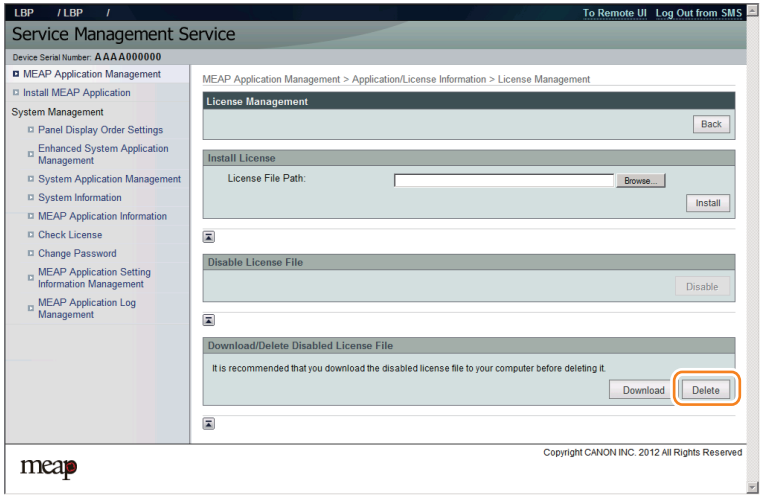
F-2-104

6) When you have selected [Download] button, specify where you want to store the file by following the instructions on the screen.



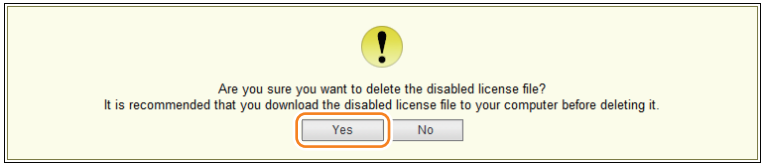
F-2-105

7) To delete, click [Delete] button.



F-2-106

8) When the dialog to confirm deletion is shown, click [Yes] button.



F-2-107

WARNING:

Without the license file, an application cannot be reinstalled even to the MEAP de-vice that the application had been installed last time. Download and save the license file before deleting the application.

Other License File Management Functions

Reusable license

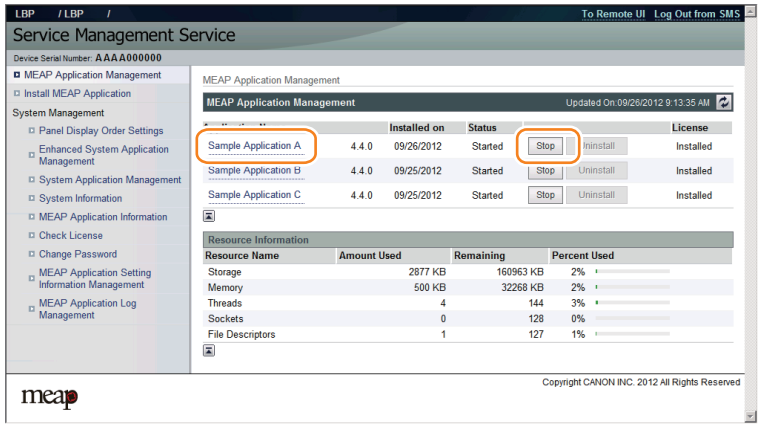
When reinstalling, Disable License file should be downloaded (see “Disabling a License File .” and see “Downloading / Removing an Invalidated License File.” in this manual) or a license for reinstallation should be obtained from LMS, before reinstallation.
This specification aims to prevent misuse of applications.
To increase convenience of users, only application with unlimited validity date and application counter (e.g. Portal Service, SDL, SSO) has been made to be able to install as many times as needed by the same license file. This kind of license is called 'Reusable license'.

After replacing the Main PCB, the MEAP applications need to be reinstalled.
In that case, the installation requires use of reusable licenses.
As for other MEAP applications without reusable licenses, use special license files for reinstallation, in the same as way as handling a storage drive failure.
For information on how to obtain a special license for reinstallation, refer to "Special license for reinstallation" in this chapter.

License for forwarding

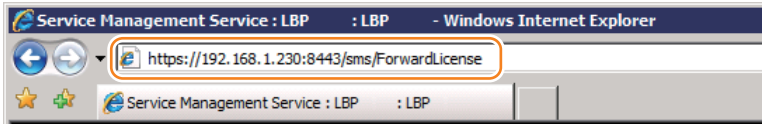
If the machine needs to be replaced due to a device failure, you can transfer the license information used in the MEAP application to the new machine and continue its usage. Service engineers are responsible for license transfer as this task requires the SMS hidden page (not open to users).
The procedure is shown below.

1) Log in to SMS, stop the application to be forwarded (see Chapter 0, “Starting and Stopping a MEAP Application.” in this manual).



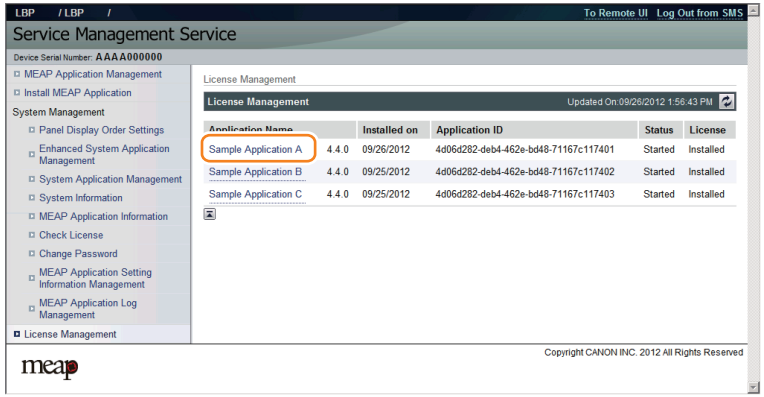
F-2-108

2) Move to the download page of license forwarded for the device as sender (https:// IP address of device: 8443/sms/ForwardLicense).



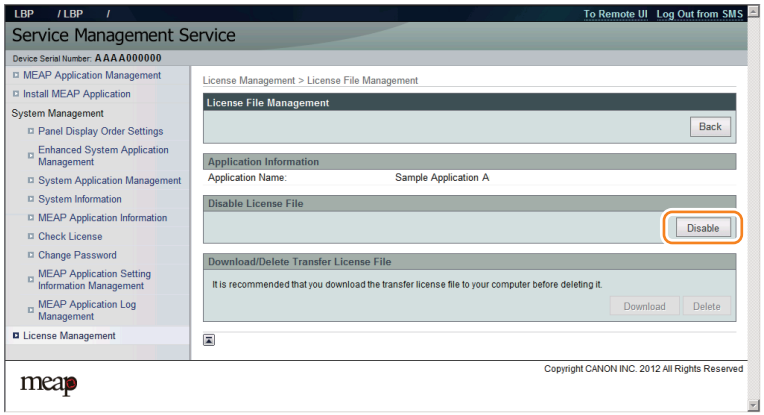
F-2-109

3) Specify the application to be forwarded.



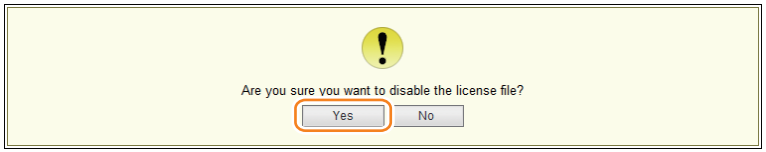
F-2-110

4) Click [Disable] button on the [Disable License File].



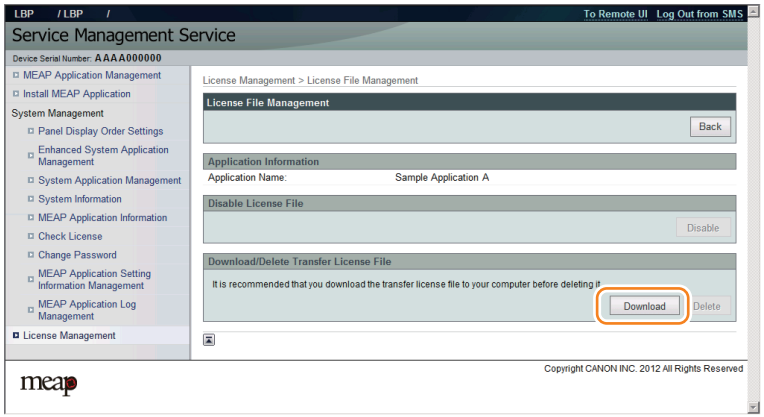
F-2-111

5) The window to confirm whether to create a transfer licence will be displayed. Click [Yes].



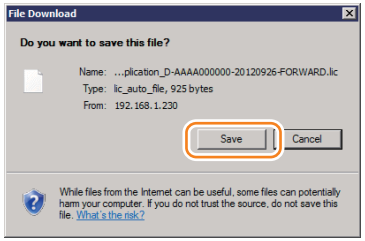
F-2-112

6) When [Download] button on the [Download / Delete Transfer License File] becomes effective, click [Download] button.



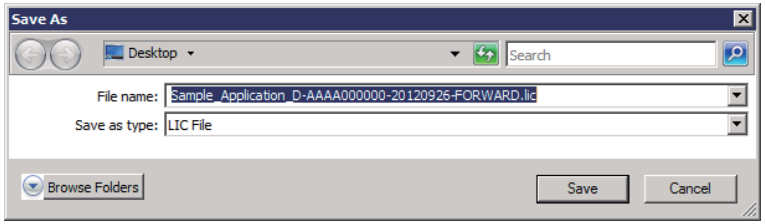
F-2-113

7) The dialogue [File Download] is displayed. Click [Save].



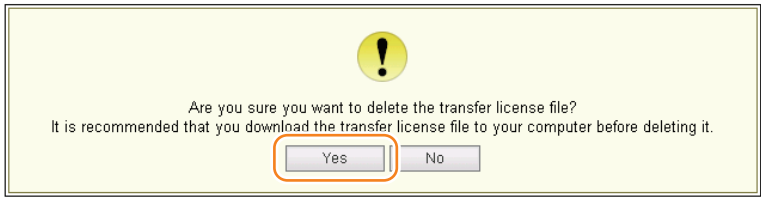
F-2-114

8) Specify the download destination, click [Save].



F-2-115

9) After downloading the license file for forwarding, click [Delete] to display the confirmation screen and click [Yes] to delete the file (in consideration of breakage of license for forwarding, deleting disabled license can be executed after all steps have been completed).



F-2-116

10) Log out of SMS.

11) Since this downloaded transfer license is the file only to prove the license invalidation, it cannot be used for installation to the other device as it is. Send the transfer license to the service support contact of your nearest sales company to request issuance of the new license for installation in the new device.

Note:
When requesting issuance of license for forwarding, inform the sales company of the name of product name and serial No. of the device as sender, and of the name of product name and serial No. of the forwarding destination.

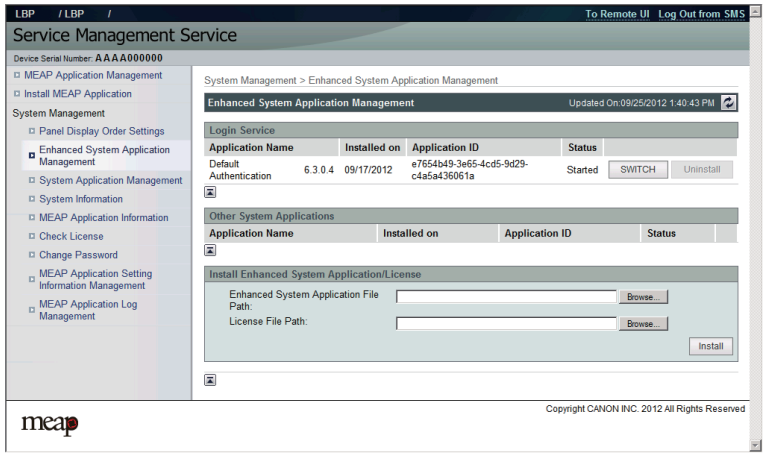
12) Install application using the license for forwarding issued by the sales company.

Enhanced System Application Management

Outline

[Enhanced System Application Management] mainly manages the login services for logging in to devices.

- Installing and uninstalling Enhanced System Application Management (login services, etc.)
- Switching login services (switching the method to log in to devices)
- Checking installation status of other System Applications



F-2-117

About Login Service

The login service is started up to authenticate the user when MEAP-enabled iR device is booted up. Login service changes and install/ uninstall are carried out from the 'System Management' page.
The preinstalled login applications are Default Authentication and Single Sign On-H, and Default Authentication is enabled by default.

Default Authentication overview

Default Authentication is a pre-installed login application that runs by default. It provides authentication functions to allow minimum operation of the Controller System, even when no other login application is running.

SSO-H (Single Sign-On-H) overview

This is a merger of the existing SDL and SSO login services and has the following features.

- The following three authentication methods may be selected from.
  - Server authentication
  - Server authentication and local authentication
  - Local device authentication
- Active Directory or LDAP can be used as the server for server authentication.
- It is not necessary to prepare a server for Security Agent (SA). (In the case of SSO, SA is necessary.)

Environment confirmation

Refer to the section of "Preparation for Using SSO-H" of this manual for system requirements needed in each login service.

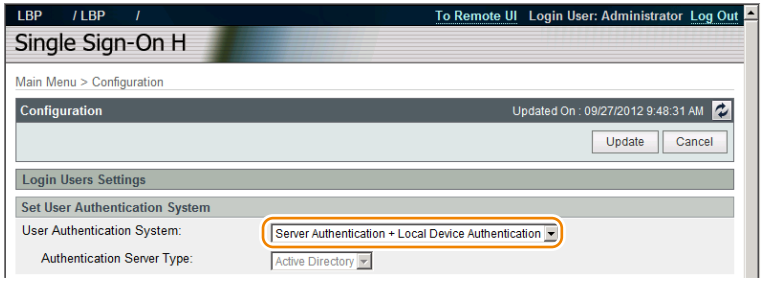
Specification of SSO-H

Item		Specification
No. of local device users		Up to 5000
Maximum number of domains		Active Directory : 200 domains ("This device" not included)
IPv6		Authentication provided in IPv6 supports AD/KDC/DNS of Windows Server 2008 only)
Resource used		Memory : 3584KB Storage : 25000KB File Description : 27 Thread : 33 Socket : 33
Network ports used	Connecting	88 : KDC 53 : DNS 1 - 65535 (Default : 389) : LDAP
	Listening	10000 - 10100
Supported authentication server		Active Directory : Windows 2000 Server SP4/ Windows Server 2003 SP1 * / Windows Server 2003 R2 * / Windows 2008 Server * *64-bit OS is not supported. LDAP : Novell eDirectory V8.8 SP6 for Windows Lotus Domino V8.5 for Window
Supported Active Directory		Windows Server 2003 SP2 Windows Server 2003 R2 SP2 Windows Server 2008 SP2(64BitOS not supported) Windows Server 2008 R2 SP1
Availability of Department Management Linkage		Available only in local authentication

T-2-17

Setting the Authentication Method

In the case of SSO-H, it is possible to use a combination of multiple authentication methods. The combination can be changed from the SSO-H setting screen. (For details, refer to e-Manual > MEAP > Menu for Administrators > Setting the SSO-H > "Setting the User Authentication System".)



F-2-118

Note:
The default settings are shown below.
- User authentication method : "Server Authentication + Local Device Authentication"
- Type of authentication : "Active Directory"

CAUTION:

To ensure the security, it is recommended to change the password and the user name of the Local Device Authentication administrator from those at the time of shipment immediately after you have started using SSO-H.

Using an Accounting Product When SSO-H Is Used

SSO-H has collaborative linkage with NetSpot Accountant, imageWARE / iW Accounting Manager, imageWARE Enterprise Management Console / iW Management Console Access Management Plug-in, imageWARE Enterprise Management Console / iW Management Console Accounting Management Plug-in.
For details on the combination, refer to the User's Manual or Service Manual of the product.

Conducting Department ID Management When SSO-H Is Used

Department ID Management can be conducted also when SSO-H is used for login service.

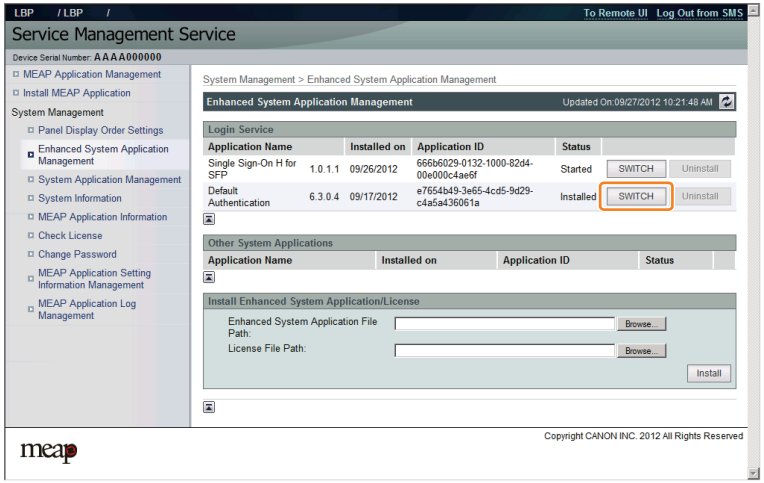
Usage Conditions

In order to allow coexistence of SSO-H and Department ID management, the following conditions need to be satisfied.
- Only "Local Device Authentication" can be used as the user authentication method.
- The department ID and password have been already set for the SSO-H login user before enabling department ID management.
- The information (the department ID and password) set for the login user coincides with the information registered in Department ID Management.

Setting Procedure

In order to allow coexistence of SSO-H and Department ID management, the following procedure needs to be performed to enable the setting.

1) Change the authentication method to DA (Default Authentication).
Access SMS, and select [Default Authentication] in [Enhanced System Application Management] > [Login Service]. (How to log in to SMS can be found in "Login to SMS".)

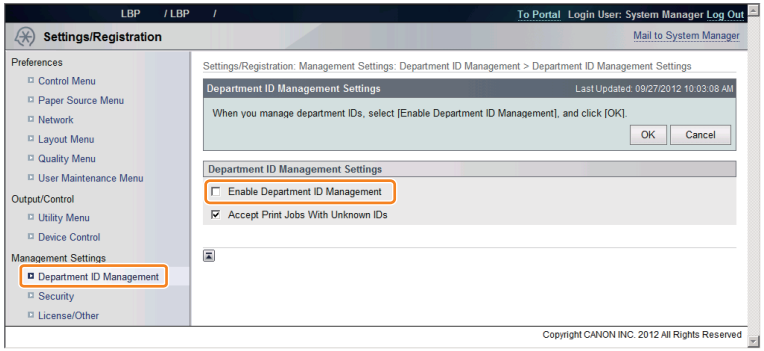


F-2-119

13) Restart the device.
Restart the device in order to reflect the changes in login service.

14) Disable Depart ID Management.

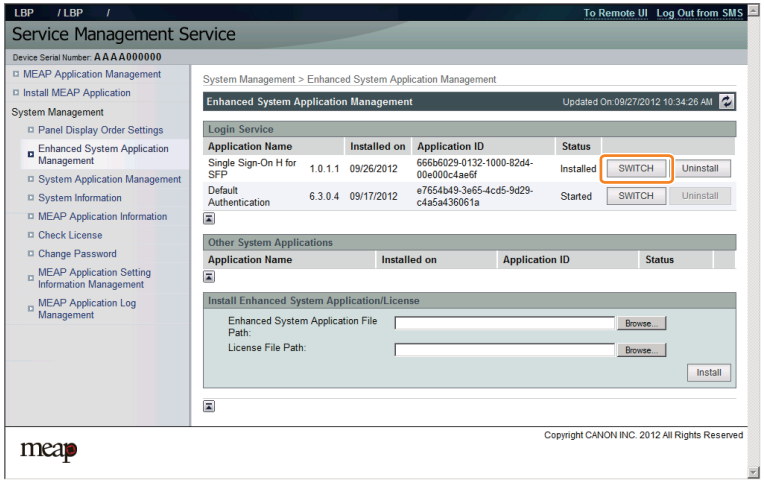
In user mode ([Settings/Registration]), select [Management Settings] > [User Management] > [Department ID Management] > [OFF]. In the case of remote UI, access [Settings/Registration] > [Management Settings] > [User Management] > [Department ID Management] > [Department ID Management Settings], and deselect [Enable Department ID Management].



F-2-120

15) Change the authentication method back to SSO-H authentication.

Access SMS, and select [Single Sign-On H] in [Enhanced System Application Management] > [Login Service]. (How to log in to SMS can be found in "Login to SMS".)



F-2-121

16) Restart the device.

Restart the device in order to reflect the changes in login service.

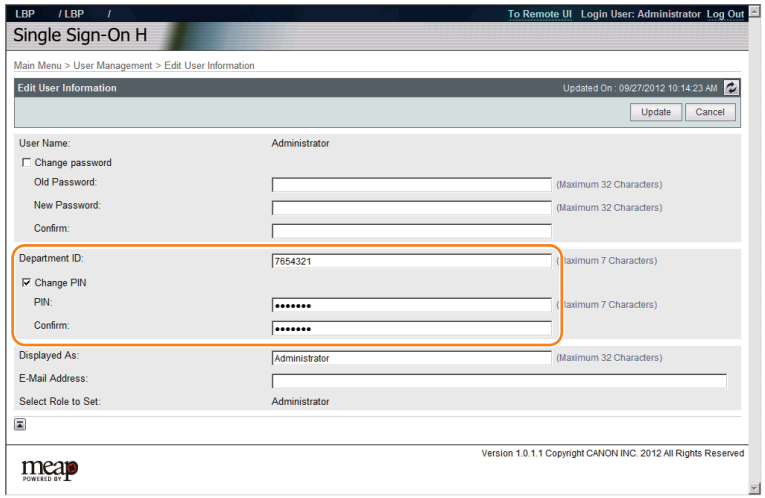
17) Change the user registration information of SSO-H.

Access the URL shown below, and change the content to the information registered in Department ID Management.

Or, import the setting file whose content you want to use.

SSO-H user registration information edition screen

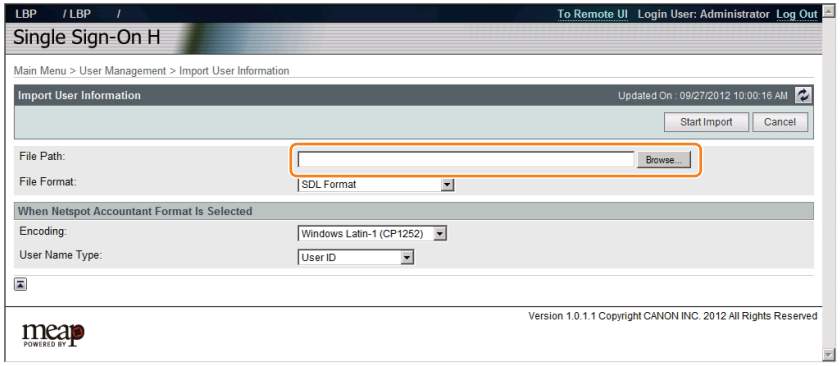
(SSO management screen [Main Menu] > [User Management] > [Edit User Information] or https://<IP address>:8443/sso/Edit).



F-2-122

SSO-H user registration information import screen

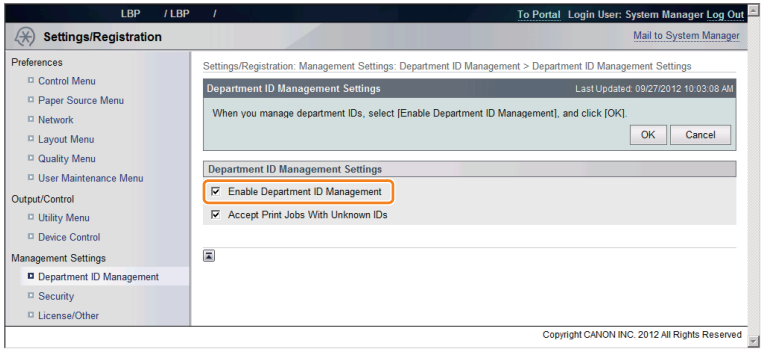
(SSO management screen [Main Menu] > [User Management] > [Import User Information] or (https://<IP address>:8443/sso/Import).



F-2-123

18) Enable Depart ID Management.

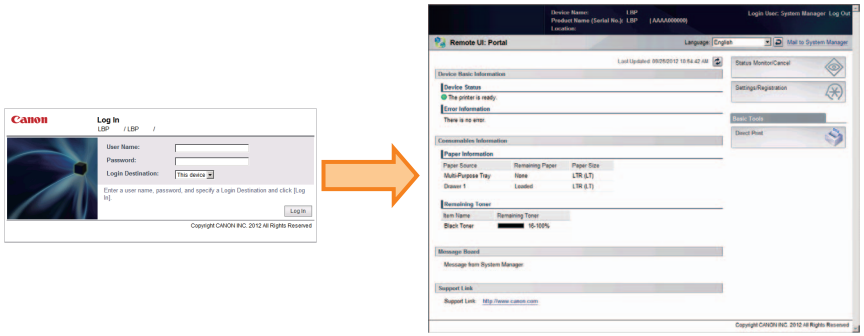
In user mode ([Settings/Registration]), select [Management Settings] > [User Management] > [Department ID Management] > [ON]. In the case of remote UI, access [Settings/Registration] > [Management Settings] > [User Management] > [Department ID Management] > [Department ID Management Settings], and select [Enable Department ID Management].



F-2-124

19) Check that the device can be logged in.

Log off and then log on to check that the device can be logged in with an environment where Local Device Authentication and Department ID Management are enabled.



F-2-125

Note:
In the case of conventional SSO, department management can be conducted also when server authentication is used provided that iWAM/iW EMC account management is used, which is not supported by SSO-H.

Setting the Administrator for Server Authentication

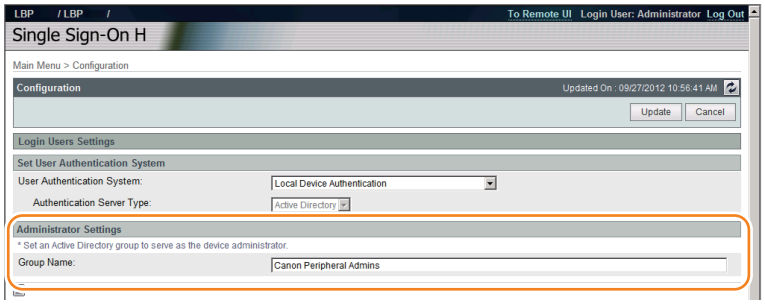
When using Server Authentication, the user who satisfies the specified conditions (user attribute and its match criteria) becomes the administrator (the device administrator and the SSO-H administrator).

The default user attribute and whether the setting value can be changed or not are shown below.

Item	Default value	Active Directory	LDAP
Search Criteria:	Exact Match	Not Available	Available
User Attribute:	memberOf	Not Available	Available
Character String:	Canon Peripheral Admins	Available	Available

T-2-18

The settings of the administrator can be changed on the following screen: remote UI > Single Sign-On H > Configuration (http://device's IP address:8000/sso/ActionSet)



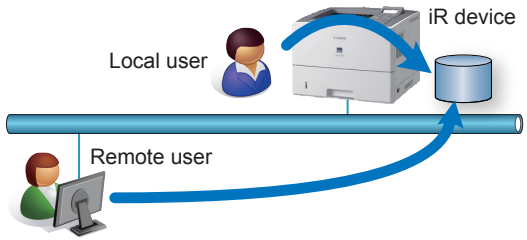
F-2-126

System Manager Linkage (automatic ID allocation to SystemManagers)

SSO provided the automated function conventionally on Security Agent (hereinafter “SA”) to authenticate System Manager by allocating IDs set on SA to domain authentication managers (users belonging to Canon Peripheral Admins group). However, SSO-H does not support this function.

Local device authentication

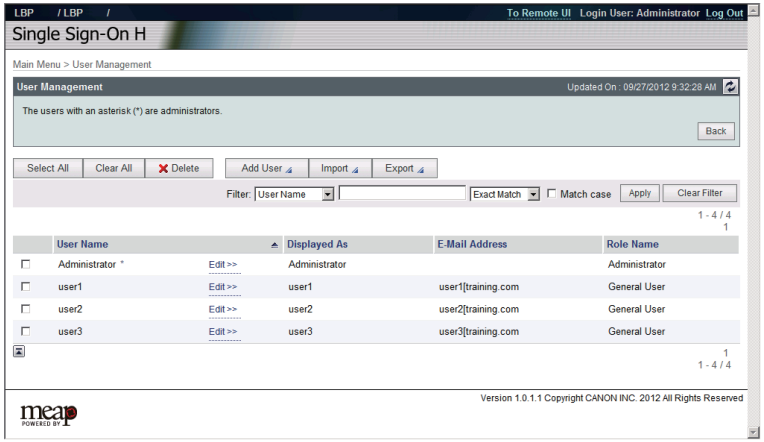
It is one of the user authentication methods using SSO-H, and is used for an iR device on a stand-alone basis.



F-2-127

Register the user to be authenticated on the database in the device.
User management can be performed from the User Management screen (http://device's IP address:8000/sso/) or imageWARE Enterprise Management Console. The login destination is [This device].

User Management screen

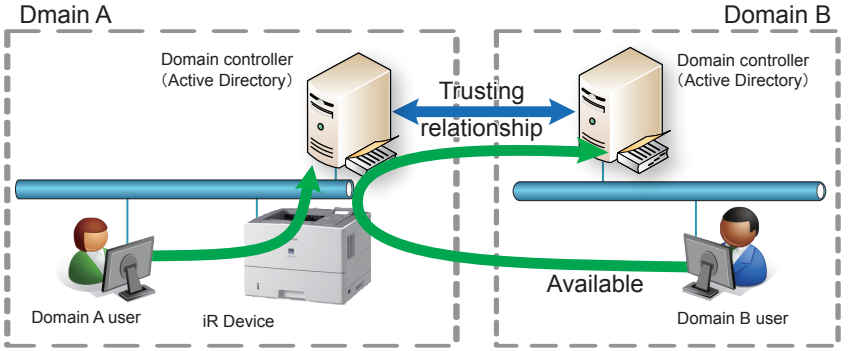


F-2-128

Server authentication (Active Directory authentication)

Outline

It is one of the user authentication methods using SSO-H. User authentication is performed with the device linked with a domain controller on the network in an Active Directory environment. It is a user authentication where the user is authenticated by the domain on the network when the user logs into the device. In addition to users belonging to the domain that includes the iR device, users belonging to domains that have a reliable relationship with the domain (multi-domain) can also be authenticated. The domain name of the login destination can be selected by the users themselves upon login.
Using one of the options (Net Spot Accountant, imageWARE Accounting Manager, or imageWARE EMC Accounting Management Plug-in) makes it possible to analyze/manage the iR device usage.



F-2-129

The protocol used is as follows.

- Kerberos:LLS/RLS/ILS
- NTLMV2:WLS(Web Service Login Service)

User information acquisition is done by LDAP, so the Active Directory LDAP port needs to be made accessible. If LDAP connection fails, the authentication will end in error.
No. of supported domains: 200 (unchanged from SSO) Site access supported.

CAUTION:
In the case of using Server Authentication (Active Directory authentication), it is necessary to synchronize the time settings of the Active Directory server and the machine (and the PC for login). If the difference in time setting is 5 minutes or longer, an error will occur at the time of login. (The setting of the allowable difference in time can be changed.)

CAUTION:

Since department ID and password are not assigned to domain users, distributing setting information where the department ID is enabled to a device where the server authentication is enabled may make the device unable to be logged in. If the device has become unable to be logged in, follow "Remedy to Be Performed When the Device Has Become Unable to Be Logged in" in this manual.

Access Mode in Sites

With SSO-H, access to Active Directory within site can be prioritized or restricted, so there is a setting called 'Access Mode in Sites'. Sites programmed in Active Directory comprise multiple subnets. In this mode, SSO-H uses site information to access the same site as the device, or the subnet Active Directory.

- The SSO-H default setting is with the site internal access mode OFF.
- Access Active Directory within same site only.
- If there is no Active Directory within the same site, or if connection fails, there will be an authentication error.
- Access another site if Active Directory within the same site cannot be located.
- If there is no Active Directory within the same site, or if connection fails, an Active Directory external to the site will be accessed.
- If all attempts to access Active Directory fail, there will be an authentication error.

The operating specifications of the site internal access mode are as described below.
When first logging in to the login service after booting iR, the domain controller (DC) is obtained from the site list.
However, upon the first login, even if the site functionality is active, connection to DC is random. (This is because, if connection to DC should fail, the site to which the device belongs cannot be ascertained.)
If the device IP address or the domain name are changed, the site settings are acquired once more.

In this mode, at the first login (first authentication of domain to which the device belongs) LDAP-Bind is performed directly to DC and site information acquired by LDAP from DC.

From the acquired site list, the site to which the device subnet belongs is extracted and this becomes the site to which device belongs. Active Directory address is acquired (retrieved from DNS)

Note:

- The Active Directory subnet is assumed to be the same subnet as the device sub-net.
- In the Active Directory addresses, the Active Directories of the same site are listed.
- Active Directories of the same subnet as the device are listed first.
- If there is no Active Directory with the same subnet as the device, Active Directories belonging to different subnets than the device are listed.
- The Active Directories within the same site are accessed in order. Note, however, that where there are multiple Active Directories within the same site, access to those Active Directories will be in the order in which the address list was obtained.
- If there is no Active Directory within the same site, if access outside of the site is programmed, Active Directories outside of the site will be accessed in the order in which the address list was obtained.

Site list acquisition

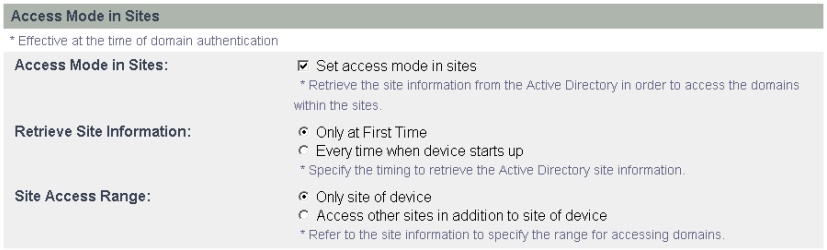
After booting up, upon the first login by LLS or ILS/ RLS, the site list is obtained from the Active Directory. In order to obtain the site list from the Active Directory, Active Directory needs to be accessed in LDAP, so SASL-Kerberos-Bind is used by the login user account. If authentication by Active Directory should fail, an authentication error will be generated and the site list will be acquired again from Active Directory upon the next login.

In SSO-H, the Active Directory to be accessed when acquiring the site list cannot be specified. In other words, if there is no site list, which site's Active Directory is accessed depends upon the order of the Active Directory addresses returned by DNS. Therefore, when acquiring the site list, LDAP may access the Active Di rectory of a different site. Therefore, in such cases, it is sometimes necessary to access across sites or subnets, which means that LDAP protocol needs to have continuity across sites (subnets) (normally, LDAP is port No. 389). Further, if connection with Active Directory fails when acquiring site information, another Active Directory will be accessed.
Site information, once it has been acquired, is cached within the device. The life settings of the cache can be set so that site information in the cache is updated upon the first login after the device boots up, or so that the cache is not updated once acquired.

Settings for access mode in sites

Switching between site internal access mode/ non site internal access mode, as well as detailed mode settings, are done via DMS or iWEMC.

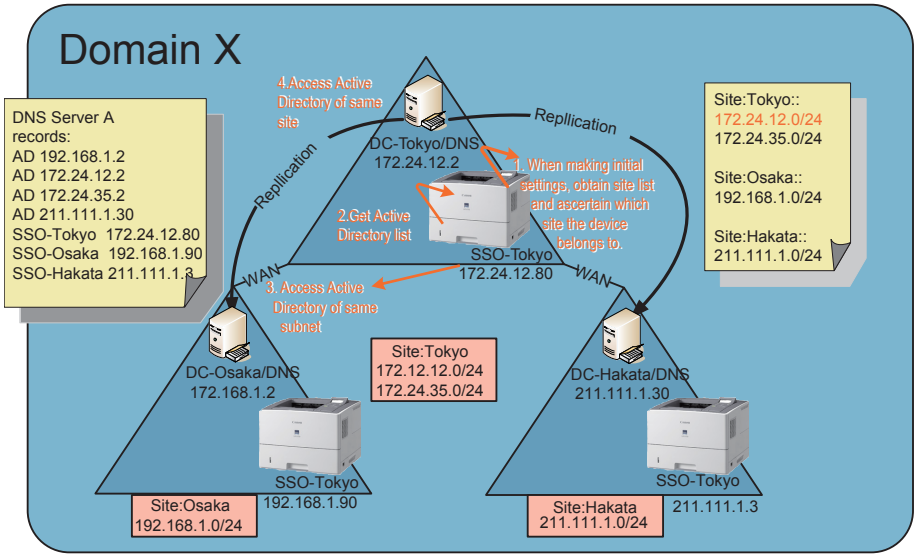
Site internal access mode settings window (DMS)



F-2-130

The figure below shows a sample of processing Access Mode in Sites.

Sample of Processing Access Mode in Sites



F-2-131

1) SSO-Tokyo acquires site lists from Active Directories.
Note, however, that the Active Directories accessed in order to acquire site lists are in the order in which they were returned by DNS, so there is no guarantee that the same Active Directory will be accessed as in the initial settings (upon device settings or changes to NW settings, etc.).
[Site subnet list]
Site: Tokyo: = 172.24.12.0/24, 172.24.35.0/24
Site: Osaka: = 192.168.1.0/24
Site: Hakata: = 211.111.1.0/24
As a result, since SSO-Tokyo is 172.24.12.80, the subnet is 172.24.12.0/24, and is judged as belonging to site Tokyo.

20) The DNS server obtains its Active Directory list from the primary or secondary DNS, as set in the device.
[Active Directory]
172.24.12.2, 172.24.35.2, 192.168.1.2, 211.111.1.30

21) Of the Active Directories in 2), above, the ones that belong to the same site (Tokyo) are 172.24.12.2 and 172.24.35.2.
Of these, the Active Directory that is the same subnet as SS-Tokyo is 172.24.12.2. Therefore, this one will be accessed.

22) If access fails at step 3), above, the other Active Directory of the same site, 172.24.35.2, will be accessed.

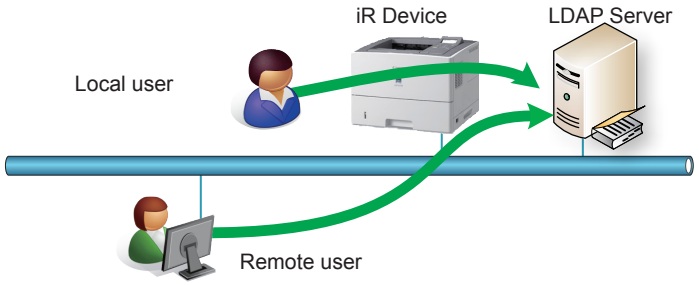
23) If access fails at step 4), above, also, SSO-Osaka and SSO-Hakata will be accessed (the order will depend on the order of the Active Directories in DNS). Note, however, that this is an optional operation.

Logging into other domains at multi-domain

At multi-domain, if another domain is logged into, based on the site/ subnet information retrieved in the home domain, the Active Directories of the login destination domain/ KDC address list are computed. In the event that the domain controller IP addresses of other domains are outside of the site access range, and only the domain controller within the site is programmed for access, an error message will be displayed to the effect that the site information is incorrect.

Server authentication and local device authentication

It is a user authentication method provided with both the "server authentication" function and the "local device authentication" function.
It is possible to use server authentication to authenticate the users registered on the authentication server under normal conditions and use local device authentication when a user who cannot be added to the authentication server needs to be temporarily authenticated.
If a trouble occurs in the authentication server, local device authentication can be used as an emergency measure until recovery from the trouble.

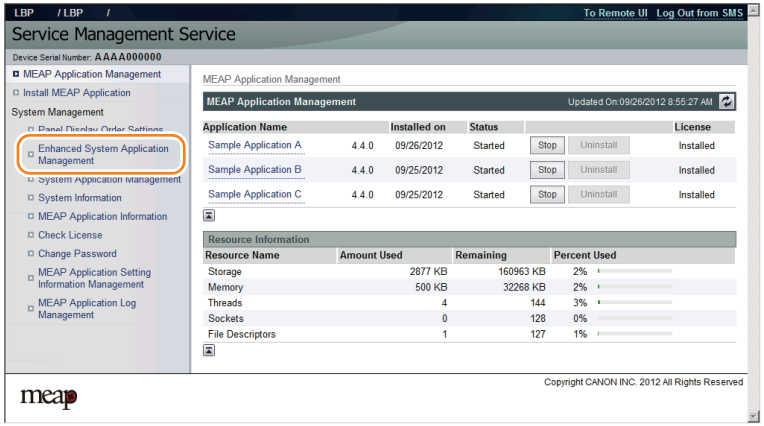


F-2-132

Procedure Changing Login Services

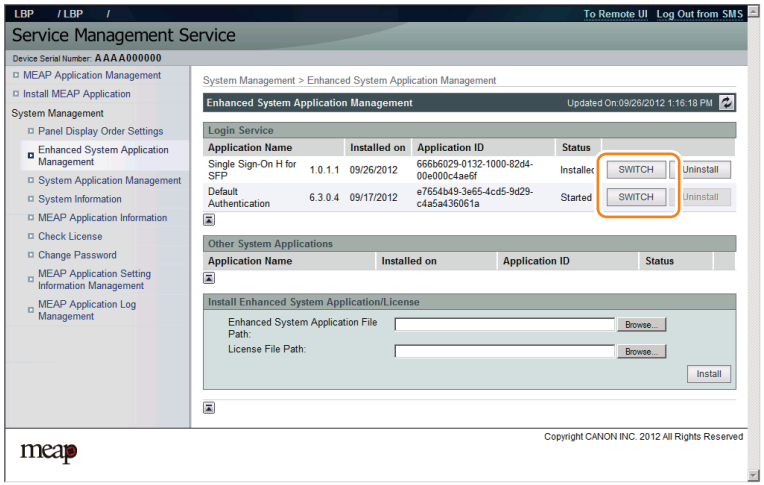
If 2 or more login services are installed, you can use the following procedure to switch among them.

1) Access SMS. From the [System Management] menu, select [Enhanced System Application Management].



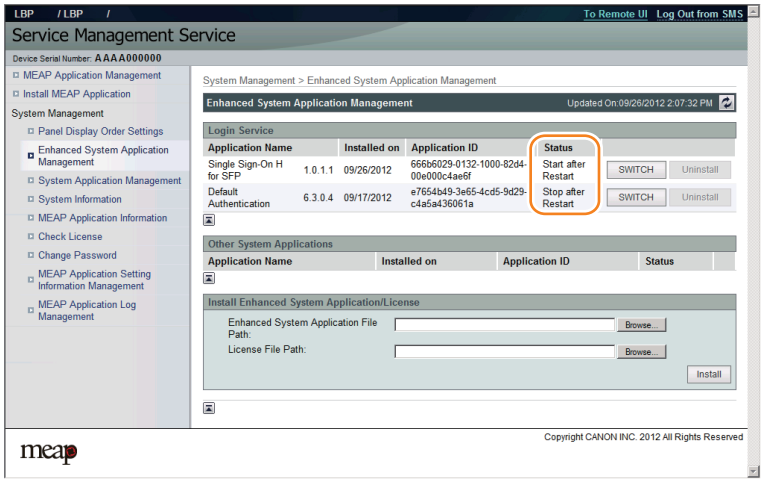
F-2-133

2) Click the [SWITCH] button of the login service you want to switch to.



F-2-134

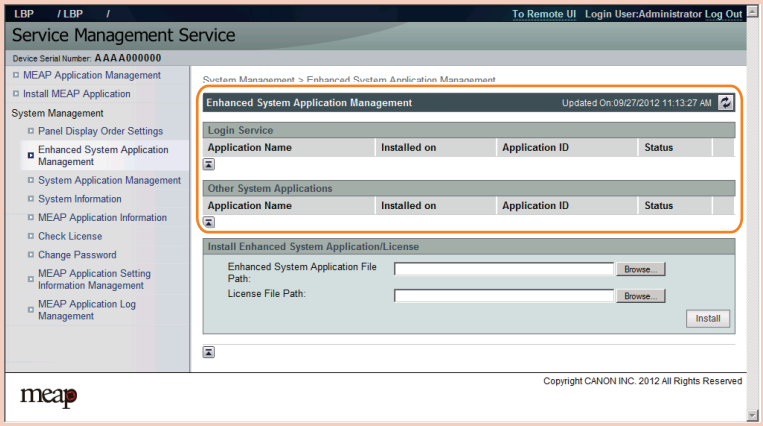
3) Check that the status of the selected login service application has changed to [Start after Restart]. Then, log out of SMS and restart the device.



F-2-135

CAUTION:

In case that the login method to a device is set to SSO-H, if you log in SMS with RLS authentication, no selection is displayed although it is the screen to change the login method.



F-2-136

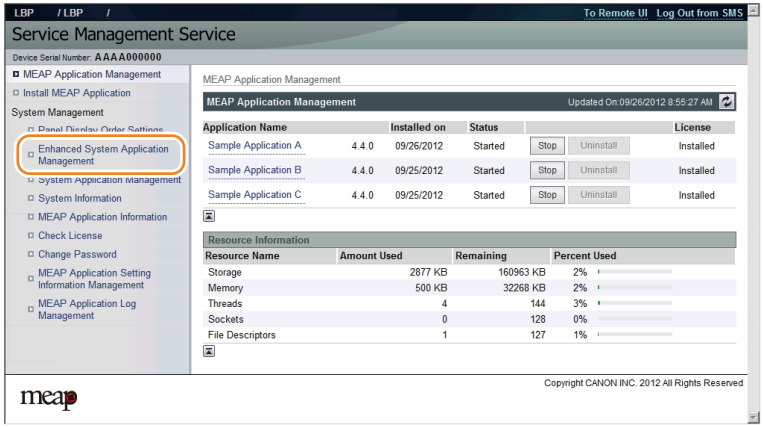
This is the specification to prevent the inconsistent setting which enables to stop SMS Installer Service (Password Authentication) by changing the login method to Default Authentication.

When you want to change the login method to a device, log in the SMS with the password authentication.

Procedure Installing Login Services

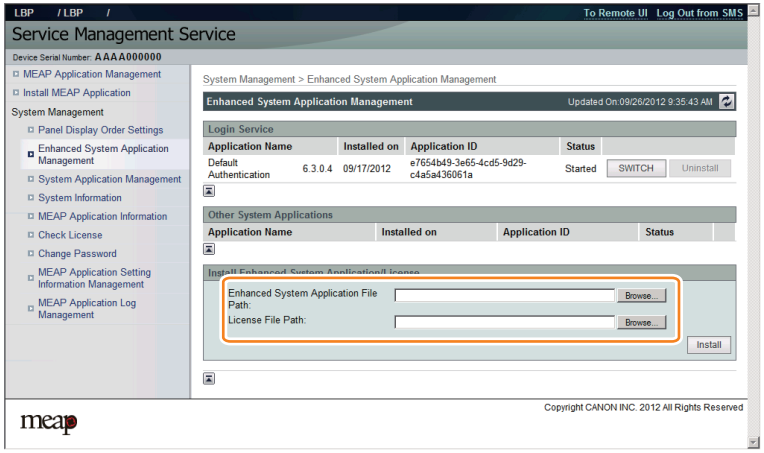
Use the following procedure to install the login services.

1) Access SMS, and then click [System Management] > [Enhanced System Application Management].



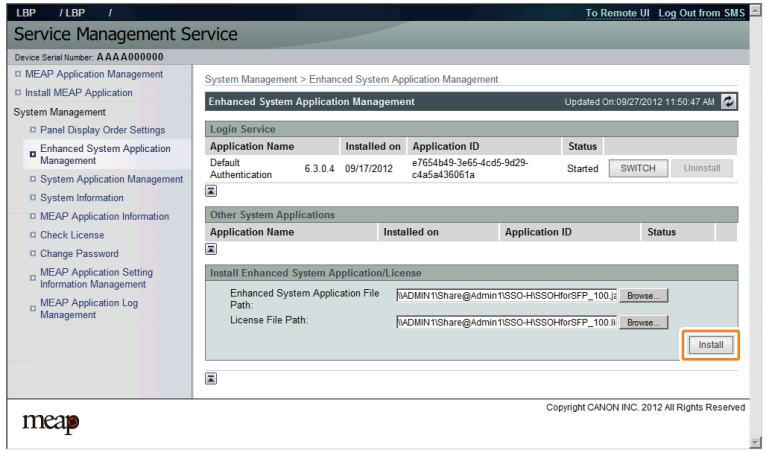
F-2-137

2) Click the [Browse] button, and specify the Enhanced System Application file/License file.



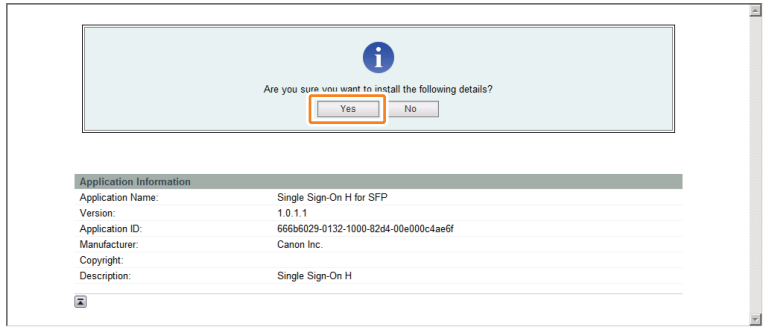
F-2-138

3) Click [Install] button.



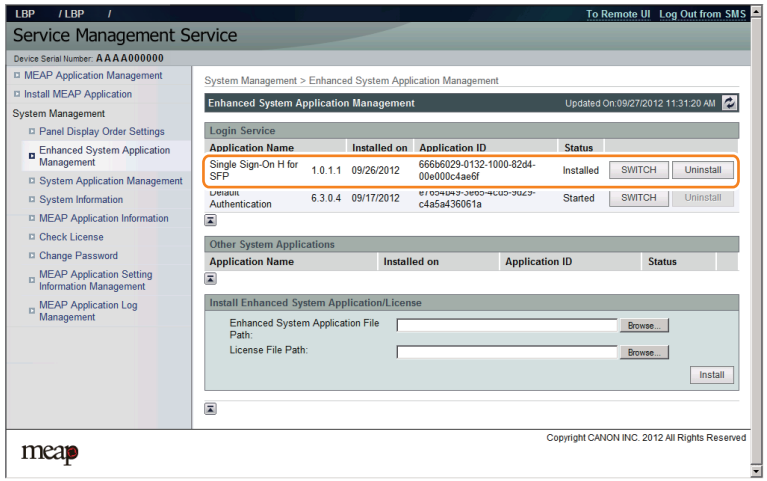
F-2-139

4) As the screen to confirm login application to install is displayed, click [Yes].



F-2-140

5) As [Enhanced System Application Management] screen appears again, check that the installed login application is displayed.



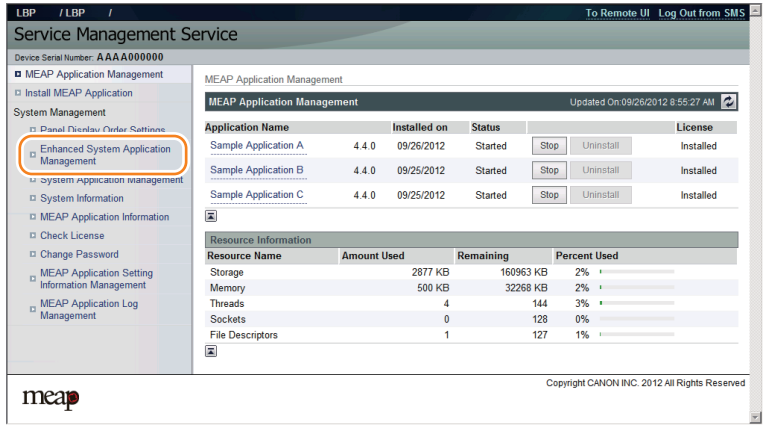
F-2-141

Procedure Uninstalling Login Services

Use the following procedure to uninstall the login services.

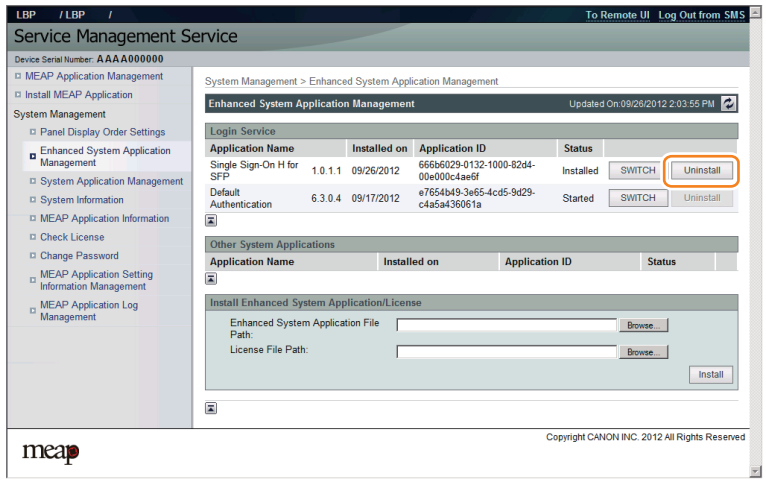
Also, note that the services need to be stopped ("Installed" status) in order to uninstall the login services.

1) Access SMS, and then select [System Management] > [Enhanced System Application Management].



F-2-142

2) Click the [Uninstall] button of the login service you want to uninstall.

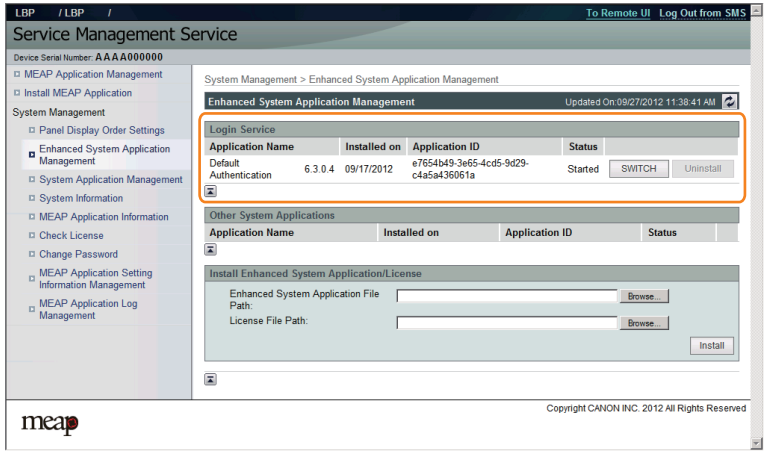


F-2-143

3) As the screen to confirm uninstallation is displayed, click [Yes].

F-2-144

4) As [Enhanced System Application Management] screen appears again, check that the login application has been correctly uninstalled.



F-2-145

System Application Management

This function manages the login services for logging in to SMS.
There are two login methods: one is "password authentication" where you enter the password for SMS on the SMS login screen and log in, and the other is "RLS authentication" where you do not use the SMS login screen but enter the user ID and password on the RLS (Remote Login Service) screen for authentication.

Password authentication

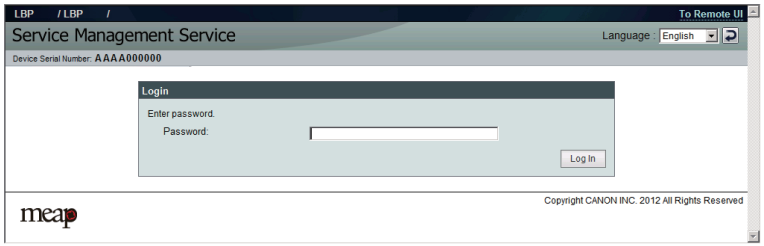
Enter the password on the SMS login screen for authentication. Only one password can be set for SMS.
The login procedure is shown below.

1) Access SMS from the browser of a PC on the same network as the MEAP device. The URL is as follows.

URL: https://<IP address of MEAP device>:8443/sms/
Ex.) https://172.16.188.240:8443/sms/

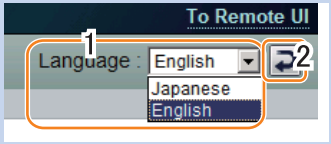
Note:
To encrypt the password information input when logging in, SSL of the login screen was made effective. However, it is redirected to new URL (effective SSL) even when accessing with URL (non-SSL) before.

2) Enter the password in the password entry field, and click the [Log In] button. The default password is “MeapSmsLogin.” (The password is case-sensitive.)



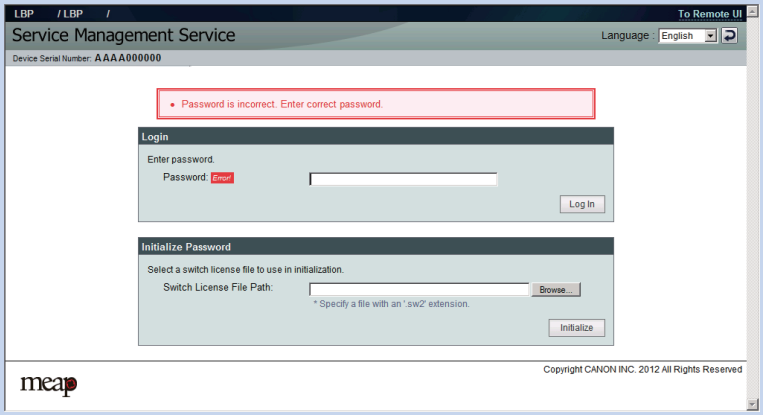
F-2-146

Note:
If you want to change the display language, select the language from the drop-down list of [Language] at the upper right of the login screen, and click the update button.



F-2-147

Note:
If the wrong password is entered, the following window is displayed. The user's system administrator may have changed the password, so confirm the password with the system administrator. Note that there is no special password for service.



F-2-148

RLS Authentication

Login without using the SMS login window but by entering the user ID and password for authentication in the RLS (Remote Login Service) window. The user information (user name and password) used is the information for server authentication or local device authentication. The login procedures are as follows.

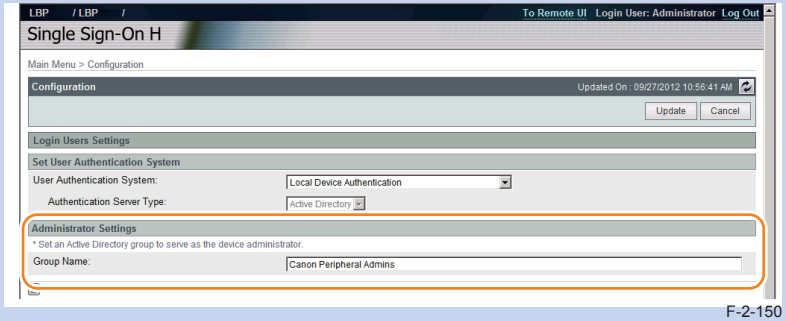
1) Access SMS by RLS Authentication from the PC browser on the same network as the MEAP device.
URL: https://<IP address of MEAP device>:8443/sms/rls/
Ex.) https://172.16.188.240:8443/sms/rls/

Note:
To encrypt the password information input when logging in, SSL of the login screen was made effective. However, it is redirected to new URL (effective SSL) even when accessing with URL (non-SSL) before.

F-2-149

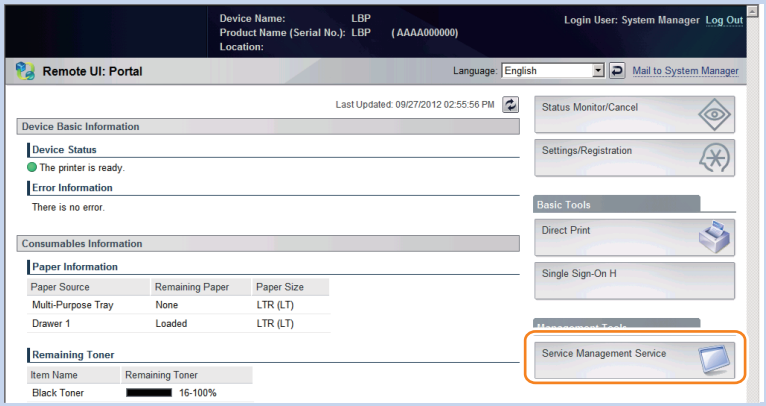
Note:
- When the device authentication method used is server authentication, enter the user name, password and login destination registered with authentication server and then click 'Log In'.
- If the authentication method used is local device authentication, enter the user name, password and login destination registered in the device and click 'Log In' button. The user information is set as below for local device authentication by default. Both are case sensitive.
  - User Name: Administrator
  - Password: password

Note:
Only the following users may us SMS via RLS.
- For local device authentication, users with Administrator or Device Admin authority.
- In the case of server authentication, the users who belong to the group (default:Canon Peripheral Admins) specified as the device administrator on the SSO-H Configuration screen.



F-2-150

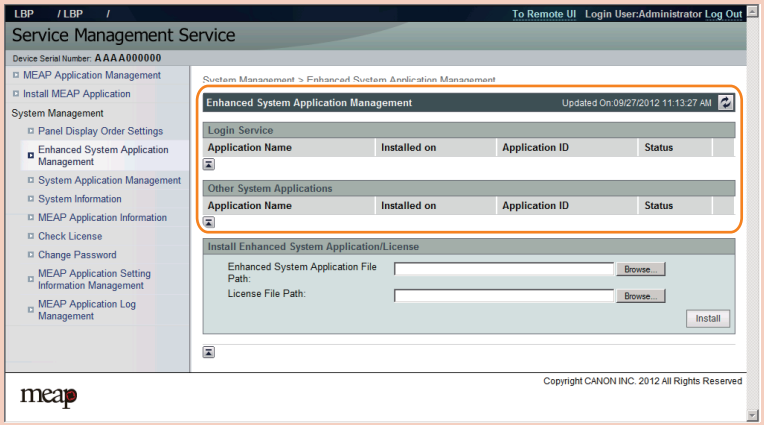
Note:
SMS Access can be gained also from Remote UI.
Access Remote UI and click on SMS shortcut shown on the lower right of the screen to gain access to SMS.
When only the password authentication is enabled, the password authentication screen is shown.
When only the RLS authentication is enabled, no further authentication is needed to access SMS. This is because users have already authorized upon accessing to Remote UI.



F-2-151

CAUTION:

In case that the login method to a device is set to SSO-H, if you log in SMS with RLS authentication, no selection is displayed although it is the screen to change the login method.



F-2-152

This is the specification to prevent the inconsistent setting which enables to stop SMS Installer Service (Password Authentication) by changing the login method to Default Authentication.

When you want to change the login method to a device, log in the SMS with the password authentication.

Setting the method to login to SMS

Outline

The method to log into SMS can be specified by one of the following methods.

- If you want to change the password authentication settings: Use RLS authentication to log in, and change the settings.
- If you want to change the RLS authentication settings: Use password authentication to log in, and change the settings.

The following table shows the start/stop combinations of the two login methods.

Combination of Login Methods

	Start RLS Authentication	Stop RLS Authentication
Start Password Authentication	Login available with either method	Login available only with
Stop Password Authentication	Login available only with RLS Authentication	Setting unavailable

CAUTION:

If only login via RLS is programmed, login may be disabled for the following reasons.

- Authentication server is down
- Network problem, no communication with authentication server

In the event of either of these cases, try the following.

1. If local device authentication is active, try logging in with local device authentication.
2. If only server authentication is active, launch in MEAP safe mode from the device service mode.

After launching in MEAP safe mode, the Default Authentication will become active, and you will be able to login to SMS with password authentication. After logging into SMS, set the password authentication login to ON (active) and restore the device from MEAP safe mode to normal mode. Until the problem blocking authentication is resolved, log into SMS with password authentication.

Setting for login by Password Authentication

The procedures for changing the password authentication Start/ stop settings are as follows.

1) Access SMS login screen by RLS Authentication from the PC browser on the same networkas the MEAP device.

URL: https://<IP address of MEAP device>:8443/sms/rls/

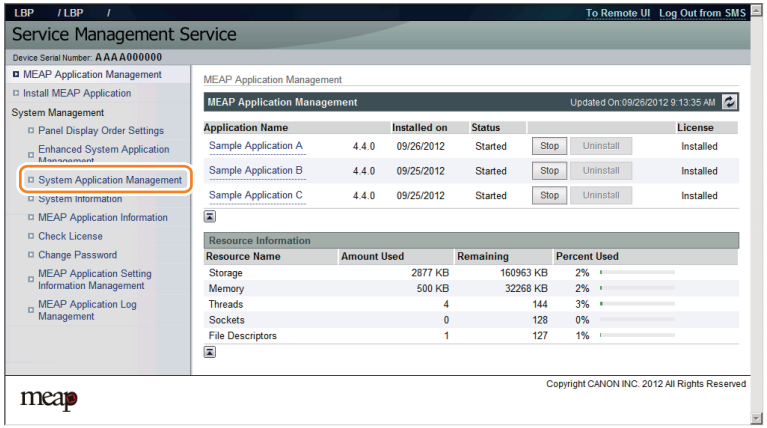
Ex.) https://172.16.188.240:8443/sms/rls

2) Enter the user name and the password of the user registered as an administrator, select the login destination, and then click the [Log In] button.

Login screen (In case authentication method is SSO-H)

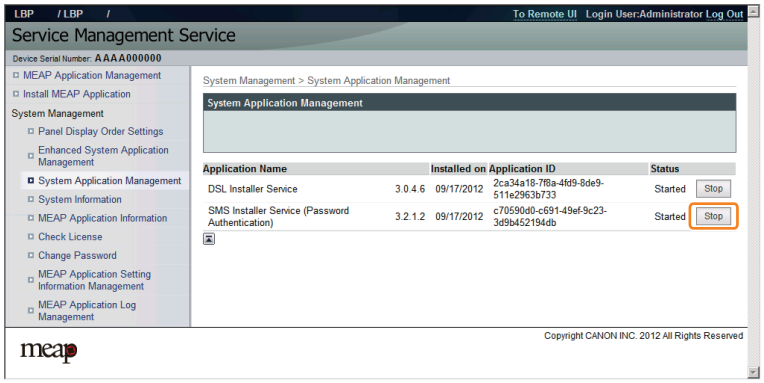
F-2-153

3) Select [System Application Management]



F-2-154

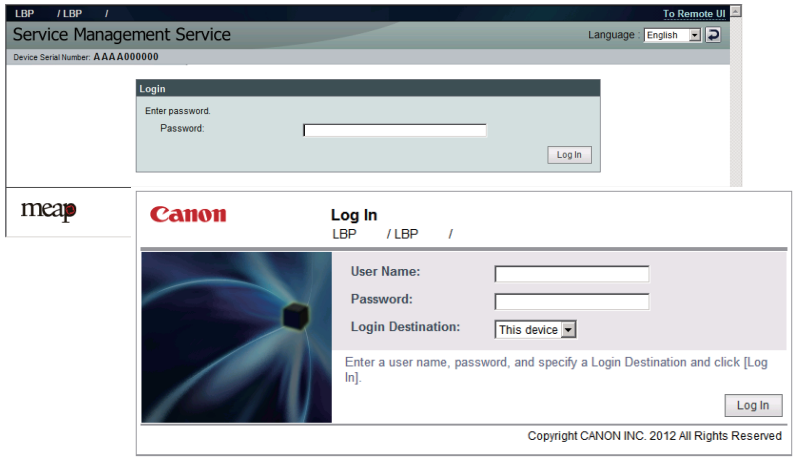
4) Click [Start] or [Stop] button shown in Status field of SMS Installer Service (Password Authentication) to check if the status is changed.



F-2-155

5) Logout once and login again to check to see that the setting is applied properly. When clicking [Stop] to change the status to [Start], another password authentication login screen is firstly shown. When trying to access the password authentication screen after clicking [Start] to change the status to [Stop], the user is automatically redirected to RLS authentication screen.

Password authentication started screen and Password authentication stopped screen



F-2-156

Setting for login by RLS Authentication

The procedures for changing the RLS authentication Start/ Stop settings are as follows.

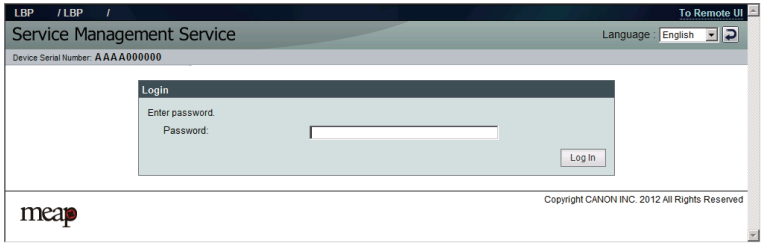
1) Access the SMS login screen using the normal method (password authentication). The URL is shown below.

URL: https://<IP address of MEAP device>:8443/sms/rls/

Ex.) https://172.16.188.240:8443/sms/rls

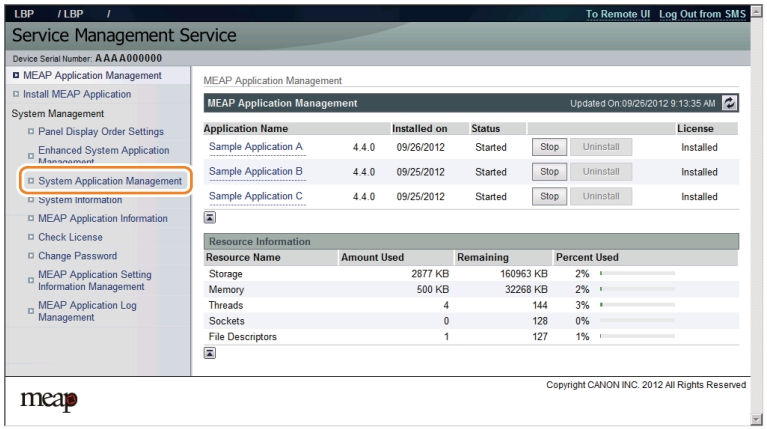
2) Enter the password in the password entry field, and click the [Log In] button. The default password is "MeapSmsLogin". (Case sensitive)

Login screen by Password Authentication



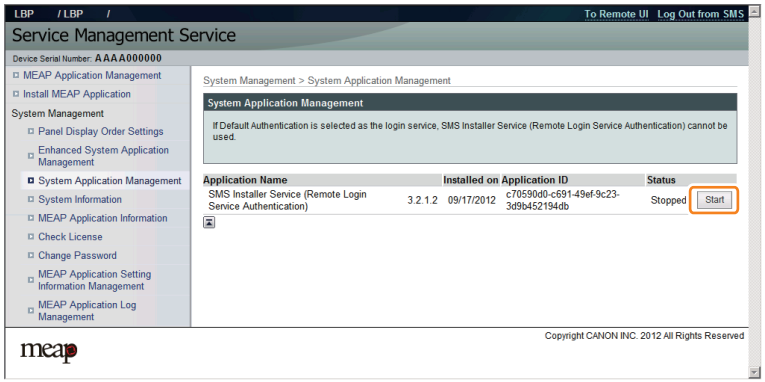
F-2-157

3) Select [System Application Management] on System Management menu.



F-2-158

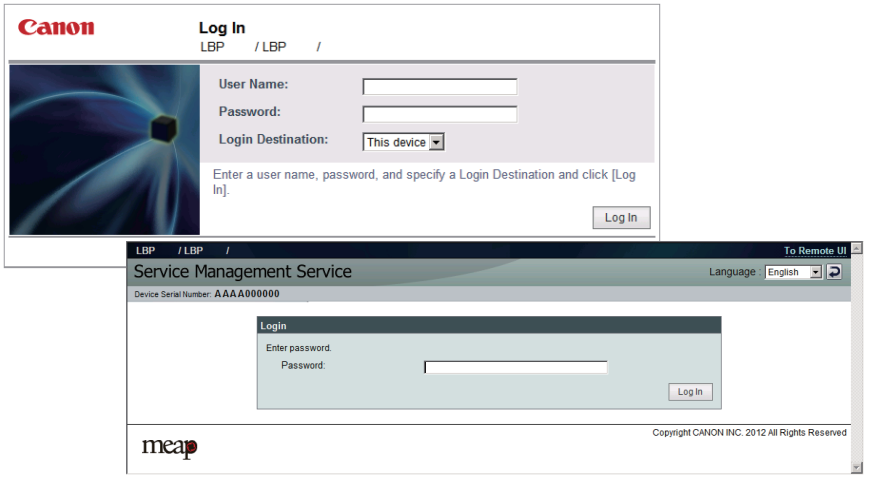
4) Click on [Start] or [Stop] button shown on Status field of SMS Installer Service (Remote Login Service Authentication) to check if the status is changed.



F-2-159

5) Log out and then log in again and access via the RLS authentication login window. When RLS authentication is set to [Start], another RLS login screen is firstly shown. When accessing to RLS status screen with the setting of [Stop], the user will be redirected to the password authentication screen.

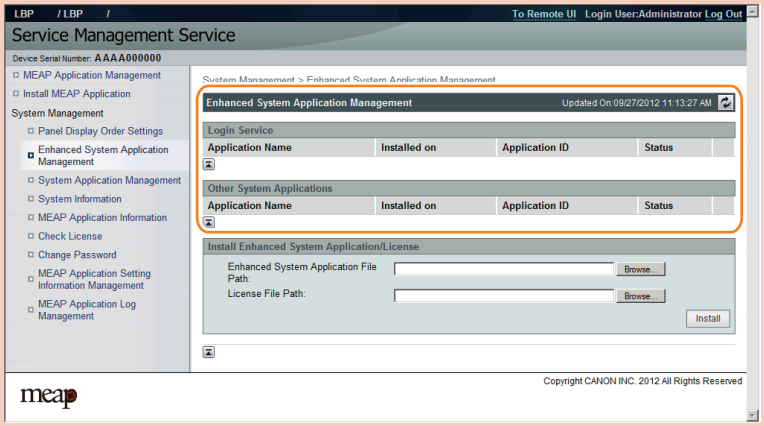
RLS authentication started screen and RLS authentication stopped screen



F-2-160

CAUTION:

In case that the login method to a device is set to SSO-H, if you log in SMS with RLS authentication, no selection is displayed although it is the screen to change the login method.



F-2-161

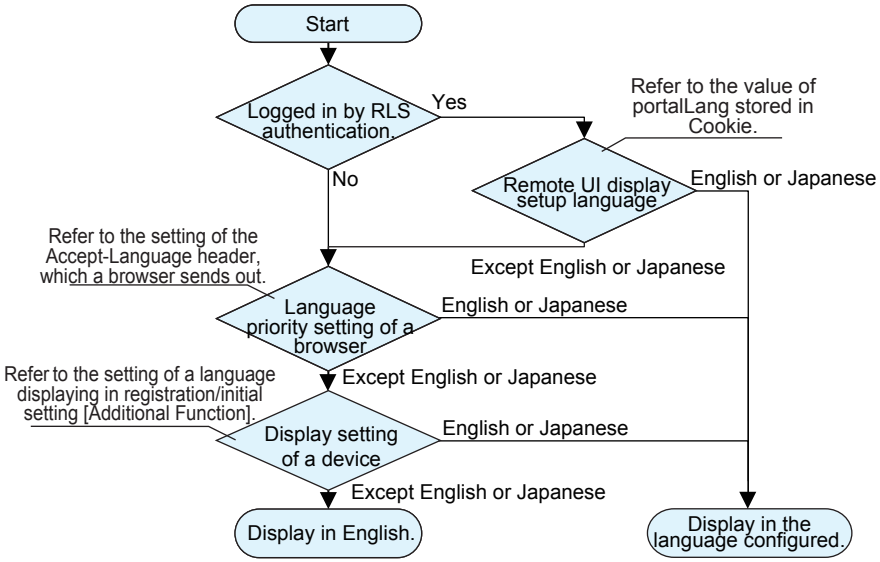
This is the specification to prevent the inconsistent setting which enables to stop SMS Installer Service (Password Authentication) by changing the login method to Default Authentication.

When you want to change the login method to a device, log in the SMS with the password authentication.

Initial Display Languages of SMS

SMS supports English and Japanese. Display language can be changed with selecting by the drop down list on a login page.

The initial display language at the time of accessing SMS depends on the setting.



F-2-162

When accessing by SMS Installer Service (Password Authentication)

It is referred in order of the language priority (setting of the Accept-Language header which a browser sends out) and the display-language setting in the "user mode". When the language setup is other than English or Japanese, it is displayed in English.

When accessing by SMS Installer Service (Remote Login Service Authentication).

Initial display language is set by the language setting (value of portalLang storing in Cookie) selected by the remote UI screen. When the setting is other than English or Japanese, Selection of display language is performed in a similar way with the SMS Installer Service (Password Authentication) mentioned above.

System Information

Outline

You can check the device's platform information and the MEAP application's system information.

Checking the System Information

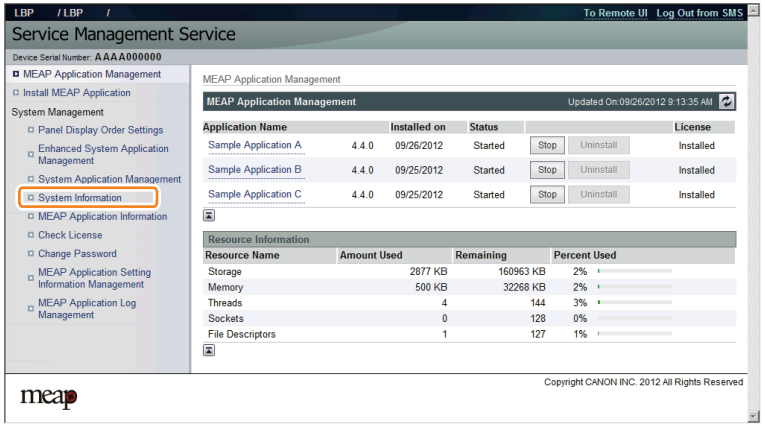
System information that can be checked from the screen:

- Platform information
  - MEAP Specifications version (MEAP Spec Ver)
  - MEAP Contents version
  - Java Virtual Machine version
- System application information
  - The name of the installed system application
  - The installation date of the installed system application
  - Application ID of the installed system application
  - The status of the installed system application

The checking procedure is shown below.

1) Log in to SMS.

2) On System Management menu, click [System Information] button.



F-2-163

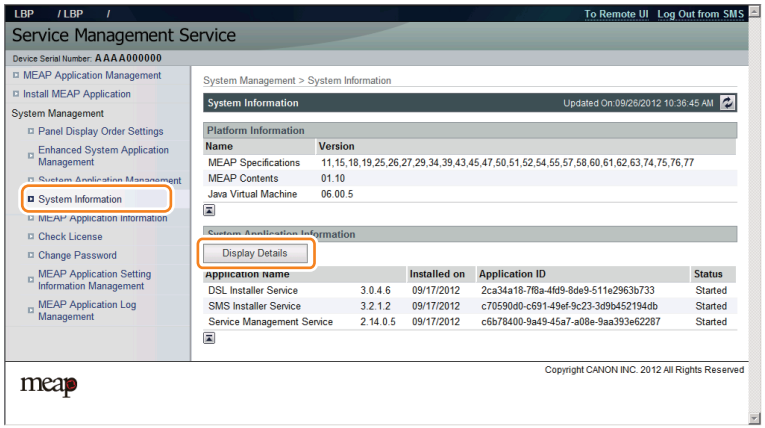
Display of System Information Details

The system information details can be displayed to check more than one pieces of information all at the same time: platform information, system application information, information on the installed MEAP applications, etc.

1) Log in to SMS.

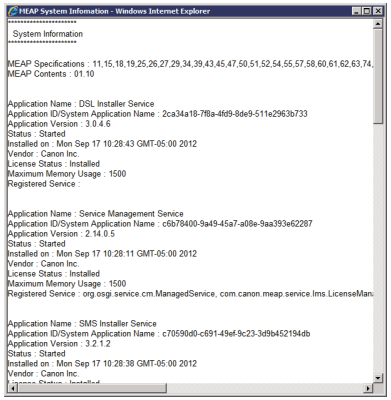
2) On System Management menu, click [System Information].

3) Click [Display Details] button.



F-2-164

4) The system information of each application (including System Application) is shown in a separate window. Copy and paste all the information in a file to attach to AR reports as text information. This function is useful to check status information of each application.



F-2-165

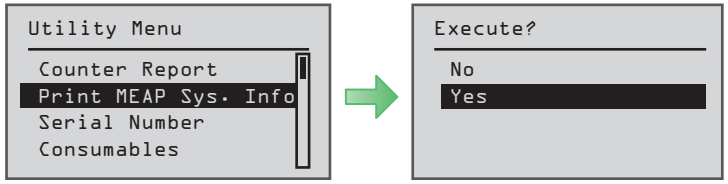
Printing the System Information of a MEAP Application

MEAP system information can be printed out with iR device for confirmation.

Note:
The system information of the MEAP application that you checked in the previous section is exactly the same as the system information of the MEAP application that is output.

Follow the steps below when confirming information:

1) From [Utility Menu], select [Print MEAP Sys. Info].
2) When the execution confirmation screen appears, select [Yes] and then press the [OK] button on the Control Panel.



F-2-166

Content of MEAP system information

Application System Information

Application Name: C-Cabinet Gateway for MEAP
Application ID/System Application Name: 03a46668-63e4-4636-9cbb-492b6cef05d5
Application Version: 1.0.0
Status: Resolved
Installed on: Tue Oct 21 14:00:11 GMT+09:00 2003
Vendor : Canon Inc.
License Status : Installed
Maximum Memory Usage : 1024
Registered Service :

Item	Content
Application Name	It is the name (bundle-name) declared in a statement within the application program. It may not necessarily be identical to the name of the program.
Application ID/System Application Name	Application ID (application-id) items which are declared on the declaration statement in the application program are printed.
Application Version	It is the version of the application (bundle-version) declared in a statement within the application program.
Status	It indicates the status of the application in question; specifically, Installed: the application has been installed. Active: the application is being in use. Resolved: the application is at rest.
Installed On	It indicates the date on which the application was installed.
Vendor	It is the name of the vendor that developed the application, and is the name (bundle-vendor) declared in a statement within the application program.
License Status	It indicates the status of the license; specifically, None: no license is needed. Not Installed: no license has been installed. Installed: the appropriate license has been installed. Invalid: the license has been invalidated. Overlimt: the license has been used beyond its permitted limit.
License Expires After	It indicates the date after which the license expires. If the status of the license is 'none', this item will not be printed.
License Upper Limit	It indicates the limit imposed on individual counter readings. If the status of the license is 'none', this item will not be printed.
Counter Value	It is the current counter reading of a specific counter. If the status of the license is 'none', this item will not be printed.
Maximum Memory Usage	It indicates the maximum amount of memory that the application uses. It is the amount (maximum memory usage) declared in a statement within the application program, and is expressed in kilobytes.
Registered Service	It is a list of services that have been registered by the application with the MEAP framework. Some services may not have printable data.

T-2-19

MEAP Application Information

Outline

You can use this function to check the MEAP application installed on the device.

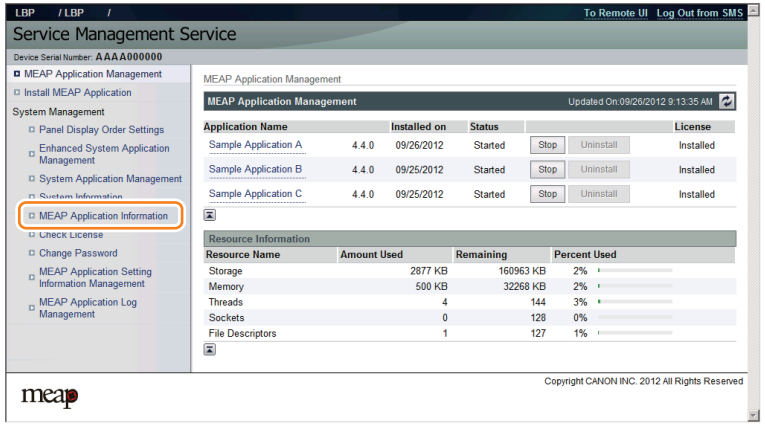
The following information can be checked on the MEAP application information screen.

- Application Name
- Application ID
- Installed on
- Status
- License Status
- Counter Information

Procedure to Check MEAP Application Information

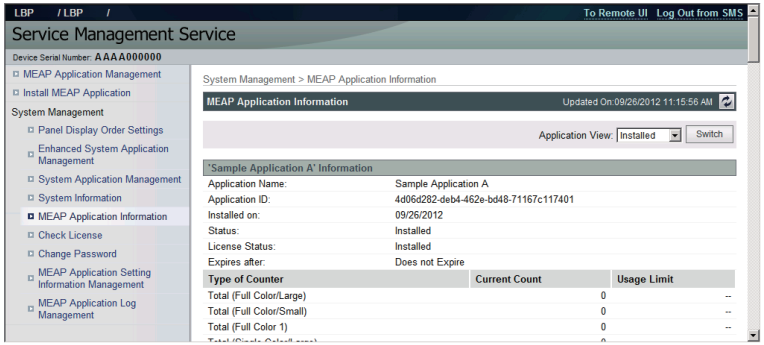
1) Log in to SMS.

2) On System Management menu, click [MEAP Application Information] button.



F-2-167

3) The MEAP application information screen appears.



F-2-168

Check License

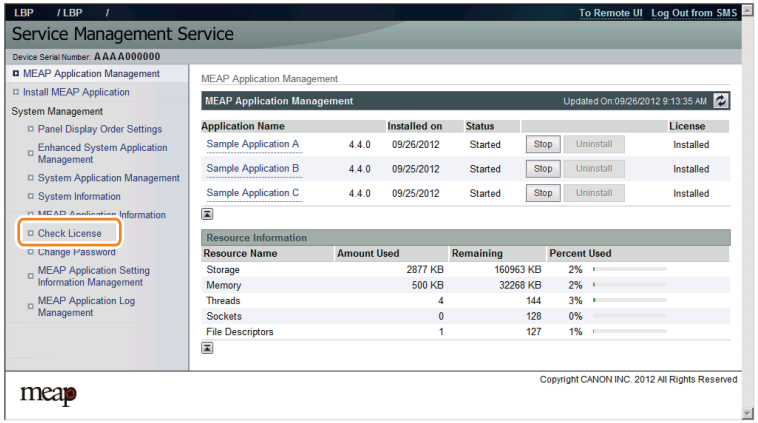
Outline

You can use this function to check the contents of the license file.

Procedure to Check the License File

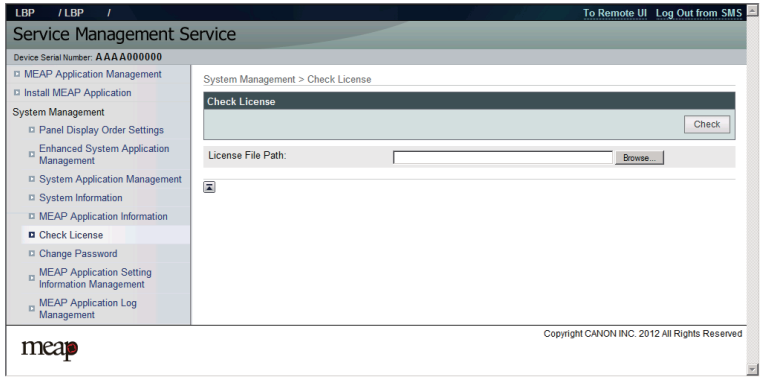
1) Log in to SMS.

2) On System Management menu, click [Check License] button.



F-2-169

3) Click the [Browse..] button, specify a license file, and click the [Check] button.



F-2-170

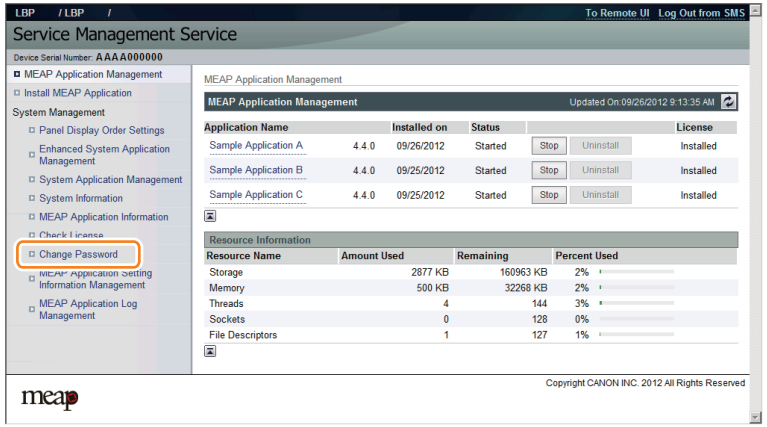
Changing SMS Login Password

Outline

You can change the password for logging in to SMS.
If you forgot the login password and you want to change the password back to the default value (MeapSmsLogin), see "When SMS Cannot Be Accessed" in this manual.

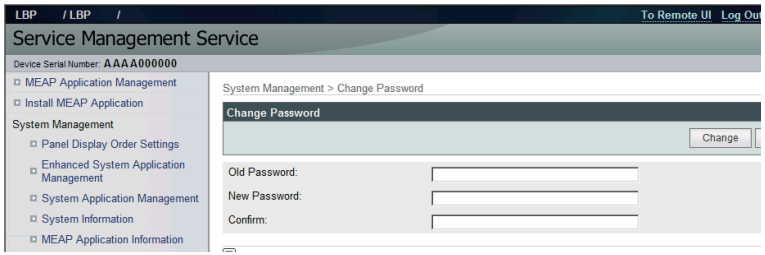
Procedure to Change the SMS Login Password

1) Log in to SMS.
2) On System Management menu, click [Change Password] button.



F-2-171

3) Enter both the current password and a new password, and then click the [Change] button.



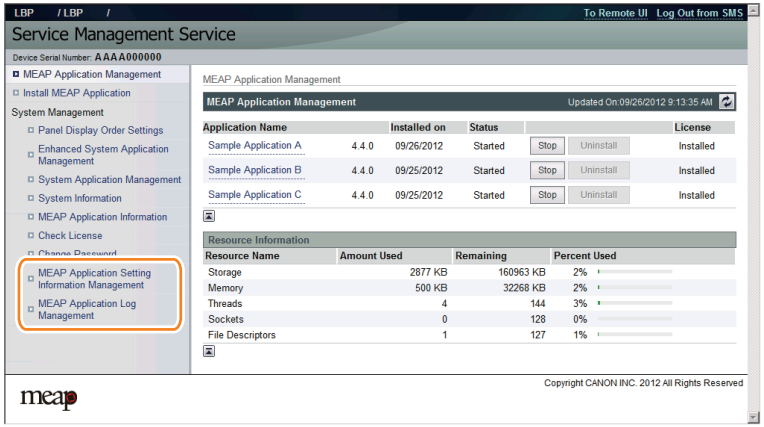
F-2-172

Note:
The [Reset] button on the [Change Password] screen is used to clear the value entered in the text field. It is not a button for changing the SMS login password back to the default value.

MEAP Application Setting Information Management and Log Management

Outline

The MEAP Application Setting Information Management page and the MEAP Application Log Management page provide menu related to "MEAP Application Configuration Service" for managing MEAP application setting information and "MEAP Application Log Service" for managing log information respectively.



F-2-173

MEAP Application Configuration Service

This service manages the MEAP application setting information. It has functions such as saving setting information to the MEAP area. Ver 57 of MEAP Specifications supports this service.

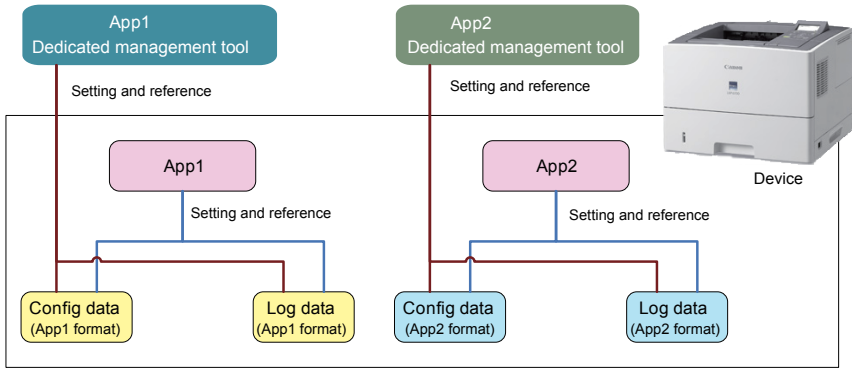
MEAP Application Log Service

This service is used to collect MEAP application logs (debug logs and authentication logs). Ver.58 of MEAP Specifications supports this service.

Advantages Obtained When Using the Services

By using MEAP Application Configuration Service and MEAP Application Log Service, as long as the MEAP application supports these services, you can perform data management tasks all together.

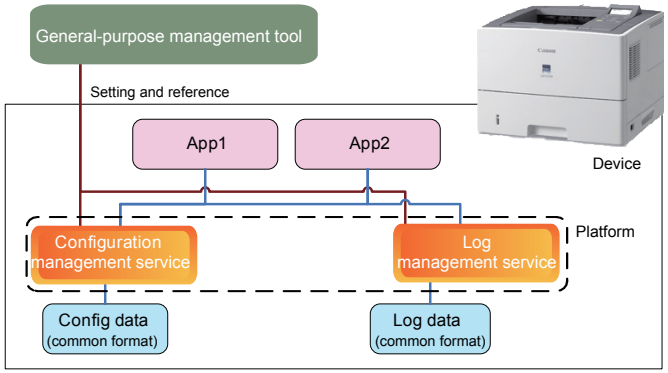
In case of devices and MEAP application that do not support the service



F-2-174

As for devices and MEAP application that do not support the service, the setting information and log data are managed separately by application.

In case of devices and MEAP application that support the service



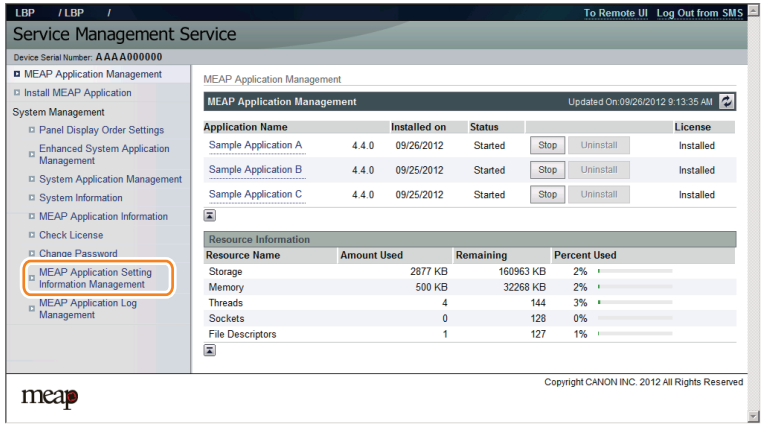
F-2-175

As for devices and MEAP application that support the service, information can be managed all together.

MEAP Application Setting Information Management

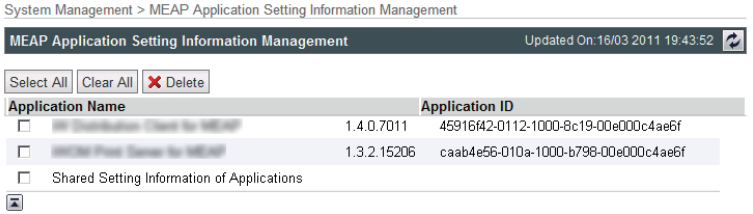
The setting data (stored on the device) of the MEAP application which supports the Configuration Service can be deleted. The procedure is shown below.

1) Log in to SMS.
2) On System Management menu, click [MEAP Application Setting Information Management] button.



F-2-176

3) Select an application you want to delete, and then click the [Delete] button.



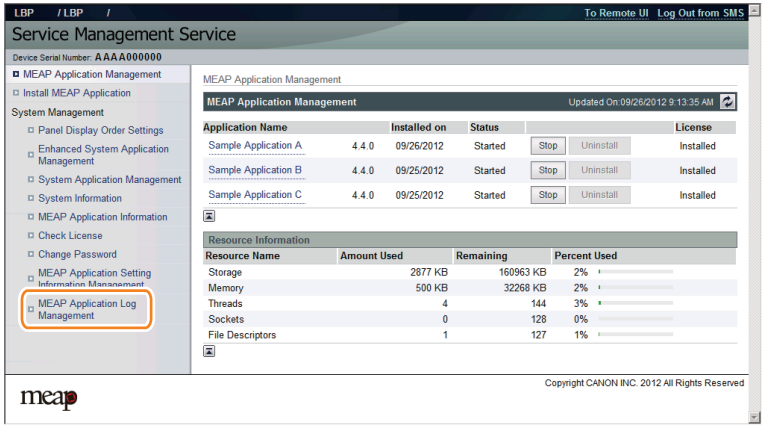
F-2-177

Note:
If the installed MEAP application contains setting data which is not dedicated to the application but can be shared, the application name [Shared Setting Information of Applications] will be displayed.

MEAP Application Log Management

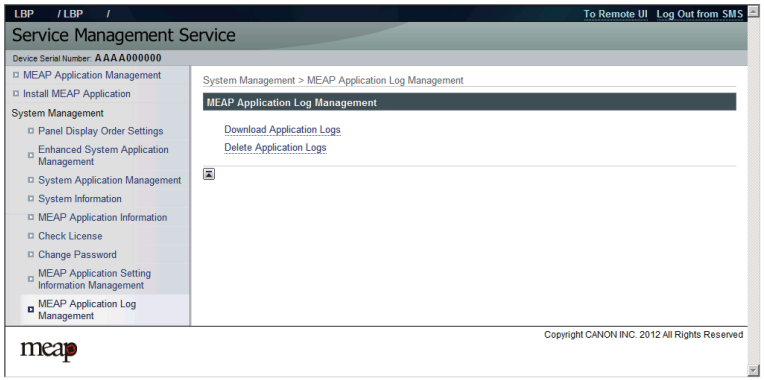
The log data (stored on the device) of the MEAP application which supports the Log Service can be downloaded or deleted. The procedure is shown below.

1) Log in to SMS.
2) On System Management menu, click [MEAP Application Log Management] button.



F-2-178

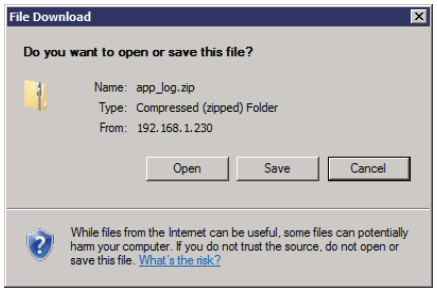
3) Click [Download Application Logs] or [Delete Application Logs].



F-2-179

4) To download the log

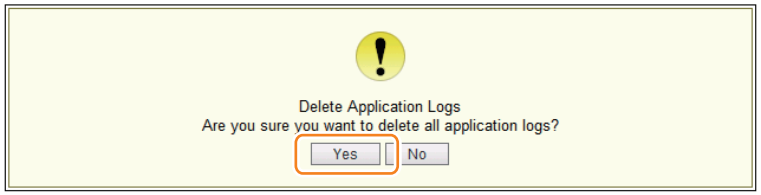
The file save dialog for the log file will appear. Specify a destination and save the file.



F-2-180

5) To delete the log

The confirmation screen will appear to prompt you to delete the log. Click the [Yes] button to delete the log.



F-2-181

Maintenance

When Replacing the PCB

Outline

If the machine fails to operate normally due to a storage drive (Flash PCB) failure or a system (other than MEAP application) trouble, the storage drive needs to be replaced.
However, since the storage drive in this machine is directly mounted on to the PCB, replacement of the part alone is not possible; it is necessary to replace the PCB.
Since the storage drive of the machine cannot be backed up or restored, the MEAP application and the license file need to be reinstalled when replacing the PCB.
When the storage drive and the system are operating normally but the PCB is replaced due to other reasons, the MEAP application and license file need to be reinstalled.
The MEAP counter information cannot be lost because it is backed up like other conventional counters.

Note:
When the device has E code 616 displayed, this indicates that the trouble was caused by damage to the Flash PCB. If this error occurs, the PCB needs to be replaced.

Special license for reinstallation

When replacing the PCB, a special license file is required to reinstall the application with the expiration date of the current counter value migrated as it is. This special license file is handled as a service tool and cannot be obtained by end users.
In order to obtain a special license file, the service technician needs to contact the person in charge of support at the sales company.
The service technician needs to give the device serial number and the names of the MEAP applications that had been installed.

Since the support department of the sales company manages all the issued application license files by device serial number, it is basically possible for them to successively issue license files once the device serial number is confirmed.

Note:
The application that is installed with a reusable license can be reinstalled by using the same license.

Procedure for reinstalling MEAP applications after replacing the PCB

The following shows the procedure when replacing the PCB.

1) Preparation before replacement
The following work needs to be done before replacing the PCB.
- Some MEAP applications have a function to back up or export the data to be used. If such a MEAP application is installed, back up or export the data in advance.
- In order to reinstall the applications, copy the licenses (special licenses, reusable licenses, etc.) of all the MEAP applications to the laptop PC.

2) Replacing the drive
Prepare the necessary service parts, and replace the drive.

3) Reinstalling the MEAP application
When the device has started normally, obtain the jar files of the MEAP applications from the user, and install them using the license files for reinstallation.
Installation method is the same as normal installation.

4) Importing user information
As necessary, make login service selections and import user information.

Note:
When you replace the PCB without uninstalling MEAP applications, make sure to reinstall the previously installed applications. Unless reinstalling them, MEAP counter will not be released and the message “The number of applications that can be installed has exceeded the limit. Try to install this application after uninstalling other applications.” is displayed so that the installation of new applications may not be accepted. If you want to install new applications in this case, once reinstall the applications in-stalled before formatting and uninstall unnecessary applications.

WARNING:
Do not install a Main PCB of another device and conduct operation check in order to check whether an error has occurred in the Main PCB. If the PCB is replaced and the system is started, the data on the installed PCB will be initialized.

Actions to be taken when E616 is displayed.

Overview

When E602 is displayed and then the device is restarted as a remedy, E616 may be displayed in some cases.
This is a symptom that occurs when the power is cut off without shutdown (such as disconnecting the plug of the device). The error code is displayed when the file system of the MEAP storage area is in an abnormal status.

When the device is started, it checks the file system. If the device detects an error, it displays the error code E602, disables the MEAP function, and then starts.
When the device is restarted according to the remedy for E602, the file system is recovered automatically in the system. If the recovery procedure succeeds, the device starts normally with the MEAP function enabled.
However, if the file system could not be recovered by auto recovery, E616 is displayed.
Since the system is automatically formatted when E616 is displayed, the installed MEAP applications will disappear and the device's MEAP function itself will also be disabled.
For this reason, it is necessary to enable the MEAP function and then reinstall the MEAP applications.

Work procedure

Perform the following procedure when E616 is displayed.

1) Start the device in service mode.
2) Select [Setup] > [SERVICE MODE] > [FUNCTION GR.] > [MEAP FUNCTION] > On to enable the MEAP function.
3) Restart the device to start the MEAP function.
4) Access SMS, and then use a reusable license or special license for reinstallation to install the MEAP application.

Note:
As for MEAP applications that were installed using reusable licenses, the reusable licenses can be used to reinstall the applications. For other MEAP applications without reusable licenses, use special license files to reinstall them, in the same as way as handling a storage drive failure.
For information on how to obtain a special license for reinstallation, see "Special license for reinstallation" in this chapter. Then contact the support department of the sales company to have the license issued before starting the work.

5) Start the MEAP application.

MEAP Safe Mode

Outline

Use safe mode if you need to start up the system without worrying about extra applications. It will start up only those system software files (including SMS) that normally start up as default files while preventing MEAP applications and the like from starting up.

When you have made changes and restart the device, the control panel will indicate 'MPSF' in its lower right corner. The MEAP applications that may have been active before you shut down the equipment will not start up on their own. Make use of safe mode when restoring the system software as when MEAP applications or services cause a fault as the result of a conflict or wrong sequence of registration/use. You can access to SMS in this condition so that you can take necessary measures, for example, you can stop application that may cause the trouble.
If default authentication has been selected, the mode of authentication remains valid; otherwise, the message "The login service must be set again with SMS" ap pears. Change the login service as necessary.

Starting in Safe Mode

To start the device in the MEAP SAFE mode, turn ON the power with the [Application] key and the [ID] key pressed.

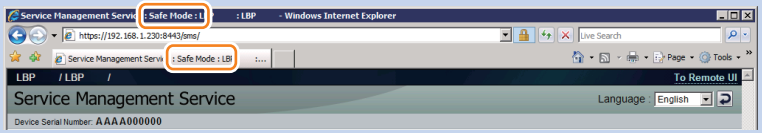
How to cancel MEAP SAFE mode

If you want to cancel MEAP SAFE mode, just restart the device as usual. It will start in normal mode.

Note:
If accessed to SMS in MEAP SAFE mode, the device started mode is shown on the title bar of the browser.

When normally started:
Service Management Service : <Device Name>: <Product Name>

When starting in MEAP SAFE mode:
Service Management Service : <Device Name>:<Product Name>: Safe Mode

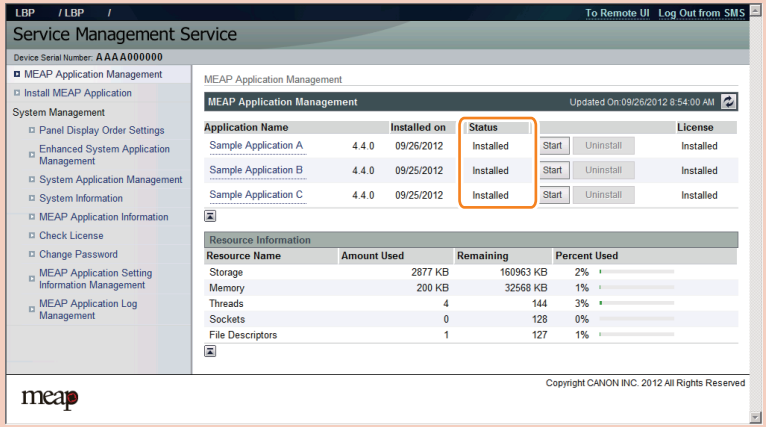


F-2-182

WARNING :

If the device has been started in the MEAP SAFE mode, all MEAP applications stop and the status becomes "Installed".

This status remains unchanged even if the MEAP SAFE mode is cancelled and the device is started again in normal mode. It is therefore necessary to access SMS after normal startup, and start the MEAP application.



F-2-183

■ Using USB Devices

● Two types of USB drivers

While the USB driver that can be used in iR series is only the USB driver designed exclusively for MEAP application (hereinafter referred to as “MEAP driver”), not only MEAP driver but also USB system driver (hereinafter referred to as “system driver”) can be used in iR-ADV series.

System driver and MEAP driver cannot be used together. When either of them is used, the other driver cannot be used.

In this model, the USB system driver supports only Mass Storage; HID is not supported. In other words, storage devices such as USB Flash memory can be used via system driver, but interface devices such as USB keyboard cannot be used via system driver.

● USB driver setting

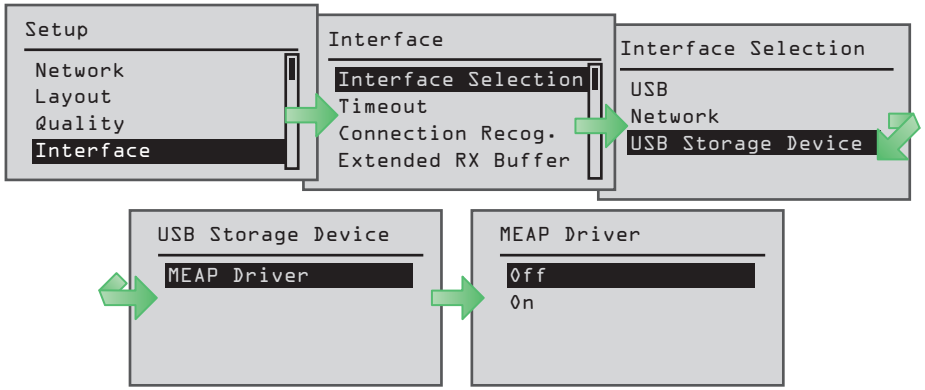
System driver is active by default in iR-ADV series.

The driver can be changed in setup menu.

Usually, It is not necessary to change the setting because it is specified in the MEAP application side.

Only in the case of a special MEAP application, it is necessary to change the USB driver setting.

For details, refer to specifications of MEAP application side.



F-2-184

USB Storage Device Settings: [MEAP Driver]	Application that supports mass storage device	MEAP application that supports system driver
ON * MEAP driver (compatibility mode)	Can use USB mass storage device. Can work only on the applications that support the MEAP application driver.	Cannot use USB mass storage device.
OFF (*default) * Native driver	Cannot use USB mass storage device. (Device cannot be detected.)	Can use USB mass storage device.

T-2-20

Note:
When any settings changes are made, the device must be restarted.

Setting the USB driver for each USB device (MEAP driver preference registration)

If it is set to use the system driver, the conventional applications that support the MEAP application driver cannot use the USB input device.
Therefore, for the USB drivers used by USB devices/MEAP applications, there is setting function (MEAP driver preference registration) to give priority to the MEAP driver.
If you register the ID of the USB device by using this function, the USB device can use the MEAP driver despite the Additional Function settings.

Using this function requires the conditions below:

- Supported MEAP Spec Ver: 26
- Describe the idVendeor(VID) and idProdutc(PID) of USB device in the manifest or activate/deactivate the VID and PID by calling API from MEAP applications.

The driver setting that is used in a manifest file is reflected in the following timing.

When registering from a manifest file.

- The registration will be enabled when an application is activated and device is restarted.
- The registration will be disabled when an application is stopped and device is restarted.

Availability for MEAP application of the USB device A (either HID keyboard or Mass Storage) plugged to iR device

Registration status of USB device A	USB Setting [Use MEAP driver for USB input device]	Native application	MEAP application		
			System driver supported application	System driver not supported/ conventional application	Application with VID/PID declared in Manifest for x
Not registered	OFF	YES	YES	NO	
	ON	NO	NO	YES	
Registered	OFF	NO	NO	YES	YES
	ON	NO	NO	YES	YES

T-2-21

YES: USB device available NO: USB device not available

Reference material

Glossary

Terms & Acronyms	Definitions and Explanations
Application	A program unit to provide users with solutions.
Application ID	An identifier assigned to each application. A unique ID is assigned to each MEAP application.
Applet (Applet Type Application)	A MEAP application type created in Java. This type of applications show buttons on the touch panel display.
Code Sign	Information to check if an application is genuine. An application marketed in the normal procedure has a code sign assigned by LMS. MEAP platform rejects applications without Canon code signs for being installed or executed on the device.
CPCA (Common Peripheral Controlling Architecture)	Common Peripheral Controlling Architecture. CPCA defines an object model of peripheral deices. A client can control a device by creating or modifying objects in the device.
CPCA Java CL (Class Library)	CPCA Java Class Library. A Java class library, which is used to control a device.
Default Authentication -Department ID Management	Default Authentication is a pre-installed login application that runs by default. It provides authentication functions to allow minimum operation of the Controller System, even when no other login application is running.
Device Specification ID	ID allocated to each device type. This represents CPCA API specification and the version number to use the device generic functions or obtain information including maximum allowable copies.
Esplet (Esplet Type Application)	A MEAP application type created in Java. This type of applications do not show user interfaces either on Local UI or Web. Esplet is a coined word created by Canon, consisting of [Espresso] or Italian coffee and [let] derived from Applet/Service.
File Description	An identifier for the OS to identify the destination file requested by a program. A program descriptor includes an identifier and information such as a file name and size, which helps OS to judge the file to be edited.
HID class	HID stands for Human Interface Device, representing man-machine interfaces of PC components and peripheral devices. HID class means USB class classified as HID.
iR Native application	The functionalities that existing iR has such as Copy, Universal Send and Mailbox.
ISV (Independent Software Vendor)	Independent Software Vender. Software manufacturer who develops and/or sells applications and tools but does not entire computer systems. Refers application developer in this document.
J2ME (Java2 Platform Micro Edition)	Java 2 Platform Micro Edition. One of Java Platforms licensed by Sun Microsystems, Inc. It is applied for MEAP. Other devices such as cellular phones and PDA.

Terms & Acronyms	Definitions and Explanations
J2RE (Java 2 Runtime Environment)	A set of basic programs to run applications developed in the programming language of Java2. This set includes Java virtual machine providing runtime environment for Java applications among others. Java applets do not require J2RE since these are executed on Web browsers using Java runtime environment provided on browsers. However, standalone Java applications require Java runtime environment such as J2RE for execution. Runtime environments can be downloaded for free of charge from the Web site of Sun Microsystems, the Java developer.
Java	A programming language developed by Sun Microsystems, in the U. S. A. Low dependent on models and OSes and runs on various platforms. Taking advantage of this feature, many applications that runs on web servers uses Java. The MEAP platform uses J2ME - a type of Java.
JavaScript	A script language developed by Netscape Communications, in the U.S. A., runs on web browsers such as Netscape Navigator and Internet Explorer. Allows web designers to create interactive pages with HTML files such as animated buttons and display of timetables.
Java VM (Java Virtual Machine)	JAVA Virtual Machine. The Java byte code interpreter. The Virtual Machine acts as an interpreter for processing the byte code using the native instruction set.
License Access Number	A number issued for accessing license file. The Licensing server requires entries of application ID, expiration date/times information, and the number of access numbers, to issue license access numbers
Licensae File	A software manufacture of a MEAP application provides the users with the license files. Specifies the terms of agreement that a user concludes with the manufacturer. Required for installing a MEAP application.
LMS (License Management System)	The license is required for installing a MEAP application in a MEAPenabled iR device. LMS is the server issuing [License Files] as well as license access numbers.
Login Service	Manages user information of MEAP device. Authenticates users with user names and passwords. Three login services are available for MEAP device - Default Authentication, which provides department ID control, SDL (Simple Device Login) and SSO (Single Sign-On).
Mass Storage class	Mass Storage means a storage device with large capacity, generally secondary storage devices. Mass Storage class means USB class classified in the secondary storage device group.
MEAP (Multifunction Embedded Application Platform)	Multifunctional Embedded Application Platform. Provides an environment for executing application programs on a peripheral device. Uses the Java platform (J2ME - Java 2 platform Micro Edition) to run Java application for MEAP.
MEAP Contents	Required to install an MEAP application to a MEAP device.

Terms & Acronyms	Definitions and Explanations
MEAP Specifications (MEAP Spec Version)	MEAP Spec Version, the term used for the SDK. The version number that shows the APIs of the MEAP platform other than CPCA, such as network and security. The version number is not assigned for each device model. MEAP Application Runs on MEAP platform. Consists of application files (*.jar) and the license file (*.lic).
MEAP-enabled iR device	iR devices with built-in MEAP platform.
MFP (Multi Function Peripheral)	Multi Function Peripheral. Peripheral device that supports more than one function, such as digital copier, printer, scanner, and fax.
OSGi (Open Service Gateway Initiative)	Open Service Gateway Initiative. See "http://www.osgi.org/".
Portal Service	The web portal to gain access to a MEAP-enabled device. This service has been integrated in Remote UI top page in iR-ADV series.
Protocol	A set of rules applied to data transmission procedures over network. Major communication protocols include: • FTP: File Transfer Protocol. This is a communication protocol or protocolimplemented commands to provide file transfer between a host and clients over TCP/IP network. • DHCP: An upward compatible protocol of BOOTP. This communication protocol allocates a dynamic IP address to each client machine upon communication startup on TCP/IP network and collects the allocated IP address when communication is completed. The server allocates one of multiple IP addresses and notifies the setup information to a client. • BOOTP: A communication protocol to automatically load setup information including IP address and a domain name from the server to a client on TCP/IP network. • RARP: A communication protocol to request IP address information via the network adaptor address (MAC address) of a client. • IPP: A communication protocol to execute remote printing between the print server and clients via Internet. • TCP/IP: A standard communication protocol required to access to Internet and other large-scale network.
Proxy Server	Provides functions to store data fetched from remote servers. When a user request to display a web page that has been displayed and stored in the proxy, the proxy server read the stored data but does not access the remote server where the original page is present, for efficient access services. When a proxy server receives a URL from a PC, it searches the file in the cache and sends it to the PC if the requested file is found. If the requested file is not stored in the cache, it accesses the remote server of the URL to acquire the file and, at the same time, stores the acquired file in the cache so that the proxy server can quickly send the file at the next request.
Redistribution module	A built-in module of an application created with SDK. Applications without this module cannot work on MEAP platform.

Terms & Acronyms	Definitions and Explanations
SDK (Software Development Kit)	The kit containing information and tools required for software development.
Service	A functional unit or an application program working on MEAP platform. [Applications] are generally termed [Services] in Java world.
Servlet (Servlet Type Application)	A MEAP application type created in Java. This type of applications is designed to show user interface on the Web browser.
SMS (Service Management Service)	The web-base service to provide user interfaces for application life cycle management.
Socket	A virtual interface of an application for network communication. A user only needs to specify a socket as a unit of an address and a port from an application. This establishes the network connection for data transmission, eliminating complication related to detailed communication procedures.
SSO-H (Single Sign-On H)	Login service providing features of both local device authentication and domain authentication. The former is the method that iR device independently authorizes users; whereas the latter is that iR device links to the domain controller on the network in the Active Directory environment to authorize users.
Thread	A unit for program execution. A multi-task system allowing multiple programs to run concurrently assigns a memory space and other resources independently to each program, providing users with a feel as if only a program is running. At least one thread is generated upon a program generated.
URL (Uniform Resource Locator)	The method to denote Web page locations on Internet and the like. For instance, a URL on the Web is denoted as [http://www.w3.org/default. html]. [http] at the beginning means that an address following this is in a web page on the Internet.
USB	Abbreviation of Universal Serial Bus. This is the interface standard to link between information devices.
USB system driver	The general-purpose driver that control the behavior of the device, there are HID class driver, Mass Storage class driver and so on.

T-2-22

Disassembly/Assembly

- Preface
- List Of Parts
- External Cover, Internal Cover
- Controller System
- Laser Exposure System
- Image Formation System
- Fixing System
- Pickup Feed System

Preface

Outline

This chapter describes disassembly and reassembly procedures of the printer.
The service technician is to identify the cause of printer failures according to the "Chapter 5 TROUBLESHOOTING"
on Page 3-1-1 and to follow the disassembly procedures of each part to replace the defective parts or the consumable parts.

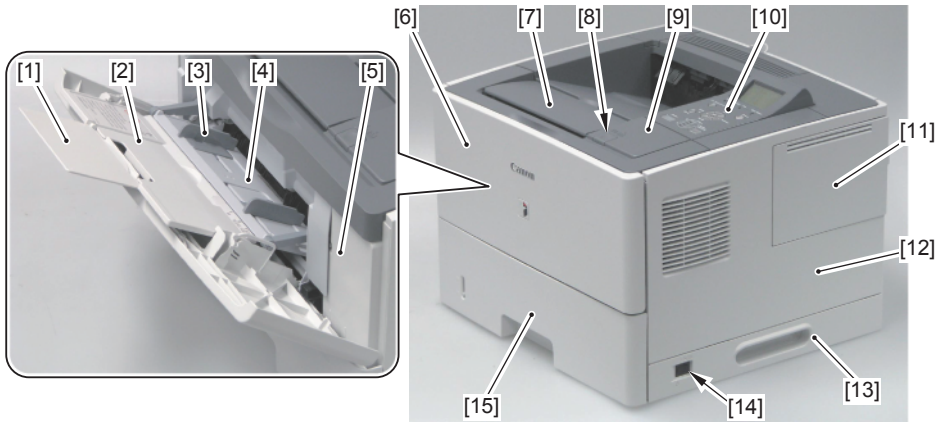
Note the following precautions when working on the printer.

1. CAUTION: Before disassembling or reassembling the printer, be sure to disconnect its power cord from the electrical outlet
2. During disassembly, reassembly or transportation of the printer, remove the cartridge if required.
   When the cartridge is out of the printer, put it in a protective bag even in a short period of time to prevent the adverse effect of light.
3. Reassembling procedures are followed by the reverse of disassembly unless otherwise specified.
4. Note the length, diameters, and locations of screws as you remove them. When reassembling the printer, be sure to use them in their original locations.
5. Do not run the printer with any parts removed as a general rule.
6. Ground yourself by touching the metal part of the printer before handling the PCB to reduce the possibility of damage caused by static electricity.
7. When you replace the part that the rating plate or the product code label is attached, be sure to remove the rating plate or the product code label and put it to the new part.

List Of Parts

External Cover, Internal Cover (LBP3560/6750dn)

Front Side

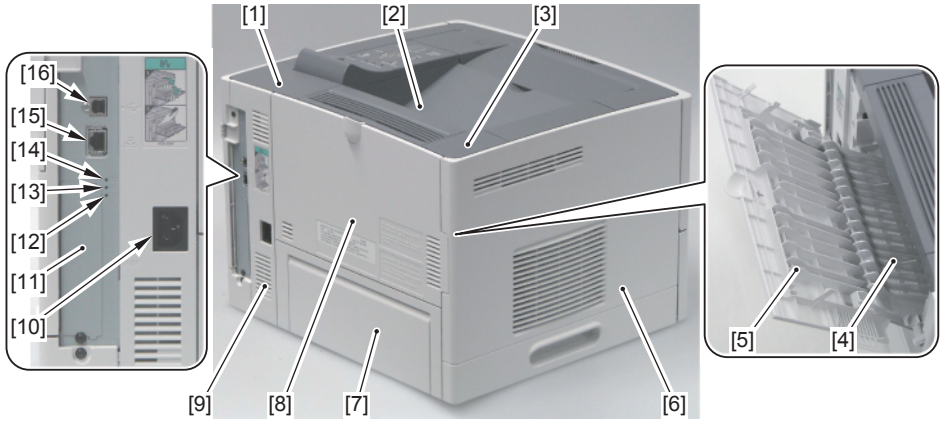


F-3-1

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-28)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	-
[15]	Cassette	-

T-3-1

Rear Side



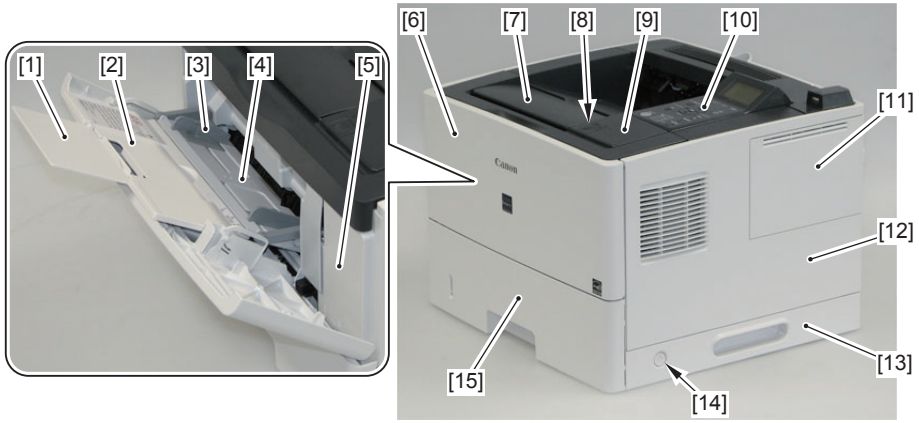
F-3-2

Key No.	Name	Reference
[1]	Upper Right Cover	-
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	TX/RX Indicator	-
[13]	10 Indicator	-
[14]	100 Indicator	-
[15]	LAN Connector	-
[16]	USB Connector	-

T-3-2

External Cover, Internal Cover (LBP3580/6780x)

Front Side

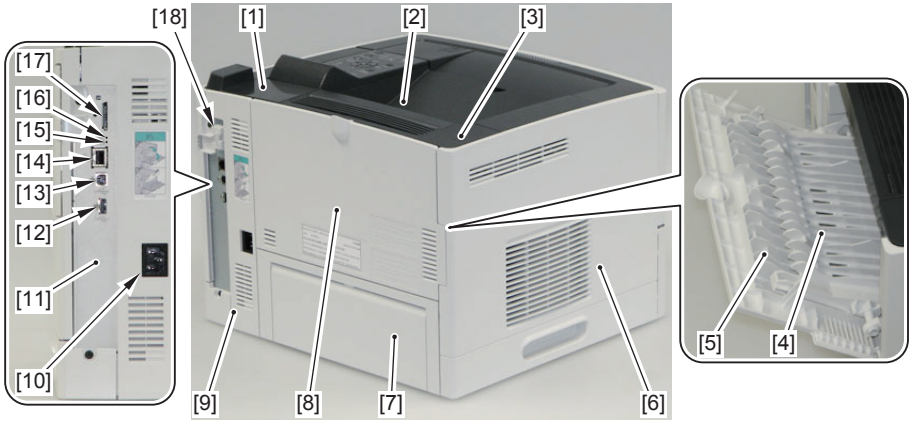


F-3-3

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-29)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	(Refer to page 3-40)
[15]	Cassette	-

T-3-3

Rear Side

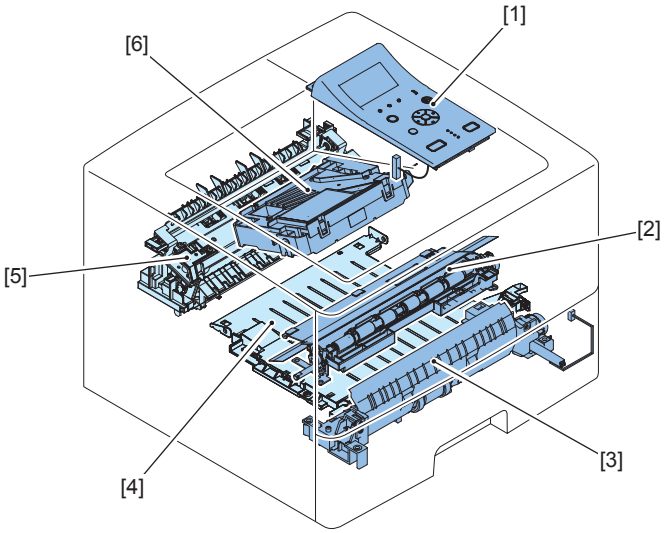


F-3-4

Key No.	Name	Reference
[1]	USB Cover Unit	(Refer to page 3-24)
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	USB Connector (for USB Device)	-
[13]	USB Connector (for Computer Connection)	-
[14]	LAN Connector	-
[15]	LNK Indicator (Green)	-
[16]	ACT Indicator (Green)	-
[17]	SD Card Slot	-
[18]	SD Card Slot Cover	-

T-3-4

List of Main Unit (LBP3560/6750dn)

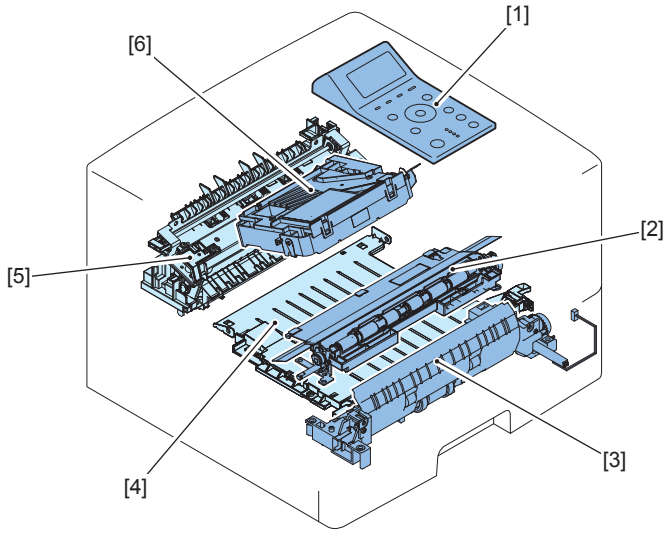


F-3-5

Key No.	Name	Reference
[1]	Control Panel Unit	(Refer to page 3-28)
[2]	Registration Unit	(Refer to page 3-61)
[3]	Pickup Unit	(Refer to page 3-68)
[4]	Duplex Feed Unit	(Refer to page 3-67)
[5]	Fixing Unit	(Refer to page 3-62)
[6]	Laser Scanner Unit	(Refer to page 3-58)

T-3-5

List of Main Unit (LBP3580/6780x)



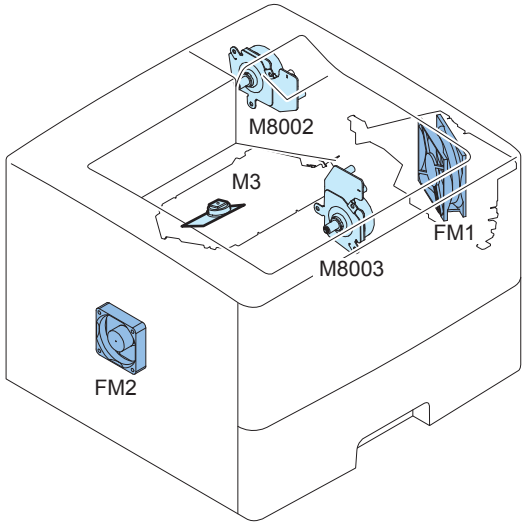
F-3-6

Key No.	Name	Reference
[1]	Control Panel Unit	(Refer to page 3-29)
[2]	Registration Unit	(Refer to page 3-61)
[3]	Pickup Unit	(Refer to page 3-68)
[4]	Duplex Feed Unit	(Refer to page 3-67)
[5]	Fixing Unit	(Refer to page 3-62)
[6]	Laser Scanner Unit	(Refer to page 3-58)

T-3-6

Electrical Components Layout Drawing

Motor / Fan

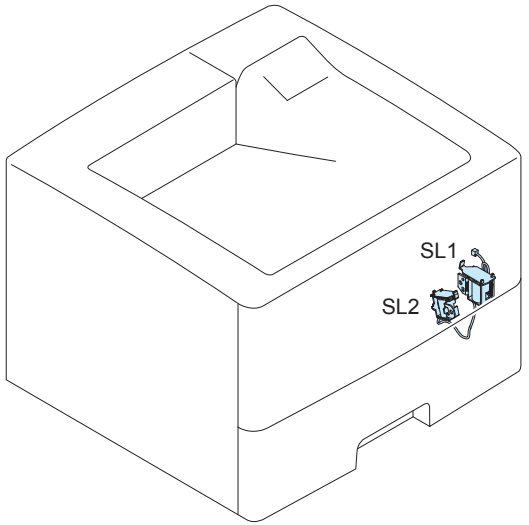


F-3-7

Key No.	Name	Main Units	Reference
FM1	Main Fan	Product Configuration	(Refer to page 3-50)
FM2	Sub Fan	Product Configuration	(Refer to page 3-51)
M3	Laser Scanner Motor	Laser Scanner Unit	-
M8002	Fixing Motor	Product Configuration	(Refer to page 3-49)
M8003	Main Motor	Product Configuration	(Refer to page 3-46)

T-3-7

Sorenoid

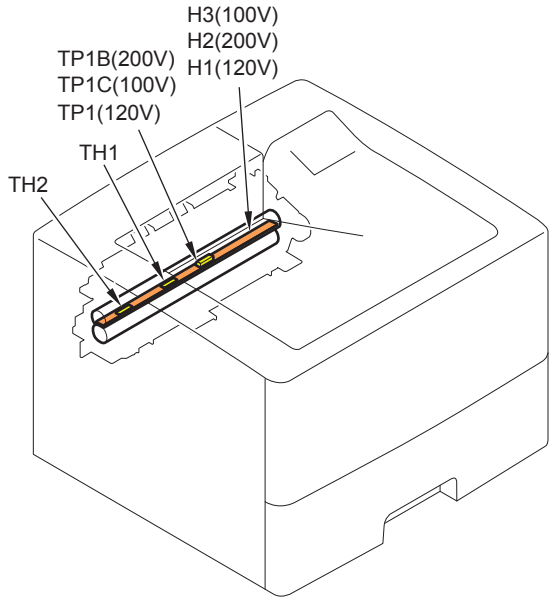


F-3-8

Key No.	Name	Main Units	Reference
SL1	Multi-purpose Tray Pickup Solenoid	Product Configuration	(Refer to page 3-53)
SL2	Cassette Pickup Solenoid	Product Configuration	(Refer to page 3-55)

T-3-8

■ Heater / Thermo Switch / Thermistor

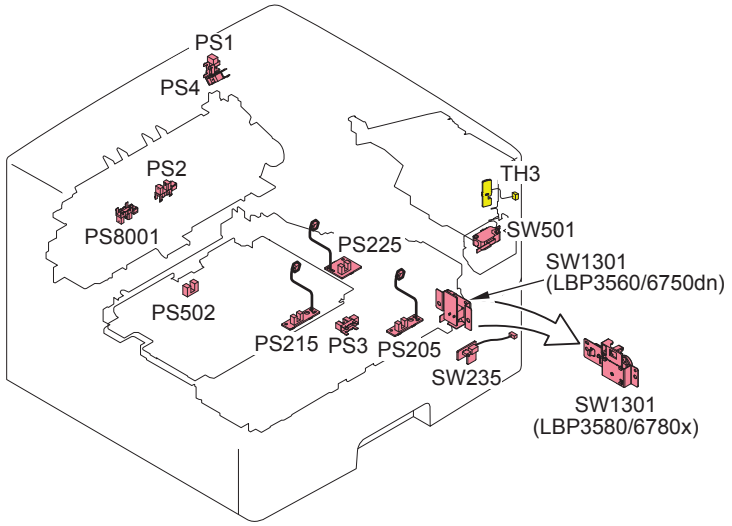


F-3-9

Key No.	Name	Main Units	Reference
H1	Fixing Heater (120V)	Fixing Unit	-
H2	Fixing Heater (200V)	Fixing Unit	-
H3	Fixing Heater (100V)	Fixing Unit	-
TH1	Fixing Sub Thermistor	Fixing Unit	-
TH2	Fixing Main Thermistor	Fixing Unit	-
TP1	Fixing Thermo Switch (120V)	Fixing Unit	-
TP1B	Fixing Thermo Switch (200V)	Fixing Unit	-
TP1C	Fixing Thermo Switch (100V)	Fixing Unit	-

T-3-9

■ Sensor / Switch

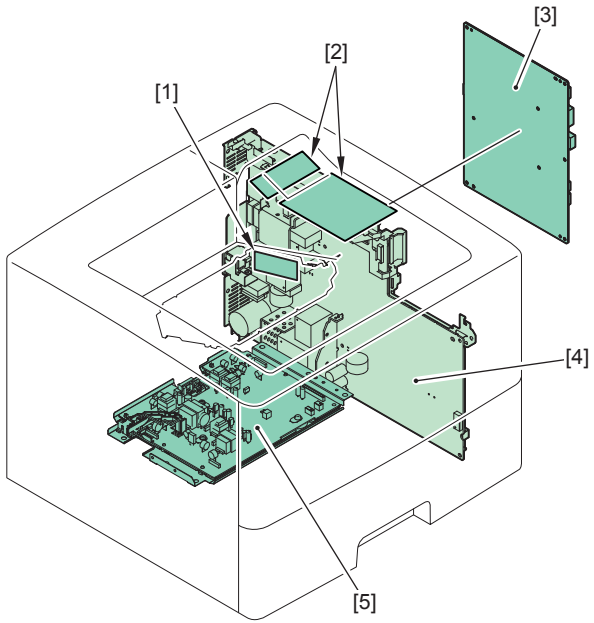


F-3-10

Key No.	Name	Main Units	Remarks	Reference
PS1	Face-up Sensor	Product Configuration	-	-
PS2	Fixing Delivery Sensor	Fixing Unit	-	-
PS3	Cassette Paper Sensor	Pickup Unit	-	-
PS4	Face-Down Tray Paper Full Sensor	Product Configuration	-	-
PS205	Multi-purpose Tray Paper Sensor	Product Configuration	-	-
PS215	Top Sensor	Product Configuration	-	-
PS225	Paper Width Sensor	Product Configuration	-	-
PS502	Duplex Feede Sensor	Product Configuration	-	-
PS8001	Rear Cover Sensor	Product Configuration	-	-
SW235	Cassette Paper Switch	Product Configuration	-	(Refer to page 3-57)
SW501	Cartridge Door Switch	Product Configuration	-	(Refer to page 3-57)
SW1301	Power Switch	Right Lower Cover	LBP3560 /6750dn	-
			LBP3580 /6780x	(Refer to page 3-40)
TH3	Environment Sensor	Product Configuration	-	(Refer to page 3-42)

T-3-10

PCB(LBP3560/6750dn)

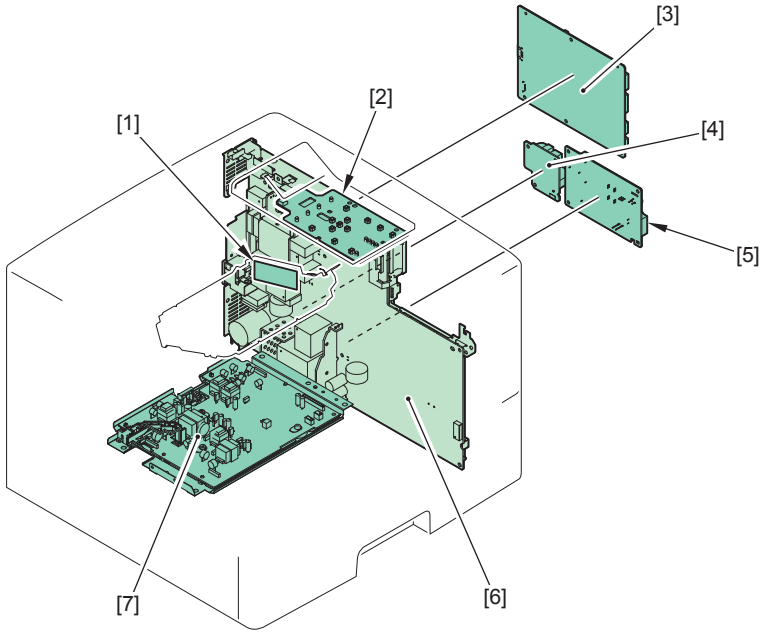


F-3-11

Key No.	Name	Main Units	Reference
[1]	BD PCB	Laser Scanner Unit	-
[2]	Control Panel PCB	Control Panel Unit	-
[3]	Main Controller PCB	Product Configuration	(Refer to page 3-30)
[4]	Engine Controller PCB	Product Configuration	(Refer to page 3-35)
[5]	High Voltage Power Supply Unit	Product Configuration	(Refer to page 3-42)

T-3-11

PCB(LBP3580/6780x)



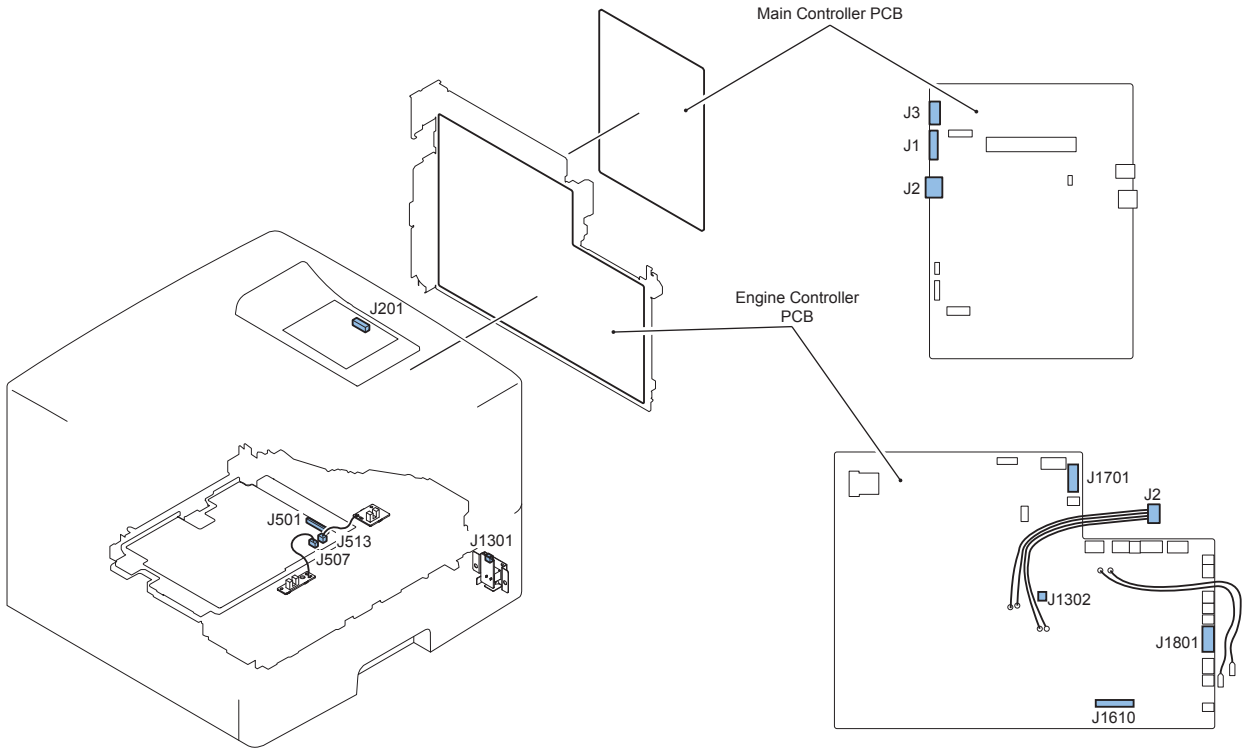
F-3-12

Key No.	Name	Main Units	Reference
[1]	BD PCB	Laser Scanner Unit	-
[2]	Control Panel PCB	Control Panel Unit	-
[3]	Main Controller PCB	Product Configuration	(Refer to page 3-31)
[4]	AC Relay PCB	Product Configuration	(Refer to page 3-34)
[5]	All-night Power Supply PCB	Product Configuration	(Refer to page 3-32)
[6]	Engine Controller PCB	Product Configuration	(Refer to page 3-37)
[7]	High Voltage Power Supply Unit	Product Configuration	(Refer to page 3-42)

T-3-12

Connectors Layout Drawing

Connectors Layout Drawing (LBP3560/6750dn) (1/3)

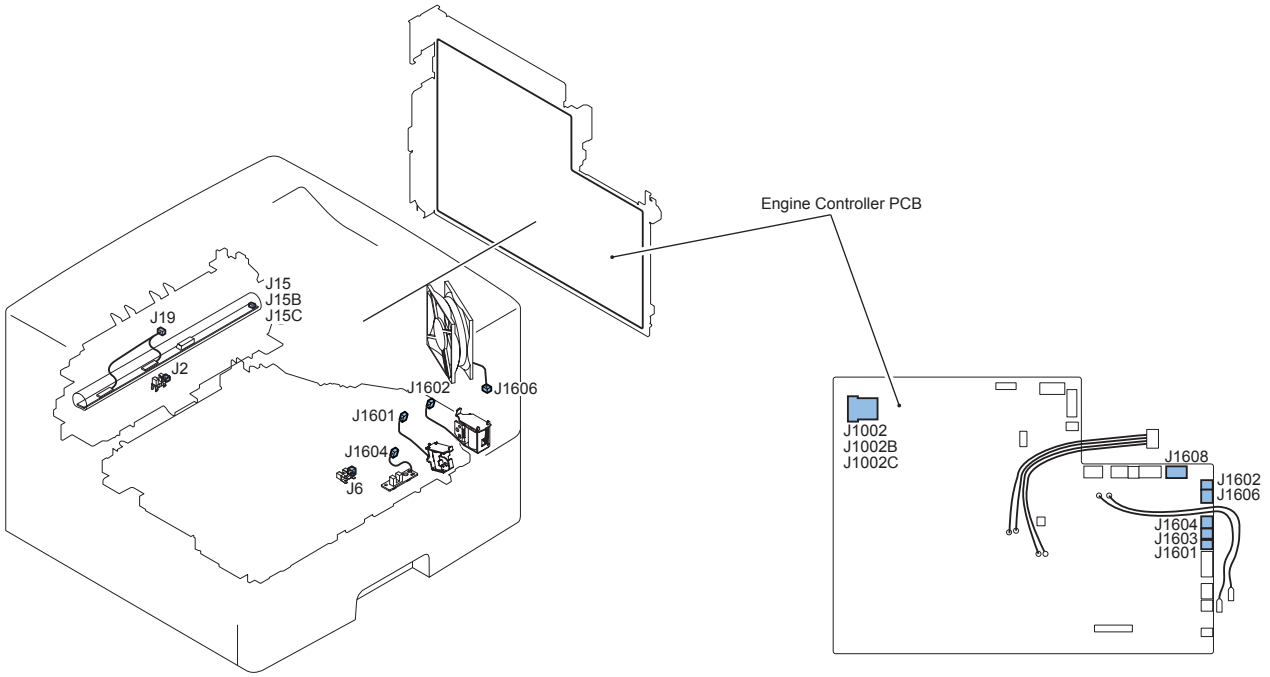


F-3-13

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1701	-	Engine Controller PCB		J1	-	Main Controller PCB	
J2	-	Engine Controller PCB		J2	-	Main Controller PCB	
J1302	-	Engine Controller PCB		J1301	SW1301	Power Switch	
J1801	-	Engine Controller PCB	J8007	J401	-	Paper Feeder Relay PCB	
J1610	-	Engine Controller PCB		J501	-	High Voltage Power Supply Unit	
J3	-	Main Controller PCB		J201	-	Control Panel PCB	
J513	-	High Voltage Power Supply Unit		J513	PS225	Paper Width Sensor	
J507	-	High Voltage Power Supply Unit		J507	PS215	Top Sensor	

T-3-13

■ Connectors Layout Drawing (LBP3560/6750dn) (2/3)

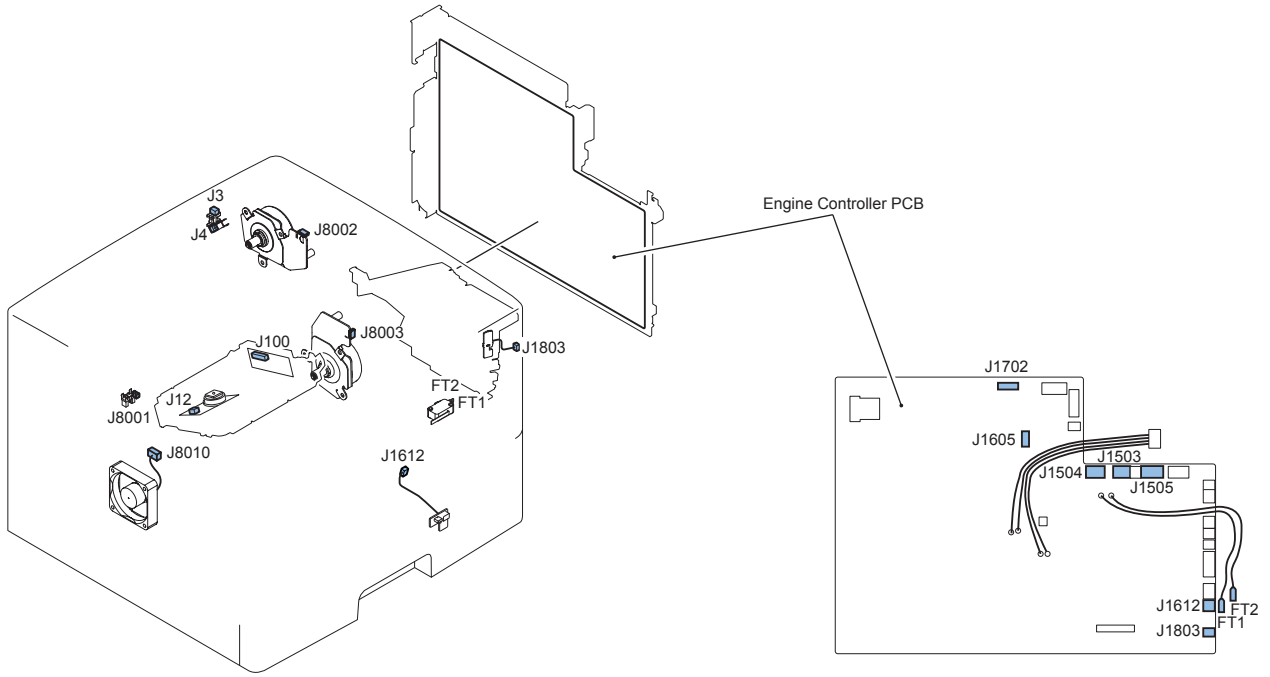


F-3-14

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1608	-	Engine Controller PCB	J18	J19	TH1	Fixing Sub Thermistor	
J1608	-	Engine Controller PCB	J18	J19	TH2	Fixing Main Thermistor	
J1608	-	Engine Controller PCB	J24	J2	PS2	Fixing Delivery Sensor	
J1002	-	Engine Controller PCB		J15	H1	Fixing Heater	120V
J1002B	-	Engine Controller PCB		J15B	H2	Fixing Heater	200V
J1002C	-	Engine Controller PCB		J15C	H3	Fixing Heater	100V
J1002	-	Engine Controller PCB		-	TP1	Fixing Thermo Switch	120V
J1002B	-	Engine Controller PCB		-	TP1B	Fixing Thermo Switch	200V
J1002C	-	Engine Controller PCB		-	TP1C	Fixing Thermo Switch	100V
J1602	-	Engine Controller PCB		J1602	SL1	Multi-purpose Tray Pickup Solenoid	
J1601	-	Engine Controller PCB		J1601	SL2	Cassette Pickup Solenoid	
J1603	-	Engine Controller PCB		J6	PS3	Cassette Paper Sensor	
J1604	-	Engine Controller PCB		J1604	PS205	Multi-purpose Tray Paper Sensor	
J1606	-	Engine Controller PCB		J1606	FM1	Main Fan	

T-3-14

■ Connectors Layout Drawing (LBP3560/6750dn) (3/3)

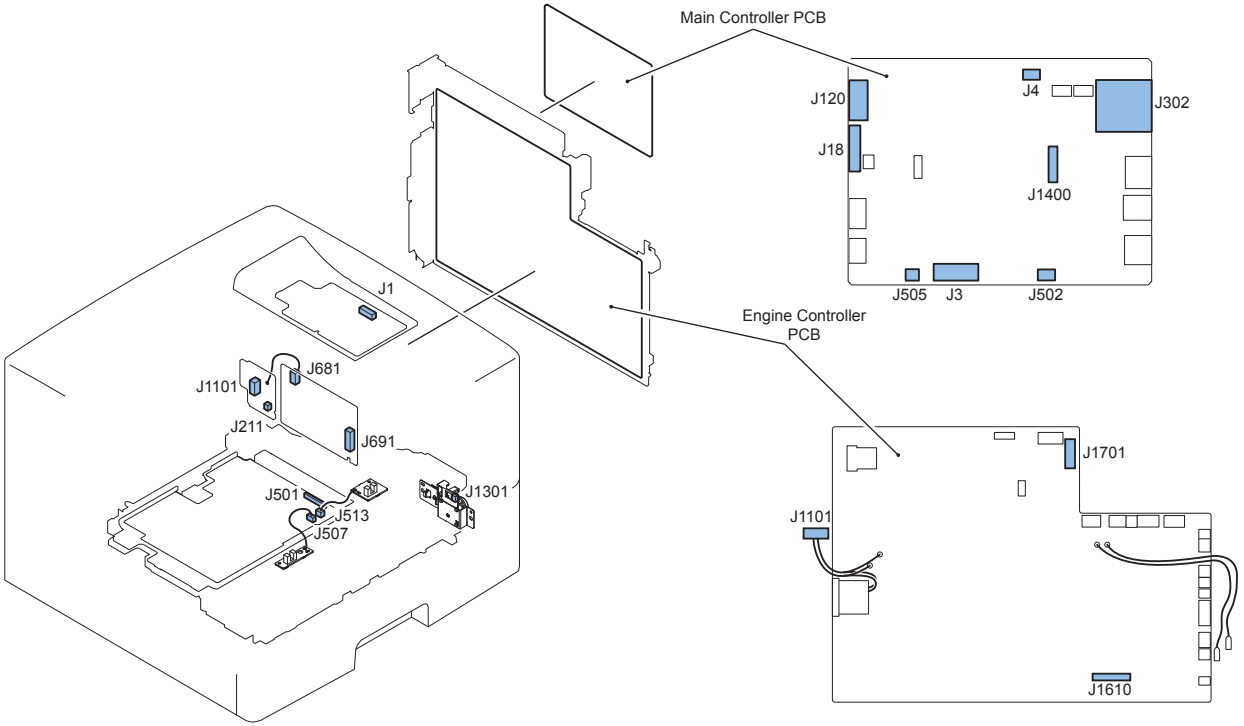


F-3-15

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1702	-	Engine Controller PCB		J100	-	BD PCB	
J1505	-	Engine Controller PCB		J12	M3	Laser Scanner Motor	
J1505	-	Engine Controller PCB		J8001	PS8001	Rear Cover Sensor	
J1505	-	Engine Controller PCB	J8010	J8010	FM2	Sub Fan	
J1503	-	Engine Controller PCB		J8003	M8003	Main Motor	
J1504	-	Engine Controller PCB		J8002	M8002	Fixing Motor	
FT1	-	Engine Controller PCB		FT1	SW501	Cartridge Door Switch	
FT2	-	Engine Controller PCB		FT2	SW501	Cartridge Door Switch	
J1605	-	Engine Controller PCB		J3	PS1	Face-up Sensor	
J1605	-	Engine Controller PCB		J4	PS4	Face-Down Tray Paper Full Sensor	
J1612	-	Engine Controller PCB		J1612	SW235	Cassette Paper Switch	
J1803	-	Engine Controller PCB		J1803	TH3	Environment Sensor	

T-3-15

■ Connectors Layout Drawing (LBP3580/6780x) (1/3)

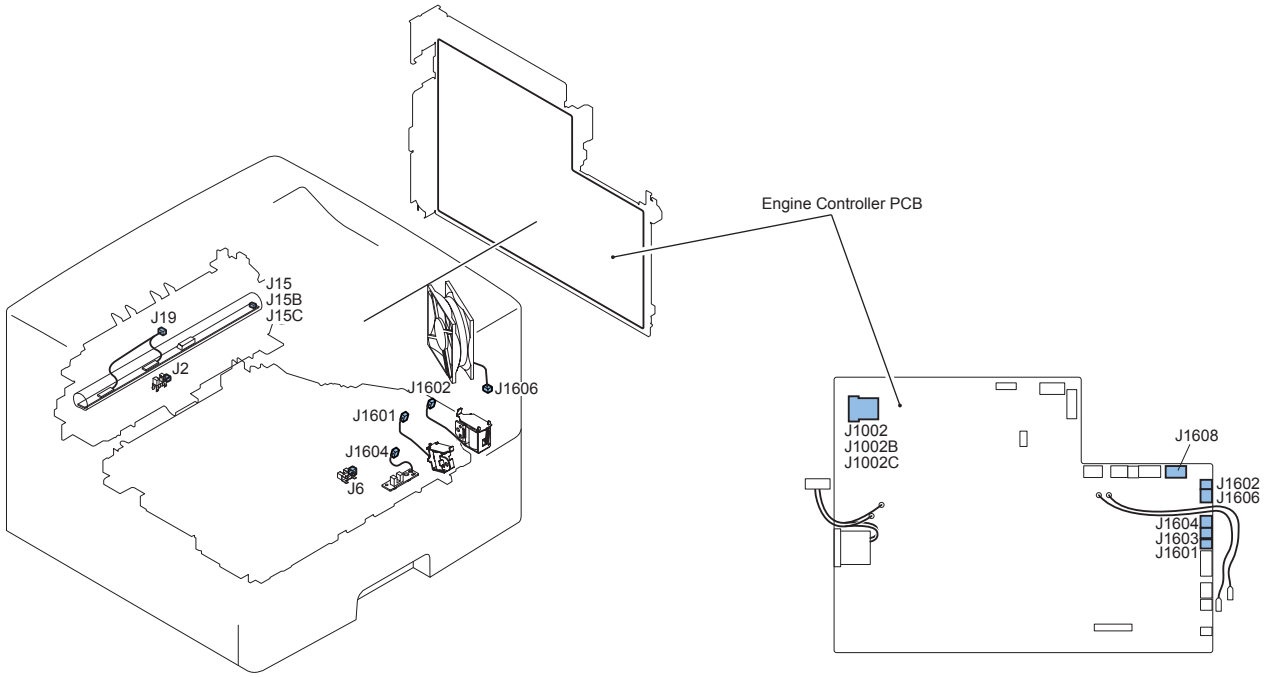


F-3-16

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1701	-	Engine Controller PCB		J18	-	Main Controller PCB	
J1610	-	Engine Controller PCB		J501	-	High Voltage Power Supply Unit	
J1101	-	Engine Controller PCB		J1101	-	AC Relay PCB	
J3	-	Main Controller PCB		J691	-	All-night Power Supply PCB	
J4	-	Main Controller PCB		-	-	USB Slot	
J120	-	Main Controller PCB		J1	-	Control Panel PCB	
J302	-	Main Controller PCB		-	-	SD Card Slot	
J502	-	Main Controller PCB		J211	-	AC Relay PCB	
J505	-	Main Controller PCB		J1301	SW1301	Power Switch	
J1400	-	Main Controller PCB		J1	-	Sub Log PCB	
J681	-	AC Relay PCB		J681	-	All-night Power Supply PCB	
J513	-	High Voltage Power Supply Unit		J513	PS225	Paper Width Sensor	
J507	-	High Voltage Power Supply Unit		J507	PS215	Top Sensor	

T-3-16

■ Connectors Layout Drawing (LBP3580/6780x) (2/3)

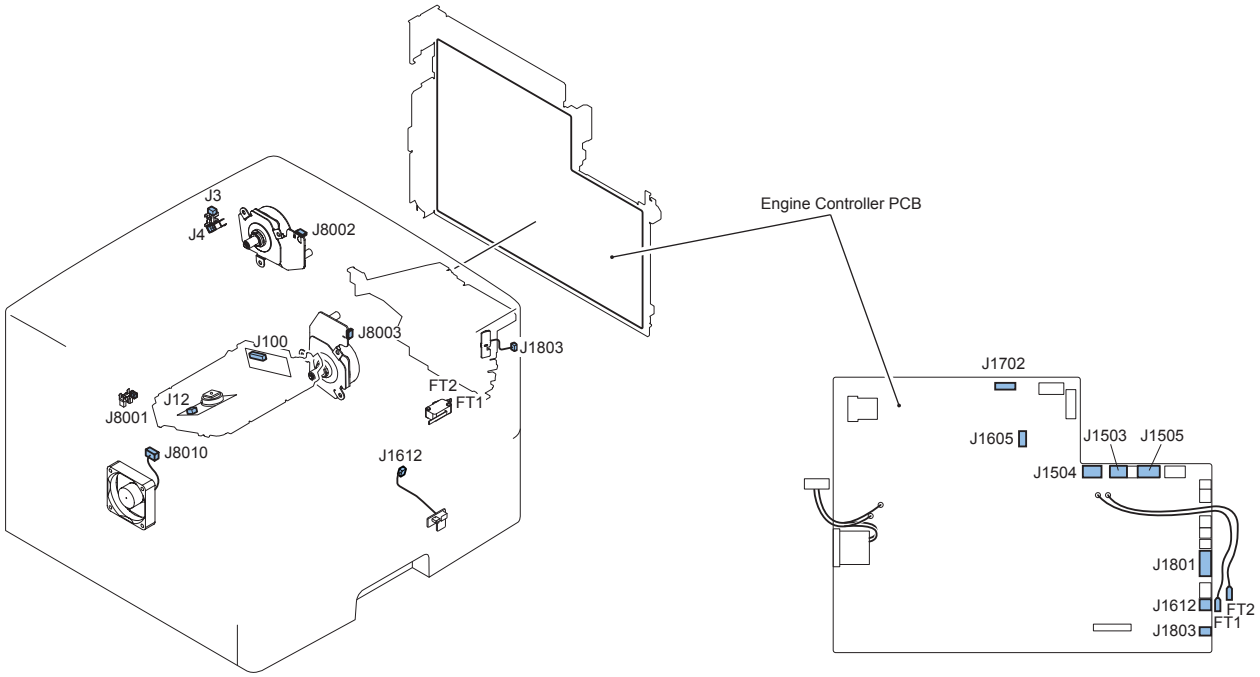


F-3-17

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1608	-	Engine Controller PCB	J18	J19	TH1	Fixing Sub Thermistor	
J1608	-	Engine Controller PCB	J18	J19	TH2	Fixing Main Thermistor	
J1608	-	Engine Controller PCB	J24	J2	PS2	Fixing Delivery Sensor	
J1002	-	Engine Controller PCB		J15	H1	Fixing Heater	120V
J1002B	-	Engine Controller PCB		J15B	H2	Fixing Heater	200V
J1002C	-	Engine Controller PCB		J15C	H3	Fixing Heater	100V
J1002	-	Engine Controller PCB		-	TP1	Fixing Thermo Switch	120V
J1002B	-	Engine Controller PCB		-	TP1B	Fixing Thermo Switch	200V
J1002C	-	Engine Controller PCB		-	TP1C	Fixing Thermo Switch	100V
J1602	-	Engine Controller PCB		J1602	SL1	Multi-purpose Tray Pickup Solenoid	
J1601	-	Engine Controller PCB		J1601	SL2	Cassette Pickup Solenoid	
J1603	-	Engine Controller PCB		J6	PS3	Cassette Paper Sensor	
J1604	-	Engine Controller PCB		J1604	PS205	Multi-purpose Tray Paper Sensor	
J1606	-	Engine Controller PCB		J1606	FM1	Main Fan	

T-3-17

■ Connectors Layout Drawing (LBP3580/6780x) (3/3)



F-3-18

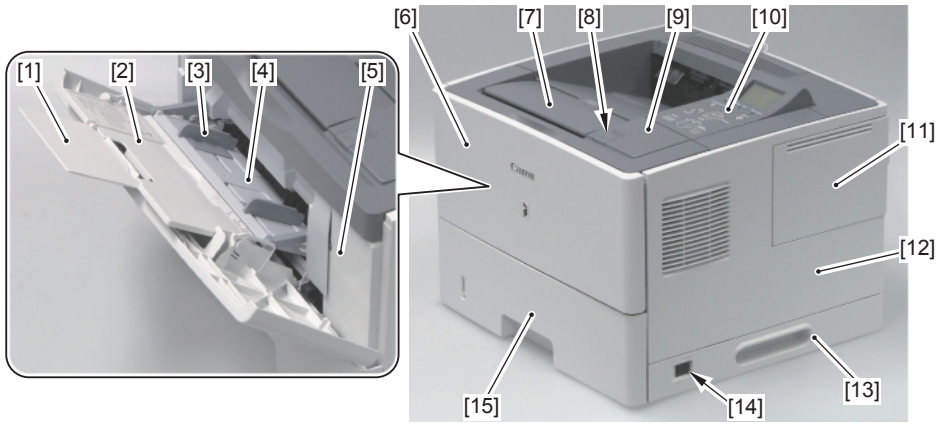
J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1702	-	Engine Controller PCB		J100	-	BD PCB	
J1505	-	Engine Controller PCB		J12	M3	Laser Scanner Motor	
J1505	-	Engine Controller PCB		J8001	PS8001	Rear Cover Sensor	
J1505	-	Engine Controller PCB	J8010	J8010	FM2	Sub Fan	
J1503	-	Engine Controller PCB		J8003	M8003	Main Motor	
J1504	-	Engine Controller PCB		J8002	M8002	Fixing Motor	
FT1	-	Engine Controller PCB		FT1	SW501	Cartridge Door Switch	
FT2	-	Engine Controller PCB		FT2	SW501	Cartridge Door Switch	
J1605	-	Engine Controller PCB		J3	PS1	Face-up Sensor	
J1605	-	Engine Controller PCB		J4	PS4	Face-Down Tray Paper Full Sensor	
J1612	-	Engine Controller PCB		J1612	SW235	Cassette Paper Switch	
J1801	-	Engine Controller PCB	J8007	J401	-	Paper Feeder Relay PCB	
J1803	-	Engine Controller PCB		J1803	TH3	Environment Sensor	

T-3-18

External Cover, Internal Cover

Layout Drawing (LBP3560/6750dn)

Front Side

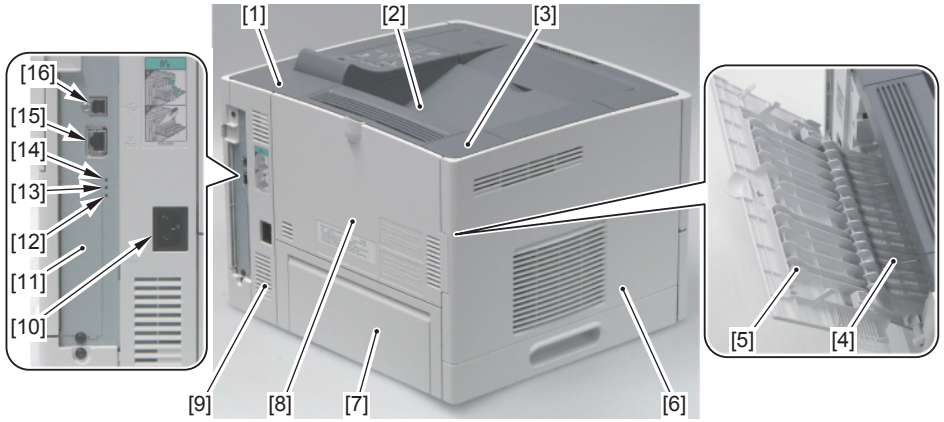


F-3-19

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-28)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	-
[15]	Cassette	-

T-3-19

Rear Side



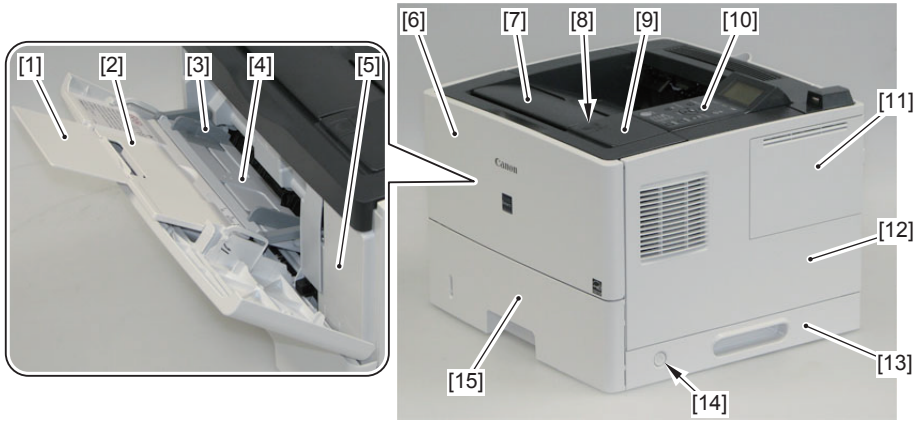
F-3-20

Key No.	Name	Reference
[1]	Upper Right Cover	-
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	TX/RX Indicator	-
[13]	10 Indicator	-
[14]	100 Indicator	-
[15]	LAN Connector	-
[16]	USB Connector	-

T-3-20

Layout Drawing (LBP3580/6780x)

Front Side

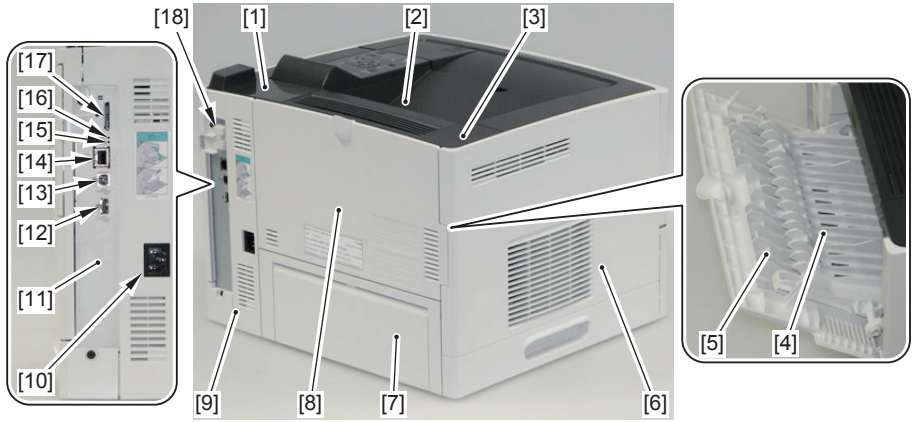


F-3-21

Key No.	Name	Reference
[1]	Tray Extension	-
[2]	Auxiliary Tray	-
[3]	Paper Guide	-
[4]	Multi-purpose Tray	-
[5]	Right Front Inner Cover	(Refer to page 3-21)
[6]	Multi-purpose Tray Cover	(Refer to page 3-20)
[7]	Delivery Auxiliary Tray	-
[8]	Open Button	-
[9]	Front Cover Unit	(Refer to page 3-20)
[10]	Control Panel Unit	(Refer to page 3-29)
[11]	DIMM Cover	-
[12]	Right Cover	(Refer to page 3-17)
[13]	Right Lower Cover	(Refer to page 3-22)
[14]	Power Switch	(Refer to page 3-40)
[15]	Cassette	-

T-3-21

Rear Side



F-3-22

Key No.	Name	Reference
[1]	USB Cover Unit	(Refer to page 3-24)
[2]	Upper Cover	(Refer to page 3-25)
[3]	Upper Left Cover	-
[4]	Sub Delivery Tray	-
[5]	Tray Extension	-
[6]	Left Cover	(Refer to page 3-17)
[7]	Rear Lower Cover	-
[8]	Rear Cover Unit	(Refer to page 3-19)
[9]	Rear Right Cover	(Refer to page 3-19)
[10]	Power Socket	-
[11]	Expansion Slot Protection Plate	-
[12]	USB Connector (for USB Device)	-
[13]	USB Connector (for Computer Connection)	-
[14]	LAN Connector	-
[15]	LNK Indicator (Green)	-
[16]	ACT Indicator (Green)	-
[17]	SD Card Slot	-
[18]	SD Card Slot Cover	-

T-3-22

Removing the Right Cover

1) Remove the Right Cover [1].

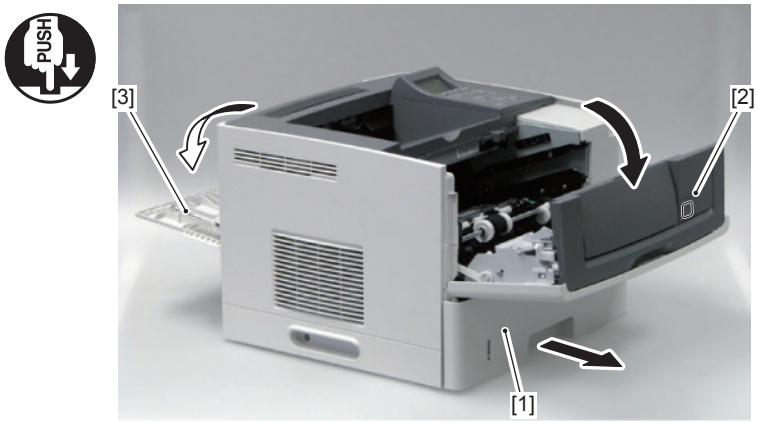
- 1 Screw (black) [2]

F-3-23

Removing the Left Cover

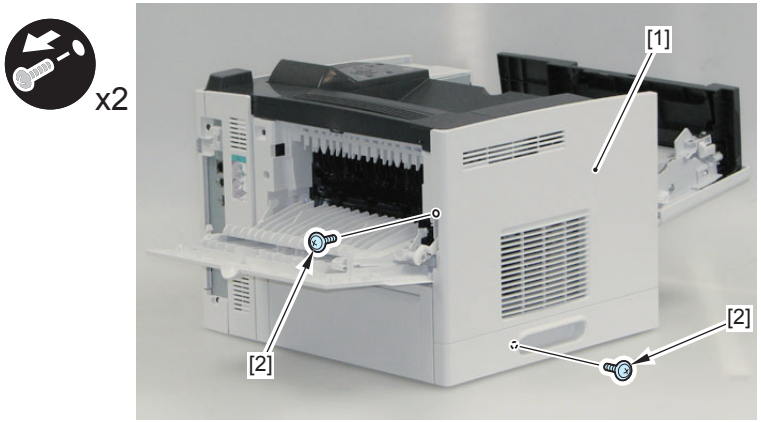
1) Remove the Cassette [1].

2) Open the Front Cover [2] and the Rear Cover [3].



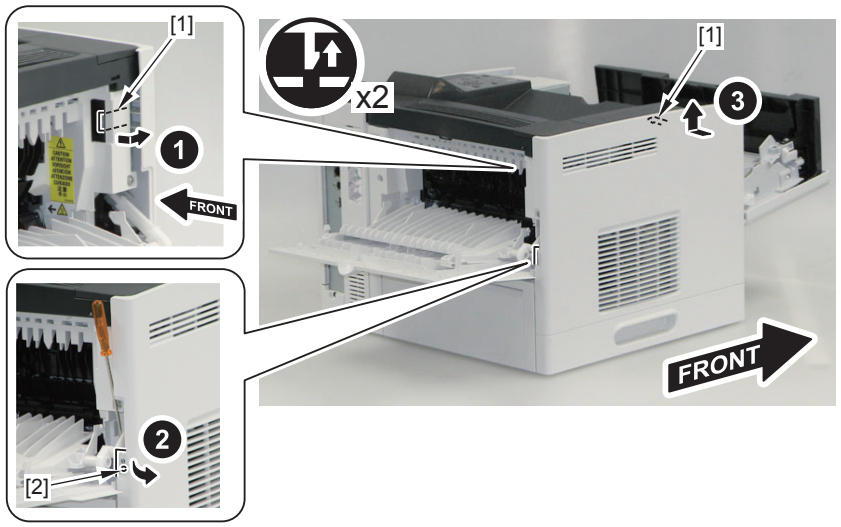
F-3-24

3) Remove the 2 screws [2] from the Left Cover [1].



F-3-25

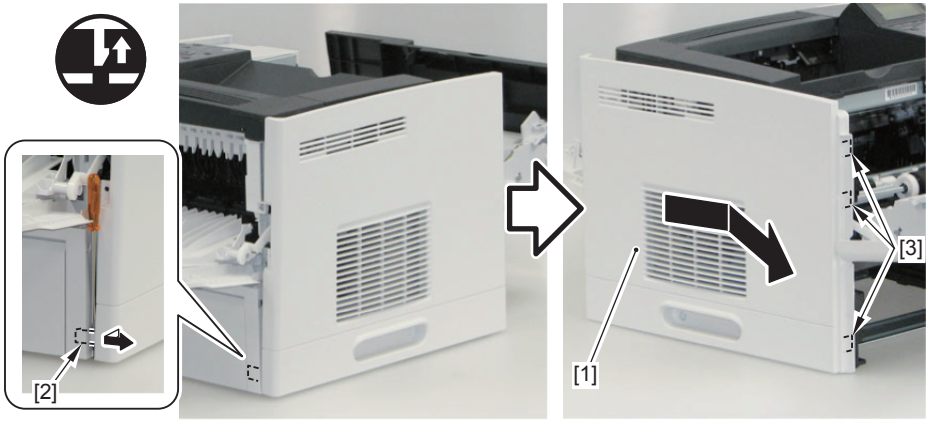
4) Remove the 2 claws [1] and the boss [2].



F-3-26

5) Remove the Left Cover [1].

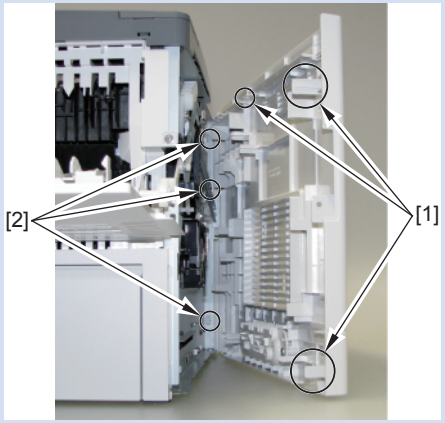
- 1 Claw [2]
- 3 Hooks [3]



F-3-27

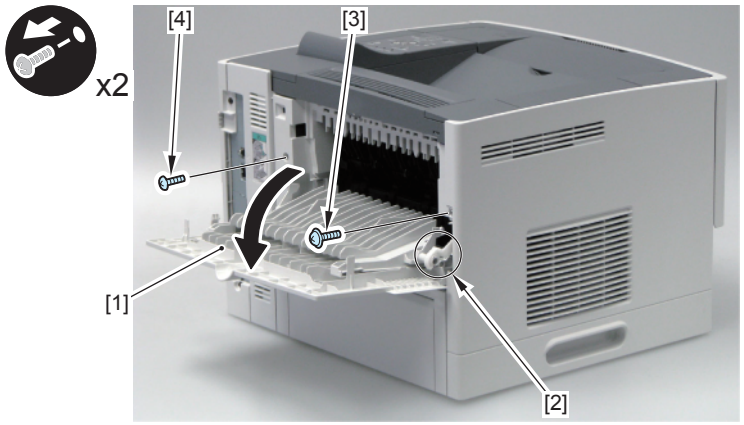
NOTE:

The following shows the 3 claws [1] and 3 hooks [2] removed in step 3.



Removing the Rear Cover Unit

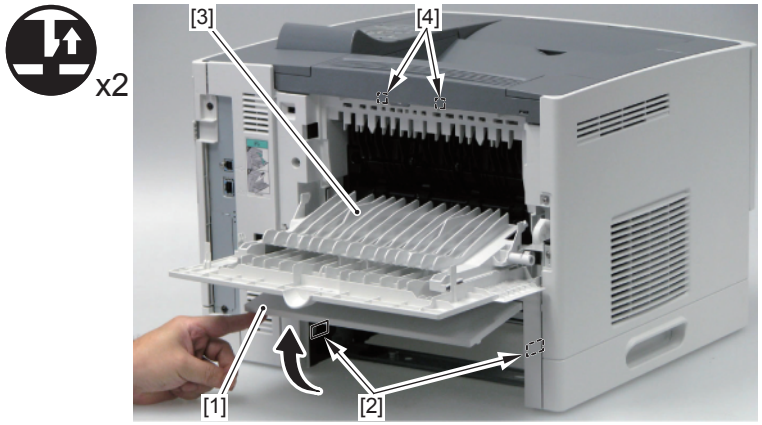
1) Remove the Cassette.
2) Open the Rear Cover [1].
3) Release the Link Arm [2].
4) Remove the 1 screw (TP) [3], and then remove the 1 screw (Tapping) [4].



F-3-28

5) Open the Rear Lower Cover [1], and release the 2 Claws [2].
6) Remove the Rear Cover Unit [3].

- 2 Hooks [4]



F-3-29

Removing the Rear Right Cover

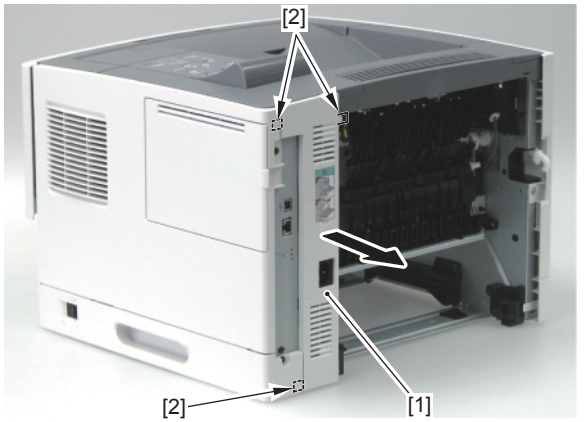
Preparation

1) Remove the Rear Cover Unit.(Refer to page 3-19)

Procedure

1) Remove the Rear Right Cover [1].

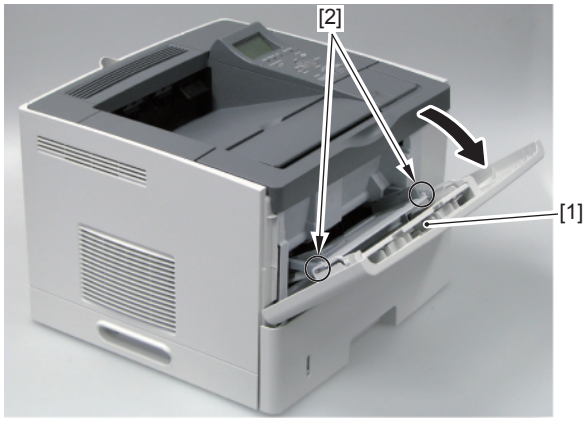
- 3 Hooks [2]



F-3-30

Removing the Multi-purpose Tray Auxiliary Tray Unit

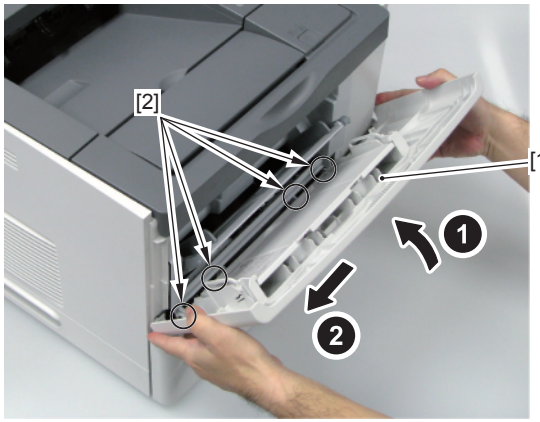
1) Open the Multi-purpose Tray Auxiliary Tray Unit [1] and release the 2 Hinge Arms [2].



F-3-31

2) Remove the Multi-purpose Tray Auxiliary Tray Unit [1].

- 4 Shafts [2]



F-3-32

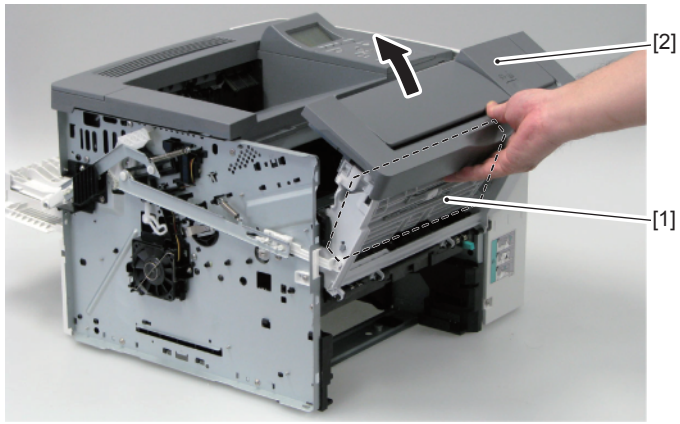
Removing the Front Cover Unit

Preparation

1) Remove the Left Cover.(Refer to page 3-17)
2) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)

Procedure

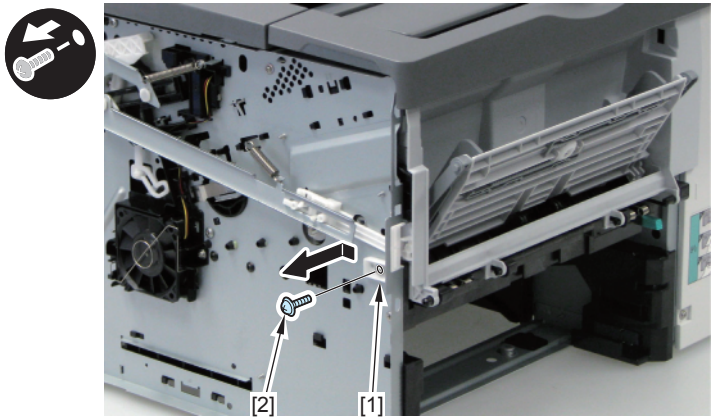
1) While holding the Output Tray [1], close the Front Cover Unit [2].



F-3-33

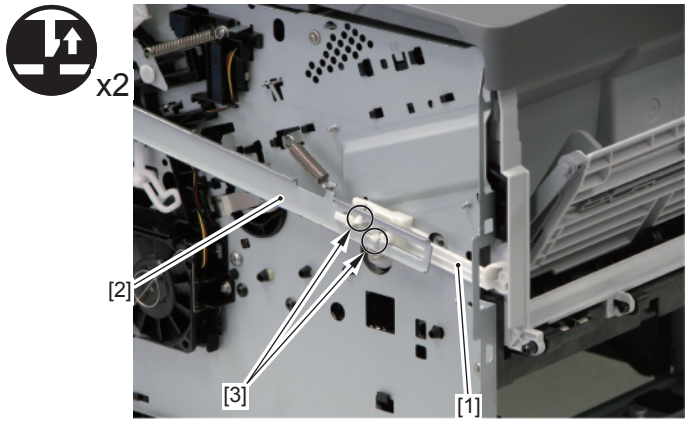
2) Remove the Hinge Arm Holder [1].

- 1 Screw [2]



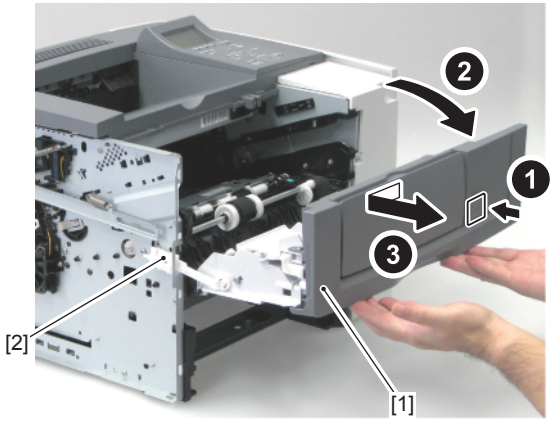
F-3-34

3) Release the Hinge Arm [1] from the Link Arm [2].
- 2 Claws [3]



F-3-35

4) Remove the Front Cover Unit [1] by opening it.
- 1 Hinge Arm [2]



F-3-36

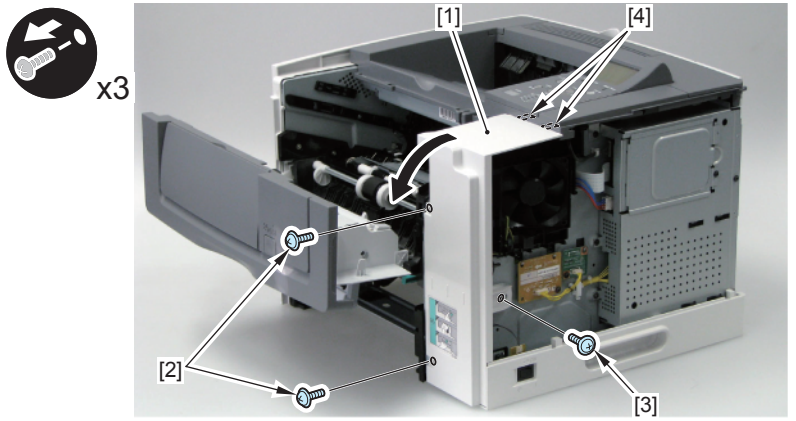
Removing the Right Front Inner Cover

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)

Procedure

1) Remove the Cassette.
2) Open the Front Cover Unit.
3) Remove the Right Front Inner Cover [1].
- 2 Screws (silver) [2]
- 1 Screw (black) [3]
- 2 Hooks [4]



F-3-37

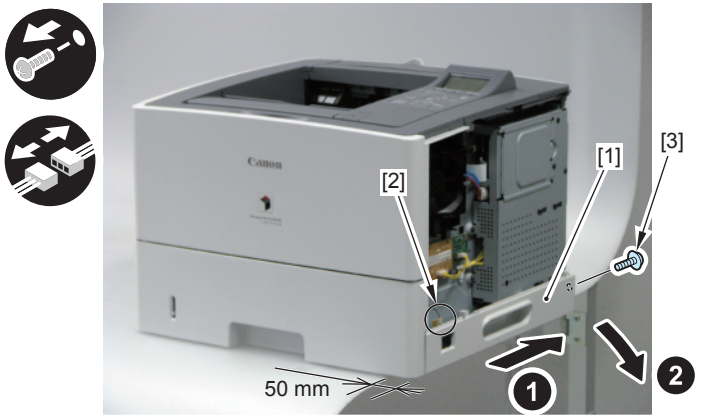
Removing the Right Lower Cover(LBP3560/6750dn)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

1) Shift the machine 50mm to the right.
2) Remove the Right Lower Cover [1].
- 1 Connector [2]
- 1 Screw [3]



F-3-38

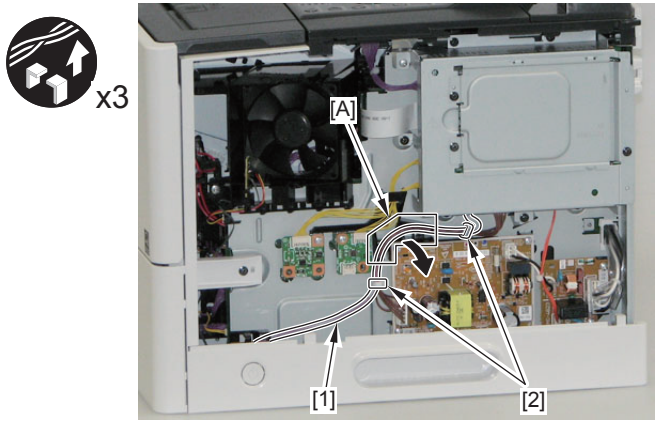
Removing the Right Lower Cover (LBP3580/6780x)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

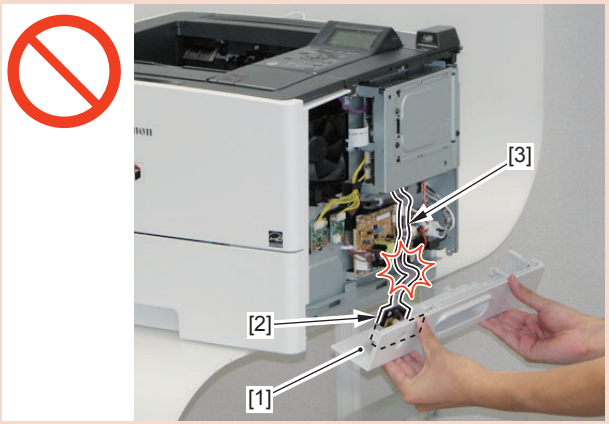
1) Free the harness [1] connected to the Main Switch Unit.
- 2 Wire Saddles [2]
- 1 Harness Guide [A]



F-3-39

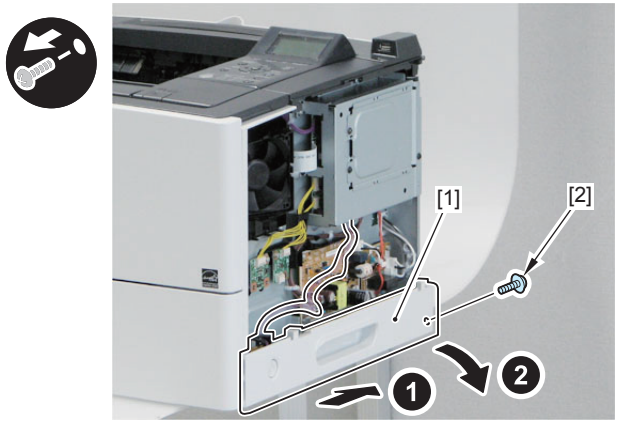
CAUTION:

When installing/removing, do not let the harness [3] of the Main Switch Unit [2] on the Right Lower Cover [1] to be open circuit.



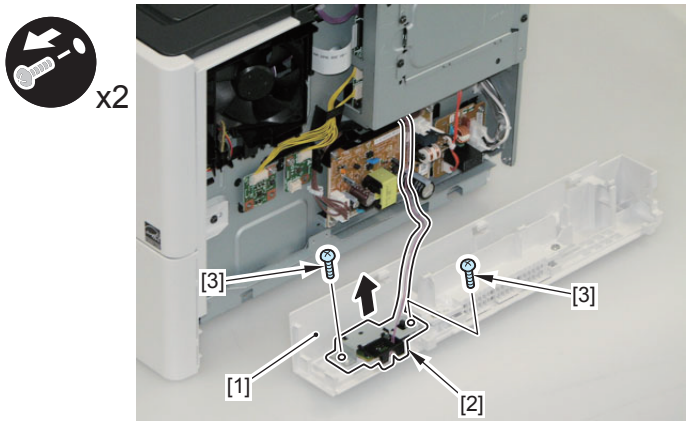
F-3-40

2) Shift the host machine 50 mm to the right.
3) Remove the Right Lower Cover [1].
• 1 Screw (black) [2]



F-3-41

4) Place the host machine and the Right Lower Cover in the center of working table.
5) Remove the Main Switch Unit [2] from the Right Lower Cover [1].
• 2 Screw [3]



F-3-42

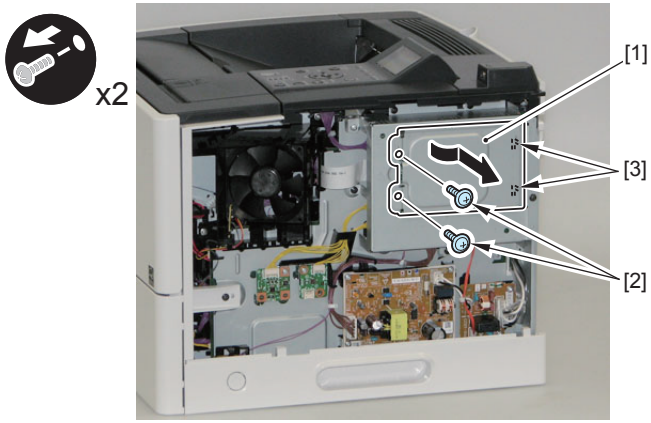
Removing the USB Cover Unit (LBP3580/6780x)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

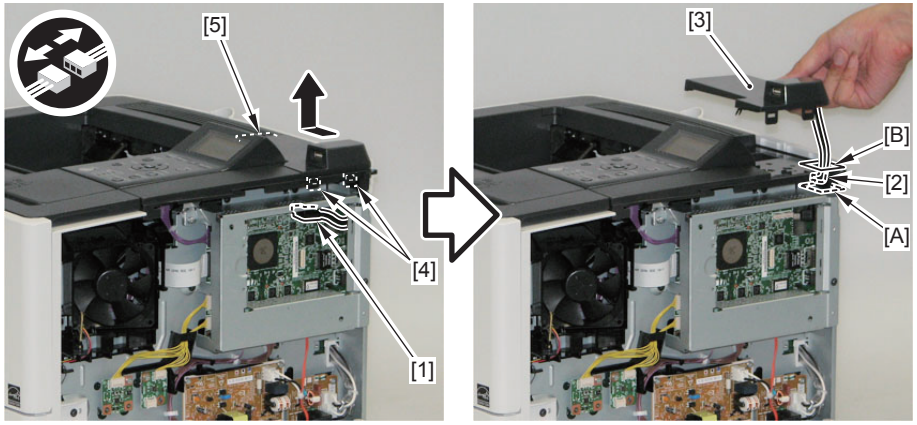
Procedure

1) Remove the Main Controller Cover (small) [1].
- 2 Screws (black) [2]
- 2 Hooks [3]



F-3-43

2) Disconnect the connector [1].
3) Put the USB Connector [2] through the hole [A] of the Controller Box and the hole [B] of the Upper Cover, and remove the USB Cover Unit [3].
- 2 Hooks [4]
- 1 Protrusion [5]



F-3-44

Removing the Upper Cover

Preparation(LBP3560/6750dn)

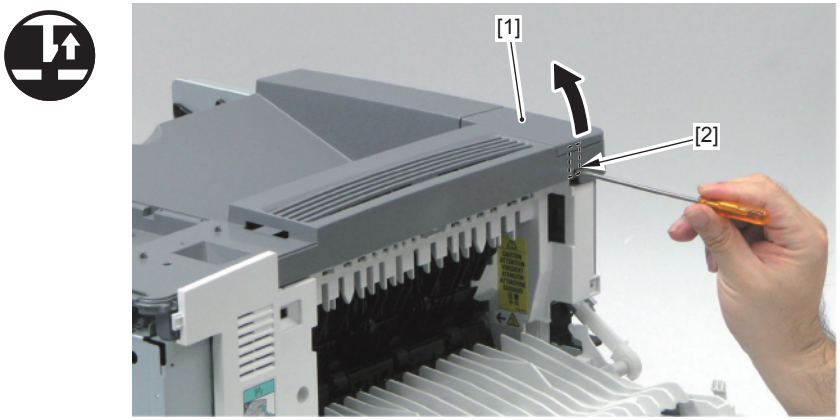
1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
3) Remove the Left Cover.(Refer to page 3-17)

Preparation(LBP3580/6780x)

1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
3) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-29)
4) Remove the Left Cover.(Refer to page 3-17)

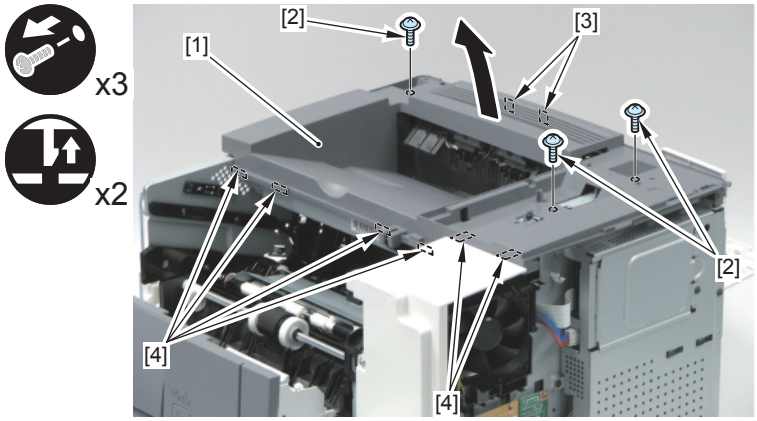
Procedure

1) Remove the Upper Left Rear Cover [1].
- 1 Claw [2]



F-3-45

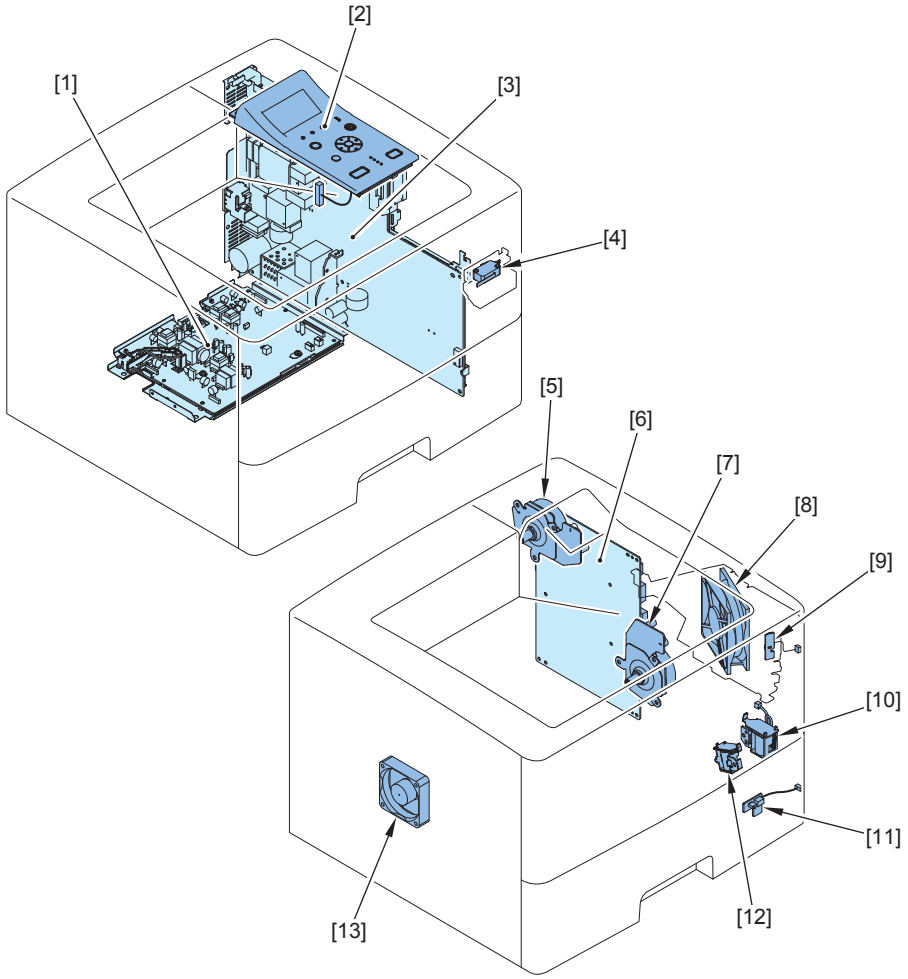
2) Remove the Upper Cover [1].
- 3 Screws [2]
- 2 Claws [3]
- 6 Hooks [4]



F-3-46

Controller System

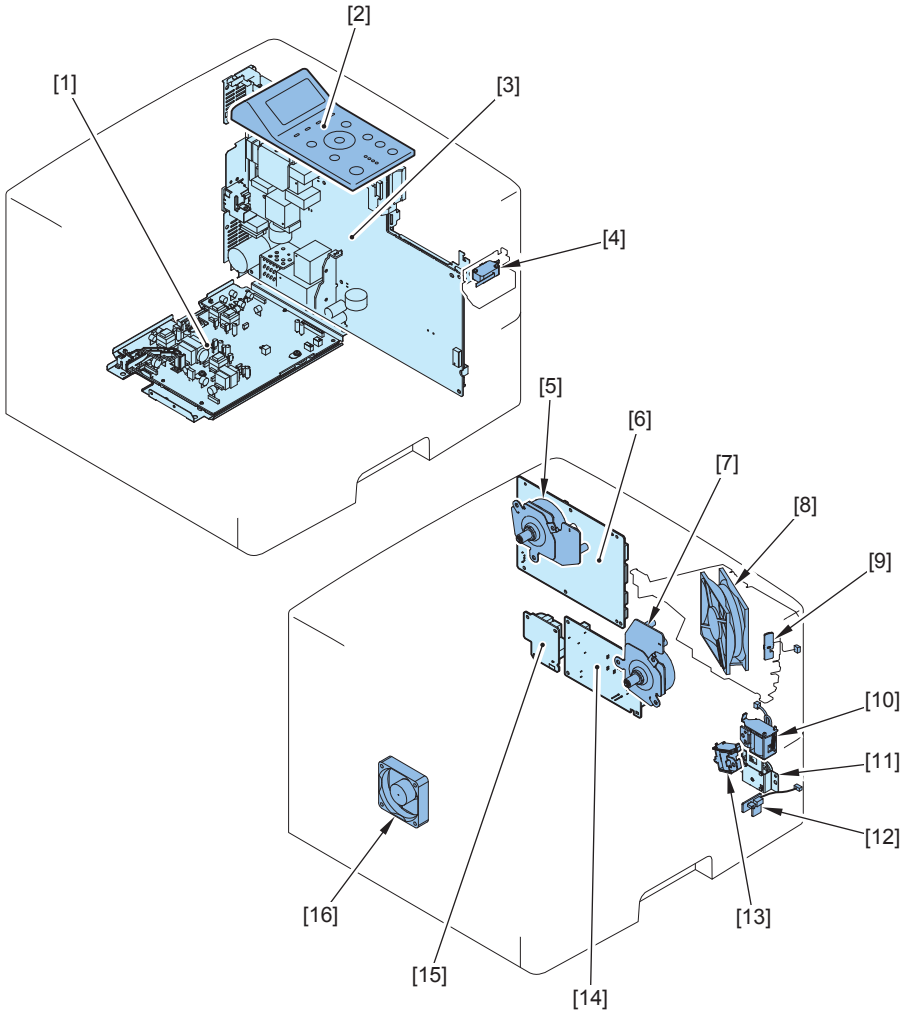
Layout Drawing(LBP3560/6750dn)



Key No.	Name	Main Unit	Reference
[1]	High Voltage Power Supply Unit	Product Configuration	(Refer to page 3-42)
[2]	Control Panel Unit	Product Configuration	(Refer to page 3-28)
[3]	Engine Controller PCB	Product Configuration	(Refer to page 3-35)
[4]	Cartridge Door Switch	Product Configuration	(Refer to page 3-57)
[5]	Fixing Motor	Product Configuration	(Refer to page 3-49)
[6]	Main Controller PCB	Product Configuration	(Refer to page 3-30)
[7]	Main Motor	Product Configuration	(Refer to page 3-46)
[8]	Main Fan	Product Configuration	(Refer to page 3-50)
[9]	Environment Sensor	Product Configuration	(Refer to page 3-42)
[10]	Multi-purpose Tray Pickup Solenoid	Product Configuration	(Refer to page 3-53)
[11]	Cassette Sensing Switch	Product Configuration	(Refer to page 3-57)
[12]	Cassette Pickup Solenoid	Product Configuration	(Refer to page 3-55)
[13]	Sub Fan	Product Configuration	(Refer to page 3-51)

T-3-23

Layout Drawing(LBP3580/6780x)



F-3-47

Key No.	Name	Main Unit	Adjastment during parts replacement	Reference
[1]	High Voltage Power Supply Unit	Product Configuration	-	(Refer to page 3-42)
[2]	Control Panel Unit	Product Configuration	-	(Refer to page 3-29)
[3]	Engine Controller PCB	Product Configuration	-	(Refer to page 3-37)
[4]	Cartridge Door Switch	Product Configuration	-	(Refer to page 3-57)
[5]	Fixing Motor	Product Configuration	-	(Refer to page 3-49)
[6]	Main Controller PCB	Product Configuration	(Refer to page 3-5)	(Refer to page 3-31)
[7]	Main Motor	Product Configuration	-	(Refer to page 3-46)
[8]	Main Fan	Product Configuration	-	(Refer to page 3-50)
[9]	Environment Sensor	Product Configuration	-	(Refer to page 3-42)
[10]	Multi-purpose Tray Pickup Solenoid	Product Configuration	-	(Refer to page 3-53)
[11]	Main Switch Unit	Right Lower Cover	-	(Refer to page 3-40)
[12]	Cassette Sensing Switch	Product Configuration	-	(Refer to page 3-57)
[13]	Cassette Pickup Solenoid	Product Configuration	-	(Refer to page 3-55)
[14]	All-night Power Supply PCB	Product Configuration	-	(Refer to page 3-32)
[15]	AC Relay PCB	Product Configuration	-	(Refer to page 3-34)
[16]	Sub Fan	Product Configuration	-	(Refer to page 3-51)

T-3-24

Removing the Control Panel Unit(LBP3560/6750dn)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

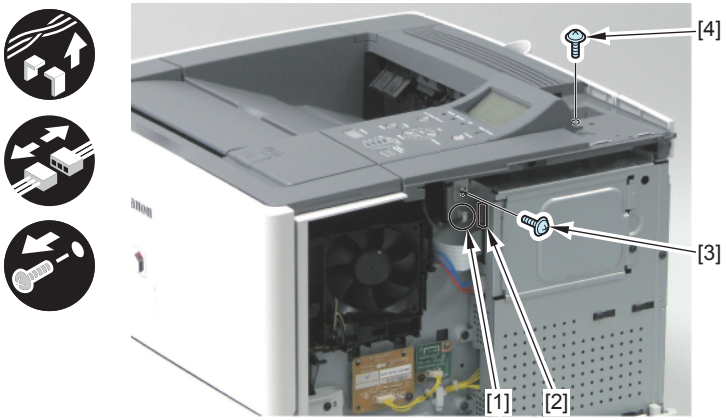
Procedure

1) Remove the Upper Right Rear Cover [1].

- 2 Claws [2]

F-3-48

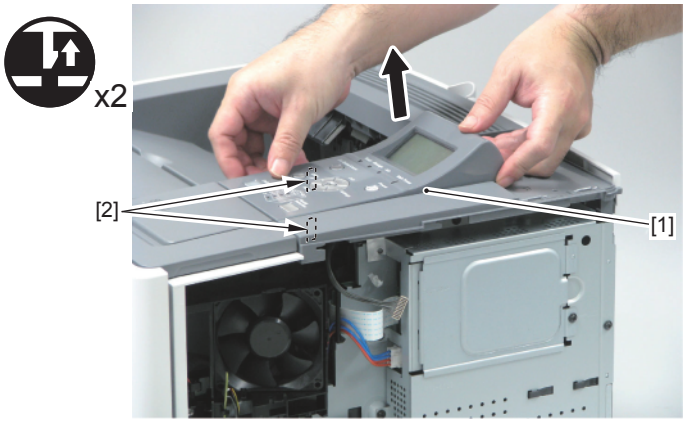
2) Release the cable from the Wire Saddle [1], disconnect the connector [2], and remove the screw (silver) [3] and screw (tapping) [4].



F-3-49

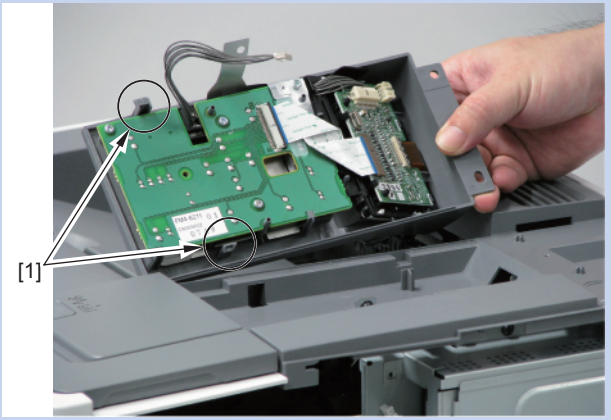
3) Remove the Control Panel Unit [1].

- 2 Claws [2]



F-3-50

NOTE:
The following shows the 2 claws [1] of the Control Panel Unit.



F-3-51

Removing the Control Panel Unit (LBP3580/6780x)

CAUTION:

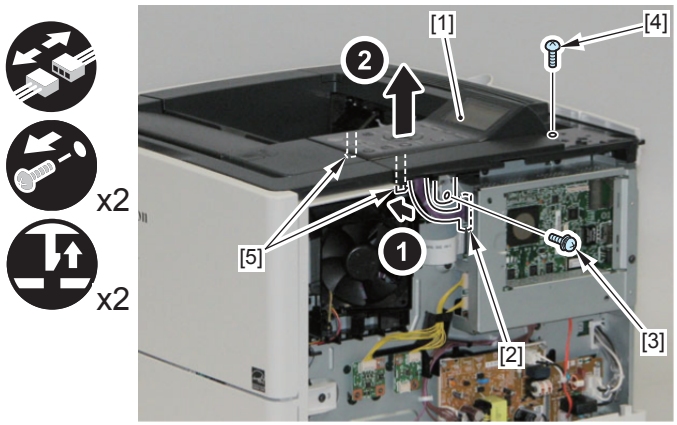
When replacing this part, execute the actions to be taken when replacing the Main Controller PCB.

Preparation

1) Remove the Right Cover.(Refer to page 3-17)
2 Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)

Procedure

1) Remove the Control Panel Unit [1].
1 Connector [2]
1 Screw (W Sems) [3]
1 Screw (Binding) [4]
2 Claws [5]

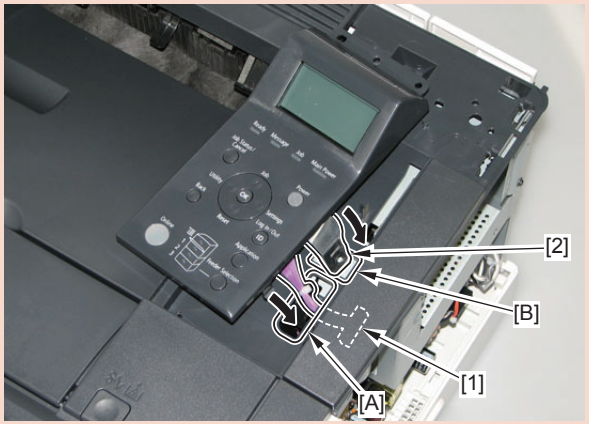


F-3-52

CAUTION:

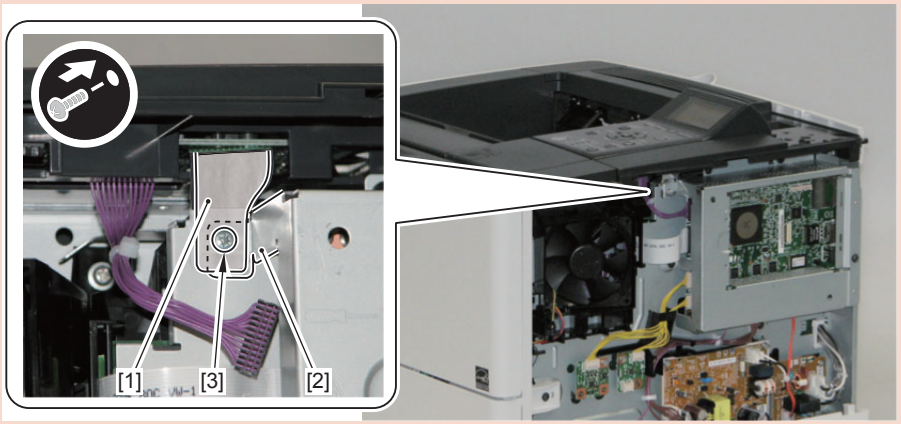
When installing the Control Panel Unit, be sure to note the following points.

- Be sure to put the connector [1] through the hole [A] of the Upper Cover and put the grounding sheet [2] through the hole [B] of the Upper Cover.



F-3-53

- Place the grounding sheet [1] on the outside of the Main Controller Cover [2] and secure them together with the removed screw [3].



F-3-54

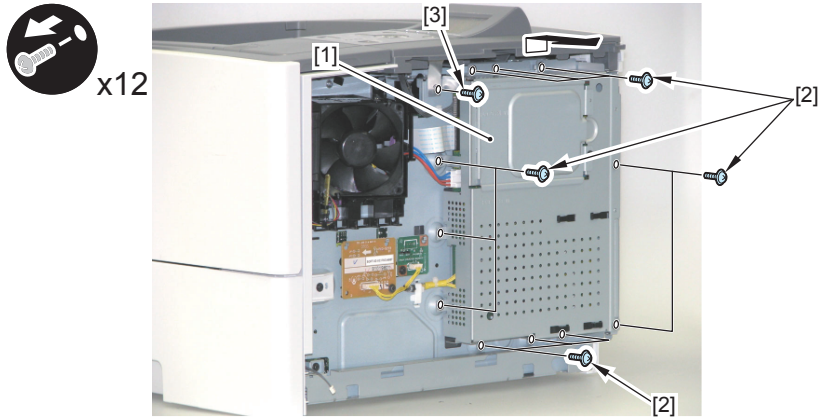
Removing the Main Controller PCB(LBP3560/6750dn)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)

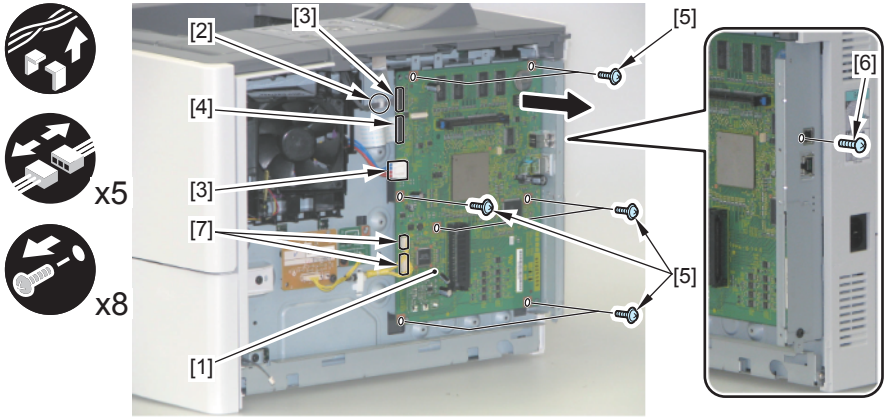
Procedure

1) Remove the Main Controller Cover [1].
- 11 Screws (black) [2]
- 1 Screw (silver) [3]



F-3-55

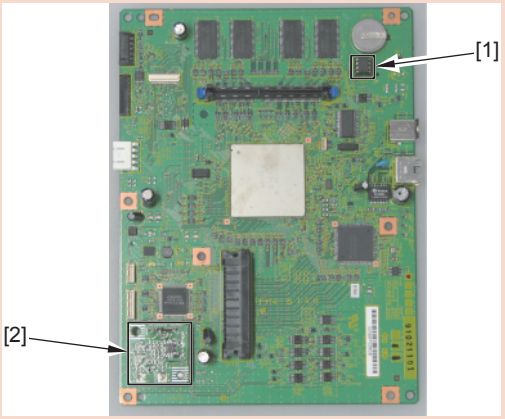
2) Remove the Main Controller PCB [1].
- 1 Wire Saddle [2]
- 2 Connectors [3]
- 1 Flat Cable [4]
- 7 Screws (black) [5]
- 1 Screw (silver) [6]
- 2 Connectors [7] (LBP3560/LBP6750dn)



F-3-56

CAUTION:

When replacing the Main Controller PCB, be sure to transfer the EEPROM [1] and Memory PCB [2] from the removed Main Controller PCB to the new one.



Removing the Main Controller PCB (LBP3580/6780x)

CAUTION:

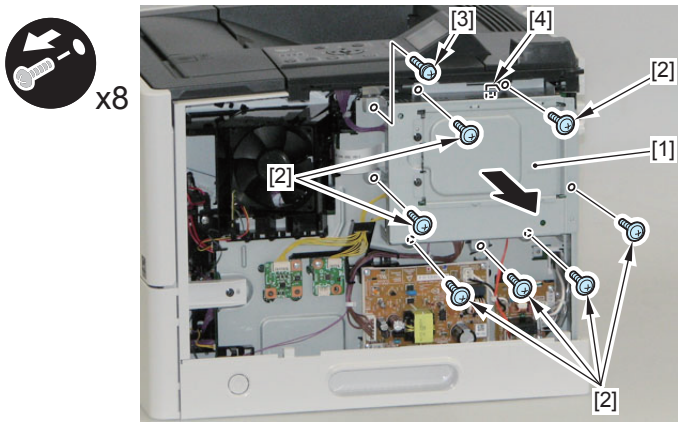
When replacing this part, execute the actions to be taken when replacing the Main Controller PCB.

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

1) Remove the Main Controller Cover [1].
- 7 Screws (black) [2]
- 1 W Sems Screw (silver) [3]
- 1 Hook [4]

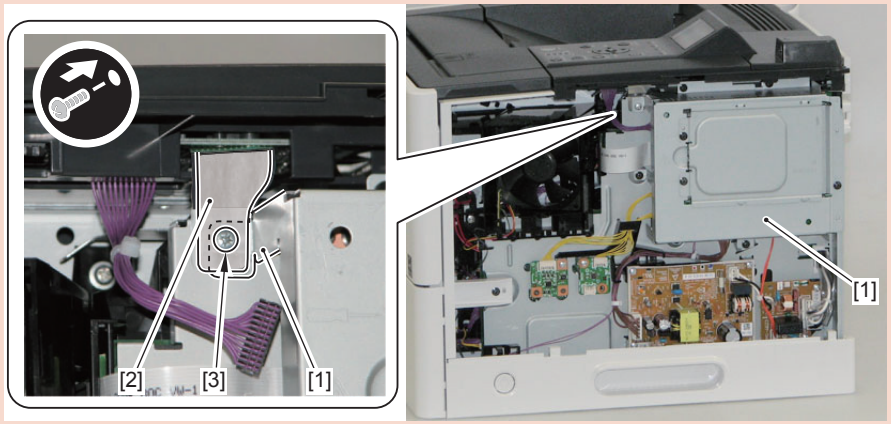


F-3-57

CAUTION:

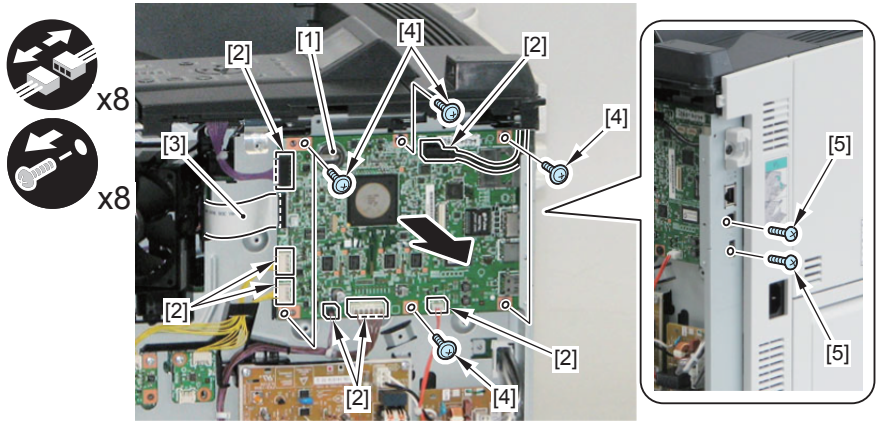
When installing the Main Controller Cover [1], be sure to note the following point.

- Place the grounding sheet [2] on the outside of the Main Controller Cover [1] and secure them together with the removed screw [3].



F-3-58

2) Remove the Main Controller PCB [1].
- 7 Connectors [2]
- 1 Flat Cable [3]
- 6 Screws (black) [4]
- 2 Binding Screws (silver) [5]



F-3-59

When Replacing the Main Controller PCB (LBP3580/6780x)

The Flash ROM of the Main Controller PCB contains the following data.

- Firmware: Boot module for startup, main program Bootable
- Setting values: User mode setting values, service mode setting values
- Management data: Page counter data, device serial number
- MEAP applications

In a case of replacement with a new Main Controller, it is necessary to migrate the setting values from the old Main Controller.

The data can be exported by executing service mode > function.gr > ALL, and the order of priority for exportation is shown below.

USB memory device (when a USB memory device is connected) > SD Card (when a SD Card is connected) > RAM (when none of them is connected)

MEAP applications cannot be migrated and need to be installed again.

The data migration method and the target data at the time of replacement of the Main Controller PCB are shown below.

	Setting value (User mode setting values, service mode setting values)	Management data (page counter, device serial number)	MEAP applications
Expansion ROM for servicing + Sublog Board	Yes	Yes	No
USB memory device	Yes	No	No
SD card	Yes	No	No

T-3-25

Removing the All-night Power Supply PCB (LBP3580/6780x)

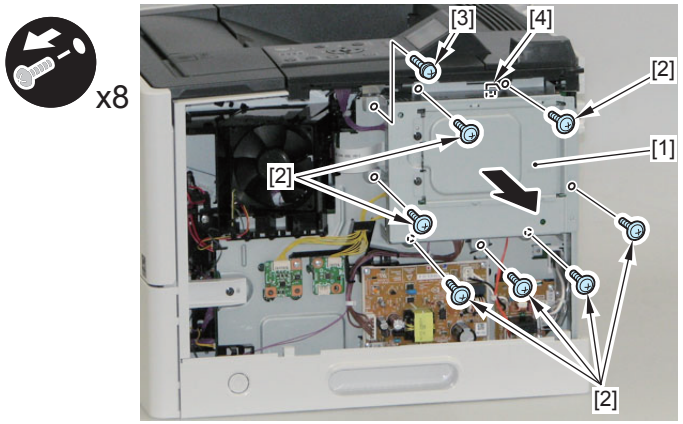
Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

1) Remove the Main Controller Cover [1].

- 7 Screws (black) [2]
- 1 W Sems Screw (silver) [3]
- 1 Hook [4]

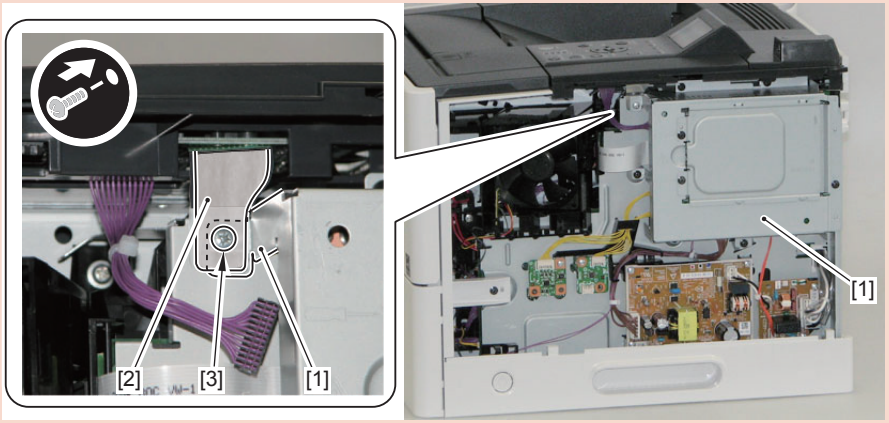


F-3-60

CAUTION:

When installing the Main Controller Cover [1], be sure to note the following point.

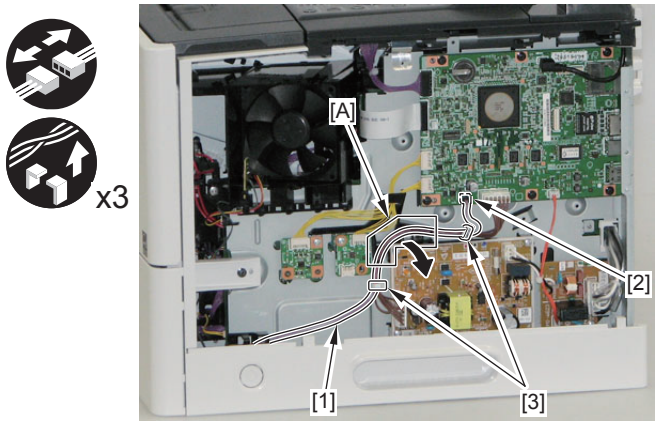
- Place the grounding sheet [2] on the outside of the Main Controller Cover [1] and secure them together with the removed screw [3].



F-3-61

2) Free the harness [1] connected to the Main Switch Unit.

- 1 Connector [2]
- 2 Wire Saddles [3]
- 1 Harness Guide [A]

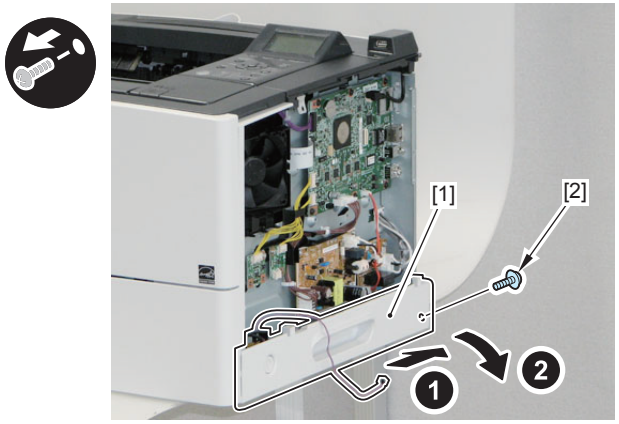


F-3-62

3) Shift the host machine 50 mm to the right.

4) Remove the Right Lower Cover [1].

- 1 Screw (black) [2]

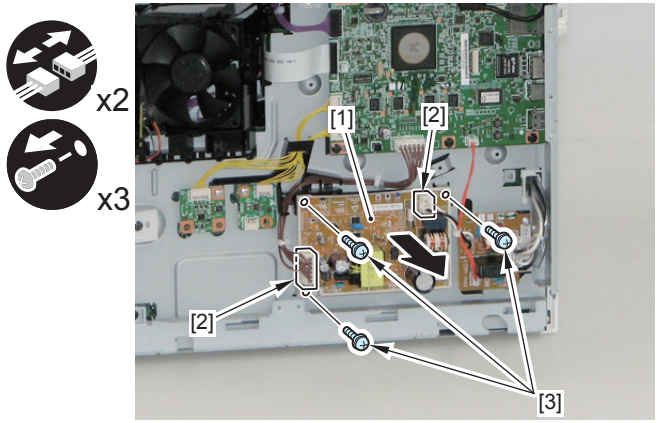


F-3-63

5) Place the host machine in the center of working table.

6) Remove the All-night Power Supply PCB [1].

- 2 Connectors [2]
- 3 W Sems Screws [3]



F-3-64

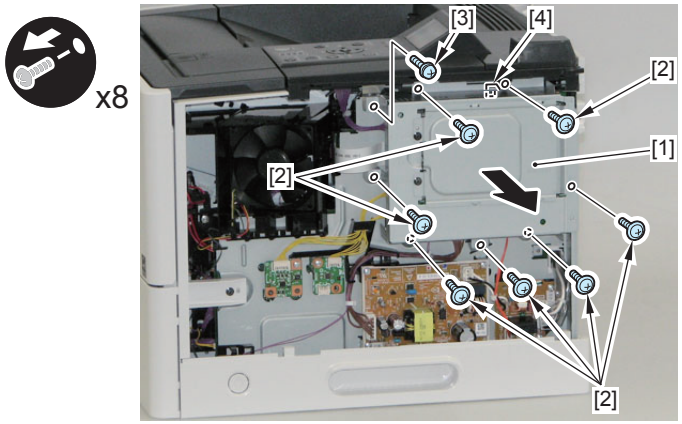
Removing the AC Relay PCB (LBP3580/6780x)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

1) Remove the Main Controller Cover [1].
- 7 Screws (black) [2]
- 1 W Sems Screw (silver) [3]
- 1 Hook [4]

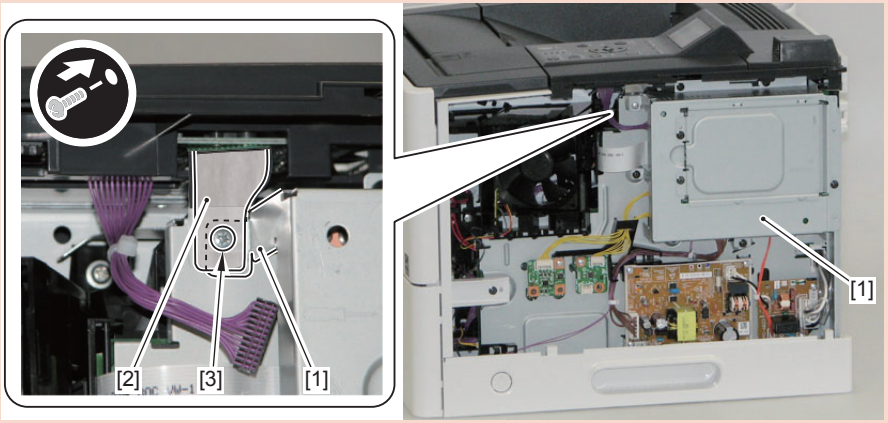


F-3-65

CAUTION:

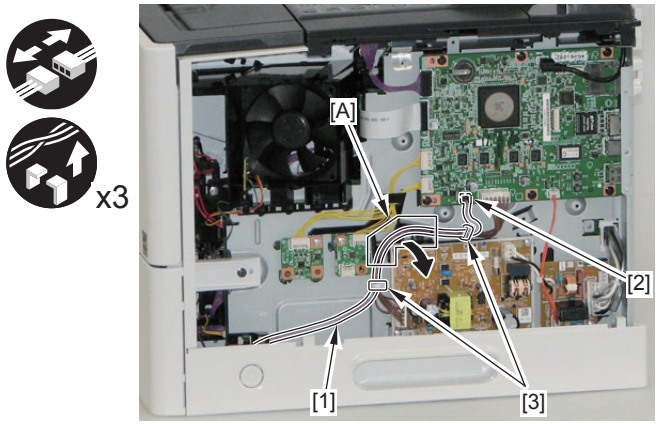
When installing the Main Controller Cover [1], be sure to note the following point.

- Place the grounding sheet [2] on the outside of the Main Controller Cover [1] and secure them together with the removed screw [3].



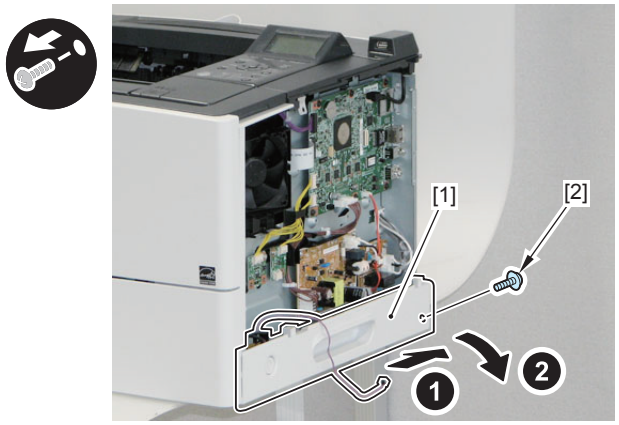
F-3-66

2) Free the harness [1] connected to the Main Switch Unit.
- 1 Connector [2]
- 2 Wire Saddles [3]
- 1 Harness Guide [A]



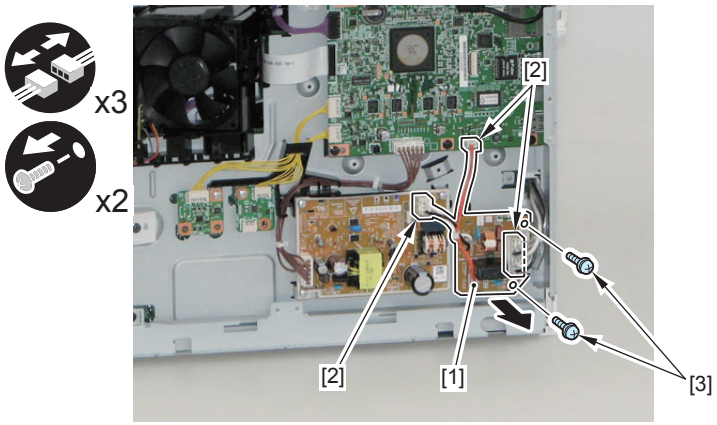
F-3-67

3) Shift the host machine 50 mm to the right.
4) Remove the Right Lower Cover [1].
• 1 Screw (black) [2]



F-3-68

5) Place the host machine in the center of working table.
6) Remove the AC Relay PCB [1].
• 3 Connectors [2]
• 2 W Sems Screws [3]



F-3-69

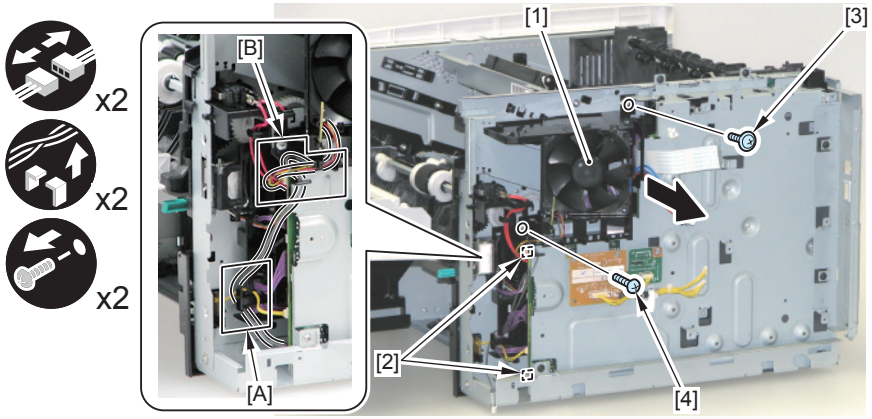
Removing the Engine Controller PCB (LBP3560/6750dn)

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)

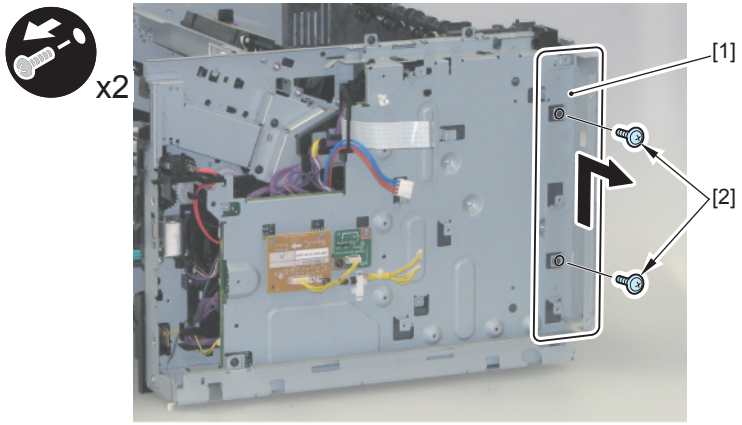
Procedure

1) Remove the Main Fan Unit [1].
• 2 Connectors [2]
• Harness Guide [A]
• Harness Guide [B]
• 1 Screw (TP) [3]
• 1 Screw (tapping) [4]



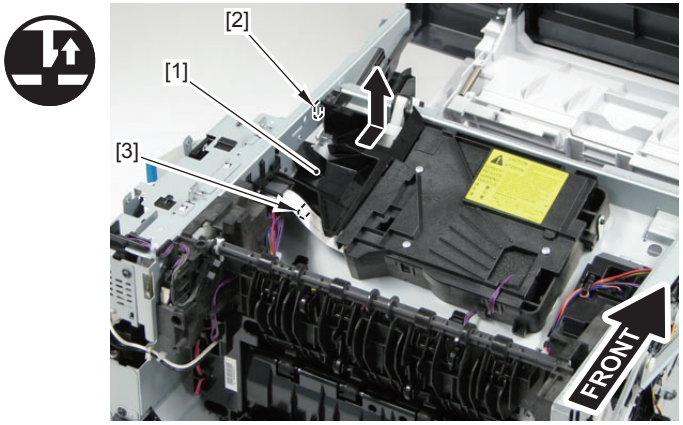
F-3-70

2) Remove the PCB Installation Plate [1].
- 2 Screws [2]



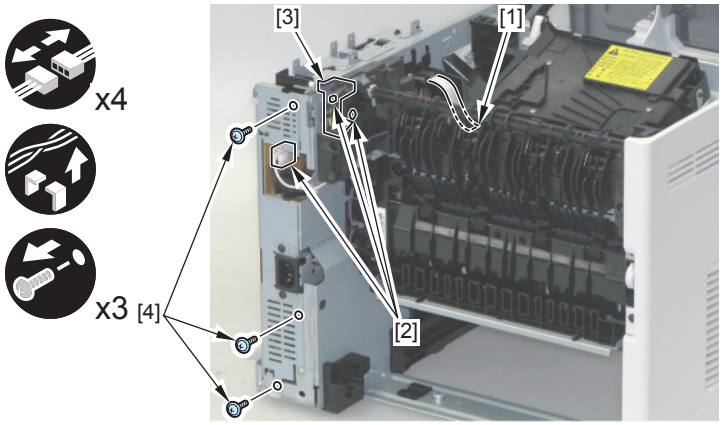
F-3-71

3) Remove the Scanner Cover [1].
- 1 Claw [2]
- 1 Hook [3]



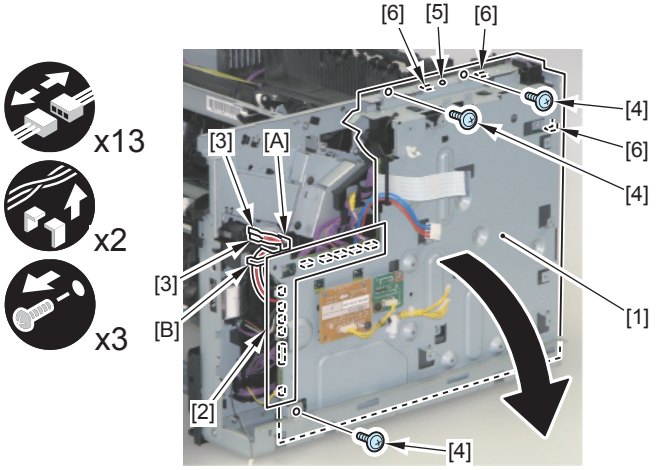
F-3-72

4) Disconnect the Flat Cable [1] and 3 connectors [2], release the harnesses from the Harness Guide [3], and remove the 3 screws [4].



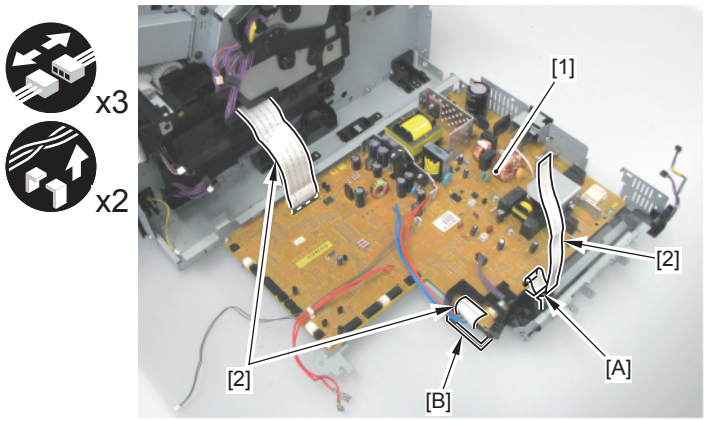
F-3-73

5) Open the Engine Controller PCB [1].
- 11 Connectors [2]
- 2 Faston [3]
- 1 Harness Guide [A]
- 1 Harness Guide [B]
- 3 Screws [4]
- 1 Boss [5]
- 3 Hooks [6]



F-3-74

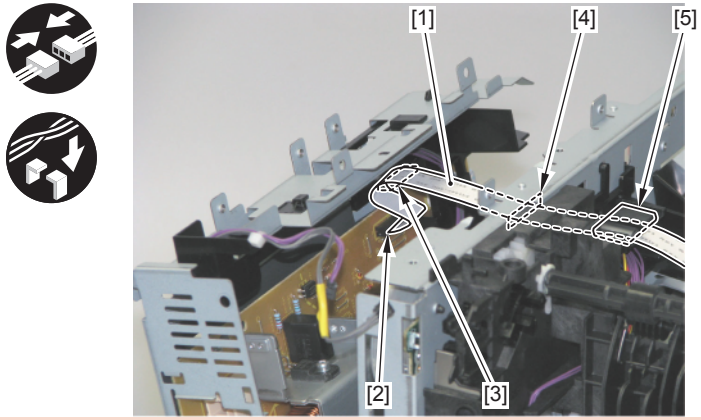
6) Remove the Engine Controller PCB [1].
- 3 Flat Cables [2]
- 1 Harness Guide [A]
- 1 Harness Guide [B]



F-3-75

CAUTION:

When installing the Laser Scanner Flat Cable [1], be sure to install it to the connector [2], Guide [3], hole [4] on the Right Side Plate, and Ferrite Core [5], in that order.



F-3-76

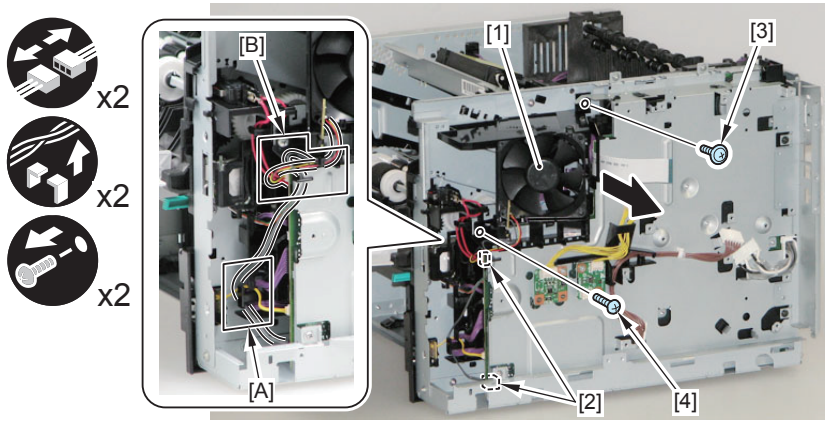
Removing the Engine Controller PCB (LBP3580/6780x)

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)

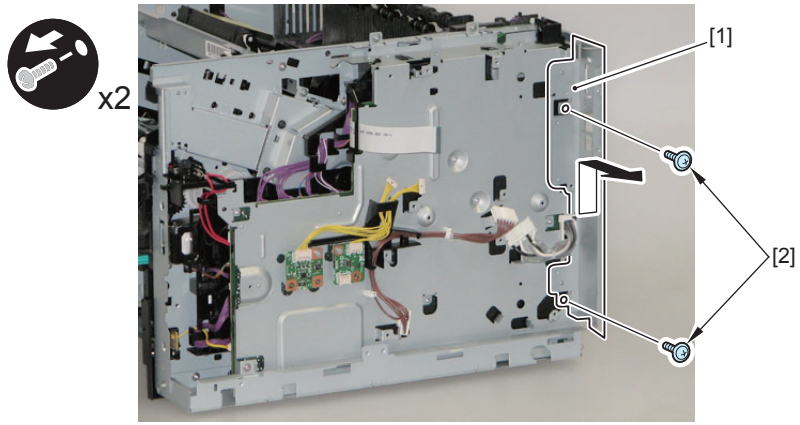
Procedure

1) Remove the Main Fan Unit [1].
- 2 Connectors [2]
- Harness Guide [A]
- Harness Guide [B]
- 1 Screw (TP) [3]
- 1 Screw (tapping) [4]



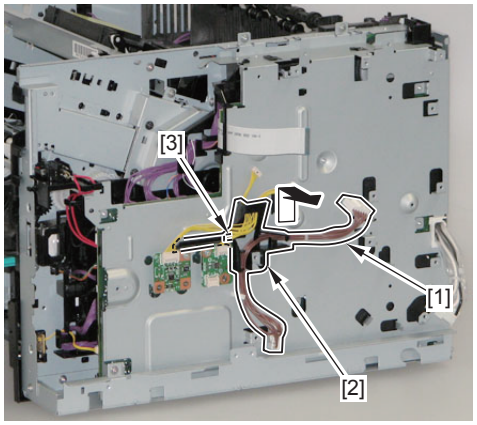
F-3-77

2) Remove the PCB Installation Plate [1].
- 2 Screws (black) [2]



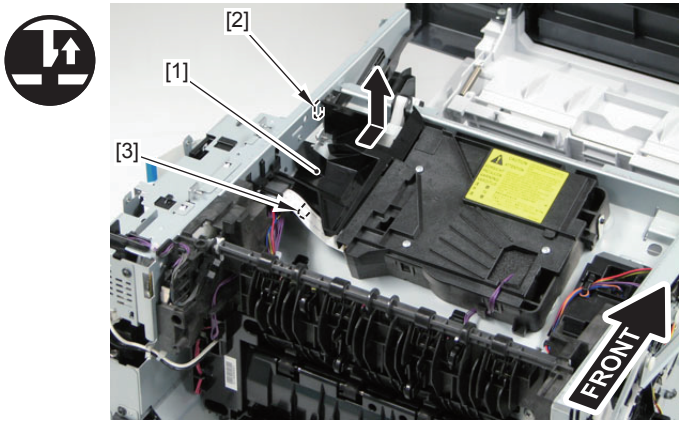
F-3-78

3) Remove the harness [1] and the Harness Guide [2].
- 1 Hook [3]



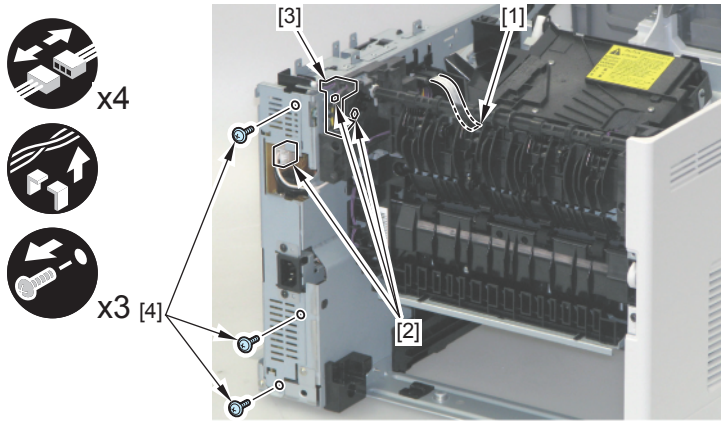
F-3-79

4) Remove the Scanner Cover [1].
- 1 Claw [2]
- 1 Hook [3]



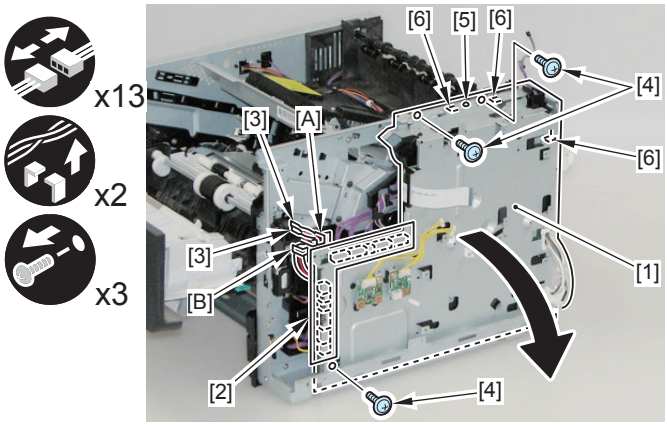
F-3-80

5) Disconnect the Flat Cable [1] and 3 connectors [2], and remove the Harness Guide [3] and 3 screws (black) [4].



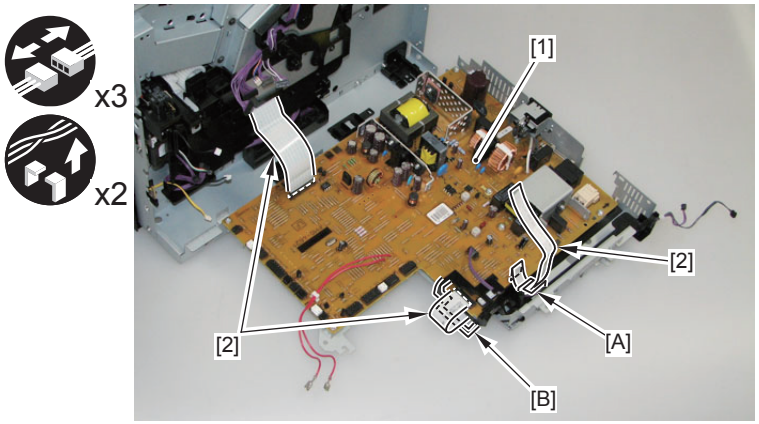
F-3-81

6) Open the Engine Controller PCB [1].
- 11 Connectors [2]
- 2 Faston [3]
- 1 Harness Guide [A]
- 1 Harness Guide [B]
- 3 Screws (black) [4]
- 1 Boss [5]
- 3 Hooks [6]



F-3-82

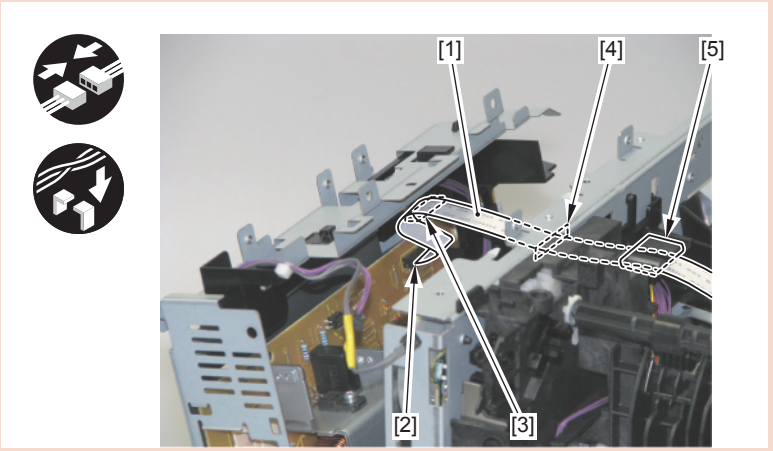
7) Remove the Engine Controller PCB [1].
- 3 Flat Cables [2]
- 1 Harness Guide [A]
- 1 Harness Guide [B]



F-3-83

CAUTION:

When installing the Laser Scanner Flat Cable [1], be sure to install it to the connector [2], Guide [3], hole [4] on the Right Side Plate, and Ferrite Core [5], in that order.



F-3-84

After Replacing the Engine Controller PCB(LBP3580/6780x)

When the Engine Controller PCB has been replaced with a new one, the firmware needs to be installed again.

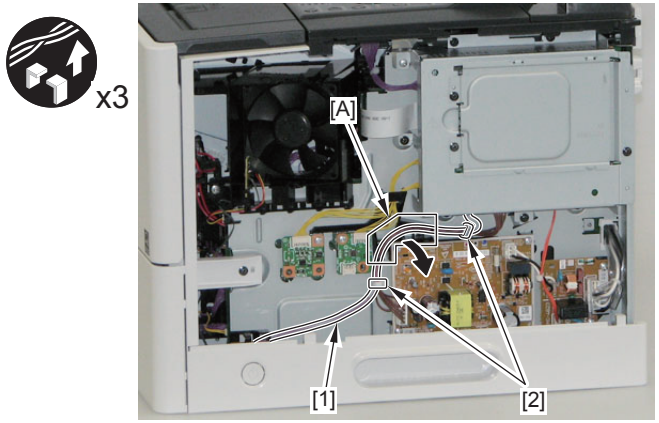
Removing the Main Switch Unit (LBP3580/6780x)

Preparation

1) Remove the Right Cover.(Refer to page 3-17)

Procedure

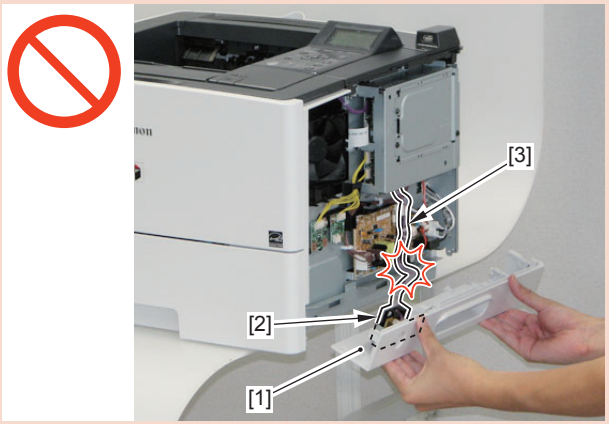
1) Free the harness [1] connected to the Main Switch Unit.
- 2 Wire Saddles [2]
- 1 Harness Guide [A]



F-3-85

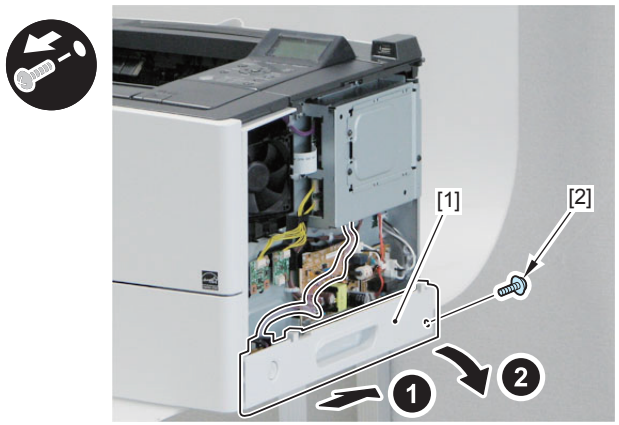
CAUTION:

When installing/removing, do not let the harness [3] of the Main Switch Unit [2] on the Right Lower Cover [1] to be open circuit.



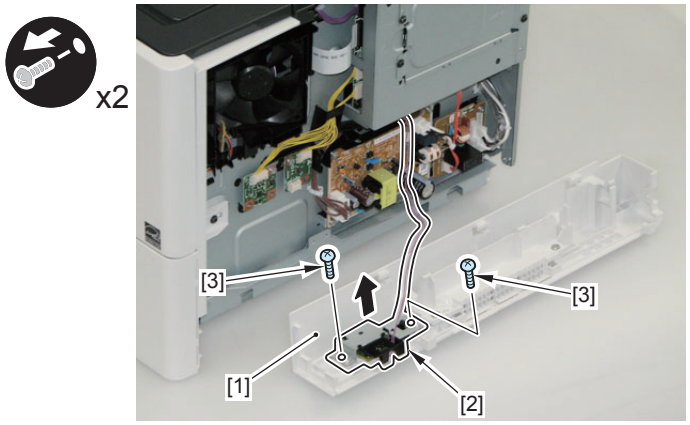
F-3-86

2) Shift the host machine 50 mm to the right.
3) Remove the Right Lower Cover [1].
- 1 Screw (black) [2]



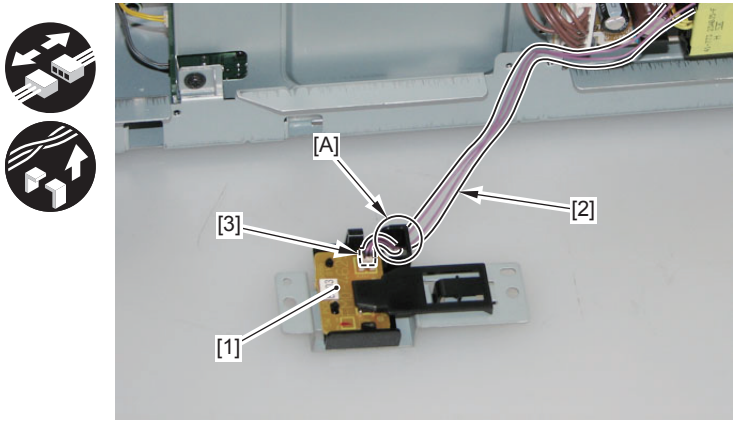
F-3-87

4) Place the host machine and the Right Lower Cover in the center of working table.
5) Remove the Main Switch Unit [2] from the Right Lower Cover [1].
- 2 Screw [3]



F-3-88

6) Free the harness [2] from the Main Switch Unit [1].
- 1 Connector [3]
- Harness Guide [A]



F-3-89

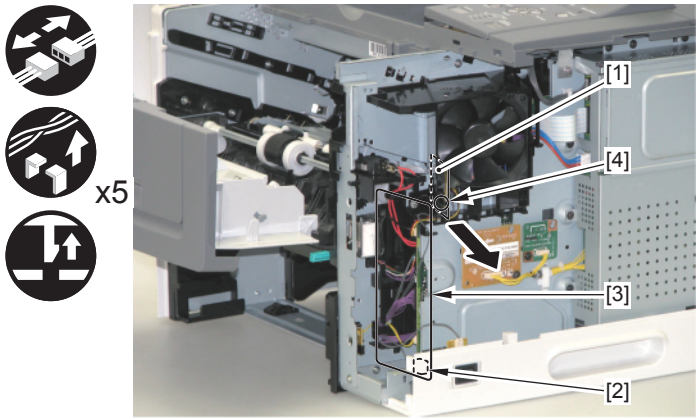
Removing the Environment Sensor

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)

Procedure

1) Remove the Environment Sensor [1].
- 1 Connector [2]
- 5 Harness Guides [3]
- 1 Claw [4]



F-3-90

Removing the High Voltage Power Supply Unit

Preparation (LBP3560/6750dn)

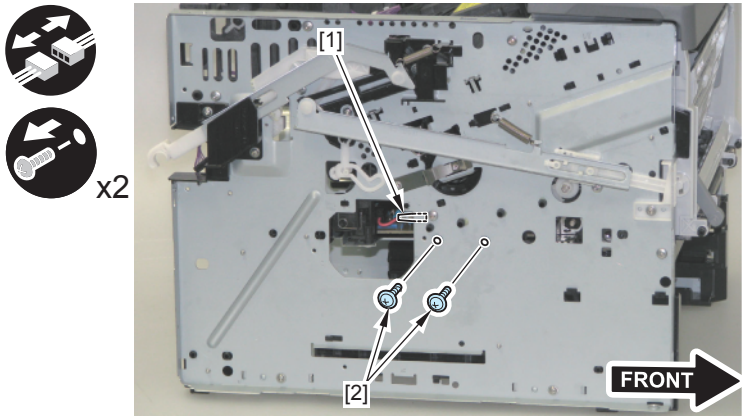
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Left Cover.(Refer to page 3-17)
6) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
7) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)
12) Remove the Fixing Unit.(Refer to page 3-62)
13) Remove the Duplex Feed Unit.(Refer to page 3-67)
14) Remove the Sub Fan.(Refer to page 3-51)

Preparation (LBP3580/6780x)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Left Cover.(Refer to page 3-17)
6) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
7) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
8) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
9) Remove the Upper Cover.(Refer to page 3-25)
10) Remove the Rear Cover Unit.(Refer to page 3-19)
11) Remove the Rear Right Cover.(Refer to page 3-19)
12) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)
13) Remove the Fixing Unit.(Refer to page 3-62)
14) Remove the Duplex Feed Unit.(Refer to page 3-67)
15) Remove the Sub Fan.(Refer to page 3-51)

Procedure

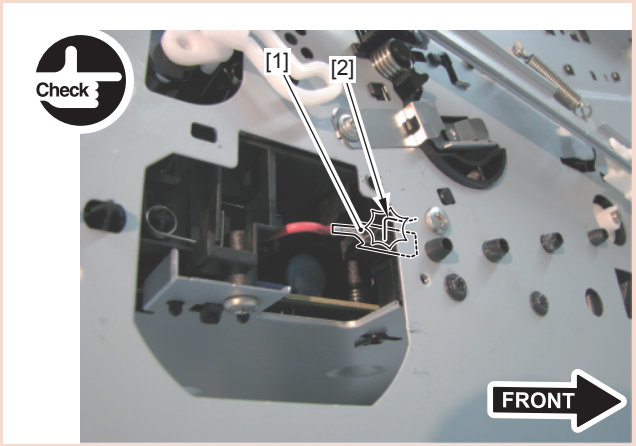
1) Close the Front Cover Unit.
2) Remove the Faston Terminal [1] and the 2 screws [2].



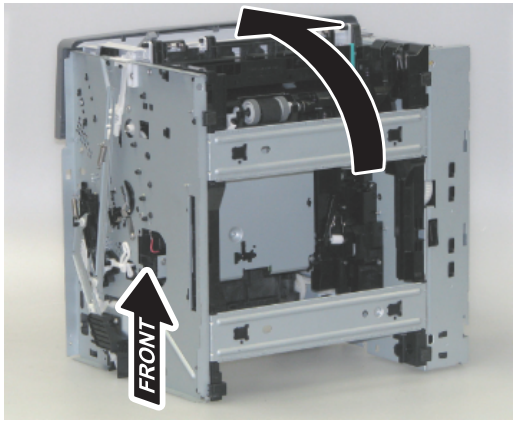
F-3-91

CAUTION:

When installing the High Voltage Power Supply Unit to the main body, be sure to check that the Faston Terminal [1] is in contact with the Grounding Spring [2].



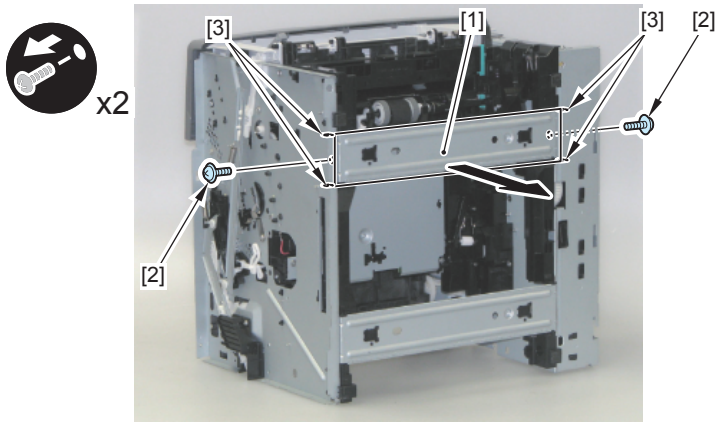
3) Turn the machine so that it is placed with its rear side down.



F-3-92

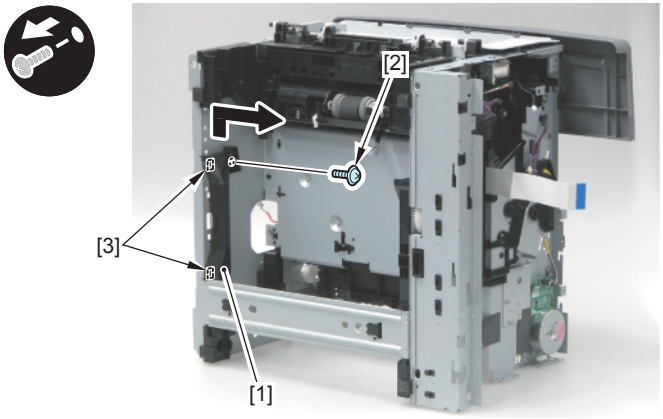
4) Remove the Lower Front Reinforcing Plate [1].

- 2 Screws [2]
- 4 Hooks [3]



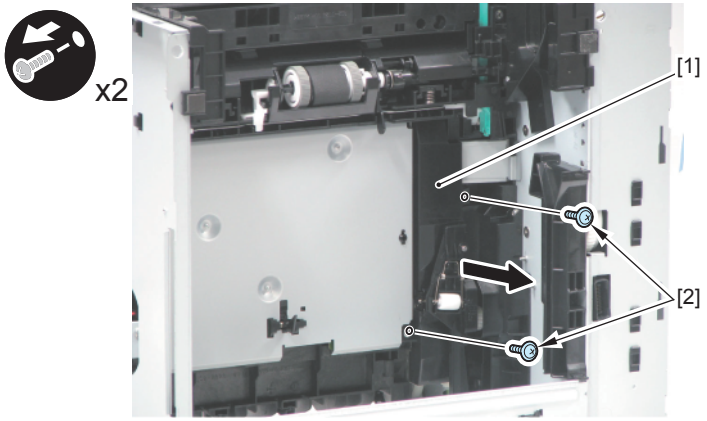
F-3-93

5) Remove the Cassette Guide [1].
- 1 Screw [2]
- 2 Hooks [3]



F-3-94

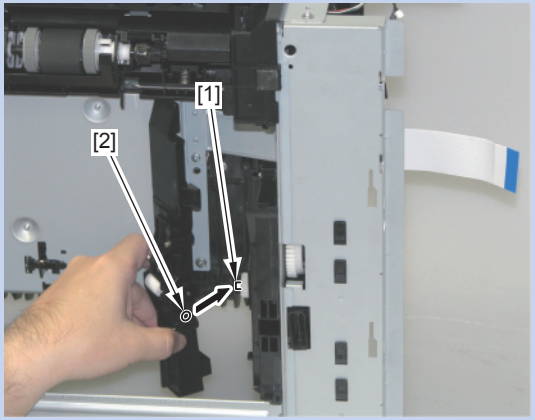
6) Remove the Reference Guide [1].
- 2 Screws [2]



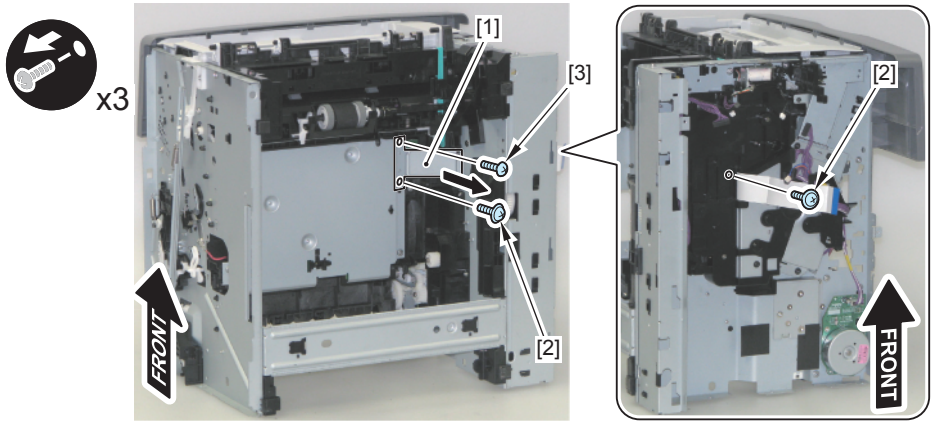
F-3-95

NOTE:

When installing the Reference Guide, be sure to align the shaft [1] with the Shaft Hole [2].



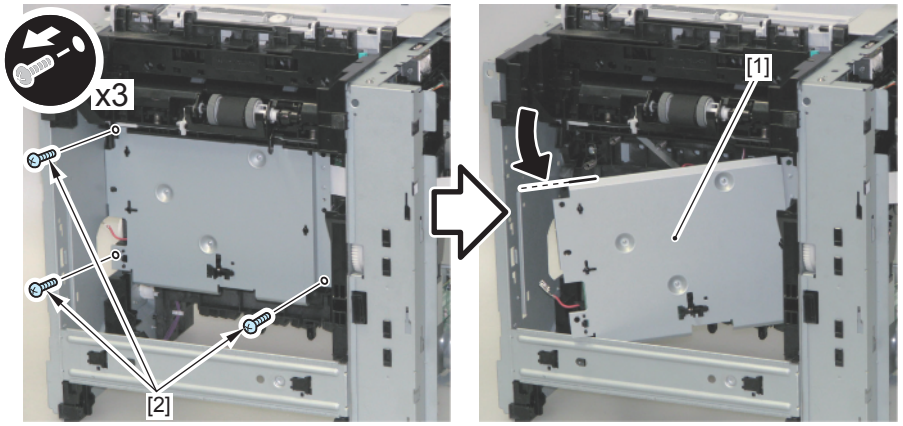
7) Remove the Cable Guide Plate [1].
- 2 Screws (black) [2]
- 1 Screw (silver) [3]



F-3-96

8) Open the High Voltage Power Supply Unit [1].

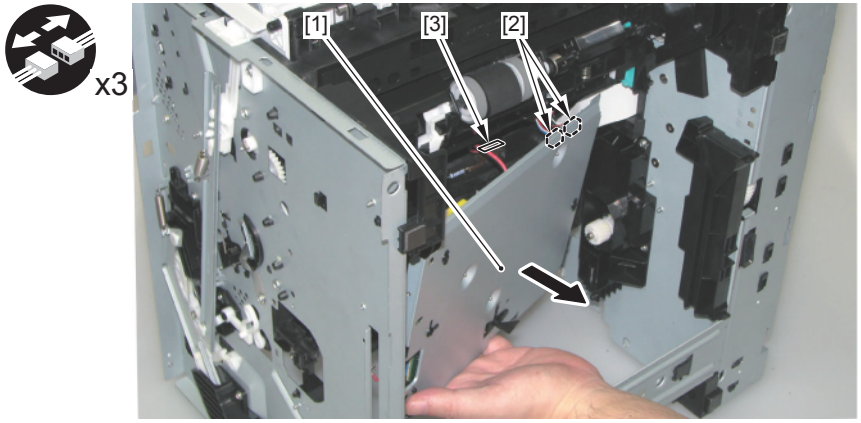
- 3 Screws [2]



F-3-97

9) Remove the High Voltage Power Supply Unit [1].

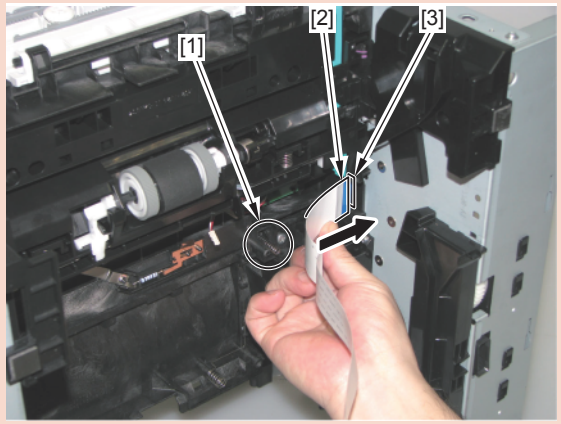
- 2 Connectors [2]
- 1 Faston Terminal [3]



F-3-98

CAUTION:

- When disassembling/assembling the High Voltage Power Supply Unit, be careful not to lose the spring [1] on the Main Frame.
- When installing the High Voltage Power Supply Unit to the main body, pass the Flat Cable [2] through the hole [3] on the Right Side Plate.



Removing the Main Motor

Preparation(LBP3560/6750dn)

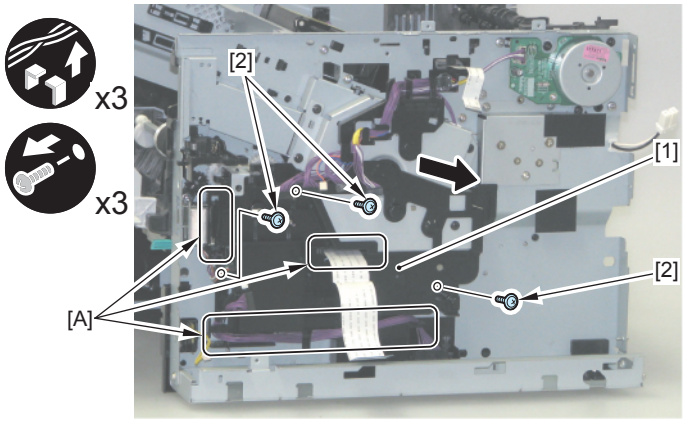
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)
10) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)

Preparation(LBP3580/6780x)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)

Procedure

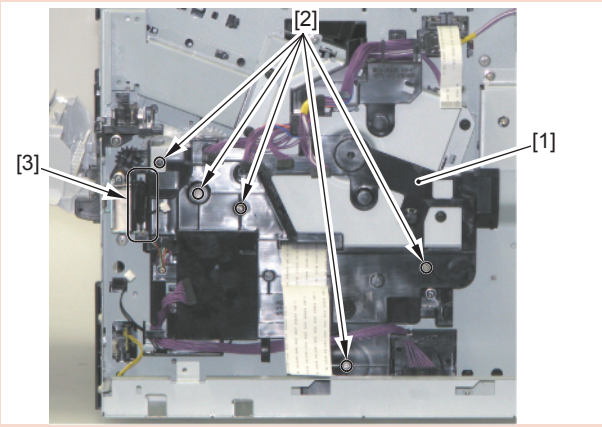
1) Remove the Gear Cover [1].
- 3 Harness Guides [A]
- 3 Screws [2]



F-3-99

CAUTION:

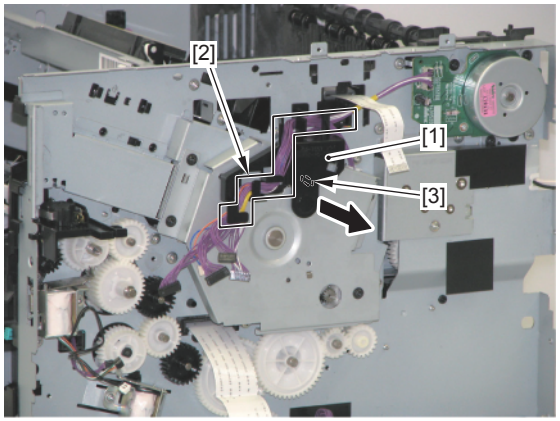
- When installing the Gear Cover, be sure to align the shaft with the 5 Shaft Holes [2] of the Gear Cover [1].
- When installing the Gear Cover, be sure to route the harness [3] of the Multi-purpose Tray Pickup Solenoid around the guide section of the Gear Cover [1] one and a half times in a clockwise direction.



F-3-100

2) Remove the Harness Guide Holder [1].

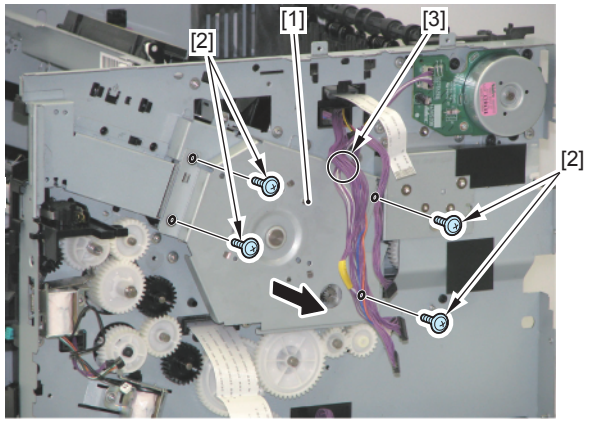
- 1 Harness Guide [2]
- 1 Claw [3]



F-3-101

3) Remove the Main Gear Cover [1].

- 4 Screws [2]
- 1 Edge Saddle [3]

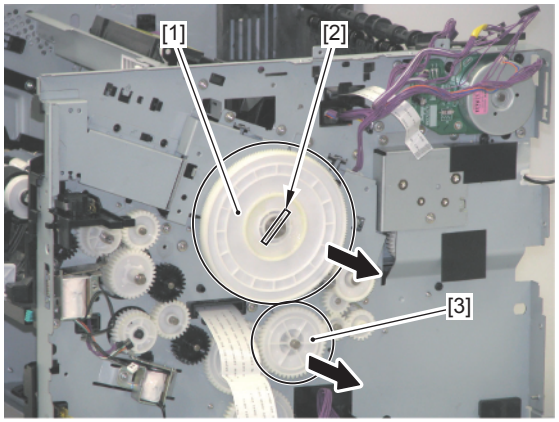


F-3-102

4) Remove the Main Gear [1].

- 1 Parallel Pin [2]

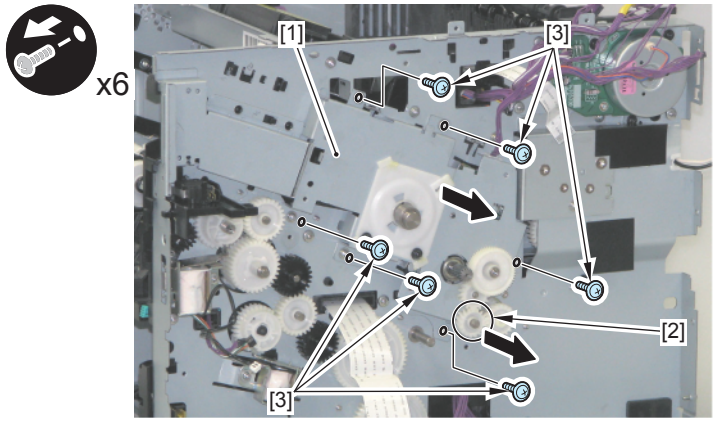
5) Remove the gear [3].



F-3-103

6) Remove the Main Motor Unit [1].

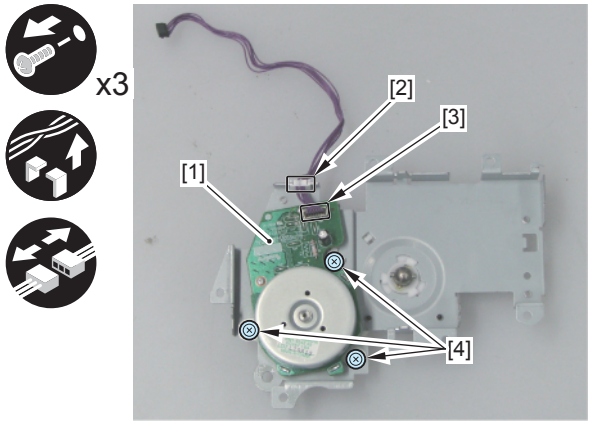
- 1 Gear [2]
- 6 Screws [3]



F-3-104

7) Remove the Main Motor [1].

- 1 Edge Saddle [2]
- 1 Connector [3]
- 3 Screws [4]



F-3-105

Removing the Fixing Motor

Preparation(LBP3560/6750dn)

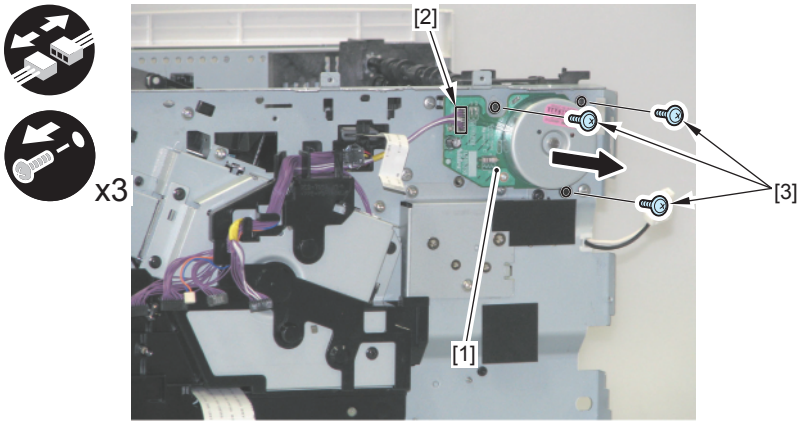
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)
10) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)

Preparation(LBP3580/6780x)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)

Procedure

1) Remove the Fixing Motor [1].
- 1 Connector [2]
- 3 Screws [3]



F-3-106

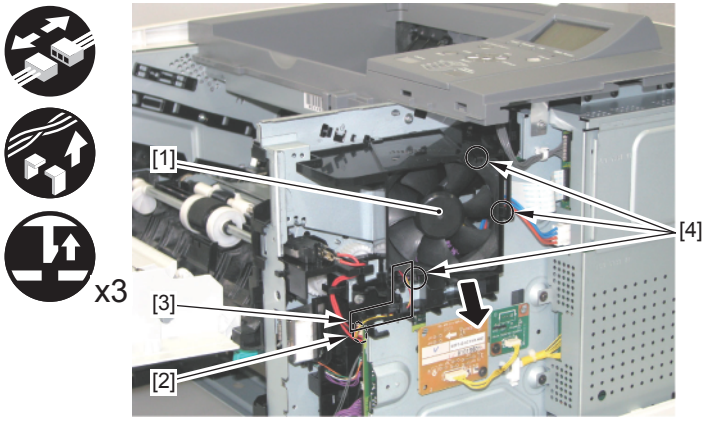
Removing the Main Fan

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Environment Sensor.(Refer to page 3-42)

Procedure

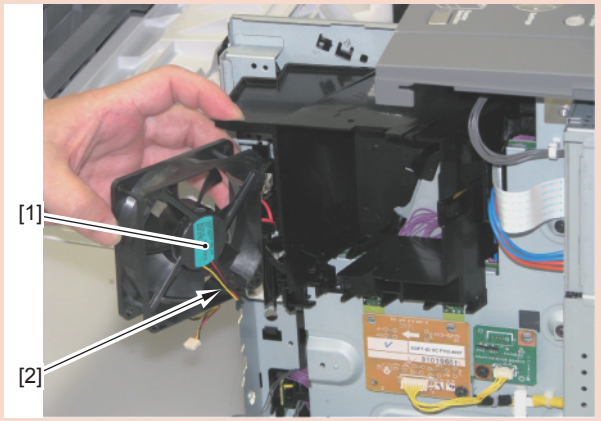
1) Remove the Main Fan [1].
- 1 Connector [2]
- 1 Harness Guide [3]
- 3 Claws [4]



F-3-107

CAUTION:

When installing the Main Fan to the main body, be sure that the label [1] of the fan comes to the inside and the harness [2] comes to the lower left.



Removing the Sub Fan

Preparation(LBP3560/6750dn)

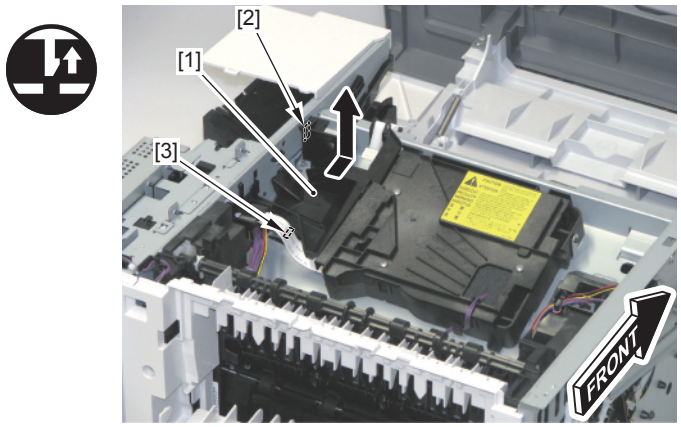
1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
3) Remove the Left Cover.(Refer to page 3-17)
4) Remove the Upper Cover.(Refer to page 3-25)

Preparation(LBP3580/6780x)

1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
3) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-29)
4) Remove the Left Cover.(Refer to page 3-17)
5) Remove the Upper Cover.(Refer to page 3-25)

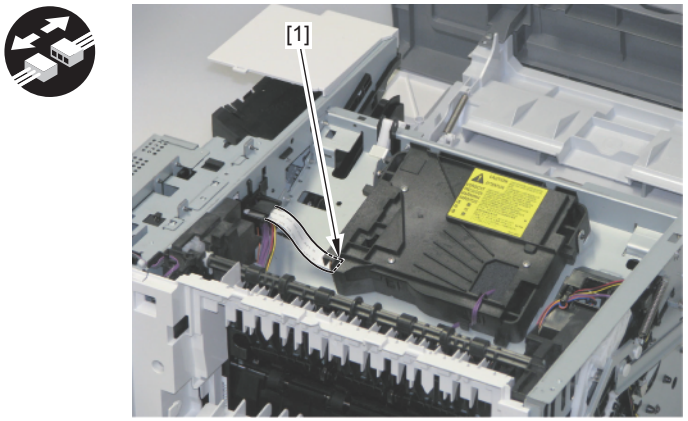
Procedure

1) Remove the Scanner Duct [1].
- 1 Claw [2]
- 1 Hook [3]



F-3-108

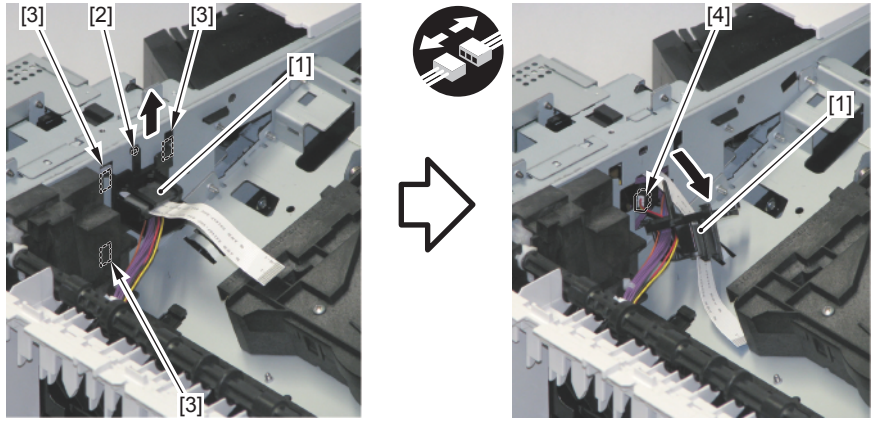
2) Disconnect the Flat Cable [1].



F-3-109

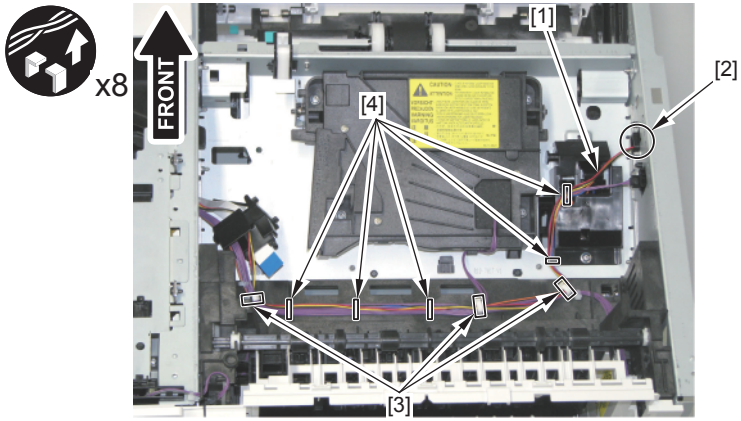
3) Move the Harness Guide [1].
- 1 Boss [2]
- 3 Hooks [3]

4) Disconnect the connector [4].



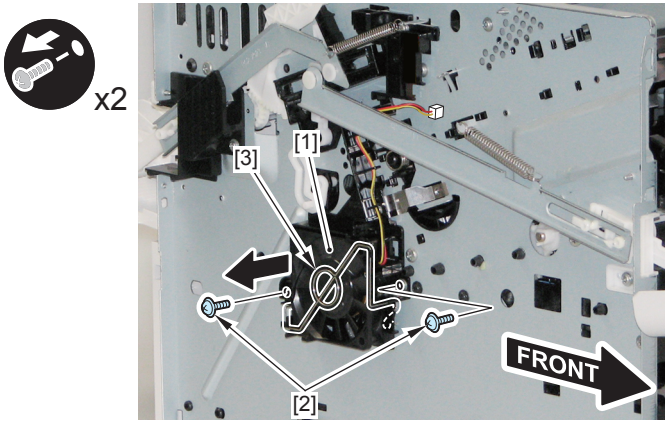
F-3-110

5) Pass the harness [1] through the hole [2] on the Left Side Plate.
- 3 Clamps [3]
- 5 Harness Guides [4]



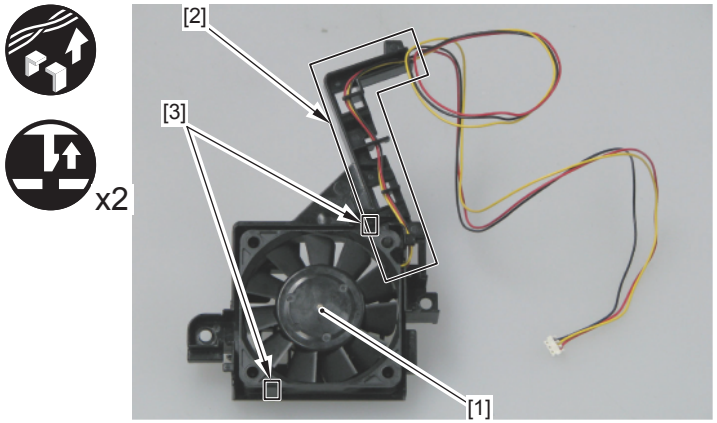
F-3-111

6) Remove the Sub Fan Unit [1].
- 2 Screws [2]
- 1 Fan Rod [3]



F-3-112

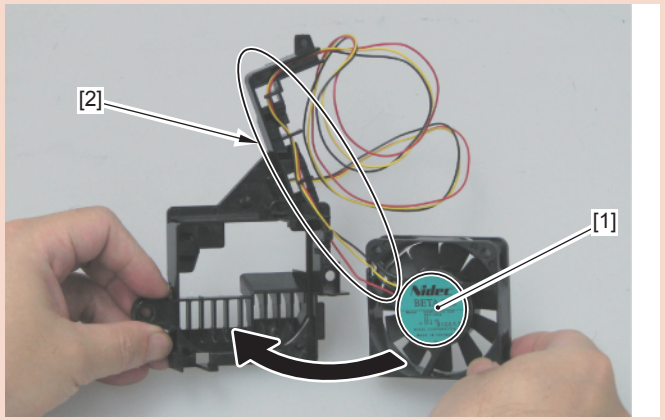
7) Remove the Sub Fan [1].
- Harness Guide [2]
- 2 Claws [3]



F-3-113

CAUTION:

When installing the Sub Fan to the main body, be sure that the label [1] of the fan comes to the inside and the harness [2] comes to the upper right.



Removing the Multi-purpose Tray Pickup Solenoid

Preparation(LBP3560/6750dn)

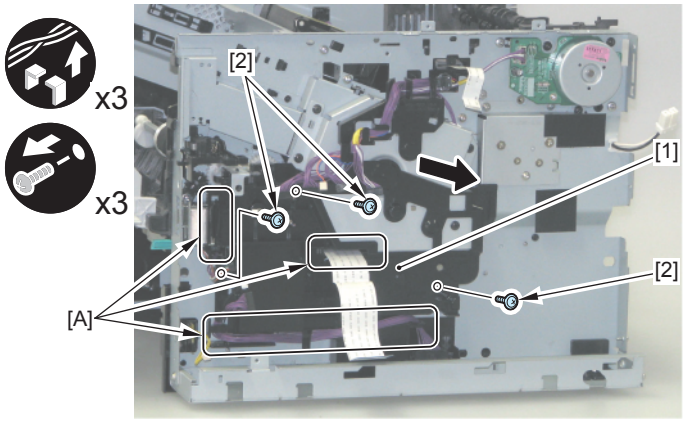
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)
10) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)

Preparation(LBP3580/6780x)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)

Procedure

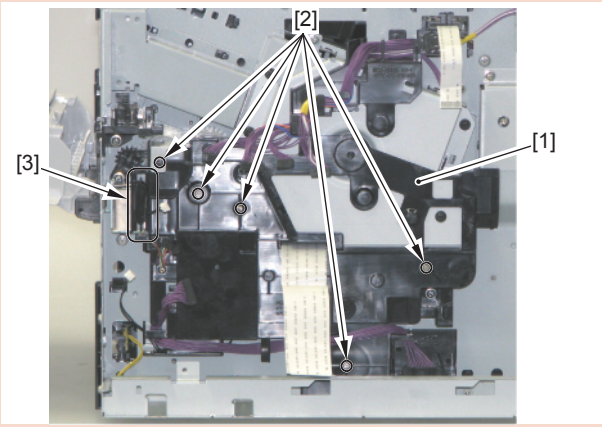
1) Remove the Gear Cover [1].
- 3 Harness Guides [A]
- 3 Screws [2]



F-3-114

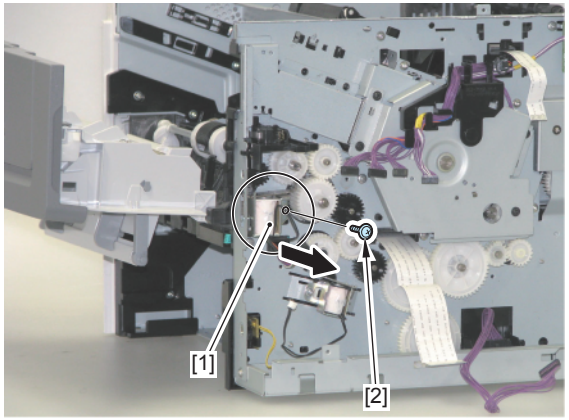
CAUTION:

- When installing the Gear Cover, be sure to align the shaft with the 5 Shaft Holes [2] of the Gear Cover [1].
- When installing the Gear Cover, be sure to route the harness [3] of the Multi-purpose Tray Pickup Solenoid around the guide section of the Gear Cover [1] one and a half times in a clockwise direction.



2) Remove the Multi-purpose Tray Pickup Solenoid [1].

- 1 Screw [2]



F-3-115

Removing the Cassette Pickup Solenoid

Preparation(LBP3560/6750dn)

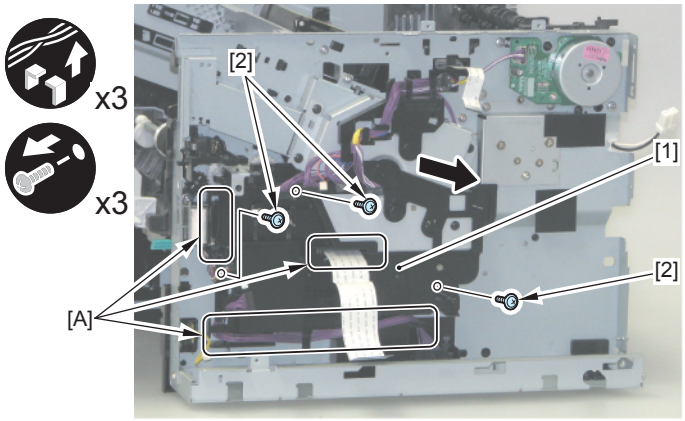
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)
10) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)

Preparation(LBP3580/6780x)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)

Procedure

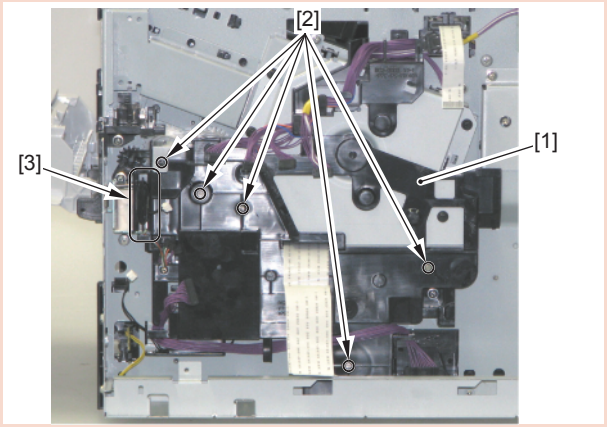
1) Remove the Gear Cover [1].
- 3 Harness Guides [A]
- 3 Screws [2]



F-3-116

CAUTION:

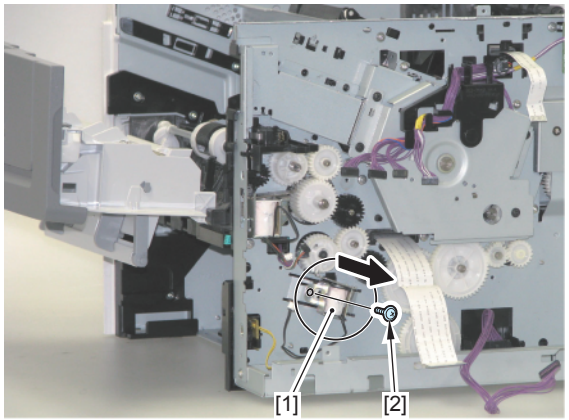
- When installing the Gear Cover, be sure to align the shaft with the 5 Shaft Holes [2] of the Gear Cover [1].
- When installing the Gear Cover, be sure to route the harness [3] of the Multi-purpose Tray Pickup Solenoid around the guide section of the Gear Cover [1] one and a half times in a clockwise direction.



F-3-117

2) Remove the Cassette Pickup Solenoid [1].

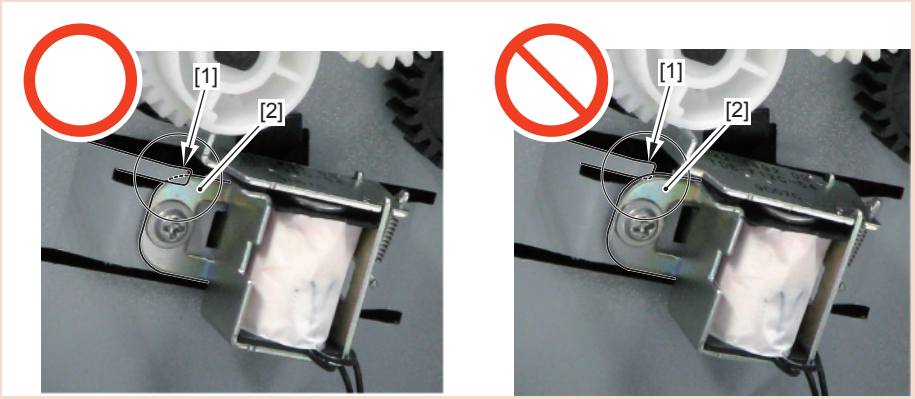
- 1 Screw [2]



F-3-118

CAUTION:

When installing the Cassette Pickup Solenoid to the main body, install the Fixation Plate [2] of the Cassette Pickup Solenoid under the plate [1] of the Right Side Plate.



F-3-119

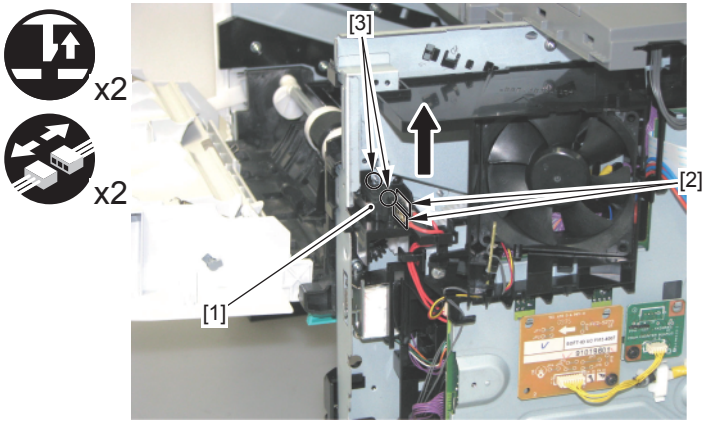
Removing the Cartridge Door Switch

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)

Procedure

1) Remove the Cartridge Door Switch [1].
- 2 Faston Terminals [2]
- 2 Claws [3]



F-3-120

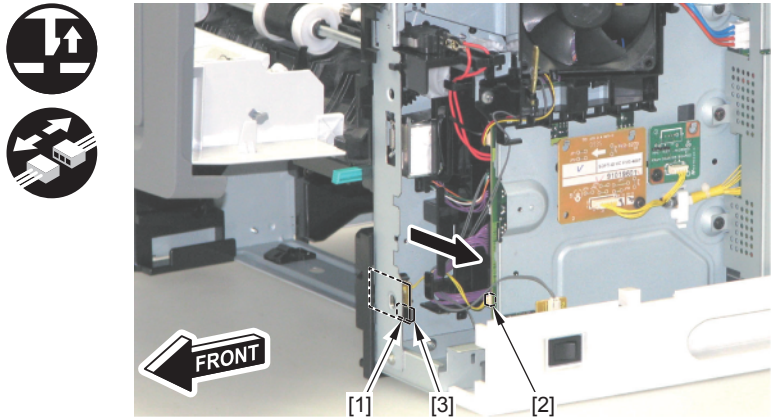
Removing the Cassette Sensing Switch

Preparation

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)

Procedure

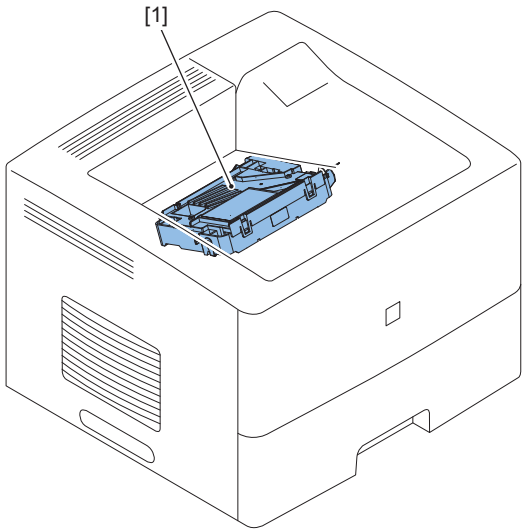
1) Remove the Cassette Sensing Switch [1].
- 1 Connector [2]
- 1 Claw [3]



F-3-121

Laser Exposure System

Layout Drawing



F-3-122

Key No.	Name	Reference
[1]	Laser Scanner Unit	(Refer to page 3-58)

T-3-26

Removing the Laser Scanner Unit

Preparation(LBP3560/6750dn)

1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
3) Remove the Left Cover.(Refer to page 3-17)
4) Remove the Upper Cover.(Refer to page 3-25)

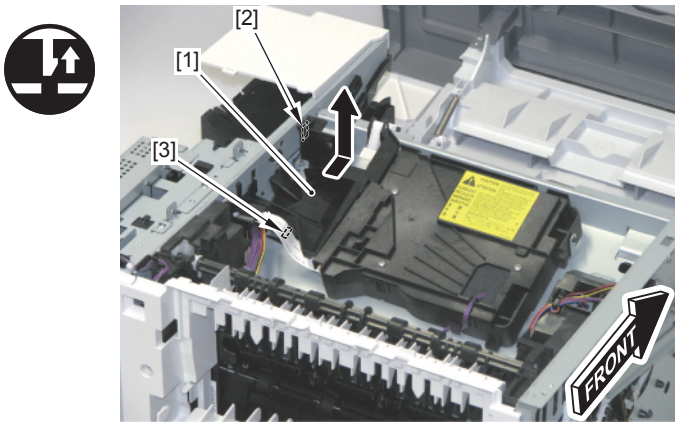
Preparation(LBP3580/6780x)

1) Remove the Right Cover.(Refer to page 3-17)
2) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
3) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-29)
4) Remove the Left Cover.(Refer to page 3-17)
5) Remove the Upper Cover.(Refer to page 3-25)

Procedure

CAUTION:
Be sure not to disassemble the Laser Scanner Unit because it requires adjustment.

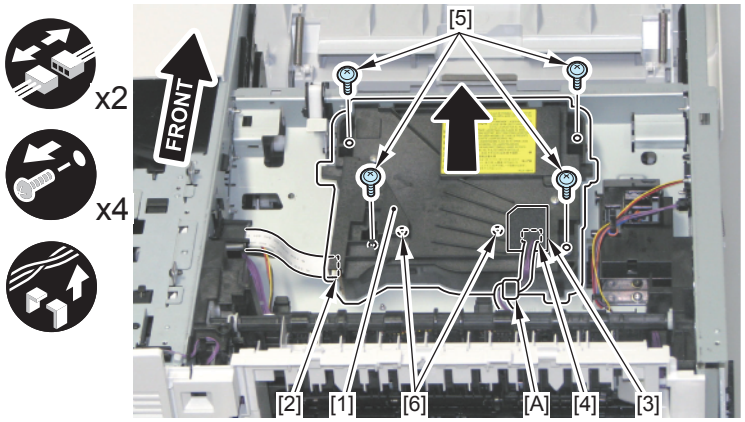
1) Remove the Fan Duct [1].
- 1 Claw [2]
- 1 Hook [3]



F-3-123

2) Remove the Laser Scanner Unit [1].

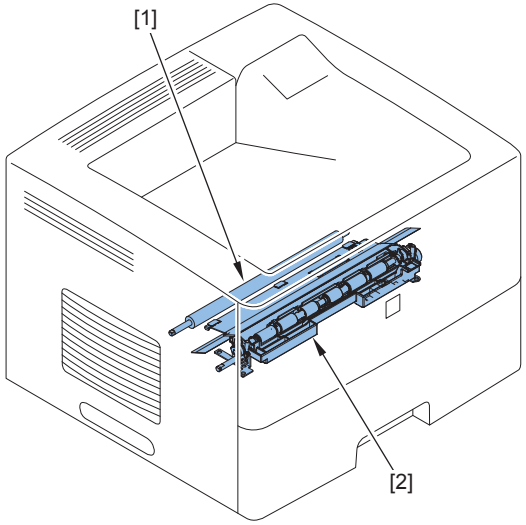
- 1 Flat Cable [2]
- 1 Sponge Cover [3]
- 1 Guide [A]
- 1 Connector [4]
- 4 Screws [5]
- 2 Bosses [6]



F-3-124

Image Formation System

Layout drawing



F-3-125

Key No.	Name	Reference
[1]	Transfer Roller	(Refer to page 3-60)
[2]	Registration Unit	(Refer to page 3-61)

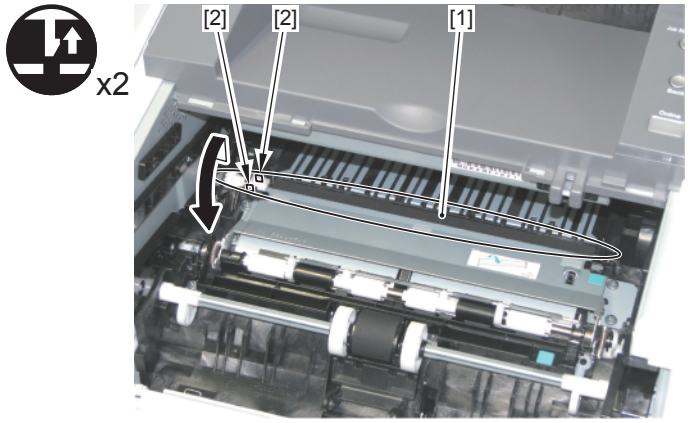
T-3-27

Removing the Transfer Roller

CAUTION:

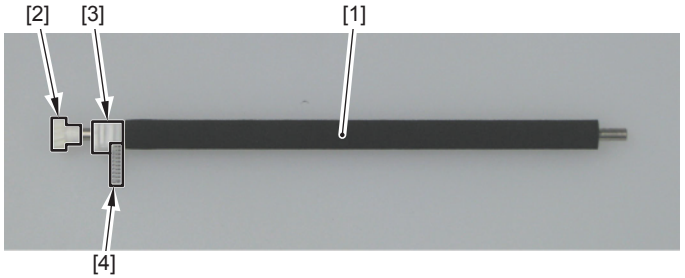
Be sure not to touch the surface of the Roller.

1) Open the Front Cover Unit.
2) Remove the Transfer Roller Unit [1].
- 2 Claws [2]



F-3-126

3) Remove the gear [2], bushing [3], and spring [4] from the Transfer Roller Unit [1].



F-3-127

Removing the Registration Unit

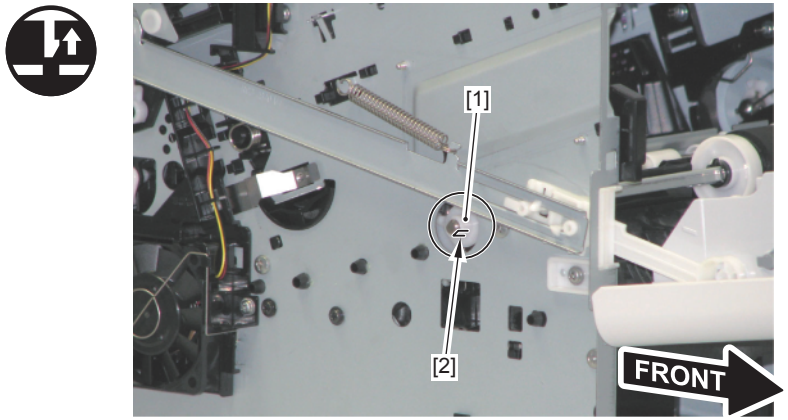
Preparation

1) Remove the Left Cover.(Refer to page 3-17)

Procedure

1) Remove the gear [1].

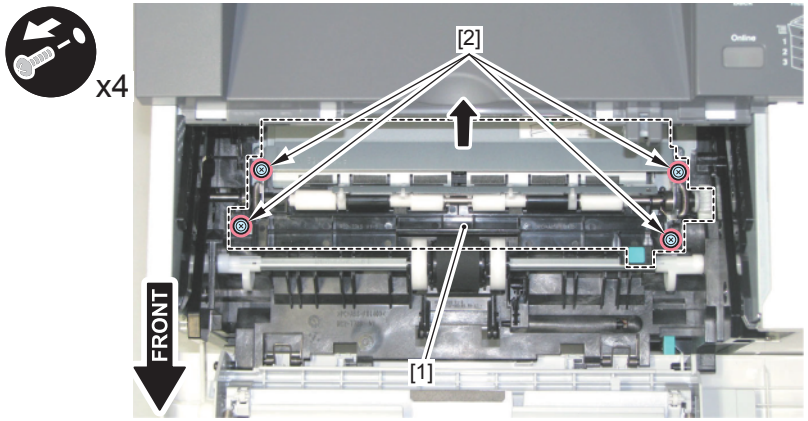
- 1 Claw [2]



F-3-128

2) Remove the Registration Unit [1].

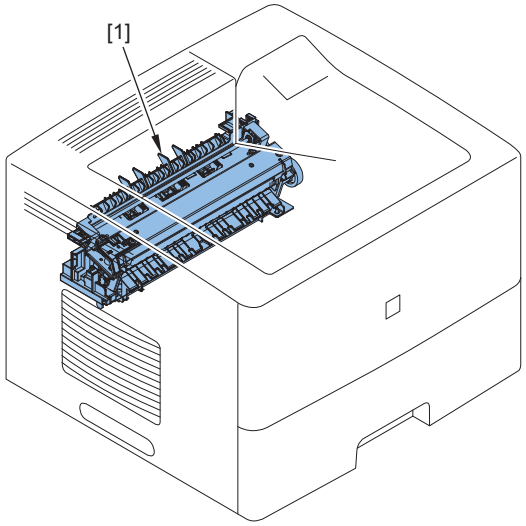
- 4 Screws [2]



F-3-129

Fixing System

Layout drawing



F-3-130

Key No.	Name	Reference
[1]	Fixing Unit	(Refer to page 3-62)

T-3-28

Removing the Fixing Unit

Preparation

1) Remove the Rear Cover Unit.(Refer to page 3-19)
2) Remove the Rear Right Cover.(Refer to page 3-19)

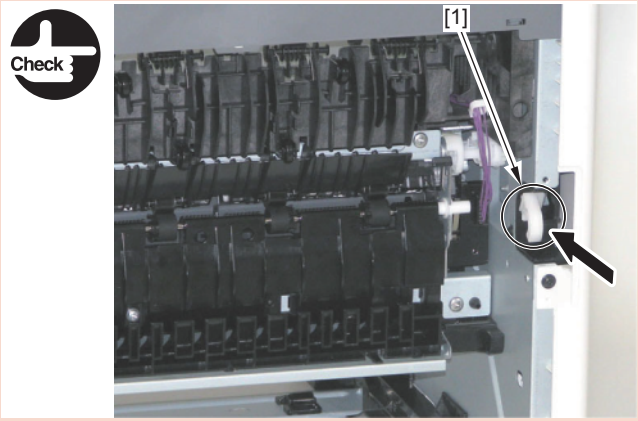
Procedure

CAUTION:

Be sure not to disassemble the Fixing Unit because it requires adjustment.

Points to Note when Assembling and Disassembling:

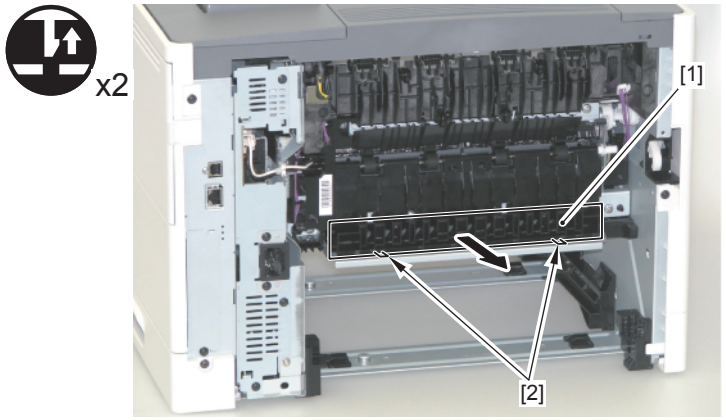
- If the Front Cover Unit is open, close it.
- Check that the Link [1] is housed within the main body.



F-3-131

1) Remove the Duplex Feed Guide [1].

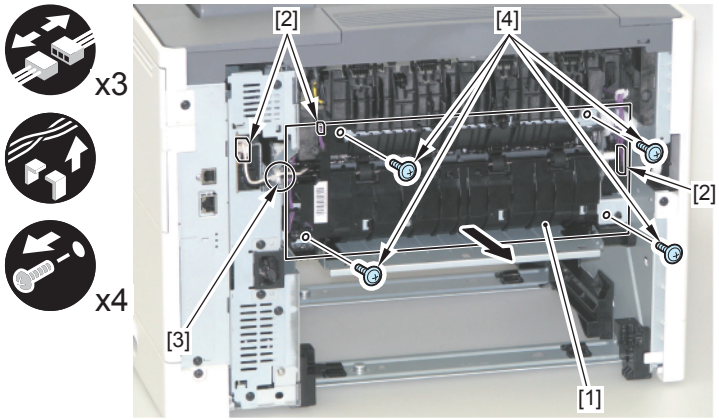
- 2 Claws [2]



F-3-132

2) Remove the Fixing Unit [1].

- 3 Connectors [2]
- 1 Edge Saddle [3]
- 4 Screws [4]



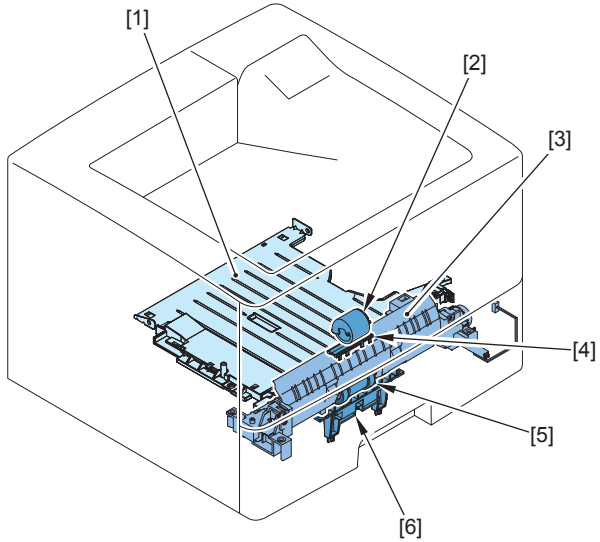
F-3-133

CAUTION:

When installing the Fixing Unit to the main body, if the Front Cover Unit is open, close it.

Pickup Feed System

Layout drawing



F-3-134

Key No.	Name	Reference
[1]	Duplex Feed Unit	(Refer to page 3-67)
[2]	Multi-purpose Tray Pickup Roller	(Refer to page 3-64)
[3]	Pickup Unit	(Refer to page 3-68)
[4]	Cassette Separation Pad	(Refer to page 3-67)
[5]	Cassette Pickup Roller Unit	(Refer to page 3-66)
[6]	Cassette Separation Pad	(Refer to page 3-67)

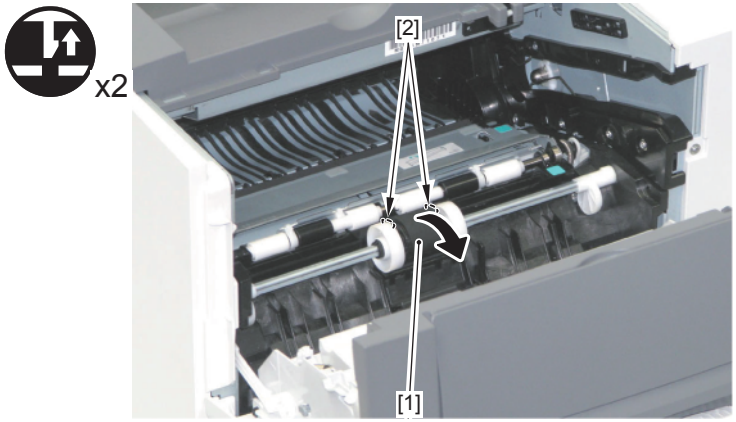
T-3-29

Removing the Multi-purpose Tray Pickup Roller

CAUTION:

Be sure not to touch the surface of the Roller.

1) Open the Front Cover Unit.
2) Remove the Multi-purpose Tray Pickup Roller [1].
- 2 Claws [2]



F-3-135

Removing the Multi-purpose Tray Separation Pad

Preparation

1) Remove the Multi-purpose Tray Pickup Roller.(Refer to page 3-64)

Procedure

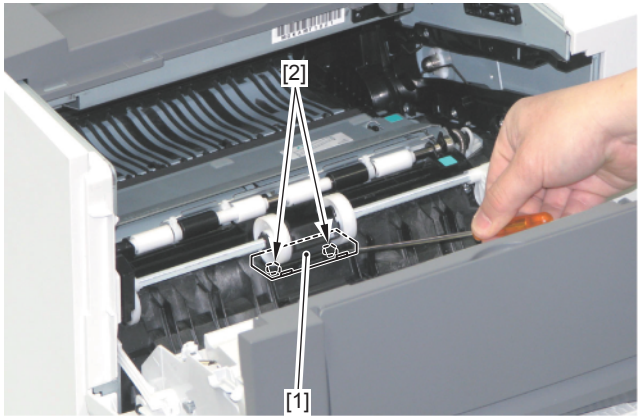
CAUTION:

Be sure not to touch the surface of the Pad.

1) Remove the Multi-purpose Tray Separation Pad [1].

- 2 Claws [2]

x2



F-3-136

Removing the Cassette Pickup Roller Unit

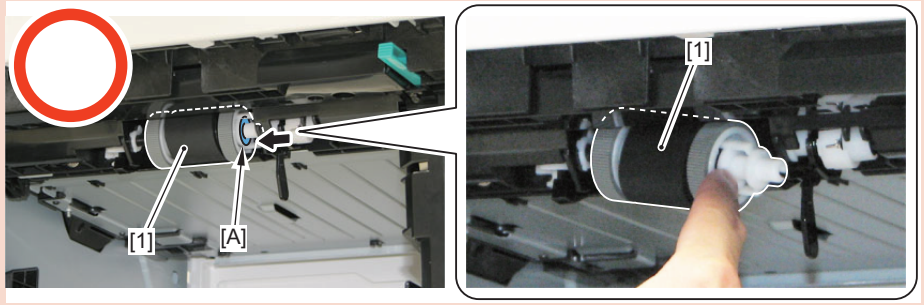
CAUTION:

Be sure not to touch the surface of the Roller.

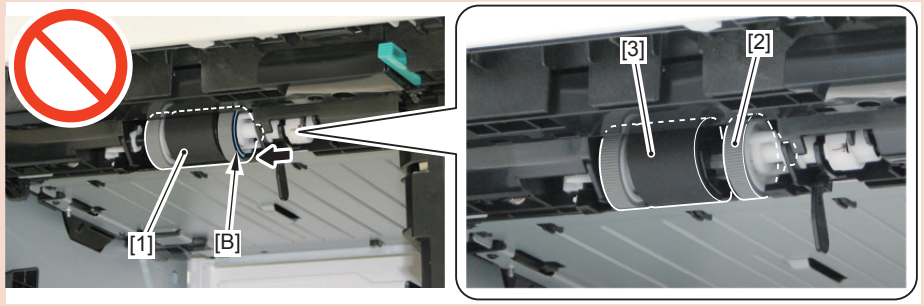
1) Remove the Cassette.

CAUTION:

- When installing/removing the Cassette Pickup Roller Unit [1], be sure to push the side [A] of the Cassette Pickup Roller Shaft Holder (white).
  If the side [B] of the Cassette Pickup Roller Holder (left) is pushed, the unit may be split in the Cassette Pickup Roller Holder (left) [2] and the Cassette Pickup Roller Holder (black) [3].
  When the Cassette Pickup Roller Unit [1] is split, it can no longer be installed to / removed from the host machine.

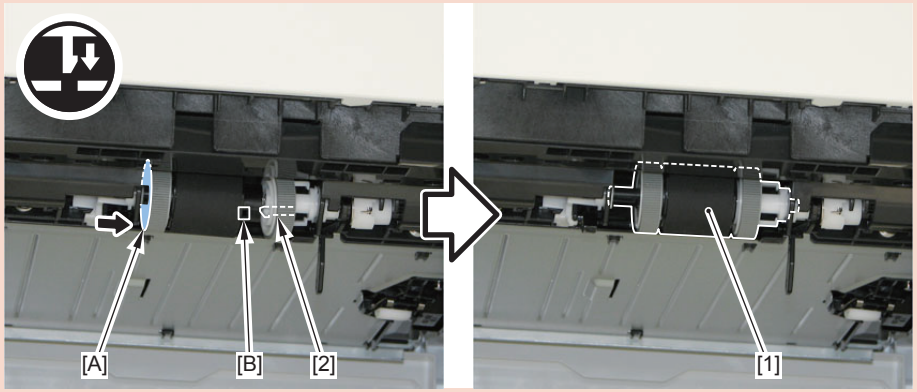


F-3-137



F-3-138

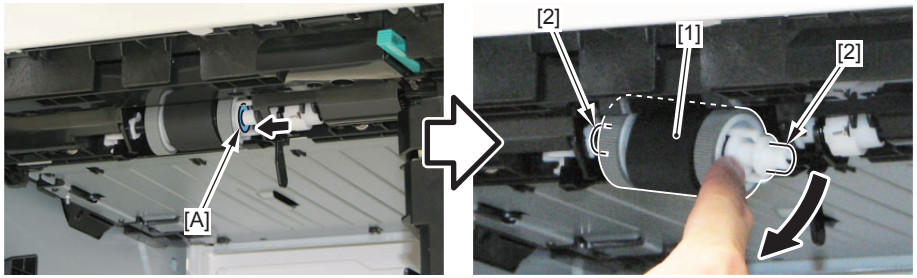
- When the Cassette Pickup Roller Unit [1] is split, push the side [A] of the Cassette Pickup Roller Holder (right), and fit the hole [B] of the Cassette Pickup Roller Holder (black) to the claw [2] of the Cassette Pickup Roller Shaft Holder (white) to assemble the unit.
  Be sure to assemble the Cassette Pickup Roller Unit [1] before installing/removing it to/from the host machine.



F-3-139

2) Remove the Cassette Pickup Roller Unit [1] while pushing the side [A] of the Cassette Pickup Roller Shaft Holder (white).

- 2 Shafts [2]



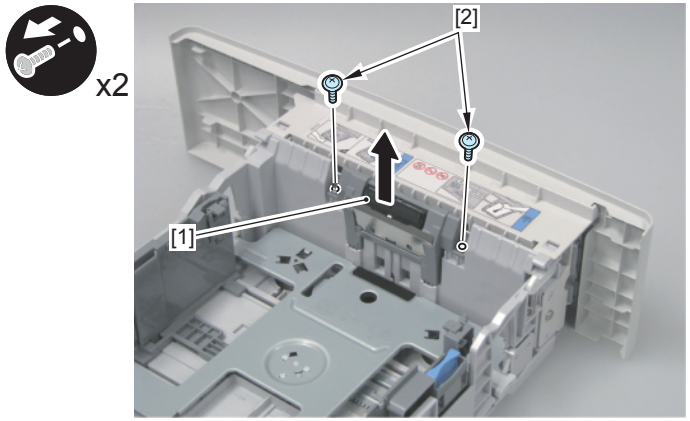
F-3-140

Removing the Cassette Separation Pad

CAUTION:

Be sure not to touch the surface of the Pad.

1) Remove the Cassette.
2) Remove the Cassette Separation Pad [1].
- 2 Screws [2]



F-3-141

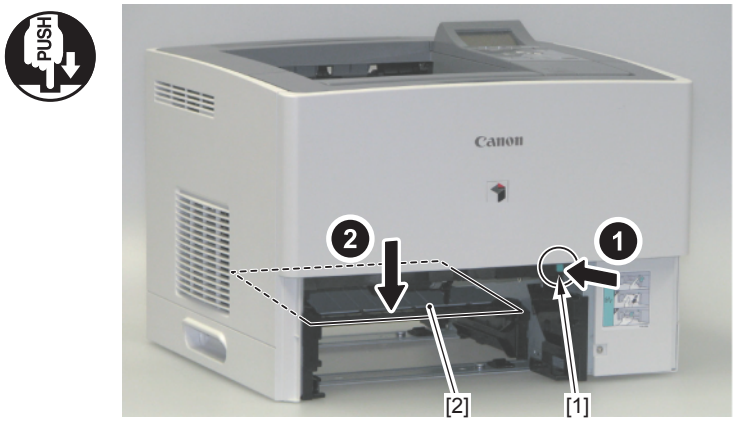
Removing the Duplex Feed Unit

Preparation

1) Remove the Rear Cover Unit.(Refer to page 3-19)
2) Remove the Rear Right Cover.(Refer to page 3-19)
3) Remove the Fixing Unit.(Refer to page 3-62)

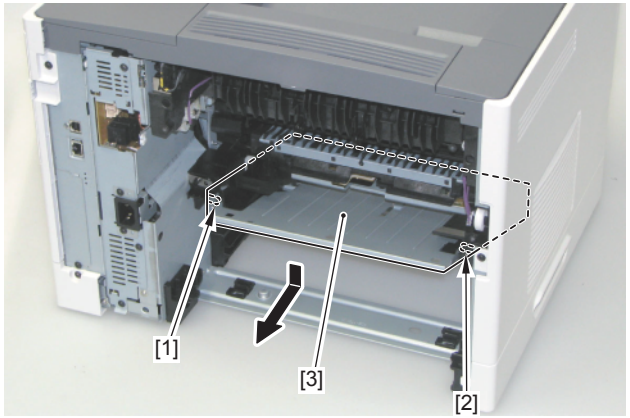
Procedure

1) Press the jam removal button [1]. Open the Duplex Feed Unit [2].



F-3-142

2) Remove the Duplex Feed Unit [3] from the boss [1] and then the boss [2].



F-3-143

Removing the Pickup Unit

Preparation(LBP3560/6750dn)

1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3560/6750dn)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3560/6750dn)(Refer to page 3-30)
6) Remove the Control Panel Unit.(LBP3560/6750dn)(Refer to page 3-28)
7) Remove the Upper Cover.(Refer to page 3-25)
8) Remove the Rear Cover Unit.(Refer to page 3-19)
9) Remove the Rear Right Cover.(Refer to page 3-19)
10) Remove the Engine Controller PCB.(LBP3560/6750dn)(Refer to page 3-35)
11) Remove the Cassette Pickup Solenoid.(Refer to page 3-55)

Preparation(LBP3580/6780x)

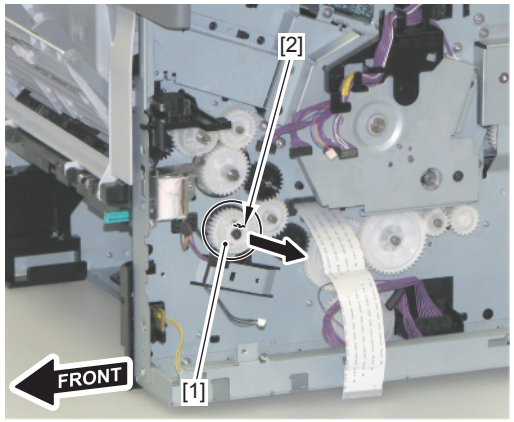
1) Remove the Multi-purpose Tray Auxiliary Tray Unit.(Refer to page 3-20)
2) Remove the Right Cover.(Refer to page 3-17)
3) Remove the Right Front Inner Cover.(Refer to page 3-21)
4) Remove the Right Lower Cover.(LBP3580/6780x)(Refer to page 3-22)
5) Remove the Main Controller PCB.(LBP3580/6780x)(Refer to page 3-30)
6) Remove the USB Cover Unit.(LBP3580/6780x)(Refer to page 3-24)
7) Remove the Control Panel Unit.(LBP3580/6780x)(Refer to page 3-28)
8) Remove the Upper Cover.(Refer to page 3-25)
9) Remove the Rear Cover Unit.(Refer to page 3-19)
10) Remove the Rear Right Cover.(Refer to page 3-19)
11) Remove the Engine Controller PCB.(LBP3580/6780x)(Refer to page 3-37)
12) Remove the Cassette Pickup Solenoid.(Refer to page 3-55)

Procedure

1) Close the Front Cover Unit.
2) Remove the Gear Unit [1].
- 1 Claw [2]

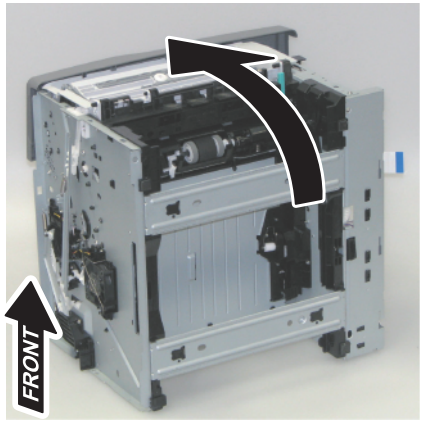
CAUTION:

Never disassemble the Gear Unit because it is difficult to assemble it.



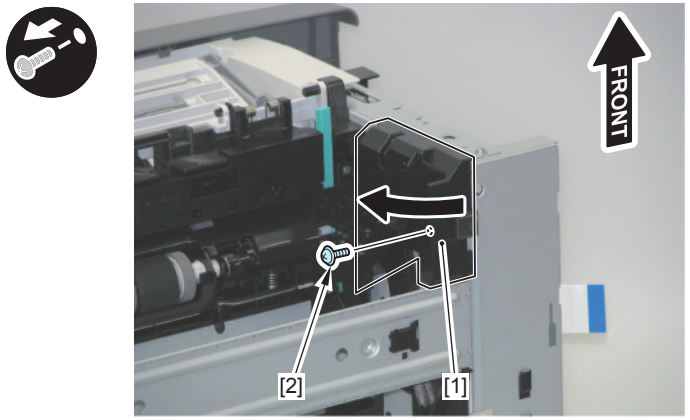
F-3-144

3) Turn the machine so that it is placed with its rear side down.



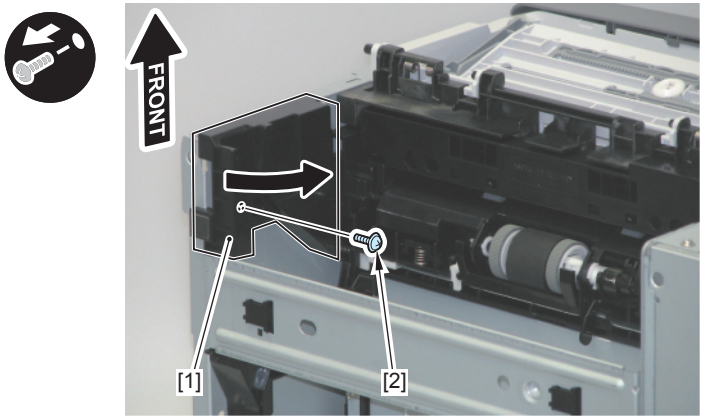
F-3-145

4) Remove the Lower Right Guide [1].
- 1 Screw [2]



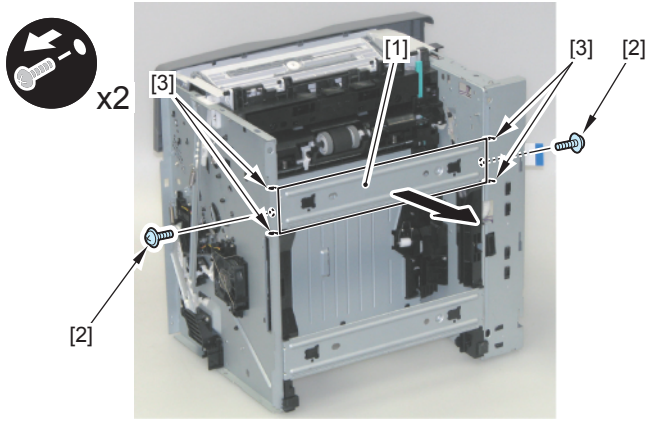
F-3-146

5) Remove the Lower Left Guide [1].
- 1 Screw [2]



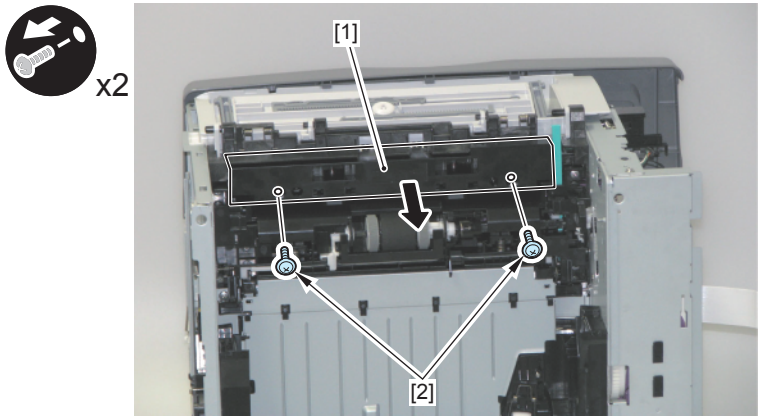
F-3-147

6) Remove the Lower Front Reinforcing Plate [1].
- 2 Screws [2]
- 4 Hooks [3]



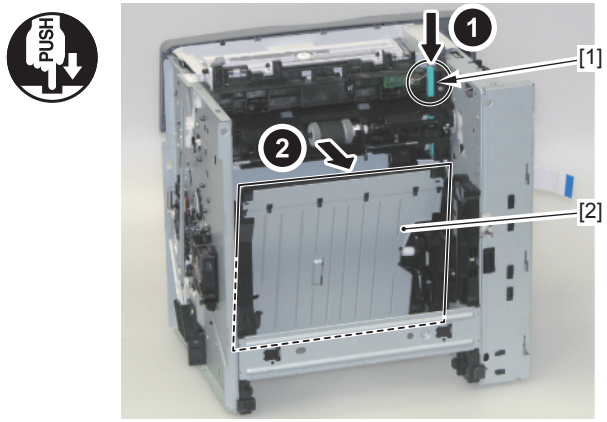
F-3-148

7) Remove the Feed Roller Unit [1].
- 2 Screws [2]



F-3-149

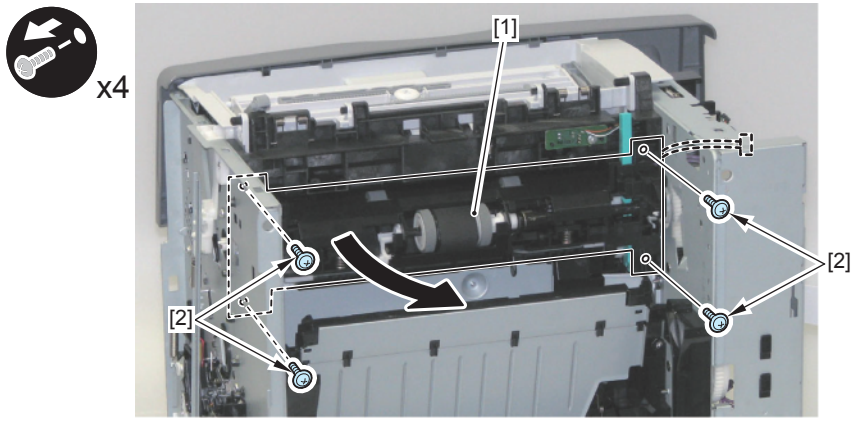
8) Press the jam removal button [1]. Open the Duplex Feed Unit [2].



F-3-150

9) Remove the Pickup Unit [1].

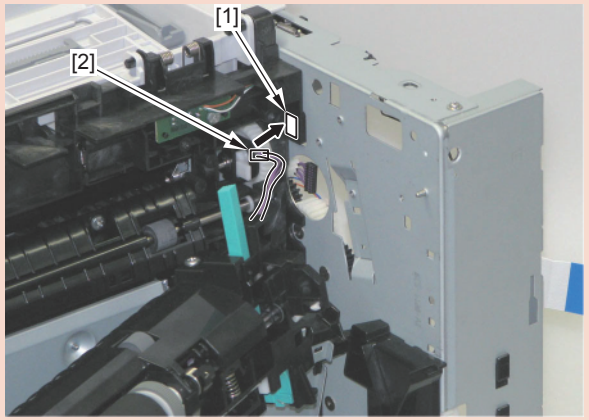
- 4 Screws [2]



F-3-151

CAUTION:

When installing the Pickup Unit to the main body, be sure to pass the connector [2] through the hole [1] on the Right Side Plate.



F-3-152

4 Maintenance and Inspection

- Periodically Replaced Parts
- Consumable Parts
- Periodical Service
- Cleaning

Periodically Replaced Parts

Periodically Replaced Parts

- Periodic replacement parts are not required in this printer.

Consumable Parts

Durables Replaced by the User

- This machine does not have parts that require periodical replacement.

Durables Replaced by the Service Person

- Consumable parts are not required in this printer.

Periodical Service

Periodical Service

- No periodic services are required to this printer.

Cleaning

Cleaning at Service Visit

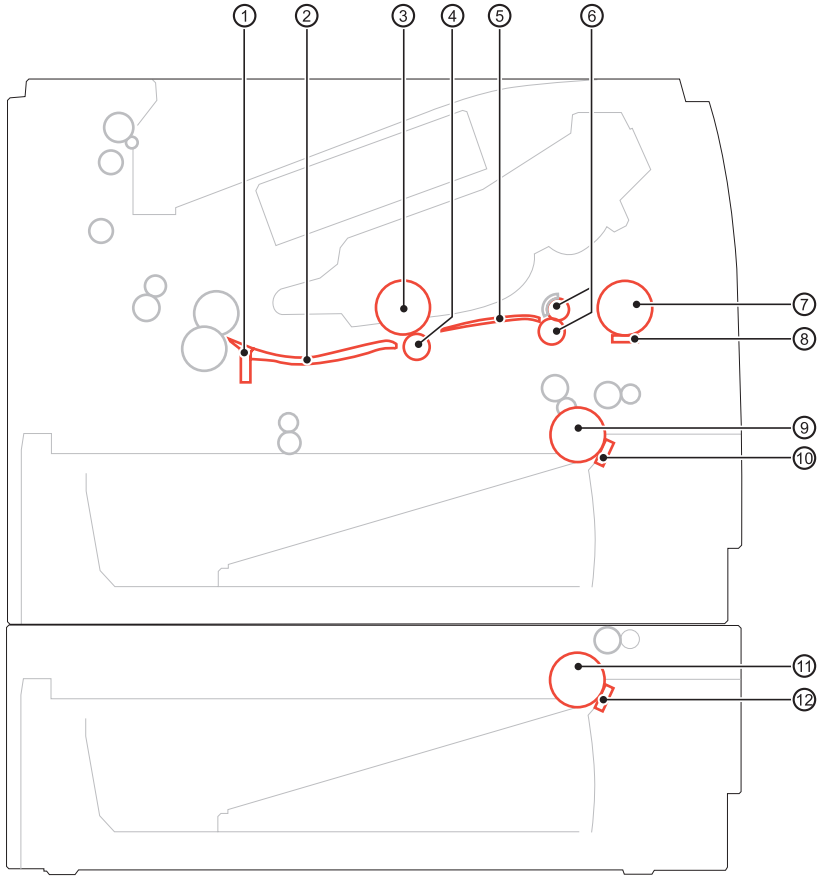
Follow the procedure blow when cleaning the printer during service visit.

Component	Cleaning Method
Multi-purpose Pickup Roller, Multi-purpose Separation Pad, Cassette Pickup Roller, Cassette Separation Pad, PF Pickup Roller and PF Separation Pad	Wipe With A Lint-free Cloth.
Registration Roller	Wipe With A Lint-Free Cloth.
Transfer Guide Unit	Wipe With A Soft and Dry Flannel Cloth.
Media Feed Guide Unit	Wipe With A Lint-Free Cloth.
Fixing Inlet Guide	Wipe With Alcohol Dampened Flannel Cloth.

T-4-1

Do not clean the following components:

- Photosensitive drum
- Transfer roller



F-4-1

No.	Name	No.	Name
[1]	Fixing Inlet Guide	[7]	Multi-purpose Pickup Roller
[2]	Media Feed Guide	[8]	Multi-purpose Separation Pad
[3]	Photosensitive Drum	[9]	Cassette Pickup Roller
[4]	Transfer Roller	[10]	Cassette Separation Pad
[5]	Transfer Guide Unit	[11]	PF Pickup Roller
[6]	Registration Roller Unit	[12]	PF Separation Pad

T-4-2

Trouble Shooting

- Corrective Actions
- Standard/Adjustment
- Electrical Parts Layout/Function Assignment
- Connector Layout Drawing
- Service Tools
- Error Codes
- Version Up
- Service Mode
- Updater
- Backup/Restoration by Expansion ROM for servicing and Sublog Board
- Debug log

Corrective Actions

Image Defects

Light print

F-5-1

Image is light in entire page

Cause	Solution
1) Print density is not adjusted properly	Adjust the print density by operating the external device.
Open the cartridge door during a print operation and remove the cartridge. Open the photosensitive drum shield of the cartridge to check the toner image on the drum surface. If the toner image is not fully transferred to the media, go to step 2. If the toner on the photosensitive drum is faint, go to step 5. Do not open the drum shied for longer than 10 seconds.	
2) The transfer roller is deformed or has deteriorated	Replace the transfer roller.
3) Poor contact exists between the transfer roller and its shaft	Clean the contact if dirty.
4) The high-voltage power supply is defective	Replace the engine controller unit.
5) The laser scanner unit is defective	Replace the laser scanner unit.

T-5-1

Dark print

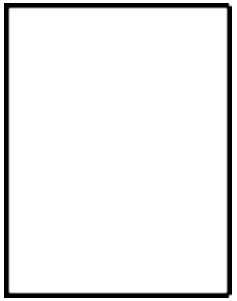
F-5-2

Image is obviously dark

Cause	Solution
1) Print density is not adjusted properly	Adjust the print density by operating the external device.
2) Poor drum grounding contact with the cartridge	Clean a contact point of the Cartridge. Clean a contact point of the main body. Replace the Cartridge.
3) Poor primary charging bias contact with the cartridge	Clean the contact if dirty.
4) The laser scanner unit is defective	Replace the laser scanner unit.
5) The high-voltage power supply is defective	Replace the engine controller unit.

T-5-2

■ Completely blank



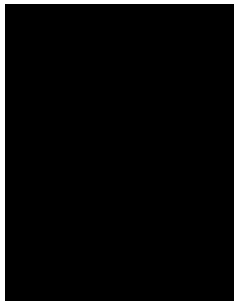
F-5-3

No image prints

Cause	Solution
1) The laser shutter open/close projection part of the cartridge is damaged	Replace the cartridge.
2) The laser shutter arm and laser shutter are malfunctioning or damaged	If the laser shutter arm or laser shutter does not move smoothly or if the part is damaged, replace any defective parts.
3) Poor developing bias contact with the cartridge	Clean the contact if dirty.
4) The high-voltage power supply is defective	Replace the engine controller unit.

T-5-3

■ All black



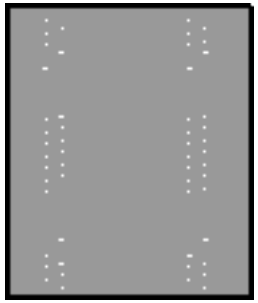
F-5-4

Image is all black

Cause	Solution
1) Poor primary charging bias contact with the cartridge	Clean the contact if dirty.
2) The primary charging roller is defective	Replace the cartridge.
3) The high-voltage power supply is defective	Replace the engine controller unit.

T-5-4

■ White spots



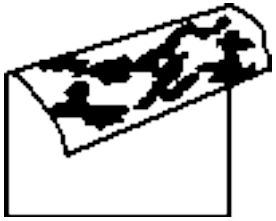
F-5-5

White spots appear in image

Cause	Solution
1) The transfer roller is deformed or has deteriorated	Replace the transfer roller.
2) Poor contact exists between the transfer roller and its shaft	Clean the contact if dirty.
3) The high-voltage power supply is defective	Replace the engine controller unit.

T-5-5

Dirt on back



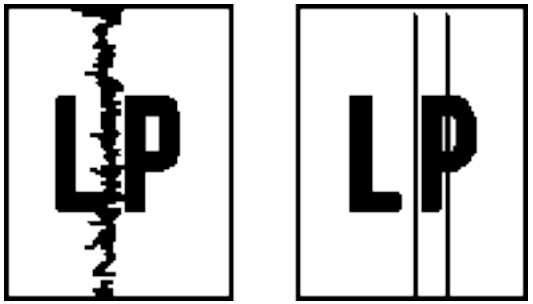
F-5-6

The back of page is dirty

Cause	Solution
1) The print media is dirty	Replace the print media to new one. Advice the customer on how to store the print media.
2) Dirt on leading edge of image (cassette pickup roller)	Clean the cassette pickup roller. If the dirt does not come off, replace the roller.
3) Repetitive dirt (registration roller, transfer roller or pressure roller)	See "Repetitive image defects ruler" to identify the dirty roller. Clean the dirty roller. If the dirt does not come off, replace the roller.
4) The media feed belt, media feed guide or fixing inlet guide is dirty	Clean the dirty parts.

T-5-6

Vertical lines



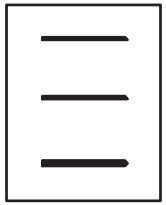
F-5-7

Vertical line appears in image

Cause	Solution
1) Scratches on the circumference of the photosensitive drum	Replace the cartridge.
2) The fixing inlet guide is dirty	Clean the fixing inlet guide.
3) Scratches on the fixing film	Replace the fixing unit.

T-5-7

Horizontal lines



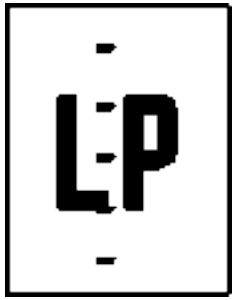
F-5-8

Horizontal line appears in image

Cause	Solution
1) Horizontal scratches on the photosensitive drum	Replace the cartridge.
2) The fixing film is dirty, deformed or worn	Replace the fixing unit.

T-5-8

Dirt on front



F-5-9

The front of page is dirty.

Cause	Solution
1) The print media is dirty	Replace the print media to new one. Advice the customer on how to store the print media.
2) Dirt on leading edge of image (Multi-purpose tray pickup roller)	Clean the Multi-purpose tray pickup roller. If the dirt does not come off, replace the roller.
3) Repetitive dirt (Registration roller, fixing film unit or cartridge)	See "Repetitive image defects ruler" to identify the dirty roller. Clean the dirty part. If the dirt does not come off, replace the part.
4) The delivery roller is dirty	Clean the delivery roller.

T-5-9

■ Dropouts

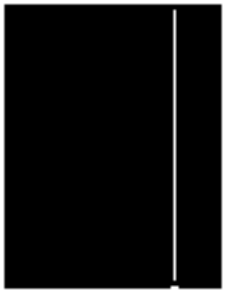
F-5-10

Dropout appears in image

Cause	Solution
1) The transfer roller is dirty or deformed	Replace the transfer roller.
2) Poor high-voltage contact with the cartridge	Clean the contact if dirty.
3) The photosensitive drum, primary charging roller, developing roller is defective	Replace the cartridge.
4) Scratches or foreign substance on the fixing film	Replace the fixing unit.
5) The high-voltage power supply is defective	Replace the high-voltage power supply unit.

T-5-10

■ Vertical white lines



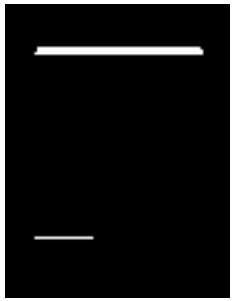
F-5-11

Vertical white line appears in image

Cause	Solution
1) Scratches on the circumference of the photosensitive drum	Replace the cartridge.
2) The developing roller is defective	Replace the cartridge.
3) Foreign substance adheres to the laser beam window of the printer or cartridge	Remove foreign substance from the laser beam window.
4) Foreign substance adheres to the fixing inlet guide or the guide is dirty	Clean the fixing inlet guide.
5) Scratches or foreign substance on the fixing film	Replace the fixing unit.
6) The mirror in the laser scanner unit is dirty	Replace the laser scanner unit.

T-5-11

■ Horizontal white lines



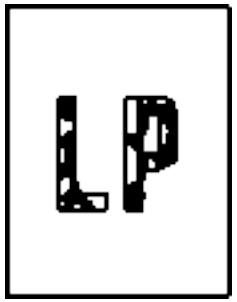
F-5-12

Horizontal white line appears in image

Cause	Solution
1) Horizontal scratches on the photosensitive drum	Replace the cartridge.
2) The fixing film is defective	Replace the fixing unit.

T-5-12

■ Loose toner



F-5-13

Toner image is not fully fixed on the media

Cause	Solution
1) The pressure roller is dirty	Execute a “pressure roller cleaning”
2) The fixing film or the pressure roller is defective	Replace the fixing unit.

T-5-13

Misformed image

F-5-14

Image is misformed

Cause	Solution
1) Poor contact exists to the connector on the laser scanner unit	Reconnect the connectors: J12 and J100
2) Poor contact exists to the connector on the Main Controller	Reconnect the connectors: J1505 and J1702
3) The laser scanner unit is defective	Replace the laser scanner unit.

T-5-14

Repetitive image defects ruler

Component	Distance between defects (mm)	Image defects			
		Dirt	Dropouts	Dirt on back	Loose toner
Registration roller	About 44	○		○	
Primary charging roller	About 38	○	○		
Photosensitive drum	About 94	○	○		
Developing roller	About 50	○	○		
Transfer roller	About 43		○	○	
Fixing film unit	About 76	○	○		○
Pressure roller	About 77			○	○

T-5-15

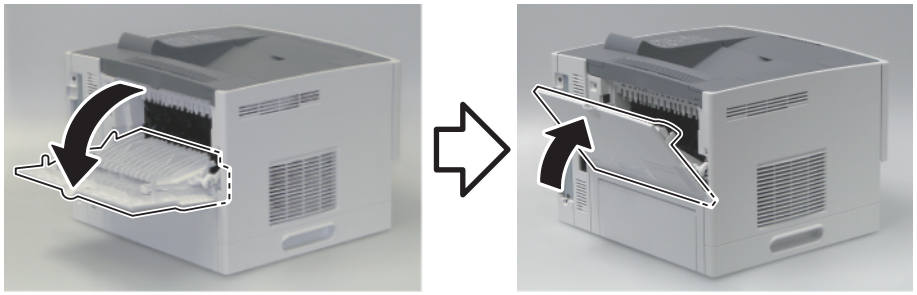
Standard/Adjustment

Test Pages

Engine-test page

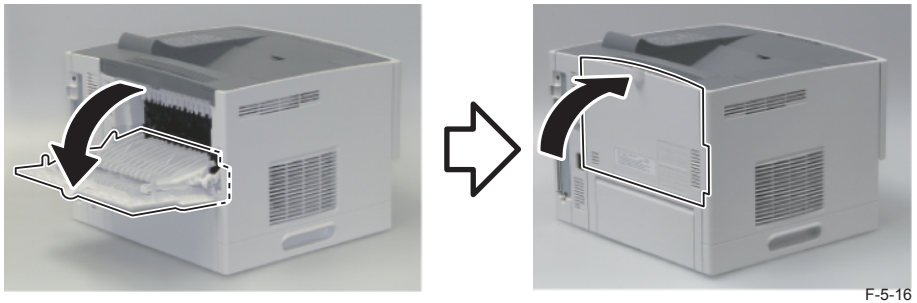
Printing test pages helps determine if the printer is functioning.
There are two types of engine-test pages simplex print and duplex print.

a. Simplex print
1)Turn ON the power with the Face-up Tray opened..
2) Close the Face-up Tray until it reaches the face-up delivery position within 5 sec. after turning ON the power.
3)An engine test print is output..

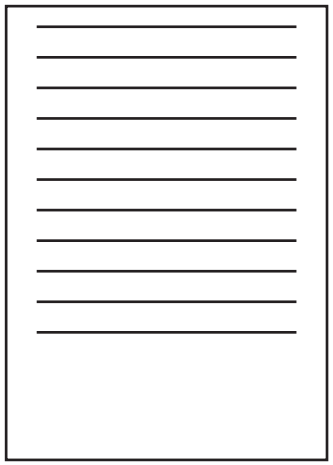


F-5-15

b. Duplex print
1)Turn ON the power with the Face-up Tray opened.
2)Close the Face-up Tray within 5 sec. after turning ON the power.
3)An engine test print is output.



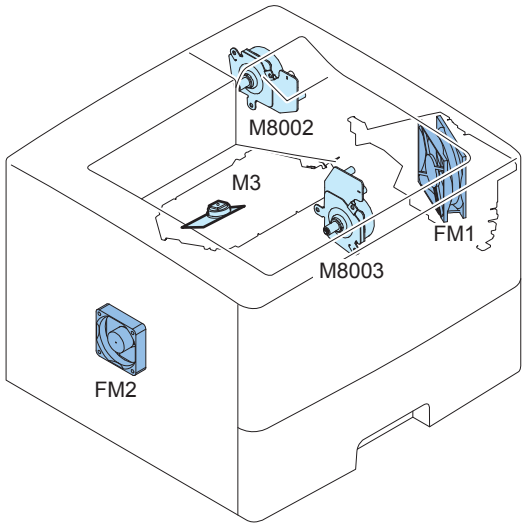
F-5-16



F-5-17

Electrical Parts Layout/Function Assignment

Motor / Fan

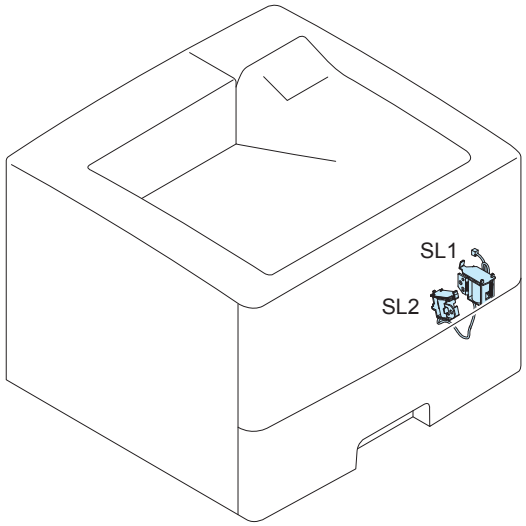


F-5-18

Key No.	Name	Main Units	Reference
FM1	Main Fan	Product Configuration	(Refer to page 3-50)
FM2	Sub Fan	Product Configuration	(Refer to page 3-51)
M3	Laser Scanner Motor	Laser Scanner Unit	-
M8002	Fixing Motor	Product Configuration	(Refer to page 3-49)
M8003	Main Motor	Product Configuration	(Refer to page 3-46)

T-5-16

Sorenoid

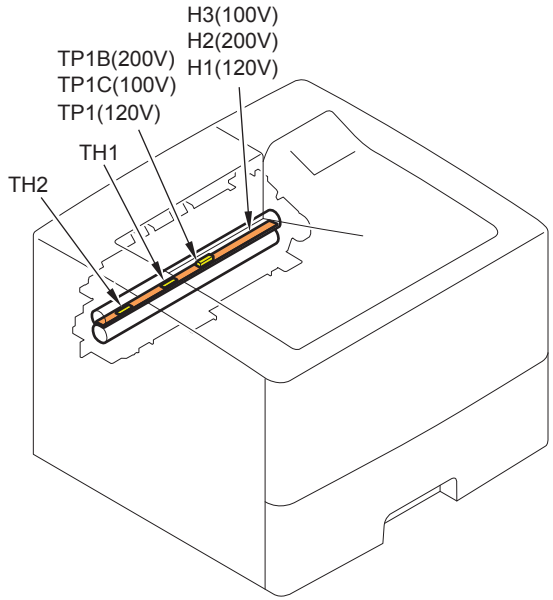


F-5-19

Key No.	Name	Main Units	Reference
SL1	Multi-purpose Tray Pickup Solenoid	Product Configuration	(Refer to page 3-53)
SL2	Cassette Pickup Solenoid	Product Configuration	(Refer to page 3-55)

T-5-17

■ Heater / Thermo Switch / Thermistor

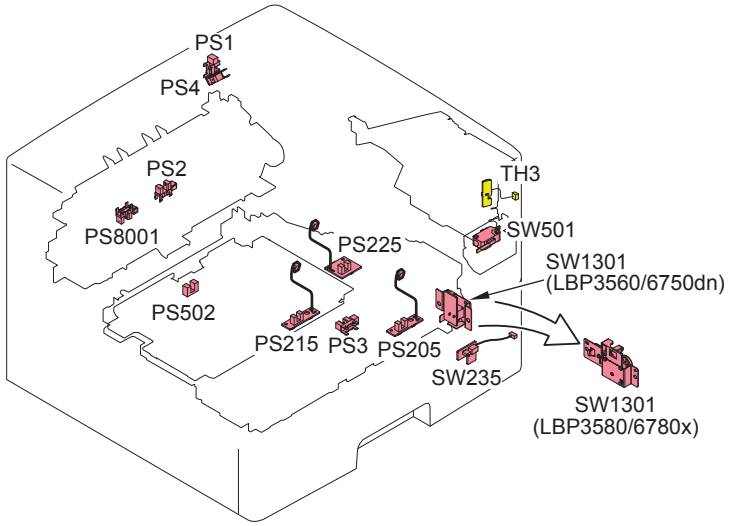


F-5-20

Key No.	Name	Main Units	Reference
H1	Fixing Heater (120V)	Fixing Unit	-
H2	Fixing Heater (200V)	Fixing Unit	-
H3	Fixing Heater (100V)	Fixing Unit	-
TH1	Fixing Sub Thermistor	Fixing Unit	-
TH2	Fixing Main Thermistor	Fixing Unit	-
TP1	Fixing Thermo Switch (120V)	Fixing Unit	-
TP1B	Fixing Thermo Switch (200V)	Fixing Unit	-
TP1C	Fixing Thermo Switch (100V)	Fixing Unit	-

T-5-18

■ Sensor / Switch

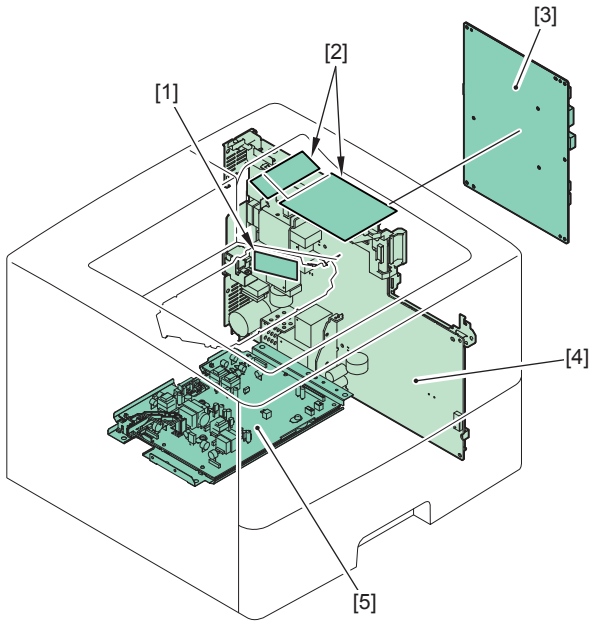


F-5-21

Key No.	Name	Main Units	Remarks	Reference
PS1	Face-up Sensor	Product Configuration	-	-
PS2	Fixing Delivery Sensor	Fixing Unit	-	-
PS3	Cassette Paper Sensor	Pickup Unit	-	-
PS4	Face-Down Tray Paper Full Sensor	Product Configuration	-	-
PS205	Multi-purpose Tray Paper Sensor	Product Configuration	-	-
PS215	Top Sensor	Product Configuration	-	-
PS225	Paper Width Sensor	Product Configuration	-	-
PS502	Duplex Feede Sensor	Product Configuration	-	-
PS8001	Rear Cover Sensor	Product Configuration	-	-
SW235	Cassette Paper Switch	Product Configuration	-	(Refer to page 3-57)
SW501	Cartridge Door Switch	Product Configuration	-	(Refer to page 3-57)
SW1301	Power Switch	Right Lower Cover	LBP3560 /6750dn	-
			LBP3580 /6780x	(Refer to page 3-40)
TH3	Environment Sensor	Product Configuration	-	(Refer to page 3-42)

T-5-19

■ PCB(LBP3560/6750dn)

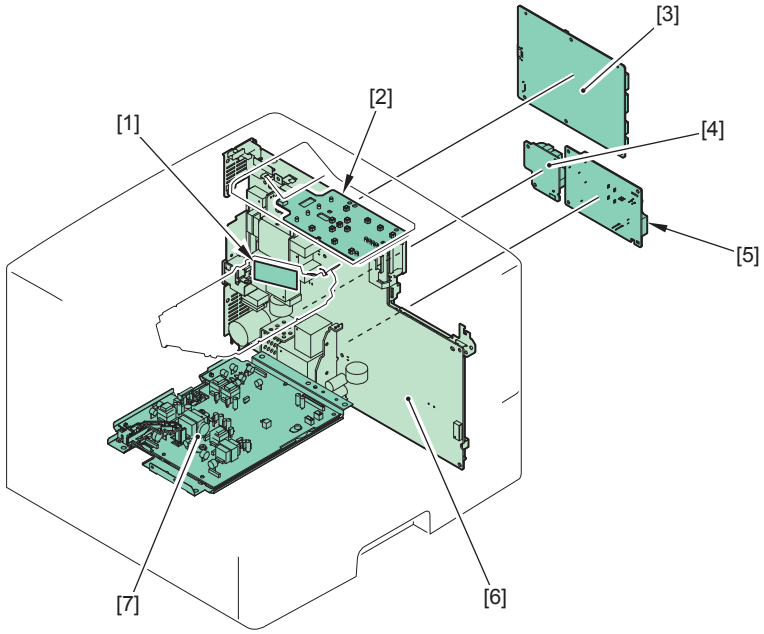


F-5-22

Key No.	Name	Main Units	Reference
[1]	BD PCB	Laser Scanner Unit	-
[2]	Control Panel PCB	Control Panel Unit	-
[3]	Main Controller PCB	Product Configuration	(Refer to page 3-30)
[4]	Engine Controller PCB	Product Configuration	(Refer to page 3-35)
[5]	High Voltage Power Supply Unit	Product Configuration	(Refer to page 3-42)

T-5-20

■ PCB(LBP3580/6780x)



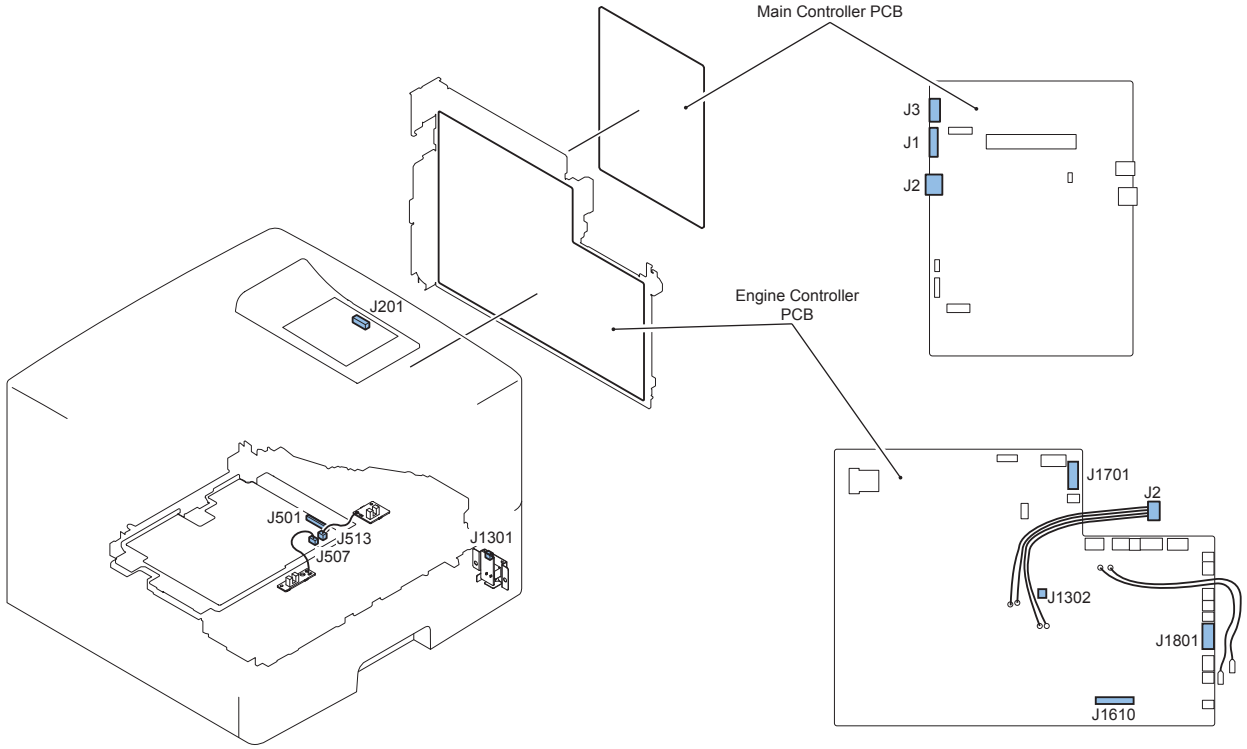
F-5-23

Key No.	Name	Main Units	Reference
[1]	BD PCB	Laser Scanner Unit	-
[2]	Control Panel PCB	Control Panel Unit	-
[3]	Main Controller PCB	Product Configuration	(Refer to page 3-31)
[4]	AC Relay PCB	Product Configuration	(Refer to page 3-34)
[5]	All-night Power Supply PCB	Product Configuration	(Refer to page 3-32)
[6]	Engine Controller PCB	Product Configuration	(Refer to page 3-37)
[7]	High Voltage Power Supply Unit	Product Configuration	(Refer to page 3-42)

T-5-21

Connector Layout Drawing

Connectors Layout Drawing (LBP3560/6750dn) (1/3)

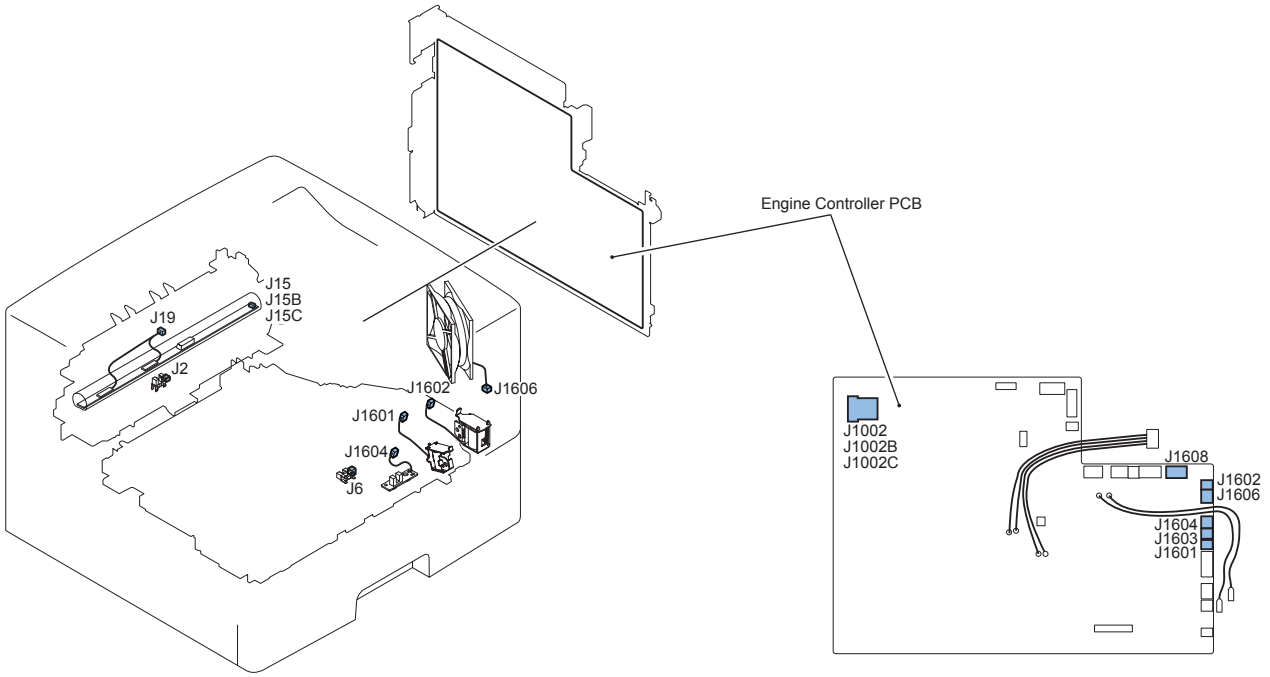


F-5-24

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1701	-	Engine Controller PCB		J1	-	Main Controller PCB	
J2	-	Engine Controller PCB		J2	-	Main Controller PCB	
J1302	-	Engine Controller PCB		J1301	SW1301	Power Switch	
J1801	-	Engine Controller PCB	J8007	J401	-	Paper Feeder Relay PCB	
J1610	-	Engine Controller PCB		J501	-	High Voltage Power Supply Unit	
J3	-	Main Controller PCB		J201	-	Control Panel PCB	
J513	-	High Voltage Power Supply Unit		J513	PS225	Paper Width Sensor	
J507	-	High Voltage Power Supply Unit		J507	PS215	Top Sensor	

T-5-22

■ Connectors Layout Drawing (LBP3560/6750dn) (2/3)

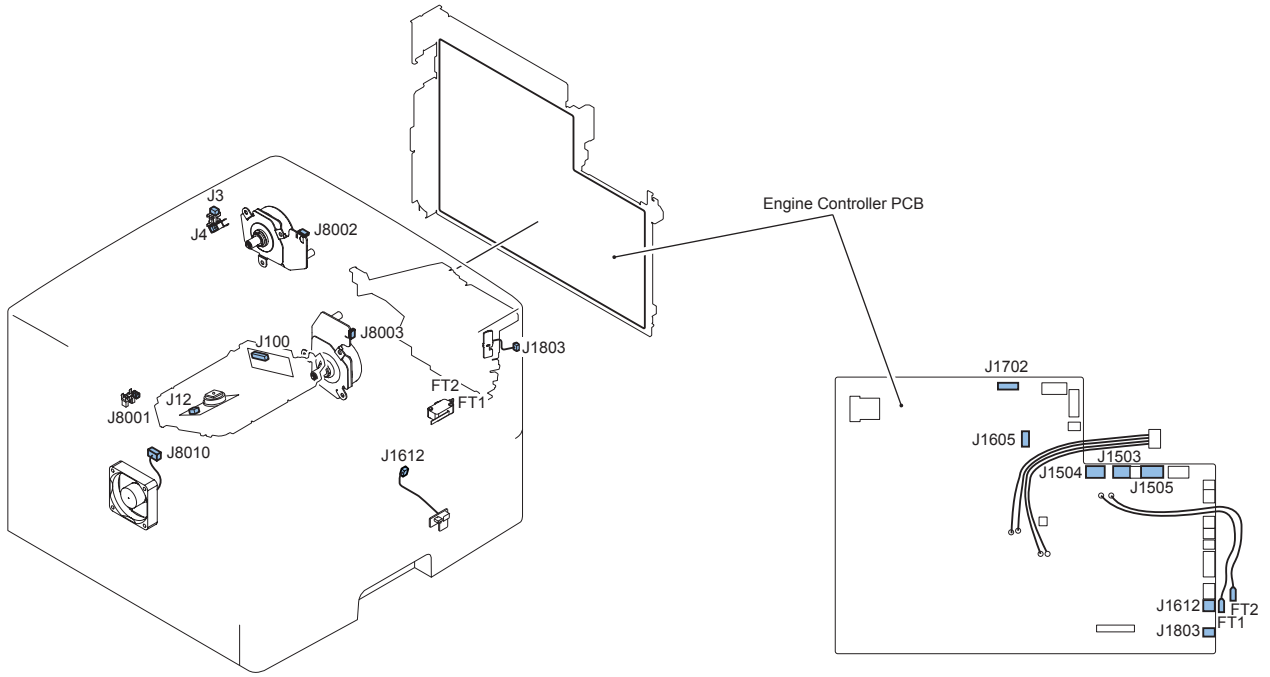


F-5-25

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1608	-	Engine Controller PCB	J18	J19	TH1	Fixing Sub Thermistor	
J1608	-	Engine Controller PCB	J18	J19	TH2	Fixing Main Thermistor	
J1608	-	Engine Controller PCB	J24	J2	PS2	Fixing Delivery Sensor	
J1002	-	Engine Controller PCB		J15	H1	Fixing Heater	120V
J1002B	-	Engine Controller PCB		J15B	H2	Fixing Heater	200V
J1002C	-	Engine Controller PCB		J15C	H3	Fixing Heater	100V
J1002	-	Engine Controller PCB		-	TP1	Fixing Thermo Switch	120V
J1002B	-	Engine Controller PCB		-	TP1B	Fixing Thermo Switch	200V
J1002C	-	Engine Controller PCB		-	TP1C	Fixing Thermo Switch	100V
J1602	-	Engine Controller PCB		J1602	SL1	Multi-purpose Tray Pickup Solenoid	
J1601	-	Engine Controller PCB		J1601	SL2	Cassette Pickup Solenoid	
J1603	-	Engine Controller PCB		J6	PS3	Cassette Paper Sensor	
J1604	-	Engine Controller PCB		J1604	PS205	Multi-purpose Tray Paper Sensor	
J1606	-	Engine Controller PCB		J1606	FM1	Main Fan	

T-5-23

Connectors Layout Drawing (LBP3560/6750dn) (3/3)

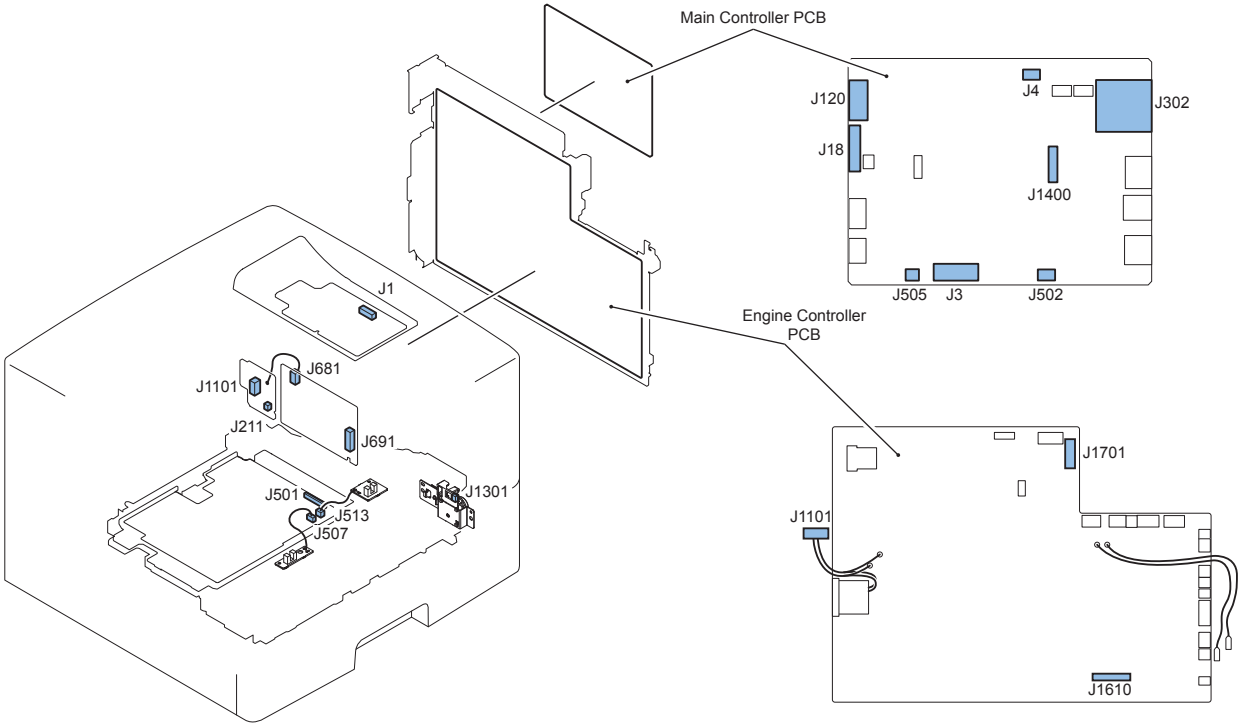


F-5-26

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1702	-	Engine Controller PCB		J100	-	BD PCB	
J1505	-	Engine Controller PCB		J12	M3	Laser Scanner Motor	
J1505	-	Engine Controller PCB		J8001	PS8001	Rear Cover Sensor	
J1505	-	Engine Controller PCB	J8010	J8010	FM2	Sub Fan	
J1503	-	Engine Controller PCB		J8003	M8003	Main Motor	
J1504	-	Engine Controller PCB		J8002	M8002	Fixing Motor	
FT1	-	Engine Controller PCB		FT1	SW501	Cartridge Door Switch	
FT2	-	Engine Controller PCB		FT2	SW501	Cartridge Door Switch	
J1605	-	Engine Controller PCB		J3	PS1	Face-up Sensor	
J1605	-	Engine Controller PCB		J4	PS4	Face-Down Tray Paper Full Sensor	
J1612	-	Engine Controller PCB		J1612	SW235	Cassette Paper Switch	
J1803	-	Engine Controller PCB		J1803	TH3	Environment Sensor	

T-5-24

■ Connectors Layout Drawing (LBP3580/6780x) (1/3)

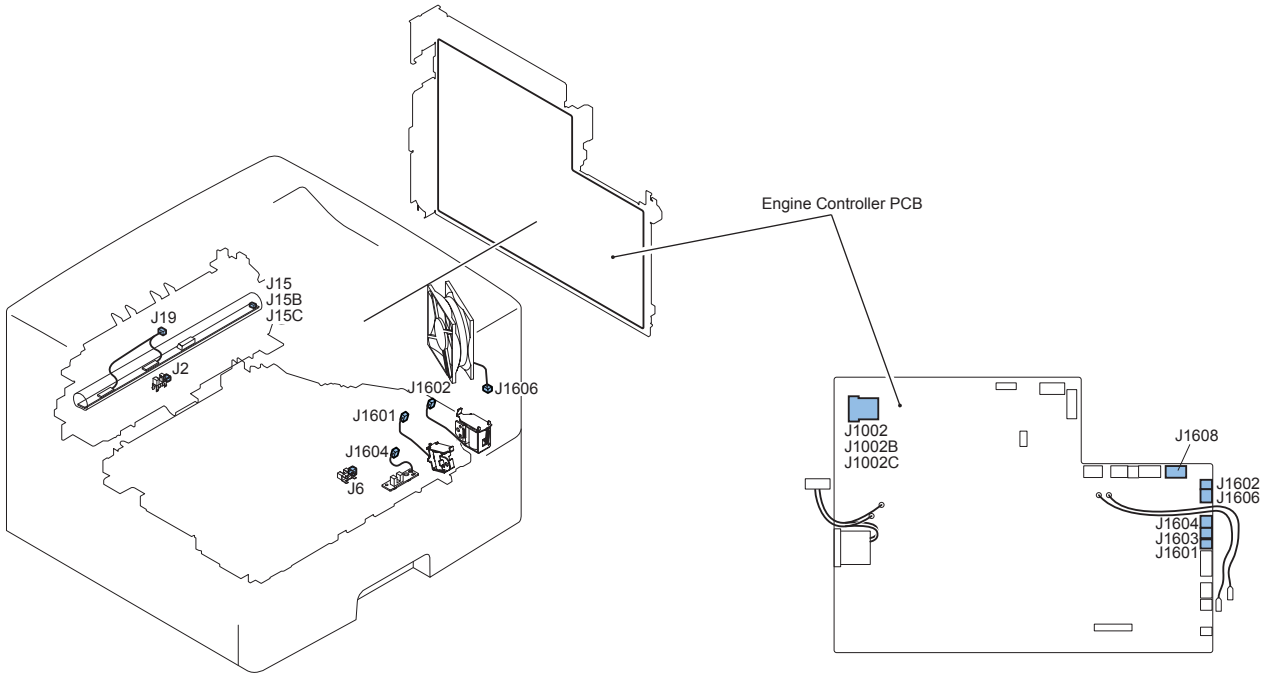


F-5-27

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1701	-	Engine Controller PCB		J18	-	Main Controller PCB	
J1610	-	Engine Controller PCB		J501	-	High Voltage Power Supply Unit	
J1101	-	Engine Controller PCB		J1101	-	AC Relay PCB	
J3	-	Main Controller PCB		J691	-	All-night Power Supply PCB	
J4	-	Main Controller PCB		-	-	USB Slot	
J120	-	Main Controller PCB		J1	-	Control Panel PCB	
J302	-	Main Controller PCB		-	-	SD Card Slot	
J502	-	Main Controller PCB		J211	-	AC Relay PCB	
J505	-	Main Controller PCB		J1301	SW1301	Power Switch	
J1400	-	Main Controller PCB		J1	-	Sub Log PCB	
J681	-	AC Relay PCB		J681	-	All-night Power Supply PCB	
J513	-	High Voltage Power Supply Unit		J513	PS225	Paper Width Sensor	
J507	-	High Voltage Power Supply Unit		J507	PS215	Top Sensor	

T-5-25

Connectors Layout Drawing (LBP3580/6780x) (2/3)

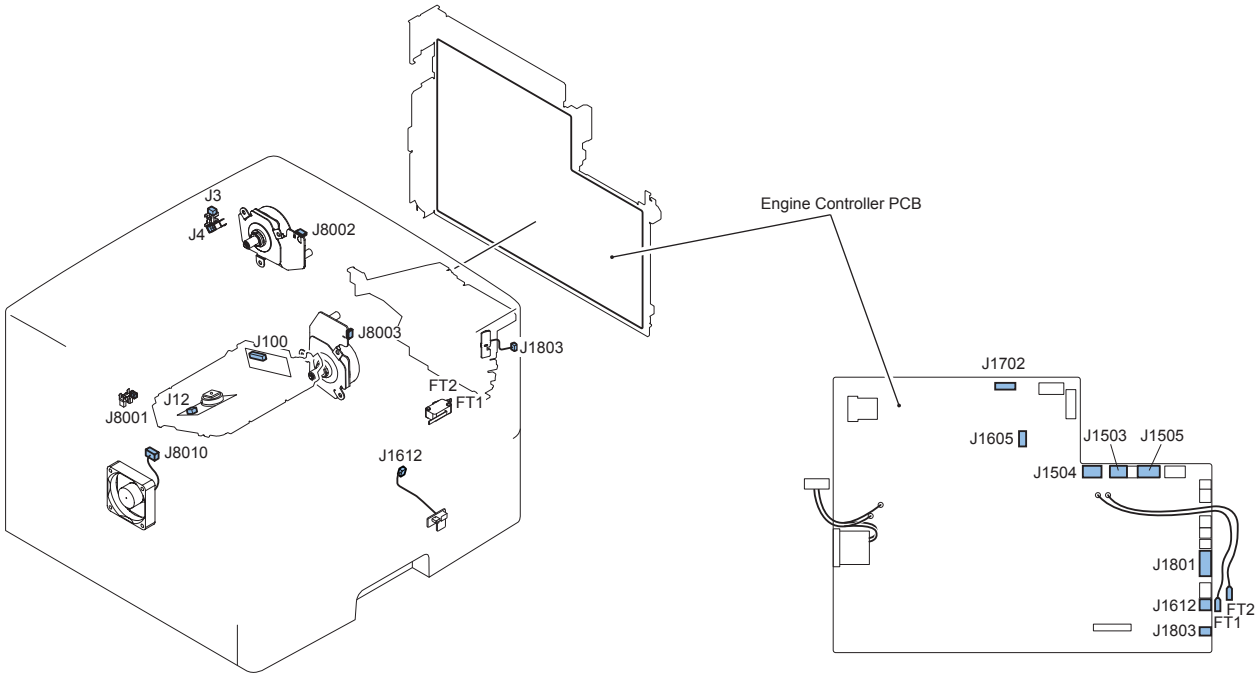


F-5-28

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1608	-	Engine Controller PCB	J18	J19	TH1	Fixing Sub Thermistor	
J1608	-	Engine Controller PCB	J18	J19	TH2	Fixing Main Thermistor	
J1608	-	Engine Controller PCB	J24	J2	PS2	Fixing Delivery Sensor	
J1002	-	Engine Controller PCB		J15	H1	Fixing Heater	120V
J1002B	-	Engine Controller PCB		J15B	H2	Fixing Heater	200V
J1002C	-	Engine Controller PCB		J15C	H3	Fixing Heater	100V
J1002	-	Engine Controller PCB		-	TP1	Fixing Thermo Switch	120V
J1002B	-	Engine Controller PCB		-	TP1B	Fixing Thermo Switch	200V
J1002C	-	Engine Controller PCB		-	TP1C	Fixing Thermo Switch	100V
J1602	-	Engine Controller PCB		J1602	SL1	Multi-purpose Tray Pickup Solenoid	
J1601	-	Engine Controller PCB		J1601	SL2	Cassette Pickup Solenoid	
J1603	-	Engine Controller PCB		J6	PS3	Cassette Paper Sensor	
J1604	-	Engine Controller PCB		J1604	PS205	Multi-purpose Tray Paper Sensor	
J1606	-	Engine Controller PCB		J1606	FM1	Main Fan	

T-5-26

Connectors Layout Drawing (LBP3580/6780x) (3/3)



F-5-29

J No.	Symbol	Name	Relay connector	J No.	Symbol	Name	Remarks
J1702	-	Engine Controller PCB		J100	-	BD PCB	
J1505	-	Engine Controller PCB		J12	M3	Laser Scanner Motor	
J1505	-	Engine Controller PCB		J8001	PS8001	Rear Cover Sensor	
J1505	-	Engine Controller PCB	J8010	J8010	FM2	Sub Fan	
J1503	-	Engine Controller PCB		J8003	M8003	Main Motor	
J1504	-	Engine Controller PCB		J8002	M8002	Fixing Motor	
FT1	-	Engine Controller PCB		FT1	SW501	Cartridge Door Switch	
FT2	-	Engine Controller PCB		FT2	SW501	Cartridge Door Switch	
J1605	-	Engine Controller PCB		J3	PS1	Face-up Sensor	
J1605	-	Engine Controller PCB		J4	PS4	Face-Down Tray Paper Full Sensor	
J1612	-	Engine Controller PCB		J1612	SW235	Cassette Paper Switch	
J1801	-	Engine Controller PCB	J8007	J401	-	Paper Feeder Relay PCB	
J1803	-	Engine Controller PCB		J1803	TH3	Environment Sensor	

T-5-27

Service Tools

Special Tools

No special tools are required for servicing this printer other than the standard tools.

Solvents and Oil List

No.	Type	Purpose	Remark
1	Alcohol	Cleaning: Plastic Rubber Metal part Oil stain Toner stain	• Keep away from flame • Purchase locally
2	Grease	Apply between gear and shaft	• SHELL TELLUS 68 (Showa Shell Sekiyu K.K.) • Tool No. CK-8003
3	Lubricant	Apply to gear	• MOLYKOTE® EM-50L (Dow Corning Corporation) • Tool No. HY9-0007

T-5-28

Error Codes

Error Code Details (LBP3560/6750dn)

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E000	0000	Fixing startup failure	1) Reconnect the connector on the Engine Controller PCB. 2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is not between 368k ohm and 512k ohm (normal temperature), replace the Fixing Assembly. 3) If the connector at the Fixing Assembly side does not have induction while the assembly is removed, replace the assembly. 4) Replace the Engine Controller PCB.
E001	0000	Abnormal high temperature in fixing (The main thermistor detected a temperature of higher than 255 degree C.)	1) Reconnect the connector on the Engine Controller PCB. 2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is 1k ohm or lower, replace the Fixing Assembly. 3) Replace the Engine Controller PCB.
	0001	Abnormal high temperature in fixing (The sub thermistor detected a temperature of higher than 290 degree C.	
E003	0000	Abnormal low temperature in fixing (The main thermistor detected a temperature of lower than 120 degree C for more than 1 second when 20 seconds elapsed after start of the power distribution to the heater.)	1) Reconnect the connector on the Engine Controller PCB. 2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is not between 368k ohm and 512k ohm (normal temperature), replace the Fixing Assembly. 3) If there is no induction between the connector (ACN) at the Fixing Assembly side and the connector (ACH) while the assembly is removed, replace the assembly. 4) Replace the Engine Controller PCB.
	0001	Abnormal low temperature in fixing (The sub thermistor detected a temperature of lower than 80 degree C for more than 2 seconds when 20 seconds elapsed after start of the power distribution to the heater.)	
E004	0000	Fixing assembly drive circuit failure	1) Reconnect the connector on the Engine Controller PCB. 2) Check the source of power supply for the printer. When using the power supply from the power generator and the like, improve the source of power supply. Note: If the frequency of power supply is not the specified range (40Hz to 70Hz), the fixing temperature control is not executed normally, so this might cause the damage. 3) Replace the Engine Controller PCB.
E012	0000	Black drum motor error (Failure in drum motor initial operation) The target speed was not reached within a specified time after startup of the motor.	1) Reconnect the connector on the Main Motor 2) Replace the Engine Controller PCB.
	0001	Black drum motor error (Failure in drum motor rotation) The motor rotated out of the target speed during rotation after the target speed was reached.	1) Reconnect the connector on the Main Motor 2) Replace the Engine Controller PCB.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E014	0000	Fixing Motor initial operation error	1) Reconnect the connector on the Fixing Motor
			2) Replace the Fixing Motor
	0001	Fixing Motor rotation error	1) Reconnect the connector on the Fixing Motor
			2) Replace the Fixing Motor
E066	0000	Environment sensor failure	Replace the environment sensor.
E06F	0068	EEPROM access failure	Replace the EEPROM.
E100	0000	Optical Unit malfunction	1) Reconnect the connector on the Laser Scanner Unit.
			2) Replace the Laser Scanner Unit.
E110	0000	Optical assembly error (Scanner motor initial operation failure)	1) Reconnect the connector on the Laser Scanner Unit.
			2) Replace the Laser Scanner Unit.
E196	0000	DCON error	1) Replace the Engine Controller PCB.
E602	0002	Bootable load failure A Bootable CD was not contained. A Bootable CD was damaged.	Burn the Bootable CD again.
E604	0000	Memory capacity error (Lack of memory capacity)	Check the memory capacity inserted to each slot.
E721	0001	Printer engine which is not supported by the controller is connected.Printer engine of a different model is connected.	Connect with the printer engine appropriate to the model.
E733	0000	Error in printer communication (communication error at initial communication and negotiation packet error)	1) Turn OFF and then ON the power. 2) Replace the Engine Controller PCB.
	0001	Error in printer communication (illegal communication after establishing communication, parity error)	
	0003	Error in printer communication (mismatch of country setting)	
	0004	Error in printer communication (undefined command error)	
	0005	Error in printer communication (communication timeout error)	
	0006	Error in printer communication (unknown communication error)	
E744	0800	Model code mismatch	Replace Soft-ID PCB.
	0900	Model code mismatch	Change to proper bootable.
	1000	Mismatch of the series or model of the firmware sent at the time of downloading	Check the supported series or model of the firmware, and burn the correct series or model of firmware.
E760	0000	CPU exception occurred.	Turn on the power again.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E805	0001	Fan1 failure	Replace the Fan1
	0002	Fan2 failure	Replace the Fan2
E808	0001	Low-voltage power supply failure	Replace the Low-voltage power supply unit.

T-5-29

Error Code Details (LBP3580/6780x)

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E000	0000	Fixing startup failure	1) Reconnect the connector on the Engine Controller PCB.
			2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is not between 368k ohm and 512k ohm (normal temperature), replace the Fixing Assembly.
			3) If the connector at the Fixing Assembly side does not have induction while the assembly is removed, replace the assembly.
			4) Replace the Engine Controller PCB.
E001	0000	Abnormal high temperature in fixing (The main thermistor detected a temperature of higher than 255 degree C.)	1) Reconnect the connector on the Engine Controller PCB.
			2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is 1k ohm or lower, replace the Fixing Assembly.
	0001	Abnormal high temperature in fixing (The sub thermistor detected a temperature of higher than 290 degree C.	
			3) Replace the Engine Controller PCB.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E003	0000	Abnormal low temperature in fixing (The main thermistor detected a temperature of lower than 120 degree C for more than 1 second when 20 seconds elapsed after start of the power distribution to the heater.)	1) Reconnect the connector on the Engine Controller PCB.
			2) Turn OFF the power supply switch, and remove the Fixing Assembly. Measure the resistance value between the connector (FSRTH) at the Fixing Assembly side and grounding. If the resistance value is not between 368k ohm and 512k ohm (normal temperature), replace the Fixing Assembly.
	0001	Abnormal low temperature in fixing (The sub thermistor detected a temperature of lower than 80 degree C for more than 2 seconds when 20 seconds elapsed after start of the power distribution to the heater.)	3) If there is no induction between the connector (ACN) at the Fixing Assembly side and the connector (ACH) while the assembly is removed, replace the assembly.
			4) Replace the Engine Controller PCB.
E004	0000	Fixing assembly drive circuit failure	1) Reconnect the connector on the Engine Controller PCB.
			2) Check the source of power supply for the printer. When using the power supply from the power generator and the like, improve the source of power supply. Note: If the frequency of power supply is not the specified range (40Hz to 70Hz), the fixing temperature control is not executed normally, so this might cause the damage.
			3) Replace the Engine Controller PCB.
E012	0000	Black drum motor error (Failure in drum motor initial operation) The target speed was not reached within a specified time after startup of the motor.	1) Reconnect the connector on the Main Motor
			2) Replace the Engine Controller PCB.
	0001	Black drum motor error (Failure in drum motor rotation) The motor rotated out of the target speed during rotation after the target speed was reached.	1) Reconnect the connector on the Main Motor
			2) Replace the Engine Controller PCB.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E014	0000	Fixing Motor initial operation error	1) Reconnect the connector on the Fixing Motor
			2) Replace the Fixing Motor
	0001	Fixing Motor rotation error	1) Reconnect the connector on the Fixing Motor
			2) Replace the Fixing Motor
E066	0000	Environment sensor failure	Replace the environment sensor.
E06F	0068	EEPROM access failure	Replace the EEPROM.
E100	0000	Optical Unit malfunction	1) Reconnect the connector on the Laser Scanner Unit.
			2) Replace the Laser Scanner Unit.
E110	0000	Optical assembly error (Scanner motor initial operation failure)	1) Reconnect the connector on the Laser Scanner Unit.
			2) Replace the Laser Scanner Unit.
E196	0000	DCON error	1) Replace the Engine Controller PCB.
	0003	An Engine Controller which is not compatible with the Main Controller has been detected.	Replace the Engine Controller PCB.
E245	1011	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	1012	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	1013	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	1021	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	1022	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	1023	Host machine FRAM write error	Replace the host machine FRAMs 1 and 2.
	2012	FLASH write error	Replace the FLASH PCB.
	2022	FLASH write error	Replace the FLASH PCB.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E602	0001	Insufficient HDD capacity	Replace the HDD.
	0002	Bootable load failure A Bootable CD was not contained. A Bootable CD was damaged.	Burn the Bootable CD again.
	0006	Bootable load failure A Bootable CD was not contained. A Bootable CD was damaged.	Burn the Bootable CD again.
	0007	The contents cannot be detected.	Create Bootable again.
	0008	There is not enough free space in the alternative block of NAND Flash	1) Start service mode. 2) Clear the error from the service mode menu. 3) Reboot the machine to stop the error code. 4) Export the user information from the old NAND Flash. 5) Replace the Controller Board. (Change the NAND Flash.) 6) Import the user information to the new NAND Flash.
	0009	The power supply was interrupted due to power failure or disconnection of the power plug. The MEAP area in the Flash ROM (NAND ROM) became read-only and cannot be written. MEAP cannot be started.	Initialize the MEAP area in Flash ROM (NAND ROM) by enabling the MEAP recovery menu from service mode or special management mode and rebooting the machine. Since the installed MEAP applications and their management information are all cleared, MEAP needs to be reinstalled.
	1102	/APL_MEAP error (The file systemcannot be initialized properly.)	
	1112	/APL_MEAP error (device access error EROFS)	
	1113	/APL_MEAP error (device access error EIO)	
	1302	/APL_KEEP error (The file systemcannot be initialized properly.)	
	1312	/APL_KEEP error (device access error EROFS)	
	1313	/APL_KEEP error (device access error EIO)	
E602	1602	/APL_CDS error (The file systemcannot be initialized properly.)	
	1612	/APL_CDS error (device access error EROFS)	
	1613	/APL_CDS error (device access error EIO)	
E604	0000	Memory capacity error (Lack of memory capacity)	Check the memory capacity inserted to each slot.
E616	0001	Installed MEAP applications have been deleted.	
E721	0001	Printer engine which is not supported by the controller is connected.Printer engine of a different model is connected.	Connect with the printer engine appropriate to the model.
E730	C000	The memory cannot be obtained at initialization.	Turn OFF and then ON the power.
	C001	An error occurred when accessing the HDD.	Turn OFF and then ON the power.
	D000	The memory cannot be obtained at initialization.	Turn OFF and then ON the power.
	D001	An error occurred when accessing the HDD.	Turn OFF and then ON the power.
E733	0001	Error in printer communication (illegal communication after establishing communication, parity error)	1) Turn OFF and then ON the power. 2) Replace the Engine Controller PCB.
	0003	Error in printer communication (mismatch of country setting)	
	0004	Error in printer communication (undefined command error)	
	0006	Error in printer communication (unknown communication error)	
E740	0002	An invalid MAC address has been detected.	1) Check the Mac address. 2) Write the address to the Mac address. 3) Replace the board.
	0004	LAN Controller Chip access error	1) Check around the LAN Chip. 2) Replace the board.
E744	0900	Model code mismatch	Change to proper bootable.
	1000	Mismatch of the series or model of the firmware sent at the time of downloading	Check the supported series or model of the firmware, and burn the correct series or model of firmware.
	1100	Falsification of the Main Controller Board has been detected.	Replace the Main Controller Board.

Error Code	Detail Code	Main Cause/Detection Content	Condition/Countermeasure
E748	2012	Failed to rewrite due to no more alternative block of Flash ROM (NAND) available.	Replace the Controller board.
	4000	G-Chip loopback ended in timeout.	Replace the Main Controller
	4020	Unknown device has been detected on PCI.	Replace the Controller board.
E760	0000	CPU exception occurred.	Turn on the power again.
E805	0001	Fan1 failure	Replace the Fan1
	0002	Fan2 failure	Replace the Fan2
E808	0001	Low-voltage power supply failure	Replace the Low-voltage power supply unit.

T-5-30

Jam Codes

Jam Code		Cause	Jam Position
High Order	Low Order		
84		Paper feed delay jam 1	–
85		Paper feed delay jam 2	
86		Paper feed delay jam 3	
88		Paper feed retention jam 1	–
8C		Fixing output delay jam 1	–
8D		Fixing output delay jam 2	
90		Fixing output retention jam 1	–
94		Internal paper jam 1	–
95		Internal paper jam 2	
98		Door open jam 1	–
9C		Wind-up jam 1	–
A4		Reversal unit jam 1	–
	00	–	Unknown area
	01	–	Feed slot 1 – resist position area
	02	–	Feed slot 2 – resist position area
	03	–	Feed slot 3 – resist position area
	04		Feed slot 4– resist position area
	07	–	Resist position – cartridge area
	08	–	Cartridge – fixing roller area
	09	–	Fixing unit roller – paper output unit area
	0C	–	Duplex reverse unit and adjacent area
	0D	–	Duplex Feed unit and adjacent area
	0E	–	Duplex reload unit and adjacent area

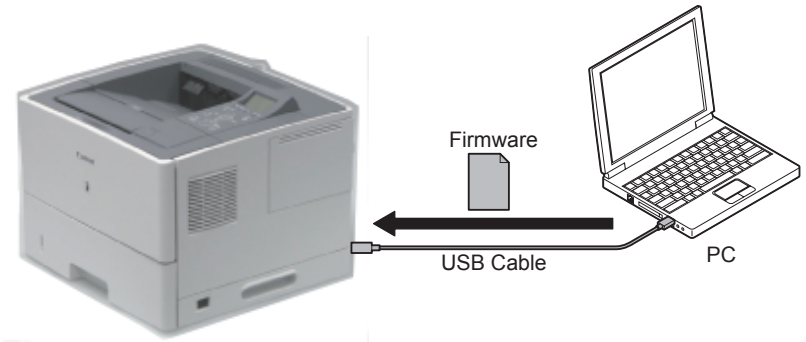
T-5-31

Version Up

Overview

Overview of Upgrading

Upgrading is performed by downloading firmware from a personal computer (hereinafter called PC) to this machine using a user support tool (hereinafter called UST).



F-5-30

Firmware Configuration

Firmware	Function	Storage area
BOOTROM	Startup of the main controller	Main controller PCB
BOOTABLE	Overall control	Main controller PCB
DCON	Control of the printer	Engine controller PCB

T-5-32

A number of firmware may be less than the above depending on the UST version.

Preparation

Necessary System Environment

- OS (Any of the following)
  - Microsoft Windows 2000 Server/Professional
  - Microsoft Windows XP Professional/Home Edition (32-bit processor version)
  - Microsoft Windows XP Professional x64 Edition
  - Microsoft Windows Vista (32-bit or 64-bit version)
  - Microsoft Windows 7 (32-bit or 64-bit version)
  - Microsoft Windows 8 (32-bit or 64-bit version)
  - Microsoft Windows Server 2003
  - Microsoft Windows Server 2003 x64 Editions
  - Microsoft Windows Server 2008 (32-bit or 64-bit version)
  - Mac OS X 10.4.11 or later

NOTE :
- If you are using the User Support Tool in Windows 8, be sure to be in the desktop mode.
- .Rosetta and Mac OS X Server are not supported.

- PC
  - The OS listed above operates.
  - A computer with 100 BASE-TX/10 BASE-T network support or USB ports.
  - Memory (RAM)
    For Windows : 128 MB or more
    For Macintosh : 32 MB or more
  - Available hard disk space : 100MB or more *
  - Display
    For Windows
    Resolution : 640 x 480 pixels or more
    Display colors: 256 or more
    For Macintosh
    Resolution: 800 x 600 pixels or more
    Display colors: 256 or more

* For Macintosh, it may vary depending on the size of firmware.

- UST file* of this machine
  * : Download the file from a system CD or website. (It differs depending on the sale scompany.)

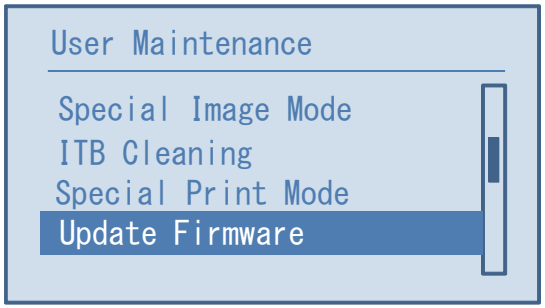
- USB cable (USB1.1/2.0)

Before Downloading the System Software

1) Start up the PC.
2) Connect the host machine and the PC with a USB cable.
3) Turn on the host machine, and place it in the standby status.

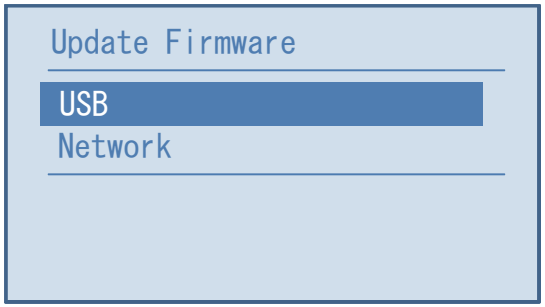
Downloading the Firmware

1) Press [Offline].
2) Select Setup > User Maintenance > Update Firmware



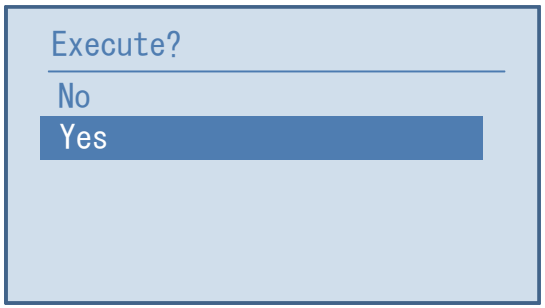
F-5-31

3) Select [USB].



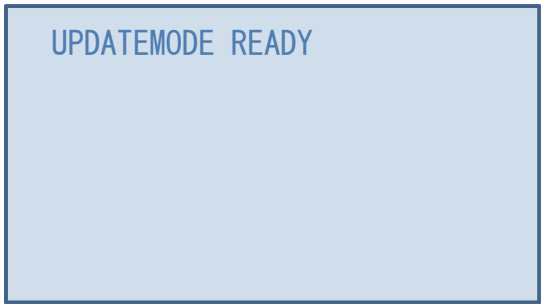
F-5-32

4) Select [Yes].



F-5-33

5) A reset starts and [UPDATEMODE READY] is displayed.



F-5-34

Downloading the System Software

Downloading the System

Procedure of Downloading

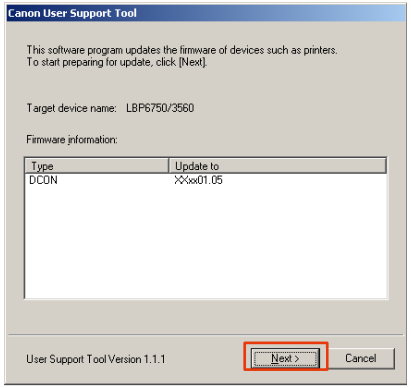
1) Carrying out the file of UST in the connected PC side.

Open UST (XXXX.exe).

XXXX: Firmware version

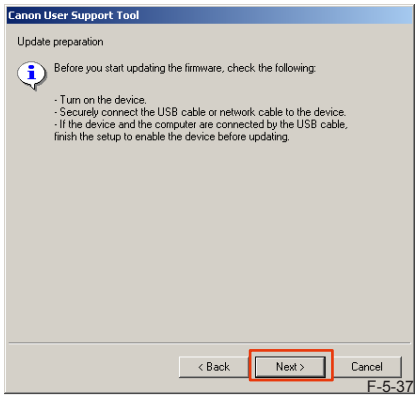
F-5-35

2) Write down the firmware version to upgrade, and click the "Next" button.



F-5-36

3) Click the "Next" button.



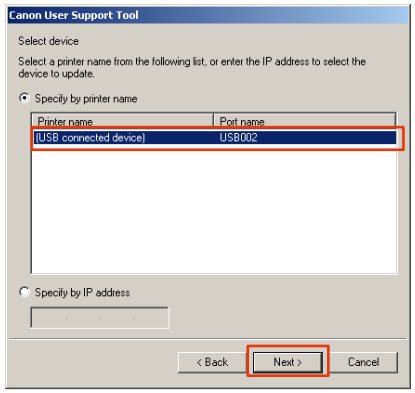
F-5-37

4) Choose the printer to update.

USB Connection

Select the printer for the firmware update.

Click the "Next" button.



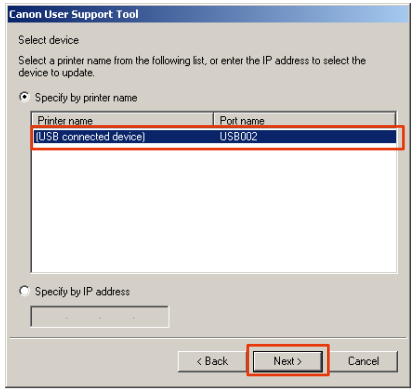
F-5-38

LAN Connection

- If the name of the printer is displayed

Select the printer for the firmware update.

Click the "Next" button.



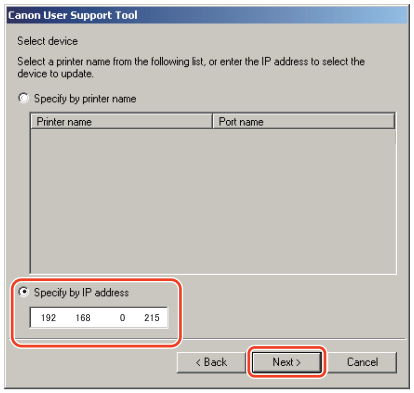
F-5-39

• If the name of the printer is not displayed

Select [Specify by IP address].

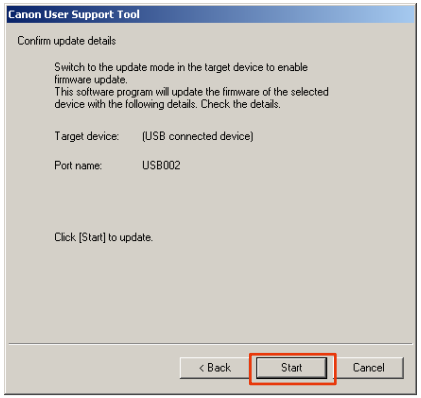
Enter the IP address of the printer.

Click the "Next" button.



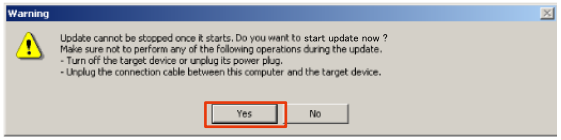
F-5-40

5) Click the "Start" button.

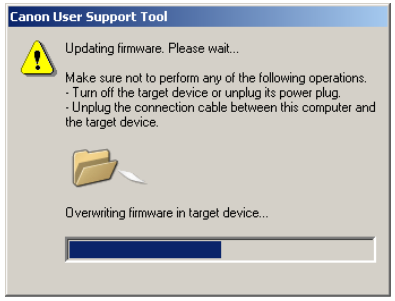


F-5-41

6) When the warning screen is displayed, click the "Yes" button.



F-5-42

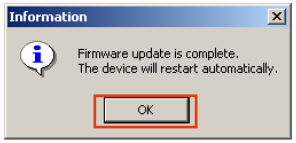


F-5-43

NOTE :
"DOWNLOADING XX%" and "UPDATING XX%" are displayed in the display of the host machine during downloading. (XX shows the progress degree.)

7) When downloading is completed, click the "OK" button.

The host machine automatically restarts up.



F-5-44

8) Perform common status print via the user mode, and make sure that the firmware version matches the information written down in Procedure 2).

Utility > Common status print

Service Mode

Entering Service Mode

Contact the sales company for the method to enter service mode.

Service Mode List (LBP3560/6750dn)

OPTION.GR

Item	Description	Setting Range
B4-L-CNT	Set to determine B4 size to be large size or small size.	ON/OFF*
	• ON: B4 size is to be large size.	
	• OFF: B4 size is to be small size.	
SCT-ALL-CLR	Set to determine whether “Clear All Counts” can be executed from “Department ID Management” screen on RUI.	ON*/OFF
	• ON: “Clear All Counts” can be executed.	
	• OFF: “Clear All Counts” cannot be executed.	
SCT-IDV-CLR	Set to determine whether “Clear Count” can be executed from “Edit Department” screen on RUI.	ON*/OFF
	• ON: “Clear Count” can be executed.	
	• OFF: “Clear Count” cannot be executed.	
PS-MODE	Set for the EFI compatibility at PS duplex delivery and the function to change the Stroke Adjustment default value.	0 to 65535 (increment by 1)
	• Bit 7: When the setting is ON, the conversion curve line for Type 3 dither is reversed (embossed arch line).	
	• Bit 6: When the setting is ON, 16 × 16 size dither (used for BW2) is used.	
	• Bit 5: When the setting is ON, duplex print of the same paper size with Portrait and Landscape mixed is performed.	
	• Bit 4: When the setting is ON, the default value of Stroke Adjustment is to be TRUE. By doing so, uneven line width based on the coordinates can be changed to even line width.	
COUNTER-SW *1	Set the counter switch.	MODEL1*/ MODEL2
	• MODEL1: Setting value 1	
	• MODEL2: Setting value 2.	

*1:Supporting the North America models with the charge counter only

T-5-33

FUNCTION GR.

Item	Description		Setting Range
ECONF	EXPORT	Export unit setting data	GENERAL/DEPEND/SECURITY/ALL
	IMPORT	Import unit setting data	----

T-5-34

LOG GR.

Item	Description	Setting Range
SYSTEM LOG	Select system log setting	ON*/OFF
SUBLOG FTP GET	Get SUBLOG without using serial console	----
LOGGING UTILITY	Select whether to use "Logging Utility" from Utility menu	ON/OFF*
	ON: Logging utility function enabled	
	OFF: Logging utility function disabled	

T-5-35

F/W UPDATE GR.

Item	Description	Setting Range
USB	Update controller firmware version (only USB is supported)	----
NETWORK	Execute version upgrade of controller firmware	----

T-5-36

NETWORK GR.

Item	Description	Setting Range
DNSTRANS	Priority of protocol for DNS inquiry (IPv4/IPv6)	IP V. 4/IP V. 6*
FTP SYSLOG	Setting for obtaining system log files by ftp	ON/OFF*
JOB SERIALIZE	Connection serialize function setting	ON/OFF*
BUFFER LIMIT	PSS buffer limit cancel setting	ON/OFF*

Item	Description		Setting Range
E-RDS	E-RDS SWITCH	Set to determine whether Embedded-RDS is used. • ON: Embedded-RDS is used. • OFF: Embedded-RDS is not used.	ON/OFF*
	RGW-ADDRESS	URL can be checked and set here. For the URL entry, use various keys (up/down/left/right keys, Job Status/Cancel key and Feeder Selection key). Then, press OK key to set the entry. In the very end of character strings, “down-pointing arrow” is displayed. Up to 128 characters can be entered.	----
	RGW-PORT	Set the port number of server.	----
	COM-TEST	Communication test is executed. The machine tries to connect to the server, judges whether it was connected, and displays the result.	----
	COM-LOG	Details of communication test result are displayed. When any error occurs, the time, error code and error information are displayed. Up to 5 logs can be stored and the latest log is displayed	----
	CREAR	Beside e-RDS setting value in the service mode, schedule information, alarm and filtering information are cleared.	----
CA-KEY	CREAR	After executing this item, turn the power OFF/ON t o set the CA certificate to the default status.	----
MIB CHARGECOUNT	• ALL ACCESS: All information in the charge counter MIB can be collected. • DISP ACCESS: Information displayed on LUI in the charge counter MIB is displayed. • NON ACCESS: All information in the charge counter MIB cannot be collected.		ALL ACCESS*/ DISP ACCESS/ NON ACCESS
SNMP	canon_admin	OFF: canon_admin community disabled	OFF
		READ ONLY: canon_admin community enabled. MIB access is Read Only	ReadOnly
		READ WRITE: canon_admin community enabled. MIB access is Read/Write	ReadWrite*
	canon_user	OFF: canon_user community disabled	OFF
		READ ONLY: canon_user community enabled. MIB access is Read Only	ReadOnly
		READ WRITE: canon_user community enabled. MIB access is Read/Write	ReadWrite*

Item	Description		Setting Range
TCP DELAYED ACK	ON: TCP ACK delay function enabled OFF: TCP ACK delay function disabled		ON*/OFF
WOLtrans	1: New protocol (WSD) WakeUp enabled; old utility WakeUp function using CPCA Echo (broadcast) packets not supported. 2: New protocol (WSD) WakeUp enabled; old utility WakeUp function using SNMP search broadcast packets not supported. 3: Old Canon utility WakeUp function supported; new protocol (WSD) WakeUp function not supported.		1* – 3
SLEEP ADVERTISE	SWITCH	Determines whether sleep advertise function is used	ON*/OFF
	PORT	Specifies port number for sleep advertise function	1 – 11427* – 65535
	TTL	Sets number of routers exceeding sleep advertise message number	0 – 3* – 254
	INTERVAL	Sets sleep advertise interval (seconds)	60 – 600* – 65535

T-5-37

■ SP.ADMIN.MODE

Item	Description	Setting Range
MAINTENANCE C.	Not used	-

T-5-38

Service Mode List (LBP3580/6780x)

■ ADJUST.GR

Item	Description	Setting Range
ENGINE DENSITY CORR.	Function to execute density correction by setting the developing bias on the engine side	-7 (-4) to -3* (0*) to 8 (11) SCM value (Displayed value)
SUBTLE DENSITY CORR.	Function to adjust fine density at 1200pdi	-1 to 0* to 1

T-5-39

- "*" indicates factory default setting.

■ OPTION.GR

Item	Description	Setting Range
B4-L-CNT	Set to determine B4 size to be large size or small size.	On* , Off
	• ON: B4 size is to be large size.	
	• OFF: B4 size is to be small size.	
SCT-ALL-CLR	Set to determine whether “Clear All Counts” can be executed from “Department ID Management” screen on RUI.	On* , Off
	• ON: “Clear All Counts” can be executed.	
	• OFF: “Clear All Counts” cannot be executed.	
SCT-IDV-CLR	Set to determine whether “Clear Count” can be executed from “Edit Department” screen on RUI.	On* , Off
	• ON: “Clear Count” can be executed.	
	• OFF: “Clear Count” cannot be executed.	
PS-MODE	Set for the EFI compatibility at PS duplex delivery and the function to change the Stroke Adjustment default value.	0* to 65535
	• Bit 7: When the setting is ON, the conversion curve line for Type 3 dither is reversed (embossed arch line).	
	• Bit 6: When the setting is ON, 16 × 16 size dither (used for BW2) is used.	
	• Bit 5: When the setting is ON, duplex print of the same paper size with Portrait and Landscape mixed is performed.	
	• Bit 4: When the setting is ON, the default value of Stroke Adjustment is to be TRUE. By doing so, uneven line width based on the coordinates can be changed to even line width.	
COUNTER-SW *1	Set the counter switch.	MODEL1* , MODEL2
	• MODEL1: Setting value 1	
	• MODEL2: Setting value 2.	

T-5-40

- "*" indicates factory default setting.

■ FUNCTION GR.

Item	Description		Setting Range
ECONF	EXPORT	Export unit setting data	GENERAL , DEPEND , SECURITY , ALL
	IMPORT	Import unit setting data	USB-H , On , Off*
USB-H	To set to enable/disable the USB host function. By turning ON the host function, USB memory can be used.		On , Off*
SUBLOG TO USE	Output a sub log to the USB memory.		-

Item	Description		Setting Range
MEAP	Setting menu related to MEAP		-
	MEAP-PN	To specify the port number of MEAP HTTP.	0 to 8000* to 65535
	MEAP-SSL	To specify the port number of MEAP HTTPS	0 to 8443* to 65535
	CDS-MEAP	To set whether to permit the user administrator to install MEAP application.	On* , Off
	CDS-FIRM	To set whether to permit the user administrator to update firmware.	On , Off*
	CDS-UGW	To set whether to permit firmware update from UGW.	On , Off*
	CDS-LVUP	To set whether to permit service technician or user administrator to use the periodical update function.	On , Off*
	CDS-CTL	To switch the country to obtain firmware via CDS	-
	MEAP FUNCTION	(E602-0009) occurs when either of MEAP, CDS or KEEP becomes ReadOnly, causing the device to enter function limit mode. It clears the error code and recovers MEAP.	On* , Off
	LCDSFLG	To switch whether to permit the user administrator to use the local CDS.	On , Off*
	CLEAR MEAP	To delete the following data retained by MEAP application at the next startup • MEAP application • Data retained by MEAP application • Data retained by the service-purposed area in the MEAP platform	-
	CREAR CDS	To delete all including APL_CDS at the next startup.	-
	DDNSINTV	To change DDNS periodical update interval. When 0 is set, periodical update is not performed.	0 to 24* to 48
	IPMTU	To change MTU size of network packet.	1 to 10*
	PDL Z Logic	To switch the calculation logic processed by Xebra.	MODE_FRUYA , MODE_FLAG , MODE_VALUE , MODE_ROP
	FILE BOX FUNC	To switch to enable/disable file box.	On* , Off

T-5-41

- "*" indicates factory default setting.

LOG GR.

Item	Description	Setting Range
SYSTEM LOG	Select system log setting	On* , Off
SUBLOG FTP GET	Get SUBLOG without using serial console	----
LOGGING UTILITY	Select whether to use "Logging Utility" from Utility menu	On , Off*
	ON: Logging utility function enabled	
	OFF: Logging utility function disabled	
DEBUGLOG-SW	To set whether to perform sublog auto output when error code/exception/service call occurs.	On , Off*
DEBUGLOG-MODE	To change the debug log mode.	Mode1* , Mode2
	Mode1 : The file name of the debug log is fixed. When the number of debug logs exceeds the maximum number of logs that can be saved at saving of debug logs, the latest debug log file is deleted to save the new file.	
	Mode2 : The file name of the debug log is one with a device serial number and time stamp. When the number of debug logs exceeds the maximum number of logs that can be saved at saving of debug logs, the oldest debug log file is deleted to save the new file.	

T-5-42

- "*" indicates factory default setting.

PANEL LOCK GR.

Item	Description	Setting Range
PANEL LOCK	To perform access restriction for each key on the Control Panel.	On , Off*

T-5-43

- "*" indicates factory default setting.

F/W UPDATE GR.

Item	Description		Setting Range
USB	Update controller firmware version (only USB is supported)		-
NETWORK	Execute version upgrade of controller firmware		-
USB STORAGE	To update the firmware of the device to that stored in the USB storage.		-
	ALL	To update the controller firmware, startup firmware, Control ROM firmware and engine firmware of the device to those stored in the USB storage. Update is executed even if any of the firmware is lacking in the USB storage.	-
	CONT	To update the controller firmware of the device to that stored in the USB storage.	-
	BOOT	To update the startup firmware of the device to that stored in the USB storage.	-
	DCON	To update the engine firmware of the device to that stored in the USB storage.	-

Item	Description	Setting Range
CDS	Firmware auto/manual update function by MEAP application (updater).	-

T-5-44

■ NETWORK GR.

Item	Description		Setting Range
DNSTRANS	Priority of protocol for DNS inquiry (IPv4/IPv6)		IP V. 4 , IP V. 6*
FTP SYSLOG	Setting for obtaining system log files by ftp		On , Off*
JOB SERIALIZE	Connection serialize function setting		On , Off*
BUFFER LIMIT	PSS buffer limit cancel setting		On , Off*
E-RDS	E-RDS SWITCH	Set to determine whether Embedded-RDS is used. • ON: Embedded-RDS is used • OFF: Embedded-RDS is not used	On , Off*
	RGW-ADDRESS	URL can be checked and set here. For the URL entry, use various keys (up/down/ left/right keys, Job Status/Cancel key and Feeder Selection key). Then, press OK key to set the entry. In the very end of character strings, “down-pointing arrow” is displayed. Up to 128 characters can be entered.	1 to 443* to 65535
	RGW-PORT	Set the port number of server.	1 to 443* to 65535
	COM-TEST	Communication test is executed. The machine tries to connect to the server, judges whether it was connected, and displays the result	-
	COM-LOG	Details of communication test result are displayed. When any error occurs, the time, error code and error information are displayed. Up to 5 logs can be stored and the latest log is displayed	-
	CLEAR	Beside e-RDS setting value in the service mode, schedule information, alarm and filtering information are cleared.	-
	REDUCE SEND METHOD		On , Off*
CA-KEY	CLEAR	After executing this item, turn the power OFF/ON t o set the CA certificate to the default status.	-
MIB CHARGECOUNT	• ALL ACCESS: All information in the charge counter MIB can be collected. • DISP ACCESS: Information displayed on LUI in the charge counter MIB is displayed. • NON ACCESS: All information in the charge counter MIB cannot be collected.		ALL ACCESS , DISP ACCESS NON ACCESS

Item	Description		Setting Range
TCP DELAYED ACK	ON: TCP ACK delay function enabled OFF: TCP ACK delay function disabled		On* , Off
WOL trans	1: New protocol (WSD) WakeUp enabled; old utility WakeUp function using CPCA Echo (broadcast) packets not supported. 2: New protocol (WSD) WakeUp enabled; old utility WakeUp function using SNMP search broadcast packets not supported. 3: Old Canon utility WakeUp function supported; new protocol (WSD) WakeUp function not supported.		1* to 3
SLEEP ADVERTISE	SWITCH	Determines whether sleep advertise function is used	On* , Off
	PORT	Specifies port number for sleep advertise function	1 to 11427* to 65535
	TTL	Sets number of routers exceeding sleep advertise message number	1 to 3* to 254
	INTERVAL	Sets sleep advertise interval (seconds)	60 to 600* to 655
PROXYRES	To set the proxy response function by Yukon.		On* , Off
IPSEC SETTING	IKERETRY	To set the IKE retry times.	0 to 1* to 3
	IKEINTVL	To set the IKE retry interval. Its unit is second.	1 to 5* to 30
	SPDALDEL	When "1" is set for this setting value, all registered policies are deleted at next startup to initialize policies.	0* to1
	IPSDEBLV	Since IPsec operates by a different process from the bootable, log information is not kept in the Sublog. Therefore, change the value of this menu when obtaining the IPsec log. Log level 1 to 3: FATAL level; Fatal error information Log level 4 to 6: WARN level; Warning information Log level 7: LOG level; important log information Log level 8: INFO level; all logs Log level 9 and 10: Same as level 8	0* to 10
PFW SETTING	ILOGKEEP	The time is saved when an address is blocked by iptables. The log is not notified to UI (pptLog) when an access is made from the same address within the specified period of time. Possible setting range is 1 to 48 hours, and when the value in service mode is "0", it is 1 minute. Restart is required to reflect the setting.	0 to 1* to 48
	ILOGMODE	To switch the filter operation.	0* to 1
	IPTBRODE	Multicast address application switching value	0* to 10

Item	Description	Setting Range
EAPOL_WT	Time to wait for a response (or the next request) to EAPOL packet sent by the device. It is related to IEEE802.1X.	10 to 30* to120

T-5-45

- "*" indicates factory default setting.

SP.ADMIN.MODE

Item	Description	Setting Range
MAINTENANCE C.	Special Management Mode	-
E355-CLR	To clear E355 error.	-
NANDROM-ERR-CLR	Menu to clear the error code when blocks in NANDROM are depleted	-

T-5-46

Updater

Overview

Outline

Updater provides functions that enable network communication with Content Delivery System V1.0 (hereinafter CDS) to install firmware, MEAP applications and system options.

- Firmware Installation
  Updater function enables users to distribute firmware through CDS via Internet. Particularly on e-Maintenance/UGW (called NETEYE in Japan)-enabled devices, firmware can be updated remotely, which effectively slashes costs incurred in field services.

- MEAP Application/System Option Installation
  By linking devices to CDS and License Management System (providing the function to manage licenses; hereinafter LMS), applications can be installed in devices via Updater, regardless of those not embedded (MEAP application) or embedded (system options) in devices.

Installing Firmware

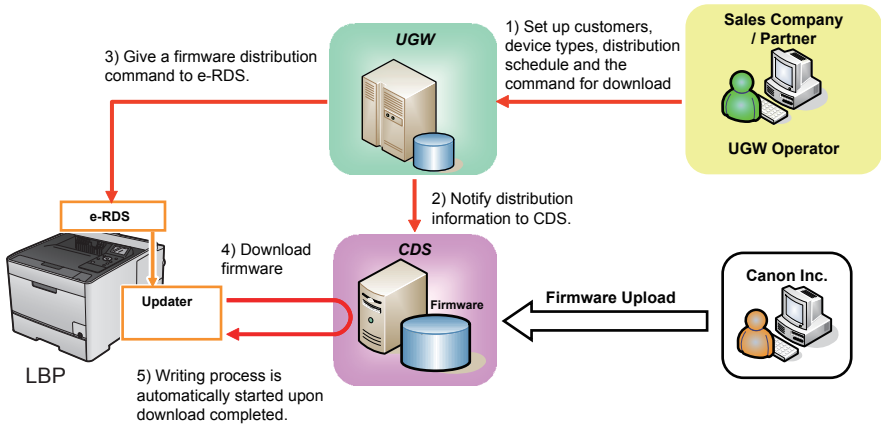
With link to Updater, service technicians provide firmware install services in the following 3 methods.

Distribution Method	Download Commanded by:	Update Timing	Downloadable Firmware Versions		
			Previous Ver	Current Ver	Newer Ver
a. UGW-linked Download / Update (Full-remote update)	UGW	Auto	No	Yes	Yes*1
b. UGW-linked Download (Remote Distribution / Update)	UGW	Manual	Yes	Yes	Yes
c. Update via SST	SST	-	Yes	Yes	Yes

*1:You can select the version allowed Remote Update.

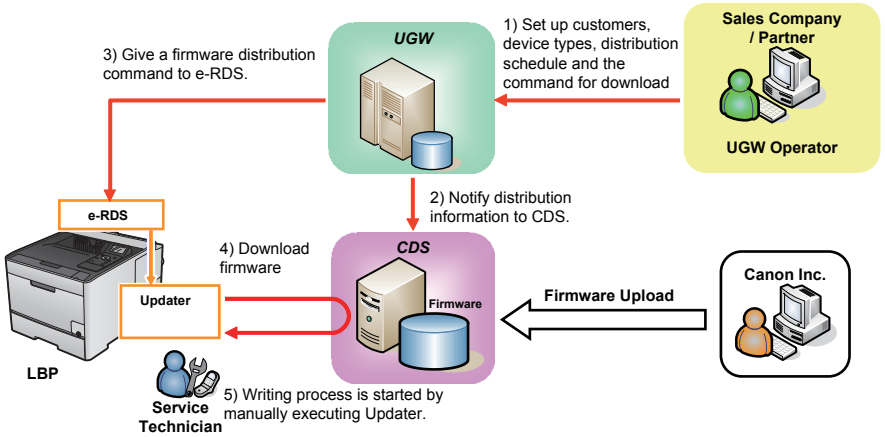
T-5-47

a. UGW-linked Download and Update (Full-Remote Update)
If the device is linked to UGW and the distribution schedule and update setting are registered on UGW in advance, full remote firmware update is available. Upon downloaded from CDS, the firmware is updated on the device.



F-5-45

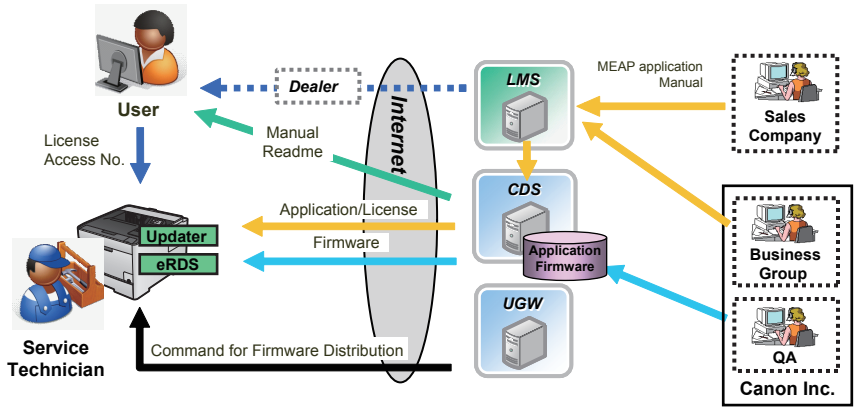
b. UGW-linked Download (Remote Distribution / Update)
If the device is linked to UGW and the distribution schedule is registered on UGW in advance, firmware can be distributed to the device before a service technician actually visits the customer site. This allows the service technician to update the firmware manually immediately after completing device inspection.



F-5-46

System Configuration

The figure below schematically shows the system configuration.



F-5-47

List of Functions

The matrix below shows the list of functions provided by Updater.

Category	Function	Remote UI	UGW-linked
Firmware	Checking firmware compatibility	-	-
	Checking special firmware	-	-
	Checking latest firmware version	Yes	-
	Registering/deleting firmware distribution schedule	Yes	-
	Confirming and downloading firmware	Yes	Yes
	Updating downloaded firmware	Yes	-
	Cancelling downloaded firmware	Yes	-
	Acquiring firmware distribution information registered from UGW	-	Yes
	Notifying firmware version information	-	Yes
	Periodical update	-	-
MEAP application/ system option	Inquiring license for MEAP application option	Yes	-
	Installing MEAP application / system option	Yes	-
System Management	Settings	-	-
	Testing communications	Yes	-
	Displaying update logs	Yes	-
	Displaying system logs	Yes	-
Internal system error notification	Notifying internal system error occurrence to distribution server	Yes	Yes

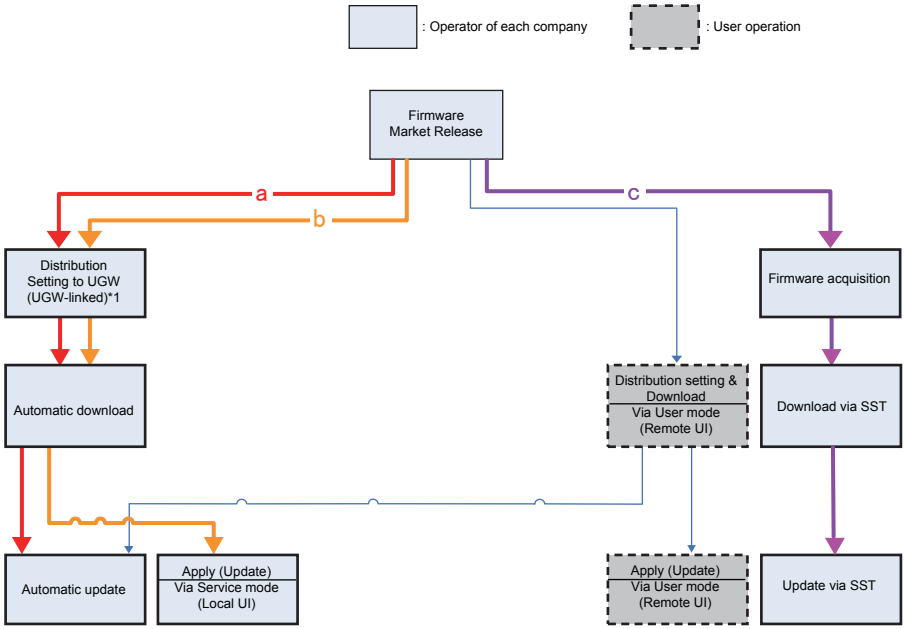
T-5-48

Distribution Flow

Firmware Installation Flow

Service technicians provide firmware install services in the following 4 methods.

a: UGW-linked download and update
b: UGW-linked download
c: Update via SST

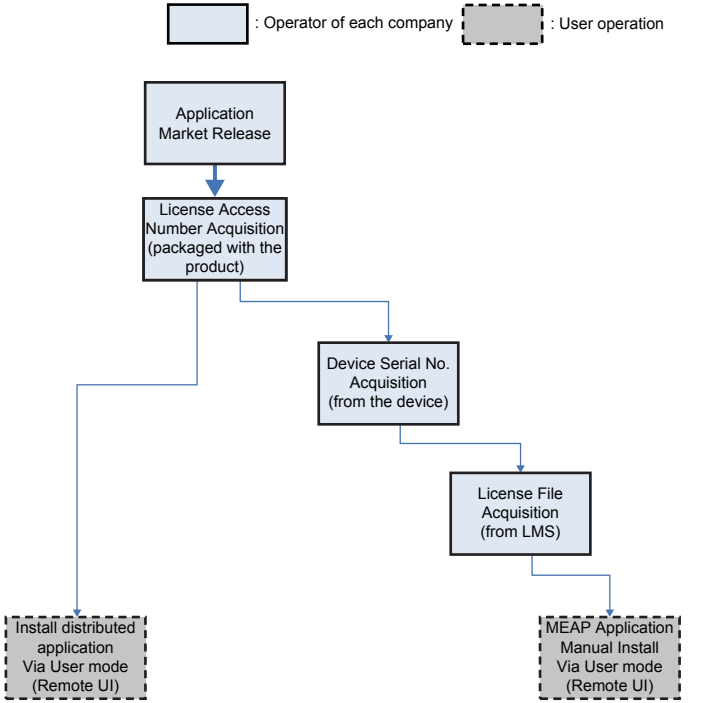


F-5-48

*1: Schedules for UGW-linked distribution are maintained on CDS.

MEAP Application/System Option Installation Flow

MEAP application/system option installation method using service mode is not provided.
Be sure to use the user mode to install.



F-5-49

Limitations and Cautions

Limitations

Changing Date/Time on Device

When a user changes the date/time setting on the device (including change of the setting according to daylight saving time), the firmware distribution may not be performed as scheduled.
But there is not the problem if it is time adjustment of several minutes with NTP servers.

Change of Setting from Service mode

Any settings from Service mode will be enabled after restarting the device.

Cautions

Concurrent use of Updater functions

Multiple users cannot use Updater functions on a device concurrently by using it together with Remote UI.

Coexistence of Remote UI and other tools

Users logged in SMS (Service Management Service) are unable to use Update functions from Remote UI.

Using Updater function from Remote UI

Upon the following operations done, Updater functions are suspended from Remote UI for certain duration.

- When a user exits Web browser without clicking [Portal] or [Log Out] button in the setting of Remote Login Service via SMS
- When a user exits Web browser without clicking [Portal] button in the setting of not to use Remote Login Service via SMS.
- When a user exits Web browser without clicking [Log out from SMS] or [To Remote UI] button.

Wait for EOJ (end of job) Function

Firmware update will be triggered only after the following jobs are completed.
This is the Updater-specific specification.

Job/Function type	Receiving	Printing	Queued print jobs
PRINT	Wait for EOJ (end of job)	Wait for EOJ	Wait for EOJ
I-FAX Receipt	Cancel processing to trigger update *	Wait for EOJ	Wait for EOJ
Report Print	-	Wait for EOJ	Wait for EOJ

T-5-49

*The data are guaranteed even if cut off in the middle of a job.It becomes the recovery object after the device reboot and carry out send / reception again.

Even during transfer, Pull SCAN job processing is cancelled soon after scanning is completed.
Firmware update is cancelled if the jobs are not completed within 10 minutes. If this occurs, the error code, 8x001106, will be returned (different numbers will be shown for x depending on the execution modes).
Firmware update is executed if the jobs stated above are not in the queue.
Follow the shutdown sequence to reboot the device after the firmware is updated.

Preparation

Overview of Preparation

The following should be prepared before using Updater.

- For updating of firmware

Installation Method	Setting Sales Company's HQ	Network Settings	Enabling UGW Link	Enabling [Update Firmware] Button of User Mode	Enabling [Manual Update] Button of User Mode (Remote UI)
UGW-linked Download and Update	Yes	Yes	Yes	-	-
UGW-linked Download	Yes	Yes	Yes	-	-

T-5-50

Setting Sales Company's HQ

When using devices input in the markets listed below, the default setting of Sales Company's HQ should be changed before obtaining firmware distributed from CDS. Unless the setting is changed properly, the desired firmware may not be able to be selected.

Market	Default Setting of Sales Company's HQ	Setting of Sales Company's HQ after Change
Canada	US	CA
Latin America	US	LA

T-5-51

Go to the following screen to change the setting of Sales Company's HQ.

Service Technician	Setting of Device Service Mode	SERVICE MODE > FUNCTION GR. > MEAP > CDS-CTL

NOTE:
The list below shows the setting of Sales Company's HQ for CDS-CTS by market.
Check and adhere to the appropriate setting for your market.
<List of Sales Company's HQ and the settings for CDS-CTL>

Japan = JP
USA = US
Singapore = SG
Europe = NL
Korea = KR
China = CN
Hong Kong = HK
Australia = AU
Canada = CA
Latin America= LA

■ Network Settings

Connecting to External Network

The method of connecting to external network is similar to a normal network connection method. Refer to user manual of the device for details.

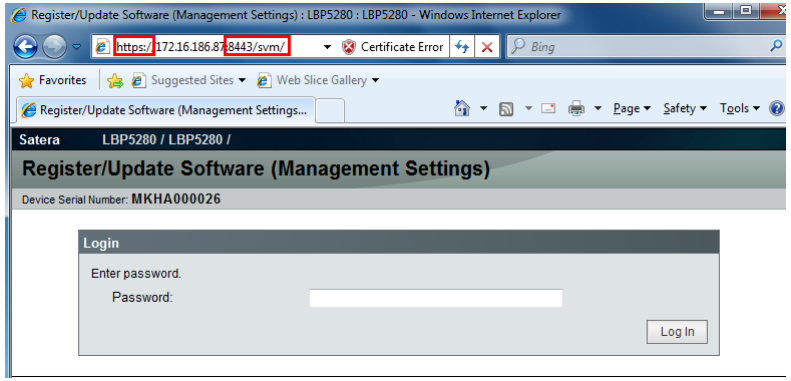
NOTE:
- Before using UGW link or User mode, see the sections below to prepare as required.
  "Enabling UGW Link"

NOTE:
“External Network” here means the network connecting the device to CDS via Internet.

Confirming URL Setting of Distribution Server

This section describes how to confirm the URL setting of the distribution server.
One of the MEAP system service, [Register/Update Software(Management Settings)] is available.

1. You can log in it from a browser on a PC connected in a network.
   Type the address [https://machine's IP address:8443/svm/].

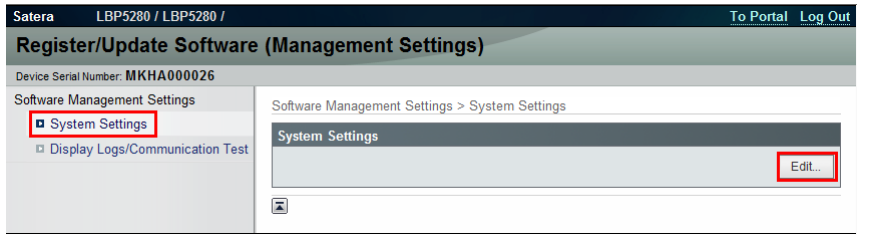


F-5-50

2. Type the password [*28*] then log in it.

Caution:
In the case of the following, you cannot log in even if you input a right password.
- The other user is using "Register/Update Software (Management Settings)" .
- The other user is using "Register/Update Software" in normal Remote UI.
- Because you have closed a browser without logging out definitely, you are still logging in it. Waiting for time-out.

3. After login, select [System Settings] > [Edit].



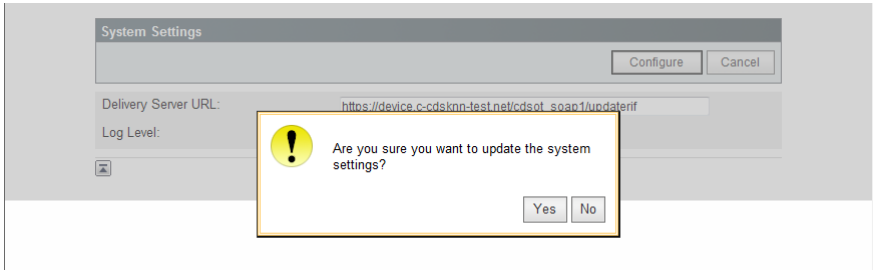
F-5-51

4. Confirm that "https://device.c-cdsknn.net/cds_soap/updaterif" is typed in [Delivery Server URL].
   If the URL is not entered or wrong URL is entered, enter the right URL in [Delivery Server URL].
   When you set output level of the log, input numerical value (0-4). Setting the bigger numerical value, you can get more detailed output log.

F-5-52

Caution:
The setting change of the output level influences a performance.
Refer to System Management Operations> Various Setting> Setting Log Level in detail.

5. When you have changed the settings, press [Configure] button. The confirmation dialog is displayed. If there is no problem, select [Yes]. In this, the URL of the delivery server and setting editing of the log output level are the end.



F-5-53

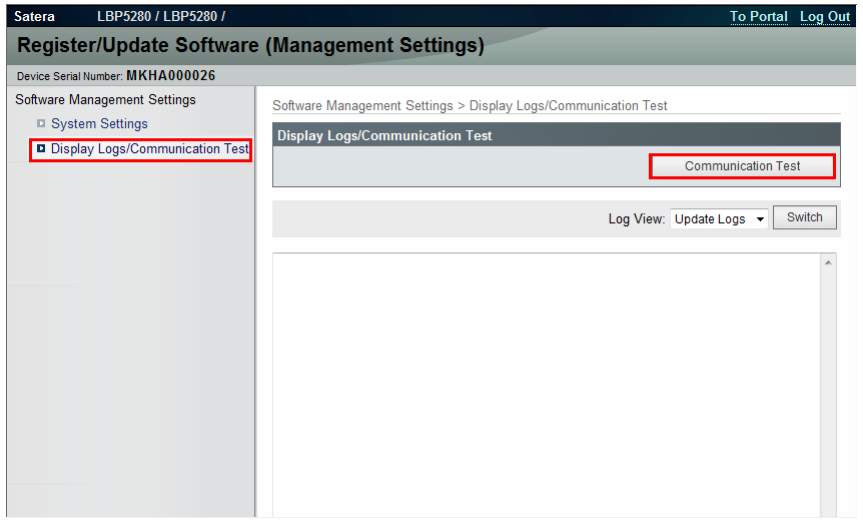
Communication Test

This section describes how to check if the communication is normally done to the distribution server and/or the file server.

Note:
CDS Server and RDS Server are different. So carry out the communication test with both Embedded RDS and CDS.

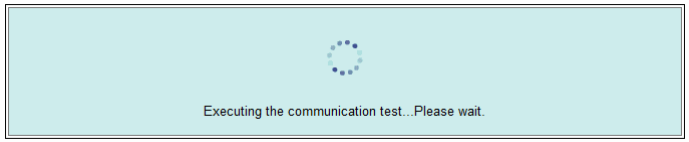
1. Enter [Register / Updater Software (Management Settings)].

2. Select [Display Logs / Communication Test] > [Communication Test].



F-5-54

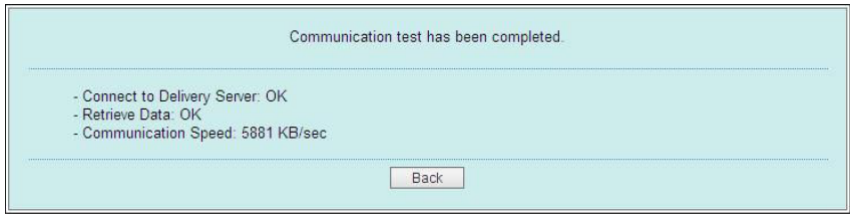
3. The Communication Test is carried out.



F-5-55

Obtain the download file information for communication test from the distribution server (to execute the communication test to the distribution server).
Using the download file information for communication test, the contents for test are downloaded from the file server (for the communication test to the file server).

4. Upon the communication test completed, the communication test result screen is shown. Press [OK] button to exit this operation.



F-5-56

Enabling UGW Link

When installing the firmware in the method of “UGW-linked Download and Update” or “UGW-linked Download”, the following should be set before actually using UGW link.

Service Technician	Setting of Device Service Mode	SERVICE MODE >FUNCTION GR. >MEAP >CDS-UGW (On -> Off)
	Setting of UGW WebPortal	In [Customer Management] screen, set [Do not distribute firmware] to [Distribute firmware].
Sales Company's HQ	Setting of Authorities on UGW WebPortal	See "Analysis>Firmware Distribution Information" to grant the appropriate authorities to each account.

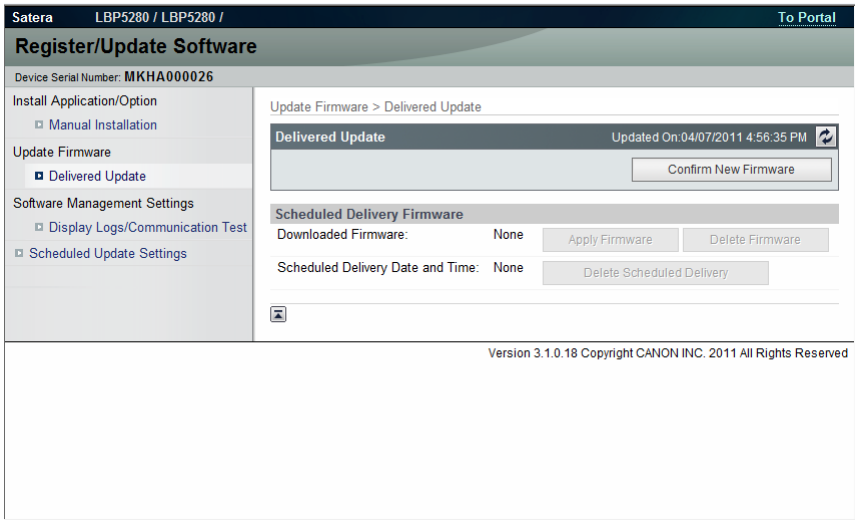
NOTE:
- See “imageWARE Remote Operator’s Manual / e-Maintenance Business Operation Manual“ for how to operate UGW WebPortal.
- [Distribute Firmware] should be set on [Customer Management] screen for staff in charge of setting for [Enter customer information] or [Command for firmware distribution] in order to allow them to select the desired device on [Firmware Distribution Information] screen.
- If [Distribute Firmware] is not shown on [Customer Management] screen of UGW WebPortal, appropriate authorities may not be set to each account in Firmware Distribution Information. Contact the Sales Company HQ concerned for confirmation.

Enabling [Install Application/Options] Button of User Mode (Remote UI)

To allow users to install applications using Updater, the setting of application installation should be set to ON for users in advance.

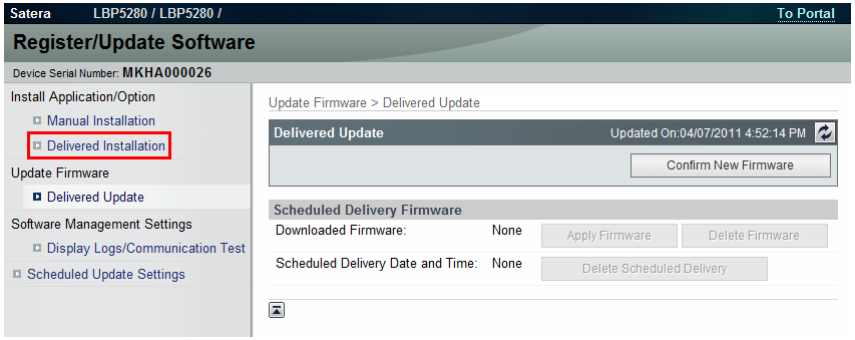
Service Technician	Setting of Device Service Mode	SERVICE MODE >FUNCTION GR. >MEAP >CDS-MEAP (On -> Off)

- Remote UI screen of Updater when the setting is not enabled (CDS-MEAP(Off)):



F-5-57

- Remote UI screen of Updater when the setting is enabled (CDS-MEAP(On)):



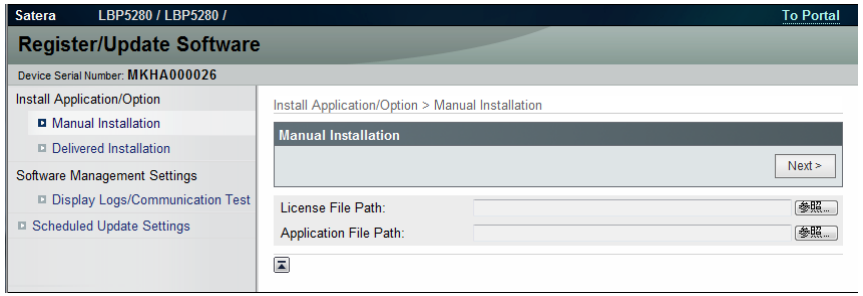
F-5-58

Enabling [Manual Update] Button of User Mode (Remote UI)

To allow users to install firmware from Updater using the file on Local PCs, the setting of firmware installation should be set to ON for users in advance.

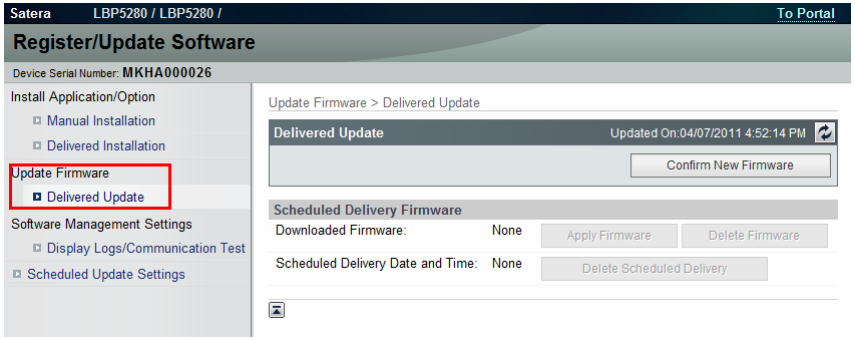
Service Technician	Setting of Device Service Mode	SERVICE MODE >FUNCTION GR. >MEAP >CDS-FIRM (On -> Off)

- Remote UI screen of Updater when the setting is not enabled (CDS-FIRM (Off)):



F-5-59

- Remote UI screen of Updater when the setting is enabled (CDS-FIRM):

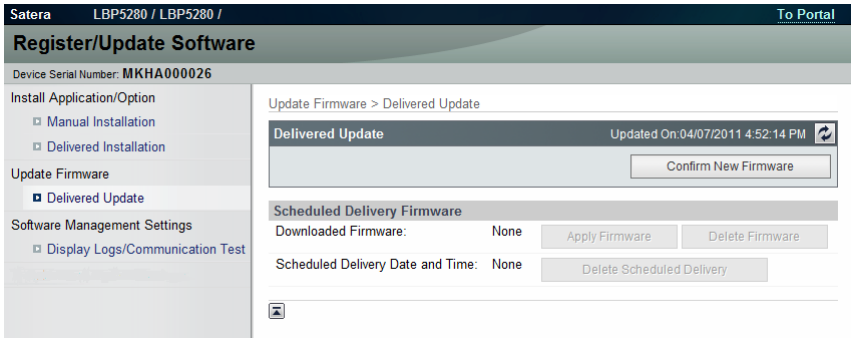


F-5-60

Enabling [Scheduled Update] Button of User Mode

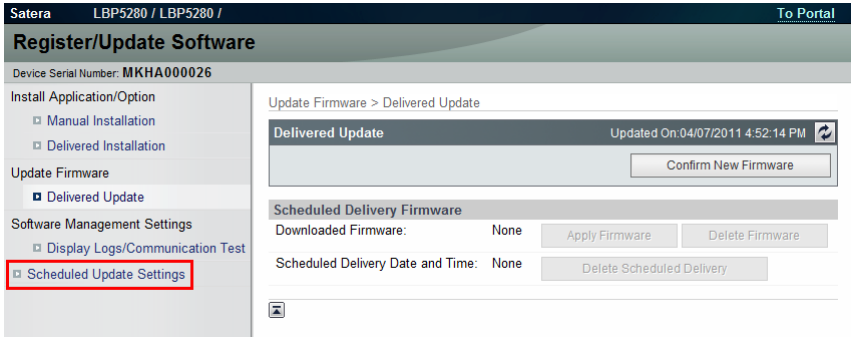
Service Technician	Setting of Device Service Mode	SERVICE MODE >FUNCTION GR. >MEAP >CDS-LVUP (On -> Off)

- Remote UI screen of Updater when the setting is not enabled (CDS-LVUP (Off)):



F-5-61

- Remote UI screen of Updater when the setting is enabled (CDS-LVUP (On)):



F-5-62

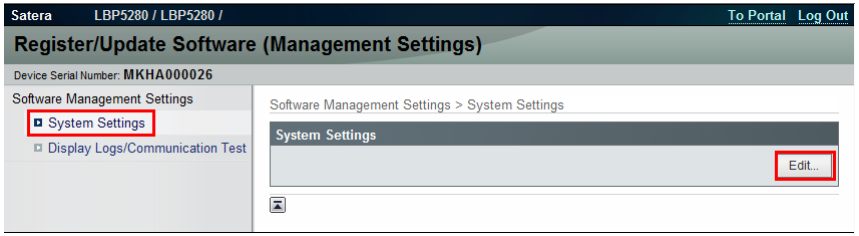
System Management Operations

Various Setting

Setting Log Level

This section describes how to set system log levels.

1. Activate [Register/Updater Software (Management Settings)] from browser.
   1). Enter [https://machine's IP address:8443/svm/] to the URL of browser.
   2). Type the password [*28*] then log in it.
   3). After login, select [System Settings] > [Edit].



F-5-63

2. Select a log level from [Log Level] dropdown list.

F-5-64

- [Log Level]:
  Select one of 5 levels ranging from [0] to [4]. (The default [3].)
  See the table below for logs output in each level.

Log Level	Log Output				
	Trace	Information	Important Message	Ordinary Error	System Error
0	-	-	-	-	Yes
1	-	-	-	Yes	Yes
2	-	-	Yes	Yes	Yes
3	-	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes

T-5-52

NOTE:
This list shows the contents of the Log Output.

Log Output	Description
Trace	Detailed logs for debug
Information	Logs related to operations done on the system
Important Message	Update logs output by firmware type Installation logs by MEAP application Logs related to enabled functions by system option
Ordinary Error	Logs for ordinary errors
System Error	Logs for internal system errors

3. Press [Configure] button to set the selected log level. Now the log level is successfully set.

Caution:

When you set it to log level 4, a performance falls, and the log acquisition takes time remarkably .

■ Displaying Logs

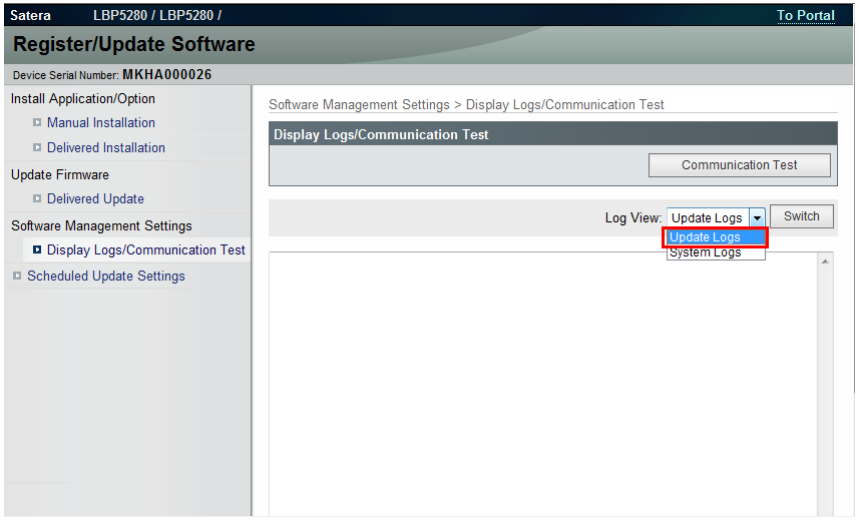
Update Logs

This section describes how to confirm System Option/MEAP Application Installation Logs and Firmware Update Logs.

1. Select [Settings/Registration] > [License/Other] > [Register/Update Software] > [Display Logs/Communication Test] from management mode of Remote UI.

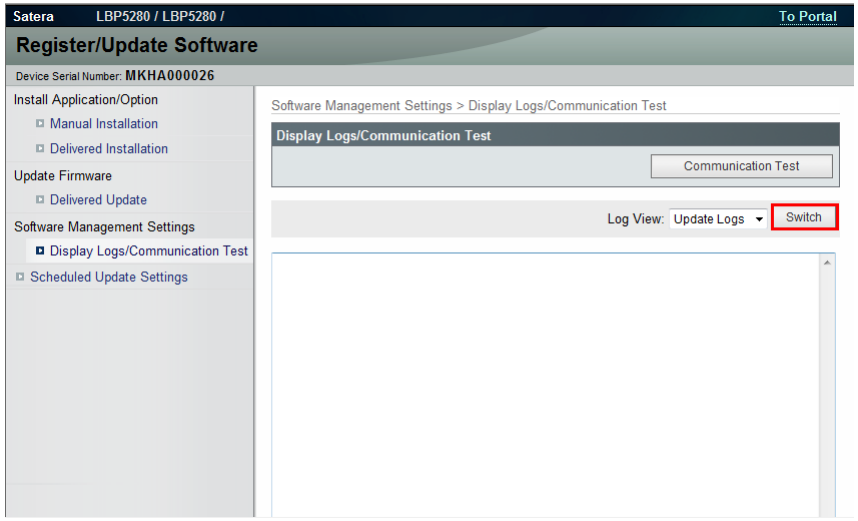
> Note:
> You can also access from [Register/Updater Software (Management Settings)] > [Display Logs/Communication Test]

2. Press [Update Logs] button.



F-5-65

3. Press [Switch] button.



F-5-66

4. System Option/MEAP Application Installation Logs and Firmware Update Logs are shown.

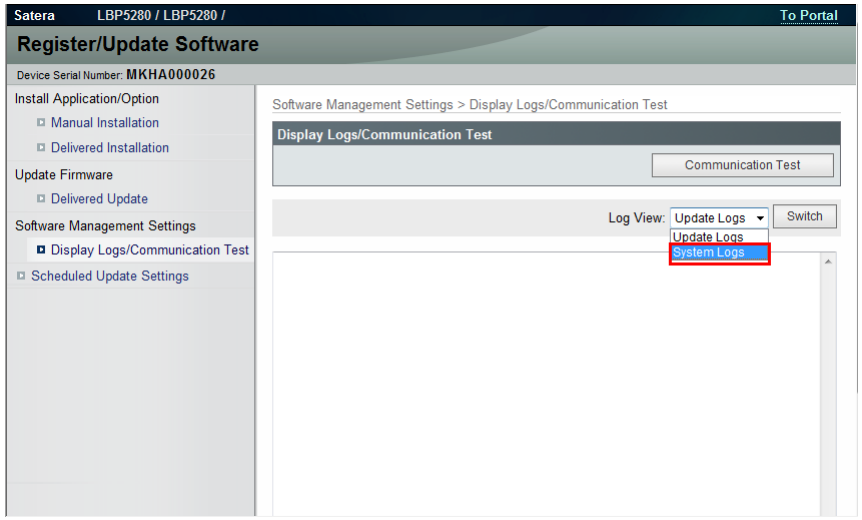
System Logs

This section describes how to confirm System Logs.

1. Select [Settings/Registration] > [License/Other] > [Register/Update Software] > [Display Logs/Communication Test] from management mode of Remote UI.

Note:
You can also access from [Register/Updater Software (Management Settings)] > [Display Logs/Communication Test]

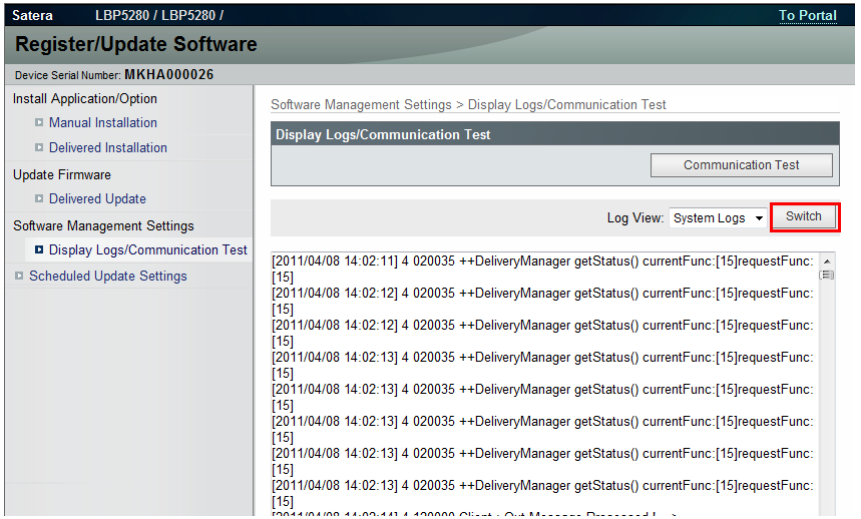
2. Press [System Logs] button.



F-5-67

3. Press [Switch] button.

4. Updater internal logs are displayed.



F-5-68

Note:
When you acquire the logs, do copy and paste of it.

Maintenance

Upgrading Updater

The firmware installed in the device should be also upgraded when upgrading Updater. The setting information and logs (update logs/system logs) are inherited in the upgraded version.

How to Replace Controller Boards

- Main Controller Board PCB (including SRAM)
  The network and service mode setting should be set again after initialization. See "Preparation" in "Version Upgrade" of this manual for details.

How to Replace Devices

All settings should be set again because no data are inherited. See "Preparation" in "Version Upgrade" of this manual for details.

FAQ

FAQ on Installing Firmware

No.1

Q: Is it also possible to downgrade firmware with using CDS?

A: Firmware can be downgraded in some methods shown in the table below.
If download and update are performed consecutively, firmware can't be downgraded.

Distribution Method	Downgrade Possibility
UGW-linked Download and Update	No
UGW-linked Download	Yes

T-5-53

No.2

Q: How can we confirm that the firmware is properly updated after "UGW-linked download and update" done?

A: You can confirm this in E-mail or the Device List on UGW-linked screen.
E-mail to notify firmware update will be sent from CDS server to the addresses set as destinations at the time of distribution setting to notify update completion.
On UGW-linked screen, search the device of your interest on [Select Device] screen to find the distribution status per device as shown in the search result.

No.3

Q: In the course of "UGW-linked download", what will happen if the user downloads the firmware before the service technician update the firmware downloaded with "UGW-linked download" before?

A: The previously downloaded firmware in the method of "UGW-linked download" will be overridden by the subsequently downloaded one.
This is because only one downloaded firmware can be held on the device.
The firmware downloaded in the method of "Service mode-linked download" and "UGW-linked download" can be checked/deleted from User mode, but cannot be updated, so it cannot be updated by the user unnoticed by the service technician.

No.4

Q: How is an individual response edition of firmware distributed?

A: Any individual response edition of firmware can be installed in all the methods provided by service technicians. Before installing the individual response edition, ensure to obtain the ID and password separately.

No.5

Q: If the device is down during firmware update, can the device be started using the older firmware version?

A: No, it is impossible to start the device using older versions. If this occurs, the service technician in charge should reinstall the firmware via SST. See "Troubleshooting on Firmware Installation" in chapter 6 of this manual for details.

No.6

Q: If the device is down during firmware download, is it possible to download the firmware again?

A: Firmware cannot be downloaded again automatically. Instead, the error is notified in E-mail. The user should register the firmware distribution schedule again accordingly.

No.7

Q: Can we cancel the operation during firmware download?

A: Yes. [Cancel] button is shown.

No.8

Q: E-mail is sent to users to notify update completion. Can service technicians also receive such a notification?

A: Yes. The notification E-mail is also set for the service technician in charge if the user enters his/her E-mail address at the time of firmware distribution setting.
Multiple E-mail addresses can be entered in the field.Delimit each E-mail address with "," (comma) or ";" (semicolon) when you enter multiple E-mail addresses in the field.

No.9

Q: How long does the firmware update take?

A: Approx. 10 min. However, this does not include the download time. Download time relies on the network environment.

■ FAQ on Installing MEAP Application/System Option

No.1

Q: What happens if a MEAP application is installed in the system with insufficient storage free space?

A: An error message is shown. Upon starting installation, the MEAP application checks the required space against free space to judge installation availability.

No.2

Q: Can we cancel the operation during installation of MEAP application?

A: Yes: [Cancel] button is shown.

No.3

Q: Is the device automatically restarted after the system option is enabled?

A: The device is not automatically restarted. Users should restart the device manually.

■ FAQ on General Matters of Updater

No.1

Q: What preparation is needed in each installation method?

A: See the table below for preparation required in each installation method.

• For updating firmware

Installation Method	Setting Sales Company's HQ	Network Settings	Enabling UGW Link	Enabling [Update Firmware] Button of User Mode	Enabling [Manual Update] Button of User Mode (Remote UI)
UGW-linked Download and Update	Yes	Yes	Yes	-	-
UGW-linked Download	Yes	Yes	Yes	-	-

T-5-54

• For install Application

Installation Method	Network Settings	Enabling [Install Application/ Options] Button of User Mode (Remote UI)
LMS-linked Installation	Yes	-
LMS-linked installation via Remote UI	Yes	Yes

T-5-55

No.2

Q: How can operations using Updater be masked on the users' side?

A: Be sure to perform the following from the service mode.

• Masking Firmware Installation

Setting Device Service Mode	SERVICE MODE >FUNCTION GR. >MEAP >CDS-FIRM (On -> Off)

• Masking Application Installation

Setting Device Service Mode	SERVICE MODE >FUNCTION GR.>MEAP >CDS-MEAP (On -> Off)

No.3

Q: Can the communication be cancelled during the communication test?

A: No. During the communication test, there is no “Cancel” button.

Error Messages

Error messages displayed in Remote UI are shown below. As to error codes, see the next list.

No.	Messages	Timing of display	Cause	Remedy
1	An error occurred with the delivery server. Contact your sales representative. Error Code: [xxx]	In communicating with the delivery server.	System error occurred in server.	Obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
2	Delivery server is stopped. Wait a while and then try to perform the operation again. Check the following URL for details. <Stopped Delivery Server URL>	In communicating with the delivery server.	Delivery server stopped.	Check the delivery server stop information. After the delivery server starts, perform the operation from this application. When the delivery server stop information is not available, contact the sales company's Support Department.
3	Failed to connect to delivery server. Check the delivery server and network.	In communicating with the delivery server.	Communication error due to incorrect settings of CDS URL.	Set correct CDS URL in the Updater settings.
			Excluding delivery server stop, communication error to the delivery server occurred.	Check if the network environment is correct to solve the cause of the error occurrence. If the network environment of the device is correct, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
4	Download was stopped because an error occurred with the file server. Check the network.	At the time of file download	Communication error to the delivery server occurred.	Check if the network environment is correct to solve the cause of the error occurrence. If the network environment of the device is correct, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
5	Downloaded files are invalid. Check the network.	At the time of file download	The received file is broken.	After checking the network environment of the device, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
6	Failed to retrieve information of special firmware. Check the retrieval ID and password.	Acquisition of applicable firmware information	No information exists about firmware for special firmware retrieval ID or Password is invalid.	Enter the correct firmware ID or Password applicable to the firmware information. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
7	Scheduled delivery information of firmware does not exist. Check it because it may already have been deleted.	Acquisition of applicable firmware information	Delivery information with specified delivery ID does not exist.	Register the delivery schedule again. If this occurs at the time of canceling file download, deleting downloaded firmware or deleting scheduled delivery, no remedy is required.
8	Failed to apply firmware.	Firmware application error	Error due to the application (NLM)	Obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.

No.	Messages	Timing of display	Cause	Remedy
9	Delivery Server : Connect Failed File Server : Retrieve Failed Error Code: [xxxx]	Communication test, etc. (communication test result dialogue)	In the communication test, failed to connect to the delivery server. In SOAP communication, failed to success after 1 min retry.	Check the network environment of the device, and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			ID and Password required for proxy to connect to the internet are not configured in device.	Set proxy and restart the communication test. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			The access to the network is limited.	Set the user environment to make the access to the following domain available. https://device.cdsknn.net/ http://cdsknn.net.edgesuite.net/ If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Delivery server stopped.	Contact Field Support Group in the sale company. After confirmation that the delivery server has been restored, restart the communication test. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company again.
10	Delivery Server : Connect OK File Server : Retrieve Failed Error Code: [xxxx]	Delivery Server : Connect OK File Server : Retrieve Failed Error Code: [XXXX]	Due to no return of data for the communication test, time-out (in HTTP communication, no response for 1min) occurred. After that, retried but failed to connect to server.	Check the network environment of the device and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			The network cable was disconnected during data download in the communication test.	Reconnect the network cable and then restart the communication test. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			The file server stopped during data download in the communication test.	Contact the sales company's Support Department. After confirmation that the delivery server has been restored, restart the communication test. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company again.
			Hash value in the communication test file is incorrect.	Check the network environment and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.

No.	Messages	Timing of display	Cause	Remedy
11	An error occurred. Error Code: [xxx]	communication test, etc. (main screen)	The max value (space/file) was exceeded and new log was not accepted. Normally an old log file is deleted before the max value (space/file) is exceeded, but error may occur due to other element (e.g. I/O error).	Check if the log file exceeded the max value. <Update log> Max space: 128KB/file Max file number: 4 <System log> Max space: 512KB/file Max file number: 4 If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Notice of version information (main screen)	Failed to acquire version information of device due to no CDS registration of firmware version of device.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			At the time of notifying version information, failed to connect to the delivery server.	Check if the network environment is correct to solve the cause of the error occurrence. If the network environment of the device is correct, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			No return of notifying version information	
			Network cable was disconnected during notice of version information.	Re-connect the network cable and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Failed to send notice of version information since the main power was turned OFF and then ON during the sending.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Server stopped at the time of sending notice of version information.	Check the network environment of the device and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			An internal error occurred at the time of sending notice of version information.	Obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.

No.	Messages	Timing of display	Cause	Remedy
11	An error occurred. Error Code: [xxx]	UGW linkage (main screen)	UGW linkage was turned ON when eRDS was OFF.	For a device using eRDS, turn ON the eRDS. For a device not using eRDS, turn OFF the UGW linkage. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			An internal error occurred at the time of acquiring delivery information.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		On-site (error dialogue)	An internal error occurred at the time of acquiring applicable firmware information.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			An internal error occurred at the time of sending approval information.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			An internal error occurred at the time of delivery order	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Immediate download (error dialogue)	An internal error occurred at the time of requesting firmware delivery information.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			During the download, all space in the storage disk was occupied. (DiskFull)	After adding vacant space of the storage disk, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			At the end of receipt, an internal error occurred.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Manual update (error dialogue)	At the update start, an internal error occurred.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company
		Automatic update (error dialogue)	At the update start, an internal error occurred.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Deletion of downloaded firmware	At the time of notifying cancellation, an internal error occurred.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.

No.	Messages	Timing of display	Cause	Remedy
12	An error occurred. Check the Update Firmware screen.	UGW linkage (main screen)	eRDS sent an order but Updater failed to connect to server.	Conduct a communication test to analyze the cause of the error. After solving the cause, resend the order from the eRDS. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Delivery server stopped.	Contact the sales company's Support Department. After confirming restoration of the delivery server, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Scheduled date and time acquired from the delivery server was before current time (15 or more min had passed.)	Do the delivery setting from UGW again. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			Scheduled data and time acquired from the delivery server did not exist.	Do the delivery setting from UGW again. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Immediate download (main screen)	At the time of immediate download, turned OFF and then ON the power of device main body.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Manual update (main screen) Automatic update (main screen)	Updated version was different from the ordered version.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			After the update, failed to connect to the delivery server.	Check the network environment and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			After the update, delivery server stopped.	Contact the sales company's Support Department. After confirming restoration of the delivery server, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			After the update, the network cable was disconnected.	Re-connect the network cable and re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			After the update, server returned an error.	Obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			After the update, an internal error occurred.	If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.

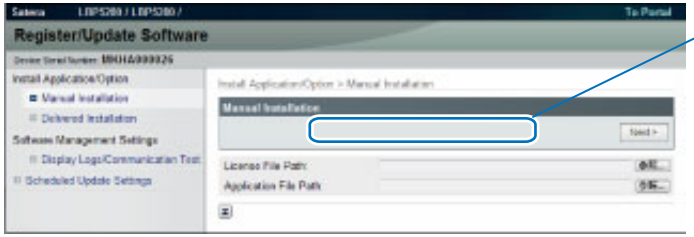
No.	Messages	Timing of display	Cause	Remedy
13	Delivery Error Error Code: [xxx]	UGW linkage (Update Firmware screen)	eRDS sent an order but Updater failed to connect to the server.	Conduct a communication test to analyze the cause of the error. After solving the cause, resend the order from the eRDS. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			The delivery server stopped.	Contact the sales company's Support Department. After confirming restoration of the delivery server, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
			The scheduled data and time acquired from delivery server does not exist.	Do the delivery setting from UGW again. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
14	Delivery Error Delivery Time Delivery Firmware Label Delivery Firmware version Error Code: [xxx]	UGW linkage (Update Firmware screen)	The scheduled date and time acquired from delivery server was before current time (15 or more min had passed).	Do the delivery setting from UGW again. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Immediate download (Update Firmware screen)	At the time of immediate download, turned OFF and then ON the power of device main body.	Re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
15	Applicable firmware is not registered.	On-site (error dialogue)	At the user site, no latest firmware exists.	This means the current firmware is the latest, so this error has no impact. But when the latest firmware to be retrieved must exist e.g. released new firmware information has been notified, contact Field Support Group in the sales company.
			No applicable firmware exists on CDS, so the service person can't select any applicable firmware.	Contact the sales company's Support Department.
16	Restart failed. Turn the main power OFF and ON.	Manual update (error dialogue)	An error occurred at the time of the device restart.	After turning OFF and then ON the main power of the device, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
		Automatic update (error dialogue)	An error occurred at the time of the device restart.	After turning OFF and then ON the main power of the device, re-execute the job. If it recurs, obtain the log etc. (Refer to "System Management Operations" under “Version Upgrade”of "Updater" in Chapter 6 “Troubleshooting” of this manual.) and contact Support Div. of the sales company.
17	Specify [E-Mail Address] with up to 64 characters.	At the time of periodical update setting	The specified E-mail address exceeded 64 characters.	Specify E-mail address within 64 characters.
18	The following characters cannot be used for the [E-Mail Address]: , : ; “ ( ) [ ] < > \	At the time of periodical update setting	The E-mail address was including the characters which could not be used.	Do not specify E-mail address with characters which cannot be used.
19	Specify [Comments] with up to 128 characters.	At the time of periodical update setting	Comments exceeded 128 characters.	Specify comments within 128 characters.
20	The [Delivery Server URL] is incorrect.	In setting with the deliver server URL.	The specified deliver server URL is wrong.	Enter the right URL(https://device.c-cdsknn.net/cds_soap/updaterif)

T-5-56

Error Codes

Error Codes displayed on Remote UI and how to read them.

How to read an error code



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Code	Value	Contents
The first digit Error field	8	Error
The second digit Operator	0 1 2 3 4 5	Not defined. CDS server Updater UGW Service person IT administrator (User)
The 3rd - 4th digits Method category	xx	Method
The 5th digit Category code	0 1 2 3 4 5 6 7	Category code
The 6 - 8th digits Description code	000-	See Error code list

F-5-69

Error Code

The error code list is shown below. Remedy are error codes of "-", and for all the error codes out of the list, contact Field Suppot Group in the sales company.

Error Code (hex number)								Description	Remedy	Cause of error			
The first digit Error field	The second digit Operator	The 3rd - 4th digits Method category		The 5th digit Category code	The 6 - 8th digits Description code					CDS delivery server	UP DATER	CDS file server	Network
8	Error												
	0	Not defined.											
	1	CDS server											
		x	x	Relating method code									
				0	Not categorized								
					0	0	1	No value is set in a mandatory data entry item	-	-	✔	-	-
					0	0	2	In a string type of a data entry item, digit number and/or character type is/are set against the regulations	-	-	✔	-	-

Error Code (hex number)								Description	Remedy	Cause of error			
The first digit Error field	The second digit Operator	The 3rd - 4th digits Method category		The 5th digit Category code	The 6 - 8th digits Description code					CDS delivery server	UP DATER	CDS file server	Network
					0	0	3	In an data entry item, the value is set against the regulations (E.g. the set value is other than "Operator: 4. Service person, 5. User")	-	-	✔	-	-
					0	0	4	No applicable delivery information exists	-	✔	-	-	-
					0	0	5	The setting of the system is imperfect		✔	-	-	-
				1	Operation								
					0	0	1	Inconsistency between the current firmware component in the data entry item and delivery information (E.g. the conditions for automatic update are not met. The settings of a mandatory additional set are invalid)	-	✔	✔	-	-
					0	0	2	In a notice of delivery-allowed information, an install-set was release to the market, but the market release was stopped during the delivery	-	✔	-	-	-
					0	0	3	No mail template file exists	-	✔	-	-	-
					0	0	4	The device serial number in the data entry item differs from that in delivery information	-	✔	-	-	-
					0	0	5	User is selected as Operator in the data entry items and the retrieval type is other than the latest	-	✔	-	-	-
					0	0	6	The retrieval type in the data entry item is special and registration ID and individual Password are not set (* Operator did not enter registration ID and individual Password)	-	✔	-	-	-
					0	0	7	The retrieval type in the data entry item is special and Operator is not Service person	-	✔	-	-	-
					0	0	8	As to the device serial number in the data entry items, there is no applicable device code product	-	✔	-	-	-
					0	0	9	The retrieval type in the data entry items is special and there are no basic-set applicable to the registration ID and Password (* When wrong registration ID or Password was entered by an operator)	-	✔	-	-	-
					0	0	A	The delivery status is Applying	-	✔	-	-	-
					0	0	B	No approval information exists about EULA or the export criteria when the delivery is determined	-	✔	-	-	-
					0	0	C	The delivery status is Distributing/Distributed/Applying/ Finished/Failed	-	✔	-	-	-
					0	0	D	The delivery status is Distributing/Distributed/Applying/ Finished/Failed	-	✔	-	-	-
					0	0	E	The delivery status is New/Waiting to Distribute/Distributed/ Applying/Finished/Failed	-	✔	-	-	-
					0	0	F	The delivery code is other than Distributing. (Firmware delivery)	-	✔	-	-	-
					0	1	0	The delivery status is New/Waiting to Distribute/Distributing/ Applying/Finished/Failed	-	✔	-	-	-
					0	1	1	The delivery status is Distributing/Distributed/Applying/ Finished/Failed	-	✔	-	-	-
					0	1	2	Device is "Not applicable to CDS" (Firmware delivery)	-	✔	-	-	-

Error Code (hex number)								Description	Remedy	Cause of error			
The first digit Error field	The second digit Operator	The 3rd - 4th digits Method category		The 5th digit Category code	The 6 - 8th digits Description code					CDS delivery server	UP DATER	CDS file server	Network
					0	1	3	The delivery time which specified is in CDS delivery stop time	-	✔	-	-	-
					0	1	4	The firmware reservation status of confirmation time-out	-	✔	-	-	-
					0	1	5	The firmware delivery time-out	-	✔	-	-	-
					0	1	6	The version upgrade of firmware is time-out	-	✔	-	-	-
				2	I/O								
					0	0	1	The specified license access number does not exist in LMS	-	✔	-	-	-
					0	0	2	The specified license access number has been deauthorized	-	✔	-	-	-
					0	0	3	The package product of the entered license access number doesn't include MEAP application/System Option	-	✔	-	-	-
					0	0	4	The sales company for the MEAP application isn't identical with the sale company for the package product	-	✔	-	-	-
					0	0	5	The number of licenses to be issued will exceed the limit number allowed to register	-	✔	-	-	-
					0	0	6	As for System Option for the same function, the license keys were issued more than the defined number of times for the same device serial number	-	✔	-	-	-
					0	0	7	No device product exists applicable to the optional product	-	✔	-	-	-
					0	0	8	No product exists applicable to the device serial number	-	✔	-	-	-
					0	0	9	The product of the entered license access number cannot be used with this device because the settings of the sales company are incorrect	-	✔	-	-	-
					0	0	A	No product linked to the license access number is registered in CDS for delivery	-	✔	-	-	-
					0	0	B	Although the product linked to the license access number is registered in CDS for delivery, the delivery is stopped now	-	✔	-	-	-
					0	0	C	No existence of optional product applicable to the device serial number.	-	✔	-	-	-
					0	0	D	The license access number has been registered for another device	-	✔	-	-	-
					0	0	E	For the device product applicable to the device serial number, no available software (MEAP application, System Option) exists	-	✔	-	-	-
					0	1	0	LMS system error	-	✔	-	-	-
	2~5												
		x	x	Relating method code									
				0	Not cartelized								
					0	0	0	Not defined	Normally not indicated				
					1	0	0	Unknown error	Normally not indicated				
				1	Operation								
					0	0	1	Processing exclusively	Start the operation again after terminating other Updater operations being executed simultaneously	-	✔	-	-
					1	0	1	Failed to process preparation for use	-	-	✔	-	-
					1	0	2	Failed to process use end	-	-	✔	-	-
					1	0	3	Time out during restart of readiness preparation	-	-	✔	-	-

Error Code (hex number)								Description	Remedy	Cause of error			
The first digit Error field	The second digit Operator	The 3rd - 4th digits Method category		The 5th digit Category code	The 6 - 8th digits Description code					CDS delivery server	UP DATER	CDS file server	Network
					1	0	4	Session time-out excluding after application inquiry (after issuing delivery ID)	Start the operation again from the beginning		✔	-	-
					1	0	5	CDS URL is not set	Set CDS URL	-	✔	-	-
					1	0	6	There is another job	Start the operation again after terminating the job of the device	-	✔	-	-
					2	0	1	Appointment of the periodical update for the periodical update non-support model	-	✔	-	-	-
				2	I/O								
					1	x	x	An internal error about file operation	-	-	✔	-	-
					2	x	x	An internal error about xML file operation	-	-	✔	-	-
					3	0	1	Failed to output the license file	-	-	✔	-	-
				3	Device								
					1	x	x	An internal error in CPCA	-	-	✔	-	-
					2	x	x	An internal error in IMI	-	-	✔	-	-
					3	x	x	An internal error in SMS	-	-	✔	-	-
					4	x	x	An internal error in NLM	-	-	✔	-	-
					6	0	1	A permit acquisition error in APL_CDS partition	-	-	✔	-	-
				4	SOAP communication								
					1	0	1	The processing thread stopped	-	-	✔	-	-
					1	0	2	Processing SOAP communication now	-	-	✔	-	-
					1	0	3	The function type is not matched	-	-	✔	-	-
					1	0	4	An invalid SOAP response error	-	✔	-	-	-
					2	0	1	An internal error about application information	-	-	✔	-	-
					2	0	2	config.xml is NOT FOUND	-	-	✔	-	-
					2	0	3	type.xml is NOT FOUND	-	-	✔	-	-
					2	0	4	An error in binding type.xml	-	-	✔	-	-
					2	0	5	An error in creating a service tab	-	-	✔	-	-
					2	0	6	A runtime error in performing the web method	-	-	✔	-	✔
					2	0	7	An unknown host error in performing the web method	• Check the network environment of the device and start the operation again • Check if the URL settings of the CDS server are correct, and start the operation again after resetting	✔	✔	-	✔
					3	0	1	The delivery server is stopped	-	✔	-	-	-
					3	0	2	An error occurrence in the delivery server	-	✔	✔	-	-
				5	HTTP communication								
					1	0	1	Specified Hash Algorithm is unknown	-	-	✔	-	-
					2	0	1	Invalid HTTP request	-	-	✔	✔	✔
					2	0	2	Failed to connect to the server	Check the network environment of the device and start the operation again	-	✔	✔	✔
					2	0	3	Failed to find the server	Check the network environment of the device and start the operation again	-	✔	✔	✔
					2	0	4	An input/output error occurred during the connecting process to the server	-	-	✔	✔	✔
					2	0	5	Failed to read a HTTP response	-	-	✔	✔	✔
					2	0	6	Error in a HTTP response	-	-	✔	✔	✔
					3	0	1	Failed to retrieve the data stream	-	-	✔	-	✔
					3	0	2	Failed to create the file object for receipt	-	-	✔	-	✔
					3	0	3	Failed to create the data stream of the file for receipt	-	-	✔	-	✔

Error Code (hex number)								Description	Remedy	Cause of error			
The first digit Error field	The second digit Operator	The 3rd - 4th digits Method category		The 5th digit Category code	The 6 - 8th digits Description code					CDS delivery server	UP DATER	CDS file server	Network
					3	0	4	Failed to receive the data	Check the network environment of the device and start the operation again	-	✔	✔	✔
					3	0	5	An error about reserving the file data for receipt	-	-	✔	-	-
					3	0	6	Failed to close the data stream	-	-	✔	-	-
					3	0	7	Failed to close the file data for receipt	-	-	✔	-	-
					3	0	8	Invalid hash code of the download file	Check the network environment of the device and start the operation again	✔	✔	✔	✔
					3	0	9	The prosy authorization method is not applicable	Check the proxy authentication method used, and start the operation again after changing the settings to use the corresponding proxy anthentication	-	✔	-	✔
				6	Socket communication								
					1	0	1	Failed to connect the eRDS	-	-	✔	-	✔
					1	0	2	No response from eRDS	-	-	✔	-	✔
					1	0	3	No notice of start from the eRDS	-	-	✔	-	✔
					1	0	4	Error of socket reading	-	-	✔	-	✔
					1	0	5	Socket communication time-out	-	-	✔	-	✔
				7	Other internal codes								
					0	0	2	One of installation, start or authorization failed (When installation or authorization failed, it is regarded as an error) *	-	-	✔	-	-
					0	3	x	An internal error in processing the installation	-	-	✔	-	-
					1	x	x	An error by using invalid API	-	-	✔	-	-
					2	x	x	An internal error in SMS	-	-	✔	-	-
					3	0	1	No existence of delivery ID	-	-	✔	-	-
					3	0	2	Invalid delivery ID	-	-	✔	-	-
					3	0	3	The updated firmware information is not identical with the firmware information after activation of the Updater	-	-	✔	-	-
					3	0	4	The process of firmware download is incomplete	-	-	✔	-	-
					3	0	5	The update process is incomplete	-	-	✔	-	-
					3	0	6	The installment process is incomplete	-	-	✔	-	-
					4	0	1	Failed to retrieve delivery information	-	-	✔	-	-
					5	0	1	Failed to execute the delivery process	-	-	✔	-	-
					5	0	2	The scheduled delivery was not executed within the defined period of time	Scheduled deliveries not executed within the defined period of time are abandoned, so register a scheduled delivery again. When setting the date and time of the scheduled delivery, be sure to designate a time when the device is ON	-	✔	-	-

T-5-57

* Not displayed on a device UI

Backup/Restoration by Expansion ROM for servicing and Sublog Board

Function Overview

Data can be migrated to an unused Main Controller PCB by using the Expansion ROM for servicing + Sublog Board when the Main Controller PCB becomes faulty.

What to Prepare

- Sublog Board
- Expansion ROM for servicing
- Unused Main Controller PCB

CAUTION:

Install the Sublog Board to which data was backed up (exported) and Expansion ROM PCB to an unused Main Controller PCB which has not been installed to the machine.

Data cannot be migrated to a Main Controller PCB which has ever been used, even if only once.

Prerequisites

NOTE:
The battery on Sublog Board is located at BATS1 CR2032.
Push SW1 on the board and confirm that LED1 turns on.
If LED1 does not turn on, You need change battery.

CAUTION:

There is danger of explosion if the battery is replaced with an incorrect type.

Replace it only with the same type of battery.

Dispose of used batteries according to the manufacturer's instructions.

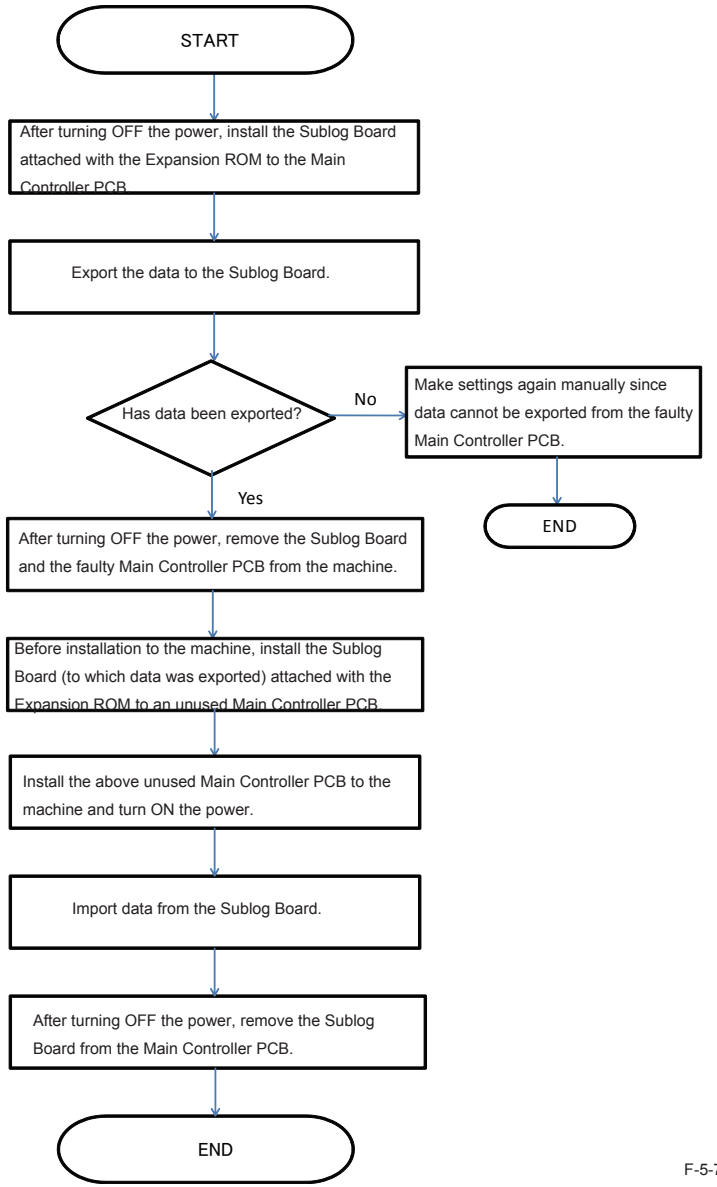
Target Data for Backup

User mode setting values
Service mode setting values
Page counter
Device serial number

T-5-58

Backup and Restoration (Export and Import)

Flow of Export and Import



F-5-70

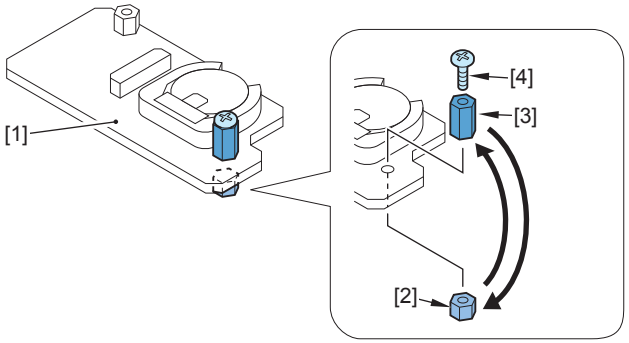
Changing the Height of the Sublog Board

NOTE:
When installing the Sublog Board, it needs to be installed parallel to the Main Controller PCB in order to prevent connection error of the connector connecting the Main Controller PCB and the Sublog Board.
This machine utilizes the height of the spacer (short), and how to replace the spacers with each other is shown below.

2) Disassemble the Sublog Board [1], and replace the spacer (short) [1] and the spacer (long) [3] with each other.

- 1 screw [4]

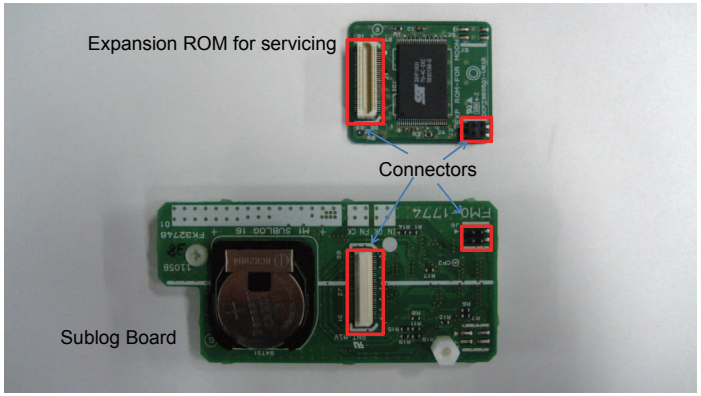
CAUTION:
Because the screw [4] is a molded part, do not tighten it too much. Otherwise, it may be damaged.



F-5-71

■ Installing the Expansion ROM for servicing and Sublog Board

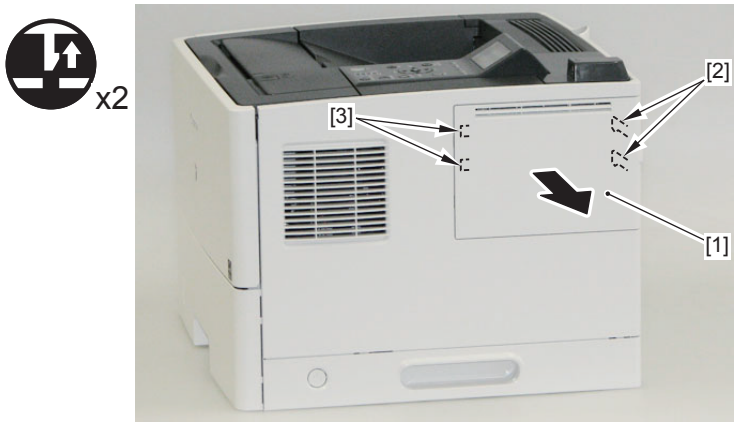
1) Install the Expansion ROM for servicing to the Sublog Board.



F-5-72

2) Remove the Right Cover (Small) [1]

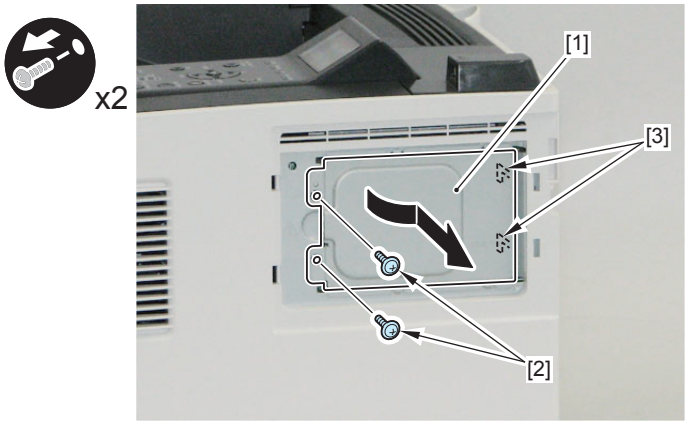
- 2 Claws [2]
- 2 Hooks [3]



F-5-73

3) Remove the Main Controller Cover (Small) [1]

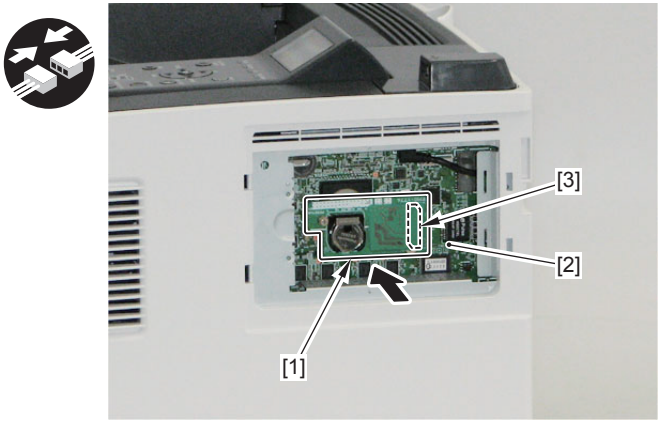
- 2 screws [2]
- 2 Hooks [3]



F-5-74

4) Install the Sublog Board [1] attached with the Expansion ROM for servicing to the Main Controller PCB [2].

- 1 Connector [3]

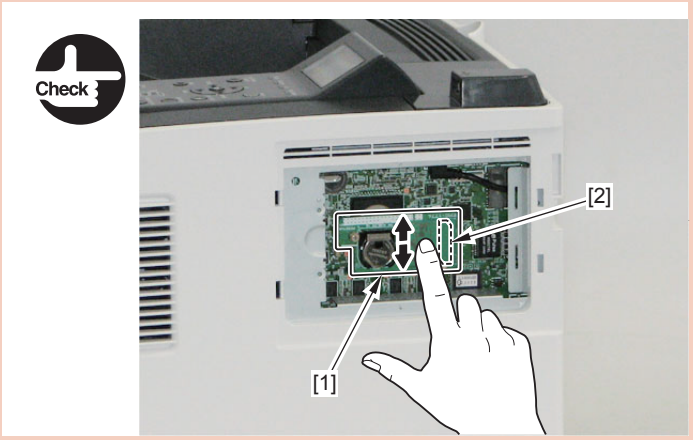


F-5-75

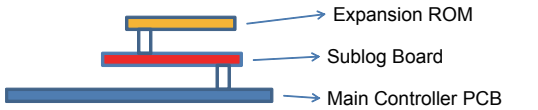
CAUTION:

Lightly press the Sublog Board to check for any backlash.

It is necessary in order to prevent a data communication error caused by disconnection of the connector.



F-5-76



F-5-77

Backup Procedure (Export)

1) The menu is displayed when turning ON the power while the Sublog Board attached with the Expansion ROM for servicing is installed.

F-5-78

2) Use the right and left arrow keys to select [NVRAM export].

3) Press the OK key. This operation causes the information stored in the machine to be exported to the Sublog Board.

4) The following message is displayed when backup is completed successfully.

F-5-79

5) Turn OFF the power, and remove the faulty Main Controller PCB and the Sublog Board to which data was exported.

CAUTION:

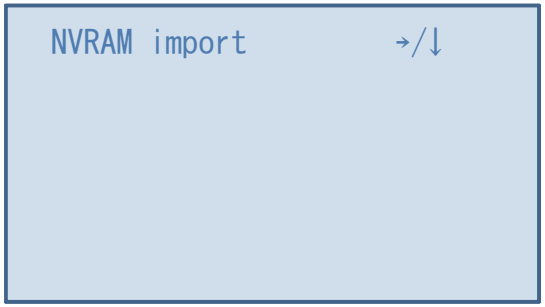
Install the Sublog Board to which data was backed up (exported) and Expansion ROM PCB to an unused Main Controller PCB which has not been installed to the machine.

Data cannot be migrated to a Main Controller PCB which has ever been used, even if only once.

Restoration Procedure (Import)

1) Install the unused Main Controller PCB which has been installed with the Sublog Board (to which data was exported) attached with the Expansion ROM to the machine.

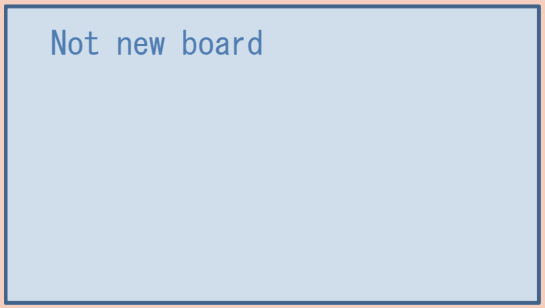
2) Turn ON the power and select [NVRAM import] in the menu, and then press the OK key. The information stored in the Sublog Board is written back to the machine.



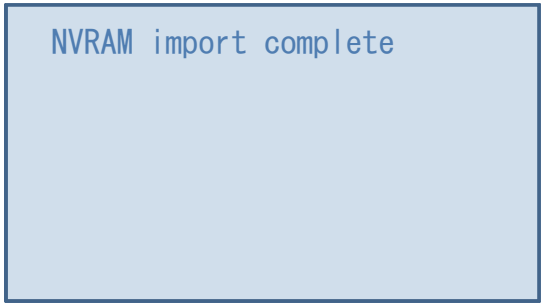
F-5-80

CAUTION:

When not replacing with an unused Main Controller PCB, the following message is displayed and the operation is stopped. In this case, turn OFF the power and replace with an unused Main Controller PCB.



3) The data in the Sublog Board is deleted and the following message is displayed in the case of successful completion.



F-5-81

4) Turn OFF the power and remove the Sublog Board.

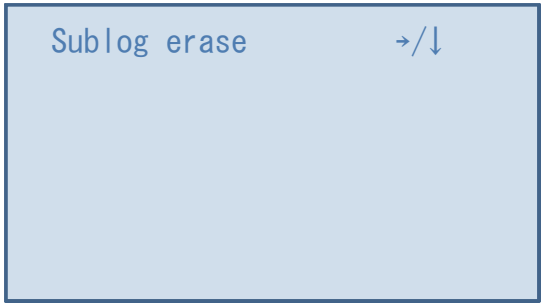
Others

■ Deletion (Erase)

When the data is not imported although it was exported, it needs to be deleted to prevent leakage of information.

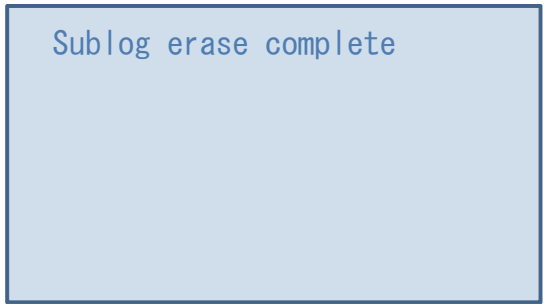
1) Install the Sublog Board (containing data to be deleted) attached with the Expansion ROM to the Main Controller PCB.

2) Turn ON the power and select [NVRAM erase], and then delete the information stored in the Sublog Board.



F-5-82

3) The following message is displayed in the case of successful completion.



F-5-83

4) Turn OFF the power and remove the Sublog Board.

■ List of Error Messages

The following messages are displayed when certain failures occur during operation.

List of Messages	Detail
Sublog board not found	Sublog Board is not installed.
NVRAM read error	Export cannot be executed because the faulty Main Controller PCB is too damaged to retrieve information.
Sublog R/W error	When the same data cannot be read 3 consecutive times due to Sublog Board error, the error message is displayed and the operation is stopped.
NVRAM write error	When information cannot be written to an unused Main Controller PCB for some reasons, the error message is displayed and the operation is stopped.
Sublog data not found	When the export data is not stored in the Sublog Board (including checksum check error), import process or erase process cannot be executed.
Not new board	Import cannot be executed since the Main Controller PCB is not unused or the one to which no serial number has been written.
Different product	Data is attempted to be imported to a model different from the one from which data was exported.

T-5-59

Debug log

Sublog

Function Overview

Sublog is the record of behavior inside the Main Controller PCB.
In the case of a field failure that is hard to be reproduced, this measure is intended to improve efficiency in failure analysis and reduce the time for failure support by collecting debug log at the user site (which was created immediately after the failure) and sending it to the R&D.
When the Canon staff who is in charge of quality follow-up determines the need for an analysis of firmware debug log by the R&D department, we ask the field to collect log for an investigation to determine the cause.

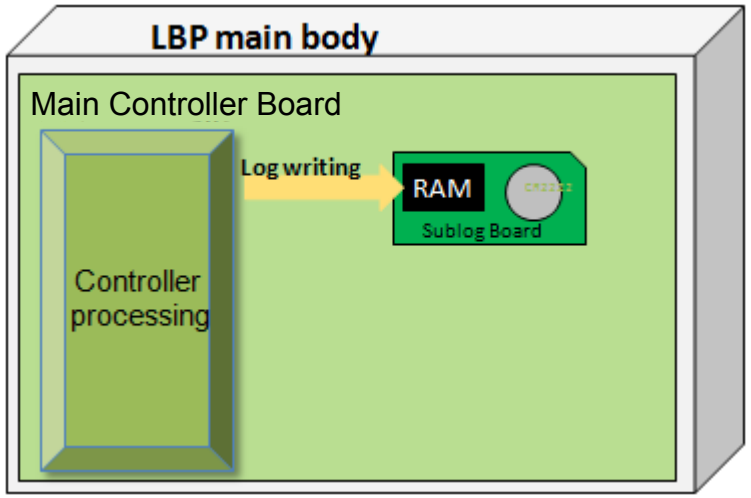
Sublog

It is available only when the Sublog Board is installed on the Main Controller PCB.
When the Sublog Board is not installed, log is not saved anywhere.
It is stored in the Sublog Board and its content is stored even when the power is turned OFF to be displayable when the power is turned ON again.
The Sublog Board has a limited capacity and when the log exceeding this storage number is attempted to be stored, the log is deleted in the order of length of time stored.

Effective Instances of Collecting Debug Log

- The error occurs only at the customer site and cannot be reproduced by the sales company or the Canon staff who is in charge of quality follow-up.
- When the error frequency is low.
- When the error is suspected of links with firmware rather than a mechanical/electrical failure.
- Collection of Sublog is not necessary when the reproduction procedure is identified and the error can be reproduced by the sales company HQ or the Canon staff who is in charge of quality follow-up.

How the log is written



F-5-84

- In case of using the Sublog Board:
  - Write the log directly to RAM on the Sublog Board.
  - The on-board battery prevents data from being erased when the power is turned OFF.

Collecting Sublog

Flow of collecting Sublog

Installing the Sublog Board	Install the board to the host machine.
Generating the log	When the Sublog Board is installed, it records the log all time.
Collecting log	When setting LOG TO USBMEM in service mode, log is transferred to the USB memory device connected to the machine.

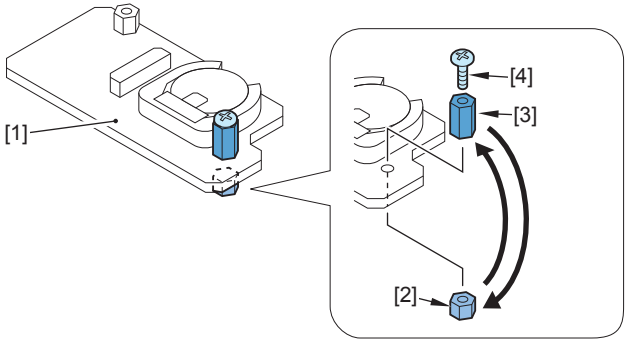
T-5-60

Changing the Height of the Sublog Board

Note:
When installing the Sublog Board, it needs to be installed parallel to the Main Controller PCB in order to prevent connection error of the connector connecting the Main Controller PCB and the Sublog Board.
This machine utilizes the height of the spacer (short), and how to replace the spacers with each other is shown below.

2) Disassemble the Sublog Board [1], and replace the spacer (short) [1] and the spacer (long) [3] with each other.

CAUTION:
Because the screw [4] is a molded part, do not tighten it too much. Otherwise, it may be damaged.



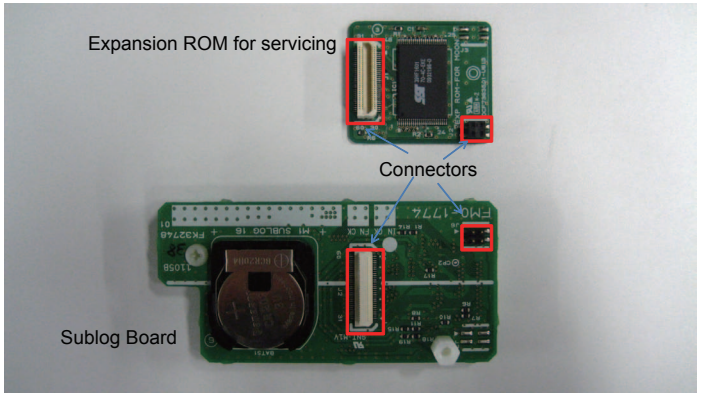
F-5-85

Installing the Expansion ROM for servicing and Sublog Board

Note:
The battery on Sublog board is located at BATS1 CR2032.
Push SW1 on the board and confirm that LED1 turns on.
If LED1 does not turn on, You need change battery.

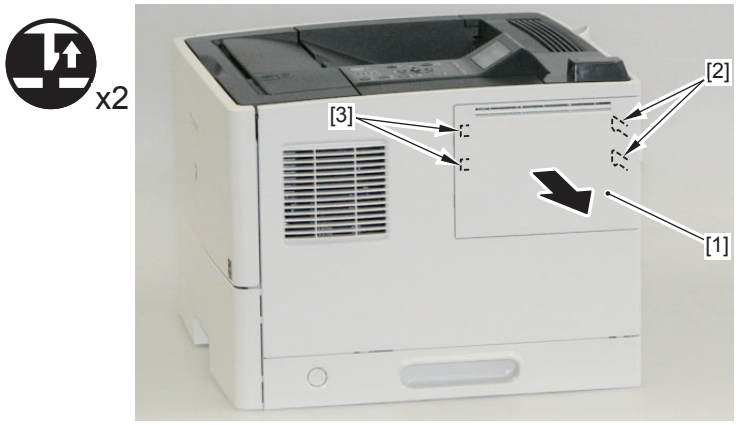
CAUTION:
There is danger of explosion if the battery is replaced with an incorrect type.
Replace it only with the same type of battery.
Dispose of used batteries according to the manufacturer's instructions.

1) Install the Expansion ROM for servicing to the Sublog Board.



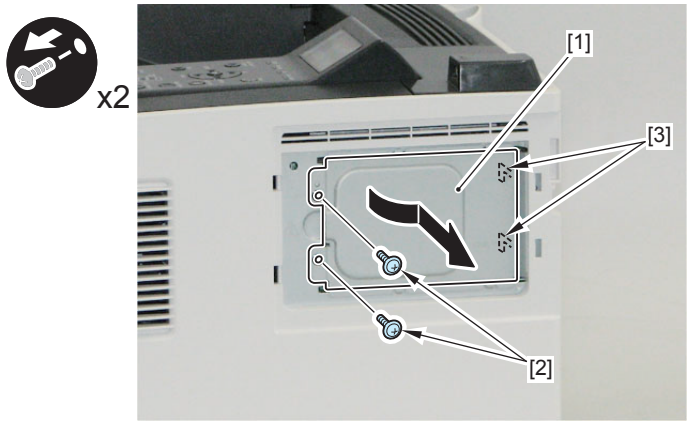
F-5-86

2) Remove the Right Cover (Small) [1]
- 2 Claws [2]
- 2 Hooks [3]



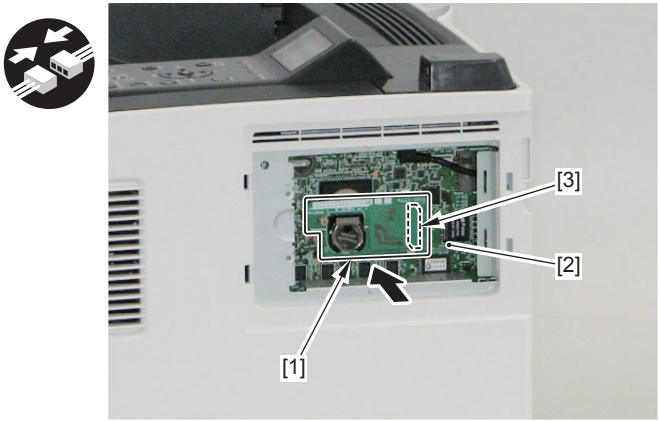
F-5-87

3) Remove the Main Controller Cover (Small) [1]
- 2 screws [2]
- 2 Hooks [3]



F-5-88

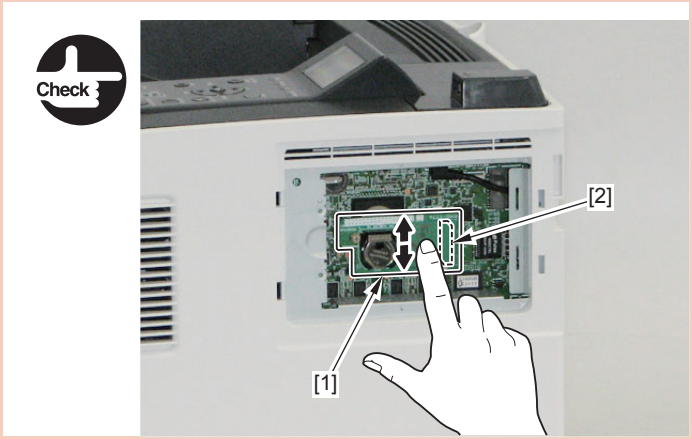
4) Install the Sublog Board [1] attached with the Expansion ROM for servicing to the Main Controller PCB [2].
- 1 Connector [3]



F-5-89

CAUTION:

Because the screw [4] is a molded part, do not tighten it too much. Otherwise, it may be damaged.



F-5-90

Generating the log

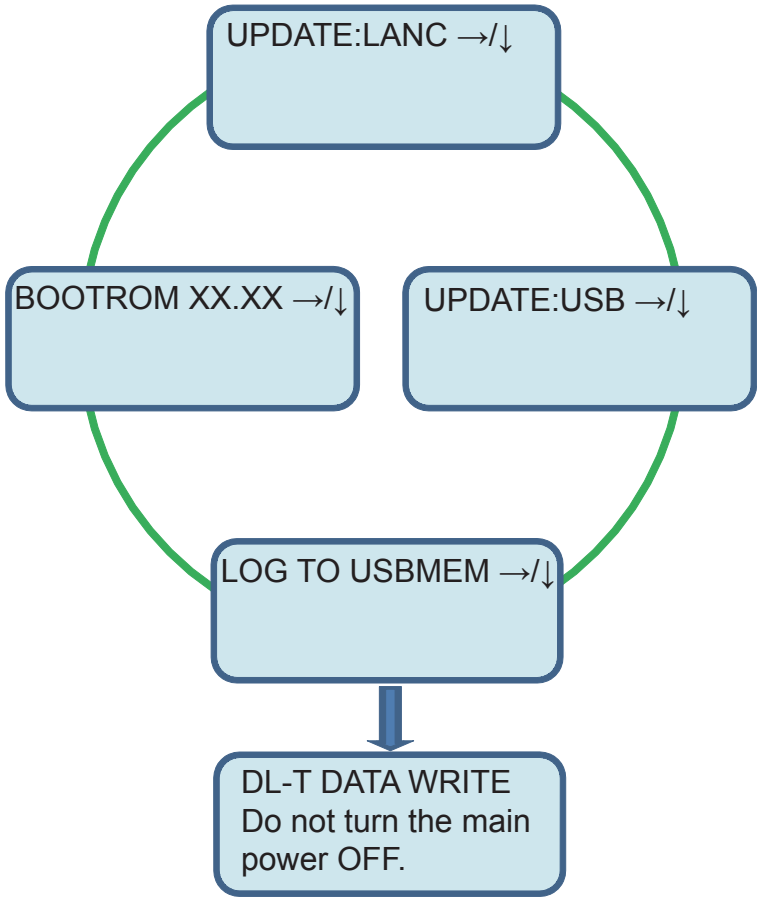
Generation of the log starts as soon as the Sublog Board is installed.
For example, when collecting the log of error, take the following steps immediately after the error occurred.
If the log is not swiftly collected, it is possible for the log written on the schedule to overwrite the target behavior log.

Collecting log

When setting LOG TO USBMEM in service mode, log is transferred to the USB memory device connected to the machine.
Log is transferred to the USB memory device connected to the machine in the following procedure.

1) Turn ON the power while pressing down the "<-" , "OK" and "Online" simultaneously.

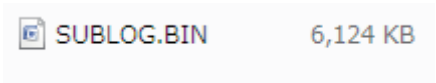
2) Scroll to the right and left to display "LOG TO USBMEM". Press the "↓" button to write to the USB memory device.



F-5-91

3) When the machine is restarted and "Printing is possible" is displayed after writing is complete, remove the USB memory device.

4) A sublog file named SUBLOG. BIN is output under /LOG_TMP of the USB memory device. Collect SUBLOG.BIN and send it to the department in charge of quality at the sales company.



F-5-92

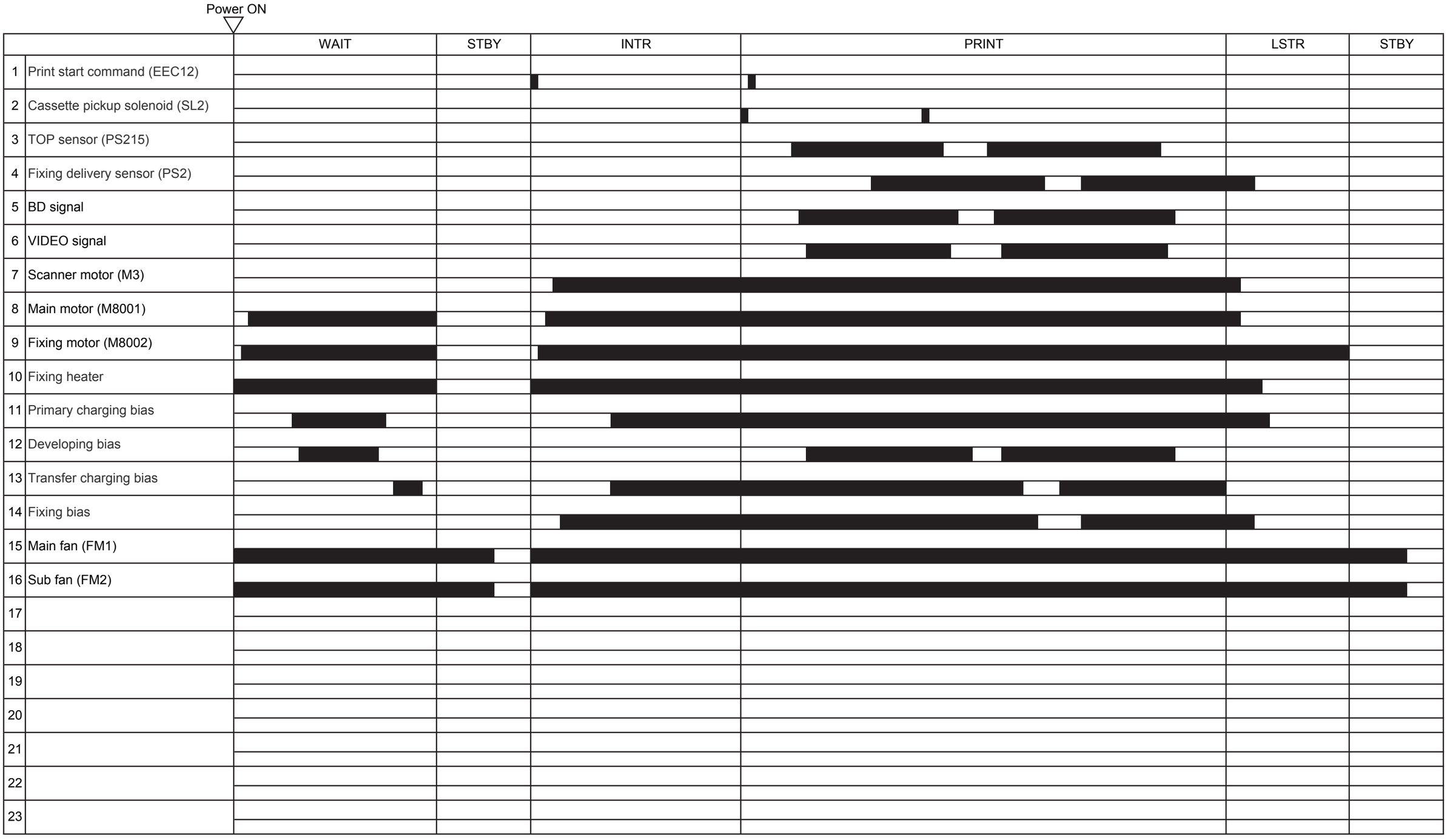
Appendex

- General Timing Chart
- General Circuit Diagram
- LIst of Signals
- Backup Data

General Timing Chart

General Timing Chart

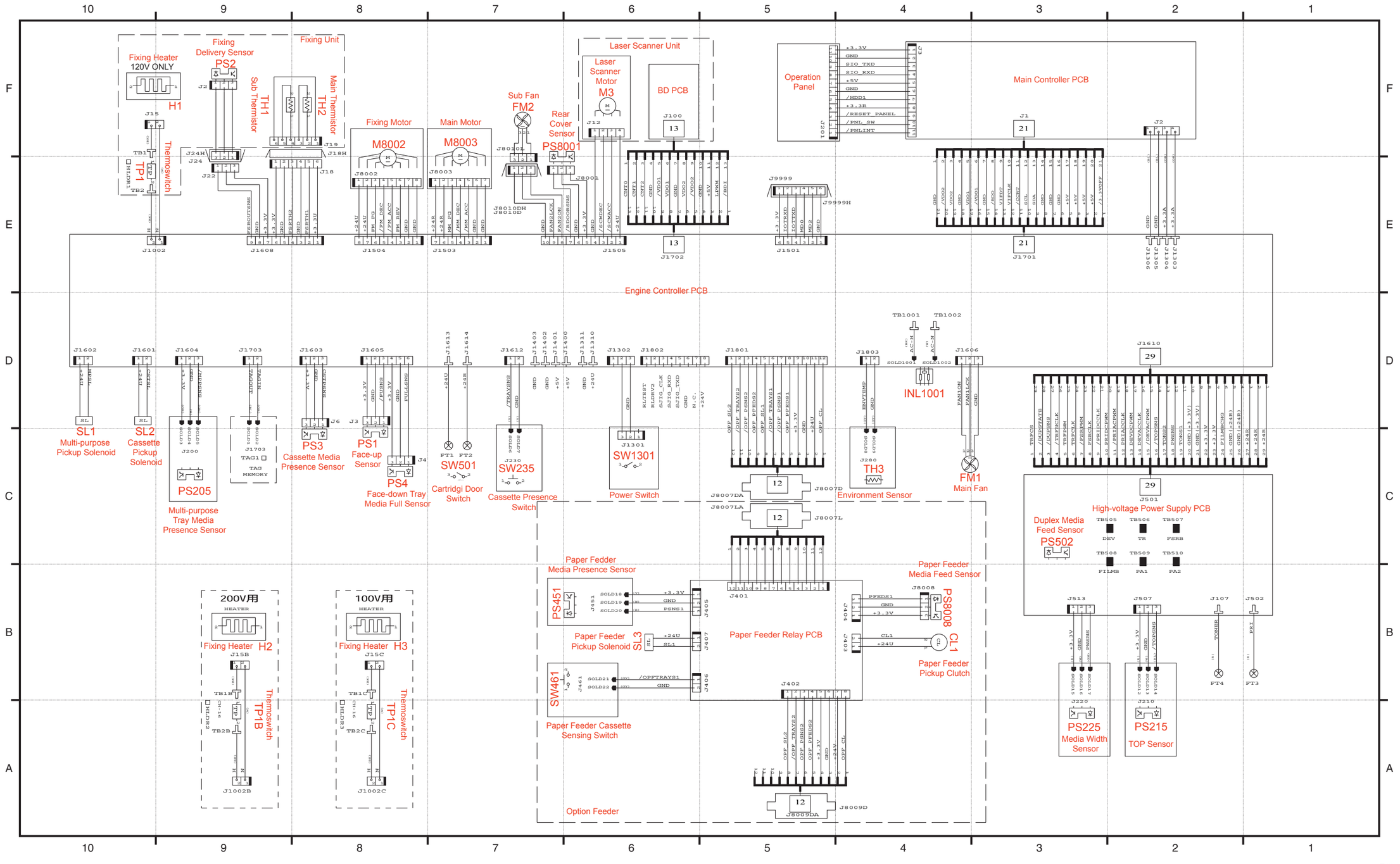
Two consecutive prints on LTR paper



F-6-1

General Circuit Diagram

Printer/Paper feeder



F-6-2

LIst of Signals

Input/Output Signals to/from engine contoroller

Connector	Pin	Abbreviation	I/O	Signal name
J1002	1	N	I	AC POWER input
	2	H	I	AC POWER input
J1302	1	+3.3V	O	+3.3V output
	2			
	3	GND		
J1303	1	+3.3A	O	+3.3V output
J1304	1	+3.3A	O	+3.3V output
J1305	1	GND		
J1306	1	GND		
J1501	1	GND		
	2	MD2		
	3	MD0		
	4	IOTTXD		
	5	IOTRXD		
	6	+3.3V	O	+3.3V output
J1503	1	GND		
	2	GND		
	3	/MM_ACC	O	MAIN MOTOR ACCELERATION signal
	4	/MM_DEC	O	MAIN MOTOR DECELERATION signal
	5	MM_FG	I	MAIN MOTOR CONTROL signal
	6	+24R	O	+24V output
	7	+24R	O	+24V output
J1504	1	GND		
	2	GND		
	3	FM_REV	O	FIXING MOTOR REVERSE signal
	4	/FM_ACC	O	FIXING MOTOR ACCELERATION signal
	5	/FM_DEC	O	FIXING MOTOR DECELERATION signal
	6	FM_FG	I	FIXING MOTOR CONTROL signal
	7	+24U	O	+24V output
	8	+24U	O	+24V output
J1505	1	+24U	O	+24V output
	2	/SCMACC	O	SCANNER MOTOR ACCELERATION signal
	3	/SCMDEC	O	SCANNER MOTOR DECELERATION signal
	4	GND		
	5	+3.3V	O	+3.3V output
	6	GND		
	7	/RDOORSNS	I	REAR DOOR OPEN DETECTION signal
	8	FAN2ON	O	FAN 2 CONTROL signal
	9	FAN2LCK	I	FAN 2 LOCK signal
	10	GND		
J1601	1	+24U	O	+24V output
	2	CSTSL	O	CST PICKUP SOLENOID signal
J1602	1	+24U	O	+24V output
	2	GND		MP TRAY PICKUP SOLENOID signal
J1603	1	+3.3V	O	+3.3V output
	2	GND		
	3	CSTSNS	I	CST MEDIA PRESENCE signal
J1604	1	+3.3V	O	+3.3V output
	2	GND		
	3	/MPPSNS	I	MP TRAY MEDIA PRESENCE signal
J1605	1	+3.3V	O	++3.3V output
	2	GND		
	3	/FUSNS	I	FACE-UP signal
	4	+3.3V	O	+3.3V output
	5	GND		
	6	FULLSENS	I	FACE-DOWN TRAY MEDIA FULL signal
J1606	1	FAN1ON	O	FAN 1 CONTROL signal
	2	FAN1LCK	I	FAN 1 LOCK signal
	3	GND		
J1608	1	+3.3U	O	+3.3V output
	2	FSRTH1	I	FIXING TEMPERATURE 1 signal
	3	GND		
	4	FSRTH1	I	FIXING TEMPERATURE 2 signal
	5	GND		
	6	+3.3V	O	+3.3V output
	7	+3.3V	O	+3.3V output
	8	GND		
	9	FSROUTSNS	I	FIXING DELIVERY signal

Connector	Pin	Abbreviation	I/O	Signal name
J1610	1	+24R	O	+24V output
	2	+24R	O	+24V output
	3	+24R	O	+24V output
	4	GND(+24R)		
	5	GND(+24R)		
	6	FILMBCHG	O	FIXING BIAS SWITCH signal
	7	+3.3V	O	+3.3V output
	8	+3.3V	O	+3.3V output
	9	GND(+3.3V)		
	10	GND(+3.3V)		
	11	TONS1	I	TONER LEVEL signal
	12	PWSNS	I	MEDIA WIDTH signal
	13	TONS2	I	TONER LEVEL signal
	14	/TOPSNS	I	TOP signal
	15	/DEVACPWM	O	DEVELOPING AC PWM signal
	16	DEVACCLK	O	DEVELOPING AC BIAS signal
	17	DEVDCPWM	O	DEVELOPING DC PWM signal
	18	PRIACCLK	O	PRIMARY CHANGING AC BIAS signal
	19	/PRIACPWM	O	PRIMARY CHANGING AC PWM signal
	20	/PRIDCPWM	O	PRIMARY CHANGING DC PWM signal
	21	PRIDCCLK	O	PRIMARY CHANGING DC BIAS signal
	22	FSRCLK	O	FIXING CHANGING DC BIAS
	23	/FSRPWM	O	FIXING CHANGING DC PWM signal
	24	TRFCLK	O	TRANSFER POSITIVE BIAS signal
	25	TRFPWM	O	TRANSFER OUTPUT SWITCH signal
	26	TRFNCLK	O	TRANSFER NEGATIVE BIAS signal
	27	/DUPSNS	I	DUPLEX MEDIA FEED signal
	28	/DUPSTATE	I	DUPLEX MODEL IDENTIFICATION signal
	29	TRFCS	I	TRANSFER CURRENT FEEDBACK signal
J1612	1	/TRAYSNS	I	CASSETTE PRESENCE signal
	2	GND		
J1613	1	+24U	O	+24V output
J1614	1	+24R	I	+24V output

Connector	Pin	Abbreviation	I/O	Signal name
J1701	1	+3.3VOFF	O	
	2	+5V	O	+5V output
	3	+5V	O	++5V output
	4	+5V	O	++5V output
	5	+5V	O	+5V output
	6	GND		
	7	GND		
	8	GND		
	9	SDA	O	
	10	SCL	O	
	11	/CCRT	I	CONDITION CHANGE REPORT signal
	12	VIFCLK	I	SERIAL CLOCK signal
	13	VIFDT	I/O	STATUS COMMAND signal
	14	/BDO	O	BDO signal
	15	GND		
	16	/VDO1	I	VIDEO signal
	17	VDO1	I	VIDEO signal
	18	GND		
	19	VDO2	I	VIDEO signal
	20	/VDO2	I	VIDEO signal
	21	GND		
J1702	1	/BDI	I	BDI signal
	2	LPWM	O	ASER INTENSITY CONTROL signal
	3	+5V	O	+5V output
	4	GND		
	5	/VDO2	O	VIDEO signal
	6	VDO2	O	VIDEO signal
	7	GND		
	8	VDO1	O	VIDEO signal
	9	/VDO1	O	VIDEO signal
	10	GND		
	11	CNT2		LASER CONTROL signal
	12	CNT1		LASER CONTROL signal
	13	CNT0		LASER CONTROL signal
J1703	1	TAGOUT	I/O	MEMORY TAG COMMUNICATION signal
	2	TAGIN	I/O	MEMORY TAG COMMUNICATION signal

T-6-1

Backup Data

Data to Be Stored	Data Location	Replacement		Delete									User Backup			Service Backup				
				User function					Service function											
		When Replacing Main PCB	DC Controller PCB	Initializing the [Setup] Menu(Settings)	Initializing the Network Settings(Settings)	IPSec Policy settings delete*1	SD Card Data All Erase Function	(Fixing unit/ ITB unit) Initializing the Service counter	NVRAM initialization Initializing the [Setup] Menu	DC Controller PCB NVRAM Clear	E-RDS > CLEAR	CA-KEY	Can Data Be Backed up?	Method	Location to Be Stored	Can Data Be Backed up?	Method 1	Location to Be Stored	Method 2	Location to Be Stored
Control Panel set value (Except in network and IPSec Policy Settings*1)	Main Controller PCB	Clear	-	Clear	-	-	-		Clear	-	-	-	Yes	Setup > User Maintenance > IMPORT/EXPORT > EXPORT	USB memory	Yes	FUNCTION GR. > ECONF > EXPORT ALL(GENERAL/DEPEND/ SECURITY)	USB memory -	Sublog Expansion Board	Sublog Board
Control Panel set value(Network)		Clear	-	-	Clear	-	-		-	-	-	-								
Control Panel set value(IPSec Policy Settings) *1		Clear	-	-	-	Clear	-		-	-	-	-	No	-	-	No	-	-	-	-
SSL Keys		Clear	-	-	-	-	-		-	-	-	Clear *5	No	-	-	No	-	-	-	-
CA Certificates		Clear	-	-	-	-	-		-	-	-	Clear *5	No	-	-	No	-	-	-	-
MEAP(Application/ Settings/Data)		Clear	-	-	-	-	-		-	-	-	-	No	-	-	No	-	-	-	-
e-RDS		Clear	-	-	-	-	-		-	-	Clear	-	Yes *4	Setup > User Maintenance > IMPORT/EXPORT > EXPORT	USB memory	Yes	FUNCTION GR. > ECONF > EXPORT ALL(GENERAL/DEPEND/ SECURITY)	USB memory	Sublog Expansion Board	Sublog Board
Service DATA(Main Controller PCB)		Clear	-	-	-	-	-		-	-	Clear *3	-								
DC Controller PCB NVRAM Backup(Main Controller PCB)		Clear	-	-	-	-	-		-	Clear	-	-	No	-	-	No	-	-		
Service DATA(DC Controller PCB)	DC Controller PCB	-	Clear	-	-	-	-		-	-	-	-	No	-	-	Yes	-	Main Controller PCB	-	-
Main Controller service counter *2	Main Controller PCB																			
Stored Job	SD Card	-	-	-	-	-	Clear		-	-	-	-	No	-	-	No	-	-	-	-

T-6-2

*1. To delete IPSec Policy settings, select the following in service mode: Network.gr >IPSEC SETTING > SPDALDEL.

*2. It belongs to counter gr. in service mode. Since counter gr. items are not available with this model, it is not applicable.

*3. It is initialized by selecting the following in service mode: Network gr. > E-RDS > CLEAR.

*4. Service mode setting values are stored in NVRAM. When importing/exporting user settings, the service mode items are included.

*5. It is initialized by selecting the following in service mode: Network gr. > CA-KEY.